D-Link

D-Link™ DGS-3100 Series

Gigabit Stackable Managed Switch

CLI Manual

V1.00

FCC Warning

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this user's guide, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CE Mark Warning

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

Warnung!

Dies ist ein Produkt der Klasse A. Im Wohnbereich kann dieses Produkt Funkstoerungen verursachen. In diesem Fall kann vom Benutzer verlangt werden, angemessene Massnahmen zu ergreifen.

Precaución!

Este es un producto de Clase A. En un entorno doméstico, puede causar interferencias de radio, en cuyo case, puede requerirse al usuario para que adopte las medidas adecuadas.

Attention!

Ceci est un produit de classe A. Dans un environnement domestique, ce produit pourrait causer des interférences radio, auquel cas l`utilisateur devrait prendre les mesures adéquates.

Attenzione!

Il presente prodotto appartiene alla classe A. Se utilizzato in ambiente domestico il prodotto può causare interferenze radio, nel cui caso è possibile che l`utente debba assumere provvedimenti adeguati.

VCCI Warning

この装置は、クラスＡ情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

March 2007

Table of Contents

1

INTRODUCTION

The DGS-3100 is a member of the D-Link DGS-3100 switch family. The DGS 3100 product range consists of 24 / 48 -port 10/100/1000Base-T PoE / NonPoE L2 Stackable Management Switches with 4 Combo SFPs.

The Switch can be managed through the Switch's serial port, Telnet, 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. Configuration and management of the Switch via the Web-based management agent is discussed in the Manual. For detailed information on installing hardware please refer also to the Manual.

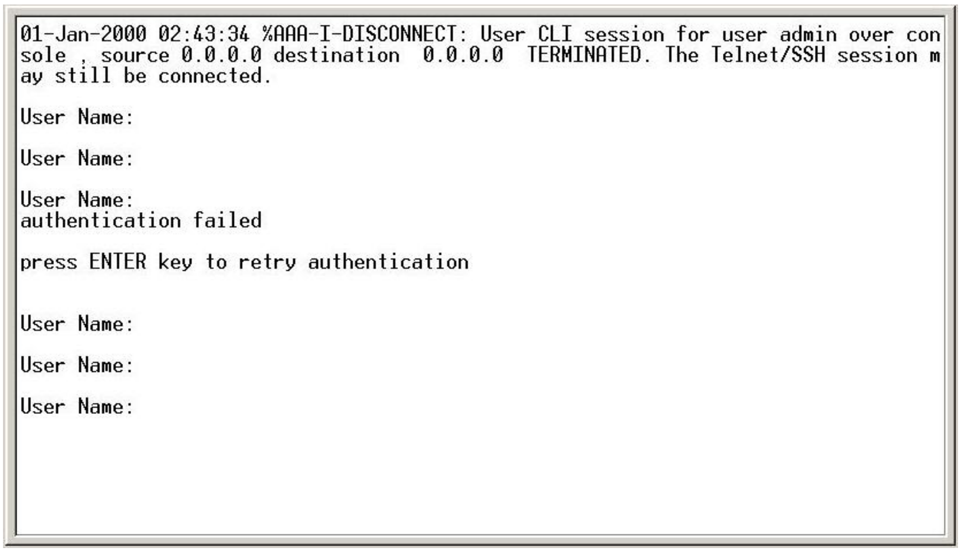
Accessing the Switch via the Serial Port

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

- 9600 bps
- 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 is then connected to the Switch's serial port via an RS-232 DB-9 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.



```
01-Jan-2000 02:43:34 %AAA-I-DISCONNECT: User CLI session for user admin over con
sole , source 0.0.0.0 destination  0.0.0.0  TERMINATED. The Telnet/SSH session m
ay still be connected.

User Name:

User Name:

User Name:
authentication failed

press ENTER key to retry authentication


User Name:

User Name:

User Name:
```

[

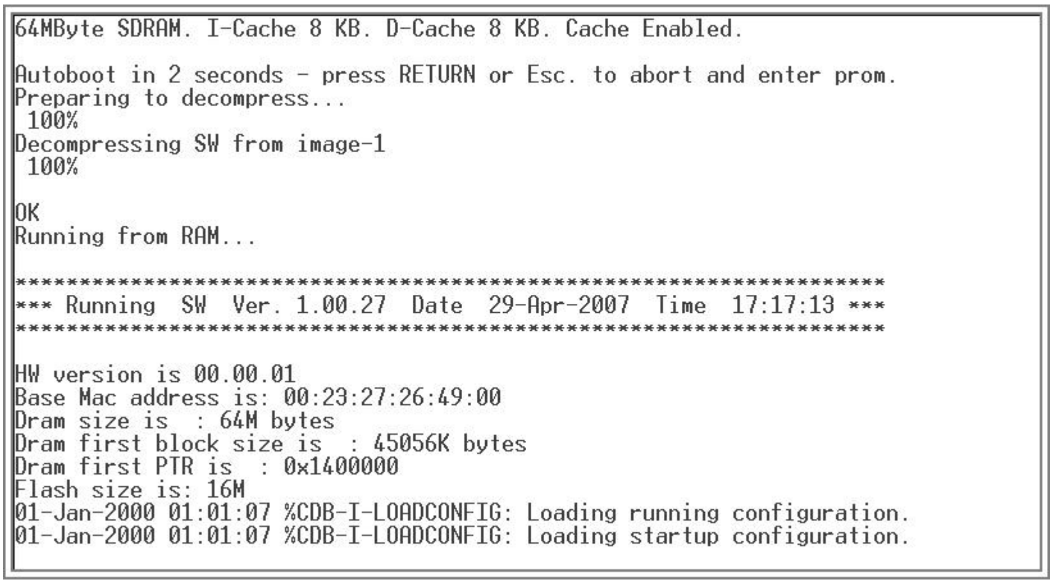
Figure 1–1. Initial CLI screen

The initial username is admin (lower case). Press the Enter key twice to display the CLI input cursor. This is the command line where all commands are input.

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.



```
64MByte SDRAM. I-Cache 8 KB. D-Cache 8 KB. Cache Enabled.

Autoboot in 2 seconds - press RETURN or Esc. to abort and enter prom.
Preparing to decompress...
 100%
Decompressing SW from image-1
 100%

OK
Running from RAM...

*********************************************************************
*** Running  SW  Ver. 1.00.27  Date  29-Apr-2007  Time  17:17:13 ***
*********************************************************************

HW version is 00.00.01
Base Mac address is: 00:23:27:26:49:00
Dram size is  : 64M bytes
Dram first block size is  : 45056K bytes
Dram first PTR is  : 0x1400000
Flash size is: 16M
01-Jan-2000 01:01:07 %CDB-I-LOADCONFIG: Loading running configuration.
01-Jan-2000 01:01:07 %CDB-I-LOADCONFIG: Loading startup configuration.
```

Figure 1–2. Boot Screen

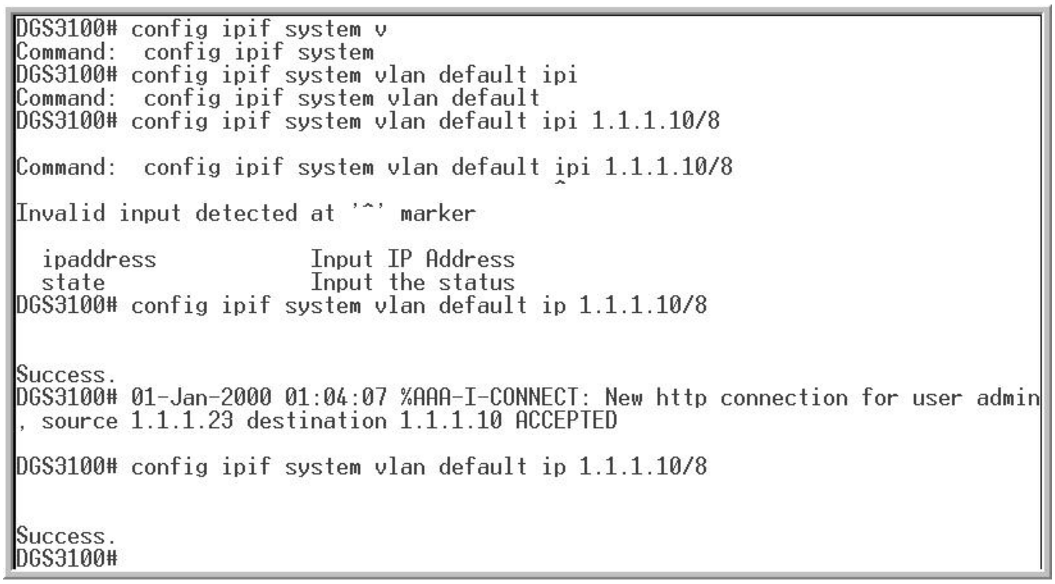
The Switch's MAC address can also be found in the Web management program on the Device Information window on the Configuration menu.

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.

The IP address may be set using the Command Line Interface (CLI) over the console serial port as follows:

1. Starting at the command line prompt, enter the commands config ipif System vlan default 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.
2. 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.



```
DGS3100# config ipif system v
Command:  config ipif system
DGS3100# config ipif system vlan default ipi
Command:  config ipif system vlan default
DGS3100# config ipif system vlan default ipi 1.1.1.10/8

Command:  config ipif system vlan default ipi 1.1.1.10/8
                                          ^
Invalid input detected at '^' marker

  ipaddress            Input IP Address
  state                Input the status
DGS3100# config ipif system vlan default ip 1.1.1.10/8


Success.
DGS3100# 01-Jan-2000 01:04:07 %AAA-I-CONNECT: New http connection for user admin
, source 1.1.1.23 destination 1.1.1.10 ACCEPTED

DGS3100# config ipif system vlan default ip 1.1.1.10/8


Success.
DGS3100#
```

Figure 1–3. Assigning an IP Address

In the above example, the Switch was assigned an IP address of 10.53.13.26 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.

NOTE: The DGS-3100 series of switches have the capability to be configured for an IP address of 0.0.0.0, or, in essence, have no IP address. This function maybe used to disable Layer 3 functions of the Switch. When the IP address is set to 0.0.0.0 (invalid IP address), the Switch can only be managed through the console port or SIM. Other management applications such as Telnet, Web-based and SNMP cannot be used to manage the Switch when its IP address is 0.0.0.0.

2

USING THE CONSOLE CLI

The Switch supports a console management interface that allows the user to connect to the Switch's management agent via a serial port and a terminal or a computer running a terminal emulation program. The console can also be used over the network using the TCP/IP Telnet protocol. The console program can be used to configure the Switch to use an SNMP-based network management software over the network.

This chapter describes how to use the console interface to access the Switch, change its settings, and monitor its operation.

NOTE: Switch configuration settings are saved to non-volatile RAM using the save command. The current configuration will then be retained in the Switch's NV-RAM, and reloaded when the Switch is rebooted. If the Switch is rebooted without using the save command, the last configuration saved to NV-RAM will be loaded.

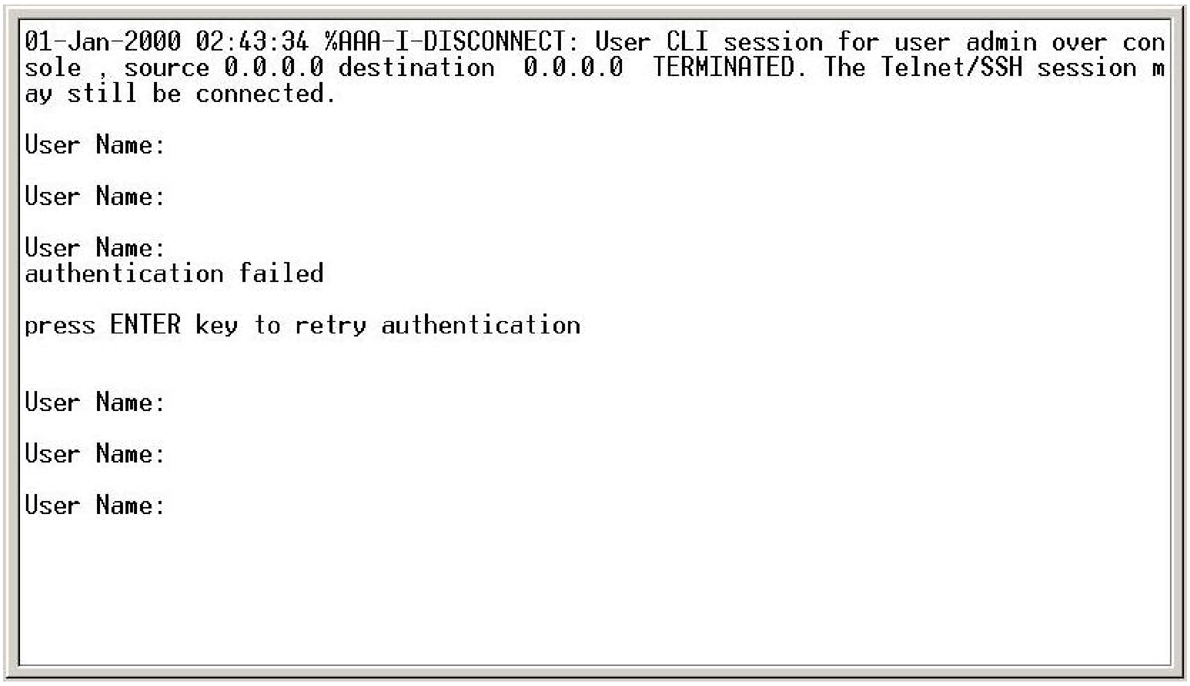
Connecting to the Switch

The console interface is used by connecting the Switch to a VT100-compatible terminal or a computer running an ordinary terminal emulator program (for example, the HyperTerminal program included with the Windows operating system) using an RS-232C serial cable. Your terminal parameters will need to be set to:

- VT-100 compatible
- 9600 bps
- 8 data bits
- No parity
- One stop bit
- No flow control

Users may also access the same functions over a Telnet interface. Once you have set an IP address for your Switch, you can use a Telnet program (in VT-100 compatible terminal mode) to access and control the Switch. All of the screens are identical, whether accessed from the console port or from a Telnet interface.

After the Switch reboots and you have logged in, the console looks like this:

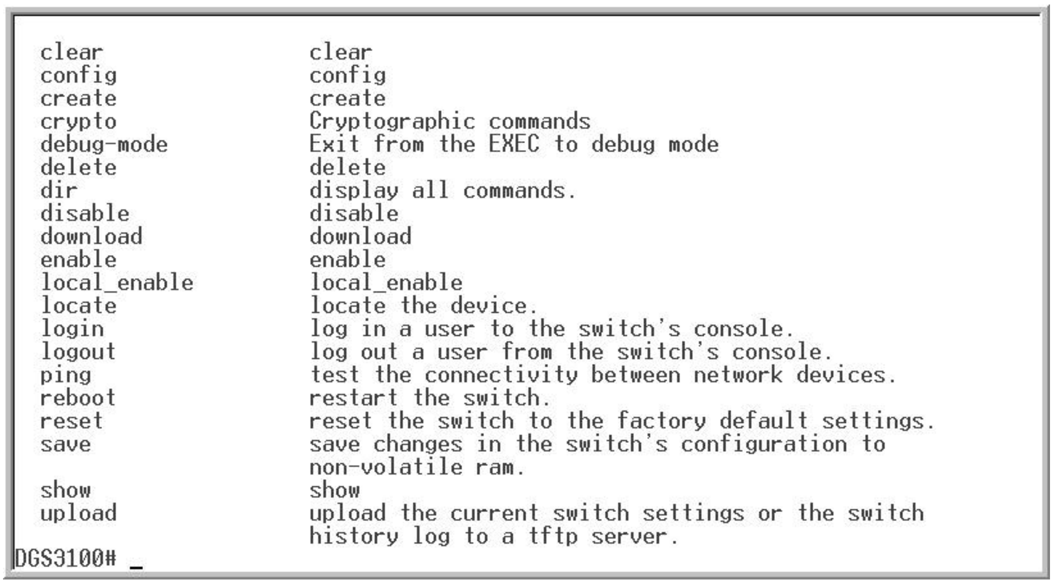


```
01-Jan-2000 02:43:34 %AAA-I-DISCONNECT: User CLI session for user admin over con
sole , source 0.0.0.0 destination  0.0.0.0  TERMINATED. The Telnet/SSH session m
ay still be connected.

User Name:

User Name:

User Name:
authentication failed

press ENTER key to retry authentication


User Name:

User Name:

User Name:
```

Figure 2–1. Initial Console Screen after Logging In

Commands are entered at the command prompt, DGS3100#.

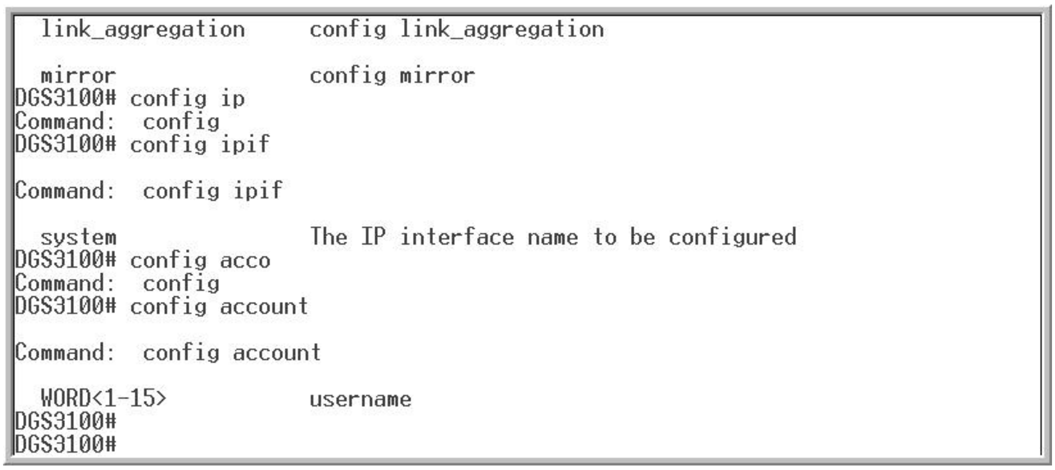
There are a number of helpful features included in the CLI. Entering the ? command will display a list of all of the top-level commands.



```
  clear                 clear
  config                config
  create                create
  crypto                Cryptographic commands
  debug-mode            Exit from the EXEC to debug mode
  delete                delete
  dir                   display all commands.
  disable               disable
  download              download
  enable                enable
  local_enable          local_enable
  locate                locate the device.
  login                 log in a user to the switch's console.
  logout                log out a user from the switch's console.
  ping                  test the connectivity between network devices.
  reboot                restart the switch.
  reset                 reset the switch to the factory default settings.
  save                  save changes in the switch's configuration to
                        non-volatile ram.
  show                  show
  upload                upload the current switch settings or the switch
                        history log to a tftp server.
DGS3100# _
```

Figure 2–2. The ? Command

When entering a command without its required parameters, the CLI displays the prompt: command: config account message and the options listed below.



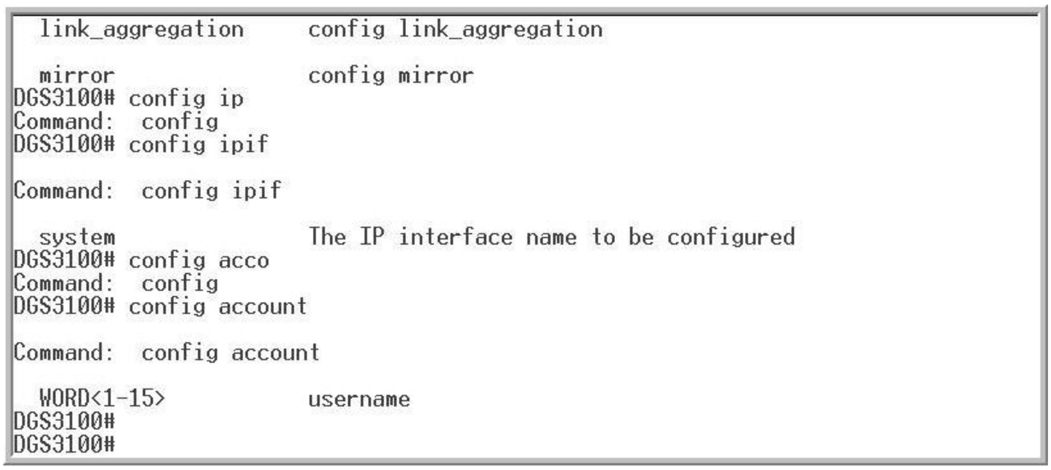
```
  link_aggregation      config link_aggregation

  mirror                config mirror
DGS3100# config ip
Command:  config
DGS3100# config ipif

Command:  config ipif

  system                The IP interface name to be configured
DGS3100# config acco
Command:  config
DGS3100# config account

Command:  config account

  WORD<1-15>            username
DGS3100#
DGS3100#
```

Figure 2–3. Example Command Parameter Help

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, command: config account. 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 pressing the ? 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.



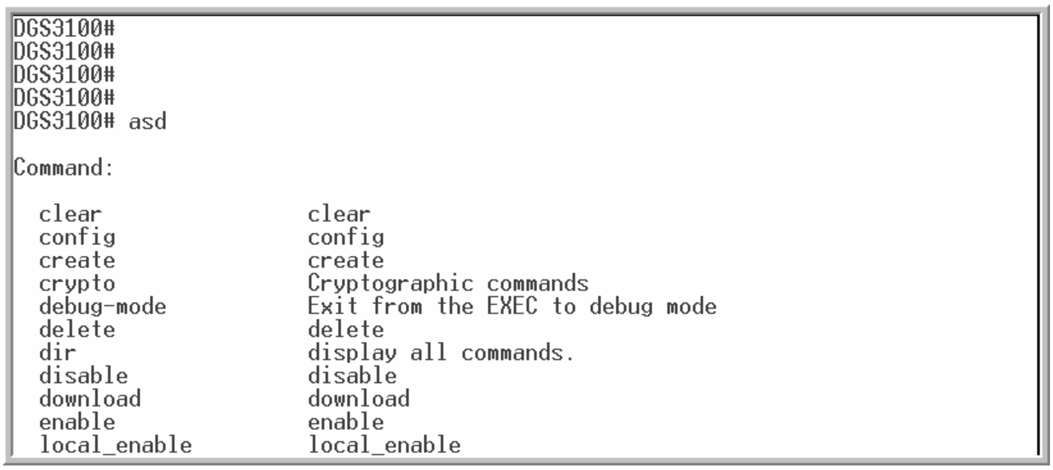
```
  link_aggregation     config link_aggregation

  mirror               config mirror
DGS3100# config ip
Command:  config
DGS3100# config ipif

Command:  config ipif

  system               The IP interface name to be configured
DGS3100# config acco
Command:  config
DGS3100# config account

Command:  config account

  WORD<1-15>           username
DGS3100#
DGS3100#
```

Figure 2–4. Using the Up Arrow to Re-enter a Command

In the above example, the command config account was entered without the required parameter <username>, the CLI returned the command: config account 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 manual̃ angle brackets < > indicate a numerical value or character string. The < > can also indicate a Word with number fo character allowed.

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

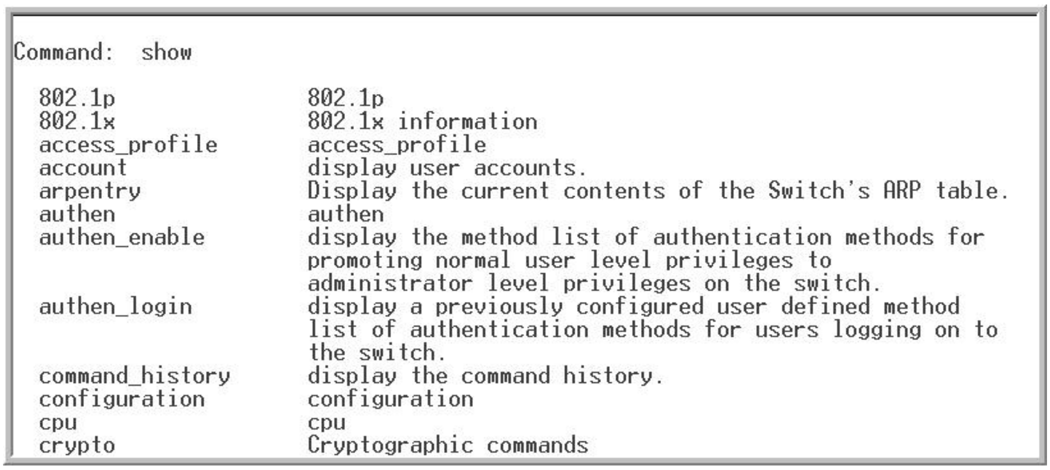


```
DGS3100#
DGS3100#
DGS3100#
DGS3100#
DGS3100# asd

Command:

  clear                clear
  config               config
  create               create
  crypto               Cryptographic commands
  debug-mode           Exit from the EXEC to debug mode
  delete               delete
  dir                  display all commands.
  disable              disable
  download             download
  enable               enable
  local_enable         local_enable
```

Figure 2–5. Available Commands

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.



```
Command:  show

  802.1p               802.1p
  802.1x               802.1x information
  access_profile       access_profile
  account              display user accounts.
  arpentry             Display the current contents of the Switch's ARP table.
  authen               authen
  authen_enable        display the method list of authentication methods for
                       promoting normal user level privileges to
                       administrator level privileges on the switch.
  authen_login         display a previously configured user defined method
                       list of authentication methods for users logging on to
                       the switch.
  command_history      display the command history.
  configuration        configuration
  cpu                  cpu
  crypto               Cryptographic commands
```

Figure 2–6. Next possible completions: Show Command

In the above example, all of the possible next parameters for the show command are displayed. At the next command prompt in the example, 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.

3

COMMAND SYNTAX

The following symbols are used to describe how command entries are made and values and arguments are specified in this manual. The online help contained in the CLI and available through the console interface uses the same syntax.

NOTE: All commands are case-sensitive. Be sure to disable Caps Lock or any other unwanted function that changes text case.

<angle brackets>	
Purpose	Encloses a variable or value that must be specified.
Syntax	**create account [admin | user] <username 15>**
Description	In the above syntax example, users must supply a username in the <username> space. Do not type the angle brackets.
Example Command	**create account admin newadmin1**

[square brackets]	
Purpose	Encloses a required value or set of required arguments. One value or argument can be specified.
Syntax	**create account [admin | user] <username 15>**
Description	In the above syntax example, you must specify either an **admin** or a **user** level account to be created. Do not type the square brackets.
Example Command	**create account user newuser1**

| vertical bar	
Purpose	Separates two or more mutually exclusive items in a list, one of which must be entered.
Syntax	**create account [admin | user] <username 15>**
Description	In the above syntax example, users must specify either **admin,** or **user**. Do not type the vertical bar.
Example Command	**create account user newuser1**

All commands are case-sensitive. Be sure to disable Caps Lock or any other unwanted function that changes text case.

{braces}	
Purpose	Encloses an optional value or set of optional arguments.
Syntax	reset {[config | system]}
Description	In the above syntax example, users have the option to specify config or system. It is not necessary to specify either optional value, however the effect of the system reset is dependent on which, if any, value is specified. Therefore, with this example there are three possible outcomes of performing a system reset. See the following chapter, Basic Commands for more details about the reset command.
Example command	reset config

Line Editing Key Usage	
Delete	Deletes the character under the cursor and then shifts the remaining characters in the line to the left.
Backspace	Deletes the character to the left of the cursor and then shifts the remaining characters in the line to the left.
Insert or Ctrl+R	Toggle on and off. When toggled on, inserts text and shifts previous text to the right.
Left Arrow	Moves the cursor to the left.
Right Arrow	Moves the cursor to the right.
Up Arrow	Repeats the previously entered command. Each time the up arrow is pressed, the command previous to that displayed appears. This way it is possible to review the command history for the current session. Use the down arrow to progress sequentially forward through the command history list.
Down Arrow	The down arrow will display the next command in the command history entered in the current session. This displays each command sequentially as it was entered. Use the up arrow to review previous commands.
Tab	Shifts the cursor to the next field to the left.

Multiple Page Display Control Keys	
Space	Displays the next page.
CTRL+c	Stops the display of remaining pages when multiple pages are to be displayed.
ESC	Stops the display of remaining pages when multiple pages are to be displayed.
n	Displays the next page.
p	Displays the previous page.

q	Stops the display of remaining pages when multiple pages are to be displayed.
r	Refreshes the pages currently displayed.
a	Displays the remaining pages without pausing between pages.
Enter	Displays the next line or table entry.

4

BASIC SWITCH COMMANDS

The Basic Switch commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
create account	[admin | user] <username 15>
config account	<username 15>
show account	
show session	
show switch	
show serial_port	
config serial_port	{baud_rate [9600 | 19200 | 38400] auto_logout [never | 2_minutes | 5_minutes| 10_minutes | 15_minutes]}
enable clipaging	
disable clipaging	
delete account	<username 15>
enable web	<tcp_port_number 1-65535>
disable web	
save	
reboot	<box_id 1-6>
reset	
login	
logout	
ping	<ipaddr> {times <value 1-255>} {timeout <sec 1-99>}
show cpu utilization	
show configuration	[running | startup]
enable jumbo_frame	
disable jumbo_frame	
show jumbo_frame	
locate	

Each command is listed in detail, as follows:

create account

Purpose	To create user accounts.
Syntax	**create account [admin | user] <username 15>**
Description	The **create account** command creates an administrator or user account that consists of a username and an optional password. Up to 31 accounts can be created. The system prompts for the account's password, which may be between 0 and 15 characters.
Parameters	*admin* − creates an administrator account. *user* − creates a user account. *<username 1-15>* − The account username may be between 1 and 15 characters.
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To create an administrator-level user account with the username "dlink":

```
DGS3100# create account admin dlink
Enter a case-sensitive password:****
Enter the password again for confirmation:****

Success.

DGS3100#
```

config account

Purpose	To change the password for an existing user account.
Syntax	**config account <username 15>**
Description	The **config account** command changes the password for a user account that has been created using the **create account** command. The system prompts for the account's new password, which may be between 0 and 15 characters.
Parameters	*<username 1-15>* − the account username.
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To configure the user password of "dlink" account:

```
DGS3100# config account dlink
Enter a case-sensitive new password:****
Enter the new password again for confirmation:****

Success.

DGS3100#
```

show account

Purpose	To display information about all user accounts on the Switch.

Syntax	**show account**
Description	The **show account** command displays all account usernames and their access levels created on the Switch. Up to 31 user accounts can exist on the Switch at one time.
Parameters	None.
Restrictions	None.

Example usage:

To display the accounts that have been created:

```
DGS3100# show account

   Username      Access Level
-------------------  ----------------
      Dlink              User
      admin             Admin

Total Entries: 2

DGS3100#
```

show session

Purpose	To display information about currently logged-in users.
Syntax	**show session**
Description	The **show session** command displays a list of all the users that are logged-in at the time the command is issued. The information includes the session ID (0 for the first logged-in user, 1 for the next logged-in user, etc.), the Protocol used to connect to the Switch, the user’s IP address, the user’s access Level (1=user, 15=admin), and the account name on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display the way users logged in:

```
DGS3100# show session

  ID      Protocol          From        Level      Name
-------  ----------------  -------------------  --------  ---------------
   0        HTTP         10.6.10.43      15       admin
   1        HTTP         10.6.10.43      15       admin
   2        Telnet        10.6.60.13      15       admin

DGS3100#
```

show switch

Purpose	To display information about the Switch.
Syntax	**show switch**
Description	The **show switch** command displays information about the Switch settings, including Device Type, MAC Address, IP configuration, Hardware/Software version, System information, and Switch Network configuration.
Parameters	None.
Restrictions	None.

Example usage:

To display the Switch information:

```
DGS3100# show switch

Device Type          : DGS-3100 Gigabit-Ethernet Switch
MAC Address          : DA-10-21-00-00-01
IP Address           : 10.6.41.104
VLAN Name            : default
Subnet Mask          : 255.255.255.224
Default Gateway      : 10.6.41.97
Boot PROM Version    : 1.0.0.03
Firmware Version     : 1.00.29
Hardware Version     : 00.00.01
System Name          : DGS-3100
System Location      : 7th_flr_east_cabinet
System Contact       : Julius_Erving_212-555-6666
Spanning Tree        : Enabled
GVRP                 : Disabled
IGMP Snooping        : Disabled
TELNET               : Enabled
WEB                  : Enabled (TCP 80)

DGS3100#
```

show serial_port

Purpose	To display the current serial port settings.
Syntax	**show serial_port**
Description	The **show serial_port** command displays the current serial port settings.
Parameters	None.
Restrictions	None.

Example usage:

To display the serial port settings:

```
DGS3100# show serial_port
```

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

DGS3100#
```

## config serial_port

Purpose	To configure the serial port.
Syntax	**config serial_port {baud_rate [9600 | 19200 | 38400] auto_logout [never | 2_minutes | 5_minutes| 10_minutes | 15_minutes]}**
Description	The **show serial_port** command configures the serial port's baud rate and auto logout settings.
Parameters	*baud rate [9600 | 19200 | 38400]* − The serial bit rate used to communicate with the management host. *auto_logout* - The amount of time the Switch's serial port can be idle before automatically logging out. The possible values are: *never* − There is no time limit on the length of time the console can be open with no user input. *2_minutes* − The console will log out the current user if there is no user input for 2 minutes. *5_minutes* − The console will log out the current user if there is no user input for 5 minutes. *10_minutes* − The console will log out the current user if there is no user input for 10 minutes. *15_minutes* − The console will log out the current user if there is no user input for 15 minutes.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the baud rate:

```
DGS3100# config serial_port baud_rate 9600

Success.

DGS3100#
```

enable clipaging

Purpose	To pause the scrolling of the console screen after each page when a show command displays more than one page.
Syntax	**enable clipaging**
Description	The **enable clipaging** command pauses the scrolling of the console screen at the end of each page when issuing a command which

	would display more than one screen of information. The default setting is enabled.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

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

```
DGS3100# enable clipaging

Success.

DGS3100#
```

disable clipaging

Purpose	To disable the pausing of the console screen scrolling at the end of each page when the command displays more than one screen of information.
Syntax	**disable clipaging**
Description	The **disable clipaging** command disables the pausing of the console screen at the end of each page when issuing a command which would display more than one screen of information. This causes the console screen to rapidly scroll through several pages.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

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

```
DGS3100# disable clipaging

Success.

DGS3100#
```

delete account

Purpose	To delete an existing user account.
Syntax	**delete account <username 15>**
Description	The **delete account** command deletes a user account that has been created using the **create account** command.
Parameters	*<username 1-15>* − the account username.
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To delete the user account “System”:

```
DGS3100# delete account System
```

```
Are you sure to delete the last administrator account?(y/n)

Success.

