



**X S T A C K**<sup>®</sup>

## CLI Reference Guide

Product Model: **xStack**<sup>®</sup> DGS-3120 Series  
Layer 2 Managed Stackable Gigabit Switch  
Release 1.02



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# Chapter 1 Using Command Line Interface

The Switch can be managed through the Switch's serial port, Telnet, SNMP or the Web-based management agent. The Command Line Interface (CLI) can be used to configure and manage the Switch via the serial port or Telnet interfaces.

This manual provides a reference for all of the commands contained in the CLI. Every command will be introduced in terms of purpose, format, description, parameters, and examples. Configuration and management of the Switch via the Web-based management agent are discussed in the Web UI Reference Guide. For detailed information on installing hardware please also refer to the Hardware Installation Guide.

## 1-1 Accessing the Switch via the Serial Port

The Switch's serial port's default settings are as follows:

- 115200 baud
- no parity
- 8 data bits
- 1 stop bit

A computer running a terminal emulation program capable of emulating a VT-100 terminal and a serial port configured as above are then connected to the Switch's Console port via an included RS-232 to RJ-45 convertor cable.

With the serial port properly connected to a management computer, the following screen should be visible. If this screen does not appear, try pressing Ctrl+r to refresh the console screen.

```
DGS-3120-24TC Gigabit Ethernet Switch
Command Line Interface

Firmware: Build 1.02.013
Copyright(C) 2010 D-Link Corporation. All rights reserved.

UserName:
Password:

DGS-3120-24TC:admin#
```

There is no initial username or password. Just press the **Enter** key twice to display the CLI input cursor – **DGS-3120-24TC:admin#** . This is the command line where all commands are input.

## 1-2 Setting the Switch's IP Address

Each Switch must be assigned its own IP Address, which is used for communication with an SNMP network manager or other TCP/IP application (for example BOOTP, TFTP). The Switch's

default IP address is 10.90.90.90. You can change the default Switch IP address to meet the specification of your networking address scheme.

The Switch is also assigned a unique MAC address by the factory. This MAC address cannot be changed, and can be found on the initial boot console screen – shown below.

```
Boot Procedure                                     V1.00.010
-----
Power On Self Test ..... 100 %

MAC Address   : 00-01-02-03-04-00
H/W Version   : A1

Please Wait, Loading V1.02.013 Runtime Image ..... 100 %
UART init ..... 100 %
Starting runtime image
Device Discovery ..... -
```

The Switch's MAC address can also be found in the Web management program on the Switch Information (Basic Settings) window on the Configuration menu.

The IP address for the Switch must be set before it can be managed with the Web-based manager. The Switch IP address can be automatically set using BOOTP or DHCP protocols, in which case the actual address assigned to the Switch must be known.

Starting at the command line prompt, enter the commands **config ipif System ipaddress xxx.xxx.xxx.xxx/yyy.yyy.yyy.yyy**. Where the **x**'s represent the IP address to be assigned to the IP interface named **System** and the **y**'s represent the corresponding subnet mask.

Alternatively, you can enter **config ipif System ipaddress xxx.xxx.xxx.xxx/z**. Where the **x**'s represent the IP address to be assigned to the IP interface named **System** and the **z** represents the corresponding number of subnets in CIDR notation.

The IP interface named **System** on the Switch can be assigned an IP address and subnet mask which can then be used to connect a management station to the Switch's Telnet or Web-based management agent.

```
DGS-3120-24TC:admin# config ipif System ipaddress 10.24.22.100/255.0.0.0
Command: config ipif System ipaddress 10.24.22.100/8

Success.

DGS-3120-24TC:admin#
```

In the above example, the Switch was assigned an IP address of 10.24.22.100 with a subnet mask of 255.0.0.0. The system message **Success** indicates that the command was executed successfully. The Switch can now be configured and managed via Telnet, SNMP MIB browser and the CLI or via the Web-based management agent using the above IP address to connect to the Switch.

There are a number of helpful features included in the CLI. Entering the ? command will display a list of all of the top-level commands.

```
..
?
cable_diag ports
cd
cfm linktrace
cfm lock md
cfm loopback
change drive
clear
clear address_binding dhcp_snoop binding_entry ports
clear arptable
clear attack_log
clear cfm pkt_cnt
clear counters
clear fdb
clear igmp_snooping data_driven_group
clear igmp_snooping statistics counter
clear log
clear mac_based_access_control auth_state
clear mld_snooping data_driven_group
clear mld_snooping statistics counter
clear port_security_entry
CTRL+C ESC c Quit SPACE n Next Page ENTER Next Entry a All
```

When entering a command without its required parameters, the CLI will prompt you with a **Next possible completions:** message.

```
DGS-3120-24TC:admin# config account
Command: config account
Next possible completions:
<username>

DGS-3120-24TC:admin#
```

In this case, the command **config account** was entered with the parameter **<username>**. The CLI will then prompt to enter the **<username>** with the message, **Next possible completions:**. Every command in the CLI has this feature, and complex commands have several layers of parameter prompting.

In addition, after typing any given command plus one space, users can see all of the next possible sub-commands, in sequential order, by repeatedly pressing the **Tab** key.

To re-enter the previous command at the command prompt, press the up arrow cursor key. The previous command will appear at the command prompt.

```
DGS-3120-24TC:admin# config account
Command: config account
Next possible completions:
<username>

DGS-3120-24TC:admin# config account
```

In the above example, the command **config account** was entered without the required parameter **<username>**, the CLI returned the **Next possible completions: <username>** prompt. The up arrow cursor control key was pressed to re-enter the previous command (**config account**) at the command prompt. Now the appropriate username can be entered and the **config account** command re-executed.

All commands in the CLI function in this way. In addition, the syntax of the help prompts are the same as presented in this manual – angle brackets < > indicate a numerical value or character string, braces { } indicate optional parameters or a choice of parameters, and brackets [ ] indicate required parameters.

If a command is entered that is unrecognized by the CLI, the top-level commands will be displayed under the **Available commands:** prompt.

```
DGS-3120-24TC:admin#the
Available commands:
..          ?                cable_diag      cd
cfm         change                clear           config
copy        create                 debug          del
delete      dir                   disable        download
enable      erase                 format         login
logout      md                   move           no
ping        ping6                 rd             reboot
reconfig    rename                reset          save
show        telnet                traceroute     traceroute6
upload

DGS-3120-24TC:admin#
```

The top-level commands consist of commands such as **show** or **config**. Most of these commands require one or more parameters to narrow the top-level command. This is equivalent to **show** what? or **config** what? Where the what? is the next parameter.

For example, entering the **show** command with no additional parameters, the CLI will then display all of the possible next parameters.

```
DGS-3120-24TC:admin#show
Command: show
Next possible completions:
802.1p      802.1x                access_profile  account
accounting  acct_client           address_binding
arp_spoofing_prevention  arpentry        asymmetric_vlan
attack_log  auth_client           auth_diagnostics
auth_session_statistics  auth_statistics  authen
```



authen_enable	authen_login	authen_policy	authentication
authorization	autoconfig	bandwidth_control	boot_file
bpdu_protection	cfm	command	command_history
config	cpu	current_config	device_status
dhcp_local_relay	dhcp_relay	dot1v_protocol_group	
dscp	egress_access_profile		egress_flow_meter
environment	erps	error	fdb
filter	flow_meter	gratuitous_arp	greeting_message
gvrp	hol_prevention	igmp_snooping	ipfdb
ipif	ipif_ipv6_link_local_auto		iproute
ipv6	ipv6route	jumbo_frame	lacp_port
limited_multicast_addr		link_aggregation	lldp
log	log_save_timing	log_software_module	
loopdetect	mac_based_access_control		
mac_based_access_control_local		mac_based_vlan	mac_notification
max_mcast_group	mcast_filter_profile		mirror
mld_snooping	multicast	multicast_fdb	nlb
packet	password_recovery	per_queue	poe
port	port_group	port_security	
port_security_entry		port_vlan	ports
power_saving	private_vlan	pvid	qing
radius	rmon	router_ports	rspan
safeguard_engine	scheduling	scheduling_mechanism	
serial_port	session	sflow	sim
snmp	sntp	ssh	ssl
stack_device	stack_information	stacking_mode	
storage_media_info		stp	switch
syslog	system_severity	tech_support	terminal
time	time_range	traffic	
traffic_segmentation		trap	trusted_host
utilization	vlan	vlan_translation	vlan_trunk
voice_vlan	wac		
DGS-3120-24TC:admin#			

In the above example, all of the possible next parameters for the **show** command are displayed. At the next command prompt, the up arrow was used to re-enter the **show** command, followed by the **account** parameter. The CLI then displays the user accounts configured on the Switch.

### 1-3 Command Syntax Symbols

Syntax	Description
angle brackets < >	Encloses a variable or value. Users must specify the variable or value. For example, in the syntax  <pre>create ipif &lt;ipif_name 12&gt; {&lt;network_address&gt;} &lt;vlan_name 32&gt; {secondary   state [enable   disable]   proxy_arp [enable   disable] {local [enable   disable]}}</pre> users must supply an IP interface name for <b>&lt;ipif_name 12&gt;</b> , a VLAN name for <b>&lt;vlan_name 32&gt;</b> and an address for <b>&lt;network_address&gt;</b>

	when entering the command. DO NOT TYPE THE ANGLE BRACKETS.
square brackets [ ]	Encloses a required value or list of required arguments. Only one value or argument must be specified. For example, in the syntax create account <b>[admin   operator   power_user   user]</b> <username 15> {encrypt [plain_text   sha_1] <password>} users must specify either the admin-level or user-level account when entering the command. DO NOT TYPE THE SQUARE BRACKETS.
vertical bar	Separates mutually exclusive items in a list, one of which must be entered. For example, in the syntax create ipif <ipif_name 12> {<network_address>} <vlan_name 32> <b>{secondary   state [enable   disable]   proxy_arp [enable   disable]   local [enable   disable]}</b> users must specify either the community or trap receiver in the command. DO NOT TYPE THE VERTICAL BAR.
braces { }	Encloses an optional value or a list of optional arguments. One or more values or arguments can be specified. For example, in the syntax reset <b>{[config   system]} {force_agree}</b> users may choose configure or system in the command. DO NOT TYPE THE BRACES.
parentheses ( )	Indicates at least one or more of the values or arguments in the preceding syntax enclosed by braces must be specified. For example, in the syntax config bpd protection ports [<portlist>   all] {state [enable   disable]   mode [drop   block   shutdown]} <b>(1)</b> users have the option to specify hops or time or both of them. The "(1)" following the set of braces indicates at least one argument or value within the braces must be specified. DO NOT TYPE THE PARENTHESES.
ipif <ipif_name 12> metric <value 1-31>	<b>12</b> means the maximum length of the IP interface name. <b>1-31</b> means the legal range of the metric value.

#### 1-4 Line Editing Keys

Keys	Description
Delete	Delete character under cursor and shift remainder of line to left.
Backspace	Delete character to left of cursor and shift remainder of line to left.
Insert	Toggle on and off. When toggled on, inserts text and shifts previous text to right.
Left Arrow	Move cursor to left.
Right Arrow	Move cursor to right

Tab	Help user to select appropriate token.
P	Display the previous page.
N or Space	Display the next page.
CTRL+C	Escape from displayed pages.
ESC	Escape from displayed pages.
Q	Escape from displayed pages.
R	refresh the displayed pages
a	Display the remaining pages. (The screen display will not pause again.)
Enter	Display the next line.

The screen display pauses when the show command output reaches the end of the page.

In the above example, all of the possible next parameters for the **show** command are displayed. At the next command prompt, the up arrow was used to re-enter the **show** command, followed by the **account** parameter. The CLI then displays the user accounts configured on the Switch.

## Chapter 2 Basic Command List

<b>show session</b>
<b>show serial_port</b>
<b>config serial_port</b> {baud_rate [9600   19200   38400   115200]   auto_logout [never   2_minutes   5_minutes   10_minutes   15_minutes]}
<b>enable clipaging</b>
<b>disable clipaging</b>
<b>login</b>
<b>logout</b>
<b>?</b>
<b>clear</b>
<b>show command_history</b>
<b>config command_history</b> <value 1-40>
<b>config greeting_message</b> {default}
<b>show greeting_message</b>
<b>config command_prompt</b> [<string 16>   username   default]
<b>config terminal width</b> [default   <value 80-200>]
<b>show terminal width</b>
<b>config ports</b> [<portlist>   all] {medium_type [fiber   copper]} {speed [auto   10_half   10_full   100_half   100_full   1000_full] {[master   slave]}}   flow_control [enable   disable]   learning [enable   disable ]   state [enable   disable]   mdix [auto   normal   cross]   [description <desc 1-32>   clear_description]}
<b>show ports</b> [<portlist>] {[description   err_disabled   details   media_type]}

### 2-1 show session

#### Description

The show session command will display a list of currently users which are login to CLI sessions.

#### Format

**show session**

#### Parameters

None.

#### Restrictions

Only Administrator and Operator-level users can issue this command.

#### Example

To disable the password encryption:

```
DGS-3120-24TC:admin#show session
Command: show session

  ID   Live Time      From                                     Level User
  ---  -
  8    00:04:17.870   Serial Port                             admin Anonymous

Total Entries: 1

CTRL+C  ESC  q  Quit  SPACE  n  Next Page  p  Previous Page  r  Refresh
```

## 2-2 show serial\_port

### Description

The show serial\_port command displays the current serial port settings.

### Format

show serial\_port

### Parameters

None.

### Restrictions

None.

### Example

To display the serial port setting:

```
DGS-3120-24TC:admin# show serial_port
Command: show serial_port

Baud Rate      :      9600
Data Bits      :      8
Parity Bits     :      None
Stop Bits      :      1
Auto-Logout    :      10 minutes

DGS-3120-24TC:admin#
```

## 2-3 config serial\_port

### Description

The config serial\_port command configures the serial bit rate that will be used to communicate with the management host and the auto logout time for idle connections.

## Format

**config serial\_port {baud\_rate [9600 | 19200 | 38400 | 115200] | auto\_logout [never | 2\_minutes | 5\_minutes | 10\_minutes | 15\_minutes]}**

## Parameters

---

**baud\_rate** - (Optional) The serial bit rate that will be used to communicate with the management host. The default baud rate is 115200.

**9600** - Specifies the serial bit rate to be 9600.

**19200** - Specifies the serial bit rate to be 19200.

**38400** - Specifies the serial bit rate to be 38400.

**115200** - Specifies the serial bit rate to be 115200.

---

**auto\_logout** - (Optional) The auto logout time out setting:

**never** - Never timeout.

**2\_minutes** - When idle over 2 minutes, the device will auto logout.

**5\_minutes** - When idle over 5 minutes, the device will auto logout.

**10\_minutes** - When idle over 10 minutes, the device will auto logout.

**15\_minutes** - When idle over 15 minutes, the device will auto logout.

---

## Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To configure baud rate:

```
DGS-3120-24TC:admin# config serial_port baud_rate 9600
Command: config serial_port baud_rate 9600

Success.

DGS-3120-24TC:admin#
```

## 2-4 enable clipaging

### Description

The enable CLI paging command enables the pausing of the screen display when the show command output reaches the end of the page. For those show commands that provide the display refresh function, the display will not be refreshed when clipaging is disabled. The default setting is enabled.

### Format

**enable clipaging**

### Parameters

None.

## Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To enable pausing of the screen display when show command output reaches the end of the page:

```
DGS-3120-24TC:admin# enable clipaging
Command: enable clipaging

Success.

DGS-3120-24TC:admin#
```

## 2-5 disable clipaging

### Description

The disable CLI paging command disables the pausing of the screen display when the show command output reaches the end of the page. The default setting is enabled.

### Format

**disable clipaging**

### Parameters

None.

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To disable pausing of the screen display when show command output reaches the end of the page:

```
DGS-3120-24TC:admin# disable clipaging
Command: disable clipaging

Success.

DGS-3120-24TC:admin#
```

## 2-6 login

### Description

The login command allows user login to the switch.

**Format**

**login**

**Parameters**

None.

**Restrictions**

None.

**Example**

To login the switch with a user name dlink:

```
DGS-3120-24TC:admin# login
Command: login

UserName:dlink
PassWord:****

DGS-3120-24TC:admin#
```

2-7 logout

**Description**

When you are finished using the facility, use the logout command to logout.

**Format**

**logout**

**Parameters**

None.

**Restrictions**

None.

**Example**

To logout current user:



```
DGS-3120-24TC:admin# logout
Command: logout

*****
* Logout *
*****

DGS-3120-24TC Gigabit Ethernet Switch
Command Line Interface

Firmware: Build 1.02.013
Copyright(C) 2010 D-Link Corporation. All rights reserved.
UserName:
```

2-8 ?

### Description

The “?” command is used to display the usage description for all commands or the specific one.

### Format

?

### Parameters

None.

### Restrictions

None.

### Example

To get “ping” command usage, descriptions:

```
DGS-3120-24TC:admin#? ping
Command: ? ping

Command: ping
Usage: <ipaddr> { times <value 1-255> | timeout <sec 1-99>}
Description: Used to test the connectivity between network devices.

DGS-3120-24TC:admin#
```

2-9 clear

### Description

The command is used to clear screen.

### Format

**clear**

### Parameters

None.

### Restrictions

None.

### Example

To clear screen:

```
DGS-3120-24TC:admin# clear
Command: clear

DGS-3120-24TC:admin#
```

## 2-10 show command\_history

### Description

The command is used to display command history.

### Format

**show command\_history**

### Parameters

None.

### Restrictions

None.

### Example

To display command history:

```
DGS-3120-24TC:admin#show command_history
Command: show command_history

? ping
login
show serial_port
show session
? config bpdu_protection ports
? reset
? create account
? create ipif
show
the
?

DGS-3120-24TC:admin#
```

## 2-11 config command\_history

### Description

The switch “remembers” the last 40 (maximum) commands you entered. The command lets you configuring the number of commands that the switch can recall.

### Format

**config command\_history <value 1-40>**

### Parameters

---

**command\_history** - The number of commands that the switch can recall.  
**<value 1-40>** - Enter the command history value here. This value must be between 1 and 40.

---

### Restrictions

None.

### Example

To configure the number of command history:

```
DGS-3120-24TC:admin# config command_history 25
Command: config command_history 25

Success.

DGS-3120-24TC:admin#
```

## 2-12 config greeting\_message

### Description

Used to configure the greeting message (or banner).

## Format

**config greeting\_message {default}**

## Parameters

---

**default** - (Optional) Adding this parameter to the “config greeting\_message” command will return the greeting message (banner) to its original factory default entry.

---

## Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To edit the banner:

```
DGS-3120-24TC:admin#config greeting_message
Command: config greeting_message

Greeting Messages Editor
=====
=

                                DGS-3120-24TC Gigabit Ethernet Switch
                                Command Line Interface

                                Firmware: Build 1.02.013
                                Copyright(C) 2010 D-Link Corporation. All rights reserved.
=====
=

<Function Key>                <Control Key>
Ctrl+C      Quit without save  left/right/
Ctrl+W      Save and quit      up/down    Move cursor
                                Ctrl+D      Delete line
                                Ctrl+X      Erase all setting
                                Ctrl+L      Reload original setting
-----
-
```

## 2-13 show greeting\_message

### Description

The command is used to display greeting message.

### Format

**show greeting\_message**

## Parameters

None.

## Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To display greeting message:

```
DGS-3120-24TC:admin# show greeting_message
Command: show greeting_message

=====
=
                                DGS-3120-24TC Gigabit Ethernet Switch
                                Command Line Interface

                                Firmware: Build 1.02.013
                                Copyright(C) 2010 D-Link Corporation. All rights reserved.
=====
=

DGS-3120-24TC:admin#
```

## 2-14 config command\_prompt

### Description

Users may enter this command to modify the command prompt.

The current command prompt consists of four parts: “product name” + “:” + “user level” + “#” (e.g. “DGS-3120-24TC:admin#”). This command is used to modify the first part (1. “product name”) with a string consisting of a maximum of 16 characters, or to be replaced with the users’ login user name.

When users issue the “reset” command, the current command prompt will remain in tact. Yet, issuing the “reset system” will return the command prompt to its original factory default value.

### Format

**config command\_prompt [<string 16> | username | default]**

### Parameters

- <string 16>** - Enter the new command prompt string of no more than 16 characters.
- username** - Enter this command to set the login username as the command prompt.
- default** - Enter this command to return the command prompt to its original factory default value.

### Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To edit the command prompt:

```
DGS-3120-24TC:admin#config command_prompt Prompt#
Command: config command_prompt Prompt#

Success.

Prompt#:admin#
```

## 2-15 config terminal width

### Description

The command is used to set current terminal width.

The usage is described as below:

1. Users login and configure the terminal width to 120, this configuration take effect on this login section. If users implement “save” command, the configuration is saved. After users log out and log in again, the terminal width is 120.
2. If user did not save the configuration, another user login, the terminal width is default value.
3. If at the same time, two CLI sessions are running, once section configure to 120 width and save it, the other section will not be effected, unless it log out and then log in.

### Format

**config terminal width [default | <value 80-200>]**

### Parameters

---

**default** - The default setting of terminal width. The default value is 80.

**<value 80-200>** - The terminal width which will be configured. The width is between 80 and 200 characters.

---

### Restrictions

None.

## Example

To configure the current terminal width:

```
DGS-3120-24TC:admin# config terminal width 120
Command: config terminal width 120

Success.

DGS-3120-24TC:admin#
```

## 2-16 show terminal width

### Description

The command is used to display the configuration of current terminal width.

### Format

**show terminal width**

### Parameters

None.

### Restrictions

None.

### Example

To display the configuration of current terminal width:

```
DGS-3120-24TC:admin#show terminal width
Command: show terminal width

Global terminal width      : 80
Current terminal width    : 80

DGS-3120-24TC:admin#
```

## 2-17 config ports

### Description

This commands is used to configure the switch's port settings.

### Format

**config ports** [<portlist> | all] {medium\_type [fiber | copper]} {speed [auto | 10\_half | 10\_full | 100\_half | 100\_full | 1000\_full {[master | slave]}] | flow\_control [enable | disable] | learning [enable | disable] | state [enable | disable] | mdix [auto | normal | cross] | [description <desc 1-32> | clear\_description]}

### Parameters

- 
- ports** - Specifies a range of ports to be configured.
  - <portlist> - Enter a list of ports used here.
  - all** - Specifies that all the ports will be used for this configuration.
  - medium\_type** - (Optional) Specify the medium type while the configure ports are combo ports
  - fiber** - Specifies that the medium type will be set to fiber.
  - copper** - Specifies that the medium type will be set to copper.
  - speed** - (Optional) Specifies the port speed of the specified ports .
  - auto** - Set port speed to auto negotiation.
-

---

**10\_half** - Set port speed to 10\_half.

**10\_full** - Set port speed to 10\_full.

**100\_half** - Set port speed to 100\_half.

**100\_full** - Set port speed to 100\_full.

**1000\_full** - 1000\_full set port speed to 1000\_full. While set port speed to 1000\_full, user should specify master or slave mode for 1000 base TX interface, and leave the 1000\_full without any master or slave setting for other interface.

**master** - Specifies that the port(s) will be set to master.

**slave** - Specifies that the port(s) will be set to slave.

---

**flow\_control** - (Optional) You can turn on or turn off flow control on one or more ports. By set flow\_control to enable or disable.

**enable** - Specifies that the flow control option will be enabled.

**disable** - Specifies that the flow control option will be disabled.

---

**learning** - (Optional) You can turn on or turn off MAC address learning on one or more ports.

**enable** - Specifies that the learning option will be enabled.

**disable** - Specifies that the learning option will be disabled.

---

**state** - (Optional) Enables or disables the specified port. If the specified ports are in error-disabled status, configure their state to enable will recover these ports from disabled to enable state.

**enable** - Specifies that the port state will be enabled.

**disable** - Specifies that the port state will be disabled.

---

**mdix** - (Optional) MDIX mode can be specified as auto, normal, and cross. If set to normal state, the port is in MDIX mode and can be connected to PC NIC using a straight cable. If set to cross state, the port is in mdi mode, and can be connected to a port (in mdix mode) on another switch thru a straight cable.

**auto** - Specifies that the MDIX mode for the port will be set to auto.

**normal** - Specifies that the MDIX mode for the port will be set to normal.

**cross** - Specifies that the MDIX mode for the port will be set to cross.

---

**description** - (Optional) Specifies the description of the port interface.

**<desc 1-32>** - Enter the port interface description here. This value can be up to 32 characters long.

**clear\_description** - Specifies that the description field will be cleared.

---

## Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To configure the ports:

```
DGS-3120-24TC:admin#config ports all medium_type copper speed auto
```

```
Command: config ports all medium_type copper speed auto
```

```
Success.
```

```
DGS-3120-24TC:admin#
```

## 2-18 show ports

### Description

This command is used to display the current configurations of a range of ports.



## Format

**show ports** {<portlist>} {[description | err\_disabled | details | media\_type]}

## Parameters

**ports** - Specifies a range of ports to be displayed.

**<portlist>** - (Optional) Enter the list of ports to be configured here.

**description** - (Optional) Indicates if port description will be included in the display .

**err\_disabled** - (Optional) Indicates if ports are disabled by some reasons will be displayed.

**details** - (Optional) Displays the port details.

**media\_type** - (Optional) Displays port transceiver type.

## Restrictions

None.

## Example

To display the port details:

```
DGS-3120-24TC:admin#show ports details
Command: show ports details

Port : 1:1
-----
Port Status           : Link Down
Description           :
HardWare Type         : Gigabits Ethernet
MAC Address           : 00-01-02-03-04-10
Bandwidth              : 1000000Kbit
Auto-Negotiation      : Enabled
Duplex Mode           : Full Duplex
Flow Control           : Disabled
MDI                   : Auto
Address Learning       : Enabled
Last Clear of Counter : 0 hours 10 mins ago
BPDU Hardware Filtering Mode: Disabled
Queuing Strategy      : FIFO
TX Load                :    0/100,          0 bits/sec,          0
packets/sec
RX Load                :    0/100,          0 bits/sec,          0
packets/sec

CTRL+C  ESC  q  Quit  SPACE  n  Next Page  p  Previous Page  r  Refresh
```

## Chapter 3 802.1Q VLAN Command List

<b>create vlan</b> <vlan_name 32> tag <vlanid 2-4094> {type [1q_vlan   private_vlan]} {advertisement}
<b>create vlan</b> <b>vlanid</b> <vidlist> {type [1q_vlan   private_vlan]} {advertisement}
<b>delete vlan</b> <vlan_name 32>
<b>delete vlan</b> <b>vlanid</b> <vidlist>
<b>config vlan</b> <vlan_name 32> {[add [tagged   untagged   forbidden]   delete] <portlist>   advertisement [enable   disable]}(1)
<b>config vlan</b> <b>vlanid</b> <vidlist> {[add [tagged   untagged   forbidden]   delete] <portlist>   advertisement [enable   disable]   name <vlan_name 32>}(1)
<b>config port_vlan</b> [<portlist>   all] {gvrp_state [enable   disable]   ingress_checking [enable   disable]   acceptable_frame [tagged_only   admit_all]   pvid <vlanid 1-4094>}(1)
<b>show vlan</b> {<vlan_name 32>}
<b>show vlan ports</b> {<portlist>}
<b>show vlan</b> <b>vlanid</b> <vidlist>
<b>show port_vlan</b> {<portlist>}
<b>enable pvid auto_assign</b>
<b>disable pvid auto_assign</b>
<b>show pvid auto_assign</b>
<b>config gvrp</b> [timer {join <value 100-100000>   leave <value 100-100000>   leaveall <value 100-100000> }   nni_bpdu_addr [dot1d   dot1ad]]
<b>show gvrp</b>
<b>enable gvrp</b>
<b>disable gvrp</b>
<b>config private_vlan</b> [<vlan_name 32>   vid <vlanid 1-4094>] [add [isolated   community]   remove] [<vlan_name 32>   vlanid <vidlist>]
<b>show private_vlan</b> { [<vlan_name 32>   vlanid<vidlist> ] }

### 3-1 create vlan

#### Description

The create vlan command creates a VLAN on the switch. The VLAN ID must be always specified for creating a VLAN.

#### Format

**create vlan** <vlan\_name 32> tag <vlanid 2-4094> {type [1q\_vlan | private\_vlan]} {advertisement}

#### Parameters

<b>vlan</b> - The name of the VLAN to be created. <b>&lt;vlan_name 32&gt;</b> - Enter the VLAN name here. The VLAN name can be up to 32 characters long.
<b>tag</b> - The VLAN ID of the VLAN to be created. <b>&lt;vlanid 2-4094&gt;</b> - Enter the VLAN ID here. The VLAN ID value must be between 2 and 4094.
<b>type</b> - (Optional) Specifies the type of VLAN here. <b>1q_vlan</b> - (Optional) Specifies that the type of VLAN used is based on the 802.1Q standard. <b>private_vlan</b> - (Optional) Specifies that the private VLAN type will be used.
<b>advertisement</b> - (Optional) Specifies the VLAN as being able to be advertised out.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To create a VLAN with name “v2” and VLAN ID 2:

```
DGS-3120-24TC:admin# create vlan v2 tag 2 type 1q_vlan advertisement
Command: create vlan v2 tag 2 type 1q_vlan advertisement

Success.

DGS-3120-24TC:admin#
```

## 3-2 create vlan vlanid

### Description

This command allows the user to create more than one VLANs at a time. A unique VLAN name (e.g. VLAN10) will be automatically assigned by the system. The automatic assignment of VLAN name is based on the following rule: “VLAN”+ID. For example, for VLAN ID 100, the VLAN name will be VLAN100. If this VLAN name is conflict with the name of an existing VLAN, then it will be renamed based on the following rule: “VLAN”+ID+”ALT”+ collision count. For example, if this conflict is the second collision, then the name will be VLAN100ALT2.

### Format

**create vlan vlanid <vidlist> {type [1q\_vlan | private\_vlan]} {advertisement}**

### Parameters

---

**vlanid** - The VLAN ID list to be created.  
**<vidlist>** - Enter the VLAN ID list here.

---

**type** - (Optional) Specifies the type of VLAN to be created.  
**1q\_vlan** - (Optional) Specifies that the VLAN created will be a 1Q VLAN.  
**private\_vlan** - (Optional) Specifies that the private VLAN type will be used.

---

**advertisement** - (Optional) Specifies the VLAN as being able to be advertised out.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To create some VLANs using VLAN ID:

```
DGS-3120-24TC:admin# create vlan vlanid 10-30
Command: create vlan vlanid 10-30

Success.

DGS-3120-24TC:admin#
```

### 3-3 delete vlan

#### Description

This command is used to delete a previously configured VLAN by the name on the switch.

#### Format

**delete vlan <vlan\_name 32>**

#### Parameters

---

**vlan** - The VLAN name of the VLAN to be deleted.  
**<vlan\_name 32>** - Enter the VLAN name here. This name can be up to 32 characters long.

---

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

#### Example

To remove a vlan v1:

```
DGS-3120-24TC:admin# delete vlan v1
Command: delete vlan v1

Success.

DGS-3120-24TC:admin#
```

### 3-4 delete vlan vlanid

#### Description

This command is used to delete one or a number of previously configured VLAN by VID list.

#### Format

**delete vlan vlanid <vidlist>**

#### Parameters

---

**vlanid** - The VLAN ID list to be deleted.  
**<vidlist>** - Enter the VLAN ID list here.

---

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To remove VLANs from 10-30:

```
DGS-3120-24TC:admin# delete vlan vlanid 10-30
Command: delete vlan vlanid 10-30

Success.

DGS-3120-24TC:admin#
```

## 3-5 config vlan

### Description

This command is used to configure a VLAN based on the name.

### Format

**config vlan <vlan\_name 32> {[add [tagged | untagged | forbidden] | delete] <portlist> | advertisement [enable | disable]}(1)**

### Parameters

---

**vlan** - The name of the VLAN you want to add ports to.  
**<vlan\_name 32>** - Enter the VLAN name here. This name can be up to 32 characters long.

---

**add** - (Optional) Specifies to add tagged, untagged or forbidden ports to the VLAN.  
**tagged** - Specifies the additional ports as tagged.  
**untagged** - Specifies the additional ports as untagged.  
**forbidden** - Specifies the additional ports as forbidden.

---

**delete** - (Optional) Specifies to delete ports from the VLAN.

---

**<portlist>** - (Optional) Enter the list of ports used for the configuration here.

---

**advertisement** - (Optional) Specifies the GVRP state of this VLAN.  
**enable** - Specifies to enable advertisement for this VLAN.  
**disable** - Specifies to disable advertisement for this VLAN.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To add 4 through 8 of unit 2 as tagged ports to the VLAN v1:

```
DGS-3120-24TC:admin# config vlan v1 add tagged 2:4-2:8
Command: config vlan v1 add tagged 2:4-2:8

Success.

DGS-3120-24TC:admin#
```

### 3-6 config vlan vlanid

#### Description

This command allows you to configure multiple VLANs at one time. But conflicts will be generated if you configure the name of multiple VLANs at one time.

#### Format

**config vlan vlanid <vidlist> {[add [tagged | untagged | forbidden] | delete] <portlist> | advertisement [enable | disable] | name <vlan\_name 32>}(1)**

#### Parameters

<b>vlanid</b> - The VID list of VLANs to configure. <b>&lt;vidlist&gt;</b> - Enter the VLAN ID list here.
<b>add</b> - (Optional) Specifies to add tagged, untagged or forbidden ports to the VLAN. <b>tagged</b> - Specifies the additional ports as tagged. <b>untagged</b> - Specifies the additional ports as untagged. <b>forbidden</b> - Specifies the additional ports as forbidden.
<b>delete</b> - (Optional) Specifies to delete ports from the VLAN.
<b>&lt;portlist&gt;</b> - (Optional) Enter the list of ports used for the configuration here.
<b>advertisement</b> - (Optional) Specifies the GVRP state of this VLAN. <b>enable</b> - Specifies to enable advertisement for this VLAN. <b>disable</b> - Specifies to disable advertisement for this VLAN.
<b>name</b> - (Optional) The new name of the VLAN. <b>&lt;vlan_name 32&gt;</b> - Enter the VLAN name here. This name can be up to 32 characters long.

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

#### Example

To add 4 through 8 of unit 2 as tagged ports to the VLAN ID from 10-20:

```
DGS-3120-24TC:admin# config vlan vlanid 10-20 add tagged 2:4-2:8
Command: config vlan vlanid 10-20 add tagged 2:4-2:8

Success.

DGS-3120-24TC:admin#
```

### 3-7 config port\_vlan

#### Description

This command is used to sets the ingress checking status, the sending and receiving GVRP information.

#### Format

**config port\_vlan [<portlist> | all] {gvrp\_state [enable | disable] | ingress\_checking [enable | disable] | acceptable\_frame [tagged\_only | admit\_all] | pvid <vlanid 1-4094>}(1)**

## Parameters

**port\_vlan** - Specifies that the following will be applied to the port VLAN.

**<portlist>** - A range of ports for which you want ingress checking. The port list is specified by listing the lowest switch number and the beginning port number on that switch, separated by a colon. Then highest switch number, and the highest port number of the range (also separated by a colon) are specified. The beginning and end of the port list range are separated by a dash. For example, 1:3 would specify switch number 1, port 3. 2:4 specifies switch number 2, port 4. 1:3-2:4 specifies all of the ports between switch 1, port 3 and switch 2, port 4 – in numerical order.

**all** - Specifies that all the port will be used for this configuration.

**gvrp\_state** - (Optional) Enabled or disables GVRP for the ports specified in the port list.

**enable** - Specifies that GVRP for the specified ports will be enabled.

**disable** - Specifies that GVRP for the specified ports will be disabled.

**ingress\_checking** - (Optional) Enables or disables ingress checking for the specified portlist.

**enable** - Specifies that ingress checking will be enabled for the specified portlist.

**disable** - Specifies that ingress checking will be disabled for the specified portlist.

**acceptable\_frame** - (Optional) The type of frame will be accepted by the port. There are two types:

**tagged\_only** - Only tagged packets can be accepted by this port.

**admit\_all** - All packets can be accepted.

**pvid** - (Optional) Specifies the PVID of the ports.

**<vlanid 1-4094>** - Enter the VLAN ID here. The VLAN ID value must be between 1 and 4094.

## Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To sets the ingress checking status, the sending and receiving GVRP information:

```
DGS-3120-24TC:admin# config gvrp 1:1-1:5 state enable ingress_checking enable
acceptable_frame tagged_only pvid 2
Command: config gvrp 1:1-1:5 state enable ingress_checking enable
acceptable_fra
me tagged_only pvid 2

Success

DGS-3120-24TC:admin#
```

```
DGS-3120-24TC:admin# config port_vlan 1:1-1:5 gvrp_state enable
ingress_checking enable acceptable_frame tagged_only pvid 2
Command: config port_vlan 1:1-1:5 gvrp_state enable ingress_checking enable
acceptable_frame tagged_only pvid 2

Success

DGS-3120-24TC:admin#
```

### 3-8 show vlan

#### Description

This command is used to display the vlan information including of parameters setting and operational value.

#### Format

**show vlan {<vlan\_name 32>}**

#### Parameters

---

**vlan** - Specifies the VLAN to be displayed.

**<vlan\_name 32>** - (Optional) Enter the VLAN name here. The VLAN name can be up to 32 characters long.

---

#### Restrictions

None.

#### Example

To display VLAN settings:

```
DGS-3120-24TC:admin#show vlan
Command: show vlan

VLAN Trunk State      : Disabled
VLAN Trunk Member Ports :

VID                   : 1                VLAN Name       : default
VLAN Type             : Static           Advertisement   : Enabled
Member Ports         : 1:1-1:24
Static Ports         : 1:1-1:24
Current Tagged Ports :
Current Untagged Ports: 1:1-1:24
Static Tagged Ports  :
Static Untagged Ports : 1:1-1:24
Forbidden Ports      :

Total Static VLAN Entries: 1
Total GVRP VLAN Entries: 0

DGS-3120-24TC:admin#
```

### 3-9 show vlan ports

#### Description

This command is used to display the vlan information per ports.



## Format

**show vlan ports {<portlist>}**

## Parameters

---

**port** - (Optional) The list of ports for which the VLAN information will be displayed.  
**<portlist>** - Enter the list of ports that will be displayed here.

---

## Restrictions

None.

## Example

To display the VLAN configuration for port 6 of unit 1:

```
DGS-3120-24TC:admin#show vlan ports 1:6
Command: show vlan ports 1:6

  Port    VID    Untagged  Tagged  Dynamic  Forbidden
  ----    -
  1:6     1      X         -       -        -

DGS-3120-24TC:admin#
```

## 3-10 show vlan vlanid

### Description

This command is used to display the vlan information using the VLAN ID.

### Format

**show vlan vlanid <vidlist>**

### Parameters

---

**vlanid** - (Optional) The ID of the VLAN to be displayed.  
**<vidlist>** - Enter the VLAN ID here.

---

### Restrictions

None.

### Example

To display the VLAN configuration for VLAN ID 1:

```
DGS-3120-24TC:admin# show vlan vlanid 1
Command: show vlan vlanid 1

VID           : 1           VLAN Name      : default
VLAN Type     : Static      Advertisement  : Enabled
Member Ports  : 1:1-1:24
Static Ports  : 1:1-1:24
Current Tagged Ports :
Current Untagged Ports: 1:1-1:24
Static Tagged Ports :
Static Untagged Ports : 1:1-1:24
Forbidden Ports :

Total Entries : 1

DGS-3120-24TC:admin#
```

### 3-11 show port\_vlan

#### Description

This command is used to display the ports' VLAN attributes on the switch.

#### Format

**show port\_vlan {<portlist>}**

#### Parameters

---

**<portlist>** - (Optional) Specifies a range of ports to be displayed. (UnitID:port number).  
If no parameter specified, system will display all ports gvrp information.

---

#### Restrictions

None.

#### Example

To display 802.1Q port setting:

```
DGS-3120-24TC:admin# show port_vlan
Command: show port_vlan
```

Port	PVID	GVRP	Ingress Checking	Acceptable Frame Type
1:1	1	Disabled	Enabled	All Frames
1:2	1	Disabled	Enabled	All Frames
1:3	1	Disabled	Enabled	All Frames
1:4	1	Disabled	Enabled	All Frames
1:5	1	Disabled	Enabled	All Frames
1:6	1	Disabled	Enabled	All Frames
1:7	1	Disabled	Enabled	All Frames
1:8	1	Disabled	Enabled	All Frames
1:9	1	Disabled	Enabled	All Frames
1:10	1	Disabled	Enabled	All Frames
1:11	1	Disabled	Enabled	All Frames
1:12	1	Disabled	Enabled	All Frames
1:13	1	Disabled	Enabled	All Frames
1:14	1	Disabled	Enabled	All Frames
1:15	1	Disabled	Enabled	All Frames
1:16	1	Disabled	Enabled	All Frames
1:17	1	Disabled	Enabled	All Frames
1:18	1	Disabled	Enabled	All Frames
1:19	1	Disabled	Enabled	All Frames
1:20	1	Disabled	Enabled	All Frames

```
CTRL+C ESC q Quit SPACE n Next Page ENTER Next Entry a All
```

### 3-12 enable pvid auto assign

#### Description

The command enables the auto-assignment of PVID.

If “Auto-assign PVID” is enabled, PVID will be possibly changed by PVID or VLAN configuration. When user configures a port to VLAN X’s untagged membership, this port’s PVID will be updated with VLAN X. In the form of VLAN list command, PVID is updated with last item of VLAN list. When user removes a port from the untagged membership of the PVID’s VLAN, the port’s PVID will be assigned with “default VLAN”.

The default setting is enabled.

#### Format

**enable pvid auto\_assign**

#### Parameters

None.

### **Restrictions**

Only Administrator, Operator and Power-User level users can issue this command.

### **Example**

To enable the auto-assign PVID:

```
DGS-3120-24TC:admin# enable pvid auto_assign
Command: enable pvid auto_assign

Success.

DGS-3120-24TC:admin#
```

## 3-13 disable pvid auto assign

### **Description**

This command is used to disable auto assignment of PVID.

### **Format**

**disable pvid auto\_assign**

### **Parameters**

None.

### **Restrictions**

Only Administrator, Operator and Power-User level users can issue this command.

### **Example**

To disable the auto-assign PVID:

```
DGS-3120-24TC:admin# disable pvid auto_assign
Command: disable pvid auto_assign

Success.

DGS-3120-24TC:admin#
```

## 3-14 show pvid auto\_assign

### **Description**

This command is used to display the PVID auto-assignment state.

### **Format**

**show pvid auto\_assign**

## Parameters

None.

## Restrictions

None.

## Example

To display PVID auto-assignment state:

```
DGS-3120-24TC:admin#show pvid auto_assign
Command: show pvid auto_assign

PVID Auto-assignment: Enabled

DGS-3120-24TC:admin#
```

## 3-15 config gvrp

### Description

The config gvrp timer command set the GVRP timer's value. The default value for Join time is 200 milliseconds; for Leave time is 600 milliseconds; for LeaveAll time is 10000 milliseconds.

### Format

**config gvrp [timer {join <value 100-100000> | leave <value 100-100000> | leaveall <value 100-100000> } | nni\_bpdu\_addr [dot1d | dot1ad]]**

### Parameters

<b>timer</b> - Specifies that the GVRP timer parameter will be configured.
<b>join</b> - (Optional) Specifies the Join time will be set. <b>&lt;value 100-100000&gt;</b> - Enter the join time used here. This value must be between 100 and 100000.
<b>leave</b> - (Optional) Specifies the Leave time will be set. <b>&lt;value 100-100000&gt;</b> - Enter the leave time used here. This value must be between 100 and 100000.
<b>leaveall</b> - (Optional) Specifies the LeaveAll time will be set. <b>&lt;value 100-100000&gt;</b> - Enter the leave all time used here. This value must be between 100 and 100000.
<b>nni_bpdu_addr</b> - Used to determine the BPDU protocol address for GVRP in service provide site. It can use 802.1d GVRP address, 802.1ad service provider GVRP address or a user defined multicast address. The range of the user defined address is 0180C2000000 - 0180C2FFFFFFF.
<b>dot1d</b> - Specifies that the NNI BPDU protocol address value will be set to Dot1d.
<b>dot1ad</b> - Specifies that the NNI BPDU protocol address value will be set to Dot1ad.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To set the Join time to 200 milliseconds:

```
DGS-3120-24TC:admin# config gvrp timer join 200
Command: config gvrp timer join 200

Success.

DGS-3120-24TC:admin#
```

## 3-16 show gvrp

### Description

This command is used to display the GVRP global setting.

### Format

**show gvrp**

### Parameters

None.

### Restrictions

None.

## Example

To display the global setting of GVRP:

```
DGS-3120-24TC:admin#show gvrp
Command: show gvrp

Global GVRP      : Disabled
Join Time       : 200 Milliseconds
Leave Time       : 600 Milliseconds
LeaveAll Time    : 10000 Milliseconds
NNI BPDU Address: dot1d

DGS-3120-24TC:admin#
```

## 3-17 enable gvrp

### Description

This commands is used to enable the Generic VLAN Registration Protocol (GVRP).

### Format

**enable gvrp**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To enable the generic VLAN Registration Protocol (GVRP):

```
DGS-3120-24TC:admin# enable gvrp
Command: enable gvrp

Success.

DGS-3120-24TC:admin#
```

## 3-18 disable gvrp

### Description

This command is used to disable the Generic VLAN Registration Protocol (GVRP).

### Format

**disable gvrp**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To disable the Generic VLAN Registration Protocol (GVRP):

```
DGS-3120-24TC:admin# disable gvrp
Command: disable gvrp

Success.

DGS-3120-24TC:admin#
```

### 3-19 config private\_vlan

#### Description

This command is used to add or remove a secondary VLAN from a private VLAN.

#### Format

**config private\_vlan** [**<vlan\_name 32>** | **vid <vlanid 1-4094>**] [**add** [**isolated** | **community**] | **remove**] [**<vlan\_name 32>** | **vlanid <vidlist>**]

#### Parameters

---

**<vlan\_name 32>** - Specifies the name of the private VLAN.  
**vid** - Specifies the VLAN ID of the private VLAN  
**<vlanid 1-4094>** - Enter the VLAN ID used here. This value must be between 1 and 4094.

---

**add** - Specifies that a secondary VLAN will be added to the private VLAN.  
**isolated** - Specifies the secondary VLAN as isolated VLAN.  
**community** - Specifies the secondary VLAN as community VLAN

---

**remove** - Specifies that a secondary VLAN will be removed from the private VLAN.

---

**<vlan\_name 32>** - Specifies the secondary VLAN name used. This name can be up to 32 characters long.  
**vlanid** - A range of secondary VLAN to add or remove to the private VLAN.  
**<vidlist>** - Enter the secondary VLAN ID used here.

---

#### Restrictions

Only Administrator and Operator-level users can issue this command.

#### Example

To associate secondary vlan to private vlan p1:

```
DGS-3120-24TC:admin# config private_vlan p1 add community vlanid 2-5
Command: config private_vlan p1 add community vlanid 2-5

Success.

DGS-3120-24TC:admin#
```

### 3-20 show private\_vlan

#### Description

This command is used to show the private VLAN information.

#### Format

**show private\_vlan** {**<vlan\_name 32>** | **vlanid<vidlist>**}

#### Parameters

---

**<vlan\_name 32>** - (Optional) Specifies the name of the private VLAN or its secondary VLAN. This name can be up to 32 characters long.

---



---

**vlanid** - (Optional) Specifies the VLAN ID of the private VLAN or its secondary VLAN.  
**<vidlist>** - Enter the VLAN ID used here.

---

## Restrictions

None.

## Example

To display private VLAN settings:

```
DGS-3120-24TC:admin# show private_vlan
Command: show private_vlan

Private VLAN 100
-----
Promiscuous Ports: 1:1
Trunk Ports       : 1:2
Isolated Ports   : 1:3-1:5      Isolated VLAN : 20
Community Ports  : 1:6-1:8      Community VLAN: 30
Community Ports  : 1:9-1:10     Community VLAN: 40

Private VLAN 200
-----
Promiscuous Ports: 1:11
Trunk Ports       : 1:12
Isolated Ports   : 1:13-1:15    Isolated VLAN : 20
Community Ports  : 1:16-1:18    Community VLAN: 30

DGS-3120-24TC:admin#
```

## Chapter 4 802.1X Command List

<b>enable 802.1x</b>
<b>disable 802.1x</b>
<b>create 802.1x user</b> <username 15>
<b>delete 802.1x user</b> <username 15>
<b>show 802.1x user</b>
<b>config 802.1x auth_protocol</b> [local   radius_eap]
<b>config 802.1x fwd_pdu system</b> [enable   disable]
<b>config 802.1x fwd_pdu ports</b> [<portlist>   all] [enable   disable]
<b>config 802.1x authorization attributes</b> radius [enable   disable]
<b>show 802.1x</b> {[auth_state   auth_configuration] ports {<portlist>}}
<b>config 802.1x capability</b> ports [<portlist>   all] [authenticator   none]
<b>config 802.1x max_users</b> [<value 1-448>   no_limit]
<b>config 802.1x auth_parameter</b> ports [<portlist>   all] [default   {direction [both   in]   port_control [force_unauth   auto   force_auth]   quiet_period <sec 0-65535>   tx_period <sec 1-65535>   supp_timeout <sec 1-65535>   server_timeout <sec 1-65535>   max_req <value 1-10>   reauth_period <sec 1-65535>   max_users [<value 1-448>   no_limit]   enable_reauth [enable   disable]}(1)]
<b>config 802.1x auth_mode</b> [port_based   mac_based]
<b>config 802.1x init</b> [port_based ports [<portlist>   all]   mac_based ports [<portlist>   all] {mac_address <macaddr>}]
<b>config 802.1x reauth</b> [port_based ports [<portlist>   all]   mac_based ports [<portlist>   all] {mac_address <macaddr>}]
<b>create 802.1x guest_vlan</b> {<vlan_name 32>}
<b>delete 802.1x guest_vlan</b> {<vlan_name 32>}
<b>config 802.1x guest_vlan ports</b> [<portlist>   all] state [enable   disable]
<b>show 802.1x guest_vlan</b>
<b>config radius add</b> <server_index 1-3> [<server_ip>   <ipv6addr>] key <password 32> [default   {auth_port <udp_port_number 1-65535>   acct_port <udp_port_number 1-65535>   timeout <sec 1-255>   retransmit <int 1-20>}]
<b>config radius delete</b> <server_index 1-3>
<b>config radius</b> <server_index 1-3> {ipaddress [<server_ip>   <ipv6addr>]   key <password 32>   auth_port [<udp_port_number 1-65535>   default]   acct_port [<udp_port_number 1-65535>   default]   timeout [<sec 1-255>   default]   retransmit [<int 1-20>   default]}
<b>show radius</b>
<b>show auth_statistics</b> {ports <portlist>}
<b>show auth_diagnostics</b> {ports <portlist>}
<b>show auth_session_statistics</b> {ports <portlist>}
<b>show auth_client</b>
<b>show acct_client</b>
<b>config accounting service</b> [network   shell   system] state [enable   disable]
<b>show accounting service</b>

4-1 enable 802.1x

### Description

Use to enable the 802.1X function.

### Format

**enable 802.1x**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

Used to enable the 802.1X function:

```
DGS-3120-24TC:admin# enable 802.1x
Command: enable 802.1x

Success.

DGS-3120-24TC:admin#
```

### 4-2 disable 802.1x

### Description

Use to disable the 802.1X function.

### Format

**disable 802.1x**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To disable the 802.1X function:

```
DGS-3120-24TC:admin# disable 802.1x
Command: disable 802.1x

Success.

DGS-3120-24TC:admin#
```

## 4-3 create 802.1x user

### Description

Use to create an 802.1X user.

### Format

**create 802.1x user <username 15>**

### Parameters

---

**user** - Specifies adding user name.

**<username 15>** - Enter the username here. This value can be up to 15 characters long.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To create a 802.1x user "test":

```
DGS-3120-24TC:admin# create 802.1x user test
Command: create 802.1x user test

Enter a case-sensitive new password:
Enter the new password again for confirmation:

Success.
DGS-3120-24TC:admin#
```

## 4-4 delete 802.1x user

### Description

Use to delete an 802.1X user.

### Format

**delete 802.1x user <username 15>**

### Parameters

---

**user** - Specifies the adding user name.

**<username 15>** - Enter the username here. This value can be up to 15 characters long.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To delete user “test”:

```
DGS-3120-24TC:admin# delete 802.1x user test
Command: delete 802.1x user test

Success.
DGS-3120-24TC:admin#
```

## 4-5 show 802.1x user

### Description

Use to display the 802.1X user.

### Format

**show 802.1x user**

### Parameters

None.

### Restrictions

None.

## Example

To display the 802.1X user information:

```
DGS-3120-24TC:admin# show 802.1x user
Command: show 802.1x user

Username      Password
-----      -
user1         abcds

Total Entries : 1
DGS-3120-24TC:admin#
```

## 4-6 config 802.1x auth\_protocol

### Description

Use to configure the 802.1X auth protocol.

### Format

**config 802.1x auth\_protocol [local | radius\_eap]**

## Parameters

---

**local** - Specifies the authentication protocol as local.

---

**radius\_eap** - Specifies the authentication protocol as RADIUS EAP.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure the 802.1X authentication protocol to RADIUS EAP:

```
DGS-3120-24TC:admin# config 802.1x auth_protocol radius_eap
Command: config 802.1x auth_protocol radius_eap

Success.

DGS-3120-24TC:admin#
```

## 4-7 config 802.1x fwd\_pdu system

### Description

This is a global setting to control the forwarding of EAPOL PDU. When 802.1X functionality is disabled globally or for a port, and if 802.1X fwd\_pdu is enabled both globally and for the port, a received EAPOL packet on the port will be flooded in the same VLAN to those ports for which 802.1X fwd\_pdu is enabled and 802.1X is disabled (globally or just for the port). The default state is disabled.

### Format

**config 802.1x fwd\_pdu system [enable | disable]**

## Parameters

---

**enable** - Enable the forwarding of EAPOL PDU.

---

**disable** - Disable the forwarding of EAPOL PDU.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure forwarding of EAPOL PDU system state enable:

```
DGS-3120-24TC:admin# config 802.1x fwd_pdu system enable
Command: config 802.1x fwd_pdu system enable

Success.

DGS-3120-24TC:admin#
```

## 4-8 config 802.1x fwd\_pdu ports

### Description

This is a per port setting to control the forwarding of EAPOL PDU. When 802.1X functionality is disabled globally or for a port, and if 802.1X fwd\_pdu is enabled both globally and for the port, a received EAPOL packet on the port will be flooded in the same VLAN to those ports for which 802.1X fwd\_pdu is enabled and 802.1X is disabled (globally or just for the port). The default state is disabled.

### Format

**config 802.1x fwd\_pdu ports [<portlist> | all] [enable | disable]**

### Parameters

---

**ports** - Specifies a range of ports to be configured.

**<portlist>** - Enter the list of ports used for the configuration here.

**all** - Specifies that all the ports will be used.

---

**enable** - Enable forwarding EAPOL PDU receive on the ports.

**disable** - Disable forwarding EAPOL PDU receive on the ports.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To configure 802.1X fwd\_pdu for ports:

```
DGS-3120-24TC:admin# config 802.1x fwd_pdu ports 1,2 enable
Command: config 802.1x fwd_pdu ports 1,2 enable

Success.

DGS-3120-24TC:admin#
```

## 4-9 config 802.1x authorization attributes

### Description

The command config 802.1x authorization attributes is used to enable or disable acceptance of authorized configuration.

When the authorization is enabled for 802.1X's RADIUS authentication, the authorized attributes (for example VLAN, 802.1p default priority, and ACL) assigned by the RADIUS server will be accepted if the global authorization status is enabled.

### Format

**config 802.1x authorization attributes radius [enable | disable]**

## Parameters

---

**radius** - If specified to enable, the authorization attributes (for example VLAN, 802.1p default priority, and ACL) assigned by the RADIUS server will be accepted if the global authorization status is enabled. The default state is enabled.  
**enable** - Specifies to enable the authorization attributes.  
**disable** - Specifies to disable the authorization attributes.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

The following example will disable to accept the authorized data assigned from the RADIUS server:

```
DGS-3120-24TC:admin# config 802.1x authorization attributes radius disable
Command: config 802.1x authorization attributes radius disable

Success.

DGS-3120-24TC:admin#
```

4-10 show 802.1x

## Description

Use to display the 802.1X state or configurations.

## Format

**show 802.1x** {[auth\_state | auth\_configuration] ports {<portlist>}}

## Parameters

---

**auth\_state** - (Optional) Used to display 802.1X authentication state machine of some or all ports  
**auth\_configuration** - (Optional) Used to display 802.1X configurations of some or all ports.  
**port** - (Optional) Specifies a range of ports to be displayed. If no port is specified, all ports will be displayed.  
**<portlist>** - Enter the list of ports used for the configuration here.

---

If no parameter is specified, the 802.1X system configurations will be displayed.

---

## Restrictions

None.

## Example

To display the 802.1X port level configurations:



```
DGS-3120-24TC:admin# show 802.1x auth_configuration ports 1:1
Command: show 802.1x auth_configuration ports 1:1

Port Number      : 1:1
Capability        : None
AdminCrldir      : Both
OpenCrldir       : Both
Port Control     : Auto
QuietPeriod      : 60    sec
TxPeriod         : 30    sec
SuppTimeout      : 30    sec
ServerTimeout    : 30    sec
MaxReq           : 2     times
ReAuthPeriod     : 3600  sec
ReAuthenticate   : Disabled
Forward EAPOL PDU On Port : Disabled
Max User On Port : 16

DGS-3120-24TC:admin#
```

## 4-11 config 802.1x capability

### Description

Use to configure the port capability.

### Format

**config 802.1x capability ports [<portlist> | all] [authenticator | none]**

### Parameters

**ports** - Specifies a range of ports to be configured.

**<portlist>** - Enter the list of ports used for the configuration here.

**all** - Specifies all ports to be configured.

**authenticator** - The port that wishes to enforce authentication before allowing access to services that are accessible via that port adopts the authenticator role.

**none** - Disable authentication on the specified ports.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To configure the port capability:

```
DGS-3120-24TC:admin# config 802.1x capability ports 1:1-1:10 authenticator
Command: config 802.1x capability ports 1:1-1:10 authenticator

Success.

DGS-3120-24TC:admin#
```

## 4-12 config 802.1x max\_users

### Description

The setting is a global limitation on the maximum number of users that can be learned via 802.1X authentication.

In addition to the global limitation, maximum user for per port is also limited. It is specified by config 802.1x auth\_parameter command.

### Format

**config 802.1x max\_users [<value 1–448> | no\_limit]**

### Parameters

---

**max\_users** - Specifies the maximum number of users.

**<value 1-448>** - Enter the maximum users value here. This value must be between 1 and 448.

**no\_limit** – Specifies that the maximum user limit will be set to 448.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To configure 802.1X number of users to be limited to 200:

```
DGS-3120-24TC:admin# config 802.1x max_users 200
Command: config 802.1x max_users 200

Success.

DGS-3120-24TC:admin#
```

## 4-13 config 802.1x auth\_parameter

### Description

Use to configure the parameters that control the operation of the authenticator associated with a port.

### Format

**config 802.1x auth\_parameter ports [<portlist> | all] [default | {direction [both | in] | port\_control [force\_unauth | auto | force\_auth] | quiet\_period <sec 0-65535> | tx\_period <sec 1-65535> | supp\_timeout <sec 1-65535> | server\_timeout <sec 1-65535> | max\_req <value 1-10> | reauth\_period <sec 1-65535> | max\_users [<value 1-448> | no\_limit] | enable\_reauth [enable | disable]}(1)]**

## Parameters

---

**ports** - Specifies a range of ports to be configured.

**<portlist>** - Enter the list of ports used for the configuration here.

**all** - Specifies that all the ports will be used.

---

**default** - Sets all parameter to be default value.

---

**direction** - (Optional) Sets the direction of access control.

**both** - For bidirectional access control.

**in** - For unidirectional access control.

---

**port\_control** - (Optional) You can force a specific port to be unconditionally authorized or unauthorized by setting the parameter of port\_control to be force\_authorized or force\_unauthorized. Besides, the controlled port will reflect the outcome of authentication if port\_control is auto.

**force\_unauth** - Force a specific port to be unconditionally unauthorized.

**auto** - The controlled port will reflect the outcome of authentication.

**force\_auth** - Force a specific port to be unconditionally authorized.

---

**quiet\_period** - (Optional) It is the initialization value of the quietWhile timer. The default value is 60 seconds and can be any value among 0 to 65535.

**<sec 0-65535>** - Enter the quiet period value here. This value must be between 0 and 65535 seconds.

---

**tx\_period** - (Optional) It is the initialization value of the transmit timer period. The default value is 30 seconds and can be any integer value among 1 to 65535.

**<sec 1-65535>** - Enter the tx period value here. This value must be between 1 and 65535 seconds.

---

**supp\_timeout** - (Optional) The initialization value of the aWhile timer when timing out the supplicant. Its default value is 30 seconds and can be any integer value among 1 to 65535.

**<sec 1-65535>** - Enter the supplicant timeout value here. This value must be between 1 and 65535 seconds.

---

**server\_timeout** - (Optional) The initialization value of the aWhile timer when timing out the authentication server. Its default value is 30 seconds and can be any integer value among 1 to 65535.

**<sec 1-65535>** - Enter the server timeout value here. This value must be between 1 and 65535 seconds.

---

**max\_req** - (Optional) The maximum number of times that the authentication PAE state machine will retransmit an EAP Request packet to the supplicant. Its default value is 2 and can be any integer number among 1 to 10.

**<value 1-10>** - Enter the maximum required value here. This value must be between 1 and 10.

---

**reauth\_period** - (Optional) It's a nonzero number of seconds, which is used to be the re-authentication timer. The default value is 3600.

**<sec 1-65535>** - Enter the re-authentication period value here. This value must be between 1 and 65535 seconds.

---

**enable\_reauth** - (Optional) You can enable or disable the re-authentication mechanism for a specific port.

**enable** - Specifies to enable the re-authentication mechanism for a specific port.

**disable** - Specifies to disable the re-authentication mechanism for a specific port.

---

**max\_users** - (Optional) Specifies per port maximum number of users. The default value is 16.

**<value 1-448>** - Enter the maximum users value here. This value must be between 1 and 448.

**no\_limit** - Specifies that no limit is enforced on the maximum users used.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure the parameters that control the operation of the authenticator associated with a port:

```
DGS-3120-24TC:admin# config 802.1x auth_parameter ports 1:1-1:20 direction both
Command: config 802.1x auth_parameter ports 1:1-1:20 direction both

Success.

DGS-3120-24TC:admin#
```

#### 4-14 config 802.1x auth\_mode

##### Description

Use to configure 802.1X authentication mode.

##### Format

**config 802.1x auth\_mode [port\_based | mac\_based]**

##### Parameters

---

**port\_based** - Configure the authentication as port based mode.  
**mac\_based** - Configure the authentication as MAC based mode.

---

##### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

##### Example

To configure the authentication mode:

```
DGS-3120-24TC:admin# config 802.1x auth_mode port_based
Command: config 802.1x auth_mode port_based

Success.

DGS-3120-24TC:admin#
```

#### 4-15 config 802.1x init

##### Description

Use to initialize the authentication state machine of some or all ports.

##### Format

**config 802.1x init [port\_based ports [<portlist> | all] | mac\_based ports [<portlist> | all] {mac\_address <macaddr>}]**

##### Parameters

---

**port\_based** - Configure the authentication as port based mode.

---

---

**<portlist>** - Enter the list of ports used for the configuration here.  
**all** - Specifies that all ports will be used.

---

**mac\_based** - Configure the authentication as MAC based mode.  
**<portlist>** - Enter the list of ports used for the configuration here.  
**all** - Specifies that all ports will be used.

---

**mac\_address** - (Optional) Specifies the MAC address of client.  
**<macaddr>** - Enter the MAC address used here.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To initialize the authentication state machine of some or all:

```
DGS-3120-24TC:admin# config 802.1x init port_based ports all
Command: config 802.1x init port_based ports all

Success.

DGS-3120-24TC:admin#
```

## 4-16 config 802.1x reauth

### Description

The config 802.1x reauth command re-authenticates the device connected to the port. During the re-authentication period, the port status remains authorized until failed re-authentication.

### Format

**config 802.1x reauth [port\_based ports [<portlist> | all] | mac\_based ports [<portlist> | all] {mac\_address <macaddr>}]**

### Parameters

---

**port\_based** - Configure the authentication as port based mode.  
**<portlist>** - Enter the list of ports used for the configuration here.  
**all** - Specifies that all ports will be used.

---

**mac\_based** - Configure the authentication as MAC based mode.  
**<portlist>** - Enter the list of ports used for the configuration here.  
**all** - Specifies that all ports will be used.

---

**mac\_address** - (Optional) Specifies the MAC address of client.  
**<macaddr>** - Enter the MAC address used here.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To re-authenticate the device connected to the port:

```
DGS-3120-24TC:admin# config 802.1x reauth port_based ports all
Command: config 802.1x reauth port_based ports all

Success.

DGS-3120-24TC:admin#
```

## 4-17 create 802.1x guest\_vlan

### Description

The create 802.1x guest\_vlan command will assign a static VLAN to be guest VLAN. The specific VLAN which assigned to guest VLAN must be existed. The specific VLAN which assigned to guest VLAN can't be deleting.

### Format

**create 802.1x guest\_vlan {<vlan\_name 32>}**

### Parameters

---

**guest\_vlan** - Specify the VLAN to be guest VLAN.  
**<vlan\_name 32>** - (Optional) Enter the VLAN name here. The VLAN name can be up to 32 characters long.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To create a VLAN named "guestVLAN" as 802.1X guest VLAN:

```
DGS-3120-24TC:admin# create 802.1x guest_vlan guestVLAN
Command: create 802.1x guest_vlan guestVLAN

Success.

DGS-3120-24TC:admin#
```

## 4-18 delete 802.1x guest\_vlan

### Description

The delete 802.1x guest\_vlan command will delete guest VLAN setting, but not delete the static VLAN. All ports which enabled guest VLAN will remove to original VLAN after deleted guest VLAN.

### Format

**delete 802.1x guest\_vlan {<vlan\_name 32>}**

## Parameters

---

**guest\_vlan** - Specify the static VLAN to be guest VLAN.  
**<vlan\_name 32>** - (Optional) Enter the VLAN name here. The VLAN name can be up to 32 characters long.

---

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To delete the guest VLAN named “guestVLAN”:

```
DGS-3120-24TC:admin# delete 802.1x guest_vlan guestVLAN
Command: delete 802.1x guest_vlan guestVLAN

Success.

DGS-3120-24TC:admin#
```

## 4-19 config 802.1x guest\_vlan

### Description

The config 802.1x guest\_vlan command configures guest VLAN setting.

If the specific port state is changed from enabled state to disable state, this port will move to its original VLAN.

### Format

**config 802.1x guest\_vlan ports [<portlist> | all] state [enable | disable]**

## Parameters

---

**ports** - A range of ports enable or disable guest VLAN function.  
**<portlist>** - Enter the list of ports used for the configuration here.  
**all** - Specifies that all the port will be included in this configuration.

---

**state** - Specify the guest VLAN port state of the configured ports.  
**enable** - Specifies to join the guest VLAN.  
**disable** - Specifies to be removed from the guest VLAN.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

Enable on port 1 – 8 to configure 802.1X guest VLAN:

```
DGS-3120-24TC:admin# config 802.1x guest_vlan ports 1-8 state enable
Command: config 802.1x guest_vlan ports 1-8 state enable

Warning! GVRP of the ports were disabled!

Success.

DGS-3120-24TC:admin#
```

## 4-20 show 802.1x guest\_vlan

### Description

The show guest\_vlan command allows you to show the information of guest VLANs.

### Format

**show 802.1x guest\_vlan**

### Parameters

None.

### Restrictions

None.

### Example

To show 802.1X guest VLAN on the switch:

```
DGS-3120-24TC:admin# show 802.1x guest_vlan
Command: show 802.1x guest_vlan

Guest VLAN Setting
-----
Guest   VLAN      : guest
Enabled Guest VLAN Ports   : 1-10

DGS-3120-24TC:admin#
```

## 4-21 config radius add

### Description

Use to add a new RADIUS server. The server with lower index has higher authenticative priority.

### Format

**config radius add <server\_index 1-3> [<server\_ip> | <ipv6addr>] key <password 32>  
[default | {auth\_port <udp\_port\_number 1-65535> | acct\_port <udp\_port\_number 1-65535> |  
timeout <sec 1-255> | retransmit <int 1-20>}]**



## Parameters

**add** - Specifies to add a new RADIUS server.

**<server\_index 1-3>** - Enter the RADIUS server index here. This value must be between 1 and 3.

**<server\_ip>** - Enter the IP address of the RADIUS server here.

**<ipv6addr>** - Enter the IPv6 address of the RADIUS server here. **(EI Mode Only parameter)**

**key** - The key pre-negotiated between switch and the RADIUS server. It is used to encrypt user's authentication data before being transmitted over internet. The maximum length of the key is 32.

**<password 32>** - Enter the password here. The password can be up to 32 characters long.

**default** - Sets the authentication UDP port number to 1812 accounting UDP port number to 1813, timeout to 5 seconds and retransmit to 2.

**auth\_port** - (Optional) Specifies the UDP port number which is used to transmit RADIUS authentication data between the switch and the RADIUS server. The range is 1 to 65535.

**<udp\_port\_number 1-65535>** - Enter the authentication port number here. This value must be between 1 and 65535.

**acct\_port** - (Optional) Specifies the UDP port number which is used to transmit RADIUS accounting statistics between the switch and the RADIUS server. The range is 1 to 65535.

**<udp\_port\_number 1-65535>** - Enter the accounting port number here. This value must be between 1 and 65535.

**timeout** - (Optional) The time in second for waiting server reply. The default value is 5 seconds.

**<sec 1-255>** - Enter the timeout value here. This value must be between 1 and 255 seconds.

**retransmit** - (Optional) The count for re-transmitting. The default value is 2.

**<int 1-20>** - Enter the re-transmit value here. This value must be between 1 and 20.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To add a new RADIUS server:

```
DGS-3120-24TC:admin# config radius add 1 10.48.74.121 key dlink default
Command: config radius add 1 10.48.74.121 key dlink default

Success.

DGS-3120-24TC:admin#
```

## 4-22 config radius delete

### Description

Use to delete a RADIUS server.

### Format

**config radius delete <server\_index 1-3>**

### Parameters

**delete** - Specifies to delete a RADIUS server.

---

**<server\_index 1-3>** - Enter the RADIUS server index here.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To delete a radius server:

```
DGS-3120-24TC:admin# config radius delete 1
Command: config radius delete 1

Success.

DGS-3120-24TC:admin#
```

## 4-23 config radius

### Description

Use to configure a RADIUS server.

### Format

**config radius <server\_index 1-3> {ipaddress [<server\_ip> | <ipv6addr>] | key <password 32> | auth\_port [<udp\_port\_number 1-65535> | default] | acct\_port [<udp\_port\_number 1-65535> | default] | timeout [<sec 1-255> | default] | retransmit [<int 1-20> | default]}**

### Parameters

---

<b>&lt;server_index 1-3&gt;</b>	- Enter the RADIUS server index here. This value must be between 1 and 3.
<b>ipaddress</b>	- (Optional) The IP address of the RADIUS server.
<b>&lt;server_ip&gt;</b>	- Enter the RADIUS server IP address here.
<b>&lt;ipv6addr&gt;</b>	- Enter the RADIUS server IPv6 address used here. <b>(EI Mode Only parameter)</b>
<b>key</b>	- (Optional) The key pre-negotiated between switch and RADIUS server. It is used to encrypt user's authentication data before being transmitted over internet. The maximum length of the key is 32.
<b>&lt;password 32&gt;</b>	- Enter the key here. The key can be up to 32 characters long.
<b>auth_port</b>	- (Optional) Specifies the UDP port number which is used to transmit RADIUS authentication data between the switch and the RADIUS server. The range is 1 to 65535. The default value is 1812.
<b>&lt;udp_port_number 1-65535&gt;</b>	- Enter the authentication port number here. This value must be between 1 and 65535.
<b>default</b>	- Specifies that the default port number will be used.
<b>acct_port</b>	- (Optional) Specifies the UDP port number which is used to transmit RADIUS accounting statistics between the switch and the RADIUS server. The range is 1 to 65535. The default value is 1813.
<b>&lt;udp_port_number 1-65535&gt;</b>	- Enter the accounting port number here. This value must be between 1 and 65535.
<b>default</b>	- Specifies that the default port number will be used.
<b>timeout</b>	- (Optional) The time in second for waiting server reply. The default value is 5 seconds.
<b>&lt;sec 1-255&gt;</b>	- Enter the timeout value here. This value must be between 1 and 255 seconds.
<b>default</b>	- Specifies that the default timeout value will be used.
<b>retransmit</b>	- (Optional) The count for re-transmitting. The default value is 2.

---

---

**<int 1-20>** - Enter the re-transmit value here. This value must be between 1 and 20.  
**default** - Specifies that the default re-transmit value will be used.

---

### **Restrictions**

Only Administrator, Operator and Power-User level users can issue this command.

### **Example**

To configure a radius server:

```
DGS-3120-24TC:admin# config radius 1 auth_port 60
Command: config radius 1 auth_port 60

Success.

DGS-3120-24TC:admin#
```

## 4-24 show radius

### **Description**

Use to display RADIUS server configurations.

### **Format**

**show radius**

### **Parameters**

None.

### **Restrictions**

None.

### **Example**

To display RADIUS server configurations:

```
DGS-3120-24TC:admin# show radius
Command: show radius

Index 1
IP Address      : 172.18.211.71
Auth-Port      : 1812
Acct-Port      : 1813
Timeout        : 5 sec
Retransmit     : 2
Key            : 1234567

Index 2
IP Address      : 172.18.211.108
Auth-Port      : 1812
Acct-Port      : 1813
Timeout        : 5 sec
Retransmit     : 2
Key            : adfdslkfjefiefdkgjdassdwtgjk6y1w

Total Entries : 2

DGS-3120-24TC:admin#
```

## 4-25 show auth\_statistics

### Description

Use to display information of authenticator statistics.

### Format

**show auth\_statistics {ports <portlist>}**

### Parameters

---

**ports** - (Optional) Specifies a range of ports to be displayed.

**<portlist>** - Enter the list of ports that will be displayed here.

---

### Restrictions

None.

### Example

To display authenticator statistics information for port 1:

```
DGS-3120-24TC:admin# show auth_statistics ports 1
Command: show auth_statistics ports 1

Port Number : 1:1

EapolFramesRx                0
EapolFramesTx                0
EapolStartFramesRx          0
EapolReqIdFramesTx          0
EapolLogoffFramesRx         0
EapolReqFramesTx            0
EapolRespIdFramesRx         0
EapolRespFramesRx           0
InvalidEapolFramesRx        0
EapLengthErrorFramesRx      0

LastEapolFrameVersion        0
LastEapolFrameSource         00-00-00-00-00-00

DGS-3120-24TC:admin#
```

## 4-26 show auth\_diagnostics

### Description

The show auth\_diagnostics command displays information of authenticator diagnostics.

### Format

**show auth\_diagnostics {ports <portlist>}**

### Parameters

---

**ports** - (Optional) Specifies a range of ports to be displayed.  
**<portlist>** - Enter the list of ports that will be displayed here.

---

### Restrictions

None.

### Example

To display authenticator diagnostics information for port 1:

```
DGS-3120-24TC:admin# show auth_diagnostics ports 1
Command: show auth_diagnostics ports 1

Port Number: 1:1

EntersConnecting                0
EapLogoffsWhileConnecting      0
EntersAuthenticating           0
SuccessWhileAuthenticating     0
TimeoutsWhileAuthenticating    0
FailWhileAuthenticating        0
ReauthsWhileAuthenticating     0
EapStartsWhileAuthenticating   0
EapLogoffWhileAuthenticating   0
ReauthsWhileAuthenticated     0
EapStartsWhileAuthenticated    0
EapLogoffWhileAuthenticated    0
BackendResponses               0
BackendAccessChallenges        0
BackendOtherRequestsToSupplicant 0
BackendNonNakResponsesFromSupplicant 0
BackendAuthSuccesses           0
BackendAuthFails               0

DGS-3120-24TC:admin#
```

## 4-27 show auth\_session\_statistics

### Description

The show auth\_session\_statistics command displays information of authenticator session statistics.

### Format

**show auth\_session\_statistics {ports <portlist>}**

### Parameters

---

**ports** - (Optional) Specifies a range of ports to be displayed.  
**<portlist>** - Enter the list of ports that will be displayed here.

---

### Restrictions

None.

### Example

To display authenticator session statistics information for port 1:

```
DGS-3120-24TC:admin# show auth_session_statistics ports 1
Command: show auth_session_statistics ports 1

Port Number : 1:1

SessionOctetsRx           0
SessionOctetsTx           0
SessionFramesRx           0
SessionFramesTx           0
SessionId
SessionAuthenticMethod    Remote Authentication Server
SessionTime                0
SessionTerminateCause     SupplicantLogoff
SessionUserName

DGS-3120-24TC:admin#
```

## 4-28 show auth\_client

### Description

The show auth\_client command displays information of RADIUS authentication client.

### Format

**show auth\_client**

### Parameters

None.

### Restrictions

None.

### Example

To display authentication client information:

```
DGS-3120-24TC:admin# show auth_client
Command: show auth_client

radiusAuthClient ==>
 radiusAuthClientInvalidServerAddresses    0
 radiusAuthClientIdentifier

 radiusAuthServerEntry ==>
 radiusAuthServerIndex :1

 radiusAuthServerAddress                    0.0.0.0
 radiusAuthClientServerPortNumber          0
 radiusAuthClientRoundTripTime             0
 radiusAuthClientAccessRequests           0
 radiusAuthClientAccessRetransmissions     0
 radiusAuthClientAccessAccepts             0
 radiusAuthClientAccessRejects            0
 radiusAuthClientAccessChallenges          0
 radiusAuthClientMalformedAccessResponses  0
 radiusAuthClientBadAuthenticators         0
 radiusAuthClientPendingRequests           0
 radiusAuthClientTimeouts                  0
 radiusAuthClientUnknownTypes              0
 radiusAuthClientPacketsDropped            0

DGS-3120-24TC:admin#
```

## 4-29 show acct\_client

### Description

Use to display information of RADIUS accounting client.

### Format

**show acct\_client**

### Parameters

None.

### Restrictions

None.

### Example

To display information of RADIUS accounting client:



```

DGS-3120-24TC:admin# show acct_client
Command: show acct_client

radiusAcctClient ==>
 radiusAcctClientInvalidServerAddresses    0
 radiusAcctClientIdentifier

radiusAuthServerEntry ==>
 radiusAccServerIndex : 1

radiusAccServerAddress                    0.0.0.0
radiusAccClientServerPortNumber          0
radiusAccClientRoundTripTime             0
radiusAccClientRequests                   0
radiusAccClientRetransmissions            0
radiusAccClientResponses                  0
radiusAccClientMalformedResponses         0
radiusAccClientBadAuthenticators          0
radiusAccClientPendingRequests            0
radiusAccClientTimeouts                   0
radiusAccClientUnknownTypes               0
radiusAccClientPacketsDropped             0

DGS-3120-24TC:admin#

```

## 4-30 config accounting service

### Description

Use to configure the state of the specified RADIUS accounting service.

### Format

**config accounting service [network | shell | system] state [enable | disable]**

### Parameters

**network** - Accounting service for 802.1X port access control. By default, the service is disabled.

**shell** - Accounting service for shell events: When user logs on or out the switch (via the console, Telnet, or SSH) and timeout occurs, accounting information will be collected and sent to RADIUS server. By default, the service is disabled.

**system** - Accounting service for system events: reset, reboot. By default, the service is disabled.

**state** - Specifies the state of the specified service.

**enable** - Specifies to enable the specified accounting service.

**disable** - Specifies to disable the specified accounting service.

### Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

Enable it to configure accounting shell state:

```
DGS-3120-24TC:admin# config accounting service shell state enable
Command: config accounting service shell state enable

Success.

DGS-3120-24TC:admin#
```

## 4-31 show accounting service

### Description

Use to show the status of RADIUS accounting services.

### Format

**show accounting service**

### Parameters

None.

### Restrictions

None.

## Example

To show information of RADIUS accounting services:

```
DGS-3120-24TC:admin# show accounting service
Command: show accounting service

Accounting Service
-----
Network      : Enabled
Shell       : Enabled
System      : Enabled

DGS-3120-24TC:admin#
```

## Chapter 5 Access Authentication Control Command List

<b>enable password encryption</b>
<b>disable password encryption</b>
<b>enable authen_policy</b>
<b>disable authen_policy</b>
<b>show authen_policy</b>
<b>create authen_login</b> method_list_name <string 15>
<b>config authen_login</b> [default   method_list_name <string 15>] method {tacacs   xtacacs   tacacs+   radius   server_group <string 15>   local   none}
<b>delete authen_login</b> method_list_name <string 15>
<b>show authen_login</b> [default   method_list_name <string 15>   all]
<b>create authen_enable</b> method_list_name <string 15>
<b>config authen_enable</b> [default   method_list_name <string 15>] method {tacacs   xtacacs   tacacs+   radius   server_group <string 15>   local_enable   none}
<b>delete authen_enable</b> method_list_name <string 15>
<b>show authen_enable</b> [default   method_list_name <string 15>   all]
<b>config authen application</b> [console   telnet   ssh   http   all] [login   enable] [default   method_list_name <string 15>]
<b>show authen application</b>
<b>create authen server_group</b> <string 15>
<b>config authen server_group</b> [tacacs   xtacacs   tacacs+   radius   <string 15>] [add   delete] server_host <ipaddr> protocol [tacacs   xtacacs   tacacs+   radius]
<b>delete authen server_group</b> <string 15>
<b>show authen server_group</b> {<string 15>}
<b>create authen server_host</b> <ipaddr> protocol [tacacs   xtacacs   tacacs+   radius] { port <int 1-65535>   key [<key_string 254>   none]   timeout <int 1-255>   retransmit <int 1-20> }
<b>config authen server_host</b> <ipaddr> protocol [tacacs   xtacacs   tacacs+   radius] {port <int 1-65535>   key [<key_string 254>   none]   timeout <int 1-255>   retransmit <int 1-20>}
<b>delete authen server_host</b> <ipaddr> protocol [tacacs   xtacacs   tacacs+   radius]
<b>show authen server_host</b>
<b>config authen parameter response_timeout</b> <int 0-255>
<b>config authen parameter attempt</b> <int 1-255>
<b>show authen parameter</b>
<b>enable admin</b>
<b>config admin local_enable</b>

### 5-1 enable password encryption

#### Description

This command is used to enable password encryption. The user account configuration information will be stored in the configuration file, and can be applied to the system later.

If the password encryption is enabled, the password will be in encrypted form.

#### Format

**enable password encryption**

### Parameters

None.

### Restrictions

Only Administrator-level users can issue this command.

### Example

To enable the password encryption:

```
DGS-3120-24TC:admin# enable password encryption
Command: enable password encryption

DGS-3120-24TC:admin#
```

## 5-2 disable password encryption

### Description

This command is used to disable password encryption. The user account configuration information will be stored in the configuration file, and can be applied to the system later.

When password encryption is disabled, if the user specifies the password in plain text form, the password will be in plain text form. However, if the user specifies the password in encrypted form, or if the password has been converted to encrypted form by the last enable password encryption command, the password will still be in the encrypted form. It can not be reverted to the plaintext.

### Format

**disable password encryption**

### Parameters

None.

### Restrictions

Only Administrator-level users can issue this command.

### Example

To disable the password encryption:

```
DGS-3120-24TC:admin# disable password encryption
Command: disable password encryption

DGS-3120-24TC:admin#
```

## 5-3 enable authen\_policy

### Description

This command is used to enable system access authentication policy.

Enable system access authentication policy. When authentication is enabled, the device will adopt the login authentication method list to authenticate the user for login, and adopt the enable authentication method list to authenticate the enable password for promoting the user's privilege to Admin level.

### Format

**enable authen\_policy**

### Parameters

None.

### Restrictions

Only Administrator-level users can issue this command.

### Example

To enable system access authentication policy:

```
DGS-3120-24TC:admin# enable authen_policy
Command: enable authen_policy

Success.

DGS-3120-24TC:admin#
```

## 5-4 disable authen\_policy

### Description

This command is used to disable system access authentication policy.

Disable system access authentication policy. When authentication is disabled, the device will adopt the local user account database to authenticate the user for login, and adopt the local enable password to authenticate the enable password for promoting the user's privilege to Admin level.

### Format

**disable authen\_policy**

### Parameters

None.

## Restrictions

Only Administrator-level users can issue this command.

## Example

To disable system access authentication policy:

```
DGS-3120-24TC:admin# disable authen_policy
Command: disable authen_policy

Success.

DGS-3120-24TC:admin#
```

## 5-5 show authen\_policy

### Description

This command is used to display that system access authentication policy is enabled or disabled.

### Format

**show authen\_policy**

### Parameters

None.

### Restrictions

Only Administrator-level users can issue this command.

## Example

To display system access authentication policy:

```
DGS-3120-24TC:admin# show authen_policy
Command: show authen_policy

Authentication Policy : Enabled

DGS-3120-24TC:admin#
```

## 5-6 create authen\_login

### Description

This command is used to create a user-defined method list of authentication methods for user login. The maximum supported number of the login method lists is 8.

## Format

**create authen\_login method\_list\_name <string 15>**

## Parameters

---

**<string 15>** - The user-defined method list name. This value can be up to 15 characters long.

---

## Restrictions

Only Administrator-level users can issue this command.

## Example

To create a user-defined method list for user login:

```
DGS-3120-24TC:admin# create authen_login method_list_name login_list_1
Command: create authen_login method_list_name login_list_1

Success.

DGS-3120-24TC:admin#
```

## 5-7 config authen\_login

### Description

Configure a user-defined or default method list of authentication methods for user login. The sequence of methods will effect the alteration result. For example, if the sequence is tacacs+ first, then tacacs and local, when user tries to login, the authentication request will be sent to the first server host in tacacs+ built-in server group. If the first server host in tacacs+ group is missing, the authentication request will be sent to the second server host in tacacs+ group, and so on. If all server hosts in tacacs+ group are missing, the authentication request will be sent to the first server host in tacacs group...If all server hosts in tacacs group are missing, the local account database in the device is used to authenticate this user. When user logs the device successfully while using methods like tacacs/xtacacs/tacacs+/radius built-in or user-defined server groups or none, the "user" privilege level is assigned only. If user wants to get admin privilege level, user must use the "enable admin" command to promote his privilege level. But when local method is used, the privilege level will depend on this account privilege level stored in the local device.

### Format

**config authen\_login [default | method\_list\_name <string 15>] method {tacacs | xtacacs | tacacs+ | radius | server\_group <string 15> | local | none}**

### Parameters

---

**default** - The default method list of authentication methods.

**method\_list\_name** - The user-defined method list of authentication methods.

**<string 15>** - Enter the method list name here. This value can be up to 15 characters long.

**method** - Specifies the authentication method used.

**tacacs** - (Optional) Authentication by the built-in server group "tacacs".

**xtacacs** - (Optional) Authentication by the built-in server group "xtacacs".

---

---

**tacacs+** - (Optional) Authentication by the built-in server group “tacacs+”.  
**radius** - (Optional) Authentication by the built-in server group “radius”.  
**server\_group** - (Optional) Authentication by the user-defined server group.  
    **<string 15>** - Enter the server group value here. This value can be up to 15 characters long.  
**local** - (Optional) Authentication by local user account database in device.  
**none** - (Optional) No authentication.

---

### Restrictions

Only Administrator-level users can issue this command.

### Example

To configure a user-defined method list for user login:

```
DGS-3120-24TC:admin# config authen_login method_list_name login_list_1 method
tacacs+ tac
acs local
Command: config authen_login method_list_name login_list_1 method tacacs+ tacac
s local

Success.

DGS-3120-24TC:admin#
```

## 5-8 delete authen\_login

### Description

This command is used to delete a user-defined method list of authentication methods for user login.

### Format

**delete authen\_login method\_list\_name <string 15>**

### Parameters

---

**<string 15>** - The user-defined method list name. This value can be up to 15 characters long.

---

### Restrictions

Only Administrator-level users can issue this command.

### Example

To delete a user-defined method list for user login:

```
DGS-3120-24TC:admin# delete authen_login method_list_name login_list_1
Command: delete authen_login method_list_name login_list_1

Success.

DGS-3120-24TC:admin#
```



## 5-9 show authen\_login

### Description

This command is used to display the method list of authentication methods for user login.

### Format

**show authen\_login [default | method\_list\_name <string 15> | all]**

### Parameters

---

<b>default</b>	- Display default user-defined method list for user login.
<b>method_list_name</b>	- Display the specific user-defined method list for user login.
<b>&lt;string 15&gt;</b>	- Enter the method list name here. This value can be up to 15 characters long.
<b>all</b>	- Display all method lists for user login.

---

### Restrictions

Only Administrator-level users can issue this command.

### Example

To display a user-defined method list for user login:

```
DGS-3120-24TC:admin# show authen_login method_list_name login_list_1
Command: show authen_login method_list_name login_list_1

Method List Name  Priority  Method Name      Comment
-----
login_list_1     1        tacacs+          Built-in Group
                  2        tacacs           Built-in Group
                  3        mix_1            User-defined Group
                  4        local            Keyword

DGS-3120-24TC:admin#
```

## 5-10 create authen\_enable

### Description

This command is used to create a user-defined method list of authentication methods for promoting user's privilege to Admin level.

### Format

**create authen\_enable method\_list\_name <string 15>**

### Parameters

---

<b>&lt;string 15&gt;</b>	- The user-defined method list name. This value can be up to 15 characters long.
--------------------------	--

---

## Restrictions

Only Administrator-level users can issue this command.

## Example

To create a user-defined method list for promoting user's privilege to Admin level:

```
DGS-3120-24TC:admin# create authen_enable method_list_name enable_list_1
Command: create authen_enable method_list_name enable_list_1

Success.

DGS-3120-24TC:admin#
```

## 5-11 config authen\_enable

### Description

Configure a user-defined or default method list of authentication methods for promoting user's privilege to Admin level. The sequence of methods will affect the alteration result. For example, if the sequence is tacacs+ first, then tacacs and local\_enable, when user try to promote user's privilege to Admin level, the authentication request will be sent to the first server host in tacacs+ built-in server group. If the first server host in tacacs+ group is missing, the authentication request will be sent to the second server host in tacacs+ group, and so on. If all server hosts in tacacs+ group are missing, the authentication request will be sent to the first server host in tacacs group...If all server hosts in tacacs group are missing, the local enable password in the device is used to authenticate this user's password.

### Format

**config authen\_enable [default | method\_list\_name <string 15>] method {tacacs | xtacacs | tacacs+ | radius | server\_group <string 15> | local\_enable | none}**

### Parameters

<b>default</b> - The default method list of authentication methods.
<b>method_list_name</b> - The user-defined method list of authentication methods. <b>&lt;string 15&gt;</b> Enter the method list name here. This value can be up to 15 characters long.
<b>method</b> - Specifies the authentication method used. <b>tacacs</b> - (Optional) Authentication by the built-in server group "tacacs". <b>xtacacs</b> - (Optional) Authentication by the built-in server group "xtacacs". <b>tacacs+</b> - (Optional) Authentication by the built-in server group "tacacs+". <b>radius</b> - (Optional) Authentication by the built-in server group "radius". <b>server_group</b> - (Optional) Authentication by the user-defined server group. <b>&lt;string 15&gt;</b> - Enter the server group name here. This value can be up to 15 characters long. <b>local_enable</b> - (Optional) Authentication by local enable password in device. <b>none</b> - (Optional) No authentication.

### Restrictions

Only Administrator-level users can issue this command.

## Example

To configure a user-defined method list for promoting user's privilege to Admin level:

```
DGS-3120-24TC:admin# config authen_enable method_list_name enable_list_1 method
tacacs+ tac
acs local_enable
Command: config authen_enable method_list_name enable_list_1 method tacacs+
tacac
s local_enable

Success.

DGS-3120-24TC:admin#
```

## 5-12 delete authen\_enable

### Description

This command is used to delete a user-defined method list of authentication methods for promoting user's privilege to Admin level.

### Format

**delete authen\_enable method\_list\_name <string 15>**

### Parameters

---

**<string 15>** - The user-defined method list name. This value can be up to 15 characters long.

---

### Restrictions

Only Administrator-level users can issue this command.

## Example

To delete a user-defined method list for promoting user's privilege to Admin level:

```
DGS-3120-24TC:admin# delete authen_enable method_list_name enable_list_1
Command: delete authen_enable method_list_name enable_list_1

Success.

DGS-3120-24TC:admin#
```

## 5-13 show authen\_enable

### Description

This command is used to display the method list of authentication methods for promoting user's privilege to Admin level.

## Format

**show authen\_enable [default | method\_list\_name <string 15> | all]**

## Parameters

---

**default** - Display default user-defined method list for promoting user's privilege to Admin level.  
**method\_list\_name** - Display the specific user-defined method list for promoting user's privilege to Admin level.  
**<string 15>** - Enter the method list name here. This value can be up to 15 characters long.  
**all** - Display all method lists for promoting user's privilege to Admin level.

---

## Restrictions

Only Administrator-level users can issue this command.

## Example

To display all method lists for promoting user's privilege to Admin level:

```
DGS-3120-24TC:admin# show authen_enable method_list_name enable_list_1
Command: show authen_enable method_list_name enable_list_1

Method List Name  Priority  Method Name      Comment
-----
enable_list_1    1        tacacs+          Built-in Group
                  2        tacacs           Built-in Group
                  3        mix_1            User-defined Group
                  4        local            Keyword

Total Entries : 1

DGS-3120-24TC:admin#
```

## 5-14 config authen application

### Description

This command is used to configure login or enable method list for all or the specified application.

### Format

**config authen application [console | telnet | ssh | http | all] [login | enable] [default | method\_list\_name <string 15>]**

### Parameters

---

**console** - Application: console.  
**telnet** - Application: telnet.  
**ssh** - Application: SSH.  
**http** - Application: web.  
**all** - Application: console, telnet, SSH, and web.  
**login** - Select the method list of authentication methods for user login.

---

**enable** - Select the method list of authentication methods for promoting user's privilege to Admin level.

**default** - Default method list.

**method\_list\_name** - The user-defined method list name.

**<string>** - Enter the method list name here. This value can be up to 15 characters long.

---

### Restrictions

Only Administrator-level users can issue this command.

### Example

To configure the login method list for telnet:

```
DGS-3120-24TC:admin# config authen application telnet login method_list_name
login_list_1
Command: config authen application telnet login method_list_name login_list_1

Success.

DGS-3120-24TC:admin#
```

## 5-15 show authen application

### Description

This command is used to display the login/enable method list for all applications.

### Format

**show authen application**

### Parameters

None.

### Restrictions

Only Administrator-level users can issue this command.

### Example

To display the login/enable method list for all applications:

```
DGS-3120-24TC:admin# show authen application
Command: show authen application

Application      Login Method List      Enable Method List
-----
Console          default                 default
Telnet           login_list_1           default
SSH              default                 default
HTTP             default                 default

DGS-3120-24TC:admin#
```

## 5-16 create authen server\_group

### Description

This command is used to create a user-defined authentication server group. The maximum supported number of server groups including built-in server groups is 8. Each group consists of 8 server hosts as maximum.

### Format

**create authen server\_group <string 15>**

### Parameters

**<string 15>** - The user-defined server group name. This value can be up to 15 characters long.

### Restrictions

Only Administrator-level users can issue this command.

### Example

To create a user-defined authentication server group:

```
DGS-3120-24TC:admin# create authen server_group mix_1
Command: create authen server_group mix_1

Success.

DGS-3120-24TC:admin#
```

## 5-17 config authen server\_group

### Description

This command is used to add or remove an authentication server host to or from the specified server group. Built-in server group "tacacs", "xtacacs", "tacacs+", "radius" accepts the server host with the same protocol only, but user-defined server group can accept server hosts with different protocols.

## Format

**config authen server\_group [tacacs | xtacacs | tacacs+ | radius | <string 15>] [add | delete]  
server\_host <ipaddr> protocol [tacacs | xtacacs | tacacs+ | radius]**

## Parameters

---

**server\_group** - User-defined server group.  
**tacacs** - Built-in server group "tacacs".  
**xtacacs** - Built-in server group "xtacacs".  
**tacacs+** - Built-in server group "tacacs+".  
**radius** - Built-in server group "radius".  
**<string 15>** - Enter the server group name here. This value can be up to 15 characters long.

---

**add** - Add a server host to a server group.  
**delete** - Remove a server host from a server group.

---

**server\_host** - Server host's IP address.  
**<ipaddr>** - Enter the server host IP address here.

---

**protocol** - Specifies the authentication protocol used.  
**tacacs** - Specifies that the TACACS authentication protocol will be used.  
**xtacacs** - Specifies that the XTACACS authentication protocol will be used.  
**tacacs+** - Specifies that the TACACS+ authentication protocol will be used.  
**radius** - Specifies that the radius authentication protocol will be used.

---

## Restrictions

Only Administrator-level users can issue this command.

## Example

To add an authentication server host to an server group:

```
DGS-3120-24TC:admin# config authen server_group mix_1 add server_host  
10.1.1.222 protocol  
tacacs+  
Command: config authen server_group mix_1 add server_host 10.1.1.222 protocol  
ta  
cacs+  
  
Success.  
  
DGS-3120-24TC:admin#
```

## 5-18 delete authen server\_group

### Description

This command is used to delete a user-defined authentication server group.

### Format

**delete authen server\_group <string 15>**

### Parameters

---

**<string 15>** - The user-defined server group name. This value can be up to 15 characters long.

---

### Restrictions

Only Administrator-level users can issue this command.

### Example

To delete a user-defined authentication server group:

```
DGS-3120-24TC:admin# delete authen server_group mix_1
Command: delete authen server_group mix_1

Success.

DGS-3120-24TC:admin#
```

## 5-19 show authen server\_group

### Description

This command is used to display the authentication server groups.

### Format

**show authen server\_group {<string 15>}**

### Parameters

---

**<string 15>** - (Optional) The built-in or user-defined server group name. This value can be up to 15 characters long.

---

### Restrictions

Only Administrator-level users can issue this command.

### Example

To display all authentication server groups:



```
DGS-3120-24TC:admin# show authen server_group
Command: show authen server_group

Group Name          IP Address          Protocol
-----
mix_1               10.1.1.222         TACACS+
                   10.1.1.223         TACACS
radius              10.1.1.224         RADIUS
tacacs              10.1.1.225         TACACS
tacacs+             10.1.1.226         TACACS+
xtacacs             10.1.1.227         XTACACS

Total Entries : 5

DGS-3120-24TC:admin#
```

## 5-20 create authen server\_host

### Description

This command is used to create an authentication server host. When an authentication server host is created, IP address and protocol are the index. That means over 1 authentication protocol services can be run on the same physical host. The maximum supported number of server hosts is 16.

### Format

```
create authen server_host <ipaddr> protocol [tacacs | xtacacs | tacacs+ | radius] { port <int 1-65535> | key [<key_string 254> | none] | timeout <int 1-255> | retransmit <int 1-20> }
```

### Parameters

---

<b>server_host</b> - Server host's IP address. <b>&lt;ipaddr&gt;</b> - Enter the server host IP address used here.
<b>protocol</b> - Specifies the host's authentication protocol. <b>tacacs</b> - Server host's authentication protocol. <b>xtacacs</b> - Server host's authentication protocol. <b>tacacs+</b> - Server host's authentication protocol. <b>radius</b> - Server host's authentication protocol.
<b>port</b> - (Optional) The port number of authentication protocol for server host. Default value for TACACS/XTACACS/TACACS+ is 49. Default value for RADIUS is 1812. <b>&lt;int 1-65535&gt;</b> - Enter the authentication protocol port number here. This value must be between 1 and 65535.
<b>key</b> - (Optional) The key for TACACS+ and RADIUS authentication. If the value is null, no encryption will apply. This value is meaningless for TACACS and XTACACS. <b>&lt;key_string 254&gt;</b> - Enter the TACACS+ or the RADIUS key here. This key can be up to 254 characters long. <b>none</b> - No encryption for TACACS+ and RADIUS authentication. This value is meaningless for TACACS and XTACACS.
<b>timeout</b> - (Optional) The time in second for waiting server reply. Default value is 5 seconds. <b>&lt;int 1-255&gt;</b> - Enter the timeout value here. This value must be between 1 and 255 seconds.
<b>retransmit</b> - (Optional) The count for re-transmit. This value is meaningless for TACACS+. Default value is 2. <b>&lt;int 1-20&gt;</b> - Enter the re-transmit value here. This value must be between 1 and 20.

---

## Restrictions

Only Administrator-level users can issue this command.

## Example

To create a TACACS+ authentication server host, its listening port number is 15555 and timeout value is 10 seconds:

```
DGS-3120-24TC:admin# create authen server_host 10.1.1.222 protocol tacacs+ port
15555 timeout 10
Command: create authen server_host 10.1.1.222 protocol tacacs+ port 15555
timeout 10

Success.

DGS-3120-24TC:admin#
```

## 5-21 config authen server\_host

### Description

This command is used to configure an authentication server host.

### Format

**config authen server\_host <ipaddr> protocol [tacacs | xtacacs | tacacs+ | radius] {port <int 1-65535> | key [<key\_string 254> | none ] | timeout <int 1-255> | retransmit <int 1-20>}**

### Parameters

<b>server_host</b> - Server host's IP address. <b>&lt;ipaddr&gt;</b> - Enter the server host IP address here.
<b>protocol</b> - Specifies the server host's authentication protocol. <b>tacacs</b> - Server host's authentication protocol. <b>xtacacs</b> - Server host's authentication protocol. <b>tacacs+</b> - Server host's authentication protocol. <b>radius</b> - Server host's authentication protocol.
<b>port</b> - (Optional) The port number of authentication protocol for server host. Default value for TACACS/XTACACS/TACACS+ is 49. Default value for RADIUS is 1812. <b>&lt;int 1-65535&gt;</b> - Enter the port number here. This value must be between 1 and 65535.
<b>key</b> - (Optional) The key for TACACS+ and RADIUS authentication. If the value is null, no encryption will apply. This value is meaningless for TACACS and XTACACS. <b>&lt;key_string 254&gt;</b> - Enter the TACACS+ key here. This value can be up to 254 characters long. <b>none</b> - No encryption for TACACS+ and RADIUS authentication. This value is meaningless for TACACS and XTACACS.
<b>timeout</b> - (Optional) The time in second for waiting server reply. Default value is 5 seconds. <b>&lt;int 1-255&gt;</b> - Enter the timeout value here. This value must be between 1 and 255 seconds.
<b>retransmit</b> - (Optional) The count for re-transmit. This value is meaningless for TACACS+. Default value is 2. <b>&lt;int 1-20&gt;</b> - Enter the re-transmit value here. This value must be between 1 and 20.

## Restrictions

Only Administrator-level users can issue this command.

## Example

To configure a TACACS+ authentication server host's key value:

```
DGS-3120-24TC:admin# config authen server_host 10.1.1.222 protocol tacacs+ key
"This is a secret"
Command: config authen server_host 10.1.1.222 protocol tacacs+ key "This is a
se cret"

Success.

DGS-3120-24TC:admin#
```

## 5-22 delete authen server\_host

### Description

This command is used to delete an authentication server host.

### Format

**delete authen server\_host <ipaddr> protocol [tacacs | xtacacs | tacacs+ | radius]**

### Parameters

---

**server\_host** - Server host's IP address.  
**<ipaddr>** - Enter the server host's IP address here.

---

**protocol** - Specifies that server host's authentication protocol.  
**tacacs** - Server host's authentication protocol.  
**xtacacs** - Server host's authentication protocol.  
**tacacs+** - Server host's authentication protocol.  
**radius** - Server host's authentication protocol.

---

## Restrictions

Only Administrator-level users can issue this command.

## Example

To delete an authentication server host:

```
DGS-3120-24TC:admin# delete authen server_host 10.1.1.222 protocol tacacs+
Command: delete authen server_host 10.1.1.222 protocol tacacs+

Success.

DGS-3120-24TC:admin#
```

## 5-23 show authen server\_host

### Description

This command is used to display the authentication server hosts.

### Format

**show authen server\_host**

### Parameters

None.

### Restrictions

Only Administrator-level users can issue this command.

### Example

To display all authentication server hosts:

```
DGS-3120-24TC:admin# show authen server_host
Command: show authen server_host

IP Address          Protocol  Port    Timeout  Retransmit  Key
-----
-
10.1.1.222          TACACS+  15555  10       -          This is a secret

Total Entries : 1

DGS-3120-24TC:admin#
```

## 5-24 config authen parameter response\_timeout

### Description

This command is used to configure the amount of time waiting for user input on console, telnet, SSH application.

### Format

**config authen parameter response\_timeout <int 0-255>**

### Parameters

**response\_timeout** - The amount of time for user input on console or telnet or SSH. 0 means there is no time out. Default value is 30 seconds.

**<int 0-255>** - Enter the response timeout value here. This value must be between 0 and 255.

## Restrictions

Only Administrator-level users can issue this command.

## Example

To configure the amount of time waiting or user input to be 60 seconds:

```
DGS-3120-24TC:admin# config authen parameter response_timeout 60
Command: config authen parameter response_timeout 60

Success.

DGS-3120-24TC:admin#
```

## 5-25 config authen parameter attempt

### Description

This command is used to configure the maximum attempts for user's trying to login or promote the privilege on console, telnet, SSH application.

### Format

**config authen parameter attempt <int 1-255>**

### Parameters

---

**attempt** - The amount of attempts for user's trying to login or promote the privilege on console or telnet or SSH. Default value is 3.

**<int 1-255>** - Enter the attempt amount here. This value must be between 1 and 255.

---

## Restrictions

Only Administrator-level users can issue this command.

## Example

To configure the maximum attempts for user's trying to login or promote the privilege to be 9:

```
DGS-3120-24TC:admin# config authen parameter attempt 9
Command: config authen parameter attempt 9

Success.

DGS-3120-24TC:admin#
```

## 5-26 show authen parameter

### Description

This command is used to display the parameters of authentication.

### Format

**show authen parameter**

### Parameters

None.

### Restrictions

Only Administrator-level users can issue this command.

### Example

To display the parameters of authentication:

```
DGS-3120-24TC:admin# show authen parameter
Command: show authen parameter

Response Timeout : 60 seconds
User Attempts    : 9

DGS-3120-24TC:admin#
```

## 5-27 enable admin

### Description

This command is used to enter the administrator level privilege. Promote the "user" privilege level to "admin" level. When the user enters this command, the authentication method tacacs, xtacacs, tacacs+, user-defined server groups, local\_enable or none will be used to authenticate the user. Because TACACS, XTACACS and RADIUS don't support "enable" function in itself, if user wants to use either one of these 3 protocols to do enable authentication, user must create a special account on the server host first, which has a username "enable" and then configure its password as the enable password to support "enable" function.

This command can not be used when authentication policy is disabled.

### Format

**enable admin**

### Parameters

None.

### Restrictions

None.

## Example

To enable administrator lever privilege:

```
DGS-3120-24TC:puser# enable admin
Password:*****
DGS-3120-24TC:admin#
```

## 5-28 config admin local\_enable

### Description

This command is used to config the local enable password of administrator level privilege. When the user chooses the “local\_enable” method to promote the privilege level, the enable password of local device is needed. When the password information is not specified in the command, the system will prompt the user to input the password interactively. For this case, the user can only input the plain text password. If the password is present in the command, the user can select to input the password in the plain text form or in the encrypted form. The encryption algorithm is based on SHA-1.

### Format

**config admin local\_enable**

### Parameters

None.

### Restrictions

Only Administrator-level users can issue this command.

## Example

To configure the administrator password:

```
DGS-3120-24TC:admin# config admin local_enable
Command: config admin local_ebable

Enter the old password:
Enter the case-sensitive new password:*****
Enter the new password again for confirmation:*****
Success.

DGS-3120-24TC:admin#
```

## Chapter 6 Access Control List (ACL) Command List

---

**create access\_profile profile\_id** <value 1-6> profile\_name <name 1-32> [ethernet {vlan {<hex 0x0-0x0fff>} | source\_mac <macmask 000000000000-ffffffff> | destination\_mac <macmask 000000000000-ffffffff> | 802.1p | ethernet\_type} | ip {vlan {<hex 0x0-0x0fff>} | source\_ip\_mask <netmask> | destination\_ip\_mask <netmask> | dscp | [icmp {type | code} | igmp {type} | tcp {src\_port\_mask <hex 0x0-0xffff> | dst\_port\_mask <hex 0x0-0xffff> | flag\_mask [all | {urg | ack | psh | rst | syn | fin}]} | udp {src\_port\_mask <hex 0x0-0xffff> | dst\_port\_mask <hex 0x0-0xffff>} | protocol\_id\_mask <hex 0x0-0xff> {user\_define\_mask <hex 0x0-0xffffffff>}}] | packet\_content\_mask {offset\_chunk\_1 <value 0-31> <hex 0x0-0xffffffff> | offset\_chunk\_2 <value 0-31> <hex 0x0-0xffffffff> | offset\_chunk\_3 <value 0-31> <hex 0x0-0xffffffff> | offset\_chunk\_4 <value 0-31> <hex 0x0-0xffffffff>} | ipv6 {class | flowlabel | source\_ipv6\_mask <ipv6mask> | destination\_ipv6\_mask <ipv6mask> | [tcp {src\_port\_mask <hex 0x0-0xffff> | dst\_port\_mask <hex 0x0-0xffff>} | udp {src\_port\_mask <hex 0x0-0xffff> | dst\_port\_mask <hex 0x0-0xffff>} | icmp {type | code}}]

---

**delete access\_profile** [profile\_id <value 1-6> | profile\_name <name 1-32> | all]

---

**config access\_profile** [profile\_id <value 1-6> | profile\_name <name 1-32>] [add access\_id [auto\_assign | <value 1-256>] [ethernet {[vlan <vlan\_name 32> | vlan\_id <vlanid 1-4094>] {mask <hex 0x0-0x0fff>} | source\_mac <macaddr> {mask <macmask>} | destination\_mac <macaddr> {mask <macmask>} | 802.1p <value 0-7> | ethernet\_type <hex 0x0-0xffff>} | ip {[vlan <vlan\_name 32> | vlan\_id <vlanid 1-4094>] {mask <hex 0x0-0x0fff>} | source\_ip <ipaddr> {mask <netmask>} | destination\_ip <ipaddr> {mask <netmask>} | dscp <value 0-63> | [icmp {type <value 0-255> | code <value 0-255>} | igmp {type <value 0-255>} | tcp {src\_port <value 0-65535> {mask <hex 0x0-0xffff>} | dst\_port <value 0-65535> {mask <hex 0x0-0xffff>} | flag [all | {urg | ack | psh | rst | syn | fin}]} | udp {src\_port <value 0-65535> {mask <hex 0x0-0xffff>} | dst\_port <value 0-65535> {mask <hex 0x0-0xffff>}}] | protocol\_id <value 0-255> {user\_define <hex 0x0-0xffffffff> {mask <hex 0x0-0xffffffff>}}] | packet\_content {offset\_chunk\_1 <hex 0x0-0xffffffff> {mask <hex 0x0-0xffffffff>} | offset\_chunk\_2 <hex 0x0-0xffffffff> {mask <hex 0x0-0xffffffff>} | offset\_chunk\_3 <hex 0x0-0xffffffff> {mask <hex 0x0-0xffffffff>} | offset\_chunk\_4 <hex 0x0-0xffffffff> {mask <hex 0x0-0xffffffff>}}] | ipv6 {class <value 0-255> | flowlabel <hex 0x0-0xffff> | source\_ipv6 <ipv6addr> {mask <ipv6mask>} | destination\_ipv6 <ipv6addr> {mask <ipv6mask>} | [tcp {src\_port <value 0-65535> {mask <hex 0x0-0xffff>} | dst\_port <value 0-65535> {mask <hex 0x0-0xffff>}}] | udp {src\_port <value 0-65535> {mask <hex 0x0-0xffff>} | dst\_port <value 0-65535> {mask <hex 0x0-0xffff>}}] | icmp {type <value 0-255> | code <value 0-255>}}] | port [<portlist> | all] | vlan\_based [vlan <vlan\_name 32> | vlan\_id <vlanid 1-4094>] [permit {priority <value 0-7> {replace\_priority} | [replace\_dscp\_with <value 0-63> | replace\_tos\_precedence\_with <value 0-7>] | counter [enable | disable]}] | mirror | deny] {time\_range <range\_name 32>} | delete access\_id <value 1-256>]

---

**show access\_profile** {[profile\_id <value 1-6> | profile\_name <name 1-32>]}

---

**config flow\_meter** [profile\_id <value 1-6> | profile\_name <name 1-32>] access\_id <value 1-256> [rate <value 0-1048576>] {burst\_size <value 0-131072>} rate\_exceed [drop\_packet | remark\_dscp <value 0-63>] | tr\_tcm cir <value 0-1048576> {cbs <value 0-131072>} pir <value 0-1048576> {pbs <value 0-131072>} [{color\_blind | color\_aware}] {conform [permit | replace\_dscp <value 0-63>] {counter [enable | disable]}} exceed [permit {replace\_dscp <value 0-63>} | drop] {counter [enable | disable]} | sr\_tcm cir <value 0-1048576> cbs <value 0-131072> ebs <value 0-131072> [{color\_blind | color\_aware}] {conform [permit | replace\_dscp <value 0-63>] {counter [enable | disable]}} exceed [permit {replace\_dscp <value 0-63>} | drop] {counter [enable | disable]} | violate [permit {replace\_dscp <value 0-63>} | drop] {counter [enable | disable]}] | delete]

---

**show flow\_meter** {[profile\_id <value 1-6> | profile\_name <name 1-32>] {access\_id <value 1-256>}}

---



---

```
config time_range <range_name 32> [hours start_time <time hh:mm:ss> end_time <time hh:mm:ss> weekdays <daylist> | delete]
```

---

```
show time_range
```

---

```
show current_config access_profile
```

---

## 6-1 create access\_profile

### Description

The create access\_profile command is used to create access list rules.

Support for field selections can have additional limitations that are project dependent.

For example, for some hardware, it may be invalid to specify a class and source IPv6 address at the same time. The user will be prompted with these limitations.

### Format

```
create access_profile profile_id <value 1-6> profile_name <name 1-32> [ethernet {vlan {<hex 0x0-0x0fff>} | source_mac <macmask 000000000000-ffffffff> | destination_mac <macmask 000000000000-ffffffff> | 802.1p | ethernet_type} | ip {vlan {<hex 0x0-0x0fff>} | source_ip_mask <netmask> | destination_ip_mask <netmask> | dscp | [icmp {type | code} | igmp {type} | tcp {src_port_mask <hex 0x0-0xffff> | dst_port_mask <hex 0x0-0xffff> | flag_mask [all | {urg | ack | psh | rst | syn | fin}]} | udp {src_port_mask <hex 0x0-0xffff> | dst_port_mask <hex 0x0-0xffff> | protocol_id_mask <hex 0x0-0xff> {user_define_mask <hex 0x0-0xffffffff>}}] | packet_content_mask {offset_chunk_1 <value 0-31> <hex 0x0-0xffffffff> | offset_chunk_2 <value 0-31> <hex 0x0-0xffffffff> | offset_chunk_3 <value 0-31> <hex 0x0-0xffffffff> | offset_chunk_4 <value 0-31> <hex 0x0-0xffffffff>} | ipv6 {class | flowlabel | source_ipv6_mask <ipv6mask> | destination_ipv6_mask <ipv6mask> | [tcp {src_port_mask <hex 0x0-0xffff> | dst_port_mask <hex 0x0-0xffff>} | udp {src_port_mask <hex 0x0-0xffff> | dst_port_mask <hex 0x0-0xffff>} | icmp {type | code}}]}
```

Option 1:

```
packet_content_mask {offset_chunk_1 <value 0-31> <hex 0x0-0xffffffff> | offset_chunk_2 <value 0-31> <hex 0x0-0xffffffff> | offset_chunk_3 <value 0-31> <hex 0x0-0xffffffff> | offset_chunk_4 <value 0-31> <hex 0x0-0xffffffff>}
```

### Parameters

---

<b>profile_id</b>	- Specifies the index of the access list profile. <b>&lt;value 1-6&gt;</b> - Enter the profile ID here. This value must be between 1 and 6.
<b>profile_name</b>	- The name of the profile must be specified. The maximum length is 32 characters. <b>&lt;name 1-32&gt;</b> - Enter the profile name here.
<b>ethernet</b>	- Specifies this is an ethernet mask.
<b>vlan</b>	- (Optional) Specifies a VLAN mask. Only the last 12 bits of the mask will be considered. <b>&lt;hex 0x0-0x0fff&gt;</b> - Enter the VLAN mask value here.
<b>source_mac</b>	- (Optional) Specifies the source MAC mask. <b>&lt;macmask&gt;</b> - Enter the source MAC address used here.
<b>destination_mac</b>	- (Optional) Specifies the destination MAC mask. <b>&lt;macmask&gt;</b> - Enter the destination MAC address used here.
<b>802.1p</b>	- (Optional) Specifies the 802.1p priority tag mask.
<b>ethernet_type</b>	- (Optional) Specifies the Ethernet type mask.
<b>ip</b>	- Specifies this is a IPv4 mask.

---

---

<b>vlan</b> - (Optional) Specifies a VLAN mask. Only the last 12 bits of the mask will be considered. <b>&lt;hex 0x0-0x0fff&gt;</b> - Enter the VLAN mask value here.
<b>source_ip_mask</b> - (Optional) Specifies a source IP address mask. <b>&lt;netmask&gt;</b> - Enter the source IP address mask here.
<b>destination_ip_mask</b> - (Optional) Specifies a destination IP address mask. <b>&lt;netmask&gt;</b> - Enter the destination IP address mask here.
<b>dscp</b> - (Optional) Specifies the DSCP mask.
<b>icmp</b> - (Optional) Specifies that the rule applies to ICMP traffic. <b>type</b> - Specifies the type of ICMP traffic. <b>code</b> - Specifies the code of ICMP traffic
<b>igmp</b> - (Optional) Specifies that the rule applies to IGMP traffic. <b>type</b> - Specifies the type of IGMP traffic.
<b>tcp</b> - (Optional) Specifies that the rule applies to TCP traffic. <b>src_port_mask</b> - Specifies the TCP source port mask. <b>&lt;hex 0x0-0xffff&gt;</b> - Enter the TCP source port mask here. <b>dst_port_mask</b> - Specifies the TCP destination port mask. <b>&lt;hex 0x0-0xffff&gt;</b> - Enter the TCP destination port mask here.
<b>flag_mask</b> - (Optional) Specifies the TCP flag field mask. <b>all</b> - Specifies that all the flags will be used for the TCP mask. <b>urg</b> - Specifies that the TCP flag field will be set to 'urg'. <b>ack</b> - Specifies that the TCP flag field will be set to 'ack'. <b>psh</b> - Specifies that the TCP flag field will be set to 'psh'. <b>rst</b> - Specifies that the TCP flag field will be set to 'rst'. <b>syn</b> - Specifies that the TCP flag field will be set to 'syn'. <b>fin</b> - Specifies that the TCP flag field will be set to 'fin'.
<b>udp</b> - (Optional) Specifies that the rule applies to UDP traffic. <b>src_port_mask</b> - Specifies the UDP source port mask. <b>&lt;hex 0x0-0xffff&gt;</b> - Enter the UDP source port mask here. <b>dst_port_mask</b> - Specifies the UDP destination port mask. <b>&lt;hex 0x0-0xffff&gt;</b> - Enter the UDP destination port mask here.
<b>protocol_id_mask</b> - (Optional) Specifies that the rule applies to IP protocol ID traffic. <b>&lt;0x0-0xff&gt;</b> - Enter the protocol ID mask here.
<b>user_define_mask</b> - (Optional) Specifies that the rule applies to the IP protocol ID, and that the mask option behind the IP header length is 20 bytes. <b>&lt;hex 0x0-0xffffffff&gt;</b> - Enter a user-defined mask value here.
<b>packet_content_mask</b> - Specifies the packet content mask. Only one packet_content_mask profile can be created. <b>offset_chunk_1</b> - (Optional) Specifies that the offset chunk 1 will be used. <b>&lt;value 0-31&gt;</b> - Enter the offset chunk 1 value here. This value must be between 0 and 31. <b>&lt;hex 0x0-0xffffffff&gt;</b> - Enter the offset chunk 1 mask here. <b>offset_chunk_2</b> - (Optional) Specifies that the offset chunk 2 will be used. <b>&lt;value 0-31&gt;</b> - Enter the offset chunk 2 value here. This value must be between 0 and 31. <b>&lt;hex 0x0-0xffffffff&gt;</b> - Enter the offset chunk 2 mask here. <b>offset_chunk_3</b> - (Optional) Specifies that the offset chunk 3 will be used. <b>&lt;value 0-31&gt;</b> - Enter the offset chunk 3 value here. This value must be between 0 and 31. <b>&lt;hex 0x0-0xffffffff&gt;</b> - Enter the offset chunk 3 mask here. <b>offset_chunk_4</b> - (Optional) Specifies that the offset chunk 4 will be used. <b>&lt;value 0-31&gt;</b> - Enter the offset chunk 4 value here. This value must be between 0 and 31. <b>&lt;hex 0x0-0xffffffff&gt;</b> - Enter the offset chunk 4 mask here.
<b>ipv6</b> - (Optional) Specifies this is the IPv6 mask.
<b>class</b> - (Optional) Specifies the IPv6 class.
<b>flowlabel</b> - (Optional) Specifies the IPv6 flow label.
<b>source_ipv6_mask</b> - (Optional) Specifies an IPv6 source sub-mask. <b>&lt;ipv6mask&gt;</b> - Enter the source IPv6 mask value here.
<b>destination_ipv6_mask</b> - (Optional) Specifies an IPv6 destination sub-mask. <b>&lt;ipv6mask&gt;</b> - Enter the destination IPv6 mask value here.
<b>tcp</b> - (Optional) Specifies that the rule applies to TCP traffic. <b>src_port_mask</b> - Specifies an IPv6 Layer 4 TCP source port mask. <b>&lt;hex 0x0-0xffff&gt;</b> - Enter the TCP source port mask value here.

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<b>des_port_mask</b> - Specifies an IPv6 Layer 4 TCP destination port mask. <b>&lt;hex 0x0-0xffff&gt;</b> - Enter the TCP destination port mask value here.
<b>udp</b> - (Optional) Specifies that the rule applies to UDP traffic. <b>src_port_mask</b> - Specifies the UDP source port mask. <b>&lt;hex 0x0-0xffff&gt;</b> - Enter the UDP source port mask value here. <b>dst_port_mask</b> - Specifies the UDP destination port mask. <b>&lt;hex 0x0-0xffff&gt;</b> - Enter the UDP destination port mask value here.
<b>icmp</b> - (Optional) Specifies a mask for ICMP filtering. <b>type</b> - Specifies the inclusion of the ICMP type field in the mask. <b>code</b> - Specifies the inclusion of the ICMP code field in the mask.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To create an access profile:

```
DGS-3120-24TC:admin# create access_profile profile_id 1 profile_name t1
ethernet vlan source_mac 00-00-00-00-00-01 destination_mac 00-00-00-00-00-02
802.1p ethernet_type
Command: create access_profile profile_id 1 profile_name 1 ethernet vlan
source_mac 00-00-00-00-00-01 destination_mac 00-00-00-00-00-02 802.1p
ethernet_type

Success.

DGS-3120-24TC:admin# create access_profile profile_id 2 profile_name 2 ip vlan
source_ip_mask 20.0.0.0 destination_ip_mask 10.0.0.0 dscp icmp type code
Command: create access_profile profile_id 2 profile_name t2 ip vlan
source_ip_mask 20.0.0.0 destination_ip_mask 10.0.0.0 dscp icmp type code

Success.

DGS-3120-24TC:admin# create access_profile profile_id 4 profile_name 4
packet_content_mask offset_chunk_1 3 0xFFFF offset_chunk_2 5 0xFF00
offset_chunk_3 14 0xFFFF0000 offset_chunk_4 16 0xFF000000
Command: create access_profile profile_id 4 profile_name 4 packet_content_mask
offset_chunk_1 3 0xFFFF offset_chunk_2 5 0xFF00 offset_chunk_3 14 0xFFFF0000
offset_chunk_4 16 0xFF000000

Success.

DGS-3120-24TC:admin#
```

## 6-2 delete access\_profile

### Description

The delete access\_profile command deletes access list profiles.

The delete access\_profile command can only delete profiles that were created using the ACL module.

**Format**

delete access\_profile [profile\_id <value 1-6> | profile\_name <name 1-32> | all]

**Parameters**

**profile\_id** - Specifies the index of the access list profile.

<value 1-6> - Enter the profile ID value here. This value must be between 1 and 6.

**profile\_name** - Specifies the name of the profile. The maximum length is 32 characters.

<name 1-32> - Enter the profile name here. This value must be between 1 and 32.

**all** - Specifies that the whole access list profile will be deleted.

**Restrictions**

Only Administrator, Operator and Power-User level users can issue this command.

**Example**

To delete the access list rule with a profile ID of 10:

```
DGS-3120-24TC:admin# delete access_profile profile_id 10
Command: delete access_profile profile_id 10

Success.

DGS-3120-24TC:admin#
```

**6-3 config access\_profile****Description**

The config access\_profile command is used to configure an access list entry. The ACL mirror function works after the mirror has been enabled and the mirror port has been configured using the mirror command.

When applying an access rule to a target, the setting specified in the VLAN field will not take effect if the target is a VLAN.

**Format**

config access\_profile [profile\_id <value 1-6> | profile\_name <name 1-32>] [add access\_id [auto\_assign | <value 1-256>] [ethernet {[vlan <vlan\_name 32> | vlan\_id <vlanid 1-4094>] {mask <hex 0x0-0x0fff>} | source\_mac <macaddr> {mask <macmask>} | destination\_mac <macaddr> {mask <macmask>} | 802.1p <value 0-7> | ethernet\_type <hex 0x0-0xffff>} | ip {[vlan <vlan\_name 32> | vlan\_id <vlanid 1-4094>] {mask <hex 0x0-0x0fff>} | source\_ip <ipaddr> {mask <netmask>} | destination\_ip <ipaddr> {mask <netmask>} | dscp <value 0-63> | [icmp {type <value 0-255> | code <value 0-255>} | igmp {type <value 0-255>} | tcp {src\_port <value 0-65535> {mask <hex 0x0-0xffff>} | dst\_port <value 0-65535> {mask <hex 0x0-0xffff>} | flag [all | {urg | ack | psh | rst | syn | fin}]] | udp {src\_port <value 0-65535> {mask <hex 0x0-0xffff>} | dst\_port <value 0-65535> {mask <hex 0x0-0xffff>} | protocol\_id <value 0-255> {user\_define <hex 0x0-0xffffffff> {mask <hex 0x0-0xffffffff>}}]] | packet\_content {offset\_chunk\_1 <hex 0x0-0xffffffff> {mask <hex 0x0-0xffffffff>} | offset\_chunk\_2 <hex 0x0-0xffffffff> {mask <hex 0x0-0xffffffff>} | offset\_chunk\_3 <hex 0x0-0xffffffff> {mask <hex 0x0-0xffffffff>} | offset\_chunk\_4 <hex 0x0-0xffffffff> {mask <hex 0x0-

0xffffffff}} | ipv6 {class <value 0-255> | flowlabel <hex 0x0-0xffff> | source\_ipv6 <ipv6addr> {mask<ipv6mask>} | destination\_ipv6 <ipv6addr> {mask <ipv6mask>} | [tcp {src\_port <value 0-65535> {mask <hex 0x0-0xffff>} | dst\_port <value 0-65535> {mask <hex0x0-0xffff>}} | udp {src\_port <value 0-65535> {mask <hex 0x0-0xffff>} | dst\_port <value 0-65535> {mask <hex 0x0-0xffff>}} | icmp {type <value 0-255> | code <value 0-255>}}] [port [<portlist> | all] | vlan\_based [vlan <vlan\_name 32> | vlan\_id <vlanid 1-4094>]] [permit {priority <value 0-7> {replace\_priority} | [replace\_dscp\_with <value 0-63> | replace\_tos\_precedence\_with <value 0-7>]} | counter [enable | disable]} | mirror | deny] {time\_range <range\_name 32>} | delete access\_id <value 1-256>]

Option 1:

packet\_content {offset\_chunk\_1 <hex 0x0-0xffffffff> | offset\_chunk\_2 <hex 0x0-0xffffffff> | offset\_chunk\_3 <hex 0x0-0xffffffff> | offset\_chunk\_4 <hex 0x0-0xffffffff>}

## Parameters

<b>profile_id</b> - Specifies the index of the access list profile. <value 1-6> - Enter the profile ID value here. This value must be between 1 and 6.
<b>profile_name</b> - Specifies the name of the profile. <name 1-32> - Enter the profile name here. This name can be up to 32 characters long.
<b>add</b> - Specifies that a profile or a rule will be added.
<b>access_id</b> - Specifies the index of the access list entry. The value range is 1-256, but the supported maximum number of entries depends on the project. If the auto_assign option is selected, the access ID is automatically assigned, when adding multiple ports. auto_assign - Specifies that the access ID will automatically be assigned. <value 1-256> - Enter the access ID used here. This value must be between 1 and 256.
<b>ethernet</b> - Specifies to configure the ethernet access profile.
<b>vlan</b> - (Optional) Specifies the VLAN name. <vlan_name 32> - Enter the name of the VLAN here. This name can be up to 32 characters long.
<b>vlan_id</b> - (Optional) Specifies the VLAN ID used. <vlanid 1-4094> - Enter the VLAN ID used here. This value must be between 1 and 4094.
<b>mask</b> - (Optional) Specifies an additional mask parameter that can be configured. <hex 0x0-0x0fff> - Enter the mask value here.
<b>source_mac</b> - (Optional) Specifies the source MAC address. <macaddr> - Enter the source MAC address used for this configuration here.
<b>mask</b> - (Optional) Specifies an additional mask parameter that can be configured. <macmask> - Enter the source MAC mask used here.
<b>destination_mac</b> - (Optional) Specifies the destination MAC address. <macaddr> - Enter the destination MAC address used for this configuration here.
<b>mask</b> - (Optional) Specifies an additional mask parameter that can be configured. <macmask> - Enter the destination MAC mask here.
<b>802.1p</b> - (Optional) Specifies the value of the 802.1p priority tag. The priority tag ranges from 1 to 7. <value 0-7> - Enter the 802.1p priority tag value here.
<b>ethernet_type</b> - (Optional) Specifies the Ethernet type. <hex 0x0-0xffff> - Enter the Ethernet type mask here.
<b>ip</b> - (Optional) Specifies to configure the IP access profile.
<b>vlan</b> - (Optional) Specifies a VLAN name. <vlan_name 32> - Enter the name of the VLAN here. This name can be up to 32 characters long.
<b>vlan_id</b> - (Optional) Specifies that VLAN ID used. <vlanid 1-4094> - Enter the VLAN ID used here. This value must be between 1 and 4094.
<b>mask</b> - Specifies an additional mask parameter that can be configured. <hex 0x0-0x0fff> - Enter the mask value here.

