Configuration examples for the D-Link NetDefend Firewall series

Scenario: How to configure VLAN

Platform Compatibility: All NetDefend Firewall Series

Last update: 2008-03-10

Overview

In this document, the notation *Objects->Address book* means that in the tree on the left side of the screen **Objects** first should be clicked (expanded) and then **Address Book**.

Most of the examples in this document are adapted for the DFL-800. The same settings can easily be used for all other models in the series. The only difference is the names of the interfaces. Since the DFL-1600 and DFL-2500 has more than one lan interface, the lan interfaces are named lan1, lan2 and lan3 not just lan.

The screenshots in this document is from firmware version 2.12.00. If you are using an earlier version of the firmware, the screenshots may not be identical to what you see on your browser.

How to Configure VLAN

This example requires a DFL-1600 or 2500 to be fully implemented. Most settings can however also be used on a DFL-210 or DFL-800.

Two tag based VLANs will be created on lan3, that connect to switch port with VLAN tag.

Details:

- From lan1, lan2 and lan3: HTTP, HTTPS and DNS connect to Internet via wan2.
- All internal nets can also access the Mail server in dmz.
- Only VLAN2 can access the FTP server in dmz.

a IP: 192.168.110.254
NetMask: 255.255.255.0

b IP: 192.168.120.254
Netmask: 255.255.255.0

c IP: 192.168.110.1
Netmask: 255.255.255.0
gateway: 192.168.110.254

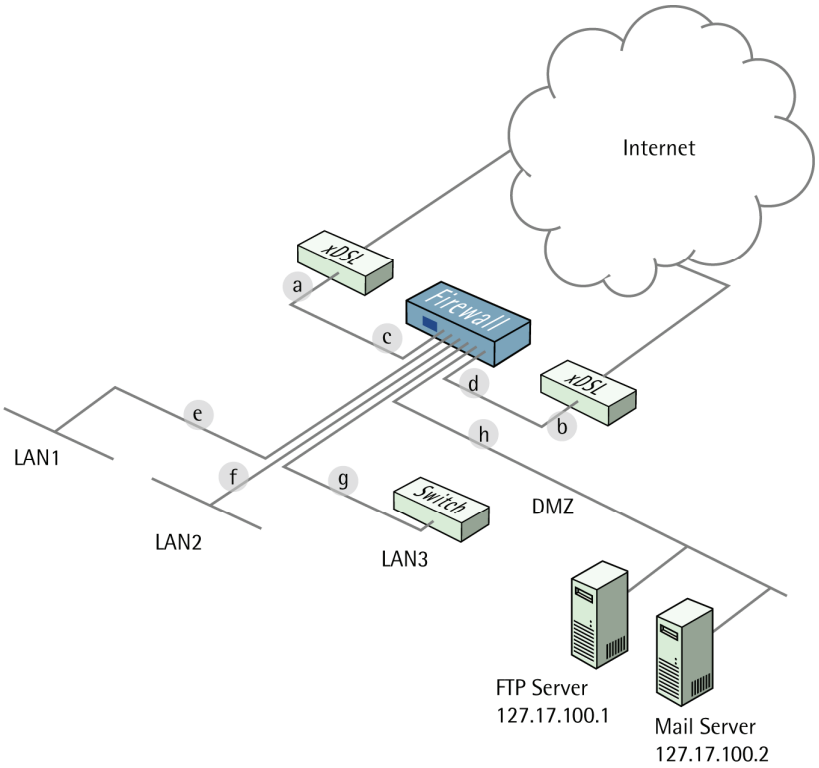
d IP: 192.168.120.1
Netmask: 255.255.255.0
gateway: 192.168.120.254