DGS3100#
```

enable web

Purpose	To enable the HTTP-based management software on the Switch.
Syntax	**enable web <tcp_port_number 1-65535>**
Description	The **enable web** command enables the Web-based management software on the Switch. The user can specify the TCP port number the Switch will use to listen for Telnet requests.
Parameters	*<tcp_port_number 1-65535>* − The TCP port number. TCP ports are numbered between 1 and 65535. The “well-known” port for the Web-based management software is 80.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable HTTP and configure the TCP port number to listen for Telnet requests:

```
DGS3100# enable web 80

Success.

DGS3100#
```

disable web

Purpose	To disable the HTTP-based management software on the Switch.
Syntax	**disable web**
Description	The **disable web** command disables the Web-based management software on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable HTTP-based management software on the Switch:

```
DGS3100# disable web

Success.

DGS3100#
```

save

Purpose	To save changes in the Switch's configuration to non-volatile RAM.
Syntax	**save**
Description	The **save** command saves the current switch configuration to non-volatile RAM. The saved switch configuration will be loaded into the Switch's memory each time the Switch is restarted.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To save the Switch's current configuration to non-volatile RAM:

```
DGS3100# save

Saving all configurations to NV-RAM... Done.

DGS3100#
```

## reboot

Purpose	To restart the Switch. If the Switch is a member of a stack, it may be rebooted individually, without affecting the other members of the stack.
Syntax	**reboot <box_id 1-6>**
Description	The **reboot** command restarts the Switch.
Parameters	*<box_id 1-6>* − The unit's current stack membership number.
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To restart the Switch unit 1:

```
DGS3100# reboot 1

DGS3100#
```

reset

Purpose	To reset the Switch to the factory default settings.
Syntax	**reset**
Description	The **reset** command restores the Switch's configuration to the default settings assigned from the factory. Execution of the **reset** command through the CLI retains the unit's current stack membership number.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To restore all of the Switch's parameters to their default values:

```
DGS3100# reset

Are you sure to proceed with system reset?(y/n)

Success.

DGS3100#
```

## login

Purpose	To log in a user to the Switch’s console.
Syntax	**login**
Description	The **login** command initiates the login procedure. The user is prompted for the Username and Password.
Parameters	None.
Restrictions	None.

Example usage:

To initiate the login procedure:

```
DGS3100# login



UserName:
```

logout

Purpose	To log out a user from the Switch’s console.
Syntax	**Logout**
Description	The **logout** command terminates the current user’s session on the Switch’s console.
Parameters	None.
Restrictions	None.

Example usage:

To terminate the current user’s console session:

```
DGS3100# logout
```

ping

Purpose	To test the connectivity between network devices.
Syntax	**ping <ipaddr> {times <value 1-255>} {timeout <sec 1-99>}**
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.

Parameters	*<ipaddr>* - The IP address of the host. *times <value 1-255>* - The number of individual ICMP echo messages to be sent. The maximum value is 255. The default is 0. Pinging an IP address without the times parameter will ping the target device an infinite number of times. *timeout <sec 1-99>* - 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.
Restrictions	None.

Example usage:

To ping the IP address 10.6.150.34 three times:

```
DGS3100# ping 10.6.150.34 times 3
Pinging 10.6.150.34 with 56 bytes of data:

56 bytes from 10.6.150.34: icmp_seq=1. time=0 ms
56 bytes from 10.6.150.34: icmp_seq=2. time=0 ms
56 bytes from 10.6.150.34: icmp_seq=3. time=0 ms

----10.6.150.34 PING Statistics----
3 packets transmitted, 3 packets received, 0% packet loss
round-trip (ms) min/avg/max = 0/0/0




Success.
DGS3100#
```

show cpu utilization

Purpose	To measure CPU utilization.
Syntax	**show cpu utilization**
Description	The **show cpu utilization** command displays information about CPU utilization.
Parameters	None.
Restrictions	None.

Example usage:

To show CPU utilization information:

```
DGS3100# show cpu utilization
CPU utilization service is on.

CPU utilization
----------------------
five seconds:2% ;one minute:1% ;five minutes:1%
DGS3100#
```

show configuration

Purpose	To display the current or saved version of the configuration settings of the Switch.
Syntax	**show configuration [running | startup]**
Description	The **show configuration** command displays the current or saved version of the configuration settings of the Switch.
Parameters	*running* – Displays the current configuration. *startup* – Displays the configuration saved in NV-RAM.
Restrictions	None.

Example usage:

To show current configuration information:

```
DGS3100# show configuration running

config snmp system_name DGS-3100
create vlan 2 tag 2
enable 802.1x
config 802.1x auth_protocol radius
config radius add 10.6.41.226 key 123456 auth_port 1812 acct_port 1813 priori
ty first
config ports (1-2,4-7) enable_reauth enable
config ports 3 port_control auto enable_reauth enable
config 802.1x auth_mode ports (1-7) mac_based
config guest_vlan 2 state enable
config guest_vlan ports 3
config ipif system dhcp
DGS3100#
```

enable jumbo_frame

Purpose	To enable jumbo frames on the device.
Syntax	**enable jumbo_frame**
Description	The **enable jumbo_frame** command enables jumbo frames on the device.
Parameters	None.
Restrictions	None.

Example usage:

To enable jumbo frames:

```
DGS3100# enable jumbo_frame

Success.

DGS3100#
```

disable jumbo_frame

Purpose	To disable jumbo frames on the device.
Syntax	**disable jumbo_frame**
Description	The **disable jumbo_frame** command disables jumbo frames on the device.
Parameters	None.
Restrictions	None.

Example usage:

To disable jumbo_frames:

```
DGS3100# disable jumbo_frame

Success.

DGS3100#
```

## show jumbo_frame

Purpose	To display the jumbo frame configuration.
Syntax	**show jumbo_frame**
Description	The **show jumbo_frame** command displays the jumbo frame configuration.
Parameters	None.
Restrictions	None.

Example usage:

To show the jumbo_frames configuration status on the device:

```
DGS3100# show jumbo_frame

Jumbo frames are disabled.

Jumbo frames will be enabled after save and restart.

DGS3100#
```

locate

Purpose	To enable the user to locate the device he is working on.
Syntax	**locate**
Description	The **locate** command causes the seven segment display of the currently active switch with Master ID to blink the letter L for 20 seconds.

Parameters	None.
Restrictions	None.

Example usage:

To display the currently active switch:

```
DGS3100# locate

Success.
DGS3100#
```

5

SWITCH PORT COMMANDS

The Switch Port commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config ports	[all | <portlist>] {speed [auto | 10_half | 10_full | 100_half | 100_full | 1000_full] | flow_control [enable | disable | auto] | learning [enable | disable] | state [enable | disable]}
show ports	{<portlist>}
config ports description	<portlist> <string 1-64>
delete ports description	<portlist>
show ports description	{<portlist>}

Each command is listed in detail, as follows:

config ports	
Purpose	To configure the Switch's Ethernet port settings.
Syntax	**config ports [all | <portlist>] {speed [auto | 10_half | 10_full | 100_half | 100_full | 1000_full] | flow_control [enable | disable | auto] | learning [enable | disable] | state [enable | disable]}**
Description	The **config ports** command configures the Switch's Ethernet port settings. Only the ports listed in the <portlist> will be affected.
Parameters	*<portlist>* − A port or range of ports to be configured. *all* − Configures all ports on the Switch. *speed* – Sets the speed of a port or range of ports, with the addition of one of the following: • *auto* − Enables auto-negotiation for the specified range of ports. • *[10 | 100 | 1000]* − Configures the speed in Mbps for the specified range of ports. • *[half | full]* − Configures the specified range of ports as either full or half-duplex. *flow_control [enable]* – Enables flow control for the specified ports. *flow_control [disable]* – Disables flow control for the specified ports. *flow_control [auto]* – Specifies auto-negotiation of flow control for the specified ports. *learning [enable | disable]* − Enables or disables the MAC address learning on the specified range of ports. *state [enable | disable]* − Enables or disables the specified range of ports.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the speed of ports 1-3 to be 10 Mbps, full duplex, learning and state enabled:

```
DGS3100# config ports 1-3 speed 10_full learning enable state enable

Success.

DGS3100#
```

show ports

Purpose	To display the current configuration of a range of ports.
Syntax	**show ports {<portlist>}**
Description	The **show ports** command displays the current configuration of a port or range of ports.
Parameters	*<portlist>* − A port or range of ports whose settings are to be displayed.
Restrictions	None.

Example usage:

To display the configuration of all ports on the Switch:

```
DGS3100# show ports

Port   Port        Settings                 Connection               Address
       State       Speed/Duplex/FlowCtrl    Speed/Duplex/FlowCtrl    Learning
-----  ----------- ------------------------ ------------------------ -----------
1:1    Enabled     Auto/Disabled            Link Down                Enabled
1:2    Enabled     Auto/Disabled            Link Down                Enabled
1:3    Enabled     Auto/Disabled            100M/Full/Disabled       Enabled
1:4    Enabled     Auto/Disabled            100M/Full/Disabled       Enabled
1:5    Enabled     Auto/Disabled            Link Down                Enabled
1:6    Enabled     Auto/Disabled            Link Down                Enabled
1:7    Enabled     Auto/Disabled            Link Down                Enabled
1:8    Enabled     Auto/Disabled            Link Down                Enabled
1:9    Enabled     Auto/Disabled            Link Down                Enabled
1:10   Enabled     Auto/Disabled            Link Down                Enabled
1:11   Enabled     Auto/Disabled            Link Down                Enabled
1:12   Enabled     Auto/Disabled            Link Down                Enabled
1:13   Enabled     Auto/Disabled            Link Down                Enabled
1:14   Enabled     Auto/Disabled            Link Down                Enabled
1:15   Enabled     Auto/Disabled            Link Down                Enabled
1:16   Enabled     Auto/Disabled            Link Down                Enabled
1:17   Enabled     Auto/Disabled            Link Down                Enabled
1:18   Enabled     Auto/Disabled            Link Down                Enabled
1:19   Enabled     Auto/Disabled            Link Down                Enabled

DGS3100#
```

config ports description

Purpose	To add a description to an interface or ranges of interface.
Syntax	**config ports description <portlist> <string 1-64>**
Description	The **config ports description** command adds a description to an interface or a range of interfaces.
Parameters	*<portlist>* − A port or range of ports to add a description to. *<string 1-64>* − Description content.
Restrictions	None.

Example usage:

To add a description to port 1:

```
DGS3100# config ports description 1:1 "For testing purposes only"



Success.
DGS3100#
```

delete ports description

Purpose	To delete a description of an interface or a range of interfaces.
Syntax	**delete ports description <portlist>**
Description	The **delete ports description** command deletes a description of an interface or a range of interfaces.
Parameters	*<portlist>* − A port or range of ports to delete descriptions from.
Restrictions	None.

Example usage:

To delete the description of port 1:

```
DGS3100# delete ports description 1:1

Success.
DGS3100#
```

show ports description

Purpose	To display a description of an interface or a range of interfaces.
Syntax	**show ports description {<portlist>}**
Description	The **show ports description** command displays a description of an interface or a range of interfaces.
Parameters	*<portlist>* − A port or range of ports whose descriptions are to be displayed.
Restrictions	None.

Example usage:

To display the description of port 1:

```
DGS3100# show ports description 1:1

Port            Description
-------------  -----------------
1:1             For testing purposes only
DGS3100#
```

6

NETWORK MANAGEMENT (SNMP) COMMANDS

The Network Management commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
create snmp user	<username 24> <groupname 30> [encrypted [by_password auth [md5 <auth_password 1-32> | sha <auth_password 1-32>] | by_key auth [md5 <auth_key 32 or 64>| sha<auth_key 40 or 72>]]]
delete snmp user	<username 24>
show snmp user	
create snmp view	<view_name 30> <oid> view_type [included | excluded]
delete snmp view	<view_name 30> [all | oid]
show snmp view	{<view_name 30>}
create snmp community	<community_string 20> view <view_name 30> [read_only | read_write]
delete snmp community	<community_string 20>
show snmp community	{<community_string 20>}
config snmp engineID	[default | <snmp_engineID 10-64>]
show snmp engineID	
create snmp group	<groupname 30> [v1 | v2c | v3 [noauth_nopriv | auth_nopriv | auth_priv]{notify_view <view_name 30>}] {read_view <view_name 30> | write_view <view_name 30>}
delete snmp group	<groupname 30>
show snmp groups	
create snmp host	<ipaddr> [v1<community_string 20> | v2c<community_string 20> | v3 [noauth_nopriv | auth_nopriv | auth_priv]<auth_string 24>]
delete snmp host	<ipaddr>
show snmp host	{<ipaddr>}
create trusted_host	<ipaddr>
show trusted_host	{<ipaddr>}
delete trusted_host	<ipaddr>
enable snmp traps	
disable snmp traps	
enable snmp authenticate trap	

Command	Parameter
disable snmp authenticate trap	
show snmp traps	
config snmp system_contact	<sw_contact>
config snmp system_location	<sw_location>
config snmp system_name	<sw_name>

Each command is listed in detail, as follows:

create snmp user

Purpose	To create a new SNMP user and add the user to an SNMP group.
Syntax	**create snmp user <username 24> <groupname 30> [encrypted [by_password auth [md5 <auth_password 1-32> | sha <auth_password 1-32>] | by_key auth [md5 <auth_key 32 or 64>| sha<auth_key 40 or 72>]]]**
Description	The **create snmp user** command creates a new SNMP user and adds the user to an existing SNMP group.
Parameters	*<username 24>* − The new SNMP username, up to 24 alphanumeric characters. *<groupname 30>* − The SNMP groupname the new SNMP user will be associated with, up to 30 alphanumeric characters. *encrypted* – Allows the user to choose a type of authorization for authentication using SNMP. The user may choose: • *by_password* – Requires the SNMP user to enter a password for authentication and privacy. The password is defined by specifying the auth_password below. This method is recommended. • *by_key* – Requires the SNMP user to enter an encryption key for authentication and privacy. The key is defined by specifying the key in hex form below. This method is not recommended. *auth* - The user may also choose the type of authentication algorithms used to authenticate the snmp user. The choices are: • *md5* − Specifies that the HMAC-MD5-96 authentication level will be used. md5 may be utilized by entering one of the following: • *<auth password 1-32>* - A string of between 1 and 32 alphanumeric characters used to authorize the agent to receive packets for the host. • *<auth_key 32 or 64>* - A string of exactly 32 or 64 alphanumeric characters, in hex form, to define the key used to authorize the agent to receive packets for the host. • *sha* − Specifies that the HMAC-SHA-96 authentication

	level will be used. • *<auth password 1-32>* - A string of between 1 and 32 alphanumeric characters used to authorize the agent to receive packets for the host. • *<auth_key 40 or 72>* - A string of exactly 40 or 72 alphanumeric characters, in hex form, to define the key used to authorize the agent to receive packets for the host.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create an SNMP user on the Switch:

```
DGS3100# create snmp user dlink default encrypted by_password
auth md5 auth_password priv none



Success.

DGS3100#
```

delete snmp user

Purpose	To remove an SNMP user from an SNMP group and also to delete the associated SNMP group.
Syntax	**delete snmp user <username 24>**
Description	The **delete snmp user** command removes an SNMP user from its SNMP group and then deletes the associated SNMP group.
Parameters	*<username 24>* − A string of up to 24 alphanumeric characters that identifies the SNMP user to be deleted.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete a previously created SNMP user on the Switch:

```
DGS3100# delete snmp user dlink

Success.

DGS3100#
```

show snmp user

Purpose	To display information about each SNMP username in the SNMP group username table.
Syntax	**show snmp user**
Description	The **show snmp user** command displays information about each SNMP username in the SNMP group username table.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To display the SNMP users currently configured on the Switch:

```
DGS3100# show snmp user

Username  Group Name  SNMP Version  Auth-Protocol
--------------  ---------------   ------------        -------------
Initial        initial          V3                None

Total Entries: 1

DGS3100#
```

create snmp view

Purpose	To assign views to community strings to limit which MIB objects an SNMP manager can access.
Syntax	**create snmp view <view_name 30> <oid> view_type [included | excluded]**
Description	The **create snmp view** command assigns views to community strings to limit which MIB objects an SNMP manager can access.
Parameters	<*view_name 30*> − A string of up to 30 alphanumeric characters that identifies the SNMP view to be created. <*oid*> − The object ID that identifies an object tree (MIB tree) that will be included or excluded from access by an SNMP manager. *included* − Includes this object in the list of objects that an SNMP manager can access. *excluded* − Excludes this object from the list of objects that an SNMP manager can access.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create an SNMP view:

```
DGS3100# create snmp view dlinkview 1.3.6 view_type included

Success.

DGS3100#
```

delete snmp view

Purpose	To remove an SNMP view entry previously created on the Switch.
Syntax	**delete snmp view <view_name 30> [all | oid]**
Description	The **delete snmp view** command removes an SNMP view previously created on the Switch.
Parameters	<*view_name 30*> − A string of up to 30 alphanumeric characters that identifies the SNMP view to be deleted.

	all − Specifies that all of the SNMP views on the Switch will be deleted. *<oid>* − The object ID that identifies an object tree (MIB tree) that will be deleted from the Switch.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete a previously configured SNMP view from the Switch:

```
DGS3100# delete snmp view dlinkview all

Success.

DGS3100#
```

show snmp view

Purpose	To display an SNMP view previously created on the Switch.
Syntax	**show snmp view {<view_name 30>}**
Description	The **show snmp view** command displays an SNMP view previously created on the Switch.
Parameters	*<view_name 30>* − A string of up to 30 alphanumeric characters that identifies the SNMP view to be displayed.
Restrictions	None.

Example usage:

To display SNMP view configuration:

```
DGS3100# show snmp view

Vacm View Table Settings
View Name            Subtree                  View Type
--------------------  ------------------------ ----------
ReadView             1                        Included
WriteView            1                        Included
NotifyView           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: 11

DGS3100#
```

create snmp community

Purpose	To create an SNMP community string to define the relationship between the SNMP manager and an SNMP agent.
Syntax	**create snmp community <community_string 20> view <view_name 30> [read_only | read_write]**
Description	The **create snmp community** command creates an SNMP community string and assigns access-limiting characteristics to this community string. The community string acts like a password to permit access to the agent on the Switch. One or more of the following characteristics can be associated with the community string: An Access List of IP addresses of SNMP managers that are permitted to use the community string to gain access to the Switch's SNMP agent. An MIB view that defines the subset of all MIB objects to be accessible to the SNMP community. Read/write or read-only level permission for the MIB objects accessible to the SNMP community.
Parameters	<*community_string 20*> − A string of up to 20 alphanumeric characters that is used to identify members of an SNMP community. This string is used like a password to give remote SNMP managers access to MIB objects in the Switch's SNMP agent. <*view_name 30*> − A string of up to 30 alphanumeric characters that is used to identify the group of MIB objects that a remote SNMP manager is allowed to access on the Switch. *read_only* − Specifies that SNMP community members using the community string created with this command can only read the contents of the MIBs on the Switch. *read_write* − Specifies that SNMP community members using the community string created with this command can read from and write to the contents of the MIBs on the Switch.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create the SNMP community string "dlink:"

```
DGS3100# create snmp community dlink view ReadView read_write

Success.

DGS3100#
```

delete snmp community

Purpose	To remove a specific SNMP community string from the Switch.
Syntax	**delete snmp community <community_string 20>**
Description	The **delete snmp community** command removes a previously defined SNMP community string from the Switch.
Parameters	<*community_string 20*> − A string of up to 20 alphanumeric

	characters that is used to identify members of an SNMP community to delete. This string is used like a password to give remote SNMP managers access to MIB objects in the Switch's SNMP agent.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete the SNMP community string "dlink":

```
DGS3100# delete snmp community dlink

Success.

DGS3100#
```

## show snmp community

Purpose	To display SNMP community strings configured on the Switch.
Syntax	**show snmp community {<community_string 20>}**
Description	The **show snmp community** command displays SNMP community strings that are configured on the Switch.
Parameters	*<community_string 20>* − A string of up to 20 alphanumeric characters that is used to identify members of an SNMP community. This string is used like a password to give remote SNMP managers access to MIB objects in the Switch's SNMP agent.
Restrictions	None.

Example usage:

To display the currently entered SNMP community strings:

```
DGS3100# show snmp community

SNMP Community Table

   Community Name      View Name          Access Right
------------------------------ -------------------------    -----------------------
          dlink              ReadView            read write
          private            CommunityView       read write
          public             CommunityView       read only

Total Entries: 3

DGS3100#
```

config snmp engineID

Purpose	To configure a name for the SNMP engine on the Switch.
Syntax	**config snmp engineID [default | <snmp_engineID 10-64>]**
Description	The **config snmp engineID** command configures a name for the

	SNMP engine on the Switch.
Parameters	*default* − defines the automatically created engineID based on the device mac. *<snmp_engineID 10-64>* − A string, of between 10 and 64 alphanumeric characters, to be used to identify the SNMP engine on the Switch.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To give the SNMP agent on the Switch the name “0035636666”

```
DGS3100# config snmp engineID 0035636666

Success.

DGS3100#
```

## show snmp engineID

Purpose	To display the identification of the SNMP engine on the Switch.
Syntax	**show snmp engineID**
Description	The **show snmp engineID** command displays the identification of the SNMP engine on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display the current name of the SNMP engine on the Switch:

```
DGS3100# show snmp engineID

SNMP Engine ID : 0035636666

DGS3100#
```

create snmp group

Purpose	To create a new SNMP group, or a table that maps SNMP users to SNMP views.
Syntax	**create snmp group <groupname 30> [v1 | v2c | v3 [noauth_nopriv | auth_nopriv | auth_priv]{notify_view <view_name 30>}] {read_view <view_name 30> | write_view <view_name 30>}**
Description	The **create snmp group** command creates a new SNMP group, or a table that maps SNMP users to SNMP views.
Parameters	*<groupname 30>* − A name of up to 30 alphanumeric characters that identifies the SNMP group the new SNMP user is to be associated with. *v1* – Specifies that SNMP version 1 is to be used. The Simple

	Network Management Protocol (SNMP), version 1, is a network management protocol that provides a means to monitor and control network devices. *v2c* – Specifies that SNMP version 2c is to be used. The SNMP v2c supports both centralized and distributed network management strategies. It includes improvements in the Structure of Management Information (SMI) and adds some security features. *v3* – Specifies that the SNMP version 3 is to be used. SNMP v3 provides secure access to devices through a combination of authentication and encrypting packets over the network. SNMP v3 adds: • Message integrity − Ensures that packets have not been tampered with during transit. • Authentication − Determines if an SNMP message is from a valid source. • Encryption − Scrambles the contents of messages to prevent it from being viewed by an unauthorized source. *noauth_nopriv* − Specifies that there is no authorization and no encryption of packets sent between the Switch and a remote SNMP manager. *auth_nopriv* − Specifies that authorization is required, but there is no encryption of packets sent between the Switch and a remote SNMP manager. *auth_priv* − Specifies that authorization is required, and that packets sent between the Switch and a remote SNMP manger are encrypted. *read_view* – Specifies that the SNMP group being created can request SNMP messages. • <*view_name 30*> − A string of up to 30 alphanumeric characters that identifies the group of MIB objects that a remote SNMP manager is allowed to access on the Switch. *write_view* – Specifies that the SNMP group being created has write privileges. • <*view_name 30*> − A string of up to 30 alphanumeric characters that identifies the group of MIB objects that a remote SNMP manager is allowed to access on the Switch. *notify_view* − Specifies that the SNMP group being created can receive SNMP trap messages generated by the Switch's SNMP agent. • <*view_name 30*> − A string of up to 30 alphanumeric characters that identifies the group of MIB objects that a remote SNMP manager is allowed to access on the Switch.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create an SNMP group named "sg1:"

```
DGS3100# create snmp group sg1 v3 noauth_nopriv read_view v1
write_view v1 notify_view v1

Success.

DGS3100#
```

delete snmp group

Purpose	To remove an SNMP group from the Switch.
Syntax	**delete snmp group <groupname 30>**
Description	The **delete snmp group** command removes an SNMP group from the Switch.
Parameters	*<groupname 30>* − A string of up to 30 alphanumeric characters that identifies the SNMP group the new SNMP user will be associated with.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete the SNMP group named “sg1”.

```
DGS3100# delete snmp group sg1

Success.

DGS3100#
```

## show snmp groups

Purpose	To display the group-names of SNMP groups currently configured on the Switch. The security model, level, and status of each group are also displayed.
Syntax	**show snmp groups**
Description	The **show snmp groups** command displays the group-names of SNMP groups currently configured on the Switch. The security model, level, and status of each group are also displayed.
Parameters	None.
Restrictions	None.

Example usage:

To display the currently configured SNMP groups on the Switch:

```
DGS3100# show snmp groups
Vacm Access Table Settings

Group Name          : Group3
ReadView Name       : ReadView
WriteView Name      : WriteView
Notify View Name    : NotifyView
Security Model      : SNMPv3
Security Level      : NoAuthNoPriv

Group Name          : Group4
ReadView Name       : ReadView
WriteView Name      : WriteView
```

```
Notify View Name     : NotifyView
Security Model        : SNMPv3
Security Level        : authNoPriv

Group Name            : Group5
ReadView Name         : ReadView
WriteView Name        : WriteView
Notify View Name      : NotifyView
Security Model        : SNMPv3
Security Level        : authNoPriv

Group Name          : Group6
ReadView Name       : ReadView
WriteView Name      : WriteView
Notify View Name    : NotifyView
Security Model      : SNMPv3
Security Level      : authPriv

Group Name          : Group7
ReadView Name       : ReadView
WriteView Name      : WriteView
Notify View Name    : NotifyView
Security Model      : SNMPv3
Security Level      : authPriv

Group Name          : initial
ReadView Name       : restricted
WriteView Name      :
Notify View Name    : restricted
Security Model      : SNMPv3
Security Level      : NoAuthNoPriv

Group Name          : ReadGroup
ReadView Name       : CommunityView
WriteView Name      :
Notify View Name    : CommunityView
Security Model      : SNMPv1
Security Level      : NoAuthNoPriv

Group Name          : ReadGroup
ReadView Name       : CommunityView
WriteView Name      :
Notify View Name    : CommunityView
Security Model      : SNMPv2
Security Level      : NoAuthNoPriv

Group Name          : WriteGroup
ReadView Name       : CommunityView
```

```
WriteView Name     : CommunityView
Notify View Name   : CommunityView
Security Model      : SNMPv1
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

DGS3100#
```

create snmp host

Purpose	To create a recipient of SNMP traps generated by the Switch's SNMP agent.
Syntax	**create snmp host <ipaddr> [v1<community_string 20> | v2c<community_string 20> | v3 [noauth_nopriv | auth_nopriv | auth_priv]<auth_string 24>]**
Description	The **create snmp host** command creates a recipient of SNMP traps generated by the Switch's SNMP agent.
Parameters	*<ipaddr>* − The IP address of the remote management station to serve as the SNMP host for the Switch. *v1* – Specifies that SNMP version 1 is to be used. The Simple Network Management Protocol (SNMP), version 1, is a network management protocol that provides a means to monitor and control network devices. *v2c* – Specifies that SNMP version 2c is to be used. The SNMP v2c supports both centralized and distributed network management strategies. It includes improvements in the Structure of Management Information (SMI) and adds some security features. *v3* – Specifies that the SNMP version 3 is to be used. SNMP v3 provides secure access to devices through a combination of authentication and encrypting packets over the network. SNMP v3 adds: • Message integrity − ensures that packets have not been tampered with during transit. • Authentication − determines if an SNMP message is from a valid source. • Encryption − scrambles the contents of messages to prevent it being viewed by an unauthorized source. *<community_string 20>* − A string of up to 20 alphanumeric characters that identifies members of an SNMP community. This string is used like a password to give remote SNMP managers access to MIB objects in the Switch's SNMP agent. *noauth_nopriv* − Specifies that there is no authorization and no

	encryption of packets sent between the Switch and a remote SNMP manager. *auth_nopriv* − Specifies that authorization is required, but there is no encryption of packets sent between the Switch and a remote SNMP manager. *auth_priv* − Specifies that authorization is required, and that packets sent between the Switch and a remote SNMP manger are encrypted. *<auth_string 24>* − A string of up to 24 alphanumeric characters used in SNMP v3 to authorize a remote SNMP manager to access the Switch's SNMP agent.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create an SNMP host to receive SNMP messages:

```
DGS3100# create snmp host 10.48.74.100 v3 auth_priv public

Success.

DGS3100#
```

delete snmp host

Purpose	To remove a recipient of SNMP traps generated by the Switch's SNMP agent.
Syntax	**delete snmp host <ipaddr>**
Description	The **delete snmp host** command deletes a recipient of SNMP traps generated by the Switch's SNMP agent.
Parameters	*<ipaddr>* − The IP address of a remote SNMP manager that receives SNMP traps generated by the Switch's SNMP agent.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete an SNMP host entry:

```
DGS3100# delete snmp host 10.48.74.100

Success.

DGS3100#
```

show snmp host

Purpose	To display the recipient of SNMP traps generated by the Switch's SNMP agent.
Syntax	**show snmp host {<ipaddr>}**
Description	The **show snmp host** command is used to display the IP addresses and configuration information of remote SNMP managers that are designated as recipients of SNMP traps generated by the Switch's

	SNMP agent.
Parameters	*<ipaddr>* − The IP address of a remote SNMP manager that receives SNMP traps generated by the Switch's SNMP agent.
Restrictions	None.

Example usage:

To display the currently configured SNMP hosts on the Switch:

```
DGS3100# show snmp host

SNMP Host Table
Host IP Address  SNMP Version  Community Name / SNMPv3 User Name
---------------  ------------------- ---------------------------------
10.48.76.23      V2c           private
10.48.74.100     V3            public

Total Entries: 2

DGS3100#
```

create trusted_host

Purpose	To create a trusted host.
Syntax	**create trusted_host <ipaddr>**
Description	The **create trusted_host** command creates a trusted host. The Switch allows you to specify up to four 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.
Parameters	*<ipaddr>* − The IP address of the trusted host to be created.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create the trusted host:

```
DGS3100# create trusted_host 10.48.74.121

Success.

DGS3100#
```

show trusted_host

Purpose	To display a list of trusted hosts entered on the Switch using the create trusted_host command above.
Syntax	**show trusted_host {<ipaddr>}**

Description	The **show trusted_host** command displays a list of trusted hosts entered on the Switch using the **create trusted_host** command above.
Parameters	*<ipaddr>* − The IP address of the trusted host.
Restrictions	None.

Example usage:

To display the list of trusted hosts:

```
DGS3100# show trusted_host

Management Stations

IP Address
-----------------------
10.48.74.121

Total Entries: 1

DGS3100#
```

delete trusted_host

Purpose	To delete a trusted host entry made using the **create trusted_host** command above.
Syntax	**delete trusted_host <ipaddr>**
Description	The **delete trusted_host** command deletes a trusted host entry made using the **create trusted_host** command above.
Parameters	*<ipaddr>* − The IP address of the trusted host.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete a trusted host with an IP address 10.48.74.121:

```
DGS3100# delete trusted_host 10.48.74.121

Success.
DGS3100#
```

enable snmp traps

Purpose	To enable SNMP trap support.
Syntax	**enable snmp traps**
Description	The **enable snmp traps** command enables SNMP trap support on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable SNMP trap support on the Switch:

```
DGS3100# enable snmp traps

Success.
DGS3100#
```

disable snmp traps

Purpose	To disable SNMP trap support on the Switch.
Syntax	**disable snmp traps**
Description	The **disable snmp traps** command disables SNMP trap support on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To prevent SNMP traps from being sent from the Switch:

```
DGS3100# disable snmp traps

Success.
DGS3100#
```

enable snmp authenticate trap

Purpose	To enable SNMP authentication trap support.
Syntax	**enable snmp authenticate trap**
Description	The **enable snmp authenticate trap** command enables SNMP authentication trap support on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To turn on SNMP authentication trap support:

```
DGS3100# enable snmp authenticate trap

Success.
DGS3100#
```

disable snmp authenticate trap

Purpose	To disable SNMP authentication trap support.
Syntax	**disable snmp authenticate trap**

Description	The **disable snmp authenticate trap** command disables SNMP authentication trap support on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable the SNMP authentication trap support:

```
DGS3100# disable snmp authenticate trap

Success.
DGS3100#
```

## show snmp traps

Purpose	To display SNMP trap support status on the Switch.
Syntax	**show snmp traps**
Description	The **show snmp traps** command displays the SNMP trap support status currently configured on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To view the current SNMP trap support:

```
DGS3100# show snmp traps

SNMP Traps               :  enabled
Authenticate Trap         :  enabled

DGS3100#
```

config snmp system_contact

Purpose	To enter identification information of a contact person who is responsible for the Switch.
Syntax	**config snmp system_contact <sw_contact>**
Description	The **config snmp system_contact** command enters the name and/or other information to identify a contact person who is responsible for the Switch. A maximum of 255 characters can be used.
Parameters	<*sw_contact 0-255*> - A maximum of 255 characters is allowed. A NULL string is accepted if there is no contact.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the Switch contact to “MIS Department II”:

```
DGS3100# config snmp system_contact MIS Department II

Success.

DGS3100#
```

### config snmp system_location

Purpose	To enter a description of the location of the Switch.
Syntax	**config snmp system_location <sw_location>**
Description	The **config snmp system_location** command enters a description of the location of the Switch. A maximum of 255 characters can be used.
Parameters	*<sw_location 0-255>* - A maximum of 255 characters is allowed. A NULL string is accepted if there is no location desired.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the Switch location for “HQ 5F”:

```
DGS3100# config snmp system_location HQ 5F

Success.