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<b>source_ip</b> - (Optional) Specifies an IP source address. <b>&lt;ipaddr&gt;</b> - Enter the source IP address used for this configuration here. <b>mask</b> - Specifies an additional mask parameter that can be configured. <b>&lt;netmask&gt;</b> - Enter the source netmask used here.
<b>destination_ip</b> - (Optional) Specifies an IP destination address. <b>&lt;ipaddr&gt;</b> - Enter the destination IP address used for this configuration here. <b>mask</b> - Specifies an additional mask parameter that can be configured. <b>&lt;netmask&gt;</b> - Enter the destination netmask used here.
<b>dscp</b> - (Optional) Specifies the value of DSCP. The DSCP value ranges from 0 to 63. <b>&lt;value&gt;</b> - Enter the DSCP value here.
<b>icmp</b> - (Optional) Specifies to configure the ICMP parameters. <b>type</b> - Specifies that the rule will apply to the ICMP Type traffic value. <b>&lt;value 0-255&gt;</b> - Enter the ICMP type traffic value here. This value must be between 0 and 255. <b>code</b> - Specifies that the rule will apply to the ICMP Code traffic value. <b>&lt;value 0-255&gt;</b> - Enter the ICMP code traffic value here. This value must be between 0 and 255.
<b>igmp</b> - (Optional) Specifies to configure the IGMP parameters. <b>type</b> - Specifies that the rule will apply to the IGMP Type traffic value. <b>&lt;value 0-255&gt;</b> - Enter the IGMP type traffic value here. This value must be between 0 and 255.
<b>tcp</b> - Specifies to configure the TCP parameters. <b>src_port</b> - (Optional) Specifies that the rule will apply to a range of TCP source ports. <b>&lt;value 0-65535&gt;</b> - Enter the TCP source port value here. This value must be between 0 and 65535. <b>mask</b> - (Optional) Specifies an additional mask parameter that can be configured. <b>&lt;hex 0x0-0xffff&gt;</b> - Enter the source port mask here. <b>dst_port</b> - (Optional) Specifies that the rule will apply to a range of TCP destination ports. <b>&lt;value 0-65535&gt;</b> - Enter the TCP destination port value here. This value must be between 0 and 65535. <b>mask</b> - (Optional) Specifies an additional mask parameter that can be configured. <b>&lt;hex 0x0-0xffff&gt;</b> - Enter the destination port mask here.
<b>flag</b> - (Optional) Specifies the TCP flag fields. <b>all</b> - Specifies that all the TCP flags will be used in this configuration. <b>urg</b> - Specifies that the TCP flag field will be set to 'urg'. <b>ack</b> - Specifies that the TCP flag field will be set to 'ack'. <b>psh</b> - Specifies that the TCP flag field will be set to 'psh'. <b>rst</b> - Specifies that the TCP flag field will be set to 'rst'. <b>syn</b> - Specifies that the TCP flag field will be set to 'syn'. <b>fin</b> - Specifies that the TCP flag field will be set to 'fin'.
<b>udp</b> - Specifies to configure the UDP parameters. <b>src_port</b> - (Optional) Specifies the UDP source port range. <b>&lt;value 0-65535&gt;</b> - Enter the UDP source port value here. This value must be between 0 and 65535. <b>mask</b> - (Optional) Specifies an additional mask parameter that can be configured. <b>&lt;hex 0x0-0xffff&gt;</b> - Enter the source port mask here, <b>dst_port</b> - (Optional) Specifies the UDP destination port range. <b>&lt;value 0-65535&gt;</b> - Enter the UDP destination port value here. This value must be between 0 and 65535. <b>mask</b> - (Optional) Specifies an additional mask parameter that can be configured. <b>&lt;hex 0x0-0xffff&gt;</b> - Enter the destination port mask here.
<b>protocol_id</b> - Specifies that the rule will apply to the value of IP protocol ID traffic. <b>&lt;value 0-255&gt;</b> - Enter the protocol ID used here.
<b>user_define</b> - (Optional) Specifies that the rule will apply to the IP protocol ID and that the mask options behind the IP header, which has a length of 20 bytes. <b>&lt;hex 0x0-0xffffffff&gt;</b> - Enter the user-defined mask value here. <b>mask</b> - Specifies an additional mask parameter that can be configured. <b>&lt;hex 0x0-0xffffffff&gt;</b> - Enter the mask value here.
<b>packet_content</b> - A maximum of 11 offsets can be specified. Each offset defines 2 bytes of data

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which is identified as a single UDF field. The offset reference is also configurable. It can be defined to start at the end of the tag, the end of the ether type or the end of the IP header. To qualify the fields before the end of the tag, the destination address, source address, and the VLAN tags are also included

**offset\_chunk\_1** - (Optional) Specifies the value of the packet bytes to be matched. Offset chunk 1 will be used.

**<hex 0x0-0xffffffff>** - Enter the offset chunk 1 mask here.

**offset\_chunk\_2** - (Optional) Specifies the value of the packet bytes to be matched. Offset chunk 2 will be used.

**<hex 0x0-0xffffffff>** - Enter the offset chunk 2 mask here.

**offset\_chunk\_3** - (Optional) Specifies the value of the packet bytes to be matched. Offset chunk 3 will be used.

**<hex 0x0-0xffffffff>** - Enter the offset chunk 3 mask here.

**offset\_chunk\_4** - (Optional) Specifies the value of the packet bytes to be matched. Offset chunk 4 will be used.

**<hex 0x0-0xffffffff>** - Enter the offset chunk 4 mask here.

---

**ipv6** - Specifies that the rule applies to IPv6 fields.

**class** - (Optional) Specifies the value of the IPv6 class.

**<value 0-255>** - Enter the IPv6 class value here. This value must be between 0 and 255.

**flowlabel** - (Optional) Specifies the value of the IPv6 flow label.

**<hex 0x0-0xffff>** - Enter the IPv6 flow label mask used here.

**source\_ipv6** - (Optional) Specifies the value of the IPv6 source address.

**<ipv6addr>** - Enter the source IPv6 address used for this configuration here.

**mask** - (Optional) Specifies an additional mask parameter that can be configured.

**<ipv6mask>** - Enter the source IPv6 mask here.

**destination\_ipv6** - (Optional) Specifies the value of the IPv6 destination address.

**<ipv6addr>** - Enter the destination IPv6 address used for this configuration here.

**mask** - (Optional) Specifies an additional mask parameter that can be configured.

**<ipv6mask>** - Enter the destination IPv6 mask here.

**tcp** - (Optional) Specifies to configure the TCP parameters.

**src\_port** - Specifies the value of the IPv6 Layer 4 TCP source port.

**<value 0-65535>** - Enter the TCP source port value here. This value must be between 0 and 65535.

**mask** - Specifies an additional mask parameter that can be configured.

**<hex 0x0-0xffff>** - Enter the TCP source port mask value here.

**dst\_port** - (Optional) Specifies the value of the IPv6 Layer 4 TCP destination port.

**<value 0-65535>** - Enter the TCP destination port value here. This value must be between 0 and 65535.

**mask** - Specifies an additional mask parameter that can be configured.

**<hex 0x0-0xffff>** - Enter the TCP destination port mask value here.

**udp** - (Optional) Specifies to configure the UDP parameters.

**src\_port** - Specifies the value of the IPv6 Layer 4 UDP source port.

**<value 0-65535>** - Enter the UDP source port value here. This value must be between 0 and 65535.

**mask** - Specifies an additional mask parameter that can be configured.

**<hex 0x0-0xffff>** - Enter the UDP source port mask value here.

**dst\_port** - Specifies the value of the IPv6 Layer 4 UDP destination port.

**<value 0-65535>** - Enter the UDP destination port value here. This value must be between 0 and 65535.

**mask** - Specifies an additional mask parameter that can be configured.

**<hex 0x0-0xffff>** - Enter the UDP destination port mask value here.

**icmp** - (Optional) Specifies to configure the ICMP parameters used.

**type** - Specifies that the rule applies to the value of ICMP type traffic.

**<value 0-255>** - Enter the ICMP type traffic value here. This value must be between 0 and 255.

**code** - Specifies that the rule applies to the value of ICMP code traffic.

**<value 0-255>** - Enter the ICMP code traffic value here. This value must be between 0 and 255.

**port** - Specifies the port list used for this configuration.

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<b>&lt;portlist&gt;</b> - Enter a list of ports used for the configuration here.
<b>all</b> - Specifies that all the ports will be used for this configuration.
<b>vlan_based</b> - Specifies that the rule will be VLAN based.
<b>vlan</b> - Specifies the VLAN name used for this configuration.
<b>&lt;vlan_name&gt;</b> - Enter the VLAN name used for this configuration here.
<b>vlan_id</b> - Specifies the VLAN ID used for this configuration.
<b>&lt;vlanid 1-4094&gt;</b> - Enter the VLAN ID used here. This value must be between 1 and 4094.
<b>permit</b> - Specifies that packets matching the access rule are permitted by the switch.
<b>priority</b> - (Optional) Specifies that the priority of the packet will change if the packet matches the access rule.
<b>&lt;value 0-7&gt;</b> - Enter the priority value here. This value must be between 0 and 7.
<b>replace_priority</b> - (Optional) Specifies that the 802.1p priority of the outgoing packet will be replaced.
<b>replace_dscp_with</b> - (Optional) Specifies that the DSCP of the outgoing packet is changed with the new value. If using this action without an action priority, the packet will be sent to the default TC.
<b>&lt;value 0-63&gt;</b> - Enter the replace DSCP with value here. This value must be between 0 and 63.
<b>replace_tos_precedence_with</b> - (Optional) Specifies that the IP precedence of the outgoing packet is changed with the new value. If used without an action priority, the packet is sent to the default TC.
<b>&lt;value 0-7&gt;</b> - Enter the replace ToS precedence with value here. This value must be between 0 and 7.
<b>counter</b> - (Optional) Specifies whether the ACL counter feature is enabled or disabled. This parameter is optional. The default option is disabled. If the rule is not bound with the flow_meter, all matching packets are counted. If the rule is bound with the flow_meter, then the "counter" is overridden.
<b>enable</b> - Specifies that the ACL counter feature will be enabled.
<b>disable</b> - Specifies that the ACL counter feature will be disabled.
<b>deny</b> - Specifies that packets matching the access rule are filtered by the switch.
<b>mirror</b> - Specifies that packets matching the access rules are copied to the mirror port.
<b>time_range</b> - (Optional) Specifies the name of the time range entry.
<b>&lt;range_name 32&gt;</b> - Enter the time range name here. This name can be up to 32 characters long.
<b>delete</b> - Specifies that a profile or a rule will be deleted.
<b>access_id</b> - Specifies the index of the access list entry. The value range is 1-256, but the supported maximum number of entries depends on the project. If the auto_assign option is selected, the access ID is automatically assigned, when adding multiple ports.
<b>&lt;value 1-256&gt;</b> - Enter the access ID used here. This value must be between 1 and 256.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure a rule entry for a packet content mask profile (option 3):

```
DGS-3120-24TC:admin# config access_profile profile_id 5 add access_id
auto_assign packet_content offset5 0xF0 port all deny
Command: config access_profile profile_id 5 add access_id auto_assign
packet_content offset5 0xF0 port all deny

Success.

DGS-3120-24TC:admin#
```



## 6-4 show access\_profile

### Description

The show access\_profile command displays the current access list table.

### Format

**show access\_profile** {[profile\_id <value 1-6> | profile\_name <name 1-32>]}

### Parameters

**profile\_id** - (Optional) Specifies the index of the access list profile.

**<value 1-6>** - Enter the profile ID used here. This value must be between 1 and 6.

**profile\_name** - (Optional) Specifies the name of the profile.

**<name 1-32>** - Enter the profile name used here. This name can be up to 32 characters long.

### Restrictions

None.

### Example

To display the current access list table:

```
DGS-3120-24TC:admin#show access_profile
Command: show access_profile

Access Profile Table

Total User Set Rule Entries : 4
Total Used HW Entries      : 5
Total Available HW Entries : 1531

=====
Profile ID: 1      Profile name: EtherACL  Type: Ethernet

MASK on
  VLAN           : 0xFFFF
  802.1p
  Ethernet Type

Available HW Entries : 255
-----
Rule ID : 1      Ports: 1:1

Match on
  VLAN ID       : 1
  802.1p        : 0
  Ethernet Type : 0xFFFFE

Action:
  Permit
```

```
=====
Profile ID: 2      Profile name: IPv4ACL  Type: IPv4

MASK on
  VLAN           : 0xFFF
  DSCP
  ICMP

Available HW Entries : 255
-----
Rule ID : 1      Ports: 1:2

Match on
  VLAN ID       : 1
  DSCP          : 0

Action:
  Permit

=====
Profile ID: 3      Profile name: IPv6ACL  Type: IPv6

MASK on
  Class
  TCP

Available HW Entries : 254
-----
Rule ID : 1      Ports: 1:3

Match on
  Class         : 0

Action:
  Permit

=====
Profile ID: 4      Profile name: PCACL   Type: User Defined

MASK on
  offset_chunk_1 : 0      value : 0x00000000
  offset_chunk_2 : 1      value : 0x00000000
  offset_chunk_3 : 2      value : 0x00000000
  offset_chunk_4 : 3      value : 0x00000000
```

```

Available HW Entries : 255
-----
-
Rule ID : 1          Ports: 1:4

Match on
  offset_chunk_1 : 0      value : 0x0000FFEE      Mask : 0x0000FFEE

Action:
  Permit
  Priority          : 1
  Replace DSCP     : 1

=====

DGS-3120-24TC:admin#
    
```

The following example displays an access profile that supports an entry mask for each rule:

```

DGS-3120-24TC:admin# show access_profile profile_id 2
Command: show access_profile profile_id 2

Access Profile Table

Profile ID: 2      Profile Name: 2                      Type : Ethernet
Mask on
  VLAN              : 0xF
  Source MAC        : FF-FF-FF-00-00-00
  Destination MAC   : 00-00-00-FF-FF-FF
Available HW Entries: 255
-----
-
Rule ID : 22      Ports: 1-7

Match on
  VLAN ID           : 8                      Mask : 0xFFF
  Source MAC        : 00-01-02-03-04-05      Mask : FF-FF-FF-FF-FF-FF
  Destination MAC   : 00-05-04-03-02-00      Mask : FF-FF-FF-FF-FF-00

Action:
Deny

DGS-3120-24TC:admin#
    
```

The following example displays the packet content mask profile for the profile with an ID of 5:

```

DGS-3120-24TC:admin#show access_profile profile_id 5
Command: show access_profile profile_id 5

Access Profile Table

Profile ID: 5      Profile name:5  Type: User Defined

MASK on
  offset_chunk_1 : 3      value : 0x0000FFFF
  offset_chunk_2 : 5      value : 0x0000FF00
  offset_chunk_3 : 14     value : 0xFFFF0000
  offset_chunk_4 : 16     value : 0xFF000000

Available HW Entries : 255
-----
-
Rule ID : 1      Ports: 1:1-1:2

Match on
  offset_chunk_1 : 3      value : 0x000086DD
  offset_chunk_2 : 5      value : 0x00003A00
  offset_chunk_3 : 14     value : 0x86000000

Action:
  Deny

DGS-3120-24TC:admin#

```

## 6-5 config flow\_meter

### Description

This command is used to configure the flow-based metering function. The metering function supports three modes: single rate two color, single rate three color, and two rate three color. The access rule must be created before the parameters of this function can be applied.

For the single rate two color mode, users may set the preferred bandwidth for this rule, in Kbps, and once the bandwidth has been exceeded, overflowing packets will either be dropped or have a drop precedence set, depending on the user configuration.

For single rate three color mode, users need to specify the committed rate, in Kbps, the committed burst size, and the excess burst size.

For the two rate three color mode, users need to specify the committed rate in Kbps, the committed burst size, the peak rate and the peak burst size.

There are two cases for mapping the color of a packet: Color-blind mode and Color-aware mode. In the Color-blind case, the determination for the packet's color is based on the metering result. In the Color-aware case, the determination for the packet's color is based on the metering result and the ingress DSCP.

When color-blind or color-aware is not specified, color-blind is the default mode.

The green color packet will be treated as the conforming action, the yellow color packet will be treated as the exceeding action, and the red color packet will be treated as the violating action.

The replace DSCP action can be performed on packets that conform (GREEN) and packets that do not conform (YELLOW and RED). If drop YELLOW/RED is selected, the action to replace the DSCP will not take effect.

## Format

```
config flow_meter [profile_id <value 1-6> | profile_name <name 1-32>] access_id <value 1-256> [rate <value 0-1048576>] {burst_size [<value 0-131072>]} rate_exceed [drop_packet | remark_dscp <value 0-63>] | tr_tcm cir <value 0-1048576> {cbs <value 0-131072>} pir <value 0-1048576> {pbs <value 0-131072>} {[color_blind | color_aware]} {conform [permit | replace_dscp <value 0-63>] {counter [enable | disable]}} exceed [permit {replace_dscp <value 0-63> | drop} {counter [enable | disable]} violate [permit {replace_dscp <value 0-63> | drop} {counter [enable | disable]}] sr_tcm cir <value 0-1048576> cbs <value 0-131072> ebs <value 0-131072> {[color_blind | color_aware]} {conform [permit | replace_dscp <value 0-63>] {counter [enable | disable]}} exceed [permit {replace_dscp <value 0-63> | drop} {counter [enable | disable]}] violate [permit {replace_dscp <value 0-63> | drop} {counter [enable | disable]}] | delete]
```

## Parameters

<b>profile_id</b> - Specifies the profile ID. <b>&lt;value 1-6&gt;</b> - Enter the profile ID here. This value must be between 1 and 6.
<b>profile_name</b> - Specifies the name of the profile. The maximum length is 32 characters. <b>&lt;name 1-32&gt;</b> - Enter the profile name used here.
<b>access_id</b> - Specifies the access ID. <b>&lt;value 1-256&gt;</b> - Enter the access ID used here. This value must be between 1 and 256.
<b>rate</b> - This specifies the rate for single rate two color mode. Specify the committed bandwidth in Kbps for the flow. The value m and n are determined by the project. <b>&lt;value 0-1048576&gt;</b> - Enter the rate for single rate two color mode here. This value must be between 0 and 1048576.
<b>burst_size</b> - (Optional) This specifies the burst size for the single rate two color mode. The unit is Kbytes. <b>&lt;value 0-131072&gt;</b> - Enter the burst size value here. This value must be between 0 and 131072.
<b>rate_exceed</b> - This specifies the action for packets that exceeds the committed rate in single rate, two color mode. <b>drop_packet</b> - Drop the packet immediately. <b>remark_dscp</b> - Mark the packet with a specified DSCP. The packet is set to have a high drop precedence. <b>&lt;value 0-63&gt;</b> - Enter the remark DSCP value here. This value must be between 0 and 63.
<b>tr_tcm</b> - Specifies the "two rate three color mode".
<b>cir</b> - Specifies the "Committed Information Rate". The unit is in Kbps. CIR should always be equal or less than PIR. <b>&lt;value 0-1048576&gt;</b> - Enter the committed information rate value here. This value must be between 0 and 1048576.
<b>cbs</b> - (Optional) Specifies the "Committed Burst Size". The unit is Kbytes. That is to say, 1 means 1Kbytes. This parameter is an optional parameter. The default value is 4*1024. <b>&lt;value 0-1048576&gt;</b> - Enter the committed burst size value here. This value must be between 0 and 1048576.
<b>pir</b> - Specifies the "Peak Information Rate". The unit is in Kbps. PIR should always be equal to or greater than CIR. <b>&lt;value 0-1048576&gt;</b> - Enter the peak information rate value here. This value must be between 0 and 1048576.
<b>pbs</b> - (Optional) Specifies the "Peak Burst Size". The unit is in Kbytes. This parameter is an optional parameter. The default value is 4*1024. <b>&lt;value 0-131072&gt;</b> - Enter the peak burst size value here. This value must be between 0 and

---

131072.
<b>color_blind</b> - (Optional) Specifies the meter mode as color-blind. The default is color-blind mode.
<b>color_aware</b> - (Optional) Specifies the meter mode as color-aware. The final color of the packet is determined by the initial color of the packet and the metering result.
<b>conform</b> - (Optional) Specifies the action when a packet is mapped to the "green" color.
<b>permit</b> - Permits the packet.
<b>replace_dscp</b> - Changes the DSCP of the packet.
<value 0-63> - Enter the replace DSCP value here. This value must be between 0 and 63.
<b>counter</b> - (Optional) Specifies the ACL counter. This is optional. The default is "disable". The resource may be limited so that a counter cannot be turned on. Counters will be cleared when the function is disabled.
<b>enable</b> - Specifies that the ACL counter option will be enabled.
<b>disable</b> - Specifies that the ACL counter option will be disabled.
<b>replace_dscp</b> - (Optional) Changes the DSCP of an un-conforming (yellow or red) packet.
<value 0-63> - Enter the replace DSCP value here. This value must be between 0 and 63.
<b>exceed</b> - Specifies the action when a packet is mapped to the "yellow" color.
<b>permit</b> - Permits the packet.
<b>replace_dscp</b> - Changes the DSCP of the packet.
<value 0-63> - Enter the replace DSCP value here. This value must be between 0 and 63.
<b>drop</b> - Drops the packet.
<b>counter</b> - (Optional) Specifies the ACL counter. This is optional. The default is "disable". The resource may be limited so that a counter cannot be turned on. Counters will be cleared when the function is disabled.
<b>enable</b> - Specifies that the ACL counter option will be enabled.
<b>disable</b> - Specifies that the ACL counter option will be disabled.
<b>violate</b> - Specifies the action when a packet is mapped to the "red" color.
<b>permit</b> - Permits the packet.
<b>replace_dscp</b> - Changes the DSCP of the packet.
<value 0-63> - Enter the replace DSCP value here. This value must be between 0 and 63.
<b>drop</b> - Drops the packet.
<b>counter</b> - (Optional) Specifies the ACL counter. This is optional. The default is "disable". The resource may be limited so that a counter cannot be turned on. Counters will be cleared when the function is disabled.
<b>enable</b> - Specifies that the ACL counter option will be enabled.
<b>disable</b> - Specifies that the ACL counter option will be disabled.
<b>sr_tcm</b> - Specifies "single rate three color mode".
<b>cir</b> - Specifies the "Committed Information Rate". The unit is Kbps.
<value 0-1048576> - Enter the committed information rate value here. This value must be between 0 and 1048576.
<b>cbs</b> - Specifies the "Committed Burst Size". The unit is Kbytes.
<value 0-131072> - Enter the committed burst size value here. This value must be between 0 and 131072.
<b>ebs</b> - Specifies the "Excess Burst Size". The unit is Kbytes.
<value 0-131072> - Enter the excess burst size value here. This value must be between 0 and 131072.
<b>color_blind</b> - (Optional) Specifies the meter mode as color-blind. The default is color-blind mode.
<b>color_aware</b> - (Optional) Specifies the meter mode as color-aware. The final color of the packet is determined by the initial color of the packet and the metering result.
<b>conform</b> - (Optional) Specifies the action when a packet is mapped to the "green" color.
<b>permit</b> - Permits the packet.
<b>replace_dscp</b> - Changes the DSCP of the packet.
<value 0-63> - Enter the replace DSCP value here. This value must be between 0 and 63.
<b>counter</b> - (Optional) Specifies the ACL counter. This is optional. The default is "disable". The resource may be limited so that a counter cannot be turned on. Counters will be cleared when the function is disabled.
<b>enable</b> - Specifies that the ACL counter option will be enabled.
<b>disable</b> - Specifies that the ACL counter option will be disabled.
<b>exceed</b> - Specifies the action when a packet is mapped to the "yellow" color.
<b>permit</b> - Permits the packet.

---

---

<b>replace_dscp</b> - Changes the DSCP of the packet. <value 0-63> - Enter the replace DSCP value here. This value must be between 0 and 63.
<b>drop</b> - Drops the packet.
<b>counter</b> - (Optional) Specifies the ACL counter. This is optional. The default is “disable”. The resource may be limited so that a counter cannot be turned on. Counters will be cleared when the function is disabled. <b>enable</b> - Specifies that the ACL counter option will be enabled. <b>disable</b> - Specifies that the ACL counter option will be disabled.
<b>violate</b> - Specifies the action when a packet is mapped to the “red” color. <b>permit</b> - Permits the packet. <b>replace_dscp</b> - Changes the DSCP of the packet. <value 0-63> - Enter the replace DSCP value here. This value must be between 0 and 63. <b>drop</b> - Drops the packet.
<b>counter</b> - (Optional) Specifies the ACL counter. This is optional. The default is “disable”. The resource may be limited so that a counter cannot be turned on. Counters will be cleared when the function is disabled. <b>enable</b> - Specifies that the ACL counter option will be enabled. <b>disable</b> - Specifies that the ACL counter option will be disabled.
<b>delete</b> - Deletes the specified flow_meter.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To configure a “two rate, three color” flow meter:

```
DGS-3120-24TC:admin#config flow_meter profile_id 1 access_id 1 tr_tcm cir 1000
cbs 2000 pir 2000 pbs 2000 color_blind conform permit counter enable exceed
permit replace_dscp 60 counter enable violate drop
Command: config flow_meter profile_id 1 access_id 1 tr_tcm cir 1000 cbs 2000
pir 2000 pbs 2000 color_blind conform permit counter enable exceed permit
replace_dscp 60 counter enable violate drop

Success.
DGS-3120-24TC:admin#
```

## 6-6 show flow\_meter

### Description

Used to display the flow-based metering (ACL Flow Metering) configuration.

### Format

**show flow\_meter** {[profile\_id <value 1-6> | profile\_name <name 1-32>] {access\_id <value 1-256>}}

### Parameters

---

<b>profile_id</b> - (Optional) Specifies the profile ID. <value 1-6> - Enter the profile ID used here. This value must be between 1 and 6.
<b>profile_name</b> - (Optional) Specifies the name of the profile. The maximum length is 32 characters. <name 1-32> - Enter the profile name used here.

---

**access\_id** - (Optional) Specifies the access ID.

**<value 1-256>** - Enter the access ID used here. This value must be between 1 and 256.

## Restrictions

None.

## Example

To display the flow metering configuration:

```
DGS-3120-24TC:admin# show flow_meter
Command: show flow_meter

Flow Meter Information
-----
Profile ID:1      Access ID:1      Mode : trTCM / ColorBlind
CIR(Kbps):1000   CBS(Kbyte):2000   PIR(Kbps):2000   PBS(Kbyte):2000
Action:
  Conform : Permit                Counter: Enabled
  Exceed  : Permit      Replace DSCP: 60   Counter: Enabled
  Violate  : Drop                Counter: Disabled
-----
Total Entries: 1

DGS-3120-24TC:admin#
```

## 6-7 config time\_range

### Description

This command defines a specific range of time to activate a function on the switch by specifying which time range in a day and which days in a week are covered in the time range. Note that the specified time range is based on the SNTP time or the configured time. If this time is not available, the time range will not be met.

### Format

**config time\_range <range\_name 32> [hours start\_time <time hh:mm:ss> end\_time <time hh:mm:ss> weekdays <daylist> | delete]**

### Parameters

**time\_range** - Specifies the name of the time range settings.

**<range\_name 32>** - Enter the time range name used here. This name can be up to 32 characters long.

**hours** - Specifies the time of a day.

**start\_time** - Specifies the starting time of a day.

**<time hh:mm:ss>** - Enter the starting time here. (24-hr time). For example, 19:00 means 7PM. 19 is also acceptable. The time specified in the start\_time parameter must be smaller than the time specified in the end\_time parameter.

**end\_time** - Specifies the ending time of a day. (24-hr time)

**<time hh:mm:ss>** - Enter the ending time here. (24-hr time). For example, 19:00 means 7PM. 19 is also acceptable. The time specified in the start\_time parameter must be



---

smaller than the time specified in the end\_time parameter.

**weekdays** - Specifies the list of days contained in the time range. Use a dash to define a period of days. Use a comma to separate specific days.

**<daylist>** - Enter the weekdays that will be included in this configuration here. For example, mon-fri (Monday to Friday). sun, mon, fri (Sunday, Monday and Friday)

**delete** - Deletes a time range profile. When a time\_range profile has been associated with ACL entries, deleting the time\_range profile will fail.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure a time range named "1" that starts every Monday at 01:01:01am and ends at 02:02:02am:

```
DGS-3120-24TC:admin# config time_range 1 hours start_time 1:1:1 end_time 2:2:2
weekdays mon
Command: config time_range 1 hours start_time 1:1:1 end_time 2:2:2 weekdays mon

Success.

DGS-3120-24TC:admin# config time_range 1 delete
Command: config time_range 1 delete

Success.

DGS-3120-24TC:admin#
```

## 6-8 show time\_range

### Description

The show time\_range command displays the current time range settings.

### Format

**show time\_range**

### Parameters

None.

### Restrictions

None.

### Example

To display the current time range settings:

```
DGS-3120-24TC:admin# show time_range
Command: show time_range

Time Range Information
-----
Range Name           : test
Weekdays            : Sun,Tue
Start Time           : 11:00:00
End Time             : 12:00:00
Associated ACL Entries : 2-10, 3-8

DGS-3120-24TC:admin#
```

## 6-9 show current\_config access\_profile

### Description

This command displays the ACL part of the current configuration, when logged in with user level privileges.

The overall current configuration can be displayed by using the show config command, which is accessible with administrator level privileges.

### Format

**show current\_config access\_profile**

### Parameters

None.

### Restrictions

None.

### Example

To display the ACL part of the current configuration:

```
DGS-3120-24TC:admin# show current_config access_profile
Command: show current_config access_profile

#-----

# ACL

create access_profile ethernet vlan profile_id 1
config access_profile profile_id 1 add access_id 1 ethernet vlan default port 1
permit

create access_profile ip source_ip_mask 255.255.255.255 profile_id 2
config access_profile profile_id 2 add access_id 1 ip source_ip 10.10.10.10
port 2 deny

#-----

DGS-3120-24TC:admin#
```

## Chapter 7 Access Control List (ACL) Egress Command List

---

**create egress\_access\_profile** *profile\_id* <value 1-4> *profile\_name* <name 1-32> [ethernet {vlan <hex 0x0-0x0fff> | source\_mac <macmask 000000000000-ffffffff> | destination\_mac <macmask 000000000000-ffffffff> | 802.1p | ethernet\_type} | ip {vlan <hex 0x0-0x0fff> | source\_ip\_mask <netmask> | destination\_ip\_mask <netmask> | dscp | icmp {type | code} | igmp {type} | tcp {src\_port\_mask <hex 0x0-0xffff> | dst\_port\_mask <hex 0x0-0xffff> | flag\_mask [all | {urg | ack | psh | rst | syn | fin}]} | udp {src\_port\_mask <hex 0x0-0xffff> | dst\_port\_mask <hex 0x0-0xffff> | protocol\_id\_mask <hex 0x0-0xff> {user\_define\_mask <hex 0x0-0xffffffff>}}] | ipv6 {class | source\_ipv6\_mask <ipv6mask> | destination\_ipv6\_mask <ipv6mask> | [tcp {src\_port\_mask <hex 0x0-0xffff> | dst\_port\_mask <hex 0x0-0xffff> | udp {src\_port\_mask <hex 0x0-0xffff> | dst\_port\_mask <hex 0x0-0xffff> | icmp {type | code}}]}]

---

**delete egress\_access\_profile** [*profile\_id* <value 1-4> | *profile\_name* <name 1-32> | all]

---

**config egress\_access\_profile** [*profile\_id* <value 1-4> | *profile\_name* <name 1-32>] [add access\_id [auto\_assign | <value 1-128>] [ethernet {[vlan <vlan\_name 32> | vlan\_id <vlanid 1-4094>] {mask <hex 0x0-0x0fff>} | source\_mac <macaddr> {mask <macmask>} | destination\_mac <macaddr> {mask <macmask>} | 802.1p <value 0-7> | ethernet\_type <hex 0x0-0xffff>} | ip {[vlan <vlan\_name 32> | vlan\_id <vlanid 1-4094>] {mask <hex 0x0-0x0fff>} | source\_ip <ipaddr> {mask <netmask>} | destination\_ip <ipaddr> {mask <netmask>} | dscp <value 0-63> | icmp {type <value 0-255> | code <value 0-255>} | igmp {type <value 0-255>} | tcp {src\_port <value 0-65535> {mask <hex 0x0-0xffff>} | dst\_port <value 0-65535> {mask <hex 0x0-0xffff>} | flag [all | {urg | ack | psh | rst | syn | fin}]} | udp {src\_port <value 0-65535> {mask <hex 0x0-0xffff>} | dst\_port <value 0-65535> {mask <hex 0x0-0xffff>}}] | protocol\_id <value 0-255> {user\_define <hex 0x0-0xffffffff> {mask <hex 0x0-0xffffffff>}}] | ipv6 {class <value 0-255> | source\_ipv6 <ipv6addr> {mask <ipv6mask>} | destination\_ipv6 <ipv6addr> {mask <ipv6mask>} | [tcp {src\_port <value 0-65535> {mask <hex 0x0-0xffff>} | dst\_port <value 0-65535> {mask <hex 0x0-0xffff>} | udp {src\_port <value 0-65535> {mask <hex 0x0-0xffff>} | dst\_port <value 0-65535> {mask <hex 0x0-0xffff>}}] | icmp {type <value 0-255> | code <value 0-255>}] | vlan\_based [vlan <vlan\_name 32> | vlan\_id <vlanid 1-4094>] | port\_group [id <value 1-64> | name <name 16>] | port <port>] [permit {replace\_priority\_with <value 0-7> | replace\_dscp\_with <value 0-63> | counter [enable | disable]} | deny {time\_range <range\_name 32>} | delete access\_id <value 1-128>]

---

**show egress\_access\_profile** {[*profile\_id* <value 1-4> | *profile\_name* <name 1-32>]}

---

**show current\_config egress\_access\_profile**

---

**config egress\_flow\_meter** [*profile\_id* <value 1-4> | *profile\_name* <name 1-32>] access\_id <value 1-128> [rate [<value>] {burst\_size [<value>]} rate\_exceed [drop\_packet | remark\_dscp <value 0-63>] | tr\_tcm cir <value> {cbs <value>} pir <value> {pbs <value>} [{color\_blind | color\_aware}] {conform [permit | replace\_dscp <value 0-63>] {counter [enable | disable]}} exceed [permit {replace\_dscp <value 0-63>} | drop] {counter [enable | disable]} violate [permit {replace\_dscp <value 0-63>} | drop] {counter [enable | disable]} | sr\_tcm cir <value> cbs <value> ebs <value> [{color\_blind | color\_aware}] {conform [permit | replace\_dscp <value 0-63>] {counter [enable | disable]}} exceed [permit {replace\_dscp <value 0-63>} | drop] {counter [enable | disable]} violate [permit {replace\_dscp <value 0-63>} | drop] {counter [enable | disable]} | delete]

---

**show egress\_flow\_meter** {[*profile\_id* <value 1-4> | *profile\_name* <name 1-32>] {access\_id <value 1-128>}}

---

**create port\_group** id <value 1-64> name <name 16>

---

**config port\_group** [id <value 1-64> | name <name 16>] [add | delete] [<portlist> | all]

---

**delete port\_group** [id <value 1-64> | name <name 16>]

---

**show port\_group** {id <value 1-64> | name <name 16>}

---

## 7-1 create egress\_access\_profile

### Description

This command is used to create an egress access list profile. For example, for some hardware, it may be invalid to specify destination IPv6 address and source IPv6 address at the same time. The user will be prompted for these limitations.

### Format

```
create egress_access_profile profile_id <value 1-4> profile_name <name 1-32> [ethernet
{vlan {<hex 0x0-0x0fff>} | source_mac <macmask 000000000000-ffffffff>} |
destination_mac <macmask 000000000000-ffffffff>} | 802.1p | ethernet_type] | ip {vlan
{<hex 0x0-0x0fff>} | source_ip_mask <netmask>} | destination_ip_mask <netmask>} | dscp |
[icmp {type | code} | igmp {type} | tcp {src_port_mask <hex 0x0-0xffff>} | dst_port_mask
<hex 0x0-0xffff>} | flag_mask [all | {urg | ack | psh | rst | syn | fin}]] | udp {src_port_mask
<hex 0x0-0xffff>} | dst_port_mask <hex 0x0-0xffff>} | protocol_id_mask <hex 0x0-0xff>
{user_define_mask <hex 0x0-0xffffffff>}}] | ipv6 {class | source_ipv6_mask <ipv6mask>} |
destination_ipv6_mask <ipv6mask>} | [tcp {src_port_mask <hex 0x0-0xffff>} | dst_port_mask
<hex 0x0-0xffff>} | udp {src_port_mask <hex 0x0-0xffff>} | dst_port_mask <hex 0x0-0xffff>} |
icmp {type | code}]]]
```

### Parameters

<b>profile_id</b> - Specifies the index of the egress access list profile. <b>&lt;value 1-4&gt;</b> - Enter the profile ID used here. This value must be between 1 and 4.
<b>profile_name</b> - The name of the profile must be specified. The maximum length is 32 characters. <b>&lt;name 1-32&gt;</b> - Enter the profile name used here. This name can be up to 32 characters long.
<b>ethernet</b> - Specifies this is an Ethernet mask.
<b>vlan</b> - (Optional) Specifies a VLAN mask. <b>&lt;hex 0x0-0x0fff&gt;</b> - Enter the VLAN mask used here.
<b>source_mac</b> - (Optional) Specifies the source MAC mask. <b>&lt;macmask&gt;</b> - Enter the source MAC mask used here.
<b>destination_mac</b> - (Optional) Specifies the destination MAC mask. <b>&lt;macmask&gt;</b> - Enter the destination MAC mask used here.
<b>802.1p</b> - (Optional) Specifies 802.1p priority tag mask.
<b>ethernet_type</b> - (Optional) Specifies the Ethernet type mask.
<b>ip</b> - Specifies this is an IPv4 mask.
<b>vlan</b> - (Optional) Specifies a VLAN mask. <b>&lt;hex 0x0-0x0fff&gt;</b> - Enter the VLAN mask used here.
<b>source_ip_mask</b> - (Optional) Specifies a source IP address mask. <b>&lt;netmask&gt;</b> - Enter the source network mask used here.
<b>destination_ip_mask</b> - (Optional) Specifies a destination IP address mask. <b>&lt;netmask&gt;</b> - Enter the destination network mask used here.
<b>dscp</b> - (Optional) Specifies the DSCP mask.
<b>icmp</b> - (Optional) Specifies that the rule applies to ICMP traffic. <b>type</b> - Specifies the type of ICMP traffic. <b>code</b> - Specifies the code of ICMP traffic.
<b>igmp</b> - (Optional) Specifies that the rule applies to IGMP traffic. <b>type</b> - Specifies the type of IGMP traffic.
<b>tcp</b> - (Optional) Specifies that the rule applies to TCP traffic. <b>src_port_mask</b> - Specifies the TCP source port mask. <b>&lt;hex 0x0-0xffff&gt;</b> - Enter the TCP source port mask value here. <b>dst_port_mask</b> - Specifies the TCP destination port mask. <b>&lt;hex 0x0-0xffff&gt;</b> - Enter the TCP source port mask value here.
<b>flag_mask</b> - (Optional) Specifies the TCP flag field mask.

---

<b>all</b>	- Specifies that the TCP flag field mask will be set to 'all'.
<b>urg</b>	- Specifies that the TCP flag field mask will be set to 'urg'.
<b>ack</b>	- Specifies that the TCP flag field mask will be set to 'ack'.
<b>psh</b>	- Specifies that the TCP flag field mask will be set to 'psh'.
<b>rst</b>	- Specifies that the TCP flag field mask will be set to 'rst'.
<b>syn</b>	- Specifies that the TCP flag field mask will be set to 'syn'.
<b>fin</b>	- Specifies that the TCP flag field mask will be set to 'fin'.

---

<b>udp</b>	- (Optional) Specifies that the rule applies to UDP traffic.
<b>src_port_mask</b>	- Specifies the UDP source port mask. <hex 0x0-0xffff> - Enter the UDP source port mask value here.
<b>dst_port_mask</b>	- Specifies the UDP destination port mask. <hex 0x0-0xffff> - Enter the UDP destination port mask value here.

---

<b>protocod_id_mask</b>	- (Optional) Specifies that the rule applies to IP protocol ID traffic. <hex 0x0-0xff> - Enter the protocol ID mask value here.
-------------------------	--

---

<b>user_define_mask</b>	- (Optional) Specifies that the rule applies to the IP protocol ID, and that the mask option behind the IP header length is 20 bytes. <hex 0x0-0xffffffff> - Enter the user-defined mask value here.
-------------------------	---

---

<b>ipv6</b>	- (Optional) Specifies this is an IPv6 mask.
<b>class</b>	- (Optional) Specifies the IPv6 class.
<b>source_ipv6_mask</b>	- (Optional) Specifies an IPv6 source sub-mask. <ipv6mask> - Enter the IPv6 source sub-mask value here.
<b>destination_ipv6_mask</b>	- Specifies an IPv6 destination sub-mask. <ipv6mask> - Enter the IPv6 destination sub-mask value here.

---

<b>tcp</b>	- (Optional) Specifies that the following parameter are application to the TCP configuration.
<b>src_port_mask</b>	- Specifies an IPv6 Layer 4 TCP source port mask. <hex 0x0-0xffff> - Enter the lpv6 TCP source port mask value here.
<b>dst_port_mask</b>	- Specifies an IPv6 Layer 4 TCP destination port mask. <hex 0x0-0xffff> - Enter the lpv6 TCP destination port mask value here.

---

<b>udp</b>	- (Optional) Specifies that the following parameter are application to the UDP configuration.
<b>src_port_mask</b>	- Specifies an IPv6 Layer 4 UDP source port mask. <hex 0x0-0xffff> - Enter the lpv6 UDP source port mask value here.
<b>dst_port_mask</b>	- Specifies an IPv6 Layer 4 UDP destination port mask. <hex 0x0-0xffff> - Enter the lpv6 UDP destination port mask value here.

---

<b>icmp</b>	- (Optional) Specifies that the rule applies to ICMP traffic.
<b>type</b>	- Specifies the type of ICMP traffic.
<b>code</b>	- Specifies the code of ICMP traffic.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To create an egress access list profile with the name “eap-eth-bc” and assign the profile ID to be 1:

```
DGS-3120-24TC:admin# create egress_access_profile profile_id 1 profile_name
eap-eth-bc ethernet source_mac FF-FF-FF-FF-FF-FF
Command: create egress_access_profile profile_id 1 profile_name eap-eth-bc
ethernet source_mac FF-FF-FF-FF-FF-FF
DGS-3120-24TC:admin#
```

## 7-2 delete egress\_access\_profile

### Description

Delete egress access profile command can only delete the profile which is created by egress ACL module.

### Format

**delete egress\_access\_profile** [profile\_id <value 1-4> | profile\_name <name 1-32> | all]

### Parameters

<b>profile_id</b> - Specifies the index of the egress access list profile. <value 1-4> - Enter the profile ID used here. This value must be between 1 and 4.
<b>profile_name</b> - Specifies the name of the profile. The maximum length is 32 characters. <name 1-32> - Enter the profile name used here. This name can be up to 32 characters long.
<b>all</b> - Specifies that the whole egress access list profile will be deleted.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

### Example

To delete egress access list profile ID 1:

```
DGS-3120-24TC:admin# delete egress_access_profile profile_id 1
Command: delete egress_access_profile profile_id 1

Success.

DGS-3120-24TC:admin#
```

## 7-3 config egress\_access\_profile

### Description

This command is used to configure egress access list entries.

### Format

**config egress\_access\_profile** [profile\_id <value 1-4> | profile\_name <name 1-32>] [add access\_id [auto\_assign | <value 1-128>] [ethernet {[vlan <vlan\_name 32> | vlan\_id <vlanid 1-4094>} {mask <hex 0x0-0x0fff>} | source\_mac <macaddr> {mask <macmask>} | destination\_mac <macaddr> {mask <macmask>} | 802.1p <value 0-7> | ethernet\_type <hex 0x0-0xffff>} | ip {[vlan <vlan\_name 32> | vlan\_id <vlanid 1-4094>} {mask <hex 0x0-0x0fff>} | source\_ip <ipaddr> {mask <netmask>} | destination\_ip <ipaddr> {mask <netmask>} | dscp <value 0-63> | icmp {type <value 0-255> | code <value 0-255>} | igmp {type <value 0-255>} | tcp {src\_port <value 0-65535> {mask <hex 0x0-0xffff>} | dst\_port <value 0-65535> {mask <hex 0x0-0xffff>} | flag [all | {urg | ack | psh | rst | syn | fin}]} | udp {src\_port <value 0-65535> {mask <hex 0x0-0xffff>} | dst\_port <value 0-65535> {mask <hex 0x0-0xffff>}} | protocol\_id

```
<value 0-255> {user_define <hex 0x0-0xffffffff> {mask <hex 0x0-0xffffffff>}} | ipv6 {class
<value 0-255> | source_ipv6 <ipv6addr> {mask <ipv6mask>} | destination_ipv6 <ipv6addr>
{mask <ipv6mask>} | [tcp {src_port <value 0-65535> {mask <hex 0x0-0xffff>} | dst_port
<value 0-65535> {mask <hex 0x0-0xffff>}} | udp {src_port <value 0-65535> {mask <hex 0x0-
0xffff>} | dst_port <value 0-65535> {mask <hex 0x0-0xffff>}} | icmp {type <value 0-255> |
code <value 0-255>}}] [vlan_based [vlan <vlan_name 32> | vlan_id <vlanid 1-4094>] |
port_group [id <value 1-64> | name <name 16>] | port <port>] [permit {replace_priority_with
<value 0-7> | replace_dscp_with <value 0-63> | counter [enable | disable]} | deny]
{time_range <range_name 32>} | delete access_id <value 1-128>]
```

## Parameters

<b>profile_id</b> - Specifies the index of the egress access list profile. <b>&lt;value 1-4&gt;</b> - Enter the profile ID used here. This value must be between 1 and 4.
<b>profile_name</b> - Specifies the name of the profile. <b>&lt;name 1-32&gt;</b> - Enter the profile name here. This name can be up to 32 characters long.
<b>add</b> - Specifies to add a profile or rule.
<b>access_id</b> - Specifies the index of the access list entry. If the auto_assign option is selected, the access ID is automatically assigned. <b>auto assign</b> - Specifies that the access ID will be configured automatically. <b>&lt;value 1-128&gt;</b> - Enter the access ID used here. This value must be between 1 and 128.
<b>ethernet</b> - Specifies an Ethernet egress ACL rule.
<b>vlan</b> - (Optional) Specifies the VLAN name. <b>&lt;vlan_name 32&gt;</b> - Enter the VLAN name used for this configuration here. This name can be up to 32 characters long.
<b>vlanid</b> - Specifies a VLAN ID. <b>&lt;vlanid 1-4094&gt;</b> - Enter the VLAN ID used for this configuration here. This value must be between 1 and 4094.
<b>source_mac</b> - (Optional) Specifies the source MAC address. <b>&lt;macaddr&gt;</b> - Enter the source MAC address used here. <b>mask</b> - Specifies that source MAC mask used. <b>&lt;macmask&gt;</b> - Enter the source MAC mask value here.
<b>destination_mac</b> - Specifies the destination MAC address. <b>&lt;macaddr&gt;</b> - Enter the destination MAC address used here. <b>mask</b> - Specifies that destination MAC mask used. <b>&lt;macmask&gt;</b> - Enter the destination MAC mask value here.
<b>802.1p</b> - (Optional) Specifies the value of the 802.1p priority tag. The priority tag ranges from 1 to 7. <b>&lt;value 0-7&gt;</b> - Enter the 802.1p priority tag used here.
<b>ethernet_type</b> - (Optional) Specifies the Ethernet type. <b>&lt;hex 0x0-0xffff&gt;</b> - Enter the Ethernet type mask used here.
<b>ip</b> - Specifies an IP egress ACL rule.
<b>vlan</b> - (Optional) Specifies the VLAN name. <b>&lt;vlan_name 32&gt;</b> - Enter the VLAN name used for this configuration here. This name can be up to 32 characters long.
<b>vlanid</b> - Specifies a VLAN ID. <b>&lt;vlanid 1-4094&gt;</b> - Enter the VLAN ID used for this configuration here. This value must be between 1 and 4094.
<b>mask</b> - (Optional) Specifies the mask used. <b>&lt;hex 0x0-xOfff&gt;</b> - Enter the mask value used here.
<b>source_ip</b> - (Optional) Specifies an IP source address. <b>&lt;ipaddr&gt;</b> - Enter the source IP address used here. <b>mask</b> - Specifies the source IP address used here. <b>&lt;netmask&gt;</b> - Enter the source network mask here.
<b>destination_ip</b> - (Optional) Specifies an IP destination address. <b>&lt;ipaddr&gt;</b> - Enter the destination IP address used here. <b>mask</b> - Specifies the destination IP address used here.



---

<b>&lt;netmask&gt;</b> - Enter the destination network mask here.
<b>dscp</b> - (Optional) Specifies the value of DSCP. The DSCP value ranges from 0 to 63. <b>&lt;value 0-63&gt;</b> - Enter the DSCP value used here. This value must be between 0 and 63.
<b>icmp</b> - (Optional) Specifies that the following parameters configured will apply to the ICMP configuration. <b>type</b> - Specifies that the rule will apply to the ICMP type traffic value. <b>&lt;value 0-255&gt;</b> - Enter the ICMP traffic type value here. This value must be between 0 and 255. <b>code</b> - Specifies that the rule will apply to the ICMP code traffic value. <b>&lt;value 0-255&gt;</b> - Enter the ICMP code traffic value here. This value must be between 0 and 255.
<b>igmp</b> - (Optional) Specifies that the following parameters configured will apply to the IGMP configuration. <b>type</b> - Specifies that the rule will apply to the IGMP type traffic value. <b>&lt;value 0-255&gt;</b> - Enter the IGMP type traffic value here. This value must be between 0 and 255.
<b>tcp</b> - (Optional) Specifies that the following parameters configured will apply to the TCP configuration. <b>src_port</b> - Specifies that the rule will apply to a range of TCP source ports. <b>&lt;value 0-65535&gt;</b> - Enter the source port value here. This value must be between 0 and 65535. <b>mask</b> - Specifies the TCP source port mask here. <b>&lt;hex 0x0-0xffff&gt;</b> - Enter the TCP source port mask value here. <b>dst_port</b> - Specifies that the rule will apply to a range of TCP destination ports. <b>&lt;value 0-65535&gt;</b> - Enter the destination port value here. This value must be between 0 and 65535. <b>mask</b> - Specifies the TCP destination port mask here. <b>&lt;hex 0x0-0xffff&gt;</b> - Enter the TCP destination port mask value here.
<b>flag</b> - (Optional) Specifies the TCP flag fields. <b>all</b> - Specifies that the TCP flag field will be set to 'all'. <b>urg</b> - Specifies that the TCP flag field will be set to 'urg'. <b>ack</b> - Specifies that the TCP flag field will be set to 'ack'. <b>psh</b> - Specifies that the TCP flag field will be set to 'psh'. <b>rst</b> - Specifies that the TCP flag field will be set to 'rst'. <b>syn</b> - Specifies that the TCP flag field will be set to 'syn'. <b>fin</b> - Specifies that the TCP flag field will be set to 'fin'.
<b>udp</b> - (Optional) Specifies that the following parameters configured will apply to the UDP configuration. <b>src_port</b> - Specifies the UDP source port range. <b>&lt;value 0-65535&gt;</b> - Enter the UDP source port range value here. <b>mask</b> - Specifies the UDP source port mask here. <b>&lt;hex 0x0-0xffff&gt;</b> - Enter the UDP source port mask value here. <b>dst_port</b> - Specifies the UDP destination port range. <b>&lt;value 0-65535&gt;</b> - Enter the UDP destination port range value here. <b>mask</b> - Specifies the UDP destination port mask here. <b>&lt;hex 0x0-0xffff&gt;</b> - Enter the UDP destination port mask value here.
<b>protocod_id</b> - (Optional) Specifies that the rule will apply to the value of IP protocol ID traffic. <b>&lt;value 0-255&gt;</b> - Enter the protocol ID used here. This value must be between 0 and 255.
<b>user_define</b> - (Optional) Specifies that the rule will apply to the IP protocol ID and that the mask options behind the IP header, which has a length of 20 bytes. <b>&lt;hex 0x0-0xffffffff&gt;</b> - Enter the user-defined mask value here. <b>mask</b> - Specifies the user-defined mask here. <b>&lt;hex 0x0-0xffffffff&gt;</b> - Enter the user-defined mask value here.
<b>ipv6</b> - Specifies the rule applies to IPv6 fields.
<b>class</b> - (Optional) Specifies the value of IPv6 class. <b>&lt;value 0-255&gt;</b> - Enter the IPv6 class value here. This value must be between 0 and 255.
<b>source_ipv6</b> - (Optional) Specifies the value of IPv6 source address. <b>&lt;ipv6addr&gt;</b> - Enter the source IPv6 source address here. <b>mask</b> - Specifies the IPv6 source address mask here.

---

---

<b>&lt;ipv6mask&gt;</b> - Enter the IPv6 source address mask value here.
<b>destination_ipv6</b> - (Optional) Specifies the value of IPv6 destination address. <b>&lt;ipv6addr&gt;</b> - Enter the source IPv6 destination address here. <b>mask</b> - Specifies the IPv6 destination address mask here. <b>&lt;ipv6mask&gt;</b> - Enter the IPv6 destination address mask value here.
<b>tcp</b> - (Optional) Specifies the TCP protocol <b>src_port</b> - Specifies the value of the IPv6 layer 4 TCP source port. <b>&lt;value 0-65535&gt;</b> - Enter the IPv6 TCP source port value here. This value must be between 0 and 65535. <b>mask</b> - Specifies the IPv6 TCP source port mask here. <b>&lt;hex 0x0-0xffff&gt;</b> - Enter the IPv6 TCP source port mask value here. <b>dst_port</b> - Specifies the value of the IPv6 layer 4 TCP destination port. <b>&lt;value 0-65535&gt;</b> - Enter the IPv6 TCP destination port value here. This value must be between 0 and 65535. <b>mask</b> - Specifies the IPv6 TCP destination port mask here. <b>&lt;hex 0x0-0xffff&gt;</b> - Enter the IPv6 TCP destination port mask value here.
<b>udp</b> - (Optional) Specifies the UDP protocol. <b>src_port</b> - Specifies the value of the IPv6 layer 4 UDP source port. <b>&lt;value 0-65535&gt;</b> - Enter the IPv6 UDP source port value here. This value must be between 0 and 65535. <b>mask</b> - Specifies the IPv6 UDP source port mask here. <b>&lt;hex 0x0-0xffff&gt;</b> - Enter the IPv6 UDP source port mask value here. <b>dst_port</b> - Specifies the value of the IPv6 layer 4 UDP destination port. <b>&lt;value 0-65535&gt;</b> - Enter the IPv6 UDP destination port value here. This value must be between 0 and 65535. <b>mask</b> - Specifies the IPv6 UDP destination port mask here. <b>&lt;hex 0x0-0xffff&gt;</b> - Enter the IPv6 UDP destination port mask value here.
<b>icmp</b> - (Optional) Specifies that the following parameters configured will apply to the ICMP configuration. <b>type</b> - Specifies that the rule will apply to the ICMP type traffic value. <b>&lt;value 0-255&gt;</b> - Enter the ICMP traffic type value here. This value must be between 0 and 255. <b>code</b> - Specifies that the rule will apply to the ICMP code traffic value. <b>&lt;value 0-255&gt;</b> - Enter the ICMP code traffic value here. This value must be between 0 and 255.
<b>vlan_based</b> - The rule applies on the specified VLAN.
<b>vlan</b> - Specifies the VLAN name. <b>&lt;vlan_name 32&gt;</b> - Enter the VLAN name used for this configuration here. This name can be up to 32 characters long. <b>vlanid</b> - Specifies a VLAN ID. <b>&lt;vlanid 1-4094&gt;</b> - Enter the VLAN ID used for this configuration here. This value must be between 1 and 4094.
<b>port_group</b> - Specifies the port group value here. <b>id</b> - Specifies the ID of the port group which the rule applies. <b>&lt;value 1-64&gt;</b> - Enter the group ID value here. This value must be between 1 and 64. <b>name</b> - Specifies the name of the port group which the rule applies. <b>&lt;name_string 16&gt;</b> - Enter the port group name here. This name can be up to 16 characters long.
<b>permit</b> - Specifies that packets matching the egress access rule are permitted by the switch.
<b>replace_priority_with</b> - (Optional) Specifies the packets that match the egress access rule are changed the 802.1p priority tag field by the switch. <b>&lt;value 0-7&gt;</b> - Enter the replace priority with value here. This value must be between 0 and 7.
<b>replace_dscp_with</b> - (Optional) Specifies the packets that match the egress access rule are changed the DSCP value by the switch. <b>&lt;value 0-63&gt;</b> - Enter the replace DSCP with value here. This value must be between 0 and 63.
<b>counter</b> - (Optional) Specifies whether the ACL counter feature is enabled or disabled. This parameter is optional. The default option is disabled. If the rule is not bound with the <b>flow_meter</b> , all matching packets are counted. If the rule is bound with the <b>flow_meter</b> , then

---

the “counter” is overridden.

**enable** - Specifies that the ACL counter feature will be enabled.

**disable** - Specifies that the ACL counter feature will be disabled.

**deny** - Specifies the packets that match the egress access rule are filtered by the switch.

**time\_range** - (Optional) Specifies the name of the time range entry.

**<range\_name 32>** - Enter the time range value here. This name can be up to 32 characters long.

**delete** - Specifies to delete a profile or rule.

**access\_id** - Specifies the index of the access list entry. If the auto\_assign option is selected, the access ID is automatically assigned.

**<value 1-128>** - Enter the access ID used here. This value must be between 1 and 128.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To configure a port-base egress access rule that when the packet go out switch which match the specified source IP, DSCP and destination IP field, it will not be dropped:

```
DGS-3120-24TC:admin# config egress_access_profile profile_id 2 add access_id
auto_assign ip source_ip 10.0.0.1 dscp 25 destination_ip 10.90.90.90 port_group
id 1 permit
Command: config egress_access_profile profile_id 2 add access_id auto_assign ip
source_ip 10.0.0.1 dscp 25 destination_ip 10.90.90.90 port_group id 1 permit

Success.

DGS-3120-24TC:admin#
```

To configure a vlan-base egress access rule that when the packet go out switch which match the specified source MAC field, it will be dropped:

```
DGS-3120-24TC:admin# config egress_access_profile profile_id 2 add access_id 1
ethernet source_mac 11-22-33-44-55-66 vlan_based vlan_id 1 deny
Command: config egress_access_profile profile_id 2 add access_id 1 ethernet
source_mac 11-22-33-44-55-66 vlan_based vlan_id 1 deny

Success.

DGS-3120-24TC:admin#
```

## 7-4 show egress\_access\_profile

### Description

This command is used to display current egress access list table.

### Format

**show egress\_access\_profile {[profile\_id <value 1-4> | profile\_name <name 1-32>]}**

## Parameters

- 
- profile\_id** - (Optional) Specifies the index of the egress access list profile.  
**<value 1-4>** - Enter the profile ID here. This value must be between 1 and 4.
- 
- profile\_name** - (Optional) Specifies the name of the profile. The maximum length is 32 characters.  
**<name 1-32>** - Enter the profile name here. This name can be up to 32 characters long.
- 
- If no parameter is specified, will show the all egress access profile.
- 

## Restrictions

None. (EI Mode Only Command)

## Example

To display current egress access list table:

```
DGS-3120-24TC:admin# show egress_access_profile
Command: show access_profile

Egress Access Profile Table

Total User Set Rule Entries      : 3
Total Used Hardware Entries      : 3
Total Available Hardware Entries : 509

=====
=
Profile ID: 1      Profile name: 1  Type: Ethernet

Mask on
  Source MAC      : FF-FF-FF-FF-FF-FF

Available Hardware Entries : 127
-----
-
Rule ID : 1      Port group: -

Match on
  VLAN ID        : 1
  Source MAC     : 00-00-00-00-00-01

Action:
  Permit

=====
=

=====
=
Profile ID: 2      Profile name: 2  Type: IPv4

Mask on
```

```
Source IP          : 255.255.255.255
Destination IP     : 255.255.255.255
DSCP

Available Hardware Entries : 126
-----
-
Rule ID : 1      (auto assign)      Port group: 1

Match on
  Source IP          : 10.0.0.2
  Destination IP     : 10.90.90.90
  DSCP               : 25

Action:
  Permit

-----
-
Rule ID : 2      (auto assign)      Port group: 1

Match on
  Source IP          : 10.0.0.1
  Destination IP     : 10.90.90.90
  DSCP               : 25

Action:
  Permit

Matched Count : 0 packets
=====
=

DGS-3120-24TC:admin#
```

The following example displays an egress access profile that supports an entry mask for each rule:

```

DGS-3120-24TC:admin# show egress_access_profile profile_id 1
Command: show egress_access_profile profile_id 1

Egress Access Profile Table

=====
=
Profile ID: 1      Profile name: 1  Type: Ethernet

Mask on
  Source MAC      : FF-FF-FF-FF-FF-FF

Available Hardware Entries : 127
-----
-
Rule ID : 1      Port group: -

Match on
  VLAN ID        : 1
  Source MAC     : 00-00-00-00-00-01

Action:
  Permit

=====
=
DGS-3120-24TC:admin#

```

## 7-5 show current\_config egress\_access\_profile

### Description

This command is used to display the egress ACL part of current configuration in user level of privilege.

The overall current configuration can be displayed by “show config” command which is accessible in administrator level of privilege.

### Format

**show current\_config egress\_access\_profile**

### Parameters

None. (EI Mode Only Command)

### Restrictions

None. (EI Mode Only Command)

## Example

To display current configuration of egress access list table:

```
DGS-3120-24TC:admin# show current_config egress_access_profile
Command: show current_config egress_access_profile

#-----
-

# Egress ACL

create egress_access_profile profile_id 1 profile_name 1 ethernet source_mac
FF-
FF-FF-FF-FF-FF
config egress_access_profile profile_id 1 add access_id 1 ethernet source_mac
00
-00-00-00-00-01 vlan_based vlan_id 1 permit
create egress_access_profile profile_id 2 profile_name 2 ip source_ip_mask
255.2
55.255.255 destination_ip_mask 255.255.255.255 dscp
config egress_access_profile profile_id 2 add access_id auto_assign ip
source_ip
 10.0.0.2 destination_ip 10.90.90.90 dscp 25 port_group id 1 permit counter
enable
config egress_access_profile profile_id 2 add access_id auto_assign ip
source_ip
 10.0.0.1 destination_ip 10.90.90.90 dscp 25 port_group id 1 permit

#-----
-

DGS-3120-24TC:admin#
```

## 7-6 config egress\_flow\_meter

### Description

This command is used to configure the packet flow-based metering based on an egress access profile and rule.

### Format

```
config egress_flow_meter [profile_id <value 1-4> | profile_name <name 1-32>] access_id
<value 1-128> [rate [<value>] {burst_size [<value>]} rate_exceed [drop_packet |
remark_dscp <value 0-63>] | tr_tcm cir <value> {cbs <value>} pir <value> {pbs <value>}
{{color_blind | color_aware}} {conform [permit | replace_dscp <value 0-63>]} {counter
[enable | disable]}] exceed [permit {replace_dscp <value 0-63>} | drop] {counter [enable |
disable]} violate [permit {replace_dscp <value 0-63>} | drop] {counter [enable | disable]} |
sr_tcm cir <value> cbs <value> ebs <value> {{color_blind | color_aware}} {conform [permit |
replace_dscp <value 0-63>]} {counter [enable | disable]} exceed [permit {replace_dscp
<value 0-63>} | drop] {counter [enable | disable]} violate [permit {replace_dscp <value 0-63>}
| drop] {counter [enable | disable]} | delete]
```

## Parameters

---

**profile\_id** - Specifies the profile ID.  
**<value 1-4>** - Enter the profile ID used here. This value must be between 1 and 4.

---

**profile\_name** - Specifies the name of the profile. The maximum length is 32 characters.  
**<name>** - Enter the profile name used here.

---

**access\_id** - Specifies the access ID.  
**<value 1-128>** - Enter the access ID used here. This value must be between 1 and 128.

---

**rate** - This specifies the rate for single rate two-color mode. Specify the committed bandwidth in Kbps for the flow. The value m and n are determined by the project.  
**<value>** - Enter the rate for single rate two-color mode here.

---

**burst\_size** - (Optional) This specifies the burst size for the single rate “two color” mode. The unit is Kbytes.  
**<value>** - Enter the burst size value here.

---

**rate\_exceed** - This specifies the action for packets that exceed the committed rate in single rate “two color” mode. The action can be specified as one of the following:  
**drop\_packet** - Drop the packet immediately.  
**remark\_dscp** - Mark the packet with a specified DSCP. The packet is set to have the higher drop precedence.  
**<value 0-63>** - Enter the remark DSCP value here. This value must be between 0 and 63.

---

**tr\_tcm** - Specify the “two rate three color mode”.  
**<value>** - Enter the two rate three color mode value here.

---

**cbs** - (Optional) Specifies the “Committed Burst Size”. The unit is Kbytes. That is to say, 1 means 1Kbytes. This parameter is an optional parameter. The default value is 4\*1024.  
**<value>** - Enter the committed burst size value here.

---

**pir** - Specifies the “Peak Information Rate”. The unit is in Kbps. PIR should always be equal to or greater than CIR.  
**<value>** - Enter the peak information rate value here.

---

**pbs** - (Optional) Specifies the “Peak Burst Size”. The unit is in Kbytes.  
**<value>** - Enter the peak burst size value here.

---

**color\_blind** - (Optional) Specify the meter mode to be color-blind. The default is color-blind mode.  
**color\_aware** - (Optional) Specify the meter mode to be color-aware. When this code is specified, user could set the “in-coming packet color” by using command “config color\_aware”. The final color of packet is determined by the initial color of packet and the metering result.

---

**conform** - (Optional) Specify the action when packet is in “green color”.  
**permit** - Permit the packet.  
**replace\_dscp** - Changes the DSCP of the packet.  
**<value 0-63>** - Enter the replace DSCP value here. This value must be between 0 and 63.

---

**counter** - (Optional) Specifies the ACL counter. This is optional. The default is “disable”. The resource may be limited so that a counter cannot be turned on. Counters will be cleared when the function is disabled.  
**enable** - Specifies that the ACL counter parameter will be enabled.  
**disable** - Specifies that the ACL counter parameter will be disabled.

---

**exceed** - Specify the action when packet is in “yellow color”.  
**permit** - (Optional) Permit the packet.  
**replace\_dscp** - Changes the DSCP of the packet.  
**<value 0-63>** - Enter the DSCP replace value here. This value must be between 0 and 63.  
**drop** - Drops the packet.

---

**counter** - (Optional) Specifies the ACL counter. This is optional. The default is “disable”. The resource may be limited so that a counter cannot be turned on. Counters will be cleared when the function is disabled.  
**enable** - Specifies that the ACL counter parameter will be enabled.  
**disable** - Specifies that the ACL counter parameter will be disabled.

---

**violate** - Specify the action when packet is in “red color”.  
**permit** - Permit the packet.  
**replace\_dscp** - (Optional) Changes the DSCP of the packet.  
**<value 0-63>** - Enter the DSCP replace value here. This value must be between 0 and 63.  
**drop** - Drops the packet.

---

**counter** - (Optional) Specifies the ACL counter. This is optional. The default is “disable”. The

---



---

resource may be limited so that a counter cannot be turned on. Counters will be cleared when the function is disabled. <b>enable</b> - Specifies that the ACL counter parameter will be enabled. <b>disable</b> - Specifies that the ACL counter parameter will be disabled.
<b>sr_tcm</b> - Specify the "single rate three color mode". <b>&lt;value&gt;</b> - Enter the single rate three color mode value here.
<b>cbs</b> - Specify the "committed burst size". The unit is Kbytes. <b>&lt;value&gt;</b> - Enter the committed burst size value here.
<b>ebs</b> - Specify the "Excess Burst Size". The unit is Kbytes. <b>&lt;value&gt;</b> - Enter the excess burst size value here.
<b>color_blind</b> - (Optional) Specify the meter mode to be color-blind. The default is color-blind mode.
<b>color_aware</b> - (Optional) Specify the meter mode to be color-aware. When this code is specified, user could set the "in-coming packet color" by using command "config color_aware". The final color of packet is determined by the initial color of packet and the metering result.
<b>conform</b> - (Optional) Specify the action when packet is in "green color".
<b>permit</b> - (Optional) Permit the packet. <b>replace_dscp</b> - Changes the DSCP of the packet. <b>&lt;value 0-63&gt;</b> - Enter the replace DSCP value here. This value must be between 0 and 63.
<b>counter</b> - (Optional) Specifies the ACL counter. This is optional. The default is "disable". The resource may be limited so that a counter cannot be turned on. Counters will be cleared when the function is disabled. <b>enable</b> - Specifies that the ACL counter parameter will be enabled. <b>disable</b> - Specifies that the ACL counter parameter will be disabled.
<b>exceed</b> - Specify the action when packet is in "yellow color".
<b>permit</b> - Permit the packet. <b>replace_dscp</b> - (Optional) Changes the DSCP of the packet. <b>&lt;value 0-63&gt;</b> - Enter the DSCP replace value here. This value must be between 0 and 63. <b>drop</b> - Drops the packet.
<b>counter</b> - (Optional) Specifies the ACL counter. This is optional. The default is "disable". The resource may be limited so that a counter cannot be turned on. Counters will be cleared when the function is disabled. <b>enable</b> - Specifies that the ACL counter parameter will be enabled. <b>disable</b> - Specifies that the ACL counter parameter will be disabled.
<b>violate</b> - Specify the action when packet is in "red color".
<b>permit</b> - Permit the packet. <b>replace_dscp</b> - (Optional) Changes the DSCP of the packet. <b>&lt;value 0-63&gt;</b> - Enter the DSCP replace value here. This value must be between 0 and 63. <b>drop</b> - Drops the packet.
<b>counter</b> - (Optional) Specifies the ACL counter. This is optional. The default is "disable". The resource may be limited so that a counter cannot be turned on. Counters will be cleared when the function is disabled. <b>enable</b> - Specifies that the ACL counter parameter will be enabled. <b>disable</b> - Specifies that the ACL counter parameter will be disabled.
<b>delete</b> - Delete the specified "flow_meter".

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To configure a "two rates three color" flow meter:

```
DGS-3120-24TC:admin# config egress_flow_meter profile_id 1 access_id 1 tr_tcm
cir 1000 cbs 200 pir 2000 pbs 200 exceed replace_dscp 21 violate drop
command: config egress_flow_meter profile_id 1 access_id 1 tr_tcm cir 1000 cbs
200 pir 2000 pbs 200 exceed replace_dscp 21 violate drop

Success.

DGS-3120-24TC:admin#
```

## 7-7 show egress\_flow\_meter

### Description

This command is used to display the egress flow-based metering configuration.

### Format

**show egress\_flow\_meter** {[profile\_id <value 1-4> | profile\_name <name 1-32>] {access\_id <value 1-128>}}

### Parameters

---

**profile\_id** - (Optional) Specifies the index of access list profile.

**<value 1-4>** - Enter the profile ID used here. This value must be between 1 and 4.

---

**profile\_name** - (Optional) Specifies the name of the profile.

**<name 1-32>** - Enter the profile name used here. This name can be up to 32 characters long.

---

**access\_id** - (Optional) Specifies the access ID.

**<value 1-128>** - Enter the access ID used here. This value must be between 1 and 128.

---

### Restrictions

None. (EI Mode Only Command)

### Example

To display current egress flow meter table:

```

DGS-3120-24TC:admin#show egress_flow_meter
Command: show egress_flow_meter

Flow Meter Information
-----
Profile ID:1      Access ID:1      Mode : trTCM / ColorAware
CIR(Kbps):1000   CBS(Kbyte):1000   PIR(Kbps):2000   PBS(Kbyte):2000
Action:
    Conform : Permit                Counter: Enabled
    Exceed  : Drop                  Counter: Enabled
    Violate  : Drop                  Counter: Disabled
-----
Profile ID:1      Access ID:2      Mode : srTCM / ColorBlind
CIR(Kbps):1000   CBS(Kbyte):100   EBS(Kbyte):200
Action:
    Conform : Permit                Counter: Enabled
    Exceed  : Permit                Replace DSCP: 60 Counter: Enabled
    Violate  : Drop                  Counter: Disabled
-----

Total Entries: 2

DGS-3120-24TC:admin#

```

## 7-8 create port\_group

### Description

This command is used to create a port group.

### Format

**create port\_group id <value 1-64> name <name 16>**

### Parameters

**id** - Specifies the port group ID.

**<value 1-64>** - Enter the port group ID here. This value must be between 1 and 64.

**name** - Specifies the port group name.

**<name 16>** - Enter the port group name here. This name can be up to 16 characters long.

### Restrictions

Only Administrator and Operator-level users can issue this command. **(EI Mode Only Command)**

### Example

To create a port group:

```
DGS-3120-24TC:admin# create port_group id 2 name group2
Command: create port_group id 2 name group2

Success.

DGS-3120-24TC:admin#
```

## 7-9 config port\_group

### Description

This command is used to add or delete a port list to a port group.

### Format

**config port\_group [id <value 1-64> | name <name 16>] [add | delete] [<portlist> | all]**

### Parameters

---

**id** - Specifies the port group ID.  
**<value 1-64>** - Enter the port group ID used here. This value must be between 1 and 64.

---

**name** - Specifies the port group name.  
**<name 16>** - Enter the port group name here. This name can be up to 16 characters long.

---

**add** - Add a port list to this port group.  
**delete** - Delete a port list from this port group.

---

**<portlist>** - Enter a list of ports used for the configuration here.  
**all** - Specifies that all the ports will be used for this configuration.

---

### Restrictions

Only Administrator and Operator-level users can issue this command. **(EI Mode Only Command)**

### Example

Add port list "1-3" to the port group which ID is "2":

```
DGS-3120-24TC:admin# config port_group id 2 add 1:1-1:3
Command: config port_group id 2 add 1:1-1:3

Success.

DGS-3120-24TC:admin#
```

## 7-10 delete port\_group

### Description

This command is used to delete port group.

### Format

**delete port\_group [id <value 1-64> | name <name 16>]**

## Parameters

**id** - Specifies the port group ID.

**<value 1-64>** - Enter the port group ID used here. This value must be between 1 and 64.

**name** - Specifies the port group name.

**<name 16>** - Enter the port group name here. This name can be up to 16 characters long.

---

## Restrictions

Only Administrator and Operator-level users can issue this command. **(EI Mode Only Command)**

## Example

To delete the port group which ID is "2":

```
DGS-3120-24TC:admin# delete port_group id 2
Command: delete port_group id 2

Success.

DGS-3120-24TC:admin#
```

## 7-11 show port\_group

### Description

This command is used to display the port group information.

### Format

**show port\_group {id<value 1-64> | name<name 16>}**

## Parameters

**id** - (Optional) Specifies the port group ID.

**<value 1-64>** - Enter the port group ID used here. This value must be between 1 and 64.

**name** - (Optional) Specifies the port group name.

**<name 16>** - Enter the port group name here. This name can be up to 16 characters long.

If not specified parameter, will show all the port group.

---

## Restrictions

Only Administrator and Operator-level users can issue this command. **(EI Mode Only Command)**

## Example

To show all the port group information:

```
DGS-3120-24TC:admin# show port_group
```

```
Command: show port_group
```

```
Port Group Table
```

Group ID	Group Name	Ports
1	group1	1:1-1:2,1:5
2	group2	1:4-1:5,1:7,1:9,1:11,1:13 1:15,1:17,1:19-1:25
4	group3	1:5-1:7

```
Total Entries :3
```

```
DGS-3120-24TC:admin#
```

## Chapter 8 Address Resolution Protocol (ARP) Command List

---

**create arpentry** <ipaddr> <macaddr>

---

**delete arpentry** [<ipaddr> | all]

---

**config arpentry** <ipaddr> <macaddr>

---

**config arp\_aging time** <minutes 0-65535>

---

**clear arptable**

---

**show arpentry** {ipif <ipif\_name 12> | ipaddress <ipaddr> | static | mac\_address <macaddr>}

---

### 8-1 create arpentry

#### Description

This command is used to enter a static ARP entry into the switch's ARP table.

#### Format

**create arpentry** <ipaddr> <macaddr>

#### Parameters

---

<ipaddr> - The IP address of the end node or station.

---

<macaddr> - The MAC address corresponding to the IP address above.

---

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

#### Example

To create a static ARP entry for the IP address 10.48.74.121 and MAC address 00-50-BA-00-07-36:

```
DGS-3120-24TC:admin# create arpentry 10.48.74.121 00-50-BA-00-07-36
Command: create arpentry 10.48.74.121 00-50-BA-00-07-36

Success.

DGS-3120-24TC:admin#
```

### 8-2 delete arpentry

#### Description

This command is used to delete an ARP entry, by specifying either the IP address of the entry or all. Specify 'all' clears the switch's ARP table.

### Format

**delete arpentry** [<ipaddr> | all]

### Parameters

---

**<ipaddr>** - The IP address of the end node or station.

**all** - Delete all ARP entries.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To delete an entry of IP address 10.48.74.121 from the ARP table:

```
DGS-3120-24TC:admin# delete arpentry 10.48.74.121
Command: delete arpentry 10.48.74.121

Success.

DGS-3120-24TC:admin#
```

## 8-3 config arpentry

### Description

This command configures a static entry's MAC address in the ARP table. Specify the IP address and MAC address of the entry.

### Format

**config arpentry** <ipaddr> <macaddr>

### Parameters

---

**<ipaddr>** - The IP address of the end node or station.

**<macaddr>** - The MAC address corresponding to the IP address above.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To configure a static ARP entry, whose IP address is 10.48.74.121, set its MAC address to 00-50-BA-00-07-37:



```
DGS-3120-24TC:admin# config arpentry 10.48.74.121 00-50-BA-00-07-37
Command: config arpentry 10.48.74.121 00-50-BA-00-07-37

Success.

DGS-3120-24TC:admin#
```

## 8-4 config arp\_aging time

### Description

This command sets the maximum amount of time, in minutes, that a dynamic ARP entry can remain in the switch's ARP table, without being accessed, before it is dropped from the table.

### Format

**config arp\_aging time <minutes 0-65535>**

### Parameters

---

**time** - The ARP age-out time, in minutes, the default is 20.  
**<minutes 0-65535>** - Enter the ARP age-out time here. This value must be between 0 and 65535 minutes.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To configure ARP aging time to 30 minutes:

```
DGS-3120-24TC:admin# config arp_aging time 30
Command: config arp_aging time 30

Success.

DGS-3120-24TC:admin#
```

## 8-5 clear arptable

### Description

This command is used to clear all the dynamic entries from ARP table.

### Format

**clear arptable**

### Parameters

None.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To clear the ARP table:

```
DGS-3120-24TC:admin# clear arptable
Command: clear arptable

Success.

DGS-3120-24TC:admin#
```

## 8-6 show arpentry

### Description

This command is used to displays the ARP table. You can filter the display by IP address, MAC address, Interface name, or static entries.

### Format

**show arpentry {ipif <ipif\_name 12> | ipaddress <ipaddr> | static | mac\_address <macaddr>}**

### Parameters

---

**ipif** - (Optional) The name of the IP interface the end node or station for which the ARP table entry was made, resides on.

**<ipif\_name 12>** - Enter the IP interface name here. This value can be up to 12 characters long.

---

**ipaddress** - (Optional) The IP address of the end node or station.

**<ipaddr>** - Enter the IP address here.

---

**static** - (Optional) Display the static entries in the ARP table.

---

**mac\_address** - (Optional) Displays the ARP entry by MAC address.

**<macaddr>** - Enter the MAC address here.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To display the ARP table:

```
DGS-3120-24TC:admin# show arpentry
```

```
Command: show arpentry
```

```
ARP Aging Time : 20
```

Interface	IP Address	MAC Address	Type
System	10.0.0.0	FF-FF-FF-FF-FF-FF	Local/Broadcast
System	10.1.1.1	00-02-03-04-05-06	Static
System	10.1.1.2	00-02-03-04-05-06	Dynamic
System	10.1.1.3	00-02-03-04-05-06	Static
System	10.90.90.90	00-01-02-03-04-00	Local
System	10.255.255.255	FF-FF-FF-FF-FF-FF	Local/Broadcast

```
Total Entries: 6
```

```
DGS-3120-24TC:admin#
```

## Chapter 9 ARP Spoofing Prevention Command List

---

```
config arp_spoofing_prevention [add gateway_ip <ipaddr> gateway_mac <macaddr> ports
  [<portlist> | all] | delete gateway_ip <ipaddr>]
show arp_spoofing_prevention
```

---

### 9-1 config arp\_spoofing\_prevention

#### Description

The user can configure the spoofing prevention entry to prevent spoofing of MAC for the protected gateway. When an entry is created, those ARP packets whose sender IP matches the gateway IP of an entry, but either its sender MAC field or source MAC field does not match the gateway MAC of the entry will be dropped by the system.

#### Format

```
config arp_spoofing_prevention [add gateway_ip <ipaddr> gateway_mac <macaddr> ports
  [<portlist> | all] | delete gateway_ip <ipaddr>]
```

#### Parameters

---

**add** - Specifies to add an ARP spoofing prevention entry.

**gateway\_ip** - Specifies a gateway IP address to be configured.  
 <ipaddr> - Enter the IP address used for this configuration here.

**gateway\_mac** - Specifies a gateway MAC address to be configured.  
 <macaddr> - Enter the MAC address used for this configuration here.

**ports** - Specifies a range of ports to be configured.  
 <portlist> - Enter a list of ports used for the configuration here.  
 all - Specifies all of ports to be configured.

**delete** - Specifies to delete an ARP spoofing prevention entry.

**gateway\_ip** - Specifies a gateway ip to be configured.  
 <ipaddr> - Enter the IP address used for this configuration here.

---

#### Restrictions

Only Administrator and Operator-level users can issue this command.

#### Example

To configure the ARP spoofing prevention entry:

```
DGS-3120-24TC:admin# config arp_spoofing_prevention add gateway_ip
10.254.254.251 gateway_mac 00-00-00-11-11-11 ports 1-2
Command: config arp_spoofing_prevention add gateway_ip 10.254.254.251
gateway_mac 00-00-00-11-11-11 ports 1-2

Success.

DGS-3120-24TC:admin#
```

## 9-2 show arp\_spoofing\_prevention

### Description

This command is used to show the ARP spoofing prevention entry.

### Format

**show arp\_spoofing\_prevention**

### Parameters

None.

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To display the ARP spoofing prevention entries:

```
DGS-3120-24TC:admin# show arp_spoofing_prevention
Command: show arp_spoofing_prevention

ARP Spoofing Prevention Table
Gateway IP          Gateway MAC          Ports
-----
10.254.254.251     00-00-00-11-11-11   1:1-1:2

Total Entries: 1

DGS-3120-24TC:admin#
```

## Chapter 10 Asymmetric VLAN Command List

---

**enable asymmetric\_vlan**  
**disable asymmetric\_vlan**  
**show asymmetric\_vlan**

---

### 10-1 enable asymmetric\_vlan

#### Description

This command enables the asymmetric VLAN function on the Switch.

#### Format

**enable asymmetric\_vlan**

#### Parameters

None.

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

#### Example

To enable asymmetric VLANs:

```
DGS-3120-24TC:admin# enable asymmetric_vlan
Command: enable asymmetric_vlan

Success.

DGS-3120-24TC:admin#
```

### 10-2 disable asymmetric\_vlan

#### Description

This command disables the asymmetric VLAN function on the Switch.

#### Format

**disable asymmetric\_vlan**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To disable asymmetric VLANs:

```
DGS-3120-24TC:admin# disable asymmetric_vlan
Command: disable asymmetric_vlan

Success.

DGS-3120-24TC:admin#
```

## 10-3 show asymmetric\_vlan

### Description

This command displays the asymmetric VLAN state on the Switch.

### Format

**show asymmetric\_vlan**

### Parameters

None.

### Restrictions

None.

### Example

To display the asymmetric VLAN state currently set on the Switch:

```
DGS-3120-24TC:admin# show asymmetric_vlan
Command: show asymmetric_vlan

Asymmetric VLAN: Enabled

DGS-3120-24TC:admin#
```

## Chapter 11 Auto-Configuration Command List

---

**enable autoconfig**  
**disable autoconfig**  
**show autoconfig**

---

### 11-1 enable autoconfig

#### Description

When auto configuration is enabled, during power on initialization, the switch will get configure file path name and TFTP server IP address from the DHCP server. Then, the switch will download the configuration file from the TFTP server for configuration of the system.

#### Format

**enable autoconfig**

#### Parameters

None.

#### Restrictions

Only Administrator and Operator-level users can issue this command.

#### Example

To enable autoconfig:

```
DGS-3120-24TC:admin# enable autoconfig
Command: enable autoconfig

Success.

DGS-3120-24TC:admin#
```

### 11-2 disable autoconfig

#### Description

When auto configuration is disabled, the switch will configure itself using the local configuration file

#### Format

**disable autoconfig**



### Parameters

None.

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To disable autoconfig:

```
DGS-3120-24TC:admin# disable autoconfig
Command: disable autoconfig

Success.

DGS-3120-24TC:admin#
```

## 11-3 show autoconfig

### Description

This command is used to display if the auto-configuration is enabled or disabled.

### Format

**show autoconfig**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To show autoconfig status:

```
DGS-3120-24TC:admin# show autoconfig
Command: show autoconfig

Autoconfig State : Disabled

DGS-3120-24TC:admin#
```

## Chapter 12 Basic Commands Command List

<b>create account</b> [admin   operator   power_user   user] <username 15> {encrypt [plain_text   sha_1] <password>}
<b>config account</b> <username> {encrypt [plain_text   sha_1] <password>}
<b>show account</b>
<b>delete account</b> <username>
<b>show switch</b>
<b>enable telnet</b> {<tcp_port_number 1-65535>}
<b>disable telnet</b>
<b>enable web</b> {<tcp_port_number 1-65535>}
<b>disable web</b>
<b>reboot</b> {force_agree}
<b>reset</b> {[config   system]} {force_agree}
<b>config firmware</b> image {unit <unit_id>} <path_filename 64> boot_up
<b>create ipif</b> <ipif_name 12> {<network_address>} <vlan_name 32> {secondary   state [enable   disable]   proxy_arp [enable   disable] {local [enable   disable]}}
<b>config ipif</b> <ipif_name 12> [{ipaddress <network_address>   vlan <vlan_name 32>   proxy_arp [enable   disable] {local [enable   disable]}   state [enable   disable]}   bootp   dhcp [ipv6 [ipv6address <ipv6networkaddr>   state [enable   disable]]   ipv4 state [enable   disable]]
<b>delete ipif</b> [<ipif_name 12> {ipv6address <ipv6networkaddr>}   all]
<b>enable ipif</b> [<ipif_name 12>   all]
<b>disable ipif</b> [<ipif_name 12>   all]
<b>show ipif</b> {<ipif_name 12>}
<b>enable ipif_ipv6_link_local_auto</b> [<ipif_name 12>   all]
<b>disable ipif_ipv6_link_local_auto</b> [<ipif_name 12>   all]
<b>show ipif_ipv6_link_local_auto</b> {<ipif_name 12>}

### 12-1 create account

#### Description

The create account command creates user accounts. The username is between 1 and 15 characters, the password is between 0 and 15 characters. It is case sensitive. The number of account (include admin and user) is up to 8.

#### Format

```
create account [admin | operator | power_user | user] <username 15> {encrypt [plain_text | sha_1] <password>}
```

#### Parameters

<b>admin</b> - Specifies the name of the admin account.
<b>operator</b> - Specifies the name for a operator user account.
<b>power_user</b> - Specifies the name for a Power-user account.
<b>user</b> - Specifies the name of the user account.
<b>&lt;username 15&gt;</b> - Enter the username used here. This name can be up to 15 characters long.
<b>encrypt</b> - (Optional) Specifies the encryption applied to the account.
<b>plain_text</b> - Select to specify the password in plain text form.

---

**sha\_1** - Select to specify the password in the SHA-1 encrypted form.

**<password>** - The password for the user account. The length for of password in plain-text form and in encrypted form are different. For the plain-text form, passwords must have a minimum of 0 character and can have a maximum of 15 characters. For the encrypted form password, the length is fixed to 35 bytes long. The password is case-sensitive.

---

### Restrictions

Only Administrator-level users can issue this command.

### Example

To create the admin-level user “dlink”:

```
DGS-3120-24TC:admin# create account admin dlink
Command: create account admin dlink

Enter a case-sensitive new password:****
Enter the new password again for confirmation:****

Success.

DGS-3120-24TC:admin#
```

To create the user-level user “Remote-Manager”:

```
DGS-3120-24TC:admin# create account user Remote-Manager
Command: create account user Remote-Manager

Enter a case-sensitive new password:****
Enter the new password again for confirmation:****

Success.

DGS-3120-24TC:admin#
```

## 12-2 config account

### Description

When the password information is not specified in the command, the system will prompt the user to input the password interactively. For this case, the user can only input the plain text password.

If the password is present in the command, the user can select to input the password in the plain text form or in the encrypted form. The encryption algorithm is based on SHA-1.

### Format

**config account <username> {encrypt [plain\_text | sha\_1] <password>}**

### Parameters

---

**account** - Name of the account. The account must already be defined.

---

---

**<username>** - Enter the user name for the account used here.

**encrypt** - (Optional) Specifies that the password will be encrypted.

**plain\_text** - Select to specify the password in plain text form.

**sha\_1** - Select to specify the password in the SHA-1 encrypted form.

**<password>** - The password for the user account. The length for of password in plain-text form and in encrypted form are different. For the plain-text form, passwords must have a minimum of 0 character and can have a maximum of 15 characters. For the encrypted form password, the length is fixed to 35 bytes long. The password is case-sensitive.

---

## Restrictions

Only Administrator-level users can issue this command.

## Example

To configure the user password of “dlink” account:

```
DGS-3120-24TC:admin# config account dlink
Command: config account dlink

Enter a old password:****
Enter a case-sensitive new password:****
Enter the new password again for confirmation:****

Success.

DGS-3120-24TC:admin#
```

To configure the user password of “administrator” account:

```
DGS-3120-24TC:admin# config account administrator encrypt sha_1
*!&cRDtpNceBiq15KOQsKVYrA0sAiCIzQwq
Command: config account administrator encrypt sha_1
*!&cRDtpNceBiq15KOQsKVYrA0sAiCIzQwq

Success.

DGS-3120-24TC:admin#
```

## 12-3 show account

### Description

The show account command displays user accounts that have been created.

### Format

**show account**

### Parameters

None.

## Restrictions

Only Administrator-level users can issue this command.

## Example

To display the accounts that have been created:

```
DGS-3120-24TC:admin#show account
Command: show account

Current Accounts:
Username           Access Level
-----
admin              Admin
oper               Operator
power              Power_user
user               User

Total Entries : 4

DGS-3120-24TC:admin#
```

## 12-4 delete account

### Description

The delete account command deletes an existing account.

### Format

**delete account <username>**

### Parameters

---

**<username>** - Name of the user who will be deleted.

---

### Restrictions

Only Administrator-level users can issue this command.

### Example

To delete the user account "System":

```
DGS-3120-24TC:admin# delete account System
Command: delete account System

Success.

DGS-3120-24TC:admin#
```

## 12-5 show switch

### Description

The show switch command displays the switch information.

### Format

**show switch**

### Parameters

None.

### Restrictions

None.

### Example

The following is an example for display of switch information.

```
DGS-3120-24TC:admin# show switch
Command: show switch

Device Type           : DGS-3120-24TC Gigabit Ethernet Switch
Unit ID               : 1
MAC Address           : 00-01-02-03-04-00
IP Address            : 10.90.90.90 (Manual)
VLAN Name             : default
Subnet Mask           : 255.0.0.0
Default Gateway       : 0.0.0.0
Boot PROM Version     : Build 1.00.010
Firmware Version      : Build 1.02.013
Hardware Version      : A1
Firmware Type         : EI
Serial Number         : abcd1234
System Name           :
System Location       :
System Uptime         : 0 days, 0 hours, 22 minutes, 53 seconds
System Contact        :
Spanning Tree         : Disabled
GVRP                  : Disabled
IGMP Snooping        : Disabled
MLD Snooping         : Disabled
VLAN Trunk            : Disabled
Telnet                : Enabled (TCP 23)
CTRL+C  ESC  c  Quit  SPACE  n  Next Page  ENTER  Next Entry  a  All
```

## 12-6 enable telnet

### Description

The switch allows you manage the switch via TELNET based management software. Use the command to enable TELNET and configure port number.

### Format

**enable telnet {<tcp\_port\_number 1-65535>}**

### Parameters

---

**<tcp\_port\_number 1-65535>** - (Optional) The TCP port number. TCP ports are numbered between 1 and 65535. The “well-known” TCP port for the TELNET protocol is 23.

---

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To enable TELNET and configure port number:

```
DGS-3120-24TC:admin# enable telnet 23
Command: enable telnet 23

Success.

DGS-3120-24TC:admin#
```

## 12-7 disable telnet

### Description

The switch allows you manage the switch via TELNET based management software. Use the command to disable TELNET.

### Format

**disable telnet**

### Parameters

None.

### Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To disable TELNET:

```
DGS-3120-24TC:admin# disable telnet
Command: disable telnet

Success.

DGS-3120-24TC:admin#
```

## 12-8 enable web

### Description

The switch allows you manage the switch via HTTP based management software. Use the command to enable HTTP and configure port number.

### Format

**enable web {<tcp\_port\_number 1-65535>}**

### Parameters

---

**<tcp\_port\_number 1-65535>** - (Optional) The TCP port number. TCP ports are numbered between 1 and 65535. The “well-known” TCP port for the WEB protocol is 80.

---

### Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To enable HTTP and configure port number:

```
DGS-3120-24TC:admin# enable web 80
Command: enable web 80

Success.

DGS-3120-24TC:admin#
```

## 12-9 disable web

### Description

The switch allows you manage the switch via HTTP based management software. Use the command to disable HTTP.

### Format

**disable web**



### Parameters

None.

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To disable HTTP:

```
DGS-3120-24TC:admin# disable web
Command: disable web

Success.

DGS-3120-24TC:admin#
```

## 12-10 reboot

### Description

The reboot command restarts the switch.

### Format

**reboot {force\_agree}**

### Parameters

---

**force\_agree** - (Optional) When force\_agree is specified, the reboot command will be executed immediately without further confirmation.

---

### Restrictions

Only Administrator-level users can issue this command.

### Example

To reboot the switch:

```
DGS-3120-24TC:admin# reboot
Command: reboot

Are you sure to proceed with the system reboot?(y/n)
Please wait, the switch is rebooting..
```

## 12-11 reset

### Description

The `reset config system` command provide reset functions. The configuration setting will be reset to the default setting. For the “save system” command, the device will store the reset setting in the NVRAM and then reboot the system.

The configuration settings include enable/disable of clipping, greeting message, and command prompt will also be reset by all the reset commands.

There is one exception, the “reset” command will not reset IP address configured on the system IPIF and the default gateway setting.

### Format

`reset {[config | system]} {force_agree}`

### Parameters

---

**config** - (Optional) If you specify the ‘config’ keyword , all parameters are reset to default settings. But device will not do save neither reboot.

---

**system** - (Optional) If you specify the ‘system’ keyword, all parameters are reset to default settings. Then the switch will do factory reset, save and reboot.

---

**force\_agree** - (Optional) When `force_agree` is specified, the reset command will be executed immediately without further confirmation.

---

### Restrictions

Only Administrator-level users can issue this command.

### Example

To reset the switch:

```
DGS-3120-24TC:admin#reset system
Command: reset system

Are you sure you want to proceed with system reset?(y/t/n)
 y-(reset all include stacking configuration, save, reboot )
 t-(reset all exclude stacking configuration, save, reboot)
 n-(cancel command)y

Reboot & Load Factory Default Configuration...

Saving configurations and logs to NV-RAM..... Done.
Please wait, the switch is rebooting...
```

## 12-12 config firmware

### Description

Used to select a firmware file as a boot up file. This command is required to be supported when multiple firmware images are supported.

## Format

**config firmware image {unit <unit\_id>} <path\_filename 64> boot\_up**

## Parameters

**unit** - (Optional) Specifies which unit on the stacking system. If it is not specified, it refers to the master unit.

**<unit\_id>** - Specifies the single stack unit to apply command.

**<path\_filename 64>** - Specifies a firmware file on the device file system.

**boot\_up** - Specify the firmware as the boot up firmware.

## Restrictions

Only Administrator level can issue this command.

## Example

To config image 1 on unit 2 as the boot up image for unit 2:

```
DGS-3120-24TC:admin# config firmware image unit 2 image 1 boot_up
Command: config firmware image unit 2 image 1 boot_up

Success.

DGS-3120-24TC:admin#
```

## 12-13 create ipif

### Description

This command is used to create an IP interface.

### Format

**create ipif <ipif\_name 12> {<network\_address>} <vlan\_name 32> {secondary | state [enable | disable] | proxy\_arp [enable | disable] {local [enable | disable]}}**

### Parameters

**ipif** - Specifies the name of the IP interface.

**<ipif\_name 12>** - Enter the IP interface name here. This name can be up to 12 characters long.

**<network\_address>** - (Optional) Specifies the IPv4 network address (xxx.xxx.xxx/xx). It specifies a host address and length of network mask.

**<vlan\_name 32>** - Enter the VLAN name used here. This name can be up to 32 characters long.

**secondary** - (Optional) Specifies the IPv4 secondary interface to be created.

**state** - (Optional) Specifies the state of the IP interface.

**enable** - Specifies that the IP interface state will be enabled.

**disable** - Specifies that the IP interface state will be disabled.

**proxy\_arp** - (Optional) Enable or disable of proxy ARP function. It is for IPv4 function. Default: Disabled.

**enable** - Specifies that the proxy ARP option will be enabled.

---

**disable** - Specifies that the proxy ARP option will be disabled.

**local** - (Optional) This setting controls whether the system provides the proxy reply for the ARP packets destined for IP address located in the same interface as the received interface. When proxy ARP is enabled for an interface, the system will do the proxy reply for the ARP packets destined for IP address located in a different interface. For ARP packets destined for IP address located in the same interface, the system will check this setting to determine whether to reply.

**enable** - Specifies that the local option will be enabled.

**disable** - Specifies that the local option will be disabled.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To create an IP interface:

```
DGS-3120-24TC:admin#create ipif Inter2 192.168.16.1/24 default state enable
seconda
ry
Command: create ipif Inter2 192.168.16.1/24 default state enable secondary

Success.

DGS-3120-24TC:admin#
```

## 12-14 config ipif

### Description

This command is used to configure the IP interface.

### Format

```
config ipif <ipif_name 12> [{ipaddress <network_address> | vlan <vlan_name 32> |
proxy_arp [enable | disable] {local [enable | disable]} | state [enable | disable]} | bootp |
dhcp [ipv6 [ipv6address <ipv6networkaddr> | state [enable | disable]] | ipv4 state [enable |
disable]]
```

### Parameters

---

**ipif** - Specifies the name of the IP interface.

**<ipif\_name 12>** - Enter the IP interface name used here. This name can be up to 12 characters long.

**ipaddress** - Configures a network on an ipif. The address should specify a host address and length of network mask. Since an ipif can have only one IPv4 address, the new configured address will overwrite the original one.

**<network\_address>** - Enter the network address used here.

**vlan** - Specifies the name of the VLAN here.

**<vlan\_name 32>** - Enter the VLAN name used here. This name can be up to 32 characters long.

**proxy\_arp** - Enable/disable of proxy ARP function. It is for IPv4 function. Default: Disabled. **(EI Mode Only parameter)**

---

---

<b>enable</b>	- Specifies that the proxy ARP option will be enabled. <b>(EI Mode Only parameter)</b>
<b>disable</b>	- Specifies that the proxy ARP option will be disabled. <b>(EI Mode Only parameter)</b>
<b>local</b>	- This setting controls whether the system provides the proxy reply for the ARP packets <b>(EI Mode Only parameter)</b> destined for IP address located in the same interface as the received interface. When proxy ARP is enabled for an interface, the system will do the proxy reply for the ARP packets destined for IP address located in a different interface. For ARP packets destined for IP address located in the same interface, the system will check this setting to determine whether to reply.
<b>enable</b>	- Specifies that the local option will be enabled. <b>(EI Mode Only parameter)</b>
<b>disable</b>	- Specifies that the local option will be disabled. <b>(EI Mode Only parameter)</b>
<b>bootp</b>	- Use BOOTP to obtain the IPv4 address.
<b>dhcp</b>	- Use DHCP to obtain the IPv4 address.
<b>ipv6</b>	- Specifies that the IPv6 configuration will be done. <b>(EI Mode Only parameter)</b>
<b>ipv6address</b>	- Specifies the IPv6 network address. The address should specify a host address and length of network prefix. There can be multiple V6 addresses defined on an interface. Thus, as a new address is defined, it is added on this ipif. <b>(EI Mode Only parameter)</b>
<b>&lt;ipv6networkaddr&gt;</b>	- Enter the IPv6 address used here. <b>(EI Mode Only parameter)</b>
<b>state</b>	- Specifies that the IPv6 interface state will be set to enabled or disabled.
<b>enable</b>	- Specifies that the IPv6 interface state will be enabled.
<b>disable</b>	- Specifies that the IPv6 interface state will be disabled.
<b>ipv4</b>	- Specifies that the IPv4 configuration will be done.
<b>state</b>	- Specifies that the IPv4 interface state will be set to enabled or disabled.
<b>enable</b>	- Specifies that the IPv4 interface state will be enabled.
<b>disable</b>	- Specifies that the IPv4 interface state will be disabled.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure an interface's IPv4 network address:

```
DGS-3120-24TC:admin#config ipif System ipaddress 192.168.69.123/24 vlan default
Command: config ipif System ipaddress 192.168.69.123/24 vlan default

Success.

DGS-3120-24TC:admin#
```

## 12-15 delete ipif

### Description

This command is used to delete an IP interface.

### Format

**delete ipif [<ipif\_name 12> {ipv6address <ipv6networkaddr>} | all]**

### Parameters

---

**ipif** - Specifies the name of the IP interface.  
**<ipif\_name 12>** - Enter the IP interface name used here. This name can be up to 12

---

---

characters long.

**ipv6address** – (Optional) Specifies the IPv6 network address. The address should specify a host address and length of network prefix. There can be multiple V6 addresses defined on an interface.

**<ipv6networkaddr>** - Enter the IPv6 address used here.

**all** – Specifies that all the IP interfaces will be used.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

### Example

To delete an IP interface:

```
DGS-3120-24TC:admin#delete ipif newone
Command: delete ipif newone

Success.

DGS-3120-24TC:admin#
```

## 12-16 enable ipif

### Description

This commands is used to enable the IP interface.

### Format

**enable ipif [<ipif\_name 12> | all]**

### Parameters

---

**ipif\_name** - Specifies the name of the IP interface.

**<ipif\_name 12>** - Enter the IP interface name used here. This name can be up to 12 characters long.

**all** – Specifies that all the IP interfaces will be enabled.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

### Example

To enable an IP interface:

```
DGS-3120-24TC:admin#enable ipif newone
Command: enable ipif newone

Success.

DGS-3120-24TC:admin#
```

## 12-17 disable ipif

### Description

This command is used to disable an IP interface.

### Format

**disable ipif [<ipif\_name 12> | all]**

### Parameters

---

**ipif\_name** - Specifies the name of the IP interface.  
**<ipif\_name 12>** - Enter the IP interface name used here. This name can be up to 12 characters long.  
**all** – Specifies that all the IP interfaces will be disabled.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

### Example

To disable an IP interface:

```
DGS-3120-24TC:admin#disable ipif newone
Command: disable ipif newone

Success.

DGS-3120-24TC:admin#
```

## 12-18 show ipif

### Description

This command is used to display an IP interface.

### Format

**show ipif {<ipif\_name 12>}**

## Parameters

---

**ipif\_name** - Specifies the name of the IP interface.  
**<ipif\_name 12>** - (Optional) Enter the IP interface name used here. This name can be up to 12 characters long.

---

## Restrictions

None.

## Example

To display an IP interface:

```
DGS-3120-24TC:admin#show ipif
Command: show ipif

IP Interface           : System
VLAN Name              : default
Interface Admin State  : Enabled
Link Status            : LinkDown
IPv4 Address           : 10.90.90.90/8 (Manual) Primary
Proxy ARP              : Disabled (Local : Disabled)
IPv4 State              : Enabled
IPv6 State              : Enabled

Total Entries: 1

DGS-3120-24TC:admin#
```

## 12-19 enable ipif\_ipv6\_link\_local\_auto

### Description

Enable the auto configuration of link local address when there are no IPv6 addresses explicitly configured. When an IPv6 address is explicitly configured, the link local address will be automatically configured, and the IPv6 processing will be started. When there is no IPv6 address explicitly configured, by default, link local address is not configured and the IPv6 processing will be disabled. By enable this automatic configuration, the link local address will be automatically configured and IPv6 processing will be started.

### Format

**enable ipif\_ipv6\_link\_local\_auto [<ipif\_name 12> | all]**

## Parameters

---

**<ipif\_name 12>** - Enter the IP interface name used here. This name can be up to 12 characters long.  
**all** - Specifies that all the IP interfaces will be used.

---



## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To enable the IP interface for IPv6 link local automatic:

```
DGS-3120-24TC:admin#enable ipif_ipv6_link_local_auto newone
Command: enable ipif_ipv6_link_local_auto newone

Success.

DGS-3120-24TC:admin#
```

## 12-20 disable ipif\_ipv6\_link\_local\_auto

### Description

This command is used to disable the auto configuration of link local address when no IPv6 address are configured.

### Format

**disable ipif\_ipv6\_link\_local\_auto [<ipif\_name 12> | all]**

### Parameters

---

**<ipif\_name 12>** - Enter the IP interface name used here. This name can be up to 12 characters long.  
**all** - Specifies that all the IP interfaces will be used.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To disable the IP interface for IPv6 link local automatic:

```
DGS-3120-24TC:admin#disable ipif_ipv6_link_local_auto newone
Command: disable ipif_ipv6_link_local_auto newone

Success.

DGS-3120-24TC:admin#
```

## 12-21 show ipif\_ipv6\_link\_local\_auto

### Description

This commands is used to display the link local address automatic configuration state.

---

## Format

**show ipif\_ipv6\_link\_local\_auto {<ipif\_name 12>}**

## Parameters

---

**<ipif\_name 12>** - (Optional) Enter the Ip interface name used here. This name can be up to 12 characters long.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To display the link local address automatic configuration state.

```
DGS-3120-24TC:admin#show ipif_ipv6_link_local_auto
Command: show ipif_ipv6_link_local_auto

  IPIF: System           Automatic Link Local Address: Disabled

DGS-3120-24TC:admin#
```

## Chapter 13 BPDU Attack Protection Command List

---

```

config bpdu_protection ports [<portlist> | all ] {state [enable | disable] | mode [ drop | block |
  shutdown]} (1)
config bpdu_protection recovery_timer [<sec 60-1000000> | infinite]
config bpdu_protection [trap | log] [none | attack_detected | attack_cleared | both]
enable bpdu_protection
disable bpdu_protection
show bpdu_protection {ports {<portlist>}}

```

---

### 13-1 config bpdu\_protection ports

#### Description

The configure BPDU protection ports command is used to configure the BPDU protection function for the ports on the switch. In generally, there are two states in BPDU protection function. One is normal state, and another is under attack state. The under attack state have three modes: drop, block, and shutdown. A BPDU protection enabled port will enter under attack state when it receives one STP BPDU packet. And it will take action based on the configuration. Thus, BPDU protection can only be enabled on STP-disabled port.

BPDU protection has high priority than fbpdu setting configured by configure STP command in determination of BPDU handling. That is, when fbpdu is configured to forward STP BPDU but BPDU protection is enabled, then the port will not forward STP BPDU.

#### Format

```

config bpdu_protection ports [<portlist> | all ] {state [enable | disable] | mode [ drop | block |
  shutdown]}(1)

```

#### Parameters

---

**<portlist>** - Specified a range of ports to be configured (port number).

**all** – Specified that all the port will be configured.

**state** – (Optional) Specified the BPDU protection state. The default state is disable

**enable** – Specify to enable BPDU protection.

**disable** – Specify to disable BPDU protection.

---

**mode** – (Optional) Specify the BPDU protection mode. The default mode is shutdown

**drop** - Drop all received BPDU packets when the port enters under\_attack state.

**block** - Drop all packets (include BPDU and normal packets) when the port enters under\_attack state.

**shutdown** - Shut down the port when the port enters under\_attack state.

---

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To set the port state enable and drop mode:

```
DGS-3120-24TC:admin# config bpdu_protection ports 1 state enable mode drop
Commands: config bpdu_protection ports 1 state enable mode drop

Success.

DGS-3120-24TC:admin#
```

## 13-2 config bpdu\_protection recovery\_interval

### Description

When a port enters the 'under attack' state, it can be disabled or blocked based on the configuration. The state can be recovered manually or by the auto recovery mechanism. This command is used to configure the auto-recovery timer. To manually recover the port, the user needs to disable and re-enable the port.

### Format

**config bpdu\_protection recovery\_timer [<sec 60-1000000> | infinite]**

### Parameters

---

**recovery\_timer** - Specified the bpdu\_protection Auto-Recovery recovery\_timer. The default value of recovery\_timer is 60.  
**<sec 60 –1000000>** - The timer (in seconds) used by the Auto-Recovery mechanism to recover the port. The valid range is 60 to 1000000.  
**infinite** - The port will not be auto recovered.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure the bpdu\_protection recovery\_timer to 120 seconds for the entire switch:

```
DGS-3120-24TC:admin# config bpdu_protection recovery_timer 120
Commands: config bpdu_protection recovery_timer 120

Success.

DGS-3120-24TC:admin#
```

## 13-3 config bpdu\_protection

### Description

The config bpdu\_protection trap command is used to configure the bpdu\_protection trap state or state for the entire switch.

### Format

**config bpdu\_protection [trap | log] [none | attack\_detected | attack\_cleared | both]**

### Parameters

---

**trap** - To specify the trap state.

**log** - To specify the log state.

---

**none** - Neither attack\_detected nor attack\_cleared is trapped or logged.

**attack\_detected** - Events will be logged or trapped when the BPDU attacks is detected.

**attack\_cleared** - Events will be logged or trapped when the BPDU attacks is cleared.

---

**both** - The events of attack\_detected and attack\_cleared shall be trapped or logged.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To config the bpdu\_protection trap state as both for the entire switch:

```
DGS-3120-24TC:admin# config bpdu_protection trap both
Commands: config bpdu_protection trap both

Success.

DGS-3120-24TC:admin#
```

## 13-4 enable bpdu\_protection

### Description

The enable bpdu\_protection command is used to enable bpdu\_protection function globally for the entire switch.

### Format

**enable bpdu\_protection**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To enable bpdu\_protection function globally for the entire switch:

```
DGS-3120-24TC:admin# enable bpdu_protection
Commands: enable bpdu_protection

Success.

DGS-3120-24TC:admin#
```

### 13-5 disable bpdu\_protection

#### Description

The disable bpdu\_protection command is used to disable bpdu\_protection function globally for the entire switch.

#### Format

**disable bpdu\_protection**

#### Parameters

None.

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

#### Example

To disable bpdu\_protection function globally for the entire switch:

```
DGS-3120-24TC:admin# disable bpdu_protection
Commands: disable bpdu_protection

Success.

DGS-3120-24TC:admin#
```

### 13-6 show bpdu\_protection

#### Description

The show bpdu\_protection command is used to display bpdu\_protection global configuration or per port configuration and current status.

#### Format

**show bpdu\_protection {ports {<portlist>}}**

#### Parameters

---

**ports** - Specified a range of ports to be configured.

---

---

**<portlist>** - Enter the portlist here.

---

## Restrictions

None.

## Example

To show the bpdu\_protection for the entire switch:

```
DGS-3120-24TC:admin# show bpdu_protection
Commands: show bpdu_protection

BPDU Protection Global Settings
-----
BPDU Protection status           : Enabled
BPDU Protection Recovery Time    : 60 seconds
BPDU Protection Trap State       : None
BPDU Protection Log State        : None

DGS-3120-24TC:admin#
```

To show the bpdu\_protection status ports 1-12:

```
DGS-3120-24TC:admin# show bpdu_protection ports 1-12
Commands: show bpdu_protection ports 1-12

Port      State      Mode      Status
-----
1         Enabled   shutdown  Normal
2         Enabled   shutdown  Normal
3         Enabled   shutdown  Normal
4         Enabled   shutdown  Normal
5         Enabled   shutdown  Under Attack
6         Enabled   shutdown  Normal
7         Enabled   shutdown  Normal
8         Enabled   shutdown  Normal
9         Enabled   shutdown  Normal
10        Enabled   Block     Normal
11        Disabled  shutdown  Normal
12        Disabled  shutdown  Normal

DGS-3120-24TC:admin#
```

## Chapter 14 Cable Diagnostics

### Command List

---

---

**cable\_diag ports** [<portlist> | all]

---

---

#### 14-1 cable\_diag ports

##### Description

For FE port, two pairs of cable will be diagnosed. For GE port, four pairs of cable will be diagnosed. The type of cable error can be open, short, or crosstalk.

Open means that the cable in the error pair does not have a connection at the specified position.

Short means that the cables in the error pair has a short problem at the specified position,

Crosstalk means that the cable in the error pair has a crosstalk problem at the specified position.

When a port is in link-up status, the test will obtain the distance of the cable. Since the status is link-up, the cable will not have the short or open problem. But the test may still detect the crosstalk problem.

When a port is in link-down status, the link-down may be caused by many factors.

1. When the port has a normal cable connection, but the remote partner is powered off, the cable diagnosis can still diagnose the health of the cable as if the remote partner is powered on.
2. When the port does not have any cable connection, the result of the test will indicate no cable.
3. The test will detect the type of error and the position where the error occurs.

Note that this test will consume a low number of packets. Since this test is for copper cable, the port with fiber cable will be skipped from the test. For combo port, the test will always be applied to the copper media only.

##### Format

**cable\_diag ports** [<portlist> | all]

##### Parameters

---

**<portlist>** - Enter a list of ports used for the configuration here.

**all** – Specifies that all the ports will be used for this configuration.

---

##### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.



### Example

Test the cable on port 1, 11, and 12:

```
DGS-3120-24TC:admin#cable_diag ports 1:1,1:11-1:12
Command: cable_diag ports 1:1,1:11-1:12

Perform Cable Diagnostics ...

Port      Type      Link Status  Test Result      Cable Length (M)
-----
1:1       1000BASE-T  Link Up      OK                1
1:11      1000BASE-T  Link Down    No Cable          -
1:12      1000BASE-T  Link Down    No Cable          -

DGS-3120-24TC:admin#
```

## Chapter 15 Command Logging

### Command List

---

**enable command logging**  
**disable command logging**  
**show command logging**

---

#### 15-1 enable command logging

##### Description

The enable command logging command is used to enable the command logging function.

Note: When the switch is under booting procedure, all configuration command should not be logged. When the user under AAA authentication, the user name should not be changed if the user uses “enable admin” command to replace its privilege.

##### Format

**enable command logging**

##### Parameters

None.

##### Restrictions

Only Administrator-level users can issue this command.

##### Example

To enable the command logging function:

```
DGS-3120-24TC:admin# enable command logging
Command: enable command logging

Success.

DGS-3120-24TC:admin#
```

#### 15-2 disable command logging

##### Description

The disable command logging command is used to disable the command logging function.

##### Format

**disable command logging**

### Parameters

None.

### Restrictions

Only Administrator-level users can issue this command.

### Example

To disable the command logging:

```
DGS-3120-24TC:admin# disable command logging
Command: disable command logging

Success.

DGS-3120-24TC:admin#
```

## 15-3 show command logging

### Description

This command displays the switch's general command logging configuration status.

### Format

**show command logging**

### Parameters

None.

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To show the command logging configuration status:

```
DGS-3120-24TC:admin# show command logging
Command: show command logging

Command Logging State : Disabled

DGS-3120-24TC:admin#
```

## Chapter 16 Compound Authentication Command List

<b>create authentication guest_vlan</b> [vlan <vlan_name 32>   vlanid <vlanid 1-4094>]
<b>delete authentication guest_vlan</b> [vlan <vlan_name 32>   vlanid <vlanid 1-4094>]
<b>config authentication guest_vlan</b> [vlan <vlan_name 32>   vlanid <vlanid 1-4094>] [add   delete] ports [<portlist>   all]
<b>config authentication ports</b> [<portlist>   all] {auth_mode [port_based   host_based {vlanid <vid_list> state [enable   disable]}]   multi_authen_methods [none   any   dot1x_impb   impb_wac   mac_impb]}
<b>show authentication guest_vlan</b>
<b>show authentication ports</b> {<portlist>}
<b>enable authorization</b> attributes
<b>disable authorization</b> attributes
<b>show authorization</b>
<b>config authentication server failover</b> [local   permit   block]
<b>show authentication</b>

### 16-1 create authentication guest\_vlan

#### Description

This command allows the user to assign a static VLAN to be guest VLAN. The specific VLAN which assigned to guest VLAN must be existed. The specific VLAN which assigned to guest VLAN can't be deleted.

#### Format

**create authentication guest\_vlan [vlan <vlan\_name 32> | vlanid <vlanid 1-4094>]**

#### Parameters

<b>vlan</b> - Specify the guest VLAN by VLAN name.
<b>&lt;vlan_name 32&gt;</b> - Enter the VLAN name here. This name can be up to 32 characters long.
<b>vlanid</b> - Specify the guest VLAN by VLAN ID.
<b>&lt;vlanid 1-4094&gt;</b> - Enter the VLAN ID here. This ID must be between 1 and 4094.

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

#### Example

To assign a static VLAN to be guest VLAN:

```
DGS-3120-24TC:admin# create authentication guest_vlan vlan guestVLAN
Command: create authentication guest_vlan vlan guestVLAN

Success.

DGS-3120-24TC:admin#
```

## 16-2 delete authentication guest\_vlan

### Description

This command allows the user to delete guest VLAN setting, but won't delete the static VLAN. All ports which enable guest VLAN will move to original VLAN after deleting guest VLAN.

### Format

**delete authentication guest\_vlan [vlan <vlan\_name 32> | vlanid <vlanid 1-4094>]**

### Parameters

---

**vlan** - Specify the guest VLAN by VLAN name.  
**<vlan\_name 32>** - Enter the VLAN name here. This name can be up to 32 characters long.

---

**vlanid** - Specify the guest VLAN by VLAN ID.  
**<vlanid 1-4094>** - Enter the VLAN ID here. This ID must be between 1 and 4094.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

### Example

To delete guest VLAN configuration:

```
DGS-3120-24TC:admin# delete authentication guest_vlan vlan guestVLAN
Command: delete authentication guest_vlan vlan guestVLAN

Success.

DGS-3120-24TC:admin#
```

## 16-3 config authentication guest\_vlan

### Description

This command is used to configure security port(s) as specified guest VLAN member.

### Format

**config authentication guest\_vlan [vlan <vlan\_name 32> | vlanid <vlanid 1-4094>] [add | delete] ports [<portlist> | all]**

## Parameters

---

**vlan** - Assigned a VLAN as guest VLAN. The VLAN must be an existed static VLAN.  
**<vlan\_name 32>** - Enter the VLAN name here. This name can be up to 32 characters long.

---

**vlanid** - Assigned a VLAN as guest VLAN. The VLAN must be an existed static VLAN.  
**<vlanid 1-4094>** - Enter the VLAN ID here. This ID must be between 1 and 4094.

---

**add** - Specifies to add port list to the guest VLAN.  
**delete** - Specifies to delete port list from the guest VLAN.

---

**ports** - Specify the configured port(s).  
**<portlist>** - Enter the list of ports to be configured here.  
**all** - Specify all ports on the Switch.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To configure security port(s) as specified guest VLAN member:

```
DGS-3120-24TC:admin# config authentication guest_vlan vlan gv add ports all
Command: config authentication guest_vlan vlan gv add ports all

Success.

DGS-3120-24TC:admin#
```

## 16-4 config authentication ports

### Description

This command is used to configure security port(s).

### Format

**config authentication ports [<portlist> | all] {auth\_mode [port\_based | host\_based {vlanid <vid\_list> state [enable | disable]}} | multi\_authen\_methods [none | any | dot1x\_impb | impb\_wac | mac\_impb]}**

## Parameters

---

**ports** - Specify port(s) to configure.  
**<portlist>** - Enter the list of ports to be configured here.  
**all** - Specify all ports on the Switch.

---

**auth\_mode** - (Optional) Specifies the authentication mode used.  
**port\_based** - If one of the attached hosts passes the authentication, all hosts on the same port will be granted to access network. If the user fails to authorize, this port will keep trying the next authentication  
**host\_based** - Every user can be authenticated individually. v2.01 and later, can authenticate client on specific authentication VLAN(s) only for WAC.  
**vlanid** - (Optional) Specific authentication VLAN(s). This is useful when different VLANs on the switch have different authentication requirements.  
**<vidlist>** - Enter the VLAN ID list here.  
**state** - (Optional) Specifies the VID list's authentication state.

---

---

**enable** - Assign the specified VID list as authentication VLAN(s).

**disable** - Remove the specified VID list from authentication VLAN(s). If "vlanid" is not specified, or all VLANs is disabled, means do not care which VLAN the client comes from, the client will be authenticated if the client's MAC(not care the VLAN) is not authenticated. After the client is authenticated, the client will not be re-authenticated when received from other VLANs. All VLANs are disabled by default.

**Note:** When port's authorization mode is changed to port-based, previously authentication VLAN(s) on this port will be clear.

---

**multi\_authen\_methods** - (Optional) Specifies the method for compound authentication. **(EI Mode Only parameter)**

**none** - Compound authentication is not enabled. **(EI Mode Only parameter)**

**any** - If any one of the authentication method (802.1X, MAC-based Access Control, and WAC) passes, then pass. **(EI Mode Only parameter)**

**dot1x\_impb** - Dot1x will be verified first, and then IMPB will be verified. Both authentication need to be passed. **(EI Mode Only parameter)**

**impb\_wac** - IMPB will be verified first, and then WAC will be verified. Both authentication need to be passed. **(EI Mode Only parameter)**

**mac\_impb** - MAC-AC will be verified first, and then IMPB will be verified. Both authentication need to be passed. **(EI Mode Only parameter)**

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

The following example sets the compound authentication method of all ports to any:

```
DGS-3120-24TC:admin# config authentication ports all multi_authen_methods any
Command: config authentication ports all multi_authen_methods any

Success.

DGS-3120-24TC:admin#
```

## 16-5 show authentication guest\_vlan

### Description

This command is used to show guest VLAN setting.

### Format

**show authentication guest\_vlan**

### Parameters

None.

### Restrictions

None. **(EI Mode Only Command)**

## Example

This example displays the guest VLAN setting:

```
DGS-3120-24TC:admin# show authentication guest_vlan
Command: show authentication guest_vlan

Guest VLAN VID                : 1:1
Guest VLAN Member Ports      : 1:4

Guest VLAN VID                : 1:3
Guest VLAN Member Ports      : 1:1,1:8

Total Entries:                2

DGS-3120-24TC:admin#
```

## 16-6 show authentication ports

### Description

This command is used to display authentication setting on port(s).

### Format

**show authentication ports {<portlist>}**

### Parameters

---

**ports** – (Optional) Display compound authentication on specify port(s).  
**<portlist>** - Enter the list of ports to be configured here.

---

If not specify the port list, displays compound authentication setting of all ports.

---

### Restrictions

None.

## Example

This example displays authentication setting for all ports:



```
DGS-3120-24TC:admin# show authentication ports
Command: show authentication ports

Port      Methods                Auth Mode    Authentication VLAN(s)
-----  -
1         None                   Host-based   1,3,5,9,11,88,16
                                     18,56
2         Any                    Port-based
3         802.1X_IMP            Host-based
4         None                   Host-based   2000,2005
5         MAC_IMP                Host-based
6         None                   Host-based
7         None                   Host-based   1-20
8         802.1X_IMP            Host-based
9         None                   Host-based

DGS-3120-24TC:admin#
```

## 16-7 enable authorization

### Description

This command is used to enable authorization.

### Format

**enable authorization attributes**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

This example sets authorization global state enabled:

```
DGS-3120-24TC:admin# enable authorization attributes
Command: enable authorization attributes

Success.

DGS-3120-24TC:admin#
```

## 16-8 disable authorization

### Description

This command is used to disable authorization.

## Format

**disable authorization attributes**

## Parameters

None.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

This example sets authorization global state disabled:

```
DGS-3120-24TC:admin# disable authorization attributes
Command: disable authorization attributes

Success.

DGS-3120-24TC:admin#
```

## 16-9 show authorization

### Description

This command is used to display authorization status.

### Format

**show authorization**

### Parameters

None.

### Restrictions

None.

### Example

This example displays authorization status:

```
DGS-3120-24TC:admin# show authorization
Command: show authorization

Authorization for Attributes: Enabled.

DGS-3120-24TC:admin#
```

## 16-10 config authentication server failover

### Description

This command is used to configure authentication server failover function.

### Format

**config authentication server failover [local | permit | block]**

### Parameters

---

**local** - Use local DB to authenticate the client.  
**permit** - The client is always regarded as authenticated.  
**block** - Block the client (Default setting).

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

Set authentication server auth fail over state:

```
DGS-3120-24TC:admin# config authentication server failover local
Command: config authentication server failover local

Success.

DGS-3120-24TC:admin#
```

## 16-11 show authentication

### Description

This command is used to display authentication global configuration.

### Format

**show authentication**

### Parameters

None.

## **Restrictions**

None.

## **Example**

To show authentication global configuration:

```
DGS-3120-24TC:admin# show authentication
Command: show authentication

Authentication Server Failover: Block.

DGS-3120-24TC:admin# show authentication
Command: show authentication

Authentication Server Failover: Permit.

DGS-3120-24TC:admin# show authentication
Command: show authentication

Authentication Server Failover: Local.

DGS-3120-24TC:admin#
```

## Chapter 17 Configuration Command List

---

```
show config [effective | modified | current_config | boot_up | file <pathname 64>] {[include |
exclude | begin] <filter_string 80> {<filter_string 80> {<filter_string 80>}} {[include | exclude |
begin] <filter_string 80> {<filter_string 80> {<filter_string 80>}} {[include | exclude | begin]
<filter_string 80> {<filter_string 80> {<filter_string 80>}}}]}
```

---

```
config configuration {unit <unit_id>} <pathname 64> [boot_up | active]
```

---

```
save {[config <pathname 64> | log | all]}
```

---

```
show boot_file
```

---

### 17-1 show config

#### Description

Display the content of the current configuration, the configuration to be used in next boot, or the configuration file specified by the command.

The output stream of the configuration data can be filtered by the expression specified at the end of the command. The expression can contain up to three multiple filter evaluations. A filter evaluation begins with a filter type (include, exclude, and begin), followed by up to three filter strings (ex: "stp"). A filter string is enclosed by symbol ". The following describes the meaning of the each filter type.

**include:** includes lines that contain the specified filter string.

**exclude:** excludes lines that contain the specified filter string

**begin:** The first line that contains the specified filter string will be the first line of the output.

The relationship of multiple filter strings following the same filter type is OR. That is, one line is qualified if one of specified filter strings is matched.

If more than one filter evaluation is specified; the output of filtered by the former evaluation will be used as the input of the latter evaluation.

#### Format

```
show config [effective | modified | current_config | boot_up | file <pathname 64>] {[include |
exclude | begin] <filter_string 80> {<filter_string 80> {<filter_string 80>}} {[include | exclude
| begin] <filter_string 80> {<filter_string 80> {<filter_string 80>}} {[include | exclude | begin]
<filter_string 80> {<filter_string 80> {<filter_string 80>}}}]}
```

#### Parameters

---

**effective** - Show only commands which affects the behavior of the device. For example, if STP is disabled, then for STP configuration, only "STP is disabled" is displayed. All other lower level

---

setting regarding STP is not displayed. The lower level setting will only be displayed when the higher level setting is enabled.

**Note:** This parameter is only for the current configuration.

**modified** - Show only the commands which are not from the 'reset' default setting.

**Note:** This parameter is only for the current configuration.

**current\_config** - Specifies the current configuration.

**boot\_up** - Specifies the list of the bootup configuration.

**file** - Specifies that the unit can display the specified configuration file.

**<pathname 64>** - The pathname specifies an absolute pathname on the device file system. If pathname is not specified, the boot up configuration is implied. This name can be up to 64 characters long.