e IP: 192.168.1.1
Netmask: 255.255.255.0

f IP: 192.168.2.1
Netmask: 255.255.255.0

g VLAN 1 IP: 192.168.5.254
VLAN 2 IP: 192.168.10.254
Netmask: 255.255.255.0

h IP: 172.17.100.254
Netmask: 255.255.255.0



1. Addresses

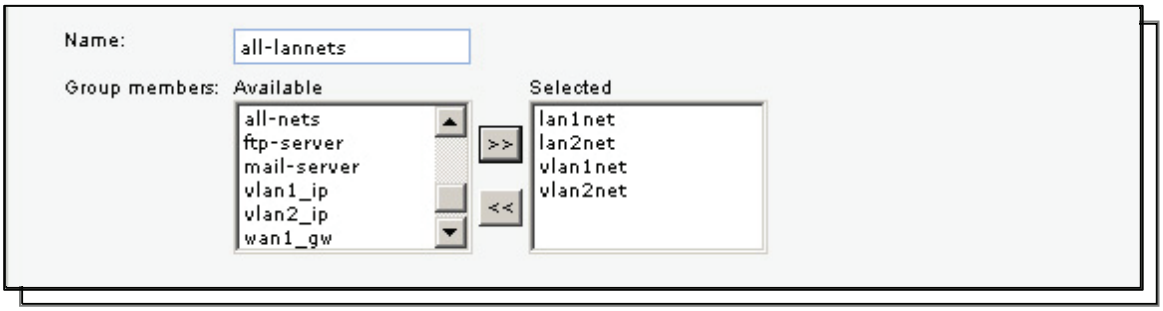
Go to *Objects -> Address book -> InterfaceAddresses*

Make sure the configured addresses match the following list, and add the objects that not already exist. To add new objects, select **IP address** from the add dropdown, enter name and address and click ok.

Name	Address
lan1_ip	192.168.1.1
lan1net	102.168.1.0/24
lan2_ip	192.168.2.1
lan2net	192.168.2.0/24
lan3_ip	192.168.3.1
lan3net	192.168.3.0/24
dmz_ip	172.17.100.254
dmznet	172.17.100.0/24
wan1_ip	192.168.110.1
wan1net	192.168.110.0/24
wan1-gw	192.168.110.254
wan2_ip	192.168.120.1
wan2net	192.168.120.0/24
wan2-gw	192.168.120.254
vlan1_ip	192.168.5.254
vlan1net	192.168.5.0/24
vlan2_ip	192.168.10.254
vlan2net	192.168.10.0/24
ftp-server	172.17.100.1
mail-server	172.17.100.2

Add a new IP4 Group.

In the General tab:



General:

Name: **`all-lannets`**

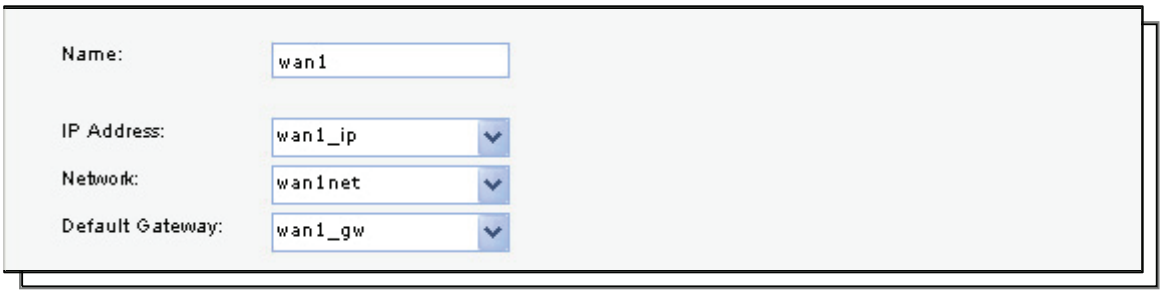
Add **`lan1net`**, **`lan2net`**, **`vlan1net`** and **`vlan2net`**.

Click Ok.

2. Ethernet interfaces

Go to *Interfaces -> Ethernet*.

Edit the **`wan1`** interface to use the following settings.



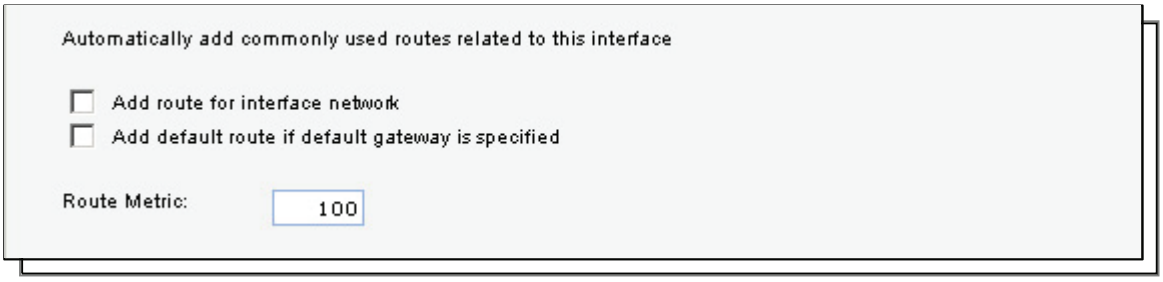
In the General tab:

IP Address: **`wan1_ip`**

Network: **`wan1net`**

Default Gateway: **`wan1_gw`**

In the Advanced tab:



Automatic Route Creation:

Deselect **`Add route for interface network`** and **`Add default route if default gateway is specified`**.