DGS3100#
```

### config snmp system_name

Purpose	To define the name for the Switch.
Syntax	**config snmp system_name <sw_name>**
Description	The **config snmp system_name** command defines the name of the Switch.
Parameters	*<sw_name 0-255>* - A maximum of 255 characters is allowed. A NULL string is accepted if no name is desired.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the Switch name as “DGS-3100 Switch”:

```
DGS3100# config snmp system_name DGS-3100 Switch

Success.
DGS-3100 Switch#
```

7

DOWNLOAD/UPLOAD COMMANDS

The Download/Upload commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
download	[firmware <ipaddr> <path_filename 64> | boot <ipaddr> <path_filename 64> | configuration <ipaddr> <path_filename 64> {startup | running}]
upload	configuration <ipaddr> <path_filename 64> {startup | running}

Each command is listed in detail, as follows:

download	
Purpose	To download and install a firmware, boot, or switch configuration file from a TFTP server.
Syntax	**download [firmware <ipaddr> <path_filename 64> | boot <ipaddr> <path_filename 64> | configuration <ipaddr> <path_filename 64> {startup | running}]**
Description	The **download** command downloads a firmware, boot, or switch configuration file from a TFTP server.
Parameters	*firmware* − Downloads and installs firmware on the Switch from a TFTP server. *boot* − Downloads a boot file from a TFTP server. *configuration* − Downloads a switch configuration file from a TFTP server. *<ipaddr>* − The IP address of the TFTP server. *<path_filename 64>* − The DOS path and filename of the firmware or switch configuration file, up to 64 characters, on the TFTP server. For example, C:\31xx.had. *startup* − Indicates the Startup Configuration file is to be downloaded. *running* − Indicates the Running Configuration file is to be downloaded.
Restrictions	The TFTP server must be on the same IP subnet as the Switch. Only administrator-level users can issue this command.

Example usage:

To download a firmware file:

```
DGS3100# download firmware 1.1.1.23 1\dgs_31xx-10032.ros
01–Jan–2000 01:19:48 %COPY–I–FILECPY: Files Copy – source URL tftp://1.1.1.23 /1\
dgs_3lxx—10032.ros destination URL Unit all flash://image
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
```

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!01–Jan–2000 01:22:49 %COPY–W–TRAP:
The copy operation was completed successfully
!
3920460 bytes copied in 00:03:01 [hh:mm:ss]

DGS3100#
```

upload

Purpose	To upload the current switch settings to a TFTP server.
Syntax	**upload configuration <ipaddr> <path_filename 64> {startup | running}**
Description	The **upload** command uploads the Switch’s current settings to a TFTP server.
Parameters	*configuration* − Specifies that the Switch’s current settings are to be uploaded to the TFTP server. *<ipaddr>* − The IP address of the TFTP server. The TFTP server must be on the same IP subnet as the Switch. *<path_filename 64>* − The location of the Switch configuration file on the TFTP server. This file will be replaced by the uploaded file from the Switch. *startup* − Indicates the Startup Configuration file is to be uploaded. *running* − Indicates the Running Configuration file is to be uploaded.
Restrictions	The TFTP server must be on the same IP subnet as the Switch. Only administrator-level users can issue this command.

Example usage:

To upload a configuration file:

```
DGS3100# upload configuration 1.1.1.23 1\running—config
01–Jan–2000 01:26:11 %COPY–I–FILECPY: Files Copy – source URL running–config
destination URL tftp://1.1.1.23/1\running–config
⋯..01–Jan–2000 01:26:16 %COPY–W–TRAP: The copy operation was completed
success fully
!
158 bytes copied in 00:00:05 [hh:mm:ss]

DGS3100#
```

8

NETWORK MONITORING COMMANDS

The Network Monitoring commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
show packet ports	<portlist>
show error ports	<portlist>
show utilization	
clear counters	
clear log	
show log	{index <value>}
enable syslog	
disable syslog	
show syslog	
create syslog host	<index 1-4> ipaddress <ipaddr> {severity [informational | warning | all] | facility [local0 | local1| local2 | local3 | local4 | local5 | local6 | local7] | udp_port <udp_port_number>}
config syslog host	[all | <index 1-4>] {severity [informational | warning | all] | facility [local0 | local1 | local2 | local3 | local4 | local5 | local6 | local7] | udp_port <udp_port_number> | ipaddress <ipaddr>}
delete syslog host	[<index 1-4> | all]
show syslog host	{<index 1-4>}

Each command is listed in detail, as follows:

show packet ports	
Purpose	To display statistics about the packets sent and received by the Switch.
Syntax	**show packet ports <portlist>**
Description	The **show packet ports** command displays statistics about packets sent and received by ports specified in the port list. The results are separated into three tables, labeled A, B, and C in the window below. Table A is relevant to the size of the packets, Table B is relevant to the type of packets and Table C is relevant to the type of frame associated with these packets.
Parameters	*<portlist>* − A port or range of ports whose statistics are to be displayed.
Restrictions	None.

Example usage:

To display the packets analysis for port 7:

```
DGS3100# show packet ports 7
Port number : 7           A                                  B
Frame Size    Frame Counts   Frames/sec   Frame Type  Total    Total/sec
-----------   ------------   ----------   ----------  -----    ---------
64            3275           10           RX Bytes    408973  1657
65-127        755            10           RX Frames   4395     19
128-255       316            1
256-511       145            0            TX Bytes    7918     178
512-1023      15             0            TX Frames   111      2
1024-1518     0              0
oversize      0              0
                          C
Unicast Rx      152          1
Multicast Rx    557          2
Broadcast Rx  3686          16

More: <space>, Quit: q, One line: <return>
```

show error ports

Purpose	To display the error statistics for a port or a range of ports.
Syntax	**show error ports <portlist>**
Description	The **show error ports** command displays all of the packet error statistics collected and logged by the Switch for a given port list.
Parameters	*<portlist>* − A port or range of ports whose error statistics are to be displayed.
Restrictions	None.

Example usage:

To display the errors of port 3:

```
DGS3100# show errors port 3

Port number   : 3
Error Type     RX Frames              Error Type                TX Frames
----------     ----------             ------------------        -------
CRC Error      0                      Excessive Deferra          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
DGS3100#
```

show utilization

Purpose	To display real-time port utilization statistics.
Syntax	**show utilization**
Description	The **show utilization** command displays the real-time port utilization statistics for the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display the port utilization statistics:

```
DGS3100# show utilization

Port    TX/sec    RX/sec    Util
----    ----------  ----------  ----
1       0         0         0
2       0         0         0
3       0         0         0
4       0         0         0
5       0         0         0
6       0         0         0
7       0         0         0
8       0         0         0
9       0         0         0
10      0         0         0
11      0         0         0
12      0         0         0

13      0         0         0
14      0         0         0
15      0         0         0
16      0         0         0
17      0         0         0
18      0         0         0
19      0         0         0
CTRL+C ESC q Quit SPACE n Next Page ENTER Next Entry a ALL
```

clear counters

Purpose	To clear the Switch's statistics counters.
Syntax	**clear counters**
Description	The **clear counters** command clears the counters used by the Switch to compile statistics.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To clear the counters:

```
DGS3100# clear counters

Success.

DGS3100#
```

clear log

Purpose	To clear the Switch’s history log.
Syntax	**clear log**
Description	The **clear log** command clears the Switch’s history log.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To clear the log information:

```
DGS3100# clear log

Success.

DGS3100#
```

show log

Purpose	To display the Switch history log.
Syntax	**show log {index <value>}**
Description	The **show log** command displays the contents of the Switch’s history log.
Parameters	*index <value>* − The number of entries in the history log to display.
Restrictions	None.

Example usage:

To display the Switch history log:

```
DGS3100# show log

Index      Time                                  Log Text
-------- -----------------------------     ----------------------------------
1      03-Jan-2000 17:48:21   %AAA-I-CONNECT: User CLI session for user admin over
 telnet , source 10.6.150.34 destination  10.6.41.37 ACCEPTED

2      03-Jan-2000 17:48:02   %AAA-I-DISCONNECT: User CLI session for user admin o
ver telnet , source 10.6.150.34 destination  10.6.41.37  TERMINATED. The Telnet/
SSH session may still be connected.

3      03-Jan-2000 17:38:46   %AAA-I-DISCONNECT: User CLI session for user admin o
```

```
ver console , source 0.0.0.0 destination  0.0.0.0  TERMINATED. The Telnet/SSH se
ssion may still be connected.

4      03-Jan-2000 17:26:24   %COPY-W-TRAP: The copy operation was completed succe
ssfully

5      03-Jan-2000 17:26:17   %COPY-I-FILECPY: Files Copy - source URL running-con
fig destination URL flash://startup-config

6      03-Jan-2000 17:25:40   %AAA-I-CONNECT: User CLI session for user admin over
 telnet , source 10.6.150.34 destination  10.6.41.37 ACCEPTED

DGS3100#
```

## enable syslog

Purpose	To enable the system log to be sent to a remote host.
Syntax	**enable syslog**
Description	The **enable syslog** command enables the system log to be sent to a remote host.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable the syslog function on the Switch:

```
DGS3100# enable syslog

Success.
DGS3100#
```

## disable syslog

Purpose	To disable the system log from being sent to a remote host.
Syntax	**disable syslog**
Description	The **disable syslog** command disables the system log from being sent to a remote host.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable the syslog function on the Switch:

```
DGS3100# disable syslog

Success.
DGS3100#
```

show syslog

Purpose	To display the syslog protocol status.
Syntax	**show syslog**
Description	The **show syslog** command displays the syslog status (enabled or disabled).
Parameters	None.
Restrictions	None.

Example usage:

To display the current status of the syslog function:

```
DGS3100# show syslog

Syslog Global State: Enabled

DGS3100#
```

create syslog host

Purpose	To create a new syslog host.
Syntax	**create syslog host <index 1-4> ipaddress <ipaddr> {severity [informational | warning | all] | facility [local0 | local1| local2 | local3 | local4 | local5 | local6 | local7] | udp_port <udp_port_number>}**
Description	The **create syslog host** command creates a new syslog host.
Parameters	*all* − Specifies that the command is to be applied to all hosts. *<index 1-4>* − The syslog host index id. There are four available indices, numbered 1 to 4. *ipaddress <ipaddr>* − The IP address of the remote host to which syslog messages are to be sent. *severity* − The message severity level indicator. These are described in the table below (Bold font indicates that the corresponding severity level is currently supported on the Switch):

Numerical Code	Severity
0	Emergency: system is unusable
1	Alert: action must be taken immediately
2	Critical: critical conditions
3	Error: error conditions
4	**Warning: warning conditions**
5	Notice: normal but significant condition
6	**Informational: informational messages**
7	Debug: debug-level messages

informational − Specifies that informational messages are to be sent to the remote host. This corresponds to number 6 from the list above.

warning − Specifies that warning messages are to be sent to the remote host. This corresponds to number 4 from the list above.

all − Specifies that all of the currently supported syslog messages that are generated by the Switch are to be sent to the remote host.

facility − 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 in the table below (Bold font indicates the facility values that the Switch currently supports):

Numerical Code	Facility
0	kernel messages
1	user-level messages
2	mail system
3	system daemons
4	security/authorization messages
5	messages generated internally by syslog
6	line printer subsystem
7	network news subsystem
8	UUCP subsystem
9	clock daemon
10	security/authorization messages
11	FTP daemon
12	NTP subsystem
13	log audit
14	log alert
15	clock daemon
16	local use 0 (local0)
17	local use 1 (local1)
18	local use 2 (local2)
19	local use 3 (local3)
20	local use 4 (local4)
21	local use 5 (local5)
22	local use 6 (local6)
23	local use 7 (local7)

local0 − Specifies that local use 0 messages are to be sent to the remote host. This corresponds to number 16 from the list above.

local1 − Specifies that local use 1 messages are to be sent to the remote host. This corresponds to number 17 from the list above.

local2 − Specifies that local use 2 messages are to be sent to the remote host. This corresponds to number 18 from the list above.

	local3 − Specifies that local use 3 messages are to be sent to the remote host. This corresponds to number 19 from the list above. *local4* − Specifies that local use 4 messages are to be sent to the remote host. This corresponds to number 20 from the list above. *local5* − Specifies that local use 5 messages are to be sent to the remote host. This corresponds to number 21 from the list above. *local6* − Specifies that local use 6 messages are to be sent to the remote host. This corresponds to number 22 from the list above. *local7* − Specifies that local use 7 messages will be sent to the remote host. This corresponds to number 23 from the list above. *udp_port <udp_port_number>* − Specifies the UDP port number that the syslog protocol is to use to send messages to the remote host. *state [enable | disable]* − Allows the sending of syslog messages to the remote host, specified above, to be enabled and disabled.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create syslog host:

```
DGS3100# create syslog host 1 ipaddress 10.53.13.94 severity all facility local0

Success.

DGS3100#
```

config syslog host

Purpose	To configure the syslog protocol to send system log data to a remote host.
Syntax	**config syslog host [all | <index 1-4>] {severity [informational | warning | all] | facility [local0 | local1 | local2 | local3 | local4 | local5 | local6 | local7] | udp_port <udp_port_number> | ipaddress <ipaddr>}**
Description	The **config syslog host** command configures the syslog protocol to send system log information to a remote host.
Parameters	*all* − Specifies that the command applies to all hosts. *<index 1-4>* − Specifies that the command applies to an index of hosts. There are four available indices, numbered 1 to 4. *ipaddress <ipaddr>* − The IP address of the remote host to which syslog messages are to be sent. *severity* − The message severity level indicator. These are described in the following table (Bold font indicates that the corresponding severity level is currently supported on the Switch):

Numerical Code	Severity
0	Emergency: system is unusable
1	Alert: action must be taken immediately
2	Critical: critical conditions

3	Error: error conditions
4	**Warning: warning conditions**
5	Notice: normal but significant condition
6	**Informational: informational messages**
7	Debug: debug-level messages

informational − Specifies that informational messages are to be sent to the remote host. This corresponds to number 6 from the list above.

warning − Specifies that warning messages are to be sent to the remote host. This corresponds to number 4 from the list above.

all − Specifies that all of the currently supported syslog messages that are generated by the Switch are to be sent to the remote host.

facility − 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 in the following:

Bold font indicates the facility values that the Switch currently supports.

Numerical Code	Facility
0	kernel messages
1	user-level messages
2	mail system
3	system daemons
4	security/authorization messages
5	messages generated internally by syslog
6	line printer subsystem
7	network news subsystem
8	UUCP subsystem
9	clock daemon
10	security/authorization messages
11	FTP daemon
12	NTP subsystem
13	log audit
14	log alert
15	clock daemon
16	local use 0 (local0)
17	local use 1 (local1)
18	local use 2 (local2)
19	local use 3 (local3)
20	local use 4 (local4)
21	local use 5 (local5)
22	local use 6 (local6)
23	local use 7 (local7)

local0 − Specifies that local use 0 messages are to be sent to the

	remote host. This corresponds to number 16 from the list above. *local1* − Specifies that local use 1 messages are to be sent to the remote host. This corresponds to number 17 from the list above. *local2* − Specifies that local use 2 messages are to be sent to the remote host. This corresponds to number 18 from the list above. *local3* − Specifies that local use 3 messages are to be sent to the remote host. This corresponds to number 19 from the list above. *local4* − Specifies that local use 4 messages are to be sent to the remote host. This corresponds to number 20 from the list above. *local5* − Specifies that local use 5 messages are to be sent to the remote host. This corresponds to number 21 from the list above. *local6* − Specifies that local use 6 messages are to be sent to the remote host. This corresponds to number 22 from the list above. *local7* − Specifies that local use 7 messages are to be sent to the remote host. This corresponds to number 23 from the list above. *udp_port <udp_port_number>* − Specifies the UDP port number that the syslog protocol is to use to send messages to the remote host. *ipaddress <ipaddr>* − Specifies the IP address of the remote host to which syslog messages are to be sent. *state [enable | disable]* − Allows the sending of syslog messages to the remote host, specified above, to be enabled and disabled.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure a syslog host:

```
DGS3100# config syslog host all severity all facility local0

Success.

DGS3100#
```

delete syslog host	
Purpose	To remove a previously configured syslog host from the Switch.
Syntax	**delete syslog host [<index 1-4> | all]**
Description	The **delete syslog host** command removes a previously configured syslog host from the Switch.
Parameters	*<index 1-4>* − The syslog host index id. There are four available indices, numbered 1 to 4. *all* − Specifies that the command applies to all hosts.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete a previously configured syslog host:

```
DGS3100# delete syslog host 4

Success.

DGS3100#
```

## show syslog host

Purpose	To display the syslog hosts currently configured on the Switch.
Syntax	**show syslog host {<index 1-4>}**
Description	The **show syslog host** command displays the syslog hosts that are currently configured on the Switch.
Parameters	*<index 1-4>* − The syslog host index id. There are four available indices, numbered 1 to 4.
Restrictions	None.

Example usage:

To show Syslog host information:

```
DGS3100# show syslog host

Syslog Global State: Disabled

Host Id   Host IP address   Severity   Facility   UDP port
----------   -----------------------  -------------  -------------  ---------------
     1          10.1.1.2              All          Local0      514
     2          10.40.2.3             All          Local0      514
     3          10.21.13.1            All          Local0      514

Total Entries : 3

DGS3100#
```

9

SPANNING TREE COMMANDS

The Spanning Tree commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config stp	{maxage <value 6-40> | maxhops <value 1-20> | hellotime <value 1-10> | forwarddelay <value 4-30>| fbpdu [enable | disable]}
config stp ports	<portlist> {externalcost [auto | <value 1-200000000>] | edge [true | false] | p2p [true | false | auto] | state [enable | disable]}
config stp version	[mstp | rstp | stp]
enable stp	
disable stp	
show stp	
show stp ports	<portlist>}
show stp instance_id	<value 0-15>}
show stp mst_config_id	
config stp instance_id	<value 1-15> [add_vlan | remove_vlan] <vidlist>
config stp priority	<value 0-61440> instance_id <value 0-15>
config stp mst_config_id	{revision_level <int 0-65535> | name <string>}
config stp mst_ports	<portlist> instance_id <value 0-15> {internalCost [auto | value 1-200000000] | priority <value 0-240>}

Each command is listed in detail, as follows:

config stp

Purpose	To setup STP, RSTP and MSTP on the Switch.
Syntax	**config stp {maxage <value 6-40> | maxhops <value 1-20> | hellotime <value 1-10> | forwarddelay <value 4-30>| fbpdu [enable | disable]}**
Description	The **config stp** command configures the Spanning Tree Protocol (STP) for the entire switch. All commands here will be implemented for the STP version that is currently set on the Switch.
Parameters	*maxage <value 6-40>* − This value may be set to ensure that old information does not endlessly circulate through redundant paths in the network, preventing the effective propagation of the new information. Set by the Root Bridge, this value will aid in determining that the Switch has spanning tree configuration values consistent with other devices on the bridged LAN. If the value ages out and a BPDU has still not been received from the Root Bridge, the Switch

	will start sending its own BPDU to all other switches for permission to become the Root Bridge. If it turns out that your switch has the lowest Bridge Identifier, it will become the Root Bridge. The user may choose a time between 6 and 40 seconds. The default value is 20. *maxhops* <*value 1-20*> − The number of hops between devices in a spanning tree region before the BPDU (bridge protocol data unit) packet sent by the Switch will be discarded. Each switch on the hop count will reduce the hop count by one until the value reaches zero. The Switch will then discard the BDPU packet and the information held for the port will age out. The value may be between 1 and 20. The default is 20. *hellotime* <*value 1-10*> − The user may set the time interval between transmission of configuration messages by the root device in STP, or by the designated router in RSTP, thus stating that the Switch is still functioning. The value may be between 1 and 10 seconds. The default value is 2 seconds. In MSTP, the spanning tree is configured by port and therefore, the hellotime must be set using the configure stp ports command for switches utilizing the Multiple Spanning Tree Protocol. *forwarddelay* <*value 4-30*> − The maximum amount of time (in seconds) that the root device will wait before changing states. The value may be between 4 and 30 seconds. The default is 15 seconds. *fbpdu [enable* | *disable]* − Allows the forwarding of STP BPDU packets from other network devices when STP is disabled on the Switch. The default is enable.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure STP with maxage 18 and maxhops of 15:

```
DGS3100# config stp maxage 18 maxhops 15

Success.

DGS3100#
```

config stp ports

Purpose	To setup STP on the port level.
Syntax	**config stp ports <portlist> {externalcost [auto | <value 1-200000000>] | edge [true | false] | p2p [true | false | auto] | state [enable | disable]}**
Description	The **config stp ports** command configures STP for a group of ports.
Parameters	<*portlist*> − 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 the 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 specifies 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.

	externalCost − Defines a metric that indicates the relative cost of forwarding packets to the specified port list. Port cost can be set automatically or as a metric value. The default value is auto. • *auto* – Automatically sets the speed for forwarding packets to the specified port(s) in the list for optimal efficiency. Default port cost: 100Mbps port = 200000. Gigabit port = 20000. • <*value 1-200000000*> - Defines a value between 1 and 200000000 to determine the external cost. The lower the number, the greater the probability the port will be chosen to forward packets. *hellotime* <*value 1-10*> − The time interval between transmission of configuration messages by the designated port, to other devices on the bridged LAN, thus stating that the Switch is still functioning. The value may be between 1 and 10 seconds. The default is 2 seconds. *edge [true | false]* – *true* designates the port as an edge port. Edge ports cannot create loops, however an edge port can lose edge port status if a topology change creates a potential for a loop. An edge port normally should not receive BPDU packets. If a BPDU packet is received it automatically loses edge port status. *false* indicates that the port does not have edge port status. *p2p [true | false | auto]* – *true* indicates a point-to-point (P2P) shared link. P2P ports are similar to edge ports however they are restricted in that a P2P port must operate in full-duplex. Like edge ports, P2P ports transition to a forwarding state rapidly thus benefiting from RSTP. A p2p value of *false* indicates that the port cannot have p2p status. *auto* allows the port to have p2p status whenever possible and operate as if the p2p status were true. If the port cannot maintain this status (for example if the port is forced to half-duplex operation) the p2p status changes to operate as if the p2p value were *false*. The default setting for this parameter is *auto*. *state [enable | disable]* − Allows STP to be enabled or disabled for the ports specified in the port list. The default is enable.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure STP with path cost 19, hellotime set to 5 seconds and state enable for ports 1-5 of module 1.

```
DGS3100# config stp ports 1:1-1:5 externalCost 19 hellotime 5
state enable

Success.

DGS3100#
```

config stp version

Purpose	To globally set the version of STP on the Switch.
Syntax	**config stp version [mstp | rstp | stp]**
Description	The **config stp version** command sets the version of the spanning tree to be implemented on the Switch.
Parameters	*mstp* – Sets the Multiple Spanning Tree Protocol (MSTP) globally on the Switch.

	rstp – Sets the Rapid Spanning Tree Protocol (RSTP) globally on the Switch. *stp* – Sets the Spanning Tree Protocol (STP) globally on the Switch.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To set the Switch globally for the Multiple Spanning Tree Protocol (MSTP):

```
DGS3100# config stp version mstp

Success.

DGS3100#
```

enable stp

Purpose	To globally enable STP on the Switch.
Syntax	**enable stp**
Description	The **enable stp** command sets the Spanning Tree Protocol to be globally enabled on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable STP, globally, on the Switch:

```
DGS3100# enable stp

Success.

DGS3100#
```

## disable stp

Purpose	To globally disable STP on the Switch.
Syntax	**disable stp**
Description	The **disable stp** command sets the Spanning Tree Protocol to be globally disabled on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable STP on the Switch:

```
DGS3100# disable stp

Success.

DGS3100#
```

show stp

Purpose	To display the Switch’s current STP configuration.
Syntax	**show stp**
Description	The **show stp** command displays the Switch’s current STP configuration.
Parameters	None.
Restrictions	None.

Example usage:

To display the status of STP on the Switch:

Status 1: STP enabled with STP compatible version

```
DGS3100# show stp

STP Status            : Enabled
STP Version           : STP Compatible
Max Age                : 20
Hello Time            : 2
Forward Delay         : 15
Max Hops              : 20
Forwarding BPDU       : Enabled

DGS3100#
```

Status 2: STP enabled for RSTP

```
DGS3100# show stp

STP Status            : Enabled
STP Version           : RSTP
Max Age                : 20
Hello Time            : 2
Forward Delay         : 15
Max Age               : 20
TX Hold Count         : 3
Forwarding BPDU       : Enabled

DGS3100#
```

Status 3: STP enabled for MSTP

```
DGS3100# show stp

STP Status            : Enabled
STP Version           : MSTP
Max Age                : 20
Hello Time            : 2
```

```
Forward Delay          : 15
Max Age                : 20
TX Hold Count          : 3
Forwarding BPDU        : Enabled

DGS3100#
```

show stp ports

Purpose	To display the Switch's current instance_id configuration.
Syntax	**show stp ports <portlist>}**
Description	The **show stp ports** command displays the STP Instance Settings and STP Instance Operational Status currently implemented on the Switch.
Parameters	*<portlist>* − A port or a range of ports to be viewed. The port list is specified by listing the lowest switch number and the beginning port number on that switch, separated by a colon. Then the 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 specifies 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.
Restrictions	None.

Example usage:

To show stp ports 1 through 9 on switch one:

```
DGS3100# show stp ports 1:9

MSTP Port Information
--------------------------------
Port Index   :  1:9,Port STP enabled
External PathCost  : Auto/200000,Edge Port  : No /No,P2P : Auto /Yes

Msti   Designated Bridge          Internal PathCost  Prio  Status          Role
--------  ---------------------------------  ------------------------  -----  ----------------  ----------
0       8000 00:23:27:26:46:00     200000             128   Disabled       Disabled

DGS3100#
```

show stp instance_id

Purpose	To display the Switch's STP instance configuration
Syntax	**show stp instance_id <value 0-15>}**
Description	The **show stp instance_id** command displays the Switch's current STP Instance Settings and the STP Instance Operational Status.
Parameters	*<value 0-15>* - The value of the previously configured instance_id on

	the Switch. The value may be between 0 and 15. An entry of 0 displays the STP configuration for the CIST internally set on the Switch.
Restrictions	None.

Example usage:

To display the STP instance configuration for instance 0 (the internal CIST) on the Switch:

```
DGS3100# show stp instance 0

Instance Type : CIST
Instance Status  : Enabled
Instance Priority : 32768

STP Instance Operational Status
---------------------------------------------
Designated Root Bridge    : 32768/00:00:b9:89:46:79
External Root Cost         : 200012
Regional Root Bridge       : 32768/00:23:27:26:46:00
Internal Root Cost         : 0
Root Port                  : 209
Max Age                    : 20
Forward Delay              : 15
Last Topology Change       : 23542964
Topology Changes Count : 6

DGS3100#
```

## show stp mst_config_id

Purpose	To display the MSTP configuration identification.
Syntax	**show stp mst_config_id**
Description	The **show stp mst_config_id** command displays the Switch's current MSTP configuration identification.
Parameters	None.
Restrictions	None.

Example usage:

To show the MSTP configuration identification currently set on the Switch:

```
DGS3100# show stp mst_config_id

Current MST Configuration Identification
--------------------------------------------------------


Configuration Name : 00:53:13:1A:33:24          Revision Level :0
MSTI ID    Vid list
-----------    ------------------------------------------------------------------------------------------
CIST         2-4094
```

```
    1        1

DGS3100#
```

## config stp instance_id

Purpose	To add or delete an STP instance ID.
Syntax	**config stp instance_id <value 1-15> [add_vlan | remove_vlan] <vidlist>**
Description	The **config stp instance_id** command maps VIDs (VLAN IDs) to previously configured STP instances on the Switch by creating an instance_id. A STP instance may have multiple members with the same MSTP configuration. There is no limit to the number of STP regions in a network but each region only supports a maximum of 16 spanning tree instances (one unchangeable default entry). VIDs can belong to only one spanning tree instance at a time. Note that switches in the same spanning tree region having the same STP instance_id must be mapped identically, and have the same configuration revision_level number and the same name.
Parameters	<*value 1-15*> - The value of the instance_id. The value may be between 1 and 15. The Switch supports 16 STP regions with one unchangeable default instance ID set as 0. *add_vlan* – Indicates that VIDs specified in the <*vidlist*> parameter are to be added to the previously configured STP instance_id. *remove_vlan* – Indicates that VIDs specified in the <*vidlist*> parameter are to be removed from the previously configured STP instance_id. <*vidlist*> – Specifies the range of VIDs to add to or remove from the configured STP instance_id. Supported VIDs on the Switch range from ID number 1 to 4094.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure instance id 2 to add VID 10:

```
DGS3100# config stp instance_id 2 add_vlan 10

Success.

DGS3100#
```

To remove VID 10 from instance id 2:

```
DGS3100# config stp instance_id 2 remove_vlan 10

Success.

DGS3100#
```

config stp priority	
Purpose	To update the STP instance configuration.
Syntax	**config stp priority <value 0-61440> instance_id <value 0-15>**
Description	The **config stp priority** command updates the STP instance configuration settings on the Switch. The MSTP uses the priority in selecting the root bridge, root port and designated port. Assigning higher priorities to STP regions instructs the Switch to give precedence to the selected instance_id for forwarding packets. The lower the priority value set, the higher the priority.
Parameters	*priority <value 0-61440>* - The priority for a specified *instance_id* for forwarding packets. The value may be between 0 and 61440, and must be divisible by 4096. A lower value indicates a higher priority. *instance_id <value 0-15>* - The value of the previously configured instance id for which the user wishes to set the priority value. An instance_id of 0 denotes the default instance_id (CIST) internally set on the Switch.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To set the priority value for instance_id 2 as 4096:

```
DGS3100# config stp priority 4096 instance_id 2

Success.

DGS3100#
```

config stp mst_config_id	
Purpose	To update the MSTP configuration identification.
Syntax	**config stp mst_config_id {revision_level <int 0-65535> | name <string>}**
Description	The **config stp mst_config_id** command uniquely identifies the MSTP configuration currently configured on the Switch. Information entered here is attached to BDPU packets as an identifier for the MSTP region to which it belongs. Switches having the same revision_level and name are considered to be part of the same MSTP region.
Parameters	*revision_level <int 0-65535>*– The MSTP region id number. The value may be between 0 and 65535. This value, along with the name, identifies the MSTP region configured on the Switch. The default setting is 0. *name <string>* - A string of up to 32 alphanumeric characters to uniquely identify the MSTP region on the Switch. This name, along with the revision_level value identifies the MSTP region configured on the Switch. If no name is entered, the default name is the MAC address of the device.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the MSTP region of the Switch with revision_level 10 and the name “Trinity”:

```
DGS3100# config stp mst_config_id revision_level 10 name Trinity

Success.

DGS3100#
```

config stp mst_ports

Purpose	To update the port configuration for a MSTP instance.
Syntax	**config stp mst_ports < portlist> instance_id <value 0-15> {internalCost [auto | value 1-200000000] | priority <value 0-240>}**
Description	The **config stp mst_ports** command updates the port configuration for a STP instance_id. If a loop occurs, the MSTP function uses the port priority to select an interface to put into the forwarding state. Set a higher priority value for interfaces to be selected for forwarding first. In instances where the priority value is identical, the MSTP function implements the lowest port number into the forwarding state and other interfaces are blocked. Remember that lower priority values mean higher priorities for forwarding packets.
Parameters	*<portlist>* - A port or 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 the 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 specifies 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. *instance_id <value 0-15>* - The previously configured instance_id. The value may be between 0 and 15. An entry of 0 denotes the CIST (Common and Internal Spanning Tree. *internalCost* – The relative cost of forwarding packets to specified ports when an interface is selected within an STP instance. The default setting is auto. There are two options: • *auto* – Specifies setting the quickest route automatically and optimally for an interface. The default value is derived from the media speed of the interface. • *value 1-200000000* – Specifies setting the quickest route when a loop occurs. The value may be in the range of 1-200000000. A lower internalCost represents a quicker transmission. *priority <value 0-240>* - The priority for the port interface The value may be between 0 and 240. A lower number denotes a higher priority. A higher priority designates the interface to forward packets first.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To designate ports 1 through 5 on module one, with instance ID 2, to have an auto internalCost and a priority of 16:

```
DGS3100# config stp mst_config_id ports 1:1-1:5 instance_id 2
internalCost auto priority 16
```

```
Success.

DGS3100#
```

10

FORWARDING DATABASE COMMANDS

The Forwarding Database commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
create fdb	<vlan_name 32> <macaddr> port <port>
create multicast_fdb	<vlan_name 32> <macaddr>
config multicast_fdb	<vlan_name 32><macaddr> [add | delete] <portlist>
config fdb aging_time	<value 10-630>
delete fdb	<vlan_name 32> <macaddr>
clear fdb	all
show multicast_fdb	{vlan <vlan_name 32> | mac_address <macaddr>}
show fdb	{port <port> | vlan <vlan_name 32> | mac_address <macaddr> | static | aging_time}

Each command is listed in detail, as follows:

create fdb	
Purpose	To create a static entry in the unicast MAC address forwarding table (database)
Syntax	**create fdb <vlan_name 32> <macaddr> port <port>**
Description	The **create fdb** command creates a static entry in the Switch's unicast MAC address forwarding database.
Parameters	*<vlan_name 32>* − The name of the VLAN on which the MAC address resides. *<macaddr>* − The MAC address to be added to the forwarding table. *port <port>* − The port number corresponding to the MAC destination address. The Switch will always forward traffic to the specified device through this port.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create a unicast MAC FDB entry:

```
DGS3100# create fdb default 00-00-00-00-01-02 port 2

Success.

DGS3100#
```

create multicast_fdb

Purpose	To create a static entry in the multicast MAC address forwarding table (database).
Syntax	**create multicast_fdb <vlan_name 32> <macaddr>**
Description	The **create multicast_fdb** command creates a static entry in the multicast MAC address forwarding table (database).
Parameters	*<vlan_name 32>* − The name of the VLAN on which the MAC address resides. *<macaddr>* − The MAC address that will be added to the forwarding table.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create multicast MAC forwarding:

```
DGS3100# create multicast_fdb default 01-00-5E-00-00-00

Success.

DGS3100#
```

config multicast_fdb

Purpose	To configure the Switch's multicast MAC address forwarding database.
Syntax	**config multicast_fdb <vlan_name 32><macaddr> [add | delete] <portlist>**
Description	The **config multicast_fdb** command configures the multicast MAC address forwarding table.
Parameters	*<vlan_name 32>* − The name of the VLAN on which the MAC address resides. *<macaddr>* − The MAC address that will be added to the forwarding table. *add* − Specifies that the MAC address is to be added to the forwarding table. Delete will remove the MAC address from the forwarding table. *delete* − Specifies that the MAC address is to be removed from the forwarding table. *<portlist>* − A port or range of ports to be configured.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To add multicast MAC forwarding:

```
DGS3100# config multicast_fdb default 01-00-5E-00-00-00 add 1

Success.

DGS3100#
```

config fdb aging_time

Purpose	To set the aging time of the forwarding database.
Syntax	**config fdb aging_time <value 10-630>**
Description	The **config fdb aging_time** command sets the aging time of the forwarding database. 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 0 to 630 minutes with a default value of 5 minutes. 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.
Parameters	*<value 0-630>* − The aging time for the MAC address forwarding database value, in minutes.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To set the fdb aging time:

```
DGS3100# config fdb aging_time 300

Success.

DGS3100#
```

delete fdb

Purpose	To delete an entry in the Switch’s forwarding database.
Syntax	**delete fdb <vlan_name 32> <macaddr>**
Description	The **delete fdb** command deletes an entry in the Switch’s MAC address forwarding database.
Parameters	*<vlan_name 32>* − The name of the VLAN on which the MAC address resides. *<macaddr>* − The MAC address to be removed from the forwarding table.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete a permanent FDB entry:

```
DGS3100# delete fdb default 00-00-00-00-01-02

Success.

DGS3100#
```

clear fdb

Purpose	To clear the Switch’s forwarding database of all dynamically learned MAC addresses.
Syntax	**clear fdb all**
Description	The **clear fdb** command clears dynamically learned entries from the Switch’s forwarding database.
Parameters	*all* − Clears all dynamic entries in the Switch’s forwarding database.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To clear all FDB dynamic entries:

```
DGS3100# clear fdb all

Success.

DGS3100#
```

show multicast_fdb

Purpose	To display the contents of the Switch’s multicast forwarding database.
Syntax	**show multicast_fdb {vlan <vlan_name 32> | mac_address <macaddr>}**
Description	The **show multicast_fdb** command displays the current contents of the Switch’s multicast MAC address forwarding database.
Parameters	*vlan <vlan_name 32>* − The name of the VLAN on which the MAC address resides. *mac_address <macaddr>* − The MAC address that will be added to the forwarding table.
Restrictions	None.

