

How to Configure VLANs

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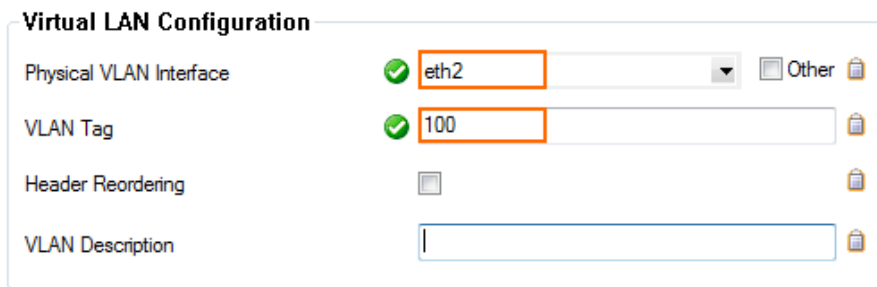
A VLAN is a logical network that is run on a switch or on top of a physical network. A VLAN jointly uses the same physical interface that is used for the physical network. Because both the sending and the receiving interface must be able to distinguish which traffic belongs to which kind of network, the transmitted traffic packets must be distinguishable. This is achieved by a tag – a label that is added to each packet of a session. Both communication partners must support this feature. You must use a properly configured 802.1q VLAN-capable switch and NICs that use drivers capable of tagging VLAN traffic.

The Barracuda CloudGen Firewall can use up to 256 VLANs on one physical network interface and a maximum of 4094 VLANs globally. The VLAN interfaces are named <physical interface>.<VLAN id> (e.g., eth2.200), where the VLAN id represents the tag. The firewall can serve both untagged and tagged VLANs simultaneously. Because untagged VLANs do not use the tagging information, an untagged VLAN is the same as a connection that uses its own physical interface. Therefore, if you want to use an untagged VLAN, assign a direct attached network to an interface of your choice. For more information, see [How to Configure Direct Attached Routes](#).

To use tagged VLANs solely or simultaneously with an untagged VLAN, follow the steps below and use the same interface as for the untagged VLAN interface.

Step 1. Add a VLAN Interface

1. Go to **CONFIGURATION > Configuration Tree > Box > Network**.
2. In the left menu, select **Virtual LANs**.
3. Click **Lock**.
4. Add an entry in the **VLAN** table:
 - **Name** – Enter a name and click **OK**.
 - **Physical VLAN Interface** – Select the physical interface that will host the VLAN. E.g., **eth2**
 - **VLAN Tag** – Enter the VLAN tag that was configured on the switch port the physical interface is plugged into. E.g., **200**
 - **Header Reordering** – This setting makes the virtual interface seem like a real Ethernet interface. Keep disabled for better performance. Enable if you are experiencing problems with network services, such as DHCP running in the VLAN.



5. Click **OK**.
6. Click **Send Changes** and **Activate**.

Step 2. Activate the Network Configuration

VLANs can be activated without interruption to the network subsystem. For more information, see [How to Activate Network Changes](#).

1. Go to **CONTROL > Box**.
2. In the left navigation pane, expand **Network** and then click **Activate new network configuration**.
3. Click **Activate now**.

To verify that the VLAN interface and its pending direct route were successfully introduced, go to **CONTROL > Network**.

Multi-Homed VLAN Interfaces

For ARP requests to work on multi-homed VLAN interfaces, use additional local IPs instead of the direct attached route and shared network for the VLAN interface.

1. Go to **CONFIGURATION > Configuration Tree > Box > Box > Network**.
2. Click **Lock**.
3. Click **+** to add the VLAN network and IP address as an **Additional Local IP**.
4. Enter a **Name** and click **OK**. The **IP Address Configuration** window opens.
 - **Interface Name** – Select the VLAN interface.
 - **IP Address** – Enter the IP address from the VLAN network.
 - **Associated Netmask** – Select the netmask of the VLAN network.
 - **Responds to Ping** – Set to **yes**.
 - **Management IP** – Set to **no**.
5. Click **OK**.
6. Click **Send Changes** and **Activate**.

Next Steps

- Add a shared IP address for each VLAN. For more information, see [Assigned Services](#).
- The virtual network interfaces can be used just like physical network interfaces. The virtual network interfaces are now listed on the **CONTROL > Network** page. If you want to combine VLANs and bridging, see [Bridging](#).

Interface/IP	Label	Ping	MAC of duplicate IP
eth0, Speed=10000Mb/s, Duplex=Full			
✓ 10.0.81.100/24	mip0	ok	-
✓ 10.0.81.101/32	BO2VIRT1	ok	-
eth1, Speed=10000Mb/s, Duplex=Full			
✓ 213.47.0.13/24	net1	ok	-
eth2, Speed=10000Mb/s, Duplex=Full			
eth2.100, Speed=10000Mb/s, Duplex=Full			
✓ 10.0.82.1/32	BO2VIRT1	ok	-
eth2.200, Speed=10000Mb/s, Duplex=Full			
✓ 10.0.83.1/32	BO2VIRT1	ok	-

Figures

1. vlan01.png
2. vlan02.png

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