Click Ok.

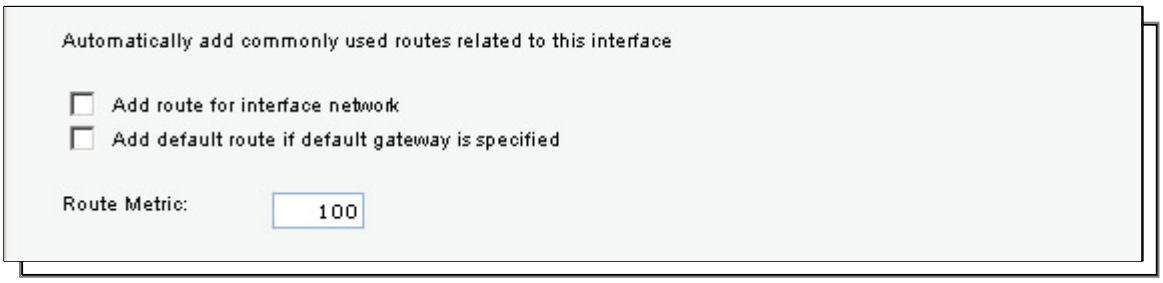
Edit the **`wan2`** interface according to the following settings.

In the General tab:

General:
IP Address: **`wan2_ip`**
Network: **`wan2net`**
Default Gateway: **`wan2_gw`**

In the Advanced tab:

Automatic Route Creation:



Deselect **`Add route for interface network`** and **`Add default route if default gateway is specified`**.

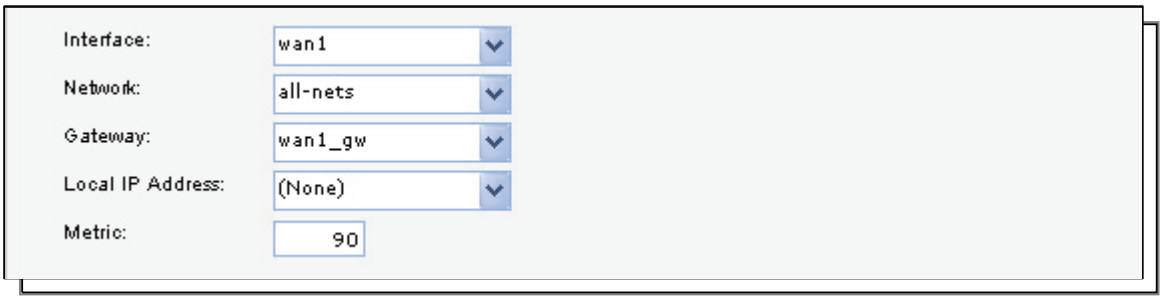
Click Ok.

3. Routes

Go to *Routing -> Routing Tables -> Main*.

Add a new Route.

In the General tab:



General:

Interface: **wan1**
Network: **all-nets**
Gateway: **wan1_gw**
Local IP Address: **(None)**
Metric: **90**

Click Ok.

Add a new Route.

In the General tab:

General:
Interface: **wan2**
Network: **all-nets**
Gateway: **wan2_gw**
Local IP Address: **(None)**
Metric: **80**

Click Ok.

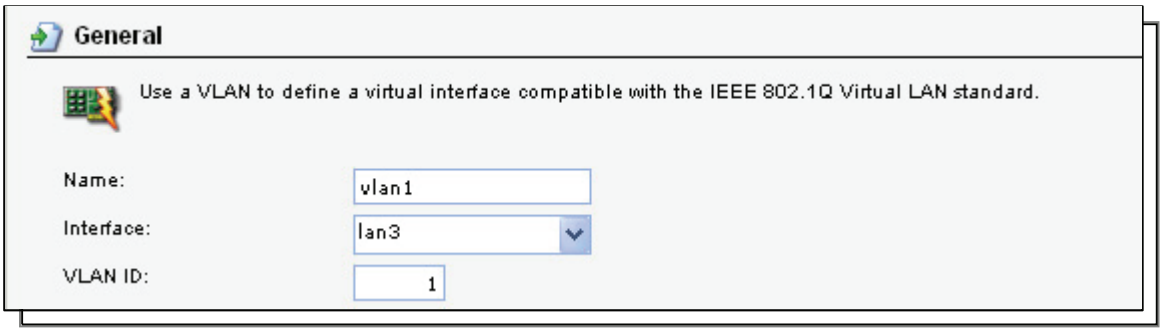
4. VLAN interfaces

Go to *Interfaces -> VLAN*.