Example usage:

To display multicast MAC address table:

```
DGS3100# show multicast_fdb

VLAN Name      : default
MAC Address     : 01-00-5E-00-00-00
Egress Ports    : 1-5,26
Mode           : Static

Total Entries : 1

DGS3100#
```

show fdb	
Purpose	To display the current unicast MAC address forwarding database.
Syntax	**show fdb {port <port> | vlan <vlan_name 32> | mac_address <macaddr> | static | aging_time}**
Description	The **show fdb** command displays the current contents of the Switch's forwarding database.
Parameters	<*port*> − The port number corresponding to the MAC destination address. The Switch always forwards traffic to the specified device through this port. <*vlan_name 32*> − The name of the VLAN on which the MAC address resides. <*macaddr*> − The MAC address entry in the forwarding table. *static* − Specifies that static MAC address entries are to be displayed. *aging_time* − Displays the aging time for the MAC address forwarding database.
Restrictions	None.

Example usage:

To display unicast MAC address table:

```
DGS3100# show fdb

Unicast MAC Address Ageing Time = 300

VID  VLAN Name   MAC Address         Port   Type
---- ----------- ------------------- ------ ---------
1    default     00-00-39-34-66-9A   10     Dynamic
1    default     00-00-51-43-70-00   10     Dynamic
1    default     00-00-5E-00-01-01   10     Dynamic
1    default     00-00-74-60-72-2D   10     Dynamic
1    default     00-00-81-05-00-80   10     Dynamic
1    default     00-00-81-05-02-00   10     Dynamic
1    default     00-00-81-48-70-01   10     Dynamic
1    default     00-00-E2-4F-57-03   10     Dynamic
1    default     00-00-E2-61-53-18   10     Dynamic
1    default     00-00-E2-6B-BC-F6   10     Dynamic
1    default     00-00-E2-7F-6B-53   10     Dynamic
1    default     00-00-E2-82-7D-90   10     Dynamic
1    default     00-00-F8-7C-1C-29   10     Dynamic
1    default     00-01-02-03-04-00   CPU    Self
1    default     00-01-02-03-04-05   10     Dynamic
1    default     00-01-30-10-2C-C7   10     Dynamic
1    default     00-01-30-FA-5F-00   10     Dynamic
1    default     00-02-3F-63-DD-68   10     Dynamic
More: <space>, Quit: q, One line: <return>I
```

To display the aging time:

```
DGS3100# show fdb aging_time

Unicast MAC Address Aging Time = 5

DGS3100#
```

11

BROADCAST STORM CONTROL COMMANDS

The Broadcast Storm Control commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config traffic control	{[<portlist> | all] state [enable | disable] | storm_type [broadcast | broadcast_multicast | broadcast_multicast_dlf] threshold <int 3500-1000000>}
show traffic control	{ports <portlist>}

Each command is listed in detail, as follows:

config traffic control	
Purpose	To configure broadcast / multicast traffic control.
Syntax	**config traffic control {[<portlist> | all] state [enable | disable] | storm_type [broadcast | broadcast_multicast | broadcast_multicast_dlf] threshold <int 3500-1000000>}**
Description	The **config traffic control** command configures broadcast and multicast storm control.
Parameters	*<portlist>* - A port or range of ports to be configured. *all* − Specifies all ports on the Switch are to be configured. *storm_type* – The type of broadcast storm for which to configure the traffic control. The options are: • *broadcast* – Enables broadcast storm control only. • *broadcast_multicast* – Enables broadcast and multicast storm control. *<int 3500-1000000>* − The upper threshold at which the specified traffic control is switched on. The value is the number of broadcast/multicast/dlf packets, in Kbps, received by the Switch that will trigger the storm traffic control measures. The value ranges in size from 3500 to 1000000 Kbps.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure traffic control and enable broadcast storm control system wide:

```
DGS3100# config traffic control ports all state enable

Success.

DGS3100# config traffic control storm_type broadcast threshold 15000

Success.
DGS3100# config traffic control threshold 15000
```

```
Success.

DGS3100#
```

show traffic control

Purpose	To display current traffic control settings.
Syntax	**show traffic control {ports <portlist>}**
Description	The **show traffic control** command displays the current storm traffic control configuration on the Switch.
Parameters	*ports <portlist>* - A port or range of ports whose settings are to be displayed.
Restrictions	None.

Example usage:

To display traffic control setting for ports 1-5:

```
DGS3100# show traffic control

Traffic Control
                    Broadcast  Multicast  Destination
Port    Threshold  Storm       Storm      Lookup Fail
------- ---------- ----------- ---------- ------------
1:1     3500       disable     disable    disable
1:2     3500       disable     disable    disable
1:3     3500       disable     disable    disable
1:4     3500       disable     disable    disable
1:5     3500       disable     disable    disable
1:6     3500       disable     disable    disable
1:7     3500       disable     disable    disable
1:8     3500       disable     disable    disable
1:9     3500       disable     disable    disable
1:10    3500       disable     disable    disable
1:11    3500       disable     disable    disable
1:12    3500       disable     disable    disable
1:13    3500       disable     disable    disable
1:14    3500       disable     disable    disable
1:15    3500       disable     disable    disable
1:16    3500       disable     disable    disable
1:17    3500       disable     disable    disable
CTRL+C ESC q Quit SPACE n Next Page ENTER Next Entry a ALL
```

12

QOS COMMANDS

The QoS commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config scheduling	<class_id 0-3> max_packet <value 1-15>
show scheduling	
config 802.1p user_priority	<priority 0-7> <class_id 0-3>
show 802.1p user_priority	
config 802.1p default_priority	[<portlist> | all] <priority 0-7>
show 802.1p default_priority	{<portlist>}
config scheduling_mechanism	<class_id 0-3> [strict | round_robin]
show scheduling_mechanism	
config rate_limit	[<portlist> | all] [disable | <value 3500-1000000>]
show rate_limit	[<portlist> | all]

Each command is listed in detail, as follows:

config scheduling	
Purpose	To configure traffic scheduling for each of the Switch's QoS queues.
Syntax	**config scheduling <class_id 0-3> max_packet <value 1-15>**
Description	The **config scheduling command** configures traffic scheduling for each of the Switch's QoS queues. The Switch contains four hardware classes of service. Incoming packets must be mapped to one of these four hardware queues. This command is used to specify the rotation by which these four hardware queues are emptied. The Switch's default (if the **config scheduling** command is not used, or if the **config scheduling** command is entered with the max_packet set to 0) is to empty the hardware queues in order – from the highest priority queue (hardware class 3) to the lowest priority queue (hardware class 0). Each hardware queue transmits all of the packets in its buffer before allowing the next lower priority queue to transmit its packets. When the lowest hardware priority queue has finished transmitting all of its packets, the highest hardware priority queue can again transmit any packets it may have

	received. The max_packets parameter allows the user to specify the maximum number of packets a given hardware priority queue can transmit before allowing the next lowest hardware priority queue to begin transmitting its packets. A value between 1 and 15 can be specified. For example, if a value of 3 is specified, then the highest hardware priority queue (number 3) will be allowed to transmit 3 packets – then the next lowest hardware priority queue (number 2) will be allowed to transmit 3 packets, and so on, until all of the queues have transmitted 3 packets. The process will then repeat.
Parameters	<*class_id 0-3*> − The hardware classes of service to which the config scheduling command is to be applied. The four hardware classes of service are identified by number (from 0 to 3) with class 3 having the highest priority. *max_packet* <*value 1-15*> − Specifies the maximum number of packets the above specified priority class of service is allowed to transmit before allowing the next lower priority class of service to transmit its packets. The value may be between 1 and 15 packets. The default value is 1 for *class_id* 0, 2 for *class_id* 1, 4 for *class_id* 2, and 8 for *class_id* 3.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure traffic scheduling:

```
DGS3100# config scheduling 3 max_packet 15

Success.

DGS3100#
```

show scheduling

Purpose	To display the currently configured traffic scheduling on the Switch.
Syntax	**show scheduling**
Description	The **show scheduling** command displays the current configuration for the maximum number of packets (*max_packet*) value assigned to the four priority classes of service on the Switch. The Switch empties the four hardware queues in order, from the highest priority (class 3) to the lowest priority (class 0).
Parameters	None.
Restrictions	None.

Example usage:

To display the current scheduling configuration:

```
DGS3100# show scheduling

QOS Output Scheduling

            MAX. Packet
         --------------------------
```

```
Class-0         1
Class-1         2
Class-2         3
Class-3         4

DGS3100#
```

config 802.1p user_priority

Purpose	To map the 802.1p user priority of an incoming packet to one of the four hardware classes of service available on the Switch.
Syntax	**config 802.1p user_priority <priority 0-7> <class_id 0-3>**
Description	The **config 802.1p user_priority** command configures the way the Switch maps an incoming packet, based on its 802.1p user priority tag, to one of the four hardware priority classes of service available on the Switch. The Switch's default is to map the incoming 802.1p priority values to the four hardware classes of service according to the following chart: 802.1p Value Switch Priority Queue ------------------ ---------------------------- 0 1 1 0 2 0 3 1 4 2 5 2 6 3 7 3
Parameters	*<priority 0-7>* − The 802.1p priority value (0 to 7) to map to one of the Switch's four hardware priority classes of service. *<class_id 0-3>* − The Switch's hardware priority class of service (0 to 3) to map to the 802.1p priority value specified above.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure 802.1 user priority on the Switch:

```
DGS3100# config 802.1p user_priority 1 3

Success.

DGS3100#
```

show 802.1p user_priority

Purpose	To display the current mapping between an incoming packet's 802.1p priority value and one of the Switch's eight hardware priority classes of service.

Syntax	**show 802.1p user_priority**
Description	The **show 802.1p user_priority** command displays the current mapping of an incoming packet's 802.1p priority value to one of the Switch's four hardware priority queues.
Parameters	None.
Restrictions	None.

Example usage:

To show 802.1p user priority:

```
DGS3100# show 802.1p user_priority

QOS Class of Traffic

Priority-0  ->  <Class-0>
Priority-1  ->  <Class-0>
Priority-2  ->  <Class-0>
Priority-3  ->  <Class-1>
Priority-4  ->  <Class-1>
Priority-5  ->  <Class-2>
Priority-6  ->  <Class-2>
Priority-7  ->  <Class-3>

DGS3100#
```

config 802.1p default_priority

Purpose	To assign an 802.1p priority tag to an incoming untagged packet that has no 802.1p priority tag.
Syntax	**config 802.1p default_priority [<portlist> | all] <priority 0-7>**
Description	The **config 802.1p default_priority** command specifies the 802.1p priority value an untagged, incoming packet is assigned before being forwarded to its destination.
Parameters	*<portlist>* − A port or range of ports to be configured. *all* − Specifies that the config 802.1p default_priority command applies to all ports on the Switch. *<priority 0-7>* − The 802.1p priority value that an untagged, incoming packet is granted before being forwarded to its destination.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure 802.1p default priority on the Switch:

```
DGS3100# config 802.1p default_priority all 5

Success.

DGS3100#
```

show 802.1p default_priority

Purpose	To display the currently configured 802.1p priority value that is assigned to an incoming, untagged packet before being forwarded to its destination.
Syntax	**show 802.1p default_priority {<portlist>}**
Description	The **show 802.1p default_priority** command displays the currently configured 802.1p priority value that is assigned to an incoming, untagged packet before being forwarded to its destination.
Parameters	<*portlist*> − A port or range of ports to be displayed.
Restrictions	None.

Example usage:

To display the current 802.1p default priority configuration on the Switch:

```
DGS3100# show 802.1p default_priority

Port   Priority
-------  -----------
   1      0
   2      0
   3      0
   4      0
   5      0
   6      0
   7      0
   8      0
   9      0
  10      0
  11      0
  12      0
  13      0
  14      0
  15      0
  16      0
  17      0
  18      0
  19      0
  20      0

More: <space>, Quit: q, One line: <return>l
```

config scheduling_mechanism

Purpose	To configure the scheduling mechanism for the QoS function.
Syntax	**config scheduling_mechanism <class_id 0-3> [strict | round_robin]**

Description	The **config scheduling_mechanism** command configures the scheduling mechanism for the QoS function. It allows the user to select between a round robin (WRR) and a strict mechanism for emptying the priority classes of service of the QoS function. The Switch contains four hardware priority classes of service. Incoming packets must be mapped to one of these four hardware priority classes of service, or queues. This command is used to specify the rotation by which these four hardware priority queues are emptied. The Switch's default is to empty the four hardware priority queues in order − from the highest priority hardware queue (class 3) to the lowest priority hardware queue (class 0). Each queue will transmit all of the packets in its buffer before allowing the next lower priority queue to transmit its packets. A lower priority hardware queue will be pre-empted from emptying its queue if a packet is received on a higher priority hardware queue. The packet that was received on the higher priority hardware queue will transmit its packet before allowing the lower priority hardware queue to resume clearing its queue.
Parameters	*<class_id 0-3>* – This specifies to which of the four hardware classes of service the **config scheduling_mechanism** command applies. The four hardware classes of service are identified by number (from 0 to 3), with the 0 queue having the lowest priority. *strict* – Specifies that the highest class of service is the first to be processed. That is, the highest class of service should finish emptying before the others begin. *round_robin* – Specifies that the priority classes of service are to empty packets in a weighted roundrobin (WRR) order, or in an even distribution.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the traffic scheduling mechanism for each COS queue:

```
DGS3100# config scheduling_mechanism strict

Success.

DGS3100#
```

show scheduling_mechanism

Purpose	To display the current traffic scheduling mechanisms in use on the Switch.
Syntax	**show scheduling_mechanism**
Description	The **show scheduling_mechanism** command displays the current traffic scheduling mechanisms in use on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To show the scheduling mechanism:

```
DGS3100# show scheduling_mechanism
```

```
QOS scheduling_mechanism
CLASS ID     Mechanism
-------------  ------------------
Class-0      strict
Class-1      strict
Class-2      strict
Class-3      strict
Class-4      strict
Class-5      strict
Class-6      strict
Class-7      strict

DGS3100#
```

config rate_limit

Purpose	To enable rate limitation of specific egress ports.
Syntax	**config rate_limit [<portlist> | all] [disable | <value 3500-1000000>]**
Description	The **config rate_limit** command enables setting of rate limitation of egress ports.
Parameters	*<portlist>* − A port or range of ports to be set. *all* − Specifies that all ports are to be configured. *disable* − Disables rate limiting. *<value 3500-1000000>* The rate limit value. The value may be between 3500 and 1000000.
Restrictions	None.

Example usage:

To configure a rate limit of egress port 1:

```
DGS3100# config rate_limit 1:1

Success.
DGS3100#
```

show rate_limit

Purpose	To show the rate limit of specific egress ports.
Syntax	**show rate_limit [<portlist> | all]**
Description	The **show rate_limit** command displays the rate limit of an egress port.
Parameters	*<portlist>* − A port or range of ports whose rate limit is to be displayed. *all* − Specifies that all ports are to be displayed.

Restrictions	None.

Example usage:

To show a port’s rate limit:

```
DGS3100# show rate_limit all

Current rate limit

Port    Rate Limit
------  ---------------
1       3500
2       3500
3       3500
4       3500
5       3500
6       3500
7       3500
8       3500
9       3500
10      3500
11      3500
12      3500
13      3500
14      3500
15      3500
16      3500
17      3500
CTRL+C ESC q Quit SPACE n Next Page ENTER Next Entry a ALL
```

13

PORT MIRRORING COMMANDS

The Port Mirroring commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config mirror	target <port> source <port> direction [ingress | egress | both]
delete mirror	target <port> source <port>
show mirror	

Each command is listed in detail, as follows:

config mirror	
Purpose	To configure a mirror port − source port pair on the Switch.
Syntax	**config mirror target <port> source <port> direction [ingress | egress | both]**
Description	The **config mirror** command allows a port to have all of its traffic also sent to a designated port, where a network sniffer or other device can monitor the network traffic. In addition, you can specify that only traffic received by or sent by one or both is mirrored to the target port.
Parameters	*target <port>* − Specifies the port that mirrors traffic forwarding. *source <port>* – Specifies the port or ports being mirrored. This cannot include the target port. *ingress* – Allows mirroring of packets received by (flowing into) the source port. *egress* – Allows mirroring of packets sent to (flowing out of) the source port. *both* – Allows mirroring of all the packets received or sent by the source port.
Restrictions	A target port cannot be listed as a source port. Only administrator-level users can issue this command.

Example usage:

To add the mirroring ports:

```
DGS3100# config mirror source 1 target port 2 direction ingress

Success.

DGS3100#
```

delete mirror

Purpose	To remove a previously entered port mirroring configuration.
Syntax	**delete mirror target <port> source <port>**
Description	The **delete mirror** command removes a previously configured mirror port − source port pair on the Switch.
Parameters	*target <port>* − Specifies the port that mirrors traffic forwarding. *source <port>* – Specifies the port or ports being mirrored. This cannot include the target port.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete a mirroring configuration:

```
DGS3100# delete mirror source 1 target port 2 ingress

Success.

DGS3100#
```

## show mirror

Purpose	To show the current port mirroring configuration on the Switch.
Syntax	**show mirror**
Description	The **show mirror** command displays the current port mirroring configuration on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display mirroring configuration:

```
DGS3100# show mirror

Current Settings
Mirror Status                  : Enabled
Target Port for Ingress        : 2
Target Port for Egress        : 3
Mirrored Port                  : 1

DGS3100#
```

14

VLAN COMMANDS

The VLAN commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
create vlan	<vlan_name 32> {tag <vlanid 2-4094>}
delete vlan	<vlan_name 32>
config vlan	<vlan_name 32> [add [tagged | untagged | forbidden] | delete] [<portlist> | <ch1-32>]
config gvrp	[<portlist> | <ch1-32> | all] { ingress_checking [enable | disable] | acceptable_frame [tagged_only | admit_all] | pvid <vlanid 1-4094>}
enable gvrp	
disable gvrp	
show vlan	{<vlan_name 32>}
show gvrp	{<portlist> | <ch1-32>]}

Each command is listed in detail, as follows:

create vlan	
Purpose	To create a VLAN on the Switch.
Syntax	**create vlan <vlan_name 32> {tag <vlanid 2-4094>}**
Description	The **create vlan** command creates a VLAN on the Switch.
Parameters	*<vlan_name 32>* − The name of the VLAN to be created. *tag <vlanid 2-4094>* − The VLAN ID of the VLAN to be created. The allowed values range from 2 to 4094.
Restrictions	Each VLAN name can be up to 32 characters. If the VLAN is not given a tag, it will be a port-based VLAN. Only administrator-level users can issue this command.

Example usage:

To create a VLAN v1, tag 2:

```
DGS3100# create vlan v1 tag 2

Success.

DGS3100#
```

delete vlan

Purpose	To delete a previously configured VLAN on the Switch.
Syntax	**delete vlan vlan_name 32>**
Description	The **delete vlan** command deletes a previously configured VLAN on the Switch.
Parameters	*<vlan_name 32>* − The name of the VLAN to be deleted.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To remove a vlan v1:

```
DGS3100# delete vlan v1

Success.

DGS3100#
```

config vlan

Purpose	To add additional ports to a previously configured VLAN.
Syntax	**config vlan <vlan_name 32> [add [tagged | untagged | forbidden] | delete] [<portlist> | <ch1-32>]**
Description	The **config vlan** command allows the user to add or delete ports to the port list of a previously configured VLAN. You can specify the additional ports as tagging, untagging, or forbidden. The default is to assign the ports as untagged.
Parameters	*<vlan_name 32>* − The name of the VLAN to which to add ports. *add* − Specifies that ports are to be added to a previously created vlan. *delete* - Specifies that ports are to be deleted from a previously created vlan. *tagged* − Specifies the additional ports as tagged. *untagged* − Specifies the additional ports as untagged. *forbidden* − Specifies the additional ports as forbidden. *<portlist>* − A port or range of ports to be added to or deleted from the VLAN. *<ch1-32>* − assigns ports to a port-channel.
Restrictions	Only administrator-level users can issue this command.

Example usage:

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

```
DGS3100# config vlan v1 add tagged 4-8

Success.

DGS3100#
```

config gvrp

Purpose	To configure GVRP on the Switch.
Syntax	**config gvrp [<portlist> | <ch1-32> | all] { ingress_checking [enable | disable] | acceptable_frame [tagged_only | admit_all] | pvid <vlanid 1-4094>}**
Description	The **config gvrp** command configures the Group VLAN Registration Protocol on the Switch. The user can configure ingress checking, the sending and receiving of GVRP information, and the Port VLAN ID (PVID).
Parameters	*<portlist>* − A port or range of ports for which to configure GVRP. *ch 1-32* − assigns ports to a port-channel. *all* − Specifies all ports on the Switch. *ingress_checking [enable | disable]* − Enables or disables ingress checking for the specified port list. *acceptable_frame [tagged_only | admit_all]* – Defines the type of frame accepted. Acceptable frames can be limited to tagged frames only (*tagged_only*) or can accept tagged and untagged (*admit_all*). *pvid <vlanid 1-4094>* – Specifies the default VLAN associated with the port, by VLAN ID.
Restrictions	Only administrator-level users can issue this command.

Example usage:

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

```
DGS3100# config gvrp 1-4 state enable ingress_checking enable
acceptable_frame tagged_only pvid 2

Success.

DGS3100#
```

enable gvrp

Purpose	To enable GVRP on the Switch.
Syntax	**enable gvrp**
Description	The **enable gvrp** command, along with the **disable gvrp** command below, is used to enable and disable GVRP on the Switch, without changing the GVRP configuration on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable the generic VLAN Registration Protocol (GVRP):

```
DGS3100# enable gvrp

Success.

DGS3100#
```

disable gvrp

Purpose	To disable GVRP on the Switch.
Syntax	**disable gvrp**
Description	The **disable gvrp** command, along with the **enable gvrp** command above, is used to enable and disable GVRP on the Switch, without changing the GVRP configuration on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable the Generic VLAN Registration Protocol (GVRP):

```
DGS3100# disable gvrp

Success.

DGS3100#
```

show vlan

Purpose	To display the current VLAN configuration on the Switch
Syntax	**show vlan {<vlan_name 32>}**
Description	The **show vlan** command displays summary information about each VLAN including the VLAN ID, VLAN name, the Tagging/Untagging status, and the Member/Non-member/Forbidden status of each port that is a member of the VLAN.
Parameters	*<vlan_name 32>* − The name of the VLAN whose settings are to be displayed.
Restrictions	None.

Example usage:

To display the Switch's current VLAN settings:

```
DGS3100# show vlan

VID                 : 1                VLAN Name  : default
VLAN TYPE           : static
Member ports        : 1-24
Static ports        : 1-24
Untagged ports      : 1-24g
Forbidden ports     :

Total Entries : 1

DGS3100#
```

show gvrp	
Purpose	To display the GVRP status for a port list or port channel on the Switch.
Syntax	**show gvrp {<portlist> | <ch1-32>]}**
Description	The **show gvrp** command displays the GVRP status for a port list or a port channel on the Switch.
Parameters	<*portlist*> − Specifies a port or range of ports for which the GVRP status is to be displayed. <ch1-32> − Specifies a port-channel.
Restrictions	None.

Example usage:

To display GVRP port status:

```
DGS3100# show gvrp 1:1-5

Global GVRP : Disabled

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

Total Entries : 5
```

15

LINK AGGREGATION COMMANDS

The Link Aggregation commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
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> { ports <portlist> | state [enable | disable] }
show link_aggregation	{group_id <value 1-32>}

Each command is listed in detail, as follows:

create link_aggregation	
Purpose	To create a link aggregation group on the Switch.
Syntax	**create link_aggregation group_id <value 1-32> {type [lacp | static]}**
Description	The **create link_aggregation** command creates a link aggregation group with a unique identifier.
Parameters	*group_id <value 1-32>* − Specifies the group ID. The Switch allows up to 32 link aggregation groups to be configured. The group number identifies each of the groups. *type* – Specify the type of link aggregation used for the group. If the type is not specified the default type is *static*. • *lacp* – This designates the port group as LACP compliant. LACP allows dynamic adjustment to the aggregated port group. LACP compliant ports may be further configured (see config lacp_ports). LACP compliant must be connected to LACP compliant devices. • *static* – This designates the aggregated port group as static. Static port groups can not be changed as easily as LACP compliant port groups since both linked devices must be manually configured if the configuration of the trunked group is changed. If static link aggregation is used, be sure that both ends of the connection are properly configured and that all ports have the same speed/duplex settings.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create a link aggregation group:

```
DGS3100# create link_aggregation group_id 1

Success.
```

```
DGS3100#
```

delete link_aggregation

Purpose	To delete a previously configured link aggregation group.
Syntax	**delete link_aggregation group_id <value 1-32>**
Description	The **delete link_aggregation group_id** command deletes a previously configured link aggregation group.
Parameters	*group_id <value 1-8>* − Specifies the group ID. The Switch allows up to 8 link aggregation groups to be configured. The group number identifies each of the groups.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete link aggregation group:

```
DGS3100# delete link_aggregation group_id 1

Success.

DGS3100#
```

config link_aggregation

Purpose	To configure a previously created link aggregation group.
Syntax	**config link_aggregation group_id <value 1-32> { ports <portlist> | state [enable | disable] }**
Description	The **config link_aggregation** command configures a link aggregation group that was created with the **create link_aggregation** command above.
Parameters	*group_id <value 1-32>* − Specifies the group ID. The Switch allows up to 32 link aggregation groups to be configured. The group number identifies each of the groups. *ports <portlist>* − Specifies a port or range of ports to belong to the link aggregation group. Ports may be listed in only one port aggregation group, that is, link aggregation groups may not overlap. *state [enable | disable]* − Enables or disables the specified link aggregation group.
Restrictions	Only administrator-level users can issue this command. Link aggregation groups may not overlap and must be contained on a single switch.

Example usage:

To define a load-sharing group of ports, group-id 1, master port 5 of module 1 with group members ports 5-7 plus port 9:

```
DGS3100# config link_aggregation group_id 1 master_port 5 ports 5-7,9

Success.
```

```
DGS3100#
```

show link_aggregation

Purpose	To display the current link aggregation configuration on the Switch.
Syntax	**show link_aggregation {group_id <value 1-32>}**
Description	The **show link_aggregation** command displays the current link aggregation configuration of the Switch.
Parameters	*group_id <value 1-32>* − Specifies the group ID. The Switch allows up to 32 link aggregation groups to be configured. The group number identifies each of the groups.
Restrictions	None.

Example usage:

To display Link Aggregation configuration:

```
DGS3100# show link_aggregation

Group ID         : 1
Member Port      : 5-7,9
Active Port      :
Status           : Disabled

DGS3100#
```

16

BASIC IP COMMANDS

The Basic IP commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config ipif system	[{ipaddress <network_address> | vlan <vlan_name 32> | state [enable | disable]} | dhcp]
show ipif	{system}

Each command is listed in detail, as follows:

config ipif system	
Purpose	To configure the System IP interface.
Syntax	**config ipif system [{ipaddress <network_address> | vlan <vlan_name 32> | state [enable | disable]} | dhcp]**
Description	The **config ipif system** command configures the System IP interface on the Switch.
Parameters	*system* - The IP interface name to be configured. The default IP Interface name on the Switch is “System”. All IP interface configurations done will be executed through this interface name. *<network_address>* − IP address and netmask of the IP interface to be created. The address and mask information may be specified by using the traditional format (for example, 10.1.2.3/255.0.0.0 or in CIDR format, 10.1.2.3/16). *<vlan_name 32>* − The name of the VLAN corresponding to the System IP interface. *state [enable | disable]* − Enables or disables the IP interface. *dhcp* − Specifies the DHCP protocol for the assignment of an IP address to the Switch’s System IP interface.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the IP interface System:

```
DGS3100# config ipif System ipaddress 10.48.74.122/8

Success.

DGS3100#
```

show ipif

Purpose	To display the configuration of an IP interface on the Switch.
Syntax	**show ipif {system}**
Description	The **show ipif** command displays the configuration of an IP interface on the Switch.
Parameters	<system> - The name of the IP interface whose settings are to be displayed (Always System).
Restrictions	None.

Example usage:

To display IP interface settings:

```
DGS3100# show ipif System

Interface Name    : System
IP Address        : 10.6.41.46  (dhcp)
Subnet Mask       : 255.255.255.224
Vlan Name         : default
Member port       : 1-24
Admin. State      : Enabled
Link Status       : Link Up

DGS3100#
```

17

IGMP SNOOPING COMMANDS

The IGMP Snooping commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config igmp_snooping	[<vlan_name 32> | all] {host_timeout <sec 60-16711450> | router_timeout <sec 1-16711450> | leave_timer <sec 0-16711450> | state [enable | disable]}
config router_port	<vlan_name 32> [add | delete] <portlist>
enable igmp_snooping	
disable igmp_snooping	
show igmp_snooping	{vlan <vlan_name 32>}
show igmp_snooping group	{vlan <vlan_name 32>}
show igmp_snooping forwarding	{vlan <vlan_name 32>}
show router_port	{vlan <vlan_name 32> | static | dynamic}

Each command is listed in detail, as follows:

config igmp_snooping	
Purpose	To configure IGMP snooping on the Switch.
Syntax	**config igmp_snooping [<vlan_name 32> | all] {host_timeout <sec 60-16711450> | router_timeout <sec 1-16711450> | leave_timer <sec 0-16711450> | state [enable | disable]}**
Description	The **config igmp_snooping** command configures IGMP snooping on the Switch.
Parameters	*<vlan_name 32>* − The name of the VLAN for which IGMP snooping is to be configured. *all* – Specifies that IGMP snooping is to be configured for all VLANs on the Switch. *host_timeout <sec 60-16711450>* − Specifies the maximum amount of time a host can be a member of a multicast group without the Switch receiving a host membership report. The default is 260 seconds. *router_timeout <sec 1-16711450>* − Specifies the maximum amount of time a route can be a member of a multicast group without the Switch receiving a host membership report. The default is 260 seconds. *leave_timer <sec 0-16711450>* − Leave timer. The default is 2 seconds. *state [enable | disable]* − Enables or disables IGMP snooping for the specified VLAN.

Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the igmp snooping:

```
DGS3100# config igmp_snooping default host_timeout 250 state enable

Success.

DGS3100#
```

config router_port

Purpose	To configure ports as router ports.
Syntax	**config router_port <vlan_name 32> [add | delete] <portlist>**
Description	The **config router_port** command designates 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.
Parameters	<*vlan_name 32*> − The name of the VLAN on which the router port resides. *[add | delete]* – Specifies whether to add or delete ports defined in the following parameter <portlist>, to the router port function. <*portlist*> − A port or range of ports that will be configured as router ports.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To set up static router ports:

```
DGS3100# config router_port default add 1-10

Success.

DGS3100#
```

enable igmp_snooping

Purpose	To enable IGMP snooping on the Switch.
Syntax	**enable igmp_snooping**
Description	The **enable igmp_snooping** command enables IGMP snooping on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable IGMP snooping on the Switch:

```
DGS3100# enable igmp_snooping
```

```
Success.

DGS3100#
```

disable igmp_snooping

Purpose	To disable IGMP snooping on the Switch.
Syntax	**disable igmp_snooping**
Description	The **disable igmp_snooping** command disables IGMP snooping on the Switch. IGMP snooping can be disabled only if IP multicast routing is not being used. Disabling IGMP snooping allows all IGMP and IP multicast traffic to flood within a given IP interface.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

TTo disable IGMP snooping on the Switch:

```
DGS3100# disable igmp_snooping

Success.

DGS3100#
```

show igmp_snooping

Purpose	To show the current status of IGMP snooping on the Switch.
Syntax	**show igmp_snooping {vlan <vlan_name 32>}**
Description	The **show igmp_snooping** command displays the current IGMP snooping configuration on the Switch.
Parameters	*<vlan_name 32>* − The name of the VLAN for which IGMP snooping configuration is to be displayed.
Restrictions	None.

Example usage:

To show igmp snooping:

```
DGS3100# show igmp_snooping

IGMP Snooping Global State      : Disabled
Multicast Filtering             : Enabled

Vlan Name                       : default
Host Timeout                    : 260
Leaver Timer                    : 10
Route Timeout                   : 300
State                           : Disabled
```

```

DGS3100#
```

## show igmp_snooping group

Purpose	To display the current IGMP snooping group configuration on the Switch.
Syntax	**show igmp_snooping group {vlan <vlan_name 32>}**
Description	The **show igmp_snooping group** command displays the current IGMP snooping group configuration on the Switch.
Parameters	<*vlan_name 32*> − The name of the VLAN for which IGMP snooping group configuration information is to be displayed.
Restrictions	None.

Example usage:

To show igmp snooping group:

```
DGS3100# show igmp_snooping group

VLAN Name      : default
Multicast group: 224.0.0.2
MAC address    : 01-00-5E-00-00-02
Reports        : 1
Port Member    : 3,4

Total Entries  : 1

DGS3100#
```

## show igmp_snooping forwarding

Purpose	To display the IGMP snooping forwarding table entries on the Switch.
Syntax	**show igmp_snooping forwarding {vlan <vlan_name 32>}**
Description	The **show igmp_snooping forwarding** command displays the current IGMP snooping forwarding table entries currently configured on the Switch.
Parameters	<*vlan_name 32*> − The name of the VLAN for which IGMP snooping forwarding table information is to be displayed.
Restrictions	None.

Example usage:

To view the IGMP snooping forwarding table for VLAN “Trinity”:

```
DGS3100# show igmp_snooping forwarding vlan default

VLAN Name       : default
Multicast group : 224.0.0.2
MAC address     : 01-00-5E-00-00-02
```

```
Port Member    : 3,4
Total Entries  : 1

DGS3100#
```

show router_port

Purpose	To display the currently configured router ports on the Switch.
Syntax	**show router_port {vlan <vlan_name 32> | static | dynamic}**
Description	The **show router_port** command displays the router ports currently configured on the Switch.
Parameters	*vlan <vlan_name 32>* − The name of the VLAN on which the router port resides. *static* − Displays router ports that have been statically configured. *dynamic* − Displays router ports that have been dynamically configured.
Restrictions	None.

