

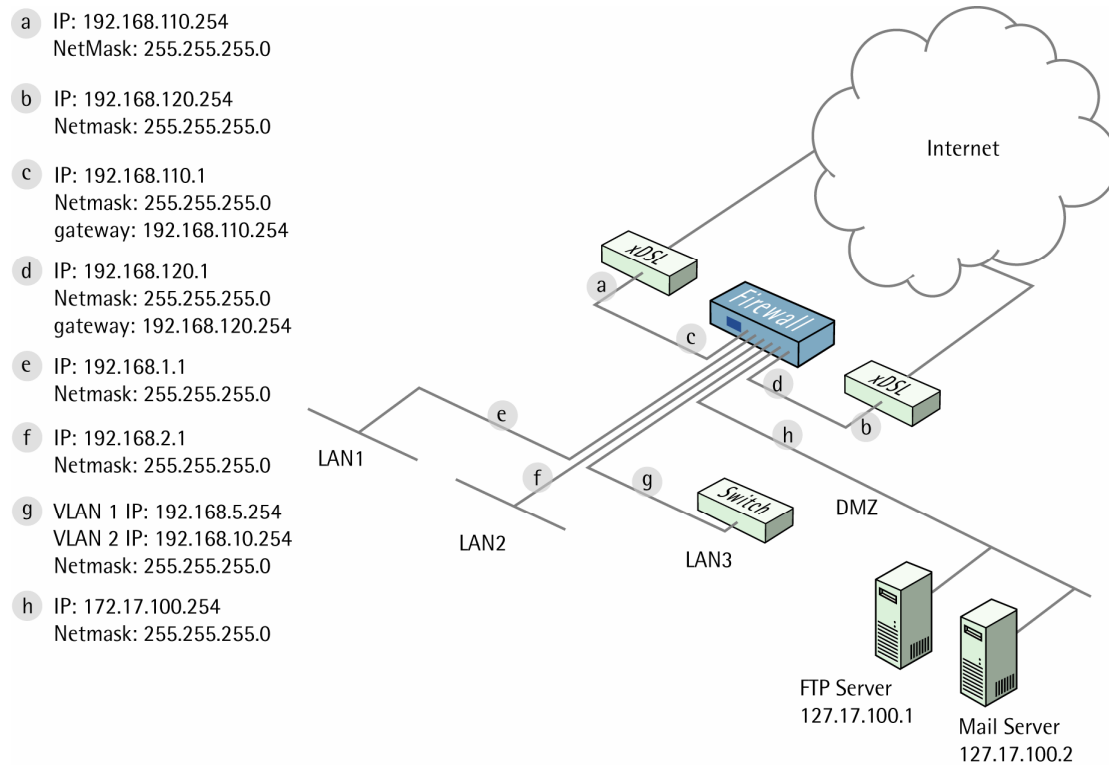
## How to Configure VLAN

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.



## 1. Addresses

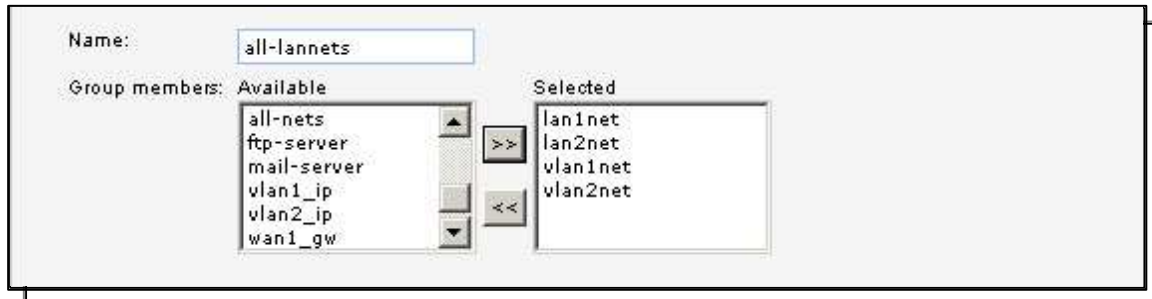
Go to *Objects -> Address book -> InterfaceAddresses*

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:



Name:

Group members: Available

- all-nets
- ftp-server
- mail-server
- vlan1\_ip
- vlan2\_ip
- wan1\_gw

Selected

- lan1net
- lan2net
- vlan1net
- vlan2net

**General:**

Name: **all-lannets**

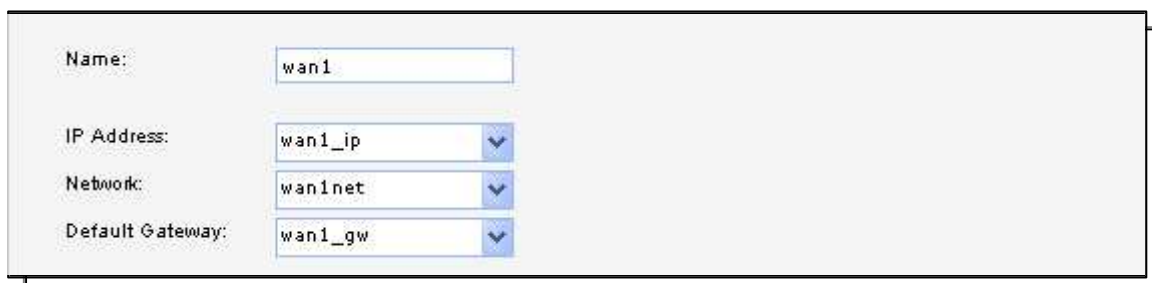
Add **lan1net**, **lan2net**, **vlan1net** and **vlan2net**.

Click **Ok**.

## 2. Ethernet interfaces

Go to *Interfaces -> Ethernet*.

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



Name:

IP Address:

Network:

Default Gateway:

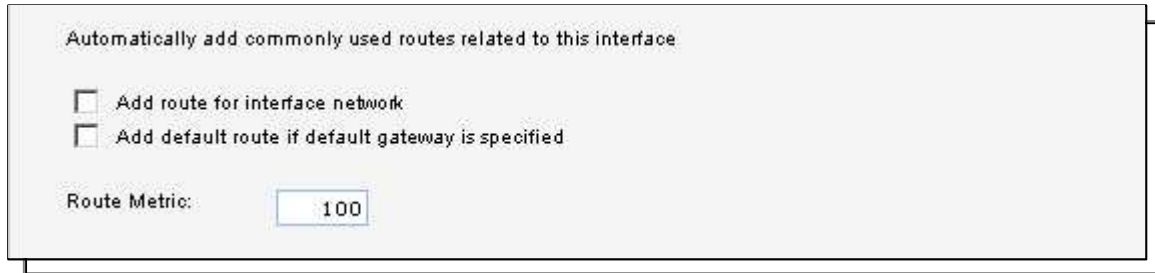
In the **General** tab:

IP Address: **wan1\_ip**

Network: **wan1net**

Default Gateway: **wan1\_gw**

In the **Advanced** tab:



Automatically add commonly used routes related to this interface

Add route for interface network

Add default route if default gateway is specified

Route Metric:

**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:**

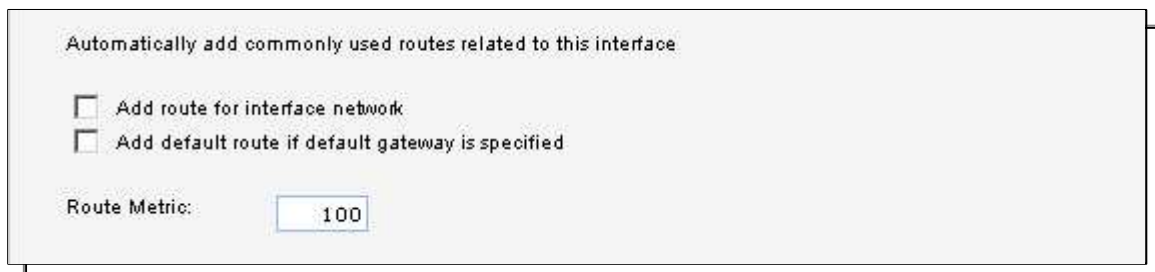
IP Address: **wan2\_ip**

Network: **wan2net**

Default Gateway: **wan2\_gw**

In the **Advanced** tab:

**Automatic Route Creation:**



Automatically add commonly used routes related to this interface

Add route for interface network

Add default route if default gateway is specified

Route Metric:

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:

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

**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.

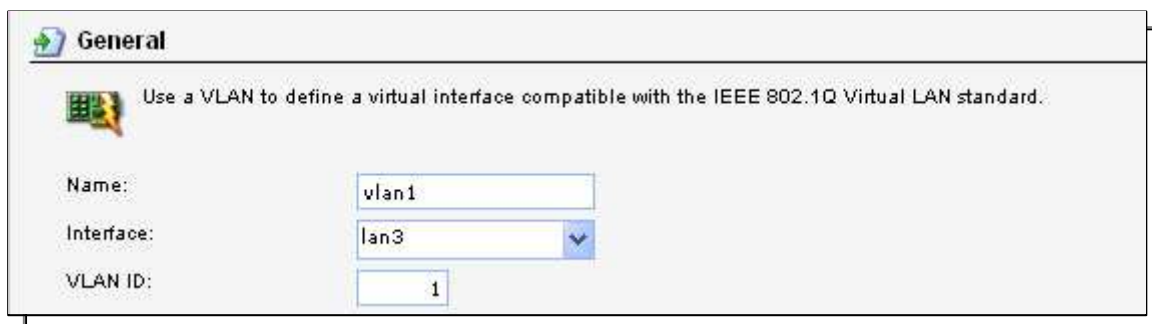
## 4. VLAN interfaces

Go to *Interfaces* -> *VLAN*.

Add a new VLAN.

In the **General** tab:

### **General:**



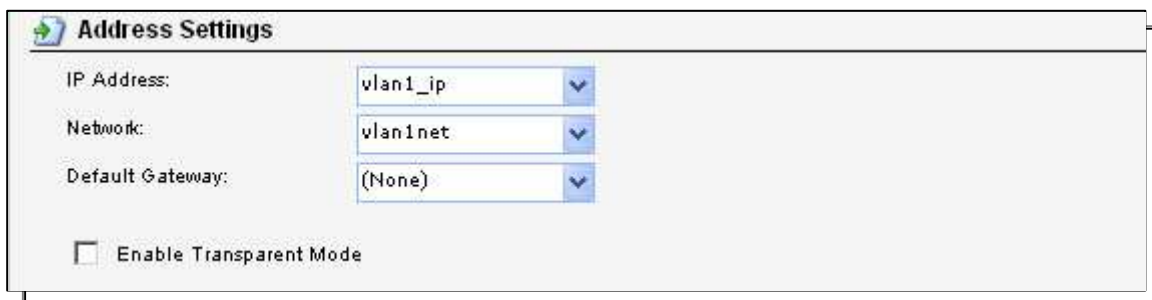
The screenshot shows the 'General' tab of a VLAN configuration window. At the top left is a green arrow icon and the word 'General'. Below this is a small icon of a network card and the text: 'Use a VLAN to define a virtual interface compatible with the IEEE 802.1Q Virtual LAN standard.' The configuration fields are: 'Name:' with a text box containing 'vlan1'; 'Interface:' with a dropdown menu showing 'lan3'; and 'VLAN ID:' with a text box containing '1'.

Name: **vlan1**

Interface: **lan3**

VLAN ID: **1**

### **Address Settings:**



The screenshot shows the 'Address Settings' tab of a VLAN configuration window. At the top left is a green arrow icon and the words 'Address Settings'. The configuration fields are: 'IP Address:' with a dropdown menu showing 'vlan1\_ip'; 'Network:' with a dropdown menu showing 'vlan1net'; and 'Default Gateway:' with a dropdown menu showing '(None)'. At the bottom, there is a checkbox labeled 'Enable Transparent Mode' which is currently unchecked.

IP Address: **vlan1\_ip**

Network: **vlan1net**

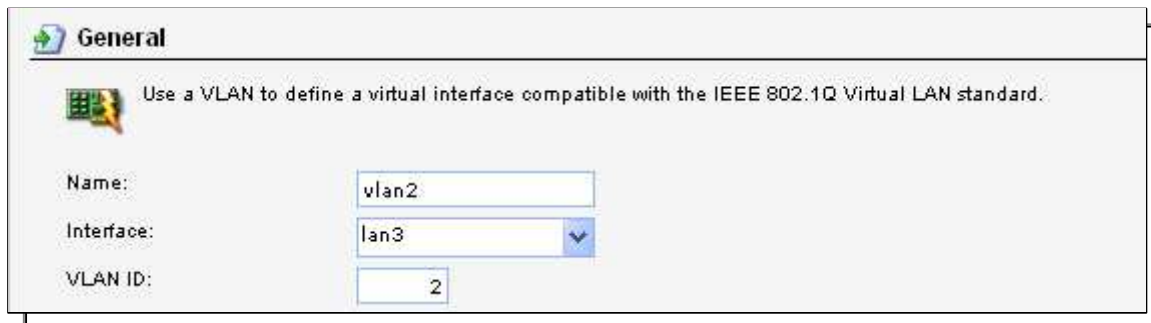
Default Gateway: **(None)**

Click **Ok**

Add a new VLAN.