**<filter\_string 80>** - (Optional) A filter string is enclosed by symbol ". Thus, the filter string itself cannot contain the "character. The filter string is case sensitive. This value can be up to 80 characters long.

**include** - Includes lines that contain the specified filter string.

**exclude** - Excludes lines that contain the specified filter string

**begin** - The first line that contains the specified filter string will be the first line of the output.

---

## Restrictions

Only Administrator-level users can issue this command.

## Example

The following example illustrates how the special filters 'modified' and 'effective' affect the configuration display:

```
DGS-3120-24TC:admin# show config modified
Command:show config modified

enable loopdetect
enable ssl
config ipif System vlan default ipaddress 192.168.3.4/8 state enable
create arpentry 10.1.1.1 00-00-00-00-00-01

DGS-3120-24TC:admin# show config effective
Command:show config effective

enable loopdetect
config loopdetect recover_timer 60
config loopdetect interval 10
config loopdetect port 1-28 state disabled
disable sim
disable stp
disable ssh

Output truncated...

DGS-3120-24TC:admin#
```

## 17-2 config configuration

### Description

Used to select a configuration file as the next boot up configuration or to apply a specific configuration to the system. This command is required when multiple configuration files are supported.

### Format

**config configuration {unit <unit\_id>} <pathname 64> {boot\_up | active}**

### Parameters

**unit** - (Optional) Specifies which unit on the stacking system. If it is not specified, it refers to the master unit.

**<unit\_id>** - Enter the unit ID here.

**<pathname 64>** - Specifies a configuration file on the device file system.

**boot\_up** - (Optional) Specifies it as a boot up file.

**active** - (Optional) Specifies to apply the configuration.

### Restrictions

Only Administrator-level users can issue this command.

### Example

To configure the switch's configuration file as boot up:

```
DGS-3120-24TC:admin#config configuration config.cfg boot_up
Command: config configuration config.cfg boot_up

Success.
DGS-3120-24TC:admin#
```

## 17-3 save

### Description

Used to save the current configuration to a file. This command is required to be supported regardless of whether file system is supported or whether multiple configuration files are supported. The configuration will only save to the master unit. For projects that support multiple configurations, the configuration ID or configuration file name can be specified. If the configuration ID or configuration file name is not specified, the next boot up configuration is implied.

### Format

**save {[config <pathname 64> | log | all]}**

### Parameters

**config** – Specifies to save the configuration to a file.

**<pathname 64>** - (Optional) The pathname specifies the absolute pathname on the device file

---

system. If pathname is not specified, it refers to the boot up configuration file. This name can be up to 64 characters long.

---

**log** – Specifies to save the log.

---

**all** – Specifies to save the configuration and the log.

---

### **Restrictions**

Only Administrator, Operator and Power-User level users can issue this command.

### **Example**

To save the configuration:

```
DGS-3120-24TC:admin#save config c:/3120.cfg
Command: save config c:/3120.cfg

Saving all configurations to NV-RAM..... Done.

DGS-3120-24TC:admin#
```

## 17-4 show boot file

### **Description**

Display the configuration file and firmware image assigned as boot up files.

### **Format**

**show boot\_file**

### **Parameters**

None.

### **Restrictions**

None.

### **Example**

To display the boot file:

```
DGS-3120-24TC:admin#show boot_file
Command: show boot_file

Bootup Firmware      : /c:/runtime.had
Bootup Configuration : /c:/config.cfg

DGS-3120-24TC:admin#
```



## Chapter 18 Connectivity Fault Management Command List

<b>create cfm md</b> <string 22> {md_index <uint 1-4294967295>} level <int 0-7>
<b>config cfm md</b> [<string 22>   md_index <uint 1-4294967295>] {mip [none   auto   explicit]   sender_id [none   chassis   manage   chassis_manage]}
<b>create cfm ma</b> <string 22> {ma_index <uint 1-4294967295>} md [<string 22>   md_index <uint 1-4294967295>]
<b>config cfm ma</b> [<string 22>   ma_index <uint 1-4294967295>] md [<string 22>   md_index <uint 1-4294967295>] {vlanid <vlanid 1-4094>   mip [none   auto   explicit   defer]   sender_id [none   chassis   manage   chassis_manage   defer]   ccm_interval [10ms   100ms   1sec   10sec   1min   10min]   mepid_list [add   delete] <mepid_list>}
<b>create cfm mep</b> <string 32> mepid <int 1-8191> md [<string 22>   md_index <uint 1-4294967295>] ma [<string 22>   ma_index <uint 1-4294967295>] direction [inward   outward] port <port>
<b>config cfm mep</b> [mepname <string 32>   mepid <int 1-8191> md [<string 22>   md_index <uint 1-4294967295>] ma [<string 22>   ma_index <uint 1-4294967295>]] {state [enable   disable]   ccm [enable   disable]   pdu_priority <int 0-7>   fault_alarm [all   mac_status   remote_ccm   error_ccm   xcon_ccm   none]   alarm_time <centisecond 250 -1000>   alarm_reset_time <centisecond 250-1000>}
<b>delete cfm mep</b> [mepname <string 32>   mepid <int 1-8191> md [<string 22>   md_index <uint 1-4294967295>] ma [<string 22>   ma_index <uint 1-4294967295>]]
<b>delete cfm ma</b> [<string 22>   ma_index <uint 1-4294967295>] md [<string 22>   md_index <uint 1-4294967295>]
<b>delete cfm md</b> [<string 22>   md_index <uint 1-4294967295>]
<b>enable cfm</b>
<b>disable cfm</b>
<b>config cfm ports</b> <portlist> state [enable   disable]
<b>show cfm ports</b> <portlist>
<b>show cfm</b> {[md [<string 22>   md_index <uint 1-4294967295>] {ma [<string 22>   ma_index <uint 1-4294967295>] {mepid <int 1-8191>}}   mepname <string 32>}}
<b>show cfm fault</b> {md [<string 22>   md_index <uint 1-4294967295>] {ma [<string 22>   ma_index <uint 1-4294967295>]}}
<b>show cfm port</b> <port> {level <int 0-7>   direction [inward   outward]   vlanid <vlanid 1-4094>}
<b>cfm loopback</b> <macaddr> [mepname <string 32>   mepid <int 1-8191> md [<string 22>   md_index <uint 1-4294967295>] ma [<string 22>   ma_index <uint 1-4294967295>]] {num <int 1-65535>   length <int 0-1500>   pattern <string 1500>   pdu_priority <int 0-7>}
<b>cfm linktrace</b> <macaddr> [mepname <string 32>   mepid <int 1-8191> md [<string 22>   md_index <uint 1-4294967295>] ma [<string 22>   ma_index <uint 1-4294967295>]] {ttl <int 2-255>   pdu_priority <int 0-7>}
<b>show cfm linktrace</b> [mepname <string 32>   mepid <int 1-8191> md [<string 22>   md_index <uint 1-4294967295>] ma [<string 22>   ma_index <uint 1-4294967295>]] {trans_id <uint>}
<b>delete cfm linktrace</b> {[md [<string 22>   md_index <uint 1-4294967295>] {ma [<string 22>   ma_index <uint 1-4294967295>] {mepid <int 1-8191>}}   mepname <string 32>}}
<b>show cfm mipccm</b>
<b>config cfm mp_ltr_all</b> [enable   disable]
<b>show cfm mp_ltr_all</b>
<b>show cfm remote_mep</b> [mepname <string 32>   md [<string 22>   md_index <uint 1-4294967295>] ma [<string 22>   ma_index <uint 1-4294967295>] mepid <int 1-8191>] remote_mepid <int 1-8191>
<b>show cfm pkt_cnt</b> {[ports <portlist> {rx   tx}}   rx   tx   ccm]}
<b>clear cfm pkt_cnt</b> {[ports <portlist> {rx   tx}}   rx   tx   ccm]}

## 18-1 create cfm md

### Description

This command is used to create a maintenance domain.

### Format

**create cfm md <string 22> {md\_index <uint 1-4294967295>} level <int 0-7>**

### Parameters

<b>md</b> - Specifies the maintenance domain name. <b>&lt;string 22&gt;</b> - Enter the maintenance domain name here. This name can be up to 22 characters long.
<b>md_index</b> - (Optional) Specifies the maintenance domain index. <b>&lt;uint 1-4294967295&gt;</b> - Enter the maintenance domain index value here. This value must be between 1 and 7294967295.
<b>level</b> - Specifies the maintenance domain level. <b>&lt;int 0-7&gt;</b> - Enter the maintenance domain level here. This value must be between 0 and 7.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

### Example

To create a maintenance domain called “op\_domain” and assign a maintenance domain level of “2”:

```
DGS-3120-24TC:admin# create cfm md op_domain level 2
Command: create cfm md op_domain level 2

Success.

DGS-3120-24TC:admin#
```

## 18-2 config cfm md

### Description

This command is used to configure the parameters of a maintenance domain. The creation of MIPs on an MA is useful to trace the link, MIP by MIP. It also allows the user to perform a loopback from an MEP to an MIP.

### Format

**config cfm md [<string 22> | md\_index <uint 1-4294967295>] {mip [none | auto | explicit] | sender\_id [none | chassis | manage | chassis\_manage]}**

## Parameters

- 
- md** - Specifies the maintenance domain name.  
**<string 22>** - Enter the maintenance domain name here. This name can be up to 22 characters long.
- 
- md\_index** - Specifies the maintenance domain index.  
**<uint 1-4294967295>** - Enter the maintenance domain index value here. This value must be between 1 and 4294967295.
- 
- mip** - (Optional) This is the control creations of MIPs.  
**none** - Do not create MIPs. This is the default value.  
**auto** - MIPs can always be created on any ports in this MD, if that port is not configured with an MEP of this MD. For the intermediate switch in an MA, the setting must be automatic in order for the MIPs to be created on this device.  
**explicit** - MIPs can be created on any ports in this MD, only if the next existent lower level has an MEP configured on that port, and that port is not configured with an MEP of this MD.
- 
- sender\_id** - (Optional) This is the control transmission of the sender ID TLV.  
**none** - Do not transmit the sender ID TLV. This is the default value.  
**chassis** - Transmit the sender ID TLV with the chassis ID information.  
**manage** - Transmit the sender ID TLV with the managed address information.  
**chassis\_manage** - Transmit sender ID TLV with chassis ID information and manage address information.
- 

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To configure the maintenance domain called “op\_domain” and specify the explicit option for creating MIPs:

```
DGS-3120-24TC:admin# config cfm md op_domain mip explicit
Command: config cfm md op_domain mip explicit

Success.

DGS-3120-24TC:admin#
```

## 18-3 create cfm ma

### Description

This command is used to create a maintenance association. Different MAs in an MD must have different MA Names. Different MAs in different MDs may have the same MA Name.

### Format

**create cfm ma <string 22> {ma\_index <uint 1-4294967295>} md [<string 22> | md\_index <uint 1-4294967295>]**

## Parameters

- 
- ma** - Specifies the maintenance association name.  
**<string 22>** - Enter the maintenance association name here. This name can be up to 22
-

---

characters long.
<b>ma_index</b> - (Optional) Specifies the maintenance association index.
<uint 1-4294967295> - Enter the maintenance association index value here. This value must be between 1 and 4294967295.
<b>md</b> - Specifies the maintenance domain name.
<string 22> - Enter the maintenance domain name here. This name can be up to 22 characters long.
<b>md_index</b> - Specifies the maintenance domain index.
<uint 1-4294967295> - Enter the maintenance domain index value here. This value must be between 1 and 4294967295.

---

## Restrictions

Only Administrator and Operator-level users can issue this command. **(EI Mode Only Command)**

## Example

To create a maintenance association called “ma” and assign it to the maintenance domain “op\_domain”:

```
DGS-3120-24TC:admin# create cfm ma opl md op_domain
Command: create cfm ma opl md op_domain

Success.

DGS-3120-24TC:admin#
```

## 18-4 config cfm ma

### Description

This command is used to configure the parameters of a maintenance association. The MEP list specified for an MA can be located in different devices. MEPs must be created on the ports of these devices explicitly. An MEP will transmit a CCM packet periodically across the MA. The receiving MEP will verify these received CCM packets from the other MEPs against this MEP list for the configuration integrity check.

### Format

```
config cfm ma [<string 22> | ma_index <uint 1-4294967295>] md [<string 22> | md_index
<uint 1-4294967295>] {vlanid <vlanid 1-4094> | mip [none | auto | explicit | defer] | sender_id
[none | chassis | manage | chassis_manage | defer] | ccm_interval [10ms | 100ms | 1sec |
10sec | 1min | 10min] | mepid_list [add | delete] <mepid_list>}
```

### Parameters

---

<b>ma</b> - Specifies the maintenance association name.
<string 22> - Enter the maintenance association name here. This name can be up to 22 characters long.
<b>ma_index</b> - Specifies the maintenance association index.
<uint 1-4294967295> - Enter the maintenance association index value here. This value must be between 1 and 4294967295.
<b>md</b> - Specifies the maintenance domain name.
<string 22> - Enter the maintenance domain name here. This name can be up to 22

---

---

characters long.
<b>md_index</b> - Specifies the maintenance domain index. <b>&lt;uint 1-4294967295&gt;</b> - Enter the maintenance domain index value here. This value must be between 1 and 4294967295.
<b>vlanid</b> - (Optional) Specifies the VLAN Identifier. Different MAs must be associated with different VLANs. <b>&lt;vlanid 1-4094&gt;</b> - Enter the VLAN ID used here. This value must be between 1 and 4094.
<b>mip</b> - (Optional) This is the control creation of MIPs. <b>none</b> - Specifies not to create MIPs. <b>auto</b> - MIPs can always be created on any ports in this MA, if that port is not configured with an MEP of that MA. <b>explicit</b> - MIP can be created on any ports in this MA, only if the next existing lower level has an MEP configured on that port, and that port is not configured with an MEP of this MA. <b>defer</b> - Inherit the setting configured for the maintenance domain that this MA is associated with. This is the default value.
<b>sender_id</b> - (Optional) This is the control transmission of the sender ID TLV. <b>none</b> - Do not transmit the sender ID TLV. This is the default value. <b>chassis</b> - Transmit the sender ID TLV with the chassis ID information. <b>manage</b> - Transmit the sender ID TLV with the manage address information. <b>chassis_manage</b> - Transmit the sender ID TLV with the chassis ID information and the manage address information. <b>defer</b> - Inherit the setting configured for the maintenance domain that this MA is associated with. This is the default value.
<b>ccm_interval</b> - (Optional) This is the CCM interval. <b>10ms</b> - Specifies that the CCM interval will be set to 10 milliseconds. Not recommended. <b>100ms</b> - Specifies that the CCM interval will be set to 100 milliseconds. Not recommended. <b>1sec</b> - Specifies that the CCM interval will be set to 1 second. <b>10sec</b> - Specifies that the CCM interval will be set to 10 seconds. This is the default value. <b>1min</b> - Specifies that the CCM interval will be set to 1 minute. <b>10min</b> - Specifies that the CCM interval will be set to 10 minutes.
<b>mepid_list</b> - (Optional) This is to specify the MEPIDs contained in the maintenance association. The range of the MEPID is 1-8191. <b>add</b> - Specifies to add MEPID(s). <b>delete</b> - Specifies to delete MEPID(s). By default, there is no MEPID in a newly created maintenance association. <b>&lt;mepid_list&gt;</b> - Enter the MEP ID list here.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To configure a CFM MA:

```
DGS-3120-24TC:admin# config cfm ma op1 md op_domain vlanid 1 ccm_interval 1sec
Command: config cfm ma op1 md op_domain vlanid 1 ccm_interval 1sec

Success.

DGS-3120-24TC:admin#
```

## 18-5 create cfm mep

### Description

This command is used to create an MEP. Different MEPs in the same MA must have a different MEPID. MD name, MA name, and MEPID that together identify a MEP.

Different MEPs on the same device must have a different MEP name. Before creating an MEP, its MEPID should be configured in the MA's MEPID list.

### Format

```
create cfm mep <string 32> mepid <int 1-8191> md [<string 22> | md_index <uint 1-4294967295>] ma [<string 22> | ma_index <uint 1-4294967295>] direction [inward | outward] port <port>
```

### Parameters

<b>mep</b>	- Specifies the MEP name. It is unique among all MEPs configured on the device. <b>&lt;string 32&gt;</b> - Enter the MEP name used here. This name can be up to 32 characters long.
<b>mepid</b>	- Specifies the MEP ID. It should be configured in the MA's MEPID list. <b>&lt;int 1-8191&gt;</b> - Enter the MEP ID used here. This value must be between 1 and 8191.
<b>md</b>	- Specifies the maintenance domain name. <b>&lt;string 22&gt;</b> - Enter the maintenance domain name used here. This name can be up to 22 characters long.
<b>md_index</b>	- Specifies the maintenance domain index. <b>&lt;uint 1-4294967295&gt;</b> - Enter the maintenance domain index value here. This value must be between 1 and 4294967295.
<b>ma</b>	- Specifies the maintenance association name. <b>&lt;string 22&gt;</b> - Enter the maintenance association name used here. This name can be up to 22 characters long.
<b>ma_index</b>	- Specifies the maintenance association index. <b>&lt;uint 1-4294967295&gt;</b> - Enter the maintenance association index value here. This value must be between 1 and 4294967295.
<b>direction</b>	- This is the MEP direction. <b>inward</b> - Specifies the inward facing (up) MEP. <b>outward</b> - Specifies the outward facing (down) MEP.
<b>port</b>	- Specifies the port number. This port should be a member of the MA's associated VLAN. <b>&lt;port&gt;</b> - Enter the port number used here.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

### Example

To create a CFM MEP:

```
DGS-3120-24TC:admin# create cfm mep mep1 mepid 1 md op_domain ma opl direction
inward port 2
Command: create cfm mep mep1 mepid 1 md op_domain ma opl direction inward port
2

Success.

DGS-3120-24TC:admin#
```

## 18-6 config cfm mep

### Description

This command is used to configure the parameters of an MEP.

An MEP may generate 5 types of Fault Alarms, as shown below by their priorities from high to low:

- Cross-connect CCM Received: priority 5
- Error CCM Received: priority 4
- Some Remote MEPs Down: priority 3
- Some Remote MEP MAC Status Errors: priority 2
- Some Remote MEP Defect Indications: priority 1

If multiple types of the fault occur on an MEP, only the fault with the highest priority will be alarmed.

### Format

```
config cfm mep [mepname <string 32> | mepid <int 1-8191> md [<string 22> | md_index
<uint 1-4294967295>] ma [<string 22> | ma_index <uint 1-4294967295>]] {state [enable |
disable] | ccm [enable | disable] | pdu_priority <int 0-7> | fault_alarm [all | mac_status |
remote_ccm | error_ccm | xcon_ccm | none] | alarm_time <centisecond 250 -1000> |
alarm_reset_time <centisecond 250-1000>}
```

### Parameters

**mepname** - Specifies the MEP name.

**<string 32>** - Enter the MEP name used here. This name can be up to 32 characters long.

**mepid** - Specifies the MEP ID.

**<int 1-8191>** - Enter the MEP ID used here. This value must be between 1 and 8191.

**md** - Specifies the maintenance domain name.

**<string 22>** - Enter the maintenance domain name used here. This name can be up to 22 characters long.

**md\_index** - Specifies the maintenance domain index.

**<uint 1-4294967295>** - Enter the maintenance domain index value here. This value must be between 1 and 4294967295.

**ma** - Specifies the maintenance association name.

**<string 22>** - Enter the maintenance association name used here. This name can be up to 22 characters long.

**ma\_index** - Specifies the maintenance association index.

**<uint 1-4294967295>** - Enter the maintenance association index value here. This value must be between 1 and 4294967295.

**state** - (Optional) This is the MEP administrative state.

**enable** - Specifies that the MEP will be enabled.

**disable** - Specifies that the MEP will be disabled. This is the default value.

**ccm** - (Optional) This is the CCM transmission state.

---

<b>enable</b>	- Specifies that the CCM transmission will be enabled.
<b>disable</b>	- Specifies that the CCM transmission will be disabled. This is the default value.
<b>pdu_priority</b>	- (Optional) The 802.1p priority is set in the CCMs and the LTMs messages transmitted by the MEP. The default value is 7.
<b>&lt;int 0-7&gt;</b>	- Enter the PDU priority value here. This value must be between 0 and 7.
<b>fault_alarm</b>	- (Optional) This is the control types of the fault alarms sent by the MEP.
<b>all</b>	- All types of fault alarms will be sent.
<b>mac_status</b>	- Only the fault alarms whose priority is equal to or higher than “Some Remote MEP MAC Status Errors” are sent.
<b>remote_ccm</b>	- Only the fault alarms whose priority is equal to or higher than “Some Remote MEPs Down” are sent.
<b>error_ccm</b>	- Only the fault alarms whose priority is equal to or higher than “Error CCM Received” are sent.
<b>xcon_ccm</b>	- Only the fault alarms whose priority is equal to or higher than “Cross-connect CCM Received” are sent.
<b>none</b>	- No fault alarm is sent. This is the default value.
<b>alarm_time</b>	- (Optional) This is the time that a defect must exceed before the fault alarm can be sent. The unit is centisecond, the range is 250-1000. The default value is 250.
<b>&lt;centisecond 250-1000&gt;</b>	- Enter the alarm time value here. This value must be between 250 and 1000 centiseconds.
<b>alarm_reset_time</b>	- (Optional) This is the dormant duration time before a defect is triggered before the fault can be re-alarmed. The unit is centisecond, the range is 250-1000. The default value is 1000.
<b>&lt;centisecond 250-1000&gt;</b>	- Enter the alarm reset time value here. This value must be between 250 and 1000 centiseconds.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

### Example

To configure a CFM MEP:

```
DGS-3120-24TC:admin# config cfm mep mepname mep1 state enable ccm enable
Command: config cfm mep mepname mep1 state enable ccm enable

Success.

DGS-3120-24TC:admin#
```

### 18-7 delete cfm mep

#### Description

This command is used to delete a previously created MEP.

#### Format

**delete cfm mep [mepname <string 32> | mepid <int 1-8191> md [<string 22> | md\_index <uint 1-4294967295>] ma [<string 22> | ma\_index <uint 1-4294967295>]]**



## Parameters

**mepname** - Specifies the MEP name.

**<string 32>** - Enter the MEP name used here. This name can be up to 32 characters long.

**mepid** - Specifies the MEP ID.

**<int 1-8191>** - Enter the MEP ID used here. This value must be between 1 and 8191.

**md** - Specifies the maintenance domain name.

**<string 22>** - Enter the maintenance domain name used here. This name can be up to 22 characters long.

**md\_index** - Specifies the maintenance domain index.

**<uint 1-4294967295>** - Enter the maintenance domain index value here. This value must be between 1 and 4294967295.

**ma** - Specifies the maintenance association name.

**<string 22>** - Enter the maintenance association name used here. This name can be up to 22 characters long.

**ma\_index** - Specifies the maintenance association index.

**<uint 1-4294967295>** - Enter the maintenance association index value here. This value must be between 1 and 4294967295.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To delete a CFM MEP:

```
DGS-3120-24TC:admin# delete cfm mep mepname mep1
Command: delete cfm mep mepname mep1

Success.

DGS-3120-24TC:admin#
```

## 18-8 delete cfm ma

### Description

This command is used to delete a created maintenance association. All MEPs created in the maintenance association will be deleted automatically.

### Format

**delete cfm ma [<string 22> | ma\_index <uint 1-4294967295>] md [<string 22> | md\_index <uint 1-4294967295>]**

## Parameters

**ma** - Specifies the maintenance association name.

**<string 22>** - Enter the maintenance association name used here. This name can be up to 22 characters long.

**ma\_index** - Specifies the maintenance association index.

**<uint 1-4294967295>** - Enter the maintenance association index value here. This value must be between 1 and 4294967295.

---

**md** - Specifies the maintenance domain name.

**<string 22>** - Enter the maintenance domain name used here. This name can be up to 22 characters long.

---

**md\_index** - Specifies the maintenance domain index.

**<uint 1-4294967295>** - Enter the maintenance domain index value here. This value must be between 1 and 4294967295.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

### Example

To delete a CFM MA:

```
DGS-3120-24TC:admin# delete cfm ma op1 md op_domain
Command: delete cfm ma op1 md op_domain

Success.

DGS-3120-24TC:admin#
```

## 18-9 delete cfm md

### Description

This command is used to delete a previously created maintenance domain. All the MEPs and maintenance associations created in the maintenance domain will be deleted automatically.

### Format

**delete cfm md [<string 22> | md\_index <uint 1-4294967295>]**

### Parameters

---

**md** - Specifies the maintenance domain name.

**<string 22>** - Enter the maintenance domain name used here. This name can be up to 22 characters long.

---

**md\_index** - Specifies the maintenance domain index.

**<uint 1-4294967295>** - Enter the maintenance domain index value here. This value must be between 1 and 4294967295.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

### Example

To delete a CFM MD:

```
DGS-3120-24TC:admin# delete cfm md op_domain
Command: delete cfm md op_domain

Success.

DGS-3120-24TC:admin#
```

## 18-10 enable cfm

### Description

This command is used to enable the CFM globally.

### Format

**enable cfm**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

### Example

To enable the CFM globally:

```
DGS-3120-24TC:admin# enable cfm
Command: enable cfm

Success.

DGS-3120-24TC:admin#
```

## 18-11 disable cfm

### Description

This command is used to disable the CFM globally.

### Format

**disable cfm**

### Parameters

None.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To disable the CFM globally:

```
DGS-3120-24TC:admin# disable cfm
Command: disable cfm

Success.

DGS-3120-24TC:admin#
```

## 18-12 config cfm ports

### Description

This command is used to enable or disable the CFM function on a per-port basis. By default, the CFM function is disabled on all ports.

If the CFM is disabled on a port:

1. MIPs are never created on that port.
2. MEPs can still be created on that port, and the configuration can be saved.
3. MEPs created on that port can never generate or process CFM PDUs. If the user issues a Loopback or Link trace test on those MEPs, it will prompt the user to inform them that the CFM function is disabled on that port.

### Format

**config cfm ports <portlist> state [enable | disable]**

### Parameters

---

**ports** - Specifies the logical port list.

**<portlist>** - Enter the list of ports used for this configuration here.

---

**state** - Specifies that the the CFM function will be enabled or disabled.

**enable** - Specifies that the the CFM function will be enabled.

**disable** - Specifies that the the CFM function will be disabled.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

### Example

To configure the CFM ports:

```
DGS-3120-24TC:admin#config cfm ports 1:2-1:5 state enable
Command: config cfm ports 1:2-1:5 state enable

Success.

DGS-3120-24TC:admin#
```

## 18-13 show cfm ports

### Description

This command is used to show the CFM state of specified ports.

### Format

**show cfm ports <portlist>**

### Parameters

---

**ports** - Specifies the logical port list.  
**<portlist>** - Enter the list of ports used for this configuration here.

---

### Restrictions

None. **(EI Mode Only Command)**

### Example

To show the CFM ports:

```
DGS-3120-24TC:admin#show cfm ports 1:3-1:6
Command: show cfm ports 1:3-1:6

Port    State
-----  -
1:3     Enabled
1:4     Enabled
1:5     Enabled
1:6     Disabled

DGS-3120-24TC:admin#
```

## 18-14 show cfm

### Description

This command is used to show the CFM configuration.

### Format

**show cfm** {[md [<string 22> | md\_index <uint 1-4294967295>] {ma [<string 22> | ma\_index <uint 1-4294967295>] {mepid <int 1-8191>}} | mepname <string 32>]}

## Parameters

---

<b>md</b> - (Optional) Specifies the maintenance domain name. <b>&lt;string 22&gt;</b> - Enter the maintenance domain name used here. This name can be up to 22 characters long.
<b>md_index</b> - (Optional) Specifies the maintenance domain index. <b>&lt;uint 1-4294967295&gt;</b> - Enter the maintenance domain index value here. This value must be between 1 and 4294967295.
<b>ma</b> - (Optional) Specifies the maintenance association name. <b>&lt;string 22&gt;</b> - Enter the maintenance association name used here. This name can be up to 22 characters long.
<b>ma_index</b> - (Optional) Specifies the maintenance association index. <b>&lt;uint 1-4294967295&gt;</b> - Enter the maintenance association index value here. This value must be between 1 and 4294967295.
<b>mepid</b> - (Optional) Specifies the MEP ID. <b>&lt;int 1-8191&gt;</b> - Enter the MEP ID used here. This value must be between 1 and 8191.
<b>mepname</b> - (Optional) Specifies the MEP name. <b>&lt;string 32&gt;</b> - Enter the MEP name used here. This name can be up to 32 characters long.

---

## Restrictions

None. (EI Mode Only Command)

## Example

To show the CFM configuration:

```
DGS-3120-24TC:admin#show cfm
Command: show cfm

CFM State: Enabled

MD Index      MD Name                Level
-----      -
1             op_domain              2

DGS-3120-24TC:admin#show cfm md op_domain
Command: show cfm md op_domain

MD Index      : 1
MD Name       : op_domain
MD Level      : 2
MIP Creation  : Explicit
SenderID TLV : None

MA Index      MA Name                VID
-----      -
1             op1                    1

DGS-3120-24TC:admin#show cfm md op_domain ma op1
Command: show cfm md op_domain ma op1

MA Index      : 1
```

```

MA Name      : op1
MA VID       : 1
MIP Creation: Defer
CCM Interval: 1 second
SenderID TLV: Defer
MEPID List   :

MEPID  Direction  Port   Name           MAC Address
-----  -
-----  -

DGS-3120-24TC:admin# show cfm mepname mep1
Command: show cfm mepname mep1

Name          : mep1
MEPID         : 1
Port          : 1
Direction     : inward
CFM Port State : enabled
MAC Address   : XX-XX-XX-XX-XX-XX
MEP State     : enabled
CCM State     : enabled
PDU Priority  : 7
Fault Alarm   : mac_status
Alarm Time    : 2 second(s)
Alarm Reset Time : 10 second(s)
Highest Fault  : Some Remote MEP Down
Out-of-Sequence CCMs: 0 received
Cross-connect CCMs : 0 received
Error CCMs    : 0 received
Port Status CCMs : 0 received
If Status CCMs : 0 received
CCMs transmitted : 1234
In-order LBRs  : 0 received
Out-of-order LBRs : 0 received
Next LTM Trans ID : 27
Unexpected LTRs : 0 received
LBMs Transmitted : 0

Remote
MEPID  MAC Address  Status  RDI  PortSt  IfSt      Detect Time
-----  -
2      XX-..-XX-XX  OK      Yes  Blocked  Up        2008-01-01 12:00:00
3      XX-..-XX-XX  IDLE    No   No        No        2008-01-01 12:00:00
4      XX-..-XX-XX  OK      No   Up        Down      2008-01-01 12:00:00
8      XX-..-XX-XX  START   No   Up        Up        2008-01-01 12:00:00
12     XX-..-XX-XX  FAILED  No   Up        Up        2008-01-01 12:00:00
8      XX-..-XX-XX  OK      No   Up        Up        2008-01-01 12:00:00

DGS-3120-24TC:admin#

```

## 18-15 show cfm fault

### Description

This command displays all the fault conditions detected by the MEPs contained in the specified MA or MD. This display provides the overview of the fault status by MEPs.

### Format

**show cfm fault {md [<string 22> | md\_index <uint 1-4294967295>] {ma [<string 22> | ma\_index <uint 1-4294967295>]}}**

### Parameters

<b>md</b> - (Optional) Specifies the maintenance domain name. <b>&lt;string 22&gt;</b> - Enter the maintenance domain name used here. This name can be up to 22 characters long.
<b>md_index</b> - (Optional) Specifies the maintenance domain index. <b>&lt;uint 1-4294967295&gt;</b> - Enter the maintenance domain index value here. This value must be between 1 and 4294967295.
<b>ma</b> - (Optional) Specifies the maintenance association name. <b>&lt;string 22&gt;</b> - Enter the maintenance association name used here. This name can be up to 22 characters long.
<b>ma_index</b> - (Optional) Specifies the maintenance association index. <b>&lt;uint 1-4294967295&gt;</b> - Enter the maintenance association index value here. This value must be between 1 and 4294967295.

### Restrictions

None. (EI Mode Only Command)

### Example

To show the CFM faults:

```
DGS-3120-24TC:admin# show cfm fault
Command: show cfm fault

MD Name      MA Name      MEPID  Status                AIS Status  LCK Status
-----
op_domain    op1          1      Cross-connect CCM Received

DGS-3120-24TC:admin#
```

## 18-16 show cfm port

### Description

This command is used to show MEPs and MIPs created on a port.

### Format

**show cfm port <port> {level <int 0-7> | direction [inward | outward] | vlanid <vlanid 1-4094>}**



## Parameters

- 
- port** - Specifies the port number used.  
**<port>** - Enter the port number used here.
- 
- level** - (Optional) Specifies the MD Level. If not specified, all levels are shown.  
**<int 0-7>** - Enter the MD level value here. This value must be between 0 and 7.
- 
- direction** - (Optional) Specifies the MEP direction.  
**inward** - Specifies that the MEP direction will be inward facing.  
**outward** - Specifies that the MEP direction will be outward facing.  
 If not specified, both directions and the MIP are shown.
- 
- vlanid** - (Optional) Specifies the VLAN identifier. If not specified, all VLANs are shown.  
**<vlanid 1-4094>** - Enter the VLAN ID used here. This value must be between 1 and 4094.
- 

## Restrictions

None. (EI Mode Only Command)

## Example

To show the MEPs and MIPs created on a port:

```
DGS-3120-24TC:admin# show cfm port 1
Command: show cfm port 1

MAC Address: 00-05-78-82-32-01

MD Name      MA Name      MEPID Level Direction VID
-----
op_domain    op1           1      2      inward   2
cust_domain  cust1         8      4      inward   2
serv_domain  serv2         MIP    3              2

DGS-3120-24TC:admin#
```

## 18-17 cfm loopback

### Description

This command is used to start a CFM loopback test. You can press Ctrl+C to exit the loopback test. The MAC address represents the destination MEP or MIP that can be reached by this MAC address. The MEP represents the source MEP to initiate the loopback message.

### Format

**cfm loopback <macaddr> [mepname <string 32> | mepid <int 1-8191> md [<string 22> | md\_index <uint 1-4294967295>] ma [<string 22> | ma\_index <uint 1-4294967295>]] {num <int 1-65535> | [length <int 0-1500> | pattern <string 1500>] | pdu\_priority <int 0-7>}**

## Parameters

- 
- <macaddr>** - Enter the destination MAC address here.
- 
- mepname** - (Optional) Specifies the MEP name used.  
**<string 32>** - Enter the MEP name used here. This name can be up to 32 characters long.
- 
- mepid** - (Optional) Specifies the MEP ID used.
-

---

<b>&lt;int 1-8191&gt;</b> - Enter the MEP ID used here. This value must be between 1 and 8191.
<b>md</b> – (Optional) Specifies the maintenance domain name. <b>&lt;string 22&gt;</b> - Enter the maintenance domain name her. This name can be up to 22 characters long.
<b>md_index</b> – (Optional) Specifies the maintenance domain index. <b>&lt;uint 1-4294967295&gt;</b> - Enter the maintenance domain index value here. This value must be between 1 and 4294967295.
<b>ma</b> – (Optional) Specifies the maintenance association name. <b>&lt;string 22&gt;</b> - Enter the maintenance association name her. This name can be up to 22 characters long.
<b>ma_index</b> – (Optional) Specifies the maintenance association index. <b>&lt;uint 1-4294967295&gt;</b> - Enter the maintenance association index value here. This value must be between 1 and 4294967295.
<b>num</b> - (Optional) Number of LBMs to be sent. The default value is 4. <b>&lt;int 1-65535&gt;</b> - Enter the number of LBMs to be sent here. This value must be between 1 and 65535.
<b>length</b> - (Optional) The payload length of the LBM to be sent. The default is 0. <b>&lt;int 0-1500&gt;</b> - Enter the payload length here. This value must be between 0 and 1500.
<b>pattern</b> - (Optional) An arbitrary amount of data to be included in a Data TLV, along with an indication whether the Data TLV is to be included. <b>&lt;string 1500&gt;</b> - Enter the pattern used here. This value can be up to 1500 characters long.
<b>pdu_priority</b> - (Optional) The 802.1p priority to be set in the transmitted LBMs. If not specified, it uses the same priority as CCMs and LTMs sent by the MA. <b>&lt;int 0-7&gt;</b> - Enter the PDU priority value here. This value must be between 0 and 7.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To transmit a LBM:

```
DGS-3120-24TC:admin# cfm loopback 00-01-02-03-04-05 mepname mep1
Command: cfm loopback 00-01-02-03-04-05 mepname mep1

Request timed out.
Request timed out.
Reply from MPID 52: bytes=xxx time=xxxms
Request timed out.

CFM loopback statistics for 00-01-02-03-04-05:
  Packets: Sent=4, Received=1, Lost=3(75% loss).

DGS-3120-24TC:admin#
```

## 18-18 cfm linktrace

### Description

This command is used to issue a CFM link track message.

## Format

**cfm linktrace** <macaddr> [mepname <string 32> | mepid <int 1-8191> md [<string 22> | md\_index <uint 1-4294967295>] ma [<string 22> | ma\_index <uint 1-4294967295>]] {ttl <int 2-255> | pdu\_priority <int 0-7>}

## Parameters

<b>&lt;macaddr&gt;</b>	- Specifies the destination MAC address.
<b>mepname</b>	- (Optional) Specifies the MEP name used.
<b>&lt;string 32&gt;</b>	- Enter the MEP name used here. This name can be up to 32 characters long.
<b>mepid</b>	- (Optional) Specifies the MEP ID used.
<b>&lt;int 1-8191&gt;</b>	- Enter the MEP ID used here. This value must be between 1 and 8191.
<b>md</b>	- (Optional) Specifies the maintenance domain name.
<b>&lt;string 22&gt;</b>	- Enter the maintenance domain name her. This name can be up to 22 characters long.
<b>md_index</b>	- (Optional) Specifies the maintenance domain index.
<b>&lt;uint 1-4294967295&gt;</b>	- Enter the maintenance domain index value here. This value can be between 1 and 4294967295.
<b>ma</b>	- (Optional) Specifies the maintenance association name.
<b>&lt;string 22&gt;</b>	- Enter the maintenance association name her. This name can be up to 22 characters long.
<b>ma_index</b>	- (Optional) Specifies the maintenance association index.
<b>&lt;uint 1-4294967295&gt;</b>	- Enter the maintenance association index value here. This value can be between 1 and 4294967295.
<b>ttl</b>	- (Optional) Specifies the link trace message TTL value. The default value is 64.
<b>&lt;int 2-255&gt;</b>	- Enter the link trace message TTL value here. This value must be between 2 and 255.
<b>pdu_priority</b>	- (Optional) The 802.1p priority to be set in the transmitted LTM. If not specified, it uses the same priority as CCMs sent by the MA.
<b>&lt;int 0-7&gt;</b>	- Enter the PDU priority value here. This value must be between 0 and 7.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To transmit an LTM:

```
DGS-3120-24TC:admin# cfm linktrace 00-01-02-03-04-05 mepname mep1
Command: cfm linktrace 00-01-02-03-04-05 mepname mep1

Transaction ID: 26
Success.

DGS-3120-24TC:admin#
```

## 18-19 show cfm linktrace

### Description

This command is used to show the link trace responses. The maximum link trace responses a device can hold is 128.

## Format

**show cfm linktrace [mepname <string 32> | mepid <int 1-8191> md [<string 22> | md\_index <uint 1-4294967295>] ma [<string 22> | ma\_index <uint 1-4294967295>]] {trans\_id <uint>}**

## Parameters

<b>mepname</b> – (Optional) Specifies the MEP name used. <b>&lt;string 32&gt;</b> - Enter the MEP name used here. This name can be up to 32 characters long.
<b>mepid</b> – (Optional) Specifies the MEP ID used. <b>&lt;int 1-8191&gt;</b> - Enter the MEP ID used here. This value must be between 1 and 8191.
<b>md</b> – (Optional) Specifies the maintenance domain name. <b>&lt;string 22&gt;</b> - Enter the maintenance domain name her. This name can be up to 22 characters long.
<b>md_index</b> – (Optional) Specifies the maintenance domain index. <b>&lt;uint 1-4294967295&gt;</b> - Enter the maintenance domain index value here. This value must be between 1 and 4294967295.
<b>ma</b> – (Optional) Specifies the maintenance association name. <b>&lt;string 22&gt;</b> - Enter the maintenance association name her. This name can be up to 22 characters long.
<b>ma_index</b> – (Optional) Specifies the maintenance association index. <b>&lt;uint 1-4294967295&gt;</b> - Enter the maintenance association index value here. This value must be between 1 and 4294967295.
<b>trans_id</b> - (Optional) Specifies the identifier of the transaction displayed. <b>&lt;uint&gt;</b> - Enter the transaction ID used here.

## Restrictions

None. (EI Mode Only Command)

## Example

To show the link trace reply when the "all MPs reply LTRs" function is enabled:

```
DGS-3120-24TC:admin# show cfm linktrace mepname mep1 trans_id 26
Command: show cfm linktrace mepname mep1 trans_id 26

Transaction ID: 26
From MEP mep1 to 00-11-22-33-44-55
Start Time 2008-01-01 12:00:00

Hop  MEPID  MAC Address          Forwarded  Relay Action
---  -
1    00-22-33-44-55-66  Yes        FDB
2    00-33-44-55-66-77  Yes        MPDB
3    00-11-22-33-44-55  No         Hit

DGS-3120-24TC:admin#
```

To show the link trace reply when the "all MPs reply LTRs" function is disabled:

```
DGS-3120-24TC:admin# show cfm linktrace mep mep1 trans_id 26
Command: show cfm linktrace mep mep1 trans_id 26

Transaction ID: 26
From MEP mep1 to 00-11-22-33-44-55
Start Time 2008-01-01 12:00:00
```

Hop	MEPID	Ingress MAC Address	Egress MAC Address	Forwarded	Relay Action
1	-	00-22-33-44-55-66	00-22-33-44-55-67	Yes	FDB
2	-	00-33-44-55-66-77	00-33-44-55-66-78	Yes	MPDB
3	X	00-44-55-66-77-88	00-11-22-33-44-55	No	Hit

```
DGS-3120-24TC:admin#
```

## 18-20 delete cfm linktrace

### Description

This command is used to delete the stored link trace response data that have been initiated by the specified MEP.

### Format

```
delete cfm linktrace [[md [<string 22> | md_index <uint 1-4294967295>] {ma [<string 22> |
ma_index <uint 1-4294967295>] {mepid <int 1-8191>}} | mepname <string 32>}]
```

### Parameters

<b>md</b> - (Optional) Specifies the maintenance domain name. <b>&lt;string 22&gt;</b> - Enter the maintenance domain name her. This name can be up to 22 characters long.
<b>md_index</b> - (Optional) Specifies the maintenance domain index. <b>&lt;uint 1-4294967295&gt;</b> - Enter the maintenance domain index value here. This value must be between 1 and 4294967295.
<b>ma</b> - (Optional) Specifies the maintenance association name. <b>&lt;string 22&gt;</b> - Enter the maintenance association name her. This name can be up to 22 characters long.
<b>ma_index</b> - (Optional) Specifies the maintenance association index. <b>&lt;uint 1-4294967295&gt;</b> - Enter the maintenance association index value here. This value must be between 1 and 4294967295.
<b>mepid</b> - (Optional) Specifies the MEP ID used. <b>&lt;int 1-8191&gt;</b> - Enter the MEP ID used here. This value must be between 1 and 8191.
<b>mepname</b> - (Optional) Specifies the MEP name used. <b>&lt;string 32&gt;</b> - Enter the MEP name used here. This name can be up to 32 characters long.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To delete the CFM link trace reply:

```
DGS-3120-24TC:admin# delete cfm linktrace mepname mep1
Command: delete cfm linktrace mepname mep1

Success.

DGS-3120-24TC:admin#
```

## 18-21 show cfm mipccm

### Description

This command is used to show the MIP CCM database entries. All entries in the MIP CCM database will be shown. A MIP CCM entry is similar to a FDB which keeps the forwarding port information of a MAC entry.

### Format

**show cfm mipccm**

### Parameters

None. (EI Mode Only Command)

### Restrictions

None.

## Example

To show MIP CCM database entries:

```
DGS-3120-24TC:admin# show cfm mipccm
Command: show cfm mipccm

MA          VID  MAC Address          Port
-----
opma        1    xx-xx-xx-xx-xx-xx   2
opma        1    xx-xx-xx-xx-xx-xx   3

Total: 2

DGS-3120-24TC:admin#
```

## 18-22 config cfm mp\_ltr\_all

### Description

This command is used to enable or disable the "all MPs reply LTRs" function.

### Format

**config cfm mp\_ltr\_all [enable | disable]**

### Parameters

---

**mp\_ltr\_all** - Specifies that the MP's reply to the LTR function will be set to all.  
**enable** - Specifies that this function will be enabled.  
**disable** - Specifies that this function will be disabled.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

### Example

To enable the "all MPs reply LTRs" function:

```
DGS-3120-24TC:admin# config cfm mp_ltr_all enable
Command: config cfm mp_ltr_all enable

Success.

DGS-3120-24TC:admin#
```

## 18-23 show cfm mp\_ltr\_all

### Description

This command is used to show the current configuration of the "all MPs reply LTRs" function.

### Format

**show cfm mp\_ltr\_all**

### Parameters

None.

### Restrictions

None. **(EI Mode Only Command)**

### Example

To show the configuration of the "all MPs reply LTRs" function:

```
DGS-3120-24TC:admin# show cfm mp_ltr_all
Command: show cfm mp_ltr_all

All MPs reply LTRs: Disabled

DGS-3120-24TC:admin#
```

## 18-24 show cfm remote\_mep

### Description

This command is used to show remote MEPs.

### Format

```
show cfm remote_mep [mepname <string 32> | md [<string 22> | md_index <uint 1-4294967295>] ma [<string 22> | ma_index <uint 1-4294967295>] mepid <int 1-8191>]
remote_mepid <int 1-8191>
```

### Parameters

---

<b>mepname</b>	– (Optional) Specifies the MEP name used. <b>&lt;string 32&gt;</b> - Enter the MEP name used here. This name can be up to 32 characters long.
<b>md</b>	– (Optional) Specifies the maintenance domain name. <b>&lt;string 22&gt;</b> - Enter the maintenance domain name her. This name can be up to 22 characters long.
<b>md_index</b>	– (Optional) Specifies the maintenance domain index. <b>&lt;uint 1-4294967295&gt;</b> - Enter the maintenance domain index value here. This value must be between 1 and 4294967295.
<b>ma</b>	– (Optional) Specifies the maintenance association name. <b>&lt;string 22&gt;</b> - Enter the maintenance association name her. This name can be up to 22 characters long.
<b>ma_index</b>	– (Optional) Specifies the maintenance association index. <b>&lt;uint 1-4294967295&gt;</b> - Enter the maintenance association index value here. This value must be between 1 and 4294967295.
<b>mepid</b>	– (Optional) Specifies the MEP ID used. <b>&lt;int 1-8191&gt;</b> - Enter the MEP ID used here. This value must be between 1 and 8191.
<b>remote_mepid</b>	- Specifies the Remote MEP ID used. <b>&lt;int 1-8191&gt;</b> - Enter the remote MEP ID used here. This value must be between 1 and 8191.

---

### Restrictions

None. (EI Mode Only Command)

### Example

To show the CFM Remote MEP information:



```
DGS-3120-24TC:admin# show cfm remote_mep mepname mepl remote_mepid 2
Command: show cfm remote_mep mepname mepl remote_mepid 2

Remote MEPID           : 2
MAC Address             : 00-11-22-33-44-02
Status                  : OK
RDI                     : Yes
Port State              : Blocked
Interface Status        : Down
Last CCM Serial Number  : 1000
Sender Chassis ID       : 00-11-22-33-44-00
Sender Management Address: SNMP-UDP-IPv4 10.90.90.90:161
Detect Time             : 2008-01-01 12:00:00

DGS-3120-24TC:admin#
```

## 18-25 show cfm pkt\_cnt

### Description

This command is used to show the CFM packet's RX/TX counters.

### Format

**show cfm pkt\_cnt** {[ports <portlist> {[rx | tx]} | [rx | tx] | ccm]}

### Parameters

**ports** - (Optional) Specifies the port counters to show. If not specified, all ports will be shown.

**<portlist>** - Enter the list of ports used for this configuration here.

**rx** - (Optional) Specifies to display the RX counter.

**tx** - (Optional) Specifies to display the TX counter. If not specified, both of them will be shown.

**rx** - (Optional) Specifies to display the RX counter.

**tx** - (Optional) Specifies to display the TX counter. If not specified, both of them will be shown.

**ccm** - (Optional) Specifies the CCM RX counters.

### Restrictions

None. (EI Mode Only Command)

### Example

To show the CFM packet's RX/TX counters:

```
DGS-3120-24TC:admin# show cfm pkt_cnt
Command: show cfm pkt_cnt

CFM RX Statistics
-----
Port  AllPkt  CCM      LBR      LBM      LTR      LTM      VidDrop  OpcoDrop
-----
all   204     204      0         0         0         0         0         0
1     0       0        0         0         0         0         0         0
```

```

2      204      204      0      0      0      0      0      0
3      0        0        0      0      0      0      0      0
4      0        0        0      0      0      0      0      0
5      0        0        0      0      0      0      0      0
6      0        0        0      0      0      0      0      0
7      0        0        0      0      0      0      0      0
8      0        0        0      0      0      0      0      0
9      0        0        0      0      0      0      0      0
10     0        0        0      0      0      0      0      0
11     0        0        0      0      0      0      0      0
12     0        0        0      0      0      0      0      0

CFM TX Statistics
-----
Port  AllPkt  CCM      LBR      LBM      LTR      LTM
-----
all   3988    3984     0        0        0        4
1     0      0        0        0        0        0
2     204    204     0        0        0        4
3     578    578     0        0        0        0
4     578    578     0        0        0        0
5     578    578     0        0        0        0
6     578    578     0        0        0        0
7     578    578     0        0        0        0
8     578    578     0        0        0        0
9     578    578     0        0        0        0
10    578    578     0        0        0        0
11    578    578     0        0        0        0
12    578    578     0        0        0        0

DGS-3120-24TC:admin# show cfm pkt_cnt ccm
Command: show cfm pkt_cnt ccm

CCM RX counters:
XCON   = Cross-connect CCMS
Error  = Error CCMS
Normal = Normal CCMS

MEP Name      VID  Port  Level  Direction XCON      Error      Normal
-----
mep1          1   1     2      inward    9         8         100
mep2          1   2     2      inward    9         8         100
mep3          1   3     2      inward    9         8         100
-----
Total:        27         24         300

DGS-3120-24TC:admin#

```

## 18-26 clear cfm pkt\_cnt

### Description

This command is used to clear the CFM packet's RX/TX counters.

## Format

**clear cfm pkt\_cnt** {[ports <portlist> {[rx | tx]} | [rx | tx] | ccm]}

## Parameters

---

**ports** - (Optional) The ports which require need the counters clearing. If not specified, all ports will be cleared.

**<portlist>** - Enter the list of ports used for this configuration here.

---

**rx** - (Optional) Specifies to clear the RX counter.

**tx** - (Optional) Specifies to clear the TX counter. If not specified, both of them will be cleared.

---

**rx** - (Optional) Specifies to clear the RX counter.

**tx** - (Optional) Specifies to clear the TX counter. If not specified, both of them will be cleared.

---

**ccm** - (Optional) Specifies the CCM RX counters.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To clear the CFM packet's RX/TX counters:

```
DGS-3120-24TC:admin# clear cfm pkt_cnt
Command: clear cfm pkt_cnt

Success.

DGS-3120-24TC: clear cfm pkt_cnt ccm
Command: clear cfm pkt_cnt ccm

Success.

DGS-3120-24TC:admin#
```

## Chapter 19 Connectivity Fault Management (CFM) Extension Command List

---

<b>config cfm ais md</b> [<string 22>   md_index <uint 1-4294967295>] ma [<string 22>   ma_index <uint 1-4294967295>] mepid <int 1-8191> {period [1sec   1min]   level <int 0-7>   state [enable   disable]}
<b>config cfm lock md</b> [<string 22>   md_index <uint 1-4294967295>] ma [<string 22>   ma_index <uint 1-4294967295>] mepid <int 1-8191> {period [1sec   1min]   level <int 0-7>   state [enable   disable]}
<b>cfm lock md</b> [<string 22>   md_index <uint 1-4294967295>] ma [<string 22>   ma_index <uint 1-4294967295>] mepid <int 1-8191> remote_mepid <int 1-8191> action [start   stop]
<b>config cfm ccm_fwd</b> [software   hardware]
<b>show cfm ccm_fwd</b>

---

### 19-1 config cfm ais

#### Description

This command is used to configure the parameters of AIS function on a MEP. The default client MD level is MD level at which the most immediate client layer MIPs and MEPs exist.

**Note:** This default client MD level is not a fixed value. It may change when creating or deleting higher level MD and MA on the device.

When the most immediate client layer MIPs and MEPs do not exist, the default client MD level cannot be calculated. If the default client MD level cannot be calculated and user doesn't designate a client level, the AIS and LCK PDU cannot be transmitted.

#### Format

```
config cfm ais md [<string 22> | md_index <uint 1-4294967295>] ma [<string 22> | ma_index <uint 1-4294967295>] mepid <int 1-8191> {period [1sec | 1min] | level <int 0-7> | state [enable | disable]}
```

#### Parameters

---

<b>md</b> - Specifies the maintenance domain name. <b>&lt;string 22&gt;</b> - Enter the maintenance domain name here. This name can be up to 22 characters long.
<b>md_index</b> – (Optional) Specifies the maintenance domain index. <b>&lt;uint 1-4294967295&gt;</b> - Enter the maintenance domain index value here. This value must be between 1 and 4294967295.
<b>ma</b> - Specifies the maintenance association name. <b>&lt;string 22&gt;</b> - Enter the maintenance association name here. This name can be up to 22 characters long.
<b>ma_index</b> – (Optional) Specifies the maintenance association index. <b>&lt;uint 1-4294967295&gt;</b> - Enter the maintenance association index value here. This value must be between 1 and 4294967295.
<b>mepid</b> - The MEP ID in the MD which sends AIS frame.

---

---

<b>&lt;int 1-8191&gt;</b>	- Enter the MEP ID value here. This value must be between 1 and 8191.
<b>period</b>	- (Optional) The transmitting interval of AIS PDU. The default period is 1 second.
<b>1sec</b>	- Specifies that the transmitting interval will be set to 1 second.
<b>1min</b>	- Specifies that the transmitting interval will be set to 1 minute.
<b>level</b>	- (Optional) The client level ID to which the MEP sends AIS PDU. The default client MD level is MD level at which the most immediate client layer MIPs and MEPs exist.
<b>&lt;int 0-7&gt;</b>	- Enter the client level ID here. This value must be between 0 and 7.
<b>state</b>	- (Optional) Specifies to enable or disable the AIS function.
<b>enable</b>	- Specifies that the AIS function will be enabled.
<b>disable</b>	- Specifies that the AIS function will be disabled.

---

## Restrictions

Only Administrator and Operator-level users can issue this command. **(EI Mode Only Command)**

## Example

To configure the AIS function enabled and client level is 5:

```
DGS-3120-24TC:admin# config cfm ais md op-domain ma op-ma mepid 1 state enable
level 5
Command: config cfm ais md op-domain ma op-ma mepid 1 state enable level 5

Success.

DGS-3120-24TC:admin#
```

## 19-2 config cfm lock

### Description

This command is used to configure the parameters of LCK function on a MEP. The default client MD level is MD level at which the most immediate client layer MIPs and MEPs exist.

**Note:** This default client MD level is not a fixed value. It may change when creating or deleting higher level MD and MA on the device.

When the most immediate client layer MIPs and MEPs do not exist, the default client MD level cannot be calculated. If the default client MD level cannot be calculated and user doesn't designate a client level, the AIS and LCK PDU cannot be transmitted.

### Format

```
config cfm lock md [<string 22> | md_index <uint 1-4294967295>] ma [<string 22> |
ma_index <uint 1-4294967295>] mepid <int 1-8191> {period [1sec | 1min] | level <int 0-7> |
state [enable | disable]}
```

### Parameters

---

<b>md</b>	- Specifies the maintenance domain name.
<b>&lt;string 22&gt;</b>	- Enter the maintenance domain name here. This name can be up to 22 characters long.
<b>md_index</b>	- (Optional) Specifies the maintenance domain index.
<b>&lt;uint 1-4294967295&gt;</b>	- Enter the maintenance domain index value here. This value must be between 1 and 4294967295.

---

---

<b>ma</b>	- Specifies the maintenance association name. <b>&lt;string 22&gt;</b> - Enter the maintenance association name here. This name can be up to 22 characters long.
<b>ma_index</b>	- (Optional) Specifies the maintenance association index. <b>&lt;uint 1-4294967295&gt;</b> - Enter the maintenance association index value here. This value must be between 1 and 4294967295.
<b>mepid</b>	- The MEP ID in the MD which sends LCK frame. <b>&lt;int 1-8191&gt;</b> - Enter the MEP ID value here. This value must be between 1 and 8191.
<b>period</b>	- (Optional) The transmitting interval of LCK PDU. The default period is 1 second. <b>1sec</b> - Specifies that the transmitting interval will be set to 1 second. <b>1min</b> - Specifies that the transmitting interval will be set to 1 minute.
<b>level</b>	- (Optional) The client level ID to which the MEP sends LCK PDU. The default client MD level is MD level at which the most immediate client layer MIPs and MEPs exist. <b>&lt;int 0-7&gt;</b> - Enter the client level ID here. This value must be between 0 and 7.
<b>state</b>	- (Optional) Specifies to enable or disable the LCK function. <b>enable</b> - Specifies that the LCK function will be enabled. <b>disable</b> - Specifies that the LCK function will be disabled.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

### Example

To configure the LCK function enabled and client level is 5:

```
DGS-3120-24TC:admin# config cfm lock md op-domain ma op-ma mepid 1 state enable
level 5
Command: config cfm lock md op-domain ma op-ma mepid 1 state enable level 5

Success.

DGS-3120-24TC:admin#
```

## 19-3 cfm lock md

### Description

This command is used to start/stop cfm management lock. This command will result in the MEP sends a LCK PDU to client level MEP.

### Format

**cfm lock md [<string 22> | md\_index <uint 1-4294967295>] ma [<string 22> | ma\_index <uint 1-4294967295>] mepid <int 1-8191> remote\_mepid <int 1-8191> action [start | stop]**

### Parameters

---

<b>md</b>	- Specifies the maintenance domain name. <b>&lt;string 22&gt;</b> - Enter the maintenance domain name here. This name can be up to 22 characters long.
<b>md_index</b>	- (Optional) Specifies the maintenance domain index. <b>&lt;uint 1-4294967295&gt;</b> - Enter the maintenance domain index value here. This value must be between 1 and 4294967295.

---

---

**ma** - Specifies the maintenance association name.

**<string 22>** - Enter the maintenance association name here. This name can be up to 22 characters long.

---

**ma\_index** – (Optional) Specifies the maintenance association index.

**<uint 1-4294967295>** - Enter the maintenance association index value here. This value must be between 1 and 4294967295.

---

**mepid** - The MEP ID in the MD which sends LCK frame.

**<int 1-8191>** - Enter the MEP ID value here. This value must be between 1 and 8191.

---

**remote\_mepid** - The peer MEP is the target of management action.

**<int 1-8191>** - Enter the remote MEP ID used here. This value must be between 1 and 8191.

---

**action** - Specifies to start or to stop the management lock function.

**start** - Specifies to start the management lock function.

**stop** - Specifies to stop the management lock function.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To start management lock:

```
DGS-3120-24TC:admin# cfm lock md op-domain ma op-ma mepid 1 remote_mepid 2
action start
Command: cfm lock md op-domain ma op-ma mepid 1 remote_mepid 2 action start

Success.

DGS-3120-24TC:admin#
```

## 19-4 config cfm ccm\_fwd

### Description

This command is used to configure the CCM PDUs forwarding mode.

### Format

**config cfm ccm\_fwd [software | hardware]**

### Parameters

---

**software** - Specifies that the CCM PDUs will be forwarded using the software mode.

**hardware** - Specifies that the CCM PDUs will be forwarded using the hardware mode.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

### Example

To configure the CCM PDUs forwarding mode:

---

```
DGS-3120-24TC:admin# config cfm ccm_fwd_mode hardware
Command: config cfm ccm_fwd_mode hardware

Success.

DGS-3120-24TC:admin#
```

## 19-5 show cfm ccm\_fwd

### **Description**

This command is used to display the CCM PDUs forwarding mode.

### **Format**

**show cfm ccm\_fwd**

### **Parameters**

None.

### **Restrictions**

None. **(EI Mode Only Command)**

### **Example**

To display the CCM PDUs forwarding mode:

```
DGS-3120-24TC:admin#show cfm ccm_fwd
Command: show cfm ccm_fwd

CFM CCM PDUs forwarding mode: Software

DGS-3120-24TC:admin#
```



## Chapter 20 CPU Interface Filtering Command List

---

```
create cpu access_profile profile_id <value 1-5> [ethernet {vlan | source_mac <macmask 000000000000-ffffffff> | destination_mac <macmask 000000000000-ffffffff> | 802.1p | ethernet_type} | ip {vlan | source_ip_mask <netmask> | destination_ip_mask <netmask> | dscp | [icmp {type | code} | igmp {type} | tcp {src_port_mask <hex 0x0-0xffff> | dst_port_mask <hex 0x0-0xffff> | flag_mask [all | {urg | ack | psh | rst | syn | fin}]} | udp {src_port_mask <hex 0x0-0xffff> | dst_port_mask <hex 0x0-0xffff> | protocol_id_mask <hex 0x0-0xff> {user_define_mask <hex 0x0-0xffffffff>}}] | packet_content_mask {offset_0-15 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> | offset_16-31 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> | offset_32-47 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> | offset_48-63 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> | offset_64-79 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> | ipv6 {class | flowlabel | source_ipv6_mask <ipv6mask> | destination_ipv6_mask <ipv6mask>}]
```

---

```
delete cpu access_profile [profile_id <value 1-5> | all]
```

---

```
config cpu access_profile profile_id <value 1-5> [add access_id [auto_assign | <value 1-100>] [ethernet {{vlan <vlan_name 32> | vlan_id <vlanid 1-4094>} | source_mac <macaddr> | destination_mac <macaddr> | 802.1p <value 0-7> | ethernet_type <hex 0x0-0xffff>} | ip {{vlan <vlan_name 32> | vlan_id <vlanid 1-4094>} | source_ip <ipaddr> | destination_ip <ipaddr> | dscp <value 0-63> | [icmp {type <value 0-255> | code <value 0-255>} | igmp {type <value 0-255>} | tcp {src_port <value 0-65535> | dst_port <value 0-65535> | flag [all | {urg | ack | psh | rst | syn | fin}]} | udp {src_port <value 0-65535> | dst_port <value 0-65535>} | protocol_id <value 0-255> {user_define <hex 0x0-0xffffffff>}}] | packet_content {offset_0-15 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> | offset_16-31 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> | offset_32-47 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> | offset_48-63 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> | offset_64-79 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff>} | ipv6 {class <value 0-255> | flowlabel <hex 0x0-0xffff> | source_ipv6 <ipv6addr> | destination_ipv6 <ipv6addr>} | port [<portlist> | all] [permit | deny] [time_range <range_name 32>} | delete access_id <value 1-100>]
```

---

```
enable cpu interface filtering
```

---

```
disable cpu interface filtering
```

---

```
show cpu access_profile [profile_id <value 1-5>]
```

---

### 20-1 create cpu access\_profile

#### Description

This command is used to create CPU access list rules.

#### Format

```
create cpu access_profile profile_id <value 1-5> [ethernet {vlan | source_mac <macmask 000000000000-ffffffff> | destination_mac <macmask 000000000000-ffffffff> | 802.1p | ethernet_type} | ip {vlan | source_ip_mask <netmask> | destination_ip_mask <netmask> | dscp | [icmp {type | code} | igmp {type} | tcp {src_port_mask <hex 0x0-0xffff> | dst_port_mask <hex 0x0-0xffff> | flag_mask [all | {urg | ack | psh | rst | syn | fin}]} | udp {src_port_mask <hex 0x0-0xffff> | dst_port_mask <hex 0x0-0xffff>} | protocol_id_mask <hex 0x0-0xff> {user_define_mask <hex 0x0-0xffffffff>}}] | packet_content_mask {offset_0-15
```

<hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> | offset\_16-31  
 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> | offset\_32-47  
 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> | offset\_48-63  
 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> | offset\_64-79  
 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> | ipv6 {class |  
 flowlabel | source\_ipv6\_mask <ipv6mask> | destination\_ipv6\_mask <ipv6mask>}]

## Parameters

<b>profile_id</b> - Specifies the profile ID used here. <value 1-5> - Enter the profile ID value here. This value must be between 1 and 5.
<b>ethernet</b> - Specifies that the profile type will be Ethernet.
<b>vlan</b> - (Optional) Specifies a VLAN mask.
<b>source_mac</b> - (Optional) Specifies the source MAC mask. <macmask> - Enter the source MAC mask here.
<b>destination_mac</b> - (Optional) Specifies the destination mac mask. <macmask> - Enter the destination MAC mask here.
<b>802.1p</b> - (Optional) Specifies 802.1p priority tag mask.
<b>ethernet_type</b> - (Optional) Specifies the ethernet type mask.
<b>ip</b> - Specifies that the profile type will be IP.
<b>vlan</b> - (Optional) Specifies a VLAN mask.
<b>source_ip_mask</b> - (Optional) Specifies an IP source submask. <netmask> - Enter the IP source submask here.
<b>destination_ip_mask</b> - Specifies an IP destination submask. <netmask> - Enter the IP destination submask here.
<b>dscp</b> - Specifies the DSCP mask.
<b>icmp</b> - Specifies that the rule applies to ICMP traffic. type - (Optional) Specifies that the rule applies to ICMP type traffic. code - (Optional) Specifies that the rule applies to ICMP code traffic.
<b>igmp</b> - Specifies that the rule applies to IGMP traffic. type - (Optional) Specifies that the rule applies to IGMP type traffic.
<b>tcp</b> - Specifies that the rule applies to TCP traffic. src_port_mask - (Optional) Specifies the TCP source port mask. <hex 0x0-0xffff> - Enter the source TCP port mask here. dst_port_mask - (Optional) Specifies the TCP destination port mask. <hex 0x0-0xffff> - Enter the destination TCP port mask here.
<b>flag_mask</b> - (Optional) Specifies the TCP flag field mask. all - Specifies that the TCP flag field mask will be set to all. urg - Specifies that the TCP flag field mask will be set to urg. ack - Specifies that the TCP flag field mask will be set to ack. psh - Specifies that the TCP flag field mask will be set to psh. rst - Specifies that the TCP flag field mask will be set to rst. syn - Specifies that the TCP flag field mask will be set to syn. fin - Specifies that the TCP flag field mask will be set to fin.
<b>udp</b> - Specifies that the rule applies to UDP traffic. src_port_mask - (Optional) Specifies the UDP source port mask. <hex 0x0-0xffff> - Enter the source UDP port mask here. dst_port_mask - (Optional) Specifies the UDP destination port mask. <hex 0x0-0xffff> - Enter the destination UDP port mask here.
<b>protocod_id_mask</b> - Specifies that the rule applies to the IP protocol ID traffic. <0x0-0xff> - Enter the IP protocol ID mask here.
<b>user_define_mask</b> - (Optional) Specifies that the rule applies to the IP protocol ID and the mask options behind the IP header length is 20 bytes. <hex 0x0-0xffffffff> - Enter the user-defined IP protocol ID mask here.
<b>packet_content_mask</b> - Specifies the frame content mask, there are 5 offsets in maximum could be configure. Each offset presents 16 bytes, the range of mask of frame is 80 bytes (5 offsets) in the first eighty bytes of frame. offset_0-15 - (Optional) Specifies that the mask pattern offset of the frame will be between 0

---

and 15.
<b>&lt;hex 0x0-0xffffffff&gt;</b> - Enter the mask pattern offset of the frame between 0 and 15 here.
<b>offset_16-31</b> - (Optional) Specifies that the mask pattern offset of the frame will be between 16 and 31.
<b>&lt;hex 0x0-0xffffffff&gt;</b> - Enter the mask pattern offset of the frame between 16 and 31 here.
<b>offset_32-47</b> - (Optional) Specifies that the mask pattern offset of the frame will be between 32 and 47.
<b>&lt;hex 0x0-0xffffffff&gt;</b> - Enter the mask pattern offset of the frame between 32 and 47 here.
<b>offset_48-63</b> - (Optional) Specifies that the mask pattern offset of the frame will be between 48 and 63.
<b>&lt;hex 0x0-0xffffffff&gt;</b> - Enter the mask pattern offset of the frame between 48 and 63 here.
<b>offset_64-79</b> - (Optional) Specifies that the mask pattern offset of the frame will be between 64 and 79.
<b>&lt;hex 0x0-0xffffffff&gt;</b> - Enter the mask pattern offset of the frame between 64 and 79 here.
<b>ipv6</b> - Specifies IPv6 filtering mask.
<b>class</b> - (Optional) Specifies the IPv6 class.
<b>flowlabel</b> - (Optional) Specifies the IPv6 flowlabel.
<b>source_ipv6_mask</b> - (Optional) Specifies an IPv6 source submask.
<b>&lt;ipv6mask&gt;</b> - Enter the IPv6 source submask here.
<b>destination_ipv6_mask</b> - (Optional) Specifies an IPv6 destination submask.
<b>&lt;ipv6mask&gt;</b> - Enter the IPv6 destination submask here.
<b>tcp</b> - (Optional) Specifies that the rule applies to TCP traffic.
<b>src_port_mask</b> - Specifies an IPv6 Layer 4 TCP source port mask.
<b>&lt;hex 0x0-0xffff&gt;</b> - Enter the TCP source port mask value here.
<b>des_port_mask</b> - Specifies an IPv6 Layer 4 TCP destination port mask.
<b>&lt;hex 0x0-0xffff&gt;</b> - Enter the TCP destination port mask value here.
<b>udp</b> - (Optional) Specifies that the rule applies to UDP traffic.
<b>src_port_mask</b> - Specifies the UDP source port mask.
<b>&lt;hex 0x0-0xffff&gt;</b> - Enter the UDP source port mask value here.
<b>dst_port_mask</b> - Specifies the UDP destination port mask.
<b>&lt;hex 0x0-0xffff&gt;</b> - Enter the UDP destination port mask value here.
<b>icmp</b> - (Optional) Specifies a mask for ICMP filtering.
<b>type</b> - Specifies the inclusion of the ICMP type field in the mask.
<b>code</b> - Specifies the inclusion of the ICMP code field in the mask.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To create CPU access list rules:

```
DGS-3120-24TC:admin# create cpu access_profile profile_id 1 ethernet vlan
source_mac 00-00-00-00-00-01 destination_mac 00-00-00-00-00-02 802.1p
ethernet_type
Command: create cpu access_profile profile_id 1 ethernet vlan source_mac 00-00-
00-00-00-00-01 destination_mac 00-00-00-00-00-02 802.1p ethernet_type

Success.

DGS-3120-24TC:admin# create cpu access_profile profile_id 2 ip vlan
source_ip_mask 20.0.0.0 destination_ip_mask 10.0.0.0 dscp icmp type code
Command: create cpu access_profile profile_id 2 ip vlan source_ip_mask 20.0.0.0
destination_ip_mask 10.0.0.0 dscp icmp type code

Success.

DGS-3120-24TC:admin#
```

## 20-2 delete cpu access\_profile

### Description

This command is used to delete CPU access list rules.

### Format

**delete cpu access\_profile [profile\_id <value 1-5> | all]**

### Parameters

---

**profile\_id** - Specifies the index of access list profile.  
**<value 1-5>** - Enter the profile ID value here. This value must be between 1 and 5.  
**all** - Specifies that all the access list profiles will be deleted.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To delete CPU access list rules:

```
DGS-3120-24TC:admin# delete cpu access_profile profile_id 1
Command: delete cpu access_profile profile_id 1

Success.

DGS-3120-24TC:admin#
```

## 20-3 config cpu access\_profile

### Description

This command is used to configure CPU access list entry.

## Format

```
config cpu access_profile profile_id <value 1-5> [add access_id [auto_assign | <value 1-100>] [ethernet {[vlan <vlan_name 32> | vlan_id <vlanid 1-4094>] | source_mac <macaddr> | destination_mac <macaddr> | 802.1p <value 0-7> | ethernet_type <hex 0x0-0xffff>} | ip {[vlan <vlan_name 32> | vlan_id <vlanid 1-4094>] | source_ip <ipaddr> | destination_ip <ipaddr> | dscp <value 0-63> | icmp {type <value 0-255> | code <value 0-255>} | igmp {type <value 0-255>} | tcp {src_port <value 0-65535> | dst_port <value 0-65535> | flag [all | {urg | ack | psh | rst | syn | fin}]} | udp {src_port <value 0-65535> | dst_port <value 0-65535>} | protocol_id <value 0-255> {user_define <hex 0x0-0xffffffff>}}] | packet_content {offset_0-15 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> | offset_16-31 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> | offset_32-47 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> | offset_48-63 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> | offset_64-79 <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff> <hex 0x0-0xffffffff>} | ipv6 {class <value 0-255> | flowlabel <hex 0x0-0xffff> | source_ipv6 <ipv6addr> | destination_ipv6 <ipv6addr>}] port [<portlist> | all] [permit | deny] {time_range <range_name 32>} | delete access_id <value 1-100>]
```

## Parameters

<b>profile_id</b> - Specifies the index of access list profile. <b>&lt;value 1-5&gt;</b> - Enter the profile ID value here. This value must be between 1 and 5.
<b>access_id</b> - Specifies the index of access list entry. The range of this value is 1-100. <b>&lt;value 1-100&gt;</b> - Enter the access ID here. This value must be between 1 and 100.
<b>ethernet</b> - Specifies that the profile type will be Ethernet.
<b>vlan</b> - (Optional) Specifies the VLAN name used. <b>&lt;vlan_name 32&gt;</b> - Enter the name of the VLAN here. This name can be up to 32 characters long.
<b>vlan_id</b> - (Optional) Specifies the VLAN ID used. <b>&lt;vid&gt;</b> - Enter the VLAN ID used here. <b>mask</b> - (Optional) Specifies the mask used. <b>&lt;hex 0x0-0x0fff&gt;</b> - Specifies the mask used.
<b>source_mac</b> - (Optional) Specifies the source MAC address. <b>&lt;macaddr&gt;</b> - Enter the source MAC address used for this configuration here. <b>mask</b> - (Optional) Specifies the mask used. <b>&lt;hex 0x0-0x0fff&gt;</b> - Specifies the mask used.
<b>destination_mac</b> - (Optional) Specifies the destination MAC. <b>&lt;macaddr&gt;</b> - Enter the destination MAC address used for this configuration here. <b>mask</b> - (Optional) Specifies the mask used. <b>&lt;hex 0x0-0x0fff&gt;</b> - Specifies the mask used.
<b>802.1p</b> - (Optional) Specifies the value of 802.1p priority tag. <b>&lt;value 0-7&gt;</b> - Enter the 802.1p priority tag value here. This value must be between 0 and 7.
<b>ethernet_type</b> - (Optional) Specifies the Ethernet type. <b>&lt;hex 0x0-0xffff&gt;</b> - Enter the Ethernet type value here.
<b>ip</b> - Specifies that the profile type will be IP.
<b>vlan</b> - (Optional) Specifies the VLAN name used. <b>&lt;vlan_name 32&gt;</b> - Enter the name of the VLAN here. This name can be up to 32 characters long.
<b>vlan_id</b> - (Optional) Specifies the VLAN ID used. <b>&lt;vid&gt;</b> - Enter the VLAN ID used here.
<b>source_ip</b> - (Optional) Specifies an IP source address. <b>&lt;ipaddr&gt;</b> - Enter the source IP address used for this configuration here. <b>mask</b> - (Optional) Specify the mask. <b>&lt;netmask&gt;</b> - Specify the mask.

---

<b>destination_ip</b> - (Optional) Specifies an IP destination address. <b>&lt;ipaddr&gt;</b> - Enter the destination IP address used for this configuration here. <b>mask</b> - (Optional) Specify the mask. <b>&lt;netmask&gt;</b> - Specify the mask.
<b>dscp</b> - (Optional) Specifies the value of DSCP, the value can be configured 0 to 63. <b>&lt;value&gt;</b> - Enter the DSCP value used here.
<b>icmp</b> - (Optional) Specifies that the rule applies to ICMP traffic. <b>type</b> - Specifies that the rule applies to the value of ICMP type traffic. <b>&lt;value 0-255&gt;</b> - Enter the ICMP type value here. This value must be between 0 and 255. <b>code</b> - Specifies that the rule applies to the value of ICMP code traffic. <b>&lt;value 0-255&gt;</b> - Enter the ICMP code value here. This value must be between 0 and 255.
<b>igmp</b> - (Optional) Specifies that the rule applies to IGMP traffic. <b>type</b> - Specifies that the rule applies to the value of IGMP type traffic. <b>&lt;value 0-255&gt;</b> - Enter the IGMP type value here. This value must be between 0 and 255.
<b>tcp</b> - (Optional) Specifies that the rule applies to TCP traffic. <b>src_port</b> - Specifies that the rule applies the range of TCP source port. <b>&lt;value 0-65535&gt;</b> - Enter the source port value here. This value must be between 0 and 65535. <b>mask</b> - (Optional) Specify the mask. <b>&lt;hex 0x0-0xffff&gt;</b> - Specify the mask. <b>dst_port</b> - Specifies the range of TCP destination port range. <b>&lt;value 0-65535&gt;</b> - Enter the destination port value here. This value must be between 0 and 65535. <b>mask</b> - (Optional) Specify the mask. <b>&lt;hex 0x0-0xffff&gt;</b> - Specify the mask.
<b>flag</b> - (Optional) Specifies the TCP flag fields . <b>all</b> - Specifies that the TCP flag field mask will be set to all. <b>urg</b> - Specifies that the TCP flag field mask will be set to urg. <b>ack</b> - Specifies that the TCP flag field mask will be set to ack. <b>psh</b> - Specifies that the TCP flag field mask will be set to psh. <b>rst</b> - Specifies that the TCP flag field mask will be set to rst. <b>syn</b> - Specifies that the TCP flag field mask will be set to syn. <b>fin</b> - Specifies that the TCP flag field mask will be set to fin.
<b>udp</b> - Specifies that the rule applies to UDP traffic. <b>src_port</b> - (Optional) Specifies the range of UDP source port range. <b>&lt;value 0-65535&gt;</b> - Enter the source port value here. This value must be between 0 and 65535. <b>mask</b> - (Optional) Specify the mask. <b>&lt;hex 0x0-0xffff&gt;</b> - Specify the mask. <b>dst_port</b> - (Optional) Specifies the range of UDP destination port mask. <b>&lt;value 0-65535&gt;</b> - Enter the destination port value here. This value must be between 0 and 65535. <b>mask</b> - (Optional) Specify the mask. <b>&lt;hex 0x0-0xffff&gt;</b> - Specify the mask.
<b>protocod_id</b> - Specifies that the rule applies to the value of IP protocol ID traffic. <b>&lt;value 0-255&gt;</b> - Enter the protocol ID value here. This value must be between 0 and 255.
<b>user_define</b> - (Optional) Specifies that the rule applies to the IP protocol ID and the mask options behind the IP header length is 20 bytes. <b>&lt;hex 0x0-0xffffffff&gt;</b> - Enter the user-defined IP protocol ID mask here. <b>mask</b> - (Optional) Specify the mask. <b>&lt;hex 0x0-0xffffffff&gt;</b> - Specify the mask.
<b>packet_content</b> - Specifies the frame content pattern, there are 5 offsets in maximum could be configure. Each offset presents 16 bytes, the range of content of frame is 80 bytes(5 offsets) in the first eighty bytes of frame. <b>offset_0-15</b> - (Optional) Specifies that the mask pattern offset of the frame will be between 0 and 15. <b>&lt;hex 0x0-0xffffffff&gt;</b> - Enter the mask pattern offset of the frame between 0 and 15 here. <b>offset_16-31</b> - (Optional) Specifies that the mask pattern offset of the frame will be between 16 and 31.

---

---

<b>&lt;hex 0x0-0xffffffff&gt;</b> - Enter the mask pattern offset of the frame between 16 and 31 here.
<b>offset_32-47</b> - (Optional) Specifies that the mask pattern offset of the frame will be between 32 and 47.
<b>&lt;hex 0x0-0xffffffff&gt;</b> - Enter the mask pattern offset of the frame between 32 and 47 here.
<b>offset_48-63</b> - (Optional) Specifies that the mask pattern offset of the frame will be between 48 and 63.
<b>&lt;hex 0x0-0xffffffff&gt;</b> - Enter the mask pattern offset of the frame between 48 and 63 here.
<b>offset_64-79</b> - (Optional) Specifies that the mask pattern offset of the frame will be between 64 and 79.
<b>&lt;hex 0x0-0xffffffff&gt;</b> - Enter the mask pattern offset of the frame between 64 and 79 here.
<b>ipv6</b> - Specifies the rule applies to IPv6 fields.
<b>class</b> - (Optional) Specifies the value of IPv6 class.
<b>&lt;value 0-255&gt;</b> - Enter the IPv6 class value here. This value must be between 0 and 255.
<b>flowlabel</b> - (Optional) Specifies the value of IPv6 flowlabel.
<b>&lt;hex 0x0-0xffff&gt;</b> - Enter the IPv6 flowlabel here.
<b>source_ipv6</b> - (Optional) Specifies the value of IPv6 source address.
<b>&lt;ipv6addr&gt;</b> - Enter the IPv6 source address used for this configuration here.
<b>mask</b> - (Optional) Specify the mask.
<b>&lt;ipv6mask&gt;</b> - Specify the mask.
<b>destination_ipv6</b> - (Optional) Specifies the value of IPv6 destination address.
<b>&lt;ipv6addr&gt;</b> - Enter the IPv6 destination address used for this configuration here.
<b>mask</b> - (Optional) Specify the mask.
<b>&lt;ipv6mask&gt;</b> - Specify the mask.
<b>tcp</b> - (Optional) Specifies to configure the TCP parameters.
<b>src_port</b> - Specifies the value of the IPv6 Layer 4 TCP source port.
<b>&lt;value 0-65535&gt;</b> - Enter the TCP source port value here. This value must be between 0 and 65535.
<b>mask</b> - Specifies an additional mask parameter that can be configured.
<b>&lt;hex 0x0-0xffff&gt;</b> - Enter the TCP source port mask value here.
<b>dst_port</b> - (Optional) Specifies the value of the IPv6 Layer 4 TCP destination port.
<b>&lt;value 0-65535&gt;</b> - Enter the TCP destination port value here. This value must be between 0 and 65535.
<b>mask</b> - Specifies an additional mask parameter that can be configured.
<b>&lt;hex 0x0-0xffff&gt;</b> - Enter the TCP destination port mask value here.
<b>udp</b> - (Optional) Specifies to configure the UDP parameters.
<b>src_port</b> - Specifies the value of the IPv6 Layer 4 UDP source port.
<b>&lt;value 0-65535&gt;</b> - Enter the UDP source port value here. This value must be between 0 and 65535.
<b>mask</b> - Specifies an additional mask parameter that can be configured.
<b>&lt;hex 0x0-0xffff&gt;</b> - Enter the UDP source port mask value here.
<b>dst_port</b> - Specifies the value of the IPv6 Layer 4 UDP destination port.
<b>&lt;value 0-65535&gt;</b> - Enter the UDP destination port value here. This value must be between 0 and 65535.
<b>mask</b> - Specifies an additional mask parameter that can be configured.
<b>&lt;hex 0x0-0xffff&gt;</b> - Enter the UDP destination port mask value here.
<b>icmp</b> - (Optional) Specifies to configure the ICMP parameters used.
<b>type</b> - Specifies that the rule applies to the value of ICMP type traffic.
<b>&lt;value 0-255&gt;</b> - Enter the ICMP type traffic value here. This value must be between 0 and 255.
<b>code</b> - Specifies that the rule applies to the value of ICMP code traffic.
<b>&lt;value 0-255&gt;</b> - Enter the ICMP code traffic value here. This value must be between 0 and 255.
<b>port</b> - Specifies the list of ports to be included in this configuration.
<b>&lt;portlist&gt;</b> - Enter a list of ports used for the configuration here.
<b>all</b> - Specifies that all the ports will be used for this configuration.
<b>permit</b> - Specifies the packets that match the access profile are permit by the switch.
<b>deny</b> - Specifies the packets that match the access profile are filtered by the switch.
<b>time_range</b> - (Optional) Specifies name of this time range entry.
<b>&lt;range_name&gt;</b> - Enter the time range here.

---

---

**delete** - Specifies to delete a rule from the profile ID entered.

**access\_id** - Specifies the index of access list entry. The range of this value is 1-100.

**<value 1-100>** - Enter the access ID here. This value must be between 1 and 100.

---

## Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To configure CPU access list entry:

```
DGS-3120-24TC:admin# config cpu access_profile profile_id 1 add access_id 1 ip
vlan default source_ip 20.2.2.3 destination_ip 10.1.1.252 dscp 3 icmp type 11
code 32 port 1 deny
Command: config cpu access_profile profile_id 1 add access_id 1 ip vlan default
source_ip 20.2.2.3 destination_ip 10.1.1.252 dscp 3 icmp type 11 code 32 port 1
deny

Success.

DGS-3120-24TC:admin#
```

## 20-4 enable cpu interface filtering

### Description

This command is used to enable CPU interface filtering control.

### Format

**enable cpu\_interface\_filtering**

### Parameters

None.

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To enable cpu\_interface\_filtering:

```
DGS-3120-24TC:admin# enable cpu_interface_filtering
Command: enable cpu_interface_filtering

Success.

DGS-3120-24TC:admin#
```



## 20-5 disable cpu interface filtering

### Description

This command is used to disable CPU interface filtering control.

### Format

**disable cpu\_interface\_filtering**

### Parameters

None.

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To disable cpu\_interface\_filtering:

```
DGS-3120-24TC:admin# disable cpu_interface_filtering
Command: disable cpu_interface_filtering

Success.

DGS-3120-24TC:admin#
```

## 20-6 show cpu access\_profile

### Description

This command is used to display current access list table.

### Format

**show cpu access\_profile {profile\_id <value 1-5>}**

### Parameters

---

**profile\_id** - (Optional) Specifies the index of access list profile.  
**<value 1-5>** - Enter the profile ID used here. This value must be between 1 and 5.

---

### Restrictions

None.

### Example

To display current cpu access list table:

```
DGS-3120-24TC:admin# show cpu access_profile
Command: show cpu access_profile
```

```
CPU Interface Filtering State: Disabled
```

```
CPU Interface Access Profile Table
```

```
Total Unused Rule Entries : 497
Total Used Rule Entries   : 3
```

```
=====
=
```

```
Profile ID: 1      Type: IPv6
```

```
MASK on
```

```
Source IPv6 Addr : FFFF:FFFF:FFFF::
```

```
Unused Rule Entries: 99
```

```
-----
-
```

```
Rule ID : 1      Ports: 2:20,3:20
```

```
Match on
```

```
Source IPv6 : 2103:16:16::
```

```
Action:
```

```
Deny
```

```
=====
=
```

```
=====
=
```

```
Profile ID: 2      Type: IPv4
```

```
MASK on
```

```
Source IP   : 255.255.0.0
```

```
Unused Rule Entries: 99
```

```
-----
-
```

```
Rule ID : 1      Ports: 2:20,3:20
```

```
Match on
```

```
Source IP   : 172.18.0.0
```

```
Action:
```

```
Deny
```

```
=====
=
```

```
=====
=
Profile ID: 3      Type: Ethernet

MASK on
  Source MAC      : FF-FF-FF-FF-FF-FF

Unused Rule Entries: 99
-----
-
Rule ID : 1      Ports: 1:1-1:24,2:1-2:24,3:1-3:24

Match on
  Source MAC      : 00-00-22-B0-61-51

Action:
  Deny

=====
=

=====
=
Profile ID: 4      Type: User Defined

MASK on
  Offset 0-15 : 0xFFFF00FF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF
  Offset 16-31 : 0xFFFFFFFF 0xFFFFFFFF 0xFF00FFFF 0xFFFFFFFF
  Offset 32-47 : 0xFFFFFFFF 0xFFFFFFFF 0x000FFFFF 0xFFFFFFFF
  Offset 48-63 : 0xFFFFFFFF 0xFFFFFFFF 0xFFFFF000 0xFFFFFFFF
  Offset 64-79 : 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFF000

Unused Rule Entries: 100
=====
=====
DGS-3120-24TC:admin#
```

## Chapter 21 Debug Software Command List

---

**debug error\_log** [dump | clear | upload\_toTFTP <ipaddr> <path\_filename 64>]  
**debug buffer** [utilization | dump | clear | upload\_toTFTP <ipaddr> <path\_filename 64>]  
**debug output** [module <module\_list> | all] [buffer | console]  
**debug config error\_reboot** [enable | disable]  
**debug config state** [enable | disable]

---

### 21-1 debug error\_log

#### Description

Use this command to dump, clear or upload the software error log to a TFTP server.

#### Format

**debug error\_log** [dump | clear | upload\_toTFTP <ipaddr> <path\_filename 64>]

#### Parameters

---

**dump** - Display the debug message of the debug log.

**clear** - Clear the debug log.

**upload\_toTFTP** - Upload the debug log to a TFTP server specified by IP address.

**<ipaddr>** - Specifies the IPv4 address of the TFTP server.

**<path\_filename 64>** - The pathname specifies the DOS pathname on the TFTP server. It can be a relative pathname or an absolute pathname. This value can be up to 64 characters long.

---

#### Restrictions

Only Administrator-level users can issue this command.

#### Example

To dump the error log:

```
DGS-3120-24TC:admin# debug error_log dump
Command: debug error_log dump

*****
# debug log: 1
# level: fatal
# clock: 1000ms
# time : 2009/03/11 13:00:00

===== SOFTWARE FATAL ERROR =====
Invalid mutex handle : 806D6480

Current TASK : bcmARL.0

----- TASK STACKTRACE -----
->802ACE98
->8018C814
->8028FF44
->8028352C
->801D703C
->8013B8A4
->802AE754
->802A5E0C
```

To clear the error log:

```
DGS-3120-24TC:admin# debug error_log clear
Command: debug error_log clear

Success.

DGS-3120-24TC:admin#
```

To upload the error log to TFTP server:

```
DGS-3120-24TC:admin# debug error_log upload_toTFTP 10.0.0.90 debug-log.txt
Command: debug error_log upload_toTFTP 10.0.0.90 debug-log.txt

Connecting to server.....Done.
Upload error log .....Done.

DGS-3120-24TC:admin#
```

## 21-2 debug buffer

### Description

Use this command to show the debug buffer's state, or dump, clear, or upload the debug buffer to a TFTP server.

## Format

**debug buffer [utilization | dump | clear | upload\_toTFTP <ipaddr> <path\_filename 64>]**

## Parameters

---

**utilization** - Display the debug buffer's state.

---

**dump** - Display the debug message in the debug buffer.

---

**clear** - Clear the debug buffer.

---

**upload\_toTFTP** - Upload the debug buffer to a TFTP server specified by IP address.

**<ipaddr>** - Specifies the IPv4 address of the TFTP server.

**<path\_filename 64>** - The pathname specifies the DOS pathname on the TFTP server. It can be a relative pathname or an absolute pathname. This value can be up to 64 characters long.

---

## Restrictions

Only Administrator users can issue this command.

## Example

To show the debug buffer's state:

```
DGS-3120-24TC:admin# debug buffer utilization
Command: debug buffer utilization

Allocate from      :      System memory pool
Total size         :      2 MB
Utilization rate   :      30%

DGS-3120-24TC:admin#
```

To clear the debug buffer:

```
DGS-3120-24TC:admin# debug buffer clear
Command: debug buffer clear

Success.

DGS-3120-24TC:admin#
```

To upload the messages stored in debug buffer to TFTP server:

```
DGS-3120-24TC:admin# debug buffer upload_toTFTP 10.0.0.90 debugcontent.txt
Command: debug buffer upload_toTFTP 10.0.0.90 debugcontent.txt

Connecting to server..... Done.
Upload debug file ..... Done.

DGS-3120-24TC:admin#
```

## 21-3 debug output

### Description

Use the command to set a specified module's debug message output to debug buffer or local console. If the user uses the command in a Telnet session, the error message also is output to the local console.

### Format

**debug output [module <module\_list> | all] [buffer | console]**

### Parameters

---

**module** - Specifies the module list.

**<module\_list>** - Enter the module list here.

**all** - Control output method of all modules.

---

**buffer** - Direct the debug message of the module output to debug buffer(default).

**console** - Direct the debug message of the module output to local console.

---

### Restrictions

Only Administrator-level users can issue this command.

### Example

To set all module debug message outputs to local console:

```
DGS-3120-24TC:admin# debug output all console
Command: debug output all console

Success.

DGS-3120-24TC:admin#
```

## 21-4 debug config error\_reboot

### Description

This command is used to set if the switch needs to be rebooted when a fatal error occurs. When the error occurs, the watchdog timer will be disabled by the system first, and then all debug information will be saved in NVRAM. If the error\_reboot is enabled, the watchdog shall be enabled after all information is stored into NVRAM.

### Format

**debug config error\_reboot [enable | disable]**

### Parameters

---

**enable** – If enabled, the switch will reboot when a fatal error happens.

**disable** – If disabled the switch will not reboot when a fatal error happens, system will hang-up for debug and enter the debug shell mode for debug.

---

## Restrictions

Only Administrator-level users can issue this command.

## Example

To set the switch to not need a reboot when a fatal error occurs:

```
DGS-3120-24TC:admin# debug config error_reboot disable
Command: debug config error_reboot disable

Success.

DGS-3120-24TC:admin#
```

## 21-5 debug config state

### Description

Use the command to set the state of the debug.

### Format

**debug config state [enable | disable]**

### Parameters

---

**enable** - Enable the debug state.  
**disable** - Disable the debug state.

---

## Restrictions

Only Administrator-level users can issue this command.

## Example

To set the debug state to disabled:

```
DGS-3120-24TC:admin# debug config state disable
Command: debug config state disable

Success.

DGS-3120-24TC:admin#
```



## Chapter 22 DHCP Local Relay Command List

```
config dhcp_local_relay vlan <vlan_name 32> state [enable | disable]
config dhcp_local_relay vlan vlanid <vlan_id> state [enable | disable]
enable dhcp_local_relay
disable dhcp_local_relay
show dhcp_local_relay
```

### 22-1 config dhcp\_local\_relay

#### Description

This command is used to enable or disable DHCP local relay function for specified VLAN name.

When DHCP local relay is enabled for the VLAN, the DHCP packet will be relayed in broadcast way without change of the source MAC address and gateway address. DHCP option 82 will be automatically added.

#### Format

```
config dhcp_local_relay vlan <vlan_name 32> state [enable | disable]
```

#### Parameters

**vlan** - Specifies the VLAN name that the DHCP local relay function will be enabled.  
**<vlan\_name 32>** - Enter the name of the VLAN here. This name can be up to 32 characters long.

**state** - Enable or disable DHCP local relay for specified vlan.  
**enable** - Specifies that the DHCP local relay function will be enabled.  
**disable** - Specifies that the DHCP local relay function will be disabled.

#### Restrictions

Only Administrator-level users can issue this command.

#### Example

To enable DHCP local relay for default VLAN:

```
DGS-3120-24TC:admin# config dhcp_local_relay vlan default state enable
Command: config dhcp_local_relay vlan default state enable

Success.

DGS-3120-24TC:admin#
```

## 22-2 config dhcp\_local\_relay vlan vlanid

### Description

This command is used to enable or disable DHCP local relay function for specified VLAN ID.

### Format

**config dhcp\_local\_relay vlan vlanid <vlan\_id> state [enable | disable]**

### Parameters

---

**vlanid** - Specifies the VLAN ID that the DHCP local relay function will be enabled.

**<vlan\_id>** - Enter the VLAN ID used here.

---

**state** - Enable or disable DHCP local relay for specified vlan.

**enable** - Specifies that the DHCP local relay function will be enabled.

**disable** - Specifies that the DHCP local relay function will be disabled.

---

### Restrictions

Only Administrator-level users can issue this command. **(EI Mode Only)**

### Example

To enable DHCP local relay for default VLAN:

```
DGS-3120-24TC:admin# config dhcp_local_relay vlan vlanid 1 state enable
Command: config dhcp_local_relay vlan vlanid 1 state enable

Success.

DGS-3120-24TC:admin#
```

## 22-3 enable dhcp\_local\_relay

### Description

The enable dhcp\_local\_relay command globally enables the DHCP local relay function on the switch.

### Format

**enable dhcp\_local\_relay**

### Parameters

None.

### Restrictions

Only Administrator-level users can issue this command.

## Example

To enable the DHCP local relay function:

```
DGS-3120-24TC:admin# enable dhcp_local_relay
Command: enable dhcp_local_relay

Success.

DGS-3120-24TC:admin#
```

## 22-4 disable dhcp\_local\_relay

### Description

The disable dhcp\_local\_relay command globally disables the DHCP local relay function on the switch.

### Format

**disable dhcp\_local\_relay**

### Parameters

None.

### Restrictions

Only Administrator-level users can issue this command.

## Example

To disable the DHCP local relay function:

```
DGS-3120-24TC:admin# disable dhcp_local_relay
Command: disable dhcp_local_relay

Success.

DGS-3120-24TC:admin#
```

## 22-5 show dhcp\_local\_relay

### Description

The show dhcp\_local\_relay command displays the current DHCP local relay configuration.

### Format

**show dhcp\_local\_relay**

### **Parameters**

None.

### **Restrictions**

None.

### **Example**

To display local dhcp relay status:

```
DGS-3120-24TC:admin# show dhcp_local_relay
Command: show dhcp_local_relay

DHCP/BOOTP Local Relay Status      : Disabled
DHCP/BOOTP Local Relay VID List    : 1,3-4

DGS-3120-24TC:admin#
```

## Chapter 23 DHCP Relay Command List

---

```

config dhcp_relay {hops <int 1-16> | time <sec 0-65535>}
config dhcp_relay add ipif <ipif_name 12> <ipaddr>
config dhcp_relay add vlanid <vlan_id_list> <ipaddr>
config dhcp_relay delete ipif <ipif_name 12> <ipaddr>
config dhcp_relay delete vlanid <vlan_id_list> <ipaddr>
config dhcp_relay option_82 {state [enable | disable] | check [enable | disable] | policy [replace | drop | keep] | remote_id [default | user_define <desc 32>]}
enable dhcp_relay
disable dhcp_relay
show dhcp_relay {ipif <ipif_name 12>}
config dhcp_relay option_60 state [enable | disable]
config dhcp_relay option_60 add string <multiword 255> relay <ipaddr> [exact-match | partial-match]
config dhcp_relay option_60 default [relay <ipaddr> | mode [drop | relay]]
config dhcp_relay option_60 delete [string <multiword 255> {relay <ipaddr>} | ipaddress <ipaddr> | all | default {<ipaddr>}]
show dhcp_relay option_60 {[string <multiword 255> | ipaddress <ipaddr> | default]}
config dhcp_relay option_61 state [enable | disable]
config dhcp_relay option_61 add [mac_address <macaddr> | string <desc_long 255>] [relay <ipaddr> | drop]
config dhcp_relay option_61 default [relay <ipaddr> | drop]
config dhcp_relay option_61 delete [mac_address <macaddr> | string <desc_long 255> | all]
show dhcp_relay option_61

```

---

### 23-1 config dhcp\_relay

#### Description

The config dhcp\_relay command configures the DHCP relay feature of the switch.

#### Format

```
config dhcp_relay {hops <int 1-16> | time <sec 0-65535>}
```

#### Parameters

**hops** - (Optional) Specifies the maximum number of relay hops that the DHCP/BOOTP packets can cross. The range is 1 to 16. The default value is 4. The DHCP packet will be dropped when the relay hop count in the received packet is equal to or greater than this setting.

**<int 1-16>** - Enter the maximum number of relay hops here. This value must be between 1 and 16.

**time** - (Optional) The time field in the DHCP packet must be equal to or greater than this setting to be relayed by the router. The default value is 0.

**<sec 0-65535>** - Enter the relay time here. This value must be between 0 and 65535 seconds.

---

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure the DHCP relay hops and time parameters:

```
DGS-3120-24TC:admin# config dhcp_relay hops 4 time 2
Command: config dhcp_relay hops 4 time 2

Success.

DGS-3120-24TC:admin#
```

## 23-2 config dhcp\_relay add

### Description

Used to add an IP destination address to the switch's DHCP relay table. Used to configure a DHCP server for relay of packets.

### Format

**config dhcp\_relay add ipif <ipif\_name 12> <ipaddr>**

### Parameters

---

**ipif\_name** - The name of the IP interface which contains the IP address below.  
**<ipif\_name 12>** - Enter the IP interface name used here. This name can be up to 12 characters long.

---

**<ipaddr>** - The DHCP/BOOTP server IP address.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To add a DHCP/BOOTP server to the relay table:

```
DGS-3120-24TC:admin# config dhcp_relay add ipif System 10.43.21.12
Command: config dhcp_relay add ipif System 10.43.21.12

Success.

DGS-3120-24TC:admin#
```

## 23-3 config dhcp\_relay add vlanid

### Description

This command adds an IP address as a destination to forward (relay) DHCP/BOOTP packets. If there is an IP interface in the VLAN and it has configured a DHCP server at the interface level, then the configuration at the interface level has higher priority. In this case, the DHCP server configured on the VLAN will not be used to forward the DHCP packets.

## Format

```
config dhcp_relay add vlanid <vlan_id_list> <ipaddr>
```

## Parameters

**vlanid** - Specifies the VLAN ID list used for this configuration.

**<vlan\_id\_list>** - Enter the VLAN ID list used for this configuration here.

**<ipaddr>** - Enter the DHCP/BOOTP server IP address used here.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(SI Mode Only)**

## Example

To add a DHCP/BOOTP server 10.43.21.12 to VLAN 1 to 10:

```
DGS-3120-24TC:admin# config dhcp_relay add vlanid 1-10 10.43.21.12
Command: config dhcp_relay add vlanid 1-10 10.43.21.12

Success.

DGS-3120-24TC:admin#
```

To display the DHCP relay status:

```
DGS-3120-24TC:admin# show dhcp_relay
Command: show dhcp_relay

DHCP/BOOTP Relay Status      : Disabled
DHCP/BOOTP Hops Count Limit  : 4
DHCP/BOOTP Relay Time Threshold : 0
DHCP Vendor Class Identifier Option 60 State: Disabled
DHCP Client Identifier Option 61 State: Disabled
DHCP Relay Agent Information Option 82 State : Disabled
DHCP Relay Agent Information Option 82 Check : Disabled
DHCP Relay Agent Information Option 82 Policy : Replace
DHCP Relay Agent Information Option 82 Remote ID : 00-80-C2-00-32-E0

Interface      Server 1      Server 2      Server 3      Server 4
-----
Server          VLAN ID List
-----
10.43.21.12    1-10

DGS-3120-24TC:admin#
```

## 23-4 config dhcp\_relay delete

### Description

This command is used to delete one of the IP destination addresses in the switch's relay table.

### Format

**config dhcp\_relay delete ipif <ipif\_name 12> <ipaddr>**

### Parameters

---

**ipif** - The name of the IP interface which contains the IP address below.

**<ipif\_name 12>** - Enter the IP interface name used here. This name can be up to 12 characters long.

---

**<ipaddr>** - The DHCP/BOOTP server IP address.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To delete a DHCP/BOOTP server to the relay table:

```
DGS-3120-24TC:admin# config dhcp_relay delete ipif System 10.43.21.12
Command: config dhcp_relay delete ipif System 10.43.21.12

Success.

DGS-3120-24TC:admin#
```

## 23-5 config dhcp\_relay delete vlanid

### Description

This command deletes an IP address as a destination to forward (relay) DHCP/BOOTP packets. If there is an IP interface in the VLAN and it has configured a DHCP server at the interface level, then the configuration at the interface level has higher priority. In this case, the DHCP server configured on the VLAN will not be used to forward the DHCP packets.

### Format

**config dhcp\_relay delete vlanid <vlan\_id\_list> <ipaddr>**

### Parameters

---

**vlanid** - Specifies the VLAN ID list used for this configuration.

**<vlan\_id\_list>** - Enter the VLAN ID list used for this configuration here.

---

**<ipaddr>** - Enter the DHCP/BOOTP server IP address used here.

---



## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(SI Mode Only)**

## Example

To delete a DHCP/BOOTP server 10.43.21.12 from VLAN 2 and VLAN 3:

```
DGS-3120-24TC:admin# config dhcp_relay delete vlanid 2-3 10.43.21.12
Command: config dhcp_relay delete vlanid 2-3 10.43.21.12

Success.

DGS-3120-24TC:admin#
```

## 23-6 config dhcp\_relay option\_82

### Description

Used to configure the processing of DHCP 82 option for the DHCP relay function.

### Format

**config dhcp\_relay option\_82 {state [enable | disable] | check [enable | disable] | policy [replace | drop | keep] | remote\_id [default | user\_define <desc 32>]}**

### Parameters

- 
- state** - (Optional) When the state is enabled, the DHCP packet will be inserted with the option 82 field before being relayed to server. The DHCP packet will be processed based on the behaviour defined in check and policy setting. When the state is disabled, the DHCP packet will be relayed directly to server without further check and processing on the packet. The default setting is disabled.
    - enable** - Specifies that the option 82 processing will be enabled.
    - disable** - Specifies that the option 82 processing will be disabled.

---

  - check** - (Optional) When the state is enabled, For packet come from client side, the packet should not have the option 82's field. If the packet has this option field, it will be dropped. The default setting is disabled.
    - enable** - Specifies that checking will be enabled.
    - disable** - Specifies that checking will be disabled.

---

  - policy** - (Optional) Specifies the policy used. This option takes effect only when the check status is disabled. The default setting is set to 'replace'.
    - replace** - Replace the exiting option 82 field in the packet. The Switch will use it's own Option 82 value to replace the old Option 82 value in the packet.
    - drop** - Discard if the packet has the option 82 field. If the packet, that comes from the client side, contains and Option 82 value, then the packet will be dropped. If the packet, that comes from the client side doesn't contain an Option 82 value, then insert it's own Option 82 value into the packet.
    - keep** - Retain the existing option 82 field in the packet. If the packet, that comes from the client side, contains and Option 82 value, then keep the old Option 82 value. If the packet, that comes from the client side, doesn't contain an Option 82 value, then insert it's own Option 82 value into the packet.

---

  - remote\_id** - (Optional) Specifies the content in Remote ID suboption.
    - default** - Use switch's system MAC address as remote ID.
    - user\_define** - Use user-defined string as remote ID. The space character is allowed in the string.
-

---

**<desc 32>** - Enter the user defined description here. This value can be up to 32 characters long.

---

### **Restrictions**

Only Administrator, Operator and Power-User level users can issue this command.

### **Example**

To configure dhcp\_relay option 82:

```
DGS-3120-24TC:admin# config dhcp_relay option_82 state enable
Command: config dhcp_relay option_82 state enable

Success.

DGS-3120-24TC:admin# config dhcp_relay option_82 check disable
Command: config dhcp_relay option_82 check disable

Success.

DGS-3120-24TC:admin# config dhcp_relay option_82 policy replace
Command: config dhcp_relay option_82 policy replace

Success.

DGS-3120-24TC:admin# config dhcp_relay option_82 remote_id user_define "D-Link
L2 Switch"
Command: config dhcp_relay option_82 remote_id user_define "D-Link L2 Switch"

Success.

DGS-3120-24TC:admin#
```

## 23-7 enable dhcp\_relay

### **Description**

The enable dhcp\_relay command enables the DHCP relay function on the switch.

### **Format**

**enable dhcp\_relay**

### **Parameters**

None.

### **Restrictions**

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To enable the DHCP relay function.

```
DGS-3120-24TC:admin# enable dhcp_relay
Command: enable dhcp_relay

Success.

DGS-3120-24TC:admin#
```

## 23-8 disable dhcp\_relay

### Description

The disable dhcp\_relay command disables the DHCP relay function on the switch.

### Format

**disable dhcp\_relay**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To disable the DHCP relay function:

```
DGS-3120-24TC:admin# disable dhcp_relay
Command: disable dhcp_relay

Success.

DGS-3120-24TC:admin#
```

## 23-9 show dhcp\_relay

### Description

The show dhcp\_relay command displays the current DHCP relay configuration.

### Format

**show dhcp\_relay {ipif <ipif\_name 12>}**

## Parameters

**ipif** - (Optional) Specifies the IP interface name.

**<ipif\_name 12>** - Enter the IP interface name used here. This name can be up to 12 characters long.

If no parameter is specified, the system will display all DHCP relay configuration.

---

## Restrictions

None.

## Example

To display DHCP relay configuration: **(EI Mode Only)**

```
DGS-3120-24TC:admin#show dhcp_relay ipif System
Command: show dhcp_relay ipif System

DHCP/BOOTP Relay Status      : Disabled
DHCP/BOOTP Hops Count Limit  : 4
DHCP/BOOTP Relay Time Threshold : 0
DHCP Vendor Class Identifier Option 60 State: Disabled
DHCP Client Identifier Option 61 State: Disabled
DHCP Relay Agent Information Option 82 State : Disabled
DHCP Relay Agent Information Option 82 Check : Disabled
DHCP Relay Agent Information Option 82 Policy : Replace
DHCP Relay Agent Information Option 82 Remote ID : 00-01-02-03-04-00

Interface  Server 1      Server 2      Server 3      Server 4
-----
System     10.90.90.100

DGS-3120-24TC:admin#
```

To display DHCP relay configuration: **(SI Mode Only)**

```
DGS-3120-24TC:admin# show dhcp_relay ipif System
Command: show dhcp_relay ipif System

DHCP/BOOTP Relay Status      : Disabled
DHCP/BOOTP Hops Count Limit  : 4
DHCP/BOOTP Relay Time Threshold : 0
DHCP Vendor Class Identifier Option 60 State: Disabled
DHCP Client Identifier Option 61 State: Disabled
DHCP Relay Agent Information Option 82 State : Disabled
DHCP Relay Agent Information Option 82 Check : Disabled
DHCP Relay Agent Information Option 82 Policy : Replace
DHCP Relay Agent Information Option 82 Remote ID : 00-80-C2-00-32-E0

Interface      Server 1      Server 2      Server 3      Server 4
-----
Server          VLAN ID List
-----
10.43.21.12     1-10

DGS-3120-24TC:admin#
```

## 23-10 config dhcp\_relay option\_60

### Description

This decides whether dhcp\_relay will process the DHCP option 60 or not.

When option\_60 is enabled, if the packet does not have option 60, then the relay servers cannot be determined based on option 60. The relay servers will be determined based on either option 61 or per IPIF configured servers.

If the relay servers are determined based on option 60 or option 61, then per IPIF configured servers will be ignored.

If the relay servers are not determined either by option 60 or option 61, then per IPIF configured servers will be used to determine the relay servers.

### Format

**config dhcp\_relay option\_60 state [enable | disable]**

### Parameters

**state** - Specifies that the DHCP relay function should use the option 60 rule to relay the DHCP packets.

**enable** - Specifies that the option 60 rule will be enabled.

**disable** - Specifies that the option 60 rule will be disabled.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure the state of dhcp\_relay option 60:

```
DGS-3120-24TC:admin# config dhcp_relay option_60 state enable
Command: config dhcp_relay option_60 state enable

Success

DGS-3120-24TC:admin#
```

## 23-11 config dhcp\_relay option\_60 add

### Description

This command configures the option 60 relay rules. Note that different string can be specified with the same relay server, and the same string can be specified with multiple relay servers.

The system will relay the packet to all the matching servers.

### Format

**config dhcp\_relay option\_60 add string <multiword 255> relay <ipaddr> [exact-match | partial-match]**

### Parameters

---

**string** - Specifies the string used.  
**<multiword 255>** - Enter the string value here. This value can be up to 255 characters long.

---

**relay** - Specify a relay server IP address.  
**<ipaddr>** - Enter the IP address used for this configuration here.

---

**exact-match** - The option 60 string in the packet must full match with the specified string.  
**partial-match** - The option 60 string in the packet only need partial match with the specified string.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure the DHCP relay option 60 option:

```
DGS-3120-24TC:admin# config dhcp_relay option_60 add string "abc" relay
10.90.90.1 exact-match
Command: config dhcp_relay option_60 add string "abc" relay 10.90.90.1 exact-
match

Success.

DGS-3120-24TC:admin#
```

## 23-12 config dhcp\_relay option\_60 default

### Description

When there are no match servers found for the packet based on option 60, the relay servers will be determined by the default relay server setting.

When there is no matching found for the packet, the relay servers will be determined based on the default relay servers.

When drop is specified, the packet with no matching rules found will be dropped without further process.

If the setting is no- drop, then the packet will be processed further based on option 61. The final relay servers will be the union of option 60 default relay servers and the relay servers determined by option 61.

### Format

**config dhcp\_relay option\_60 default [relay <ipaddr> | mode [drop | relay]]**

### Parameters

---

**relay** - Specifies the IP address used for the DHCP relay forward function.

**<ipaddr>** - Enter the IP address used for this configuration here.

---

**mode** - Specifies the DHCP relay option 60 mode.

**drop** - Specify to drop the packet that has no matching option 60 rules.

**relay** - The packet will be relayed based on the relay rules.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To configure the DHCP relay option 60 default drop option:

```
DGS-3120-24TC:admin#config dhcp_relay option_60 default mode drop
Command: config dhcp_relay option_60 default mode drop

Success.

DGS-3120-24TC:admin#
```

## 23-13 config dhcp\_relay option\_60 delete

### Description

Used to delete dhcp\_relay option\_60 entry.

### Format

**config dhcp\_relay option\_60 delete [string <multiword 255> {relay <ipaddr>} | ipaddress <ipaddr> | all | default {<ipaddr>}]**

## Parameters

- 
- string** - Delete all the entries whose string is equal to the string of specified if ipaddress is not specified  
**<multiword 255>** - Enter the DHCP option 60 string to be removed here. This value can be up to 255 characters long.
- 
- relay** - (Optional) Delete one entry, whose string and IP address are equal to the string and IP address specified by the user.  
**<ipaddr>** - Enter the IP address used for this configuration here.
- 
- ipaddress** - Delete all the entry whose ipaddress is equal to the specified ipaddress.  
**<ipaddr>** - Enter the IP address used for this configuration here.  
**all** - Delete all the entry. Default relay servers are excluded.
- 
- default** - Delete the default relay ipaddress that is specified by the user.  
**<ipaddr>** - (Optional) Enter the IP address used for this configuration here.
- 

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To delete the DHCP relay option 60 string called 'abc':

```
DGS-3120-24TC:admin# delete dhcp_relay option_60 string "abc" relay 10.90.90.1
Command: delete dhcp_relay option_60 string "abc" relay 10.90.90.1

Success

DGS-3120-24TC:admin#
```

## 23-14 show dhcp\_relay option\_60

### Description

This show dhcp\_relay option\_60 entry by the user specified.

### Format

**show dhcp\_relay option\_60 {[string <multiword 255> | ipaddress <ipaddr> | default]}**

## Parameters

- 
- string** - (Optional) Show the entry which's string equal the string of specified.  
**<multiword 255>** - Enter the entry's string value here. This value can be up to 255 characters long.
- 
- ipaddress** - (Optional) Show the entry whose IP address equal the specified ipaddress.  
**<ipaddr>** - Enter the IP address here.
- 
- default** - (Optional) Show the default behaviour of DHCP relay option 60.  
 If no parameter is specified then all the DHCP option 60 entries will be displayed.
- 

## Restrictions

None.



## Example

To show DHCP option 60 information:

```
DGS-3120-24TC:admin#show dhcp_relay option_60
Command: show dhcp_relay option_60

Default Processing Mode: Drop

Default Servers:

Matching Rules:

String                               Match Type                           IP Address
-----                               -
abc                                   Exact Match                           10.90.90.1

Total Entries : 1

DGS-3120-24TC:admin#
```

## 23-15 config dhcp\_relay option\_61

### Description

This decides whether the DHCP relay will process the DHCP option 61 or not.

When option 61 is enabled, if the packet does not have option 61, then the relay servers cannot be determined based on option 61.

If the relay servers are determined based on option 60 or option 61, then per IPIF configured servers will be ignored.

If the relay servers are not determined either by option 60 or option 61, then per IPIF configured servers will be used to determine the relay servers.

### Format

**config dhcp\_relay option\_61 state [enable | disable]**

### Parameters

- 
- state** - Specifies whether the DHCP relay option 61 is enabled or disabled.
  - enable** - Enables the function DHCP relay use option 61 ruler to relay DHCP packet.
  - disable** - Disables the function DHCP relay use option 61 ruler to relay DHCP packet.
- 

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure the state of dhcp\_relay option 61:

```
DGS-3120-24TC:admin# config dhcp_relay option_61 state enable
Command: config dhcp_relay option_61 state enable

Success

DGS-3120-24TC:admin#
```

## 23-16 config dhcp\_relay option\_61 add

### Description

This command adds a rule to determine the relay server based on option 61. The match rule can base on either MAC address or a user-specified string. Only one relay server can be specified for a MAC-address or a string.

If relay servers are determined based on option 60, and one relay server is determined based on option 61, the final relay servers will be the union of these two sets of the servers.

### Format

**config dhcp\_relay option\_61 add [mac\_address <macaddr> | string <desc\_long 255>] [relay <ipaddr> | drop]**

### Parameters

---

**mac\_address** - The client's client-ID which is the hardware address of client.

**<macaddr>** - Enter the client's MAC address here.

---

**string** - The client's client-ID, which is specified by administrator.

**<desc\_long 255>** - Enter the client's description here. This value can be up to 255 characters long.

---

**relay** - Specify to relay the packet to a IP address.

**<ipaddr>** - Enter the IP address used for this configuration here.

---

**drop** - Specify to drop the packet.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To configure the DHCP relay option 61 function:

```
DGS-3120-24TC:admin# config dhcp_relay option_61 add mac_address 00-11-22-33-44-55 drop
Command: config dhcp_relay option_61 add mac_address 00-11-22-33-44-55 drop

Success

DGS-3120-24TC:admin#
```

## 23-17 config dhcp\_relay option\_61 default

### Description

Used to configure the default ruler for option 61.

### Format

**config dhcp\_relay option\_61 default [relay <ipaddr> | drop]**

### Parameters

---

**relay** - Specify to relay the packet that has no option matching 61 matching rules to an IP address.

**<ipaddr>** - Enter the IP address used for this configuration here.

---

**drop** - Specify to drop the packet that have no option 61 matching rules.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To configure the DHCP relay option 61 function:

```
DGS-3120-24TC:admin# config dhcp_relay option_61 default drop
Command: config dhcp_relay option_61 default drop

Success

DGS-3120-24TC:admin#
```

## 23-18 config dhcp\_relay option\_61 delete

### Description

This command is used to delete an option 61 rule.

### Format

**config dhcp\_relay option\_61 delete [mac\_address <macaddr> | string <desc\_long 255> | all]**

### Parameters

---

**mac\_address** - The entry with the specified MAC address will be deleted.

**<macaddr>** - Enter the MAC address here.

---

**string** - The entry with the specified string will be deleted.

**<desc\_long 255>** - Enter the string value here. This value can be up to 255 characters long.

---

**all** - All rules excluding the default rule will be deleted.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To remove a DHCP relay option 61 entry:

```
DGS-3120-24TC:admin# config dhcp_relay option_61 delete mac_address 00-11-22-33-44-55
Command: config dhcp_relay option_61 delete mac_address 00-11-22-33-44-55

Success

DGS-3120-24TC:admin#
```

## 23-19 show dhcp\_relay option\_61

### Description

This command is used to show all rulers for option 61.

### Format

**show dhcp\_relay option\_61**

### Parameters

None.

### Restrictions

None.

## Example

To display DHCP relay rulers for option 61:

```
DGS-3120-24TC:admin# show dhcp_relay option_61
Command: show dhcp_relay option_61

Default Relay Rule: 10.90.90.200

Matching Rules:

Client-ID                Type                Relay Rule
-----
abc                      String              Drop
abcde                    String              10.90.90.1
00-11-22-33-44-55       MAC Address         Drop

Total Entries: 3

DGS-3120-24TC:admin#
```

## Chapter 24 DHCP Server Screening Command List

---

```
config filter dhcp_server [add permit server_ip <ipaddr> {client_mac <macaddr>} ports
  [<portlist> | all] | delete permit server_ip <ipaddr> {client_mac <macaddr>} ports [<portlist> |
  all] | ports [<portlist> | all] state [enable | disable] | illegal_server_log_suppress_duration [1min
  | 5min | 30min] | trap_log [enable | disable]]
```

---

```
show filter dhcp_server
```

---

### 24-1 config filter dhcp\_server

#### Description

With DHCP server screening function, illegal DHCP server packet will be filtered. This command is used to configure the state of the function for filtering of DHCP server packet and to add/delete the DHCP server/client binding entry.

This command is useful for projects that support per port control of the DHCP server screening function. The filter can be based on the DHCP server IP address, or based on a binding of the DHCP server IP and client MAC address.

The command has two purposes: To specify to filter all DHCP server packets on the specific port and to specify to allow some DHCP server packets with pre-defined server IP addresses and client MAC addresses. With this function, we can restrict the DHCP server to service specific DHCP clients. This is useful when two DHCP servers are present on the network, one of them provides the private IP address, and one of them provides the IP address.

Enabling filtering of the DHCP server port state will create one access profile and create one access rule per port (UDP port = 67). Filter commands in this file will share the same access profile.

Addition of a permit DHCP entry will create one access profile and create one access rule. Filtering commands in this file will share the same access profile.

#### Format

```
config filter dhcp_server [add permit server_ip <ipaddr> {client_mac <macaddr>} ports
  [<portlist> | all] | delete permit server_ip <ipaddr> {client_mac <macaddr>} ports [<portlist>
  | all] | ports [<portlist> | all] state [enable | disable] | illegal_server_log_suppress_duration
  [1min | 5min | 30min] | trap_log [enable | disable]]
```

#### Parameters

---

```
add permit - Specifies to add a DHCP permit.
server_ip - The IP address of the DHCP server to be filtered.
  <ipaddr> - Enter the DHCP server IP address here.
client_mac - (Optional) The MAC address of the DHCP client.
  <macaddr> - Enter the DHCP client MAC address here.
ports - The port number of filter DHCP server.
  <portlist> - Enter the list of ports to be configured here.
  all - Specifies that all the port will be used for this configuration.
delete permit - Specifies to delete a DHCP permit.
```

---

---

<b>server_ip</b> - The IP address of the DHCP server to be filtered. <b>&lt;ipaddr&gt;</b> - Enter the DHCP server IP address here.
<b>client_mac</b> - (Optional) The MAC address of the DHCP client. <b>&lt;macaddr&gt;</b> - Enter the DHCP client MAC address here.
<b>ports</b> - The port number of filter DHCP server. <b>&lt;portlist&gt;</b> - Enter the list of ports to be configured here. <b>all</b> - Specifies that all the port will be used for this configuration.
<b>state</b> - Specifies to enable or disable the filter DHCP server state <b>enable</b> - Specifies that the filter DHCP server state will be enabled. <b>disable</b> - Specifies that the filter DHCP server state will be disabled.
<b>illegal_server_log_suppress_duration</b> - Specifies the same illegal DHCP server IP address detected will be logged only once within the duration. The default value is 5 minutes. <b>1min</b> - Specifies that illegal server log suppress duration value will be set to 1 minute. <b>5min</b> - Specifies that illegal server log suppress duration value will be set to 5 minutes. <b>30min</b> - Specifies that illegal server log suppress duration value will be set to 30 minutes.
<b>trap_log</b> - Specifies if the trap/log option will be enabled or disabled. <b>enable</b> - Specifies that the trap/log option will be enabled. <b>disable</b> - Specifies that the trap/log option will be disabled.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To add an entry from the DHCP server/client filter list in the switch's database:

```
DGS-3120-24TC:admin# config filter dhcp_server add permit server_ip 10.1.1.1
client_mac 00-00-00-00-00-01 port 1:1-1:24
Command: config filter dhcp_server add permit server_ip 10.1.1.1 client_mac 00-
00-00-00-00-01 port 1:1-1:24

Success.

DGS-3120-24TC:admin#
```

```
DGS-3120-24TC:admin# config filter dhcp_server ports 1:1-1:10 state enable
Command: config filter dhcp_server ports 1:1-1:10 state enable

Success.

DGS-3120-24TC:admin#
```

## 24-2 show filter dhcp\_server

### Description

This command is used to display the DHCP server/client filter list created on the switch.

### Format

**show filter dhcp\_server**

## Parameters

None.

## Restrictions

None.

## Example

To display the DHCP server/client filter list created on the switch:

```
DGS-3120-24TC:admin#show filter dhcp_server
Command: show filter dhcp_server

Enabled Ports:

Trap & Log State: Disabled

Illegal Server Log Suppress Duration:5 minutes
Filter DHCP Server/Client Table
Server IP Address Client MAC Address  Port
-----
10.255.255.254      00-00-00-00-00-01    1:1-1:24

Total Entries: 1

DGS-3120-24TC:admin#
```

## Chapter 25 Ethernet Ring Protection Switching (ERPS) Command List

<b>enable erps</b>
<b>disable erps</b>
<b>create erps raps_vlan</b> <vlanid>
<b>delete erps raps_vlan</b> <vlanid>
<b>config erps raps_vlan</b> <vlanid> [state [enable   disable]   ring_mel <value 0-7>   ring_port [west [<port>   virtual_channel]   east [<port>   virtual_channel]]   rpl_port [west   east   none]   rpl_owner [enable   disable]   protected_vlan [add   delete] vlanid <vidlist>   sub_ring raps_vlan <vlanid> tc_propagation state [enable   disable]   [add   delete] sub_ring raps_vlan <vlanid>   revertive [enable   disable]   timer {holdoff_time <millisecond 0-10000>   guard_time <millisecond 10-2000>   wtr_time <min 5-12>}]
<b>config erps log</b> [enable   disable]
<b>config erps trap</b> [enable   disable]
<b>show erps</b> {raps_vlan <vlanid> {sub_ring}}

### 25-1 enable erps

#### Description

This command is used to enable the global ERPS function on a switch. When both the global state and the specified ring ERPS state are enabled, the specified ring will be activated.

The global ERPS function cannot be enabled, when any ERPS ring on the device is enabled and the integrity of any ring parameter is not available. For each ring with the ring state enabled when ERPS is enabled, the following integrity will be checked:

1. R-APS VLAN is created.
2. The Ring port is a tagged member port of the R-APS VLAN.
3. The RPL port is specified if the RPL owner is enabled.
4. The RPL port is not specified as virtual channel.

#### Format

**enable erps**

#### Parameters

None.

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**



## Example

To enable ERPS:

```
DGS-3120-24TC:admin# enable erps
Command: enable erps

Success.

DGS-3120-24TC:admin#
```

## 25-2 disable erps

### Description

This command is used to disable the global ERPS function on a switch.

### Format

**disable erps**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To disable ERPS:

```
DGS-3120-24TC:admin# disable erps
Command: disable erps

Success.

DGS-3120-24TC:admin#
```

## 25-3 create erps raps\_vlan

### Description

This command is used to create an R-APS VLAN on a switch. Only one R-APS VLAN should be used to transfer R-APS messages.

Note that the R-APS VLAN must already have been created by the create vlan command.

### Format

**create erps raps\_vlan <vlanid>**

## Parameters

---

**raps\_vlan** - Specifies the VLAN which will be the R-APS VLAN.  
**<vlanid>** - Enter the VLAN ID used here.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To create an R-APS VLAN:

```
DGS-3120-24TC:admin# create erps raps_vlan 4094
Command: create erps raps_vlan 4094

Success.

DGS-3120-24TC:admin#
```

## 25-4 delete erps raps\_vlan

### Description

This command is used to delete an R-APS VLAN on a switch. When an R-APS VLAN is deleted, all parameters related to this R-APS VLAN will also be deleted. This command can only be issued when the ring is not active.

### Format

**delete erps raps\_vlan <vlanid>**

## Parameters

---

**raps\_vlan** - Specifies the VLAN which will be the R-APS VLAN.  
**<vlanid>** - Enter the VLAN ID used here.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To delete an R-APS VLAN:

```
DGS-3120-24TC:admin# delete erps raps_vlan 4094
Command: delete erps raps_vlan 4094

Success.

DGS-3120-24TC:admin#
```

## 25-5 config erps raps\_vlan

### Description

This command is used to configure the ERPS R-APS VLAN settings.

The ring MEL is one field in the R-APS PDU. Note that if CFM (Connectivity Fault Management) and ERPS are used at the same time, the R-APS PDU is one of a suite of Ethernet OAM PDU. The behavior for forwarding of R-APS PDU should follow the Ethernet OAM. If the MEL of R-APS PDU is not higher than the level of the MEP with the same VLAN on the ring ports, the R-APS PDU cannot be forwarded on the ring.

Restrictions apply for ports that are included in a link aggregation group. A link aggregation group can be configured as a ring port by specifying the master port of the link aggregation port. Only the master port can be specified as a ring port. If the specified link aggregation group is eliminated, the master port retains its ring port status. If the ring port configured on virtual channel, the ring which the port connects to will be considered as a sub-ring. Note that the ring ports cannot be modified when ERPS is enabled.

**RPL port** - Specifies one of the R-APS VLAN ring ports as the RPL port. To remove an RPL port from an R-APS VLAN, use the none designation for rpl\_port.