Example usage:

To display the router ports.

```
DGS3100# show router_port

VLAN Name             : default
Static router port    : 1-10
Dynamic router port   :

Total Entries: 1

DGS3100#
```

18

802.1X COMMANDS

The 802.1X commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable 802.1x	
disable 802.1x	
show 802.1x auth_state	{ports <portlist>}
show 802.1x auth_configuration	{ports <portlist>}
config 802.1x auth_parameter ports	[<portlist> | all] [default | { 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 300-4294967295> | enable_reauth [enable | disable]}]
config 802.1x init	port_based ports [<portlist> | all]
config 802.1x auth_protocol	[radius | none]
config 802.1x reauth	port_based ports [<portlist> | all]
config radius add	<server_ip>][key <passwd 32>] [default | {auth_port <udp_port_number 1-65535> | acct_port <udp_port_number 1-65535>}]
config radius delete	<server_ip>
config radius	<server_ip> {[key <passwd 32> | auth_port <udp_port_number 1-65535> | acct_port <udp_port_number 1-65535>}
show radius	
config 802.1x auth_mode	ports <portlist> [port_based | mac_based]
config guest_vlan	<vlan_name 32> state [enable| disable]
config guest_vlan ports	<portlist>
show guest_vlan	

Each command is listed in detail, as follows:

enable 802.1x

Purpose	To enable the 802.1x server on the Switch.
Syntax	**enable 802.1x**
Description	The **enable 802.1x** command enables the 802.1x Port-based Network Access control server application on the Switch.

Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable 802.1x switch wide:

```
DGS3100# enable 802.1x

Success.

DGS3100#
```

disable 802.1x

Purpose	To disable the 802.1x server on the Switch.
Syntax	**disable 802.1x**
Description	The **disable 802.1x** command disables the 802.1x Port-based Network Access control server application on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable 802.1x on the Switch:

```
DGS3100# disable 802.1x

Success.

DGS3100#
```

show 802.1x auth_state

Purpose	To display the current authentication state of the 802.1x server on the Switch.
Syntax	**show 802.1x auth_state {ports <portlist>}**
Description	The **show 802.1x auth_state** command displays the current 802.1x authentication state of the specified ports of the Port-based Network Access Control server application on the Switch. The following details are displayed: Port number − Shows the physical port number on the Switch. Auth PAE State: Initialize / Disconnected / Connecting / Authenticating / Authenticated / Held / ForceAuth / ForceUnauth − Shows the current state of the Authenticator PAE. Backend State: Request / Response / Fail / Idle / Initialize / Success / Timeout − Shows the current state of the Backend Authenticator. Port Status: Authorized / Unauthorized − Shows the result of the authentication process. Authorized means that the user was authenticated, and can access the network. Unauthorized means that the user was not authenticated, and cannot access the network.

Parameters	*ports <portlist>* − A port or range of ports whose settings are to be displayed.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To display the 802.1x authentication states (stacking disabled) for Port-based 802.1x:

```
DGS3100# show 802.1x auth_state ports 1:1-5
Port       Auth PAE State   Backend State  Port Status
--------   ---------------------- -------------------- ----------------
1          forceAuth        initialize     authorized
2          initialize       initialize     authorized
3          initialize       initialize     authorized
4          initialize       initialize     authorized
5          forceAuth        initialize     authorized

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

show 802.1x auth_configuration

Purpose	To display the current configuration of the 802.1x server on the Switch.
Syntax	**show 802.1x auth_configuration {ports <portlist>}**
Description	The **show 802.1x auth_configuration** command displays the current configuration of the 802.1x Port-based Network Access Control server application on the Switch. The following details are displayed: 802.1x: Enabled/Disabled − Shows the current status of 802.1x functions on the Switch. Authentication Mode: Port-based/Mac-based/None − Shows the 802.1x authorization mode. Authentication Method: Remote/none − Shows the type of authentication protocol suite in use between the Switch and a RADIUS server. Port number − Shows the physical port number on the Switch. AdminCrlDir: Both/In − Shows whether a controlled Port that is unauthorized will exert control over communication in both receiving and transmitting directions, or just the receiving direction. OpenCrlDir: Both/In − Shows whether a controlled Port that is unauthorized will exert control over communication in both receiving and transmitting directions, or just the receiving direction. Port Control: ForceAuth/ForceUnauth/Auto − Shows the administrative control over the port's authorization status. ForceAuth forces the Authenticator of the port to become Authorized. ForceUnauth forces the port to become Unauthorized. QuietPeriod − Shows the time interval between authentication failure and the start of a new authentication attempt. TxPeriod − Shows the time to wait for a response from a supplicant (user) to send EAP Request/Identity packets. SuppTimeout − Shows the time to wait for a response from a supplicant (user) for all EAP packets, except for the Request/Identity

	packets. ServerTimeout − Shows the length of time to wait for a response from a RADIUS server. MaxReq − Shows the maximum number of times to retry sending packets to the supplicant. ReAuthPeriod − Shows the time interval between successive reauthentications. ReAuthenticate: true/false − Shows whether or not to reauthenticate.
Parameters	*ports <portlist>* − Specifies a port or range of ports to be viewed.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To display the 802.1x configurations:

```
DGS3100# show 802.1x auth_configuration ports 1

802.1X                        : Enabled
Authentication Mode           : Port_based
Authentication Method         : None

Port number      : 1
AdminCrlDir      : both
OpenCrlDir       : both
Port Control     : forceAuthorized
QuietPeriod      : 60      sec
TxPeriod         : 30      sec
SuppTimeout      : 30      sec
ServerTimeout    : 30      sec
MaxReq           : 2       times
ReAuthPeriod     : 3600    sec
ReAuthenticate   : false

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

config 802.1x auth_parameter ports

Purpose	To configure the 802.1x authentication parameters on a range of ports. The default parameter will return all ports in the specified range to their default 802.1x settings.
Syntax	**config 802.1x auth_parameter ports [<portlist> | all] [default | { 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 300-4294967295> | enable_reauth [enable | disable]}]**
Description	The **config 802.1x auth_parameter ports** command configures the 802.1x authentication parameters on a range of ports. The default parameter will return all ports in the specified range to their default 802.1x settings.

Parameters	*<portlist>* – A port or range of ports to be configured. *all* – Specifies all of the ports on the Switch. *default* – Returns all of the ports in the specified range to their 802.1x default settings. *port_control* – Configures the administrative control over the authentication process for the range of ports. The options are: • *force_auth* – Forces the Authenticator for the port to become authorized. Network access is allowed. • *auto* – Allows the port's status to reflect the outcome of the authentication process. • *force_unauth* – Forces the Authenticator for the port to become unauthorized. Network access will be blocked. *quiet_period <sec 0-65535>* – Configures the time interval between authentication failure and the start of a new authentication attempt. *tx_period <sec 1-65535>* - Configures the time to wait for a response from a supplicant (user) to send EAP Request/Identity packets. *supp_timeout <sec 1-65535>* - Configures the time to wait for a response from a supplicant (user) for all EAP packets, except for the Request/Identity packets. *server_timeout <sec 1-65535>* - Configures the length of time to wait for a response from a RADIUS server. *max_req <value 1-10>* – Configures the number of times to retry sending packets to a supplicant (user). *reauth_period <sec 300-4294967295>* – Configures the time interval between successive re-authentications. *enable_reauth [enable | disable]* – Determines whether or not the Switch will re-authenticate. Enabled causes re-authentication of users at the time interval specified in the Re-authentication Period field, above.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure 802.1x authentication parameters for ports 1 – 20:

```
DGS3100# config 802.1x auth_parameter ports 1–20 direction both

Success.

DGS3100#
```

config 802.1x init

Purpose	To initialize the 802.1x function on a range of ports.
Syntax	**config 802.1x init port_based ports [<portlist> | all]**
Description	The **config 802.1x init** command initializes the 802.1x functions on a specified range of ports or for specified MAC addresses operating from a specified range of ports.
Parameters	*port_based* – Instructs the Switch to initialize 802.1x functions based only on the port number. Ports approved for initialization can then be specified.

	ports <portlist> – A port or range of ports to be configured. *all* – Specifies all of the ports on the Switch.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To initialize the authentication state machine of all ports:

```
DGS3100# config 802.1x init port_based ports all

Success.

DGS3100#
```

config 802.1x auth_protocol

Purpose	To configure the 802.1x authentication protocol on the Switch .
Syntax	**config 802.1x auth_protocol [radius | none]**
Description	The **config 802.1x auth_protocol** command enables configuration of the authentication protocol.
Parameters	*radius* – Uses the list of RADIUS servers for authentication. *none* – Uses no authentication.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the RADIUS (AAA) authentication protocol on the Switch:

```
DGS3100# config 802.1x auth_protocol radius

Success.

DGS3100#
```

config 802.1x reauth

Purpose	To configure the 802.1x re-authentication feature of the Switch.
Syntax	**config 802.1x reauth port_based ports [<portlist> | all]**
Description	The **config 802.1x reauth** command re-authenticates a previously authenticated device based on port number.
Parameters	*port_based* – Instructs the Switch to re-authorize 802.1x functions based only on the port number. Ports approved for re-authorization can then be specified. *ports <portlist>* – A port or range of ports to be re-authorized. *all* – Specifies all of the ports on the Switch.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure 802.1x reauthentication for ports 1-18:

```
DGS3100# config 802.1x reauth port_based ports 1-18

Success.

DGS3100#
```

config radius add

Purpose	To configure the settings the Switch will use to communicate with a RADIUS server.
Syntax	**config radius add [<server_ip>] [key <passwd 32>] [default | {auth_port <udp_port_number 1-65535> | acct_port <udp_port_number 1-65535>}]**
Description	The **config radius add** command configures the settings the Switch will use to communicate with a RADIUS server.
Parameters	*<server_ip>* – The IP address of the RADIUS server. *key* – Specifies that a password and encryption key are to be used between the Switch and the RADIUS server. *<passwd 32>* – The shared-secret key used by the RADIUS server and the Switch. Up to 32 characters can be used. *default* – Uses the default udp port number in both the *auth_port* and *acct_port* settings. *auth_port <udp_port_number 1-65535>* – The UDP port number for authentication requests. The default is 1812. *acct_port <udp_port_number 1-65535>* – The UDP port number for accounting requests. The default is 1813.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the RADIUS server communication settings:

```
DGS3100# config radius add 10.48.74.121 key dlink default

Success.

DGS3100#
```

config radius delete

Purpose	To delete a previously entered RADIUS server configuration.
Syntax	**config radius delete <server_ip>**
Description	The **config radius delete** command deletes a previously entered RADIUS server configuration.
Parameters	*<server_ip>* – The IP address of the RADIUS server.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete previously configured RADIUS server communication settings:

```
DGS3100# config radius delete 10.48.74.121

Success.

DGS3100#
```

config radius

Purpose	To configure the Switch's RADIUS settings.
Syntax	**config radius <server_ip> {| key <passwd 32> | auth_port <udp_port_number 1-65535> | acct_port <udp_port_number 1-65535>}**
Description	The **config radius** command configures the Switch's RADIUS settings.
Parameters	*<server_ip>* – The IP address of the RADIUS server. *key* – Specifies that a password and encryption key are to be used between the Switch and the RADIUS server. • *<passwd 32>* – The shared-secret key used by the RADIUS server and the Switch. Up to 32 characters can be used. *auth_port <udp_port_number 1-65535>* – The UDP port number for authentication requests. The default is 1812. *acct_port <udp_port_number 1-65535>* – The UDP port number for accounting requests. The default is 1813.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the RADIUS settings:

```
DGS3100# config radius 10.48.74.121 key dlink default

Success.

DGS3100#
```

show radius

Purpose	To display the current RADIUS configurations on the Switch.
Syntax	**show radius**
Description	The **show radius** command displays the current RADIUS configurations on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display RADIUS settings on the Switch:

```
DGS3100# show radius

Index     IP Address      Auth-Port       Acct-Port       Status     Key
                          Number          Number
--------  ----------------  --------------  --------------  ------------  ---------------------
1          10.1.1.1        1812            1813            Active     switch

DGS3100#
```

config 802.1x auth_mode

Purpose	To configure the 802.1x authentication mode on the Switch.
Syntax	**config 802.1x auth_mode ports <portlist> [port_based | mac_based]**
Description	The **config 802.1x auth_mode** command enables either the port-based or MAC-based 802.1x authentication feature on the Switch.
Parameters	*portlist* – A port or a range of ports to be configured. *[port_based* | *mac_based]* – Specifies whether 802.1x authentication is by port or MAC address.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure 802.1x authentication by MAC address:

```
DGS3100# config 802.1x auth_mode mac_based

Success.

DGS3100#
```

config guest_vlan

Purpose	Enables or disables network access to a Guest VLAN.
Syntax	**config guest_vlan <vlan_name 32> state [enable | disable]**
Description	The **config guest_vlan** command enables or disables network access to a Guest VLAN. A network administrator can use Guest VLANs to deny network access via port-based authentication, but grant Internet access to unauthorized users.
Parameters	*<vlan_name 32>* – The name of the Guest VLAN. *state [enable* | *disable]* – Enables or disables network access to the Guest VLAN.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable a Guest VLAN:

```
DGS3100# config guest_vlan guestusers state enable

DGS3100#
```

config guest_vlan ports

Purpose	Defines a port or range of ports to be members of the Guest VLAN.
Syntax	**config guest_vlan ports <portlist>**
Description	The **config guest_vlan ports** command defines a port or range of ports to be members of the Guest VLAN. The Guest VLAN can be be configured to provide limited network access to authorized member ports. If a member port is denied network access via port-based authorization, but the Guest VLAN is enabled, the member port receives limited network access. For example, a network administrator can use the Guest VLAN to deny internal network access via port-based authentication, but grant Internet access to unauthorized users.
Parameters	*portlist* – A port or range of ports to be configured to the Guest VLAN.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure ports to the Guest VLAN:

```
DGS3100# config guest_vlan ports 1

DGS3100#
```

show guest_vlan

Purpose	Displays configuration information for the Guest VLAN.
Syntax	**show guest_vlan**
Description	The **show guest_vlan** command displays the Guest VLAN name, state, and member ports.
Parameters	None.
Restrictions	None.

Example usage:

To display the Guest VLAN configuration information:

```
DGS3100# show guest_vlan

Guest VLAN Table

Guest VLAN         : Enable
Guest VLAN name : guestusers
Member               : 1


DGS3100#
```

19

PORT SECURITY COMMANDS

The Port Security commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config port_security	[<portlist> | all] {admin_state [enable | disable] | max_learning_addr <int 0-64> | trap <interval 1-1000000>}
show port_security	{<portlist>}

Each command is listed in detail, as follows:

config port_security	
Purpose	To configure port security settings.
Syntax	**config port_security [<portlist> | all] {admin_state [enable | disable] | max_learning_addr <int 0-64> | trap <interval 1-1000000>}**
Description	The **config port_security** command configures port security settings for specific ports.
Parameters	*portlist* – A port or range of ports to be configured. *all* – Configures port security for all ports on the Switch. *admin_state [enable | disable]* – Enables or disables port security for the listed ports. *max_learning_addr <int 0-64>* - Limits the number of MAC addresses dynamically listed in the FDB for the ports. *trap <interval 1-1000000>* - Sends SNMP traps and defines the minimum amount of time in seconds between consecutive traps.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure port security:

```
DGS3100# config port_security 1-5 admin_state enable
max_learning_addr 5

Success.

DGS3100#
```

show port_security	
Purpose	To display the current port security configuration.
Syntax	**show port_security {<portlist>}**
Description	The **show port_security** command displays port security information for the Switch's ports. The information displayed includes port security, admin state, maximum number of learning address and lock mode.
Parameters	*<portlist>* – A port or range of ports whose settings are to be displayed.
Restrictions	None.

Example usage:

To display the port security configuration:

```
DGS3100# show port_security ports 1:1-5

Port    Admin State  Max. Learning Addr.  Trap Interval
------  -----------  -------------------  -------------
1:1     Disabled      1                    10
1:2     Disabled      1                    10
1:3     Disabled      1                    10
1:4     Disabled      1                    10
1:5     Disabled      1                    10

DGS3100#
```

TIME AND SNTP COMMANDS

The Time and SNTP commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config sntp	{primary <ipaddr> | secondary <ipaddr> | poll-interval <int 60-86400>}
show sntp	
enable sntp	
disable sntp	
config time date	<date ddmthyyyy> <time hh:mm:ss>
config time_zone	{operator [+ hour <gmt_hour 0-13> min <minute 0-59> | - hour <gmt_hour 0-12> min <minute 0-59>]}
config dst	[disable | repeating {week day month hh:mm week day month hh:mm | offset [30 | 60 | 90 | 120]} | annual {date month hh:mm date month hh:mm | offset [30 | 60 | 90 | 120]}]
show time	

Each command is listed in detail, as follows:

config sntp	
Purpose	To setup SNTP service.
Syntax	**config sntp {primary <ipaddr> | secondary <ipaddr> | poll-interval <int 60-86400>}**
Description	The **config sntp** command configures SNTP service from an SNTP server. SNTP must be enabled for this command to function (See **enable sntp**).
Parameters	*primary <ipaddr>* – Specifies the IP address of the primary SNTP server. *secondary <ipaddr>* – Specifies the IP address of the secondary SNTP server. *poll-interval <int 60-86400>* – The interval between requests for updated SNTP information. The polling interval ranges from 60 seconds (1 minute) to 86,400 seconds (1 day).
Restrictions	Only administrator-level users can issue this command. SNTP service must be enabled for this command to function (*enable sntp*).

Example usage:

To configure SNTP settings:

```
DGS3100# config sntp primary 10.1.1.1 secondary 10.1.1.2 poll-interval 30

Success.

DGS3100#
```

show sntp

Purpose	To display the SNTP information.
Syntax	**show sntp**
Description	The **show sntp** command displays SNTP settings information, including the source IP address, time and poll interval.
Parameters	None.
Restrictions	None.

Example usage:

To display SNTP configuration information:

```
DGS3100#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
DGS3100#
```

enable sntp

Purpose	To enable SNTP server support.
Syntax	**enable sntp**
Description	The **enable sntp** command enables SNTP server support. SNTP service must be separately configured (see **config sntp**). Enabling and configuring SNTP support override any manually configured system time settings.
Parameters	None.
Restrictions	Only administrator-level users can issue this command. SNTP settings must be configured for SNTP to function (**config sntp**).

Example usage:

To enable the SNTP function:

```
DGS3100# enable sntp

Success.

DGS3100#
```

disable sntp

Purpose	To disable SNTP server support.
Syntax	**disable sntp**
Description	The **disable sntp** command disables SNTP support. SNTP service must be separately configured (see **config sntp**).
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable SNTP support:

```
DGS3100# disable sntp

Success.

DGS3100#
```

config time date

Purpose	To manually configure system time and date settings.
Syntax	**config time date <date ddmthyyyy> <time hh:mm:ss>**
Description	The **config time date** command configures the system time and date settings. These will be overridden if SNTP is configured and enabled.
Parameters	*date* <ddmthyyyy> – Specifies the date, using two numerical characters for the day of the month, three alphabetical characters for the name of the month, and four numerical characters for the year. For example: 03aug2003. *Time <hh:mm:ss>* – Specifies the system time, using the format hh:mm:ss; that is, two numerical characters each for the hour using a 24-hour clock, the minute and second. For example: 19:42:30.
Restrictions	Only administrator-level users can issue this command. Manually configured system time and date settings are overridden if SNTP support is enabled.

Example usage:

To manually set system time and date settings:

```
DGS3100# config time 30jun2003 16:30:30

Success.

DGS3100#
```

config time_zone

Purpose	To determine the time zone used in order to adjust the system clock.
Syntax	**config time_zone {operator [+ hour <gmt_hour 0-13> min <minute 0-59> | - hour <gmt_hour 0-12> min <minute 0-59>]}**
Description	The **config time_zone** command adjusts the system clock settings according to the time zone. Time zone settings adjust SNTP information accordingly.
Parameters	*operator* – May be (+) to add or (-) to subtract time to adjust for time zone relative to GMT. *hour <gmt_hour 0-13>* – Specifies the number of hours different from GMT. *min <minute 0-59>* – Specifies the number of minutes added or subtracted to adjust the time zone.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure time zone settings:

```
DGS3100# config time_zone operator + hour 2 min 30

Success.

DGS3100#
```

config dst

Purpose	To configure time adjustments to allow for the use of Daylight Savings Time (DST).
Syntax	**config dst [disable | repeating {week day month hh:mm week day month hh:mm | offset [30 | 60 | 90 | 120]} | annual {date month hh:mm date month hh:mm | offset [30 | 60 | 90 | 120]}]**
Description	The **config dst** command disables or configures Daylight Savings Time (DST). When enabled, this adjusts the system clock to comply with any DST requirement. DST adjustment affects system time for both manually configured time and time set using SNTP service.
Parameters	*disable* - Disables the DST seasonal time adjustment for the Switch. *repeating* - Enables DST seasonal time adjustment on a repeating basis. Repeating mode requires that the DST beginning and ending date be specified using a formula. For example, specify to begin DST on Saturday during the second week of April and end DST on Sunday during the last week of October. The format for repeating mode is as follows, and in the order listed: • *<week 1-4,last>* - The week of the month in which DST begins, where 1 is the first week, 2 is the second week and so on, and last is the last week of the month. • *<day sun-sat>* - The weekday on which DST begins, expressed using a three character abbreviation (sun, mon, tue, wed, thu, fri, sat) • *<month 1-12>* - The month of the year to begin DST,

	expressed numerically. • *<hh:mm>* - The time of day to begin DST in hours and minutes, expressed using a 24-hour clock. • *<week 1-4,last>* - The week of the month in which DST ends, where 1 is the first week, 2 is the second week and so on, and last is the last week of the month. • *<day sun-sat>* - The weekday on which DST ends, expressed using a three character abbreviation (sun, mon, tue, wed, thu, fri, sat) • *<month 1-12>* - The month of the year to end DST, expressed numerically. • *<hh:mm>* - The time of day to end DST, in hours and minutes, expressed using a 24-hour clock. *annual* - Enables DST seasonal time adjustment on an annual basis. Annual mode requires that the DST beginning and ending date be specified concisely. For example, specify to begin DST on April 3 and end DST on October 14. The format for annual mode is as follows, and in the order listed: • <*date 1-31*> - The day of the month to begin DST, expressed numerically**.** • <*month 1-12*> - The month of the year to begin DST, expressed numerically. • <*hh:mm*> - The time of day to begin DST in hours and minutes, expressed using a 24-hour clock. • <*date 1-31*> - The day of the month to end DST, expressed numerically**.** • <*month 1-12*> - The month of the year to end DST, expressed numerically. • <*hh:mm*> - The time of day to end DST, in hours and minutes, expressed using a 24-hour clock. *offset [30* | *60* | *90* | *120]* - Indicates the number of minutes to add during the summertime. The possible offset times are 30, 60, 90, and 120. The default value is 60.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure daylight savings time on the Switch to run from the 2nd Tuesday in April at 3 PM until the 2nd Wednesday in October at 3:30 PM and add 30 minutes at the onset of DST:

```
DGS3100# config dst repeating 2 tue 4 15:00 2 wed 10 15:30 offset 30

Success.

DGS3100#
```

show time	
Purpose	To display the current time settings and status.
Syntax	**show time**
Description	The **show time** command displays the system time and date configuration, as well as display the current system time.
Parameters	None.
Restrictions	None.

Example usage:

To show the time cuurently set on the Switch's System clock:

```
DGS3100# show time

Current Time Source  : System Clock
Boot Time            : 4 May 2006  10:21:22
Current Time         : 4 May 2006  15:01:32
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

DGS3100#
```

21

ROUTING TABLE COMMANDS

The Routing Table commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
create iproute	[default] <ipaddr> {<metric 1-65535>}
delete iproute	[default]
show iproute	

Each command is listed in detail, as follows:

create iproute	
Purpose	To create IP route entries in the Switch's IP routing table.
Syntax	**create iproute [default] <ipaddr> {<metric 1-65535>}**
Description	The **create iproute** command creates a static IP route entry in the Switch's IP routing table.
Parameters	*default* – The entry is the default IP route entry in the Switch's routing table. *<ipaddr>* – The gateway IP address for the next hop router. *<metric 1-65535>* – The routing protocol metric entry representing the number of routers between the Switch and the IP address above. The default setting is 1.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To add the default static address 10.48.74.121, with a metric setting of 1, to the routing table as the default route:

```
DGS3100# create iproute default 10.48.74.121 1

Success.

DGS3100#
```

delete iproute	
Purpose	To delete a default IP route entry from the Switch's IP routing table.
Syntax	**delete iproute [default]**
Description	The **delete iproute** command deletes an existing default entry from the Switch's IP routing table.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete the default IP route:

```
DGS3100# delete iproute default

Success.

DGS3100#
```

show iproute

Purpose	To display the Switch’s current IP routing table.
Syntax	**show iproute**
Description	The **show iproute** command displays the Switch’s current IP routing table.
Parameters	None
Restrictions	None.

Example usage:

To display the contents of the IP routing table:

```
DGS3100# show iproute

Routing Table

IP Address/Netmask  Gateway    Interface    Hops   Protocol
------------------  ---------  -----------  -----  --------
10.0.0.0/8          0.0.0.0    System       1      Local

Total Entries : 1

DGS3100#
```

22

ARP COMMANDS

The ARP commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
create arpentry	<ipaddr> <macaddr>
config arpentry	<ipaddr> <macaddr>
delete arpentry	[<ipaddr> | all]
show arpentry	{ipif system | ipaddress <ipaddr> | static }
config arp_aging time	<value 1-65535 >
clear arptable	

Each command is listed in detail, as follows:

create arpentry	
Purpose	To insert a static entry into the ARP table.
Syntax	**create arpentry <ipaddr> <macaddr>**
Description	The **create arpentry** command enters an IP address and the corresponding MAC address into the Switch's ARP table.
Parameters	*<ipaddr>* – The IP address of the end node or station. *<macaddr>* – The MAC address corresponding to the IP address above.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create a static ARP entry for the IP address 10.48.74.121 and MAC address 00:50:BA:00:07:36:

```
DGS3100# create arpentry 10.48.74.121 00-50-BA-00-07-36

Success.

DGS3100#
```

config arpentry	
Purpose	To configure a static entry in the ARP table.
Syntax	**config arpentry <ipaddr> <macaddr>**
Description	The **config arpentry** command configures a static entry in the ARP Table. The user may specify the IP address and the corresponding MAC address of an entry in the Switch's ARP table

Parameters	*<ipaddr>* − The IP address of the end node or station. *<macaddr>* − The MAC address corresponding to the IP address above.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure a static ARP entry for the IP address 10.48.74.12 and MAC address 00:50:BA:00:07:36:

```
DGS3100# config arpentry 10.48.74.12 00-50-BA-00-07-36

Success.

DGS3100#
```

delete arpentry

Purpose	To delete a static entry from the ARP table.
Syntax	**delete arpentry [<ipaddr> | all]**
Description	The **delete arpentry** command deletes a static ARP entry, made using the **create arpentry** command above, by specifying either the IP address of the entry or all. Specifying *all* clears the Switch's ARP table.
Parameters	*<ipaddr>* – The IP address of the end node or station to be deleted from the ARP table. *all* – Deletes all ARP entries.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete an entry of IP address 10.48.74.121 from the ARP table:

```
DGS3100# delete arpentry 10.48.74.121

Success.

DGS3100#
```

show arpentry

Purpose	To display the ARP table.
Syntax	**show arpentry {ipif system | ipaddress <ipaddr> | static }**
Description	The **show arpentry** command displays the current contents of the Switch's ARP table.
Parameters	*ipif system <ipif_name 12>* – The name of the IP interface, the end node or station for which the ARP table entry was made, resides on. *ipaddress <ipaddr>* – The network address corresponding to the IP interface name above. *static* – Displays the static entries to the ARP table.
Restrictions	None.

Example usage:

To display the ARP table**:**

```
DGS3100# show arpentry

ARP timeout  :  150 Seconds

Interface         IP Address       MAC Address          Type
-------------     ----------------  ------------------------  ---------------
System           10.6.41.33       00:00:b0:07:07:49    dynamic
System           10.6.41.49       00:20:18:2a:56:18    dynamic

Total Entries = 2

DGS3100#
```

config arp_aging time

Purpose	To configure the age-out timer for ARP table entries on the Switch.
Syntax	**config arp_aging time <value 1-65535 >**
Description	The **config arp_aging time** command sets the maximum amount of time, in minutes, that an ARP entry can remain in the Switch's ARP table, without being accessed, before it is dropped from the table.
Parameters	*time <value 1-65535>* – The ARP age-out time, in minutes. The value may be in the range of 1-65535 minutes, with a default setting of 20 minutes.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure ARP aging time:

```
DGS3100# config arp_aging time 30

Success.

DGS3100#
```

clear arptable

Purpose	To remove all dynamic ARP table entries.
Syntax	**clear arptable**
Description	The **clear arptable** command is used to remove dynamic ARP table entries from the Switch's ARP table. Static ARP table entries are not affected.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To remove dynamic entries in the ARP table:

```
DGS3100# clear arptable

Success.

DGS3100#
```

23

COMMAND HISTORY LIST COMMANDS

The Command History List commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
?	
show command_history	
dir	
config command_history	<value 10-237>

Each command is listed in detail, as follows:

?	
Purpose	To display all commands in the Command Line Interface (CLI).
Syntax	**?**
Description	The **?** command displays all of the commands available through the Command Line Interface (CLI).
Parameters	*{<command>}* – Lists all the corresponding parameters for the specified command, along with a brief description of the command's function and similar commands having the same words in the command.
Restrictions	None.

Example usage:

To display all of the commands in the CLI:

```
DGS3100# ?

..
?
clear
clear arptable
clear counters
clear fdb
clear log
clear port_security_entry port
config 802.1p default_priority
config 802.1p user_priority
config 802.1x auth_mode
config 802.1x auth_parameter ports
config 802.1x auth_protocol
config 802.1x capability ports
config 802.1x init
config 802.1x reauth
config access_profile profile_id
config account
config admin local_enable
config arp_aging time
config arpentry
config authen application

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

show command_history

Purpose	To display the command history.
Syntax	**show command_history**
Description	The **show command_history** command displays the command history.
Parameters	None.
Restrictions	None.

Example usage:

To display the command history:

```
DGS3100# show command_history

?
? show
show vlan
show command history

DGS3100#
```

dir

Purpose	To display all commands.
Syntax	**dir**
Description	The **dir** command displays all commands.
Parameters	None.
Restrictions	None.

Example usage:

To display all of the commands:

```
DGS3100# dir
..
?
clear
clear arptable
clear counters
clear fdb
clear log
config 802.1p default_priority
config 802.1p user_priority
config 802.1x auth_parameter ports
config 802.1x auth_protocol
config 802.1x capability ports
config 802.1x init
config 802.1x reauth
config account
config admin local_enable
config arp_aging time
config arpentry
config authen application
config authen parameter attempt
config authen parameter response_timeout
config authen server group
More: <space>, Quit: q, One line: <return>
```

config command_history	
Purpose	To configure the command history.
Syntax	**config command_history <value 10-237>**
Description	The **config command_history** command configures the command history.
Parameters	*<value 10-237>* – The number of previously executed commands maintained in the buffer. Up to 40 of the latest executed commands may be viewed.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the command history:

```
DGS3100# config command_history 20

Success.

DGS3100#
```

24

SSH COMMANDS

The SSH commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable ssh	
disable ssh	
config ssh authmode	publickey [enable | disable]
show ssh authmode	
config ssh server	{ timeout <sec 120-600> | port <tcp_port_number 1-65535> }
show ssh server	
show ssh algorithm	
config ssh crypto	<username 1-48> [rsa | dsa]
show ssh crypto	
delete ssh crypto	<username 1-48>

Each command is listed in detail, as follows:

enable ssh

Purpose	To enable SSH.
Syntax	**enable ssh**
Description	The **enable ssh** command enables SSH on the Switch.
Parameters	None
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable SSH:

```
DGS3100# enable ssh

TELNET will be disabled when enable SSH.
Success.

DGS3100#
```

disable ssh

Purpose	To disable SSH.
Syntax	**disable ssh**
Description	The **disable ssh** command disables SSH on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable SSH:

```
DGS3100# disable ssh

Success.

DGS3100#
```

config ssh authmode

Purpose	To configure the SSH authentication mode setting.
Syntax	**config ssh authmode publickey [enable | disable]**
Description	The **config ssh authmode** command configures the SSH authentication mode for users attempting to access the Switch.
Parameters	*publickey* – Specifies that a publickey configuration set on a SSH server is to be used for authentication. *[enable | disable]* - Enables or disables SSH authentication on the Switch.
Restrictions	Only administrator-level users can issue this command

Example usage:

To enable the SSH authentication mode by password:

```
DGS3100# config ssh authmode password enable

Success.

DGS3100#
```

show ssh authmode

Purpose	To display the SSH authentication mode setting.
Syntax	**show ssh authmode**
Description	The **show ssh authmode** command displays the current SSH authentication set on the Switch.
Parameters	None
Restrictions	None

Example usage:

To view the cuurent authentication mode set on the Switch:

```
DGS3100# show ssh authmode

The SSH User Authentication Support
----------------------------------------------------------------------
Password      : Enabled
Publickey     : Enabled
Hostbased    : Enabled

DGS3100#
```

config ssh server

Purpose	To configure the SSH server.
Syntax	**config ssh server { timeout <sec 120-600> | port <tcp_port_number 1-65535> }**
Description	The **config ssh server** command configures the SSH server.
Parameters	*timeout <sec 120-600>* - Specifies the connection timeout. The value may be between 120 and 600 seconds. The default is 120 seconds. *port <tcp_port_number 1-65535>* - The TCP port number of the server. TCP ports are numbered between 1 and 65535. The "well-known" port for the SSH management software is 22.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the SSH server:

```
DGS3100# config ssh server timeout 300

Success.

DGS3100#
```

show ssh server

Purpose	To display the SSH server setting
Syntax	**show ssh server**
Description	The **show ssh server** command displays the current SSH server settings.
Parameters	None
Restrictions	None

Example usage:

To display the SSH server:

```
DGS3100# show ssh server

SSH Server Status                    : disabled
SSH Max Session                      : 8
```

```
Connection timeout                : 120
Authenticate failed attempts     : 2
Listened Port Number              : 22

DGS3100#
```

show ssh algorithm

Purpose	To display the SSH algorithm setting.
Syntax	**show ssh algorithm**
Description	The **show ssh algorithm** command displays the current SSH algorithm setting status.
Parameters	None
Restrictions	None

Example usage:

To display SSH algorithms cuurently set on the Switch:

```
DGS3100# show ssh algorithm

Encryption Algorithm
---------------------------------
3des-cbc
AES128
AES192
AES256
RC4

Data Integrity Algorithm
---------------------------------
MD5
SHA1

Public Key Algorithm
--------------------------------
RSA
DSA

DGS3100#
```

config ssh crypto

Purpose	To specify which SSH public key is manually configured.
Syntax	**config ssh crypto <username 1-48> [rsa | dsa]**
Description	The **config ssh crypto** command specifies which SSH public key is manually configured. The key string needs to be in UU-encoded DER fomat. UU-encoded format is the same format in the authorized_keys file used by OpenSSH.

Parameters	*<username 1-48>* – The username of the remote SSH client. *rsa* – Indicates the RSA key pair is manually configured. *dsa* – Indicates the DSA key pair is manually configured.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To specify the SSH public key for the remote SSH client bob:

```
DGS3100# config ssh crypto bob

rsa RSA key

dsa DSA(DSS) key

DGS3100#
```

show ssh crypto

Purpose	To display the SSH public key stored on the device.
Syntax	**show ssh crypto**
Description	The **show ssh crypto** command displays the SSH public key stored on the device.
Parameters	None
Restrictions	Only administrator-level users can issue this command.

Example usage:

To display the SSH public key on the device:

```
DGS3100# show ssh crypto

Username                          Fingerprint
-------------   ---------------------------------------------------------


DGS3100#
```

delete ssh crypto

Purpose	To remove a specified user's SSH public key from the device.
Syntax	**delete ssh crypto <username 1-48>**
Description	The **delete ssh crypto** command deletes the specified user's SSH public key from the device.
Parameters	*<username 1-48>* - The username of the remote SSH client.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete the SSH public key of the remote SSH client bob:

```
DGS3100# Delete ssh crypto bob

Success.