Add a new VLAN.

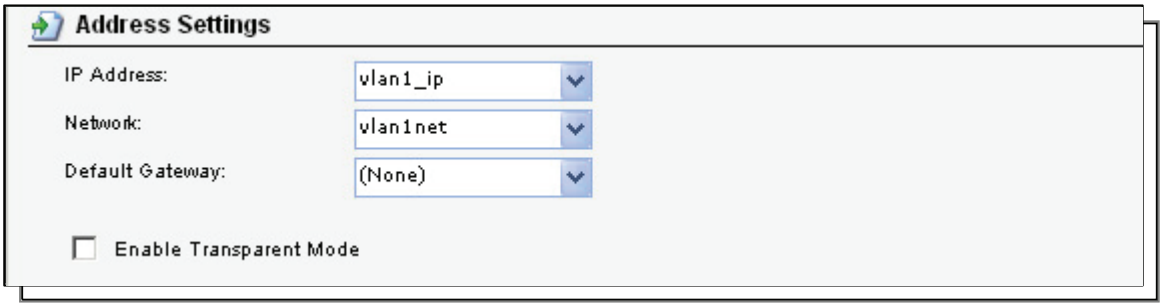
In the General tab:

General:



Name: **vlan1**
Interface: **lan3**
VLAN ID: **1**

Address Settings:

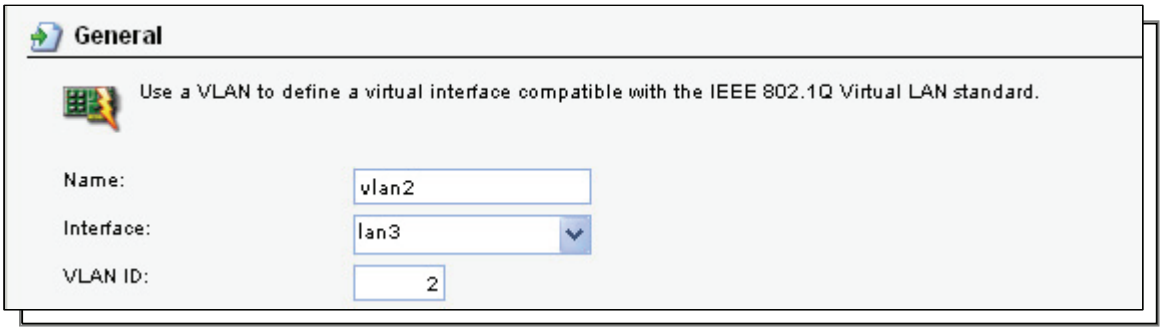


IP Address: **vlan1_ip**
Network: **vlan1net**
Default Gateway: **(None)**

Click Ok
Add a new VLAN.

In the General tab:

General:

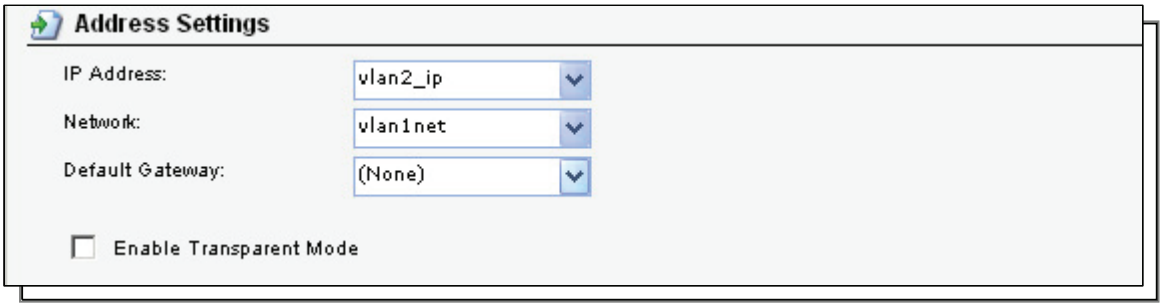


Name: **vlan2**

Interface: **lan3**

VLAN ID: **2**

Address Settings:



IP Address: **vlan2_ip**

Network: **vlan2net**

Default Gateway: **(None)**

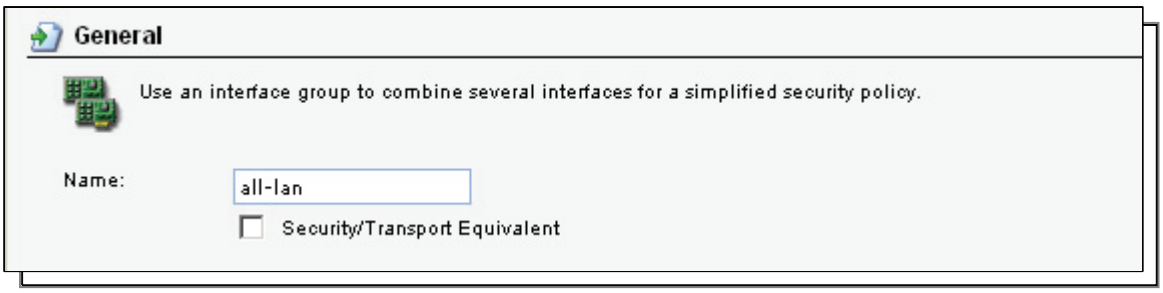
Click Ok

5. Interface groups

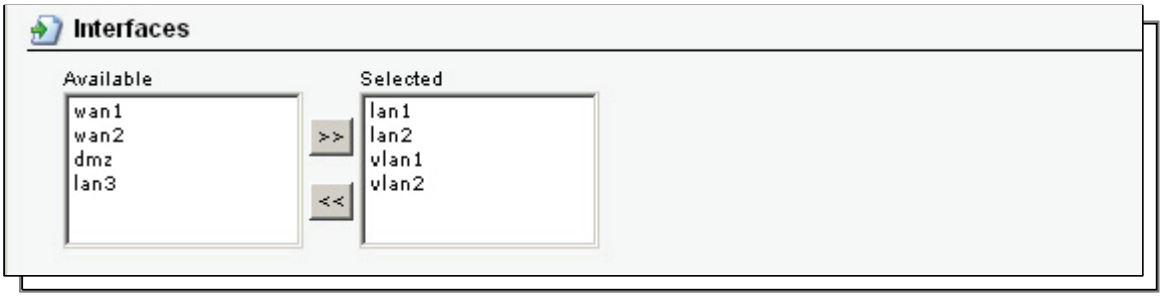
Go to *Interfaces -> Interface Groups*.

Add a new Interface Group.

General:



Name: **`all-lan`**



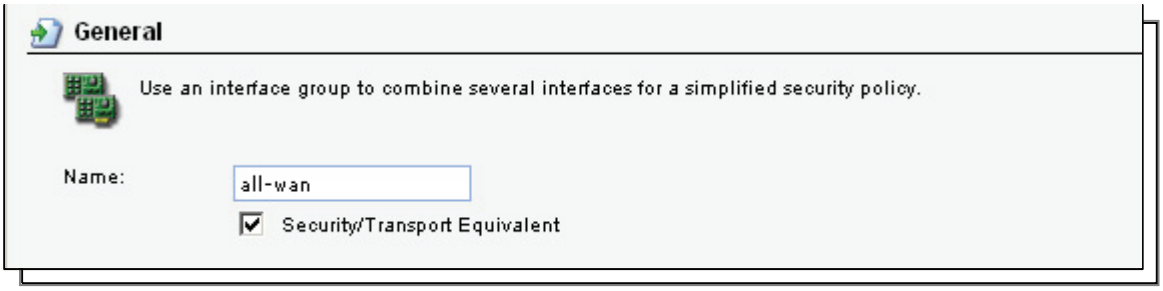
Interfaces:

Add **`lan1`**, **`lan2`**, **`vlan1`** and **`vlan2`** to this group.

Click Ok.