In the General tab:

**General:**



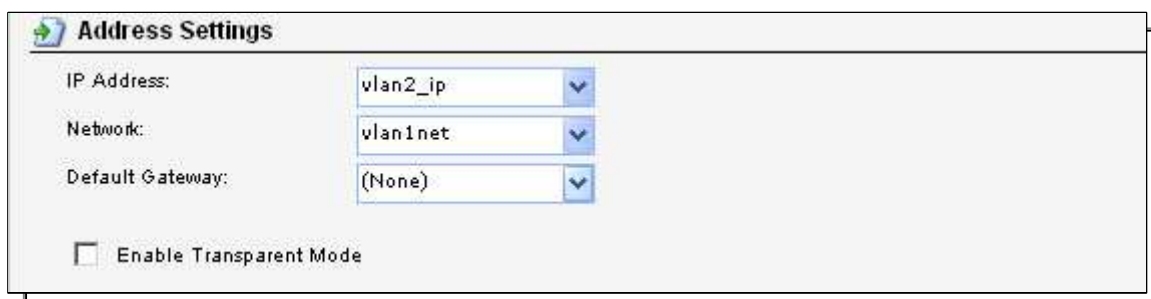
The screenshot shows the 'General' tab of a configuration window. At the top, there is a title bar with a green arrow icon and the text 'General'. Below the title bar, there is a small icon of a grid and a text box containing the instruction: 'Use a VLAN to define a virtual interface compatible with the IEEE 802.1Q Virtual LAN standard.' Below this instruction, there are three configuration fields: 'Name:' with a text input field containing 'vlan2', 'Interface:' with a dropdown menu showing 'lan3', and 'VLAN ID:' with a text input field containing '2'.

Name: **vlan2**

Interface: **lan3**

VLAN ID: **2**

**Address Settings:**



The screenshot shows the 'Address Settings' tab of a configuration window. At the top, there is a title bar with a green arrow icon and the text 'Address Settings'. Below the title bar, there are three configuration fields: 'IP Address:' with a dropdown menu showing 'vlan2\_ip', 'Network:' with a dropdown menu showing 'vlan1net', and 'Default Gateway:' with a dropdown menu showing '(None)'. Below these fields, there is a checkbox labeled 'Enable Transparent Mode' which is currently unchecked.

IP Address: **vlan2\_ip**

Network: **vlan2net**

Default Gateway: **(None)**

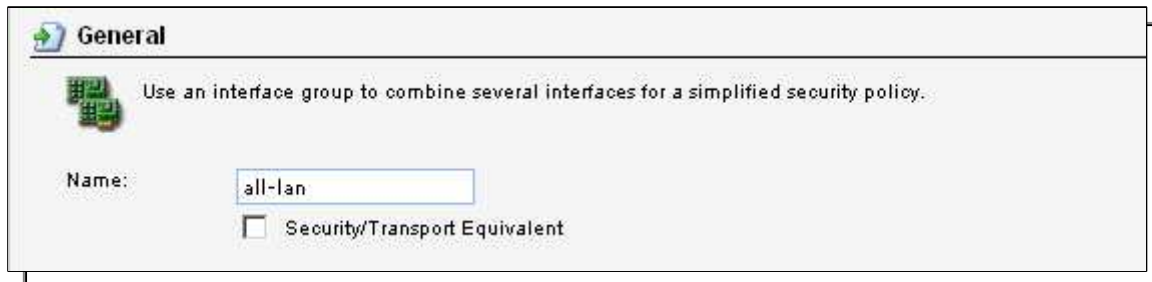
Click Ok

## 5. Interface groups

Go to *Interfaces* -> *Interface Groups*.

Add a new Interface Group.