DGS3100#
```

25

SSL COMMANDS

The SSL commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable ssl	
disable ssl	
show ssl	
show ssl cachetimeout	
crypto certificate	<number 1-2> generate {key-generate <length 512 - 2048>| cn <common- name 1 - 64>| ou <organization-unit 1 - 64>| or <organization 1 - 64>| loc <location 1 - 64>| st <state 1 - 64>| cu <country 1-2>| duration <days 30-3650>
crypto certificate	<number 1-2> request {cn <common- name 1 - 64> | ou <organization-unit 1 - 64>| or <organization 1 - 64> | loc <location 1 - 64> | st <state 1 - 64>| cu <country 1-2>
crypto certificate	<number 1-2> import
config ssl certificate	<number 1-2>
show crypto certificate mycertificate	{number 1-2}

Each command is listed in detail, as follows:

enable ssl

Purpose	To enable the SSL function on the Switch.
Syntax	**enable ssl**
Description	The **enable ssl** command enables SSL on the Switch by implementing any one or combination of listed ciphersuites on the Switch. Entering this command without a parameter will enable the SSL status on the Switch. Enabling SSL will disable the web-manager on the Switch.
Parameters	None
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable SSL on the Switch for all ciphersuites:

```
DGS3100# enable ssl

Note: Web will be disabled if SSL is enabled.
Success.
```

```
DGS3100#
```

disable ssl

Purpose	To disable the SSL function on the Switch.
Syntax	**disable ssl**
Description	The **disable ssl** command disables SSL on the Switch and can be used to disable any one or combination of listed ciphersuites on the Switch.
Parameters	None
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable the SSL status on the Switch:

```
DGS3100# disable ssl

Success.

DGS3100#
```

show ssl

Purpose	To view the SSL status and the certificate file status on the Switch
Syntax	**show ssl**
Description	The **show ssl** command displays the SSL status and the certificate file status on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To view the SSL status on the Switch:

```
DGS3100# show ssl

 SSL status                                   enabled
 RSA_WITH_RC4_128_MD5                 0x0004  enabled
 RSA_WITH_3DES_EDE_CBC_SHA            0x000A  enabled
 RSA_EXPORT_WITH_RC4_40_MD5           0x0003  enabled

DGS3100#
```

show ssl cachetimeout

Purpose	To show the SSL cache timeout.
Syntax	**show ssl cachetimeout**
Description	The **show ssl cachetimeout** command displays the SSL cache timeout currently implemented on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To view the SSL cache timeout on the Switch:

```
DGS3100# show ssl cachetimeout

Cache timeout is 600 seconds.

DGS3100#
```

crypto certificate (generate)

Purpose	To generate a self-signed HTTPS certificate
Syntax	**crypto certificate <number 1-2> generate {key-generate <length 512-2048>| cn <common-name 1-64>| ou <organization-unit 1-64>| or <organization 1-64>| loc <location 1-64>| st <state 1-64>| cu <country 1-2>| duration <days 30-3650>**
Description	The **crypto certificate (generate)** command generates a self-signed HTTPS certificate for the device.
Parameters	*number* — Specifies the certificate number (Range: 1 - 2). *key-generate* — Regenerates the SSL RSA key. *length* — Specifies the SSL RSA key length (Range: 512 - 2048). *common-name* — Specifies the fully qualified URL or IP address of the device (Range: 1 - 64). *organization* — Specifies the organization name (Range: 1 - 64). *organization-unit* — Specifies the organization-unit or department name (Range: 1 - 64). *location* — Specifies the location or city name (Range: 1 - 64). *state* — Specifies the state or province name (Range: 1 - 64). *country* — Specifies the country name (Range: 1 - 2). *days* — Specifies number of days certification is valid (Range: 30 - 3650).
Restrictions	Only administrator-level users can issue this command.

Example usage:

To generate a self-signed HTTPS certificate:

```
DGS3100# crypto certificate 1 generate

Success.

DGS3100#
```

crypto certificate (request)

Purpose	To generate and display certificate requests for HTTPS.
Syntax	**crypto certificate <number 1-2> request {cn <common-name 1-64> | ou <organization-unit 1-64>| or <organization 1-64> | loc <location 1-64> | st <state 1-64>| cu <country 1-2>**
Description	The **crypto certificate (request)** command exports a certificate request to a Certification Authority. The certificate request is generated in Base64-encoded X.509 format. Before generating a certificate request you must first generate a self-signed certificate using the crypto certificate generate Global Configuration mode command. Be aware that you have to reenter the certificate fields. After receiving the certificate from the Certification Authority, use the crypto certificate import Global Configuration mode command to import the certificate into the device. This certificate replaces the self-signed certificate.
Parameters	*number* — Specifies the certificate number (Range: 1 - 2). *common-name* — Specifies the fully qualified URL or IP address of the device (Range: 1- 64). *organization-unit* — Specifies the organization-unit or department name (Range: 1- 64). *organization* — Specifies the organization name (Range: 1- 64). *location* — Specifies the location or city name (Range: 1- 64). *state* — Specifies the state or province name (Range: 1- 64). *country* — Specifies the country name (Range: 1- 2).
Restrictions	Only administrator-level users can issue this command.

Example usage:

To generate and display certificate requests for HTTPS.:

```
DGS3100# crypto certificate 1 request
-----BEGIN CERTIFICATE REQUEST-----
MIIBDTCBuAIBADBTMQswCQYDVQQGEwIgIDEKMAgGA1UECBMBIDEKMAgGA1UEBxMB
IDEUMBIGA1UEAxMLMTAuNi4yMi4xMTQxCjAIBgNVBAoTASAxCjAIBgNVBAsTASAw
XDANBgkqhkiG9w0BAQEFAANLADBIAkEAw3odbbo5S4JPRz2QJKoEpTmve8WDdsm4
0nvmOpxqUDORl7TigrZfs3vGxg2Nar1RflQwKQxb7VetgxF8VeKmDQIDAQABoAAw
DQYJKoZIhvcNAQEEBQADQQB1owjB21fZvlYdBS1zJl/Hd6F2MhrzF35ULNgNHP0Z
pbtU7Y4HkyqsQzkCwDAzGD+y4YB/mu4jNxeq+Ik2UEYD
-----END CERTIFICATE REQUEST-----

Success.
DGS3100#
```

crypto certificate (import)

Purpose	To import a certificate signed by the Certification Authority for HTTPS.
Syntax	**crypto certificate <number 1-2> import**
Description	The **crypto certificate (import)** command imports an external certificate (signed by a Certification Authority) to the device. To end the session, enter an empty line. The imported certificate must be based on a certificate request created by the crypto certificate request Privileged EXEC mode command. If the public key found in the certificate does not match the device's SSL RSA key, the command fails. This command is not saved in the device configuration; however, the certificate imported by this command is saved in the private configuration (which is never displayed to the user or backed up to another device).
Parameters	*number* — Specifies the certificate number (Range: 1 - 2).
Restrictions	Only administrator-level users can issue this command.

Example usage:

To import a certificate signed by the Certification Authority for HTTPS:

```
DGS3100# crypto certificate 1 generate

Success.

DGS3100#
```

config ssl certificate

Purpose	To configure the active certificate for HTTPS.
Syntax	**config ssl certificate <number 1-2>**
Description	The **config ssl certificate** command generates SSL certificates.
Parameters	*number* — Specifies the certificate number (Range: 1 - 2).
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the active certificate for SSL:

```
DGS3100# config ssl certificate 1

Success.

DGS3100#
```

show crypto certificate mycertificate

Purpose	To display the SSH certificates of the device.
Syntax	**show crypto certificate mycertificate {number 1-2}**
Description	The **show crypto certificate mycertificate** command displays the SSH certificates of the device.
Parameters	*number* — Specifies the certificate number (Range: 1 - 2).
Restrictions	Only administrator-level users can issue this command.

Example usage:

To show crypto certificate mycertificate:

```
DGS3100# show crypto certificate mycertificate

-----BEGIN CERTIFICATE-----
MIIBkDCCAToCAQAwDQYJKoZIhvcNAQEEBQAwUzELMAkGA1UEBhMCICAxCjAIBgNV
BAgTASAxCjAIBgNVBAcTASAxFDASBgNVBAMTCzEwLjYuMjIuMTExMQowCAYDVQQK
EwEgMQowCAYDVQQLEwEgMB4XDTA1MDEwMzAyMzM1NFoXDTA2MDEwMzAyMzM1NFow
UzELMAkGA1UEBhMCICAxCjAIBgNVBAgTASAxCjAIBgNVBAcTASAxFDASBgNVBAMT
CzEwLjYuMjIuMTExMQowCAYDVQQKEwEgMQowCAYDVQQLEwEgMFwwDQYJKoZIhvcN
AQEBBQADSwAwSAJBAMcIwCcmDHypkoWE3eUFsw0xWnQ+0kkve9kRo/kEIIRsk8jw
FDPMPPeIG4VkUuHMSAYZSigDLnvqR4bTeNVq9M8CAwEAATANBgkqhkiG9w0BAQQF
AANBAJNZOGD4J9+XTVPbN9wQK2uRI6SwngGkyXS1uD6QzqhaJBe09/dqZAfsc86W
Rq7K3jFZKfx3BkH7NPIqBO6PHaQ=
-----END CERTIFICATE-----
 Issued by : C= , ST= , L= , CN=10.6.22.111, O= , OU=
 Valid From: Jan 3 02:33:54 2005 GMT
 Valid to: Jan 3 02:33:54 2006 GMT
 Subject: C= , ST= , L= , CN=10.6.22.111, O= , OU=
 SHA1 Fingerprint: 99A1052E E4C9DA24 2F9E2BB8 0968364E 387C6628


DGS3100#
```

26

ACCESS AUTHENTICATION CONTROL COMMANDS

The Access Authentication Control commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
create authen_login method_list_name	<string 12>
config authen_login	[default | method_list_name <string 12>] method {tacacs+ | radius | local | none}
delete authen_login method_list_name	<string 12>
show authen_login	{all | default | method_list_name <string 12>}
create authen_enable method_list_name	<string 12>
config authen_enable	[default | method_list_name <string 12>] method {tacacs+ | radius | local_enable | none}
delete authen_enable method_list_name	<string 12>
show authen_enable	[all | default | method_list_name <string 12>]
config authen application	{console | telnet | ssh | all] [login | enable] [default | method_list_name <string 12>]
show authen application	
create authen server_host	<ipaddr> protocol [tacacs+ | radius] {port <int 1-65535> | key [<key_string 128> | none] | timeout <int 1-30> | retransmit <int 1-10>}
config authen server_host	<ipaddr> protocol [tacacs+ | radius] {port <int 1-65535> | key [<key_string 128> | none] | timeout <int 1-30> | retransmit <int 1-10>}
delete authen server_host	<ipaddr> protocol [tacacs+ | radius]
show authen server_host	
local_enable admin	
config admin local_enable	

Each command is listed in detail, as follows:

create authen_login method_list_name	
Purpose	To create a user-defined list of authentication methods for users logging on to the Switch.
Syntax	**create authen_login method_list_name <string 12>**
Description	The **create authen_login method_list_name** command creates a list of authentication techniques for user login. The Switch can support up to eight method lists, but one is reserved as a default and cannot be deleted. Multiple method lists must be created and configured separately.
Parameters	*<string 12>* - Defines the *method_list_name* to be created as a string of up to 12 alphanumeric characters.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create the method list “Trinity”:

```
DGS3100# create authen_login method_list_name Trinity

Success.

DGS3100#
```

config authen_login	
Purpose	To configure a user-defined or default *method list* of authentication methods for user login.
Syntax	**config authen_login [default | method_list_name <string 12>] method {tacacs+ | radius | local | none}**
Description	The **config authen_login** command configures a user-defined or default *method list* of authentication methods for users logging on to the Switch. The sequence of methods implemented in this command will affect the authentication result. For example, if a user enters a sequence of methods like *tacacs – xtacacs – local,* the Switch will send an authentication request to the first *tacacs* host in the server group. If no response comes from the server host, the Switch will send an authentication request to the second *tacacs* host in the server group and so on, until the list is exhausted. At that point, the Switch will restart the same sequence with the following protocol listed, *xtacacs*. If no authentication takes place using the *xtacacs* list, the *local* account database set in the Switch is used to authenticate the user. When the local method is used, the privilege level will be dependant on the local account privilege configured on the Switch. Successful login using any of these methods will give the user a “user” priviledge only. If the user wishes to upgrade his or her status to the administrator level, the user must implement the *enable admin* command, followed by a previously configured password. (*See the **enable admin** part of this section for more detailed information, concerning the **enable admin** command.)*
Parameters	*default* – The default method list for access authentication, as defined by the user. The user may choose one or more of the following authentication methods:

	- *tacacs+* – Specifies that the user is to be authenticated using the *TACACS+* protocol from the remote TACACS+ *server hosts* of the TACACS+ *server group* list. - *radius* - Specifies that the user is to be authenticated using the *RADIUS* protocol from the remote RADIUS *server hosts* of the RADIUS *server group* list. - *local* - Specifies that the user is to be authenticated using the local *user account* database on the Switch. - *none* – Specifies that no authentication is required to access the Switch. *method_list_name <string 12>* – Specifies a previously created method list name defined by the user. One or more of the following authentication methods may be added to this method list: - *tacacs+* – Specifies that the user is to be authenticated using the *TACACS+* protocol from a remote TACACS+ server. - *radius* - Specifies that the user is to be authenticated using the *RADIUS* protocol from a remote RADIUS server. - *local* - Specifies that the user is to be authenticated using the local *user account* database on the Switch. - *none* – Specifies that no authentication is required to access the Switch. **NOTE:** Entering *none* or *local* as an authentication protocol will override any other authentication that follows it on a method list or on the default method list.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the user defined method list "Trinity" with authentication methods TACACS+, RADIUS and local, in that order.

```
DGS3100# config authen_login method_list_name Trinity method tacacs xtacacs local

Success.

DGS3100#
```

delete authen_login method_list_name

Purpose	To delete a previously configured user defined list of authentication methods for users logging on to the Switch.
Syntax	**delete authen_login method_list_name <string 12>**
Description	The **delete authen_login method_list_name** command deletes a list of authentication methods for user login.
Parameters	*<string 12>* - The previously created *method_list_name* to delete.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete the method list name "Trinity":

```
DGS3100# delete authen_login method_list_name Trinity

Success.

DGS3100#
```

show authen_login

Purpose	To display a previously configured user defined method list of authentication methods for users logging on to the Switch.
Syntax	**show authen_login {all | default | method_list_name <string 12>}**
Description	The **show authen_login** command displays a list of authentication methods for user login.
Parameters	*default* – Displays the default method list for users logging on to the Switch. *method_list_name <string 12>* - Specifies the *method_list_name* to display. *all* – Displays all the authentication login methods currently configured on the Switch. The command displays the following parameters: • Method List Name – The name of a previously configured method list name. • Method Name – Defines which security protocols are implemeted, per method list name.
Restrictions	None

Example usage:

To view all authentication login method list names:

```
DGS3100# show authen_login all

Method List Name          Method Name
-------------------------   -------------------------------
default                       :  Local

DGS3100#
```

create authen_enable method_list_name

Purpose	To create a user-defined method list of authentication methods for promoting normal user level privileges to Administrator level privileges on the Switch
Syntax	**create authen_enable method_list_name <string 12>**
Description	The **create authen_enable method_list_name** command creates a list of authentication methods for promoting users with normal level privileges to Administrator level privileges using authentication methods on the Switch. Once a user acquires normal user level privileges on the Switch, he or she must be authenticated by a method on the Switch to gain administrator privileges on the Switch,

	which is defined by the Administrator. A maximum of eight (8) enable method lists can be implemented on the Switch.
Parameters	*<string 12>* - Defines the *authen_enable method_list_name* to be created as a string of up to 12 alphanumeric characters.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create a user-defined method list, named "Permit" for promoting user privileges to Adminstrator privileges:

```
DGS3100# create authen_enable method_list_name Permit

Success.

DGS3100#
```

config authen_enable

Purpose	To configure a user-defined method list of authentication methods for promoting normal user level privileges to Administrator level privileges on the Switch.
Syntax	**config authen_enable [default | method_list_name <string 12>] method {tacacs+ | radius | local_enable | none}**
Description	The **config authen_enable** command configures a user-defined list of authentication methods for promoting normal user level privileges to Administrator level privileges using authentication methods on the Switch. Once a user acquires normal user level privileges on the Switch, he or she must be authenticated by a method on the Switch to gain administrator privileges on the Switch, which is defined by the Administrator. A maximum of eight (8) enable method lists can be implemented simultaneously on the Switch. The sequence of methods implemented in this command will affect the authentication result. For example, if a user enters a sequence of methods like *tacacs+ – radius – local_enable,* the Switch will send an authentication request to the first *TACACS+* host in the server group. If no verification is found, the Switch will send an authentication request to the second *TACACS+* host in the server group and so on, until the list is exhausted. At that point, the Switch will restart the same sequence with the following protocol listed, *radius*. If no authentication takes place using the *radius* list, the *local_enable* password set in the Switch is used to authenticate the user. Successful authentication using any of these methods will give the user an "Admin" level privilege.
Parameters	*default* – The default method list for adminstration rights authentication, as defined by the user. The user may choose one or more of the following authentication methods: • *tacacs+* – Specifies that the user is to be authenticated using the *TACACS+* protocol from the remote TACACS+ *server hosts* of the TACACS+ *server group* list. • *radius* – Specifies that the user is to be authenticated using the *RADIUS* protocol from the remote RADIUS *server hosts* of the RADIUS *server group* list.

	• *local_enable* - Specifies that the user is to be authenticated using the local *user account* database on the Switch. • *none* – Specifies that no authentication is required to access the Switch. *method_list_name <string 12>* – Specifies a previously created *authen_enable method_list_name*. The user may add one or more of the following authentication methods to this method list: • *tacacs+* – Specifies that the user is to be authenticated using the *TACACS+* protocol from a remote TACACS+ server. • *radius* - Specifies that the user is to be authenticated using the *RADIUS* protocol from a remote RADIUS server. • *local_enable* - Specifies that the user is to be authenticated using the local *user account* database on the Switch. The local enable password of the device can be configured using the "**config admin local_password**" command. • *none* – Specifies that no authentication is required to access the Switch.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the user defined method list "Permit" with authentication methods TACACS+, RADIUS and local_enable, in that order.

```
DGS3100# config authen_enable method_list_name Trinity method tacacs+ radius
local_enable

Success.

DGS3100#
```

delete authen_enable method_list_name

Purpose	To delete a user-defined list of authentication methods for promoting normal user level privileges to Administrator level privileges on the Switch.
Syntax	**delete authen_enable method_list_name <string 12>**
Description	The **delete authen_enable method_list_name** command deletes a user-defined list of authentication methods for promoting user level privileges to Adminstrator level privileges.
Parameters	*<string 12>* - The previously created *authen_enable method_list_name* to be deleted.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete the user-defined method list "Permit"

```
DGS3100# delete authen_enable method_list_name Permit

Success.

DGS3100#
```

show authen_enable

Purpose	To display the list of authentication methods for promoting normal user level privileges to Administrator level privileges on the Switch.
Syntax	**show authen_enable [all | default | method_list_name <string 12>]**
Description	The **show authen_enable** command deletes a user-defined list of authentication methods for promoting user level privileges to Adminstrator level privileges.
Parameters	*default* – Displays the default method list for users attempting to gain access to Administrator level privileges on the Switch. *method_list_name <string 12>* – The *method_list_name* to be displayed. *all* – Displays all the authentication login methods currently configured on the Switch. The command displays the following parameters: • Method List Name – The name of a previously configured method list name. • Method Name – Defines which security protocols are implemeted, per method list name.
Restrictions	None

Example usage:

To display all method lists for promoting user level privileges to administrator level privileges.

```
DGS3100# show authen_enable all

Method List Name          Method Name
-------------------------    ----------------------------------------
Permit                        tacacs+

default                       tacacs+

Total Entries : 2

DGS3100#
```

config authen application

Purpose	To configure various applications on the Switch for authentication using a previously configured method list.
Syntax	**config authen application {console | telnet | ssh | all] [login | enable] [default | method_list_name <string 12>]**
Description	The **config authen application** command configures Switch applications (console, Telnet, SSH) for login at the user level and at the administration level (*authen_enable*), utilizing a previously configured method list.
Parameters	*application* – Specifies the application to configure. One of the following four options may be selected:

	• *console* – Configures the command line interface login method. • *telnet* – Configures the Telnet login method. • *ssh* – Configures the Secure Shell login method. • *all* – Configures all applications as (console, Telnet, SSH) login methods. *login* – Configures an application for normal login on the user level, using a previously configured method list. *enable* – Configures an application for upgrading a normal user level to administrator privileges, using a previously configured method list. *default* – Configures an application for user authentication using the default method list. *method_list_name <string 12>* – Configures an application for user authentication using a previously configured *method_list_name*.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the default method list for the command line interface:

```
DGS3100# config authen application console login default

Success.

DGS3100#
```

show authen application	
Purpose	To display authentication methods for the various applications on the Switch.
Syntax	**show authen application**
Description	The **show authen application** command displays all of the authentication method lists (login, enable administrator privileges) for Switch configuration applications (console, Telnet, SSH) currently configured on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display the login and enable method list for all applications on the Switch:

```
DGS3100# show authen application

Application   Login Method List   Enable Method List
-----------   -----------------   ------------------
Console       default             default
Telnet        Trinity             default
SSH           default             default

DGS3100#
```

create authen server_host

Purpose	To create an authentication server host.
Syntax	**create authen server_host <ipaddr> protocol [tacacs+ | radius] {port <int 1-65535> | key [<key_string 128> | none] | timeout <int 1-30> | retransmit <int 1-10>}**
Description	The **create authen server_host** command creates an authentication server host for the TACACS+/RADIUS security protocols on the Switch. When a user attempts to access the Switch with authentication protocol enabled, the Switch sends authentication packets to a remote TACACS+/RADIUS server host on a remote host. The TACACS+/RADIUS server host then verifies or denies the request and returns the appropriate message to the Switch. More than one authentication protocol can be run on the same physical server host but, remember that TACACS+/RADIUS are separate entities and are not compatible with each other. The maximum supported number of server hosts is 16.
Parameters	*server_host <ipaddr>* – The IP address of the remote server host to add. *protocol* – The protocol used by the server host. The options are: • *tacacs+* – Specifies that the server host utilizes the TACACS+ protocol. • *radius* – Specifies that the server host utilizes the RADIUS protocol. *port <int 1-65535>* – The virtual port number of the authentication protocol on a server host. The value must be between 1 and 65535. The default port number is 49 for TACACS/XTACACS/TACACS+ servers and 1812 and 1813 for RADIUS servers but the user may set a unique port number for higher security. *key [<key_string 128>* | *none]* – The authentication key to be shared with a configured TACACS+ or RADIUS server only. The value is a string of up to 128 alphanumeric characters, or *none*. *timeout <int 1-30>* – The time in seconds the Switch will wait for the server host to reply to an authentication request. The default value is 5 seconds. *retransmit <int 1-10>* – The number of times the device will resend an authentication request when the server does not respond. The value is between 1 and 10. This field is inoperable for the TACACS+ protocol.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create a TACACS+ authentication server host, with port number 1234, a timeout value of 10 seconds and a retransmit count of 5.

```
DGS3100# create authen server_host 10.1.1.121 protocol tacacs+ port 1234
timeout 10 retransmit 5

Success.

DGS3100#
```

config authen server_host

Purpose	To configure a user-defined authentication server host.
Syntax	**config authen server_host <ipaddr> protocol [tacacs+ | radius] {port <int 1-65535> | key [<key_string 128> | none] | timeout <int 1-30> | retransmit <int 1-10>}**
Description	The **config authen server_host** command configures a user-defined authentication server host for the TACACS+/RADIUS security protocols on the Switch. When a user attempts to access the Switch with the authentication protocol enabled, the Switch will send authentication packets to a remote TACACS+/RADIUS server host on a remote host. The TACACS+/RADIUS server host will then verify or deny the request and return the appropriate message to the Switch. More than one authentication protocol can be run on the same physical server host but, remember that TACACS+/RADIUS are separate entities and are not compatible with each other. The maximum supported number of server hosts is 16.
Parameters	*server_host <ipaddr>* – The IP address of the remote server host the user wishes to alter. *protocol* – The protocol used by the server host. The options are: • *tacacs+* – Specifies that the server host utilizes the TACACS+ protocol. • radius – Specifies that the server host utilizes the RADIUS protocol. *port <int 1-65535>* – The virtual port number of the authentication protocol on a server host. The value must be between 1 and 65535. The default port number is 49 for TACACS/XTACACS/TACACS+ servers and 1812 and 1813 for RADIUS servers but the user may set a unique port number for higher security. *key [<key_string 128>* | *none]* – The authentication key to be shared with a configured TACACS+ or RADIUS server only. The value is a string of up to 128 alphanumeric characters, or *none*. *timeout <int 1-30>* – The time in seconds the Switch will wait for the server host to reply to an authentication request. The default value is 5 seconds. *retransmit <int 1-10>* – The number of times the device will resend an authentication request when the server does not respond. The value is between 1 and 10. This field is inoperable for the TACACS+ protocol.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure a TACACS+ authentication server host, with port number 4321, a timeout value of 12 seconds and a retransmit count of 4.

```
DGS3100# config authen server_host 10.1.1.121 protocol tacacs+ port 4321
timeout 12 retransmit 4

Success.

DGS3100#
```

delete authen server_host

Purpose	To delete a user-defined authentication server host.
Syntax	**delete authen server_host <ipaddr> protocol [tacacs+ | radius]**
Description	The **delete authen server_host** command deletes a user-defined authentication server host previously created on the Switch.
Parameters	*server_host <ipaddr>* - The IP address of the remote server host to be deleted. *protocol* – The protocol used by the server host the user wishes to delete. The options are: • *tacacs+* – Specifies that the server host utilizes the TACACS+ protocol. • *radius* – Specifies that the server host utilizes the RADIUS protocol.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete a user-defined TACACS+ authentication server host:

```
DGS3100# delete authen server_host 10.1.1.121 protocol tacacs+

Success.

DGS3100#
```

show authen server_host

Purpose	To view a user-defined authentication server host.
Syntax	**show authen server_host**
Description	The **show authen server_host** command displays user-defined authentication server hosts previously created on the Switch. The following parameters are displayed: IP Address – The IP address of the authentication server host. Protocol – The protocol used by the server host. Possible results will include TACACS+ or RADIUS. Port – The virtual port number on the server host. The default value is 49. Timeout - The time in seconds the Switch will wait for the server host to reply to an authentication request. Retransmit - The value in the retransmit field denotes how many times the device will resend an authentication request when the TACACS server does not respond. This field is inoperable for the tacacs+ protocol. Key - Authentication key to be shared with a configured TACACS+ server only.
Parameters	None.
Restrictions	None.

Example usage:

To view authenticaion server hosts currently set on the Switch:

```
DGS3100# show authen server_host

IP Address    Protocol   Port  Timeout  Retransmit  Key
---------------  ------------  ------  -----------  ---------------  ------------------
10.53.13.94   TACACS   49    5           2              ---------

Total Entries : 1

DGS3100#
```

local_enable admin

Purpose	To promote user level privileges to administrator level privileges.
Syntax	**local_enable admin**
Description	The **local_enable admin** command enables a user to be granted administrative privileges on to the Switch. After logging on to the Switch users will have only user level privileges. To gain acess to administrator level privileges, the user may enter this command. The system then prompts for an authentication password. Possible authentication methods for this function include TACACS, XTACACS, TACACS+, RADIUS, user defined server groups, local enable (local account on the Switch), or no authentication (none). Because XTACACS and TACACS do not support the enable function, the user must create a special account on the server host which has the username “enable”, and a password configured by the administrator that will support the “enable” function. This function becomes inoperable when the authentication policy is disabled.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable administrator privileges on the Switch:

```
DGS3100# local_enable admin
Password: ******

DGS3100#
```

config admin local_enable

Purpose	To configure the local_enable password for administrator level privileges.
Syntax	**config admin local_enable**
Description	The **config admin local_enable** command changes the locally enabled password for the **local_enable admin** command. When a user chooses the “*local_enable*” method to promote user level privileges to administrator privileges, the user is prompted to enter the password configured here. After entering the **config admin local_enable** command, the user is prompted to enter the old password, then a new password in a string of no more than 15 alphanumeric characters, and finally prompted to enter the new password again for confirmation. See the example below.

Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the password for the “local_enable” authentication method.

```
DGS3100# config admin local_enable

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

DGS3100#
```

27

LACP COMMANDS

The LACP commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config lacp port_priority	<portlist> [priority 1-65535] [timeout <90sec | 3sec>]
show lacp	{<portlist>}

Each command is listed in detail, as follows:

config lacp port_priority	
Purpose	To set the priority value of a physical port in an LACP group.
Syntax	**config lacp port_priority <portlist> [priority 1-65535] [timeout <90sec | 3sec>]**
Description	The **config lacp port_priority** command sets the LACP priority value and administrative timeout of a physical port or range of ports in an LACP group.
Parameters	*<portlist>* - A port or range of ports to be configured. *<priority 1-65535>* - Specifies the LACP priority value for a port or range of ports to be configured. The default is 1. *<timeout>* - Specifies the administrative LACP timeout. • *90sec* – Specifies the LACP timeout to be 90 seconds. This is the default. • *3sec* – Specifies the LACP timeout to be 3 seconds.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the LACP priority of a port:

```
DGS3100# config lacp port_priority 1 priority 2

Success.

DGS3100#
```

show lacp	
Purpose	To display current LACP port mode settings.
Syntax	**show lacp {<portlist>}**
Description	The **show lacp** command displays the current LACP mode settings.
Parameters	*<portlist>* - A port or range of ports whose LACP settings are to be displayed.

	If no parameter is specified, the system displays the current LACP status for all ports.
Restrictions	None

Example usage:

To display LACP port mode settings:

```
DGS3100# show lacp

Port    Priority   Timeout
------  ----------- ------------
1:1     1          90 sec
1:2     1          90 sec
1:3     1          90 sec
1:4     1          90 sec
1:5     1          90 sec
1:6     1          90 sec
1:7     1          90 sec
1:8     1          90 sec
1:9     1          90 sec
1:10    1          90 sec

DGS3100#
```

28

STACKING COMMANDS

The Stacking commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config box_id	current_box_id <value 1-6> new_box_id [auto | 1 | 2 | 3 | 4 | 5 | 6]
show stack_information	

config box_id

Purpose	To change the unit ID (stack membership number).
Syntax	**config box_id current_box_id <value 1-6> new_box_id [auto | 1 | 2 | 3 | 4 | 5 | 6]**
Description	The **config box_id** command changes the unit ID (stack membership number). The command takes effect only after rebooting the device.
Parameters	*current_box_id <value 1-6>* - Specifies the unit's current stack membership number. *new_box_id <auto | 1 | 2 | 3 | 4 | 5 | 6>* - Specifies the units's new stack membership number. If *auto* is specified, the system automatically defines the unit's new ID.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To change the unit ID from 1 to 2:

```
DGS3100# config box_id 1 new_box_id 2

DGS3100#
```

show stack_information

Purpose	To display information about the units in the stack.
Syntax	**show stack_information**
Description	The **show stack_information** command displays information about the units in the stack, including the unit numbers, firmware version, hardware version, Master ID and Backup ID.
Parameters	None.
Restrictions	None.

Example usage:

To display information about units in the stack:

```
DGS3100# show stack_information

Master ID    : 1
Backup ID  : 2

Box ID  User Set  Boot version  Firmware version  H/W version
---------   ------------  ------------------   ------------------------   -----------------
1          Auto        1.0.0.03          1.0.0.28                00.00.01
2          2             1.0.0.03          1.0.0.28                00.00.01

DGS3100#
```

29

POE COMMANDS

The PoE commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config poe	box_id <value 1-6> system_power_limit [ps1 | ps2 | ps3] disconnect_method [deny_next_port | deny_low_priority_port]
config poe ports	<portlist> { state [enable | disable] | priority [low | high | critical] | power_limit <value 1-15400>}
show poe	

Each command is listed in detail, as follows:

config poe

Purpose	To configure the parameters for the whole PoE system.
Syntax	**config poe box_id <value 1-6> system_power_limit [ps1 | ps2 | ps3] disconnect_method [deny_next_port | deny_low_priority_port]**
Description	The **config poe** command configures the parameters for the PoE system on a unit member of the stack.
Parameters	*box_id <value 1-6>* – The unit's current stack membership number. *system_power_limit [ps1 | ps2 | ps3]* – Specifies the power budget of the whole PoE system, according to the type of power supply used (*ps1*, *ps2*, *ps3*). *disconnect_method* – Configures the power management disconnection method. When the total consumed power exceeds the power budget, the PoE controller initiates a port disconnection to prevent overloading the power supply. The controller uses one of the following two ways to implement the disconnection: • *deny_next_port* – After the power budget has been exceeded, the next port attempting to power up is denied, regardless of its priority. This is the default setting. • *deny_low_priority_port* – After the power budget has been exceeded, the next port attempting to power up, causes the port with the lowest priority to shut down (to allow high-priority ports to power up).
Restrictions	Only administrator-level users can issue this command.

Example usage:

To config the PoE System on the Switch:

```
DGS3100# config poe system_power_limit 300 disconnect_method deny_next_port

Success.
```

```
DGS3100#
```

config poe ports

Purpose	To configure the PoE port settings.
Syntax	**config poe ports <portlist> { state [enable | disable] | priority [low | high | critical] | power_limit <value 1-15400>}**
Description	The **config poe ports** command configures PoE settings for a port or range of ports.
Parameters	*<portlist>* – A port or range of ports to be configured or all the ports. *state* – Enables or disables the PoE function on the Switch. *priority* – Setting the port priority affects power-up order and shutdown order. **Power-up order**: When the Switch powers-up or reboots, the ports are powered up according to their priority (*critical* first, then *high* and finally *low*). **Shutdown order**: When the power limit has been exceeded, the ports will shut down according to their priority if the power disconnect method is set to *deny_ low_priority_port.* The possible options are: • *critical* – Specifies that these ports have the highest priority for all configured PoE ports. These ports will be the first ports to receive power and the last to disconnect power. • *high* – Specifies that these ports have the second highest priority for receiving power and shutting down power. • *low* – Specifyies that these ports have the lowest priority for receiving and shutting down power. These ports will be the first ports to have their power disconnected if the *power_disconnect_method* chosen in the **config poe** command is *deny_low_priority_port*. *power_limit <value 1-15400>* – Specifies the per-port power limit. If a port exceeds 10% of its power limit, the PoE system will shut down that port. The minimum user-defined setting is 1 mW and the maximum is 15400 mW. The default setting is 15400 mW.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To config the Switch's ports for PoE:

```
DGS3100# config poe ports 1-3 state enable priority critical power_limit 12000

Success.