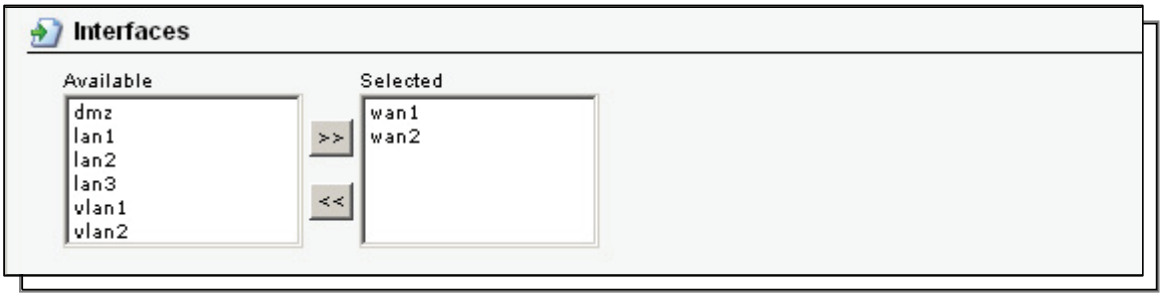
Add a new Interface Group.

General:



Name: **`all-wan`**

Select **`Security/Transport Equivalent`**



Interfaces:

Add **`wan1`** and **`wan2`** to this group.

Click Ok.

6a. Rules to allow HTTP, HTTPS and DNS to Internet

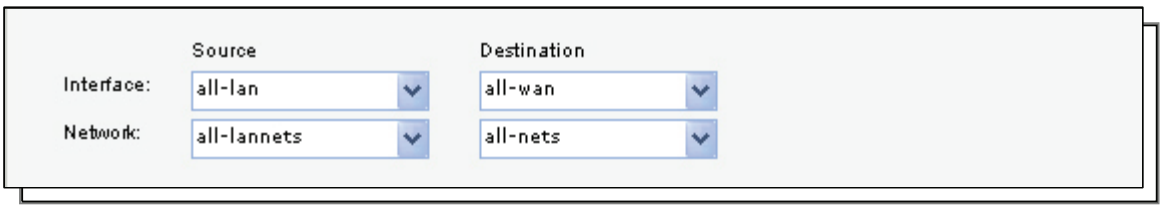
Go to *Rules -> IP Rules*.

Add a new IP Rule (to allow outgoing HTTP).

In the General tab:

General:

Name: **`allow-http-all`**
Action: **`NAT`**
Service: **`http-all`**



Address Filter:

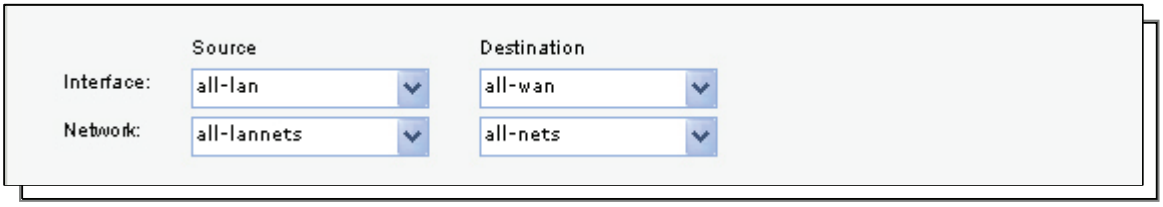
Source interface: **`all-lan`**
Source network: **`all-lannets`**
Destination interface: **`all-wan`**
Destination network: **`all-nets`**

Click Ok.

Add a new IP Rule (to allow outgoing dns).
In the General tab:

General:

Name: **`allow-dns-all`**
Action: **`NAT`**
Service: **`dns-all`**



Address Filter:

Source interface: **`all-lan`**
Source network: **`all-lannets`**
Destination interface: **`all-wan`**
Destination network: **`all-nets`**

Click Ok.

6b. Rules to allow internal users to access mail server

Add a new IP Rule (to allow internal smtp traffic to mailserver).

In the General tab:

General:
Name: **`allow-smtp-int`**
Action: **`Allow`**

Service: **smtp**

Address Filter:

Source interface: **any**

Source network: **all-nets**

Destination interface: **dmz**

Destination network: **mail-server**

Click Ok.

6d. Rules to allow traffic to FTP server from vlan2

Add a new IP Rule folder called **vlan2_to_dmz**.

Add a new IP Rule (to allow ftp from vlan2 to dmz).

In the General tab:

General:

Name: **allow-ftp**

Action: **Allow**

Service: **ftp-passthrough**

Address Filter:

Source interface: **vlan2**

Source network: **vlan2net**

Destination interface: **dmz**

Destination network: **dmznet**

Click Ok.

Save and activate the configuration