**General:**



The screenshot shows the 'General' configuration page for an interface group. It features a title bar with a green arrow icon and the word 'General'. Below the title bar, there is a green icon of a network switch and a descriptive text: 'Use an interface group to combine several interfaces for a simplified security policy.' A 'Name:' label is followed by a text input field containing 'all-lan'. Below the input field is a checkbox labeled 'Security/Transport Equivalent', which is currently unchecked.

Name: **all-lan**



The screenshot shows the 'Interfaces' configuration page for an interface group. It features a title bar with a green arrow icon and the word 'Interfaces'. Below the title bar, there are two list boxes: 'Available' and 'Selected'. The 'Available' list contains 'wan1', 'wan2', 'dmz', and 'lan3'. The 'Selected' list contains 'lan1', 'lan2', 'vlan1', and 'vlan2'. Between the two lists are two buttons: '>>' and '<<'. The '>>' button is used to move items from the 'Available' list to the 'Selected' list, and the '<<' button is used to move items from the 'Selected' list back to the 'Available' list.

**Interfaces:**

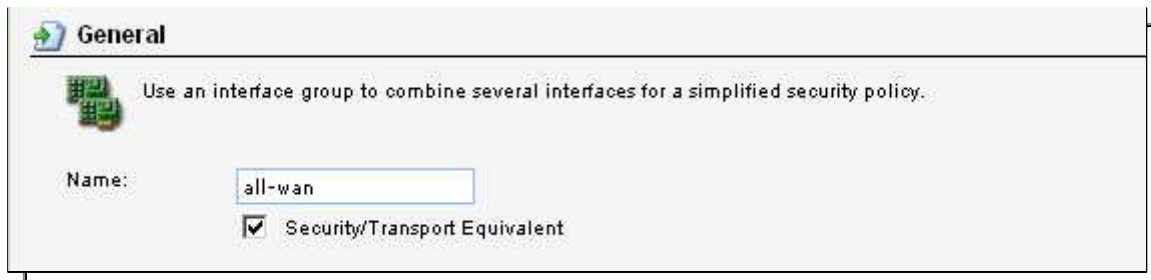
Add **lan1**, **lan2**, **vlan1** and **vlan2** to this group.

Click **Ok**.



Add a new Interface Group.

**General:**



The screenshot shows the 'General' configuration page for an interface group. At the top, there is a title bar with a green arrow icon and the word 'General'. Below the title bar, there is a small icon of three green squares and a text box containing the text: 'Use an interface group to combine several interfaces for a simplified security policy.' Below this, there is a 'Name:' label followed by a text input field containing 'all-wan'. Underneath the input field, there is a checked checkbox labeled 'Security/Transport Equivalent'.

Name: **all-wan**

Select **Security/Transport Equivalent**



The screenshot shows the 'Interfaces' configuration page. At the top, there is a title bar with a green arrow icon and the word 'Interfaces'. Below the title bar, there are two list boxes. The left list box is titled 'Available' and contains the following items: dmz, lan1, lan2, lan3, vlan1, and vlan2. The right list box is titled 'Selected' and contains the following items: wan1 and wan2. Between the two list boxes, there are two buttons: a right-pointing arrow button (>>) and a left-pointing arrow button (<<).

**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:

Name:	<input type="text" value="allow-http-all"/>
Action:	<input type="text" value="NAT"/> ▼
Service:	<input type="text" value="http-all"/> ▼
Schedule:	<input type="text" value="(None)"/> ▼

### **General:**

Name: allow-http-all

Action: NAT

Service: http-all

	Source	Destination
Interface:	<input type="text" value="all-lan"/> ▼	<input type="text" value="all-wan"/> ▼
Network:	<input type="text" value="all-lannets"/> ▼	<input type="text" value="all-nets"/> ▼

### **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:

Name:	<input type="text" value="allow-dns-all"/>
Action:	<input type="text" value="NAT"/>
Service:	<input type="text" value="dns-all"/>
Schedule:	<input type="text" value="(None)"/>

**General:**

Name: **allow-dns-all**

Action: **NAT**

Service: **dns-all**

	Source	Destination
Interface:	<input type="text" value="all-lan"/>	<input type="text" value="all-wan"/>
Network:	<input type="text" value="all-lannets"/>	<input type="text" value="all-nets"/>

**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