DGS3100#
```

show poe

Purpose	To display the setting and actual values of the whole PoE system.
Syntax	**show poe**
Description	The **show poe** command displays the settings, actual values and port configuration of the whole PoE system.

Parameters	None.
Restrictions	None.

Example usage:

To display the power settings for the Switch:

```
DGS3100# show poe

Port        State       Priority        Power Limit
---------   -----------  --------------  -----------------------


DGS3100#
```

30

ACCESS CONTROL LIST COMMANDS

The Access Control List commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
create access_profile (Ethernet)	profile_id <value 1-15> [ethernet {vlan | source_mac <macmask 000000000000-ffffffffffff> | destination_mac <macmask 000000000000-ffffffffffff> | 802.1p | ethernet_type}]
create access_profile (IP)	profile_id <value 1-15> [ip {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 } | udp {src_port_mask <hex 0x0-0xffff> | dst_port_mask <hex 0x0-xffff>}]}]
config access_profile (Ethernet)	profile_id <value 1-15> [add access_id [auto assign | <value 1-255>] [ethernet {vlan <vlan_name 32> | source_mac <macaddr 000000000000-ffffffffffff> | destination_mac <macaddr 000000000000-ffffffffffff> | 802.1p <value 0-7> | ethernet_type <hex 0x0-0xffff>} ports <portlist> [permit {replace_priority <value 0-7> | rate_limit <value 3500-1000000>} | deny]
config access_profile (IP)	profile_id <value 1-15> [add access_id [auto assign | <value 1-255>] [ip {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 <flag 1-24>} | udp {src_port <value 0-65535> | dst_port <value 0-65535>}]} ports <portlist> [permit { replace_dscp <value 0-63> | rate_limit <value 3500-1000000>} | deny]
config access_profile	profile_id <value 1-15> delete access_id <value 1-255>
delete access_profile	profile_id <value 1-15>
show access_profile	{profile_id <value 1-15>}

Each command is listed in detail, as follows:

create access_profile (Ethernet)	
Purpose	To create an access profile on the Switch by examining the Ethernet part of the packet header. Masks entered can be combined with the values the Switch finds in the specified frame header fields. Specific values for the rules are entered using the **config access_profile** command, below
Syntax	**create access_profile profile_id <value 1-15> [ethernet {vlan | source_mac <macmask 000000000000-ffffffffffff> | destination_mac <macmask 000000000000-ffffffffffff> | 802.1p | ethernet_type}]**
Description	The **create access_profile** command creates a profile for packets that may be accepted or denied by the Switch by examining the Ethernet part of the packet header. Specific values for rules pertaining to the Ethernet part of the packet header may be defined by configuring the **config access_profile** command for Ethernet, as stated below

Parameters	*profile_id <value 1-15>* – Specifies an index number between 1 and 15 that identifies the access profile being created with this command. *ethernet* - Specifies that the Switch examine the layer 2 part of each packet header with emphasis on one or more of the following: • *vlan* – Specifies that the Switch examine the VLAN part of each packet header. • *source_mac <macmask>* – Specifies a MAC address mask for the source MAC address. This mask is entered in the following hexadecimal format: 000000000000-FFFFFFFFFFFF • *destination_mac <macmask>* – Specifies a MAC address mask for the destination MAC address in the following format: 000000000000-FFFFFFFFFFFF • *802.1p* – Specifies that the Switch examine the 802.1p priority value in the frame's header. *ethernet_type* – Specifies that the Switch examine the Ethernet type value in each frame's header.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create an Ethernet access profile:

```
DGS3100# create access_profile profile_id 1 ethernet vlan 802.1p

Success.

DGS3100#
```

create access_profile (IP)

Purpose	To create an access profile on the Switch by examining the IP part of the packet header. Masks entered can be combined with the values the Switch finds in the specified frame header fields. Specific values for the rules are entered using the config access_profile command, below.
Syntax	**create access_profile profile_id <value 1-15> [ip {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 } | udp {src_port_mask <hex 0x0-0xffff> | dst_port_mask <hex 0x0-xffff>}]}]**
Description	The **create access_profile** command creates a profile for packets that may be accepted or denied by the Switch by examining the IP part of the packet header. Specific values for rules pertaining to the IP part of the packet header may be defined by configuring the **config access_profile** command for IP, as stated below.
Parameters	*profile_id <value 1-15>* – Specifies an index number between 1 and 15 that identifies the access profile being created with this command. *ip* - Specifies that the Switch examine the IP fields in each packet with special emphasis on one or more of the following: • *source_ip_mask <netmask>* – Specifies an IP address mask

	for the source IP address. • *destination_ip_mask <netmask>* – Specifies an IP address mask for the destination IP address. • *dscp* – Specifies that the Switch examine the DiffServ Code Point (DSCP) field in each frame's header. • *icmp* – Specifies that the Switch examine the Internet Control Message Protocol (ICMP) field in each frame's header. • *type* – Specifies that the Switch examine each frame's ICMP Type field. • *code* – Specifies that the Switch examine each frame's ICMP Code field. • *igmp* – Specifies that the Switch examine each frame's Internet Group Management Protocol (IGMP) field. • *type* – Specifies that the Switch examine each frame's IGMP Type field. • *tcp* – Specifies that the Switch examine each frames Transport Control Protocol (TCP) field. • *src_port_mask <hex 0x0-0xffff>* – Specifies a TCP port mask for the source port. • *dst_port_mask <hex 0x0-0xffff>* – Specifies a TCP port mask for the destination port. • *flag_mask* – Specifies the appropriate flag_mask parameter. All incoming packets have TCP port numbers contained in them as the forwarding criterion. These numbers have flag bits associated with them which are parts of a packet that determine what to do with the packet. The user may deny packets by denying certain flag bits within the packets. • *udp* – Specifies that the Switch examine each frame's Universal Datagram Protocol (UDP) field. • *src_port_mask <hex 0x0-0xffff>* – Specifies a UDP port mask for the source port. • *dst_port_mask <hex 0x0-0xffff>* – Specifies a UDP port mask for the destination port.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create an IP access profile:

```
DGS3100# create access_profile profile_id 2 ip source_ip_mask 20.0.0.0
destination_ip_mask 10.0.0.0 dscp icmp type

Success.

DGS3100#
```

config access_profile (Ethernet)

Purpose	To configure the Ethernet access profile on the Switch and to define specific values for the rules that will be used to by the Switch to determine if a given packet should be forwarded or filtered. Masks entered using the create access_profile command will be combined,

	using a logical AND operational method, with the values the Switch finds in the specified frame header fields.
Syntax	**config access_profile profile_id <value 1-15> [add access_id [auto assign | <value 1-255>] [ethernet {vlan <vlan_name 32> | source_mac <macaddr 000000000000-ffffffffffff> | destination_mac <macaddr 000000000000-ffffffffffff> | 802.1p <value 0-7> | ethernet_type <hex 0x05dd-0xffff>} ports <portlist> [permit {replace_priority <value 0-7> | rate_limit <value 3500-1000000>} | deny]**
Description	The **config access_profile** command defines the rules used by the Switch to either filter or forward packets based on the Ethernet part of each packet header.
Parameters	*profile_id* <*value 1-15*> – Specifies the access profile id to be configured with this command. This value is assigned to the access profile when it is created with the **create access_profile** command. The lower the profile ID, the higher the priority the rule will be given. *add access_id* <*value 1-128*> – Adds an additional rule to the above specified access profile. The value specifies the relative priority of the additional rule. Up to 128 different rules may be configured for the Ethernet access profile. • *auto_assign* – Configures the Switch to automatically assign a numerical value (between 1 and 128) for the rule being configured. *ethernet* – Specifies that the Switch examine only the layer 2 part of each packet to determine if it is to be filtered or forwarded based on one or more of the following: • *vlan* <*vlan_name 32*> – Specifies that the access profile applies only to this previously created VLAN. • *source_mac* <*macaddr*> – Specifies that the access profile applies only to packets with this source MAC address. MAC address entries may be made in the following format: 000000000000-FFFFFFFFFFFF • *destination_mac* <*macaddr*> – Specifies that the access profile applies only to packets with this destination MAC address. MAC address entries may be made in the following format: 000000000000-FFFFFFFFFFFF • *802.1p* <*value 0-7*> – Specifies that the access profile applies only to packets with this 802.1p priority value. • *ethernet_type* <*hex 0x05dd-0xffff*> – Specifies that the access profile applies only to packets with this hexadecimal 802.1Q Ethernet type value in the packet header. *ports* <*portlist*> | *all* - The access profile for Ethernet may be defined for each port on the Switch. Up to 128 rules may be configured for each port. Specifying *all* configures this rule for all ports on the Switch. *permit* – Specifies that packets that match the access profile are permitted to be forwarded by the Switch. • *replace_priority* – Specifies the value to replace the 802.1p default priority of a packet, which meets the criteria specified previously in this command, before forwarding it on to the specified CoS queue. Otherwise, a packet will have its incoming 802.1p user priority re-written to its original value before being forwarded by the Switch. • *rate_limit* <*value 3500-1000000*> – Specifies the rate limit

	to limit Rx bandwidth for for the profile being configured. This rate is implemented using the following equation – 1 value = 64kbit/sec. (ex. If the user selects a rx rate limit of 10 then the ingress rate is 640kbit/sec.) The user many select a value between 3500- 1000000 or no limit. The default setting is no limit. *deny* – Specifies that packets that do not match the access profile are not permitted to be forwarded by the Switch and will be filtered.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure a rule for the Ethernet access profile:

```
DGS3100# config access profile profile_id 1 add access_id 1 ethernet
vlan Trinity 802.1p 1 port 1 permit priority 1 replace priority

Success.

DGS3100#
```

config access_profile (IP)	
Purpose	To configure the IP access profile on the Switch and to define specific values for the rules that to be used to by the Switch to determine if a given packet should be forwarded or filtered. Masks entered using the **create access_profile** command will be combined, using a logical AND operational method, with the values the Switch finds in the specified frame header fields.
Syntax	**config access_profile profile_id <value 1-15> [add access_id [auto assign | <value 1-255>] [ip {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 <flag 1-24>} | udp {src_port <value 0-65535> | dst_port <value 0-65535>}]} ports <portlist> [permit {replace_dscp <value 0-63> | rate_limit <value 3500-1000000>} | deny]**
Description	The **config access_profile** command defines the rules used by the Switch to either filter or forward packets based on the IP part of each packet header.
Parameters	*profile_id <value 1-15>* – Specifies the access profile id to be configured with this command. This value is assigned to the access profile when it is created with the **create access_profile** command. The lower the profile ID, the higher the priority the rule will be given. *add access_id <value 1-255>* – Adds an additional rule to the above specified access profile. The value specifies the relative priority of the additional rule. Up to 255 different rules may be configured for the IP access profile. • *auto_assign* – Configures the Switch to automatically assign a numerical value (between 1 and 255) for the rule being configured. *ip* – Specifies that the Switch examine the IP fields in each packet to determine if it will be either forwarded or filtered based on one or more of the following: • *source_ip <ipaddr>* – Specifies that the access profile applies only to packets with this source IP address.

- *destination_ip <ipaddr>* – Specifies that the access profile applies only to packets with this destination IP address.
- *dscp <value 0-63>* – Specifies that the access profile applies only to packets that have this value in their Type-of-Service (DiffServ code point, DSCP) field in their IP packet header.
- *icmp* – Specifies that the Switch examine the Internet Control Message Protocol (ICMP) field in each frame's header.
  - *type* – Specifies that the Switch examine each frame's ICMP Type field.
  - *code* – Specifies that the Switch examine each frame's ICMP Code field.
- *igmp* – Specifies that the Switch examine each frame's Internet Group Management Protocol (IGMP) field.
  - *type* – Specifies that the Switch examine each frame's IGMP Type field.
- *tcp* - Specifies that the Switch examine each frame's Transport Control Protocol (TCP) field.
  - *src_port <value 0-65535>* – Specifies that the access profile applies only to packets that have this TCP source port in their TCP header.
  - *dst_port <value 0-65535>* – Specifies that the access profile applies only to packets that have this TCP destination port in their TCP header.
  - *flag <flag 1-24>* – Specifies the appropriate flag parameter. All incoming packets have TCP port numbers contained in them as the forwarding criterion. These numbers have flag bits associated with them which are parts of a packet that determine what to do with the packet. The user may deny packets by denying certain flag bits within the packets.
- *udp* – Specifies that the Switch examine the Universal Datagram Protocol (UDP) field in each packet.
  - *src_port <value 0-65535>* – Specifies that the access profile applies only to packets that have this UDP source port in their header.
  - *dst_port <value 0-65535>* – Specifies that the access profile applies only to packets that have this UDP destination port in their header.
- *protocol_id <value 0-255>* – Specifies that the Switch examine the Protocol field in each packet and if this field contains the value entered here, apply the appropriate rules.
  - *user_define <hex 0x0-0xfffffff>* – Specifies a hexadecimal value to identify the protocol to be discovered in the packet header.

ports <portlist> | *all* - The access profile for IP may be defined for each port on the Switch. Up to 128 rules may be configured for each port. Specifying *all* configures this rule for all ports on the Switch.

permit – Specifies that packets that match the access profile are permitted to be forwarded by the Switch.

- *replace_dscp <value 0-63>* – Specifies a value to be written to the DSCP field of an incoming packet that meets

	the criteria specified in the first part of the command. This value will over-write the value in the DSCP field of the packet. - *rate_limit <value 3500-1000000>* – Specifies the rate limit to limit Rx bandwidth for for the profile being configured. This rate is implemented using the following equation – 1 value = 64kbit/sec. (ex. If the user selects a rx rate limit of 10 then the ingress rate is 640kbit/sec.) The user many select a value between 3500- 1000000 or no limit. The default setting is no limit. *deny* – Specifies that packets that do not match the access profile are not permitted to be forwarded by the Switch and will be filtered.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure a rule for the IP access profile:

```
DGS3100# config access_profile profile_id 2 add access_id 2 ip protocol_id 2 port 2 deny

Success.

DGS3100#
```

config access_profile

Purpose	To delete a specific rule from the access profile on the Switch.
Syntax	**config access_profile profile_id <value 1-15> delete access_id <value 1-255>**
Description	The **config access_profile** command deletes a specific rule from the access profile on the Switch.
Parameters	*profile_id <value 1-15>* - Specifies the access profile id that is used to identify the access profile to be configured with this command. This value is assigned to the access profile when it is created with the **create access_profile** command. The lower the profile ID, the higher the priority the rule will be given. *delete access_id <value 1-255>* – Specifies the specific rule to be deleted from the profile.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete a rule from the access profile:

```
DGS3100# config access_profile profile_id 2 delete access_id 2

Success.

DGS3100#
```

delete access_profile

Purpose	To delete a previously created access profile

Syntax	**delete access_profile profile_id <value 1-15>**
Description	The **delete access_profile** command deletes a previously created access profile on the Switch.
Parameters	*profile_id <value 1-15>* – Specifies the access profile to be deleted. This value is assigned to the access profile when it is created with the **create access_profile** command.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete the access profile with a profile ID of 1:

```
DGS3100# delete access_profile profile_id 1

Success.

DGS3100#
```

show access_profile

Purpose	To display the currently configured access profiles on the Switch.
Syntax	**show access_profile {profile_id <value 1-15>}**
Description	The **show access_profile** command displays the currently configured access profiles.
Parameters	*profile_id <value 1-15>* – Specifies the access profile to be displayed. This value is assigned to the access profile when it is created with the **create access_profile** command. If the *profile_id* parameter is omitted, all access profile entries are displayed.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To display all of the currently configured access profiles on the Switch:

```
DGS3100# show access_profile

Access Profile Table

Access Profile ID: 1                      TYPE : Ethernet
===================================================================
MASK Option :
VLAN       802.1p
-----------     ------

Access ID : 3          Mode: Permit(replaced) priority: 1
Ports: 1
-----------  ------
Trinity     1
===================================================================
Access Profile ID: 2                      TYPE : IP
===================================================================
MASK Option :
Protocol ID

--------------------

Access ID : 2          Mode: Deny
```

```
Ports: 2
--------------------
2
======================================================================

Total Entries: 2

DGS3100#
```

31

TRAFFIC SEGMENTATION COMMANDS

The Traffic Segmentation commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config traffic_segmentation	[<portlist> | <ch1-32>] forward_list [null | <portlist> | <ch1-32>]
show traffic_ segmentation	{<portlist>}

Each command is listed in detail, as follows:

config traffic_segmentation

Purpose	To configure traffic segmentation on the Switch.
Syntax	**config traffic_segmentation [<portlist> | <ch1-32>] forward_list [null | <portlist> | <ch1-32>]**
Description	The **config traffic_segmentation** command configures traffic segmentation on the Switch.
Parameters	*<portlist>* | *<ch1-32>* – A port or range of ports or a port channel to be configured for traffic segmentation. *forward_list* – Specifies a port or range of ports to receive forwarded frames from the ports specified in the portlist, above. • *null* – No ports are specified. • *<portlist>* | *<ch1-32>* – Specifies a port or range of ports or port channel for the forwarding list. This list must be on the same switch previously specified for traffic segmentation.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure ports 1 through 10 to be able to forward frames to port 11 through 15:

```
DGS3100# config traffic_segmentation 1-10 forward_list 11-15

Success.

DGS3100#
```

show traffic_segmentation

Purpose	To display the current traffic segmentation configuration on the Switch
Syntax	**show traffic_segmentation {<portlist>}**
Description	The **show traffic_segmentation** command displays the current

	traffic segmentation configuration on the Switch.
Parameters	*<portlist>* – A port or range of ports for which the current traffic segmentation configuration on the Switch is to be displayed.
Restrictions	The port lists for segmentation and the forward list must be on the same Switch.

Example usage:

To display the current traffic segmentation configuration on the Switch.