**RPL owner** - Specifies the node as the RPL owner.

Note that the RPL port and RPL owner cannot be modified when ERPS is enabled; and the virtual channel cannot be configured as RPL. For example, if a ring port is configured on the virtual channel and the ring port is configured as an RPL port, an error message will be display and the configuration will fail.

The R-APS VLAN cannot be the protected VLAN. The protected VLAN can be one that has already been created, or it can be used for a VLAN that has not yet been created.

**Holdoff timer** - The Holdoff timer is used to filter out intermittent link faults when link failures occur during the protection switching process. When a ring node detects a link failure, it will start the holdoff timer and report the link failure event (R-APS BPDU with SF flag) after the link failure is confirmed within period of time specified.

**Guard timer** - Guard timer is used to prevent ring nodes from receiving outdated R-APS messages. This timer is used during the protection switching process after the link failure recovers. When the link node detects the recovery of the link, it will report the link failure recovery event (R-APS PDU with NR flag) and start the guard timer. Before the guard timer expires, all received R-APS messages are ignored by this ring node, except in the case where a burst of three R-APS event messages that indicates the topology of a sub-ring has changed and the node needs to flush FDB are received on the node. In this case the recovered link does not go into a blocking state.

The Guard Timer should be greater than the maximum expected forwarding delay for which one R-APS message circles around the ring.

**WTR timer** - WTR timer is used to prevent frequent operation of the protection switch due to an intermittent defect. This timer is used during the protection switching process when a link failure recovers. It is only used by the RPL owner. When the RPL owner in protection state receives R-APS PDU with an NR flag, it will start the WTR timer. The RPL owner will block the original unblocked RPL port and start to send R-APS PDU with an RB flag after the link recovery is confirmed within this period of time.

When both the global state and the specified ring ERPS state are enabled, the specified ring will be activated. STP and LBD should be disabled on the ring ports before the specified ring is activated.

The ring cannot be enabled before the R-APS VLAN is created, and ring ports, RPL port, RPL owner, are configured. Note that these parameters cannot be changed when the ring is activated.

In order to guarantee correct operation, the following integrity will be checked when the ring is enabled and the global ERPS state is enabled.

1. R-APS VLAN is created.
2. The Ring port is the tagged member port of the R-APS VLAN.
3. The RPL port is specified if RPL owner is enabled.

## Format

```
config erps raps_vlan <vlanid> [state [enable | disable] | ring_mel <value 0-7> | ring_port
[west [<port> | virtual_channel] | east [<port> | virtual_channel]] | rpl_port [west | east | none]
| rpl_owner [enable | disable] | protected_vlan [add | delete] vlanid <vidlist> | sub_ring
raps_vlan <vlanid> tc_propagation state [enable | disable] | [add | delete] sub_ring
raps_vlan <vlanid> | revertive [enable | disable] | timer {holdoff_time <millisecond 0-10000>
| guard_time <millisecond 10-2000> | wtr_time <min 5-12>}]
```

## Parameters

<b>raps_vlan</b> - Specifies the R-APS VLAN used. <b>&lt;vlanid&gt;</b> - Enter the VLAN ID used here.
<b>state</b> - Specifies to enable or disable the specified ring. <b>enable</b> - Enable the state of the specified ring. <b>disable</b> - Disable the state of the specified ring. The default value is disabled.
<b>ring_mel</b> - Specifies the ring MEL of the R-APS function. The default ring MEL is 1. <b>&lt;value 0-7&gt;</b> - Enter the ring MEL value here. This value should be between 0 and 7.
<b>ring_port</b> - Specifies the ring port used.
<b>west</b> - Specifies the port as the west ring port. <b>&lt;port&gt;</b> - Enter the port number here. <b>virtual_channel</b> - Specifies the port as west port on virtual channel.
<b>east</b> - Specifies the port as the east ring port. <b>&lt;port&gt;</b> - Enter the port number here. <b>virtual_channel</b> - Specifies the port as east port on virtual channel.
<b>rpl_port</b> - Specifies the RPL port used. <b>west</b> - Specifies the west ring port as the RPL port. <b>east</b> - Specifies the east ring port as the RPL port. <b>none</b> - No RPL port on this node. By default, the node has no RPL port.
<b>rpl_owner</b> - Specifies to enable or disable the RPL owner node.

---

<b>enable</b> - Specifies the device as an RPL owner node.
<b>disable</b> - This node is not an RPL owner. By default, the RPS owner is disabled.
<b>protected_vlan</b> - Specifies to add or delete the protected VLAN group.
<b>add</b> - Add VLANs to the protected VLAN group.
<b>delete</b> - Delete VLANs from the protected VLAN group.
<b>vlanid</b> - Specifies the VLAN ID to be removed or added.
<b>&lt;vidlist&gt;</b> - Enter the VLAN ID list here.
<b>sub_ring</b> - Specifies that the sub-ring is being configured.
<b>raps_vlan</b> - Specifies the R-APS VLAN.
<b>&lt;vlanid&gt;</b> - Enter the VLAN ID used here.
<b>tc_propagation</b> - Specifies that the topology propagation state will be configured.
<b>state</b> - Specifies the topology propagation state.
<b>enable</b> - Enable the propagation state of topology change for the sub-ring.
<b>disable</b> - Disable the propagation state of topology change for the sub-ring. The default value is disabled.
<b>add</b> - Connect the sub-ring to another ring.
<b>delete</b> - Disconnect the sub-ring from the connected ring.
<b>sub_ring</b> - Specifies that the sub-ring is being configured.
<b>raps_vlan</b> - Specifies the R-APS VLAN.
<b>&lt;vlanid&gt;</b> - Enter the VLAN ID used here.
<b>revertive</b> - Specifies the state of the R-APS revertive option.
<b>enable</b> - Specifies that the R-APS revertive option will be enabled.
<b>disable</b> - Specifies that the R-APS revertive option will be disabled.
<b>timer</b> - Specifies the R-APS timer used.
<b>holdoff_time</b> - (Optional) Specifies the holdoff time of the R-APS function. The default holdoff time is 0 milliseconds.
<b>&lt;millisecond 0-10000&gt;</b> - Enter the hold off time value here. This value must be in the range of 0 to 10000 milliseconds.
<b>guard_time</b> - (Optional) Specifies the guard time of the R-APS function. The default guard time is 500 milliseconds.
<b>&lt;millisecond 10-2000&gt;</b> - Enter the guard time value here. This value must be in the range of 0 to 2000 milliseconds.
<b>wtr_time</b> - (Optional) Specifies the WTR time of the R-APS function.
<b>&lt;min 5-12&gt;</b> - Enter the WTR time range value here. The range is from 5 to 12 minutes. The default WTR time is 5 minutes.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To configure the MEL of the ERPS ring for a specific R-APS VLAN:

```
DGS-3120-24TC:admin# config erps raps_vlan 4094 ring mel 2
Command: config erps raps_vlan 4094 ring mel 2

Success.

DGS-3120-24TC:admin#
```

To configure the ports of the ERPS ring for a specific R-APS VLAN:

```
DGS-3120-24TC:admin# config erps raps_vlan 4094 ring_port west 5 east 7
Command: config erps raps_vlan 4094 ring_port west 5 east 7

Success.

DGS-3120-24TC:admin#
```

To configure the RPL port or the RPL owner for a specific R-APS VLAN:

```
DGS-3120-24TC:admin# config erps raps_vlan 4094 rpl port west owner enable
Command: config erps raps_vlan 4094 rpl port west owner enable

Success.

DGS-3120-24TC:admin#
```

To configure the protected VLAN for a specific R-APS VLAN:

```
DGS-3120-24TC:admin# config erps raps_vlan 4094 protected_vlan add vlanid 10-20
Command: config erps raps_vlan 4094 protected_vlan add vlanid 10-20

Success.

DGS-3120-24TC:admin#
```

To configure the ERPS timers for a specific R-APS VLAN:

```
DGS-3120-24TC:admin# config erps raps_vlan 4094 holdoff_time 100 guard_time
1000 wtr_time 10
Command: config erps raps_vlan 4094 holdoff_time 100 guard_time 1000 wtr_time
10

Success.

DGS-3120-24TC:admin#
```

To configure the ring state of the ERPS:

```
DGS-3120-24TC:admin# config erps raps_vlan state enable
Command: config erps raps_vlan state enable

Success.

DGS-3120-24TC:admin#
```

To configure a sub-ring connected to another ring:

```
DGS-3120-24TC:admin# config erps raps_vlan 4094 add sub_ring raps_vlan 4093
Command: config erps raps_vlan 4094 add sub_ring raps_vlan 4093

Success.

DGS-3120-24TC:admin#
```

To configure the state of topology change propagation:

```
DGS-3120-24TC:admin# config erps raps_vlan 4094 sub_ring raps_vlan 4093
tc_propagation state enable
Command: config erps raps_vlan 4094 sub_ring raps_vlan 4093 tc_propagation
state enable

Success.

DGS-3120-24TC:admin#
```

## 25-6 config erps log

### Description

This command is used to configure the log state of ERPS events.

### Format

**config erps log [enable | disable]**

### Parameters

---

**log** - Specifies to enable or disable the ERPS log state.  
**enable** - Enter enable to enable the log state.  
**disable** - Enter disable to disable the log state. The default value is disabled.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

### Example

To configure the ERPS log state:

```
DGS-3120-24TC:admin# config erps log enable
Command: config erps log enable

Success.

DGS-3120-24TC:admin#
```

## 25-7 config erps trap

### Description

This command is used to configure trap state of ERPS events.

### Format

**config erps trap [enable | disable]**

## Parameters

---

**trap** - Specifies to enable or disable the ERPS trap state.  
**enable** - Enter enable to enable the trap state.  
**disable** - Enter disable to disable the trap state. The default value is disabled.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To configure the trap state of the ERPS:

```
DGS-3120-24TC:admin# config erps trap enable
Command: config erps trap enable

Success.

DGS-3120-24TC:admin#
```

## 25-8 show erps

### Description

This command is used to display ERPS configuration and operation information.

The port state of the ring port may be as "Forwarding", "Blocking", "Signal Fail". "Forwarding" indicates that traffic is able to be forwarded. "Blocking" indicates that traffic is blocked by ERPS and a signal failure is not detected on the port. "Signal Fail" indicates that a signal failure is detected on the port and traffic is blocked by ERPS.

The RPL owner administrative state could be configured to "Enabled" or "Disabled". But the RPL owner operational state may be different from the RPL owner administrative state, for example, the RPL owner conflict occurs. "Active" is used to indicate that the RPL owner administrative state is enabled and the device is operated as the active RPL owner. "Inactive" is used to indicate that the RPL owner administrative state is enabled, but the device is operated as the inactive RPL owner.

### Format

**show erps {raps\_vlan <vlanid> {sub\_ring}}**

## Parameters

---

**raps\_vlan** - (Optional) Specifies the R-APS VLAN.  
**<vlanid>** - Enter the VLAN ID used here.

---

**sub\_ring** - (Optional) Display the sub-ring configuration information.

---

## Restrictions

None. **(EI Mode Only Command)**



## Example

To display ERPS information:

```
DGS-3120-24TC:admin# show erps
Command: show erps

ERPS Information
Global Status      : Enabled
Log Status         : Disabled
Trap Status        : Disabled
-----

R-APS VLAN         : 4092
Ring Status        : Enabled
West Port          : 5 (Blocking)
East Port          : 7 (Forwarding)
RPL Port           : West Port
RPL Owner          : Enabled (Active)
Protected VLANs    : 100-300, 4092, 4093
Ring MEL           : 2
Holdoff Time       : 0 milliseconds
Guard Time        : 500 milliseconds
WTR Time           : 5 minutes
Current Ring State : Idle
-----

R-APS VLAN         : 4093
Ring Status        : Enabled
West Port          : Virtual Channel
East Port          : 10 (Forwarding)
RPL Port           : None
RPL Owner          : Disabled
Protected VLANs    : 200-220
Ring MEL           : 2
Holdoff Time       : 0 milliseconds
Guard Time        : 500 milliseconds
WTR Time           : 5 minutes
Current Ring State : Idle
-----

Total Ring: 2

DGS-3120-24TC:admin#
```

```
DGS-3120-24TC:admin# show erps raps_vlan 4092 sub_ring
Command: show erps raps_vlan 4092 sub_ring
R-APS VLAN: 4092
Sub-Ring R-APS VLAN      TC Propagation State
-----
4093                      Enable
4094                      Enable
-----
Total Sub-Ring Connected: 2

DGS-3120-24TC:admin#
```

## Chapter 26 Filter Command List

---

---

**config filter netbios** [<portlist> | all] state [enable | disable]

**show filter netbios**

---

**config filter extensive\_netbios** [<portlist> | all] state [enable | disable]

**show filter extensive\_netbios**

---

---

### 26-1 config filter netbios

#### Description

This command is used to configure the switch to deny the NETBIOS packets on specific ports.

#### Format

**config filter netbios** [<portlist> | all] state [enable | disable]

#### Parameters

---

**<portlist>** - Specifies the list of ports used.

**all** - Specifies that all the ports will be used for the configuration.

---

**state**- Specifies the state of the filter to block the NETBIOS packet.

**enable** - Specifies that the state will be enabled.

**disable** - Specifies that the state will be disabled.

---

#### Restrictions

Only Administrator and Operator-level users can issue this command.

#### Example

To configure filter netbios state:

```
DGS-3120-24TC:admin# config filter netbios 1-10 state enable
Command: config filter netbios 1-10 state enable

Success.

DGS-3120-24TC:admin#
```

### 26-2 show filter netbios

#### Description

This command is used to display the NETBIOS filter state on the switch.

#### Format

**show filter netbios**

### Parameters

None.

### Restrictions

None.

### Example

To display the DHCP server/client filter list created on the switch:

```
DGS-3120-24TC:admin# show filter netbios
Command: show filter netbios

Enabled ports: 1-3

DGS-3120-24TC:admin#
```

## 26-3 config filter extensive\_netbios

### Description

This command is used to configure the Switch to filter NETBIOS packets over 802.3 frame on the specific ports.

### Format

**config filter extensive\_netbios [<portlist> | all] state [enable | disable]**

### Parameters

---

**<portlist>** - Enter the list of ports used for this configuration here.

**all** - Specifies that all the ports will be used this configuration.

---

**state** - Enable or disable the filter to block the NETBIOS packet over 802.3 frame.

**enable** - Specifies that the filter state will be enabled.

**disable** - Specifies that the filter state will be disabled.

---

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To configure a DHCP client/server filter entry.

```
DGS-3120-24TC:admin# config filter extensive_netbios 1-10 state enable
Command: config filter extensive_netbios 1-10 state enable

Success.

DGS-3120-24TC:admin#
```

## 26-4 show filter extensive\_netbios

### **Description**

This command is used to display the extensive netbios state on the switch.

### **Format**

**show filter extensive\_netbios**

### **Parameters**

None.

### **Restrictions**

None.

### **Example**

To display the extensive\_state created on the switch:

```
DGS-3120-24TC:admin# show filter extensive_netbios
Command: show filter extensive_netbios

Enabled ports: 1-3

DGS-3120-24TC:admin#
```

## Chapter 27 Filter Database (FDB) Command List

---

```

create fdb <vlan_name 32> <macaddr> [port <port> | drop]
create fdb vlanid <vidlist> <macaddr> [port <port> | drop]
create multicast_fdb <vlan_name 32> <macaddr>
config multicast_fdb <vlan_name 32> <macaddr> [add | delete] <portlist>
config fdb aging_time <sec 10-1000000>
config multicast_vlan_filtering_mode [vlanid <vidlist> | vlan <vlan_name 32> | all]
    [forward_all_groups | forward_unregistered_groups | filter_unregistered_groups]
delete fdb <vlan_name 32> <macaddr>
clear fdb [vlan <vlan_name 32> | port <port> | all]
show multicast_fdb {[vlan <vlan_name 32> | vlanid <vidlist>] | mac_address <macaddr>}
show fdb {[port <port> | vlan <vlan_name 32> | vlanid <vidlist> | mac_address <macaddr> | static
    | aging_time | security]}
show multicast_vlan_filtering_mode {[ vlanid < vidlist> | vlan <vlan_name 32>]}

```

---

### 27-1 create fdb

#### Description

This command is used to create a static entry in the unicast MAC address forwarding table (database).

#### Format

```
create fdb <vlan_name 32> <macaddr> [port <port> | drop]
```

#### Parameters

---

**<vlan\_name 32>** - Specifies a VLAN name associated with a MAC address. The maximum length of the VLAN name is 32 bytes.

---

**<macaddr>** - The MAC address to be added to the static forwarding table.

---

**port** - The port number corresponding to the MAC destination address. The switch will always forward traffic to the specified device through this port.

**<port>** - Enter the port number corresponding to the MAC destination address here.

---

**drop** - Specifies the action drop to be taken.

---

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

#### Example

To create a unicast MAC forwarding entry:

```
DGS-3120-24TC:admin# create fdb default 00-00-00-00-01-02 port 2:5
Command: create fdb default 00-00-00-00-01-02 port 2:5

Success.

DGS-3120-24TC:admin#
```

To filter a unicast MAC:

```
DGS-3120-24TC:admin# create fdb default 00-00-00-00-01-02 drop
Command: create fdb default 00-00-00-00-01-02 drop

Success.

DGS-3120-24TC:admin#
```

## 27-2 create fdb vlanid

### Description

This command is used to create a static entry in the unicast MAC address forwarding table (database).

### Format

**create fdb vlanid <vidlist> <macaddr> [port <port> | drop]**

### Parameters

---

**<vidlist>** - Specifies a VLAN ID associated with a MAC address.

---

**<macaddr>** - The MAC address to be added to the static forwarding table.

---

**port** - The port number corresponding to the MAC destination address. The switch will always forward traffic to the specified device through this port.

**<port>** - Enter the port number corresponding to the MAC destination address here.

---

**drop** - Specifies the action drop to be taken.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To create a unicast MAC forwarding entry:

```
DGS-3120-24TC:admin#create fdb vlanid 1 00-00-00-00-01-02 port 1:5
Command: create fdb vlanid 1 00-00-00-00-01-02 port 1:5

Success.

DGS-3120-24TC:admin#
```

To filter a unicast MAC:

```
DGS-3120-24TC:admin#create fdb vlanid 1 00-00-00-00-01-02 drop
Command: create fdb vlanid 1 00-00-00-00-01-02 drop

Success.

DGS-3120-24TC:admin#
```

## 27-3 create multicast\_fdb

### Description

This command is used to create a static entry in the multicast MAC address forwarding table (database).

### Format

**create multicast\_fdb <vlan\_name 32> <macaddr>**

### Parameters

---

**<vlan\_name 32>** - The name of the VLAN on which the MAC address resides. The maximum name length is 32.

---

**<macaddr>** - The multicasts MAC address to be added to the static forwarding table.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To create a multicast MAC forwarding entry to the default VLAN:

```
DGS-3120-24TC:admin# create multicast_fdb default 01-00-5E-00-00-00
Command: create multicast_fdb default 01-00-5E-00-00-00

Success.

DGS-3120-24TC:admin#
```

## 27-4 config multicast\_fdb

### Description

This command is used to configure the switch's multicast MAC address forwarding database.

### Format

**config multicast\_fdb <vlan\_name 32> <macaddr> [add | delete] <portlist>**

### Parameters

---

**<vlan\_name 32>** - The name of the VLAN on which the MAC address resides. The maximum

---



---

name length is 32.

**<macaddr>** - The MAC address that will be added or deleted to the forwarding table.

**add** - Specifies to add ports to the multicast forwarding table.

**delete** - Specifies to remove ports from the multicast forwarding table.

**<portlist>** - Specifies a range of ports to be configured. (UnitID: port number).

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To add a multicast MAC forwarding entry to the default VLAN on port 1:1 to 1:5:

```
DGS-3120-24TC:admin# config multicast_fdb default 01-00-5E-00-00-00 add 1:1-1:5
Command: config multicast_fdb default 01-00-5E-00-00-00 add 1:1-1:5

Success.

DGS-3120-24TC:admin#
```

## 27-5 config fdb aging\_time

### Description

This command is used to configure the MAC address table aging time.

### Format

**config fdb aging\_time <sec 10-1000000>**

### Parameters

---

**aging\_time** - Specifies the FDB age out time in seconds. The aging time affects the learning process of the Switch. Dynamic forwarding table entries, which are made up of the source MAC addresses and their associated port numbers, are deleted from the table if they are not accessed within the aging time. The aging time can be from 10 to 1000000 seconds with a default value of 300 seconds. A very long aging time can result in dynamic forwarding table entries that are out-of-date or no longer exist. This may cause incorrect packet forwarding decisions by the Switch. If the aging time is too short however, many entries may be aged out too soon. This will result in a high percentage of received packets whose source addresses cannot be found in the forwarding table, in which case the Switch will broadcast the packet to all ports, negating many of the benefits of having a switch..

**<sec 10-1000000>** - The FDB age out time must be between 10 to 1000000 seconds.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure the MAC address table aging time to 600 seconds:

```
DGS-3120-24TC:admin# config fdb aging_time 600
Command: config fdb aging_time 600

Success.

DGS-3120-24TC:admin#
```

## 27-6 config multicast vlan\_filtering\_mode

### Description

This command is used to configure the multicast packet filtering mode for VLANs.

The registered group will be forwarded to the range of ports in the multicast forwarding database.

### Format

**config multicast vlan\_filtering\_mode [vlanid <vidlist> | vlan <vlan\_name 32> | all]  
[forward\_all\_groups | forward\_unregistered\_groups | filter\_unregistered\_groups]**

### Parameters

---

**vlanid** - Specifies a list of VLANs to be configured.

**<vidlist>** - Enter the VLAN ID list here.

**vlan** - Specifies the name of the VLAN. The maximum name length is 32.

**<vlan\_name 32>** - The VLAN name can be up to 32 characters long.

**all** - Specifies all configured VLANs.

---

**forward\_all\_groups** - Both the registered group and the unregistered group will be forwarded to all member ports of the specified VLAN where the multicast traffic comes in.

**forward\_unregistered\_groups** - The unregistered group will be forwarded to all member ports of the VLAN where the multicast traffic comes in.

**filter\_unregistered\_groups** - The unregistered group will be filtered.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To configure the multicast packet filtering mode to filter all unregistered multicast groups for the VLAN 200 to 300:

```
DGS-3120-24TC:admin# config multicast vlan_filtering_mode vlanid 200-300
filter_unregistered_groups
Command: config multicast vlan_filtering_mode vlanid 200-300
filter_unregistered_groups

Success.

DGS-3120-24TC:admin#
```

## 27-7 delete fdb

### Description

This command is used to delete a static entry from the forwarding database.

### Format

**delete fdb <vlan\_name 32> <macaddr>**

### Parameters

---

**<vlan\_name 32>** - The name of the VLAN on which the MAC address resides. The maximum name length is 32.

---

**<macaddr>** - The multicast MAC address to be deleted from the static forwarding table.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To delete a static FDB entry:

```
DGS-3120-24TC:admin# delete fdb default 00-00-00-00-01-02
Command: delete fdb default 00-00-00-00-01-02

Success.

DGS-3120-24TC:admin#
```

## 27-8 clear fdb

### Description

This command is used to clear the switch's forwarding database for dynamically learned MAC addresses.

### Format

**clear fdb [vlan <vlan\_name 32> | port <port> | all]**

### Parameters

---

**vlan** - Clears the FDB entry by specifying the VLAN name.

**<vlan\_name 32>** - The name of the VLAN on which the MAC address resides. The maximum name length is 32.

---

**port** - Clears the FDB entry by specifying the port number.

**<port>** - The port number corresponding to the MAC destination address. The switch will always forward traffic to the specified device through this port.

---

**all** - Clears all dynamic entries in the Switch's forwarding database.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To clear all FDB dynamic entries:

```
DGS-3120-24TC:admin# clear fdb all
Command: clear fdb all

Success.

DGS-3120-24TC:admin#
```

## 27-9 show multicast\_fdb

### Description

This command is used to display the multicast forwarding database of the Switch.

### Format

**show multicast\_fdb** {[vlan <vlan\_name 32> | vlanid <vidlist>] | mac\_address <macaddr>}

### Parameters

---

**vlan** - (Optional) The name of the VLAN on which the MAC address resides.  
**<vlan\_name 32>** - Enter the VLAN name here. The VLAN name can be up to 32 characters long.

---

**vlanid** - (Optional) Displays the entries for the VLANs indicated by VID list.  
**<vidlist>** - Enter the VLAN ID list here.

---

**mac\_address** - (Optional) Specifies a MAC address, for which FDB entries will be displayed.  
**<macaddr>** - Enter the MAC address here.

---

If no parameter is specified, all multicast FDB entries will be displayed.

---

## Restrictions

None.

## Example

To display the multicast MAC address table:

```
DGS-3120-24TC:admin# show multicast_fdb
Command: show multicast_fdb

VLAN Name           : default
MAC Address         : 01-00-5E-00-00-00
Mode                : Static

Total Entries : 1
```

## 27-10 show fdb

### Description

This command is used to display the current unicast MAC address forwarding database.

### Format

**show fdb** {[**port** <port> | **vlan** <vlan\_name 32> | **vlanid** <vidlist> | **mac\_address** <macaddr> | **static** | **aging\_time** | **security**]}

### Parameters

<b>port</b> - (Optional) Displays the entries for a specified port. <port> - Enter the port number here.
<b>vlan</b> - (Optional) Displays the entries for a specific VLAN. The maximum name length is 32. <vlan_name 32> - Enter the VLAN name here. The VLAN name can be up to 32 characters long.
<b>vlanid</b> - (Optional) Displays the entries for the VLANs indicated by VID list. <vidlist> - Enter the VLAN ID list here.
<b>mac_address</b> - (Optional) Displays a specific MAC address. <macaddr> - Enter the MAC address here.
<b>static</b> - (Optional) Displays all permanent entries.
<b>aging_time</b> - (Optional) Displays the unicast MAC address aging time.
<b>security</b> - (Optional) Displays the FDB entries that are created by the security module.
If no parameter is specified, system will display the unicast address table.

### Restrictions

None.

### Example

To display the FDB table:

```
DGS-3120-24TC:admin#show fdb
Command: show fdb

Unicast MAC Address Aging Time = 300

VID  VLAN Name                MAC Address                Port  Type      Status
-----
1    default                    00-01-02-03-04-00         CPU   Self      Forward
1    default                    00-23-7D-BC-08-44         1:1   Dynamic  Forward
1    default                    00-23-7D-BC-2E-18         1:1   Dynamic  Forward
1    default                    00-26-5A-AE-CA-1C         1:1   Dynamic  Forward
1    default                    60-33-4B-C4-52-1A         1:1   Dynamic  Forward

Total Entries: 5

DGS-3120-24TC:admin#
```

To display the security FDB table:

```
DGS-3120-24TC:admin# show fdb security
Command: show fdb security

VID  MAC Address          Port  Type    Status  Security Module
-----
1    00-00-00-10-00-01  1:1   Dynamic Drop    802.1X
1    00-00-00-10-00-02  1:2   Static  Forward WAC
1    00-00-00-10-00-04  1:4   Static  Forward Port Security
1    00-00-00-10-00-0A  1:5   Static  Forward MAC-based Access Control
1    00-00-00-10-00-06  1:6   Dynamic Drop    Compound Authentication
Total Entries: 5

DGS-3120-24TC:admin#
```

## 27-11 show multicast vlan\_filtering\_mode

### Description

This command is used to show the multicast packet filtering mode for VLANs.

Note: A product supports the multicast VLAN filtering mode could not support the port filtering mode at the same time.

### Format

**show multicast vlan\_filtering\_mode** {[ vlanid < vidlist> | vlan <vlan\_name 32>]}

### Parameters

**vlanid** - (Optional) Specifies a list of VLANs to be configured.

**<vidlist>** - Enter the VLAN ID list here.

**vlan** - (Optional) Specifies the name of the VLAN. The maximum name length is 32.

**<vlan\_name 32>** - Enter the VLAN name here. The VLAN name can be up to 32 characters long.

If no parameter is specified, the device will show all multicast filtering settings in the device.

### Restrictions

None.

### Example

To show the multicast vlan\_filtering\_mode for VLANs:

```
DGS-3120-24TC:admin#show multicast vlan_filtering_mode
Command: show multicast vlan_filtering_mode

VLAN ID/VLAN Name          Multicast Filter Mode
-----
1    /default                forward_unregistered_groups

DGS-3120-24TC:admin#
```



## Chapter 28 Flash File System (FFS) Command List

---

```

show storage_media_info {[unit <unit_id> | all]}
change drive {unit <unit_id>} <drive_id>
md {{unit <unit_id>} <drive_id>} <pathname 64>
rd {{unit <unit_id>} <drive_id>} <pathname 64>
cd <pathname 64>
dir {{unit <unit_id>} <drive_id>} {<pathname 64>}
rename {{unit <unit_id>} <drive_id>} <pathname 64> <filename 64>
del {{unit <unit_id>} <drive_id>} <pathname 64> {recursive}
erase {{unit <unit_id>} <drive_id>} <pathname 64>
move {{unit <unit_id>} <drive_id>} <pathname 64> {{unit <unit_id>} <drive_id>} <pathname 64>
copy {{unit <unit_id>} <drive_id>} <pathname 64> {{unit <unit_id>} <drive_id>} <pathname 64>
format {unit <unit_id>} <drive_id> {[fat16 | fat32]} {<label_name>}

```

---

### 28-1 show storage\_media\_info

#### Description

This command is used to display the information of the storage media available on the system. There can be one or multiple media on the system. The information for a media includes the drive number, the media identification.

#### Format

```
show storage_media_info {[unit <unit_id> | all]}
```

#### Parameters

---

**unit** - (Optional) Specifies a unit ID if in the stacking system. If not specified, it refers to the master unit.  
**<unit\_id>** - Enter the unit ID here.  
**all** - Specifies all units.

---

#### Restrictions

None.

#### Example

To display the storage media's information:



```
DGS-3120-24TC:admin#show storage_media_info
Command: show storage_media_info

Unit  Drive  Media Type      Size  Label      FS Type
----  -
1    c:      Flash          28 MB
DGS-3120-24TC:admin#
```

## 28-2 change drive

### Description

This command is used to change the current drive.

### Format

**change drive {unit <unit\_id>} <drive\_id>**

### Parameters

**unit** - (Optional) Specifies a unit ID if in the stacking system. If not specified, it refers to the master unit.

**<unit\_id>** - Enter the unit ID here.

**<drive\_id>** - Specifies the drive ID. The format of drive\_id is C:/, D:/ etc.

### Restrictions

None.

### Example

To display the storage media's information:

```
DGS-3120-24TC:admin# change drive unit 3 c:/
Command: change drive unit 3 c:/

Success.

DGS-3120-24TC:admin#
```

## 28-3 md

### Description

This command is used to create a directory.

### Format

**md {{unit <unit\_id>} <drive\_id>} <pathname 64>**

## Parameters

---

**unit** – (Optional) Specifies a unit ID if in the stacking system. If not specified, it refers to the master unit.

**<unit\_id>** - Enter the unit ID here.

---

**<drive\_id>** - (Optional) Enter the drive ID used here. Examples are C: or D:

**<pathname 64>** - Specifies the directory to be removed. The path name can be specified either as a full path name or partial name. For partial path name, it indicates the file is in the current directory. The drive ID also included in this parameter, for example: d:/config/bootup.cfg. This name can be up to 64 characters long.

---

## Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To make a directory:

```
DGS-3120-24TC:admin# md c:/abc
Command: md c:/abc

Success.

DGS-3120-24TC:admin#
```

## 28-4 rd

### Description

Used to remove a directory. If there are files still existing in the directory, this command will fail and return error message.

### Format

**rd** {{unit <unit\_id>} <drive\_id>} <pathname 64>

## Parameters

---

**unit** - (Optional) Specifies a unit ID if in the stacking system. If not specified, it refers to the master unit.

**<unit\_id>** - Enter the unit ID here.

---

**<drive\_id>** - (Optional) Enter the drive ID used here. Examples are C: or D:

**<pathname 64>** - Specifies the directory to be removed. The path name can be specified either as a full path name or partial name. For partial path name, it indicates the file is in the current directory. This name can be up to 64 characters long.

---

## Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To remove a directory:

```
DGS-3120-24TC:admin# rd c:/abc
Command: rd c:/abc

Success.

DGS-3120-24TC:admin#
```

## 28-5 cd

### Description

This command is used to change the current directory. The current directory is changed under the current drive. If you want to change the working directory to the directory in another drive, then you need to change the current drive to the desired drive, and then change the current directory. The current drive and current directory will be displayed if the <pathname> is not specified.

### Format

**cd {<pathname 64>}**

### Parameters

---

**<pathname 64>** - (Optional) Specifies the directory to be removed. The path name can be specified either as a full path name or partial name. For partial path name, it indicates the file is in the current directory. This name can be up to 64 characters long.

---

### Restrictions

None.

### Example

To change to other directory or display current directory path:

```
DGS-3120-24TC:admin# cd
Command: cd

Current work directory: "/unit2:/c:".

DGS-3120-24TC:admin#
```

## 28-6 dir

### Description

List all of the files located in a directory of a drive.

If pathname is not specified, then all of the files in the specified drive will be displayed. If none of the parameters are specified, the files in the current drive will be displayed.

### Format

**dir {{unit <unit\_id>} <drive\_id>} {<pathname 64>}**

## Parameters

**unit** - (Optional) Specifies a unit ID if in the stacking system. If not specified, it refers to the master unit.

**<unit\_id>** - Enter the unit ID here.

**<drive\_id>** - (Optional) Enter the drive ID used here. Examples are C: or D:

**<pathname 64>** - (Optional) Specifies the directory to be removed. The path name can be specified either as a full path name or partial name. For partial path name, it indicates the file is in the current directory.

## Restrictions

None.

## Example

List the files:

```
DGS-3120-24TC:admin#dir
Command: dir

Directory of /unit2:/c:

Idx Info      Attr Size      Update Time      Name
-----
 1 CFG(*)   -rw- 29661      2000/04/01 05:54:38 config.cfg
 2 RUN(*)   -rw- 4879040    2000/03/26 03:15:11 B019.had
 3          d--- 0           2000/04/01 05:17:36 system

29618 KB total (24727 KB free)
(*) -with boot up info      (b) -with backup info

DGS-3120-24TC:admin#
```

## 28-7 rename

### Description

This command is used to rename a file. Note that for standalone device, the unit argument is not needed. This command is used to rename a file in the file system. The pathname specifies the file (in path form) to be renamed and the filename specifies the new filename. If the pathname is not a full path, then it refers to a path under the current directory for the drive. The renamed file will stay in the same directory.

### Format

**rename {{unit <unit\_id>} <drive\_id>} <pathname 64> <filename 64>**

## Parameters

**unit** - (Optional) Specifies a unit ID if in the stacking system. If not specified, it refers to the master unit.

---

<b>&lt;unit_id&gt;</b> - Enter the unit ID here.
<b>&lt;drive_id&gt;</b> - (Optional) Enter the drive ID used here. Examples are C: or D:
<b>&lt;pathname 64&gt;</b> - Specified the file (in path form) to be renamed. This name can be up to 64 characters long.
<b>&lt;filename 64&gt;</b> - Specified the new name of the file. This name can be up to 64 characters long.

---

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To rename a file:

```
DGS-3120-24TC:admin# rename run.had run1.had
Command: rename run.had run1.had

Success.

DGS-3120-24TC:admin#
```

## 28-8 del

### Description

This command is used to delete a file, either physically or softly. It is also used to delete a directory and its contents. If two files with the same name under the same directory are softly deleted sequentially, only the last one will exist. Deleting, copying, renaming or moving the already softly deleted file is not acceptable.

System will prompt if the target file is a FW or configuration whose type is bootup or backup.

### Format

**del** **{unit <unit\_id> <drive\_id> <pathname 64> {recursive}}**

### Parameters

---

<b>unit</b> - (Optional) Specifies a unit ID if in the stacking system. If not specified, it refers to the master unit.
<b>&lt;unit_id&gt;</b> - Enter the unit ID here.
<b>&lt;drive_id&gt;</b> - (Optional) Enter the drive ID used here. Examples are C: or D:
<b>&lt;pathname 64&gt;</b> - Specifies the file or directory to be deleted. If it is specified in the associated form, then it is related to the current directory. This name can be up to 64 characters long.
<b>recursive</b> - (Optional) Used on directory, to delete a directory and its contents even if it's not empty.

---

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

Delete a directory with parameter "recursive":

```
DGS-3120-24TC:admin#dir
Command: dir

Directory of /unit2:/c:

Idx Info      Attr Size      Update Time      Name
-----
 1          drw- 0          2000/04/02 06:02:04 12
 2 CFG(*)    -rw- 29661        2000/04/01 05:54:38 config.cfg
 3 RUN(*)    -rw- 4879040     2000/03/26 03:15:11 B019.had
 4          d--- 0          2000/04/01 05:17:36 system

29618 KB total (24727 KB free)
(*) -with boot up info          (b) -with backup info

DGS-3120-24TC:admin#del 12 recursive
Command: del 12 recursive

Success.

DGS-3120-24TC:admin#dir
Command: dir

Directory of /unit2:/c:

Idx Info      Attr Size      Update Time      Name
-----
 1 CFG(*)    -rw- 29661        2000/04/01 05:54:38 config.cfg
 2 RUN(*)    -rw- 4879040     2000/03/26 03:15:11 B019.had
 3          d--- 0          2000/04/01 05:17:36 system

29618 KB total (24727 KB free)
(*) -with boot up info          (b) -with backup info

DGS-3120-24TC:admin#
```

## 28-9 erase

### Description

This command is used to delete a file stored in the file system.

System will prompt if the target file is a FW or configuration whose type is boot up.

### Format

**erase {{unit <unit\_id>} <drive\_id>} <pathname 64>**

### Parameters

**unit** - (Optional) Specifies a unit ID if in the stacking system. If not specified, it refers to the master unit.

**<unit\_id>** - Enter the unit ID here.

**<drive\_id>** - (Optional) Enter the drive ID used here. Examples are C: or D:

**<pathname 64>** - Specifies the file to be deleted. If it is specified in the associated form, then it is related to the current directory. This name can be up to 64 characters long.

## Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To erase a file:

```
DGS-3120-24TC:admin#dir
Command: dir

Directory of /unit2:/c:

Idx Info      Attr Size      Update Time      Name
-----
 1 CFG(b)  -rw- 29661      2000/04/02 06:03:19 config2.cfg
 2 CFG(*)  -rw- 29661      2000/04/01 05:54:38 config.cfg
 3 RUN(*)  -rw- 4879040   2000/03/26 03:15:11 B019.had
 4         d--- 0           2000/04/01 05:17:36 system

29618 KB total (24697 KB free)
(*) -with boot up info          (b) -with backup info

DGS-3120-24TC:admin#erase config2.cfg
Command: erase config2.cfg

Success.

DGS-3120-24TC:admin#dir
Command: dir

Directory of /unit2:/c:

Idx Info      Attr Size      Update Time      Name
-----
 1 CFG(*)  -rw- 29661      2000/04/01 05:54:38 config.cfg
 2 RUN(*)  -rw- 4879040   2000/03/26 03:15:11 B019.had
 3         d--- 0           2000/04/01 05:17:36 system

29618 KB total (24727 KB free)
(*) -with boot up info          (b) -with backup info

DGS-3120-24TC:admin#
```

## 28-10 move

### Description

This command is used to move a file around the file system. Files in a drive located in a unit can be moved to another drive located in another unit. Note that when a file is moved, it can be specified whether to rename at the same time.

### Format

**move** **{unit <unit\_id> <drive\_id> <pathname 64> {unit <unit\_id> <drive\_id> <pathname 64>**

### Parameters

**unit** - (Optional) Specifies a unit ID if in the stacking system. If not specified, it refers to the master unit.

**<unit\_id>** Enter the unit ID here.

**<drive\_id>** - (Optional) Enter the drive ID used here. Examples are C: or D:

**<pathname 64>** - Specifies the file to be moved. The path name can be specified either as a full path name or partial name. Specified either as a full path name or partial name. For partial path name, it indicates the file is in the current directory. This name can be up to 64 characters long.

**unit** - (Optional) Specifies a unit ID if in the stacking system. If not specified, it refers to the master unit.

**<unitid 1-n>** Enter the unit ID here. This value must be between 1 and n.

**<drive\_id>** - (Optional) Enter the drive ID used here. Examples are C: or D:

**<pathname 64>** - Specifies the new path where the file will be moved. The path name can be. For partial path name, it indicates the file is in the current directory. This name can be up to 64 characters long.

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To move a file from one location to another location:

```
DGS-3120-24TC:admin# move c:/log.txt c:/log1.txt
```

```
Command: move c:/log.txt c:/log1.txt
```

```
Success.
```

```
DGS-3120-24TC:admin#
```

## 28-11 copy

### Description

This command is used to copy a file to another file in the file system. A file located in a drive of a unit can be copied to another file located in another drive of another unit.

For project that does not support file system on the flash, the system file such as runtime image/configuration / prom /log can still be copied to media or from media that support sfile system



via this command using the reserved keyword. The keyword here refers to image\_id, config\_id, prom, or log.

### Format

**copy** {{unit <unit\_id>} <drive\_id>} <pathname 64> {{unit <unit\_id>} <drive\_id>} <pathname 64>

### Parameters

<b>unit</b> - (Optional) Unit ID in the stacking system. If not specified, it refers to the master unit. <b>&lt;unit_id&gt;</b> - Enter the unit ID here.
<b>&lt;drive_id&gt;</b> - (Optional) Enter the drive ID used here. Examples are C: or D:
<b>&lt;pathname 64&gt;</b> - Specifies the file to be copied. The path name can be specified either as a full path name or partial name. For partial path name, it indicates the file is in the current directory. This name can be up to 64 characters long.
<b>unit</b> - (Optional) Unit ID in the stacking system. If not specified, it refers to the master unit. <b>&lt;unit_id&gt;</b> - Enter the unit ID here.
<b>&lt;pathname 64&gt;</b> - Specifies the file to copy to. The path name can be specified either as a full path name or partial name. For partial path name, it indicates the file is in the current directory. This name can be up to 64 characters long.

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To copy a file:

```
DGS-3120-24TC:admin# copy c:/log.txt c:/log1.txt
Command: copy c:/log.txt c:/log1.txt

Success.

DGS-3120-24TC:admin#
```

## 28-12 format

### Description

This command is used to format a specific drive.

### Format

**format** {unit <unit\_id>} <drive\_id> {[fat16 | fat32]} {<label\_name>}

### Parameters

<b>unit</b> - (Optional) Unit ID in the stacking system. If not specified, it refers to the master unit. <b>&lt;unitid 1-n&gt;</b> - Enter the unit ID here. This value must be between 1 and n.
<b>&lt;drive_id&gt;</b> - Specifies drive to be formatted.
<b>fat16</b> - Specifies a FAT16 file system

---

**fat32** - Specifies a FAT32 file system

**<label\_name>** - (Optional) Enter the label for the drive here. This value can be up to 8 characters long.

---

### **Restrictions**

Only Administrator and Operator-level users can issue this command.

### **Example**

To format a drive:

```
DGS-3120-24TC:admin#format d: fat32 aaaa
Command: format d: fat32 aaaa

  Formatting..... Done

Success

DGS-3120-24TC:admin#
```

## Chapter 29 Gratuitous ARP Command List

```

config gratuitous_arp send ipif_status_up [enable | disable]
config gratuitous_arp send dup_ip_detected [enable | disable]
config gratuitous_arp learning [enable | disable]
config gratuitous_arp send periodically ipif <ipif_name 12> interval <value 0-65535>
enable gratuitous_arp {ipif <ipif_name 12>} {trap | log}(1)
disable gratuitous_arp {ipif <ipif_name 12>} {trap | log}(1)
show gratuitous_arp {ipif <ipif_name>}

```

### 29-1 config gratuitous\_arp send ipif\_status\_up

#### Description

The command is used to enable/disable sending of gratuitous ARP request packet while IPIF interface become up. This is used to automatically announce the interface's IP address to other nodes. By default, the state is disabled, and only one gratuitous ARP packet will be broadcast.

#### Format

```
config gratuitous_arp send ipif_status_up [enable | disable]
```

#### Parameters

**enable** - Enable sending of gratuitous ARP when IPIF status become up.  
**disable** - Disable sending of gratuitous ARP when IPIF status become up.

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

#### Example

To enable send gratuitous ARP request in normal situation:

```

DGS-3120-24TC:admin# config gratuitous_arp send ipif_status_up enable
Command: config gratuitous_arp send ipif_status_up enable

Success.

DGS-3120-24TC:admin#

```

### 29-2 config gratuitous\_arp send dup\_ip\_detected

#### Description

The command is used to enable/disable sending of gratuitous ARP request packet while duplicate IP is detected. By default, the state is disabled. For this command, the duplicate IP detected means

that the system received a ARP request packet that is sent by an IP address that match the system's own IP address. In this case, the system knows that some body out there uses an IP address that is conflict with the system. In order to reclaim the correct host of this IP address, the system can send out the gratuitous ARP request packet for this duplicate IP address.

### Format

**config gratuitous\_arp send dup\_ip\_detected [enable | disable]**

### Parameters

---

**enable** - Enable sending of gratuitous ARP when duplicate IP is detected.

**disable** - Disable sending of gratuitous ARP when duplicate IP is detected.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To enable send gratuitous ARP request when duplicate IP is detected:

```
DGS-3120-24TC:admin# config gratuitous_arp send dup_ip_detected enable
Command: config gratuitous_arp send dup_ip_detected enable

Success.

DGS-3120-24TC:admin#
```

## 29-3 config gratuitous\_arp learning

### Description

Normally, the system will only learn the ARP reply packet or a normal ARP request packet that asks for the MAC address that corresponds to the system's IP address. The command is used to enable/disable learning of ARP entry in ARP cache based on the received gratuitous ARP packet. The gratuitous ARP packet is sent by a source IP address that is identical to the IP that the packet is queries for. Note that, with the gratuitous ARP learning, the system will not learn new entry but only do the update on the ARP table based on the received gratuitous ARP packet. By default, the state is disabled status.

### Format

**config gratuitous\_arp learning [enable | disable]**

### Parameters

---

**enable** - Enable learning of ARP entry based on the received gratuitous ARP packet.

**disable** - Disable learning of ARP entry based on the received gratuitous ARP packet.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To show the global GratuitousARP state:

```
DGS-3120-24TC:admin# config gratuitous_arp learning enable
Command: config gratuitous_arp learning enable

Success.

DGS-3120-24TC:admin#
```

## 29-4 config gratuitous\_arp send periodically

### Description

The command is used to configure the interval for periodical sending of gratuitous ARP request packet. By default, the interval is 0.

### Format

**config gratuitous\_arp send periodically ipif <ipif\_name 12> interval <value 0-65535>**

### Parameters

---

**ipif** - Interface name of L3 interface.

**<ipif\_name 12>** - Enter the IP interface name here. This name can be up to 12 characters long.

---

**interval** - Periodically send gratuitous ARP interval time in seconds. 0 means not send gratuitous ARP periodically.

**<value 0-65535>** - Enter the gratuitous ARP interval time here. This value must be between 0 and 65535 seconds.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To configure gratuitous ARP interval to 5 for IPIF System:

```
DGS-3120-24TC:admin# config gratuitous_arp send periodically ipif System
interval 5
Command: config gratuitous_arp send periodically ipif System interval 5

Success.

DGS-3120-24TC:admin#
```

## 29-5 enable gratuitous\_arp

### Description

The command is used to enable gratuitous ARP trap and log state. The switch can trap and log the IP conflict event to inform the administrator. By default, trap is disabled and event log is enabled.

### Format

**enable gratuitous\_arp {ipif <ipif\_name 12>} {trap | log}(1)**

### Parameters

---

**ipif** - (Optional) Interface name of L3 interface  
**<ipif\_name 12>** - Enter the IP interface name here. This name can be up to 12 characters long.

---

**trap** - (Optional) Specifies to enable the trap function.  
**log** - (Optional) Specifies to enable the log function.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To enable system interface's gratuitous ARP log and trap:

```
DGS-3120-24TC:admin#enable gratuitous_arp ipif System trap log
Command: enable gratuitous_arp ipif System trap log

Success.

DGS-3120-24TC:admin#
```

## 29-6 disable gratuitous\_arp

### Description

The command is used to disable gratuitous ARP trap and log state. The switch can trap and log the IP conflict event to inform the administrator. By default, trap is disabled and event log is enabled.

### Format

**disable gratuitous\_arp {ipif <ipif\_name 12>} {trap | log}(1)**

### Parameters

---

**ipif** - (Optional) Interface name of L3 interface  
**<ipif\_name 12>** - Enter the IP interface name here. This name can be up to 12 characters long.

---

**trap** - (Optional) Specifies to disable the trap function.  
**log** - (Optional) Specifies to disable the log function.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To disable system interface's gratuitous ARP log and trap:

```
DGS-3120-24TC:admin# disable gratuitous_arp ipif System trap log
Command: disable gratuitous_arp ipif System trap log

Success.

DGS-3120-24TC:admin#
```

## 29-7 show gratuitous\_arp

### Description

The show gratuitous\_arp command is used to display gratuitous ARP configuration.

### Format

**show gratuitous\_arp {ipif <ipif\_name>}**

### Parameters

---

**ipif** - (Optional) Interface name of L3 interface.  
**<ipif\_name>** - Enter the IP interface name here.

---

### Restrictions

None.

### Example

To display gratuitous ARP log and trap state:

```
DGS-3120-24TC:admin# show gratuitous_arp
Command: show gratuitous_arp

Send on IPIF status up           : Enabled
Send on Duplicate_IP_Detected    : Disabled
Gratuitous ARP Learning          : Enabled

IP Interface Name : System
Gratuitous ARP Trap/Log           : Disabled
Gratuitous ARP Log                : Enabled
Gratuitous ARP Periodical Send Interval : 5

IP Interface Name : ip1
Gratuitous ARP Trap              : Enabled
Gratuitous ARP Log               : Disabled
Gratuitous ARP Periodical Send Interval : 6

DGS-3120-24TC:admin#
```



## Chapter 30 IGMP / MLD Snooping

### Command List

The Internet Group Management Protocol (IGMP) is a L3 protocol used to manage the membership of Internet Protocol multicast groups. IGMP is used by IP hosts and adjacent multicast routers to establish multicast group memberships. IGMP snooping is the process of listening to IGMP network traffic. IGMP snooping, as implied by the name, is a feature that allows a layer 2 switch to "listen in" on the IGMP conversation between hosts and routers by processing the layer 3 IGMP packets sent in a multicast network.

When IGMP snooping is enabled in a switch it analyzes all IGMP packets between hosts connected to the switch and multicast routers in the network. When a switch hears an IGMP report from a host for a given multicast group, the switch adds the host's port number to the multicast list for that group. And, when the switch hears an IGMP Leave, it removes the host's port from the table entry.

The Multicast Listener Discovery (MLD) is used by IPv6 routers to discover multicast listeners on a directly attached link, much as IGMP is used in IPv4. The protocol is embedded in ICMPv6 instead of using a separate protocol. MLDv1 is similar to IGMPv2 and MLDv2 similar to IGMPv3.

<b>config igmp_snooping</b> [vlan_name <vlan_name 32>   vlanid <vlanid_list>   all] {state [enable   disable]   fast_leave [enable   disable]   report_suppression [enable   disable]}(1)
<b>config igmp_snooping rate_limit</b> [ports <portlist>   vlanid <vlanid_list>] [<value 1-1000>   no_limit]
<b>config igmp_snooping querier</b> [vlan_name <vlan_name 32>   vlanid <vlanid_list>   all] {query_interval <sec 1-65535>   max_response_time <sec 1-25>   robustness_variable <value 1-7>   last_member_query_interval <sec 1-25>   state [enable   disable]   version <value 1-3>}(1)
<b>config router_ports</b> [<vlan_name 32>   vlanid <vlanid_list> ] [add   delete] <portlist>
<b>config router_ports forbidden</b> [ <vlan_name 32>   vlanid <vlanid_list> ] [add   delete] <portlist>
<b>enable igmp_snooping</b>
<b>disable igmp_snooping</b>
<b>create igmp_snooping static_group</b> [vlan <vlan_name 32>   vlanid <vlanid_list>] <ipaddr>
<b>delete igmp_snooping static_group</b> [vlan <vlan_name 32>   vlanid <vlanid_list>] <ipaddr>
<b>config igmp_snooping static_group</b> [vlan <vlan_name 32>   vlanid <vlanid_list>] <ipaddr> [add   delete] <portlist>
<b>show igmp_snooping static_group</b> {[vlan <vlan_name 32>   vlanid <vlanid_list>] <ipaddr>}
<b>config igmp_snooping data_driven_learning</b> [all   vlan_name <vlan_name>   vlanid <vlanid_list>] {state [enable   disable]   aged_out [enable   disable]   expiry_time <sec 1-65535>}(1)
<b>config igmp_snooping data_driven_learning max_learned_entry</b> <value 1-1024>
<b>clear igmp_snooping data_driven_group</b> [all   [vlan_name <vlan_name>   vlanid <vlanid_list>] [<ipaddr>   all]]
<b>show igmp_snooping</b> {[vlan <vlan_name 32>   vlanid <vlanid_list>]}
<b>show igmp_snooping rate_limit</b> [ports <portlist>   vlanid <vlanid_list>]
<b>show igmp_snooping group</b> {[vlan <vlan_name 32>   vlanid <vlanid_list>   ports <portlist>] {<ipaddr>}} {data_driven}
<b>show igmp_snooping forwarding</b> {[vlan <vlan_name 32>   vlanid <vlanid_list>]}
<b>show router_ports</b> {[vlan <vlan_name 32>   vlanid <vlanid_list>]} {static   dynamic   forbidden}

<b>show igmp_snooping statistic counter</b> [vlan <vlan_name>   vlanid <vlanid_list>   ports <portlist>]
<b>clear igmp_snooping statistics counter</b>
<b>config mld_snooping</b> [vlan_name <vlan_name 32>   vlanid <vlanid_list>   all] {state [enable   disable]   fast_done [enable   disable]   report_suppression [enable   disable]}(1)
<b>config mld_snooping querier</b> [vlan_name <vlan_name 32>   vlanid <vlanid_list>   all] {query_interval <sec 1-65535>   max_response_time <sec 1-25>   robustness_variable <value 1-7>   last_listener_query_interval <sec 1-25>   state [enable   disable]   version <value 1-2>}(1)
<b>config mld_snooping mrouter_ports</b> [vlan <vlan_name 32>   vlanid <vlanid_list>] [add   delete] <portlist>
<b>config mld_snooping mrouter_ports forbidden</b> [vlan <vlan_name 32>   vlanid <vlanid_list>] [add   delete] <portlist>
<b>enable mld_snooping</b>
<b>disable mld_snooping</b>
<b>show mld_snooping</b> {[vlan <vlan_name 32>   vlanid <vlanid_list>]}
<b>show mld_snooping group</b> {[vlan <vlan_name 32>   vlanid <vlanid_list>   ports <portlist>] {<ipv6addr>}} {data_driven}
<b>show mld_snooping forwarding</b> {[vlan <vlan_name 32>   vlanid <vlanid_list>]}
<b>show mld_snooping mrouter_ports</b> [vlan <vlan_name 32>   vlanid <vlanid_list>   all] {[static   dynamic   forbidden]}
<b>create mld_snooping static_group</b> [vlan <vlan_name 32>   vlanid <vlanid_list>] <ipv6addr>
<b>delete mld_snooping static_group</b> [vlan <vlan_name 32>   vlanid <vlanid_list>] <ipv6addr>
<b>config mld_snooping static_group</b> [vlan <vlan_name 32>   vlanid <vlanid_list>] <ipv6addr> [add   delete] <portlist>
<b>show mld_snooping static_group</b> {[vlan <vlan_name 32>   vlanid <vlanid_list>] <ipv6addr>}
<b>config mld_snooping data_driven_learning</b> [all   vlan_name <vlan_name>   vlanid <vlanid_list>] {state [enable   disable]   aged_out [enable   disable]   expiry_time <sec 1-65535>}
<b>config mld_snooping data_driven_learning max_learned_entry</b> <value 1-1024>
<b>clear mld_snooping data_driven_group</b> [all   [vlan_name <vlan_name>   vlanid <vlanid_list>] [<ipv6addr>   all]]
<b>show mld_snooping statistic counter</b> [vlan <vlan_name>   vlanid <vlanid_list>   ports <portlist>]
<b>clear mld_snooping statistics counter</b>
<b>config mld_snooping rate_limit</b> [ports <portlist>   vlanid <vlanid_list>] [<value 1-1000>   no_limit]
<b>show mld_snooping rate_limit</b> [ports <portlist>   vlanid <vlanid_list>]

## 30-1 config igmp\_snooping

### Description

The config igmp\_snooping command configures IGMP snooping on the switch.

### Format

**config igmp\_snooping** [vlan\_name <vlan\_name 32> | vlanid <vlanid\_list> | all] {state [enable | disable] | fast\_leave [enable | disable] | report\_suppression [enable | disable]}(1)

### Parameters

<b>vlan_name</b> - Specify the name of the VLAN for which IGMP snooping is to be configured. <b>&lt;vlan_name 32&gt;</b> - Enter the VLAN name here. The VLAN name can be up to 32 characters long.
<b>vlanid</b> - Specify the VLAN ID for which IGMP snooping is to be configured. <b>&lt;vlanid_list&gt;</b> - Enter the VLAN ID here.
<b>all</b> - Specify to use all configured VLANs.
<b>state</b> - (Optional) Enable or disable IGMP snooping for the chosen VLAN.

---

<b>enable</b>	- Enter enable to enable IGMP snooping for the chosen VLAN.
<b>disable</b>	- Enter disable to disable IGMP snooping for the chosen VLAN.
<b>fast_leave</b>	- Enable or disable the IGMP snooping fast leave function.
<b>enable</b>	- Enter enable to enable the IGMP snooping fast leave function. If enabled, the membership is immediately removed when the system receives the IGMP leave message.
<b>disable</b>	- Enter disable to disable the IGMP snooping fast leave function.
<b>report_suppression</b>	- When IGMP report suppression is enabled (the default), the switch sends the first IGMP report from all hosts for a group to all the multicast routers. The switch does not send the remaining IGMP reports for the group to the multicast routers. If the multicast router query includes requests only for IGMPv1 and IGMPv2 reports, the switch forwards only the first IGMPv1 or IGMPv2 report from all hosts for a group to all the multicast routers. If the multicast router query also includes requests for IGMPv3 reports, the switch forwards all IGMPv3 reports for a group to the multicast devices.
<b>enable</b>	- Enter enable to enable the report suppression function.
<b>disable</b>	- Enter disable to disable the report suppression function.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure IGMP snooping:

```
DGS-3120-24TC:admin# config igmp_snooping default state enable
Command: config igmp_snooping default state enable fast_leave enable

Success.

DGS-3120-24TC:admin#
```

## 30-2 config igmp\_snooping rate\_limit

### Description

The command configures the rate of IGMP control packet that is allowed per port or per VLAN.

### Format

**config igmp\_snooping rate\_limit [ports <portlist> | vlanid <vlanid\_list>] [<value 1-1000> | no\_limit]**

### Parameters

---

<b>ports</b>	- Specify a range of ports to be configured.
<b>&lt;portlist&gt;</b>	- Enter the range of ports to be configured here.
<b>vlanid</b>	- Specify a range of VLANs to be configured.
<b>&lt;vlanid_list&gt;</b>	- Enter the VLAN ID list here.
<b>&lt;value 1-1000&gt;</b>	- Configure the rate of the IGMP control packet that the switch can process on a specific port/VLAN. The rate is specified in packets per second. The packets that exceed the limit will be dropped.
<b>no_limit</b>	- Configure the rate of the IGMP control packet to be unlimited that the switch can process on a specific port/VLAN. The rate is specified in packets per second. The packets that exceed the limit will be dropped. The default setting is no_limit.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure the IGMP snooping per port rate\_limit:

```
DGS-3120-24TC:admin# config igmp_snooping rate_limit ports 1 100
Command: config igmp_snooping rate_limit ports 1 100

Success.

DGS-3120-24TC:admin#
```

## 30-3 config igmp\_snooping querier

### Description

Used to configure the time in seconds between general query transmissions, the maximum time in seconds to wait for reports from members, and the permitted packet loss that guarantees IGMP snooping.

### Format

```
config igmp_snooping querier [vlan_name <vlan_name 32> | vlanid <vlanid_list> | all]
{query_interval <sec 1-65535> | max_response_time <sec 1-25> | robustness_variable
<value 1-7> | last_member_query_interval <sec 1-25> | state [enable | disable] | version
<value 1-3>}(1)
```

### Parameters

- 
- vlan\_name** - Specify the name of the VLAN for which IGMP snooping querier is to be configured.  
**<vlan\_name 32>** - Enter the VLAN name here. The VLAN name can be up to 32 characters long.
  - vlanid** - Specify the VLAN ID for which IGMP snooping querier is to be configured.  
**<vlanid\_list>** - Enter the VLAN ID list here.
  - all** - Specify all VLANs for which IGMP snooping querier is to be configured.
- 
- query\_interval** - (Optional) Specify the amount of time in seconds between general query transmissions. The default setting is 125 seconds.  
**<sec 1-65535>** - Enter the query interval value here. This value must be between 1 and 65535 seconds.
- 
- max\_reponse\_time** - (Optional) Specify the maximum time in seconds to wait for reports from members. The default setting is 10 seconds.  
**<sec 1-25>** - Enter the maximum response time value here. This value must be between 1 and 25 seconds.
- 
- robustness\_variable** - (Optional) Provides fine-tuning to allow for expected packet loss on a subnet. The value of the robustness variable is used in calculating the following IGMP message intervals:  
**<value 1-7>** - Enter the robustness variable value here. This value must be between 1 and 7. By default, the robustness variable is set to 2. You might want to increase this value if you expect a subnet to be loosely.
    - Group member interval—Amount of time that must pass before a multicast router decides there are no more members of a group on a network. This interval is calculated as follows: (robustness variable x query interval) + (1 x query response interval).
-

- Other querier present interval—Amount of time that must pass before a multicast router decides that there is no longer another multicast router that is the querier. This interval is calculated as follows: (robustness variable x query interval) + (0.5 x query response interval).
- Last member query count—Number of group-specific queries sent before the router assumes there are no local members of a group. The default number is the value of the robustness variable.

**last\_member\_query\_interval** - (Optional) Specify the maximum amount of time between group-specific query messages, including those sent in response to leave-group messages. You might lower this interval to reduce the amount of time it takes a router to detect the loss of the last member of a group. On receiving a leave message, the router will assume there are no local members on the interface if there are no reports received after the response time (which is last member query interval \* robustness variable)

**<sec 1-25>** - Enter the last member query interval value here. This value must be between 1 and 25 seconds.

**state** - (Optional) If the state is enabled, it allows the switch to be selected as an IGMP Querier (sends IGMP query packets). If the state is disabled, then the switch cannot play the role as a querier. Note that if the Layer 3 router connected to the switch provide only the IGMP proxy function but does not provide the multicast routing function, then this state must be configured as disabled. Otherwise, if the Layer 3 router is not selected as the querier, it will not send the IGMP query packet. Since it will not send the multicast-routing protocol packet, the port will be timed out as a router port.

**enable** - Enter enable to enable this state.

**disable** - Enter disable to disable this state.

**version** - (Optional) Specify the version of IGMP packet that will be sent by this port. If an IGMP packet received by the interface has a version higher than the specified version, this packet will be dropped.

**<value 1-3>** - Enter the version number here. This value must be between 1 and 3.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure the IGMP snooping querier:

```
DGS-3120-24TC:admin# config igmp_snooping querier default query_interval 125
state enable
Command: config igmp_snooping querier default query_interval 125 state enable

Success.

DGS-3120-24TC:admin#
```

## 30-4 config router\_ports

### Description

This command allows you to designate a range of ports as being connected to multicast-enabled routers. This will ensure that all packets with such a router as its destination will reach the multicast-enabled router, regardless of protocol, etc.

### Format

**config router\_ports** [**<vlan\_name 32>** | **vlanid <vlanid\_list>** ] [**add** | **delete**] **<portlist>**

## Parameters

---

**<vlan\_name 32>** - Specify the name of the VLAN on which the router port resides.  
**vlanid** - Specify the ID of the VLAN on which the router port resides.  
**<vlanid\_list>** - Enter the VLAN ID here.

---

**add** - Specify to add the router ports.  
**delete** - Specify to delete the router ports.

---

**<portlist>** - Specify a range of ports to be configured. (UnitID:port number)

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To set up static router ports:

```
DGS-3120-24TC:admin# config router_ports default add 2:1-2:10
Command: config router_ports default add 2:1-2:10

Success.

DGS-3120-24TC:admin#
```

## 30-5 config router\_ports\_forbidden

### Description

This command allows you to designate a range of ports as being not connected to multicast-enabled routers. This ensures that the forbidden router port will not propagate routing packets out.

### Format

**config router\_ports\_forbidden [ <vlan\_name 32> | vlanid <vlanid\_list> ] [add | delete]  
 <portlist>**

## Parameters

---

**<vlan\_name 32>** - Specify the name of the VLAN on which the router port resides.  
**vlanid** - Specify the ID of the VLAN on which the router port resides.  
**<vlanid\_list>** - Enter the VLAN ID list here.

---

**add** - Specify to add the router ports.  
**delete** - Specify to delete the router ports.

---

**<portlist>** - Specify a range of ports to be configured. (UnitID:port number)

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To set up port range 1-10 to forbidden router ports of default VLAN:

```
DGS-3120-24TC:admin# config router_ports_forbidden default add 1-10
Command: config router_ports_forbidden default add 1-10

Success.

DGS-3120-24TC:admin#
```

## 30-6 enable igmp\_snooping

### **Description**

This command allows you to enable IGMP snooping on the switch.

### **Format**

**enable igmp\_snooping**

### **Parameters**

None.

### **Restrictions**

Only Administrator, Operator and Power-User level users can issue this command.

### **Example**

To enable IGMP snooping on the switch:

```
DGS-3120-24TC:admin# enable igmp_snooping
Command: enable igmp_snooping

Success.

DGS-3120-24TC:admin#
```

## 30-7 disable igmp\_snooping

### **Description**

This command disables IGMP snooping on the switch. Disabling IGMP snooping allows all IGMP and IP multicast traffic to flood within a given IP interface. Note that `disable igmp_snooping` will also disable the forward multicast router only function.

### **Format**

**disable igmp\_snooping**

### **Parameters**

None.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To disable IGMP snooping on the switch:

```
DGS-3120-24TC:admin# disable igmp_snooping
Command: disable igmp_snooping

Success.

DGS-3120-24TC:admin#
```

## 30-8 create igmp\_snooping static\_group

### Description

This command allows you to create an IGMP snooping static group. Member ports can be added to the static group. The static member and the dynamic member port form the member ports of a group.

The static group will only take effect when IGMP snooping is enabled on the VLAN. For those static member ports, the device needs to emulate the IGMP protocol operation to the querier, and forward the traffic destined to the multicast group to the member ports.

For a layer 3 device, the device is also responsible to route the packet destined for this specific group to static member ports.

The static member port will only affect V2 IGMP operation.

The Reserved IP multicast address 224.0.0.X must be excluded from the configured group.

The VLAN must be created first before a static group can be created.

### Format

```
create igmp_snooping static_group [vlan<vlan_name 32> | vlanid <vlanid_list>] <ipaddr>
```

### Parameters

---

**vlan** - Specify the name of the VLAN on which the router port resides.  
**<vlan\_name 32>** - Enter the VLAN name here. The VLAN name can be up to 32 characters long.

**vlanid** - Specify the ID of the VLAN on which the router port resides.  
**<vlanid\_list>** - Enter the VLAN ID here.

---

**<ipaddr>** - Specify the multicast group IP address.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.



## Example

To create an IGMP snooping static group for VLAN 1, group 239.1.1.1:

```
DGS-3120-24TC:admin# create igmp_snooping default 239.1.1.1
Command: create igmp_snooping default 239.1.1.1
Success.

DGS-3120-24TC:admin#
```

## 30-9 delete igmp\_snooping static\_group

### Description

Used to delete an IGMP snooping multicast static group. The deletion of an IGMP snooping static group will not affect the IGMP snooping dynamic member ports for a group.

### Format

**delete igmp\_snooping static\_group [vlan<vlan\_name 32> | vlanid <vlanid\_list>] <ipaddr>**

### Parameters

---

**vlan** - Specify the name of the VLAN on which the router port resides.  
**<vlan\_name 32>** - Enter the VLAN name here. The VLAN name can be up to 32 characters long.

**vlanid** - Specify the ID of the VLAN on which the router port resides.  
**<vlanid\_list>** - Enter the VLAN ID list here.

---

**<ipaddr>** - Specify the multicast group IP address.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To delete an IGMP snooping static group for VLAN 1, group 239.1.1.1:

```
DGS-3120-24TC:admin# delete igmp_snooping default 239.1.1.1
Command: delete igmp_snooping default 239.1.1.1
Success.

DGS-3120-24TC:admin#
```

## 30-10 config igmp\_snooping static\_group

### Description

When a port is configured as a static member port, the IGMP protocol will not operate on this port. For example, suppose that a port is a dynamic member port learned by IGMP. If this port is configured as a static member later, then the IGMP protocol will stop operating on this port. The IGMP protocol will resume once this port is removed from static member ports.

The static member port will only affect V2 IGMP operation.

### Format

**config igmp\_snooping static\_group [vlan <vlan\_name 32> | vlanid <vlanid\_list>] <ipaddr> [add | delete] <portlist>**

### Parameters

---

**vlan** - Specify the name of the VLAN on which the static group resides.  
**<vlan\_name 32>** - Enter the VLAN name here. The VLAN name can be up to 32 characters long.

**vlanid** - Specify the ID of the VLAN on which the static group resides.  
**<vlanid\_list>** - Enter the VLAN ID here.

---

**<ipaddr>** - Specify the multicast group IP address (for Layer 3 switch).  
**add** - Specify to add the member ports.  
**delete** - Specify to delete the member ports.

---

**<portlist>** - Specify a range of ports to be configured.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To unset port range 9-10 from IGMP snooping static member ports for group 239.1.1.1 on default VLAN:

```
DGS-3120-24TC:admin# config igmp_snooping static_group vlan default 239.1.1.1
delete 2:9-2:10
Command: create igmp_snooping static_group vlan default 239.1.1.1 delete 2:9-
2:10

Success.

DGS-3120-24TC:admin#
```

## 30-11 show igmp\_snooping static\_group

### Description

This command is used to display the IGMP snooping multicast group static members.

### Format

**show igmp\_snooping static\_group {[vlan <vlan\_name 32> | vlanid <vlanid\_list>] <ipaddr>}**

### Parameters

---

**vlan** - Specify the name of the VLAN on which the static group resides.  
**<vlan\_name 32>** - Enter the VLAN name here. The VLAN name can be up to 32 characters long.

**vlanid** - Specify the ID of the VLAN on which the static group resides.

---

**<vlanid\_list>** - Enter the VLAN ID here.

**<ipaddr>** - Specify the multicast group IP address.

## Restrictions

None.

## Example

To display all the IGMP snooping static groups:

```
DGS-3120-24TC:admin# show igmp_snooping static_group
VLAN ID/Name          IP Address          Static Member Ports
-----
1 / Default           239.1.1.1          2:9-2:10

Total Entries : 1
DGS-3120-24TC:admin#
```

## 30-12 config igmp\_snooping data\_driven\_learning

### Description

This command is used to enable or disable the data driven learning of an IGMP snooping group.

When data-driven learning is enabled for the VLAN, when the switch receives the IP multicast traffic on this VLAN, an IGMP snooping group will be created. That is, the learning of an entry is not activated by IGMP membership registration, but activated by the traffic. For an ordinary IGMP snooping entry, the IGMP protocol will take care of the aging out of the entry. For a data-driven entry, the entry can be specified not to be aged out or to be aged out by the aged timer.

When data driven learning is enabled, and the data driven table is not full, the multicast filtering mode for all ports is ignored. That is, the multicast packets will be forwarded to router ports. If the data driven learning table is full, the multicast packets will be forwarded according to the multicast filtering mode.

Note that if a data-driven group is created and IGMP member ports are learned later, the entry will become an ordinary IGMP snooping entry. That is, the aging out mechanism will follow the ordinary IGMP snooping entry.

### Format

```
config igmp_snooping data_driven_learning [all | vlan_name <vlan_name> | vlanid
<vlanid_list>] {state [enable | disable] | aged_out [enable | disable] | expiry_time <sec 1-
65535>}(1)
```

### Parameters

**vlan\_name** - Specify the VLAN name to be configured.

---

**<vlan\_name>** - Enter the VLAN name here.  
**vlanid** - Specify the VLAN ID to be configured.  
**<vlanid\_list>** - Enter the VLAN ID here.  
**all** - Specify all VLANs to be configured.

---

**state** - (Optional) Specify to enable or disable the data driven learning of an IGMP snooping group.  
**enable** - Enter enable to enable the data driven learning option. By default, the state is enabled.  
**disable** - Enter disable to disable the data driven learning option.

---

**aged\_out** - (Optional) Enable or disable the aging out of the entry.  
**enable** - Enter enable to enable the aging out of the entry.  
**disable** - Enter disable to disable the aging out of the entry. By default, the state is disabled state.

---

**expiry\_time** - (Optional) Specify the data driven group lifetime in seconds. This parameter is valid only when aged\_out is enabled.  
**<sec 1-65535>** - Enter the expiry time here. This value must be between 1 and 65535 seconds.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To enable the data driven learning of an IGMP snooping group on the default VLAN:

```
DGS-3120-24TC:admin# config igmp_snooping data_driven_learning vlan default
state enable
Command: config igmp_snooping data_driven_learning vlan default state enable

Success.

DGS-3120-24TC:admin#
```

## 30-13 config igmp\_snooping data\_driven\_learning max\_learned\_entry

### Description

Used to configure the maximum number of groups that can be learned by data driven.

When the table is full, the system will stop the learning of the new data-driven groups. Traffic for the new groups will be dropped.

### Format

**config igmp\_snooping data\_driven\_learning max\_learned\_entry <value 1-1024>**

### Parameters

---

**max\_learned\_entry** - Specify the maximum number of groups that can be learned by data driven. The suggested default setting is 56. This default setting may vary depending on projects.  
**<value 1-1024>** - Enter the maximum learning entry value here. This value must be between 1 and 1024.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To set the maximum number of groups that can be learned by data driven:

```
DGS-3120-24TC:admin# config igmp_snooping data_driven_learning
max_learned_entry 50
Command: config igmp_snooping data_driven_learning max_learned_entry 50

Success.

DGS-3120-24TC:admin#
```

## 30-14 clear igmp\_snooping data\_driven\_group

### Description

Used to delete the IGMP snooping group(s) learned by data driven.

### Format

**clear igmp\_snooping data\_driven\_group [all | [vlan\_name <vlan\_name> | vlanid <vlanid\_list>] [<ipaddr> | all]]**

### Parameters

---

**all** - Specify all VLANs to which IGMP snooping groups will be deleted.

**vlan\_name** - Specify the VLAN name.

**<vlan\_name>** - Enter the VLAN name here.

**vlanid** - Specify the VLAN ID.

**<vlanid\_list>** - Enter the VLAN ID here.

---

**<ipaddr>** - Specify the group's IP address learned by data driven.

**all** - Delete all IGMP snooping groups of specified VLANs.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To delete all the groups learned by data-driven:

```
DGS-3120-24TC:admin# clear igmp_snooping data_driven_group all
Command: clear igmp_snooping data_driven_group all

Success.

DGS-3120-24TC:admin#
```

## 30-15 show igmp\_snooping

### Description

This command will display the current IGMP snooping configuration on the switch.

### Format

**show igmp\_snooping** {[vlan <vlan\_name 32> | vlanid <vlanid\_list>]}

### Parameters

---

**vlan** - (Optional) Specify the name of the VLAN for which you want to view the IGMP snooping configuration.

**<vlan\_name 32>** - Enter the VLAN name here. The VLAN name can be up to 32 characters long.

**vlanid** - (Optional) Specify the ID of the VLAN for which you want to view the IGMP snooping configuration.

**<vlanid\_list>** - Enter the VLAN ID list here.

---

If the VLAN is not specified, the system will display all current IGMP snooping configurations.

---

### Restrictions

None.

### Example

To show IGMP snooping:

```
DGS-3120-24TC:admin# show igmp_snooping
Command: show igmp_snooping

IGMP Snooping Global State           : Disabled
Multicast router Only                : Disabled
Data Driven Learning Max Entries     : 256

VLAN Name                             : default
Query Interval                       : 125
Max Response Time                    : 10
Robustness Value                     : 2
Last Member Query Interval           : 1
Querier State                        : Disabled
Querier Role                         : Non-Querier
Querier IP                           : 10.0.0.100
Querier Expiry Time                  : 100 secs
State                                 : Disabled
Fast Leave                           : Enabled
Rate Limit                           : 100
Report Suppression                   : Disabled
Version                              : 3
Data Driven Learning State           : Disabled
Data Driven Learning Aged Out        : Disabled

VLAN Name                             : vlan2
Query Interval                       : 125
Max Response Time                    : 10
Robustness Value                     : 2
Last Member Query Interval           : 1
Querier State                        : Disabled
Querier Role                         : Non-Querier
Querier IP                           : 10.0.0.100
Querier Expiry Time                  : 100 secs
State                                 : Disabled
Fast Leave                           : Enabled
Rate Limit                           : No Limit
Report Suppression                   : Enabled
Version                              : 3
Data Driven Learning State           : Disabled
Data Driven Learning Aged Out        : Disabled

DGS-3120-24TC:admin#
```

## 30-16 show igmp\_snooping rate\_limit

### Description

This command displays the IGMP snooping rate limit setting.

### Format

**show igmp\_snooping rate\_limit [ports <portlist> | vlanid <vlanid\_list>]**

## Parameters

**ports** - Specify the port range.

**<portlist>** - Enter the range of ports here.

**vlanid** - Specify the VLAN range..

**<vlanid\_list>** - Enter the VLAN ID list here.

## Restrictions

None.

## Example

To display the IGMP snooping rate limit for ports 1 to 15:

```
DGS-3120-24TC:admin# show igmp_snooping rate_limit ports 1-15
Command: show igmp_snooping rate_limit ports 1-15

Port          Rate Limit
-----
1             No Limit
2             100
3             No Limit
4             No Limit
5             No Limit

Total Entries: 5
```

## 30-17 show igmp\_snooping group

### Description

This command displays the current IGMP snooping group configuration on the switch.

### Format

**show igmp\_snooping group** {[vlan <vlan\_name 32> | vlanid <vlanid\_list> | ports <portlist>]  
{<ipaddr>}} {data\_driven}

## Parameters

**vlan** - (Optional) Specify the name of the VLAN for which you want to view IGMP snooping group information. If VLAN, ports and IP address are not specified, the system will display all current IGMP snooping group information.

**<vlan\_name 32>** - Enter the VLAN name here. The VLAN name can be up to 32 characters long.

**vlanid** - (Optional) Specify the ID of the VLAN for which you want to view IGMP snooping group information.

**<vlanid\_list>** - Enter the VLAN ID list here.

**ports** - (Optional) Specify a list of ports for which you want to view IGMP snooping group information.

**<portlist>** - Enter the list of ports here.

**<ipaddr>** - (Optional) Specify the group IP address for which you want to view IGMP snooping



---

group information.

**data\_driven** - (Optional) If data\_driven is specified, only data driven groups will be displayed.

---

## Restrictions

None.

## Example

To show IGMP snooping groups when IGMP v3 is supported:

```
DGS-3120-24TC:admin# show igmp_snooping group
Command: show igmp_snooping group

Source/Group           : 10.0.0.1/225.0.0.1
VLAN Name/VID          : default/1
Member Ports           : 1:5
UP Time                : 6
Expiry Time            : 254
Filter Mode            : INCLUDE

Source/Group           : 10.0.0.10/225.0.0.1
VLAN Name/VID          : default/1
Member Ports           : 1:5
UP Time                : 6
Expiry Time            : 254
Filter Mode            : INCLUDE

Source/Group           : NULL/239.255.255.250
VLAN Name/VID          : default/1
Member Ports           : 1:5
UP Time                : 2
Expiry Time            : 258
Filter Mode            : EXCLUDE

Total Entries: 3

DGS-3120-24TC:admin#
```

```
DGS-3120-24TC:admin# show igmp_snooping group data_driven
Command: show igmp_snooping group data_driven
Source/Group          : NULL/225.0.0.5
VLAN Name/VID         : default/1
Reports               : 0
Member Ports          :
Router Ports          : 24
UP Time               : 3 days 50 mins
Expiry Time           : 120 secs
Filter Mode           : EXCLUDE

Total Entries : 1

DGS-3120-24TC:admin#
```

To show IGMP snooping groups when only IGMP v2 is supported: The third item is a data-driven learned entry. If the member port list is empty, the multicast packets will be forwarded to the router ports. If the router port list is empty, the packets will be dropped.

```
DGS-3120-24TC:admin# show igmp_snooping group
Command: show igmp_snooping group

Source/Group          : NULL/226.0.0.1
VLAN Name/VID         : default/1
Member Ports          : 1:5
UP Time               : 10
Expiry Time           : 258
Filter Mode           : EXCLUDE

Source/Group          : NULL/226.0.0.2
VLAN Name/VID         : default/1
Member Ports          : 1:5
UP Time               : 9
Expiry Time           : 259
Filter Mode           : EXCLUDE

Source/Group          : NULL/226.0.0.3
VLAN Name/VID         : default/1
Member Ports          :
Router Ports          :
UP Time               : 1
Expiry Time           : 259
Filter Mode           : EXCLUDE

Source/Group          : NULL/239.255.255.250
VLAN Name/VID         : default/1
Member Ports          : 1:5
UP Time               : 1
Expiry Time           : 259
Filter Mode           : EXCLUDE

Total Entries: 4
```

DGS-3120-24TC:admin#

## 30-18 show igmp\_snooping forwarding

### Description

This command displays the switch's current IGMP snooping forwarding table. It provides an easy way for users to check the list of ports that the multicast group that comes from a specific sources will be forwarded to. The packet comes from the source VLAN. They will be forwarded to the forwarding VLAN. The IGMP snooping further restricts the forwarding ports.

### Format

**show igmp\_snooping forwarding** {[vlan <vlan\_name 32> | vlanid <vlanid\_list>]}

### Parameters

---

**vlan** - (Optional) Specify the name of the VLAN for which you want to view IGMP snooping forwarding table information.

**<vlan\_name 32>** - Enter the VLAN name here. The VLAN name can be up to 32 characters long.

---

**vlanid** - (Optional) Specify the ID of the VLAN for which you want to view IGMP snooping forwarding table information.

**<vlanid\_list>** - Enter the VLAN ID list here.

---

If no parameter is specified, the system will display all current IGMP snooping forwarding table entries of the switch.

---

### Restrictions

None.

### Example

To show all IGMP snooping forwarding entries located on the switch:

```
DGS-3120-24TC:admin# show igmp_snooping forwarding
Command: show igmp_snooping forwarding

VLAN Name      : default
Source IP      : 10.90.90.114
Multicast Group: 225.0.0.0
Port Member    : 2,7

VLAN Name      : default
Source IP      : 10.90.90.10
Multicast Group: 225.0.0.1
Port Member    : 2,5

VLAN Name      : default
Source IP      : 10.90.90.20
Multicast Group: 225.0.0.2
Port Member    : 2,8

Total Entries : 3

DGS-3120-24TC:admin#
```

## 30-19 show router\_ports

### Description

This command displays the currently configured router ports on the switch.

### Format

**show router\_ports** {[vlan <vlan\_name 32> | vlanid <vlanid\_list>]} {static | dynamic | forbidden}

### Parameters

**vlan** - (Optional) Specify the name of the VLAN on which the router port resides.

**<vlan\_name 32>** - Enter the VLAN name here. The VLAN name can be up to 32 characters long.

**vlanid** - Specify the ID of the VLAN on which the router port resides.

**<vlanid\_list>** - Enter the VLAN ID list here.

**static** - (Optional) Displays router ports that have been statically configured.

**dynamic** - (Optional) Displays router ports that have been dynamically configured.

**forbidden** - (Optional) Displays forbidden router ports that have been statically configured.

If no parameter is specified, the system will display all currently configured router ports on the switch.

### Restrictions

None.

### Example

To display router ports:

```
DGS-3120-24TC:admin# show router_ports
Command: show router_ports

VLAN Name          : default
Static Router Port  : 1-10
Dynamic Router Port :
    Router IP       : 10.0.0.1, 10.0.0.2, 10.0.0.3
Forbidden router port :

VLAN Name          : vlan2
Static router port  :
Dynamic router port : 13
    Router IP       : 10.0.0.4, 10.0.0.5, 10.0.0.6
Forbidden router port :

Total Entries : 2

DGS-3120-24TC:admin#
```

## 30-20 show igmp\_snooping statistics counter

### Description

This command displays the statistics counter for IGMP protocol packets that are received by the switch since IGMP snooping was enabled.

### Format

**show igmp\_snooping statistic counter [vlan <vlan\_name> | vlanid <vlanid\_list> | ports <portlist>]**

### Parameters

- 
- vlan** - Specify a VLAN to be displayed.  
**<vlan\_name>** - Enter the VLAN name here.
- 
- vlanid** - Specify a list of VLANs to be displayed.  
**<vlanid\_list>** - Enter the VLAN ID list here.
- 
- ports** - Specify a list of ports to be displayed.  
**<portlist>** - Enter the list of port to be displayed here.
- 

### Restrictions

None.

### Example

To display the IGMP snooping statistics counter:

```
DGS-3120-24TC:admin# show igmp_snooping statistics counter vlanid 1
Command: show igmp_snooping statistics counter vlanid 1

VLAN Name   : Default
-----
Total Groups           : 10
Receive Statistics
  Query
IGMP v1 Query         : 1
IGMP v2 Query         : 1
IGMP v3 Query         : 1
Total                 : 3
Dropped By Rate Limitation : 1
Dropped By Multicast VLAN : 1

  Report & Leave
IGMP v1 Report        : 0
IGMP v2 Report        : 10
IGMP v3 Report        : 10
IGMP v2 Leave         : 1
Total                 : 21
Dropped By Rate Limitation : 0
Dropped By Max Group Limitation : 90
Dropped By Group Filter : 0
Dropped By Multicast VLAN : 1

Transmit Statistics
  Query
IGMP v1 Query         : 1
IGMP v2 Query         : 1
IGMP v3 Query         : 1
Total                 : 3
  Report & Leave
IGMP v1 Report        : 0
IGMP v2 Report        : 10
IGMP v3 Report        : 10
IGMP v2 Leave         : 1
Total                 : 21

Total Entries : 1

DGS-3120-24TC:admin#
```

To display the IGMP snooping statistics counter for a port:

```

DGS-3120-24TC:admin# show igmp_snooping statistics counter ports 1
Command: show igmp_snooping statistics counter ports 1

Port #1
-----
Total Groups                               : 10
Receive Statistics
  Query
  IGMP v1 Query                            : 0
  IGMP v2 Query                            : 0
  IGMP v3 Query                            : 0
  Total                                     : 0
  Dropped By Rate Limitation                : 0
  Dropped By Multicast VLAN                : 0

Report & Leave
  IGMP v1 Report                           : 0
  IGMP v2 Report                           : 100
  IGMP v3 Report                           : 0
  IGMP v2 Leave                             : 0
  Total                                     : 100
  Dropped By Rate Limitation                : 0
  Dropped By Max Group Limitation          : 90
  Dropped By Group Filter                  : 0
  Dropped By Multicast VLAN                : 0

Transmit Statistics
  Query
  IGMP v1 Query                            : 0
  IGMP v2 Query                            : 0
  IGMP v3 Query                            : 0
  Total                                     : 0

Report & Leave
  IGMP v1 Report                           : 0
  IGMP v2 Report                           : 0
  IGMP v3 Report                           : 0
  IGMP v2 Leave                             : 0
  Total                                     : 0

Total Entries : 1

DGS-3120-24TC:admin#

```

### 30-21 clear igmp\_snooping statistics counter

#### Description

This command is used to clear the IGMP snooping statistics counter.

## Format

**clear igmp\_snooping statistics counter**

## Parameters

None.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To clear the IGMP snooping statistics counter:

```
DGS-3120-24TC:admin# clear igmp_snooping statistic counter
Command: clear igmp_snooping statistic counter

Success.

DGS-3120-24TC:admin#
```

## 30-22 config mld\_snooping

### Description

This command is used to configure MLD snooping on the switch.

### Format

**config mld\_snooping [vlan\_name <vlan\_name 32> | vlanid <vlanid\_list> | all] {state [enable | disable] | fast\_done [enable | disable] | report\_suppression [enable | disable]}(1)**

### Parameters

---

**vlan\_name** - Specify the name of the VLAN for which MLD snooping is to be configured.  
**<vlan\_name 32>** - Enter the VLAN name here. The VLAN name can be up to 32 characters long.

**vlanid** - Specify the ID of the VLAN for which MLD snooping is to be configured.

**<vlanid\_list>** - Enter the VLAN ID list here.

**all** - Specify all VLANs for which MLD snooping is to be configured.

---

**state** - (Optional) Enable or disable MLD snooping for the chosen VLAN.

**enable** - Enter enable here to enable MLD snooping for the chosen VLAN.

**disable** - Enter disable here to disable MLD snooping for the chosen VLAN.

---

**fast\_done** - (Optional) Enable or disable MLD snooping fast\_leave function.

**enable** - Enter enable here to enable MLD snooping fast\_leave function. If enable, the membership is immediately removed when the system receive the MLD leave message.

**disable** - Enter disable here to disable MLD snooping fast\_leave function.

---

**report\_suppression** - (Optional) When MLD report suppression is enabled (the default), the switch sends the first MLD report from all hosts for a group to all the multicast routers. The switch does not send the remaining MLD reports for the group to the multicast routers. If the multicast router query includes requests only for MLDv1 reports, the switch forwards only the first MLDv1 report from all hosts for a group to all the multicast routers. If the multicast router

---



query also includes requests for MLDv2 reports, the switch forwards all MLDv2 reports for a group to the multicast devices.  
**enable** - Enter enable to enable the report suppression.  
**disable** - Enter disable to disable the report suppression.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure MLD snooping:

```
DGS-3120-24TC:admin# config mld_snooping default state enable
Command: config mld_snooping default state enable
Success.

DGS-3120-24TC:admin#
```

## 30-23 config mld\_snooping querier

### Description

This command configures the timer in seconds between general query transmissions, the maximum time in seconds to wait for reports from listeners, and the permitted packet loss that is guaranteed by MLD snooping.

### Format

```
config mld_snooping querier [vlan_name <vlan_name 32> | vlanid <vlanid_list> | all]
{query_interval <sec 1-65535> | max_response_time <sec 1-25> | robustness_variable
<value 1-7> | last_listener_query_interval <sec 1-25> | state [enable | disable] | version
<value 1-2>}(1)
```

### Parameters

**vlan\_name** - Specify the name of the VLAN for which MLD snooping querier is to be configured.  
**<vlan\_name 32>** - Enter the VLAN name here. The VLAN name can be up to 32 characters long.

**vlanid** - Specify the ID of the VLAN for which MLD snooping querier is to be configured.  
**<vlanid\_list>** - Enter the VLAN ID list here.

**all** - Specify all VLANs for which MLD snooping querier is to be configured.

**query\_interval** - (Optional) Specify the amount of time in seconds between general query transmissions. The default setting is 125 seconds.  
**<sec 1-65535>** - Enter the query interval value here. This value must be between 1 and 65535 seconds.

**max\_reponse\_time** - (Optional) Specify the maximum time in seconds to wait for reports from listeners. The default setting is 10 seconds.  
**<sec 1-25>** - Enter the maximum response time value here. This value must be between 1 and 25 seconds.

**robustness\_variable** - (Optional) Provides fine-tuning to allow for expected packet loss on a subnet. The value of the robustness variable is used in calculating the following MLD message intervals:

- <value 1-7>** - Enter the robustness variable value here. This value must be between 1 and 7.
  - Group listener interval—Amount of time that must pass before a multicast router decides

there are no more listeners of a group on a network. This interval is calculated as follows: (robustness variable \* query interval) + (1 \* query response interval).

- Other querier present interval—Amount of time that must pass before a multicast router decides that there is no longer another multicast router that is the querier. This interval is calculated as follows: (robustness variable \* query interval) + (0.5 \* query response interval).
- Last listener query count—Number of group-specific queries sent before the router assumes there are no local listeners of a group. The default number is the value of the robustness variable.
- By default, the robustness variable is set to 2. You might want to increase this value if you expect a subnet to be loosely.

**last\_listener\_query\_interval** - (Optional) Specify the maximum amount of time between group-specific query messages, including those sent in response to done-group messages. You might lower this interval to reduce the amount of time it takes a router to detect the loss of the last listener of a group.

**<sec 1-25>** - Enter the last listener query interval value here. This value must be between 1 and 25 seconds.

**state** - (Optional) This allows the switch to be specified as an MLD Querier (sends MLD query packets) or a Non-Querier (does not send MLD query packets). Set to enable or disable.

**enable** - Enter enable to enable the MLD querier state here.

**disable** - Enter disable to disable the MLD querier state here.

**version** - (Optional) Specify the version of MLD packet that will be sent by this port. If a MLD packet received by the interface has a version higher than the specified version, this packet will be dropped.

**<value 1-2>** - Enter the version number value here. This value must be between 1 and 2.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure the MLD snooping querier:

```
DGS-3120-24TC:admin# config mld_snooping querier default query_interval 125
state enable
Command: config mld_snooping querier default query_interval 125 state enable

Success.

DGS-3120-24TC:admin#
```

## 30-24 config mld\_snooping router\_ports

### Description

This command allows you to designate a range of ports as being connected to multicast-enabled routers. This will ensure that all packets with such a router as its destination will reach the multicast-enabled router, regardless of protocol, etc.

### Format

**config mld\_snooping mrouter\_ports [vlan <vlan\_name 32> | vlanid <vlanid\_list>] [add | delete] <portlist>**

## Parameters

- 
- vlan** - Specify the name of the VLAN on which the router port resides.  
**<vlan\_name 32>** - Enter the VLAN name here. The VLAN name can be up to 32 characters long.
  - vlanid** - Specify the ID of the VLAN on which the router port resides.  
**<vlanid\_list>** - Enter the VLAN ID list here.
- 
- add** - Specify to add the router ports.
  - delete** - Specify to delete the router ports.
- 
- <portlist>** - Specify a range of ports to be configured. (UnitID:port number)
- 

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To set up static router ports:

```
DGS-3120-24TC:admin# config mld_snooping router_ports default add 2:1-2:10
Command: config mld_snooping router_ports default add 2:1-2:10

Success.

DGS-3120-24TC:admin#
```

## 30-25 config mld\_snooping router\_ports\_forbidden

### Description

This command allows you to designate a range of ports as being not connected to multicast-enabled routers. This ensures that the forbidden router port will not propagate routing packets out.

### Format

**config mld\_snooping mrouter\_ports\_forbidden [vlan <vlan\_name 32> | vlanid <vlanid\_list>] [add | delete] <portlist>**

## Parameters

- 
- vlan** - Specify the name of the VLAN on which the router port resides.  
**<vlan\_name 32>** - Enter the VLAN name here. The VLAN name can be up to 32 characters long.
  - vlanid** - Specify the ID of the VLAN on which the router port resides.  
**<vlanid\_list>** - Enter the VLAN ID list here.
- 
- add** - Specify to add the router ports.
  - delete** - Specify to delete the router ports.
- 
- <portlist>** - Specify a range of ports to be configured. (UnitID:port number)
- 

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To set up port range 1-10 to forbidden router ports of the default VLAN:

```
DGS-3120-24TC:admin# config mld_snooping router_ports_forbidden default add 1-10
Command: config mld_snooping router_ports_forbidden default add 1-10

Success.

DGS-3120-24TC:admin#
```

## 30-26 enable mld\_snooping

### Description

This command allows you to enable MLD snooping on the switch. The `forward_mcrouter_only` function is disabled by default. The `enable mld_snooping forward_mcrouter_only` command will enable the MLD snooping function and the forward multicast router only function.

If forward multicast router only is enabled, the switch will forward all multicast traffic to the multicast router, only. Otherwise, the switch forwards all multicast traffic to any IP router.

### Format

**enable mld\_snooping**

### Parameters

---

When the switch receives an MLD report packet from a port, this port will be learned as a member port of the multicast group that the port is reported, and the router will be a default member of this multicast group. The multicast packet destined for this multicast group will be forwarded to all the members of this multicast group.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To enable MLD snooping on the switch:

```
DGS-3120-24TC:admin# enable mld_snooping
Command: enable mld_snooping

Success.

DGS-3120-24TC:admin#
```

## 30-27 disable mld\_snooping

### Description

This command disables MLD snooping on the switch.

## Format

**disable mld\_snooping**

## Parameters

---

When the switch receives an MLD report packet from a port, this port will be learned as a member port of the multicast group that the port is reported, and the router will be a default member of this multicast group. The multicast packet destined for this multicast group will be forwarded to all the members of this multicast group.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To disable MLD snooping on the switch:

```
DGS-3120-24TC:admin# disable mld_snooping
Command: disable mld_snooping

Success.

DGS-3120-24TC:admin#
```

30-28 show mld\_snooping

## Description

This command will display the current MLD snooping configuration on the switch.

## Format

**show mld\_snooping {[vlan <vlan\_name 32> | vlanid <vlanid\_list>]}**

## Parameters

---

**vlan** - (Optional) Specify the name of the VLAN for which you want to view the IGMP snooping configuration.

**<vlan\_name 32>** - Enter the VLAN name here. The VLAN name can be up to 32 characters long.

---

**vlanid** - (Optional) Specify the ID of the VLAN for which you want to view the IGMP snooping configuration.

**<vlanid\_list>** - Enter the VLAN ID list here.

---

If VLAN is not specified, the system will display all current MLD snooping configurations.

---

## Restrictions

None.

## Example

To show MLD snooping:

```
DGS-3120-24TC:admin# show mld_snooping
Command: show mld_snooping

MLD Snooping Global State      : Disabled
Multicast router Only         : Disabled
Data Driven Learning Max Entries : 256

VLAN Name                      : default
Query Interval                 : 125
Max Response Time              : 10
Robustness Value               : 2
Last Member Query Interval     : 1
Querier State                  : Disabled
Querier Role                    : Non-Querier
Querier IP                     :
Querier Expiry Time            : 100 secs
State                           : Disabled
Fast Leave                      : Enabled
Rate Limit                     : 100
Report Suppression              : Disabled
Version                         : 3
Data Driven Learning State     : Disabled
Data Driven Learning Aged Out  : Disabled

VLAN Name                      : vlan2
Query Interval                 : 125
Max Response Time              : 10
Robustness Value               : 2
Last Member Query Interval     : 1
Querier State                  : Disabled
Querier Role                    : Non-Querier
Querier IP                     : ::
Querier Expiry Time            : 100 secs
State                           : Disabled
Fast Leave                      : Enabled
Rate Limit                     : No Limit
Report Suppression              : Enabled
Version                         : 3
Data Driven Learning State     : Disabled
Data Driven Learning Aged Out  : Disabled

DGS-3120-24TC:admin#
```

## 30-29 show mld\_snooping group

### Description

This command displays the current MLD snooping group information on the switch.

## Format

```
show mld_snooping group {[vlan <vlan_name 32> | vlanid <vlanid_list> | ports <portlist>]
{<ipv6addr>}} {data_driven}
```

## Parameters

---

**vlan** - (Optional) Specify the name of the VLAN for which you want to view MLD snooping group information. If VLAN and ports and IP address are not specified, the system will display all current IGMP snooping group information.

**<vlan\_name 32>** - Enter the VLAN name here. The VLAN name can be up to 32 characters long.

---

**vlanid** - (Optional) Specify the ID of the VLAN for which you want to view MLD snooping group information.

**<vlanid\_list>** - Enter the VLAN ID list here.

---

**ports** - (Optional) Specify a list of ports for which you want to view MLD snooping group information.

**<portlist>** - Enter the list of port here.

---

**<ipv6addr>** - (Optional) Specify the group IPv6 address for which you want to view MLD snooping group information.

---

**data\_driven** - (Optional) Display the data driven groups.

---

## Restrictions

None.

## Example

To show an MLD snooping group when MLD v2 is supported:

The first item means that for ports 1-2, the data from the 2001::1/FE1E::1 will be forwarded.

The second item means that for port 3, the data from the 2002::2/FE1E::1 must not be forwarded.

The third item means that for ports 4-5, the data from FE1E::2 will be forwarded, MLD v1 group doesn't care about the source address.

The fourth item is a data-driven learned entry. The member port list is empty. The multicast packets will be forwarded to the router ports. If the router port list is empty, the packet will be dropped.

```
DGS-3120-24TC:admin# show mld_snooping group
Command: show mld_snooping group
```

```
Source/Group      : 2001::1/FE1E::1
VLAN Name/VID     : default/1
Member Ports     : 1-2
UP Time          : 26
Expiry Time      : 258
Filter Mode      : INCLUDE
```

```
Source/Group      : 2002::2/FE1E::1
VLAN Name/VID     : default/1
Member Ports     : 3
UP Time          : 29
Expiry Time      : 247
Filter Mode      : EXCLUDE
```

```
Source/Group      : NULL/FE1E::2
VLAN Name/VID     : default/1
Member Ports     : 4-5
UP Time          : 40
Expiry Time      : 205
Filter Mode      : EXCLUDE
```

```
Source/Group      : NULL/FF1E::5
VLAN Name/VID     : default/1
Reports          : 0
Member Ports     :
Router Ports     : 24
UP Time          : 100
Expiry Time      : 200
Filter Mode      : EXCLUDE
```

```
Total Entries : 4
```

```
DGS-3120-24TC:admin#
```

```
DGS-3120-24TC:admin# show mld_snooping group data_driven
Command: show mld_snooping group data_driven
```

```
Source/Group      : NULL/FF1E::5
VLAN Name/VID     : default/1
Member Ports     :
Router Ports     : 24
UP Time          : 100
Expiry Time      : 200
Filter Mode      : EXCLUDE
```

```
Total Entries : 1
```

```
DGS-3120-24TC:admin#
```



## 30-30 show mld\_snooping forwarding

### Description

This command displays the switch's current MLD snooping forwarding table. It provides an easy way for users to check the list of ports that the multicast group that comes from specific sources will be forwarded to. The packet comes from the source VLAN. They will be forwarded to the forwarding VLAN. The MLD snooping further restricts the forwarding ports.

### Format

**show mld\_snooping forwarding {[vlan <vlan\_name 32> | vlanid <vlanid\_list>]}**

### Parameters

**vlan** - (Optional) Specify the name of the VLAN for which you want to view MLD snooping forwarding table information.

**<vlan\_name 32>** - Enter the VLAN name here. The VLAN name can be up to 32 characters long.

**vlanid** - (Optional) Specify the ID of the VLAN for which you want to view MLD snooping forwarding table information.

**<vlanid\_list>** - Enter the VLAN ID list here.

If no parameter is specified, the system will display all current MLD snooping forwarding table entries of the switch.

### Restrictions

None.

### Example

To show all MLD snooping forwarding entries located on the switch.

```
DGS-3120-24TC:admin# show mld_snooping forwarding
Command: show mld_snooping forwarding

VLAN Name      : default
Source IP      : 2001::1
Multicast Group: FE1E::1
Port Member    : 2,7

VLAN Name      : default
Source IP      : 2001::2
Multicast Group: FF1E::1
Port Member    : 5

Total Entries : 2

DGS-3120-24TC:admin#
```

## 30-31 show mld\_snooping mrouter\_ports

**Description**

This command displays the currently configured router ports on the switch.

**Format**

**show mld\_snooping mrouter\_ports [vlan <vlan\_name 32> | vlanid <vlanid\_list> | all] {[static | dynamic | forbidden]}**

**Parameters**


---

**vlan** - Specify the name of the VLAN on which the router port resides.

**<vlan\_name 32>** - Enter the VLAN name here. The VLAN name can be up to 32 characters long.

**vlanid** - Specify the ID of the VLAN on which the router port resides.

**<vlanid\_list>** - Enter the VLAN ID list here.

**all** - Specify all VLANs on which the router port resides.

**static** - (Optional) Displays router ports that have been statically configured.

**dynamic** - (Optional) Displays router ports that have been dynamically configured.

**forbidden** - (Optional) Displays forbidden router ports that have been statically configured.

---

If no parameter is specified, the system will display all currently configured router ports on the switch.

---

**Restrictions**

None.

**Example**

To display the mld\_snooping router ports:

```
DGS-3120-24TC:admin# show mld_snooping router_ports
Command: show mld_snooping router_ports

VLAN Name           : default
Static Router Port   :
Dynamic Router Port  : 1-10
                    Router IP   : FE08::1
Forbidden router port :

Total Entries : 1

DGS-3120-24TC:admin#
```

## 30-32 create mld\_snooping static\_group

**Description**

This command allows you to create an MLD snooping static group. Member ports can be added to the static group. The static member and the dynamic member ports form the member ports of a group.

The static group will only take effect when MLD snooping is enabled on the VLAN. For those static member ports, the device needs to emulate the MLD protocol operation to the querier, and forward the traffic destined to the multicast group to the member ports.

For a layer 3 device, the device is also responsible to route the packets destined for this specific group to static member ports.

The static member ports will only affect MLD V2 operation.

The Reserved IP multicast addresses FF0x::/16 must be excluded from the configured group.

The VLAN must be created first before a static group can be created.

## Format

**create mld\_snooping static\_group [vlan <vlan\_name 32> | vlanid <vlanid\_list>] <ipv6addr>**

## Parameters

---

<b>vlan</b> - Specify the name of the VLAN on which the static group resides. <b>&lt;vlan_name 32&gt;</b> - Enter the VLAN name here. The VLAN name can be up to 32 characters long.
<b>vlanid</b> - Specify the ID of the VLAN on which the static group resides. <b>&lt;vlanid_list&gt;</b> - Enter the VLAN ID list here.
<b>&lt;ipv6addr&gt;</b> - Specify the multicast group IPv6 address.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To create an MLD snooping static group for VLAN 1, group FF1E::1:

```
DGS-3120-24TC:admin# create mld_snooping default FF1E::1
Command: create mld_snooping default FF1E::1
Success.

DGS-3120-24TC:admin#
```

## 30-33 delete mld\_snooping static\_group

### Description

Used to delete a MLD Snooping multicast static group.

### Format

**delete mld\_snooping static\_group [vlan <vlan\_name 32> | vlanid <vlanid\_list>] <ipv6addr>**

### Parameters

---

<b>vlan</b> - Specify the name of the VLAN on which the static group resides. <b>&lt;vlan_name 32&gt;</b> - Enter the VLAN name here. The VLAN name can be up to 32 characters
---

---

---

long.

---

**vlanid** - Specify the ID of the VLAN on which the static group resides.  
**<vlanid\_list>** - Enter the VLAN ID list here.

---

**<ipv6addr>** - Specify the multicast group IP address.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To delete an MLD snooping static group for VLAN 1, group FF1E::1:

```
DGS-3120-24TC:admin# delete mld_snooping default FF1E::1
Command: delete mld_snooping default FF1E::1

Success.

DGS-3120-24TC:admin#
```

## 30-34 config mld\_snooping static\_group

### Description

Used to configure an MLD snooping multicast group static member port. When a port is configured as a static member port, the MLD protocol will not operate on this port. For example, suppose that a port is a dynamic member port learned by MLD. If this port is configured as a static member later, then the MLD protocol will stop operating on this port. The MLD protocol will resume once this port is removed from static member ports. The static member port will only affect MLD V1 operation.

### Format

**config mld\_snooping static\_group [vlan <vlan\_name 32> | vlanid <vlanid\_list>] <ipv6addr> [add | delete] <portlist>**

### Parameters

---

**vlan** - Specify the name of the VLAN on which the static group resides.  
**<vlan\_name 32>** - Enter the VLAN name here. The VLAN name can be up to 32 characters long.

---

**vlanid** - Specify the ID of the VLAN on which the static group resides.  
**<vlanid\_list>** - Enter the VLAN ID list here.

---

**<ipv6addr>** - Specify the multicast group IPv6 address.

---

**add** - Specify to add the member ports.  
**delete** - Specify to delete the member ports.

---

**<portlist>** - Specify a range of ports to be configured.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To unset port range 9-10 from MLD snooping static member ports for group FF1E::1 on default VLAN:

```
DGS-3120-24TC:admin# config mld_snooping static_group vlan default FF1E::1
delete 2:9-2:10
Command: create mld_snooping static_group vlan default FF1E::1 delete 2:9-2:10

Success.

DGS-3120-24TC:admin#
```

## 30-35 show mld\_snooping static\_group

### Description

This command used to display the MLD snooping multicast group static members.

### Format

**show mld\_snooping static\_group** {[vlan <vlan\_name 32> | vlanid <vlanid\_list>] <ipv6addr>}

### Parameters

- vlan** - (Optional) Specify the name of the VLAN on which the static group resides.  
**<vlan\_name 32>** - Enter the VLAN name here. The VLAN name can be up to 32 characters long.
- vlanid** - (Optional) Specify the ID of the VLAN on which the static group resides.  
**<vlanid\_list>** - Enter the VLAN ID list here.
- <ipv6addr>** - (Optional) Specify the multicast group IPv6 address.

### Restrictions

None.

## Example

To display all the MLD snooping static groups:

```
DGS-3120-24TC:admin# show mld_snooping static_group
VLAN ID/Name          IP Address           Static Member Ports
-----
1 / Default           FF1E ::1             2:9-2:10

Total Entries : 1

DGS-3120-24TC:admin#
```

## 30-36 config mld\_snooping data\_driven\_learning

### Description

This command is used to enable or disable the data-driven learning of an MLD snooping group.

When data-driven learning is enabled for the VLAN, when the switch receives the IP multicast traffic, on this VLAN, an MLD snooping group will be created. That is, the learning of an entry is not activated by MLD membership registration, but activated by the traffic. For an ordinary MLD snooping entry, the MLD protocol will take care the aging out of the entry. For a data-driven entry, the entry can be specified not to be aged out or to be aged out by the aged timer.

When the data driven learning is enabled, and the data driven table is not full, the multicast filtering mode for all ports is ignored. That is, the multicast packets will be forwarded to router ports. If the data driven learning table is full, the multicast packets will be forwarded according to the multicast filtering mode.

Note that if a data-driven group is created and MLD member ports are learned later, the entry will become an ordinary MLD snooping entry. That is, the aging out mechanism will follow the ordinary MLD snooping entry.

## Format

```
config mld_snooping data_driven_learning [all | vlan_name <vlan_name> | vlanid
<vlanid_list>] {state [enable | disable] | aged_out [enable | disable] | expiry_time <sec 1-
65535>}(1)
```

## Parameters

**vlan\_name** - Specify the VLAN name to be configured.

**<vlan\_name>** - Enter the VLAN name here.

**vlanid** - Specify the VLAN ID to be configured.

**<vlanid\_list>** - Enter the VLAN ID list here.

**all** - Specify that all VLANs are to be configured.

**state** - (Optional) Specify to enable or disable the data driven learning of MLD snooping groups. By default, the state is enabled.

**enable** - Enter enable to enable the data driven learning state.

**disable** - Enter disable to disable the data driven learning state.

**aged\_out** - (Optional) Enable or disable the aging out of entries. By default, the state is disabled.

**enable** - Enter enable to enable the aged out option.

**disable** - Enter disable to disable the aged out option.

**expiry\_time** - (Optional) Specify the data driven group lifetime, in seconds. This parameter is valid only when aged\_out is enabled.

**<sec 1-65535>** - Enter the expiry time value here. This value must be between 1 and 65535 seconds.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To enable the data driven learning of an MLD snooping group on the default VLAN:

```
DGS-3120-24TC:admin# config mld_snooping data_driven_learning vlan default
state enable
Command: config mld_snooping data_driven_learning vlan default state enable

Success.

DGS-3120-24TC:admin#
```

### 30-37 config mld\_snooping data\_driven\_learning max\_learned\_entry

#### Description

This command is used to configure the maximum number of groups that can be learned by data driven.

When the table is full, the system will stop the learning of the new data-driven groups. Traffic for the

#### Format

**config mld\_snooping data\_driven\_learning max\_learned\_entry <value 1-1024>**

#### Parameters

---

**max\_learned\_entry** - Specify the maximum number of groups that can be learned by data driven. The suggested default setting is 56. This default setting may vary depending on project.

**<value 1-1024>** - Enter the maximum learned entry value here. This value must be between 1 and 1024.

---

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

#### Example

To set the maximum number of groups that can be learned by data driven:

```
DGS-3120-24TC:admin# config mld_snooping data_driven_learning max_learned_entry
50
Command: config mld_snooping data_driven_learning max_learned_entry 50

Success.

DGS-3120-24TC:admin#
```

### 30-38 clear mld\_snooping data\_driven\_group

#### Description

Used to delete the MLD snooping groups learned by data driven.

#### Format

**clear mld\_snooping data\_driven\_group [all | [vlan\_name <vlan\_name> | vlanid <vlanid\_list>] [<ipv6addr> | all]]**

## Parameters

---

**all** - Specify all VLANs to which IGMP snooping groups will be deleted.

**vlan\_name** - Specify the VLAN name.

**<vlan\_name>** - Enter the VLAN name here.

**vlanid** - Specify the VLAN ID.

**<vlanid\_list>** - Enter the VLAN ID list here.

---

**<ipaddr>** - Specify the group's IP address learned by data driven.

**all** - Specify to clear all data driven groups of the specified VLAN.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To delete all the groups learned by data-driven:

```
DGS-3120-24TC:admin# clear mld_snooping data_driven_group all
Command: clear mld_snooping data_driven_group all

Success.

DGS-3120-24TC:admin#
```

## 30-39 show mld\_snooping statistic counter

### Description

This command displays the statistics counter for IGMP protocol packets that are received by the switch since IGMP snooping was enabled.

### Format

**show mld\_snooping statistic counter [vlan <vlan\_name> | vlanid <vlanid\_list> | ports <portlist>]**

## Parameters

---

**vlan** - Specify a VLAN to be displayed.

**<vlan\_name>** - Enter the VLAN name here.

---

**vlanid** - Specify a list of VLANs to be displayed.

**<vlanid\_list>** - Enter the VLAN ID list here.

---

**ports** - Specify a list of ports to be displayed.

**<portlist>** - Enter the list of port here.

---

## Restrictions

None.

## Example

To show MLD snooping statistics counters:



```
DGS-3120-24TC:admin# show mld_snooping statistics counter vlanid 1
Command: show mld_snooping statistics counter vlanid 1

VLAN Name   : Default
-----
Total Groups      : 10
Receive Statistics
  Query
MLD v1 Query      : 1
MLD v2 Query      : 1
Total             : 2
Dropped By Rate Limitation : 1
Dropped By Multicast VLAN : 1

  Report & Leave
MLD v1 Report     : 0
MLD v2 Report     : 10
MLD v1 Done       : 1
Total            : 11
Dropped By Rate Limitation : 0
Dropped By Max Group Limitation : 90
Dropped By Group Filter : 0
Dropped By Multicast VLAN : 1

Transmit Statistics
  Query
MLD v1 Query      : 1
MLD v2 Query      : 1
Total             : 2
  Report & Leave
MLD v1 Report     : 0
MLD v2 Report     : 10
MLD v1 Done       : 1
Total            : 11

Total Entries : 1

DGS-3120-24TC:admin#
```

## 30-40 clear mld\_snooping statistic counter

### Description

This command is used to clear MLD snooping statistics counters.

### Format

**clear mld \_snooping statistics counter**

### Parameters

None.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To clear MLD snooping statistics counter:

```
DGS-3120-24TC:admin# clear mld_snooping statistic counter
Command: clear mld_snooping statistic counter

Success.

DGS-3120-24TC:admin#
```

## 30-41 config mld\_snooping rate\_limit

### Description

The command configures the rate limit of MLD control packets that are allowed by each port or VLAN.

### Format

**config mld\_snooping rate\_limit [ports <portlist> | vlanid <vlanid\_list>] [<value 1-1000> | no\_limit]**

### Parameters

---

**ports** - Specify a range of ports to be configured.

**<portlist>** - Enter the range of ports to be configured here.

---

**vlanid** - Specify a range of VLANs to be configured.

**<vlanid\_list>** - Enter the VLAN ID list here.

---

**<value 1-1024>** - Configure the rate limit of MLD control packets that the switch can process on a specific port or VLAN. The rate is specified in packet per second. The packets that exceed the limited rate will be dropped.

---

**no\_limit** - Configure the rate limit of MLD control packets that the switch can process on a specific port or VLAN. The rate is specified in packet per second. The packets that exceed the limited rate will be dropped. The default setting is no\_limit.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To configure the MLD snooping per port rate limit:

```
DGS-3120-24TC:admin# config mld_snooping ports 1 rate_limit 100
Command: config mld_snooping ports 1 rate_limit 100

Success.

DGS-3120-24TC:admin#
```

## 30-42 show mld\_snooping rate\_limit

### Description

The command configures the rate limit of MLD control packets that are allowed by each port.

### Format

**show mld\_snooping rate\_limit [ports <portlist> | vlanid <vlanid\_list>]**

### Parameters

---

**ports** - Specify a list of ports.

**<portlist>** - Enter the range of ports to be configured here.

---

**vlanid** - Specify a list of VLANs.

**<vlanid\_list>** - Enter the VLAN ID list here.

---

### Restrictions

None.

### Example

To configure the mld\_snooping per port rate\_limit:

```
DGS-3120-24TC:admin# show mld_snooping rate_limit ports 1-15
Command: show mld_snooping rate_limit ports 1-15

Port          Rate Limit
-----
1             No Limit
2             100
3             No Limit
4             No Limit
5             No Limit

Total Entries: 5

DGS-3120-24TC:admin#
```

## Chapter 31 IP-MAC-Port Binding (IMPB) Command List

```

config address_binding ip_mac ports [<portlist> | all] {arp_inspection [strict | loose | disable] |
ip_inspection [enable | disable] | protocol [ipv4] | allow_zeroip [enable | disable] |
forward_dhcppkt [enable | disable] | stop_learning_threshold <int 0-500>}
create address_binding ip_mac ipaddress <ipaddr> mac_address <macaddr> {ports [<portlist> |
all]}
delete address_binding [ip_mac [ipaddress <ipaddr> mac_address <macaddr> | all] | blocked
[all | vlan_name <vlan_name> mac_address <macaddr>]]
config address_binding ip_mac ipaddress <ipaddr> mac_address <macaddr> {ports [<portlist> |
all]}
show address_binding [ip_mac [all | ipaddress <ipaddr> mac_address <macaddr>] | blocked [all
| vlan_name <vlan_name> mac_address <macaddr>] | ports {<portlist>}]
enable address_binding dhcp_snoop
disable address_binding dhcp_snoop
clear address_binding dhcp_snoop binding_entry ports [<portlist> | all]
show address_binding dhcp_snoop {max_entry {ports <portlist>}}
show address_binding dhcp_snoop binding_entry {port <port>}
config address_binding dhcp_snoop max_entry ports [<portlist> | all] limit [<value 1-50> |
no_limit]
enable address_binding trap_log
disable address_binding trap_log
config address_binding recover_learning ports [<portlist> | all]
debug address_binding [event | dhcp | all] state [enable | disable]
no debug address_binding

```

### 31-1 config address\_binding ip\_mac

#### Description

This command is used to configure the state of IMPB on the switch for each port.

#### Format

```

config address_binding ip_mac ports [<portlist> | all] {arp_inspection [strict | loose |
disable] | ip_inspection [enable | disable] | protocol [ipv4] | allow_zeroip [enable | disable] |
forward_dhcppkt [enable | disable] | stop_learning_threshold <int 0-500>}

```

#### Parameters

```

ports - Specifies the ports used for this configuration.
    <portlist> - Enter the list of ports used for this configuration here.
    all - Specifies that all the ports will be used.
arp_inspection - (Optional) Specifies that the ARP inspection option will be configured.
    strict - In this mode, all packets are dropped by default until a legal ARP or IP packets are
detected.
    loose - In this mode, all packets are forwarded by default until an illegal ARP or broadcast IP
packets are detected. If not specified strict or loose, default is strict.
    disable - Disable ARP inspection function. The default value is disabled.
ip_inspection - (Optional) Specifies that the IP inspection option will be configured.

```

**enable** - Enable IP inspection function. The legal IP packets will be forward, while the illegal IP packets will be dropped.

**disable** - Disable IP inspection function. The default value is disabled.

**protocol** - (Optional) Specifies the version used.

**ipv4** - Only IPv4 packets will be checked.

**allow\_zeroip** - (Optional) Specify whether to allow ARP packets with a source IP address of 0.0.0.0. If the IP address 0.0.0.0 is not configured in the binding list and this setting is enabled, ARP packets with the source IP address of 0.0.0.0 will be allowed; If the IP address 0.0.0.0 is not configured in the binding list and this setting is disabled, ARP packets with the source IP address of 0.0.0.0 will not be allowed. This option does not affect the IMPB ACL Mode.

**enable** - Specifies that the allow zero IP option will be enabled.

**disable** - Specifies that the allow zero IP option will be disabled.

**forward\_dhcppkt** - (Optional) By default, DHCP packets with a broadcast DA will be flooded. When set to disabled, the broadcast DHCP packet received by the specified port will not be forwarded. This setting is effective when DHCP Snooping is enabled, in this case DHCP packets trapped by the CPU must be forwarded by the software. This setting controls the forwarding behavior in this situation.

**enable** - Specifies that the forward DHCP packets option will be enabled.

**disable** - Specifies that the forward DHCP packets option will be disabled.

**stop\_learning\_threshold** - (Optional) When the number of blocked entries exceeds the threshold, the port will stop learning new addresses. Packets with a new address will be dropped.

**<int 0-500>** - Enter the stop learning threshold value here. This value must be between 0 and 500.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To enable IMPB on port 1:

```
DGS-3120-24TC:admin# config address_binding ip_mac ports 1:1 arp_inspection
strict
Command: config address_binding ip_mac ports 1:1 arp_inspection strict

Success.

DGS-3120-24TC:admin#
```

## 31-2 create address\_binding ip\_mac

### Description

This command is used to create an IMPB entry.

### Format

**create address\_binding ip\_mac ipaddress <ipaddr> mac\_address <macaddr> {ports [<portlist> | all]}**

## Parameters

- 
- ipaddress** - Specifies the IP address used for the IMPB entry.  
**<ipaddr>** - Enter the IP address used here.
- 
- mac\_address** - Specifies the MAC address used for the IMPB entry.  
**<macaddr>** - Enter the MAC address used here.
- 
- ports** - (Optional) Specifies the portlist the entry will apply to. If not ports are specified, the settings will be applied to all ports.  
**<portlist>** - Enter a list of ports used for this configuration here.  
**all** - Specifies that all the ports will be included.
- 

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To create an IMPB entry:

```
DGS-3120-24TC:admin#create address_binding ip_mac ipaddress 10.1.1.1
mac_address 00-00-00-00-00-11
Command: create address_binding ip_mac ipaddress 10.1.1.1 mac_address 00-00-00-
00-00-11

Success.

DGS-3120-24TC:admin#
```

## 31-3 delete address\_binding

### Description

This command is used to delete an IMPB entry or blocked entry.

### Format

**delete address\_binding [ip\_mac [ipaddress <ipaddr> mac\_address <macaddr> | all] | blocked [all | vlan\_name <vlan\_name> mac\_address <macaddr>]]**

## Parameters

- 
- ip\_mac** - Specify the user created IMPB database.  
**ipaddress** - Specify the learned IP address of the entry in the database.  
**<ipaddr>** - Enter the IP address used here.  
**mac\_address** - Specify the MAC address used for this configuration.  
**<macaddr>** - Enter the MAC address used here.  
**all** - Specifies that all the MAC address will be used.
- 
- blocked** - Specify the address database that the system has automatically learned and blocked.  
**all** - Specifies that all the entries will be used.  
**vlan\_name** - Specify the name of the VLAN to which the blocked MAC address belongs.  
**<vlan\_name>** - Enter the VLAN name here.  
**mac\_address** - Specify the MAC address of the entry or the blocked MAC address.  
**<macaddr>** - Enter the MAC address used here.
-

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To delete an IMPB entry:

```
DGS-3120-24TC:admin# delete address_binding ip_mac ipaddress 10.1.1.1
mac_address 00-00-00-00-00-11
Command: delete address_binding ip_mac ipaddress 10.1.1.1 mac_address 00-00-00-
00-00-11

Success.

DGS-3120-24TC:admin#
```

To delete a blocked address:

```
DGS-3120-24TC:admin# delete address_binding blocked vlan_name v31 mac_address
00-00-00-00-00-11
Command: delete address_binding blocked vlan_name v31 mac_address 00-00-00-00-
00-11

Success.

DGS-3120-24TC:admin#
```

## 31-4 config address\_binding ip\_mac

### Description

This command is used to update an IMPB entry.

### Format

**config address\_binding ip\_mac ipaddress <ipaddr> mac\_address <macaddr> {ports  
[<portlist> | all]}**

### Parameters

---

**ipaddress** - Specify the IP address of the entry being updated.  
**<ipaddr>** - Enter the IP address used here.

---

**mac\_address** - Specify the MAC address of the entry being updated  
**<macaddr>** - Enter the MAC address used here.

---

**ports** - (Optional) Specify which ports are used for the IMPB entry being updated. If not specified, then it is applied to all ports.  
**<portlist>** - Enter the list of port used here.  
**all** - Specifies that all the ports will be used.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

---

## Example

To configure an IMPB entry:

```
DGS-3120-24TC:admin# config address_binding ip_mac ipaddress 10.1.1.1
mac_address 00-00-00-00-00-11
Command: config address_binding ip_mac ipaddress 10.1.1.1 mac_address 00-00-00-
00-00-11

Success.

DGS-3120-24TC:admin#
```

## 31-5 show address\_binding

### Description

This command is used to display the IMPB entries, blocked MAC entries and port status.

### Format

**show address\_binding [ip\_mac [all | ipaddress <ipaddr> mac\_address <macaddr>] | blocked [all | vlan\_name <vlan\_name> mac\_address <macaddr>] | ports {<portlist>}]**

### Parameters

---

**ip\_mac** - Specify the user created IMPB database.

**all** - Specifies that all the IP addresses will be used.

**ipaddress** - Specify the learned IP address of the entry in the database.

**<ipaddr>** - Enter the learned IP address here.

**mac\_address** - Specifies the MAC address of the entry in the database.

**<macaddr>** - Enter the MAC address here.

---

**blocked** - Specify the addresses in the database that the system has auto learned and blocked.

**all** - Specifies that all the MAC addresses will be used.

**vlan\_name** - Specify the name of the VLAN to which the blocked MAC address belongs.

**<vlan\_name>** - Enter the VLAN name used here.

**mac\_address** - Specify the MAC address of the entry or the blocked MAC address.

**<macaddr>** - Enter the MAC address of the entry or the blocked MAC address.

---

**ports** - Specify the ports for which the information is displayed. If not specified, all ports are displayed.

**<portlist>** - (Optional) Enter the list of ports used here.

---

### Restrictions

None. (EI Mode Only Command)

## Example

To show the IMPB global configuration:



```
DGS-3120-24TC:admin#show address_binding
Command: show address_binding

Trap/Log           : Disabled
DHCP Snoop         : Disabled

DGS-3120-24TC:admin#
```

To show the IMPB ports:

```
DGS-3120-24TC:admin#show address_binding ports
Command: show address_binding ports

ARP: ARP Inspection   IP: IP Inspection

Port  ARP      IP      Protocol Zero IP  DHCP Packet  Stop Learning
-----
1:1   Strict  Enabled IPv4  Allow      Not Forward  50 /Normal
1:2   Strict  Enabled IPv4  Allow      Not Forward  50 /Normal
1:3   Strict  Enabled IPv4  Allow      Not Forward  50 /Normal
1:4   Strict  Enabled IPv4  Allow      Not Forward  50 /Normal
1:5   Strict  Enabled IPv4  Allow      Not Forward  50 /Normal
1:6   Strict  Enabled IPv4  Allow      Not Forward  50 /Normal
1:7   Strict  Enabled IPv4  Allow      Not Forward  50 /Normal
1:8   Strict  Enabled IPv4  Allow      Not Forward  50 /Normal
1:9   Strict  Enabled IPv4  Allow      Not Forward  50 /Normal
1:10  Strict  Enabled IPv4  Allow      Not Forward  50 /Normal
1:11  Disabled Disabled IPv4  Not Allow  Forward      500/Normal
1:12  Disabled Disabled IPv4  Not Allow  Forward      500/Normal
1:13  Disabled Disabled IPv4  Not Allow  Forward      500/Normal
1:14  Disabled Disabled IPv4  Not Allow  Forward      500/Normal
1:15  Disabled Disabled IPv4  Not Allow  Forward      500/Normal

DGS-3120-24TC:admin#
```

To show IMPB entries:

```
DGS-3120-24TC:admin# show address_binding ip_mac all
Command: show address_binding ip_mac all

M(Mode) - D:DHCP, S:Static ST(ACL Status) - A:Active I:Inactive

IP Address           MAC Address           M  ACL Ports
-----
10.1.1.1             00-00-00-00-00-11   S  I   1,3,5,7,8
10.1.1.2             00-00-00-00-00-12   S  A   1
10.1.1.10            00-00-00-00-00-aa   D  A   1

Total Entries : 3

DGS-3120-24TC:admin#
```

To show the IMPB entries that are blocked:

```
DGS-3120-24TC:admin#show address_binding blocked all
Command: show address_binding blocked all
```

VID	VLAN Name	MAC Address	Port
1	default	00-01-02-03-29-38	7
1	default	00-0C-6E-5C-67-F4	7
1	default	00-0C-F8-20-90-01	7
1	default	00-0E-35-C7-FA-3F	7
1	default	00-0E-A6-8F-72-EA	7
1	default	00-0E-A6-C3-34-BE	7
1	default	00-11-2F-6D-F3-AC	7
1	default	00-50-8D-36-89-48	7
1	default	00-50-BA-00-05-9E	7
1	default	00-50-BA-10-D8-F6	7
1	default	00-50-BA-38-7D-E0	7
1	default	00-50-BA-51-31-62	7
1	default	00-50-BA-DA-01-58	7
1	default	00-A0-C9-01-01-23	7
1	default	00-E0-18-D4-63-1C	7

```
Total entries : 15
DGS-3120-24TC:admin#
```

### 31-6 enable address\_binding dhcp\_snoop

#### Description

This command is used to enable DHCP snooping mode.