```
DGS3100# show traffic_segmentation

Traffic Segmentation Table

Port    Forward Port
-------- -------------------
1        1-28
2        1-28
3        1-28
4        1-28
5        1-28
6        1-28
7        1-28
8        1-28
9        1-28
10       1-28
11       1-28
12       1-28
13       1-28
14       1-28
15       1-28
16       1-28
17       1-28
18       1-28
CTRL+C ESC q Quit SPACE n Next Page ENTER Next Entry a All
```

32

DEVICE SPECIFICATIONS

This appendix contains the device specifications, and contains the following topics:

- Technical Specifications
- Cable Lengths

Technical Specifications

Performance	
Transmission Method	Store-and-forward
RAM Buffer	512Kbytes per device
Packet Filtering/ Forwarding Rate	Full-wire speed for all connections. 1,488,095 pps per port (for 1000Mbps)
MAC Address Learning	Automatic update. Supports 8K MAC address.
Priority Queues	4 Priority Queues per port.
Forwarding Table Age Time	Max age: 10–1000000 seconds. Default = 300.

Physical and Environmental	
AC Inputs	100 – 240 VAC, 50/60 Hz (internal universal power supply)
Power Consumption	45 watts maximum for the DGS-3100-24 and DGS-3100-24P 82 watts maximum for the DGS-3100-48 and DGS-3100-48P
DC Fans	2 built-in 40 x 40 x 10 mm fans
Operating Temperature	0 to 40 degrees Celsius (32 to 104 degrees Fahrenheit)
Storage Temperature	-40 to 70 degrees Celsius (-40 to 158 degrees Fahrenheit)
Humidity	Storage: 5% to 95% non-condensing
Dimensions	441mm (W) x 309mm (D) x 44mm (H), 19-inch rack-mount width 1U height
Weight	3.8 kg (8.38 lb)
EMI	FCC, CE Mark, VCCI, C-Tick
Safety	cUL, CB

General	
Standards	IEEE 802.3 10BASE-T Ethernet IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.3z Gigabit Ethernet IEEE 802.1Q Tagged VLAN IEEE 802.1P Tagged Packets IEEE 802.3ab 1000BASE-T IEEE 802.3x Full-duplex Flow Control ANSI/IEEE 802.3 NWay auto-negotiation
Protocols	CSMA/CD
Data Transfer Rates	Half-duplex Full-duplex
Ethernet:	10 Mbps20 Mbps
Fast Ethernet:	100 Mbps 200 Mbps
Gigabit Ethernet:	2000 Mbps (Full duplex only)
Topology	Star
Network Cables	
10BASE-T:	UTP Category 3, 4, 5 (100 meters max.) EIA/TIA- 568 150-ohm STP (100 meters max.)
100BASE-TX:	UTP Cat. 5 (100 meters max.) EIA/TIA-568 150-ohm STP (100 meters max.)
1000BASE-T:	UTP Cat. 5e (100 meters max.) UTP Cat. 5 (100 meters max.) EIA/TIA-568B 150-ohm STP (100 meters max.)
1000BASE-LX:	Single-mode fiber module (10km)
1000BASE-SX:	Multi-mode fiber module (550m)
1000BASE-LHX:	Single-mode fiber module (40km)
1000BASE-ZX:	Single-mode fiber module (80km)
Mini-GBIC:	SFP Transceiver for 1000BASE-LX Single-mode fiber module (10km) SFP Transceiver for 1000BASE-SX Multi-mode fiber module (550m) SFP Transceiver for 1000BASE-LHX Single-mode fiber module (40km) SFP Transceiver for 1000BASE-ZX Single-mode fiber module (80km)
Number of Ports:	24 or 48 x 10/100/1000 Mbps ports 4 x GBIC combo ports

Cable Lengths

Use the following table to as a guide for the maximum cable lengths:

Standard	Media Type	Maximum Distance
Mini GBIC	DEM-310GT: SFP Transceiver for 1000BASE-LX, Single-mode fiber module	10km
	DEM-311GT: SFP Transceiver for 1000BASE-SX, Multi-mode fiber module	550m
	DEM-314GT: SFP Transceiver for 1000BASE-LHX, Single-mode fiber module	40km
	DEM-315GT: SFP Transceiver for 1000BASE-ZX, Single-mode fiber module	80km
1000BASE-T	Category 5e UTP Cable Category 5 UTP Cable (1000 Mbps)	100m
100BASE-TX	Category 5 UTP Cable (100 Mbps)	100m
10BASE-T	Category 3 UTP Cable (10 Mbps)	100m

Warranties/Registration

LIMITED WARRANTY

D-Link provides this limited warranty for its product only to the person or entity who originally purchased the product from DLink or its authorized reseller or distributor. D-Link would fulfill the warranty obligation according to the local warranty policy in which you purchased our products.

Limited Hardware Warranty: D-Link warrants that the hardware portion of the D-Link products described below ("Hardware") will be free from material defects in workmanship and materials from the date of original retail purchase of the Hardware, for the period set forth below applicable to the product type ("Warranty Period") if the Hardware is used and serviced in accordance with applicable documentation; provided that a completed Registration Card is returned to an Authorized D-Link Service Office within ninety (90) days after the date of original retail purchase of the Hardware. If a completed Registration Card is not received by an authorized D-Link Service Office within such ninety (90) period, then the Warranty Period shall be ninety (90) days from the date of purchase.

Product Type	***Warranty Period***
Product (including Power Supplies and Fans)	One (1) Year
Spare parts and pare kits	Ninety (90) days

D-Link's sole obligation shall be to repair or replace the defective Hardware at no charge to the original owner. Such repair or replacement will be rendered by D-Link at an Authorized D-Link Service Office. The replacement Hardware need not be new or of an identical make, model or part; D-Link may in its discretion may replace the defective Hardware (or any part thereof) with any reconditioned product that D-Link reasonably determines is substantially equivalent (or superior) in all material respects to the defective Hardware. The Warranty Period shall extend for an additional ninety (90) days after any repaired or replaced Hardware is delivered. If a material defect is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to repair or replace the defective Hardware, the price paid by the original purchaser for the defective Hardware will be refunded by D-Link upon return to D-Link of the defective Hardware. All Hardware (or part thereof) that is replaced by D-Link, or for which the purchase price is refunded, shall become the property of D-Link upon replacement or refund.

Limited Software Warranty: D-Link warrants that the software portion of the product ("Software") will substantially conform to D-Link's then current functional specifications for the Software, as set forth in the applicable documentation, from the date of original delivery of the Software for a period of ninety (90) days ("Warranty Period"), if the Software is properly installed on approved hardware and operated as contemplated in its documentation. D-Link further warrants that, during the Warranty Period, the magnetic media on which D-Link delivers the Software will be free of physical defects. D-Link's sole obligation shall be to replace the non-conforming Software (or defective media) with software that substantially conforms to D-Link's functional specifications for the Software. Except as otherwise agreed by D-Link in writing, the replacement Software is provided only to the original licensee, and is subject to the terms and conditions of the license granted by D-Link for the Software. The Warranty Period shall extend for an additional ninety (90) days after any replacement Software is delivered. If a material non-conformance is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to replace the non-conforming Software, the price paid by the original licensee for the non-conforming Software will be refunded by D-Link; provided that the non-conforming Software (and all copies thereof) is first returned to D-Link. The license granted respecting any Software for which a refund is given automatically terminates.

What You Must Do For Warranty Service:

Registration Card. The Registration Card provided at the back of this manual must be completed and returned to an Authorized D-Link Service Office for each D-Link product within ninety (90) days after the product is purchased and/or licensed. The addresses/telephone/fax list of the nearest Authorized D-Link Service Office is provided in the back of this manual. FAILURE TO

PROPERLY COMPLETE AND TIMELY RETURN THE REGISTRATION CARD MAY AFFECT THE WARRANTY FOR THIS PRODUCT.

Submitting A Claim. Any claim under this limited warranty must be submitted in writing before the end of the Warranty Period to an Authorized D-Link Service Office. The claim must include a written description of the Hardware defect or Software nonconformance in sufficient detail to allow D-Link to confirm the same. The original product owner must obtain a Return Material Authorization (RMA) number from the Authorized D-Link Service Office and, if requested, provide written proof of purchase of the product (such as a copy of the dated purchase invoice for the product) before the warranty service is provided. After an RMA number is issued, the defective product must be packaged securely in the original or other suitable shipping package to ensure that it will not be damaged in transit, and the RMA number must be prominently marked on the outside of the package. The packaged product shall be insured and shipped to Authorized D-Link Service Office with all shipping costs prepaid. D-Link may reject or return any product that is not packaged and shipped in strict compliance with the foregoing requirements, or for which an RMA number is not visible from the outside of the package. The product owner agrees to pay D-Link's reasonable handling and return shipping charges for any product that is not packaged and shipped in accordance with the foregoing requirements, or that is determined by D-Link not to be defective or non-conforming.

What Is Not Covered:

This limited warranty provided by D-Link does not cover:

Products that have been subjected to abuse, accident, alteration, modification, tampering, negligence, misuse, faulty installation, lack of reasonable care, repair or service in any way that is not contemplated in the documentation for the product, or if the model or serial number has been altered, tampered with, defaced or removed;

Initial installation, installation and removal of the product for repair, and shipping costs;

Operational adjustments covered in the operating manual for the product, and normal maintenance;

Damage that occurs in shipment, due to act of God, failures due to power surge, and cosmetic damage;

and Any hardware, software, firmware or other products or services provided by anyone other than D-Link.

Disclaimer of Other Warranties: EXCEPT FOR THE LIMITED WARRANTY SPECIFIED HEREIN, THE PRODUCT IS PROVIDED "AS-IS" WITHOUT ANY WARRANTY OF ANY KIND INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. IF ANY IMPLIED WARRANTY CANNOT BE DISCLAIMED IN ANY TERRITORY WHERE A PRODUCT IS SOLD, THE DURATION OF SUCH IMPLIED WARRANTY SHALL BE LIMITED TO NINETY (90) DAYS. EXCEPT AS EXPRESSLY COVERED UNDER THE LIMITED WARRANTY PROVIDED HEREIN, THE ENTIRE RISK AS TO THE QUALITY, SELECTION AND PERFORMANCE OF THE PRODUCT IS WITH THE PURCHASER OF THE PRODUCT.

Limitation of Liability: TO THE MAXIMUM EXTENT PERMITTED BY LAW, D-LINK IS NOT LIABLE UNDER ANY CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER LEGAL OR EQUITABLE THEORY FOR ANY LOSS OF USE OF THE PRODUCT, INCONVENIENCE OR DAMAGES OF ANY CHARACTER, WHETHER DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL (INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, LOSS OF INFORMATION OR DATA CONTAINED IN, STORED ON, OR INTEGRATED WITH ANY PRODUCT RETURNED TO D-LINK FOR WARRANTY SERVICE) RESULTING FROM THE USE OF THE PRODUCT, RELATING TO WARRANTY SERVICE, OR ARISING OUT OF ANY BREACH OF THIS LIMITED WARRANTY, EVEN IF D-LINK HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE SOLE REMEDY FOR A BREACH OF THE FOREGOING LIMITED WARRANTY IS REPAIR, REPLACEMENT OR REFUND OF THE DEFECTIVE OR NON-CONFORMING PRODUCT.

GOVERNING LAW: This Limited Warranty shall be governed by the laws of the state of California.

Some states do not allow exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the foregoing limitations and exclusions may not apply. This limited warranty provides specific legal rights and the product owner may also have other rights which vary from state to state.

Trademarks

Copyright 2006 D-Link Corporation. Contents subject to change without prior notice. D-Link is a registered trademark of D-Link Corporation/D-Link Systems, Inc. All other trademarks belong to their respective proprietors.

Copyright Statement

No part of this publication may be reproduced in any form or by any means or used to make any derivative such as translation, transformation, or adaptation without permission from D-Link Corporation/D-Link Systems Inc., as stipulated by the United States Copyright Act of 1976.

FCC Warning

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Registration Card

(All Countries and Regions excluding USA)

Print, type or use block letters.

Your name: Mr./Ms____
Organization: ____Dept.________________________________
Your title at organization:__________________ Telephone:______________________ Fax:___________
Organization's full address:____
Country:____
Date of purchase (Month/Day/Year):____

Product Model	Product Serial No.	* Product installed in type of computer (e.g., Compaq 486)	* Product installed in computer serial No.

(* Applies to adapters only)

Product was purchased from:

Reseller's name:____
Telephone:___________________________________ Fax:____
Reseller's full address:____
____

Answers to the following questions help us to support your product:

1. Where and how will the product primarily be used?
□Home □Office □Travel □Company Business □Home Business □Personal Use

2. How many employees work at installation site?
□1 employee □2-9 □10-49 □50-99 □100-499 □500-999 □1000 or more

3. What network protocol(s) does your organization use ?
□XNS/IPX □TCP/IP □DECnet □Others____

4. What network operating system(s) does your organization use ?
□D-Link LANsmart □Novell NetWare □NetWare Lite □SCO Unix/Xenix □PC NFS □3Com 3+Open
□Banyan Vines □DECnet Pathwork □Windows NT □Windows 2000 □Windows XP
□Others____

5. What network management program does your organization use ?
□D-View □HP OpenView/Windows □HP OpenView/Unix □SunNet Manager □Novell NMS
□NetView 6000 □Others____

6. What network medium/media does your organization use ?
□Fiber-optics □Thick coax Ethernet □Thin coax Ethernet □10BASE-T UTP/STP
□100BASE-TX □100BASE-T4 □100VGAnyLAN □Others____

7. What applications are used on your network?
□Desktop publishing □Spreadsheet □Word processing □CAD/CAM □Database management □Accounting
□Others____

8. What category best describes your company?
□Aerospace □Engineering □Education □Finance □Hospital □Legal □Insurance/Real Estate □Manufacturing
□Retail/Chainstore/Wholesale □Government □Transportation/Utilities/Communication □VAR □System house/company
□Other____

9. Would you recommend your D-Link product to a friend?
□Yes □No □Don't know yet

10.Your comments on this product? ____
____
____
____

PLEASE
PLACE STAMP
HERE

TO: ______________________________

____

____

D-Link®

D-Link®
Building Networks for People

Limited Warranty
(USA Only)

Subject to the terms and conditions set forth herein, D-Link Systems, Inc. (“D-Link”) provides this Limited Warranty:

- Only to the person or entity that originally purchased the product from D-Link or its authorized reseller or distributor, and
- Only for products purchased and delivered within the fifty states of the United States, the District of Columbia, U.S. Possessions or Protectorates, U.S. Military Installations, or addresses with an APO or FPO.

Limited Warranty: D-Link warrants that the hardware portion of the D-Link product described below (“Hardware”) will be free from material defects in workmanship and materials under normal use from the date of original retail purchase of the product, for the period set forth below (“Warranty Period”), except as otherwise stated herein.

- Hardware: For as long as the original customer/end user owns the product, or five (5) years after product discontinuance, whichever occurs first (excluding power supplies and fans)
- Power supplies and fans: Three (3) Year
- Spare parts and spare kits: Ninety (90) days

The customer's sole and exclusive remedy and the entire liability of D-Link and its suppliers under this Limited Warranty will be, at D-Link’s option, to repair or replace the defective Hardware during the Warranty Period at no charge to the original owner or to refund the actual purchase price paid. Any repair or replacement will be rendered by D-Link at an Authorized D-Link Service Office. The replacement hardware need not be new or have an identical make, model or part. D-Link may, at its option, replace the defective Hardware or any part thereof with any reconditioned product that D-Link reasonably determines is substantially equivalent (or superior) in all material respects to the defective Hardware. Repaired or replacement hardware will be warranted for the remainder of the original Warranty Period or ninety (90) days, whichever is longer, and is subject to the same limitations and exclusions. If a material defect is incapable of correction, or if D-Link determines that it is not practical to repair or replace the defective Hardware, the actual price paid by the original purchaser for the defective Hardware will be refunded by D-Link upon return to D-Link of the defective Hardware. All Hardware or part thereof that is replaced by D-Link, or for which the purchase price is refunded, shall become the property of D-Link upon replacement or refund.

Limited Software Warranty: D-Link warrants that the software portion of the product (“Software”) will substantially conform to D-Link’s then current functional specifications for the Software, as set forth in the applicable documentation, from the date of original retail purchase of the Software for a period of ninety (90) days (“Software Warranty Period”), provided that the Software is properly installed on approved hardware and operated as contemplated in its documentation. D-Link further warrants that, during the Software Warranty Period, the magnetic media on which D-Link delivers the Software will be free of physical defects. The customer's sole and exclusive remedy and the entire liability of D-Link and its suppliers under this Limited Warranty will be, at D-Link’s option, to replace the non-conforming Software (or defective media) with software that substantially conforms to D-Link’s functional specifications for the Software or to refund the portion of the actual purchase price paid that is attributable to the Software. Except as otherwise agreed by D-Link in writing, the replacement Software is provided only to the original licensee, and is subject to the terms and conditions of the license granted by D-Link for the Software. Replacement Software will be warranted for the remainder of the original Warranty Period and is subject to the same limitations and exclusions. If a material non-conformance is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to replace the non-conforming Software, the price paid by the original licensee for the non-conforming Software will be refunded by D-Link; provided that the non-conforming Software (and all copies thereof) is first returned to D-Link. The license granted respecting any Software for which a refund is given automatically terminates.

Non-Applicability of Warranty: The Limited Warranty provided hereunder for Hardware and Software portions of D-Link's products will not be applied to and does not cover any refurbished product and any product purchased through the inventory clearance or liquidation sale or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product and in that case, the product is being sold "As-Is" without any warranty whatsoever including, without limitation, the Limited Warranty as described herein, notwithstanding anything stated herein to the contrary.

Submitting A Claim: The customer shall return the product to the original purchase point based on its return policy. In case the return policy period has expired and the product is within warranty, the customer shall submit a claim to D-Link as outlined below:

- The customer must submit with the product as part of the claim a written description of the Hardware defect or Software nonconformance in sufficient detail to allow D-Link to confirm the same, along with proof of purchase of the product (such as a copy of the dated purchase invoice for the product) if the product is not registered.
  - The customer must obtain a Case ID Number from D-Link Technical Support at 1-877-453-5465, who will attempt to assist the customer in resolving any suspected defects with the product. If the product is considered defective, the customer must obtain a Return Material Authorization (“RMA”) number by completing the RMA form and entering the assigned Case ID Number at https://rma.dlink.com/.
  - After an RMA number is issued, the defective product must be packaged securely in the original or other suitable shipping package to ensure that it will not be damaged in transit, and the RMA number must be prominently marked on the outside of the package. Do not include any manuals or accessories in the shipping package. D-Link will only replace the defective portion of the product and will not ship back any accessories.
  - The customer is responsible for all in-bound shipping charges to D-Link. No Cash on Delivery (“COD”) is allowed. Products sent COD will either be rejected by D-Link or become the property of D-Link. Products shall be fully insured by the customer and shipped to **D-Link Systems, Inc., 17595 Mt. Herrmann, Fountain Valley, CA 92708**. D-Link will not be held responsible for any packages that are lost in transit to D-Link. The repaired or replaced packages will be shipped to the customer via UPS Ground or any common carrier selected by D-Link. Return shipping charges shall be prepaid by D-Link if you use an address in the United States, otherwise we will ship the product to you freight collect. Expedited shipping is available upon request and provided shipping charges are prepaid by the customer.

D-Link may reject or return any product that is not packaged and shipped in strict compliance with the foregoing requirements, or for which an RMA number is not visible from the outside of the package. The product owner agrees to pay D-Link’s reasonable handling and return shipping charges for any product that is not packaged and shipped in accordance with the foregoing requirements, or that is determined by D-Link not to be defective or non-conforming.

What Is Not Covered: The Limited Warranty provided herein by D-Link does not cover: Products that, in D-Link’s judgment, have been subjected to abuse, accident, alteration, modification, tampering, negligence, misuse, faulty installation, lack of reasonable care, repair or service in any way that is not contemplated in the documentation for the product, or if the model or serial number has been altered, tampered with, defaced or removed; Initial installation, installation and removal of the product for repair, and shipping costs; Operational adjustments covered in the operating manual for the product, and normal maintenance; Damage that occurs in shipment, due to act of God, failures due to power surge, and cosmetic damage; Any hardware, software, firmware or other products or services provided by anyone other than D-Link; and Products that have been purchased from inventory clearance or liquidation sales or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product. While necessary maintenance or repairs on your Product can be performed by any company, we recommend that you use only an Authorized D-Link Service Office. Improper or incorrectly performed maintenance or repair voids this Limited Warranty.

Disclaimer of Other Warranties: EXCEPT FOR THE LIMITED WARRANTY SPECIFIED HEREIN, THE PRODUCT IS PROVIDED “AS-IS” WITHOUT ANY WARRANTY OF ANY KIND WHATSOEVER INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. IF ANY IMPLIED WARRANTY CANNOT BE DISCLAIMED IN ANY TERRITORY WHERE A PRODUCT IS SOLD, THE DURATION OF SUCH IMPLIED WARRANTY SHALL BE LIMITED TO THE DURATION OF THE APPLICABLE

WARRANTY PERIOD SET FORTH ABOVE. EXCEPT AS EXPRESSLY COVERED UNDER THE LIMITED WARRANTY PROVIDED HEREIN, THE ENTIRE RISK AS TO THE QUALITY, SELECTION AND PERFORMANCE OF THE PRODUCT IS WITH THE PURCHASER OF THE PRODUCT.

Limitation of Liability: TO THE MAXIMUM EXTENT PERMITTED BY LAW, D-LINK IS NOT LIABLE UNDER ANY CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER LEGAL OR EQUITABLE THEORY FOR ANY LOSS OF USE OF THE PRODUCT, INCONVENIENCE OR DAMAGES OF ANY CHARACTER, WHETHER DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL (INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF GOODWILL, LOSS OF REVENUE OR PROFIT, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, FAILURE OF OTHER EQUIPMENT OR COMPUTER PROGRAMS TO WHICH D-LINK'S PRODUCT IS CONNECTED WITH, LOSS OF INFORMATION OR DATA CONTAINED IN, STORED ON, OR INTEGRATED WITH ANY PRODUCT RETURNED TO D-LINK FOR WARRANTY SERVICE) RESULTING FROM THE USE OF THE PRODUCT, RELATING TO WARRANTY SERVICE, OR ARISING OUT OF ANY BREACH OF THIS LIMITED WARRANTY, EVEN IF D-LINK HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE SOLE REMEDY FOR A BREACH OF THE FOREGOING LIMITED WARRANTY IS REPAIR, REPLACEMENT OR REFUND OF THE DEFECTIVE OR NON-CONFORMING PRODUCT. THE MAXIMUM LIABILITY OF D-LINK UNDER THIS WARRANTY IS LIMITED TO THE PURCHASE PRICE OF THE PRODUCT COVERED BY THE WARRANTY. THE FOREGOING EXPRESS WRITTEN WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ANY OTHER WARRANTIES OR REMEDIES, EXPRESS, IMPLIED OR STATUTORY.

Governing Law: This Limited Warranty shall be governed by the laws of the State of California. Some states do not allow exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the foregoing limitations and exclusions may not apply. This Limited Warranty provides specific legal rights and you may also have other rights which vary from state to state.

Trademarks: D-Link is a registered trademark of D-Link Systems, Inc. Other trademarks or registered trademarks are the property of their respective owners.

Copyright Statement: No part of this publication or documentation accompanying this product may be reproduced in any form or by any means or used to make any derivative such as translation, transformation, or adaptation without permission from D-Link Corporation/D-Link Systems, Inc., as stipulated by the United States Copyright Act of 1976 and any amendments thereto. Contents are subject to change without prior notice. Copyright 2004 by D-Link Corporation/D-Link Systems, Inc. All rights reserved.

CE Mark Warning: This is a Class A product. In a residential environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

FCC Statement: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. Operation of this equipment in a residential environment is likely to cause harmful interference to radio or television reception. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures**:**

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

For detailed warranty information applicable to products purchased outside the United States, please contact the corresponding local D-Link office.

Product Registration:

Register online your D-Link product at http://support.dlink.com/register/

Product registration is entirely voluntary and failure to complete or return this form will not diminish your warranty rights.

Technical Support

You can find software updates and user documentation on the D-Link website.

Tech Support for customers within Australia:

D-Link Technical Support over the Telephone:

1300-766-868
Monday to Friday 8:00am to 8:00pm EST
Saturday 9:00am to 1:00pm EST

D-Link Technical Support over the Internet:

http://www.dlink.com.au
email:support@dlink.com.au

Tech Support for customers within New Zealand:

D-Link Technical Support over the Telephone:

0800-900-900
Monday to Friday 8:30am to 8:30pm
Saturday 9:00am to 5:00pm

D-Link Technical Support over the Internet:

http://www.dlink.co.nz
email:support@dlink.co.nz

Building Networks for People

Technical Support

You can find software updates and user documentation on the D-Link website.

Tech Support for customers within South Eastern Asia and Korea:

D-Link South Eastern Asia and Korea Technical Support over the Telephone:

+65-6895-5355
Monday to Friday 9:00am to 12:30pm, 2:00pm-6:00pm
Singapore Time

D-Link Technical Support over the Internet:
email:support@dlink.com.sg

D-Link®
Building Networks for People

Technical Support

You can find software updates and user documentation on the D-Link website.

Tech Support for customers within India

D-Link Technical Support over the Telephone:

+91-22-26526741
+91-22-26526696 –ext 161 to 167
Monday to Friday 9:30am to 7:00pm

D-Link Technical Support over the Internet:

http://ww.dlink.co.in
http://www.dlink.co.in/dlink/drivers/support.asp
ftp://support.dlink.co.in
email: techsupport@dlink.co.in

D-Link®
Building Networks for People

Technical Support

You can find software updates and user documentation on the D-Link website.

D-Link provides free technical support for customers for the duration of the warranty period on this product.

Customers can contact D-Link technical support through our web site or by phone.

Tech Support for customers within the Russia

D-Link Technical Support over the Telephone:

(495) 744-00-99
Monday to Friday 10:00am to 6:30pm

D-Link Technical Support over the Internet:

http://www.dlink.ru
email: support@dlink.ru

Building Networks for People

Technical Support

You can find software updates and user documentation on the D-Link website.

Tech Support for customers within the U.A.E & North Africa:

D-Link Technical Support over the Telephone:
(971) 4-391-6480 (U.A.E)
Sunday to Wednesday 9:00am to 6:00pm GMT+4
Thursday 9:00am to 1:00pm GMT+4
D-Link Middle East & North Africa

D-Link Technical Support over the Internet:
http://support.dlink-me.com
email:support@dlink-me.com

Tech Support for customers within Israel:

D-Link Technical Support over the Telephone:
(972) 9-9715701
Sunday to Thursday 9:00am to 5:00pm

D-Link Technical Support over the Internet:

http://www.dlink.co.il/support/
e-mail: support@dlink.co.il

Tech Support for customers within Turkey:

D-Link Technical Support over the Telephone:
0090 312 473 40 55
Monday to Friday 9:00am to 6:00pm

D-Link Technical Support over the Internet:
http://www.dlink.com.tr
e-mail: turkiye@dlink-me.com

Tech Support for customers within Egypt:

D-Link Technical Support over the Telephone:
+202-2919035, +202-2919047
Sunday to Thursday 9:00am to 5:00pm

D-Link Technical Support over the Internet:
http://support.dlink-me.com
e-mail: amostafa@dlink-me.com

D-Link®
Building Networks for People

Technical Support

You can find software updates and user documentation on the D-Link website.

Tech Support for customers within South Africa and Sub Sahara Region:

D-Link South Africa and Sub Sahara Technical Support over the Telephone:

+27-12-665-2165
08600 DLINK (For South Africa only)
Monday to Friday 8:30am to 9:00pm South Africa Time

D-Link Technical Support over the Internet:

http://www.d-link.co.za
email:support@d-link.co.za

D-Link®
Building Networks for People

Technical Support

You can find software updates and user documentation on the D-Link website.

Tech Support for Latin America customers:

D-Link Technical Support over the followings Telephones:

Argentina: 0-800 122 35 465	Monday to Friday 09:00am to 22:00pm
Chile: 800-835465	Monday to Friday 08:00am to 21:00pm
Colombia: 01-800 952 54 65	Monday to Friday 07:00am to 20:00pm
Ecuador: 1800-035465	Monday to Friday 07:00am to 20:00pm
El Salvador: 800-6137	Monday to Friday 06:00am to 19:00pm
Guatemala:1800-300 0017	Monday to Friday 06:00am to 19:00pm
Panama: 00-800 052 54 65	Monday to Friday 07:00am to 20:00pm
Peru: 0800-00 968	Monday to Friday 07:00am to 20:00pm
Venezuela: 0-800-100 5767	Monday to Friday 08:00am to 21:00pm

D-Link Technical Support over the Internet:
www.dlinkla.com
www.dlinklatinamerica.com
email:support@dlink.cl

Tech Support for customers within Brazil:

D-Link Technical Support over the Telephone:

0800 70 24 104
Monday to Friday 8:30am to 18:30pm

D-Link Technical Support over the Internet:
www.dlinkbrasil.com.br
email:suporte@dlinkbrasil.com.br

Building Networks for People

Техническая поддержка

Обновления программного обеспечения и документация доступны на Интернет-сайте D-Link.

D-Link предоставляет бесплатную поддержку для клиентов в течение гарантийного срока.

Клиенты могут обратиться в группу технической поддержки D-Link по телефону или через Интернет.

Техническая поддержка D-Link:
(495) 744-00-99

Техническая поддержка через Интернет
http://www.dlink.ru
email: support@dlink.ru

Building Networks for People

Asistencia Técnica

D-Link Latin América pone a disposición de sus clientes, especificaciones, documentación y software mas reciente a través de nuestro Sitio Web
www.dlinkla.com

El servicio de soporte técnico tiene presencia en numerosos países de la Región Latino América, y presta asistencia gratuita a todos los clientes de D-Link, en forma telefónica e internet, a través de la casilla
soporte@dlinkla.com

Soporte Técnico Help Desk Argentina:

Teléfono: 0-800 122 35 465 Lunes a Viernes 09:00 am a 22:00 pm

Soporte Técnico Help Desk Chile:

Teléfono: 800 8 35465 Lunes a Viernes 08:00 am a 21:00 pm

Soporte Técnico Help Desk Colombia:

Teléfono: 01-800 952 54 65 Lunes a Viernes 07:00 am a 20:00 pm

Soporte Técnico Help Desk Ecuador:

Teléfono: 1800-035465 Lunes a Viernes 07:00 am a 20:00 pm

Soporte Técnico Help Desk El Salvador:

Teléfono: 800-6137 Lunes a Viernes 06:00 am a 19:00 pm

Soporte Técnico Help Desk Guatemala:

Teléfono: 1800-300 0017 Lunes a Viernes 06:00 am a 19:00 pm

Soporte Técnico Help Desk Panamá:

Teléfono: 00-800 052 54 65 Lunes a Viernes 07:00 am a 20:00 pm

Soporte Técnico Help Desk Perú:

Teléfono: 0800-00 968 Lunes a Viernes 07:00 am a 20:00 pm

Soporte Técnico Help Desk Venezuela:

Teléfono: 0-800-100 5767 Lunes a Viernes 08:00 am a 21:00 pm

D-Link®
Building Networks for People

Suporte Técnico

Você pode encontrar atualizações de software e documentação de usuário no site da D-Link Brasil www.dlinkbrasil.com.br.

A D-Link fornece suporte técnico gratuito para clientes no Brasil durante o período de vigência da garantia deste produto.

Suporte Técnico para clientes no Brasil:

Telefone
São Paulo (11) 2185-9301
Segunda à sexta
Das 8h30 às 18h30
Demais Regiões do Brasil 0800 70 24 104

E-mail:
email:suporte@dlinkbrasil.com.br

Building Networks for People

D-Link 友訊科技 台灣分公司
技術支援資訊

如果您還有任何本使用手冊無法協助您解決的產品相關問題，台灣地區用戶可以透過我們的網站、電子郵件或電話等方式與D-Link台灣地區技術支援工程師聯絡。

D-Link 免付費技術諮詢專線
0800-002-615
服務時間：週一至週五，早上8:30 到 晚上7:00
(不含周六、日及國定假日)

網　　站：http://www.dlink.com.tw
電子郵件 ：dssqa_service@dlink.com.tw

如果您是台灣地區以外的用戶，請參考D-Link網站 全球各地分公司的聯絡資訊以取得相關支援服務。

產品保固期限、台灣區維修據點查詢，請參考以下網頁說明：
http://www.dlink.com.tw

產品維修：
使用者可直接送至全省聯強直營維修站或請洽您的原購買經銷商。

D-Link®
Building Networks for People

Technical Support

You can find software updates and user documentation on the D-Link website.

D-Link provides free technical support for customers within the United States and within Canada for the duration of the service period, and warranty confirmation service, during the warranty period on this product. U.S. and Canadian customers can contact D-Link technical support through our website, or by phone.

Tech Support for customers within the United States:

D-Link Technical Support over the Telephone:

(877) 354-6555
Monday to Friday 8:00am to 5:00pm PST

D-Link Technical Support over the Internet:

http://support.dlink.com
email:support@dlink.com

Tech Support for customers within Canada:

D-Link Technical Support over the Telephone:

(877) 354-6560
Monday to Friday 7:30am to 9:00pm EST

D-Link Technical Support over the Internet:

http://support.dlink.com
email: support@dlink.ca

D-Link®
Building Networks for People

Technical Support

You can find software updates and user documentation on the D-Link websites.

If you require product support, we encourage you to browse our FAQ section on the Web Site before contacting the Support line. We have many FAQ's which we hope will provide you a speedy resolution for your problem.

For Customers within The United Kingdom & Ireland:

D-Link UK & Ireland Technical Support over the Internet:

http://www.dlink.co.uk
ftp://ftp.dlink.co.uk

D-Link UK & Ireland Technical Support over the Telephone:

08456 12 0003 (United Kingdom)
+1890 886 899 (Ireland)
Lines Open
8.00am-10.00pm Mon-Fri
10.00am-7.00pm Sat & Sun

For Customers within Canada:

D-Link Canada Technical Support over the Telephone:
1-800-361-5265 (Canada)
Mon. to Fri. 7:30AM to 9:00PM EST

D-Link Canada Technical Support over the Internet:
http://support.dlink.ca
email: support@dlink.ca

D-Link®
Building Networks for People

Technische Unterstützung

Aktualisierte Versionen von Software und Benutzerhandbuch finden Sie auf der Website von D-Link.

D-Link bietet kostenfreie technische Unterstützung für Kunden innerhalb Deutschlands, Österreichs, der Schweiz und Osteuropas.

Unsere Kunden können technische Unterstützung über unsere Website, per E-Mail oder telefonisch anfordern.

Web: http://www.dlink.de
E-Mail: support@dlink.de
Telefon: +49 (1805)2787

0,12€/Min aus dem Festnetz der Deutschen Telekom.

Telefonische technische Unterstützung erhalten Sie Montags bis Freitags von 09.00 bis 17.30 Uhr.

Unterstützung erhalten Sie auch bei der Premiumhotline für D-Link Produkte unter der Rufnummer 09001-475767
Montag bis Freitag von 6-22 Uhr und am Wochenende von 11-18 Uhr.
1,75€/Min aus dem Festnetz der Deutschen Telekom.

Wenn Sie Kunde von D-Link außerhalb Deutschlands, Österreichs, der Schweiz und Osteuropas sind, wenden Sie sich bitte an die zuständige Niederlassung aus der Liste im Benutzerhandbuch.

.

D-Link®
Building Networks for People

Assistance technique

Vous trouverez la documentation et les logiciels les plus récents sur le site web **D-Link**.
Vous pouvez contacter le service technique de **D-Link** par notre site internet ou par téléphone.

Support technique destiné aux clients établis en France:

Assistance technique D-Link par téléphone :

0820 0803 03
N° INDIGO - 0,12€ TTC/min*
*Prix en France Métropolitaine au 3 mars 2005
Du lundi au samedi – de 9h00 à 19h00

Assistance technique D-Link sur internet :

http://www.dlink.fr
e-mail : support@dlink.fr

Support technique destiné aux clients établis au Canada :

Assistance technique D-Link par téléphone :

(800) 361-5265
Lun.-Ven. 7h30 à 21h00 HNE.

Assistance technique D-Link sur internet :

http ://support.dlink.ca
e-mail : support@dlink.ca

D-Link®
Building Networks for People

Asistencia Técnica

Puede encontrar las últimas versiones de software así como documentación técnica en el sitio web de **D-Link**.

D-Link ofrece asistencia técnica gratuita para clientes residentes en España durante el periodo de garantía del producto.

Asistencia Técnica de D-Link por teléfono:

+34 902 30 45 45

Lunes a Viernes de 9:00 a 14:00 y de 15:00 a 18:00

Asistencia Técnica de D-Link a través de Internet:

http://www.dlink.es/support/
e-mail: soporte@dlink.es

D-Link®
Building Networks for People

Supporto tecnico

Gli ultimi aggiornamenti e la documentazione sono disponibili sul sito D-Link.

Supporto tecnico per i clienti residenti in Italia

D-Link Mediterraneo S.r.L.

Via N. Bonnet 6/B 20154 Milano

Supporto Tecnico dal lunedì al venerdì dalle ore
9.00 alle ore 19.00 con orario continuato
Telefono: 02-39607160

URL : http://www.dlink.it/supporto.html
Email: tech@dlink.it

D-Link®
Building Networks for People

Technical Support

You can find software updates and user documentation on the D-Link website.

D-Link provides free technical support for customers within Benelux for the duration of the warranty period on this product.

Benelux customers can contact D-Link technical support through our website, or by phone.

Tech Support for customers within the Netherlands:

D-Link Technical Support over the Telephone:
0900 501 2007
Monday to Friday 9:00 am to 10:00 pm

D-Link Technical Support over the Internet:
www.dlink.nl

Tech Support for customers within Belgium:

D-Link Technical Support over the Telephone:
070 66 06 40
Monday to Friday 9:00 am to 10:00 pm

D-Link Technical Support over the Internet:
www.dlink.be

Tech Support for customers within Luxemburg:

D-Link UK & Ireland Technical Support over the Telephone:
+32 70 66 06 40
Monday to Friday 9:00 am to 10:00 pm

D-Link Technical Support over the Internet:
www.dlink.be

D-Link®
Building Networks for People

Pomoc techniczna

Najnowsze wersje oprogramowania i dokumentacji użytkownika można znaleźć w serwisie internetowym firmy D-Link.

D-Link zapewnia bezpłatną pomoc techniczną klientom w Polsce w okresie gwarancyjnym produktu.

Klienci z Polski mogą się kontaktować z działem pomocy technicznej firmy D-Link za pośrednictwem Internetu lub telefonicznie.

Telefoniczna pomoc techniczna firmy D-Link:
(+48 12) 25-44-000

Pomoc techniczna firmy D-Link świadczona przez Internet:
URL: http://www.dlink.pl
e-mail: dlink@fixit.pl

D-Link®
Building Networks for People

Technická podpora

Aktualizované verze software a uživatelských příruček najdete na webové stránce firmy D-Link.

D-Link poskytuje svým zákazníkům bezplatnou technickou podporu

Zákazníci mohou kontaktovat oddělení technické podpory přes webové stránky, mailem nebo telefonicky

Web: http://www.dlink.cz/suppport/
E-mail: support@dlink.cz
Telefon: 224 247 503

Telefonická podpora je v provozu:
PO- PÁ od 09.00 do 17.00

D-Link®
Building Networks for People

Technikai Támogatás

Meghajtó programokat és frissítéseket a **D-Link** Magyarország weblapjáról tölthet le.
Telefonon technikai segítséget munkanapokon hétfőtől-csütörtökig 9.00 – 16.00 óráig és pénteken 9.00 – 14.00 óráig kérhet a **(1) 461-3001** telefonszámon vagy a support@dlink.hu emailcímen.

Magyarországi technikai támogatás :

D-Link Magyarország

1074 Budapest, Alsóerdősor u. 6. – R70 Irodaház 1 em.

Tel. : 06 1 461-3001
Fax : 06 1 461-3004

email : support@dlink.hu
URL : http://www.dlink.hu

D-Link®
Building Networks for People

Teknisk Support

Du kan finne programvare oppdateringer og bruker dokumentasjon på D-Links web sider.

D-Link tilbyr sine kunder gratis teknisk support under produktets garantitid.

Kunder kan kontakte D-Links teknisk support via våre hjemmesider, eller på tlf.

Teknisk Support:

D-Link Teknisk telefon Support:

800 10 610
(Hverdager 08:00-20:00)

D-Link Teknisk Support over Internett:

http://www.dlink.no

D-Link®
Building Networks for People

Teknisk Support

Du finder software opdateringer og brugerdokumentation på D-Link's hjemmeside.

D-Link tilbyder gratis teknisk support til kunder i Danmark i hele produktets garantiperiode.

Danske kunder kan kontakte D-Link's tekniske support via vores hjemmeside eller telefonisk.

D-Link teknisk support over telefonen:

D-Link teknisk support over telefonen:

Tlf. 7026 9040
Åbningstider: kl. 08:00 – 20:00

D-Link teknisk support på Internettet:

http://www.dlink.dk

D-Link®
Building Networks for People

Teknistä tukea asiakkaille Suomessa:

D-Link tarjoaa teknistä tukea asiakkailleen.
Tuotteen takuun voimassaoloajan.
Tekninen tuki palvelee seuraavasti:

Arkisin klo. 9 - 21
numerosta

0800-114 677

Internetin kautta
Ajurit ja lisätietoja tuotteista.
http://www.dlink.fi

Sähköpostin kautta
voit myös tehdä kyselyitä.

D-Link®
Building Networks for People

Teknisk Support

På vår hemsida kan du hitta mer information om mjukvaru uppdateringar och annan användarinformation.

D-Link tillhandahåller teknisk support till kunder i Sverige under hela garantitiden för denna produkt.

Teknisk Support för kunder i Sverige:

D-Link Teknisk Support via telefon:

0770-33 00 35

Vardagar 08.00-20.00

D-Link Teknisk Support via Internet:
http://www.dlink.se

D-Link®
Building Networks for People

Suporte Técnico

Você pode encontrar atualizações de software e documentação de utilizador no site de D-Link Portugal http://www.dlink.pt.

A D-Link fornece suporte técnico gratuito para clientes no Portugal durante o período de vigência de garantia deste produto.

Suporte Técnico para clientes no Portugal:

Assistência Técnica:

Email: soporte@dlink.es
http://www.dlink.pt/support/
ftp://ftp.dlink.es

Building Networks for People

Τεχνική Υποστήριξη

Μπορείτε να βρείτε software updates και πληροφορίες για τη χρήση των προϊόντων στις ιστοσελίδες της D-Link

Η D-Link προσφέρει στους πελάτες της δωρεάν υποστήριξη

στον Ελλαδικό χώρο

Μπορείτε να επικοινωνείτε με το τμήμα τεχνικής υποστήριξης μέσω της ιστοσελίδας ή μέσω τηλεφώνου

Για πελάτες εντός του Ελλαδικού χώρου:

Τηλεφωνική υποστήριξη D-Link :

Τηλ: 210 86 11 114

Φαξ: 210 86 53 172

(Δευτέρα-Παρασκευή 09:00-17:00)

e-mail: support@dlink.gr

Τεχνική υποστήριξη D-Link μέσω Internet:

http://www.dlink.gr

ftp://ftp.dlink.it

D-Link®

Building Networks for People

技术支持

办公地址：北京市朝阳区建国路71号惠通时代广场C1座
202室 邮编：100025

技术支持中心电话：8008296688/（028）66052968

技术支持中心传真：（028）85176948

维修中心地址：北京市朝阳区建国路71号惠通时代广场C1座
202室 邮编：100025

维修中心电话：（010）58635800

维修中心传真：（010）58635799

网址：http://www.dlink.com.cn

办公时间：周一到周五，早09:00到晚18:00

D-Link®
Building Networks for People

International Offices

U.S.A
17595 Mt. Herrmann Street
Fountain Valley, CA. 92708
TEL: 1-800-326-1688
URL: www.dlink.com

Canada
2180 Winston Park Drive
Oakville, Ontario, L6H 5W1
Canada
TEL: 1-905-8295033
FAX: 1-905-8295223
URL: www.dlink.ca

European HQ & UK & I
D-Link House, Abbey Road
Park Royal, London
NW10 7BX UK
TEL: 44-20-8955-9000
FAX: 44-20-8955-9003
URL: www.dlink.co.uk
URL: www.dlink.eu

Germany
Schwalbacher Strasse 74
D-65760 Eschborn
Germany
TEL: 49-6196-77990
FAX: 49-6196-7799300
URL: www.dlink.de

France
41 Boulevard Vauban
78280 Guyancourt
France
TEL: 33-1-30238688
FAX: 33-1-30238689
URL: www.dlink.fr

Netherlands
Weena 290
3012 NJ Rotterdam
Netherlands
Tel: +31-10-282-1445
Fax: +31-10-282-1331
URL: www.dlink.nl

Belgium
Rue des Colonies 11
B-1000 Brussels
Belgium
Tel: +32(0)2 517 7111
Fax: +32(0)2 517 6500
URL: www.dlink.be

Italy
Via Nino Bonnet n. 6/b
20154 – Milano,
Italy
TEL: 39-02-2900-0676
FAX: 39-02-2900-1723
URL: www.dlink.it

Sweden
P.O. Box 15036, S-167 15 Bromma
Sweden
TEL: 46-(0)8564-61900
FAX: 46-(0)8564-61901
URL: www.dlink.se

Denmark
Naverland 2, DK-2600
Glostrup, Copenhagen,
Denmark
TEL: 45-43-969040
FAX: 45-43-424347
URL:www.dlink.dk

Norway
Karihaugveien 89
N-1086 Oslo
Norway
TEL: +47 99 300 100
FAX: +47 22 30 95 80
URL: www.dlink.no

Finland
Latokartanontie 7A
FIN-00700 Helsinki
Finland
TEL: +358-10 309 8840
FAX: +358-10 309 8841
URL: www.dlink.fi

Spain
Avenida Diagonal, 593-95, 9th floor
08014 Barcelona
Spain
TEL: 34 93 4090770
FAX: 34 93 4910795
URL: www.dlink.es

Portugal
Rua Fernando Pahla
50 Edificio Simol
1900 Lisbon Portugal
TEL: +351 21 8688493
URL: www.dlink.es

Czech Republic
Vaclavske namesti 36, Proha 1
110 00 Czech Republic
TEL: +420 224 247 500
URL: www.dlink.cz

Switzerland
Glatt Tower, 2.OG CH-8301
Glattzentrum Postfach 2.OG
Switzerland
TEL: +41 (0) 1 832 11 00
FAX: +41 (0) 1 832 11 01
URL: www.dlink.ch

Greece
101 Panagoulis Str. 163-43
Helioupolis Athens, Greece
TEL: +30 210 9914 512
FAX: +32 210 9916 902
URL: www.dlink.gr

Luxembourg
Rue des Colonies11,
B-1000 Brussels,
Belgium
TEL: +32 (0) 2 517 7111
FAX: +32 (0) 2 517 6500
URL: www.dlink.be

Poland
Budynek AURUM ul. Walic-w 11
PL-00-851
Warszawa
Poland
TEL: +48 (0) 22 583 92 75
FAX: +48 (0) 22 583 92 76
URL: www.dlink.pl

Hungary
R70 Irodahaz, 1 emelet
Rakoczi ut 70-72, Budapest
H-1074, Magyarorszag
TEL: +36 (0) 1 461 30 00
FAX: +36 (0) 1 461 30 09
URL: www.dlink.hu

Singapore
1 International Business Park
#03-12 The Synergy
Singapore 609917
TEL: 65-6774-6233
FAX: 65-6774-6322
URL: www.dlink-intl.com

India
D-Link House, Plot No.5
Kurla-Bandra Complex Road, Off. CST Road,
Santacurz(E), Mumbai – 400 098 India
TEL: 91-022-26526696/30616666
FAX: 91-022-26528914/8476
URL: www.dlink.co.in

Middle East (Dubai)
P.O.Box: 500376
Office: 103, Building:3
Dubai Internet City
Dubai, United Arab Emirates
Tel: +971-4-3916480
Fax: +971-4-3908881
URL: www.dlink-me.com

Turkey
Cayazaya Maslak Yolu
S/A Kat :5,
Istanbul, Turkey
TEL: 0212-289-5659
FAX: 0212-289-7606
URL: www.dlink.com.tr

Iran
Unit 6, No. 39, 6th Alley
Sanaei St., Karimkhan Ave
Tehran-IRAN
TEL: 9821 8882 2613
FAX: 9821 8883 5492

Pakistan
Office#311, Business Avenue
Main Shahrah-e-Faisal
Karachi-Pakistan
TEL: 92-21-4548185, 4548310
FAX: 92-21-4535103

Egypt
47, EI Merghany Street, Heliopolis
Cairo, Egypt.
TEL: +202-2919035, +202-2919035
FAX: +202-2919051
URL: www.dlink-me.com

Australia
1 Giffnock Avenue,
North Ryde, NSW 2113
Australia
TEL: 61-2-8899-1800
FAX: 61-2-8899-1868
URL: www.dlink.com.au

Israel
11 Hamanofim Street
Ackerstein Towers, Regus Business Center
P.O.B 2148, Hertzelia-Pituach 46120.
Israel
TEL: +972-9-9715700
FAX: +972-9-9715601
URL: www.dlink.co.il

Latin America
Avv. Vitacura #2939, Floor 6th
Las Condes, Santiago, RM
Chile
TEL: 56-2-5838-950
FAX: 56-2-5838-952
URL: www.dlinkla.com

Brasil
Av das Nacoes Unidas,
11857 - 14 - andar - cj 141/142
Brooklin Novo
Sao Paulo - SP - Brazil
CEP 04578-000 (Zip Code)
TEL: (55 11) 21859300
FAX: (55 11) 21859322
URL: www.dlinkbrasil.com.br

South Africa
Einstein Park II
Block B
102-106 Witch-Hazel Avenue
Highveld Technopark
Centurion
Gauteng
Republic of South Africa
TEL: 27-12-665-2165
FAX: 27-12-665-2186
URL: www.d-link.co.za

Russia
Grafsky per., 14, floor 6
Moscow
129626 Russia
TEL: 7-095-744-0099
FAX: 7-095-744-0099 #350
URL: www.dlink.ru

China
No.202, C1 Building, Huitong Office Park,
No.71, Jianguo Road, Chaoyang District, Beijing,
100025, China.
TEL +86-10-58635800
FAX: +86-10-58635799
URL: www.dlink.com.cn

Japan K.K.
Level 6 Konan YK Building, Konan 2-4-12
Minato-Ku Tokyo 108-0075, Japan

Taiwan
No. 289, Sinhu 3rd Rd., Neihu District,
Taipei City 114, Taiwan
TEL: 886-2-6600-0123
FAX: 886-2-6600-1188
URL: www.dlinktw.com.tw