By default, DHCP snooping is disabled.

If a user enables DHCP Snooping mode, all ports which have IMPB disabled will become server ports. The switch will learn the IP addresses through server ports (by using DHCP Offer and DHCP ACK packets).

Note that the DHCP discover packet cannot be passed thru the user ports if the allow\_zeroip function is disabled on the port.

The auto-learned IMPB entry will be mapped to a specific source port based on the MAC address learning function. This entry will be created as an IP-Inspection mode binding entry for this specific port. Each entry is associated with a lease time. When the lease time has expires, the expired entry will be removed from the port. The auto-learned binding entry can be moved from one port to another port if the DHCP snooping function has learned that the MAC address has moved to a different port.

If a situation occurs where a binding entry learned by DHCP snooping conflicts with a statically configured entry. The binding relation has conflicted. For example, if IP A is binded to MAC X with a static configuration and suppose that the binding entry learned by DHCP snooping is that IP A is bound to MAC Y, and then it is conflict. When the DHCP snooping learned entry binds with the static configured entry, and the DHCP snooping learned entry will not be created.

In a situation where the same IMPB pair has been statically configured, the auto-learned entry will not be created. In a situation where the learned information is consistent with the statically configured entry the auto-learned entry will not be created. In a situation where the entry is statically configured in ARP mode the auto learned entry will not be created. In a situation where the entry is statically configured on one port and the entry is auto-learned on another port, the auto-learned entry will not be created.

### Format

**enable address\_binding dhcp\_snoop**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

### Example

To enable DHCP IPv4 snooping mode:

```
DGS-3120-24TC:admin# enable address_binding dhcp_snoop
Command: enable address_binding dhcp_snoop

Success.

DGS-3120-24TC:admin#
```

31-7 **disable address\_binding dhcp\_snoop**

### Description

This command is used to disable DHCP snooping mode. When the DHCP snooping function is disabled, all of the auto-learned binding entries will be removed.

### Format

**disable address\_binding dhcp\_snoop**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To disable DHCP IPv4 snooping mode:

```
DGS-3120-24TC:admin# disable address_binding dhcp_snoop
Command: disable address_binding dhcp_snoop

Success.

DGS-3120-24TC:admin#
```

## 31-8 clear address\_binding dhcp\_snoop binding\_entry

### Description

This command is used to clear the DHCP snooping entries learned for the specified ports.

### Format

**clear address\_binding dhcp\_snoop binding\_entry ports [<portlist> | all]**

### Parameters

---

**ports** - Specify the list of ports to clear the DHCP snooping learned entries.  
**<portlist>** - Enter the list of ports used here  
**all** - Specifies that all the ports will be used.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To clear DHCP IPv4 snooping entries on ports 1-3:

```
DGS-3120-24TC:admin# clear address_binding dhcp_snoop binding_entry ports 1-3
Command: clear address_binding dhcp_snoop binding_entry ports 1-3

Success.

DGS-3120-24TC:admin#
```

## 31-9 show address\_binding dhcp\_snoop

### Description

This command is used to display the DHCP snooping configuration and learning database.

### Format

**show address\_binding dhcp\_snoop {max\_entry {ports <portlist>}}**

## Parameters

**max\_entry** - (Optional) To show the maximum number of entries per port.  
**ports** - Specifies the ports used for this configuration.  
**<portlist>** - Enter a list of ports used here.

If no parameters are specified, show DHCP snooping displays the enable/disable state.

## Restrictions

None. (EI Mode Only Command)

## Example

To show the DHCP snooping state:

```
DGS-3120-24TC:admin# show address_binding dhcp_snoop
Command: show address_binding dhcp_snoop

DHCP_Snoop      : Disabled

DGS-3120-24TC:admin#
```

To display DHCP snooping maximum entry configuration:

```
DGS-3120-24TC:admin# show address_binding dhcp_snoop max_entry
Command: show address_binding dhcp_snoop max_entry

Port  Max Entry
----  -
1:1   No Limit
1:2   No Limit
1:3   No Limit
1:4   No Limit
1:5   No Limit
1:6   No Limit
1:7   No Limit
1:8   No Limit
1:9   No Limit
1:10  No Limit
1:11  No Limit
1:12  No Limit
1:13  No Limit
1:14  No Limit
1:15  No Limit
1:16  No Limit
1:17  No Limit
1:18  No Limit
1:19  No Limit
1:20  No Limit

CTRL+C  ESC  q  Quit  SPACE  n  Next Page  ENTER  Next Entry  a  All
```

## 31-10 show address\_binding dhcp\_snoop binding\_entry

### Description

This command is used to display the DHCP snooping binding entries.

### Format

**show address\_binding dhcp\_snoop binding\_entry {port <port>}**

### Parameters

**port** – (Optional) Specifies the port used for this configuration.

**<port>** - Enter the port number used here.

### Restrictions

None. (EI Mode Only Command)

### Example

To display the DHCP snooping binding entries:

```
DGS-3120-24TC:admin# show address_binding dhcp_snoop binding_entry
Command: show address_binding dhcp_snoop binding_entry

S (Status) - A: Active, I: Inactive
Time - Left Time (sec)

IP Address                MAC Address                S  Time  Port
-----
10.62.58.35                00-0B-5D-05-34-0B         A 35964  1
10.33.53.82                00-20-c3-56-b2-ef         I  2590  2

Total entries : 2

DGS-3120-24TC:admin#
```

## 31-11 config address\_binding dhcp\_snoop max\_entry

### Description

This command is used to specify the maximum number of entries that can be learned by a specified port.

### Format

**config address\_binding dhcp\_snoop max\_entry ports [<portlist> | all] limit [<value 1-50> | no\_limit]**

## Parameters

**ports** - Specify the list of ports you would like to set the maximum number of entries that can be learned.

**<portlist>** - Enter the list of ports used here.

**all** - Specifies that all the ports will be used.

**limit** - Specify the maximum number.

**<value 1-50>** - Enter the limit value here. This value must be between 1 and 50.

**no\_limit** - Specifies that the maximum number of learned entries is unlimited.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To set the maximum number of DHCP IPv4 snooping entries that ports 1–3 can learned to 10:

```
DGS-3120-24TC:admin# config address_binding dhcp_snoop max_entry ports 1-3
limit 10.
Command: config address_binding dhcp_snoop max_entry ports 1-3 limit 10.

Success.

DGS-3120-24TC:admin#
```

## 31-12 enable address\_binding trap\_log

### Description

This command is used to send traps and logs when the IMPB module detects an illegal IP and MAC address.

### Format

**enable address\_binding trap\_log**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

### Example

To enable the IMPB traps and logs:

```
DGS-3120-24TC:admin# enable address_binding trap_log
Command: enable address_binding trap_log

Success.

DGS-3120-24TC:admin#
```

### 31-13 disable address\_binding trap\_log

#### Description

This command is used to disable the IMPB traps and logs.

#### Format

**disable address\_binding trap\_log**

#### Parameters

None.

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

#### Example

To disable IMPB traps and logs:

```
DGS-3120-24TC:admin# disable address_binding trap_log
Command: disable address_binding trap_log

Success.

DGS-3120-24TC:admin#
```

### 31-14 config address\_binding recover\_learning

#### Description

This command is used to recover IMPB checking.

#### Format

**config address\_binding recover\_learning ports [<portlist> | all]**

#### Parameters

---

**ports** - Specify the list of ports that need to recover the IMPB check.  
**<portlist>** - Enter the list of port used here.  
**all** - Specifies that all the ports will be used.

---



## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To recover IMPB checking for ports 6 to 7:

```
DGS-3120-24TC:admin# config address_binding recover_learning ports 6-7
Command: config address_binding recover_learning ports 6-7

Success.

DGS-3120-24TC:admin#
```

## 31-15 debug address\_binding

### Description

This command is used to start the IMPB debug when the IMPB module receives an ARP/IP packet or a DHCP packet.

### Format

**debug address\_binding [event | dhcp | all] state [enable | disable]**

### Parameters

---

**event** - To print out the debug messages when IMPB module receives ARP/IP packets.  
**dhcp** - To print out the debug messages when the IMPB module receives the DHCP packets.  
**all** - Print out all debug messages.

---

**state** - This parameter configures the IMPB debug state to be enabled or disabled.  
**enable** - Specifies that the state will be enabled.  
**disable** - Specifies that the state will be disabled.

---

## Restrictions

Only Administrator users can issue this command. **(EI Mode Only Command)**

## Example

To print out all debug IMPB messages:

```
DGS-3120-24TC:admin# debug address_binding all state enable
Command: debug address_binding all state enable

Success.

DGS-3120-24TC:admin#
```

## 31-16 no debug address\_binding

### **Description**

This command is used to stop the IMPB debug starting when the IMPB module receives an ARP/IP packet or a DHCP packet.

### **Format**

**no debug address\_binding**

### **Parameters**

None.

### **Restrictions**

Only Administrator users can issue this command. **(EI Mode Only Command)**

### **Example**

To stop IMPB debug: starting when the IMPB module receives an ARP/IP or DHCP packet:

```
DGS-3120-24TC:admin# no debug address_binding
Command: no debug address_binding

Success.

DGS-3120-24TC:admin#
```

## Chapter 32 IPv6 Neighbor Discover Command List

```

create ipv6 neighbor_cache ipif <ipif_name 12> <ipv6addr> <macaddr>
delete ipv6 neighbor_cache ipif [<ipif_name 12> | all] [<ipv6addr> | static | dynamic | all]
show ipv6 neighbor_cache ipif [<ipif_name 12> | all] [ipv6address <ipv6addr> | static | dynamic |
all]
config ipv6 nd ns ipif <ipif_name 12> retrans_time <millisecond 0-4294967295>
show ipv6 nd {ipif <ipif_name 12>}

```

### 32-1 create ipv6 neighbor\_cache

#### Description

Add a static neighbor on an IPv6 interface.

#### Format

```
create ipv6 neighbor_cache ipif <ipif_name 12> <ipv6addr> <macaddr>
```

#### Parameters

**ipif** - Specifies the interface's name.

**<ipif\_name 12>** - Enter the IP interface name here. This name can be up to 12 characters long.

**<ipv6addr>** - The address of the neighbor.

**<macaddr>** - The MAC address of the neighbor.

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

#### Example

Create a static neighbor cache entry:

```

DGS-3120-24TC:admin# create ipv6 neighbor_cache ipif System 3ffc::1
00:01:02:03:04:05
Command: create ipv6 neighbor System _cache ipif 3FFC::1 00:01:02:03:04:05

Success.

DGS-3120-24TC:admin#

```

## 32-2 delete ipv6 neighbor\_cache

### Description

Delete a neighbor cache entry or static neighbor cache entries from the address cache or all address cache entries on this IP interface. Both static and dynamic entries can be deleted.

### Format

**delete ipv6 neighbor\_cache ipif** [**<ipif\_name 12>** | **all**] [**<ipv6addr>** | **static** | **dynamic** | **all**]

### Parameters

---

**ipif** - Specifies the IPv6 interface name.

**<ipif\_name 12>** - Enter the IP interface name here. This name can be up to 12 characters long.

**all** - Specifies that all the interfaces will be used in this configuration.

---

**<ipv6addr>** - The neighbor's address.

---

**static** - Delete the static entry.

---

**dynamic** - Delete those dynamic entries.

---

**all** - All entries include static and dynamic entries will be deleted.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

### Example

Delete a neighbor cache entry on IP interface "System":

```
DGS-3120-24TC:admin# delete ipv6 neighbor_cache ipif System 3ffc::1
Command: delete ipv6 neighbor_cache ipif System 3FFC::1

Success.

DGS-3120-24TC:admin#
```

## 32-3 show ipv6 neighbor\_cache

### Description

Display the neighbor cache entry for the specified interface. You can display a specific entry, all entries, or all static entries.

### Format

**show ipv6 neighbor\_cache ipif** [**<ipif\_name 12>** | **all**] [**ipv6address <ipv6addr>** | **static** | **dynamic** | **all**]

### Parameters

---

**ipif** - Specifies the IPv6 interface name

---

---

**<ipif\_name 12>** - Enter the IP interface name here. This name can be up to 12 characters long.

**all** - Specifies that all the interface will be displayed.

---

**ipv6address** - The neighbor's address.

**<ipv6addr>** - Enter the IPv6 address here.

---

**static** - Static neighbor cache entry.

---

**dynamic** - Dynamic entries.

---

**all** - All entries include static and dynamic entries.

---

## Restrictions

None (**EI Mode Only Command**)

## Example

Show all neighbor cache entries of IP interface "System":

```
DGS-3120-24TC:admin#show ipv6 neighbor_cache ipif System all
Command: show ipv6 neighbor_cache ipif System all

FE80::200:A1FF:FEB1:C100          State: Stale
MAC Address : 00-00-A1-B1-C1-00   Port : 1:31
Interface   : System              VID  : 1

FE80::21F:CAFF:FE73:D6C1        State: Stale
MAC Address : 00-1F-CA-73-D6-C1   Port : 1:31
Interface   : System              VID  : 1

Total Entries: 2

DGS-3120-24TC:admin#
```

## 32-4 config ipv6 nd ns retrans\_time

### Description

Configure the IPv6 ND neighbor solicitation retransmit time, which is between retransmissions of neighbor solicitation messages to a neighbor when resolving the address or when probing the reachability of a neighbor.

### Format

**config ipv6 nd ns ipif <ipif\_name 12> retrans\_time <millisecond 0-4294967295>**

### Parameters

---

**ipif** - The IPv6 interface name

**<ipif\_name 12>** - Enter the IP interface name here. This name can be up to 12 characters long.

---

**retrans\_time** - Neighbor solicitation's re-transmit timer in millisecond.

**<millisecond 0-4294967295>** - Enter the re-transmit timer value here. This value must be between 0 and 4294967295 milliseconds.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To configure the retrans\_time of IPv6 ND neighbor solicitation:

```
DGS-3120-24TC:admin# config ipv6 nd ns ipif Zira retrans_time 1000000
Command: config ipv6 nd ns ipif Zira retrans_time 1000000

Success.

DGS-3120-24TC:admin#
```

## 32-5 show ipv6 nd

### Description

Used to display information regarding neighbor detection on the switch.

### Format

**show ipv6 nd {ipif <ipif\_name 12>}**

### Parameters

---

**ipif** – (Optional) The name of the interface.  
**<ipif\_name 12>** - Enter the IP interface name here. This name can be up to 12 characters long.

---

If no IP interface is specified, it will show the IPv6 ND related configuration of all interfaces.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To show IPv6 ND related configuration:

```
DGS-3120-24TC:admin#show ipv6 nd ipif System
Command: show ipv6 nd ipif System

Interface Name           : System
NS Retransmit Time      : 0 (ms)

DGS-3120-24TC:admin#
```

## Chapter 33 IPv6 Route Command List

---

```

create ipv6route [default] [<ipif_name 12> <ipv6addr> |<ipv6addr>] {<metric 1-65535>} {[primary |
  backup]}
delete ipv6route [default] [<ipif_name 12> <ipv6addr> | <ipv6addr> | all]
show ipv6route

```

---

### 33-1 create ipv6route

#### Description

Create an IPv6 default route. If the next hop is a global address, it is not needed to indicate the interface name. If the next hop is a link local address, then the interface name must be specified.

#### Format

```

create ipv6route [default] [<ipif_name 12> <ipv6addr> |<ipv6addr>] {<metric 1-65535>}
  {[primary | backup]}

```

#### Parameters

---

**default** - Specifies the default route.

**<ipif\_name 12>** - Specifies the interface for the route. This name can be up to 12 characters long.

**<ipv6addr>** - Specify the next hop address for this route.

**<metric 1-65535>** - Enter the metric value here. The default setting is 1. This value must be between 1 and 65535.

**primary** - Specify the route as the primary route to the destination.

**backup** - Specify the route as the backup route to the destination. The backup route can only be added when the primary route exists. If the route is not specified as the primary route or the backup route, then it will be auto-assigned by the system. The first created is the primary, the second created is the backup.

---

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

#### Example

To create and IPv6 route:

```

DGS-3120-24TC:admin# create ipv6route default System 3FFC:: 1 primary
Command: create ipv6route default System 3FFC:: 1 primary

Success.

DGS-3120-24TC:admin#

```

## 33-2 delete ipv6route

### Description

This command is used to delete an IPv6 static route. If the next hop is a global address, it is not needed to indicate the interface name. If the next hop is a link local address, then the interface name must be specified.

### Format

**delete ipv6route [default] [<ipif\_name 12> <ipv6addr> | <ipv6addr> | all]**

### Parameters

---

**default** - Specifies the default route.

**<ipif\_name 12>** - Enter the IP interface name used here. This name can be up to 12 characters long.

**<ipv6addr>** - Specify the next hop address for the default route.

---

**all** - Specifies that all static created routes will be deleted.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

### Example

Delete an IPv6 static route:

```
DGS-3120-24TC:admin# delete ipv6route default System 3FFC::
Command: delete ipv6route default System 3FFC::

Success.

DGS-3120-24TC:admin#
```

## 33-3 show ipv6route

### Description

This command is used to display IPv6 routes.

### Format

**show ipv6route**

### Parameters

None.



## **Restrictions**

None. **(EI Mode Only Command)**

## **Example**

Show all the IPv6 routes:

```
DGS-3120-24TC:admin#show ipv6route
Command: show ipv6route

IPv6 Prefix: ::/0                                Protocol: Static  Metric: 1
Next Hop   : 3001::254                          IPIF    : System
Backup     : Primary                             Status  : Inactive

Total Entries: 1

DGS-3120-24TC:admin#
```

## Chapter 34 Jumbo Frame Command List

---

**enable jumbo\_frame**  
**disable jumbo\_frame**  
**show jumbo\_frame**

---

### 34-1 enable jumbo\_frame

#### Description

The enable jumbo\_frame command configures the jumbo frame setting as enable.

#### Format

**enable jumbo\_frame**

#### Parameters

None.

#### Restrictions

Only Administrator and Operator-level users can issue this command.

#### Example

To enable the Jumbo frame:

```
DGS-3120-24TC:admin# enable jumbo_frame
Command: enable jumbo_frame

The maximum size of jumbo frame is 13312 bytes.
Success.

DGS-3120-24TC:admin#
```

### 34-2 disable jumbo\_frame

#### Description

The disable jumbo\_frame command configures the jumbo frame setting as disable.

#### Format

**disable jumbo\_frame**

### Parameters

None.

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To disable the Jumbo frame:

```
DGS-3120-24TC:admin# disable jumbo_frame
Command: disable jumbo_frame

Success.

DGS-3120-24TC:admin#
```

## 34-3 show jumbo\_frame

### Description

The show jumbo\_frame command displays the current configuration of jumbo frame.

### Format

**show jumbo\_frame**

### Parameters

None.

### Restrictions

None.

### Example

To show the Jumbo frame:

```
DGS-3120-24TC:admin#show jumbo_frame
Command: show jumbo_frame

Jumbo Frame State : Disabled
Maximum Frame Size : 1536 Bytes

DGS-3120-24TC:admin#
```

## Chapter 35 Link Aggregation Command List

---

```

create link_aggregation group_id <value 1-32> {type [lacp | static]}
delete link_aggregation group_id <value 1-32>
config link_aggregation group_id <value 1-32> {master_port <port> | ports <portlist> | state
  [enabled | disabled]}
config link_aggregation algorithm [mac_source | mac_destination | mac_source_dest |
  ip_source | ip_destination | ip_source_dest | l4_src_port | l4_dest_port | l4_src_dest_port]
show link_aggregation {group_id <value 1-32> | algorithm}
config lacp_port <portlist> mode [active | passive]
show lacp_port <portlist>

```

---

### 35-1 create link\_aggregation group\_id

#### Description

Use to create a link aggregation group on the switch.

#### Format

```
create link_aggregation group_id <value 1-32> {type [lacp | static]}
```

#### Parameters

---

**group\_id** - Specifies the group id. The number of link aggregation groups is project dependency. The group number identifies each of the groups.  
**<value 1-32>** - Enter the group ID value here. This value must be between 1 and 32.

**type** - (Optional) Specifies the group type is belong to static or LACP. If type is not specified, the default is static type.  
**lacp** - Specifies to use LACP as the group type.  
**static** - Specifies to use static as the group type.

---

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

#### Example

To create link aggregation group:

```

DGS-3120-24TC:admin# create link_aggregation group_id 1 type lacp
Command: create link_aggregation group_id 1 type lacp

Success.

DGS-3120-24TC:admin#

```

## 35-2 delete link\_aggregation group\_id

### Description

Use to delete a previously configured link aggregation group.

### Format

**delete link\_aggregation group\_id <value 1-32>**

### Parameters

---

**group\_id** - Specifies the group id. The number of link aggregation groups is project dependency. The group number identifies each of the groups.  
**<value 1-32>** - Enter the group ID value here. This value must be between 1 and 32.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To delete link aggregation group:

```
DGS-3120-24TC:admin# delete link_aggregation group_id 3
Command: delete link_aggregation group_id 3

Success.

DGS-3120-24TC:admin#
```

## 35-3 config link\_aggregation

### Description

Use to configure a previously created link aggregation group.

### Format

**config link\_aggregation group\_id <value 1-32> {master\_port <port> | ports <portlist> | state [enabled | disabled]}**

### Parameters

---

**group\_id** - Specifies the group id. The group number identifies each of the groups.  
**<value 1-32>** - Enter the group ID value here. This value must be between 1 and 32.

---

**master\_port** - (Optional) Master port ID. Specifies which port (by port number) of the link aggregation group will be the master port. All of the ports in a link aggregation group will share the port configuration with the master port.  
**<port>** - Enter the master port number here.

---

**ports** - (Optional) Specifies a range of ports that will belong to the link aggregation group. The port list is specified by listing the lowest switch number and the beginning port number on that switch, separated by a colon. Then highest switch number, and the highest port number of the range (also separated by a colon) are specified. The beginning and end of the port list range

---

are separated by a dash. For example, 1:3 would specify switch number 1, port 3. 2:4 specifies switch number 2, port 4. 1:3-2:4 specifies all of the ports between switch 1, port 3 and switch 2, port 4 – in numerical order.

**<portlist>** - Enter the list of port used for the configuration here.

**state** - (Optional) Allows you to enable or disable the specified link aggregation group. If not specified, the group will keep the previous state, the default state is disabled. If configure LACP group, the ports' state machine will start.

**enable** - Enables the specified link aggregation group.

**disable** - Disables the specified link aggregation group.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To define a load-sharing group of ports, group-id 1, master port 17 of unit 2:

```
DGS-3120-24TC:admin# config link_aggregation group_id 1 master_port 2:17 ports
1:5-1:10,2:17
command: config link_aggregation group_id 1 master_port 2:17 ports 1:5-
1:10,2:17

Success.

DGS-3120-24TC:admin#
```

## 35-4 config link\_aggregation algorithm

### Description

The config link aggregation algorithm command configures the part of the packet examined by the switch when selecting the egress port for transmitting load-sharing data. This feature is available using the address-based load-sharing algorithm, only.

### Format

**config link\_aggregation algorithm [mac\_source | mac\_destination | mac\_source\_dest | ip\_source | ip\_destination | ip\_source\_dest | I4\_src\_port | I4\_dest\_port | I4\_src\_dest\_port]**

### Parameters

**mac\_source** - Indicates that the switch should examine the MAC source address.

**mac\_destination** - Indicates that the switch should examine the MAC destination address.

**mac\_source\_dest** - Indicates that the switch should examine the MAC source and destination address.

**ip\_source** - Indicates that the switch should examine the IP source address.

**ip\_destination** - Indicates that the switch should examine the IP destination address.

**ip\_source\_dest** - Indicates that the switch should examine the IP source address and destination address.

**I4\_src\_port** - Indicates that the switch should examine the TCP/UDP source port.

**I4\_dest\_port** - Indicates that the switch should examine the TCP/UDP destination port.

**I4\_src\_dest\_port** - Indicates that the switch should examine the TCP/UDP source port and destination port.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure link aggregation algorithm for mac-source-dest:

```
DGS-3120-24TC:admin# config link_aggregation algorithm mac_source_dest
Command: config link_aggregation algorithm mac_source_dest

Success.

DGS-3120-24TC:admin#
```

## 35-5 show link\_aggregation

### Description

Use to display the current link aggregation configuration on the switch.

### Format

**show link\_aggregation {group\_id <value 1-32> | algorithm}**

### Parameters

---

**group\_id** - (Optional) Specifies the group id. The group number identifies each of the groups.

**<value 1-32>** - Enter the group ID value here. This value must be between 1 and 32.

---

**algorithm** - (Optional) Allows you to specify the display of link aggregation by the algorithm in use by that group.

---

If no parameter specified, system will display all link aggregation information.

---

### Restrictions

None.

### Example

Link aggregation group enable:

```
DGS-3120-24TC:admin# show link_aggregation
Command: show link_aggregation

Link Aggregation Algorithm = MAC-source-dest
Group ID      : 1
Type         : LACP
Master Port   : 1
Member Port   : 1-8
Active Port   : 7
Status        : Enabled
Flooding Port : 7

DGS-3120-24TC:admin#
```

**Link aggregation group enable and no member linkup:**

```
DGS-3120-24TC:admin# show link_aggregation
Command: show link_aggregation

Link Aggregation Algorithm = MAC-source-dest
Group ID      : 1
Type         : LACP
Master Port   : 1
Member Port   : 1-8
Active Port   :
Status        : Enabled
Flooding Port :

DGS-3120-24TC:admin#
```

**Link aggregation group disabled:**

```
DGS-3120-24TC:admin# show link_aggregation
Command: show link_aggregation

Link Aggregation Algorithm = MAC-source-dest
Group ID      : 1
Type         : LACP
Master Port   : 1
Member Port   : 1-8
Active Port   :
Status        : Disabled
Flooding Port :

DGS-3120-24TC:admin#
```

## 35-6 config lacp\_port

### **Description**

The config LACP command config per-port LACP mode.



### Format

**config lacp\_port <portlist> mode [active | passive]**

### Parameters

---

**lacp\_port** - Specified a range of ports to be configured. (UnitID:port number).

**<portlist>** - Enter the list of port used for the configuration here.

---

**mode** - Specifies the LACP mode used.

**active** - Specifies to set the LACP mode as active.

**passive** - Specifies to set the LACP mode as passive.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To config port LACP mode:

```
DGS-3120-24TC:admin# config lacp_port 1-12 mode active
command: config lacp_port 1:1-1:12 mode active

Success.

DGS-3120-24TC:admin#
```

35-7 show lacp\_port

### Description

This command is used to show the current mode of LACP of the ports.

### Format

**show lacp\_port <portlist>**

### Parameters

---

**lacp\_port** - Specified a range of ports to be configured. (UnitID:port number).

**<portlist>** - Enter the list of ports used for this configuration here.

---

If no parameter specified, the system will display current LACP and all port status.

---

### Restrictions

None.

### Example

To show port lacp mode:

```
DGS-3120-24TC:admin# show lacp_port
```

```
Command: show lacp_port
```

Port	Activity
-----	-----
1	Active
2	Active
3	Active
4	Active
5	Active
6	Active
7	Active
8	Active
9	Active
10	Active
11	Active
12	Active

```
DGS-3120-24TC:admin#
```

## Chapter 36 Link Layer Discovery Protocol (LLDP) Command List

<b>enable lldp</b>
<b>disable lldp</b>
<b>config lldp</b> [message_tx_interval <sec 5-32768>   message_tx_hold_multiplier <int 2-10>   tx_delay <sec 1-8192>   reinit_delay <sec 1-10>]
<b>config lldp notification_interval</b> <sec 5-3600>
<b>config lldp ports</b> [<portlist>   all] [notification [enable   disable]   admin_status [tx_only   rx_only   tx_and_rx   disable]   mgt_addr [ipv4 <ipaddr>   ipv6 <ipv6addr>] [enable   disable]   basic_tlvs [{all}   {port_description   system_name   system_description   system_capabilities}] [enable   disable]   dot1_tlv_pvid [enable   disable]   dot1_tlv_protocol_vid [vlan [all   <vlan_name 32>]   vlanid <vidlist>] [enable   disable]   dot1_tlv_vlan_name [vlan [all   <vlan_name 32>]   vlanid <vidlist>] [enable   disable]   dot1_tlv_protocol_identity [all   {eapol   lacp   gvrp   stp}] [enable   disable]   dot3_tlvs [{all}   {mac_phy_configuration_status   link_aggregation   power_via_mdi   maximum_frame_size}] [enable   disable]]
<b>config lldp forward_message</b> [enable   disable]
<b>show lldp</b>
<b>show lldp mgt_addr</b> {ipv4 <ipaddr>   ipv6 <ipv6addr>}
<b>show lldp ports</b> {<portlist>}
<b>show lldp local_ports</b> {<portlist>} {mode [brief   normal   detailed]}
<b>show lldp remote_ports</b> {<portlist>} [brief   normal   detailed]
<b>show lldp statistics</b>
<b>show lldp statistics ports</b> {<portlist>}

### 36-1 enable lldp

#### Description

This is a global control for the LLDP function.

When this function is enabled, the switch can start to transmit LLDP packets and receive and process the LLDP packets. The specific function of each port will depend on the per-port LLDP setting.

For the advertisement of LLDP packets, the switch announces the information to its neighbor through ports. For the receiving of LLDP packets, the switch will learn the information from the LLDP packets advertised from the neighbor in the neighbor table. The default state for LLDP is disabled.

#### Format

```
enable lldp
```

#### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To enable LLDP:

```
DGS-3120-24TC:admin# enable lldp
Command: enable lldp

Success.

DGS-3120-24TC:admin#
```

## 36-2 disable lldp

### Description

The switch will stop sending and receiving of LLDP advertisement packet.

### Format

**disable lldp**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To disable LLDP:

```
DGS-3120-24TC:admin# disable lldp
Command: disable lldp

Success.

DGS-3120-24TC:admin#
```

## 36-3 config lldp

### Description

This command is used to change the packet transmission interval.

## Format

**config lldp [message\_tx\_interval <sec 5-32768> | message\_tx\_hold\_multiplier <int 2-10> | tx\_delay <sec 1-8192> | reinit\_delay <sec 1-10>]**

## Parameters

---

<b>message_tx_interval</b> - Changes the interval between consecutive transmissions of LLDP advertisements on any given port. The default setting 30 seconds. <b>&lt;sec 5-32768&gt;</b> - Enter the message transmit interval value here. This value must be between 5 and 32768 seconds.
<b>message_tx_hold_multiplier</b> - Specifies to configure the message hold multiplier. The default setting 4. <b>&lt;2-10&gt;</b> - Enter the message transmit hold multiplier value here. This value must be between 2 and 10.
<b>tx_delay</b> - Specifies the minimum interval between sending of LLDP messages due to constantly change of MIB content. The default setting 2 seconds. <b>&lt;sec 1-8192&gt;</b> - Enter the transmit delay value here. This value must be between 1 and 8192 seconds.
<b>reinit_delay</b> - Specifies the the minimum time of reinitialization delay interval. The default setting 2 seconds. <b>&lt;sec 1-10&gt;</b> - Enter the re-initiate delay value here. This value must be between 1 and 10 seconds.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To change the packet transmission interval:

```
DGS-3120-24TC:admin# config lldp message_tx_interval 30
Command: config lldp message_tx_interval 30

Success.

DGS-3120-24TC:admin#
```

## 36-4 config lldp notification\_interval

### Description

Used to configure the timer of notification interval for sending notification to configured SNMP trap receiver(s).

### Format

**config lldp notification\_interval <sec 5-3600>**

### Parameters

---

**notification\_interval** - Specifies the timer of notification interval for sending notification to configured SNMP trap receiver(s). The default setting is 5 seconds.

---

---

**<sec 5-3600>** - Enter the notification interval value here. This value must be between 5 and 3600 seconds.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To changes the notification interval to 10 second:

```
DGS-3120-24TC:admin# config lldp notification_interval 10
Command: config lldp notification_interval 10

Success.

DGS-3120-24TC:admin#
```

## 36-5 config lldp ports

### Description

Used to configure each port for sending a notification to configure the SNMP trap receiver(s).

### Format

**config lldp ports** [**<portlist>** | **all**] [**notification** [**enable** | **disable**] | **admin\_status** [**tx\_only** | **rx\_only** | **tx\_and\_rx** | **disable**] | **mgt\_addr** [**ipv4** **<ipaddr>** | **ipv6** **<ipv6addr>**] [**enable** | **disable**] | **basic\_tlvs** [{**all**} | {**port\_description** | **system\_name** | **system\_description** | **system\_capabilities**}] [**enable** | **disable**] | **dot1\_tlv\_pvid** [**enable** | **disable**] | **dot1\_tlv\_protocol\_vid** [**vlan** [**all** | **<vlan\_name 32>**] | **vlanid** **<vidlist>**] [**enable** | **disable**] | **dot1\_tlv\_vlan\_name** [**vlan** [**all** | **<vlan\_name 32>**] | **vlanid** **<vidlist>**] [**enable** | **disable**] | **dot1\_tlv\_protocol\_identity** [**all** | {**eapol** | **lacp** | **gvrp** | **stp**}] [**enable** | **disable**] | **dot3\_tlvs** [{**all**} | {**mac\_phy\_configuration\_status** | **link\_aggregation** | **power\_via\_mdi** | **maximum\_frame\_size**}] [**enable** | **disable**]]

### Parameters

---

**<portlist>** - Enter a list of ports used for the configuration here.

**all** - Specifies that all the ports will be used for this configuration.

**notification** - Enables or disables the SNMP trap notification of LLDP data changes detected on advertisements received from neighbor devices. The default notification state is disabled.

**enable** - Specifies that the SNMP trap notification of LLDP data changes detected will be enabled.

**disable** - Specifies that the SNMP trap notification of LLDP data changes detected will be disabled.

---

**admin\_status** - Specifies the per-port transmit and receive modes.

**tx\_only** - Configure the specified port(s) to transmit LLDP packets, but block inbound LLDP packets from neighbor devices.

**rx\_only** - Configure the specified port(s) to receive LLDP packets from neighbors, but block outbound packets to neighbors.

**tx\_and\_rx** - Configure the specified port(s) to both transmit and receive LLDP packets.

**disable** - Disable LLDP packet transmit and receive on the specified port(s).

---

**mgt\_addr** - Specifies the management address used.

---

---

<b>ipv4</b> - Specifies the IPv4 address used. <b>&lt;ipaddr&gt;</b> - Enter the IP address used for this configuration here.
<b>ipv6</b> - Specifies the IPv6 address used. <b>&lt;ipv6addr&gt;</b> - Enter the IPv6 address used for this configuration here.
<b>enable</b> - Specifies that the advertising indicated management address instance will be enabled.
<b>disable</b> - Specifies that the advertising indicated management address instance will be disabled.
<b>basic_tlvs</b> - Specifies the basic TLV data types used from outbound LLDP advertisements. <b>all</b> - Specifies that all the basic TLV data types will be used.
<b>port_description</b> - (Optional) This TLV optional data type indicates that LLDP agent should transmit 'Port Description TLV on the port. The default state is disabled.
<b>system_name</b> - (Optional) This TLV optional data type includes indicates that LLDP agent should transmit 'System Name TLV'. The default state is disabled.
<b>system_description</b> - (Optional) This TLV optional data type includes indicates that LLDP agent should transmit 'System Description TLV'. The default state is disabled.
<b>system_capabilities</b> - (Optional) This TLV optional data type includes indicates that LLDP agent should transmit 'System Capabilities TLV'. The system capability will indicate whether the device provides repeater, bridge, or router function, and whether the provided functions are currently enabled. The default state is disabled.
<b>enable</b> - Specifies that the basic TLV data types used from outbound LLDP advertisements will be enabled.
<b>disable</b> - Specifies that the basic TLV data types used from outbound LLDP advertisements will be disabled.
<b>dot1_tlv_pvid</b> - This TLV optional data type determines whether the IEEE 802.1 organizationally defined port VLAN ID TLV transmission is allowed on a given LLDP transmission capable port. The default state is disable.
<b>enable</b> - Specifies that the Dot1 TLV PVID option will be enabled.
<b>disable</b> - Specifies that the Dot1 TLV PVID option will be disabled.
<b>dot1_tlv_protocol_vid</b> - This TLV optional data type determines whether the IEEE 802.1 organizationally defined port and protocol VLAN ID TLV transmission is allowed on a given LLDP transmission capable port. The default state is disable.
<b>vlan</b> - Specifies the VLAN used for this configuration. <b>all</b> - Specifies that all the configured VLANs will be used for this configuration. <b>&lt;vlan_name 32&gt;</b> - Enter the name of the VLAN here. This name can be up to 32 characters long.
<b>vlanid</b> - Specifies the VLAN ID used for this configuration. <b>&lt;vlanid_list&gt;</b> - Enter the ID of the VLAN here.
<b>enable</b> - Specifies that the Dot1 TLV protocol VID will be enabled.
<b>disable</b> - Specifies that the Dot1 TLV protocol VID will be disabled.
<b>dot1_tlv_vlan_name</b> - This TLV optional data type indicates whether the corresponding Local System's VLAN name instance will be transmitted on the port. If a port is associated with multiple VLANs, those enabled VLAN ID will be advertised. The default state is disable.
<b>vlan</b> - Specifies the VLAN used for this configuration. <b>all</b> - Specifies that all the configured VLANs will be used for this configuration. <b>&lt;vlan_name 32&gt;</b> - Enter the name of the VLAN here. This name can be up to 32 characters long.
<b>vlanid</b> - Specifies the VLAN ID used for this configuration. <b>&lt;vlanid_list&gt;</b> - Enter the ID of the VLAN here.
<b>enable</b> - Specifies that the Dot1 TLV VLAN name will be enabled.
<b>disable</b> - Specifies that the Dot1 TLV VLAN name will be disabled.
<b>dot1_tlv_protocol_identity</b> - This TLV optional data type indicates whether the corresponding Local System's Protocol Identity instance will be transmitted on the port. The Protocol Identity TLV provides a way for stations to advertise protocols that are important to the operation of the network. Such as Spanning Tree Protocol, the Link Aggregation Control Protocol, and numerous vendor proprietary variations are responsible for maintaining the topology and connectivity of the network. If EAPOL, GVRP, STP (including MSTP), and LACP protocol identity is enabled on this port and it is enabled to be advertised, then this protocol identity will be advertised. The default state is disabled. <b>all</b> - Specifies that all the vendor proprietary protocols will be advertised.
<b>eapol</b> - (Optional) Specifies that the EAPOL protocol will be advertised.

---

---

**lACP** - (Optional) Specifies that the LACP protocol will be advertised.

**gvrp** - (Optional) Specifies that the GVRP protocol will be advertised.

**stp** - (Optional) Specifies that the STP protocol will be advertised.

---

**enable** - Specifies that the protocol identity TLV according to the protocol specified will be advertised.

**disable** - Specifies that the protocol identity TLV according to the protocol specified will not be advertised.

---

**dot3\_tlvs** - Specifies that the IEEE 802.3 specific TLV data type will be configured.

**all** - Specifies that all the IEEE 802.3 specific TLV data type will be used.

**mac\_phy\_configuration\_status** - (Optional) This TLV optional data type indicates that LLDP agent should transmit 'MAC/PHY configuration/status TLV'. This type indicates it is possible for two ends of an IEEE 802.3 link to be configured with different duplex and/or speed settings and still establish some limited network connectivity. More precisely, the information includes whether the port supported the auto-negotiation function, whether the function is enabled, the auto-negotiated advertised capability, and the operational MAU type. The default state is disabled.

**link\_aggregation** - (Optional) This TLV optional data type indicates that LLDP agent should transmit 'Link Aggregation TLV'. This type indicates the current link aggregation status of IEEE 802.3 MACs. More precisely, the information should include whether the port is capable of doing link aggregation, whether the port is aggregated in a aggregated link, and the aggregated port ID. The default state is disabled.

**power\_via\_mdi** - (Optional) This TLV optional data type indicates that LLDP agent should transmit 'Power via MDI TLV'. Three IEEE 802.3 PMD implementations (10BASE-T, 100BASE-TX, and 1000BASE-T) allow power to be supplied over the link for connected non-powered systems. The Power Via MDI TLV allows network management to advertise and discover the MDI power support capabilities of the sending IEEE 802.3 LAN station. The default state is disabled.

**maximum\_frame\_size** - (Optional) This TLV optional data type indicates that LLDP agent should transmit 'Maximum-frame-size TLV'. The default state is disabled.

---

**enable** - Specifies that the IEEE 802.3 specific TLV data type selected will be advertised.

**disable** - Specifies that the IEEE 802.3 specific TLV data type selected will be not advertised.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To enable SNMP notifications from port 1-5:

```
DGS-3120-24TC:admin# config lldp ports 1:1-1:5 notification enable
Command: config lldp ports 1:1-1:5 notification enable

Success.

DGS-3120-24TC:admin#
```

To configure port 1-5 to transmit and receive:

```
DGS-3120-24TC:admin# config lldp ports 1:1-1:5 admin_status tx_and_rx
Command: config lldp ports 1:1-1:5 admin_status tx_and_rx

Success.

DGS-3120-24TC:admin#
```



To enable ports 1-2 for manage address entry:

```
DGS-3120-24TC:admin# config lldp ports 1:1-1:2 mgt_addr ipv4 192.168.254.10
enable
Command: config lldp ports 1:1-1:2 mgt_addr ipv4 192.168.254.10 enable

Success

DGS-3120-24TC:admin#
```

To configure exclude the system name TLV from the outbound LLDP advertisements for all ports:

```
DGS-3120-24TC:admin# config lldp ports all basic_tlvs system_name enable
Command: config lldp ports all basic_tlvs system_name enable

Success.

DGS-3120-24TC:admin#
```

To configure exclude the vlan name TLV from the outbound LLDP advertisements for all ports:

```
DGS-3120-24TC:admin# config lldp ports all dot1_tlv_pvid enable
Command: config lldp ports all dot1_tlv_pvid enable

Success.

DGS-3120-24TC:admin#
```

To configure exclude the port and protocol VLAN ID TLV from the outbound LLDP advertisements for all ports:

```
DGS-3120-24TC:admin# config lldp ports all dot1_tlv_protocol_vid vlanid 1-3
enable
Command: config lldp ports all dot1_tlv_protocol_vid vlanid 1-3 enable

Success.

DGS-3120-24TC:admin#
```

To configure exclude the VLAN name TLV from the outbound LLDP advertisements for all ports:

```
DGS-3120-24TC:admin# config lldp ports all dot1_tlv_vlan_name vlanid 1-3
enable
Command: config lldp ports all dot1_tlv_vlan_name vlanid 1-3 enable

Success.

DGS-3120-24TC:admin#
```

To configure exclude the protocol identity TLV from the outbound LLDP advertisements for all ports:

```
DGS-3120-24TC:admin# config lldp ports all dot1_tlv_protocol_identity all
enable
Command: config lldp ports all dot1_tlv_protocol_identity all enable

Success.

DGS-3120-24TC:admin#
```

To configure exclude the MAC/PHY configuration/status TLV from the outbound LLDP advertisements for all ports:

```
DGS-3120-24TC:admin# config lldp ports all dot3_tlvs
mac_phy_configuration_status enable
Command: config lldp ports all dot3_tlvs mac_phy_configuration_status enable

Success.

DGS-3120-24TC:admin#
```

## 36-6 config lldp forward\_message

### Description

Used to configure forwarding of LLDP PDU packet when LLDP is disabled.

### Format

**config lldp forward\_message [enable | disable]**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To configure LLDP to forward LLDP PDUs:

```
DGS-3120-24TC:admin# config lldp forward_message enable
Command: config lldp forward_message enable

Success.

DGS-3120-24TC:admin#
```

## 36-7 show lldp

### Description

This command displays the switch's general LLDP configuration status.

## Format

**show lldp**

## Parameters

None.

## Restrictions

None.

## Example

To display the LLDP system level configuration status:

```
DGS-3120-24TC:admin# show lldp
Command: show lldp

LLDP System Information
  Chassis Id Subtype           : MAC ADDRESS
  Chassis Id                   : 00-33-50-43-00-00
  System Name                   : Switch
  System Description           : Gigabit Ethernet Switch
  System Capabilities          : Repeater, Bridge

LLDP Configurations
  LLDP State                    : Enabled
  Message Tx Interval          : 30
  Message Tx Hold Multiplier   : 4
  ReInit Delay                 : 2
  Tx Delay                     : 2
  Notification Interval        : 6

DGS-3120-24TC:admin#
```

## 36-8 show lldp mgt\_addr

### Description

Used to display the lldp management address information.

### Format

**show lldp mgt\_addr {ipv4 <ipaddr> | ipv6 <ipv6addr>}**

### Parameters

- 
- ipv4** - (Optional) Specifies the IPv4 address used for the display.
  - <ipaddr>** - Enter the IPv4 address used for this configuration here.
  - ipv6** - (Optional) Specifies the IPv6 address used for the display.
-

---

**<ipv6addr>** - Enter the IPv6 address used for this configuration here.

---

### Restrictions

None.

### Example

To display management address information:

```
DGS-3120-24TC:admin# show lldp mgt_addr ipv4 192.168.254.10
Command: show lldp mgt_addr ipv4 192.168.254.10

Address 1
-----
Subtype                : IPV4
Address                : 192.168.254.10
IF type                : unknown
OID                   : 1.3.6.1.4.1.171.10.36.1.11
Advertising ports     :
                        1:1-1:5, 1:7, 2:10-2:20

DGS-3120-24TC:admin#
```

## 36-9 show lldp ports

### Description

This command displays the LLDP per port configuration for advertisement options.

### Format

**show lldp ports {<portlist>}**

### Parameters

---

**<portlist>** - (Optional) Specifies a range of ports to be displayed.  
If the port list is not specified, information for all the ports will be displayed.

---

### Restrictions

None.

### Example

To display the LLDP port 1 TLV option configuration:

```

DGS-3120-24TC:admin# show lldp ports 1:1
Command: show lldp ports 1:1

Port ID : 1:1
-----
Admin Status           : TX_AND_RX
Notification Status    : Enable
Advertised TLVs Option :
Port Description       : Enable
System Name            : Enable
System Description     : Disable
System Capabilities    : Enable
Enabled Management Address
    192.168.254.10, 192.168.254.11
Port VLAN ID           : Enable
Enabled port_and_protocol_vlan_id
    6-7
Enabled VLAN Name      :
    1-5, 8-10
Enabled protocol_identity
    EAPOL, GVRP
MAC/PHY Configuration/Status : Enable
Link Aggregation       : Disable
Maximum Frame Size     : Disable

DGS-3120-24TC:admin#

```

## 36-10 show lldp local\_ports

### Description

Used to display the per-port information currently available for populating outbound LLDP advertisements.

### Format

**show lldp local\_ports** {<portlist>} {mode [brief | normal | detailed]}

### Parameters

**<portlist>** - (Optional) Specified a range of ports to be configured. When port list is not specified, information for all ports will be displayed.

**mode** - (Optional) Specifies the display mode.

**brief** - Display the information in brief mode.

**normal** - Display the information in normal mode. This is the default display mode.

**detailed** - Display the information in detailed mode.

### Restrictions

None.

## Example

To display outbound LLDP advertisements for port 1 in detailed mode. Port description on the display should use the same value as ifDescr.

```
DGS-3120-24TC:admin# show lldp local_ports 1:1 mode detailed
Command: show lldp local_ports 1:1 mode detailed

Port ID : 1:
-----
Port ID Subtype           : LOCAL
Port ID                   : 1/1
Port Description          : RMON Port 1 on Unit 3
Port VLAN ID              : 1
Management Address
  Address 1
    Subtype                : IPV4
    Address                 : 192.168.254.10
    IF type                 : unknown
    OID                     : 1.3.6.1.4.1.171.10.36.1.11
  Address 2
    Subtype                : IPV4
    Address                 : 192.168.254.11
    IF type                 : unknown
    OID                     : 2.3.6.1.4.1.171.10.36.1.11

PPVID Entries
  Entry 1
    Port and protocol VLAN ID : 4
    PPVID supported           : supported
    PPVID Enable              : Enable
  Entry 2
    Port and protocol VLAN ID : 5
    PPVID supported           : supported
    PPVID Enable              : Enable
  Entry 3
    Port and protocol VLAN ID : 6
    PPVID supported           : supported
    PPVID Enable              : Enable

VLAN Name Entries
  Entry 1
    VLAN ID                   : 1
    VLAN Name                  : V1
  Entry 2
    VLANID                     : 2
    VLAN Name                  : V2
  Entry 3
```

```

VLAN ID : 3
VLAN Name : V3

Protocol Identity Entries
Entry 1
  Protocol index : 1
  Protocol id : 00 16 42 42 03 00 01 01
  Protocol Name : GVRP

Entry 2
  Protocol index : 2
  Protocol id : 00 27 42 42 03 00 00 02
  Protocol Name : STP

MAC/PHY Configuration/Status
  Auto-negotiation support : supported
  Auto-negotiation status : enabled
  Auto-negotiation advertised capability : xxxx (hex)
  Auto-negotiation operational MAU type : 0010 (hex)

Power Via MDI
  Port class : PSE
  PSE MDI power support : supported
  PSE MDI power state : enabled
  PSE pairs control ability : uncontrollable
  PSE power pair : signal
  power class : 3

Link Aggregation
  Aggregation capability : aggregated
  Aggregation status : currently in aggregation
  Aggregated port ID : 1

Maximum Frame Size : 1000

Unknown TLVs
Entry 1
  Unknown TLV type : 30
  Unknown TLV Information Bytes : XX XX XX XX XX XX(hex)

Entry 2
  Unknown TLV type : 31
  Unknown TLV Information Bytes : XX XX XX XX XX XX(hex)

DGS-3120-24TC:admin#

```

To display outbound LLDP advertisements for port 1 in normal mode:

```
DGS-3120-24TC:admin# show lldp local_ports 1:1 mode normal
Command: show lldp local_ports 1:1 mode normal

Port ID : 1:
-----
Port ID Subtype           : LOCAL
Port ID                   : 1/1
Port Description          : RMON Port 1 on Unit 1
Port VLAN ID              : 1
Management Address count  : 2
PPVID Entries count       : 3
VLAN Name Entries count   : 3
Protocol Identity Entries count : 2
MAC/PHY Configuration/Status : (See detail)
Power Via MDI              : (See detail)
Link Aggregation          : (See detail)
Maximum Frame Size        : 1000
Unknown TLVs count        : 2

DGS-3120-24TC:admin#
```

To display outbound LLDP advertisements for port 1 in brief mode:

```
DGS-3120-24TC:admin# show lldp local_ports 1:1 mode brief
Command: show lldp local_ports 1:1 mode brief

Port ID 1:
-----
Port ID Subtype           : LOCAL
Port ID                   : 1/1
Port Description          : RMON Port 1 on Unit 1

DGS-3120-24TC:admin#
```

## 36-11 show lldp remote\_ports

### Description

This command display the information learned from the neighbor parameters.

### Format

**show lldp remote\_ports {<portlist>} [brief | normal | detailed]**

### Parameters

**<portlist>** - (Optional) Specified a range of ports to be configured. When port list is not specified, information for all ports will be displayed.

**brief** - (Optional) Display the information in brief mode.

**normal** - Display the information in normal mode. This is the default display mode.

**detailed** - Display the information in detailed mode.



## Restrictions

None.

## Example

To display remote table in brief mode:

```
DGS-3120-24TC:admin# show lldp remote_ports 1:1-1:2 mode brief
Command: show lldp remote_ports 1:1-1:2 mode brief

Port ID: 1
-----
Remote Entities count : 3
Entity 1
    Chassis ID Subtype      : MACADDRESS
    Chassis ID              : 00-01-02-03-04-01
    Port ID Subtype        : LOCAL
    Port ID                 : 1/3
    Port Description       : RMON Port 1 on Unit 3

Entity 2
    Chassis ID Subtype      : MACADDRESS
    Chassis ID              : 00-01-02-03-04-02
    Port ID Subtype        : LOCAL
    Port ID                 : 1/4
    Port Description       : RMON Port 1 on Unit 4

Port ID : 2
-----
Remote Entities count : 3
Entity 1
    Chassis ID Subtype      : MACADDRESS
    Chassis ID              : 00-01-02-03-04-03
    Port ID Subtype        : LOCAL
    Port ID                 : 2/1
    Port Description       : RMON Port 2 on Unit 1

Entity 2
    Chassis ID Subtype      : MACADDRESS
    Chassis ID              : 00-01-02-03-04-04
    Port ID Subtype        : LOCAL
    Port ID                 : 2/2
    Port Description       : RMON Port 2 on Unit 2

Entity 3
    Chassis ID Subtype      : MACADDRESS
    Chassis ID              : 00-01-02-03-04-05
    Port ID Subtype        : LOCAL
    Port ID                 : 2/3
    Port Description       : RMON Port 2 on Unit 3

DGS-3120-24TC:admin#
```

To display remote table in normal mode:

```
DGS-3120-24TC:admin# show lldp remote_ports 1:1 mode normal
Command: show lldp remote_ports 1:1 mode normal

Port ID : 1
-----
Remote Entities count : 2
Entity 1
    Chassis ID Subtype      : MACADDRESS
    Chassis ID              : 00-01-02-03-04-01
    Port ID Subtype         : LOCAL
    Port ID                 : 1/3
    Port Description        : RMON Port 3 on Unit 1
    System Name             : Switch1
    System Description      : Stackable Ethernet Switch
    System Capabilities     : Repeater, Bridge
    Management Address count : 1
    Port VLAN ID           : 1
    PPVID Entries count    : 5
    VLAN Name Entries count : 3
    Protocol Id Entries count : 2
    MAC/PHY Configuration/Status : (See detail)
    Power Via MDI          : (See detail)
    Link Aggregation       : (See detail)
    Maximum Frame Size     : 1536
    Unknown TLVs count     : 2

Entity 2
    Chassis ID Subtype      : MACADDRESS
    Chassis ID              : 00-01-02-03-04-02
    Port ID Subtype         : LOCAL
    Port ID                 : 2/1
    Port Description        : RMON Port 1 on Unit 2
    System Name             : Switch2
    System Description      : Stackable Ethernet Switch
    System Capabilities     : Repeater, Bridge
    Management Address count : 2
    Port VLAN ID           : 1
    PPVID Entries count    : 5
    VLAN Name Entries count : 3
    Protocol Id Entries count : 2
    MAC/PHY Configuration/Status : (See detail)
    Power Via MDI          : (See detail)
    Link Aggregation       : (See detail)
    Maximum Frame Size     : 1536

DGS-3120-24TC:admin#
```

To display remote table in detailed mode:

```

DGS-3120-24TC:admin# show lldp remote_ports 1:1 mode detailed
Command: show lldp remote_ports 1:1 mode detailed

Port ID : 1
-----
Remote Entities count : 1
Entity 1
  Chassis ID Subtype      : MACADDRESS
  Chassis ID              : 00-01-02-03-04-01
  Port ID Subtype        : LOCAL
  Port ID                 : 1/3
  Port Description       : RMON Port 3 on Unit 1
  System Name            : Switch1
  System Description     : Stackable Ethernet Switch
  System Capabilities    : Repeater, Bridge
  Management Address     : 10.90.90.91
  Port VLAN ID           : 1
  Management Address
    Address 1
      Subtype              : IPV4
      Address              : 192.168.254.10
      IF type              : unknown
      OID                  : 1.3.6.1.4.1.171.10.36.1.11

    Address 2
      Subtype              : IPV4
      Address              : 192.168.254.11
      IF type              : unknown
      OID                  : 2.3.6.1.4.1.171.10.36.1.11

  PPVID Entries
    Entry 1
      Port and protocol VLAN ID : 4
      PPVID supported           : supported
      PPVID Enable              : Enable

    Entry 2
      Port and protocol VLAN ID : 5
      PPVID supported           : supported
      PPVID Enable              : Enable

    Entry 3
      Port and protocol VLAN ID : 6
      PPVID supported           : supported
      PPVID Enable              : Enable

  VLAN Name Entries
    Entry 1
      VLAN ID                  : 1
      VLAN Name                 : V1

    Entry 2

```

```

VLANID : 2
VLAN Name : V2

Entry 3
VLAN ID : 3
VLAN Name : V3

Protocol Identity Entries
Entry 1
Protocol index : 1
Protocol id : 00 16 42 42 03 00 01 01
Protocol Name : GVRP

Entry 2
Protocol index : 2
Protocol id : 00 27 42 42 03 00 00 02
Protocol Name : STP

MAC/PHY Configuration/Status
Auto-negotiation support : supported
Auto-negotiation status : enabled
Auto-negotiation advertised capability : xxxx (hex)
Auto-negotiation operational MAU type : 0010 (hex)

Power Via MDI
Port class : PSE
PSE MDI pnower support : supported
PSE MDI power state : enabled
PSE pairs control ability : uncontrollable
PSE power pair : signal
power class : 3

Link Aggregation
Aggregation capability : aggregated
Aggregation status : currently in aggregation
Aggregated port ID : 1

Maximum Frame Size : 1000

Unknown TLVs
Entry 1
Unknown TLV type : 30
Unknown TLV Information Bytes : XX XX XX XX XX XX(hex)

Entry 2
Unknown TLV type : 31
Unknown TLV Information Bytes : XX XX XX XX XX XX(hex)

DGS-3120-24TC:admin#

```

## 36-12 show lldp statistics

### Description

The global LLDP statistics displays an overview of neighbor detection activity on the switch.

### Format

**show lldp statistics**

### Parameters

None.

### Restrictions

None.

### Example

To display global statistics information:

```
DGS-3120-24TC:admin# show lldp statistics
Command: show lldp statistics

Last Change Time           : 6094
Number of Table Insert     : 1
Number of Table Delete     : 0
Number of Table Drop       : 0
Number of Table Ageout    : 0

DGS-3120-24TC:admin#
```

## 36-13 show lldp statistics ports

### Description

The per-port LLDP statistics command displays per-port LLDP statistics

### Format

**show lldp statistics ports {<portlist>}**

### Parameters

---

**<portlist>** - (Optional) Specified a range of ports to be configured. When port list is not specified, information for all ports will be displayed.

---

### Restrictions

None.

## Example

To display statistics information of port 1:

```
DGS-3120-24TC:admin# show lldp statistics ports 1:1
Command: show lldp statistics ports 1:1

Port ID: 1
-----
      lldpStatsTxPortFramesTotal           : 27
      lldpStatsRxPortFramesDiscardedTotal  : 0
      lldpStatsRxPortFramesErrors          : 0
      lldpStatsRxPortFramesTotal          : 27
      lldpStatsRxPortTLVsDiscardedTotal    : 0
      lldpStatsRxPortTLVsUnrecognizedTotal : 0
      lldpStatsRxPortAgeoutsTotal         : 0

DGS-3120-24TC:admin#
```

## Chapter 37 Loop Back Detection (LBD) Command List

---

```

config loopdetect {recover_timer [<value 0> | <sec 60-1000000>] | interval <sec 1-32767> |
  mode [port-based | vlan-based]}
config loopdetect ports [<portlist> | all] state [enable | disable]
enable loopdetect
disable loopdetect
show loopdetect
show loopdetect ports {<portlist>}
config loopdetect trap [none | loop_detected | loop_cleared | both]
config loopdetect log state [enable | disable]

```

---

### 37-1 config loopdetect

#### Description

This command is used to setup the loop-back detection function (LBD) for the entire Switch.

#### Format

```

config loopdetect {recover_timer [<value 0> | <sec 60-1000000>] | interval <sec 1-32767> |
  mode [port-based | vlan-based]}

```

#### Parameters

---

**recover\_timer** - (Optional) The time interval (in seconds) used by the Auto-Recovery mechanism to decide how long to check before determining that the loop status has gone. The valid range is from 60 to 1000000. 0 is a special value that specifies that the auto-recovery mechanism should be disabled. When the auto-recovery mechanism is disabled, a user would need to manually recover a disabled port. The default value for the recover timer is 60 seconds.

**<value 0>** - 0 is a special value that specifies that the auto-recovery mechanism should be disabled. When the auto-recovery mechanism is disabled, a user would need to manually recover a disabled port.

**<sec 60-1000000>** - Enter the recovery timer value here. This value must be between 60 and 1000000 seconds.

---

**interval** - (Optional) The time interval (in seconds) that the device will transmit all the CTP (Configuration Test Protocol) packets to detect a loop-back event. The default setting is 10 seconds. The valid range is from 1 to 32767 seconds.

**<sec - 1-32767>** - Enter the time interval value here. This value must be between 1 and 32767 seconds.

---

**mode** - (Optional) Specify the loop-detection operation mode. In port-based mode, the port will be shut down (disabled) when loop has been detected. In VLAN-based mode, the port cannot process the packets of the VLAN that has detected the loop.

**port-based** - Specifies that the loop-detection operation mode will be set to port-based mode.

**vlan-based** - Specifies that the loop-detection operation mode will be set to vlan-based mode.

---

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To set the auto-recover time to 0, which disables the auto-recovery mechanism, the interval to 20 seconds and specify VLAN-based mode:

```
DGS-3120-24TC:admin# config loopdetect recover_timer 0 interval 20 mode vlan-
based
Command: config loopdetect recover_timer 0 interval 20 mode vlan-based

Success.

DGS-3120-24TC:admin#
```

## 37-2 config loopdetect ports

### Description

This command is used to setup the loop-back detection function for the interfaces on the Switch.

### Format

**config loopdetect ports [<portlist> | all] state [enable | disable]**

### Parameters

---

**ports** - Specify the range of ports that LBD will be configured on.  
**<portlist>** - Enter a list of ports  
**all** - To set all ports in the system, you may use the “all” parameter.

---

**state** - Specify whether the LBD function should be enabled or disabled on the ports specified in the port list. The default state is disabled.  
**enable** - Specify to enable the LBD function.  
**disable** - Specify to disable the LBD function.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To enable the LBD function on ports 1:1-1:5:

```
DGS-3120-24TC:admin# config loopdetect ports 1:1-1:5 state enable
Command: config loopdetect ports 1:1-1:5 state enable

Success.

DGS-3120-24TC:admin#
```

## 37-3 enable loopdetect

### Description

This command is used to enable the LBD function globally on the Switch. The default state is disabled.



### **Format**

**enable loopdetect**

### **Parameters**

None.

### **Restrictions**

Only Administrator, Operator and Power-User level users can issue this command.

### **Example**

To enable the LBD function globally:

```
DGS-3120-24TC:admin# enable loopdetect
Command: enable loopdetect

Success.

DGS-3120-24TC:admin#
```

## **37-4 disable loopdetect**

### **Description**

This command is used to disable the LBD function globally on the Switch.

### **Format**

**disable loopdetect**

### **Parameters**

None.

### **Restrictions**

Only Administrator, Operator and Power-User level users can issue this command.

### **Example**

To disable the LBD function globally:

```
DGS-3120-24TC:admin# disable loopdetect
Command: disable loopdetect

Success.

DGS-3120-24TC:admin#
```

## 37-5 show loopdetect

### Description

This command is used to display the LBD global configuration.

### Format

**show loopdetect**

### Parameters

None.

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To show the LBD global settings:

```
DGS-3120-24TC:admin#show loopdetect
Command: show loopdetect

LBD Global Settings
-----
Status           : Disabled
Mode             : Port-based
Interval         : 10 sec
Recover Time     : 60 sec
Trap State       : None
Log State        : Enabled

DGS-3120-24TC:admin#
```

## 37-6 show loopdetect ports

### Description

This command is used to display the LBD per-port configuration.

### Format

**show loopdetect ports {<portlist>}**

## Parameters

**ports** - Specify the range of member ports that will display the LBD settings.

**<portlist>** - Enter the list of port to be configured here.

If no port is specified, the configuration for all ports will be displayed.

## Restrictions

None.

## Example

To show the LBD settings on ports 1-9:

```
DGS-3120-24TC:admin# show loopdetect ports 1-9
Command: show loopdetect ports 1-9

Port   Loopdetect State   Loop Status
-----
1      Enabled            Normal
2      Enabled            Normal
3      Enabled            Normal
4      Enabled            Normal
5      Enabled            Loop!
6      Enabled            Normal
7      Enabled            Loop!
8      Enabled            Normal
9      Enabled            Normal

DGS-3120-24TC:admin#
```

## 37-7 config loopdetect trap

### Description

This command is used to configure the trap modes for LBD.

### Format

**config loopdetect trap [none | loop\_detected | loop\_cleared | both]**

### Parameters

**none** - There is no trap in the LBD function.

**loop\_detected** - Trap will only be sent when the loop condition is detected.

**loop\_cleared** - Trap will only be sent when the loop condition is cleared.

**both** - Trap will either be sent when the loop condition is detected or cleared.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To specify that traps will be sent when the loop condition is detected or cleared:

```
DGS-3120-24TC:admin# config loopdetect trap both
Command: config loopdetect trap both

Success.

DGS-3120-24TC:admin#
```

## 37-8 config loopdetect log

### Description

This command is used to configure the log state for LBD. The default value is enabled.

### Format

**config loopdetect log state [enable | disable]**

### Parameters

---

**state** - Specifies the state of the LBD log feature.  
**enable** - Enable the LBD log feature.  
**disable** - Disable the LBD log feature. All LBD-related logs will not be recorded.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To enable the log state for LBD:

```
DGS-3120-24TC:admin# config loopdetect log state enable
Command: config loopdetect log state enable

Success.

DGS-3120-24TC:admin#
```

## Chapter 38 MAC Notification Command List

---

<b>enable mac_notification</b>
<b>disable mac_notification</b>
<b>config mac_notification</b> {interval <int 1-2147483647>   historysize <int 1-500>}
<b>config mac_notification ports</b> [<portlist>   all] [enable   disable]
<b>show mac_notification</b>
<b>show mac_notification ports</b> {<portlist>}

---

### 38-1 enable mac\_notification

#### Description

Used to enable global MAC address table notification on the switch.

#### Format

**enable mac\_notification**

#### Parameters

None.

#### Restrictions

Only Administrator and Operator-level users can issue this command.

#### Example

To enable mac\_notification function:

```
DGS-3120-24TC:admin# enable mac_notification
Command: enable mac_notification

Success.

DGS-3120-24TC:admin#
```

### 38-2 disable mac\_notification

#### Description

Used to disable global MAC address table notification on the switch.

#### Format

**disable mac\_notification**

## Parameters

None.

## Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To disable mac\_notification function:

```
DGS-3120-24TC:admin# disable mac_notification
Command: disable mac_notification

Success.

DGS-3120-24TC:admin#
```

## 38-3 config mac\_notification

### Description

Used to configure the switch's MAC address table notification global settings.

### Format

**config mac\_notification {interval <int 1-2147483647> | historysize <int 1-500>}**

### Parameters

---

**interval** - (Optional) The time in seconds between notifications.  
**<int 1-2147483647>** - Enter the interval time here. This value must be between 1 and 2147483647 seconds.

---

**historysize** - (Optional) This is maximum number of entries listed in the history log used for notification. Up to 500 entries can be specified.  
**<int 1-500>** - Enter the history log size here. This value must be between 1 and 500.

---

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To config the switch's Mac address table notification global settings:

```
DGS-3120-24TC:admin# config mac_notification interval 1 historysize 500
Command: config mac_notification interval 1 historysize 500

Success.

DGS-3120-24TC:admin#
```

## 38-4 config mac\_notification ports

### Description

Used to configure the port's MAC address table notification status settings.

### Format

**config mac\_notification ports [<portlist> | all] [enable | disable]**

### Parameters

---

**<portlist>** - Enter a list of ports used for the configuration here.

**all** - Specifies that all the ports will be used for this configuration.

**enable** - Enable the port's MAC address table notification.

**disable** - Disable the port's MAC address table notification.

---

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To enable 7th port's mac address table notification:

```
DGS-3120-24TC:admin# config mac_notification ports 1:7 enable
Command: config mac_notification ports 1:7 enable

Success.

DGS-3120-24TC:admin#
```

## 38-5 show mac\_notification

### Description

Used to display the switch's Mac address table notification global settings.

### Format

**show mac\_notification**

### Parameters

None.

### Restrictions

None.

## Example

To show the switch's Mac address table notification global settings:

```
DGS-3120-24TC:admin# show mac_notification
Command: show mac_notification

Global Mac Notification Settings

State           : Enabled
Interval        : 1
History Size    : 500

DGS-3120-24TC:admin#
```

## 38-6 show mac\_notification ports

### Description

Used to display the port's Mac address table notification status settings.

### Format

**show mac\_notification ports {<portlist>}**

### Parameters

---

**<portlist>** - (Optional) Enter a list of ports used for the configuration here.

---

### Restrictions

None.

### Example

To display all port's Mac address table notification status settings:



```
DGS-3120-24TC:admin# show mac_notification ports
```

```
Command: show mac_notification ports
```

```
Port #   MAC Address Table Notification State
```

```
-----
```

1:1	Disabled
1:2	Disabled
1:3	Disabled
1:4	Disabled
1:5	Disabled
1:6	Disabled
1:7	Disabled
1:8	Disabled
1:9	Disabled
1:10	Disabled

```
DGS-3120-24TC:admin#
```

## Chapter 39 MAC-based Access Control Command List

```

enable mac_based_access_control
disable mac_based_access_control
config mac_based_access_control password <passwd 16>
config mac_based_access_control method [local | radius]
config mac_based_access_control guest_vlan ports <portlist>
config mac_based_access_control ports [<portlist> | all] {state [enable | disable] | mode
[port_based | host_based] | aging_time [infinite | <min 1-1440>] | block_time <sec 0-300> |
max_users [<value 1-1000> | no_limit]}(1)
create mac_based_access_control [guest_vlan <vlan_name 32> | guest_vlanid <vlanid 1-
4094>]
delete mac_based_access_control [guest_vlan <vlan_name 32> | guest_vlanid <vlanid 1-
4094>]
clear mac_based_access_control auth_state [ports [all | <portlist>] | mac_addr <macaddr>]
create mac_based_access_control_local mac <macaddr> {[vlan <vlan_name 32> | vlanid <
vlanid 1-4094>]}
config mac_based_access_control_local mac <macaddr> [vlan <vlan_name 32> | vlanid
<vlanid 1-4094> | clear_vlan]
delete mac_based_access_control_local [mac <macaddr> | vlan <vlan_name 32> | vlanid
<vlanid 1-4094>]
config mac_based_access_control authorization attributes {radius [enable | disable] | local
[enable | disable]}(1)
show mac_based_access_control {ports {<portlist>}}
show mac_based_access_control_local {[mac <macaddr> | vlan <vlan_name 32> | vlanid
<vlanid 1-4094>]}
show mac_based_access_control auth_state ports {<portlist>}
config mac_based_access_control max_users [<value 1-1000> | no_limit]
config mac_based_access_control trap state [enable | disable]
config mac_based_access_control log state [enable | disable]

```

### 39-1 enable mac\_based\_access\_control

#### Description

This command is used to enable MAC-based Access Control.

#### Format

```
enable mac_based_access_control
```

#### Parameters

None.

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To enable the MAC-based Access Control global state:

```
DGS-3120-24TC:admin# enable mac_based_access_control
Command: enable mac_based_access_control

Success.

DGS-3120-24TC:admin#
```

### 39-2 disable mac\_based\_access\_control

#### Description

This command is used to disable MAC-based Access Control.

#### Format

**disable mac\_based\_access\_control**

#### Parameters

None.

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To disable the MAC-based Access Control global state:

```
DGS-3120-24TC:admin# disable mac_based_access_control
Command: disable mac_based_access_control

Success.

DGS-3120-24TC:admin#
```

### 39-3 config mac\_based\_access\_control password

#### Description

This command is used to configure the RADIUS authentication password for MAC-based Access Control.

#### Format

**config mac\_based\_access\_control password <passwd 16>**

## Parameters

---

**password** - In RADIUS mode, the switch will communicate with the RADIUS server using this password. The maximum length of the key is 16.  
**<password>** - Enter the password used here. The default password is "default".

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To set the MAC-based Access Control password:

```
DGS-3120-24TC:admin# config mac_based_access_control password switch
Command: config mac_based_access_control password switch

Success.

DGS-3120-24TC:admin#
```

## 39-4 config mac\_based\_access\_control method

### Description

This command is used to configure the MAC-based Access Control authentication method.

### Format

**config mac\_based\_access\_control method [local | radius]**

## Parameters

---

**local** - Specify to authenticate via the local database.  
**radius** - Specify to authenticate via a RADIUS server.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To set the MAC-based Access Control authentication method as local:

```
DGS-3120-24TC:admin# config mac_based_access_control method local
Command: config mac_based_access_control method local

Success.

DGS-3120-24TC:admin#
```

## 39-5 config mac\_based\_access\_control guest\_vlan

### Description

This command will assign a specified port list to the MAC-based Access Control guest VLAN. Ports that are not contained in port list will be removed from the MAC-based Access Control guest VLAN.

For detailed information on the operation of MAC-based Access Control guest VLANs, please see the description for the “config mac\_based\_access\_control ports” command.

### Format

**config mac\_based\_access\_control guest\_vlan ports <portlist>**

### Parameters

---

**ports** - Specify MAC-based Access Control guest VLAN membership.

**<portlist>** - Enter the list of port used for this configuration here.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To set the MAC-based Access Control guest VLAN membership:

```
DGS-3120-24TC:admin# config mac_based_access_control guest_vlan ports 1-8
Command: config mac_based_access_control guest_vlan ports 1-8

Success.

DGS-3120-24TC:admin#
```

## 39-6 config mac\_based\_access\_control ports

### Description

This command allows configures MAC-based Access Control port's setting.

When the MAC-based Access Control function is enabled for a port and the port is not a MAC-based Access Control guest VLAN member, the user who is attached to this port will not be forwarded unless the user passes the authentication.

- A user that does not pass the authentication will not be serviced by the switch.
- If the user passes the authentication, the user will be able to forward traffic operated under the assigned VLAN.

When the MAC-based Access Control function is enabled for a port, and the port is a MAC-based Access Control guest VLAN member, the port(s) will be removed from the original VLAN(s) member ports, and added to MAC-based Access Control guest VLAN member ports.

- Before the authentication process starts, the user is able to forward traffic under the guest VLAN.
- After the authentication process, the user will be able to access the assigned VLAN.

If the port authorize mode is port based mode, when the port has been moved to the authorized VLAN, the subsequent users will not be authenticated again. They will operate in the current authorized VLAN.

If the port authorize mode is host based mode, then each user will be authorized individually and be capable of getting its own assigned VLAN.

If port's block time is set to "infinite", it means that a failed authentication client will never be blocked. Block time will be set to "0".

## Format

```
config mac_based_access_control ports [<portlist> | all] {state [enable | disable] | mode [port_based | host_based] | aging_time [infinite | <min 1-1440>] | block_time <sec 0-300> | max_users [<value 1-1000> | no_limit]}(1)
```

## Parameters

---

**ports** - Specifies a range of ports for configuring the MAC-based Access Control function parameters.

**<portlist>** - Enter the list of port used for this configuration here.

**all** - Specifies all existed ports of switch for configuring the MAC-based Access Control function parameters.

---

**state** - (Optional) Specifies whether the port's MAC-based Access Control function is enabled or disabled.

**enable** - Specifies that the port's MAC-based Access Control states will be enabled.

**disable** - Specifies that the port's MAC-based Access Control states will be disabled.

---

**mode** - (Optional) Specifies the MAC-based access control port mode used.

**port\_based** - Specifies that the MAC-based access control port mode will be set to port-based.

**host\_based** - Specifies that the MAC-based access control port mode will be set to host-based.

---

**aging\_time** - (Optional) A time period during which an authenticated host will be kept in an authenticated state. When the aging time has timed-out, the host will be moved back to unauthenticated state.

**infinite** - If the aging time is set to infinite, it means that authorized clients will not be aged out automatically.

**<min 1-1440>** - Enter the aging time value here. This value must be between 1 and 1440 minutes.

---

**block\_time** - (Optional) If a host fails to pass the authentication, the next authentication will not start within the block time unless the user clears the entry state manually. If the block time is set to 0, it means do not block the client that failed authentication.

**<sec 0-300>** - Enter the block time value here. This value must be between 0 and 300 seconds.

---

**max\_users** - (Optional) Specify maximum number of users per port.

**<value 1-1000>** - Enter the maximum number of users per port here. This value must be between 1 and 1000.

**no\_limit** - Specify to not limit the maximum number of users on the port. The default value is 128.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure an unlimited number of maximum users for MAC-based Access Control on ports 1 to 8:

```
DGS-3120-24TC:admin# config mac_based_access_control ports 1:1-1:8 max_users
no_limit
Command: config mac_based_access_control ports 1:1-1:8 max_users no_limit

Success.

DGS-3120-24TC:admin#
```

To configure the MAC-based Access Control timer parameters to have an infinite aging time and a block time of 120 seconds on ports 1 to 8:

```
DGS-3120-24TC:admin# config mac_based_access_control ports 1:1-1:8 aging_time
infinite block_time 120
Command: config mac_based_access_control ports 1:1-1:8 aging_time infinite
block_time 120

Success.

DGS-3120-24TC:admin#
```

## 39-7 create mac\_based\_access\_control

### Description

This command is used to assign a static 802.1Q VLAN as a MAC-based Access Control guest VLAN.

### Format

**create mac\_based\_access\_control [guest\_vlan <vlan\_name 32> | guest\_vlanid <vlanid 1-4094>]**

### Parameters

---

**guest\_vlan** - Specify MAC-based Access Control guest VLAN by name, it must be a static 1Q VLAN.

**<vlan\_name 32>** - Enter the VLAN name here. This name can be up to 32 characters long.

---

**guest\_vlanid** - Specify MAC-based Access Control guest VLAN by VID, it must be a static 1Q VLAN.

**<vlanid 1-4094>** - Enter the VLAN ID here. This value must be between 1 and 4094.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To create a MAC-based Access Control guest VLAN:

```
DGS-3120-24TC:admin# create mac_based_access_control guest_vlan VLAN8
Command: create mac_based_access_control guest_vlan VLAN8

Success.

DGS-3120-24TC:admin#
```

## 39-8 delete mac\_based\_access\_control

### Description

This command is used to remove a MAC-based Access Control guest VLAN.

### Format

**delete mac\_based\_access\_control [guest\_vlan <vlan\_name 32> | guest\_vlanid <vlanid 1-4094>]**

### Parameters

---

**guest\_vlan** - Specifies the name of the MAC-based Access Control's guest VLAN.  
**<vlan\_name 32>** - Enter the VLAN name here. This name can be up to 32 characters long.

---

**guest\_vlanid** - Specifies the VID of the MAC-based Access Control's guest VLAN.  
**<vlanid 1-4094>** - Enter the VLAN ID here. This value must be between 1 and 4094.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To delete the MAC-based Access Control guest VLAN called default:

```
DGS-3120-24TC:admin# delete mac_based_access_control guest_vlan default
Command: delete mac_based_access_control guest_vlan default

Success.

DGS-3120-24TC:admin#
```

## 39-9 clear mac\_based\_access\_control auth\_state

### Description

This command is used to clear the authentication state of a user (or port). The port (or the user) will return to an un-authenticated state. All the timers associated with the port (or the user) will be reset.



### Format

**clear mac\_based\_access\_control auth\_state [ports [all | <portlist>] | mac\_addr <macaddr>]**

### Parameters

---

**ports** - To specify the port range to delete MAC addresses on them.  
**all** - To specify all MAC-based Access Control enabled ports to delete MAC addresses.  
**<portlist>** - Enter the list of port used for this configuration here.

---

**mac\_addr** - To delete a specified host with this MAC address.  
**<macaddr>** - Enter the MAC address used here.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To clear MAC-based Access Control clients' authentication information for all ports:

```
DGS-3120-24TC:admin# clear mac_based_access_control auth_state ports all
Command: clear mac_based_access_control auth_state ports all

Success.

DGS-3120-24TC:admin#
```

To delete the MAC-based Access Control authentication information for the host that has a MAC address of 00-00-00-47-04-65:

```
DGS-3120-24TC:admin# clear mac_based_access_control auth_state mac_addr 00-00-00-47-04-65
Command: clear mac_based_access_control auth_state mac_addr 00-00-00-47-04-65

Success.

DGS-3120-24TC:admin#
```

## 39-10 create mac\_based\_access\_control\_local

### Description

This command is used to create a MAC-based Access Control local database entry that will be used for authentication. This command can also specify the VLAN that an authorized host will be assigned to.

### Format

**create mac\_based\_access\_control\_local mac <macaddr> {[vlan <vlan\_name 32> | vlanid <vlanid 1-4094>]}**

## Parameters

**mac** - Specify the MAC address that can pass local authentication.

**<macaddr>** - Enter the MAC address used here.

**vlan** - (Optional) Specify the target VLAN by using the VLAN name. When this host is authorized, it will be assigned to this VLAN.

**<vlan\_name 32>** - Enter the VLAN name here. This name can be up to 32 characters long.

**vlanid** - (Optional) Specify the target VLAN by using the VID. When this host is authorized, it will be assigned to this VLAN if the target VLAN exists.

**<vlanid 1-4094>** - Enter the VLAN ID here. This value must be between 1 and 4094.

If no **vlanid** or **vlan** parameter is specified, not specify the target VLAN for this host.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To create one MAC-based Access Control local database entry for MAC address 00-00-00-00-00-01 and specify that the host will be assigned to the “default” VLAN after the host has been authorized:

```
DGS-3120-24TC:admin# create mac_based_access_control_local mac 00-00-00-00-00-01 vlan default
Command: create mac_based_access_control_local mac 00-00-00-00-00-01 vlan default

Success.

DGS-3120-24TC:admin#
```

## 39-11 config mac\_based\_access\_control\_local

### Description

This command is used to configure a MAC-based Access Control local database entry.

### Format

**config mac\_based\_access\_control\_local mac <macaddr> [vlan <vlan\_name 32> | vlanid <vlanid 1-4094> | clear\_vlan]**

## Parameters

**mac** - Specify the authenticated host's MAC address.

**<macaddr>** - Enter the MAC address used here.

**vlan** - Specify the target VLAN by VLAN name. When this host is authorized, the host will be assigned to this VLAN.

**<vlan\_name 32>** - Enter the VLAN name here. This name can be up to 32 characters long.

**vlanid** - Specify the target VLAN by VID. When this host is authorized, the host will be assigned to this VLAN if the target VLAN exists.

**<vlanid 1-4094>** - Enter the VLAN ID here. This value must be between 1 and 4094.

**clear\_vlan** - Not specify the target VLAN. When this host is authorized, will not assign target VLAN.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure the target VLAN "default" for the MAC-based Access Control local database entry 00-00-00-00-01:

```
DGS-3120-24TC:admin# config mac_based_access_control_local mac 00-00-00-00-00-01 vlan default
Command: config mac_based_access_control_local mac 00-00-00-00-00-01 vlan default

Success.

DGS-3120-24TC:admin#
```

## 39-12 delete mac\_based\_access\_control\_local

### Description

This command is used to delete a MAC-based Access Control local database entry.

### Format

**delete mac\_based\_access\_control\_local [mac <macaddr> | vlan <vlan\_name 32> | vlanid <vlanid 1-4094>]**

### Parameters

---

**mac** - Delete local database entry by specific MAC address.  
**<macaddr>** - Enter the MAC address used here.

---

**vlan** - Delete local database entries by specific target VLAN name.  
**<vlan\_name 32>** - Enter the VLAN name here. This name can be up to 32 characters long.

---

**vlanid** - Delete local database entries by specific target VLAN ID.  
**<vlanid 1-4094>** - Enter the VLAN ID here. This value must be between 1 and 4094.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To delete the MAC-based Access Control local database entry for MAC address 00-00-00-00-00-01:

```
DGS-3120-24TC:admin# delete mac_based_access_control_local mac 00-00-00-00-00-01
Command: delete mac_based_access_control_local mac 00-00-00-00-00-01

Success.

DGS-3120-24TC:admin#
```

To delete the MAC-based Access Control local database entry for the VLAN name VLAN3:

```
DGS-3120-24TC:admin# delete mac_based_access_control_local vlan VLAN3
Command: delete mac_based_access_control_local vlan VLAN3

Success.

DGS-3120-24TC:admin#
```

### 39-13 config mac\_based\_access\_control authorization attributes

#### Description

Used to enable or disable the acceptance of an authorized configuration.

When authorization is enabled for MAC-based Access Controls with RADIUS authentication, the authorized attributes (for example VLAN, 802.1p default priority, and ACL) assigned by the RADIUS server will be accepted if the global authorization status is enabled.

When authorization is enabled for MAC-based Access Controls with local authentication, the authorized attributes assigned by the local database will be accepted.

#### Format

**config mac\_based\_access\_control authorization attributes {radius [enable | disable] | local [enable | disable]}(1)**

#### Parameters

---

**radius** - (Optional) If specified to enable, the authorized attributes (for example VLAN, 802.1p default priority, and ACL) assigned by the RADIUS server will be accepted if the global authorization status is enabled. The default state is enabled.

**enable** - Specifies that the radius attributes will be enabled.

**disable** - Specifies that the radius attributes will be disabled.

---

**local** - (Optional) If specified to enable, the authorized attributes assigned by the local database will be accepted if the global authorization status is enabled. The default state is enabled.

**enable** - Specifies that the local attributes will be enabled.

**disable** - Specifies that the local attributes will be disabled.

---

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

#### Example

The following example will disable the configuration authorized from the local database:

```
DGS-3120-24TC:admin# config mac_based_access_control authorization attributes
local disable
Command: config mac_based_access_control authorization attributes local disable

Success.

DGS-3120-24TC:admin#
```

## 39-14 show mac\_based\_access\_control

### Description

This command is used to display the MAC-based Access Control setting.

### Format

**show mac\_based\_access\_control {ports {<portlist>}}**

### Parameters

---

**ports** – (Optional) Displays the MAC-based Access Control settings for a specific port or range of ports.  
**<portlist>** - (Optional) Enter the list of port used for this configuration here.

---

If no parameter is specified, the global MAC-based Access Control settings will be displayed.

---

### Restrictions

None.

### Example

To show the MAC-based Access Control port configuration for ports 1 to 4:

```
DGS-3120-24TC:admin#show mac_based_access_control ports 1:1-1:4
Command: show mac_based_access_control ports 1:1-1:4

Port      State      Aging Time      Block Time      Auth Mode      Max User
      (min)                (sec)
-----  -
1:1      Disabled   1440            300             Host-based     128
1:2      Disabled   1440            300             Host-based     128
1:3      Disabled   1440            300             Host-based     128
1:4      Disabled   1440            300             Host-based     128

DGS-3120-24TC:admin#
```

## 39-15 show mac\_based\_access\_control\_local

### Description

This command is used to display the MAC-based Access Control local database entry(s).

## Format

**show mac\_based\_access\_control\_local** {[**mac** <macaddr> | **vlan** <vlan\_name 32> | **vlanid** <vlanid 1-4094>]}

## Parameters

**mac** - (Optional) Displays MAC-based Access Control local database entries for a specific MAC address.

**<macaddr>** - Enter the MAC address used here.

**vlan** - (Optional) Displays MAC-based Access Control local database entries for a specific target VLAN name.

**<vlan\_name 32>** - Enter the VLAN name here. This name can be up to 32 characters long.

**vlanid** - (Optional) Displays MAC-based Access Control local database entries for a specific target VLAN ID.

**<vlanid 1-4094>** - Enter the VLAN ID here. This value must be between 1 and 4094.

If the parameter is not specified, displays all MAC-based Access Control local database entries.

## Restrictions

None.

## Example

To show MAC-based Access Control local database for the VLAN called 'default':

```
DGS-3120-24TC:admin# show mac_based_access_control_local vlan default
Command: show mac_based_access_control_local vlan default

MAC Address          VID
-----
00-00-00-00-00-01   1
00-00-00-00-00-04   1

Total Entries:2

DGS-3120-24TC:admin#
```

## 39-16 show mac\_based\_access\_control auth\_state

### Description

This command is used to display the MAC-based Access Control authentication status.

### Format

**show mac\_based\_access\_control auth\_state ports** {<portlist>}

### Parameters

**ports** - Display authentication status by specific port.

**<portlist>** - (Optional) Enter the list of port used for this configuration here.

If not specified port(s), it will display all of MAC-based Access Control ports authentication status.

## Restrictions

None.

## Example

To display the MAC-based Access Control authentication status on port 1:1-1:4

```
DGS-3120-24TC:admin#show mac_based_access_control auth_state ports 1:1-1:4
Command: show mac_based_access_control auth_state ports 1:1-1:4

(P): Port-based

Port MAC Address          State          VID  Priority Aging Time/
-----
                               Block Time

Total Authenticating Hosts : 0
Total Authenticated Hosts  : 0
Total Blocked Hosts       : 0

DGS-3120-24TC:admin#
```

## 39-17 config mac\_based\_access\_control max\_users

### Description

This command is used to configure the maximum number of authorized clients.

### Format

**config mac\_based\_access\_control max\_users [<value 1-1000> | no\_limit]**

### Parameters

---

**max\_users** - Specify to set the maximum number of authorized clients on the whole device. N is project dependent.  
**<value 1-1000>** - Enter the maximum users here. This value must be between 1 and 1000.  
**no\_limit** - Specify to not limit the maximum number of users on the system. By default, there is no limit on the number of users.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To configure the maximum number of users of the MAC-based Access Control system supports to 128:

```
DGS-3120-24TC:admin# config mac_based_access_control max_users 128
Command: config mac_based_access_control max_users 128

Success.

DGS-3120-24TC:admin#
```

## 39-18 config mac\_based\_access\_control trap state

### Description

This command is used to enable or disable sending of MAC-based Access Control traps.

### Format

**config mac\_based\_access\_control trap state [enable | disable]**

### Parameters

---

**enable** - Enable trap for MAC-based Access Control. The trap of MAC-based Access Control will be sent out.  
**disable** - Disable trap for MAC-based Access Control.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To enable trap state of MAC-based Access Control:

```
DGS-3120-24TC:admin# config mac_based_access_control trap state enable
Command: config mac_based_access_control trap state enable

Success.

DGS-3120-24TC:admin#
```

## 39-19 config mac\_based\_access\_control log state

### Description

This command is used to enable or disable generating of MAC-based Access Control logs.

### Format

**config mac\_based\_access\_control log state [enable | disable]**

### Parameters

---

**enable** - Enable log for MAC-based Access Control. The log of MAC-based Access Control will be generated.

---



---

**disable** - Disable log for MAC-based Access Control.

---

### **Restrictions**

Only Administrator, Operator and Power-User level users can issue this command.

### **Example**

To disable log state of MAC-based Access Control:

```
DGS-3120-24TC:admin# config mac_based_access_control log state disable
Command: config mac_based_access_control log state disable

Success.

DGS-3120-24TC:admin#
```

## Chapter 40 MAC-based VLAN Command List

---

```
create mac_based_vlan mac_address <macaddr> [vlan <vlan_name 32> | vlanid <vlanid 1-4094>]
delete mac_based_vlan {mac_address <macaddr> [vlan <vlan_name 32> | vlanid <vlanid 1-4094>]}
show mac_based_vlan {mac_address <macaddr> | [vlan <vlan_name 32> | vlanid <vlanid 1-4094>]}
```

---

### 40-1 create mac\_based\_vlan

#### Description

This command only needs to be supported by the model which supports MAC-based VLAN.

The user can use this command to create a static MAC-based VLAN entry.

There is a global limitation of the maximum entries supported for the static MAC-based entry.

#### Format

```
create mac_based_vlan mac_address <macaddr> [vlan <vlan_name 32> | vlanid <vlanid 1-4094>]
```

#### Parameters

**mac\_address** - Specifies the MAC address used.

**<macaddr>** - Enter the MAC address here.

**vlan** - The VLAN to be associated with the MAC address.

**<vlan\_name 32>** - Enter the VLAN name here. This name can be up to 32 characters long.

**vlanid** - Specifies the VLAN by VLAN ID.

**<vlanid 1-4094>** - Enter the VLAN ID here. This value must be between 1 and 4094.

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

#### Example

To create a static MAC-based VLAN entry:

```
DGS-3120-24TC:admin# create mac_based_vlan mac_address 00-11-22-33-44-55 vlanid 100
Command: create mac_based_vlan mac_address 00-11-22-33-44-55 vlanid 100

Success.

DGS-3120-24TC:admin#
```

## 40-2 delete mac\_based\_vlan

### Description

Used to delete the static MAC-based VLAN entry.

### Format

**delete mac\_based\_vlan {mac\_address <macaddr> [vlan <vlan\_name 32> | vlanid <vlanid 1-4094>]}**

### Parameters

<b>mac_address</b> - (Optional) Specifies the MAC address used. <b>&lt;macaddr&gt;</b> - Enter the MAC address used here.
<b>vlan</b> - (Optional) The VLAN to be associated with the MAC address. <b>&lt;vlan_name 32&gt;</b> - Enter the VLAN name here. This name can be up to 32 characters long.
<b>vlanid</b> - (Optional) Specifies the VLAN by VLAN ID. <b>&lt;vlanid 1-4094&gt;</b> - Enter the VLAN ID here. This value must be between 1 and 4094.
If no parameter is specified, ALL static configured entries will be removed.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To delete a static MAC-based VLAN entry:

```
DGS-3120-24TC:admin# delete mac_based_vlan mac_address 00-11-22-33-44-55 vlanid 100
Command: delete mac_based_vlan mac_address 00-11-22-33-44-55 vlanid 100

Success.

DGS-3120-24TC:admin#
```

## 40-3 show mac\_based\_vlan

### Description

User can use this command to display the static or dynamic MAC-Based VLAN entry. If the MAC address and VLAN is not specified, all static and dynamic entries will be displayed.

### Format

**show mac\_based\_vlan {mac\_address <macaddr> | [vlan <vlan\_name 32> | vlanid <vlanid 1-4094>]}**

### Parameters

<b>mac_address</b> - (Optional) Specifies the entry that you would like to display. <b>&lt;macaddr&gt;</b> - Enter the MAC address used here.
--

---

**vlan** - (Optional) Specifies the VLAN that you would like to display.

**<vlan\_name 32>** - Enter the VLAN name here. This name can be up to 32 characters long.

---

**vlanid** - (Optional) Specifies the VLAN by VLAN ID.

**<vlanid 1-4094>** - Enter the VLAN ID here. This value must be between 1 and 4094.

---

## Restrictions

None.

## Example

In the following example, MAC address "00-80-c2-33-c3-45" is assigned to VLAN 300 by manual config. It is assigned to VLAN 400 by Voice VLAN. Since Voice VLAN has higher priority than manual configuration, the manual configured entry will become inactive. To display the MAC-based VLAN entry:

```
DGS-3120-24TC:admin# show mac_based_vlan
```

MAC Address	VLAN ID	Status	Type
-----	-----	-----	-----
00-80-e0-14-a7-57	200	Active	Static
00-80-c2-33-c3-45	300	Inactive	Static
00-80-c2-33-c3-45	400	Active	Voice VLAN

```
Total Entries : 3
```

```
DGS-3120-24TC:admin#
```

## Chapter 41 Mirror Command List

---



---

```
config mirror port <port> {[add | delete] source ports <portlist> [rx | tx | both]}
enable mirror
disable mirror
show mirror
```

---



---

### 41-1 config mirror

#### Description

Used to configure a mirror port – source port pair on the switch. Traffic from any source port to a target port can be mirrored for real-time analysis. A logic analyzer or an RMON probe then can be attached to study the traffic crossing the source port in a completely unobtrusive manner. When mirroring port traffic, please note that the target port must be configured in the same VLAN and operates at the same speed as the source port. If the target port is operating at a lower speed, the source port will be forced to drop its operating speed to match that of the target port.

#### Format

```
config mirror port <port> {[add | delete] source ports <portlist> [rx | tx | both]}
```

#### Parameters

---

**port** - The port that will receive the packets duplicated at the mirror port.

**<port>** - Enter the port number to be configured here.

---

**add** - (Optional) The mirror entry to be added.

**delete** - (Optional) The mirror entry to be deleted.

---

**source ports** - (Optional) The port that will be mirrored. All packets entering and leaving the source port can be duplicated in the mirror port.

**<portlist>** - Enter the list of port to be configured here.

---

**rx** - (Optional) Allows the mirroring packets received (flowing into) the port or ports in the port list.

**tx** - (Optional) Allows the mirroring packets sent (flowing out of) the port or ports in the port list.

**both** - (Optional) Mirrors all the packets received or sent by the port or ports in the port list.

---

#### Restrictions

Only Administrator and Operator-level users can issue this command.

#### Example

To add the mirroring ports:

```
DGS-3120-24TC:admin# config mirror port 1:3 add source ports 1:7-1:12 both
Command: config mirror port 1:5 add source ports 1:1-1:5 both

Success.

DGS-3120-24TC:admin# config mirror port 1:6 state enable
Command: config mirror port 1:6 state enable

Success.
DGS-3120-24TC:admin#
```

## 41-2 enable mirror

### Description

This command, combined with the disable mirror command below, allows you to enable or disable mirror function without having to modify the mirror session configuration.

### Format

**enable mirror**

### Parameters

None.

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To enable mirroring function:

```
DGS-3120-24TC:admin# enable mirror
Command: enable mirror

Success.

DGS-3120-24TC:admin#
```

## 41-3 disable mirror

### Description

This command, combined with the enable mirror command above, allows you to enable or disable mirror function without having to modify the mirror session configuration.

### Format

**disable mirror**

### Parameters

None.

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To disable mirroring function:

```
DGS-3120-24TC:admin# disable mirror
Command: disable mirror

Success.

DGS-3120-24TC:admin#
```

41-4 show mirror

### Description

The show mirror command displays the current mirror function state and mirror session configuration on the switch.

### Format

**show mirror**

### Parameters

None.

### Restrictions

None.

### Example

To display mirroring configuration:

```
DGS-3120-24TC:admin# show mirror
Command: show mirror

Current Settings
Mirror Status: Disabled
Target Port   : 2:1
Mirrored Port
              RX: 1:1
              TX: 1:1

DGS-3120-24TC:admin#
```



## Chapter 42 MSTP debug enhancement Command List

---

**debug stp config ports** [<portlist> | all] [event | bpdu | state\_machine | all] state [disable | brief | detail]

---

**debug stp show information**

---

**debug stp show flag** {ports <portlist>}

---

**debug stp show counter** {ports [<portlist> | all]}

---

**debug stp clear counter** [ports <portlist> | all]

---

**debug stp state** [enable | disable]

---

### 42-1 debug stp config ports

#### Description

This command used to configure per-port STP debug level on the specified ports.

#### Format

**debug stp config ports** [<portlist> | all] [event | bpdu | state\_machine | all] state [disable | brief | detail]

#### Parameters

---

**ports** - Specifies the STP port range to debug.  
**<portlist>** - Enter the list of port used for this configuration here.  
**all** - Specifies to debug all ports on the switch.

---

**event** - Debug the external operation and event processing.  
**bpdu** - Debug the BPDU's that have been received and transmitted.  
**state\_machine** - Debug the state change of the STP state machine.  
**all** - Debug all of the above.

---

**state** - Specifies the state of the debug mechanism.  
**disable** - Disables the debug mechanism.  
**brief** - Sets the debug level to brief.  
**detail** - Sets the debug level to detail.

---

#### Restrictions

Only Administrator-level users can issue this command.

#### Example

To configure all STP debug flags to brief level on all ports:

```
DGS-3120-24TC:admin# debug stp config ports all all state brief
Command: debug stp config ports all all state brief

Warning: only support local device.

Success.

DGS-3120-24TC:admin#
```

## 42-2 debug stp show information

### Description

This command used to display STP detailed information, such as the hardware tables, the STP state machine, etc.

### Format

**debug stp show information**

### Parameters

None.

### Restrictions

Only Administrator-level users can issue this command.

### Example

To show STP debug information:

```
DGS-3120-24TC:admin# debug stp show information
Command: debug stp show information

Warning: only support local device.
Spanning Tree Debug Information:
-----
Port Status In Hardware Table:
Instance 0:
Port 1:1 : FOR  Port 1:2 : FOR  Port 1:3 : FOR  Port 1:4 : FOR  Port 1:5 : FOR
Port 1:6 : FOR
Port 1:7 : FOR  Port 1:8 : FOR  Port 1:9 : FOR  Port 1:10: FOR  Port 1:11: FOR
Port 1:12: FOR
Port 1:13: FOR  Port 1:14: FOR  Port 1:15: FOR  Port 1:16: FOR  Port 1:17: FOR
Port 1:18: FOR
Port 1:19: FOR  Port 1:20: FOR  Port 1:21: FOR  Port 1:22: FOR  Port 1:23: FOR
Port 1:24: FOR
-----
Root Priority And Times:
Instance 0:
Designated Root Bridge : 32768/00-01-70-33-21-02
External Root Cost      : 0
```

```

Regional Root Bridge   : 32768/00-01-70-33-21-02
Internal Root Cost    : 0
Designated Bridge     : 32768/00-01-70-33-21-02
Designated Port       : 0
Message Age           : 0
Max Age               : 20
Forward Delay         : 15
Hello Time            : 2
-----
Designated Priority And Times:
Instance 0:
-----
Port Priority And Times:
Instance 0:

DGS-3120-24TC:admin#
    
```

### 42-3 debug stp show flag

#### Description

This command used to display the STP debug level on specified ports.

#### Format

**debug stp show flag {ports <portlist>}**

#### Parameters

- 
- ports** - (Optional) Specifies the STP ports to display.
  - <portlist>** - (Optional) Enter the list of port used for this configuration here.
- 
- If no parameter is specified, all ports on the switch will be displayed.
- 

#### Restrictions

Only Administrator-level users can issue this command.

#### Example

To display the debug STP levels on all ports:

```

DGS-3120-24TC:admin#debug stp show flag
Command: debug stp show flag

Warning: only support local device.

Global State: Enabled

Port Index          Event Flag          BPDU Flag          State Machine Flag
-----
1:1                 Brief               Brief               Brief
1:2                 Brief               Brief               Brief
    
```

1:3	Brief	Brief	Brief
1:4	Brief	Brief	Brief
1:5	Brief	Brief	Brief
1:6	Brief	Brief	Brief
1:7	Brief	Brief	Brief
1:8	Brief	Brief	Brief
1:9	Brief	Brief	Brief
1:10	Brief	Brief	Brief
1:11	Brief	Brief	Brief
1:12	Brief	Brief	Brief
1:13	Brief	Brief	Brief
1:14	Brief	Brief	Brief
1:15	Brief	Brief	Brief
1:16	Brief	Brief	Brief
1:17	Brief	Brief	Brief
1:18	Brief	Brief	Brief
1:19	Brief	Brief	Brief
1:20	Brief	Brief	Brief
1:21	Brief	Brief	Brief
1:22	Brief	Brief	Brief
1:23	Brief	Brief	Brief
1:24	Brief	Brief	Brief

DGS-3120-24TC:admin#

## 42-4 debug stp show counter

### Description

This command used to display the STP counters.

### Format

**debug stp show counter {ports [<portlist> | all]}**

### Parameters

---

**ports** - (Optional) Specifies the STP ports for display.  
**<portlist>** - Enter the list of port used for this configuration here.  
**all** - Display all port's counters.

---

If no parameter is specified, display the global counters.

---

### Restrictions

Only Administrator-level users can issue this command.

### Example

To show the STP counters for port 9:

```
DGS-3120-24TC:admin# debug stp show counter ports 1:9
Command: debug stp show counter ports 1:9

STP Counters
-----
Port 1:9  :
Receive:
Total STP Packets      : 0
Configuration BPDU    : 0
TCN BPDU               : 0
RSTP TC-Flag          : 0
RST BPDU               : 0
Transmit:
Total STP Packets     : 0
Configuration BPDU   : 0
TCN BPDU              : 0
RSTP TC-Flag         : 0
RST BPDU              : 0

Discard:
Total Discarded BPDU  : 0
Global STP Disabled   : 0
Port STP Disabled     : 0
Invalid packet Format  : 0
Invalid Protocol      : 0
Configuration BPDU Length : 0
TCN BPDU Length       : 0
RST BPDU Length       : 0
Invalid Type          : 0
Invalid Timers        : 0

DGS-3120-24TC:admin#
```

## 42-5 debug stp clear counter

### Description

This command used to clear the STP counters.

### Format

**debug stp clear counter [ports <portlist> | all]**

### Parameters

- 
- ports** - Specifies the port range.
  - <portlist>** - Enter the list of port used for this configuration here.
  - all** - Clears all port counters.
- 

### Restrictions

Only Administrator-level users can issue this command.

### Example

To clear all STP counters on the switch:

```
DGS-3120-24TC:admin# debug stp clear counter ports all
Command: debug stp clear counter ports all

Warning: only support local device.

Success.

DGS-3120-24TC:admin#
```

## 42-6 debug stp state

### Description

This command is used to enable or disable the STP debug state.

### Format

**debug stp state [enable | disable]**

### Parameters

---

**state** - Specifies the STP debug state.  
**enable** - Enable the STP debug state.  
**disable** - Disable the STP debug state.

---

### Restrictions

Only Administrator-level users can issue this command.

### Example

To configure the STP debug state to enable, and then disable the STP debug state:

```
DGS-3120-24TC:admin# debug stp state enable
Command: debug stp state enable

Success.

DGS-3120-24TC:admin# debug stp state disable
Command: debug stp state disable

Success.

DGS-3120-24TC:admin#
```

## Chapter 43 Multicast Filter Command List

<b>create mcast_filter_profile</b> {[ipv4   ipv6]} profile_id <value 1-24 > profile_name <name 32>
<b>config mcast_filter_profile</b> [profile_id <value 1-24>   profile_name <name 32>] {profile_name <name 32>   [add   delete] <mcast_address_list>}(1)
<b>config mcast_filter_profile ipv6</b> [profile_id <value 1-24>   profile_name <name 1-32>] {profile_name <name 1-32>   [add   delete] <mcastv6_address_list>}(1)
<b>delete mcast_filter_profile</b> {[ipv4   ipv6]} [profile_id [<value 1-24>   all]   profile_name <name 1-32>]
<b>show mcast_filter_profile</b> {[ipv4   ipv6]} {profile_id <value 1-24>   profile name <name 32>}
<b>config limited_multicast_addr</b> [ports <portlist>   vlanid <vlanid_list>] {[ipv4   ipv6]} {[add   delete] [profile_id <value 1-24>   profile_name <name 1-32>]   access [permit   deny]}(1)
<b>config max_mcast_group</b> [ports <portlist>   vlanid <vlanid_list>] {[ipv4   ipv6]} {max_group [<value 1-1024>   infinite]   action [ drop   replace]}(1)
<b>show max_mcast_group</b> [ports {<portlist>}   vlanid {<vlanid_list >}] {[ipv4   ipv6]}
<b>show limited_multicast_addr</b> [ports {<portlist>}   vlanid {<vlanid_list>}] {[ipv4   ipv6]}

### 43-1 create mcast\_filter\_profile

#### Description

This command configures a multicast address profile. Multiple ranges of multicast addresses can be defined in the profile. If the IPv4 or ipv6 option is not specified, IPv4 is implied.

#### Format

**create mcast\_filter\_profile** {[ipv4 | ipv6]} profile\_id <value 1-24> profile\_name <name 32>

#### Parameters

**ipv4** - (Optional) Adds an IPv4 multicast profile.

**ipv6** - (Optional) Adds an IPv6 multicast profile.

**profile\_id** - The ID of the profile. Range is 1 to n.

**<value 1-24>** - Enter the profile ID value here. This value must be between 1 and 24.

**profile\_name** - Provides a meaningful description for the profile.

**<name 32>** - Enter the profile name here. The profile name can be up to 32 characters long.

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

#### Example

To create a multicast address profile with a profile ID of 2 and a profile name of MOD:

```
DGS-3120-24TC:admin# create mcast_filter_profile profile_id 2 profile_name MOD
Command: create mcast_filter_profile profile_id 2 profile_name MOD

Success.

DGS-3120-24TC:admin#
```

## 43-2 config mcast\_filter\_profile

### Description

This command adds or deletes a range of multicast IP addresses to or from the profile.

### Format

```
config mcast_filter_profile [profile_id <value 1-24> | profile_name <name 32>] {profile_name
<name 32> | [add | delete] <mcast_address_list>}(1)
```

### Parameters

---

**profile\_id** - ID of the profile.

**<value 1-24>** - Enter the profile ID value here. This value must be between 1 and 24.

---

**profile\_name** - Provides a meaningful description for the profile.

**<name 32>** - Enter the profile name here. The profile name can be up to 32 characters long.

---

**profile\_name** - (Optional) Provides a meaningful description for the profile.

**<name 32>** - Enter the profile name here. The profile name can be up to 32 characters long.

---

**add** - Specifies to add a multicast address.

**delete** - Specifies to delete a multicast address.

---

**<mcast\_address\_list>** - (Optional) List of the multicast addresses to be put in the profile. You can either specify a single multicast IP address or a range of multicast addresses using -.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To add the multicast address range 225.1.1.1 to 225.1.1.10 to the profile:

```
DGS-3120-24TC:admin# config mcast_filter_profile profile_id 2 add 225.1.1.1 -
225.1.1.10
Command: config mcast_filter_profile profile_id 2 add 225.1.1.1 - 225.1.1.10

Success.

DGS-3120-24TC:admin#
```

## 43-3 config mcast\_filter\_profile ipv6

### Description

This command adds or deletes a range of IPv6 multicast addresses to the profile.



## Format

```
config mcast_filter_profile ipv6 [profile_id <value 1-24> | profile_name <name 1-32>]
{profile_name <name 1-32> | [add | delete] <mcastv6_address_list>}(1)
```

## Parameters

**profile\_id** - ID of the profile.

**<value 1-24>** - Enter the profile ID value here. This value must be between 1 and 24.

**profile\_name** - Provides a meaningful description for the profile.

**<name 1-32>** - Enter the profile name here. The profile name can be up to 32 characters long.

**profile\_name** - (Optional) Provides a meaningful description for the profile.

**<name 1-32>** - Enter the profile name here. The profile name can be up to 32 characters long.

**add** - (Optional) Specifies to add an IPv6 multicast address.

**delete** - (Optional) Specifies to delete an IPv6 multicast address.

**<mcastv6\_address\_list>** - (Optional) Lists the IPv6 multicast addresses to put in the profile. You can either specify a single IPv6 multicast IP address or a range of IPv6 multicast addresses connected by '-'.  
 \_\_\_\_\_

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To add the IPv6 multicast address range FFF0E::100:0:0:20 – FFF0E::100:0:0:22 to profile ID 3:

```
DGS-3120-24TC:admin# config mcast_filter_profile profile_id 3 add
FFF0E::100:0:0:20 - FFF0E::100:0:0:22
Command: config mcast_filter_profile profile_id 3 add FFF0E::100:0:0:20 -
FFF0E::100:0:0:22
Success.

DGS-3120-24TC:admin#
```

## 43-4 delete mcast\_filter\_profile

### Description

This command deletes a multicast address profile. If the IPv4 or IPv6 option is not specified, IPv4 is implied.

### Format

```
delete mcast_filter_profile {[ipv4 | ipv6]} [profile_id [<value 1-24> | all] | profile_name <name
1-32>]
```

### Parameters

**ipv4** - (Optional) Specifies to delete an IPv4 multicast profile.

**ipv6** - (Optional) Specifies to delete an IPv6 multicast profile.

**profile\_id** - Specifies the ID of the profile

**<value 1-24>** - Enter the profile ID value here. This value must be between 1 and 24.

**all** - All multicast address profiles will be deleted.

---

**profile\_name** - Specifies to display a profile based on the profile name.  
**<name 1-32>** - Enter the profile name value here. The profile name can be up to 32 characters long.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To delete the multicast address profile with a profile ID of 3:

```
DGS-3120-24TC:admin# delete mcast_filter_profile profile_id 3
Command: delete mcast_filter_profile profile_id 3
Success.

DGS-3120-24TC:admin#
```

To delete the multicast address profile called MOD:

```
DGS-3120-24TC:admin# delete mcast_filter_profile profile_name MOD
Command: delete mcast_filter_profile profile_name MOD

Total entries: 2

DGS-3120-24TC:admin#
```

## 43-5 show mcast\_filter\_profile

### Description

This command displays the defined multicast address profiles. If the IPv4 or IPv6 option is not specified, IPv4 is implied.

### Format

**show mcast\_filter\_profile** {[ipv4 | ipv6]} {profile\_id <value 1-24> | profile name <name 1-32>}

### Parameters

---

**ipv4** - (Optional) Specifies to delete an IPv4 multicast profile.  
**ipv6** - (Optional) Specifies to delete an IPv6 multicast profile.

---

**profile\_id** - (Optional) Specifies the ID of the profile  
**<value 1-24>** - Enter the profile ID value here. This value must be between 1 and 24.

---

**profile\_name** - (Optional) Specifies to display a profile based on the profile name.  
**<name 1-32>** - Enter the profile name here. The profile name can be up to 32 characters long.

---

### Restrictions

None.

## Example

To display all the defined multicast address profiles:

```
DGS-3120-24TC:admin# show mcast_filter_profile
Command: show mcast_filter_profile

Profile ID      Name           Multicast Addresses
-----
1               MOD           234.1.1.1 - 238.244.244.244
                234.1.1.1 - 238.244.244.244
2               customer      224.19.62.34 - 224.19.162.200

Total Entries : 2

DGS-3120-24TC:admin#
```

## 43-6 config limited\_multicast\_addr

### Description

Used to configure the multicast address filtering function on a port or VLAN. When there are no profiles specified with a port or VLAN, the limited function is not effective. When the function is configured on a port, it limits the multicast group operated by the IGMP or MLD snooping function. When this function is configured on a VLAN, the multicast group is limited to only operate the IGMP or MLD layer 3 functions. If the IPv4 or IPv6 option is not specified, IPv4 is implied.

### Format

**config limited\_multicast\_addr** [ports <portlist> | vlanid <vlanid\_list>] {[ipv4 | ipv6]} {[add | delete] [profile\_id <value 1-24> | profile\_name <name 1-32>] | access [permit | deny]}(1)

### Parameters

---

<b>ports</b>	- Specifies the range of ports to configure the multicast address filtering function.
<b>&lt;portlist&gt;</b>	- Enter the list of port to be configured here.
<b>vlanid</b>	- Specifies the VLAN ID of the VLAN that the multicast address filtering function will be configured on.
<b>&lt;vlanid_list&gt;</b>	- Enter the VLAN ID list here.
<b>ipv4</b>	- (Optional) Specifies the IPv4 multicast profile.
<b>ipv6</b>	- (Optional) Specifies the IPv6 multicast profile.
<b>add</b>	- (Optional) Adds a multicast address profile to a port.
<b>delete</b>	- (Optional) Deletes a multicast address profile to a port.
<b>profile_id</b>	- (Optional) A profile to be added to or deleted from the port
<b>&lt;value 1-24&gt;</b>	- Enter the profile ID value here. This value must be between 1 and 24.
<b>profile_name</b>	- (Optional) Specifies the profile name used.
<b>&lt;name 1-32&gt;</b>	- Enter the profile name here. The profile name can be up to 32 characters long.
<b>access</b>	- (Optional) Specifies the access of packets matching the addresses defined in the profiles.
<b>permit</b>	- Specifies that packets matching the addresses defined in the profiles will be permitted. The default mode is permit.
<b>deny</b>	- Specifies that packets matching the addresses defined in the profiles will be denied.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To add multicast address profile 2 to ports 1 and 3:

```
DGS-3120-24TC:admin# config limited_multicast_addr ports 1,3 add profile_id 2
Command: config limited_multicast_addr ports 1,3 add profile_id 2

Success.

DGS-3120-24TC:admin#
```

## 43-7 config max\_mcast\_group

### Description

This command configures the maximum number of multicast groups that a port can join.

If the IPv4 or IPv6 option is not specified, IPv4 is implied.

When the joined groups for a port or a VLAN have reached the maximum number, the newly learned group will be dropped if the action is specified as drop. The newly learned group will replace the eldest group if the action is specified as replace.

### Format

**config max\_mcast\_group [ports <portlist> | vlanid <vlanid\_list> {[ipv4 | ipv6]} {max\_group [ <value 1-1024> | infinite] | action [ drop | replace]}(1)**

### Parameters

<b>ports</b> - Specifies the range of ports to configure the max_mcast_group. <b>&lt;portlist&gt;</b> - Enter the list of ports to be configured here.
<b>vlanid</b> - Specifies the VLAN ID to configure max_mcast_group. <b>&lt;vlanid_list&gt;</b> - Enter the VLAN ID list here.
<b>ipv4</b> - (Optional) Specifies that the maximum number of IPv4 learned addresses should be limited.
<b>ipv6</b> - (Optional) Specifies that the maximum number of IPv6 learned addresses should be limited.
<b>max_group</b> - (Optional) Specifies the maximum number of multicast groups. The range is from 1 to n or infinite. "Infinite" means that the maximum number of multicast groups per port or VLAN is not limited by the switch, which is project dependent.. "n" is based on the project. <b>&lt;value 1-1024&gt;</b> - Enter the maximum group value here. This value must be between 1 and 1024.
<b>infinite</b> - Specifies that the maximum group value will be set to infinite.
<b>action</b> - (Optional) Specifies the action for handling newly learned groups when the register is full. <b>drop</b> - The new group will be dropped. <b>replace</b> - The new group will replace the eldest group in the register table.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure the maximum number of multicast group that ports 1 and 3 can join to 100:

```
DGS-3120-24TC:admin# config max_mcast_group ports 1, 3 max_group 100
Command: config max_mcast_group ports 1, 3 max_group 100

Success.

DGS-3120-24TC:admin#
```

## 43-8 show max\_mcast\_group

### Description

This command displays the maximum number of multicast groups that a port can join. If the IPv4 or IPv6 option is not specified, IPv4 is implied.

### Format

**show max\_mcast\_group [ports {<portlist>} | vlanid {<vlanid\_list >}] {[ipv4 | ipv6]}**

### Parameters

**ports** - Specifies the range of ports for displaying information about the maximum number of multicast groups that the specified ports can join.

**<portlist>** - (Optional) Enter the list of ports to be configured here.

**vlanid** - Specifies the VLAN ID for displaying the maximum number of multicast groups.

**<vlanid\_list>** - (Optional) Enter the VLAN ID list here.

**ipv4** - (Optional) Specifies to display the maximum number of IPv4 learned addresses.

**ipv6** - (Optional) Specifies to display the maximum number of IPv6 learned addresses.

### Restrictions

None.

## Example

To display the maximum number of multicast groups that ports 1 and 2 can join:

```
DGS-3120-24TC:admin#show max_mcast_group ports 1:1-1:2
Command: show max_mcast_group ports 1:1-1:2

Port          Max Multicast Group Number      Action
-----
1:1           Infinite                         Drop
1:2           100                             Drop

Total Entries: 2

DGS-3120-24TC:admin#
```

To display the maximum number of multicast groups that VLANs 1 and 2 can join:

```
DGS-3120-24TC:admin#show max_mcast_group vlanid 1-2
Command: show max_mcast_group vlanid 1-2

VLAN      Max Multicast Group Number      Action
-----
1         Infinite                         Drop
2         10                               Drop

Total Entries: 2

DGS-3120-24TC:admin#
```

### 43-9 show limited\_multicast\_addr

#### Description

The show\_limited\_multicast\_addr command allows you to display the multicast address range by port or by VLAN.

When the function is configured on a port, it limits the multicast groups operated by the IGMP or MLD snooping function and layer 3 functions. When the function is configured on a VLAN, it limits the multicast groups operated by the IGMP or MLD layer 3 functions.

If the IPv4 or IPv6 option is not specified, IPv4 is implied.

#### Format

**show limited\_multicast\_addr [ports {<portlist>} | vlanid {<vlanid\_list>}] {[ipv4 | ipv6]}**

#### Parameters

**ports** - Specifies the range of ports that require information displaying about the multicast address filtering function.

**<portlist>** - (Optional) Enter the list of port to be configured here.

**vlanid** - Specifies the VLAN ID of VLANs that require information displaying about the multicast address filtering function.

**<vlanid\_list>** - (Optional) Enter the VLAN ID list here.

**ipv4** - (Optional) Specifies to display the IPv4 multicast profile associated with the port.

**ipv6** - (Optional) Specifies to display the IPv6 multicast profile associated with the port.

#### Restrictions

None.

#### Example

To show the limited multicast address range on ports 1 and 3:

```
DGS-3120-24TC:admin# show limited_multicast_addr ports 1,3
Command: show limited_multicast_addr ports 1,3

Port      : 1
Access    : Deny

Profile ID      Name                Multicast Addresses
-----
1              customer                224.19.62.34 - 224.19.162.200

Port      : 3
Access    : Deny

Profile ID      Name                Multicast Addresses
-----
1              customer                224.19.62.34 - 224.19.162.200

DGS-3120-24TC:admin#
```

To show the limited multicast settings configured on VLAN 1:

```
DGS-3120-24TC:admin# show limited_multicast_addr vlan 1
Command: show limited_multicast_addr vlan 1

VLAN ID      : 1
Access       : Deny

Profile ID      Name                Multicast Addresses
-----
1              customer                224.19.62.34 - 224.19.162.200

Success.

DGS-3120-24TC:admin#
```

## Chapter 44 Multicast VLAN Command List

<b>create [igmp_snooping   mld_snooping] multicast_vlan</b> <vlan_name 32> <vlanid 2-4094> {remap_priority [<value 0-7>   none] {replace_priority}}
<b>config igmp_snooping multicast_vlan</b> <vlan_name 32> {[add   delete] [member_port <portlist>   source_port <portlist>   untag_source_port <portlist>]   tag_member_port <portlist>]   state [enable   disable]   replace_source_ip <ipaddr>   remap_priority [<value 0-7>   none] {replace_priority}}(1)
<b>config mld_snooping multicast_vlan</b> <vlan_name 32> {[add   delete] [member_port <portlist>   source_port <portlist>   untag_source_port <portlist>]   tag_member_port <portlist>]   state [enable   disable]   replace_source_ip <ipv6addr>   remap_priority [<value 0-7>   none] {replace_priority}}(1)
<b>create [igmp_snooping   mld_snooping] multicast_vlan_group_profile</b> <profile_name 1-32>
<b>config igmp_snooping multicast_vlan_group_profile</b> <profile_name 1-32> [add   delete] <mcast_address_list>
<b>config mld_snooping multicast_vlan_group_profile</b> <profile_name 1-32> [add   delete] <mcast_v6address_list>
<b>delete [igmp_snooping   mld_snooping] multicast_vlan_group_profile</b> [profile_name <profile_name 1-32>   all]
<b>show [igmp_snooping   mld_snooping] multicast_vlan_group_profile</b> {< profile_name 1-32>}
<b>config [igmp_snooping   mld_snooping] multicast_vlan_group</b> <vlan_name 32> [add   delete] profile_name <profile_name 1-32>
<b>show [igmp_snooping   mld_snooping] multicast_vlan_group</b> {<vlan_name 32>}
<b>delete [igmp_snooping   mld_snooping] multicast_vlan</b> <vlan_name 32>
<b>enable [igmp_snooping   mld_snooping] multicast_vlan</b>
<b>disable [igmp_snooping   mld_snooping] multicast_vlan</b>
<b>config [igmp_snooping   mld_snooping] multicast_vlan forward_unmatched</b> [enable   disable]
<b>show [igmp_snooping   mld_snooping] multicast_vlan</b> {<vlan_name 32>}

### 44-1 create [igmp\_snooping | mld\_snooping] multicast\_vlan

#### Description

The create igmp\_snooping multicast\_vlan command creates a multicast VLAN and implements relevant parameters as specified. More than one multicast VLANs can be configured. The maximum number of configurable VLANs is project dependent.

Newly created IGMP snooping multicast VLANs must use a unique VLAN ID and name, i.e. they cannot use the VLAN ID or name of any existing 802.1q VLAN.

Also keep in mind the following conditions:

- Multicast VLANs cannot be configured or displayed using 802.1Q VLAN commands.
- An IP interface cannot be bound to a multicast VLAN.
- The multicast VLAN snooping function co-exists with the 802.1q VLAN snooping function.



## Format

```
create [igmp_snooping | mld_snooping] multicast_vlan <vlan_name 32> <vlanid 2-4094>
{remap_priority [<value 0-7> | none] {replace_priority}}
```

## Parameters

**igmp\_snooping** - Specifies to configure VLAN for IGMP snooping.

**mld\_snooping** - Specifies to configure VLAN for MLD snooping.

**multicast\_vlan** - The name of the multicast VLAN to be created. Each multicast VLAN is given a name that can be up to 32 characters.

**<vlan\_name 32>** - Enter the VLAN here. The VLAN name can be up to 32 characters long.

**<vlanid 2-4094>** - The VLAN ID of the multicast VLAN to be created. This value must be between 2 and 4094.

**remap\_priority** - (Optional) The remap priority (0 to 7) to be associated with the data traffic to be forwarded on the multicast VLAN. If none is specified, the packet's original priority will be used. The default setting is none.

**<value 0-7>** - Enter the remap priority value here. This value must be between 0 and 7.

**none** - Specifies that the remap priority value will be set to none.

**replace\_priority** - (Optional) Specifies that packet's priority will be changed by the switch, based on the remap priority. This flag will only take effect when the remap priority is set.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To create an IGMP snooping multicast VLAN with the VLAN name mv1 and the VID 2:

```
DGS-3120-24TC:admin# create igmp_snoop multicast_vlan mv1 2
Command: create igmp_snoop multicast_vlan mv1 2

Success.

DGS-3120-24TC:admin#
```

## 44-2 config igmp\_snooping multicast\_vlan

### Description

The config igmp\_snooping multicast\_vlan command allows you to add member ports and source ports to a list of multicast VLAN member ports. Member ports automatically become untagged members of the multicast VLAN and source ports automatically become tagged members of the multicast VLAN. However, member ports of one multicast VLAN are allowed to overlap with member ports on a different multicast VLAN.

A multicast VLAN must first be created using the create igmp\_snooping multicast\_vlan command before the multicast VLAN can be configured.

### Format

```
config igmp_snooping multicast_vlan <vlan_name 32> {[add | delete] [member_port
<portlist> | [source_port <portlist> | untag_source_port <portlist>] | tag_member_port
```

**<portlist> | state [enable | disable] | replace\_source\_ip <ipaddr> | remap\_priority [<value 0-7> | none] {replace\_priority}}(1)**

## Parameters

<b>multicast_vlan</b> - The name of the multicast VLAN to be configured. <b>&lt;vlan_name 32&gt;</b> - Enter the VLAN here. The VLAN name can be up to 32 characters long.
<b>add</b> - Specifies that the entry will be added to the specified multicast VLAN.
<b>delete</b> - Specifies that the entry will be deleted to the specified multicast VLAN.
<b>member_port</b> - (Optional) A member port or range of member ports to be added to the multicast VLAN. The specified range of ports will become untagged members of the multicast VLAN. <b>&lt;portlist&gt;</b> - Enter the list of port to be configured here.
<b>tag_member_port</b> - (Optional) Specifies the port or range of ports that will become tagged members of the multicast VLAN. <b>&lt;portlist&gt;</b> - Enter the list of port to be configured here.
<b>source_port</b> - (Optional) A port or range of ports to be added to the multicast VLAN. <b>&lt;portlist&gt;</b> - Enter the list of port to be configured here.
<b>untag_source_port</b> - (Optional) Specifies the source port or range of source ports as untagged members of the multicast VLAN. The PVID of the untagged source port is automatically changed to the multicast VLAN. Source ports must be either tagged or untagged for any single multicast VLAN, i.e. both types cannot be members of the same multicast VLAN. <b>&lt;portlist&gt;</b> - Enter the list of port to be configured here.
<b>state</b> - (Optional) Used to specify if the multicast VLAN for a chosen VLAN should be enabled or disabled. <b>enable</b> - Specifies to enable the multicast VLAN for a chosen VLAN. <b>disable</b> - Specifies to disable the multicast VLAN for a chosen VLAN.
<b>replace_source_ip</b> - (Optional) Before forwarding the report packet sent by the host, the source IP address in the join packet must be replaced by this IP address. If none is specified, the source IP address will not be replaced. <b>&lt;ipaddr&gt;</b> - Enter the replace source IP address here.
<b>remap_priority</b> - (Optional) The remap priority value to be associated with the data traffic to be forwarded on the multicast VLAN. If none is specified, the packet's original priority is used. The default setting is none. <b>&lt;value 0-7&gt;</b> - Enter the remap priority value here. This value must be between 0 and 7. <b>none</b> - Specifies that the remap priority value will be set to none.
<b>replace_priority</b> - (Optional) Specifies that the packet priority will be changed to the remap_priority, but only if remap_priority is set.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure an IGMP snooping multicast VLAN with the name "v1", make ports 1 and 3 members of the VLAN, and set the state to enable:

```
DGS-3120-24TC:admin# config igmp_snooping multicast_vlan v1 add member_port
1,3 state enable
Command: config igmp_snooping multicast_vlan v1 add member_port 1,3 state
enable

Success.

DGS-3120-24TC:admin#
```

## 44-3 config mld\_snooping multicast\_vlan

**Description**

The config mld\_snooping multicast\_vlan command allows you to add member ports and source ports to a list of multicast VLAN member ports. Member ports automatically become untagged members of the multicast VLAN and source ports automatically become tagged members of the multicast VLAN. If the port list of an existing multicast VLAN is changed without specifying add or delete, the newly added port list replaces the existing port list. A member port list cannot overlap with a source port list of the same multicast VLAN. However, member ports of one multicast VLAN are allowed to overlap with member ports on a different multicast VLAN.

A multicast VLAN must first be created using the create mld\_snooping multicast\_vlan command before it can be configured.

**Format**

```
config mld_snooping multicast_vlan <vlan_name 32> {[add | delete] [member_port
<portlist> | [source_port <portlist> | untag_source_port <portlist>] | tag_member_port
<portlist>] | state [enable | disable] | replace_source_ip <ipv6addr> | remap_priority [<value
0-7> | none] {replace_priority}}(1)
```

**Parameters**


---

<b>multicast_vlan</b>	- The name of the multicast VLAN to be configured. The maximum length is 32 characters.
<b>&lt;vlan_name 32&gt;</b>	- Enter the VLAN here. The VLAN name can be up to 32 characters long.
<b>add</b>	- (Optional) Specifies to add member ports to the multicast VLAN.
<b>delete</b>	- (Optional) Specifies to delete member ports to the multicast VLAN.
<b>member_port</b>	- (Optional) A member port or range of member ports to be added to the multicast VLAN. The specified range of ports will become untagged members of the multicast VLAN.
<b>&lt;portlist&gt;</b>	- Enter the list of port to be configured here.
<b>tag_member_port</b>	- (Optional) Specifies that the port or range of ports will become tagged members of the multicast VLAN.
<b>&lt;portlist&gt;</b>	- Enter the list of port to be configured here.
<b>source_port</b>	- (Optional) Specifies the port or range of ports to be added to the multicast VLAN.
<b>&lt;portlist&gt;</b>	- Enter the list of port to be configured here.
<b>untag_source_port</b>	- (Optional) Specifies the source port or range of source ports as untagged members of the multicast VLAN. The PVID of the untagged source port is automatically changed to the multicast VLAN. Source ports must be either tagged or untagged for any single multicast VLAN, i.e. both types cannot be members of the same multicast VLAN.
<b>&lt;portlist&gt;</b>	- Enter the list of port to be configured here.
<b>state</b>	- (Optional) Used to specify if the multicast VLAN for a chosen VLAN should be enabled or disabled.
<b>enable</b>	- Specifies to enable the multicast VLAN for a chosen VLAN.
<b>disable</b>	- Specifies to disable the multicast VLAN for a chosen VLAN.
<b>replace_source_ipv6</b>	- (Optional) Before forwarding the report packet sent by the host, the source IP address in the join packet must be replaced by this IP address. If none is specified, the source IP address will not be replaced.
<b>&lt;ipv6addr&gt;</b>	- Enter the replace source IPv6 address here.
<b>remap_priority</b>	- (Optional) The remap priority value to be associated with the data traffic to be forwarded on the multicast VLAN. If none is specified, the packet's original priority is used. The default setting is none.
<b>&lt;value 0-7&gt;</b>	- Enter the remap priority value here. This value must be between 0 and 7.
<b>replace_priority</b>	- (Optional) The packet priority is changed to the remap_priority, but only if the remap_priority is set.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure an MLD snooping multicast VLAN with the name "v1", make ports 1 and 3 members of the VLAN, and set the state to enable:

```
DGS-3120-24TC:admin#config mld_snooping multicast_vlan v1 add member_port
1:1,1:3 state enable
Command: config mld_snooping multicast_vlan v1 add member_port 1:1,1:3 state
enable

Success.

DGS-3120-24TC:admin#
```

44-4 create [igmp\_snooping | mld\_snooping]  
multicast\_vlan\_group\_profile

## Description

This command is used to create an IGMP or MLD snooping multicast group profile on the switch.

## Format

create [igmp\_snooping | mld\_snooping] multicast\_vlan\_group\_profile <profile\_name 1-32>

## Parameters

---

**igmp\_snooping** - Specifies that an IGMP snooping profile will be created.

**mld\_snooping** - Specifies that an MLD snooping profile will be created.

---

**multicast\_vlan\_group\_profile** - Specifies the multicast VLAN profile name. The maximum length is 32 characters.

**<profile\_name 1-32>** - Enter the multicast VLAN group profile name here. The name can be up to 32 characters long.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To create an IGMP snooping multicast group profile with the name "test":

```
DGS-3120-24TC:admin# create igmp_snooping multicast_vlan_group_profile test
Command: create igmp_snooping multicast_vlan_group_profile test

Success.

DGS-3120-24TC:admin#
```

## 44-5 config igmp\_snooping multicast\_vlan\_group\_profile

### Description

This command is used to configure an IGMP snooping multicast group profile on the switch and add or delete multicast addresses for the profile.

### Format

**config igmp\_snooping multicast\_vlan\_group\_profile <profile\_name 1-32> [add | delete] <mcast\_address\_list>**

### Parameters

---

**multicast\_vlan\_group\_profile** - Specifies the multicast VLAN profile name. The maximum length is 32 characters.

**<profile\_name 1-32>** - Enter the multicast VLAN group name here. This name can be up to 32 characters long.

---

**add** - Adds a multicast address list to or from this multicast VLAN profile. The <mcast\_address\_list> can be a continuous single multicast address, such as 225.1.1.1, 225.1.1.3, 225.1.1.8, a multicast address range, such as 225.1.1.1-225.2.2.2, or both of types, such as 225.1.1.1, 225.1.1.18-225.1.1.20

**delete** - Deletes a multicast address list to or from this multicast VLAN profile. The <mcast\_address\_list> can be a continuous single multicast addresses, such as 225.1.1.1, 225.1.1.3, 225.1.1.8, or a multicast address range, such as 225.1.1.1-225.2.2.2, or both types, such as 225.1.1.1, 225.1.1.18-225.1.1.20

---

**<mcast\_address\_list>** - Enter the multicast VLAN IP address here.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To add the single multicast address 225.1.1.1 and multicast range 225.1.1.10-225.1.1.20 to the IGMP snooping multicast VLAN profile named "MOD":

```
DGS-3120-24TC:admin# config igmp_snooping multicast_vlan_group_profile MOD add 225.1.1.1, 225.1.1.10-225.1.1.20
```

```
Command: config igmp_snooping multicast_vlan_group_profile MOD add 225.1.1.1, 225.1.1.10-225.1.1.20
```

```
Success.
```

```
DGS-3120-24TC:admin#
```

## 44-6 config mld\_snooping multicast\_vlan\_group\_profile

### Description

This command is used to configure an MLD snooping multicast group profile on the switch and add or delete multicast addresses for the profile.

## Format

```
config mld_snooping multicast_vlan_group_profile <profile_name 1-32> [add | delete]
<mcast_v6address_list>
```

## Parameters

**multicast\_vlan\_group\_profile** - Specifies the multicast VLAN profile name. The maximum length is 32 characters.

**<profile\_name 1-32>** - Enter the multicast VLAN group profile name here. This name can be up to 32 characters long.

**add** - Add a multicast address list to or from this multicast VLAN profile. The <mcast\_v6address\_list> can be a continuous single multicast addresses, such as FF1E::1, a multicast address range, such as FF1E::1-FF1E::2, or both of them, such as FF1E::1, FF1E::10-FF1E::20

**delete** - Delete multicast address list to or from this multicast VLAN profile. The <mcast\_v6address\_list> can be a continuous single multicast addresses, such as FF1E::1, a multicast address range, such as FF1E::1-FF1E::2, or both of them, such as FF1E::1, FF1E::10-FF1E::20

**<mcast\_v6address\_list>** - Enter the multicast VLAN IPv6 address here.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To add a multicast address or range to an MLD snooping multicast VLAN profile with name "MOD":

```
DGS-3120-24TC:admin# config mld_snooping multicast_vlan_group_profile MOD add
FF1E::1, FF1E::10-FF1E::20
Command: config mld _snooping multicast_vlan_group_profile MOD add FF1E::1,
FF1E::10-FF1E::20

Success.

DGS-3120-24TC:admin#
```

```
44-7 delete [igmp_snooping | mld_snooping]
multicast_vlan_group_profile
```

## Description

This command is used to delete an IGMP snooping or MLD snooping multicast group profile on the switch. Specify a profile name to delete it. Specify all to remove all profiles along with the groups that belong to that profile.

## Format

```
delete [igmp_snooping | mld_snooping] multicast_vlan_group_profile [profile_name
<profile_name 1-32> | all]
```

## Parameters

---

**igmp\_snooping** - Specifies to delete an IGMP snooping group profile.

**mld\_snooping** - Specifies to delete an MLD snooping group profile.

---

**profile\_name** - Specifies the multicast VLAN profile name.

**<profile\_name 1-32>** - Enter the multicast VLAN profile name here. This name can be up to 32 characters long.

**all** - Specifies to delete all the multicast VLAN profiles.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To delete an IGMP snooping multicast group profile with the name "MOD":

```
DGS-3120-24TC:admin# delete igmp_snooping multicast_vlan_group_profile
profile_name MOD
Command: delete igmp_snooping multicast_vlan_group_profile profile_name MOD

Success.

DGS-3120-24TC:admin#
```

44-8 show [igmp\_snooping | mld\_snooping]  
multicast\_vlan\_group\_profile

## Description

This command is used to show the IGMP snooping or MLD snooping multicast group profiles.

## Format

show [igmp\_snooping | mld\_snooping ] multicast\_vlan\_group\_profile {< profile\_name 1-32>}

## Parameters

---

**igmp\_snooping** - Specifies that an IGMP snooping multicast group profile should be displayed.

**mld\_snooping** - Specifies that an MLD snooping multicast group profile should be displayed.

---

**multicast\_vlan\_group\_profile** - Specifies the profile name of the existing multicast VLAN profile that should be displayed.

**<profile\_name 1-32>** - (Optional) Enter the multicast VLAN group profile name here. The name can be up to 32 characters long.

---

## Restrictions

None.

## Example

To display all IGMP snooping multicast VLAN profiles:

```
DGS-3120-24TC:admin# show igmp_snooping multicast_vlan_group_profile
Command: show igmp_snooping multicast_vlan_group_profile

Profile Name          Multicast Addresses
-----
MOD                   234.1.1.1 - 238.244.244.244
                     239.1.1.1 - 239.2.2.2
Customer              224.19.62.34 - 224.19.162.200

Total Entries : 2

Success.

DGS-3120-24TC:admin#
```

#### 44-9 config [igmp\_snooping | mld\_snooping] multicast\_vlan\_group

##### Description

Used to configure the multicast group learned with the specific multicast VLAN. The following two cases can be considered for examples:

Case 1- The multicast group is not configured, multicast VLANs do not have any member ports overlapping and the join packet received by the member port is learned on only the multicast VLAN that this port is a member of.

Case 2-,The join packet is learned with the multicast VLAN that contains the destination multicast group. If the destination multicast group of the join packet cannot be classified into any multicast VLAN to which this port belongs, then the join packet will be learned on the natural VLAN of the packet.

Note that a profile cannot overlap in different multicast VLANs. Multiple profiles can be added to a multicast VLAN.

##### Format

**config [igmp\_snooping | mld\_snooping] multicast\_vlan\_group <vlan\_name 32> [add | delete] profile\_name <profile\_name 1-32>**

##### Parameters

**igmp\_snooping** - Specifies IGMP snooping should be configured.

**mld\_snooping** - Specifies MLD snooping should be configured.

**multicast\_vlan\_group** - The name of the multicast VLAN to be configured. Each multicast VLAN is given a name of up to 32 characters.

**<vlan\_name 32>** - Enter the multicast VLAN name here. The VLAN name can be up to 32 characters long.

**add** - Used to associate a profile to a multicast VLAN.

**delete** - Used to de-associate a profile from a multicast VLAN.

**profile\_name** - Specifies the multicast VLAN profile name.

**<profile\_name 1-32>** - Enter the multicast VLAN profile name here. The name can be up to 32 characters long.



## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To add an IGMP snooping profile to a multicast VLAN group with the name "v1":

```
DGS-3120-24TC:admin# config igmp_snooping multicast_vlan_group v1 add
profile_name channel_1
Command: config igmp_snooping multicast_vlan_group v1 add profile_name
channel_1
Success.
DGS-3120-24TC:admin#
```

## 44-10 show [igmp\_snooping | mld\_snooping] multicast\_vlan\_group

### Description

Used to show an IGMP snooping or MLD snooping multicast VLAN group.

### Format

**show [igmp\_snooping | mld\_snooping] multicast\_vlan\_group {<vlan\_name 32>}**

### Parameters

---

**igmp\_snooping** - Specifies that IGMP snooping VLAN groups should be displayed.  
**mld\_snooping** - Specifies that MLD snooping VLAN groups should be displayed.  
**multicast\_vlan\_group** - Specifies the the name of the multicast VLAN to be displayed.  
**<vlan\_name 32>** - (Optional) Enter the VLAN name here. The VLAN name can be up to 32 characters long.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To show all MLD snooping multicast VLAN groups setup on the switch:

```
DGS-3120-24TC:admin# show mld_snooping multicast_vlan_group
Command: show mld_snooping multicat_vlan_group
VLAN Name                VLAN ID      Multicast Group Profiles
-----
mod                       8           test
DGS-3120-24TC:admin#
```

## 44-11 delete [igmp\_snooping | mld\_snooping] multicast\_vlan

### Description

Used to delete an IGMP or MLD snooping multicast VLAN.

### Format

**delete [igmp\_snooping | mld\_snooping] multicast\_vlan <vlan\_name 32>**

### Parameters

---

**igmp\_snooping** - Specifies that an IGMP snooping multicast VLAN will be deleted.

**mld\_snooping** - Specifies that an MLD snooping multicast VLAN will be deleted.

**multicast\_vlan** - The name of the multicast VLAN to be deleted.

**<vlan\_name 32>** -Enter the VLAN name here. The VLAN name can be up to 32 characters long.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To delete an MLD snooping multicast VLAN called “v1”:

```
DGS-3120-24TC:admin# delete mld_snooping multicat_vlan v1
Command: delete mld_snooping multicat_vlan v1

Success.

DGS-3120-24TC:admin#
```

## 44-12 enable [igmp\_snooping | mld\_snooping] multicast\_vlan

### Description

This command controls the status of the multicast VLAN function. The command disable igmp\_snooping controls the ordinary IGMP snooping function. The command disable mld\_snooping controls the status of the ordinary MLD snooping function. By default, the multicast VLAN function is disabled.

### Format

**enable [igmp\_snooping | mld\_snooping] multicast\_vlan**

### Parameters

---

**igmp\_snooping** - Specifies that IGMP snooping multicast VLAN is to be enabled.

**mld\_snooping** - Specifies that MLD snooping multicast VLAN is to be enabled.

---

## Restrictions

Only Administrator-level users can issue this command.

## Example

To enable the IGMP snooping multicast VLAN function globally:

```
DGS-3120-24TC:admin# enable igmp_snooping multicast_vlan
Command: enable igmp_snooping multicast_vlan

Success.

DGS-3120-24TC:admin#
```

## 44-13 disable [igmp\_snooping | mld\_snooping] multicast\_vlan

### Description

This command disables the IGMP or MLD snooping multicast VLAN function. The command `disable igmp_snooping` is used to disable the ordinary IGMP snooping function, while the command `disable mld_snooping` is used to disable the ordinary MLD snooping function. By default, the multicast VLAN is disabled.

### Format

**disable [igmp\_snooping | mld\_snooping] multicast\_vlan**

### Parameters

---

**igmp\_snooping** - Specifies that the IGMP snooping multicast VLAN function should be disabled.  
**mld\_snooping** - Specifies that the MLD snooping multicast VLAN function should be disabled.

---

## Restrictions

Only Administrator-level users can issue this command.

## Example

To disable the MLD snooping multicast VLAN function:

```
DGS-3120-24TC:admin# disable mld_snooping multicast_vlan
Command: disable mld_snooping multicast_vlan

Success.

DGS-3120-24TC:admin#
```

#### 44-14 config [igmp\_snooping | mld\_snooping] multicast\_vlan forward\_unmatched

##### Description

Used to configure the forwarding mode for multicast VLAN unmatched packets. When the switch receives an IGMP/MLD snooping packet, it will match the packet against the multicast profile to determine which multicast VLAN to associate with. If the packet does not match all profiles, the packet will be forwarded or dropped based on this setting.

By default, the packet will be dropped.

##### Format

**config [igmp\_snooping | mld\_snooping] multicast\_vlan forward\_unmatched [enable | disable]**

##### Parameters

---

**igmp\_snooping** - Specifies that the IGMP snooping multicast VLAN function will be configured.

**mld\_snooping** - Specifies that the MLD snooping multicast VLAN function will be configured.

---

**multicast\_vlan forward\_unmatched** - Specifies to enable or disable packet flooding on the multicast VLAN.

**enable** - The packet will be flooded on the VLAN.

**disable** - The packet will be dropped.

---

##### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

##### Example

To configure the forwarding mode for multicast VLAN unmatched packets :

```
DGS-3120-24TC:admin# config igmp_snooping multicast_vlan forward_unmatched enable
```

```
Command: config igmp_snooping multicast_vlan forward_unmatched enable
```

```
Success.
```

```
DGS-3120-24TC:admin#
```

#### 44-15 show [igmp\_snooping | mld\_snooping] multicast\_vlan

##### Description

Used to display information for a multicast VLAN.

##### Format

**show [igmp\_snooping | mld\_snooping] multicast\_vlan {<vlan\_name 32>}**

## Parameters

---

**igmp\_snooping** - Specifies that IGMP snooping multicast VLANs will be displayed.

**mld\_snooping** - Specifies that MLD snooping multicast VLANs will be displayed.

---

**multicast\_vlan** - The name of the multicast VLAN to be shown.

**<vlan\_name 32>** - (Optional) Enter the VLAN name here. The VLAN name can be up to 32 characters long.

---

## Restrictions

None.

## Example

To display all IGMP snooping multicast VLANs:

```
DGS-3120-24TC:admin# show igmp_snooping multicast_vlan
Command: show igmp_snooping multicast_vlan

IGMP Multicast VLAN Global State      : Disabled
IGMP Multicast VLAN Forward Unmatched : Disabled

VLAN Name                             : test
VID                                    : 100

Member(Untagged) Ports                 : 1
Tagged Member Ports                    :
Source Ports                           : 3
Untagged Source Ports                  :
Status                                 : Disabled
Replace Source IP                      : 0.0.0.0
Remap Priority                          : None

Total Entries: 1

DGS-3120-24TC:admin#
```

## Chapter 45 Multiple Spanning Tree Protocol (MSTP) Command List

<b>show stp</b>
<b>show stp instance</b> {<value 0-15>}
<b>show stp ports</b> {<portlist>}
<b>show stp mst_config_id</b>
<b>create stp instance_id</b> <value 1-15>
<b>delete stp instance_id</b> <value 1-15>
<b>config stp instance_id</b> <value 1-15> [add_vlan   remove_vlan] <vidlist>
<b>config stp mst_config_id</b> {revision_level <int 0-65535>   name <string>}
<b>enable stp</b>
<b>disable stp</b>
<b>config stp version</b> [mstp   rstp   stp]
<b>config stp priority</b> <value 0-61440> instance_id <value 0-15>
<b>config stp</b> {maxage <value 6-40>   maxhops <value 6-40>   hellotime <value 1-2>   forwarddelay <value 4-30>   txholdcount <value 1-10>   fbpdudisable [enable   disable]   nni_bpdu_addr [dot1d   dot1ad]}
<b>config stp ports</b> <portlist> {externalCost [auto   <value 1-200000000>]   hellotime <value 1-2>   migrate [yes   no]   edge [true   false   auto]   p2p [true   false   auto]   state [enable   disable]   restricted_role [true   false]   restricted_tcn [true   false]   fbpdudisable [enable   disable]}
<b>config stp mst_ports</b> <portlist> instance_id <value 0-15> {internalCost [auto   <value 1-200000000>]   priority <value 0-240>}

### 45-1 show stp

#### Description

Used to show the bridge parameters global settings.

#### Format

**show stp**

#### Parameters

None.

#### Restrictions

None.

#### Example

To show STP:

```
DGS-3120-24TC:admin#show stp
Command: show stp

STP Bridge Global Settings
-----
STP Status           : Disabled
STP Version          : RSTP
Max Age              : 20
Hello Time           : 2
Forward Delay        : 15
Max Hops             : 20
TX Hold Count        : 6
Forwarding BPDU      : Disabled
NNI BPDU Address     : dot1d

DGS-3120-24TC:admin#
```

## 45-2 show stp instance

### Description

This command displays each instance parameters settings. Value means the instance ID, if there is no input of this value, all instance will be shown.

### Format

**show stp instance {<value 0-15>}**

### Parameters

---

**instance** - Specifies the MSTP instance ID.  
**<value 0-15>** - (Optional) Enter the MSTP instance ID value here. This value must be between 0 and 15.

---

### Restrictions

None.

### Example

To show STP instance:

```
DGS-3120-24TC:admin# show stp instance
Command: show stp instance

STP Instance Settings
-----
Instance Type          : CIST
Instance Status       : Enabled
Instance Priority      : 32768(bridge priority : 32768, sys ID ext : 0 )

STP Instance Operational Status
-----
Designated Root Bridge : 32768/00-22-22-22-22-00
External Root Cost     : 0
Regional Root Bridge   : 32768/00-22-22-22-22-00
Internal Root Cost     : 0
Designated Bridge      : 32768/00-22-22-22-22-00
Root Port              : None
Max Age                : 20
Forward Delay          : 15
Last Topology Change   : 2430
Topology Changes Count : 0

DGS-3120-24TC:admin#
```

## 45-3 show stp ports

### Description

This command is used to show the port information includes parameters setting and operational value.

### Format

**show stp ports {<portlist>}**

### Parameters

---

**ports** - To show parameters of the designated port numbers, to be distinguished from showing parameters of the bridge.  
**<portlist>** - (Optional) Enter a list of ports used for the configuration here.

---

### Restrictions

None.

### Example

To show STP ports:



```
DGS-3120-24TC:admin#show stp ports
Command: show stp ports

MSTP Port Information
-----
Port Index      : 1:1      , Hello Time: 2 /2 , Port STP : Enabled ,
External PathCost : Auto/200000 , Edge Port : False/No , P2P : Auto /Yes
Port RestrictedRole : False, Port RestrictedTCN : False
Port Forward BPDU : Disabled
MSTI   Designated Bridge   Internal PathCost   Prio   Status      Role
-----
0      N/A                 200000             128   Disabled    Disabled

CTRL+C  ESC  q Quit  SPACE  n Next Page  p Previous Page  r Refresh
```

#### 45-4 show stp mst\_config\_id

##### Description

Used to show the MST configuration identification.

##### Format

**show stp mst\_config\_id**

##### Parameters

None.

##### Restrictions

None.

##### Example

show STP MST configuration ID:

```
DGS-3120-24TC:admin# show stp mst_config_id
Command: show stp mst_config_id

Current MST Configuration Identification
-----

Configuration Name : 00-22-22-22-22-00                      Revision Level :0
MSTI ID      Vid list
-----
      CIST      1-4094

DGS-3120-24TC:admin#
```

## 45-5 create stp instance\_id

### Description

This command is used to create an MST Instance without mapping the corresponding VLANs.

### Format

**create stp instance\_id <value 1-15>**

### Parameters

---

**instance\_id** - Specifies the MSTP instance ID. Instance 0 represents for default instance, CIST.

**<value 1-15>** - Enter the MSTP instance ID here. This value must be between 1 and 15.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To create MSTP instance:

```
DGS-3120-24TC:admin# create stp instance_id 2
Command: create stp instance_id 2

Success.

DGS-3120-24TC:admin#
```

## 45-6 delete stp instance\_id

### Description

This command is used to delete an MST Instance.

### Format

**delete stp instance\_id <value 1-15>**

### Parameters

---

**instance\_id** - Specifies the MSTP instance ID. Instance 0 represents for default instance, CIST.

**<value 1-15>** - Enter the MSTP instance ID here. This value must be between 1 and 15.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To delete an MSTP instance:

```
DGS-3120-24TC:admin# delete stp instance_id 2
Command: delete stp instance_id 2

Success.

DGS-3120-24TC:admin#
```

## 45-7 config stp instance\_id

### Description

This command is used to map or remove the VLAN range of the specified MST instance for the existed MST instances.

### Format

**config stp instance\_id <value 1-15> [add\_vlan | remove\_vlan] <vidlist>**

### Parameters

---

**instance\_id** - Specifies the MSTP instance ID. Instance 0 represents for default instance, CIST.  
**<value 1-15>** - Enter the MSTP instance ID here. This value must be between 1 and 15.

---

**add\_vlan** - Specifies to map the specified VLAN list to an existing MST instance.

---

**remove\_vlan** - Specifies to delete the specified VLAN list from an existing MST instance.

---

**<vidlist>** - Specifies a list of VLANs by VLAN ID.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To map a VLAN ID to an MSTP instance:

```
DGS-3120-24TC:admin# config stp instance_id 2 add_vlan 1-3
Command: config stp instance_id 2 add_vlan 1-3

Success.

DGS-3120-24TC:admin#
```

To remove a VLAN ID from an MSTP instance:

```
DGS-3120-24TC:admin# config stp instance_id 2 remove_vlan 2
Command: config stp instance_id 2 remove_vlan 2

Success.

DGS-3120-24TC:admin#
```

## 45-8 config stp mst\_config\_id

### Description

This command is used to change the name or the revision level of the MST configuration identification.

### Format

**config stp mst\_config\_id {revision\_level <int 0-65535> | name <string>}**

### Parameters

---

**name** - (Optional) Specifies the name given for a specific MST region.

**<string>** - Enter the MST region name here.

---

**revision\_level** - (Optional) The same given name with different revision level also represents different MST regions.

**<int 0-65535>** - Enter the revision level here. This value must be between 0 and 65535.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To change the name and revision level of the MST configuration identification:

```
DGS-3120-24TC:admin# config stp mst_config_id name R&D_BlockG revision_level 1
Commands: config stp mst_config_id name R&D_BlockG revision_level 1

Success.

DGS-3120-24TC:admin#
```

## 45-9 enable stp

### Description

This command is used to enable STP globally.

### Format

**enable stp**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To enable STP:

```
DGS-3120-24TC:admin# enable stp
Command: enable stp

Success.

DGS-3120-24TC:admin#
```

### 45-10 disable stp

#### Description

This command is used to disable STP globally.

#### Format

**disable stp**

#### Parameters

None.

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To disable STP:

```
DGS-3120-24TC:admin# disable stp
Command: disable stp

Success.

DGS-3120-24TC:admin#
```

### 45-11 config stp version

#### Description

This command is used to enable STP globally.

#### Format

**config stp version [mstp | rstp | stp]**

## Parameters

---

**version** - To decide to run under which version of STP.  
**mstp** - Multiple Spanning Tree Protocol.  
**rstp** - Rapid Spanning Tree Protocol.  
**stp** - Spanning Tree Protocol.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure STP version:

```
DGS-3120-24TC:admin# config stp version mstp
Command: config stp version mstp

Success.

DGS-3120-24TC:admin#
```

To config STP version with the same value of old configuration:

```
DGS-3120-24TC:admin# config stp version mstp
Command: config stp version mstp

Configure value is the same with current value.
Success.

DGS-3120-24TC:admin#
```

## 45-12 config stp priority

### Description

This command is used to configure the instance priority.

### Format

**config stp priority <value 0-61440> instance\_id <value 0-15>**

## Parameters

---

**priority** - Specifies the bridge priority value. This value must be divisible by 4096.  
**<value 0-61440>** - Enter the bridge priority value here. This value must be between 0 and 61440.

---

**instance\_id** - Identifier to distinguish different STP instances.  
**<value 0-15>** - Enter the STP instance ID here. This value must be between 0 and 15.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure the STP instance ID:

```
DGS-3120-24TC:admin# config stp priority 61440 instance_id 0
Command: config stp priority 61440 instance_id 0

Success.

DGS-3120-24TC:admin#
```

## 45-13 config stp

### Description

This command is used to configure the bridge parameters global settings.

### Format

**config stp {maxage <value 6-40> | maxhops <value 6-40> | hellotime <value 1-2> | forwarddelay <value 4-30> | txholdcount <value 1-10> | fbpdu [enable | disable] | nni\_bpdu\_addr [dot1d | dot1ad]}**

### Parameters

<b>maxage</b> - (Optional) Used to determine if a BPDU is valid. The default value is 20. <b>&lt;value 6-40&gt;</b> - Enter the maximum age value here. This value must be between 6-40.
<b>maxhops</b> - (Optional) Used to restrict the forwarded times of one BPDU. The default value is 20. <b>&lt;value 6-40&gt;</b> - Enter the maximum hops value here. This value must be between 6 and 40.
<b>hello_time</b> - (Optional) The time interval for sending configuration BPDUs by the Root Bridge. The default value is 2 seconds. This parameter is for STP and RSTP version. MSTP version uses per-port hellotime parameter. <b>&lt;value 1-2&gt;</b> - Enter the hello time value here. This value must be between 1 and 2.
<b>forwarddelay</b> - (Optional) The maximum delay time for one BPDU to be transmitted by a bridge and received from another bridge. The default value is 15. <b>&lt;value 4-30&gt;</b> - Enter the maximum delay time here. This value must be between 4 and 30.
<b>txholdcount</b> - (Optional) Used to restrict the numbers of BPDU transmitted in a time interval. <b>&lt;value 1-10&gt;</b> - Enter the transmitted BPDU restriction value here. This value must be between 1 and 10.
<b>fbpdu</b> - (Optional) To decide if the bridge will flood STP BPDU when STP functionality is disabled. <b>enable</b> - Specifies that the bridge will flood STP BPDU when STP functionality is disabled <b>disable</b> - Specifies that the bridge will not flood STP BPDU when STP functionality is disabled
<b>nni_bpdu_addr</b> - (Optional) Used to determine the BPDU protocol address for GVRP in service provide site. It can use 802.1d GVRP address, 802.1ad service provider GVRP address or an user defined mutilcast address. The range of the user defined address is 0180C2000000 - 0180C2FFFFFF. <b>dot1d</b> - Specifies that the NNI BPDU protocol address value will be set to Dot1d. <b>dot1ad</b> - Specifies that the NNI BPDU protocol address value will be set to Dot1ad.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure STP:

```
DGS-3120-24TC:admin# config stp maxage 25
Command: config stp maxage 25

Success.

DGS-3120-24TC:admin#
```

## 45-14 config stp ports

### Description

This command can configure all the parameters of ports, except for Internal Path Cost and Port Priority.

### Format

**config stp ports <portlist> {externalCost [auto | <value 1-200000000>] | hellotime <value 1-2> | migrate [yes | no] | edge [true | false | auto] | p2p [true | false | auto] | state [enable | disable]} | restricted\_role [true | false] | restricted\_tcn [true | false] | fbpdud [enable | disable]}**

### Parameters

<b>&lt;portlist&gt;</b> - Enter a list of ports used for the configuration here.
<b>external_cost</b> - (Optional) The path cost between MST regions from the transmitting Bridge to the CIST Root Bridge. It is only used at CIST level. <b>auto</b> - Specifies that the external cost value will be set to automatic. <b>&lt;value 1-200000000&gt;</b> - Enter the external cost value here. This value must be between 1 and 200000000.
<b>hellotime</b> - (Optional) The default value is 2 . This parameter is for MSTP version. For STP and RSTP version, uses the per system hellotime parameter. <b>&lt;value 1-2&gt;</b> - Enter the hello time value here. This value must be between 1 and 2.
<b>migrate</b> - (Optional) Operation of management in order to specify the port to send MSTP BPDU for a delay time. <b>yes</b> - Specifies that the MSTP BPDU for a delay time will be sent. <b>no</b> - Specifies that the MSTP BPDU for a delay time will not be sent.
<b>edge</b> - (Optional) To decide if this port is connected to a LAN or a Bridged LAN. <b>true</b> - Specifies that the specified port(s) is edge. <b>false</b> - Specifies that the specified port(s) is not edge. <b>auto</b> - In auto mode, the bridge will delay for a period to become edge port if no bridge BPUD is received. The default is auto mode.
<b>p2p</b> - (Optional) To decide if this port is in Full-Duplex or Half-Duplex mode. <b>true</b> - Specifies that the port(s) is in Full-Duplex mode. <b>false</b> - Specifies that the port(s) is in Half-Duplex mode. <b>auto</b> - Specifies that the port(s) is in Full-Duplex and Half-Duplex mode.
<b>state</b> - (Optional) To decide if this port supports the STP functionality. <b>enable</b> - Specifies that STP functionality on the port(s) is enabled. <b>disable</b> - Specifies that STP functionality on the port(s) is disabled.
<b>restricted_role</b> - (Optional) To decide if this port not to be selected as Root Port. The default value is false. <b>true</b> - Specifies that the port can be specified as the root port. <b>false</b> - Specifies that the port can not be specified as the root port.
<b>restricted_tcn</b> - (Optional) To decide if this port not to propagate topology change. The default value is false.



---

**true** - Specifies that the port can be set to propagate a topology change.

**false** - Specifies that the port can not be set to propagate a topology change.

**fbpdu** - (Optional) To decide if this port will flood STP BPDU when STP functionality is disabled. When the state is set to enable, the received BPDU will be forwarded. When the state is set to disable, the received BPDU will be dropped.

**enable** - Specifies that the port can be set to flood the STP BPDU when the STP functionality is disabled.

**disable** - Specifies that the port can not be set to flood the STP BPDU when the STP functionality is disabled.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure STP ports:

```
DGS-3120-24TC:admin# config stp ports 1:1 externalCost auto
Command: config stp ports 1:1 externalCost auto

Success.

DGS-3120-24TC:admin#
```

## 45-15 config stp mst\_ports

### Description

This command is used to configure the ports management parameters.

### Format

**config stp mst\_ports <portlist> instance\_id <value 0-15> {internalCost [auto | <value 1-200000000>] | priority <value 0-240>}**

### Parameters

---

**mst\_ports** - Specifies to be distinguished from the parameters of ports only at CIST level.

**<portlist>** - Enter a list of ports used for the configuration here.

---

**instance\_id** - Specifies the instance ID used.

**<value 0-15>** - Enter the instance ID used here. This value must be between 0 and 15.

---

**internalCost** - (Optional) Specifies the port path cost used in MSTP.

**auto** - Specifies that the internal cost value will be set to auto.

**<value 1-200000000>** - Enter the internal cost value here. This value must be between 1 and 200000000.

---

**priority** - (Optional) Specifies the port priority value.

**<value 0-240>** - Enter the port priority value here. This value must be between 0 and 240.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## **Example**

To configure STP MST ports:

```
DGS-3120-24TC:admin# config stp mst_ports 1:1 instance_id 0 internalCost auto  
Command: config stp mst_ports 1:1 instance_id 0 internalCost auto
```

```
Success.
```

```
DGS-3120-24TC:admin#
```

## Chapter 46 Network Load Balancing (NLB) Command List

---

```

create nlb multicast_fdb [<vlan_name 32> | vlanid <vlanid>] <macaddr>
delete nlb multicast_fdb [<vlan_name 32> | vlanid <vlanid>] <macaddr>
config nlb multicast_fdb [<vlan_name 32> | vlanid <vlanid>] <macaddr> [add | delete] <portlist>
show nlb fdb

```

---

### 46-1 create nlb multicast\_fdb

#### Description

The create nlb multicast\_fdb command creates a NLB multicast FDB entry. The number of supported entries is project dependent.

The network load balancing command set is used to support the Microsoft server load balancing application where multiple servers can share the same IP address and MAC address. The requests from clients will be forwarded to all servers, but will only be processed by one of them. The server can work in two different modes – unicast mode and multicast mode. In unicast mode, the client use unicast MAC address as the destination MAC to reach the server. In multicast mode, the client use the multicast MAC address as the destination MAC to reach the server. Regarding of the mode, this destination Mac is the named the shared MAC. The server uses its own MAC address (rather than the shared MAC) as the source MAC address of the reply packet.

The NLB multicast FDB entry will be mutual exclusive with the L2 multicast entry.

#### Format

```
create nlb multicast_fdb [<vlan_name 32> | vlanid <vlanid>] <macaddr>
```

#### Parameters

---

**multicast\_fdb** - Specify the VLAN of the NLB multicast FDB entry to be created.  
**<vlan\_name 32>** - Enter the VLAN name here. The VLAN name can be up to 32 characters long.

---

**vlanid** - Specify the VLAN by the VLAN ID.  
**<vlanid>** - Enter the VLAN ID here.

---

**<macaddr>** - Specify the MAC address of the NLB multicast FDB entry to be created.

---

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

#### Example

To create a NLB multicast FDB entry:

```
DGS-3120-24TC:admin# create nlb multicast_fdb default 03-bf-01-01-01-01
Command: create nlb multicast_fdb default 03-bf-01-01-01-01

Success.

DGS-3120-24TC:admin#
```

## 46-2 delete nlb multicast\_fdb

### Description

The delete nlb multicast\_fdb command is used to delete the NLB multicast FDB entry.

### Format

**delete nlb multicast\_fdb** [**<vlan\_name 32>** | **vlanid <vlanid>**] **<macaddr>**

### Parameters

---

**<vlan\_name 32>** - Specify the VLAN of the NLB multicast FDB entry to be deleted.

**vlanid** - Specify the VLAN by VLAN ID.

**<vlanid>** - Enter the VLAN ID here.

---

**<macaddr>** - Specify the MAC address of the NLB multicast FDB entry to be deleted.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To delete NLB multicast FDB entry:

```
DGS-3120-24TC:admin# delete nlb multicast_fdb default 03-bf-01-01-01-01
Command: delete nlb multicast_fdb default 03-bf-01-01-01-01

Success.

DGS-3120-24TC:admin#
```

## 46-3 config nlb multicast\_fdb

### Description

The config nlb multicast\_fdb command is used to add or delete the forwarding ports for the specified NLB multicast FDB entry.

### Format

**config nlb multicast\_fdb** [**<vlan\_name 32>** | **vlanid <vlanid>**] **<macaddr>** [**add** | **delete**] **<portlist>**

## Parameters

---

**<vlan\_name 32>** - Specify the VLAN of the NLB multicast FDB entry to be configured.  
**vlanid** - Specify the VLAN by the VLAN ID.  
**<vlanid>** - Enter the VLAN ID here.

---

**<macaddr>** - Specify the Mac address of the NLB multicast FDB entry to be configured.  
**add** - Specify a list of forwarding ports to be added.  
**delete** - Specify a list of forwarding ports to be deleted.

---

**<portlist>** - Enter the list of ports used for this configuration.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure NLB multicast MAC forwarding database:

```
DGS-3120-24TC:admin# config nlb multicast_fdb default 03-bf-01-01-01-01 add
1:1-1:5
Command: config nlb multicast_fdb default 03-bf-01-01-01-01 add 1:1-1:5

Success.

DGS-3120-24TC:admin#
```

## 46-4 show nlb fdb

### Description

The show nlb fdb command is used to show the NLB Configured entry.

### Format

**show nlb fdb**

### Parameters

None.

### Restrictions

None.

### Example

To display the NLB forwarding table:

```
DGS-3120-24TC:admin# show nlb fdb
```

```
Command: show nlb fdb
```

MAC Address	VLAN ID	Egress Ports
-----	-----	-----
03-bf-01-01-01-01	100	1:1-1:5,1:24,2:24
03-bf-01-01-01-01	1	1:1-1:5,1:24,2:24

```
Total Entries : 2
```

```
DGS-3120-24TC:admin#
```

## Chapter 47 Network Monitoring Command List

---

```
show packet ports <portlist>
show error ports <portlist>
show utilization [cpu | ports]
show utilization dram {unit <unit_id>}
show utilization flash {unit <unit_id>}
clear counters {ports <portlist>}
```

---

### 47-1 show packet

#### Description

The show packet ports command displays statistics about the packets sent and received by the switch.

#### Format

```
show packet ports <portlist>
```

#### Parameters

---

<portlist> - Specifies a range of ports to be displayed.

---

#### Restrictions

None.

#### Example

To display the packets analysis for port 7 of unit 2:

```
DGS-3120-24TC:admin# show packet ports 2:7
Command: show packet ports 2:7

Port number : 2:7
Frame Size      Frame Counts  Frames/sec  Frame Type  Total      Total/sec
-----
64              572          27          RX Bytes    81207     2237
65-127         151          5           RX Frames   734       32
128-255        39           0
256-511        65           0           TX Bytes    8432      0
512-1023       7            0           TX Frames   100       0
1024-1518      0            0

Unicast RX      4            0
Multicast RX    162         1
Broadcast RX    568         31

DGS-3120-24TC:admin#
```

## 47-2 show error ports

### Description

The show error ports command displays the error statistics for a range of ports.

### Format

**show errors ports <portlist>**

### Parameters

---

**<portlist>** - Specifies a range of ports to be displayed.

---

### Restrictions

None.

### Example

To display the errors of the port 3 of unit 1:



```
DGS-3120-24TC:admin#show error ports 1:3
Command: show error ports 1:3

Port Number : 1:3

          RX Frames                               TX Frames
          -----                               -----
CRC Error      0                               Excessive Deferral  0
Undersize      0                               CRC Error            0
Oversize       0                               Late Collision       0
Fragment       0                               Excessive Collision  0
Jabber         0                               Single Collision     0
Drop Pkts      0                               Collision            0
Symbol Error   0

CTRL+C  ESC  q Quit  SPACE  n Next Page  p Previous Page  r Refresh
```

### 47-3 show utilization

#### Description

The show utilization command displays real-time CPU or port utilization statistics.

#### Format

**show utilization [cpu | ports]**

#### Parameters

---

**cpu** - Specifies to display information regarding the CPU.  
**ports** - Specifies a range of ports to be displayed.

---

#### Restrictions

None.

#### Example

To display the ports utilization:

```
DGS-3120-24TC:admin# show utilization ports
Command: show utilization ports
```

Port	TX/sec	RX/sec	Util	Port	TX/sec	RX/sec	Util
1:1	0	0	0	1:21	0	0	0
1:2	0	0	0	1:22	0	0	0
1:3	0	0	0	1:23	0	0	0
1:4	0	0	0	1:24	0	0	0
1:5	0	0	0				
1:6	0	0	0				
1:7	0	0	0				
1:8	0	0	0				
1:9	0	0	0				
1:10	0	0	0				
1:11	0	0	0				
1:12	0	0	0				
1:13	0	0	0				
1:14	0	0	0				
1:15	0	0	0				
1:16	0	0	0				
1:17	0	0	0				
1:18	0	0	0				
1:19	0	0	0				
1:20	0	0	0				

CTRL+C ESC q Quit SPACE n Next Page p Previous Page r Refresh

To display the CPU utilization:

```
DGS-3120-24TC:admin# show utilization cpu
Command: show utilization cpu

CPU utilization :
-----
Five seconds - 20%           One minute - 10%           Five minutes - 70%

DGS-3120-24TC:admin#
```

#### 47-4 show utilization dram

##### Description

This command is used to show DRAM memory utilization.

##### Format

**show utilization dram {unit <unit\_id>}**

##### Parameters

- unit** - (Optional) Specifies the Switch unit ID to be displayed.
- <unit\_id>** - Enter the Switch unit ID used here.

## Restrictions

None.

## Example

To display DRAM utilization:

```
DGS-3120-24TC:admin#show utilization dram
Command: show utilization dram

Unit 1 DRAM utilization :
    Total DRAM      : 131072    KB
    Used DRAM       : 128128    KB
    Utilization     : 97 %

CTRL+C  ESC  q Quit  SPACE  n Next Page  p Previous Page  r Refresh
```

## 47-5 show utilization flash

### Description

This command is used to show the flash memory utilization.

### Format

**show utilization flash {unit <unit\_id>}**

### Parameters

---

**unit** - (Optional) Specifies the Switch unit ID to be displayed.  
**<unit\_id>** - Enter the Switch unit ID used here.

---

## Restrictions

None.

## Example

To display FLASH utilization:

```
DGS-3120-24TC:admin#show utilization flash
Command: show utilization flash

Unit 1 Flash Memory Utilization :
    Total Flash      : 29618      KB
    Used Flash       : 5422       KB
    Utilization      : 18 %

CTRL+C  ESC  q  Quit  SPACE  n  Next Page  p  Previous Page  r  Refresh
```

## 47-6 clear counters

### Description

The clear counters command clears the switch's statistics counters.

### Format

**clear counters {ports <portlist>}**

### Parameters

---

**ports** - (Optional) Specifies a range of ports to be configured. The port list is specified by listing the lowest switch number and the beginning port number on that switch, separated by a colon. Then highest switch number, and the highest port number of the range (also separated by a colon) are specified. The beginning and end of the port list range are separated by a dash.  
**<portlist>** - Enter a list of ports used for the configuration here.

---

If no parameter is specified, system will display counters of all the ports .

---

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To clear the switch's statistics counters:

```
DGS-3120-24TC:admin# clear counters ports 2:7-2:9
Command: clear counters ports 2:7-2:9

Success.

DGS-3120-24TC:admin#
```

## Chapter 48 OAM Commands

---

```
config ethernet_oam ports [<portlist> | all] [mode [active | passive] | state [enable | disable] |
link_monitor [error_symbol {threshold <range 0-4294967295> | window <millisecond 1000-
60000> | notify_state [enable | disable]}(1) | error_frame {threshold <range 0-4294967295> |
window <millisecond 1000-60000> | notify_state [enable | disable]}(1) | error_frame_seconds
{threshold <range 1-900> | window <millisecond 10000-900000> | notify_state [enable |
disable]}(1) | error_frame_period {threshold <range 0-4294967295> | window <number
148810-1000000000> | notify_state [enable | disable]}(1)] | critical_link_event [dying_gasp |
critical_event] notify_state [enable | disable] | remote_loopback [start | stop] |
received_remote_loopback [process | ignore]]
```

---

```
show ethernet_oam ports {<portlist>} [status | configuration | statistics | event_log {index
<value_list>}]
```

---

```
clear ethernet_oam ports [<portlist> | all] [event_log | statistics]
```

---

### 48-1 config ethernet\_oam ports

#### Description

This command is used to configure Ethernet OAM. The parameter to configure port Ethernet OAM mode operates in active or passive mode. The following two actions are allowed by ports in active mode, but disallowed by ports in passive mode: Initiate OAM discovery and start or stop remote loopback. Note: When a port is OAM-enabled, changing the OAM mode will cause the OAM discovery to be re-started.

The command used to enable or disable port's Ethernet OAM function. The parameter enabling a port's OAM will cause the port to start OAM discovery. If a port's is active, it initiates the discovery. Otherwise it reacts to the discovery received from peer. Disabling a port's OAM will cause the port to send out a dying gasp event to peers and then disconnect the established OAM link.

The link monitoring parameter is used to configure port Ethernet OAM link monitoring error symbols. The link monitoring function provides a mechanism to detect and indicate link faults under a variety of conditions. OAM monitors the statistics on the number of frame errors as well as the number of coding symbol errors. When the number of symbol errors is equal to or greater than the specified threshold in a period and the event notification state is enabled, it generates an error symbol period event to notify the remote OAM peer. The Ethernet OAM link monitoring error frames parameter provides a mechanism to detect and indicate link faults under a variety of conditions. OAM monitors the counter on the number of frame errors as well as the number of coding symbol errors. When the number of frame errors is equal to or greater than the specified threshold in a period and the event notification state is enabled, it generates an error frame event to notify the remote OAM peer.

The link event parameter configures the capability of the Ethernet OAM critical link event. If the capability for an event is disabled, the port will never send out the corresponding critical link event. The command is used to configure the client to process or to ignore the received Ethernet OAM remote loopback command. In remote loopback mode, all user traffic will not be processed. Ignoring the received remote loopback command will prevent the port from entering remote loopback mode.

## Format

```
config ethernet_oam ports [<portlist> | all] [mode [active | passive] | state [enable | disable]
| link_monitor [error_symbol {threshold <range 0-4294967295> | window <millisecond 1000-
60000> | notify_state [enable | disable]} (1) | error_frame {threshold <range 0-4294967295> |
window <millisecond 1000-60000> | notify_state [enable | disable]} (1) |
error_frame_seconds {threshold <range 1-900> | window <millisecond 10000-900000> |
notify_state [enable | disable]} (1) | error_frame_period {threshold <range 0-4294967295> |
window <number 148810-100000000> | notify_state [enable | disable]}(1) |
critical_link_event [dying_gasp | critical_event] notify_state [enable | disable] |
remote_loopback [start | stop] | received_remote_loopback [process | ignore]]
```

## Parameters

---

<b>&lt;portlist&gt;</b>	- Used to specify a range of ports to be configured.
<b>all</b>	- Used to specify all ports are to be configured.
<b>mode</b>	- Specify the operation mode. The default mode is active.
<b>active</b>	- Specify to operate in active mode.
<b>passive</b>	- Specify to operate in passive mode.
<b>state</b>	- Specify the OAM function status.
<b>enable</b>	- Specify to enable the OAM function.
<b>disable</b>	- Specify to disable the OAM function.
<b>link_monitor</b>	- Used to detect and indicate link faults under a variety of conditions.
<b>error_symbol</b>	- Used to generate an error symbol period event to notify the remote OAM peer.
<b>threshold</b>	- Specify the number of symbol errors in the period that is required to be equal to or greater than in order for the event to be generated. The default value of threshold is 1 symbol error.
<b>&lt;range 0-4294967295&gt;</b>	- Specify the range from 0 to 4294967295.
<b>window</b>	- The range is 1000 to 60000 ms. The default value is 1000ms.
<b>&lt;millisecond 1000-60000&gt;</b>	-The range is 1000 to 60000 ms.
<b>notify_state</b>	- Specify the event notification status. The default state is enable.
<b>enable</b>	-Specify to enable event notification.
<b>disable</b>	-Specify to disable event notification.
<b>error_frame</b>	- Specify the error frame.
<b>threshold</b>	- Specify a threshold range.
<b>&lt;range 0-4294967295&gt;</b>	- Specify a threshold range between 0 and 4294967295.
<b>window</b>	- The range is 1000 to 60000 ms. The default value is 1000ms.
<b>&lt;millisecond 1000-60000&gt;</b>	- The range is 1000 to 60000 ms.
<b>notify_state</b>	- Specify the event notification status. The default state is enable.
<b>enable</b>	- Specify to enable event notification.
<b>disable</b>	- Specify to disable event notification.
<b>error_frame_seconds</b>	- Specify error fram time.
<b>threshold</b>	- Specify a threshold range between 1 and 900.
<b>&lt;range 1-900&gt;</b>	-Specify a threshold range between 1 and 900.
<b>window</b>	- The range is 1000 to 900000 ms.
<b>&lt;millisecond 10000-900000&gt;</b>	- The range is 1000 to 900000 ms.
<b>notify_state</b>	- Specify the event notification status. The default state is enable.
<b>enable</b>	- Specify to enable event notification.
<b>disable</b>	- Specify to disable event notification.
<b>error_frame_period</b>	- Specify error frame period.
<b>threshold</b>	- Specify a threshold range between 0 and 4294967295.
<b>&lt;range 0-4294967295&gt;</b>	-Specify a threshold range between 0 and 4294967295.
<b>window</b>	- The range is 148810 to 100000000 ms.
<b>&lt;number 148810-100000000&gt;</b>	- The range is 148810 to 100000000 ms.
<b>notify_state</b>	- Specify the event notification status. The default state is enable.
<b>enable</b>	- Specify to enable event notification.
<b>disable</b>	- Specify to disable event notification.

---

**critical\_link\_event** –Specify critical link event.

**dying\_gasp** - An unrecoverable local failure condition has occurred.

**critical\_event** - An unspecified critical event has occurred.

**notify\_state** - Specify the event notification status. The default state is enable.

**enable** - Specify to enable event notification.

**disable** - Specify to disable event notification.

**remote\_loopback** - Specify remote loop.

**start** - If start is specified, it will request the peer to change to the remote loopback mode.

**stop** - If stop is specified, it will request the peer to change to the normal operation mode.

**received\_remote\_loopback** - Specify receive remote loop-back.

**process** - Specify to process the received Ethernet OAM remote loopback command.

**ignore** - Specify to ignore the received Ethernet OAM remote loopback command. The default method is "ignore".

## Restrictions

Only Administrator and Operator-level users can issue this command. **(EI Mode Only Command)**

## Example

To configure Ethernet OAM on ports 1 to 2 in active mode:

```
DGS-3120-24TC:admin# config ethernet_oam ports 1-2 mode active
Command: config ethernet_oam ports 1-2 mode active

Success.

DGS-3120-24TC:admin#
```

To enable Ethernet OAM on port 1:

```
DGS-3120-24TC:admin# config ethernet_oam ports 1 state enable
Command: config ethernet_oam ports 1 state enable

Success.

DGS-3120-24TC:admin#
```

To configure the error symbol threshold to 2 and period to 1000ms for port 1:

```
DGS-3120-24TC:admin# config ethernet_oam ports 1 link_monitor error_symbol
threshold 2 window 1000 notify_state enable
Command: config ethernet_oam ports 1 link_monitor error_symbol threshold 2
window 1000 notify_state enable

Success.

DGS-3120-24TC:admin#
```

To configure the error frame threshold to 2 and period to 1000 ms for port 1:

```
DGS-3120-24TC:admin# config ethernet_oam ports 1 link_monitor error_frame
threshold 2 window 1000 notify_state enable
Command: config ethernet_oam ports 1 link_monitor error_frame threshold 2
window 1000 notify_state enable
```

Success.

```
DGS-3120-24TC:admin#
```

To configure the error frame seconds threshold to 2 and period to 10000 ms for port 1:

```
DGS-3120-24TC:admin# config ethernet_oam ports 1 link_monitor
error_frame_seconds threshold 2 window 10000 notify_state enable
Command: config ethernet_oam ports 1 link_monitor error_frame_seconds threshold
2 window 10000 notify_state enable
```

Success.

```
DGS-3120-24TC:admin#
```

To configure the error frame threshold to 10 and period to 1000000 ms for port 1:

```
DGS-3120-24TC:admin# config ethernet_oam ports 1 link_monitor
error_frame_period threshold 10 window 1000000 notify_state enable
Command: config ethernet_oam ports 1 link_monitor error_frame_period threshold
10 window 1000000 notify_state enable
```

Success.

```
DGS-3120-24TC:admin#
```

To configure a dying gasp event for port 1:

```
DGS-3120-24TC:admin# config ethernet_oam ports 1 critical_link_event dying_gasp
notify_state enable
Command: config ethernet_oam ports 1 critical_link_event dying_gasp
notify_state enable
```

Success.

```
DGS-3120-24TC:admin#
```

To start remote loopback on port 1:

```
DGS-3120-24TC:admin# config ethernet_oam ports 1 remote_loopback start
Command: config ethernet_oam ports 1 remote_loopback start
```

Success.

```
DGS-3120-24TC:admin#
```

To configure the method of processing the received remote loopback command as “process” on port 1:



```
DGS-3120-24TC:admin# config ethernet_oam ports 1 received_remote_loopback
process
Command: config ethernet_oam ports 1 received_remote_loopback process

Success.

DGS-3120-24TC:admin#
```

## 48-2 show ethernet\_oam ports

### Description

This command is used to display Ethernet OAM information, including status, configuration, statistics, and event log, on specified ports.

The status information includes:

- (1) OAM administration status: enabled or disabled.
- (2) OAM operation status. It maybe the below value:
  - Disable: OAM is disabled on this port.
  - LinkFault: The link has detected a fault and is transmitting OAMPDUs with a link fault indication.
  - PassiveWait: The port is passive and is waiting to see if the peer device is OAM capable.
  - ActiveSendLocal: The port is active and is sending local information.
  - SendLocalAndRemote: The local port has discovered the peer but has not yet accepted or rejected the configuration of the peer.
  - SendLocalAndRemoteOk: The local device agrees the OAM peer entity.
  - PeeringLocallyRejected: The local OAM entity rejects the remote peer OAM entity.
  - PeeringRemotelyRejected: The remote OAM entity rejects the local device.
  - Operational: The local OAM entity learns that both it and the remote OAM entity have accepted the peering.
  - NonOperHalfDuplex: Since Ethernet OAM functions are not designed to work completely over half-duplex port. This value indicates Ethernet OAM is enabled but the port is in half-duplex operation.
- (3) OAM mode: passive or active.
- (4) Maximum OAMPDU size: The largest OAMPDU that the OAM entity supports. OAM entities exchange maximum OAMPDU sizes and negotiate to use the smaller of the two maximum OAMPDU sizes between the peers.
- (5) OAM configuration revision: The configuration revision of the OAM entity as reflected in the latest OAMPDU sent by the OAM entity. The config revision is used by OAM entities to indicate that configuration changes have occurred, which might require the peer OAM entity to re-evaluate whether OAM peering is allowed.
- (6) OAM mode change.
- (7) OAM Functions Supported: The OAM functions supported on this port. These functions include:
  1. Unidirectional: It indicates that the OAM entity supports the transmission of OAMPDUs on links that are operating in unidirectional mode (traffic flowing in one direction only).
  2. Loopback: It indicates that the OAM entity can initiate and respond to loopback commands.
  3. Link Monitoring: It indicates that the OAM entity can send and receive Event Notification OAMPDUs.

4. Variable: It indicates that the OAM entity can send and receive variable requests to monitor the attribute value as described in the IEEE 802.3 Clause 30 MIB.

The event log displays Ethernet OAM event log information. The switch can buffer 1000 event logs. The event log is different from sys-log as it provides more detailed information than sys-log. Each OAM event will be recorded in both OAM event log and syslog.

### Format

```
show ethernet_oam ports {<portlist>} [status | configuration | statistics | event_log {index <value_list>}]
```

### Parameters

---

**<portlist>** - (Optional) Specify the range of ports to display.

---

**status** - Specify to display the Ethernet OAM status.

---

**configuration** - Specify to display the Ethernet OAM configuration.

---

**statistics** - Specify to display Ethernet OAM statistics.

---

**event\_log** - Specify to display the Ethernet OAM event log information.

**index** - (Optional) Specify an index range to display.

**<value\_list>** - (Optional) Specify an index range to display.

---

### Restrictions

Only Administrator and Operator-level users can issue this command. **(EI Mode Only Command)**

### Example

To display Ethernet OAM statistics information for port 1:

```
DGS-3120-24TC:admin# show ethernet_oam ports 1 statistics
Command: show ethernet_oam ports 1 statistics

Port 1
-----
Information OAMPDU TX           : 0
Information OAMPDU RX           : 0
Unique Event Notification OAMPDU TX : 0
Unique Event Notification OAMPDU RX : 0
Duplicate Event Notification OAMPDU TX: 0
Duplicate Event Notification OAMPDU RX: 0
Loopback Control OAMPDU TX      : 0
Loopback Control OAMPDU RX      : 0
Variable Request OAMPDU TX      : 0
Variable Request OAMPDU RX      : 0
Variable Response OAMPDU TX     : 0
Variable Response OAMPDU RX     : 0
Organization Specific OAMPDU TX  : 0
Organization Specific OAMPDU RX  : 0
Unsupported OAMPDU TX           : 0
Unsupported OAMPDU RX           : 0
Frames Lost Due To OAM          : 0

DGS-3120-24TC:admin#
```

## 48-3 clear ethernet\_oam ports

### Description

This command is used to clear Ethernet OAM information.

### Format

**clear ethernet\_oam ports [<portlist> | all] [event\_log | statistics]**

### Parameters

---

**<portlist>** - Specify a range of Ethernet OAM ports to be cleared.

---

**all** - Specify to clear all Ethernet OAM ports.

---

**event\_log** - Specify to clear Ethernet OAM event log information.

---

**statistics** - Specify to clear Ethernet OAM statistics.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

### Example

To clear port 1 OAM statistics:

```
DGS-3120-24TC:admin# clear ethernet_oam ports 1 statistics
Command: clear ethernet_oam ports 1 statistics

Success.

DGS-3120-24TC:admin#
```

To clear port 1 OAM events:

```
DGS-3120-24TC:admin# clear ethernet_oam ports 1 event_log
Command: clear ethernet_oam ports 1 event_log

Success.

DGS-3120-24TC:admin#
```

## Chapter 49 Peripherals Command List

---

---

**show device\_status**

**show environment**

**config temperature threshold** {high <temperature -500-500> | low <temperature -500-500>}

**config temperature** [trap | log] state [enable | disable]

---

---

### 49-1 show device\_status

#### Description

This command displays current status of power(s) and fan(s) on the system.

Within fan(s) status display, for example, there are three fans on the left of the switch, if three fans is working normally, there will display "OK" in the Left Fan field. If some fans work failed, such as fan 1,3 , there will only display the failed fans in the Left Fan field, such as "1,3 Fail".

In the same way, the Right Fan, Back Fan is same to Left Fan. Because there is only one CPU Fan, if it is working failed, display "Fail", otherwise display "OK".

#### Format

**show device\_status**

#### Parameters

None.

#### Restrictions

None.

#### Example

To show device status, the number 1, 2, 3 etc represent the fan number:

```
DGS-3120-24TC:admin# show device_status
Command: show device_status

Unit 1:
  Internal Power: OK
  External Power: Fail
  Right Fan      : 2 Fail
  Back Fan       : OK
  CPU Fan        : Fail
Unit 2:
  Internal Power: OK
  External Power: Fail
  Right Fan      : OK
  Back Fan       : 2, 4 Fail
  CPU Fan        : OK

DGS-3120-24TC:admin#
```

## 49-2 show environment

### Description

This command displays current status of power(s) and fan(s) on the system.

### Format

**show environment**

### Parameters

None.

### Restrictions

None.

### Example

To display the standalone device environment:

```

DGS-3120-24TC:admin#show environment
Command: show environment

High Warning Temperature Threshold(Celsius) :    79
Low Warning Temperature Threshold(Celsius)  :   -10

Unit    1
Internal Power      : Active
External Power     : Fail
Right Fan 1        : Speed Low (3000 RPM)
Right Fan 2        : Speed Low (3000 RPM)
Current Temperature(Celsius) :    37
Fan High Temperature Threshold(Celsius)    :    40
Fan Low Temperature Threshold(Celsius)     :    35

Unit    2
Internal Power      : Active
External Power     : Fail
Right Fan 1        : Speed Low (3000 RPM)
Right Fan 2        : Speed Low (3000 RPM)
Current Temperature(Celsius) :    38
Fan High Temperature Threshold(Celsius)    :    40
Fan Low Temperature Threshold(Celsius)     :    35

Unit    3
Internal Power      : Active
External Power     : Fail
Right Fan 1        : Speed Low (3000 RPM)
Right Fan 2        : Speed Low (3000 RPM)
Current Temperature(Celsius) :    37
Fan High Temperature Threshold(Celsius)    :    40
Fan Low Temperature Threshold(Celsius)     :    35

DGS-3120-24TC:admin#
    
```

### 49-3 config temperature threshold

#### Description

This command configures the warning threshold for high and low temperature.

The temperature thresholds are dependent on product. When temperature is above high threshold or below low threshold, SW will send alarm traps or shut down the switch system.

#### Format

**config temperature threshold {high <temperature -500-500> | low <temperature -500-500>}**

#### Parameters

**threshold** - Specifies the high and low threshold value.

**high** - (Optional) To configure high threshold value. m is the high threshold value. The high threshold must bigger than the low threshold.

---

**<temperature -500-500>** - Enter the high threshold temperature here.  
**low** - (Optional) To configure low threshold value. n is the low threshold value.  
**<temperature -500-500>** - Enter the low threshold temperature here.

---

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To configure the warning temperature threshold:

```
DGS-3120-24TC:admin# config temperature threshold high 80
Command: config temperature threshold high 80

Success.

DGS-3120-24TC:admin#
```

## 49-4 config temperature

### Description

This command is used to configure the trap state for temperature warning event.

### Format

**config temperature [trap | log] state [enable | disable]**

### Parameters

---

**trap state** - Specifies the trap state for the warning temperature event.  
**enable** - Enable trap state for warning temperature event. The default state is enabled.  
**disable** - Disable trap state for warning temperature event.

---

**log state** - Specifies the log state for the warning temperature event.  
**enable** - Enable log state for warning temperature event. The default state is enabled.  
**disable** - Disable log state for warning temperature event.

---

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To configure the warning temperature threshold:

```
DGS-3120-24TC:admin# config temperature threshold high 80
Command: config temperature threshold high 80

Success.

DGS-3120-24TC:admin#
```



## Chapter 50 Ping Command List

---

---

**ping** <ipaddr> {times <value 1-255> | timeout <sec 1-99>}

---

**ping6** <ipv6addr> {times <value 1-255> | size <value 1-6000> | timeout <sec 1-99>}

### 50-1 ping

#### Description

The ping command sends Internet Control Message Protocol (ICMP) echo messages to a remote IP address. The remote IP address will then “echo” or return the message. This is used to confirm connectivity between the switch and the remote device.

#### Format

**ping** <ipaddr> {times <value 1-255> | timeout <sec 1-99>}

#### Parameters

---

**<ipaddr>** - Specify the IP address of the host.

**times** - (Optional) The number of individual ICMP echo messages to be sent. A value of 0 will send an infinite ICMP echo messages. The maximum value is 255. The default is 0, indicating infinity. Press the "CTRL+C" to break the ping test.

**<value 1-255>** - Enter the number of individual ICMP echo messages to be sent here. This value must be between 1 and 255.

---

**timeout** - (Optional) Defines the time-out period while waiting for a response from the remote device. A value of 1 to 99 seconds can be specified. The default is 1 second.

**<sec 1-99>** - Enter the time-out period here. This value must be between 1 and 99 seconds.

---

#### Restrictions

None.

#### Example

To send ICMP echo message to “10.51.17.1” for 4 times:

```
DGS-3120-24TC:admin# ping 10.51.17.1 times 4
Command: ping 10.51.17.1 times 4

Reply from 10.51.17.1, time<10ms
Reply from 10.51.17.1, time<10ms
Reply from 10.51.17.1, time<10ms
Reply from 10.51.17.1, time<10ms

Ping Statistics for 10.51.17.1
Packets: Sent =4, Received =4, Lost =0

DGS-3120-24TC:admin#
```

## 50-2 ping6

### Description

The ping6 command sends IPv6 Internet Control Message Protocol (ICMP) echo messages to a remote IPv6 address. The remote IPv6 address will then “echo” or return the message. This is used to confirm the IPv6 connectivity between the switch and the remote device.

### Format

**ping6 <ipv6addr> {times <value 1-255> | size <value 1-6000> | timeout <sec 1-99>}**

### Parameters

---

<b>&lt;ipv6addr&gt;</b>	- Enter the IPv6 address here.
<b>times</b>	- (Optional) The number of individual ICMP echo messages to be sent. A value of 0 will send an infinite ICMP echo messages. The maximum value is 255. The default is 0, indicating infinity. Press the "CTRL+C" to break the ping test.
<b>&lt;value 1-255&gt;</b>	- Enter the number of individual ICMP echo messages to be sent here. This value must be between 1 and 255.
<b>size</b>	- (Optional) Size of the test packet.
<b>&lt;value 1-6000&gt;</b>	- Enter the size of the test packet here. This value must be between 1 and 6000.
<b>timeout</b>	- (Optional) Defines the time-out period while waiting for a response from the remote device. A value of 1 to 10 seconds can be specified. The default is 1 second.
<b>&lt;sec 1-99&gt;</b>	- Enter the time-out period here. This value must be between 1 and 99 seconds.

---

### Restrictions

None. (EI Mode Only Command)

### Example

To send ICMP echo message to “3000::1” for 4 times:

```
DGS-3120-24TC:admin# ping6 3000::1 times 4
Command: ping6 3000::1 times 4

Reply from 3000::1, bytes=200, time<10ms
Reply from 3000::1, bytes=200, time<10ms
Reply from 3000::1, bytes=200, time<10ms
Reply from 3000::1, bytes=200, time<10ms

Ping Statistics for 3000::1
Packets: Sent =4, Received =4, Lost =0

DGS-3120-24TC:admin#
```

## Chapter 51 Port Security Command List

---



---

<b>config port_security system max_learning_addr</b> [<max_lock_no 1-3072>   no_limit]
<b>config port_security ports</b> [<portlist>   all] [{admin_state [enable   disable]   max_learning_addr <max_lock_no 0-3072>   lock_address_mode [permanent   deleteontimeout   deleteonreset]} (1)   {vlan [<vlan_name 32>   vlanid <vidlist>] max_learning_addr [<max_lock_no 0-3072>   no_limit]}(1)]
<b>config port_security vlan</b> [<vlan_name 32>   vlanid <vidlist>] max_learning_addr [<max_lock_no 0-3072>   no_limit]
<b>delete port_security_entry</b> [vlan <vlan_name 32>   vlanid <vlanid 1-4094>] mac_address <macaddr>
<b>clear port_security_entry</b> {ports [<portlist>   all] [{vlan <vlan_name 32>   vlanid <vidlist>}]}
<b>show port_security_entry</b> {ports {<portlist>} [{vlan <vlan_name 32>   vlanid <vidlist>}]}
<b>show port_security</b> {ports {<portlist>} [{vlan <vlan_name 32>   vlanid <vidlist>}]}
<b>enable port_security trap_log</b>
<b>disable port_security trap_log</b>

---



---

### 51-1 config port\_security system max\_learning\_addr

#### Description

This command sets the maximum number of port security entries that can be authorized system wide.

There are four levels of limitations on the learned entry number; for the entire system, for a port, for a VLAN, and for a specific VLAN on a port. If any limitation is exceeded, the new entry will be discarded.

The setting for system level maximum learned users must be greater than the total of maximum learned users allowed on all ports.

#### Format

**config port\_security system max\_learning\_addr** [<max\_lock\_no 1-3072> | no\_limit]

#### Parameters

---

<b>max_learning_addr</b> - Specifies the maximum number of port security entries that can be learned by the system. If the setting is smaller than the number of current learned entries on all enabled ports, the command will be rejected.
<b>&lt;max_lock_no 1-3072&gt;</b> - Enter the maximum learning address value here. This value must be between 1 and 3072.
<b>no_limit</b> - No limitation on the number of port security entries that can be learned by the system. By default, the number is set to no_limit.

---

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

#### Example

To configure the maximum number of port security entries on the Switch to be 256:

```
DGS-3120-24TC:admin# config port_security system max_learning_addr 256
Command: config port_security system max_learning_addr 256

Success.

DGS-3120-24TC:admin#
```

## 51-2 config port\_security ports

### Description

This command configures the admin state, the maximum number of addresses that can be learnt and the lock address mode.

There are four levels that limit the number of learned entries; the entire system, a port, a VLAN, and a specific VLAN on a port. If any limitation is exceeded, the new entry will be discarded.

### Format

```
config port_security ports [<portlist> | all] [{admin_state [enable | disable] |
max_learning_addr <max_lock_no 0-3072> | lock_address_mode [permanent |
deleteontimeout | deleteonreset]} (1)] {vlan [<vlan_name 32> | vlanid <vidlist>]
max_learning_addr [<max_lock_no 0-3072> | no_limit]}(1)]
```

### Parameters

**ports** - Specifies the range of ports to be configured.

**<portlist>** - Enter the list of port used for this configuration here.

**all** - Specifies that all ports will be configured.

**admin\_state** - (Optional) Specifies the state of the port security function on the port.

**enable** - Specifies to enable the port security function on the port.

**disable** - Specifies to disable the port security function on the port. By default, the setting is disabled.

**max\_learning\_addr** - (Optional) Specifies the maximum number of port security entries that can be learned on this port. If the value is set to 0, it means that no user can be authorized by the port security function on this port. If the setting is smaller than the number of current learned entries on the port, the command will be rejected. The default value is 32.

**<max\_lock\_no 0-3072>** - Enter the maximum number of port security entries that can be learned here. This value must be between 0 and 3072.

**lock\_address\_mode** - (Optional) Indicates the lock address mode. The default mode is deleteonreset.

**permanent** - The address will never be deleted unless the user removes it manually, the VLAN of the entry is removed, the port is removed from the VLAN, or port security is disabled on the port where the address resides.

**deleteontimeout** - This entry will be removed if the entry is idle for the specified aging time.

**deleteonreset** - This address will be removed if the switch is reset or rebooted. Events that cause permanent entries to be deleted also apply to the deleteonreset entries.

**vlan** - (Optional) Specifies the VLAN name used here.

**<vlan\_name 32>** - Enter the VLAN name used here. This name can be up to 32 characters long.

**vlanid** - (Optional) Specifies the VLAN ID used here.

**<vidlist>** - Enter the VLAN ID used here.

**max\_learning\_addr** - (Optional) Specifies the maximum learning address value.

**<max\_lock\_no 0-3072>** - Enter the maximum learning address value here. This value must be between 0 and 3072.

**no\_limit** - Specifies that the maximum learning address value will be set to no limit.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure the port-based port security setting so that the maximum number of port security entries is restricted to 10, and the lock\_address mode is set to permanent on port 6:

```
DGS-3120-24TC:admin# config port_security ports 6 admin_state enable
max_learning_addr
10 lock_address_mode permanent
Command: config port_security ports 6 admin_state enable max_learning_addr 10
lock_address_mode permanent

Success.

DGS-3120-24TC:admin#
```

## 51-3 config port\_security vlan

### Description

This command sets the maximum number of port security entries that can be learned on a specific VLAN.

There are four levels that limit the number of learned entries; the entire system, a port, a VLAN, and a specific VLAN on a port. If any limitation is exceeded, the new entry will be discarded.

### Format

```
config port_security vlan [<vlan_name 32> | vlanid <vidlist>] max_learning_addr
[<max_lock_no 0-3072> | no_limit]
```

### Parameters

---

**vlan** - Specifies the VLAN by name.

**<vlan\_name 32>** - Enter the VLAN name here. This name can be up to 32 characters long.

**vlanid** - Specifies a list of VLANs by VLAN ID.

**<vidlist>** - Enter the VLAN ID list here.

---

**max\_learning\_addr** - Specifies the maximum number of port security entries that can be learned by this VLAN. If this parameter is set to 0, it means that no user can be authorized on this VLAN. If the setting is lower than the number of current learned entries on the VLAN, the command will be rejected. The default value is "no\_limit"

**<max\_lock\_no 0-3072>** - Enter the maximum number of port security entries that can be learned here. This value must be between 0 and 3072.

**no\_limit** - No limitation on the number of port security entries that can be learned by a specific VLAN.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure the maximum number of VLAN-based port security entries on VLAN 1 to be 64:

```
DGS-3120-24TC:admin# config port_security vlan vlanid 1 max_learning_addr 64
Command: config port_security vlan vlanid 1 max_learning_addr 64

Success.

DGS-3120-24TC:admin#
```

## 51-4 delete port\_security\_entry

### Description

This command is used to delete a port security entry.

### Format

**delete port\_security\_entry [vlan <vlan\_name 32> | vlanid <vlanid 1-4094>] mac\_address <macaddr>**

### Parameters

---

**vlan** - Specifies the VLAN by VLAN name.  
**<vlan\_name 32>** - Enter the VLAN name here. This name can be up to 32 characters long.

---

**vlanid** - Specifies the VLAN by VLAN ID.  
**<vlanid 1-4094>** - Enter the VLAN ID list here. This value must be between 1 and 4094.

---

**mac\_address** - Specifies the MAC address of the entry.  
**<macaddr>** - Enter the MAC address used here.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To delete the port security entry with a MAC address of 00-00-00-00-00-01 on VLAN 1:

```
DGS-3120-24TC:admin# delete port_security_entry vlanid 1 mac_address 00-00-00-00-00-01
Command: delete port_security_entry vlanid 1 mac_address 00-00-00-00-00-01

Success.

DGS-3120-24TC:admin#
```

## 51-5 clear port\_security\_entry

### Description

This command is used to clear the MAC entries learned by the port security function.

## Format

**clear port\_security\_entry {ports [<portlist> | all] {[vlan <vlan\_name 32> | vlanid <vidlist>]}}**

## Parameters

---

<b>ports</b> - (Optional) Specifies the range of ports to be configured.
<b>&lt;portlist&gt;</b> - The port security entries learned on the specified port will be cleared.
<b>all</b> - All the port security entries learned by the system will be cleared.
<b>vlan</b> - (Optional) The port security entries learned on the specified VLANs will be cleared.
<b>&lt;vlan_name 32&gt;</b> - Enter the VLAN name here. This name can be up to 32 characters long.
<b>vlanid</b> - (Optional) Specifies a list of VLANs by VLAN ID.
<b>&lt;vidlist&gt;</b> - Enter the VLAN ID list here.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To clear the port security entries on port 6:

```
DGS-3120-24TC:admin# clear port_security_entry ports 6
Command: clear port_security_entry ports 6

Success.

DGS-3120-24TC:admin#
```

## 51-6 show port\_security\_entry

### Description

This command displays the port security entries.

If more than one parameter is selected, only the entries matching all the selected parameters will be displayed.

If the user specifies ports and VLAN (either the VLAN name or VLAN ID list), only the entries matching all the parameters will be displayed.

## Format

**show port\_security\_entry {ports {<portlist>} {[vlan <vlan\_name 32> | vlanid <vidlist>]}}**

## Parameters

---

<b>ports</b> - (Optional) Specifies the range of ports that will display the port security entries. While this parameter is null, to show the entries on all of the ports.
<b>&lt;portlist&gt;</b> - Enter the list of port used for this configuration here.
<b>vlan</b> - (Optional) Specifies the name of the VLAN that the port security settings will be displayed for.
<b>&lt;vlan_name 32&gt;</b> - Enter the VLAN name here. This name can be up to 32 characters long.
<b>vlanid</b> - (Optional) Specifies the ID of the VLAN that the port security entries will be displayed for.
<b>&lt;vidlist&gt;</b> - Enter the VLAN ID list here.

---

## Restrictions

None.

## Example

To show all the port security entries:

```
DGS-3120-24TC:admin# show port_security_entry
Command: show port_security_entry

MAC Address          VID   Port   Lock Mode
-----
00-00-00-00-00-01   1     25    DeleteOnTimeout

Total Entries: 1

DGS-3120-24TC:admin#

DGS-3120-24TC:admin# show port_security_entry ports all
Command: show port_security_entry ports all

MAC Address          VID   Port   Lock Mode
-----
00-21-91-8E-11-15   1     7     Permanent
00-80-C8-92-2D-59   1     5     DeleteOnTimeout

Total Entries: 2

DGS-3120-24TC:admin#
```

## 51-7 show port\_security

### Description

This command displays the port security related information, including state, maximum learned addresses and lock address mode on a port and/or on a VLAN.

If both ports and vlanid (or vlan\_name) are specified, configurations matching any of these parameters will be displayed.

### Format

**show port\_security {ports {<portlist>} {[vlan <vlan\_name 32> | vlanid <vidlist>]}}**

### Parameters

**ports** - (Optional) Specifies the range of ports that will show their configuration. While this parameter is null, to show the entries on all of the ports.

**<portlist>** - Enter the list of port used for this configuration here.

**vlan** - (Optional) Specifies the name of the VLAN that will show its configuration.

**<vlan\_name 32>** - Enter the VLAN name here. This name can be up to 32 characters long.



---

**vlanid** - (Optional) Specifies the ID of the VLAN that will show its configuration.  
**<vidlist>** - Enter the VLAN ID list here.

---

### Restrictions

None.

### Example

To display the global configuration of port security:

```
DGS-3120-24TC:admin#show port_security
Command: show port_security

Port Security Trap/Log      : Disabled
System Maximum Address     : no_limit

VLAN Configuration (Only VLANs with limitation are displayed):
VID   VLAN Name                Max. Learning Addr.
----  -
1     default                    64
2     TstVLAN                     8
1024  Guest                       128
4094  Private                      32

DGS-3120-24TC:admin#
```

## 51-8 enable port\_security trap\_log

### Description

This command is used to enable the port security trap/log. When the port security trap is enabled, if there is a new MAC address that violates the pre-defined port security configuration, a trap will be sent out with the MAC address, port and other relevant information being logged.

### Format

**enable port\_security trap\_log**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To enable the port security trap and save the log:

```
DGS-3120-24TC:admin# enable port_security trap_log
Command: enable port_security trap_log

Success.

DGS-3120-24TC:admin#
```

## 51-9 disable port\_security trap\_log

### **Description**

This command is used to disable the port security trap/log. If the port security trap is disabled, no trap will be sent out for a MAC violation.

### **Format**

**disable port\_security trap\_log**

### **Parameters**

None.

### **Restrictions**

Only Administrator, Operator and Power-User level users can issue this command.

### **Example**

To disable the port security trap/log:

```
DGS-3120-24TC:admin# disable port_security trap_log
Command: disable port_security trap_log

Success.

DGS-3120-24TC:admin#
```

## Chapter 52 Power over Ethernet (PoE) Command List

---

```
config poe system {units [<unitlist> | all]} {power_limit <value 37-740> |
power_disconnect_method [deny_next_port | deny_low_priority_port] | legacy_pd [enable |
disable]}
config poe ports [all | <portlist>] { state [enable | disable]} [time_range <range_name 32> |
clear_time_range] priority [critical | high | low] | power_limit [class_0 | class_1 | class_2 |
class_3 | user_define <value 1000-35000>]}
show poe system {units <unitlist>}
show poe ports {<portlist>}
```

---

### 52-1 config poe system

#### Description

Used to configure the parameters for the POE system-wise function.

#### Format

```
config poe system {units [<unitlist> | all]} {power_limit <value 37-740> |
power_disconnect_method [deny_next_port | deny_low_priority_port] | legacy_pd [enable |
disable]}
```

#### Parameters

---

**units** - (Optional) Specified the units that will be configured. If no specified units, all supported PoE units in the system will be configured.

**<unitlist>** - Enter the list of units that will be configured here.

**all** - Specifies that all the units will be configured.

---

**power\_limit** - (Optional) Configure the power budget of PoE system. The range of value which can be specified is determined by the system. Normally, the minimum setting is 37 W and the maximum setting is 740 W. The actual range will depend on power supply capability.

**<value 37-740>** - Enter the power limit value here. This value must be between 37 and 740.

---

**power\_disconnect\_method** - (Optional) Configure the disconnection method that will be used when the power budget is running out. When the system attempts to supply power to a new port, if the power budget is insufficient to do this, PoE controller will initiate port disconnection procedure to prevent overloading the power supply. The controller uses one of the following two ways to perform the disconnection procedure.

**deny\_next\_port** - The port with max port number will be denied regardless of its priority. Note that if the disconnect\_method is set to deny\_next\_port, then the power provision will not utilize the system's maximum power. There is a 19W safe margin. That is, when the system has only 19W remaining, this power cannot be utilized.

**deny\_low\_priority\_port** - If there are ports that have been supplied power that have a priority lower than the new port, the port with the lowest priority will be disconnected. This process will stop until enough power is released for the new port. Note that if the disconnect\_method is set to deny\_low\_priority\_port, then the power provision can utilize the system's maximum power.

**legacy\_pd** - Configure legacy PDs detection status, enable for support, if set to disable, can't detect legacy PDs signal.

**enable** - Specifies that the legacy PDs detection status will be enabled.

**disable** - Specifies that the legacy PDs detection status will be disabled.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To config PoE system-wise was setting:

```
DGS-3120-24PC:admin# config poe system power_limit 250 power_disconnect_method
deny_low_priority_port
Command: config poe system power_limit 250 power_disconnect_method
deny_low_priority_port

Success.

DGS-3120-24PC:admin#
```

## 52-2 config poe ports

### Description

Used to configure the PoE port settings.

Based on 802.3af, there are 5 kinds of PD classes, class 0, class 1, class 2, and class 3. The power consumption ranges for them are 0.44~12.95W, 0.44~3.84W, 3.84~6.49W, 6.49~12.95W, and 12.95~ 29.5W, respectively.

The five pre-defined settings are for users' convenience: The following is the power limit applied to the port for these four classes. For each class, the power limit is a little more than the power consumption range for the class. This takes the factor of the power loss on cable into account. Thus, the following are the typical values defined by the chip vendor.

Class 0: 15400mW

Class 1: 4000mW

Class 2: 7000mW

Class 3: 15400mW

Other than these four pre-defined settings, users can directly specify any value that the chip supported, Normally, the minimum setting is 1000mW, and the maximum setting is 15400mW for 802.3af and >=35000mW for 802.3at.

### Format

```
config poe ports [all | <portlist>] { state [enable | disable] | [time_range <range_name 32> |
clear_time_range] | priority [critical | high | low] | power_limit [class_0 | class_1 | class_2 |
class_3 | user_define <value 1000-35000>]}
```

### Parameters

**ports** - Specified the list of ports whose setting is under configuration.

**all** - Specifies that all the ports will be included in this configuration.

**<portlist>** - Enter the list of port used for this configuration here.

**state** - (Optional) When the state is set to disable, power will not be supplied to the powered

device connected to this port.

**enable** - Specifies that state will be enabled.

**disable** - Specifies that state will be disabled.

**time\_range** - (Optional) Specifies the time range that applies to the port of the POE. If time range is configured, the power can only be supplied during the period specified by time range.

<range\_name 32> - Enter the time range name here. This name can be up to 32 characters long.

**clear\_time\_range** - (Optional) Remove the time range.

**priority** - (Optional) Port priority determines the priority the system attempts to supply the power to port. There are three levels of priority that can be selected, critical, high, and low. When multiple ports happen to have the same level of priority, the port ID will be used to determine the priority. The lower port ID has higher priority. The setting of priority will affect the ordering of supplying power. Whether the disconnect\_method is set to deny\_low\_priority\_port, priority of port will be used by the system to manage to supply power to ports.

**critical** - Specifies that the priority will be set to critical.

**high** - Specifies that the priority will be set to high.

**low** - Specifies that the priority will be set to low.

**power\_limit** - (Optional) Configure the per-port power limit. If a port exceeds its power limit, it will be shut down.

**class\_0** - Specifies that the power limit will be set to class 0.

**class\_1** - Specifies that the power limit will be set to class 1.

**class\_2** - Specifies that the power limit will be set to class 2.

**class\_3** - Specifies that the power limit will be set to class 3.

**user\_define** - (Optional) Specifies that a user defined per-port power limit will be used.

<value 1000-35000> - Enter the user defined per-port power limit here. This value must be between m and n.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To config PoE port:

```
DGS-3120-24PC:admin# config poe ports 1-4 state enable priority critical
power_limit class_1
Command: config poe ports 1-4 state enable priority critical power_limit
class_1

Invalid portlist(port 1:1 not support PoE)!

Fail!

DGS-3120-24PC:admin# config poe ports 5 state enable priority critical
power_limit user_define 1000
Command: config poe ports 5 state enable priority critical power_limit
user_define 1000

Invalid portlist(port 1:5not support PoE)!

Fail!

DGS-3120-24PC:admin#
```

## 52-3 show poe system

### Description

Used to display the setting and actual values of the whole PoE system.

### Format

**show poe system {units <unitlist>}**

### Parameters

---

**units** - (Optional) Specified units that will be displayed.

**<unitlist>** - Enter the unit list that will be displayed here.

---

If no parameter specified, the system will display the status of all supported poe units in the systems.

---

### Restrictions

None.

### Example

To display PoE system:

```
DGS-3120-24PC:admin# show poe system units 1
```

```
Command: show poe system units 1
```

```
The unit is not a PoE Switch.
```

```
DGS-3120-24PC:admin#
```

## 52-4 show poe ports

### Description

Used to display the setting and actual values of PoE port.

### Format

**show poe ports {<portlist>}**

### Parameters

---

**<portlist>** - (Optional) Specified a list of ports to be displayed.

---

If no parameter specified, the system will display the status for all ports.

---

### Restrictions

None.

## **Example**

To display PoE port:

```
DGS-3120-24PC:admin# show poe ports 1-6
Command: show poe ports 1:1-1:6

PoE is not supported in the system!

DGS-3120-24PC:admin#
```

## Chapter 53 Power Saving Command List

---

```
config power_saving {state [enable | disable] | length_detection [enable | disable]} (1)
show power_saving
```

---

### 53-1 config power\_saving

#### Description

The command will set the global state of power saving. By default, the power saving mode is enabled. The power saving function applies to the port with copper media. Power is saved by the following mechanisms.

When the port has no link partner, the port automatically turns off and wakes up once a second to send a single link pulse. While the port is turned off, a simple receive energy-detect circuit is continuously monitoring energy on the cable. At the moment when energy is detected, the port turns on fully as IEEE specification's requirements. The power saving function is performed while no link is detected and it will not effect the port capabilities while it's link up.

When the port is link up, for shorter cable, the power consumption can be reduced by lowering the signal amplitude since the signal attenuation is proportional to the cable length. The port will adjust the power based on cable length and still maintain error free applications from both side of the link. This mechanism will only be supported when hardware support cable diagnostics function.

#### Format

```
config power_saving {state [enable | disable] | length_detection [enable | disable]} (1)
```

#### Parameters

---

**state** - (Optional) Enable or disable the power saving function. The default state is enabled.

**enable** - Specifies that the power saving function will be enabled.

**disable** - Specifies that the power saving function will be disabled.

---

**length\_detection** - (Optional) Enable or disable the length detection function. The default state is disabled.

**enable** - Specifies that the length detection function will be enabled.

**disable** - Specifies that the length detection function will be disabled.

---

#### Restrictions

Only Administrator and Operator-level users can issue this command.

#### Example

To enable the power saving function:



```
DGS-3120-24TC:admin# config power_saving state enable
Command: config power_saving state enable

Success.

DGS-3120-24TC:admin#
```

## 53-2 show power\_saving

### **Description**

The command displays the current state of power saving.

### **Format**

**show power\_saving**

### **Parameters**

None.

### **Restrictions**

None.

### **Example**

This example display the power saving function setting:

```
DGS-3120-24TC:admin# show power_saving
Command: show power_saving

Power Saving State      :   Enabled
Length Detection State  : Disabled

DGS-3120-24TC:admin#
```

## Chapter 54 Protocol VLAN Command List

---

```

create dot1v_protocol_group group_id <id> {group_name <name 32>}
config dot1v_protocol_group [group_id <id> | group_name <name 32>] [add protocol
    [ethernet_2 | ieee802.3_snap | ieee802.3_llc] <protocol_value> | delete protocol [ethernet_2 |
    ieee802.3_snap | ieee802.3_llc] <protocol_value>]
delete dot1v_protocol_group [group_id <id> | group_name <name 32> | all]
show dot1v_protocol_group {[group_id <id> | group_name <name 32>]}
config port dot1v ports [<portlist> | all] [add protocol_group [group_id <id> | group_name <name
    32>] [vlan <vlan_name 32> | vlanid <id>] {priority <value 0-7>} | delete protocol_group
    [group_id <id> | all]]
show port dot1v {ports <portlist>}

```

---

### 54-1 create dot1v\_protocol\_group

#### Description

Create a protocol group for protocol VLAN function.

#### Format

```
create dot1v_protocol_group group_id < id> {group_name <name 32>}
```

#### Parameters

---

**group\_id** - The ID of protocol group which is used to identify a set of protocols  
 <id> - Enter the group ID used here.

---

**group\_name** - (Optional) The name of the protocol group. The maximum length is 32 chars. If group name is not specified, the group name will be automatically generated in accordance with ProtocolGroup+group\_id. For example, the auto-generated name for group id 2 is ProtocolGroup2. If the auto-generated name is in conflict with an existing group, an alternative name will be used in accordance with ProtocolGroup+group\_id+ALT+num. The value for num starts with 1. If it is still in conflict, then previous number will be used instead.

---

<name 32> - Enter the group name here. This name can be up to 32 characters long.

---

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

#### Example

To create a protocol group:

```
DGS-3120-24TC:admin# create dot1v_protocol_group group_id 10 group_name
General_Group
Command: create dot1v_protocol_group group_id 10 group_name General_Group

Success.

DGS-3120-24TC:admin#
```

## 54-2 config dot1v\_protocol\_group add protocol

### Description

This command adds a protocol to a protocol group. The selection of a protocol can be a pre-defined protocol type or a user defined protocol.

### Format

```
config dot1v_protocol_group [group_id <id> | group_name <name 32>] [add protocol
[ethernet_2 | ieee802.3_snap | ieee802.3_llc] <protocol_value> | delete protocol [ethernet_2 |
ieee802.3_snap | ieee802.3_llc] <protocol_value>]
```

### Parameters

---

**group\_id** - The ID of the protocol group which is used to identify a set of protocols.  
**<id>** - Enter the group ID used here.

---

**group\_name** - The name of the protocol group.  
**<name 32>** - Enter the group name here. This name can be up to 32 characters long.

---

**add** - Specifies that the protocol will be added to the specified group.

---

**delete** - Specifies that the protocol will be removed from the specified group.

---

**protocol** - The protocol value is used to identify a protocol of the frame type specified.  
**ethernet\_2** - Specifies that the Ethernet 2 protocol will be used.  
**ieee802.3\_snap** - Specifies that the IEEE 802.3 Snap protocol will be used.  
**ieee802.3\_llc** - Specifies that the IEEE 802.3 LLC protocol will be used.  
**<protocol\_value>** - Enter the protocol value here.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To add a protocol ipv6 to protocol group 100:

```
DGS-3120-24TC:admin# config dot1v_protocol_group group_id 10 add protocol
Ethernet_2 86dd
Command: config dot1v_protocol_group group_id 10 add protocol Ethernet_2 86dd

Success.

DGS-3120-24TC:admin#
```

## 54-3 delete dot1v\_protocol\_group

### Description

This command deletes a protocol group

### Format

**delete dot1v\_protocol\_group [group\_id <id> | group\_name <name 32> | all]**

### Parameters

---

**group\_id** - Specifies the group ID to be deleted.

**<id>** - Enter the group ID used here.

---

**group\_name** - Specifies the name of the group to be deleted.

**<name 32>** - Enter the group name here. This name can be up to 32 characters long.

---

**all** - Specifies that all the protocol group will be deleted.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To delete protocol group 100:

```
DGS-3120-24TC:admin# delete dot1v_protocol_group group_id 100
Command: delete dot1v_protocol_group group_id 100

Success.

DGS-3120-24TC:admin#
```

## 54-4 show dot1v\_protocol\_group

### Description

Display the protocols defined in a protocol group.

### Format

**show dot1v\_protocol\_group {[group\_id <id> | group\_name <name 32>]}**

### Parameters

---

**group\_id** - (Optional) Specifies the ID of the group to be displayed.

**<id>** - Enter the group ID used here.

---

**group\_name** - (Optional) Specifies the name of the protocol group to be displayed.

**<name 32>** - Enter the group name here. This name can be up to 32 characters long.

---

If no group ID is not specified, all the configured protocol groups will be displayed.

---

## Restrictions

None.

## Example

To display the protocol group ID 100:

```
DGS-3120-24TC:admin# show dot1v_protocol_group group_id 10
Command: show dot1v_protocol_group group_id 10

Protocol          Protocol          Frame Type          Protocol
Group ID          Group Name        -----          Value
-----          -----
100               General Group     EthernetII          86dd

Success.

DGS-3120-24TC:admin#
```

## 54-5 config port dot1v

### Description

This command assigns the VLAN for untagged packets ingress from the port list based on the protocol group configured. This assignment can be removed by using the delete protocol\_group option.

When priority is not specified in the command, the port default priority will be the priority for those untagged packets classified by the protocol vlan.

### Format

**config port dot1v ports** [<portlist> | all] [add protocol\_group [group\_id <id> | group\_name <name 32>] [vlan <vlan\_name 32> | vlanid <id>] {priority <value 0-7>} | delete protocol\_group [group\_id <id> | all]]

### Parameters

<b>&lt;portlist&gt;</b> - Enter a list of ports used for the configuration here.
<b>all</b> - Specifies that all the ports will be used for this configuration.
<b>add</b> - Specifies that the group specified will be added.
<b>protocol_group</b> - Specifies that parameters for the group will follow.
<b>group_id</b> - Specifies the group ID of the protocol group.
<b>&lt;id&gt;</b> - Enter the group ID used here.
<b>group_name</b> - Specifies the name of the protocol group.
<b>&lt;name 32&gt;</b> - Enter the name of the group used here. This name can be up to 32 characters long.
<b>vlan</b> - The VLAN that is to be associated with this protocol group on this port.
<b>&lt;vlan_name 32&gt;</b> - Enter the name of the VLAN here. This name can be up to 32 characters long.
<b>vlanid</b> - Specifies the VLAN ID.
<b>&lt;id&gt;</b> - Enter the VLAN ID used here.
<b>priority</b> - (Optional) Specifies the priority to be associated with the packet which has been classified to the specified VLAN by the protocol.

---

**<value 0-7>** - Enter the priority value here. This value must be between 0 and 7.

---

**delete** - Specifies that the group specified will be deleted.

---

**protocol\_group** - Specifies that parameters for the group will follow.

---

**group\_id** - Specifies the group ID of the protocol group.

**<id>** - Enter the group ID used here.

---

**all** - Specifies that all the groups will be deleted.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

The example is to assign VLAN marketing-1 for untagged ipv6 packet ingress from port 3.

To configure the group ID 100 on port 3 to be associated with VLAN marketing-1:

```
DGS-3120-24TC:admin#config port dot1v ports 1:3 add protocol_group group_id 10
vlan marketing-1
Command: config port dot1v ports 1:3 add protocol_group group_id 10 vlan
marketing-1

Success.

DGS-3120-24TC:admin#
```

54-6 show port dot1v

### Description

Display the VLAN to be associated with untagged packet ingressed from a port based on the protocol group.

### Format

**show port dot1v {ports <portlist>}**

### Parameters

---

**ports** - (Optional) Specifies a range of ports to be displayed.

**<portlist>** - Enter a list of ports used for the configuration here.

---

If not port is specified, information for all ports will be displayed.

---

### Restrictions

None.

### Example

The example display the protocol VLAN information for ports 1–2:

```
DGS-3120-24TC:admin# show port dotlv ports 1:1
```

```
Command: show port dotlv ports 1:1
```

```
Port: 1:1
```

Protocol Group ID	VLAN Name	Protocol Priority
-----	-----	-----
1	default	-
2	VLAN2	-
3	VLAN3	-
4	VLAN4	-

```
Success.
```

```
DGS-3120-24TC:admin#
```

## Chapter 55 QinQ Command List

<b>enable qinq</b>
<b>disable qinq</b>
<b>config qinq inner_tpid</b> <hex 0x1-0xffff>
<b>config qinq ports</b> [<portlist>   all] {role [uni   nni]   missdrop [enable   disable]   outer_tpid <hex 0x1-0xffff>   add_inner_tag [<hex 0x1-0xffff>   disable]}
<b>show qinq</b>
<b>show qinq inner_tpid</b>
<b>show qinq ports</b> {<portlist>}
<b>create vlan_translation ports</b> [<portlist>   all] [add cvid <vidlist>   replace cvid <vlanid 1-4094>] svid <vlanid 1-4094> {priority <priority 0-7>}
<b>delete vlan_translation ports</b> [<portlist>   all] {cvid <vidlist>}
<b>show vlan_translation</b> {[ports <portlist>   cvid <vidlist>]}

### 55-1 enable qinq

#### Description

This command is used to enable QinQ. When QinQ is enabled, all network port roles will be NNI ports and outer TPID will be set to 0x88A8; all existing static VLANs will run as S-VLAN; all dynamic learned L2 address will be cleared; all dynamic registered VLAN entries will be cleared; and GVRP will be disabled.

To run GVRP on the switch, the administrator should enable GVRP manually. In QinQ mode, GVRP protocol will employ reserve address 01-80-C2-00-00-0D.

#### Format

**enable qinq**

#### Parameters

None.

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

#### Example

To enable QinQ:

```
DGS-3120-24TC:admin# enable qinq
Command: enable qinq

Success.

DGS-3120-24TC:admin#
```



## 55-2 disable qinq

### Description

This command is used to disable the QinQ. When QinQ is disabled, all dynamic learned L2 addresses will be cleared, all dynamic registered VLAN entries will be cleared, and GVRP will be disabled.

To run GVRP on the switch, the administrator should enable GVRP manually.

### Format

**disable qinq**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

### Example

To disable QinQ:

```
DGS-3120-24TC:admin# disable qinq
Command: disable qinq

Success.

DGS-3120-24TC:admin#
```

## 55-3 config qinq inner\_tpid

### Description

The command is used to configure the inner TPID of the system. The inner TPID is used to decide if the ingress packet is c-tagged. Inner tag TPID is per system configurable.

### Format

**config qinq inner\_tpid <hex 0x1-0xffff>**

### Parameters

---

**inner\_tpid** - Specifies the inner-TPID of the system.  
**<hex 0x1-0xffff>** - Enter the inner-TPID of the system here.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To configure the inner TPID in the system to 0x9100:

```
DGS-3120-24TC:admin# config qinq inner_tpid 0x9100
Command: config qinq inner_tpid 0x9100

Success.

DGS-3120-24TC:admin#
```

## 55-4 config qinq ports

### Description

This command is used to configure the QinQ port's parameters.

### Format

```
config qinq ports [<portlist> | all] {role [uni | nni] | missdrop [enable | disable] | outer_tpid
<hex 0x1-0xffff> | add_inner_tag [<hex 0x1-0xffff> | disable]}
```

### Parameters

---

<b>ports</b> - Specifies a range of ports to configure.
<portlist> - Enter the list of ports to be configured here.
<b>all</b> - Specifies that all the ports will be used for the configuration.
<b>role</b> - (Optional) Specifies the port role in QinQ mode.
<b>uni</b> - Specifies that the port is connecting to the customer network.
<b>nni</b> - Specifies that the port is connecting to the service provider network.
<b>missdrop</b> - (Optional) Specifies the state of the miss drop of ports option.
<b>enable</b> - Specifies that the miss drop of ports option will be enabled.
<b>disable</b> - Specifies that the miss drop of ports option will be disabled.
<b>outer_tpid</b> - (Optional) Specifies the outer-TPID of a port.
<hex 0x1-0xffff> - Enter the outer-TPID value used here.
<b>add_inner_tag</b> - (Optional) Specifies to add an inner tag for ingress untagged packets. If set, the inner tag will be added for the ingress untagged packets and therefore the packets that egress to the NNI port will be double tagged. If disable, only the s-tag will be added for ingress untagged packets.
<hex 0x1-0xffff> - Enter the inner tag value used here.
<b>disable</b> - Specifies that the add inner tag option will be disabled.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

### Example

To configure port list 1-4 as NNI port and set the TPID to 0x88A8:

```
DGS-3120-24TC:admin# config qinq ports 1:1-1:4 role nni outer_tpid 0x88A8
Command: config qinq ports 1:1-1:4 role nni outer_tpid 0x88A8

Success.

DGS-3120-24TC:admin#
```

### 55-5 show qinq

#### Description

This command is used to display the global QinQ status.

#### Format

**show qinq**

#### Parameters

None.

#### Restrictions

None. **(EI Mode Only Command)**

### Example

To display the global QinQ status:

```
DGS-3120-24TC:admin# show qinq
Command: show qinq

Qinq Status : Enabled

DGS-3120-24TC:admin#
```

### 55-6 show qinq inner\_tpid

#### Description

This command is used to display the inner-TPID of a system.

#### Format

**show qinq inner\_tpid**

#### Parameters

None.

## Restrictions

None. (EI Mode Only Command)

## Example

To display the inner-TPID of a system:

```
DGS-3120-24TC:admin# show qinq inner_tpid
Command: show qinq inner_tpid

Inner TPID: 0x9100

DGS-3120-24TC:admin#
```

## 55-7 show qinq ports

### Description

This command is used to display the QinQ configuration of the ports.

### Format

**show qinq ports {<portlist>}**

### Parameters

---

**ports** - Specifies a list of ports to be displayed.  
**<portlist>** - (Optional) Enter the list of ports to be displayed here.

---

## Restrictions

None. (EI Mode Only Command)

## Example

To show the QinQ mode for ports 1-2 of unit 1:

```
DGS-3120-24TC:admin# show qinq ports 1:1-1:2
Command: show qinq ports 1:1-1:2
```

```
Port ID: 1:1
```

```
-----
Role:                NNI
Miss Drop:           Disabled
Outer Tpid:          0x88a8
Add Inner Tag:       Disabled
```

```
Port ID: 1:2
```

```
-----
Role:                NNI
Miss Drop:           Disabled
Outer Tpid:          0x88a8
Add Inner Tag:       Disabled
```

```
DGS-3120-24TC:admin#
```

## 55-8 create vlan\_translation ports

### Description

This command is used to create a VLAN translation rule. This setting will not be effective when the QinQ mode is disabled.

This configuration is only effective for a UNI port. At UNI port, the ingress C-VLAN tagged packets will be translated to S-VLAN tagged packets by adding or replacing according the configured rule. The S-VLAN Tag of egress packets at this port will be recovered to C-VLAN Tag or stripped.

### Format

**create vlan\_translation ports** [<portlist> | all] [add cvid <vidlist> | replace cvid <vlanid 1-4094>] svid <vlanid 1-4094> {priority <priority 0-7>}

### Parameters

**ports** - Specifies a list of ports to be configured.

<portlist> - Enter the list of ports to be configured here.

all - Specifies that all the ports will be used for the configuration.

**add** - Specifies to add an S-Tag to the packet.

cvid - Specifies the customer VLAN ID used.

<vidlist> - Enter the customer VLAN ID used here.

**replace** - Specifies to replace the C-Tag with the S-Tag.

cvid - Specifies the customer VLAN ID used.

<vlanid 1-4094> - Enter the customer VLAN ID used here.

svid - Specifies the service provider VLAN ID used.

<vlanid 1-4094> - Enter the service provider VLAN ID used here.

**priority** - (Optional) Specifies to assign an 802.1p priority to the S-Tag. If the priority is not specified, a 802.1p priority of the S-Tag will be assigned by default.

<priority 0-7> - Enter the 802.1p S-Tag priority value here. This value must be between 0 and 7.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

## Example

To replace the C-Tag in which the CVID is 20, with the S-Tag and the S-VID is 200 at UNI Port 1:

```
DGS-3120-24TC:admin# create vlan_translation ports 1:1 replace cvid 20 svid 200
Command: create vlan_translation ports 1:1 replace cvid 20 svid 200

Success.

DGS-3120-24TC:admin#
```

To add S-Tag, when the S-VID is 300, to a packet in which the CVID is 30 at UNI Port 1:

```
DGS-3120-24TC:admin# create vlan_translation ports 1:1 add cvid 30 svid 300
Command: create vlan_translation ports 1:1 add cvid 30 svid 300

Success.

DGS-3120-24TC:admin#
```

## 55-9 delete vlan\_translation ports

### Description

This command is used to delete translation relationships between the C-VLAN and the S-VLAN.

### Format

**delete vlan\_translation ports [<portlist> | all] {cvid <vidlist>}**

### Parameters

---

**ports** - Specifies a list of ports to be configured.

**<portlist>** - Enter the list of ports to be configured here.

**all** - Specifies that all the ports will be used for the configuration.

---

**cvid** - (Optional) Specifies the rules for the specified CVIDs. If the CVID is not specified, all rules configured for the port will be deleted.

**<vidlist>** - Enter the CVID value here.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

### Example

To delete a VLAN translation rule on ports 1-4:

```
DGS-3120-24TC:admin# delete vlan_translation ports 1:1-1:4
Command: delete vlan_translation ports 1:1-1:4

Success.

DGS-3120-24TC:admin#
```

## 55-10 show vlan\_translation

### Description

This command is used to display the existing C-VLAN-based VLAN translation rules.

### Format

**show vlan\_translation** {[ports <portlist> | cvid <vidlist>]}

### Parameters

---

**ports** – (Optional) Specifies a list of ports to be displayed.  
**<portlist>** - Enter the list of ports to be displayed here.

---

**cvid** - (Optional) Specifies the rules for the specified CVIDs.  
**<vidlist>** - Enter the CVID value used here.

---

### Restrictions

None. **(EI Mode Only Command)**

### Example

To show C-VLANs based on VLAN translation rules in the system:

```
DGS-3120-24TC:admin# show vlan_translation
Command: show vlan_translation

Port      CVID      SPVID      Action      Priority
-----
1:1       20        200        Replace     -
1:1       30        300        Add         -

Total Entries: 2

DGS-3120-24TC:admin#
```

## Chapter 56 Quality of Service (QoS) Command List

<b>config bandwidth_control</b> [<portlist>   all] {rx_rate [no_limit   <value 64-1024000>]   tx_rate [no_limit   <value 64-1024000>]}
<b>show bandwidth_control</b> {<portlist>}
<b>config per_queue bandwidth_control</b> {ports [<portlist>   all]} <cos_id_list 0-7> {{min_rate [no_limit   <value 64-1024000>]} max_rate [no_limit   <value 64-1024000>]}
<b>show per_queue bandwidth_control</b> {<portlist>}
<b>config scheduling</b> {ports [<portlist>   all]} <class_id 0-7> [strict   weight <value 1-127>]
<b>config scheduling_mechanism</b> {ports [<portlist>   all]} [strict   wrr]
<b>show scheduling</b> {<portlist>}
<b>show scheduling_mechanism</b> {<portlist>}
<b>config 802.1p user_priority</b> <priority 0-7> <class_id 0-7>
<b>show 802.1p user_priority</b>
<b>config 802.1p default_priority</b> [<portlist>   all] <priority 0-7>
<b>show 802.1p default_priority</b> {<portlist>}
<b>enable hol_prevention</b>
<b>disable hol_prevention</b>
<b>show hol_prevention</b>
<b>config dscp trust</b> [<portlist>   all] state [enable   disable]
<b>show dscp trust</b> {<portlist>}
<b>config dscp map</b> { [<portlist>   all]} [dscp_priority <dscp_list> to <priority 0-7>   dscp_dscp <dscp_list> to <dscp 0-63>]
<b>show dscp map</b> {<portlist>} [dscp_priority   dscp_dscp] {dscp <dscp_list>}

### 56-1 config bandwidth\_control

#### Description

Use to configure the port bandwidth limit control.

#### Format

**config bandwidth\_control** [<portlist> | all] {rx\_rate [no\_limit | <value 64-1024000>] | tx\_rate [no\_limit | <value 64-1024000>]}

#### Parameters

**<portlist>** - Specifies a range of ports to be configured.

**all** - Specifies that all the ports will be used for this configuration.

**rx\_rate** - (Optional) Specifies the limitation applied to receive data rate.

**no\_limit** - Indicates there is no limit on receiving bandwidth of the configured ports. An integer value from m to n sets a maximum limit in Kbits/sec. The actual bandwidth will be an adjusted value based on the user specified bandwidth. The actual limit may be equal to the user specified limit, but will not exceed it. The actual limit recognized by the device, will be displayed when the command is executed.

**<value 64-1024000>** - Enter the receiving data rate here. This value must be between 64 and 1024000.

**tx\_rate** - (Optional) Specifies the limitation applied to transmit data rate.

**no\_limit** - Indicates there is no limit on port tx bandwidth. An integer value from m to n sets a maximum limit in Kbits/sec. The actual bandwidth will be an adjusted value based on the user specified bandwidth. The actual limit may be equal to the user specified limit, but will



---

not exceed it.. The actual limit recognized by the device, will be displayed when the command is executed.

**<value 64-1024000>** - Enter the transmitting data rate here. This value must be between 64 and 1024000.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To configure the port bandwidth:

```
DGS-3120-24TC:admin#config bandwidth_control 1:1-1:10 tx_rate 100
Command: config bandwidth_control 1:1-1:10 tx_rate 100

Granularity: RX: 64, TX: 64. Actual Rate: TX: 64.

Success
```

## 56-2 show bandwidth\_control

### Description

The show bandwidth\_control command displays the port bandwidth configurations.

The bandwidth can also be assigned by the RADIUS server through the authentication process. If RADIUS server has assigned the bandwidth, then the RADIUS-assigned bandwidth will be the effective bandwidth. The authentication with the RADIUS sever can be per port or per user. For per-user authentication, there may be multiple bandwidth control values assigned when there are multiple users attached to this specific port. In this case, the largest assigned bandwidth value will be applied to the effective bandwidth for this specific port. Note that only devices that support MAC-based VLAN can provide per user authentication.

### Format

**show bandwidth\_control {<portlist>}**

### Parameters

---

**<portlist>** - (Optional) Specifies a range of ports to be displayed.

If no parameter specified, system will display all ports bandwidth configurations.

---

### Restrictions

None.

### Example

To display port bandwidth control table:

```
DGS-3120-24TC:admin# show bandwidth_control 1:1-1:10
Command: show bandwidth_control 1:1-1:10

Bandwidth Control Table

Port  RX Rate          TX_RATE          Effective RX     Effective TX
(Kbit/sec)      (Kbit/sec)      (Kbit/sec)      (Kbit/sec)
-----
1:1    no_limit          64               -                128
1:2    no_limit          64               -                -
1:3    no_limit          64               64               64
1:4    no_limit          64               64               64
1:5    no_limit          64               -                -
1:6    no_limit          64               64               64
1:7    no_limit          64               -                -
1:8    no_limit          64               -                -
1:9    no_limit          64               -                -
1:10   no_limit          64               -                -

DGS-3120-24TC:admin#
```

### 56-3 config per\_queue bandwidth\_control

#### Description

Used to configure per port CoS bandwidth control.

#### Format

**config per\_queue bandwidth\_control {ports [<portlist> | all]} <cos\_id\_list 0-7> {{min\_rate [no\_limit | <value 64-1024000>]} max\_rate [no\_limit | <value 64-1024000>]}**

#### Parameters

- 
- ports** - (Optional) Specifies a range of ports to be configured.
    - <portlist>** - Enter the list of port used for this configuration here.
    - all** - For set all ports in the system, you may use “all” parameter. If no parameter is specified, system will set all ports.
- 
- <cos\_id\_list 0-7>** - Specifies a list of priority queues. The priority queue number is ranged from 0 to 7.
- 
- min\_rate** - (Optional) Specifies that one of the parameters below (no\_limit or <value m-n>) will be applied to the mini-rate at which the above specified class will be allowed to receive packets.
    - no\_limit** - Specifies that there will be no limit on the rate of packets received by the above specified class.
    - <value 64-1024000>** - Specifies the packet limit, in Kbps, that the above ports will be allowed to receive. If the specified rate is not multiple of minimum granularity, the rate will be adjusted.
- 
- max\_rate** - (Optional) Specifies that one of the parameters below (no\_limit or <value m-n >) will be applied to the maximum rate at which the above specified class will be allowed to transmit packets.
    - no\_limit** - Specifies that there will be no limit on the rate of packets received by the above specified class.
    - <value 64-1024000>** - Specifies the packet limit, in Kbps, that the above ports will be allowed to receive. If the specified rate is not multiple of minimum granularity, the rate will be
-

---

adjusted.

---

### Restrictions

Only Administrator level can issue this command.

### Example

To configure the ports 1:1-1:10 CoS bandwidth queue 1 min rate to 130 and max rate to 100000:

```
DGS-3120-24TC:admin# config per_queue bandwidth_control ports 1:1-1:10 1
min_rate 130 max_rate 1000
Command: config per_queue bandwidth_control ports 1:1-1:10 1 min_rate 130
max_rate 1000
```

```
Granularity: TX: 64. Actual Rate: MIN: 128, MAX: 960.
```

```
Success.
```

## 56-4 show per\_queue bandwidth\_control

### Description

Used to display per port CoS bandwidth control settings.

### Format

**show per\_queue bandwidth\_control {<portlist>}**

### Parameters

---

**<portlist>** - (Optional) Specifies a range of ports to be displayed.

---

If no parameter is specified, system will display all ports CoS bandwidth configurations.

---

### Restrictions

None.

### Example

Display per port CoS bandwidth control table:

```
DGS-3120-24TC:admin#show per_queue bandwidth_control 1:10
Command: show per_queue bandwidth_control 1:10

Queue Bandwidth Control Table On Port: 1:10

Queue      Min Rate(Kbit/sec)      Max Rate(Kbit/sec)
0          640                     No Limit
1          640                     No Limit
2          640                     No Limit
3          640                     No Limit
4          No Limit                No Limit
5          No Limit                No Limit
6          No Limit                No Limit
7          No Limit                No Limit

DGS-3120-24TC:admin#
```

## 56-5 config scheduling

### Description

Used to configure the traffic scheduling mechanism for each CoS queue.

### Format

**config scheduling {ports [<portlist> | all]} <class\_id 0-7> [strict | weight <value 1-127>]**

### Parameters

---

**ports** - Specifies a range of ports to be configured.

**<portlist>** - Enter the list of port used for this configuration here.

---

**<class\_id 0-7>** - This specifies the 8 hardware priority queues which the config scheduling command will apply to. The four hardware priority queues are identified by number from 0 to 7 with the 0 queue being the lowest priority.

---

**strict** - The queue will operate in strict mode.

---

**weight** - Specifies the weights for weighted round robin. A value between 0 and n can be specified.

**<value 1-127>** - Enter the weights for weighted round robin value here. This value must be between 1 and 127.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To configure the traffic scheduling CoS queue 1 to weight 25 on port 1:10:

```
DGS-3120-24TC:admin# config scheduling ports 1:10 1 weight 25
Command: config scheduling ports 1:10 1 weight 25

Success.

DGS-3120-24TC:admin#
```

## 56-6 config scheduling\_mechanism

### Description

Used to configure the traffic scheduling mechanism for each CoS queue.

### Format

**config scheduling\_mechanism {ports [<portlist> | all]} [strict | wrr]**

### Parameters

---

**ports** - (Optional) Specifies a range of ports to be configured.  
    **<portlist>** - Enter the list of port used for this configuration here.  
    **all** - For set all ports in the system, you may use "all" parameter. If no parameter is specified, system will set all ports.

---

**strict** - All queues operate in strict mode.

---

**wrr** - Each queue operates based on its setting.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To configure the traffic scheduling mechanism for each CoS queue:

```
DGS-3120-24TC:admin# config scheduling_mechanism strict
Command: config scheduling_mechanism strict

Success.

DGS-3120-24TC:admin#
```

To configure the traffic scheduling mechanism for CoS queue on port 1:1:

```
DGS-3120-24TC:admin# config scheduling_mechanism ports 1:1 strict
Command: config scheduling_mechanism ports 1:1 strict

Success.

DGS-3120-24TC:admin#
```

## 56-7 show scheduling

### Description

Use to display the current traffic scheduling parameters.

### Format

**show scheduling {<portlist>}**

### Parameters

---

**<portlist>** - (Optional) Specifies a range of ports to be displayed.  
If no parameter specified, system will display all ports scheduling configurations.

---

### Restrictions

None.

### Example

To display the traffic scheduling parameters for each CoS queue on port 1:1 (take eight hardware priority queues for example):

```
DGS-3120-24TC:admin# show scheduling 1:1
Command: show scheduling 1:1

Port 1:1
Class ID      Weight
-----
Class-0      10
Class-1       5
Class-2      Strict
Class-3       6
Class-4      10
Class-5       5
Class-6       6
Class-7       5

DGS-3120-24TC:admin#
```

## 56-8 show scheduling\_mechanism

### Description

Used to show the traffic scheduling mechanism.

### Format

**show scheduling\_mechanism {<portlist>}**

## Parameters

**<portlist>** - (Optional) Specifies a range of ports to be displayed.

If no parameter specified, system will display all ports scheduling mechanism configurations.

---

## Restrictions

None.

## Example

To show scheduling mechanism:

```
DGS-3120-24TC:admin#show scheduling_mechanism
```

```
Command: show scheduling_mechanism
```

Port	Mode
-----	-----
1:1	Strict
1:2	Strict
1:3	Strict
1:4	Strict
1:5	Strict
1:6	Strict
1:7	Strict
1:8	Strict
1:9	Strict
1:10	Strict
1:11	Strict
1:12	Strict
1:13	Strict
1:14	Strict
1:15	Strict
1:16	Strict
1:17	Strict
1:18	Strict
1:19	Strict
1:20	Strict
1:21	Strict
1:22	Strict
1:23	Strict
1:24	Strict

```
DGS-3120-24TC:admin#
```

## 56-9 config 802.1p user\_priority

### Description

Used to map the 802.1p user priority of an incoming packet to one of the eight hardware queues available on the switch.

### Format

**config 802.1p user\_priority <priority 0-7> <class\_id 0-7>**

### Parameters

---

**<priority 0-7>** - The 802.1p user priority you want to associate with the <class\_id> (the number of the hardware queue) with.

---

**<class\_id 0-7>** - The number of the switch's hardware priority queue. The switch has 8 hardware priority queues available. They are numbered between 0 (the lowest priority) and 7 (the highest priority).

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To configure the 802.1p user priority:

```
DGS-3120-24TC:admin#config 802.1p user_priority 1 3
Command: config 802.1p user_priority 1 3

Success.

DGS-3120-24TC:admin#
```

56-10 show 802.1p user\_priority

### Description

The show 802.1p user\_priority command displays 802.1p user priority for ports.

### Format

**show 802.1p user\_priority**

### Parameters

None.

### Restrictions

None.

### Example

To display the 802.1p user priority:



```
DGS-3120-24TC:admin# show 802.1p user_priority
Command: show 802.1p user_priority

QoS Class of Traffic:
Priority-0 -> <Class-2>
Priority-1 -> <Class-0>
Priority-2 -> <Class-1>
Priority-3 -> <Class-3>
Priority-4 -> <Class-4>
Priority-5 -> <Class-5>
Priority-6 -> <Class-6>
Priority-7 -> <Class-7>

DGS-3120-24TC:admin#
```

## 56-11 config 802.1p default\_priority

### Description

Use to configure the 802.1p default priority settings on the switch. If an untagged packet is received by the switch, the priority configured with this command will be written to the packet's priority field.

### Format

**config 802.1p default\_priority [<portlist> | all] <priority 0-7>**

### Parameters

---

**<portlist>** - This specifies a range of ports for which the default priority is to be configured. That is, a range of ports for which all untagged packets received will be assigned the priority specified below. The port list is specified by listing the lowest switch number and the beginning port number on that switch, separated by a colon. Then highest switch number, and the highest port number of the range (also separated by a colon) are specified. The beginning and end of the port list range are separated by a dash.

For example, 1:3 would specify switch number 1, port 3. 2:4 specifies switch number 2, port 4. 1:3-2:4 specifies all of the ports between switch 1, port 3 and switch 2, port 4 – in numerical order.

**all** - Specifies that the command apply to all ports on the switch.

---

**<priority 0-7>** - The priority value (0 to 7) assigned to untagged packets received by the switch or a range of ports on the switch.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To configure the 802.1p default priority settings on the switch:

```
DGS-3120-24TC:admin# config 802.1p default_priority all 5
Command: config 802.1p default_priority all 5

Success.

DGS-3120-24TC:admin#
```

## 56-12 show 802.1p default\_priority

### Description

The command displays the current configured default priority settings on the switch.

The default priority can also be assigned by the RADIUS server through the authentication process. The authentication with the RADIUS sever can be per port or port user. For per port authentication, the priority assigned by RADIUS server will be the effective port default priority. For per user authentication, the priority assigned by RADIUS will not be the effective port default priority whereas it will become the priority associated with MAC address. Note that only devices supporting MAC-based VLAN can provide per user authentication.

### Format

**show 802.1p default\_priority {<portlist>}**

### Parameters

---

**<portlist>** - (Optional) Specified a range of ports to be displayed.

If no parameter is specified, all ports for 802.1p default priority will be displayed.

---

### Restrictions

None.

### Example

To display 802.1p default priority:

```
DGS-3120-24TC:admin# show 802.1p default_priority 1:1-1:10
Command: show 802.1p default_priority 1:1-1:10

Port          Priority      Effective Priority
----          -
1:1           5            5
1:2           5            5
1:3           5            5
1:4           5            5
1:5           5            5
1:6           5            5
1:7           5            5
1:8           5            5
1:9           5            5
1:10          5            5

DGS-3120-24TC:admin#
```

## 56-13 enable hol\_prevention

### Description

The enable hol\_prevention command enables head of line prevention on the switch.

### Format

**enable hol\_prevention**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To enable HOL prevention on the switch:

```
DGS-3120-24TC:admin# enable hol_prevention
Command: enable hol_prevention

Success.

DGS-3120-24TC:admin#
```

## 56-14 disable hol\_prevention

### Description

The command disable head of line prevention on the switch.

### **Format**

**disable hol\_prevention**

### **Parameters**

None.

### **Restrictions**

Only Administrator, Operator and Power-User level users can issue this command.

### **Example**

To disable HOL prevention on the switch:

```
DGS-3120-24TC:admin# disable hol_prevention
Command: disable hol_prevention

Success.

DGS-3120-24TC:admin#
```

## 56-15 show hol\_prevention

### **Description**

The show hol\_prevention command display head of line prevention state on the switch.

### **Format**

**show hol\_prevention**

### **Parameters**

None.

### **Restrictions**

None.

### **Example**

To display HOL prevention state on the switch.

```
DGS-3120-24TC:admin# show hol_prevention
Command: show hol_prevention

Device HOL Prevention State: Enabled

DGS-3120-24TC:admin#
```

## 56-16 config dscp trust

### Description

Configure the state of DSCP trust per port. When DSCP is not trusted, 802.1p is trusted.

### Format

**config dscp trust [<portlist> | all] state [enable | disable]**

### Parameters

---

**<portlist>** - Enter the list of port used for this configuration here.  
**all** - Specifies that the command apply to all ports on the switch.  
**state** - Enable or disable to trust DSCP. By default, DSCP trust is disabled.  
    **enable** - Specifies that the DSCP trust state will be enabled.  
    **disable** - Specifies that the DSCP trust state will be disabled.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

Enable DSCP trust on ports 1:1-1:8.

```
DGS-3120-24TC:admin# config dscp trust port 1:1-1:8 state enable
Command: config dscp trust port 1:1-1:8 state enable

Success.

DGS-3120-24TC:admin#
```

## 56-17 show dscp trust

### Description

Displays DSCP trust state for the specified ports on the switch.

### Format

**show dscp trust {<portlist>}**

## Parameters

**<portlist>** - (Optional) A range of ports to display.  
 If not specify the port, all ports for DSCP trust status on the switch will be displayed.

## Restrictions

None.

## Example

Display DSCP trust status on ports 1:1-1:8.

```
DGS-3120-24TC:admin# show dscp_trust 1:1-1:8
Command: show dscp_trust 1:1-1:8

Port    DSCP-Trust
-----  -
1:1     Disabled
1:2     Disabled
1:3     Disabled
1:4     Disabled
1:5     Enabled
1:6     Enabled
1:7     Enabled
1:8     Enabled

DGS-3120-24TC:admin#
```

## 56-18 config dscp map

### Description

The mapping of DSCP to priority will be used to determine the priority of the packet (which will be then used to determine the scheduling queue) when the port is in DSCP trust state.

The mapping of DSCP to color will be used to determine the initial color of the packet when the policing function of the packet is color aware and the packet is DSCP-trusted.

The DSCP-to-DSCP mapping is used in the swap of DSCP of the packet when the packet is ingresses to the port. The remaining processing of the packet will base on the new DSCP. By default, the DSCP is mapped to the same DSCP.

These DSCP mapping will take effect at the same time when IP packet ingress from a DSCP-trusted port.

### Format

**config dscp map** {[<portlist> | all]} [dscp\_priority <dscp\_list> to <priority 0-7> | dscp\_dscp <dscp\_list> to <dscp 0-63>]

## Parameters

---

**<portlist>** - Enter the list of port used for this configuration here.

**all** - Specifies that all the ports will be included in this configuration.

---

**dscp\_priority** - Specifies a list of DSCP value to be mapped to a specific priority.

**<dscp\_list>** - Enter the DSCP priority list here.

**to** - Specifies that the above or following parameter will be mapped to the previously mentioned parameter.

**<priority 0-7>** - Specifies the result priority of mapping.

---

**dscp\_dscp** - Specifies a list of DSCP value to be mapped to a specific DSCP.

**<dscp\_list>** - Enter the DSCP to DSCP list here.

**to** - Specifies that the above or following parameter will be mapped to the previously mentioned parameter.

**<dscp 0-63>** - Specifies the result DSCP of mapping.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure the mapping of the DSCP priority to priority 1:

```
DGS-3120-24TC:admin# config dscp map 1:1-1:8 dscp_priority 1 to priority 1
Command: config dscp map 1:1-1:8 dscp_priority 1 to priority 1

Success.

DGS-3120-24TC:admin#
```

To configure the global mapping of the DSCP priority to priority 1:

```
DGS-3120-24TC:admin# config dscp map dscp_priority 1 to priority 1
Command: config dscp map dscp_priority 1 to priority 1

Success.

DGS-3120-24TC:admin#
```

## 56-19 show dscp map

### Description

Show DSCP trusted port list and mapped color, priority and DSCP.

### Format

**show dscp map {<portlist>} [dscp\_priority | dscp\_dscp] {dscp <dscp\_list>}**

## Parameters

---

**<portlist>** - (Optional) A range of ports to show. If no parameter is specified, all ports' dscp mapping will be displayed.

---

**dscp\_priority** - Specifies a list of DSCP value to be mapped to a specific priority.

---

**dscp\_dscp** - Specifies a list of DSCP value to be mapped to a specific DSCP.

**dscp** - (Optional) This specifies DSCP value that will be mapped.

**<dscp\_list>** - Enter the DSCP list here.

## Restrictions

None.

## Example

In case of project support per port configure, show DSCP map configuration on port 1:1.

```
DGS-3120-24TC:admin# show dscp map 1:1 dscp_dscp
Command: show dscp map 1:1 dscp_dscp

DSCP to DSCP Mapping:
-----
Port 1:1 | 0  1  2  3  4  5  6  7  8  9
-----+-----
      0 | 0  1  2  3  4  5  6  7  8  9
      1 | 10 11 12 13 14 15 16 17 18 19
      2 | 20 21 22 23 24 25 26 27 28 29
      3 | 30 31 32 33 34 35 36 37 38 39
      4 | 40 41 42 43 44 45 46 47 48 49
      5 | 50 51 52 53 54 55 56 57 58 59
      6 | 60 61 62 63
-----
DGS-3120-24TC:admin#
```



## Chapter 57 Remote Switched Port ANalyzer (RSPAN) Command List

<b>enable rspan</b>
<b>disable rspan</b>
<b>create rspan vlan</b> [vlan_name <vlan_name>   vlan_id <value 1-4094>]
<b>delete rspan vlan</b> [vlan_name <vlan_name>   vlan_id <value 1-4094>]
<b>config rspan vlan</b> [vlan_name <vlan_name>   vlan_id <vlanid 1-4094>] [redirect [add   delete] ports <portlist>   source {[add   delete] ports <portlist> [rx   tx   both]}]
<b>show rspan</b> {[vlan_name <vlan_name>   vlan_id <vlanid 1-4094>]}

### 57-1 enable rspan

#### Description

This command controls the RSPAN function. The purpose of the RSPAN function is to mirror packets to a remote switch.

A packet travels from the switch where the monitored packet is received, passing through the intermediate switch, and then to the switch where the sniffer is attached. The first switch is also named the source switch.

To make the RSPAN function work, the RSPAN VLAN source setting must be configured on the source switch. For the intermediate and the last switch, the RSPAN VLAN redirect setting must be configured.

**Note:** RSPAN VLAN mirroring will only work when RSPAN is enabled (when one RSPAN VLAN has been configured with a source port).

The RSPAN redirect function will work when RSPAN is enabled and at least one RSPAN VLAN has been configured with redirect ports.

#### Format

**enable rspan**

#### Parameters

None.

#### Restrictions

Only Administrator and Operator-level users can issue this command.

#### Example

Configure RSPAN state to enable:

```
DGS-3120-24TC:admin# enable rspan
Command: enable rspan

Success.

DGS-3120-24TC:admin#
```

## 57-2 disable rspan

### Description

This command controls the RSPAN function.

### Format

**disable rspan**

### Parameters

None.

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

Configure RSPAN state to disabled:

```
DGS-3120-24TC:admin# disable rspan
Command: disable rspan

Success.

DGS-3120-24TC:admin#
```

## 57-3 create rspan vlan

### Description

This command is used to create the RSPAN VLAN. Up to 16 RSPAN VLANs can be created.

### Format

**create rspan vlan [vlan\_name <vlan\_name> | vlan\_id <value 1-4094>]**

### Parameters

---

**vlan\_name** - Create the RSPAN VLAN by VLAN name.

**<vlan\_name>** - Enter the VLAN name here.

---

**vlan\_id** - Create the RSPAN VLAN by VLAN ID.

**<value 1-4094>** - Enter the VLAN ID here. This value must be between 1 and 4094.

---

## Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To create an RSPAN VLAN entry by VLAN name "v2":

```
DGS-3120-24TC:admin# create rspan vlan vlan_name v2
Command: create rspan vlan vlan_name v2

Success.

DGS-3120-24TC:admin#
```

To create an RSPAN VLAN entry by VLAN ID "3":

```
DGS-3120-24TC:admin# create rspan vlan vlan_id 3
Command: create rspan vlan vlan_id 3

Success.

DGS-3120-24TC:admin#
```

## 57-4 delete rspan vlan

### Description

This command is used to delete RSPAN VLANs.

### Format

**delete rspan vlan [vlan\_name <vlan\_name> | vlan\_id <value 1-4094>]**

### Parameters

---

**vlan\_name** - Delete RSPAN VLAN by VLAN name.

**<vlan\_name>** - Enter the VLAN name here.

---

**vlan\_id** - Delete RSPAN VLAN by VLAN ID.

**<value 1-4094>** - Enter the VLAN ID here. This value must be between 1 and 4094.

---

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To delete an RSPAN VLAN entry by VLAN name "v2":

```
DGS-3120-24TC:admin# delete rspan vlan vlan_name v2
Command: delete rspan vlan vlan_name v2

Success.

DGS-3120-24TC:admin#
```

To delete an RSPAN VLAN entry by VLAN ID “3”:

```
DGS-3120-24TC:admin# delete rspan vlan vlan_id 3
Command: delete rspan vlan vlan_id 3

Success.

DGS-3120-24TC:admin#
```

## 57-5 config rspan vlan

### Description

This command configures the source setting for the RSPAN VLAN on the source switch or configures the redirect port on the intermediate switch and destination switch..

### Format

**config rspan vlan [vlan\_name <vlan\_name> | vlan\_id <vlanid 1-4094>] [redirect [add | delete] ports <portlist> | source {[add | delete] ports <portlist> [rx | tx | both]]]**

### Parameters

<b>vlan</b> - Specifies the RSPAN VLAN used for this configuration.
<b>vlan_name</b> - Specify the RSPAN VLAN by VLAN name. <b>&lt;vlan_name&gt;</b> - Enter the VLAN name here.
<b>vlan_id</b> - Specify the RSPAN VLAN by VLAN ID. <b>&lt;value 1-4094&gt;</b> - Enter the VLAN ID here. This value must be between 1 and 4094.
<b>redirect</b> - Specify output portlist for the RSPAN VLAN packets. If the redirect port is a Link Aggregation port, there will perform the Link Aggregation behavior for RSPAN packets. <b>add</b> - Specifies to add output ports for the RSPAN VLAN packets. <b>delete</b> - Specifies to delete output ports for the RSPAN VLAN packets.
<b>ports</b> - Specifies the output ports for the RSPAN VLAN packets. <b>&lt;portlist&gt;</b> - Enter the list of ports that will be used for this configuration here.
<b>source</b> - If the ports are not specified by this command, the source of RSPAN will come from the source specified by the mirror command or the flow-based source specified by an ACL. If no parameter is specified for source, it deletes the configured source parameters.
<b>add</b> - (Optional) Add source ports. <b>delete</b> - (Optional) Delete source ports.
<b>ports</b> - (Optional) Specify source portlist to add to or delete from the RSPAN source <b>&lt;portlist&gt;</b> - Enter the list of ports that will be used for this configuration here.
<b>rx</b> - (Optional) Only monitor ingress packets. <b>tx</b> - (Optional) Only monitor egress packets. <b>both</b> - (Optional) Monitor both ingress and egress packets.

## Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To configure an RSPAN source entry without source target port:

```
DGS-3120-24TC:admin# config rspan vlan vlan_name VLAN2 source add ports 1:2-1:5 rx
Command:config rspan vlan vlan_name VLAN2 source add ports 1:2-1:5 rx

Success.

DGS-3120-24TC:admin#
```

To configure an RSPAN source entry for per flow RSPAN, without any source ports:

```
DGS-3120-24TC:admin# config rspan vlan vlan_id 2 source
Command:config rspan vlan vlan_id 2 source

Success.

DGS-3120-24TC:admin#
```

To add redirect ports for special RSPAN VLAN on intermediate or destination switch:

```
DGS-3120-24TC:admin# config rspan vlan vlan_name vlan2 redirect add ports 1:18-1:19
Command: config rspan vlan vlan_name vlan2 redirect add ports 1:18-1:19

Success.

DGS-3120-24TC:admin# config rspan vlan vlan_id 2 redirect add ports 1:18-1:19
Command: config rspan vlan vlan_id 2 redirect add ports 1:18-1:19

Success.

DGS-3120-24TC:admin#
```

## 57-6 show rspan

### Description

This command displays the RSPAN configuration.

### Format

```
show rspan {[vlan_name <vlan_name> | vlan_id <vlanid 1-4094>]}
```

### Parameters

---

**vlan\_name** - (Optional) Specify the RSPAN VLAN by VLAN name

---

---

**<vlan\_name>** - Enter the VLAN name here.  
**vlan\_id** - (Optional) Specify the RSPAN VLAN by VLAN ID.  
**<value 1-4094>** - Enter the VLAN ID here. This value must be between 1 and 4094.

---

## Restrictions

None.

## Example

Display the specific settings:

```
DGS-3120-24TC:admin#show rspan
Command: show rspan

RSPAN    : Enabled

RSPAN VLAN ID  : 2
-----
Source Port
  RX          : 1:1
  TX          : 1:1
Redirect Port  : 1:2-1:5

Total RSPAN VLAN :1

DGS-3120-24TC:admin#
```

## Chapter 58 Safeguard Engine Command List

---

```
config safeguard_engine {state [enable | disable]} utilization {rising <20-100> | falling <20-100>} |
  trap_log [enable | disable] | mode [strict | fuzzy]}
show safeguard_engine
```

---

### 58-1 config safeguard\_engine

#### Description

This command is used to configure the CPU protection control for the system.

#### Format

```
config safeguard_engine {state [enable | disable]} utilization {rising <20-100> | falling <20-100>} | trap_log [enable | disable] | mode [strict | fuzzy]}
```

#### Parameters

---

**state** - (Optional) Specifies to configure CPU protection state to enable or disable.

**enable** - Specifies that CPU protection will be enabled.

**disable** - Specifies that CPU protection will be disabled.

---

**utilization** - (Optional) Specifies to configure the CPU protection threshold.

**rising** - Config utilization rising threshold , the range is between 20%-100% , if the CPU utilization is over the rising threshold, the switch enters exhausted mode.

**<20-100>** - Enter the utilization rising value here. This value must be between 20 and 100.

**falling** - Config utilization falling threshold , the range is between 20%-100% , if the CPU utilization is lower than the falling threshold, the switch enters normal mode.

**<20-100>** - Enter the utilization falling value here. This value must be between 20 and 100.

---

**trap\_log** - (Optional) Configure the state of CPU protection related trap/log mechanism to enable or disable. If set to enable, trap and log will be active while cpu protection current mode changed. If set to disable, current mode change will not trigger trap and log events.

**enable** - Specifies that the CPU protection trap or log mechanism will be enabled.

**disable** - Specifies that the CPU protection trap or log mechanism will be disabled.

---

**mode** - (Optional) determine the controlling method of broadcast traffic. Here are two modes (strict and fuzzy).

**strict** - In strict, the Switch will stop receiving all 'ARP not to me' packets (the protocol address of target in ARP packet is the Switch itself). That means no matter what reasons cause the high CPU utilization (may not caused by ARP storm), the Switch reluctantly processes any 'ARP not to me' packets in exhausted mode.

**fuzzy** - In fuzzy mode, the Switch will adjust the bandwidth dynamically depend on some reasonable algorithm.

---

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

#### Example

To configure CPU protection:

```
DGS-3120-24TC:admin# config safeguard_engine state enable utilization rising 50
falling 30 trap_log enable
Command: config safeguard_engine state enable utilization rising 50 falling 30
trap_log enable

Success.

DGS-3120-24TC:admin#
```

## 58-2 show safeguard\_engine

### Description

This command is used to show safeguard engine information.

### Format

**show safeguard\_engine**

### Parameters

None.

### Restrictions

None.

### Example

To show safeguard\_engine information:

```
DGS-3120-24TC:admin# show safeguard_engine
Command: show safeguard_engine

Safeguard Engine State          : Disabled
Safeguard Engine Current Status : Normal Mode
=====
CPU Utilization Information:
Rising Threshold   : 30%
Falling Threshold  : 20%
Trap/Log State     : Disabled
Mode                : Fuzzy

DGS-3120-24TC:admin#
```

**Note:** Safeguard engine current status has two modes: exhausted and normal mode.



## Chapter 59 Secure Shell (SSH) Command List

<b>config ssh algorithm</b> [3DES   AES128   AES192   AES256   arcfour   blowfish   cast128   twofish128   twofish192   twofish256   MD5  SHA1   RSA   DSA] [enable   disable]
<b>show ssh algorithm</b>
<b>config ssh authmode</b> [password   publickey   hostbased] [enable   disable]
<b>show ssh authmode</b>
<b>config ssh user</b> <username 15> authmode [hostbased [hostname <domain_name 32>   hostname_IP <domain_name 32> [<ipaddr>   <ipv6addr>]]   password   publickey]
<b>show ssh user</b> authmode
<b>config ssh server</b> {maxsession <int 1-8>   contimeout <sec 120-600>   authfail <int 2-20>   rekey [10min   30min   60min   never]   port <tcp_port_number 1-65535>}
<b>enable ssh</b>
<b>disable ssh</b>
<b>show ssh server</b>

### 59-1 config ssh algorithm

#### Description

This command configures SSH service algorithm.

#### Format

```
config ssh algorithm [3DES | AES128 | AES192 | AES256 | arcfour | blowfish | cast128 | twofish128 | twofish192 | twofish256 | MD5| SHA1 | RSA | DSA] [enable | disable]
```

#### Parameters

**3DES** - The "3DES" cipher is three-key triple-DES (encrypt-decrypt-encrypt), where the first 8 bytes of the key are used for the first encryption, the next 8 bytes for the decryption, and the following 8 bytes for the final encryption.

**AES (128,192,256)** - Advanced Encryption Standard.

**arcfour** - RC4 (also known as ARC4 or ARCFOUR meaning Alleged RC4) is the most widely-used software stream cipher.

**blowfish** - Blowfish is a keyed, symmetric block cipher.

**cast128** - CAST-128 is a 12- or 16-round feistel network with a 64-bit block size and a key size of between 40 to 128 bits.

**twofish (128,192,256)** - Twofish has a 128-bit block size, a key size ranging from 128 to 256 bits.

**MD5** - Message-Digest Algorithm 5.

**SHA1** - Secure Hash Algorithm.

**RSA** - RSA encryption algorithm is a non-symmetric encryption algorithm.

**DSS** - Digital Signature Standard.

**enable** - Enabled the algorithm.

**disable** - Disables the algorithm.

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To enable SSH server public key algorithm:

```
DGS-3120-24TC:admin#show ssh server
Command: show ssh server

The SSH Server Configuration
Maximum Session           : 8
Connection Timeout       : 120
Authentication Fail Attempts : 2
Rekey Timeout            : Never
TCP Port Number          : 22

DGS-3120-24TC:admin#config ssh algorithm DSA enable
Command: config ssh algorithm DSA enable

Success.

DGS-3120-24TC:admin#
```

## 59-2 show ssh algorithm

### Description

This command shows the SSH service algorithm.

### Format

**show ssh algorithm**

### Parameters

None.

### Restrictions

None.

### Example

To show server algorithm:

```
DGS-3120-24TC:admin# show ssh algorithm
Command: show ssh algorithm

Encryption Algorithm
-----
3DES      : Enabled
AES128    : Enabled
AES192    : Enabled
AES256    : Enabled
Arcfour   : Enabled
Blowfish  : Enabled
Cast128   : Enabled
Twofish128 : Enabled
Twofish192 : Enabled
Twofish256 : Enabled

Data Integrity Algorithm
-----
MD5       : Enabled
SHA1      : Enabled

Public Key Algorithm
-----
RSA       : Enabled
DSA       : Enabled

DGS-3120-24TC:admin#
```

### 59-3 config ssh authmode

#### Description

This command configures user authentication method for SSH.

#### Format

**config ssh authmode [password | publickey | hostbased] [enable | disable]**

#### Parameters

---

**password** - Specifies user authentication method.  
**publickey** - Specifies user authentication method.  
**hostbased** - Specifies user authentication method.  
**enable** - Enable user authentication method.  
**disable** - Disable user authentication method.

---

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure user authentication method:

```
DGS-3120-24TC:admin# config ssh authmode publickey enable
Command: config ssh authmode publickey enable

Success.

DGS-3120-24TC:admin#
```

## 59-4 show ssh authmode

### Description

This command shows the user authentication method.

### Format

**show ssh authmode**

### Parameters

None.

### Restrictions

None.

## Example

To show user authentication method:

```
DGS-3120-24TC:admin# show ssh authmode
Command: show ssh authmode

The SSH Authmode:
-----
Password      : Enabled
Public Key    : Enabled
Host-based    : Enabled

DGS-3120-24TC:admin#
```

## 59-5 config ssh user

### Description

Used to update user information for SSH configuration.

## Format

**config ssh user <username 15> authmode [hostbased [hostname <domain\_name 32> | hostname\_IP <domain\_name 32> [<ipaddr> | <ipv6addr>]] | password | publickey]**

## Parameters

---

**user** - Specifies the user name.

**<username 15>** - Enter the user name used here. This name can be up to 15 characters long.

**hostbased** - Specifies user authentication method.

**hostname** - Specifies host domain name.

**<domain\_name 32>** - Enter the domain name here. This name can be up to 32 characters long.

**hostname\_IP** - Specifies host domain name and IP address.

**<domain\_name 32>** - Specifies host name if configuring Host-based method.

---

**<ipaddr>** - Specifies host IP address if configuring Host-based method.

**<ipv6addr>** - Specifies host IPv6 address if configuring Host-based method. **(EI Mode Only parameter)**

---

**password** - Specifies user authentication method.

---

**publickey** - Specifies user authentication method.

---

## Restrictions

Only Administrator-level users can issue this command.

## Example

To update user “test” authentication method:

```
DGS-3120-24TC:admin# config ssh user test authmode publickey
Command: config ssh user test authmode publickey

Success.

DGS-3120-24TC:admin#
```

59-6 show ssh user

## Description

This command shows the SSH user information.

## Format

**show ssh user authmode**

## Parameters

None.

## Restrictions

Only Administrator-level users can issue this command.

## Example

To show user information about SSH configuration:

```
DGS-3120-24TC:admin# show ssh user authmode
Command: show ssh user authmode

Current Accounts
Username          AuthMode          HostName          HostIP
-----
test              Public Key
alpha             Host-based        alpha-local       172.18.61.180
beta              Host-based        beta-local        3000::105
Total Entries : 3

DGS-3120-24TC:admin#
```

## 59-7 config ssh server

### Description

This command configures the SSH server general information.

### Format

**config ssh server {maxsession <int 1-8> | contimeout <sec 120-600> | authfail <int 2-20> | rekey [10min | 30min | 60min | never] | port <tcp\_port\_number 1-65535>}**

### Parameters

**maxsession** - (Optional) Specifies SSH server maximum session at the same time, maximum 8 sessions.

**<int 1-8>** - Enter the maximum session value here. This value must be between 1 and 8.

**contimeout** - (Optional) Specifies SSH server connection time-out, in the unit of second.

**<sec 120-600>** - Enter the connection time-out value here. This value must be between 120 and 600 seconds.

**authfail** - (Optional) Specifies user maximum fail attempts.

**<int 2-20>** - Enter the user maximum fail attempts value here. This value must be between 2 and 20.

**rekey** - (Optional) Specifies time to re-generate session key. There are 10 minutes, 30 minutes, 60 minutes and never for the selection, which the never means do NOT re-generate session key

**10min** - Specifies that the re-generate session key time will be 10 minutes.

**30min** - Specifies that the re-generate session key time will be 30 minutes.

**60min** - Specifies that the re-generate session key time will be 60 minutes.

**never** - Specifies that the re-generate session key time will be set to never.

**port** - (Optional) Specifies the TCP port used to communication between SSH client and server. The default value is 22.

**<tcp\_port\_number 1-65535>** - Enter the TCP port number here. This value must be between 1 and 65535.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To configure SSH server maximum session number is 3:

```
DGS-3120-24TC:admin# config ssh server maxsession 3
Command: config ssh server maxsession 3

Success.

DGS-3120-24TC:admin#
```

### 59-8 enable ssh

#### Description

This command enables SSH server services. When enabling SSH, Telnet will be disabled.

#### Format

**enable ssh**

#### Parameters

None.

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To enable SSH server:

```
DGS-3120-24TC:admin# enable ssh
Command: enable ssh

Success.

DGS-3120-24TC:admin#
```

### 59-9 disable ssh

#### Description

This command disables SSH server services.

#### Format

**disable ssh**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To disable the SSH server services:

```
DGS-3120-24TC:admin# config ssh
Command: config ssh server

Success.

DGS-3120-24TC:admin#
```

### 59-10 show ssh server

#### Description

This command shows the SSH server general information.

#### Format

**show ssh server**

### Parameters

None.

### Restrictions

None.

### Example

To show SSH server:

```
DGS-3120-24TC:admin# show ssh server
Command: show ssh server

The SSH Server Configuration
Max Session           : 3
Connection Timeout   : 300
Authfail Attempts    : 2
TCP Port Number      : 23
Rekey Timeout        : 60min

DGS-3120-24TC:admin#
```





## Chapter 60 Secure Sockets Layer (SSL) Command List

<b>download ssl certificate</b> <ipaddr> certfilename <path_filename 64> keyfilename <path_filename 64>
<b>enable ssl</b> {ciphersuite {RSA_with_RC4_128_MD5   RSA_with_3DES_EDE_CBC_SHA   DHE_DSS_with_3DES_EDE_CBC_SHA   RSA_EXPORT_with_RC4_40_MD5}}
<b>disable ssl</b> {ciphersuite {RSA_with_RC4_128_MD5   RSA_with_3DES_EDE_CBC_SHA   DHE_DSS_with_3DES_EDE_CBC_SHA   RSA_EXPORT_with_RC4_40_MD5}}
<b>show ssl</b> {certificate}
<b>show ssl cachetimeout</b>
<b>config ssl cachetimeout</b> <value 60-86400>

### 60-1 download ssl certificate

#### Description

This command is used to download the certificate to the device according to the certificate level. The user can download the specified certificate to the device which must, according to desired key exchange algorithm. For RSA key exchange, the user must download RSA type certificate and for DHS\_DSS is using the DSA certificate for key exchange.

#### Format

**download ssl certificate** <ipaddr> certfilename <path\_filename 64> keyfilename <path\_filename 64>

#### Parameters

<b>&lt;ipaddr&gt;</b> - Enter the TFTP server IP address used for this configuration here.
<b>certfilename</b> - Specifies the desired certificate file name.
<b>&lt;path_filename 64&gt;</b> - Certificate file path respect to tftp server root path, and input characters max to 64 octets.
<b>keyfilename</b> - Specifies the private key file name which accompany with the certificate.
<b>&lt;path_filename 64&gt;</b> - Private key file path respect to tftp server root path, and input characters max to 64 octets.

#### Restrictions

Only Administrator-level users can issue this command.

#### Example

To download certificate from TFTP server:

```
DGS-3120-24TC:admin# download ssl certificate 10.55.47.1 certfilename cert.der
keyfilename pkey.der
Command: download ssl certificate 10.55.47.1 certfilename cert.der keyfilename
pkey.der

Success.

DGS-3120-24TC:admin#
```

## 60-2 enable ssl

### Description

This command will provide user to configure SSL status and it's ciphersuites. Using "enable ssl" command will enable SSL feature which means enable SSLv3 and TLSv1. For each ciphersuites, user must specify it by this command.

### Format

```
enable ssl {ciphersuite {RSA_with_RC4_128_MD5 | RSA_with_3DES_EDE_CBC_SHA |
DHE_DSS_with_3DES_EDE_CBC_SHA | RSA_EXPORT_with_RC4_40_MD5}}
```

### Parameters

---

**ciphersuite** - (Optional) Specifies the cipher suite combination used for this configuration.

- RSA\_with\_RC4\_128\_MD5** - Indicate RSA key exchange with RC4 128 bits encryption and MD5 hash.
- RSA\_with\_3DES\_EDE\_CBC\_SHA** - Indicate RSA key exchange with 3DES\_EDE\_CBC encryption and SHA hash.
- DHE\_DSS\_with\_3DES\_EDE\_CBC\_SHA** - Indicate DH key exchange with 3DES\_EDE\_CBC encryption and SHA hash.
- RSA\_EXPORT\_with\_RC4\_40\_MD5** - Indicate RSA\_EXPORT key exchange with RC4 40 bits encryption and MD5 hash.

---

### Restrictions

Only Administrator-level users can issue this command.

### Example

To enable the SSL ciphersuite for RSA\_with\_RC4\_128\_MD5:

```
DGS-3120-24TC:admin# enable ssl ciphersuite RSA_with_RC4_128_MD5
Command: enable ssl ciphersuite RSA_with_RC4_128_MD5

Success.

DGS-3120-24TC:admin#
```

To enable SSL:

```
DGS-3120-24TC:admin# enable ssl
Command: enable ssl

Success.

DGS-3120-24TC:admin#
```

**Note:** Web will be disabled when SSL is enabled.

## 60-3 disable ssl

### Description

This command will provide user to configure SSL feature and supported ciphersuites. Using “disable ssl” command will disable SSL feature and for each ciphersuites status user must specified it by this command.

### Format

**disable ssl {ciphersuite {RSA\_with\_RC4\_128\_MD5 | RSA\_with\_3DES\_EDE\_CBC\_SHA | DHE\_DSS\_with\_3DES\_EDE\_CBC\_SHA | RSA\_EXPORT\_with\_RC4\_40\_MD5}}**

### Parameters

---

**ciphersuite** - (Optional) Specifies the cipher suite combination used for this configuration.

- RSA\_with\_RC4\_128\_MD5** - Indicate RSA key exchange with RC4 128 bits encryption and MD5 hash.
- RSA\_with\_3DES\_EDE\_CBC\_SHA** - Indicate RSA key exchange with 3DES\_EDE\_CBC encryption and SHA hash.
- DHE\_DSS\_with\_3DES\_EDE\_CBC\_SHA** - Indicate DH key exchange with 3DES\_EDE\_CBC encryption and SHA hash.
- RSA\_EXPORT\_with\_RC4\_40\_MD5** - Indicate RSA\_EXPORT key exchange with RC4 40 bits encryption and MD5 hash.

---

### Restrictions

Only Administrator-level users can issue this command.

### Example

To disable SSL ciphersuite for RSA\_with\_RC4\_128\_MD5:

```
DGS-3120-24TC:admin# disable ssl ciphersuite RSA_with_RC4_128_MD5
Command: disable ssl ciphersuite RSA_with_RC4_128_MD5

Success.

DGS-3120-24TC:admin#
```

To disable SSL:

```
DGS-3120-24TC:admin# disable ssl
Command: disable ssl

Success.

DGS-3120-24TC:admin#
```

## 60-4 show ssl

### Description

This command is used to display the certificate status. User must download specified certificate type according to desired key exchange algorithm. The options may be no certificate, RSA type or DSA type certificate

### Format

**show ssl {certificate}**

### Parameters

---

**certificate** – (Optional) Specifies that the SSL certificate will be displayed.

---

### Restrictions

None.

### Example

To show SSL:

```
DGS-3120-24TC:admin# show ssl
Commands: show ssl

SSL status           Enabled
RSA_WITH_RC4_128_MD5 Enabled
RSA_WITH_3DES_EDE_CBC_SHA Enabled
DHE_DSS_WITH_3DES_EDE_CBC_SHA Enabled
RSA_EXPORT_WITH_RC4_40_MD5 Enabled

DGS-3120-24TC:admin#
```

To show certificate:

```
DGS-3120-24TC:admin# show ssl certificate
Command: show ssl certificate

Loaded with RSA Certificate!

DGS-3120-24TC:admin#
```

## 60-5 show ssl cachetimeout

### Description

This command will show cahce timeout value which is designed for dlktimer library to remove the session id after expired. In order to support the resume session feature, the SSL library keep the session id in web server, and invoking the dlktimer library to remove this session id by cache timeout value.

### Format

**show ssl cachetimeout**

### Parameters

None.

### Restrictions

None.

### Example

To show SSL cache timeout:

```
DGS-3120-24TC:admin# show ssl cachetimeout
Commands: show ssl cachetimeout

Cache timeout is 600 seconds

DGS-3120-24TC:admin#
```

## 60-6 config ssl cachetimeout

### Description

This command will config cahce timeout value which is designed for dlktimer library to remove the session id after expired. In order to support the resume session feature, the SSL library keep the session id in web server, and invoking the dlktimer library to remove this session id by cache timeout value. The unit of argument's value is second and it's boundary is between 60 (1 minute) and 86400 (24 hours). Default value is 600 seconds.

### Format

**config ssl cachetimeout <value 60-86400>**

### Parameters

---

**timeout** - Specifies the SSL cache timeout value attributes.

**<value 60-86400>** - Enter the timeout value here. This value must be between 60 and 86400.

---

## **Restrictions**

None.

## **Example**

To configure the SSL cache timeout value to 60:

```
DGS-3120-24TC:admin# config ssl cachetimeout 60
Commands: config ssl cachetimeout 60
```

```
Success.
```

```
DGS-3120-24TC:admin#
```

## Chapter 61 sFlow Command List

<b>create sflow flow_sampler</b> ports [<portlist>   all] analyzer_server_id <value 1-4> {rate <value 0-65535>   maxheadersize <value 18-256>}
<b>config sflow flow_sampler</b> ports [<portlist>   all] {rate <value 0-65535>   maxheadersize <value 18-256>}
<b>delete sflow flow_sampler</b> ports [<portlist>   all]
<b>create sflow counter_poller</b> ports [<portlist>   all] analyzer_server_id <value 1-4> {interval [disable   <sec 20-120>]}
<b>config sflow counter_poller</b> ports [<portlist>   all] interval [disable   <sec 20-120>]
<b>delete sflow counter_poller</b> ports [<portlist>   all]
<b>create sflow analyzer_server</b> <value 1-4> owner <name 16> {timeout [<sec 1-2000000>   infinite]   collectoraddress <ipaddr>   collectorport <udp_port_number 1-65535>   maxdatagramsize <value 300-1400>}
<b>config sflow analyzer_server</b> <value 1-4> {timeout [<sec 1-2000000>   infinite]   collectoraddress <ipaddr>   collectorport <udp_port_number 1-65535>   maxdatagramsize <value 300-1400>}
<b>delete sflow analyzer_server</b> <value 1-4>
<b>enable sflow</b>
<b>disable sflow</b>
<b>show sflow</b>
<b>show sflow flow_sampler</b>
<b>show sflow counter_poller</b>
<b>show sflow analyzer_server</b>

### 61-1 create sflow flow\_sampler

#### Description

This command is used to create the sFlow flow sampler. By configuring the sampling function for a port, a sample packet received by this port will be encapsulated and forwarded to analyzer server at the specified interval.

#### Format

**create sflow flow\_sampler** ports [<portlist> | all] analyzer\_server\_id <value 1-4> {rate <value 0-65535> | maxheadersize <value 18-256>}

#### Parameters

**ports** - Specifies the list of ports to be configured.

**<portlist>** - Enter the list of ports that will be used for this configuration here.

**all** - Specifies all ports on the Switch.

**analyzer\_server\_id** - Specifies the ID of a server analyzer where the packet will be forwarded.

**<value 1-4>** - Enter the analyzer server ID here. This value must be between 1 and 4.

**rate** - (Optional) The sampling rate for packet Rx sampling. The configured rate value multiplied by x is the actual rate, where the x is project dependent with the default value 256. If set to 0, the sampler is disabled. If the rate is not specified, its default value is 0.

**<value 0-65535>** - Enter the sampling rate value here. This value must be between 0 and 65535.

**maxheadersize** - (Optional) The maximum number of leading bytes in the packet which has been sampled that will be encapsulated and forwarded to the server. If not specified, the default value is 128.

**<value 18-256>** - Enter the maximum header size here. This value must be between 18 and



256.

**Restrictions**

Only Administrator and Operator-level users can issue this command. **(EI Mode Only Command)**

**Example**

Create sFlow flow sampler:

```
DGS-3120-24TC:admin# create sflow flow_sampler ports 1 analyzer_server_id 1
rate 1 maxheadersize 18
Command: create sflow flow_sampler ports 1 analyzer_server_id 1 rate 1
maxheadersize 18

Success.

DGS-3120-24TC:admin#
```

**61-2 config sflow flow\_sampler****Description**

This command configures the sFlow flow sampler parameters. In order to change the analyzer\_server\_id, delete the flow\_sampler first and create a new one.

**Format**

**config sflow flow\_sampler ports [<portlist> | all] {rate <value 0-65535> | maxheadersize <value 18-256>}**

**Parameters**

**ports** - Specifies the list of ports to be configured.

**<portlist>** - Enter the list of ports that will be used for this configuration here.

**all** - Specifies all ports on the Switch.

**rate** - (Optional) The sampling rate for packet Rx sampling. The configured rate value multiplied by x is the actual rate, where the x is project dependent with the default value 256. If set to 0, the sampler is disabled. If the rate is not specified, its default value is 0.

**<value 0-65535>** - Enter the sampling rate value here. This value must be between 0 and 65535.

**maxheadersize** - (Optional) The maximum number of leading bytes in the packet which has been sampled that will be encapsulated and forwarded to the server. If not specified, the default value is 128.

**<value 18-256>** - Enter the maximum header size value here. This value must be between 18 and 256.

**Restrictions**

Only Administrator and Operator-level users can issue this command. **(EI Mode Only Command)**

**Example**

Configure the sFlow sampler the rate of port 1 to be 0:

```
DGS-3120-24TC:admin# config sflow flow_sampler ports 1 rate 0 tx_rate 1
Command: config sflow flow_sampler ports 1 rate 0 tx_rate 1

Success.

DGS-3120-24TC:admin#
```

### 61-3 delete sflow flow\_sampler

#### Description

This command is used to delete the sFlow flow sampler.

#### Format

**delete sflow flow\_sampler ports [<portlist> | all]**

#### Parameters

---

**ports** - Specifies the list of ports to be configured.  
**<portlist>** - Enter the list of ports that will be used for this configuration here.  
**all** - Specifies all ports on the Switch.

---

#### Restrictions

Only Administrator and Operator-level users can issue this command. **(EI Mode Only Command)**

#### Example

Delete the sFlow sampler port 1:

```
DGS-3120-24TC:admin# delete sflow flow_sampler ports 1
Command: delete sflow flow_sampler ports 1

Success.

DGS-3120-24TC:admin#
```

### 61-4 create sflow counter\_poller

#### Description

This command is used to create the sFlow counter poller. The poller function instructs the switch to forward statistics counter information with respect to a port.

#### Format

**create sflow counter\_poller ports [<portlist> | all] analyzer\_server\_id <value 1-4> {interval [disable | <sec 20-120>]}**

## Parameters

- 
- ports** - Specifies the list of ports to be configured.  
**<portlist>** - Enter the list of ports that will be used for this configuration here.  
**all** - Specifies all ports on the Switch.
- 
- analyzer\_server\_id** - The ID of an analyzer server.  
**<value 1-4>** - Enter the analyzer server ID here. This value must be between 1 and 4.
- 
- interval** - (Optional) The maximum number of seconds between successive statistics counters information.  
**disable** - This new sFlow counter will not export counter until the interval to be set a appropriate value. If interval is not specified, its default value is disabled.  
**<sec 20-120>** - Enter the maximum number of seconds between successive statistics counters information here. This value must be between 20 and 120 seconds.
- 

## Restrictions

Only Administrator and Operator-level users can issue this command. **(EI Mode Only Command)**

## Example

Create sFlow counter poller, which sample port 1 to analyzer server 1:

```
DGS-3120-24TC:admin# create sflow counter_poller ports 1 analyzer_server_id 1
Command: create sflow counter_poller ports 1 analyzer_server_id 1

Success.

DGS-3120-24TC:admin#
```

## 61-5 config sflow counter\_poller

### Description

This command is used to configure the sFlow counter poller parameters. If the user wants the change the analyzer\_server\_id, he needs to delete the counter\_poller and creates a new one.

### Format

**config sflow counter\_poller ports [<portlist> | all] interval [disable | <sec 20-120>]**

## Parameters

- 
- ports** - Specifies the list of ports to be configured.  
**<portlist>** - Enter the list of ports that will be used for this configuration here.  
**all** - Specifies all ports on the Switch.
- 
- interval** - The maximum number of seconds between successive samples of the counters.  
**disable** - Stop exporting counter.  
**<sec m-n>** - Enter the maximum number of seconds between successive samples of the counters here. This value must be between m and n.
- 

## Restrictions

Only Administrator and Operator-level users can issue this command. **(EI Mode Only Command)**

## Example

Configure the interval of sFlow counter poller port 1 to be 0:

```
DGS-3120-24TC:admin# config sflow counter_poller ports 1 interval disable
Command: config sflow counter_poller ports 1 interval disable

Success.

DGS-3120-24TC:admin#
```

## 61-6 delete sflow counter\_poller

### Description

This command deletes the sFlow counter poller from the specified port.

### Format

**delete sflow counter\_poller ports [<portlist> | all]**

### Parameters

---

**ports** - Specifies the list of ports to delete the counter poller.  
**<portlist>** - Enter the list of ports that will be used for this configuration here.  
**all** - Specifies all ports on the Switch.

---

### Restrictions

Only Administrator and Operator-level users can issue this command. **(EI Mode Only Command)**

## Example

Delete sFlow counter poller on port 1:

```
DGS-3120-24TC:admin# delete sflow counter_poller ports 1
Command: delete sflow counter_poller ports 1

Success.

DGS-3120-24TC:admin#
```

## 61-7 create sflow analyzer\_server

### Description

This command is used to create the analyzer server. You can specify more than one analyzer\_server with the same IP address but with different UDP port numbers. You can have up to four unique combinations of IP address and UDP port number.

## Format

```
create sflow analyzer_server <value 1-4> owner <name 16> {timeout [<sec 1-2000000> |
infinite] | collectoraddress <ipaddr> | collectorport <udp_port_number 1-65535> |
maxdatagramsize <value 300-1400>}
```

## Parameters

<b>analyzer_server</b> - The ID of analyzer server. <b>&lt;value 1-4&gt;</b> - Enter the analyzer server ID here.
<b>owner</b> - The entity making use of this sFlow analyzer_server. When owner is set or modified, the timeout value will become 400 automatically. <b>&lt;name 16&gt;</b> - Enter the owner name here. This name can be up to 16 characters long.
<b>timeout</b> - (Optional) The seconds to wait before the server is timed out. When the analyzer server times out, all of the flow_samplers and counter_pollers associated with this analyzer server will be deleted. The default value is 400 seconds. <b>&lt;sec 1-2000000&gt;</b> - Enter the time-out value here. This value must be between 1 and 2000000 seconds. <b>infinite</b> - Indicates the analyzer server never timeout.
<b>collectoraddress</b> - (Optional) The IP or IPv6 address of the analyzer server. If this is set to 0 or not specified, the IP address is 0 and the entry is not active. <b>&lt;ipaddr&gt;</b> - Enter the IP address used for the configuration here.
<b>collectorport</b> - (Optional) The destination UDP port for sending the sFlow datagram. If not specified, the default value is 6364. The specified UDP port number can NOT conflict with other applications. <b>&lt;udp_port_number 1-65535&gt;</b> - Enter the destination UDP port number here. This value must be between 1 and 65535.
<b>maxdatagramsize</b> - (Optional) The maximum number of data bytes that can be packed in a single sample datagram. If not specified, the default value is 1400 bytes. <b>&lt;value 300-1400&gt;</b> - Enter the maximum datagram size here. This value must be between 300 and 1400.

## Restrictions

Only Administrator and Operator-level users can issue this command. **(EI Mode Only Command)**

## Example

To create the analyzer server:

```
DGS-3120-24TC:admin# create sflow analyzer_server 2 owner monitor timeout
infinite collectoraddress 10.0.0.1 collectorport 65524 maxdatagramsize 300
Command: create sflow analyzer_server 2 owner monitor timeout infinite
collectoraddress 10.0.0.1 collectorport 65524 maxdatagramsize 300

Success.

DGS-3120-24TC:admin#
```

## 61-8 config sflow analyzer\_server

### Description

Configures the receiver information. You can specify more than one collector with the same IP address if the UDP port numbers are unique.

## Format

```
config sflow analyzer_server <value 1-4> {timeout [<sec 1-2000000> | infinite] |
collectoraddress <ipaddr> | collectorport <udp_port_number 1-65535> | maxdatagramsize
<value 300-1400>}
```

## Parameters

---

**analyzer\_server** - The ID of analyzer server.

**<value 1-4>** - Enter the analyzer server ID here. This value must be between 1 and 4.

**timeout** - (Optional) The time (in seconds) remaining before the sample is released and stops sampling. When the analyzer\_server times out, all of the flow\_samplers and counter\_pollers associated with this analyzer\_server will be deleted.

**<sec 1-2000000>** - Enter the time-out value here. This value must be between 1 and 2000000 seconds.

**infinity** - Indicates the analyzer server never timeout

**collectoraddress** - (Optional) The IP address of the server. If not specified or set a 0 address, sFlow packets will not be sent to this server.

**<ipaddr>** - Enter the IP address used for the configuration here.

**collectorport** - (Optional) The destination UDP port for sending the sFlow datagram. If not specified, the default value is 6364

**<udp\_port\_number 1-65535>** - Enter the destination port number here. This value must be between 1 and 65535.

**maxdatagramsize** - (Optional) The maximum number of data bytes that can be packed in a single sample datagram. If not specified, the default value is 1400 bytes.

**<value 300-1400>** - Enter the maximum datagram size here. This value must be between 300 and 1400.

---

## Restrictions

Only Administrator and Operator-level users can issue this command. **(EI Mode Only Command)**

## Example

Configure the host 10.90.90.90 to be the sFlow analyzer server with the ID 1:

```
DGS-3120-24TC:admin# config sflow analyzer_server 1 collectoraddress
10.90.90.90
Command: config sflow analyzer_server 1 collectoraddress 10.90.90.90

Success.

DGS-3120-24TC:admin#
```

61-9 delete sflow\_analyzer\_server

## Description

This command deletes a specified analyzer server.

## Format

```
delete sflow analyzer_server <value 1-4>
```

## Parameters

**analyzer\_server** - The ID of analyzer server that to be deleted.

**<value 1-4>** - Enter the analyzer server ID value here. This value must be between 1 and 4.

---

## Restrictions

Only Administrator and Operator-level users can issue this command. **(EI Mode Only Command)**

## Example

To delete an analyzer server:

```
DGS-3120-24TC:admin# delete sflow analyzer_server 1
Command: delete sflow analyzer_server 1

Success.

DGS-3120-24TC:admin#
```

## 61-10 enable sflow

### Description

Enable the sFlow function on the Switch.

### Format

**enable sflow**

### Parameters

None.

### Restrictions

Only Administrator and Operator-level users can issue this command. **(EI Mode Only Command)**

### Example

Enable sFlow globally:

```
DGS-3120-24TC:admin# enable sflow
Command: enable sflow

Success.

DGS-3120-24TC:admin#
```

## 61-11 disable sflow

### Description

Disable the sFlow function on the Switch.

### Format

**disable sflow**

### Parameters

None.

### Restrictions

Only Administrator and Operator-level users can issue this command. **(EI Mode Only Command)**

### Example

Disable the sFlow globally:

```
DGS-3120-24TC:admin# disable sflow
Command: disable sflow

Success.

DGS-3120-24TC:admin#
```

## 61-12 show sflow

### Description

This command is used to show the sFlow information.

sFlow Address: The IPv4 address associated with this agent.

sFlow AddressV6: The IPv6 address associated with this agent.

sFlow State: The current state of the sFlow agent.

### Format

**show sflow**

### Parameters

None.

### Restrictions

None. **(EI Mode Only Command)**



## Example

To show the sFlow information:

```
DGS-3120-24TC:admin#show sflow
Command: show sflow

sFlow Version   : V5
sFlow Address   : 10.90.90.90
sFlow State     : Disabled

DGS-3120-24TC:admin#
```

## 61-13 show sflow flow\_sampler

### Description

This command is used to show the sFlow flow sampler configured for ports. The actual value rate is 256 times the displayed rate value. There are two types of rates. The Configured Rate is configured by the user. In order to limit the number of packets sent to the CPU when the rate of traffic to the CPU is high, the sampling rate will be decreased. This is specified as the active rate.

### Format

**show sflow flow\_sampler**

### Parameters

None.

### Restrictions

None. **(EI Mode Only Command)**

## Example

To show the sFlow flow sampler information of ports which have been created:

```
DGS-3120-24TC:admin# show sflow flow_sampler
Command: show sflow flow_sampler

Port      Analyzer  Configured  Configured  Active  Active  Max Header
  Server ID Rx Rate    Tx Rate    Rx Rate  Tx Rate  Size
-----
10        1         1          2         0       0       20

Total Entries: 1

DGS-3120-24TC:admin#
```

## 61-14 show sflow counter\_poller

### Description

This command is used to display the sFlow counter pollers which have been configured for port.

### Format

**show sflow counter\_poller**

### Parameters

None.

### Restrictions

None. **(EI Mode Only Command)**

### Example

To show the sFlow counter poller information of ports which have been created:

```
DGS-3120-24TC:admin# show sflow counter_poller
Command: show sflow counter_poller

Port      Analyzer Server ID   Polling Interval (secs)
-----  -
1         1                    disable

Total Entries: 1

DGS-3120-24TC:admin#
```

## 61-15 show sflow analyzer\_server

### Description

This command is used to show the sFlow analyzer server information. The Timeout field specifies the time configured by user. The Current Countdown Time is the current time remaining before the server timeout.

### Format

**show sflow analyzer\_server**

### Parameters

None.

### Restrictions

None. **(EI Mode Only Command)**

## **Example**

To show the sFlow flow sampler information of ports which have been created:

```
DGS-3120-24TC:admin# show sflow analyzer_server
Command: show sflow analyzer_server

sFlow Analyzer_server Information
-----
Server ID           : 1
Owner               : 1
Timeout             : Infinite
Current Countdown Time: Infinite
Collector Address   : 10.0.0.1
Collector Port      : 655
Max Datagram Size  : 301

Total Entries: 1

DGS-3120-24TC:admin#
```

## Chapter 62 Show Technical Support Command List

---

**show tech\_support**

---

**upload tech\_support\_toTFTP** <ipaddr> <path\_filename 64>

### 62-1 show tech\_support

#### Description

This command is especially used by the technical support personnel to dump the device overall operation information. The information is project dependent and includes the following information.

- Basic System information
- System log
- Running configuration
- Layer 1 information
- Layer 2 information
- Layer 3 information
- Application
- OS status
- Controller's status

This command can be interrupted by Ctrl - C or ESC when it is executing.

#### Format

**show tech\_support**

#### Parameters

None.

#### Restrictions

Only Administrator and Operator-level users can issue this command.

#### Example

To show the information of technique's support:

```

DGS-3120-24TC:admin# show tech_support
Command: show tech_support

#-----
#
#           DGS-3120-24TC Gigabit Ethernet Switch
#           Technical Support Information
#
#           Firmware: Build 1.02.013
#           Copyright(C) 2010 D-Link Corporation. All rights reserved.
#-----
#
#-----

*****          Basic System Information          *****

[SYS 2000-4-3 23:41:13]

Boot Time           : 3 Apr 2000 22:26:50
RTC Time            : 2000/04/03 23:41:13
Boot PROM Version   : Build 1.00.010
Firmware Version    : Build 1.02.013
Hardware Version    : A1
Serial number       : 1
MAC Address         : 00-01-70-33-21-02
[STACKING 2000-4-3 23:41:13]

#Topology Information

Stable Topology:
My Box ID : 1           Role           : Master
Box Cnt   : 2           Topology Type : Duplex Ring
Unit Prio-
ID  rity  Role           MAC           Type           Device Runtime  Stacking
-----
1   32    Master  00-01-70-33-21-02 DGS-3120-24TC 0x0000 1.02.013 2.0.1
2   32    BMaster 00-01-70-33-21-03 DGS-3120-24TC 0x0000 1.02.013 2.0.1
3   NOT EXIST
4   NOT EXIST
5   NOT EXIST
6   NOT EXIST
*(S) means static box ID

Temporary Topology:
Stable Cnt : 48           Hot Swap Type : Stable
Box Cnt    : 2           Topology Type : Duplex Ring

```

## 62-2 upload tech\_support\_toTFTP

### Description

The upload tech\_support\_toTFTP command is used to upload the information of technique's support to TFTP server. The information is project dependent and includes the following information.

- Basic System information
- System log
- Running configuration
- Layer 1 information
- Layer 2 information
- Layer 3 information
- Application
- OS status
- Controller's status

This command can be interrupted by Ctrl - C or ESC when it is executing.

### Format

**upload tech\_support\_toTFTP <ipaddr> <path\_filename 64>**

### Parameters

---

**<ipaddr>** - Specifies the IP address of TFTP server.

**<path\_filename 64>** - Specifies the file name to store the information of technique's support in TFTP server. The max size of the file name is 64.

---

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To upload the information of technique's support:

```
DGS-3120-24TC:admin# upload tech_support_to_TFTP 10.0.0.66 tech_report.txt
Command: upload tech_support_to_TFTP 10.0.0.66 tech_report.txt

Connecting to server..... Done.
Upload techsupport file..... Done.

Success.

DGS-3120-24TC:admin#
```

## Chapter 63 Simple Network Management Protocol (SNMP) Command List

<b>create snmp community</b> <community_string 32> view <view_name 32> [read_only   read_write]
<b>delete snmp community</b> <community_string 32>
<b>show snmp community</b> {<community_string 32>}
<b>create snmp user</b> <user_name 32> <groupname 32> {encrypted [by_password auth [md5 <auth_password 8-16>   sha <auth_password 8-20>] priv [none   des <priv_password 8-16>]   by_key auth [md5 <auth_key 32-32>   sha <auth_key 40-40>] priv [none   des <priv_key 32-32>]]}
<b>delete snmp user</b> <username 32>
<b>show snmp user</b>
<b>create snmp group</b> <groupname 32> [v1   v2c   v3 [noauth_nopriv   auth_nopriv   auth_priv]] {read_view <view_name 32>   write_view <view_name 32>   notify_view <view_name 32>}
<b>delete snmp group</b> <groupname 32>
<b>show snmp groups</b>
<b>create snmp view</b> <view_name 32> <oid> view_type [included   excluded]
<b>delete snmp view</b> <view_name 32> [all   <oid>]
<b>show snmp view</b> {<view_name 32>}
<b>create snmp</b> [host <ipaddr>   v6host <ipv6addr>] [v1   v2c   v3 [noauth_nopriv   auth_nopriv   auth_priv]] <auth_string 32>
<b>delete snmp</b> [host <ipaddr>   v6host <ipv6addr>]
<b>show snmp host</b> {<ipaddr>}
<b>show snmp v6host</b> {<ipv6addr>}
<b>config snmp engineID</b> <snmp_engineID 10-64>
<b>show snmp engineID</b>
<b>enable snmp</b>
<b>disable snmp</b>
<b>config snmp system_name</b> {<sw_name>}
<b>config snmp system_location</b> {<sw_location>}
<b>config snmp system_contact</b> {<sw_contact>}
<b>enable snmp traps</b>
<b>disable snmp traps</b>
<b>enable snmp authenticate_traps</b>
<b>disable snmp authenticate_traps</b>
<b>enable snmp linkchange_traps</b>
<b>disable snmp linkchange_traps</b>
<b>config snmp linkchange_traps</b> ports [all   <portlist>] [enable   disable]
<b>config snmp coldstart_traps</b> [enable   disable]
<b>config snmp warmstart_traps</b> [enable   disable]
<b>show snmp traps</b> {linkchange_traps {ports <portlist>}}
<b>config rmon trap</b> {rising_alarm [enable   disable]   falling_alarm [enable   disable]} (1)
<b>show rmon</b>

### 63-1 create snmp community

#### Description

This command is used to create an SNMP community string.

Use an SNMP community string to define the relationship between the SNMP manager and the agent. The community string acts like a password to permit access to the agent on the switch. You can specify one or more of the following characteristics associated with the string:

An access list of IP addresses of the SNMP managers that are permitted to use the community string to gain access to the agent.

A MIB view, which defines the subset of all MIB objects accessible to the given community.

Read and write or read-only permission for the MIB objects accessible to the community.

## Format

**create snmp community <community\_string 32> view <view\_name 32> [read\_only | read\_write]**

## Parameters

---

**community** - An alphanumeric string of up to 32 characters used to authentication of users wanting access to the switch's SNMP agent.

**<community\_string>** - Enter the community string value here.

---

**view\_name** - Specifies to view a MIB name.

**<view\_name 32>** - Enter the MIB view name here. This name can be up to 32 characters long.

---

**readonly** - Allows the user using the above community string to have read only access to the switch's SNMP agent.

**readwrite** - Allows the user using the above community string to have read and write access to the switch's SNMP agent. The default read only community string is public. The default read write community string is private.

---

## Restrictions

Only Administrator-level users can issue this command.

## Example

To create a read-only level SNMP community "System" with a "CommunityView" view:

```
DGS-3120-24TC:admin# create snmp community System view CommunityView read_only
Command: create snmp community System view CommunityView read_only

Success.

DGS-3120-24TC:admin#
```

## 63-2 delete snmp community

### Description

This command is used to delete an SNMP community string.



## Format

**delete snmp community <community\_string 32>**

## Parameters

---

**community** - Community string will be deleted.

**<community\_string 32>** - Enter the community string value here. This value can be up to 32 characters long.

---

## Restrictions

Only Administrator-level users can issue this command.

## Example

To delete a SNMP community "System":

```
DGS-3120-24TC:admin# delete snmp community System
Command: delete snmp community System

Success.

DGS-3120-24TC:admin#
```

## 63-3 show snmp community

### Description

This command is used to display the community string configurations.

### Format

**show snmp community <community\_string 32>**

### Parameters

---

**<community\_string 32>** - (Optional) Specifies the Community string.

If not specify community string , all community string information will be displayed.

---

### Restrictions

None.

### Example

To display SNMP community:

```
DGS-3120-24TC:admin# show snmp community
Command: show snmp community

SNMP Community Table
Community Name          View Name              Access Right
-----
private                 CommunityView          read_write
public                  CommunityView          read_only

Total Entries : 2

DGS-3120-24TC:admin#
```

## 63-4 create snmp user

### Description

This command is used to create a new user to an SNMP group originated by this command.

### Format

```
create snmp user <user_name 32> <groupname 32> {encrypted [by_password auth [md5
<auth_password 8-16> | sha <auth_password 8-20>] priv [none | des <priv_password 8-16>]
| by_key auth [md5 <auth_key 32-32> | sha <auth_key 40-40>] priv [none | des <priv_key 32-
32>]]}
```

### Parameters

---

**<user\_name 32>** - The name of the user on the host that connects to the agent. The range is 1 to 32.

---

**<groupname 32>** - The name of the group to which the user is associated. The range is 1 to 32.

---

**encrypted** - (Optional) Specifies whether the password appears in encrypted format.

---

**by\_password** - (Optional) Indicate input password for authentication and privacy.

- auth** - Initiates an authentication level setting session. The options are md5 and sha.
- md5** - The HMAC-MD5-96 authentication level.
  - <auth\_password 8-16>** - Enter the MD5 authentication password here. This value must be between 8 and 16 characters.
- sha** - The HMAC-SHA-96 authentication level.
  - <auth\_password 8-20>** - Enter the SHA authentication password here. This value must be between 8 and 20 characters.

---

**priv** - (Optional) A privacy key used by DES, it is hex string type.

- none** - Specifies that no encryption will be used for the privacy key.
- des** - Specifies that the DES encryption will be used for the privacy key.
  - <priv\_password 8-16>** - Enter the DES password value here. This value must be between 8 and 16 characters long.

---

**by\_key** - (Optional) Indicate input key for authentication and privacy.

- auth** - An authentication string used by MD5 or SHA1.
- md5** - An authentication key used by MD5, it is hex string type.
  - <auth\_key 32-32>** - Enter the MD5 authentication key here. This value must be 32 characters long.
- sha** - An authentication key used by SHA1, it is hex string type.
  - <auth\_key 40-40>** - Enter the SHA authentication key here. This value must be 32 characters long.

---

**priv** - (Optional) A privacy key used by DES, it is hex string type.

- none** - Specifies that no encryption will be used for the privacy key.

---

---

**des** - Specifies that the DES encryption will be used for the privacy key.  
**<priv\_key 32-32>** - Enter the DES privacy key here. This value must be 32 characters long.

---

### Restrictions

Only Administrator-level users can issue this command.

### Example

To create a SNMP user “user123” with group “group123”:

```
DGS-3120-24TC:admin# create snmp user user123 group123 encrypted by_password
auth md5 12345678 priv des 12345678
Command: create snmp user user123 group123 encrypted by_password auth md5
12345678 priv des 12345678

Success.

DGS-3120-24TC:admin#
```

## 63-5 delete snmp user

### Description

This command is used to remove a user from an SNMP group and delete the associated group in SNMP group.

### Format

**delete snmp user <username 32>**

### Parameters

---

**<username 32>** - The name of the user on the host that connects to the agent. The range is 1 to 32.

---

### Restrictions

Only Administrator-level users can issue this command.

### Example

To delete a SNMP user “user123”:

```
DGS-3120-24TC:admin# delete snmp user user123
Command: delete snmp user user123

Success.

DGS-3120-24TC:admin#
```

## 63-6 show snmp user

### Description

This command is used to display information on each SNMP username in the group username table.

### Format

**show snmp user**

### Parameters

None.

### Restrictions

None.

### Example

To show SNMP user:

```
DGS-3120-24TC:admin# show snmp user
Command: show snmp user

Username                               Group Name                               VerAuthPriv
-----                               -
initial                                 initial                                 V3 NoneNone
user123                                 group123                               V3 MD5 DES

Total Entries : 2

DGS-3120-24TC:admin#
```

## 63-7 create snmp group

### Description

This command is used to create a new SNMP group, or a table that maps SNMP users to SNMP views.

### Format

**create snmp group <groupname 32> [v1 | v2c | v3 [noauth\_nopriv | auth\_nopriv | auth\_priv]]  
{read\_view <view\_name 32> | write\_view <view\_name 32> | notify\_view <view\_name 32>}**

### Parameters

**group** - Specifies the name of the group.

**<groupname 32>** - Enter the group name here. This name can be up to 32 characters long.

**v1** - The least secure of the possible security models.

---

**v2c** - The second least secure of the possible security models.

**v3** - The most secure of the possible.

**noauth\_nopriv** - Neither support packet authentication nor encrypting.

**auth\_nopriv** - Support packet authentication.

**auth\_priv** - Support packet authentication and encrypting.

---

**read\_view** - (Optional) Specifies that the view name would be read.

**<view\_name 32>** - Enter the read view name here. This name can be up to 32 characters long.

---

**write\_view** - (Optional) Specifies that the view name would be write.

**<view\_name 32>** - Enter the write view name here. This name can be up to 32 characters long.

---

**notify\_view** - (Optional) Specifies that the view name would be notify.

**<view\_name 32>** - Enter the notify view name here. This name can be up to 32 characters long.

---

## Restrictions

Only Administrator-level users can issue this command.

## Example

To create SNMP group "group123":

```
DGS-3120-24TC:admin# create snmp group group123 v3 auth_priv read_view
CommunityView write_view CommunityView notify_view CommunityView
Command: create snmp group group123 v3 auth_priv read_view CommunityView
write_view CommunityView notify_view CommunityView
```

```
Success.
```

```
DGS-3120-24TC:admin#
```

## 63-8 delete snmp group

### Description

This command is used to remove a SNMP group.

### Format

**delete snmp group <groupname 32>**

### Parameters

---

**<groupname 32>** - The name of the group will be deleted.

---

### Restrictions

Only Administrator-level users can issue this command.

### Example

To delete SNMP group "group123":

```
DGS-3120-24TC:admin# delete snmp group group123
Command: delete snmp group group123

Success.

DGS-3120-24TC:admin#
```

## 63-9 show snmp groups

### **Description**

This command is used to display the names of groups on the switch and the security model, level, the status of the different views.

### **Format**

**show snmp groups**

### **Parameters**

None.

### **Restrictions**

None.

### **Example**

To show SNMP groups:

```
DGS-3120-24TC:admin# show snmp groups
Command: show snmp groups

Vacm Access Table Settings

Group Name      : public
ReadView Name   : CommunityView
WriteView Name  :
Notify View Name : CommunityView
Security Model  : SNMPv1
Security Level  : NoAuthNoPriv

Group Name      : public
ReadView Name   : CommunityView
WriteView Name  :
Notify View Name : CommunityView
Security Model  : SNMPv2
Security Level  : NoAuthNoPriv

Group Name      : initial
ReadView Name   : restricted
WriteView Name  :
Notify View Name : restricted
Security Model  : SNMPv3
Security Level  : NoAuthNoPriv

Group Name      : WriteGroup
ReadView Name   : CommunityView
WriteView Name  : CommunityView
Notify View Name : CommunityView
Security Model  : SNMPv2
Security Level  : NoAuthNoPriv

Total Entries: 10

DGS-3120-24TC:admin#
```

## 63-10 create snmp view

### Description

This command is used to assign views to community strings to limit which MIB objects an SNMP manager can access.

### Format

**create snmp view <view\_name 32> <oid> view\_type [included | excluded]**

### Parameters

---

**view** - View name to be created.

**<view\_name 32>** - Enter the view name here. The name can be up to 32 characters long.

---

---

**<oid>** - Object-Identified tree, MIB tree.

**view\_type** - Specify the access type of the MIB tree in this view.

**included** - Includes for this view.

**excluded** - Excluded for this view.

---

## Restrictions

Only Administrator-level users can issue this command.

## Example

To create SNMP view "view123":

```
DGS-3120-24TC:admin# create snmp view view123 1.3.6 view_type included
Command: create snmp view view123 1.3.6 view_type included

Success.

DGS-3120-24TC:admin#
```

## 63-11 delete snmp view

### Description

This command is used to remove a view record.

### Format

**delete snmp view <view\_name 32> [all | <oid>]**

### Parameters

---

**view** - View name to be deleted.

**<view\_name 32>** - Enter the view name here. The name can be up to 32 characters long.

**all** - Specifies that all view records will be removed.

**<oid>** - Object-Identified tree, MIB tree.

---

## Restrictions

Only Administrator-level users can issue this command.

## Example

To delete SNMP view "view123":

```
DGS-3120-24TC:admin# delete snmp view view123 all
Command: delete snmp view view123 all

Success.

DGS-3120-24TC:admin#
```



## 63-12 show snmp view

### Description

This command is used to display the SNMP view record.

### Format

**show snmp view {<view\_name 32>}**

### Parameters

**view** - (Optional) View name of the user who likes to show.

**<view\_name 32>** - Enter the view name here. The name can be up to 32 characters long.

### Restrictions

None.

### Example

To show SNMP view:

```
DGS-3120-24TC:admin# show snmp view
Command: show snmp view

Vacm View Table Settings
View Name          Subtree          View Type
-----
view123            1.3.6            Included
restricted         1.3.6.1.2.1.1   Included
restricted         1.3.6.1.2.1.11  Included
restricted         1.3.6.1.6.3.10.2.1  Included
restricted         1.3.6.1.6.3.11.2.1  Included
restricted         1.3.6.1.6.3.15.1.1  Included
CommunityView     1                Included
CommunityView     1.3.6.1.6.3      Excluded
CommunityView     1.3.6.1.6.3.1    Included

Total Entries: 9

DGS-3120-24TC:admin#
```

## 63-13 create snmp

### Description

This command is used to create a recipient of an SNMP trap operation.

### Format

**create snmp [host <ipaddr> | v6host <ipv6addr>] [v1 | v2c | v3 [noauth\_nopriv | auth\_nopriv | auth\_priv]] <auth\_string 32>**

## Parameters

---

<b>host</b>	- Specifies the recipient for which the traps are targeted.
<b>&lt;ipaddr&gt;</b>	- The IP address of the recipient for which the traps are targeted.
<b>v6host</b>	- Specifies the IPv6 host address to which the trap packet will be sent. <b>(EI Mode Only parameter)</b>
<b>&lt;ipv6addr&gt;</b>	- The IPv6 address of the recipient for which the traps are targeted. <b>(EI Mode Only parameter)</b>
<b>v1</b>	- The least secure of the possible security models.
<b>v2c</b>	- The second least secure of the possible security models.
<b>v3</b>	- The most secure of the possible.
<b>noauth_nopriv</b>	- Neither support packet authentication nor encrypting.
<b>auth_nopriv</b>	- Support packet authentication.
<b>auth_priv</b>	- Support packet authentication and encrypting.
<b>&lt;auth_string 32&gt;</b>	- Authentication string. If the v1 or v2 is specified, the auth_string presents the community string, and it must be one of the entries in community table. If the v3 is specified, the auth_string presents the user name, and it must be one of the entries in the user table.

---

## Restrictions

Only Administrator-level users can issue this command.

## Example

To create SNMP host "10.0.0.1" with community string "public":

```
DGS-3120-24TC:admin# create snmp host 10.0.0.1 v1 public
Command: create snmp host 10.0.0.1 v1 public

Success.

DGS-3120-24TC:admin#
```

## 63-14 delete snmp

### Description

This command is used to delete a recipient of an SNMP trap operation.

### Format

**delete snmp [host <ipaddr> | v6host <ipv6addr>]**

## Parameters

---

<b>host</b>	- The IP address of the recipient for which the traps are targeted.
<b>&lt;ipaddr&gt;</b>	- Enter the IP address used for the configuration here.
<b>v6host</b>	- The IPv6 address of the recipient for which the traps are targeted. <b>(EI Mode Only parameter)</b>
<b>&lt;ipv6addr&gt;</b>	- Enter the IPv6 address used for the configuration here. <b>(EI Mode Only parameter)</b>

---

## Restrictions

Only Administrator-level users can issue this command.

## Example

To delete SNMP host "10.0.0.1":

```
DGS-3120-24TC:admin# delete snmp host 10.0.0.1
Command: delete snmp host 10.0.0.1

Success.

DGS-3120-24TC:admin#
```

63-15 show snmp host

## Description

This command is used to display the recipient for which the traps are targeted.

## Format

**show snmp host {<ipaddr>}**

## Parameters

---

**host** - (Optional) The IP address of the recipient for which the traps are targeted.  
**<ipaddr>** - Enter the IP address used for the configuration here.

---

If no parameter specified, all SNMP hosts will be displayed.

---

## Restrictions

None.

## Example

To show SNMP host:

```
DGS-3120-24TC:admin# show snmp host
Command: show snmp host

SNMP Host Table
Host IP Address   SNMP Version   Community Name / SNMPv3 User Name
-----
10.90.90.3       V3 noauthnopriv  initial
10.90.90.2       V2c              private
10.90.90.1       V1               public
10.90.90.4       V3 authnopriv   user123
10.90.90.5       V3 authpriv     user234

Total Entries : 5

DGS-3120-24TC:admin#
```

## 63-16 show snmp v6host

### Description

This command is used to display the recipient for which the traps are targeted.

### Format

**show snmp v6host {<ipv6addr>}**

### Parameters

---

**v6host** - (Optional) Specifies the IPv6 host address.  
**<ipv6addr>** - Enter the IPv6 address used for the configuration here.

---

If no parameter specified, all SNMP hosts will be displayed.

---

### Restrictions

None. **(EI Mode Only Command)**

### Example

To show SNMP host:

```
DGS-3120-24TC:admin# show snmp v6host
Command: show snmp v6host

SNMP Host Table
-----
Host IPv6 Address : 3FFE::3
SNMP Version      : V3 na/np
Community Name/SNMPv3 User Name : initial

Host IPv6 Address : 3FFE::2
SNMP Version      : V2c
Community Name/SNMPv3 User Name : private

Host IPv6 Address : 3FFE::1
SNMP Version      : V1
Community Name/SNMPv3 User Name : public

Host IPv6 Address : 3FFE::3
SNMP Version      : V3 a/np
Community Name/SNMPv3 User Name : user123

Host IPv6 Address : 3FFE::3
SNMP Version      : V3 a/ p
Community Name/SNMPv3 User Name : user234

Total Entries: 5

DGS-3120-24TC:admin#
```

## 63-17 config snmp engineID

### Description

This command is used to configure a identifier for the SNMP engine on the switch.

### Format

**config snmp engineID <snmp\_engineID 10-64>**

### Parameters

---

**engineID** - Identify for the SNMP engine on the switch. It is octet string type. It accepts the hex number directly.

**<snmp\_engineID 10-64>** - Enter the SNMP engine ID here. This value must be between 10 and 64.

---

### Restrictions

Only Administrator-level users can issue this command.

## Example

To configure SNMP engine ID to “1023457890”:

```
DGS-3120-24TC:admin# config snmp engineID 1023457890
Command: config snmp engineID 1023457890

Success.

DGS-3120-24TC:admin#
```

## 63-18 show snmp engineID

### Description

The show snmp engineID command displays the identification of the SNMP engine on the switch. The default value is suggested in RFC2271. The very first bit is 1, and the first four octets are set to the binary equivalent of the agent’s SNMP management private enterprise number as assigned by IANA, D\_Link is 171. The fifth octet is 03 to indicates the rest is the MAC address of this device. The 6th –11th octets is MAC address.

### Format

**show snmp engineID**

### Parameters

None.

### Restrictions

None.

## Example

To show SNMP engine ID:

```
DGS-3120-24TC:admin# show snmp engineID
Command: show snmp engineID

SNMP Engine ID : 1023457890

DGS-3120-24TC:admin#
```

## 63-19 enable snmp

### Description

This command is used to enable the SNMP function.

### Format

**enable snmp**

### Parameters

None.

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To enable SNMP:

```
DGS-3120-24TC:admin# enable snmp
Command: enable snmp

Success.

DGS-3120-24TC:admin#
```

## 63-20 disable snmp

### Description

This command is used to disable the SNMP function.

### Format

**disable snmp**

### Parameters

None.

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To disable SNMP:

```
DGS-3120-24TC:admin# disable snmp
Command: disable snmp

Success.

DGS-3120-24TC:admin#
```

## 63-21 config snmp system\_name

### Description

This command is used to configure the name for the switch.

### Format

**config snmp system\_name {<sw\_name>}**

### Parameters

---

**system\_name** - A maximum of 128 characters is allowed. And NULL string is accepted.

**<sw\_name>** - (Optional) Enter the system name used here.

---

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To configure the switch name for “DGS-XXXXS Stackable Switch”:

```
DGS-3120-24TC:admin# config snmp system_name DGS-XXXXS Stackable Switch
Command: config snmp system_name DGS-XXXXS Stackable Switch

Success.

DGS-3120-24TC:admin#
```

## 63-22 config snmp system\_location

### Description

This command is used to enter a description of the location of the switch.

### Format

**config snmp system\_location {<sw\_location>}**

### Parameters

---

**system\_location** - A maximum of 128 characters is allowed. And NULL string is accepted

**<sw\_location>** - (Optional) Enter the system location string here.

---

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To configure the switch location for “HQ 5F”:



```
DGS-3120-24TC:admin# config snmp system_location HQ 5F
Command: config snmp system_location HQ 5F

Success.

DGS-3120-24TC:admin#
```

## 63-23 config snmp system\_contact

### Description

This command is used to enter the name of a contact person who is responsible for the switch.

### Format

**config snmp system\_contact {<sw\_contact>}**

### Parameters

---

**system\_contact** - A maximum of 128 characters is allowed. And NULL string is accepted.  
**<sw\_contact>** - (Optional) Enter the system contact string here.

---

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To configure the switch contact to "MIS Department II":

```
DGS-3120-24TC:admin# config snmp system_contact "MIS Department II"
Command: config snmp system_contact "MIS Department II"

Success.

DGS-3120-24TC:admin#
```

## 63-24 enable snmp traps

### Description

This command is used to enable SNMP trap support.

### Format

**enable snmp traps**

### Parameters

None.

## Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To enable SNMP trap support:

```
DGS-3120-24TC:admin# enable snmp traps
Command: enable snmp traps

Success.

DGS-3120-24TC:admin#
```

## 63-25 disable snmp traps

### Description

This command is used to disable SNMP trap support on the switch.

### Format

**disable snmp traps**

### Parameters

None.

## Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To prevent SNMP traps from being sent from the switch:

```
DGS-3120-24TC:admin# disable snmp traps
Command: disable snmp traps

Success.

DGS-3120-24TC:admin#
```

## 63-26 enable snmp authenticate\_traps

### Description

This command is used to enable SNMP authentication failure trap support.

### Format

**enable snmp authenticate\_traps**

### Parameters

None.

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To enable SNMP authentication trap support:

```
DGS-3120-24TC:admin# enable snmp authenticate_traps
Command: enable snmp authenticate_traps

Success.

DGS-3120-24TC:admin#
```

## 63-27 disable snmp authenticate\_traps

### Description

This command is used to disable SNMP authentication failure trap support.

### Format

**disable snmp authenticate\_traps**

### Parameters

None.

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To disable SNMP authentication trap support:

```
DGS-3120-24TC:admin# disable snmp authenticate_traps
Command: disable snmp authenticate_traps

Success.

DGS-3120-24TC:admin#
```

## 63-28 enable snmp linkchange\_traps

### Description

This command is used to configure the sending of linkchange traps.

### Format

**enable snmp linkchange\_traps**

### Parameters

None.

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To enable the sending of linkchange traps:

```
DGS-3120-24TC:admin# enable snmp linkchange_traps
Command: enable snmp linkchange_traps

Success.

DGS-3120-24TC:admin#
```

## 63-29 disable snmp linkchange\_traps

### Description

This command is used to configure the sending of linkchange traps.

### Format

**disable snmp linkchange\_traps**

### Parameters

None.

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To disable the sending of linkchange traps:

```
DGS-3120-24TC:admin# disable snmp linkchange_traps
Command: disable snmp linkchange_traps

Success.

DGS-3120-24TC:admin#
```

## 63-30 config snmp linkchange\_traps ports

### Description

This command is used to configure the sending of linkchange traps and per port control for sending of change trap.

### Format

**config snmp linkchange\_traps ports [all | <portlist>] [enable | disable]**

### Parameters

---

**all** - To specify all ports.

**<portlist>** - To specify a port range.

---

**enable** - Enable sending of the link change trap for this port.

**disable** - Disable sending of the link change trap for this port.

---

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To configure the sending of linkchange traps:

```
DGS-3120-24TC:admin# config snmp linkchange_traps ports 1:1-1:4 enable
Command: config snmp linkchange_traps ports 1:1-1:4 enable

Success.

DGS-3120-24TC:admin#
```

## 63-31 config snmp coldstart\_traps

### Description

This command is used to configure the trap for coldstart event.

### Format

**config snmp coldstart\_traps [enable | disable]**

## Parameters

---

**enable** - Enable the trap of the coldstart event. The default state is enabled.  
**disable** - Disable the trap of the coldstart event.

---

## Restrictions

Only Administrator-level users can issue this command.

## Example

To configure the trap for coldstart event:

```
DGS-3120-24TC:admin# config snmp coldstart_traps enable
Command: config snmp coldstart_traps enable

Success.

DGS-3120-24TC:admin#
```

## 63-32 config snmp warmstart\_traps

### Description

This command is used to configure the trap state for warmstart event.

### Format

**config snmp warmstart\_traps [enable | disable]**

## Parameters

---

**enable** - Enable the trap of the warmstart event. The default state is enabled.  
**disable** - Disable the trap of the warmstart event.

---

## Restrictions

Only Administrator-level users can issue this command.

## Example

To configure the trap state for warmstart event:

```
DGS-3120-24TC:admin# config snmp warmstart_traps enable
Command: config snmp warmstart_traps enable

Success.

DGS-3120-24TC:admin#
```

## 63-33 show snmp traps

### Description

This command is used to display the snmp trap sending status.

### Format

**show snmp traps {linkchange\_traps {ports <portlist>}}**

### Parameters

---

**linkchange\_traps** - (Optional) Specifies that the SNMP trap sending status will be displayed.

**ports** - (Optional) Specifies the ports for the display.

**<portlist>** - Enter the list of ports used for the display here.

---

### Restrictions

None.

### Example

```
DGS-3120-24TC:admin# show snmp traps
Command: show snmp traps

SNMP Trap           : Enabled
Authenticate Traps  : Enabled
Linkchange Traps    : Enabled
Coldstart Traps    : Disabled
Warmstart Traps     : Disabled

DGS-3120-24TC:admin#
```

## 63-34 config rmon trap

### Description

This command is used to configure the trap state for RMON events.

### Format

**config rmon trap {rising\_alarm [enable | disable] | falling\_alarm [enable | disable]} (1)**

### Parameters

---

**rising\_alarm** - (Optional) Specify the trap state for rising alarm. The default state is enabled.

**enable** - Specifies that the rising alarm function will be enabled.

**disable** - Specifies that the rising alarm function will be disabled.

---

**falling\_alarm** - (Optional) Specify the trap state for falling alarm. The default state is enabled.

**enable** - Specifies that the falling alarm function will be enabled.

**disable** - Specifies that the falling alarm function will be disabled.

---

## Restrictions

Only Administrator level can issue this command.

## Example

To configure the trap state for RMON events:

```
DGS-3120-24TC:admin# config rmon trap rising_alarm disable
Command: config rmon trap rising_alarm disable

Success.

DGS-3120-24TC:admin#
```

## 63-35 show rmon

### Description

This command is used to display the RMON related setting.

### Format

**show rmon**

### Parameters

None.

### Restrictions

Only Administrator-level users can issue this command.

## Example

To display the RMON related setting:

```
DGS-3120-24TC:admin# show rmon
Command: show rmon

RMON Rising Alarm Trap      : Enabled
RMON Falling Alarm Trap     : Enabled

DGS-3120-24TC:admin#
```



## Chapter 64 Single IP Management Command List

---

**enable sim**
**disable sim**
**show sim** {[candidate {<candidate\_id 1-100>} | member {<member\_id 1-32>} | group {commander\_mac <macaddr>} | neighbor]}

**reconfig** {member\_id <value 1-32> | exit}

**config sim\_group** [add <candidate\_id 1-100> {<password>} | delete <member\_id 1-32>]

**config sim** [[commander {group\_name <groupname 64>} | candidate] | dp\_interval <sec 30-90> | hold\_time <sec 100-255>]]

**download sim\_ms** [firmware\_from\_tftp | configuration\_from\_tftp] <ipaddr> <path\_filename> [members <mslist 1-32> | all]

**upload sim\_ms** [configuration\_to\_tftp | log\_to\_tftp] <ipaddr> <path\_filename> [members <mslist> | all]

---

### 64-1 enable sim

#### Description

The enable SIM command configures the single IP management on the switch as enabled.

#### Format

**enable sim**

#### Parameters

None.

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

#### Example

To enable SIM:

```
DGS-3120-24TC:admin# enable sim
Command: enable sim

Success.

DGS-3120-24TC:admin#
```

## 64-2 disable sim

### Description

Used to disable single IP management on the switch.

### Format

**disable sim**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To disable SIM:

```
DGS-3120-24TC:admin# disable sim
Command: disable sim

Success.

DGS-3120-24TC:admin#
```

## 64-3 show sim

### Description

Used to display the current information of the specific sort of devices.

### Format

**show sim** [{**candidate** {<candidate\_id 1-100>} | **member** {<member\_id 1-32>} | **group** {<commander\_mac <macaddr>} | **neighbor**}]

### Parameters

- 
- candidates** - (Optional) Specifies the candidate devices.  
    <candidate\_id 1-100> - Enter the candidate device ID here. This value must be between 1 and 100.

---

  - members** - (Optional) Specifies the member devices.  
    <member\_id 1-32> - Enter the member device ID here. This value must be between 1 and 32.

---

  - group** - (Optional) Specifies other group devices.  
    **commander\_mac** - Specifies the commander MAC address used.  
    <macaddr> - Enter the commander MAC address used here.

---

  - neighbor** - (Optional) Specifies other neighbor devices.
-

## Restrictions

None.

## Example

To show the self information in detail:

```
DGS-3120-24TC:admin#show sim
Command: show sim

Group Name           : default
SIM Version          : VER-1.61
Firmware Version     : 1.02.013
Device Name          :
MAC Address          : 00-01-02-03-04-00
Capabilities         : L2
Platform             : DGS-3120-24TC L2 Switch
SIM State            : Enabled
Role State           : Commander
Discovery Interval   : 30 sec
Hold Time            : 100 sec

DGS-3120-24TC:admin#
```

To show the candidate information in summary, if user specify candidate id, it would show information in detail:

```
DGS-3120-24TC:admin# show sim candidate
Command: show sim candidate

ID  MAC Address           Platform /           Hold  Firmware Device Name
Capability              Time  Version
-----
 1  00-01-02-03-04-00  DES-XXXXS L2 Switch    40   1.00-B01 aaaaaaaaaaaaaaaaaa
                                     bbbbbbbbbbbbbbbbbb
 2  00-55-55-00-55-00  DES-3326SR L3 Switch    140  4.00-B15 default master

Total Entries: 2

DGS-3120-24TC:admin#
```

To show the member information in summary, if user specify member id, it will show information in detail:

```
DGS-3120-24TC:admin# show sim member
Command: show sim member

ID  MAC Address          Platform /          Hold  Firmware Device Name
Capability              Time  Version
-----
  1  00-01-02-03-04-00  DES-XXXXXS L2 Switch    40    1.00-B01 aaaaaaaaaaaaaaaaaa
                                     bbbbbbbbbbbbbbbbbb

  2  00-55-55-00-55-00  DES-3326SR L3 Switch   140    4.00-B15 default master

Total Entries: 2

DGS-3120-24TC:admin#
```

To show other groups information in summary, if user specify group name, it will show information in detail:

```
DGS-3120-24TC:admin# show sim group
Command: show sim group

SIM Group Name : default

ID  MAC Address          Platform /          Hold  Firmware Device Name
Capability              Time  Version
-----
*1  00-01-02-03-04-00  DES-XXXXXS L2 Switch    40    1.00-B01 aaaaaaaaaaaaaaaaaa
                                     bbbbbbbbbbbbbbbbbb

  2  00-55-55-00-55-00

SIM Group Name : SIM2

ID  MAC Address          Platform /          Hold  Firmware Device Name
Capability              Time  Version
-----
*1  00-01-02-03-04-00  DES-XXXXXS L2 Switch    40    1.00-B01 aaaaaaaaaaaaaaaaaa
                                     bbbbbbbbbbbbbbbbbb

  2  00-55-55-00-55-00
  3  00-55-55-00-55-11

Total Entries: 2

DGS-3120-24TC:admin#
```

To show neighbor table of SIM:

```
DGS-3120-24TC:admin# show sim neighbor
Command: show sim neighbor

Neighbor Table

Port      MAC Address          Role
-----  -
23        00-35-26-00-11-99   Commander
23        00-35-26-00-11-91   Member
24        00-35-26-00-11-90   Candidate

Total Entries: 3

DGS-3120-24TC:admin#
```

## 64-4 reconfig

### Description

The reconfig command is used to re-telnet to member.

### Format

**reconfig {member\_id <value 1-32> | exit}**

### Parameters

---

**member\_id** - (Optional) Specifies the serial number of the member.  
**<value 1-32>** - Enter the serial number of the member here.

---

**exit** - (Optional) Specifies to exit from the telnet session.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To re-telnet to member:

```
DGS-3120-24TC:admin# reconfig member_id 1
Command: reconfig member_id 1

DGS-3120-24TC:admin#
Login:
```

## 64-5 config sim\_group

### Description

Used to configure group information.

## Format

**config sim\_group [add <candidate\_id 1-100> {<password>} | delete <member\_id 1-32>]**

## Parameters

---

**add** - Specifies to add a specific candidate to the group.

**<candidate\_id 1-100>** - Enter the candidate ID to be added to the group here. This value must be between 1 and 100.

---

**<password>** - (Optional) The password of candidate if necessary.

---

**delete** - Specifies to delete a member from the group.

**<member\_id 1-32>** - Enter the member ID of the member to be removed from the group here. This value must be between 1 and 32.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To add a member:

```
DGS-3120-24TC:admin# config sim_group add 2
Command: config sim_group add 2

Please wait for ACK !!!
SIM Configure Success !!!

Success.

DGS-3120-24TC:admin#
```

To delete a member:

```
DGS-3120-24TC:admin# config sim_group delete 1
Command: config sim_group delete 1

Please wait for ACK !!!
SIM Configure Success !!!

Success.

DGS-3120-24TC:admin#
```

## 64-6 config sim

### Description

Used to configure the role state and the parameters of the discovery protocol on the switch.

## Format

**config sim** [{**commander** {**group\_name** <groupname 64>} | **candidate**] | **dp\_interval** <sec 30-90> | **hold\_time** <sec 100-255>}]

## Parameters

---

**commander** - (Optional) Specifies to transfer the role to the commander.

**group\_name** - (Optional) Specifies that if the user is the commander, the user can update the name of group.

**<groupname 64>** - Enter the group name here. This name can be up to 64 characters long.

---

**candidate** - (Optional) Specifies to transfer the role to the candidate.

**dp\_interval** - (Optional) The time in seconds between discoveries.

**<sec 30-90>** - Enter the discovery time here in seconds. This value must be between 30 and 90 seconds.

---

**hold\_time** - (Optional) The time in seconds the device holds the discovery result.

**<sec 100-255>** - Enter the hold time here in seconds. This value must be between 100 and 255.

---

## Restrictions

Only Administrator level can issue this command.

## Example

To transfer to commander:

```
DGS-3120-24TC:admin# config sim commander
Command: config sim commander

Success.

DGS-3120-24TC:admin#
```

To transfer to candidate:

```
DGS-3120-24TC:admin# config sim candidate
Command: config sim candidate

Success.

DGS-3120-24TC:admin#
```

To update name of group:

```
DGS-3120-24TC:admin# config sim commander group_name mygroup
Command: config sim commander group_name mygroup

Success.

DGS-3120-24TC:admin#
```

To change the time interval of discovery protocol:

```
DGS-3120-24TC:admin# config sim dp_interval 30
Command: config sim dp_interval 30

Success.

DGS-3120-24TC:admin#
```

To change the hold time of discovery protocol:

```
DGS-3120-24TC:admin# config sim hold_time 200
Command: config sim hold_time 200

Success.

DGS-3120-24TC:admin#
```

## 64-7 download sim\_ms

### Description

Used to download firmware or configuration to indicated device.

### Format

**download sim\_ms [firmware\_from\_tftp | configuration\_from\_tftp] <ipaddr> <path\_filename> [members <mslist 1-32> | all]**

### Parameters

---

**firmware\_from\_tftp** - Specifies that the firmware will be downloaded from the TFTP server.

---

**configuration\_from\_tftp** - Specifies that the configuration will be downloaded from the TFTP server.

---

**<ipaddr>** - Specifies the IP address of the TFTP server.

---

**<path\_filename>** - Specifies the file path of the firmware or configuration in the TFTP server.

---

**members** - Specifies a range of members who can download this firmware or configuration.

- <mslist 1-32>** - Enter the member list used here. This value must be between 1 and 32.
- all** - Specifies that all members will be used.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To download configuration:



```
DGS-3120-24TC:admin# download sim_ms configuration_from_tftp 10.55.47.1
D:\dwl600x.tftp members 1
Commands: download sim_ms configuration_from_tftp 10.55.47.1 D:\dwl600x.tftp
members 1

This device is updating configuration. Please wait several minutes ...

Download Status :
```

ID	MAC Address	Result
1	00-01-02-03-04-00	Success

```
DGS-3120-24TC:admin#
```

To download firmware:

```
DGS-3120-24TC:admin# download sim_ms firmware_from_tftp 10.55.47.1 D:\test.txt
members 1
Commands: download sim_ms firmware_from_tftp 10.55.47.1 D:\test.txt members 1

This device is updating firmware. Please wait several minutes ...

Download Status :
```

ID	MAC Address	Result
1	00-01-02-03-04-00	Success

```
DGS-3120-24TC:admin#
```

## 64-8 upload sim\_ms

### Description

Used to upload configuration to TFTP server.

### Format

**upload sim\_ms [configuration\_to\_tftp | log\_to\_tftp] <ipaddr> <path\_filename> [members <mslist> | all]**

### Parameters

**configuration\_to\_tftp** - Specifies that the configuration will be uploaded to the TFTP server.

**log\_to\_tftp** - Specifies that the log file will be uploaded to the TFTP server.

**<ipaddr>** - Specifies the IP address of the TFTP server.

**<path\_filename>** - Specifies the file path to store the configuration in the TFTP server.

**members** - Specifies a range of members who can up this configuration.

**<mslist>** - Enter the member list used here.

**all** - Specifies that all members will be used.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To upload configuration:

```
DGS-3120-24TC:admin# upload sim_ms configuration_to_tftp 10.55.47.1
D:\configuration.txt members 1
Command: upload sim_ms configuration_to_tftp 10.55.47.1 D:\configuration.txt
members 1

This device is uploading configuration. Please wait several minutes ...

Upload Status :

ID   MAC Address           Result
---  -
1    00-1A-2D-00-12-12 Transfer Fail

DGS-3120-24TC:admin#
```

## Chapter 65 Stacking Command List

---



---

<b>config box_priority</b> current_box_id <value 1-6> priority <value 1-63>
<b>config box_id</b> current_box_id <value 1-6> new_box_id [auto   <value 1-6>]
<b>show stack_information</b>
<b>show stack_device</b>
<b>config stacking_mode</b> [disable   enable]
<b>show stacking_mode</b>
<b>config stacking_force_master_role</b> state [enable   disable]

---



---

### 65-1 config box\_priority

#### Description

The config box\_priority command configures the priority of switch, which will determines which box becomes master. Lower number means higher priority. New priority will take effect after user reboot.

#### Format

**config box\_priority current\_box\_id <value 1-6> priority <value 1-63>**

#### Parameters

---

<b>current_box_id</b> - Specifies the switch being configured. The range is 1-m, where the m.is determined by device type. For example, to the DGS3120 Series, it is 6. <b>&lt;value 1-6&gt;</b> - Enter the current box ID here. This value must be between 1 and 6.
<b>priority</b> - Specifies the priority assigned to the box, with lower number meaning higher priority. The range is 1-63. <b>&lt;value 1-63&gt;</b> - Enter the higher priority value here. This value must be between 1 and 63.

---

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

#### Example

To configure box priority:

```
DGS-3120-24TC:admin# config box_priority current_box_id 1 priority 1
Command: config box_priority current_box_id 1 priority 1

Success.

DGS-3120-24TC:admin#
```

## 65-2 config box\_id

**Description**

The config box\_id command configures the box ID. By default, the box ID is automatically assigned by the system based topology election results. Administrators can assign box IDs statically. The new box ID will take effect after unit reboot. Each unit in the Switch stack must have a unique box IDs. If the IDs duplicate, the stack system cannot stack normally.

**Format**

**config box\_id current\_box\_id <value 1-6> new\_box\_id [auto | <value 1-6>]**

**Parameters**

**current\_box\_id** - Specifies the switch being configured. The parameter range is 1-m, where the m is determined by device type. For example, to the DGS3120 Series, it is 6.

**<value 1-6>** - Enter the current box ID here. This value must be between 1 and 6.

**new\_box\_id** - Specifies the new ID assigned to the box. The parameter range is 1-m.

**auto** - Allows the box ID to be assigned automatically by the stack system. The new box ID will take effect after the next boot.

**<value 1-6>** - Enter the new box ID here. This value must be between 1 and 6.

**Restrictions**

Only Administrator, Operator and Power-User level users can issue this command.

**Example**

To configure box ID of box 1 to be auto:

```
DGS-3120-24TC:admin# onfig box_id current_box_id 1 new_box_id auto
Command: config box_id current_box_id 1 new_box_id auto

Success.

DGS-3120-24TC:admin#
```

## 65-3 show stack\_information

**Description**

The show stack\_information command displays stacking information.

There are three messages defined for stack topology status displayed by show stack\_information, beside the basic information of stack devices.

**Message 1:**

Stack Topology Status: Topology will change from Chain to Ring after n seconds.

When this message is shown, it means the topology change is detected; the topology change process will take place after the count down timer reaches 0. If topology change is detected again before the count down timer reaches 0, the count down timer will be reset.

**Message 2:**

Stack Topology Status: New device is detected; hot insert may happen after n seconds.

When this message is shown, it means hot insert of new device is detected. The stack system will do the hot insert action after the timer reaches 0. If topology change is detected again before the count down timer reaches 0, the count down timer will be reset. It is suggested for the user not to do any command regarding read /write of flash, for example: "download firmware", "save", "show config in flash", "upload", "copy", "show slave's dangerous log".

**Message 3:**

Stack Topology Status: Configuring the new device.

When this message is shown, it means stacking has started to do the hot insert action. Now the system is configuring the new device, and the user can not execute any command except "show stack\_information".

If no message shown means the topology is stable and the system operation is normally.

**Format**

**show stack\_information**

**Parameters**

None.

**Restrictions**

Only Administrator, Operator and Power-User level users can issue this command.

**Example**

To display the stack information:

```
DGS-3120-24TC:admin# show stack_information
Command: show stack_information

Stack topology status:
New device is detected, hot insert may happen after 7 seconds.

Topology      :Duplex_Chain
My Box ID    :3
Master ID    :3
Box Count    :1
Force Master Role: Enable

Box User          Prio-      Prom      Runtime      H/W
ID Set  Type      Exist rity      MAC      Version      Version      Version
-----
-
1  -  DES-XXXXS  No
2  -  NOT_EXIST  No
3  User DES-XXXXS  Exist  1  00-00-11-33-66-33  1.00.B007  2.00.B033 A1
4  -  NOT_EXIST  No
5  -  NOT_EXIST  No
6  -  NOT_EXIST  No
7  -  NOT_EXIST  No
8  -  NOT_EXIST  No

DGS-3120-24TC:admin#
```

## 65-4 show stack\_device

### Description

Used to display the information for devices in the stack.

### Format

**show stack\_device**

### Parameters

None.

### Restrictions

None.

### Example

To display the stack information:

```
DGS-3120-24TC:admin# show stack_device
Command: show stack_device

Box ID      Box Type      H/W Version  Serial Number
-----
1           DES-XXXXXS   0A1          1234567890123
3           DES-XXXXXS   0A1          2345678901234

DGS-3120-24TC:admin#
```

## 65-5 config stacking\_mode

### Description

The config stacking\_mode command configures the state of stacking function. By default stacking mode is enabled. Administrators need to specifically configure the stacking mode to make the switch stackable. Stacking mode can be changed under standalone mode only.

### Format

**config stacking\_mode [disable | enable]**

### Parameters

---

**stacking\_mode** - Enable or disable the switch's stacking capability.  
**enable** - Specifies that the switch's stacking capability will be enabled.  
**disable** - Specifies that the switch's stacking capability will be disabled.

---

### Restrictions

Only Administrator level can issue this command.

### Example

To enable stacking mode:

```
DGS-3120-24TC:admin# config stacking_mode enable
Command: config stacking_mode enable

Change Box stacking_mode may cause devices work restart, still continue?(y/n)
y
Please wait, the switch is rebooting...
```

## 65-6 show stacking\_mode

### Description

The show stacking\_mode command displays the current stacking mode.

### Format

**show stacking\_mode**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To display stacking mode:

```
DGS-3120-24TC:admin# show stacking_mode
Command: show stacking_mode

Stacking mode   : Enabled

DGS-3120-24TC:admin#
```

## 65-7 config stacking force\_master\_role

### Description

If state is enabled, when device is in election state, it still uses old priority setting and MAC to compare device priority. After stacking is stable, master's priority will become zero. If stacking topology change again, Master will use priority zero and MAC address to determine who new primary master is.

### Format

**config stacking force\_master\_role state [enable | disable]**

### Parameters

---

**force\_master\_role** - Enable or disable the switch's Stacking Force Master Role state. Default setting is disabled.  
**enable** - Specifies that switch's stacking force master role will be enabled.  
**disable** - Specifies that switch's stacking force master role will be disabled.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To enable stacking force master role state:



```
DGS-3120-24TC:admin# config stacking force_master_role state enable
```

```
Command: config stacking force_master_role state enable
```

```
Success.
```

```
DGS-3120-24TC:admin#
```

## Chapter 66 Syslog and Trap Source-interface Command List

---

```
config syslog source_ipif [<ipif_name 12> {<ipaddr> | <ipv6addr>} | none]
show syslog source_ipif
config trap source_ipif [<ipif_name 12> {<ipaddr> | <ipv6addr>} | none]
show trap source_ipif
```

---

### 66-1 config syslog source\_ipif

#### Description

This command is used to configure syslog source IP interface.

#### Format

```
config syslog source_ipif [<ipif_name 12> {<ipaddr> | <ipv6addr>} | none]
```

#### Parameters

---

**ipif** - Specifies the IP interface name. If only specify this parameter, the least IPv4 address and the smallest IPv6 address of ipif\_name will be used as source IP addresses.

**<ipif\_name 12>** - Enter the IP interface name here. This name can be up to 12 characters long.

**<ipaddr>** - (Optional) Enter the IP address used for the configuration here.

**<ipv6addr>** - (Optional) Enter the IPv6 address used for the configuration here. **(EI Mode Only parameter)**

**none** - Specifies to clear the configured source IP interface.

---

#### Restrictions

Only Administrator and Operator-level users can issue this command.

#### Example

Configure syslog source IP interface:

```
DGS-3120-24TC:admin# config syslog source_ipif ipif3 14.0.0.5
Command: config syslog source_ipif add ipif3 14.0.0.5

Success

DGS-3120-24TC:admin#
```

To clear the configured source IP interface for syslog:

```
DGS-3120-24TC:admin# config syslog source_ipif none
Command: config syslog source_ipif none

Success

DGS-3120-24TC:admin#
```

## 66-2 show syslog source\_ipif

### Description

This command is used to display the syslog source IP interface.

### Format

**show syslog source\_ipif**

### Parameters

None.

### Restrictions

None.

### Example

Show syslog source IP interface:

```
DGS-3120-24TC:admin# show syslog source_ipif
Command: show syslog source_ipif

Syslog Source IP Interface Configuration:

IP Interface           : ipif3
IPv4 Address           : 14.0.0.3

DGS-3120-24TC:admin# show syslog source_ipif
Command: show syslog source_ipif

No Entry!!

DGS-3120-24TC:admin#
```

## 66-3 config trap source\_ipif

### Description

This command is used to configure trap source IP interface.

## Format

**config trap source\_ipif [<ipif\_name 12> {<ipaddr> | <ipv6addr> } | none]**

## Parameters

---

**ipif** - Specifies the IP interface name. If only specify this parameter, the least IPv4 address and the smallest IPv6 address of ipif\_name will be used as source IP addresses.

**<ipif\_name 12>** - Enter the IP interface name here. This name can be up to 12 characters long.

**<ipaddr>** - (Optional) Enter the IP address used for the configuration here.

**<ipv6addr>** - (Optional) Enter the IPv6 address used for the configuration here. **(EI Mode Only parameter)**

**none** - Specifies to clear the configured source IP interface.

---

## Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

Configure trap source IP interface:

```
DGS-3120-24TC:admin# config trap source_ipif System
Command: config trap source_ipif System

Success

DGS-3120-24TC:admin#
```

To clear the configured trap source IP interface:

```
DGS-3120-24TC:admin# config trap source_ipif none
Command: config trap source_ipif none

Success

DGS-3120-24TC:admin#
```

## 66-4 show trap source\_ipif

### Description

This command is used to display the trap source IP interface.

### Format

**show trap source\_ipif**

### Parameters

None.

## **Restrictions**

None.

## **Example**

Show trap source IP interface:

```
DGS-3120-24TC:admin# show trap source_ip
Command: show trap source_ip

Trap Source IP Interface Configuration:

IP Interface           : System
IPv4 Address           : None

DGS-3120-24TC:admin#
```

## Chapter 67 System Log Command List

---



---

<b>clear log</b>
<b>show log</b> {[index <value_list>   severity {module <module_list>} {emergency   alert   critical   error   warning   notice   informational   debug   <level_list 0-7>}   module<module_list>}]
<b>show log software_module</b>
<b>enable syslog</b>
<b>disable syslog</b>
<b>show syslog</b>
<b>config syslog host</b> [<index>   all] {severity [emergency   alert   critical   error   warning   notice   informational   debug   <level 0-7>]   facility [local0   local1   local2   local3   local4   local5   local6   local7]   udp_port <udp_port_number>   ipaddress [<ipaddr>   <ipv6addr>]   state [enable   disable]}
<b>create syslog host</b> <index 1-4> ipaddress [<ipaddr>   <ipv6addr>] {severity [emergency   alert   critical   error   warning   notice   informational   debug   <level 0-7>]   facility [local0   local1   local2   local3   local4   local5   local6   local7]   udp_port <udp_port_number>   state [enable   disable]}
<b>delete syslog host</b> [<index 1-4>   all]
<b>show syslog host</b> {<index 1-4>}
<b>config log_save_timing</b> [time_interval <min 1-65535>   on_demand   log_trigger]
<b>show log_save_timing</b>
<b>show attack_log</b> {unit <unit_id 1-12> {index <value_list>}}
<b>clear attack_log</b> {unit <unit_id 1-12>   all}

---



---

### 67-1 clear log

#### Description

The clear log command clears the switch's history log.

#### Format

clear log

#### Parameters

None.

#### Restrictions

Only Administrator and Operator-level users can issue this command.

#### Example

To clear the switch's history log:

```
DGS-3120-24TC:admin# clear log
Command: clear log

Success.

DGS-3120-24TC:admin#
```

## 67-2 show log

### Description

The show log command displays the switch's history log.

### Format

**show log** {[**index** <value\_list> | **severity** {**module** <module\_list>} {**emergency** | **alert** | **critical** | **error** | **warning** | **notice** | **informational** | **debug** | <level\_list 0-7>} | **module**<module\_list>]}

### Parameters

---

**index** - (Optional) The show log command will display the history log between the log number of X and Y. For example, showing log index 1-5 will display the history log from 1 to 5.

**<value\_list>** - Enter the index value here.

---

**severity** - (Optional) Specifies the severity level used.

**module** - (Optional) Specifies the modules which are to be displayed. The module can be obtained by using the show log\_support\_module command. Use a comma to separate multiple modules.

**<module\_list>** - Enter the module list value here.

---

**emergency** - (Optional) Severity level 0

**alert** - (Optional) Severity level 1

**critical** - (Optional) Severity level 2

**error** - (Optional) Severity level 3

**warning** - (Optional) Severity level 4

**notice** - (Optional) Severity level 5

**informational** - (Optional) Severity level 6

**debug** - (Optional) Severity level 7

**<level\_list 0-7>** - Specifies a list of severity level which is to be displayed. If there is more than one severity level, please separate them by comma. The level number is from 0 to 7.

---

**module** - (Optional) Specifies the modules which are to be displayed. The module can be obtained by using the show log\_support\_module command. Use a comma to separate multiple modules.

**<module\_list>** - Enter the module list value here.

---

If no parameter is specified, all history log entries will be displayed.

---

### Restrictions

None.

### Example

To display the switch's history log:

```
DGS-3120-24TC:admin# show log index 1-3
Command: show log index 1-3

Index Date          Time          Level   Log Text
-----
-
3      2008-10-17 15:00:14 INFO(1) CLI(1):Successful login through Console (User
      name: Anonymous)
2      2008-10-17 10:50:36 WARN(3) CLI(3):Console session timed out (Username: A
      nonymous)
1      2008-10-16 15:19:17 CRIT(5) SNMP(2):SNMP request received from 10.0.0.27
with
      invalid community string!

DGS-3120-24TC:admin#
```

## 67-3 show log\_software\_module

### Description

Used to display the protocols or applications that support the enhanced log. The enhanced log adds the module name and module ID. Network administrators can display logs by module name or module ID.

### Format

**show log\_software\_module**

### Parameters

None.

### Restrictions

None.

### Example

To display the protocols or applications that support the enhanced log:

```
DGS-3120-24TC:admin# show log_software_module
Command: show log_software_module

ERPS          MSTP          OSPF

DGS-3120-24TC:admin#
```

## 67-4 enable syslog

### Description

The enable syslog command enables the sending of syslog messages.



### Format

**enable syslog**

### Parameters

None.

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To enable the sending of syslog messages:

```
DGS-3120-24TC:admin# enable syslog
Command: enable syslog

Success.

DGS-3120-24TC:admin#
```

## 67-5 disable syslog

### Description

The disable syslog command disables the sending of syslog messages.

### Format

**disable syslog**

### Parameters

None.

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To disable the sending of syslog messages:

```
DGS-3120-24TC:admin# disable syslog
Command: disable syslog

Success.

DGS-3120-24TC:admin#
```

## 67-6 show syslog

### Description

The show syslog command displays the syslog protocol global state.

### Format

**show syslog**

### Parameters

None.

### Restrictions

None.

### Example

To display the syslog protocol global state:

```
DGS-3120-24TC:admin# show syslog
Command: show syslog

Syslog Global State: Enabled

DGS-3120-24TC:admin#
```

## 67-7 config syslog host

### Description

The config syslog command configures the syslog host configurations. The user can choose and report a specific level of messages to a specific host. When the user chooses a specific level for a specific host, messages which are at that severity level or higher will be reported to the specified host.

### Format

**config syslog host** [<index> | all] {severity [emergency | alert | critical | error | warning | notice | informational | debug | <level 0-7>] | facility [local0 | local1 | local2 | local3 | local4 | local5 | local6 | local7] | udp\_port <udp\_port\_number> | ipaddress [<ipaddr> | <ipv6addr>] | state [enable | disable]}

## Parameters

**host** - The host index or all hosts.

    <index> - Enter the host index value here.

**all** - Specifies that all the host indexes will be used.

**severity** - (Optional) Specifies the severity level.

**emergency** - Severity level 0

**alert** - Severity level 1

**critical** - Severity level 2

**error** - Severity level 3

**warning** - Severity level 4

**notice** - Severity level 5

**informational** - Severity level 6

**debug** - Severity level 7

    <level 0-7> - Enter the severity level value here. This value must be between 0 and 7.

**facility** - (Optional) Some of the operating system daemons and processes have been assigned Facility values. Processes and daemons that have not been explicitly assigned a Facility may use any of the "local use" facilities or they may use the "user-level" Facility. Those Facilities that have been designated are shown below. This facility setting will be put in the syslog packet when it is sent to a specific syslog server.

**local0** - Specifies that the user-defined facility will be set to local 0.

**local1** - Specifies that the user-defined facility will be set to local 1.

**local2** - Specifies that the user-defined facility will be set to local 2.

**local3** - Specifies that the user-defined facility will be set to local 3.

**local4** - Specifies that the user-defined facility will be set to local 4.

**local5** - Specifies that the user-defined facility will be set to local 5.

**local6** - Specifies that the user-defined facility will be set to local 6.

**local7** - Specifies that the user-defined facility will be set to local 7.

**udp\_port** - (Optional) Specifies the UDP port number.

    <udp\_port\_number> - Enter the UDP port number used here.

**ipaddress** - (Optional) Specify IP address for the host.

    <ipaddr> - Enter the IP address used for the configuration here.

    <ipv6addr> - Enter the IPv6 address used for the configuration here. **(EI Mode Only parameter)**

**state** - (Optional) The syslog protocol is used for the transmission of event notification messages across networks to a host. The option enables or disables the host to receive such messages.

**enable** - Specifies that the host to receive such messages will be enabled.

**disable** - Specifies that the host to receive such messages will be disabled.

## Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To configure the syslog host configuration:

```
DGS-3120-24TC:admin# config syslog host all severiry debug facility local0
```

```
Command: config syslog host all severiry debug facility local0
```

```
Success.
```

```
DGS-3120-24TC:admin#
```

## 67-8 create syslog host

### Description

The create syslog command creates a new syslog host. The user can choose and report specific levels of messages to a specific host. When the user chooses a specific level for a specific host, messages which are at that severity level or higher will be reported to that host.

### Format

```
create syslog host <index 1-4> ipaddress [<ipaddr> |<ipv6addr>] {severity [emergency |
alert | critical | error | warning | notice | informational | debug | <level 0-7>] | facility [local0 |
local1 | local2 | local3 | local4 | local5 | local6 | local7] | udp_port <udp_port_number> | state
[enable | disable]}
```

### Parameters

---

<b>host</b>	- The host index or all hosts. <b>&lt;index&gt;</b> - Enter the host index value here. <b>all</b> - Specifies that all the host indexes will be used.
<b>severity</b>	- (Optional) Specifies the severity level. <b>emergency</b> - Severity level 0 <b>alert</b> - Severity level 1 <b>critical</b> - Severity level 2 <b>error</b> - Severity level 3 <b>warning</b> - Severity level 4 <b>notice</b> - Severity level 5 <b>informational</b> - Severity level 6 <b>debug</b> - Severity level 7 <b>&lt;level 0-7&gt;</b> - Enter the severity level value here. This value must be between 0 and 7.
<b>facility</b>	- (Optional) Some of the operating system daemons and processes have been assigned Facility values. Processes and daemons that have not been explicitly assigned a Facility may use any of the "local use" facilities or they may use the "user-level" Facility. Those Facilities that have been designated are shown below. This facility setting will be put in the syslog packet when it is sent to a specific syslog server. <b>local0</b> - Specifies that the user-defined facility will be set to local 0. <b>local1</b> - Specifies that the user-defined facility will be set to local 1. <b>local2</b> - Specifies that the user-defined facility will be set to local 2. <b>local3</b> - Specifies that the user-defined facility will be set to local 3. <b>local4</b> - Specifies that the user-defined facility will be set to local 4. <b>local5</b> - Specifies that the user-defined facility will be set to local 5. <b>local6</b> - Specifies that the user-defined facility will be set to local 6. <b>local7</b> - Specifies that the user-defined facility will be set to local 7.
<b>udp_port</b>	- (Optional) Specifies the UDP port number. <b>&lt;udp_port_number&gt;</b> - Enter the UDP port number used here.
<b>ipaddress</b>	- (Optional) Specify IP address for the host. <b>&lt;ipaddr&gt;</b> - Enter the IP address used for the configuration here. <b>&lt;ipv6addr&gt;</b> - Enter the IPv6 address used for the configuration here. <b>(EI Mode Only parameter)</b>
<b>state</b>	- (Optional) The syslog protocol is used for the transmission of event notification messages across networks to a host. The option enables or disables the host to receive such messages. <b>enable</b> - Specifies that the host to receive such messages will be enabled. <b>disable</b> - Specifies that the host to receive such messages will be disabled.

---

### Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

Adds a new syslog host:

```
DGS-3120-24TC:admin# create syslog host 1 ipaddress 10.90.90.1 severity all
debug facility local0
Command: create syslog host 1 ipaddress 10.90.90.1 severity all debug facility
local0

Success.

DGS-3120-24TC:admin#
```

## 67-9 delete syslog host

### Description

The delete syslog host command deletes the syslog host(s).

### Format

**delete syslog host [<index 1-4> | all]**

### Parameters

---

**host** - The host index or all hosts.  
**<index>** - Enter the host index value here.  
**all** - Specifies that all the host indexes will be used.

---

### Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To delete the specific syslog host:

```
DGS-3120-24TC:admin# delete syslog host 4
Command: delete syslog host 4

Success.

DGS-3120-24TC:admin#
```

## 67-10 show syslog host

### Description

The show syslog host command displays the syslog host configurations.

### Format

**show syslog host {<index 1-4>}**

---

## Parameters

**host** - The host index or all hosts.

**<index>** - (Optional) Enter the host index value here.

If no parameter is specified, all hosts will be displayed.

---

## Restrictions

None.

## Example

To show the syslog host information:

```
DGS-3120-24TC:admin# show syslog host
Command: show syslog host

Syslog Global State: Disabled

Host 1
  IP Address      : 10.1.1.2
  Severity       : Warning
  Facility       : Local0
  UDP port       : 514
  Status        : Disabled

Host 2
  IP Address      : 3000:501:100:ffff:101:202:303:1
  Severity       : Emergency
  Facility       : Local0
  UDP port       : 514
  Status        : Disabled

Host 3
  IP Address      : 10.21.13.1
  Severity       : All
  Facility       : Local0
  UDP port       : 514
  Status        : Disabled

Total Entries : 3

DGS-3120-24TC:admin#
```

## 67-11 config log\_save\_timing

### Description

The config log\_save\_timing command is used to set the method for saving the log.

## Format

**config log\_save\_timing [time\_interval <min 1-65535> | on\_demand | log\_trigger]**

## Parameters

---

**time\_interval** - Save log to flash every xxx minutes. (If no new log events occur in this period, don't save.)

**<min 1-65535>** - Enter the time interval value here. This value must be between 1 and 65535 minutes.

---

**on\_demand** - Save log to flash whenever the user enters the "save log" or "save all" command. The default setting is on\_demand.

---

**log\_trigger** - Save log to flash whenever a new log event arrives.

---

## Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To configure the method for saving a log as on demand:

```
DGS-3120-24TC:admin# config log_save_timing on_demand
Command: config log_save_timing on_demand

Success.

DGS-3120-24TC:admin#
```

67-12 show log\_save\_timing

## Description

Used to show the method for saving the log.

## Format

**show log\_save\_timing**

## Parameters

None.

## Restrictions

None.

## Example

To show the timing method used for saving the log:

```
DGS-3120-24TC:admin# show log_save_timing
Command: show log_save_timing

Saving log method: on_demand

DGS-3120-24TC:admin#
```

## 67-13 show attack\_log

### Description

Displays the attack log messages. The attack log message refers to log messages driven by modules such as DOS and the IP-MAC-port binding module. This type of log message may generate a large amount of messages and quickly cause the system to run out of system log storage. Therefore, for this type of log messages only the first log that is generated each minute can be stored in the system log, with the rest of them being stored in a separate table named attack log.

### Format

**show attack\_log {unit <unit\_id 1-12> {index <value\_list>}}**

### Parameters

**unit** - (Optional) The attack log messages on the specified unit will be displayed. If unit ID is specified, then it will be referred to as the master unit.

**<unit\_id 1-12>** - Enter the unit ID value here. This value must be between 1 and n.

**index** - (Optional) The list of index numbers of the entries that need to be displayed. For example, show attack\_log index 1-5 will display the attack log messages from 1 to 5.

**<value\_list>** - Enter the index numbers of the entries that needs to be displayed here.

If no parameter is specified, all entries in the attack log will be displayed.

### Restrictions

None.

### Example

To show dangerous messages on the master:

```
DGS-3120-24TC:admin# show attack_log index 1
Command: show attack_log index 1

Index   Date       Time       Level      Log Text
-----
--
1       2008-10-17 15:00:14 CRIT(2)   Land attack is blocked from (IP:
10.72.24.1
                                         Port: 7)

DGS-3120-24TC:admin#
```



## 67-14 clear attack\_log

### Description

Used to clear the attack log.

### Format

**clear attack\_log {unit <unit\_id 1-12> | all}**

### Parameters

---

**unit** - (Optional) The attack log messages on the specified unit will be cleared. If specified, it will be referred to as the master unit.  
**<unit\_id 1-12>** - Enter the unit ID number here.  
**all** - Specifies that all the unit ID's information will be used.

---

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To clear the master's attack log:

```
DGS-3120-24TC:admin# clear attack_log
Command: clear attack_log

Success.

DGS-3120-24TC:admin#
```

## Chapter 68 System Severity Command List

---

```
config system_severity [trap | log | all] [emergency | alert| critical | error | warning | notice |
information | debug | <level 0-7>]
show system_severity
```

---

### 68-1 config system\_severity

#### Description

This command is used to configure the severity level control for the system.

When the user chooses a specific level to log or trap, messages at that severity level or more will be logged or trapped to SNMP managers.

#### Format

```
config system_severity [trap | log | all] [emergency | alert| critical | error | warning | notice |
information | debug | <level 0-7>]
```

#### Parameters

---

**trap** - Specifies the severity level control for traps.

**log** - Specifies the severity level control for the log.

**all** - Specifies the severity level control for traps and the log.

**emergency** - Severity level 0.

**alert** - Severity level 1.

**critical** - Severity level 2.

**error** - Severity level 3.

**warning** - Severity level 4.

**notice** - Severity level 5.

**information** - Severity level 6.

**debug** - Severity level 7.

**<level 0-7>** - Enter the severity level here. This value must be between 0 and 7.

---

#### Restrictions

Only Administrator and Operator-level users can issue this command.

#### Example

To configure severity level control as information level for trap:

```
DGS-3120-24TC:admin# config system_severity trap information
Command: config system_severity trap information

Success.

DGS-3120-24TC:admin#
```

## 68-2 show system\_severity

### Description

This command is used to display the severity level controls for the system.

### Format

**show system\_severity**

### Parameters

None.

### Restrictions

None.

### Example

To show severity level control for system:

```
DGS-3120-24TC:admin# show system_severity
Command: show system_severity

System Severity Trap : warning
System Severity Log  : information

DGS-3120-24TC:admin#
```

## Chapter 69 Telnet Client Command List

---

---

**telnet** [<ipaddr> | <ipv6addr>] {tcp\_port <value 1-65535>}

---

---

69-1 telnet

### Description

The telnet client command will start the telnet client to connect to the specific telnet server. The parameters specified by the command will only be used for the establishment of this specific session. They will not affect the establishment of other sessions.

### Format

**telnet** [<ipaddr> | <ipv6addr>] {tcp\_port <value 1-65535>}

### Parameters

---

**<ipaddr>** - The IP address of the telnet server.

**<ipv6addr>** - The IPv6 address of the telnet server. **(EI Mode Only parameter)**

---

**tcp\_port** - (Optional) Specifies the telnet server port number to be connected. If not specified, the default port is 23.

**<value 1-65535>** - Enter the TCP port number used here. This value must be between 1 and 65535.

---

### Restrictions

None.

### Example

Telnet to a Switch by specifying the IP address:

```
DGS-3120-24TC:admin# telnet 10.90.90.90
Command: telnet 10.90.90.90

DGS-XXXX Fast Ethernet Switch Command Line Interface

Firmware: Build 1.00.B01
Copyright(C) 2006-2009 D-Link Corporation. All rights reserved.
UserName:
```

## Chapter 70 TFTP Client Command List

---

```

download [firmware_fromTFTP [<ipaddr> | <ipv6addr>] src_file <path_filename 64> {[unit
  <unit_id> | all]} {dest_file <pathname 64>} | cfg_fromTFTP [<ipaddr> | <ipv6addr>] src_file
  <path_filename 64> {[unit <unit_id> | all]} {dest_file <pathname 64>}]
upload [cfg_toTFTP [<ipaddr> | <ipv6addr>] dest_file <path_filename 64> {unit <unit_id>} {src_file
  <pathname 64>} {[include | exclude | begin] <filter_string 80> {<filter_string 80> {<filter_string
  80>}} {[include | exclude | begin] <filter_string 80> {<filter_string 80> {<filter_string 80>}}
  {[include | exclude | begin] <filter_string 80> {<filter_string 80> {<filter_string 80>}}}] |
  log_toTFTP [<ipaddr> | <ipv6addr>] dest_file <path_filename 64> | attack_log_toTFTP
  [<ipaddr> | <ipv6addr>] dest_file <path_filename 64> {unit <unit_id>} | firmware_toTFTP
  [<ipaddr> | <ipv6addr>] dest_file <path_filename 64> {unit <unit_id>} {src_file <path_filename
  64>}]
  
```

---

### 70-1 download

#### Description

This command is used to download the firmware image and configuration from TFTP server.

#### Format

```

download [firmware_fromTFTP [<ipaddr> | <ipv6addr>] src_file <path_filename 64> {[unit
  <unit_id> | all]} {dest_file <pathname 64>} | cfg_fromTFTP [<ipaddr> | <ipv6addr>] src_file
  <path_filename 64> {[unit <unit_id> | all]} {dest_file <pathname 64>}]
  
```

#### Parameters

---

**firmware\_fromTFTP** – Specifies to download firmware from a TFTP server.

---

**<ipaddr>** - (Optional) The IP address of the TFTP server.

---

**<ipv6addr>** - (Optional) The IPv6 address of the TFTP server. **(EI Mode Only parameter)**

---

**src\_file** - (Optional) Used to identify the parameter “path\_filename”.

**<path\_filename 64>** - Enter the source file path name here. This name can be up to 64 characters long.

---

**unit** - (Optional) Specifies which unit on the stacking system. If it is not specified, it refers to the master unit.

**<unit\_id>** - Enter the unit ID value here. This value must be between 1 and n.

**all** - When all is specified, the firmware image on all units will be updated.

---

**dest\_file** - (Optional) Used to identify the parameter “path\_filename”.

**<pathname 64>** - Enter the destination file path name here. This name can be up to 64 characters long.

---

**cfg\_fromTFTP** – Specifies to download a configuration file from a TFTP server.

---

**<ipaddr>** - (Optional) The IP address of the TFTP server.

---

**<ipv6addr>** - (Optional) The IPv6 address of the TFTP server. **(EI Mode Only parameter)**

---

**src\_file** - (Optional) Used to identify the parameter “path\_filename”.

**<path\_filename 64>** - The pathname specifies the pathname on the TFTP server. It can be a relative pathname or an absolute pathname. This name can be up to 64 characters long.

---

**unit** - (Optional) Specifies which unit on the stacking system. If it is not specified, it refers to the master unit.

**<unit\_id>** - Enter the unit ID value here. This value must be between 1 and n.

**all** - When all is specified, the firmware image on all units will be updated.

---

**dest\_file** - (Optional) Used to identify the parameter “path\_filename”.

**<pathname 64>** - The pathname specifies an absolute pathname on the device file system. If

---

pathname is not specified, it refers to the boot\_up configuration file. This name can be up to 64 characters long.

### Restrictions

Only Administrator-level users can issue this command.

### Example

To download firmware from TFTP:

```
DGS-3120-24TC:admin# download firmware_fromTFTP 10.54.71.1 src_file px.had
Command: download firmware_fromTFTP 10.54.71.1 src_file px.had

Connecting to server..... Done.
Download firmware..... Done. Do not power off!
Please wait, programming flash..... Done.

DGS-3120-24TC:admin#
```

To download configuration from TFTP:

```
DGS-3120-24TC:admin# download cfg_fromTFTP 10.54.71.1 src_file cfg01.txt
Command: download cfg_fromTFTP 10.54.71.1 src_file cfg01.txt

Connecting to server..... Done.
Download configuration..... Done.

DGS-3120-24TC:admin#
```

## 70-2 upload

### Description

This command is used to upload firmware and configuration from device to TFTP server.

### Format

```
upload [cfg_toTFTP [<ipaddr> | <ipv6addr>] dest_file <path_filename 64> {unit <unit_id>}
{src_file <pathname 64>} {[include | exclude | begin] <filter_string 80> {<filter_string 80>
{<filter_string 80>}} {[include | exclude | begin] <filter_string 80> {<filter_string 80>
{<filter_string 80>}} {[include | exclude | begin] <filter_string 80> {<filter_string 80>
{<filter_string 80>}}}] | log_toTFTP [<ipaddr> | <ipv6addr>] dest_file <path_filename 64> |
attack_log_toTFTP [<ipaddr> | <ipv6addr>] dest_file <path_filename 64> {unit <unit_id>} |
firmware_toTFTP [<ipaddr> | <ipv6addr>] dest_file <path_filename 64> {unit <unit_id>}
{src_file <pathname 64>}]
```

### Parameters

- cfg\_toTFTP** – Specifies that the configuration file will be uploaded to the TFTP server.
- <ipaddr>** - (Optional) The IP address of the TFTP server.
- <ipv6addr>** - (Optional) The IPv6 address of the TFTP server. **(EI Mode Only parameter)**

---

<b>dest_file</b> - (Optional) Used to identify the parameter "path_filename". <b>&lt;path_filename 64&gt;</b> - The pathname specifies the pathname on the TFTP server. It can be a relative pathname or an absolute pathname. This name can be up to 64 characters long.
<b>src_file</b> - (Optional) Used to identify the parameter "path_filename". <b>&lt;pathname 64&gt;</b> - The pathname specifies an absolute pathname on the device file system. If pathname is not specified, it refers to the boot_up CFG file. This name can be up to 64 characters long.
<b>unit</b> - (Optional) Specifies which unit on the stacking system. If it is not specified, it refers to the master unit. <b>&lt;unit_id&gt;</b> - Enter the stacking system unit ID here.
<b>&lt;filter_string 80&gt;</b> - (Optional) A filter string is enclosed by symbol. Thus, the filter string itself cannot contain the character. The filter string is case sensitive. This string can be up to 80 characters long.
<b>include</b> - (Optional) Specifies to include lines that contain the specified filter string. <b>exclude</b> - (Optional) Specifies to exclude lines that contain the specified filter string. <b>begin</b> - (Optional) The first line that contains the specified filter string will be the first line of the output.
<b>log_toTFTP</b> -
<b>dest_file</b> - (Optional) Used to identify the parameter "path_filename". <b>&lt;path_filename 64&gt;</b> - The pathname specifies the pathname on the TFTP server. It can be a relative pathname or an absolute pathname. This name can be up to 64 characters long.
<b>attack_log_toTFTP</b> – Specifies that the attack log will be uploaded to the TFTP server.
<b>&lt;ipaddr&gt;</b> - (Optional) The IP address of the TFTP server. <b>&lt;ipv6addr&gt;</b> - (Optional) The IPv6 address of the TFTP server. <b>(EI Mode Only parameter)</b>
<b>dest_file</b> - (Optional) Used to identify the parameter "path_filename". <b>&lt;path_filename 64&gt;</b> - Specifies the path name on the TFTP server to hold the attack log. This name can be up to 64 characters long.
<b>unit</b> - (Optional) The attack log messages on the specified unit will be uploaded to the TFTP server. If it is not specified, it refers to the master unit. <b>&lt;unit_id&gt;</b> - Enter the unit ID here. This value must be between 1 and n.
<b>firmware_toTFTP</b> – Specifies that the firmware file will be uploaded to the TFTP server. <b>&lt;ipaddr&gt;</b> - (Optional) The IP address of the TFTP server. <b>&lt;ipv6addr&gt;</b> - (Optional) The IPv6 address of the TFTP server. <b>(EI Mode Only parameter)</b>
<b>dest_file</b> - (Optional) Used to identify the parameter "path_filename". <b>&lt;path_filename 64&gt;</b> - The pathname specifies the pathname on the TFTP server. It can be a relative pathname or an absolute pathname. This name can be up to 64 characters long.
<b>unit</b> - (Optional) Specifies which unit on the stacking system. If it is not specified, it refers to the master unit. <b>&lt;unit_id&gt;</b> - Enter the unit ID value here. This value must be between 1 and n.
<b>src_file</b> - (Optional) Used to identify the parameter "path_filename". <b>&lt;path_filename 64&gt;</b> - The pathname specifies an absolute pathname on the device file system. If pathname is not specified, it refers to the boot_up image. This name can be up to 64 characters long.

---

## Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To upload firmware from a file system device to a TFTP server:

```
DGS-3120-24TC:admin# upload firmware_toTFTP 10.1.1.1 dest_file D:\firmware.had
src_file 100b70.had
Command: upload firmware_toTFTP 10.1.1.1 dest_file D:\firmware.had src_file
100b70.had

Connecting to server..... Done.
Upload firmware..... Done.

DGS-3120-24TC:admin#
```

In case that the designated file does not exist:

```
DGS-3120-24TC:admin# upload firmware_toTFTP 10.1.1.1 dest_file D:\firmware.had
src_file 100b70.had
Command: upload firmware_toTFTP 10.1.1.1 dest_file D:\firmware.had src_file
100b70.had

No such file.

Failure!

DGS-3120-24TC:admin#
```

To upload configuration from TFTP:

```
DGS-3120-24TC:admin#upload cfg_toTFTP 10.90.90.99 dest_file 111.cfg unit 1
src_file c:/config.cfg
Command: upload cfg_toTFTP 10.90.90.99 dest_file 111.cfg unit 1 src_file
c:/config.cfg

Connecting to server..... Done.
Upload configuration..... Done.

DGS-3120-24TC:admin#
```

In case that the designated file does not exist:

```
DGS-3120-24TC:admin#upload cfg_toTFTP 10.90.90.99 dest_file 111.cfg unit 1
src_file c:/config2.cfg
Command: upload cfg_toTFTP 10.90.90.99 dest_file 111.cfg unit 1 src_file
c:/config2.cfg

No such file.

Failure!

DGS-3120-24TC:admin#
```

To upload the master's dangerous log:



```
DGS-3120-24TC:admin# upload attack_log_toTFTP 10.90.90.1 dest_file c:\alert.txt
```

```
Command: upload attack_log_toTFTP 10.90.90.1 dest_file c:\alert.txt
```

```
Success.
```

```
DGS-3120-24TC:admin#
```

## Chapter 71 Time and SNTP Command List

<b>config sntp</b> {primary <ipaddr>   secondary <ipaddr>   poll-interval <int 30-99999>}
<b>show sntp</b>
<b>enable sntp</b>
<b>disable sntp</b>
<b>config time</b> <date ddmthyyyy> <time hh:mm:ss>
<b>config time_zone</b> {operator [+   -]   hour <gmt_hour 0-13>   min <minute 0-59>}
<b>config dst</b> [disable   repeating {s_week <start_week 1-4,last>   s_day <start_day sun-sat>   s_mth <start_mth 1-12>   s_time <start_time hh:mm>   e_week <end_week 1-4,last>   e_day <end_day sun-sat>   e_mth <end_mth 1-12>   e_time <end_time hh:mm>   offset [30   60   90   120]}   annual {s_date <start_date 1-31>   s_mth <start_mth 1-12>   s_time <start_time hh:mm>   e_date <end_date 1-31>   e_mth <end_mth 1-12>   e_time <end_time hh:mm>   offset [30   60   90   120]}]
<b>show time</b>

### 71-1 config sntp

#### Description

The config sntp command changes SNTP configurations.

#### Format

**config sntp** {primary <ipaddr> | secondary <ipaddr> | poll-interval <int 30-99999>}

#### Parameters

<b>primary</b> - (Optional) SNTP primary server IP address. <ipaddr> - Enter the IP address used for this configuration here.
<b>secondary</b> - (Optional) SNTP secondary server IP address. <ipaddr> - Enter the IP address used for this configuration here.
<b>poll-interval</b> - (Optional) Specifies the polling interval range seconds. <int 30-99999> - Enter the polling interval range here. This value must be between 30 and 99999 seconds.

#### Restrictions

Only Administrator and Operator-level users can issue this command.

#### Example

To configure SNTP:

```
DGS-3120-24TC:admin# config sntp primary 10.1.1.1 secondary 10.1.1.2 poll-  
interval 30  
Command: config sntp primary 10.1.1.1 secondary 10.1.1.2 poll-interval 30  
  
Success.  
  
DGS-3120-24TC:admin#
```

## 71-2 show sntp

### **Description**

The show sntp command displays SNTP current time source and configuration.

### **Format**

**show sntp**

### **Parameters**

None.

### **Restrictions**

None.

### **Example**

To show SNTP:

```
DGS-3120-24TC:admin# show sntp  
Command: show sntp  
  
Current Time Source : System Clock  
SNTP : Disabled  
SNTP Primary Server : 10.1.1.1  
SNTP Secondary Server : 10.1.1.2  
SNTP Poll Interval : 30 sec  
  
DGS-3120-24TC:admin#
```

## 71-3 enable sntp

### **Description**

The enable sntp command turns on SNTP support.

### **Format**

**enable sntp**

### Parameters

None.

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To enable SNTP:

```
DGS-3120-24TC:admin# enable sntp
Command: enable sntp

Success.

DGS-3120-24TC:admin#
```

## 71-4 disable sntp

### Description

The disable sntp command turns off SNTP support.

### Format

**disable sntp**

### Parameters

None.

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To disable SNTP:

```
DGS-3120-24TC:admin# disable sntp
Command: disable sntp

Success.

DGS-3120-24TC:admin#
```

## 71-5 config time

### Description

Configure time and date settings of the device.

## Format

**config time <date ddmthyyy> <time hh:mm:ss>**

## Parameters

---

**<date ddmthyyy>** - Specifies the system clock date. An example would look like this:  
'30jun2010'.

---

**<time hh:mm:ss>** - Specifies the system clock time. An example would look like this: '12:00:00'.

---

## Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To configure time:

```
DGS-3120-24TC:admin# config time 30jun2003 16:30:30
Command: config time 30jun2003 16:30:30

Success.

DGS-3120-24TC:admin#
```

## 71-6 config time\_zone

### Description

Configure time zone of the device.

### Format

**config time\_zone {operator [+ | -] | hour <gmt\_hour 0-13> | min <minute 0-59>}**

### Parameters

---

**operator** - (Optional) Specifies the operator of time zone.

**[+ | -]** - Specifies that time should be added or subtracted to or from the GMT.

---

**hour** - (Optional) Specifies the hour of time zone.

**<gmt\_hour 0-13>** - Enter the hour value of the time zone here. This value must be between 0 and 13.

---

**min** - (Optional) Specifies the minute of time zone.

**<minute 0-59>** - Enter the minute value of the time zone here. This value must be between 0 and 59.

---

### Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To configure time\_zone:

```
DGS-3120-24TC:admin# config time_zone operator + hour 2 min 30
Command: config time_zone operator + hour 2 min 30

Success.

DGS-3120-24TC:admin#
```

## 71-7 config dst

### Description

Configure Daylight Saving Time of the device.

### Format

```
config dst [disable | repeating {s_week <start_week 1-4,last> | s_day <start_day sun-sat> |
s_mth <start_mth 1-12> | s_time <start_time hh:mm> | e_week <end_week 1-4,last> | e_day
<end_day sun-sat> | e_mth <end_mth 1-12> | e_time <end_time hh:mm> | offset [30 | 60 | 90
| 120]} | annual {s_date <start_date 1-31> | s_mth <start_mth 1-12> | s_time <start_time
hh:mm> | e_date <end_date 1-31> | e_mth <end_mth 1-12> | e_time <end_time hh:mm> |
offset [30 | 60 | 90 | 120]}]
```

### Parameters

- 
- disable** - Disable the Daylight Saving Time of the switch.
  - repeating** - Set the Daylight Saving Time to repeating mode.
    - s\_week, e\_week** - (Optional) Configure the start /end week number of Daylight Saving Time.
      - <start\_week 1-4, last>** - Enter the starting week number of Daylight Saving Time here. This value must be between 1 and 4.
      - <end\_week 1-4, last>** - Enter the ending week number of Daylight Saving Time here. This value must be between 1 and 4.
    - s\_day, e\_day** - (Optional) Configure the start /end day number of Daylight Saving Time.
      - <start\_day sun-sat>** - Enter the starting day value of Daylight Saving Time here. This value must either be sun, mon, tue, wed, thu, fri or sat.
      - <end\_day sun-sat>** - Enter the ending day value of Daylight Saving Time here. This value must either be sun, mon, tue, wed, thu, fri or sat.
    - s\_mth, e\_mth** - (Optional) Configure the start /end month number of Daylight Saving Time.
      - <start\_mth 1-12>** - Enter the starting month number of Daylight Saving Time here. This value must be between 1 and 12.
      - <end\_mth 1-12>** - Enter the ending month number of Daylight Saving Time here. This value must be between 1 and 12.
    - s\_time, e\_time** - (Optional) Configure the start /end time of Daylight Saving Time.
      - <start\_time hh:mm>** - Enter the starting time of Daylight Saving Time here. This value must be in the hh:mm format.
      - <end\_time hh:mm>** - Enter the starting time of Daylight Saving Time here. This value must be in the hh:mm format.
    - offset** - (Optional) Indicates number of minutes to add or to subtract during summertime. The ranges of offset are 30, 60, 90,120. The default value is 60.
      - 30** - Specifies that the offset range will 30 minutes.
      - 60** - Specifies that the offset range will 60 minutes.
      - 90** - Specifies that the offset range will 90 minutes.
      - 120** - Specifies that the offset range will 120 minutes.
-

**annual** - Set the Daylight Saving Time to annual mode.

**s\_date, e\_date** - (Optional) Configure the start /end date of Daylight Saving Time.

**<start\_date 1-31>** - Enter the starting date of Daylight Saving Time here. This range must be between 1 and 31.

**<end\_date 1-31>** - Enter the ending date of Daylight Saving Time here. This range must be between 1 and 31.

**s\_mth, e\_mth** - (Optional) Configure the start /end month number of Daylight Saving Time.

**<start\_mth 1-12>** - Enter the starting month number of Daylight Saving Time here. This value must be between 1 and 12.

**<end\_mth 1-12>** - Enter the ending month number of Daylight Saving Time here. This value must be between 1 and 12.

**s\_time, e\_time** - (Optional) Configure the start /end time of Daylight Saving Time.

**<start\_time hh:mm>** - Enter the starting time of Daylight Saving Time here. This value must be in the hh:mm format.

**<end\_time hh:mm>** - Enter the ending time of Daylight Saving Time here. This value must be in the hh:mm format.

**offset** - (Optional) Indicates number of minutes to add or to subtract during summertime. The ranges of offset are 30, 60, 90,120; default value is 60.

**30** - Specifies that the offset range will 30 minutes.

**60** - Specifies that the offset range will 60 minutes.

**90** - Specifies that the offset range will 90 minutes.

**120** - Specifies that the offset range will 120 minutes.

---

## Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To configure time:

```
DGS-3120-24TC:admin# config dst repeating s_week 2 s_day tue s_mth 4 s_time
15:00 e_week
 2 e_day wed e_mth 10 e_time 15:30 offset 30
Command: config dst repeating s_week 2 s_day tue s_mth 4 s_time 15:00 e_week 2
e
_day wed e_mth 10 e_time 15:30 offset 30

Success.

DGS-3120-24TC:admin#
```

71-8 show time

## Description

Display time states.

## Format

**show time**

## Parameters

None.

## Restrictions

None.

## Example

To show time:

```
DGS-3120-24TC:admin# show time
Command: show time

System Uptime          : 3 days, 10 hours, 15 minutes, 16 seconds
Current Time Source   : System Clock
Current Time          : 2003/07/01 01:43:41
Time Zone             : GMT +02:30
Daylight Saving Time  : Repeating
Offset in Minutes     : 30
  Repeating From      : Apr 2nd Tue 15:00
                    To       : Oct 2nd Wed 15:30
  Annual From        : 29 Apr 00:00
                    To       : 12 Oct 00:00

DGS-3120-24TC:admin#
```



## Chapter 72 Trace Route Command List

---

```
tracroute <ipaddr> {ttl <value 1-60>} {port <value 30000-64900>} {timeout <sec 1-65535>}  
{probe <value 1-9>}
```

---

```
tracroute6 <ipv6addr> {ttl <value 1-60> | port <value 30000-64900> | timeout <sec 1-65535> |  
probe <value 1-9>}
```

---

### 72-1 traceroute

#### Description

Used to trace the routed path between the switch and a destination end station.

#### Format

```
tracroute <ipaddr> {ttl <value 1-60> | port <value 30000-64900> | timeout <sec 1-65535> |  
probe <value 1-9>}
```

#### Parameters

---

**<ipaddr>** - Specifies the IP address of the destination end station.

**ttl** - (Optional) The time to live value of the trace route request. This is the maximum number of routers that a trace route packet can pass. The traceroute command will cross while seeking the network path between two devices. The range for the TTL is 1 to 60 hops.

**<value 1-60>** - Enter the time to live value here. This value must be between 1 and 60.

**port** - (Optional) The port number. The value range is from 30000 to 64900.

**<value 30000-64900>** - Enter the port number here. This value must be between 30000 and 64900.

**timeout** - (Optional) Defines the timeout period while waiting for a response from the remote device. A value of 1 to 65535 seconds can be specified. The default is 5 seconds.

**<sec 1-65535>** - Enter the timeout period value here. This value must be between 1 and 65535 seconds.

**probe** - (Optional) The number of probing. The range is from 1 to 9. If unspecified, the default value is 1.

**<value 1-9>** - Enter the probing number value here. This value must be between 1 and 9.

---

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

#### Example

Trace the routed path between the switch and 10.48.74.121:

```
DGS-3120-24TC:admin# traceroute 10.48.74.121 probe 3
Command: traceroute 10.48.74.121 probe 3

1  <10 ms.      10.12.73.254
2  <10 ms.      10.19.68.1
3  <10 ms.      10.48.74.121

Trace complete.
DGS-3120-24TC:admin#
```

## 72-2 traceroute6

### Description

Used to trace the IPv6 routed path between the switch and a destination end station.

### Format

```
traceroute6 <ipv6addr> {ttl <value 1-60> | port <value 30000-64900> | timeout <sec 1-65535>
| probe <value 1-9>}
```

### Parameters

---

**<ipv6addr>** - Specifies the IPv6 address of the destination end station.

**ttl** - (Optional) The time to live value of the trace route request. This is the maximum number of routers that a trace route packet can pass. The traceroute command will cross while seeking the network path between two devices. The range for the TTL is 1 to 60 hops.

**<value 1-60>** - Enter the time to live value here. This value must be between 1 and 60.

**port** - (Optional) The port number. The value range is from 30000 to 64900.

**<value 30000-64900>** - Enter the port number here. This value must be between 30000 and 64900.

**timeout** - (Optional) Defines the timeout period while waiting for a response from the remote device. A value of 1 to 65535 seconds can be specified. The default is 5 seconds.

**<sec 1-65535>** - Enter the timeout period value here. This value must be between 1 and 65535 seconds.

**probe** - (Optional) The number of probing. The range is from 1 to 9. If unspecified, the default value is 1.

**<value 1-9>** - Enter the probing number value here. This value must be between 1 and 9.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command. **(EI Mode Only Command)**

### Example

Trace the IPv6 routed path between the switch and 3000::1:

```
DGS-3120-24TC:admin# traceroute6 3000::1 probe 3
Command: traceroute6 3000::1 probe 3

 1  <10 ms.    1345:142::11
 2  <10 ms.    2011:14::100
 3  <10 ms.    3000::1

Trace complete.
DGS-3120-24TC:admin#
```

Trace the IPv6 routed path between the switch and 1210:100::11 with port 40000:

```
DGS-3120-24TC:admin# traceroute6 1210:100::11 port 40000
Command: traceroute6 1210:100::11 port 40000

 1  <10 ms.    3100::25
 2  <10 ms.    4130::100
 3  <10 ms.    1210:100::11

Trace complete.
DGS-3120-24TC:admin#
```

## Chapter 73 Traffic Control Command List

```

config traffic control [<portlist> | all] {broadcast [enable | disable] | multicast [enable | disable]
    | unicast [enable | disable] | action [drop | shutdown] | threshold <value 0-255000> |
    countdown [<min 0> | <min 3-30> | disable] | time_interval <sec 5-600>}
config traffic trap [none | storm_occurred | storm_cleared | both]
show traffic control {<portlist>}
config traffic control log state [enable | disable]
config traffic control auto_recover_time [<min 0> | <min 1-65535>]
    
```

### 73-1 config traffic control

#### Description

This command is used to configure broadcast/ multicast/ unicast packet storm control. Shutdown mode is provided to monitor the traffic rate in addition to the storm control drop mode. If traffic rate is too high, this port will be shut down.

#### Format

```

config traffic control [<portlist> | all] {broadcast [enable | disable] | multicast [enable |
    disable] | unicast [enable | disable] | action [drop | shutdown] | threshold <value 0-255000> |
    countdown [<min 0> | <min 3-30> | disable] | time_interval <sec 5-600>}
    
```

#### Parameters

<b>&lt;portlist&gt;</b> - Used to specify a range of ports to be configured.
<b>all</b> - Specifies that all the ports will be used for this configuration.
<b>broadcast</b> - (Optional) Enable or disable broadcast storm control.
<b>enable</b> - Specifies that broadcast storm control will be enabled.
<b>disable</b> - Specifies that broadcast storm control will be disabled.
<b>multicast</b> - (Optional) Enable or disable multicast storm control.
<b>enable</b> - Specifies that multicast storm control will be enabled.
<b>disable</b> - Specifies that multicast storm control will be disabled.
<b>unicast</b> - (Optional) Enable or disable unknown packet storm control. ( Supported for drop mode only)
<b>enable</b> - Specifies that unicast storm control will be enabled.
<b>disable</b> - Specifies that unicast storm control will be disabled.
<b>action</b> - (Optional) One of the two options for action is specified for storm control, shutdown or drop mode. Shutdown mode is a function of software, drop mode is implemented by the chip. If shutdown mode is specified, it is necessary to configure values for the countdown and time_interval parameters.
<b>drop</b> - Specifies that the action applied will be drop mode.
<b>shutdown</b> - Specifies that the action applied will be shutdown mode.
<b>threshold</b> - (Optional) The upper threshold, at which point the specified storm control is triggered. The <value> is the number of broadcast/multicast packets per second received by the switch that will trigger the storm traffic control measure. The threshold is expressed as PPS (packets per second) and must be an unsigned integer.
<b>&lt;value 0-255000&gt;</b> - Enter the upper threshold value here. This value must be between 0 and 255000.

**countdown** - (Optional) Timer for shutdown mode. If a port enters the shutdown Rx state and this timer runs out, port will be shutdown forever. The parameter is not applicable if “drop” (mode) is specified for the “action” parameter.

**<min 0>** - 0 disables the forever state, meaning that the port will not enter the shutdown forever state.

**<min 3-30>** - Enter the countdown timer value here. This value must be between 3 and 30.

**disable** – Specifies that the countdown timer will be disabled.

**time\_interval** - (Optional) The sampling interval of received packet counts. The possible value will be m-n seconds. The parameter is not applicable if “drop” (mode) is specified for the “action” parameter.

**<sec 5-600>** - Enter the time interval value here. This value must be between 5 and 600.

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure the parameters so that the traffic control status is enabled on ports 1-12:

```
DGS-3120-24TC:admin# config traffic control 1:1-1:12 broadcast enable action
shutdown threshold 1 countdown 5 time_interval 10
Command: config traffic control 1:1-1:12 broadcast enable action shutdown
threshold 1 countdown 5 time_interval 10
```

Success.

```
DGS-3120-24TC:admin#
```

## 73-2 config traffic trap

### Description

This command is used to configure trap modes.

**Occurred Mode:** This trap is sent when a packet storm is detected by the packet storm mechanism.

**Cleared Mode:** This trap is sent when the packet storm is cleared by the packet storm mechanism.

### Format

**config traffic trap [none | storm\_occurred | storm\_cleared | both]**

### Parameters

**none** - No trap state is specified for storm control.

**storm\_occurred** - Occurred mode is enabled and cleared mode is disabled.

**storm\_cleared** - Occurred mode is disabled and cleared mode is enabled.

**both** - Both occurred and cleared modes are enabled.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To enable both the occurred mode and cleared mode traffic control traps:

```
DGS-3120-24TC:admin# config traffic trap both
Command: config traffic trap both

Success.

DGS-3120-24TC:admin#
```

## 73-3 show traffic control

### Description

The show traffic control command displays the current traffic control settings.

### Format

**show traffic control {<portlist>}**

### Parameters

---

**<portlist>** - (Optional) Used to specify the range of ports to be shown.

If no parameter is specified, the system will display the packet storm control configuration for all ports.

---

### Restrictions

None.

### Example

To display the traffic control parameters for ports 1 to 10:

```
DGS-3120-24TC:admin#show traffic control 1-10
Command: show traffic control 1:1-1:10

Traffic Control Trap           : [None]
Traffic Control Log           : Enabled
Traffic Control Auto Recover Time : 0 Minutes

Port Thres  Broadcast  Multicast  Unicast  Action  Count  Time  Shutdown
  hold      Storm    Storm     Storm           Down  Interval Forever
-----
1:1  1      Enabled   Disabled  Disabled shutdown 0      5
1:2  1      Enabled   Disabled  Disabled shutdown 0      5
1:3  1      Enabled   Disabled  Disabled shutdown 0      5
1:4  1      Enabled   Disabled  Disabled shutdown 0      5
1:5  1      Enabled   Disabled  Disabled shutdown 0      5
1:6  1      Enabled   Disabled  Disabled shutdown 0      5
1:7  1      Enabled   Disabled  Disabled shutdown 0      5
1:8  1      Enabled   Disabled  Disabled shutdown 0      5
1:9  1      Enabled   Disabled  Disabled shutdown 0      5
1:10 1      Enabled   Disabled  Disabled shutdown 0      5

DGS-3120-24TC:admin#
```

## 73-4 config traffic control log state

### Description

This command is used to configure the traffic control log state. When the log state is enabled, traffic control states are logged when a storm occurs and when a storm is cleared. If the log state is disabled, traffic control events are not logged.

**Note:** The log state is only applicable for shutdown mode. Since shutdown mode only support broadcast and multicast storm control, doesn't support unicast storm control. The log only generate for broadcast and multicast storm control.

### Format

**config traffic control log state [enable | disable]**

### Parameters

---

**enable** - Both occurred and cleared are logged.  
**disable** - Neither occurred nor cleared is logged.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To configure the traffic log state on the Switch:

```
DGS-3120-24TC:admin# config traffic control log state enable
Command: config traffic control log state enable

Success.

DGS-3120-24TC:admin#
```

## 73-5 config traffic control auto\_recover\_time

### Description

This command is used to configure the traffic auto recover time that allowed for a port to recover from shutdown forever status.

### Format

**config traffic control auto\_recover\_time [<min 0> | <min 1-65535>]**

### Parameters

---

**auto\_recover\_time** - The time allowed for auto recovery from shutdown for a port. The default value is 0, so no auto recovery is possible; the port remains in shutdown forever mode. This requires manual entry of the CLI command "config ports [ <portlist> | all ] state enable" to return the port to a forwarding state. The default value is 0, which means disable auto recover mode, shutdown forever.

**<min 0>** - Specifies that the auto recovery time will be disabled.

**<min 1-65535>** - Enter the auto recovery time value here. This value must be between 1 and 65535.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To configure the auto recover time to 5 minutes:

```
DGS-3120-24TC:admin# config traffic control auto_recover_time 5
Command: config traffic control auto_recover_time 5

Success.

DGS-3120-24TC:admin#
```



## Chapter 74 Traffic Segmentation Command List

---

**config traffic\_segmentation** [<portlist> | all] forward\_list [null | all | <portlist>]  
**show traffic\_segmentation** {<portlist>}

---

### 74-1 config traffic\_segmentation

#### Description

This command is used to configure the traffic segmentation.

#### Format

**config traffic\_segmentation** [<portlist> | all] forward\_list [null | all | <portlist>]

#### Parameters

---

**<portlist>** - Specifies a range of ports to be configured.  
**all** - Specifies that all the ports will be used for this configuration.

---

**forward\_list** - Specifies a range of port forwarding domain.  
**null** - Specifies a range of port forwarding domain is null.  
**all** - Specifies all ports to be configured.  
**<portlist>** - Specifies a range of ports to be configured.

---

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

#### Example

To configure traffic segmentation:

```
DGS-3120-24TC:admin# config traffic_segmentation 1:1-1:10 forward_list 1:11-1:15
Command: config traffic_segmentation 1:1-1:10 forward_list 1:11-1:15

Success.

DGS-3120-24TC:admin#
```

### 74-2 show traffic\_segmentation

#### Description

This command is used to display current traffic segmentation table.

## Format

**show traffic\_segmentation {<portlist>}**

## Parameters

---

**<portlist>** - (Optional) Specifies a range of ports to be displayed.

---

If no parameter is specified, the system will display all current traffic segmentation tables.

---

## Restrictions

None.

## Example

To display traffic segmentation table:

```
DGS-3120-24TC:admin# show traffic_segmentation 1:1-1:10
Command: show traffic_segmentation 1:1-1:10

Traffic Segmentation Table

Port      Forward Portlist
-----
1:1       1:11-1:15
1:2       1:11-1:15
1:3       1:11-1:15
1:4       1:11-1:15
1:5       1:11-1:15
1:6       1:11-1:15
1:7       1:11-1:15
1:8       1:11-1:15
1:9       1:11-1:15
1:10      1:11-1:15

DGS-3120-24TC:admin#
```

## Chapter 75 Trusted Host Command List

---

```

create trusted_host [<ipaddr> |<ipv6addr> | network <network_address> | ipv6_prefix
    <ipv6networkaddr>] {snmp | telnet | ssh | http | https | ping}
delete trusted_host [ipaddr <ipaddr> | ipv6address <ipv6addr> | network <network_address> |
    ipv6_prefix <ipv6networkaddr> | all]
config trusted_host [<ipaddr> | <ipv6addr> | network <network_address> | ipv6_prefix
    <ipv6networkaddr>] [add | delete] {snmp | telnet | ssh | http | https | ping | all}
show trusted_host
    
```

---

### 75-1 create trusted\_host

#### Description

The create trusted host command creates the trusted host. The switch allows you to specify up to three IP addresses that are allowed to manage the switch via in-band SNMP or TELNET based management software. These IP addresses must be members of the Management VLAN. If no IP addresses are specified, then there is nothing to prevent any IP address from accessing the switch, provided the user knows the Username and Password.

When the access interface is not specified, the trusted host will be created for all interfaces.

#### Format

```

create trusted_host [<ipaddr> |<ipv6addr> | network <network_address> | ipv6_prefix
    <ipv6networkaddr>] {snmp | telnet | ssh | http | https | ping}
    
```

#### Parameters

---

**<ipaddr>** - The IP address of the trusted host.  
**<ipv6addr>** - The IPv6 address of the trusted host. **(EI Mode Only parameter)**  
**network** - The network address of the trusted network. The form of network address is  
 xxx.xxx.xxx.xxx/y.  
**<network\_address>** - Enter the network address used here.  
**ipv6\_prefix** – Specifies that IPv6 prefix here. **(EI Mode Only parameter)**  
**<ipv6networkaddr>** - Enter the IPv6 network address here. **(EI Mode Only parameter)**  
**snmp** - (Optional) Specifies trusted host for SNMP.  
**telnet** - (Optional) Specifies trusted host for TELENT.  
**ssh** - (Optional) Specifies trusted host for SSH  
**http** - (Optional) Specifies trusted host for HTTP  
**https** - (Optional) Specifies trusted host for HTTPs.  
**ping** - (Optional) Specifies trusted host for PING

---

#### Restrictions

Only Administrator and Operator-level users can issue this command.

#### Example

To create the trusted host:

```
DGS-3120-24TC:admin# create trusted_host 10.48.74.121
Command: create trusted_host 10.48.74.121

Success.

DGS-3120-24TC:admin#
```

## 75-2 delete trusted\_host

### Description

Used to delete a trusted host entry made using the create trusted\_host command above.

### Format

**delete trusted\_host [ipaddr <ipaddr> | ipv6address <ipv6addr> | network <network\_address> | ipv6\_prefix <ipv6networkaddr> | all]**

### Parameters

---

**ipaddr** - The IP address of the trusted host.

**<ipaddr>** - Enter the IP address used for this configuration here.

---

**ipv6addr** - The IPv6 address of the trusted host. **(EI Mode Only parameter)**

**<ipv6addr>** - Enter the IPv6 address used for this configuration here. **(EI Mode Only parameter)**

---

**network** - The network address of the trusted network.

**<network\_address>** - Enter the network address used for this configuration here.

---

**ipv6\_prefix** - The IPv6 subnet prefix of the trusted network. **(EI Mode Only parameter)**

**<ipv6networkaddr>** - Enter the IPv6 subnet prefix here. **(EI Mode Only parameter)**

---

**all** - All trusted hosts will be deleted.

---

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To delete the trusted host:

```
DGS-3120-24TC:admin# delete trusted_host 10.48.74.121
Command: delete trusted_host 10.48.74.121

Success.

DGS-3120-24TC:admin#
```

## 75-3 config trusted\_host

### Description

Used to configure the access interfaces for the trusted host.

## Format

**config trusted\_host** [**<ipaddr>** | **<ipv6addr>** | **network <network\_address>** | **ipv6\_prefix <ipv6networkaddr>**] [**add** | **delete**] {**snmp** | **telnet** | **ssh** | **http** | **https** | **ping** | **all**}

## Parameters

---

**<ipaddr>** - The IP address of the trusted host.

**<ipv6addr>** - The IPv6 address of the trusted host. **(EI Mode Only parameter)**

---

**network** - The network address of the trusted network. The form of network address is xxx.xxx.xxx.xxx/y.

**<network\_address>** - Enter the network address used here.

---

**ipv6\_prefix** - The IPv6 subnet prefix of the trusted network. **(EI Mode Only parameter)**

**<ipv6networkaddr>** - Enter the IPv6 subnet prefix here. **(EI Mode Only parameter)**

---

**add** - Add interfaces for that trusted host.

**delete** - Delete interfaces for that trusted host.

---

**snmp** - (Optional) Specifies trusted host for SNMP.

**telnet** - (Optional) Specifies trusted host for TELENT.

**ssh** - (Optional) Specifies trusted host for SSH.

**http** - (Optional) Specifies trusted host for HTTP.

**https** - (Optional) Specifies trusted host for HTTPs.

**ping** - (Optional) Specifies trusted host for PING.

**all** - (Optional) Specifies trusted host for all application.

---

## Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To configure the trusted host:

```
DGS-3120-24TC:admin# config trusted_host 10.48.74.121 add ssh telnet
Command: config trusted_host 10.48.74.121 add ssh telnet

Success.

DGS-3120-24TC:admin#
```

## 75-4 show trusted\_host

### Description

Used to display a list of trusted hosts entered on the switch using the create trusted\_host command above.

### Format

**show trusted\_host**

### Parameters

None.

## Restrictions

None.

## Example

To display trusted host:

```
DGS-3120-24TC:admin# show trusted_host
Command: show trusted_host

Management Stations

IP Address                Access Interface
-----
10.48.93.100              SNMP, TELNET ,HTTP, PING
10.51.17.1                SNMP,  TELNET, HTTPs
10.50.95.90               SSH
1234::1                   SNMP,HTTP
1234::/64                 SNMP,TELNET,HTTPs

Total Entries:5

DGS-3120-24TC:admin#
```

## Chapter 76 Unicast Routing Command List

---

```

create iproute [default] <ipaddr> {<metric 1-65535>} {[primary | backup]}
delete iproute [default | <network_address>] <ipaddr>
show iproute {static}
show ipfdb {[ip_address <ipaddr> | interface <ipif_name 12> | port <port>]}

```

---

### 76-1 create iproute

#### Description

Use this command to create an IP static route.

Selecting “primary” or “backup” means the newly created route is a floating static route.

If none of the following, “primary” or “backup”, is selected, the default route will:

1. be primary if there is no primary route that has the same destination;
2. be backup if there has been a primary route that has the same destination.
3. fail to create if there have been a primary route and a backup route that have the same destination.
4. fail to create if there has been one static multipath route that has the same destination.

It will fail if a user wants to create a floating static route and there has been one static multipath route with the same destination.

It will fail if a user wants to create a static multipath route and there has been a floating static route, whether primary or backup.

#### Format

```
create iproute [default] <ipaddr> {<metric 1-65535>} {[primary | backup]}
```

#### Parameters

---

**default** - Create an IP default route (0.0.0.0/0).

**<ipaddr>** - The IP address for the next hop router.

**<metric 1-65535>** - (Optional) Enter the metric value here. This value must be between 1 and 65535. The default setting is 1.

**primary** - (Optional) Specify the route as the primary route to the destination.

**backup** - (Optional) Specify the route as the backup route to the destination.

---

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

#### Example

To add a floating static route and a static multipath route:

```
DGS-3120-24TC:admin# create iproute default 10.1.1.254 primary
Command: create iproute default 10.1.1.254 primary

Success.

DGS-3120-24TC:admin#
```

## 76-2 delete iproute

### Description

Used to delete an IP route entry from the switch's IP routing table.

### Format

**delete iproute [default | <network\_address>] <ipaddr>**

### Parameters

---

**default** - Deletes an IP default route (0.0.0.0/0).  
**<network\_address>** – Specifies the network address used.  
**<ipaddr>** - Specify the next hop IP address of the route need to be deleted.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To delete an IP default route:

```
DGS-3120-24TC:admin# delete iproute default 10.1.1.254
Command: delete iproute default 10.1.1.254

Success.

DGS-3120-24TC:admin#
```

## 76-3 show iproute

### Description

Used to display the switch's current IP routing table.

### Format

**show iproute {static}**

### Parameters

---

**static** – (Optional) Specifies that this route will be static. **(EI Mode Only parameter)**

---



## Restrictions

None.

## Example

To display the contents of the IP routing table:

```
DGS-3120-24TC:admin# show iproute
Command: show iproute

Routing Table

IP Address/Netmask  Gateway          Interface        Cost    Protocol
-----
10.1.1.0/24         0.0.0.0         System           1       Local
192.168.1.0/24     0.0.0.0         ip1              1       Local

Total Entries : 2

DGS-3120-24TC:admin#
```

## 76-4 show ipfdb

### Description

This command is used to display the current network address forwarding database.

### Format

**show ipfdb** {[ip\_address <ipaddr> | interface <ipif\_name 12> | port <port>]}

### Parameters

- 
- ip\_address** - (Optional) Displays the specified host IP address.  
**<ipaddr>** - Enter the IP address used here.

---

  - interface** - (Optional) Specifies a IP interface.  
**<ipif\_name 12>** - Enter the IP interface name here. This name can be up to 12 characters long.

---

  - port** - (Optional) Specifies a port.  
**<port>** - Enter the port number here.
- 

## Restrictions

None.

## Example

To display network address forwarding table:

```
DGS-3120-24TC:admin# show ipfdb
```

```
Command: show ipfdb
```

Interface	IP Address	Port	Learned
-----	-----	-----	-----
System	10.1.1.101	1:3	Dynamic
System	10.1.40.22	1:3	Dynamic
System	10.2.27.250	1:3	Dynamic

```
Total Entries: 3
```

```
DGS-3120-24TC:admin#
```

## Chapter 77 VLAN Trunking Command List

---

**enable vlan\_trunk**  
**disable vlan\_trunk**  
**config vlan\_trunk** ports [<portlist> | all] | state [enable | disable]  
**show vlan\_trunk**

---

### 77-1 enable vlan\_trunk

#### Description

This command is used to enable the VLAN trunk function. When the VLAN trunk function is enabled, the VLAN trunk ports shall be able to forward all tagged frames with any VID.

#### Format

**enable vlan\_trunk**

#### Parameters

None.

#### Restrictions

Only Administrator and Operator-level users can issue this command.

#### Example

To enable the VLAN Trunk:

```
DGS-3120-24TC:admin# enable vlan_trunk
Command: enable vlan_trunk

Success.

DGS-3120-24TC:admin#
```

### 77-2 disable vlan\_trunk

#### Description

This command is used to disable the VLAN trunk function.

#### Format

**disable vlan\_trunk**

## Parameters

None.

## Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To disable the VLAN Trunk:

```
DGS-3120-24TC:admin# disable vlan_trunk
Command: disable vlan_trunk

Success.

DGS-3120-24TC:admin#
```

## 77-3 config vlan\_trunk

### Description

This command is used to configure a port as a VLAN trunk port. By default, none of the port is a VLAN trunk port.

If the user enables the global VLAN trunk function and configures the VLAN trunk ports, then the trunk port will be member port of all VLANs. That is, if a VLAN is already configured by the user, but the trunk port is not member port of that VLAN, this trunk port will automatically become tagged member port of that VLAN. If a VLAN is not created yet, the VLAN will be automatically created, and the trunk port will become tagged member of this VLAN.

When the user disables the VLAN trunk globally, all VLANs automatically created by VLAN Trunk enabled shall be destroyed, and all the automatically added port membership will be removed.

A VLAN trunk port and a non-VLAN trunk port cannot be grouped as an aggregated link. To change the VLAN trunk setting for an aggregated link, the user must apply the command to the master port. However, this setting will disappear as the aggregated link is destroyed, and the VLAN trunk setting of the individual port will follow the original setting of the port.

If the command is applied to link aggregation member port excluding the master, the command will be rejected.

The ports with different VLAN configurations are not allowed to form an aggregated link. However, if they are specified as VLAN trunk port, they are allowed to form an aggregated link.

For a VLAN trunk port, the VLANs on which the packets can be passed will not be advertised by GVRP on this port. However, since the traffic on these VLANs are forwarded, this VLAN trunk port should participate the MSTP instances corresponding to these VLAN.

### Format

**config vlan\_trunk ports [<portlist> | all] | state [enable | disable]**

## Parameters

**<portlist>** - Enter a list of ports used for the configuration here.

**all** - Specify that all the ports will be used for this configuration.

**state** - Specify that the port is a VLAN trunk port or not.

**enable** - Specify that the port is a VLAN trunk port.

**disable** - Specify that the port is not a VLAN trunk port.

---

## Restrictions

Only Administrator and Operator-level users can issue this command.

## Example

To configure a VLAN trunk port:

```
DGS-3120-24TC:admin# config vlan_trunk ports 1:1-1:5 state enable
Command: config vlan_trunk ports 1:1-1:5 state enable

Success.

DGS-3120-24TC:admin#
```

Port 6 is LA-1 member port; port 7 is LA-2 master port:

```
DGS-3120-24TC:admin# config vlan_trunk ports 1:6-1:7 state enable
Command: config vlan_trunk ports 1:6-1:7 state enable

The link aggregation member port cannot be configured.
Fail.

DGS-3120-24TC:admin# config vlan_trunk ports 1:7 state disable
Command: config vlan_trunk ports 1:7 state disable

Success.

DGS-3120-24TC:admin# config vlan_trunk ports 1:6-1:7 state disable
Command: config vlan_trunk ports 1:6-1:7 state disable

The link aggregation member port cannot be configured.
Fail.

DGS-3120-24TC:admin#
```

Port 6 is LA-1 member port; port 7 is LA-1 master port:

```
DGS-3120-24TC:admin# config vlan_trunk ports 1:6-1:7 state enable
Command: config vlan_trunk ports 1:6-1:7 state enable

Success.

DGS-3120-24TC:admin#
```

Port 6, 7 have different VLAN configurations before enabling VLAN trunk.

Port 6 is LA-1 member port; port 7 is LA-1 master port.

```
DGS-3120-24TC:admin# config vlan_trunk ports 1:7 state disable
Command: config vlan_trunk ports 1:7 state disable

The link aggregation needs to be deleted first.
Fail.
```

Port 6, 7 have the same VLAN configuration before enabling VLAN trunk.

Port 6 is LA-1 member port; port 7 is LA-1 master port.

```
DGS-3120-24TC:admin# config vlan_trunk ports 1:7 state disable
Command: config vlan_trunk ports 1:7 state disable

Success.

DGS-3120-24TC:admin# config vlan_trunk ports 1:6-1:7 state disable
Command: config vlan_trunk ports 1:6-1:7 state disable

Success.

DGS-3120-24TC:admin#
```

## 77-4 show vlan\_trunk

### **Description**

This command is used to show the VLAN trunk configuration.

### **Format**

**show vlan\_trunk**

### **Parameters**

None.

### **Restrictions**

None.

### **Example**

To show the VLAN Trunk information:

```
DGS-3120-24TC:admin# show vlan_trunk
Command: show vlan_trunk

VLAN Trunk State           : Enabled
VLAN Trunk Member Ports    : 1:1-1:5,1:7

DGS-3120-24TC:admin#
```

The following example displays the VLAN information which will also display VLAN trunk setting:

```
DGS-3120-24TC:admin# show vlan
Command: show vlan

VLAN Trunk State           : Enabled
VLAN Trunk Member Ports    : 1:1-1:5.1:7

VID             : 1           VLAN Name       : default
VLAN TYPE       : static      Advertisement  : Enabled
Member ports    : 1:1-1:24,2:1-2:24
Static ports    : 1:1-1:24,2:1-2:24
Current Tagged ports:
Current Untagged ports : 1:1-1:24,2:1-2:24
Static Tagged ports:
Static Untagged ports  : 1:1-1:24,2:1-2:24
Forbidden ports  :

VID             : 2           VLAN Name       : v1
VLAN TYPE       : static      Advertisement  : Disabled
Member ports    : 1:24,2:24
Static ports    :
Current Tagged ports:
Current Untagged ports :
Static Tagged ports:
Static Untagged ports  :
Forbidden ports  :

Total Static VLAN Entries : 1
Total GVRP VLAN Entries: 1

DGS-3120-24TC:admin#
```

## Chapter 78 Voice VLAN Command List

<b>enable voice_vlan</b> [<vlan_name 32>   vlanid <vlanid 1-4094>]
<b>disable voice_vlan</b>
<b>config voice_vlan priority</b> <int 0-7>
<b>config voice_vlan oui</b> [add   delete] <macaddr> <macmask> {description <desc 32>}
<b>config voice_vlan ports</b> [<portlist>   all] [state [enable   disable]   mode [auto   manual]]
<b>config voice_vlan aging_time</b> <min 1-65535>
<b>show voice_vlan</b>
<b>show voice_vlan oui</b>
<b>show voice_vlan ports</b> {<portlist>}
<b>show voice_vlan voice_device</b> {ports <portlist>}
<b>config voice_vlan log state</b> [enable   disable]

### 78-1 enable voice\_vlan

#### Description

This command is used to enable the global voice VLAN function on a switch. To enable the voice VLAN, the voice VLAN must be also assigned. At the same time, the VLAN must be an existing static 802.1Q VLAN.

To change the voice VLAN, the user must disable the voice VLAN function, and re-issue this command.

By default, the global voice VLAN state is disabled.

#### Format

**enable voice\_vlan** [<vlan\_name 32> | vlanid <vlanid 1-4094>]

#### Parameters

**<vlan\_name 32>** - Enter the name of the voice VLAN here. This name can be up to 32 characters long.  
**vlanid** - Specifies the VLAN ID of the voice VLAN.  
**<vlanid 1-4094>** - Enter the voice VLAN ID here. This value must be between 1 and 4094.

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

#### Example

To enable a voice VLAN with name "v2":

```
DGS-3120-24TC:admin# enable voice_vlan v2
Command: enable voice_vlan v2

Success.
DGS-3120-24TC:admin#
```



## 78-2 disable voice\_vlan

### Description

The command is used to disable the voice VLAN function on a switch. When the voice VLAN function is disabled, the voice VLAN will become unassigned.

### Format

**disable voice\_vlan**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To disable the voice VLAN:

```
DGS-3120-24TC:admin# disable voice_vlan
Command: disable voice_vlan

Success.
DGS-3120-24TC:admin#
```

## 78-3 config voice\_vlan priority

### Description

The voice VLAN priority will be the priority associated with the voice VLAN traffic to distinguish the QoS of the voice traffic from data traffic.

### Format

**config voice\_vlan priority <int 0-7>**

### Parameters

---

**priority** - The priority of the voice VLAN. The default priority is 5.  
**<int 0-7>** - Enter the priority value here. This value must be between 0 and 7.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To set the priority of the voice VLAN to be six:

```
DGS-3120-24TC:admin# config voice_vlan priority 6
Command: config voice_vlan priority 6

Success.

DGS-3120-24TC:admin#
```

## 78-4 config voice\_vlan oui

### Description

This command is used to configure the user-defined voice traffic's OUI. The OUI is used to identify the voice traffic. There are a number of pre-defined OUIs. The user can further define the user-defined OUIs if needed. The user-defined OUI cannot be the same as the pre-defined OUI.

The following are the pre-defined voice traffic's OUI:

OUI	Vendor	Mnemonic name
00:E0:BB	3COM	3com
00:03:6B	Cisco	cisco
00:E0:75	Veritel	veritel
00:D0:1E	Pingtel	pingtel
00:01:E3	Siemens	siemens
00:60:B9	NEC/ Philips	nec&philips
00:0F:E2	Huawei-3COM	huawei&3com
00:09:6E	Avaya	avaya

### Format

```
config voice_vlan oui [add | delete] <macaddr> <macmask> {description <desc 32>}
```

### Parameters

**oui** - Specifies the OUI used for this configuration.

**add** - Adding a user-defined OUI of a voice device vendor.

**delete** - Deleting a user-defined OUI of a voice device vendor.

**<macaddr>** - The user-defined OUI MAC address.

**<macmask>** - The user-defined OUI MAC address mask.

**description** - (Optional) The description for the user-defined OUI.

**<desc 32>** - Enter the description here. This value can be up to 32 characters long.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To add a user-defined OUI for a voice device:

```
DGS-3120-24TC:admin# config voice_vlan oui add 00-0A-0B-00-00-00 FF-FF-FF-00-00-00
Command: config voice_vlan oui add 00-0A-0B-00-00-00 FF-FF-FF-00-00-00

Success.

DGS-3120-24TC:admin#
```

## 78-5 config voice\_vlan ports

### Description

This command is used to enable or disable the voice VLAN function on ports.

### Format

**config voice\_vlan ports [<portlist> | all] [state [enable | disable] | mode [auto | manual]]**

### Parameters

---

**ports** - Specifies a range of port to set.

**<portlist>** - Enter a list of ports used for the configuration here.

**all** - Specifies that all the ports will be used for this configuration.

---

**state** - The voice VLAN function state on ports. The default state is disabled.

**enable** - Specifies that the voice VLAN function for this switch will be enabled.

**disable** - Specifies that the voice VLAN function for this switch will be disabled.

---

**mode** - The voice VLAN mode. The default mode is auto.

**auto** - Specifies that the voice VLAN mode will be set to auto.

**manual** - Specifies that the voice VLAN mode will be set to manual.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To configure voice VLAN ports 4-6 to enable:

```
DGS-3120-24TC:admin# config voice_vlan ports 4-6 state enable
Command: config voice_vlan ports 4-6 state enable

Success.

DGS-3120-24TC:admin#
```

To set the mode auto to voice VLAN ports 3-5:

```
DGS-3120-24TC:admin# config voice_vlan ports 3-5 mode auto
Command: config voice_vlan ports 3-5 mode auto

Success.

DGS-3120-24TC:admin#
```

## 78-6 config voice\_vlan aging\_time

### Description

This command is used to set the aging time of the voice VLAN. The aging time is used to remove a port from voice VLAN if the port is an automatic VLAN member. When the last voice device stops sending traffic and the MAC address of this voice device is aged out, the voice VLAN aging timer will be started. The port will be removed from the voice VLAN after expiration of the voice VLAN aging timer.

If the voice traffic resumes during the aging time, the aging timer will be stopped and reset.

### Format

**config voice\_vlan aging\_time <min 1-65535>**

### Parameters

---

**aging\_time** - The aging time to set. The default value is 720 minutes.  
**<min 1-65535>** - Enter the aging time value here. This value must be between 1 and 65535.

---

### Restrictions

Only Administrator and Operator-level users can issue this command.

### Example

To set 60 minutes as the aging time of voice VLAN:

```
DGS-3120-24TC:admin# config voice_vlan aging_time 60
Command: config voice_vlan aging_time 60

Success.

DGS-3120-24TC:admin#
```

## 78-7 show voice\_vlan

### Description

This command is used to show the voice VLAN global information.

### Format

**show voice\_vlan**

### Parameters

None.

## Restrictions

None.

## Example

To display the voice VLAN global information when voice VLAN is enabled:

```
DGS-3120-24TC:admin# show voice_vlan
Command: show voice_vlan

Voice VLAN State      : Enabled
VLAN ID               : 10
VLAN Name             : VLAN10
Priority              : 5
Aging Time            : 60 minutes
Log State             : Enabled
Member Ports         : 1-10
Dynamic Member Ports  : 1-8

DGS-3120-24TC:admin#
```

To display the voice VLAN global information when voice VLAN is disabled:

```
DGS-3120-24TC:admin# show voice_vlan
Command: show voice_vlan

Voice VLAN State      : Disabled
Voice VLAN            : Unassigned
Priority              : 5
Aging Time            : 60 minutes
Log State             : Enabled

DGS-3120-24TC:admin#
```

## 78-8 show voice\_vlan oui

### Description

This command show OUI information of voice VLAN.

### Format

**show voice\_vlan oui**

### Parameters

None.

### Restrictions

None.

## Example

To display the OUI information of voice VLAN:

```
DGS-3120-24TC:admin# show voice_vlan oui
Command: show voice_vlan oui

OUI Address   Mask   Description
-----
00-E0-BB-00-00-00  FF-FF-FF-00-00-00  3COM
00-03-6B-00-00-00  FF-FF-FF-00-00-00  Cisco
00-E0-75-00-00-00  FF-FF-FF-00-00-00  Veritel
00-D0-1E-00-00-00  FF-FF-FF-00-00-00  Pingtel
00-01-E3-00-00-00  FF-FF-FF-00-00-00  Siemens
00-60-B9-00-00-00  FF-FF-FF-00-00-00  NEC&Philips
00-0F-E2-00-00-00  FF-FF-FF-00-00-00  Huawei&3COM
00-09-6E-00-00-00  FF-FF-FF-00-00-00  Avaya
xx-xx-xx-xx-xx-xx  FF-FF-FF-FF-FF-FF  User Define

Total Entries: 8

DGS-3120-24TC:admin#
```

## 78-9 show voice\_vlan ports

### Description

This command is used to show the port voice VLAN information.

### Format

**show voice\_vlan ports {<portlist>}**

### Parameters

---

**<portlist>** - (Optional) Enter a list of ports used to be displayed here.

---

### Restrictions

None.

### Example

To display the voice VLAN information of ports 1-5:

```
DGS-3120-24TC:admin# show voice_vlan ports 1-5
Command: show voice_vlan ports 1-5

Ports  Status Mode
-----  -
1      Enabled  Auto
2      Enabled  Auto
3      Enabled  Manual
4      Enabled  Auto
5      Enabled  Auto

Total Entries: 5

DGS-3120-24TC:admin#
```

## 78-10 show voice\_vlan voice device

### Description

This command is used to show voice devices that are connected to the ports. The start time is the time when the device is detected on this port and the activate time is the latest time the device sent traffic.

### Format

**show voice\_vlan voice\_device {ports <portlist>}**

### Parameters

---

**ports** - (Optional) Specifies the list of ports to be configured here.  
**<portlist>** - Enter a list of ports used to be displayed here.

---

### Restrictions

None.

### Example

To display the voice devices that are connected to the ports 1-5:

```
DGS-3120-24TC:admin# show voice_vlan voice_device port 1-5
Command: show voice_vlan voice_device ports 1-5

Ports  Voice Device Address          Start Time    Active Time
-----  -
1:1     00-E0-BB-00-00-01    2008-10-6 09:00    2008-10-6 10:30
1:1     00-E0-BB-00-00-02    2008-10-6 14:10    2008-10-6 15:00
1:1     00-E0-BB-00-00-03    2008-10-6 14:20    2008-10-6 15:30
1:2     00-03-6B-00-00-01    2008-10-6 17:15    2008-10-6 18:00
1:4     00-E0-75-00-00-02    2008-10-6 18:15    2008-10-6 20:00
1:5     00-01-E3-01-02-03    2008-10-6 18:30    2008-10-6 20:30

Total Entries: 6

DGS-3120-24TC:admin#
```

## 78-11 config voice\_vlan log state

### Description

This command is used to configure the log state for voice VLAN. If there is a new voice device detected/or a port joins/leaves the voice VLAN dynamically, and the log is enabled, a log will be triggered.

### Format

**config voice\_vlan log state [enable | disable]**

### Parameters

- 
- log** - Specifies to enable or disable the sending of a voice VLAN log.
  - enable** - Specifies that the sending of a voice VLAN log will be enabled.
  - disable** - Specifies that the sending of a voice VLAN log will be disabled.
- 

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To enable the log state for voice VLAN:

```
DGS-3120-24TC:admin# config voice_vlan log enable
Command: config voice_vlan log enable

Success.

DGS-3120-24TC:admin#
```



## Chapter 79 Web-Based Access Control (WAC) Command List

<b>enable wac</b>
<b>disable wac</b>
<b>config wac ports</b> [<portlist>   all] {state [enable   disable]   aging_time [infinite   <min 1-1440>]   idle_time [infinite   <min 1-1440>]   block_time [<sec 0-300>]} (1)
<b>config wac method</b> [local   radius]
<b>config wac default_redirpath</b> <string 128>
<b>config wac clear_default_redirpath</b>
<b>config wac virtual_ip</b> <ipaddr>
<b>config wac switch_http_port</b> <tcp_port_number 1-65535> {[http   https]}
<b>create wac user</b> <username 15> {[vlan <vlan_name 32>   vlanid <vlanid 1-4094>]}
<b>delete wac</b> [user <username 15>   all_users]
<b>config wac user</b> <username 15> [vlan <vlan_name 32>   vlanid <vlanid 1-4094>   clear_vlan]
<b>config wac authorization_attributes</b> {radius [enable  disable]   local [enable   disable]}(1)
<b>show wac</b>
<b>show wac ports</b> {<portlist>}
<b>show wac user</b>
<b>show wac auth_state</b> ports {<portlist>}
<b>clear wac auth_state</b> [ports [<portlist>   all] {authenticated   authenticating   blocked}   macaddr <macaddr>]

### 79-1 enable wac

#### Description

The enable wac command enables WAC function.

#### Format

```
enable wac
```

#### Parameters

None.

#### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

#### Example

To enable WAC:

```
DGS-3120-24TC:admin# enable wac
Command: enable wac

Success.

DGS-3120-24TC:admin#
```

## 79-2 disable wac

### Description

The disable wac command disables WAC function; all authentication entries related to WAC will be deleted.

### Format

**disable wac**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To disable WAC:

```
DGS-3120-24TC:admin# disable wac
Command: disable wac

Success.

DGS-3120-24TC:admin#
```

## 79-3 config wac ports

### Description

Used to config state and other parameters of the ports.

### Format

**config wac ports [<portlist> | all] {state [enable | disable] | aging\_time [infinite | <min 1-1440>] | idle\_time [infinite | <min 1-1440>] | block\_time [<sec 0-300>]} (1)**

### Parameters

---

**<portlist>** - A port range to set their WAC state.

---

---

**all** - Configure all the Switch ports' WAC state.

**state** - (Optional) To specify the port state of WAC

**enable** - Specifies that the port state of WAC will be enabled.

**disable** - Specifies that the port state of WAC will be disabled.

---

**aging\_time** - (Optional) A time period during which an authenticated host will keep in authenticated state.

**infinite** - Indicates never to age out the authenticated host on the port

**<min 1-1440>** - Enter the aging time period here. This value must be between 1 and 1440 minutes.

---

**idle\_time** - (Optional) If there is no traffic during idle time, the host will be moved back to unauthenticated state

**infinite** - Indicates never to check the idle state of the authenticated host on the port.

**<min 1-1440>** - Enter the idle time period here. This value must be between 1 and 1440 minutes.

---

**block\_time** - (Optional) If a host fails to pass the authentication, it will be blocked for a period specified by "block\_time".

**<sec 0-300>** - Enter the blocking time here. This value must be between 0 and 300 seconds.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To config state and other parameters of the ports:

```
DGS-3120-24TC:admin# config wac ports 1-9 state enable
Command: config wac ports 1-9 state enable

Success.

DGS-3120-24TC:admin#
```

## 79-4 config wac method

### Description

The config wac radius\_protocol command allows you to specify the RADIUS protocol used by WAC to complete RADIUS authentication.

WAC shares other RADIUS configuration with 802.1X, when using this command to set the RADIUS protocol, you must make sure the RADIUS server added by "config radius ..." command supports the protocol.

### Format

**config wac method [local | radius]**

### Parameters

---

**local** - The authentication will be done via the local database.

**radius** - The authentication will be done via the RADIUS server.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure WAC auth method:

```
DGS-3120-24TC:admin# config wac method radius
Command: config wac method radius

Success.

DGS-3120-24TC:admin#
```

## 79-5 config wac default\_redirpath

### Description

If default redirect path is configured, the user will be redirected to the default redirect path after successful authentication.

When the string is cleared, the client will not be redirected to another URL after successful authentication.

### Format

**config wac default\_redirpath <string 128>**

### Parameters

---

**<string 128>** - The URL that the client will be redirected to after successful authentication. By default, the redirected path is cleared. This value can be up to 128 characters long.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To config WAC default redirect URL:

```
DGS-3120-24TC:admin# config wac default_redirpath http://www.dlink.com
Command: config wac default_redirpath http://www.dlink.com

Success.

DGS-3120-24TC:admin#
```

## 79-6 config wac clear\_default\_redirpath

### Description

When the string is cleared, the client will not be redirected to another URL after successful authentication.

### Format

**config wac clear\_default\_redirpath**

### Parameters

None.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To clear WAC default redirect URL:

```
DGS-3120-24TC:admin# config wac clear_default_redirpath

Success.

DGS-3120-24TC:admin#
```

## 79-7 config wac virtual\_ip

### Description

The virtual IP of WAC is used to accept authentication request from unauthenticated host. Only requests sent to this IP will get response correctly.

This IP does not respond to ARP request or ICMP packet!

### Format

**config wac virtual\_ip <ipaddr>**

### Parameters

---

**<ipaddr>** - To specify the IP address of the virtual IP.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

Set virtual IP address:

```
DGS-3120-24TC:admin# config wac virtual_ip 1.1.1.1
Command: config wac virtual_ip 1.1.1.1

Success.

DGS-3120-24TC:admin#
```

## 79-8 config wac switch\_http\_port

### Description

The TCP port for HTTP or HTTPS is used to identify the HTTP or HTTPS packets

That will be trapped to CPU for authentication processing, or to access the login page.

If not specified, the default port number for HTTP is 80, and the default port number for HTTPS is 443.

If no protocol specified, the protocol is HTTP.

The HTTP cannot run at TCP port 443, and the HTTPS cannot run at TCP port 80.

### Format

**config wac switch\_http\_port <tcp\_port\_number 1-65535> {[http | https]}**

### Parameters

---

**<tcp\_port\_number 1-65535>** - A TCP port which the WAC Switch listens to and uses to finish the authenticating process. The range of port number is 1-65535.

---

**http** - (Optional) To specify the WAC runs HTTP protocol on this TCP port.

**https** - (Optional) To specify the WAC runs HTTPS protocol on this TCP port.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To config HTTP(s) port of the switch used by WAC:

```
DGS-3120-24TC:admin# config wac switch_http_port 8888 http
Command: config wac switch_http_port 8888 http

Success.

DGS-3120-24TC:admin#
```

## 79-9 create wac user

### Description

The create wac user command allows you to create account for web-base access control.

This user account is independent with login user account.

If VLAN is not specified, the user will not get a VLAN assigned after the authentication.

### Format

**create wac user <username 15> {[vlan <vlan\_name 32> | vlanid <vlanid 1-4094>]}**

### Parameters

---

**user** - User account for web-base access control.

**<username 15>** - Enter the user name here. This name can be up to 15 characters long.

**vlan** - (Optional) Specifies the target VLAN name for authenticated hosts which will uses this user account to pass authentication.

**<vlan\_name 32>** - Enter the name of the VLAN here. This name can be up to 32 characters long.

**vlanid** - (Optional) Specifies the target VLAN ID for authenticated hosts which will uses this user account to pass authentication.

**<vlanid 1-4094>** - Enter the VLAN ID used here. This value must be between 1 and 4094.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To create a WAC local user:

```
DGS-3120-24TC:admin# create wac user Jim
Command: create wac user Jim
Enter a case-sensitive new password:**
  Enter the new password again for confirmation:**
Success.

DGS-3120-24TC:admin#
```

## 79-10 delete wac user

### Description

The delete wac user command deletes WAC users from the local DB.

### Format

**delete wac [user <username 15> | all\_users]**

## Parameters

---

**user** - To specify the user name to be deleted  
**<username 15>** - Enter the username used here. This name can be up to 15 characters long.  
**all\_users** - All user accounts in local DB will be deleted.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To delete a WAC local user:

```
DGS-3120-24TC:admin# delete wac user 123
Command: delete wac user 123

Success.

DGS-3120-24TC:admin#
```

## 79-11 config wac user

### Description

The config wac user command updates the local user DB. Only created user can be configured

### Format

**config wac user <username 15> [vlan <vlan\_name 32> | vlanid <vlanid 1-4094> | clear\_vlan]**

## Parameters

---

**user** - The user name to be configured.  
**<username 15>** - Enter the username used here. This name can be up to 32 characters long.  
**vlan** - Specifies the VLAN name for authenticated host which uses this user account to pass authentication.  
**<vlan\_name 32>** - Enter the name of the VLAN here. This name can be up to 32 characters long.  
**vlanid** - Target VLAN ID for authenticated host which uses this user account to pass authentication.  
**<vlanid 1-4094>** - Enter the VLAN ID used here. This value must be between 1 and 4094.  
**clear\_vlan** - Specifies that the VLAN details for the specified user will be cleared.

---

## Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## Example

To configure WAC local user:



```
DGS-3120-24TC:admin# config wac user Jim vlanid 3
Command: config wac user Jim vlanid 3

Enter a old password: ***
Enter a case-sensitive new password: ***
Enter the new password again for confirmation: ***
Success.

DGS-3120-24TC:admin#
```

## 79-12 config wac authorization attributes

### Description

The config wac authorization attributes command will enable or disable the acceptance of authorized configuration. When the authorization is enabled for WAC's radius, the authorized data assigned by the RADUIS server will be accepted if the global authorization network is enabled. When the authorization is enabled for WAC's local, the authorized data assigned by the local database will be accepted.

### Format

**config wac authorization attributes {radius [enable| disable] | local [enable | disable]}(1)**

### Parameters

---

**radius** - (Optional) If specified to enable, the authorized data assigned by the RADUIS server will be accepted if the global authorization network is enabled. The default state is enabled.

**enable** - Specifies that the authorized data assigned by the RADUIS server will be accepted.

**disable** - Specifies that the authorized data assigned by the RADUIS server will not be accepted.

---

**local** - (Optional) If specified to enable, the authorized data assigned by the local database will be accepted if the global authorization network is enabled. The default state is enabled.

**enable** - Specifies that the authorized data assigned by the local database will be accepted.

**disable** - Specifies that the authorized data assigned by the local database will not be accepted.

---

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

### Example

To disable acceptance of authorized configuration:

```
DGS-3120-24TC:admin# config wac authorization attributes local disable
Command: config wac authorization attributes local disable

Success.

DGS-3120-24TC:admin#
```

## 79-13 show wac

### Description

This command allows the user to display the WAC global setting.

### Format

**show wac**

### Parameters

None.

### Restrictions

None.

### Example

Show global configuration about WAC:

```
DGS-3120-24TC:admin# show wac
Command: show wac

Web-based Access Control
-----
State                : Enabled
Method               : RADIUS
Redirect Path        : http://tw.yaholl.com
Virtual IP           : 0.0.0.0
Switch HTTP Port     : 80 (HTTP)
RADIUS Authorization : Enabled
Local Authorization  : Enabled

DGS-3120-24TC:admin#
```

## 79-14 show wac ports

### Description

This command allows the user to display the port level setting.

### Format

**show wac ports {<portlist>}**

### Parameters

---

**ports** - Specifies a range of member ports to show the status.  
**<portlist>** - (Optional) Enter a list of ports to display here.

---

## Restrictions

None.

## Example

To show WAC port state and other parameters:

```
DGS-3120-24TC:admin# show wac ports 1-3
Command: show wac ports 1-3

Port          State      Aging Time  Idle Time  Block Time
              (min)      (min)      (sec)
-----
1:1           Enabled    60          30         120
1:2           Enabled    60          30         120
1:3           Enabled    120         60         120

DGS-3120-24TC:admin#
```

79-15 show wac user

## Description

The show wac user command allows you to show web authentication account.

## Format

**show wac user**

## Parameters

None.

## Restrictions

None.

## Example

To show WAC local user:

```
DGS-3120-24TC:admin# show wac user
Command: show wac user
User Name      Password      VID
-----
Jim            pasx          1000

Total Entries: 1

DGS-3120-24TC:admin#
```

## 79-16 show wac auth\_state

### Description

Used to display the authentication state of a port.

### Format

**show wac auth\_state ports {<portlist>}**

### Parameters

---

**ports** - Specifies a range of member ports to show the status.

**<portlist>** - (Optional) Enter a list of ports to display here.

---

### Restrictions

None.

### Example

Supposed that port 1 is in host-based mode:

1. MAC 00-00-00-00-00-01 is authenticated without VLAN assigned (may be the specified target VLAN does not exist or target VLAN has not been specified at all), the ID of RX VLAN will be displayed (RX VLAN ID is 20 and the assigned VLAN ID is 4004 in this example).
2. MAC 00-00-00-00-00-02 is authenticated with target VLAN assigned, the ID of target VLAN will be displayed (RX VLAN ID is 20 and the assigned VLAN ID is 1234 in this example).
3. MAC 00-00-00-00-00-03 failed to pass authentication, the VID field will be shown as “-” indicating that packets with SA 00-00-00-00-00-03 will be dropped no matter which VLAN these packets are from.
4. MAC 00-00-00-00-00-04 attempts to start authentication, the VID field will be shown as “-” until authentication completed.

Supposed that ports 2 and 3 are in port-based mode:

1. MAC 00-00-00-00-00-10 is the MAC which made port 2 pass authentication; MAC address is followed by “(P)” to indicate the port-based mode authentication. Supposed that port 3 is in port-based mode:
2. MAC 00-00-00-00-00-20 attempts to start authentication, MAC address is followed by “(P)” to indicate the port-based mode authentication.
3. MAC 00-00-00-00-00-21 failed to pass authentication, MAC address is followed by “(P)” to indicate the port-based mode authentication.

```
DGS-3120-24TC:admin# show wac auth_state ports 1-3
Command: show wac auth_state ports 1-3

P:Port-based Pri: Priority

Port      MAC Address          Original State      VID Pri Aging Time/ Idle
          RX VID              Block Time
-----
1:1      00-00-00-00-00-01    20   Authenticated      -   3   Infinite   40
1:1      00-00-00-00-00-02    20   Authenticated     1234 - Infinite   50
1:1      00-00-00-00-00-03    4004 Blocked            -   -   60         -
1:1      00-00-00-00-00-04    4004 Authenticating     -   -   10         -
1:2      00-00-00-00-00-10(P) 2040 Authenticated     1234 2 1440        20
1:3      00-00-00-00-00-20(P) 2045 Authenticating     -   -   5          -
1:3      00-00-00-00-00-21(P) 2045 Blocked            -   - 100         -

Total Authenticating Hosts :2
Total Authenticated Hosts  :3
Total Blocked Hosts        :2

DGS-3120-24TC:admin#
```

## 79-17 clear wac auth\_state

### Description

Used to clear the authentication state of a port. If the port is port-based mode, the port will return to un-authenticated state. The entire timer associated with the port will be reset.

If the port is host based mode, users on this port will be cleared. The user needs to be re-authenticated to access the network.

### Format

```
clear wac auth_state [ports [<portlist> | all] {authenticated | authenticating | blocked} |
macaddr <macaddr>]
```

### Parameters

**ports** - Specifies the list of ports whose WAC state will be cleared.

**<portlist>** - Enter a list of ports used for the configuration here.

**all** - Specifies that all the ports will be used for this configuration.

**authenticated** - (Optional) Specified to clear all authenticated users for a port.

**authenticating** - (Optional) Specified to clear all authenticating users for a port.

**blocked** - (Optional) Specified to clear all blocked users for a port.

**macaddr** - Specifies the MAC address of the users to be cleared.

**<macaddr>** - Enter the MAC address of the users to be cleared here.

### Restrictions

Only Administrator, Operator and Power-User level users can issue this command.

## **Example**

To delete WAC hosts on ports 1 to 5:

```
DGS-3120-24TC:admin# clear wac auth_state ports 1-5
```

```
Command: clear wac auth_state ports 1-5
```

```
Success.
```

```
DGS-3120-24TC:admin#
```

## Chapter 80 Password Recovery Command List

---

**enable password\_recovery**  
**disable password\_recovery**  
**show password\_recovery**

---

### 80-1 enable password\_recovery

#### Description

This command is used to enable the password recovery mode.

#### Format

**enable password\_recovery**

#### Parameters

None.

#### Restrictions

Only Administrator-level users can issue this command.

#### Example

To enable the password recovery mode:

```
DGS-3120-24TC:admin# enable password_recovery
Command: enable password_recovery

Success.

DGS-3120-24TC:admin#
```

### 80-2 disable password\_recovery

#### Description

This command is used to disable the password recovery mode.

#### Format

**disable password\_recovery**

### Parameters

None.

### Restrictions

Only Administrator-level users can issue this command.

### Example

To disable the password recovery mode:

```
DGS-3120-24TC:admin# disable password_recovery
Command: disable password_recovery

Success.

DGS-3120-24TC:admin#
```

## 80-3 show password\_recovery

### Description

This command is used to display the password recovery state.

### Format

**show password\_recovery**

### Parameters

None.

### Restrictions

Only Administrator-level users can issue this command.

### Example

To display the password recovery state:

```
DGS-3120-24TC:admin# show password_recovery
Command: show password_recovery

Running Configuration   : Enabled
NV-RAM Configuration   : Enabled

DGS-3120-24TC:admin#
```



# Appendix A Mitigating ARP Spoofing Attacks Using Packet Content ACL

## How Address Resolution Protocol works

Address Resolution Protocol (ARP) is the standard method for finding a host's hardware address (MAC address) when only its IP address is known. However, this protocol is vulnerable because crackers can spoof the IP and MAC information in the ARP packets to attack a LAN (known as ARP spoofing). This document is intended to introduce the ARP protocol, ARP spoofing attacks, and the countermeasures brought by D-Link's switches to thwart ARP spoofing attacks.

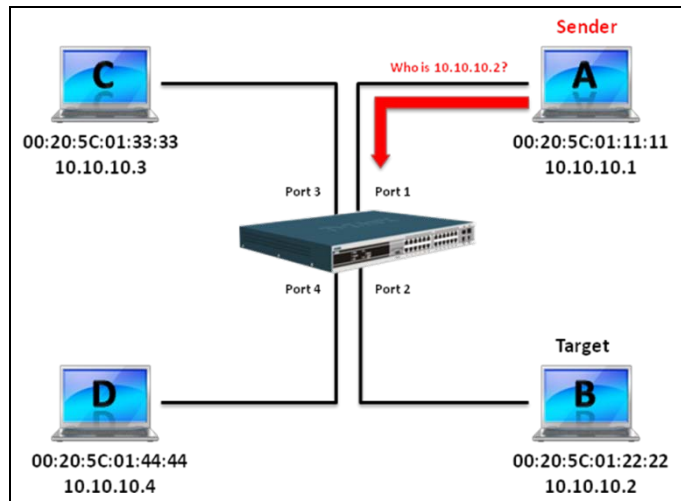


Figure 1

In the process of ARP, PC A will first issue an ARP request to query PC B's MAC address. The network structure is shown in Figure 1.

In the meantime, PC A's MAC address will be written into the "Sender H/W Address" and its IP address will be written into the "Sender Protocol Address" in the ARP payload. As PC B's MAC address is unknown, the "Target H/W Address" will be "00-00-00-00-00-00," while PC B's IP address will be written into the "Target Protocol Address," shown in Table 1.

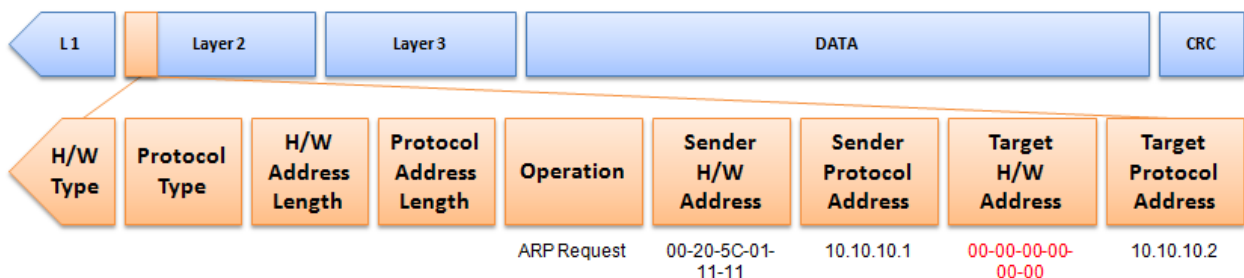
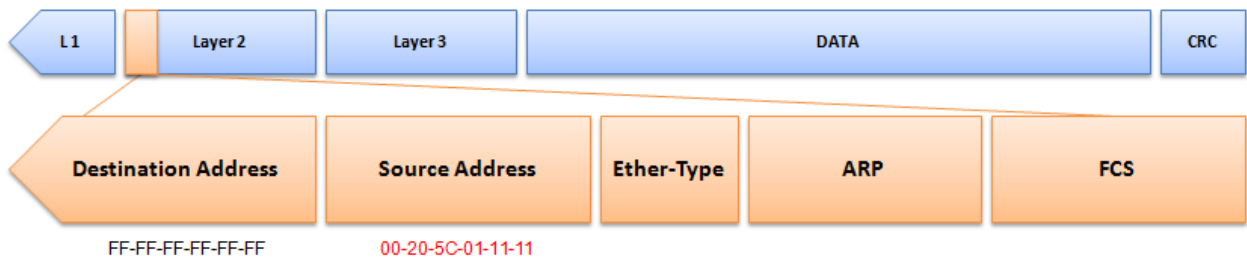


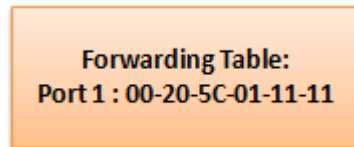
Table 1 ARP Payload

The ARP request will be encapsulated into an Ethernet frame and sent out. As can be seen in Table 2, the "Source Address" in the Ethernet frame will be PC A's MAC address. Since an ARP request is sent via broadcast, the "Destination address" is in a format of Ethernet broadcast (FF-FF-FF-FF-FF-FF).

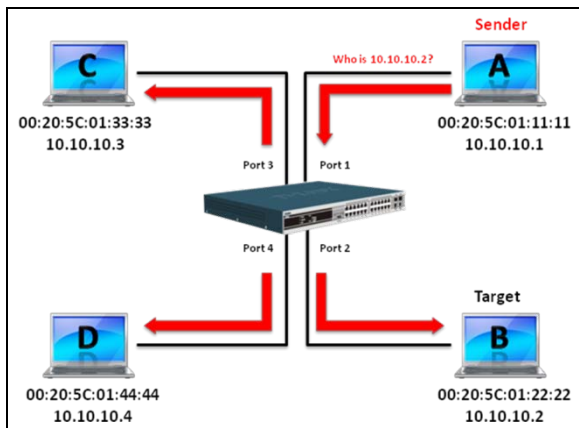


**Table 2 Ethernet Frame Format**

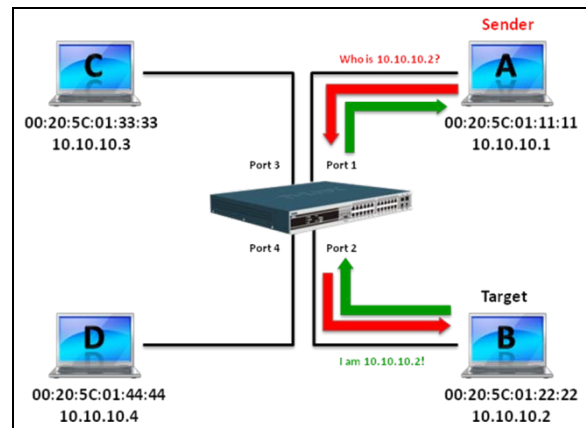
When the switch receives the frame, it will check the “Source Address” in the Ethernet frame’s header. If the address is not in its Forwarding Table, the switch will learn PC A’s MAC and the associated port into its Forwarding Table.



In addition, when the switch receives the broadcasted ARP request, it will flood the frame to all ports except the source port, port 1 (see Figure 2).



**Figure 2**



**Figure 3**

When PC B replies to the ARP request, its MAC address will be written into “Target H/W Address” in the ARP payload shown in Table 3. The ARP reply will be then encapsulated into an Ethernet frame again and sent back to the sender. The ARP reply is in a form of Unicast communication.

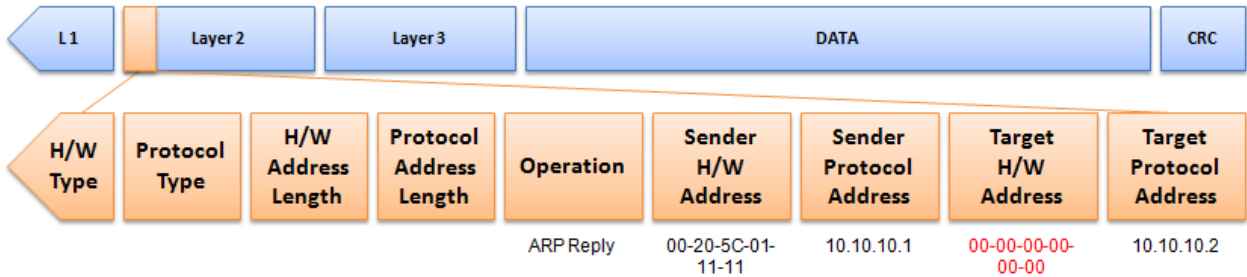


Table 3 ARP Payload

When PC B replies to the query, the “Destination Address” in the Ethernet frame will be changed to PC A’s MAC address. The “Source Address” will be changed to PC B’s MAC address (see Table 4).

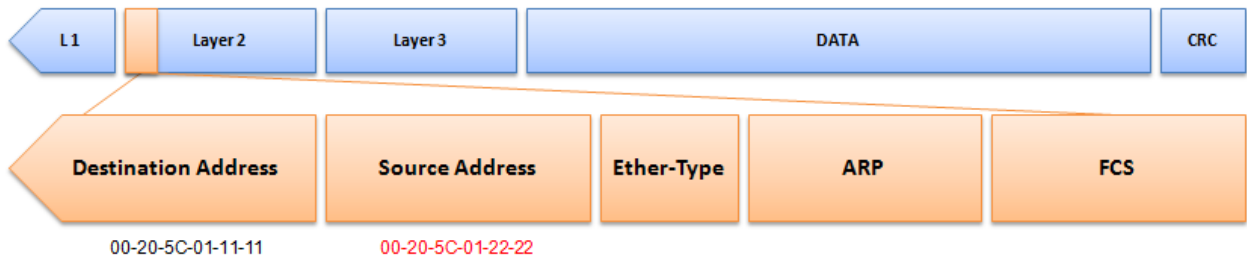
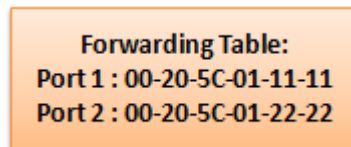


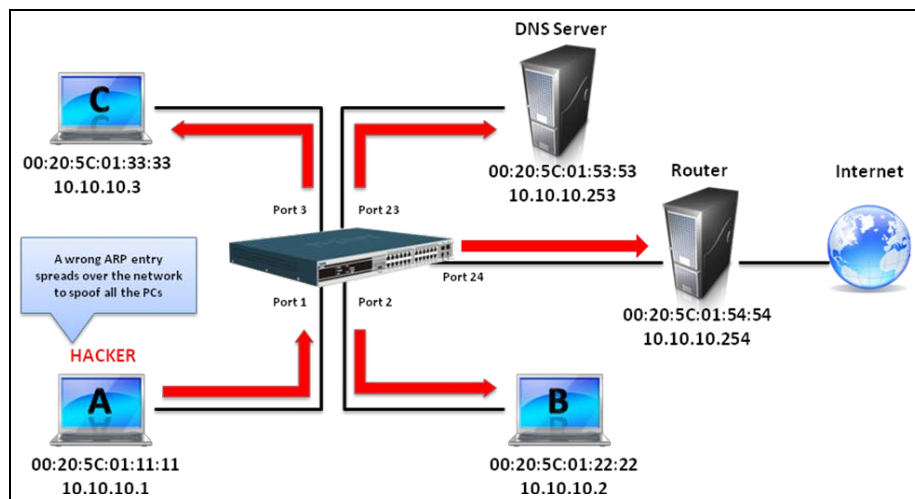
Table 4 Ethernet Frame Format

The switch will also examine the “Source Address” of the Ethernet frame and find that the address is not in the Forwarding Table. The switch will learn PC B’s MAC and update its Forwarding Table.



### How ARP Spoofing Attacks a Network

ARP spoofing, also known as ARP poisoning, is a method to attack an Ethernet network which may allow an attacker to sniff data frames on a LAN, modify the traffic, or stop the traffic altogether (known as a



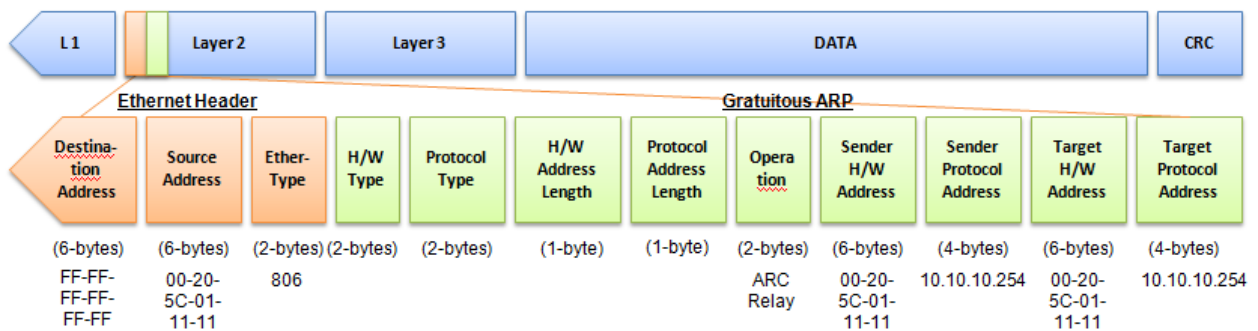
Denial of Service – DoS attack).

Figure 4

The principle of ARP spoofing is to send the fake, or spoofed ARP messages to an Ethernet network. Generally, the aim is to associate the attacker's or random MAC address with the IP address of another node (such as the default gateway). Any traffic meant for that IP address would be mistakenly re-directed to the node specified by the attacker.

IP spoofing attack is caused by Gratuitous ARP that occurs when a host sends an ARP request to resolve its own IP address. Figure-4 shows a hacker within a LAN to initiate ARP spoofing attack.

In the Gratuitous ARP packet, the “Sender protocol address” and “Target protocol address” are filled with the same source IP address itself. The “Sender H/W Address” and “Target H/W address” are filled with the same source MAC address itself. The destination MAC address is the Ethernet broadcast address (FF-FF-FF-FF-FF-FF). All nodes within the network will immediately update their own ARP table in accordance with the sender’s MAC and IP address. The format of Gratuitous ARP is shown in the following table.



A common DoS attack today can be done by associating a nonexistent or any specified MAC address to the IP address of the network’s default gateway.

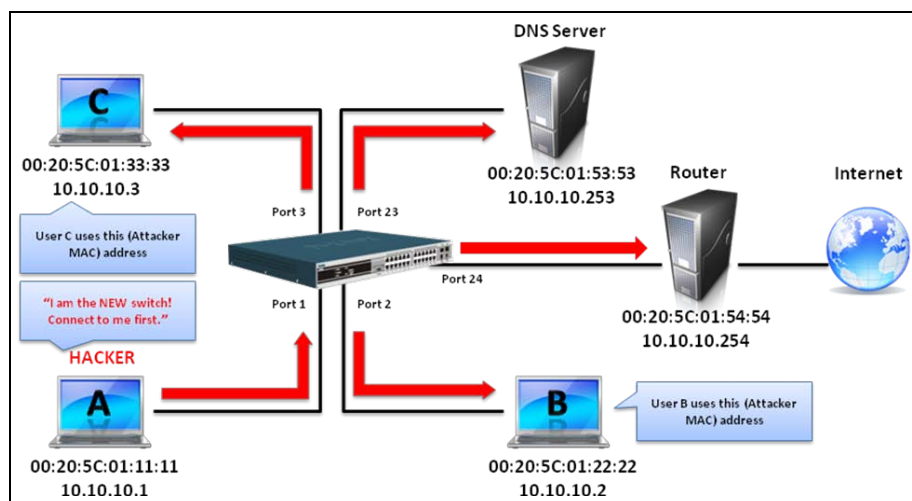


Figure 5

The malicious attacker only needs to broadcast one Gratuitous ARP to the network claiming it is the gateway so that the whole network operation will be turned down as all packets to the Internet will be directed to the wrong node.

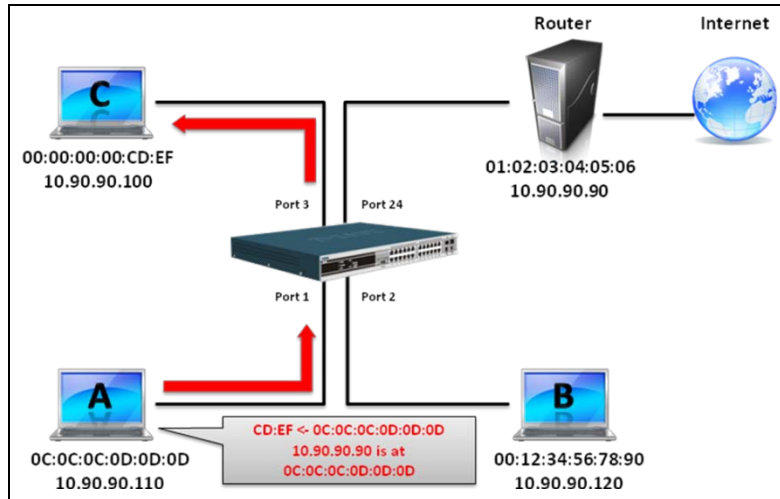
Likewise, the attacker can either choose to forward the traffic to the actual default gateway (passive sniffing) or modify the data before forwarding it (man-in-the-middle attack).

The hacker cheats the victim PC that it is a router and cheats the router that it is the victim. As can be seen in Figure 5 all traffic will be then sniffed by the hacker but the users will not discover.

### Prevent ARP Spoofing via Packet Content ACL

D-Link managed switches can effectively mitigate common DoS attacks caused by ARP spoofing via a unique Package Content ACL.

For the reason that basic ACL can only filter ARP packets based on packet type, VLAN ID, Source, and Destination MAC information, there is a need for further inspections of ARP packets.



To prevent ARP spoofing attack, we will demonstrate here via using Packet Content ACL on the Switch to block the invalid ARP packets which contain faked gateway's MAC and IP binding.

### Configuration

The configuration logic is as follows:

1. Only if the ARP matches Source MAC address in Ethernet, Sender MAC address and Sender IP address in ARP protocol can pass through the switch. (In this example, it is the gateway's ARP.)
2. The switch will deny all other ARP packets which claim they are from the gateway's IP.

The design of Packet Content ACL on the Switch enables users to inspect any offset chunk. An offset chunk is a 4-byte block in a HEX format, which is utilized to match the individual field in an Ethernet frame. Each profile is allowed to contain up to a maximum of four offset chunks. Furthermore, only one single profile of Packet Content ACL can be supported per switch. In other words, up to 16 bytes of total offset chunks can be applied to each profile and a switch. Therefore, a careful consideration is needed for planning and configuration of the valuable offset chunks.

In Table 6, you will notice that the Offset\_Chunk0 starts from the 127th byte and ends at the 128th byte. It also can be found that the offset chunk is scratched from 1 but not zero.

Offset Chunk	Offset Chunk0	Offset Chunk1	Offset Chunk2	Offset Chunk3	Offset Chunk4	Offset Chunk5	Offset Chunk6	Offset Chunk7	Offset Chunk8	Offset Chunk9	Offset Chunk10	Offset Chunk11	Offset Chunk12	Offset Chunk13	Offset Chunk14	Offset Chunk15
Byte	127	3	7	11	15	19	23	27	31	35	39	43	47	51	55	59
Byte	128	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60

Byte	1	5	9	13	17	21	25	29	33	37	41	45	49	53	57	61
Byte	2	6	10	14	18	22	26	30	34	38	42	46	50	54	58	62

Offset Chunk	Offset Chunk1 6	Offset Chunk1 7	Offset Chunk1 8	Offset Chunk1 9	Offset Chunk2 0	Offset Chunk2 1	Offset Chunk2 2	Offset Chunk2 3	Offset Chunk2 4	Offset Chunk2 5	Offset Chunk2 6	Offset Chunk2 7	Offset Chunk2 8	Offset Chunk2 9	Offset Chunk3 0	Offset Chunk3 1
Byte	63	67	71	75	79	83	87	91	95	99	103	107	111	115	119	123
Byte	64	68	72	76	80	84	88	92	96	100	104	108	112	116	120	124
Byte	65	69	73	77	81	85	89	93	97	101	105	109	113	117	121	125
Byte	66	70	74	78	82	86	90	94	98	102	106	110	114	118	122	126

Table 6. Chunk and Packet Offset

The following table indicates a completed ARP packet contained in Ethernet frame which is the pattern for the calculation of packet offset.

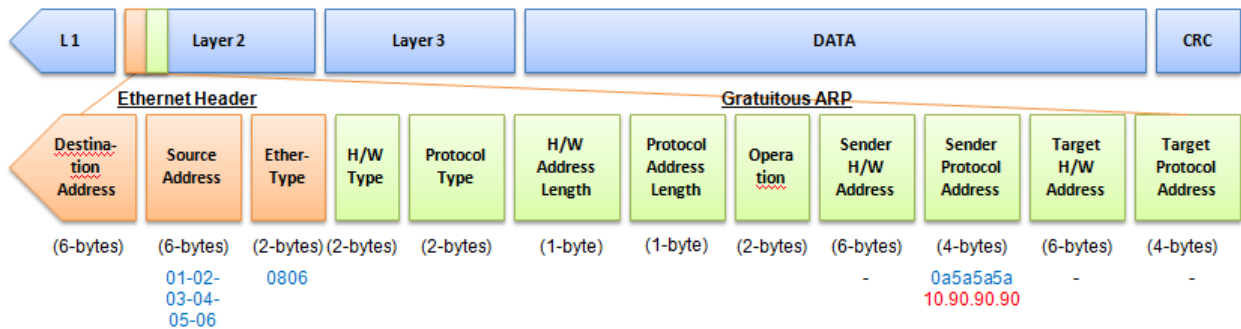


Table 5 A Completed ARP Packet Contained in an Ethernet Frame

Command	Description
<b>Step 1:</b> <b>create access_profile_id 1 profile_name 1 ethernet source_mac FF-FF-FF-FF-FF-FF ethernet_type</b>	Create access profile 1 to match Ethernet Type and Source MAC address.
<b>Step 2:</b> <b>config access_profile profile_id 1 add access_id 1 ethernet source_mac 01-02-03-04-05-06 ethernet_type 0x806 port 1-12 permit</b>	Configure access profile 1 Only if the gateway's ARP packet that contains the correct Source MAC in the Ethernet frame can pass through the switch.
<b>Step 3:</b> <b>create access_profile profile_id 2 profile_name 2 packet_content_mask offset_chunk_1 3 0xFFFF offset_chunk_2 7 0xFFFF offset_chunk_3 8 0xFFFF0000</b>	Create access profile 2 The first chunk starts from Chunk 3 mask for Ethernet Type. (Blue in Table 6, 13th and 14th bytes) The second chunk starts from Chunk 7 mask for Sender IP in ARP packet. (Green in Table 6, 29th and 30th bytes) The third chunk starts from Chunk 8 mask

		for Sender IP in ARP packet. (Brown in Table 6, 31st and 32nd bytes)
<b>Step 4:</b>	<b>config access_profile profile_id 2 add access_id 1 packet_content offset_chunk_1 0x806 offset_chunk_2 0xA5A offset_chunk_3 0x5A5A0000</b>	Configure access profile 2.  The rest of the ARP packets whose Sender IP claim they are the gateway's IP will be dropped.
<b>Step 5:</b>	<b>save</b>	Save configuration.

## Appendix B Password Recovery Procedure

This chapter describes the procedure for resetting passwords on D-Link switches. Authenticating any user who tries to access networks is necessary and important. The basic authentication method used to accept qualified users is through a local login, utilizing a Username and Password. Sometimes, passwords get forgotten or destroyed, so network administrators need to reset these passwords. This chapter explains how the Password Recovery feature can help network administrators reach this goal.

The following steps explain how to use the Password Recovery feature on D-Link devices to easily recover passwords.

**Complete these steps to reset the password:**

1. For security reasons, the Password Recovery feature requires the user to physically access the device. Therefore this feature is only applicable when there is a direct connection to the console port of the device. It is necessary for the user needs to attach a terminal or PC with terminal emulation to the console port of the switch.
2. Power on the switch. After the runtime image and UART init are loaded to 100%, the switch will allow 2 seconds for the user to press the hotkey [^] (Shift + 6) to enter the "Password Recovery Mode." Once the switch enters the "Password Recovery Mode," all ports on the switch will be disabled and all port LEDs will be lit.

```

Boot Procedure                                     V1.00.010
-----
Power On Self Test ..... 100 %

MAC Address   : 00-01-02-03-04-00
H/W Version   : A1

Please Wait, Loading V1.02.013 Runtime Image ..... 100 %
UART init ..... 100 %
    
```

```

Password Recovery Mode
>
    
```

3. In the "Password Recovery Mode" only the following commands can be used.

Command	Parameters
<b>reset config</b> <b>{force_agree}</b>	The <b>reset config</b> command resets the whole configuration back to the default values. If <b>force_agree</b> is specified, the configuration will reset to default without the user's agreement.
<b>reboot</b>	The <b>reboot</b> command exits the Reset Password Recovery Mode and restarts the switch. A confirmation message will be displayed to allow the user to save the current settings.



<b>Command</b>	<b>Parameters</b>
<b>reset account</b>	The <b>reset account</b> command deletes all the previously created accounts.
<b>reset password</b> <b>{&lt;username&gt;}</b>	The <b>reset password</b> command resets the password of the specified user. If a username is not specified, the passwords of all users will be reset.
<b>show account</b>	The <b>show account</b> command displays all previously created accounts.

## Appendix C System Log Entries

The following table lists all possible entries and their corresponding meanings that will appear in the System Log of this Switch.

Category	Event Description	Log Information	Severity	Remark
<b>System</b>	System started up	[Unit <unitID>] System started up	Critical	
	System warm start	[Unit <unitID>] System warm start	Critical	
	System cold start	[Unit <unitID>] System cold start	Critical	
	Configuration saved to flash	[Unit <unitID>] Configuration saved to flash by console(Username: <username>, IP: <ipaddr> )	Informational	"by console" and "IP: <ipaddr>" are XOR shown in log string, which means if user login by console, there will no IP information for logging.
	System log saved to flash	[Unit <unitID>] System log saved to flash by console(Username: <username>, IP: <ipaddr> )	Informational	"by console" and "IP: <ipaddr>" are XOR shown in log string, which means if user login by console, there will no IP information for logging.
	Configuration and log saved to flash	[Unit <unitID>] Configuration and log saved to flash by console(Username: <username>, IP: <ipaddr> )	Informational	"by console" and "IP: <ipaddr>" are XOR shown in log string, which means if user login by console, there will no IP information for logging.
	Internal Power failed	[Unit <unitID>] Internal Power failed	Critical	

	Internal Power is recovered	<b>[Unit &lt;unitID&gt;] Internal Power is recovered</b>	Critical	
	Redundant Power failed	<b>[Unit &lt;unitID&gt;] Redundant Power failed</b>	Critical	
	Redundant Power is working	<b>[Unit &lt;unitID&gt;] Redundant Power is working</b>	Critical	
	Side Fan failed	<b>[Unit &lt;unitID&gt;] Side Fan failed</b>	Critical	
	Side Fan recovered	<b>[Unit &lt;unitID&gt;] Side Fan recovered</b>	Critical	
<b>Upload/Download</b>	Firmware upgraded successfully	<b>[Unit &lt;unitID&gt;] Firmware upgraded by console successfully (Username: &lt;username&gt;, IP: &lt;ipaddr&gt; )</b>	Informational	"by console" and "IP: <ipaddr>" are XOR shown in log string, which means if user login by console, there will no IP information for logging.
	Firmware upgrade was unsuccessful	<b>[Unit &lt;unitID&gt;] Firmware upgrade by console was unsuccessful! (Username: &lt;username&gt;, IP: &lt;ipaddr&gt; )</b>	Warning	"by console" and "IP: <ipaddr>" are XOR shown in log string, which means if user login by console, there will no IP information for logging.
	Configuration successfully downloaded	<b>Configuration successfully downloaded by console (Username: &lt;username&gt;, IP: &lt;ipaddr&gt; )</b>	Informational	"by console" and "IP: <ipaddr>" are XOR shown in log string, which means if user login by console, there will no IP information for logging.
	Configuration download was unsuccessful	<b>Configuration download by console was unsuccessful! (Username: &lt;username&gt;, IP: &lt;ipaddr&gt; )</b>	Warning	"by console" and "IP: <ipaddr>" are XOR shown in log string, which means if user login by console, there will no IP information for logging.

	Configuration successfully uploaded	<b>Configuration successfully uploaded by console (Username: &lt;username&gt;, IP: &lt;ipaddr&gt; )</b>	Informational	"by console" and "IP: <ipaddr>" are XOR shown in log string, which means if user login by console, there will no IP information for logging.
	Configuration upload was unsuccessful	<b>Configuration upload by console was unsuccessful! (Username: &lt;username&gt;, IP: &lt;ipaddr&gt; )</b>	Warning	"by console" and "IP: <ipaddr>" are XOR shown in log string, which means if user login by console, there will no IP information for logging.
	Log message successfully uploaded	<b>Log message successfully uploaded by console (Username: &lt;username&gt;, IP: &lt;ipaddr&gt; )</b>	Informational	"by console" and "IP: <ipaddr>" are XOR shown in log string, which means if user login by console, there will no IP information for logging.
	Log message upload was unsuccessful	<b>Log message upload by console was unsuccessful! (Username: &lt;username&gt;, IP: &lt;ipaddr&gt; )</b>	Warning	"by console" and "IP: <ipaddr>" are XOR shown in log string, which means if user login by console, there will no IP information for logging.
	Firmware successfully uploaded	<b>Firmware successfully uploaded by console (Username: &lt;username&gt;, IP: &lt;ipaddr&gt; )</b>	Informational	"by console" and "IP: <ipaddr>" are XOR shown in log string, which means if user login by console, there will no IP information for logging.

				information for logging.
	Firmware upload was unsuccessful	<b>Firmware upload by console was unsuccessful! (Username: &lt;username&gt;, IP: &lt;ipaddr&gt; )</b>	Warning	"by console" and "IP: <ipaddr>" are XOR shown in log string, which means if user login by console, there will no IP information for logging.
<b>Interface</b>	Port link up	<b>Port &lt;[unitID]:portNum&gt; link up, &lt;link state&gt;</b>	Informational	link state, for ex: , 100Mbps FULL duplex
	Port link down	<b>Port &lt;[unitID]:portNum&gt; link down</b>	Informational	
<b>Stacking</b>	Hot insert	<b>Unit&lt;UnitID&gt;,MAC:&lt;macaddr&gt; Hot insertion.</b>	Informational	
	Hot remove	<b>Unit&lt;UnitID&gt;,MAC:&lt;macaddr&gt; Hot removal.</b>	Informational	
	Firmware upgraded to SLAVE successfully	<b>Firmware upgraded to SLAVE successfully (Username:&lt;username&gt;)</b>	Informational	
	Firmware upgraded to SLAVE unsuccessfully	<b>Firmware upgraded to SLAVE unsuccessfully! (Username: &lt;username&gt;)</b>	Warning	
	Stacking topology change.	<b>Stacking topology is &lt;Stack_TP_TYPE&gt;. Master(Unit &lt;unitID&gt;, MAC:&lt;macaddr&gt;)</b>	Informational	
	Backup master changed to master	<b>Backup master changed to master. Master (Unit: &lt;unitID&gt;)</b>	Informational	
	Slave changed to master	<b>Slave changed to master. Master (Unit: &lt;unitID&gt;)</b>	Informational	
	Box ID conflict	<b>Hot insert failed, box ID conflict: Unit &lt;unitID&gt; conflict (MAC: &lt;macaddr&gt; and MAC: &lt;macaddr&gt;)</b>	Critical	
<b>Console</b>	Successful login through Console	<b>[Unit &lt;unitID&gt;,) Successful login through Console (Username: &lt;username&gt;)</b>	Informational	There are no IP and MAC if login by console.
	Login failed through Console	<b>[Unit &lt;unitID&gt;,) Login failed through Console (Username: &lt;username&gt;)</b>	Warning	There are no IP and MAC if login by console.
	Logout through Console	<b>[Unit &lt;unitID&gt;,) Logout through Console (Username: &lt;username&gt;)</b>	Informational	There are no IP and MAC if login by console.
	Console session timed out	<b>[Unit &lt;unitID&gt;,) Console session timed out (Username: &lt;username&gt;)</b>	Informational	There are no IP and MAC if login by console.

<b>Web</b>	Successful login through Web	<b>Successful login through Web (Username: &lt;username&gt;, IP: &lt;ipaddr&gt; )</b>	Informational	
	Login failed through Web	<b>Login failed through Web (Username: &lt;username&gt;, IP: &lt;ipaddr&gt; )</b>	Warning	
	Logout through Web	<b>Logout through Web (Username: &lt;username&gt;, IP: &lt;ipaddr&gt; )</b>	Informational	
	Web session timed out	<b>Web session timed out (Username: &lt;username&gt;, IP: &lt;ipaddr&gt; )</b>	Informational	
	Successful login through Web(SSL)	<b>Successful login through Web(SSL) (Username: &lt;username&gt;, IP: &lt;ipaddr&gt; )</b>	Informational	
	Login failed through Web(SSL)	<b>Login failed through Web(SSL) (Username: &lt;username&gt;, IP: &lt;ipaddr&gt; )</b>	Warning	
	Logout through Web(SSL)	<b>Logout through Web(SSL) (Username: &lt;username&gt;, IP: &lt;ipaddr&gt; )</b>	Informational	
	Web(SSL) session timed out	<b>Web(SSL) session timed out (Username: &lt;username&gt;, IP: &lt;ipaddr&gt; )</b>	Informational	
<b>Telnet</b>	Successful login through Telnet	<b>Successful login through Telnet (Username: &lt;username&gt;, IP: &lt;ipaddr&gt; )</b>	Informational	
	Login failed through Telnet	<b>Login failed through Telnet (Username: &lt;username&gt;, IP: &lt;ipaddr&gt; )</b>	Warning	
	Logout through Telnet	<b>Logout through Telnet (Username: &lt;username&gt;, IP: &lt;ipaddr&gt; )</b>	Informational	
	Telnet session timed out	<b>Telnet session timed out (Username: &lt;username&gt;, IP: &lt;ipaddr&gt; )</b>	Informational	
<b>SNMP</b>	SNMP request received with invalid community string	<b>SNMP request received from &lt;ipAddress&gt; with invalid community string!</b>	Informational	
<b>STP</b>	Topology changed	<b>Topology changed (Instance:&lt;InstanceID&gt; ,Port:&lt;[unitID:]portNum&gt;,MAC:&lt;macaddr&gt;)</b>	Informational	
	New Root selected	<b>[CIST   CIST Regional   MSTI Regional] New Root bridge selected( [Instance: &lt;InstanceID&gt; ]MAC: &lt;macaddr&gt; Priority :&lt;value&gt;)</b>	Informational	
	Spanning Tree Protocol is enabled	<b>Spanning Tree Protocol is enabled</b>	Informational	
	Spanning Tree Protocol is disabled	<b>Spanning Tree Protocol is disabled</b>	Informational	
	New root port	<b>New root port selected (Instance:&lt;InstanceID&gt;, port:&lt;[unitID:]portNum&gt;)</b>	Notice	
	Spanning Tree port status changed	<b>Spanning Tree port status change (Instance:&lt;InstanceID&gt; , Port:&lt;[unitID:]portNum&gt;) &lt;old_status&gt; -&gt; &lt;new_status&gt;</b>	Notice	
	Spanning Tree port role changed	<b>Spanning Tree port role change (Instance:&lt;InstanceID&gt; , Port:&lt;[unitID:]portNum&gt;) &lt;old_role&gt; -&gt; &lt;new_role&gt;</b>	Informational	
	Spanning Tree instance created	<b>Spanning Tree instance created (Instance:&lt;InstanceID&gt;)</b>	Informational	
	Spanning Tree instance	<b>Spanning Tree instance deleted</b>	Informational	

	deleted	(Instance:<InstanceID>)		
	Spanning Tree Version changed	Spanning Tree version change (new version:<new_version>)	Informational	
	Spanning Tree MST configuration ID name and revision level changed	Spanning Tree MST configuration ID name and revision level change (name:<name> ,revision level <revision_level>).	Informational	
	Spanning Tree MST configuration ID VLAN mapping table deleted	Spanning Tree MST configuration ID VLAN mapping table change (instance: <InstanceID> delete vlan <startvlanid> [-<endvlanid>])	Informational	
	Spanning Tree MST configuration ID VLAN mapping table added	Spanning Tree MST configuration ID VLAN mapping table change (instance: <InstanceID> add vlan <startvlanid> [-<endvlanid>])	Informational	
<b>DoS</b>	<p>spoofing attack</p> <ol style="list-style-type: none"> <li>1. The source IP is same as switch's interface IP but the source Mac is different</li> <li>2. Source IP is the same as the switch's IP in ARP packet</li> <li>3. Self IP packet detected</li> </ol>	Possible spoofing attack from IP: <ipaddr>, MAC: <macaddr>, Port: <[unitID:]portNum>	Critical	
<b>SSH</b>	Successful login through SSH	Successful login through SSH (Username: <username>, IP: <ipaddr> )	Informational	
	Login failed through SSH	Login failed through SSH (Username: <username>, IP: <ipaddr>, )	Warning	
	Logout through SSH	Logout through SSH (Username: <username>, IP: <ipaddr> )	Informational	
	SSH session timed out	SSH session timed out (Username: <username>, IP: <ipaddr>)	Informational	
	SSH server is enabled	SSH server is enabled	Informational	
	SSH server is disabled	SSH server is disabled	Informational	
<b>AAA</b>	Authentication Policy is enabled	Authentication Policy is enabled (Module: AAA)	Informational	
	Authentication Policy is disabled	Authentication Policy is disabled (Module: AAA)	Informational	
	Successful login through Console authenticated by AAA local method	Successful login through Console authenticated by AAA local method (Username: <username>)	Informational	
	Login failed through Console authenticated by AAA local method	Login failed through Console authenticated by AAA local method (Username: <username>)	Warning	
	Successful login through Web authenticated by AAA local method	Successful login through Web from <userIP> authenticated by AAA local method (Username: <username> )	Informational	
	Login failed through Web authenticated by AAA local method	Login failed through Web from <userIP> authenticated by AAA local method (Username: <username> )	Warning	
	Successful login through Web(SSL) authenticated by AAA local method	Successful login through Web(SSL) from <userIP> authenticated by AAA local method (Username: <username> )	Informational	

	Login failed through Web(SSL) authenticated by AAA local method	<b>Login failed through Web(SSL) from &lt;userIP&gt; authenticated by AAA local method (Username: &lt;username&gt;)</b>	Warning	
	Successful login through Telnet authenticated by AAA local method	<b>Successful login through Telnet from &lt;userIP&gt; authenticated by AAA local method (Username: &lt;username&gt; , )</b>	Informational	
	Login failed through Telnet authenticated by AAA local method	<b>Login failed through Telnet from &lt;userIP&gt; authenticated by AAA local method (Username: &lt;username&gt; )</b>	Warning	
	Successful login through SSH authenticated by AAA local method	<b>Successful login through SSH from &lt;userIP&gt; authenticated by AAA local method (Username: &lt;username&gt; )</b>	Informational	
	Login failed through SSH authenticated by AAA local method	<b>Login failed through SSH from &lt;userIP&gt; authenticated by AAA local method (Username: &lt;username&gt;)</b>	Warning	
	Successful login through Console authenticated by AAA none method	<b>Successful login through Console authenticated by AAA none method (Username: &lt;username&gt;)</b>	Informational	
	Successful login through Web authenticated by AAA none method	<b>Successful login through Web from &lt;userIP&gt; authenticated by AAA none method (Username: &lt;username&gt; )</b>	Informational	
	Successful login through Web(SSL) authenticated by AAA none method	<b>Successful login through Web(SSL) from &lt;userIP&gt; authenticated by AAA none method (Username: &lt;username&gt; )</b>	Informational	
	Successful login through Telnet authenticated by AAA none method	<b>Successful login through Telnet from &lt;userIP&gt; authenticated by AAA none method (Username: &lt;username&gt; )</b>	Informational	
	Successful login through SSH authenticated by AAA none method	<b>Successful login through SSH from &lt;userIP&gt; authenticated by AAA none method (Username: &lt;username&gt; )</b>	Informational	
	Successful login through Console authenticated by AAA server	<b>Successful login through Console authenticated by AAA server &lt;serverIP&gt; (Username: &lt;username&gt;)</b>	Informational	There are no IP and MAC if login by console.
	Login failed through Console authenticated by AAA server	<b>Login failed through Console authenticated by AAA server &lt;serverIP&gt; (Username: &lt;username&gt;)</b>	Warning	There are no IP and MAC if login by console.
	Login failed through Console due to AAA server timeout or improper configuration	<b>Login failed through Console due to AAA server timeout or improper configuration (Username: &lt;username&gt;)</b>	Warning	
	Successful login through Web authenticated by AAA server	<b>Successful login through Web from &lt;userIP&gt; authenticated by AAA server &lt;serverIP&gt; (Username: &lt;username&gt;)</b>	Informational	
	Login failed through Web authenticated by AAA server	<b>Login failed through Web from &lt;userIP&gt; authenticated by AAA server &lt;serverIP&gt; (Username: &lt;username&gt; )</b>	Warning	
	Login failed through Web due to AAA server timeout or improper configuration	<b>Login failed through Web from &lt;userIP&gt; due to AAA server timeout or improper configuration (Username: &lt;username&gt; )</b>	Warning	
	Successful login through Web(SSL) authenticated by AAA server	<b>Successful login through Web(SSL) from &lt;userIP&gt; authenticated by AAA server &lt;serverIP&gt; (Username: &lt;username&gt; )</b>	Informational	



	Login failed through Web(SSL) authenticated by AAA server	<b>Login failed through Web(SSL) from &lt;userIP&gt; authenticated by AAA server &lt;serverIP&gt; (Username: &lt;username&gt; )</b>	Warning	
	Login failed through Web(SSL) due to AAA server timeout or improper configuration	<b>Login failed through Web(SSL) from &lt;userIP&gt; due to AAA server timeout or improper configuration (Username: &lt;username&gt; )</b>	Warning	
	Successful login through Telnet authenticated by AAA server	<b>Successful login through Telnet from &lt;userIP&gt; authenticated by AAA server &lt;serverIP&gt; (Username: &lt;username&gt; )</b>	Informational	
	Login failed through Telnet authenticated by AAA server	<b>Login failed through Telnet from &lt;userIP&gt; authenticated by AAA server &lt;serverIP&gt; (Username: &lt;username&gt; )</b>	Warning	
	Login failed through Telnet due to AAA server timeout or improper configuration	<b>Login failed through Telnet from &lt;userIP&gt; due to AAA server timeout or improper configuration (Username: &lt;username&gt; )</b>	Warning	
	Successful login through SSH authenticated by AAA server	<b>Successful login through SSH from &lt;userIP&gt; authenticated by AAA server &lt;serverIP&gt; (Username: &lt;username&gt; )</b>	Informational	
	Login failed through SSH authenticated by AAA server	<b>Login failed through SSH from &lt;userIP&gt; authenticated by AAA server &lt;serverIP&gt; (Username: &lt;username&gt; )</b>	Warning	
	Login failed through SSH due to AAA server timeout or improper configuration	<b>Login failed through SSH from &lt;userIP&gt; due to AAA server timeout or improper configuration (Username: &lt;username&gt; )</b>	Warning	
	Successful Enable Admin through Console authenticated by AAA local_enable method	<b>Successful Enable Admin through Console authenticated by AAA local_enable method (Username: &lt;username&gt; )</b>	Informational	
	Enable Admin failed through Console authenticated by AAA local_enable method	<b>Enable Admin failed through Console authenticated by AAA local_enable method (Username: &lt;username&gt; )</b>	Warning	
	Successful Enable Admin through Web authenticated by AAA local_enable method	<b>Successful Enable Admin through Web from &lt;userIP&gt; authenticated by AAA local_enable method (Username: &lt;username&gt; )</b>	Informational	
	Enable Admin failed through Web authenticated by AAA local_enable method	<b>Enable Admin failed through Web from &lt;userIP&gt; authenticated by AAA local_enable method (Username: &lt;username&gt; )</b>	Warning	
	Successful Enable Admin through Web(SSL) authenticated by AAA local_enable method	<b>Successful Enable Admin through Web(SSL) from &lt;userIP&gt; authenticated by AAA local_enable method (Username: &lt;username&gt;, )</b>	Informational	
	Enable Admin failed through Web(SSL) authenticated by AAA local_enable method	<b>Enable Admin failed through Web(SSL) from &lt;userIP&gt; authenticated by AAA local_enable method (Username: &lt;username&gt; )</b>	Warning	
	Successful Enable Admin through Telnet authenticated by AAA local_enable method	<b>Successful Enable Admin through Telnet from &lt;userIP&gt; authenticated by AAA local_enable method (Username: &lt;username&gt; )</b>	Informational	
	Enable Admin failed through Telnet authenticated by AAA	<b>Enable Admin failed through Telnet from &lt;userIP&gt; authenticated by AAA local_enable method (Username:</b>	Warning	

	local_enable method	<username> )		
	Successful Enable Admin through SSH authenticated by AAA local_enable method	<b>Successful Enable Admin through SSH from &lt;userIP&gt; authenticated by AAA local_enable method (Username: &lt;username&gt; )</b>	Informational	
	Enable Admin failed through SSH authenticated by AAA local_enable method	<b>Enable Admin failed through &lt;Telnet or Web or SSH&gt; from &lt;userIP&gt; authenticated by AAA local_enable method (Username: &lt;username&gt; )</b>	Warning	
	Successful Enable Admin through Console authenticated by AAA none method	<b>Successful Enable Admin through Console authenticated by AAA none method (Username: &lt;username&gt;)</b>	Informational	
	Successful Enable Admin through Web authenticated by AAA none method	<b>Successful Enable Admin through Web from &lt;userIP&gt; authenticated by AAA none method (Username: &lt;username&gt; )</b>	Informational	
	Successful Enable Admin through Web(SSL) authenticated by AAA none method	<b>Successful Enable Admin through Web(SSL) from &lt;userIP&gt; authenticated by AAA none method (Username: &lt;username&gt;)</b>	Informational	
	Successful Enable Admin through Telnet authenticated by AAA none method	<b>Successful Enable Admin through Telnet from &lt;userIP&gt; authenticated by AAA none method (Username: &lt;username&gt;)</b>	Informational	
	Successful Enable Admin through SSH authenticated by AAA none method	<b>Successful Enable Admin through SSH from &lt;userIP&gt; authenticated by AAA none method (Username: &lt;username&gt; )</b>	Informational	
	Successful Enable Admin through Console authenticated by AAA server	<b>Successful Enable Admin through Console authenticated by AAA server &lt;serverIP&gt; (Username: &lt;username&gt;)</b>	Informational	
	Enable Admin failed through Console authenticated by AAA server	<b>Enable Admin failed through Console authenticated by AAA server &lt;serverIP&gt; (Username: &lt;username&gt;)</b>	Warning	
	Enable Admin failed through Console due to AAA server timeout or improper configuration	<b>Enable Admin failed through Console due to AAA server timeout or improper configuration (Username: &lt;username&gt;)</b>	Warning	
	Successful Enable Admin through Web authenticated by AAA server	<b>Successful Enable Admin through Web from &lt;userIP&gt; authenticated by AAA server &lt;serverIP&gt; (Username: &lt;username&gt; )</b>	Informational	
	Enable Admin failed through Web authenticated by AAA server	<b>Enable Admin failed through Web from &lt;userIP&gt; authenticated by AAA server &lt;serverIP&gt; (Username: &lt;username&gt; )</b>	Warning	
	Enable Admin failed through Web due to AAA server timeout or improper configuration	<b>Enable Admin failed through Web from &lt;userIP&gt; due to AAA server timeout or improper configuration (Username: &lt;username&gt;)</b>	Warning	
	Successful Enable Admin through Web(SSL) authenticated by AAA server	<b>Successful Enable Admin through Web(SSL) from &lt;userIP&gt; authenticated by AAA server &lt;serverIP&gt; (Username: &lt;username&gt; )</b>	Informational	
	Enable Admin failed through Web(SSL) authenticated by AAA server	<b>Enable Admin failed through Web(SSL) from &lt;userIP&gt; authenticated by AAA server &lt;serverIP&gt; (Username: &lt;username&gt; )</b>	Warning	

		<username> )		
	Enable Admin failed through Web(SSL) due to AAA server timeout or improper configuration	<b>Enable Admin failed through Web(SSL) from &lt;userIP&gt; due to AAA server timeout or improper configuration (Username: &lt;username&gt;)</b>	Warning	
	Successful Enable Admin through Telnet authenticated by AAA server	<b>Successful Enable Admin through Telnet from &lt;userIP&gt; authenticated by AAA server &lt;serverIP&gt; (Username: &lt;username&gt;)</b>	Informational	
	Enable Admin failed through Telnet authenticated by AAA server	<b>Enable Admin failed through Telnet from &lt;userIP&gt; authenticated by AAA server &lt;serverIP&gt; (Username: &lt;username&gt; )</b>	Warning	
	Enable Admin failed through Telnet due to AAA server timeout or improper configuration	<b>Enable Admin failed through Telnet from &lt;userIP&gt; due to AAA server timeout or improper configuration (Username: &lt;username&gt;)</b>	Warning	
	Successful Enable Admin through SSH authenticated by AAA server	<b>Successful Enable Admin through SSH from &lt;userIP&gt; authenticated by AAA server &lt;serverIP&gt; (Username: &lt;username&gt; )</b>	Informational	
	Enable Admin failed through SSH authenticated by AAA server	<b>Enable Admin failed through SSH from &lt;userIP&gt; authenticated by AAA server &lt;serverIP&gt; (Username: &lt;username&gt; )</b>	Warning	
	Enable Admin failed through SSH due to AAA server timeout or improper configuration	<b>Enable Admin failed through SSH from &lt;userIP&gt; due to AAA server timeout or improper configuration (Username: &lt;username&gt; )</b>	Warning	
<b>Port Security</b>	port security is exceeded to its maximum learning size and will not learn any new address	<b>Port security violation (MAC address: &lt;macaddr&gt; on port: &lt;[unitID:]portNum&gt;)</b>	Warning	
<b>MBAC</b>	A host fails to pass the authentication	<b>MAC-based Access Control unauthenticated host(MAC: &lt;macaddr&gt;, Port &lt;[unitID:]portNum&gt;, VID: &lt;vid&gt;)</b>	Critical	
	The authorized user number on a port reaches the max user limit.	<b>Port &lt;[unitID:]portNum&gt; enters MAC-based Access Control stop learning state.</b>	Warning	per port
	The authorized user number on a port is below the max user limit in a time interval(interval is project depended).	<b>Port &lt;[unitID:]portNum&gt; recovers from MAC-based Access Control stop learning state.</b>	Warning	per port
	The authorized user number on whole device reaches the max user limit.	<b>MAC-based Access Control enters stop learning state.</b>	Warning	per system
	The authorized user number on whole device is below the max user limit in a time interval(interval is project depended).	<b>MAC-based Access Control recovers from stop learning state.</b>	Warning	per system
	A host passes the authentication	<b>MAC-based Access Control host login successful (MAC: &lt;macaddr&gt;, port: &lt;[unitID]portNum&gt;, VID: &lt;vid&gt;)</b>	Informational	
	A host is aged out	<b>MAC-based Access Control host aged out (MAC: &lt;macaddr&gt;, port:</b>	Informational	

		<[unitID]portNum>, VID: <vid>)		
<b>WAC</b>	A user fails to pass the authentication	<b>WAC unauthenticated user (Username: &lt;string&gt;, IP: &lt;ipaddr&gt;, MAC: &lt;macaddr&gt;, Port: &lt;[unitID:]portNum&gt;)</b>	Warning	
	A user passes the authentication	<b>WAC authenticated user (Username: &lt;string&gt;, IP: &lt;ipaddr&gt;, MAC: &lt;macaddr&gt;, Port: &lt;[unitID:]portNum&gt;)</b>	Warning	
	The authorized user number on whole device reaches the max user limit.	<b>WAC enters stop learning state.</b>	Warning	per system
	The authorized user number on whole device is below the max user limit in a time interval(interval is project depended).	<b>WAC recovers from stop learning state.</b>	Warning	per system
<b>IMPB</b>	Unauthenticated IP address encountered and discarded by IP IP-MAC port binding	<b>Unauthenticated IP-MAC address and discarded by IMPB (IP: &lt;ipaddr&gt;, MAC: &lt;macaddr&gt;, Port &lt;[unitID:]portNum&gt;)</b>	Warning	
	Dynamic IMPB entry is conflict with static ARP	<b>Dynamic IMPB entry conflicts with static ARP(IP: &lt;ipaddr&gt;, MAC: &lt;macaddr&gt;, Port &lt;[unitID:]portNum&gt;)</b>	Warning	
	Dynamic IMPB entry is conflict with static FDB	<b>Dynamic IMPB entry conflicts with static FDB(IP: &lt;ipaddr&gt;, MAC: &lt;macaddr&gt;, Port &lt;[unitID:]portNum&gt;)</b>	Warning	
	Dynamic IMPB entry conflicts with static IMPB	<b>Dynamic IMPB entry conflicts with static IMPB(IP: &lt;ipaddr&gt;, MAC: &lt;macaddr&gt;, Port &lt;[unitID:]portNum&gt;)</b>	Warning	
	Creating IMPB entry failed due to no ACL rule available	<b>Creating IMPB entry failed due to no ACL rule being available(IP:&lt;ipaddr&gt;, MAC: &lt;macaddr&gt;, Port &lt;[unitID:]portNum&gt;)</b>	Warning	
<b>IP and Password Changed</b>	IP Address change activity	<b>[Unit &lt;unitID&gt;,] Management IP address was changed by console(Username: &lt;username&gt;,IP:&lt;ipaddr&gt;)</b>	Informational	"console" and "IP: <ipaddr>" are XOR shown in log string, which means if user login by console, there will no IP information for logging.
	Password change activity	<b>[Unit &lt;unitID&gt;,] Password was changed by console (Username: &lt;username&gt;,IP:&lt;ipaddr&gt; )</b>	Informational	"console" and "IP: <ipaddr>" are XOR shown in log string, which means if user login by console, there will no IP information for logging.

<b>Safeguard Engine</b>	Safeguard Engine is in normal mode	[Unit <unitID>] Safeguard Engine enters NORMAL mode	Informational	
	Safeguard Engine is in filtering packet mode	[Unit <unitID>] Safeguard Engine enters EXHAUSTED mode	Warning	
<b>Packet Storm</b>	Broadcast storm occurrence	Port <[unitID:]portNum> Broadcast storm is occurring	Warning	
	Broadcast storm cleared	Port <[unitID:]portNum> Broadcast storm has cleared	Informational	
	Multicast storm occurrence	Port <[unitID:]portNum> Multicast storm is occurring	Warning	
	Multicast storm cleared	Port <[unitID:]portNum> Multicast storm has cleared	Informational	
	Port shut down due to a packet storm	Port <[unitID:]portNum> is currently shut down due to a packet storm	Warning	
<b>Loopback Dection</b>	Port loop occurred	Port <[unitID:]portNum> LBD loop occurred. Port blocked	Critical	
	Port loop detection restarted after interval time	Port <[unitID:]portNum> LBD port recovered. Loop detection restarted	Informational	
	Port with VID loop occurred	Port <[unitID:]portNum> VID <vlanID> LBD loop occurred. Packet discard begun	Critical	
	Port with VID Loop detection restarted after interval time	Port <[unitID:]portNum> VID <vlanID> LBD recovered. Loop detection restarted	Informational	
	The number of VLANs that loop back has occurred hit the specified number.	Loop VLAN number overflow	Informational	
<b>Gratuitous ARP</b>	Gratuitous ARP detected duplicate IP.	Conflict IP was detected with this device (IP: <ipaddr>, MAC: <macaddr>, Port <[unitID:]portNum>, Interface: <ipif_name>).	Warning	
<b>DHCP</b>	Detect untrusted DHCP server IP address	Detected untrusted DHCP server(IP: <ipaddr>, Port: <[unitID:]portNum>)	Informational	DHCP Server Screening
<b>BPDU Protection</b>	BPDU attack happened	Port <[UnitID:]portNum> enter BPDU under attacking state (mode: drop / block / shutdown)	Informational	
	BPDU attack automatically recover	Port <[UnitID:]portNum> recover from BPDU under attacking state automatically	Informational	
	BPDU attack manually recover	Port <[UnitID:]portNum> recover from BPDU under attacking state manually	Informational	
<b>Monitor</b>	Temperature exceeds confidence level	[Unit <unitID>] Temperature Sensor <sensorID> enter alarm state. (current temperature: <temperature>)	Warning	
	Temperature recovers to normal.	[Unit <unitID>] Temperature Sensor <sensorID> recovers to normal state. (current temperature: <temperature>)	Informational	
<b>CFM</b>	Cross-connect is detected	CFM cross-connect. VLAN:<vlanid>, Local(MD Level:<mdlevel>, Port <[unitID:]portNum>, Direction:<mepdirection>) Remote(MEPID:<mepid>, MAC:<macaddr>)	Critical	

	Error CFM CCM packet is detected	CFM error ccm. MD Level:<mdlevel>, VLAN:<vlanid>, Local(Port <[unitID:]portNum>, Direction:<mepdirection>) Remote(MEPID:<mepid>, MAC:<macaddr>)	Warning	
	Can not receive remote MEP's CCM packet	CFM remote down. MD Level:<mdlevel>, VLAN:<vlanid>, Local(Port <[unitID:]portNum>, Direction:<mepdirection>)	Warning	
	Remote MEP's MAC reports an error status	CFM remote MAC error. MD Level:<mdlevel>, VLAN:<vlanid>, Local(Port <[unitID:]portNum>, Direction:<mepdirection>)	Warning	
	Remote MEP detects CFM defects	CFM remote detects a defect. MD Level:<mdlevel>, VLAN:<vlanid>, Local(Port <[unitID:]portNum>, Direction:<mepdirection>)	Informational	
<b>CFM Extension</b>	AIS condition detected	AIS condition detected. MD Level:<mdlevel>, VLAN:<vlanid>, Local(Port <[unitID:]portNum>, Direction:<mepdirection>, MEPID:<mepid>)	Notice	
	AIS condition cleared	AIS condition cleared. MD Level:<mdlevel>, VLAN:<vlanid>, Local(Port <[unitID:]portNum>, Direction:<mepdirection>, MEPID:<mepid>)	Notice	
	LCK condition detected	LCK condition detected. MD Level:<mdlevel>, VLAN:<vlanid>, Local(Port <[unitID:]portNum>, Direction:<mepdirection>, MEPID:<mepid>)	Notice	
	LCK condition cleared	LCK condition cleared. MD Level:<mdlevel>, VLAN:<vlanid>, Local(Port <[unitID:]portNum>, Direction:<mepdirection>, MEPID:<mepid>)	Notice	
<b>Voice VLAN</b>	When a new voice device is detected in the port	New voice device detected (MAC:<macaddr>,Port:<[unitID:]portNum>)	Informational	
	While the port join to the voice VLAN while the port is auto voice VLAN mode	Port <[unitID:]portNum> add into voice VLAN <vid >	Informational	
	While the port withdraws from the voice VLAN while there is no more voice device detected in the aging interval.	Port <[unitID:]portNum> remove from voice VLAN <vid >	Informational	
<b>ERPS</b>	Signal failure detected	Signal failure detected on node <macaddr>	Notice	
	Signal failure cleared	Signal failure cleared on node <macaddr>	Notice	
	RPL owner conflict	RPL owner conflicted on the ring <macaddr>	Warning	
<b>Command</b>	Command Logging	<username>: execute command	Informational	

<b>logging</b>		<b>"&lt;string&gt;".</b>		
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## Appendix D Trap Log Entries

This table lists the trap logs found on the Switch.

Log Entry	Description	ID
<b>L2macNotification</b>	This trap indicates the MAC address variations in the address table.	1.3.6.1.4.1.171.11.101.1.2.100.1.2.0.1
<b>L2PortSecurityViolationTrap</b>	When the port security trap is enabled, new MAC addresses that violate the pre-defined port security configuration will trigger trap messages to be sent out.	1.3.6.1.4.1.171.11.101.1.2.100.1.2.0.2
<b>PortLoopOccurred</b>	This trap is sent when a Port loop occurs.	1.3.6.1.4.1.171.12.41.10.0.1
<b>PortLoopRestart</b>	This trap is sent when a Port loop restarts after the interval time.	1.3.6.1.4.1.171.12.41.10.0.2
<b>VlanLoopOccurred</b>	This trap is sent when a Port with a VID loop occurs.	1.3.6.1.4.1.171.12.41.10.0.3
<b>VlanLoopRestart</b>	This trap is sent when a Port with a VID loop restarts after the interval time.	1.3.6.1.4.1.171.12.41.10.0.4
<b>SafeGuardChgToExhausted</b>	This trap indicates System change operation mode from normal to exhausted.	1.3.6.1.4.1.171.12.19.4.1.0.1
<b>SafeGuardChgToNormal</b>	This trap indicates System change operation mode from exhausted to normal.	1.3.6.1.4.1.171.12.19.4.1.0.2
<b>MacBasedAuthLoggedSuccess</b>	This trap is sent when a MAC-based access control host is successfully logged in.	1.3.6.1.4.1.171.12.35.11.1.0.1
<b>MacBasedAuthLoggedFail</b>	This trap is sent when a MAC-based access control host login fails.	1.3.6.1.4.1.171.12.35.11.1.0.2
<b>MacBasedAuthAgesOut</b>	This trap is sent when a MAC-based access control host ages out.	1.3.6.1.4.1.171.12.35.11.1.0.3
<b>FilterDetectedTrap</b>	This trap is sent when an illegal DHCP server is detected. The same illegal DHCP server IP address detected is just sent once to the trap receivers within the log ceasing unauthorized duration.	1.3.6.1.4.1.171.12.37.100.0.1
<b>SingleIPMSColdStart</b>	The commander switch will send swSingleIPMSColdStart notification to the indicated	1.3.6.1.4.1.171.12.8.6.0.11
<b>SingleIPMSWarmStart</b>	The commander switch will send swSingleIPMSWarmStart notification to the indicated host when its member generates a warm start notification.	1.3.6.1.4.1.171.12.8.6.0.12
<b>SingleIPMSLinkDown</b>	The commander switch will send swSingleIPMSLinkDown notification to the indicated host when its member generates a link down notification.	1.3.6.1.4.1.171.12.8.6.0.13
<b>SingleIPMSLinkUp</b>	The commander switch will send swSingleIPMSLinkUp notification to the indicated host when its member generates a link up notification.	1.3.6.1.4.1.171.12.8.6.0.14



<b>SingleIPMSAuthFail</b>	The commander switch will send swSingleIPMSAuthFail notification to the indicated host when its member generates an authentication failure notification	1.3.6.1.4.1.171.12.8.6.0.15
<b>SingleIPMSnewRoot</b>	The commander switch will send swSingleIPMSnewRoot notification to the indicated host when its member generates a new root notification.	1.3.6.1.4.1.171.12.8.6.0.16
<b>SingleIPMSTopologyChange</b>	The commander switch will send swSingleIPMSTopologyChange notification to the indicated host when its member generates a topology change notification.	1.3.6.1.4.1.171.12.8.6.0.17
<b>coldStart</b>	A coldStart trap signifies that the SNMPv2 entity, acting in an agent role, is reinitializing itself and that its configuration may have been altered.	1.3.6.1.6.3.1.1.5.1
<b>warmStart</b>	A warmStart trap signifies that the SNMPv2 entity, acting in an agent role, is reinitializing itself such that its configuration is unaltered.	1.3.6.1.6.3.1.1.5.2
<b>linkDown</b>	A linkDown trap signifies that the SNMP entity, acting in an agent role, has detected that the ifOperStatus object for one of its communication links is about to enter the down state from some other state (but not from the notPresent state). This other state is indicated by the included value of ifOperStatus.	1.3.6.1.6.3.1.1.5.3
<b>linkUp</b>	A linkUp trap signifies that the SNMP entity, acting in an agent role, has detected that the ifOperStatus object for one of its communication links left the down state and transitioned into some other state (but not into the notPresent state). This other state is indicated by the included value of ifOperStatus.	1.3.6.1.6.3.1.1.5.4
<b>authenticationFailure</b>	An authenticationFailure trap signifies that the SNMP entity has received a protocol message that is not properly authenticated. While all implementations of SNMP entities MAY be capable of generating this trap, the snmpEnableAuthenTraps object indicates whether this trap will be generated.	1.3.6.1.6.3.1.1.5.5
<b>risingAlarm</b>	This trap is an SNMP notification that is generated when a high capacity alarm entry crosses its rising threshold and generates an event that is configured for sending SNMP traps.	1.3.6.1.2.1.16.29.2.0.1
<b>fallingAlarm</b>	This trap is an SNMP notification that is generated when a high capacity alarm entry crosses its falling threshold and generates an event that is configured for sending SNMP traps.	1.3.6.1.2.1.16.29.2.0.2
<b>newRoot</b>	The newRoot trap indicates that the sending agent has become the new root of the Spanning Tree; the trap is sent by a bridge soon after its election as the new root, e.g., upon action of the Topology Change Timer immediately subsequent to its election.	1.3.6.1.2.1.17.0.1

	Implementation of this trap is optional.	
<b>topologyChange</b>	A topologyChange trap is sent by a bridge when any of its configured ports transitions from the Learning state to the Forwarding state, or from the Forwarding state to the Blocking state. The trap is not sent if a newRoot trap is sent for the same transition. Implementation of this trap is optional.	1.3.6.1.2.1.17.0.2