

# Configuration réseau & VLANs

VLANs & règles permissives / restrictives



# Interfaces réseau Proxmox

Editer l'interface LAN relié à pfSense, cocher "VLAN aware" pour qu'il transporte les VLANs que l'on va définir directement dans pfSense qui sera notre point central de routage.

The screenshot shows the Proxmox Virtual Environment 9.0.3 interface. The left sidebar shows a tree view of the Datacenter, with the node 'pve' selected. Under 'Network', there are two entries: 'vmbr0' and 'vmbr1'. A yellow arrow points from the text above to the 'vmbr0' entry. The main window displays a table of network interfaces. The 'vmbr0' row is highlighted, and a modal dialog titled 'Edit: Linux Bridge' is open over it. This dialog contains fields for Name (vmbr0), Autostart (checkbox checked), IPv4/CIDR (192.168.100.2/24), VLAN aware (checkbox checked with an orange arrow pointing to it), Gateway (IPv4) (empty), IPv6/CIDR (empty), Bridge ports (eno1), Comment (empty), MTU (1500), and VLAN IDs (2-4094). At the bottom right of the dialog are 'Advanced' and 'OK' buttons. The status bar at the bottom of the interface shows 'Tasks Cluster log' and various system metrics.

| Name ↑           | Alternative Names | Type           | Active | Autostart | VLAN a... | Ports/Slaves | Bond Mode | CIDR             | Gat... |
|------------------|-------------------|----------------|--------|-----------|-----------|--------------|-----------|------------------|--------|
| enx1866dcaf01f63 |                   |                |        |           |           |              |           |                  |        |
| enp5s0f0         | enxa0369fc0b1f0   | Network Device | No     | No        | No        |              |           |                  |        |
| enp5s0f1         | enxa0369fc0b1f2   | Network Device | No     | No        | No        |              |           |                  |        |
| enp7s0f0         | enxa0369fc0b200   | Network Device | No     | No        | No        |              |           |                  |        |
| enp7s0f1         | enxa0369fc0b202   | Network Device | No     | No        | No        |              |           |                  |        |
| vmbr0            |                   | Linux Bridge   | Yes    | Yes       | No        | eno1         |           | 192.168.100.2/24 |        |
| vmbr1            |                   | Linux Bridge   | Yes    | Yes       | No        | eno2         |           |                  |        |

# VLANs sur pfSense



Aller sur pfSense → Interfaces → Assignment → VLANs

Cliquer sur Add

The screenshot shows the pfSense web interface at the URL [192.168.100.1/interfaces\\_vlan.php](http://192.168.100.1/interfaces_vlan.php). The top navigation bar includes links for System, Interfaces, Firewall, Services, VPN, Status, Diagnostics, and Help. The main title is "Interfaces / VLANs". Below the title, there are tabs for Interface Assignments, Interface Groups, Wireless, VLANs (which is selected and highlighted in red), QinQs, PPPs, GReS, GIFs, Bridges, and LAGGs. A sub-header "VLAN Interfaces" is displayed above a table. The table has columns for Interface, VLAN tag, Priority, Description, and Actions. In the Actions column, a green button labeled "+ Add" is highlighted with an orange arrow pointing to it.

| Interface | VLAN tag | Priority | Description | Actions               |
|-----------|----------|----------|-------------|-----------------------|
|           |          |          |             | <a href="#">+ Add</a> |

Choisir l'interface parent, définir le tag VLAN, save.

pfSense COMMUNITY EDITION

System ▾ Interfaces ▾ Firewall ▾ Services ▾ VPN ▾ Status ▾ Diagnostics ▾ Help ▾

Interfaces / VLANs / Edit

VLAN Configuration

Parent Interface: em0 (bc:24:11:81:00:c2) - lan  
Only VLAN capable interfaces will be shown.

VLAN Tag: 30  
802.1Q VLAN tag (between 1 and 4094).

VLAN Priority: 0  
802.1Q VLAN Priority (between 0 and 7).

Description: Serveurs  
A group description may be entered here for administrative reference (not parsed).

 Save

Liste des VLANs

| VLAN Interfaces |          |          |               |   |
|-----------------|----------|----------|---------------|---|
| Interface       | VLAN tag | Priority | Description   | Actions   |
| em0 (lan)       | 10       |          | Critique      |     |
| em0 (lan)       | 20       |          | Clients       |     |
| em0 (lan)       | 30       |          | Serveurs      |     |
| em0 (lan)       | 40       |          | Developpement |     |
| em0 (lan)       | 99       |          | VPN           |   |

 + Add



# Assigner les VLANs dans pfSense

Dans Interfaces →  
Assignment, ajouter les  
VLANs et configuez-les :

- IP
- DNS
- DHCP
- Règles

The screenshot shows the pfSense web interface under the 'Interfaces' menu. The 'Interface Assignments' tab is selected. The 'WAN' port is assigned to 'em1'. The 'LAN' port is assigned to 'em0'. An orange arrow points to the '+ Add' button next to the 'Available network ports' dropdown, which lists 'VLAN 10 on em0 - lan (Critique)'. A blue box highlights the 'Save' button at the bottom left.

| Interface | Network port            |
|-----------|-------------------------|
| WAN       | em1 (bc:24:11:11:8f:f6) |
| LAN       | em0 (bc:24:11:81:00:c2) |

Available network ports:

- VLAN 10 on em0 - lan (Critique)

Save

Interfaces that are configured as members of a lagg(4) interface will not be shown.

# Configuration d'une interface VLAN dans pfSense

Activez l'interface et configurez l'IP

**General Configuration**

|                         |   |
|-------------------------|---|
| Enable                  | <input checked="" type="checkbox"/> Enable interface  |
| Description             | Management (critique)<br>Enter a description (name) for the interface here.   |
| IPv4 Configuration Type | Static IPv4   |
| IPv6 Configuration Type | None  |
| MAC Address             | XX:XX:XX:XX:XX:XX<br>The MAC address of a VLAN interface must be set on its parent interface  |
| MTU                     | <input type="text"/><br>If this field is blank, the adapter's default MTU will be used. This is typically 1500 bytes but can vary in some circumstances.  |
| MSS                     | <input type="text"/><br>If a value is entered in this field, then MSS clamping for TCP connections to the value entered above minus 40 for IPv4 (TCP/IPV4 header size) and minus 60 for IPv6 (TCP/IPV6 header size) will be in effect.                      |
| Speed and Duplex        | Default (no preference, typically autoselect)<br>Explicitly set speed and duplex mode for this interface.<br>WARNING: MUST be set to autoselect (automatically negotiate speed) unless the port this interface connects to has its speed and duplex forced. |

**Static IPv4 Configuration**

|                       |               |                     |
|-----------------------|---------------|---------------------|
| IPv4 Address          | 192.168.110.1 | / 24                |
| IPv4 Upstream gateway | None          | + Add a new gateway |

# DHCP d'une interface VLAN



Services → DHCP Server  
→ ManagementCritique

Renseigner le pool, les dns plus bas, etc.

The screenshot shows the pfSense web interface with the following details:

- Header:** pfSense COMMUNITY EDITION, System, Interfaces, Firewall, Services, VPN, Status, Diagnostics, Help, and a refresh button.
- Breadcrumbs:** Services / DHCP Server / MANAGEMENTCRITIQUE
- Submenu:** Settings, LAN, MANAGEMENTCRITIQUE (selected).
- General Settings:**
  - DHCP Backend: Kea DHCP
  - Enable:  Enable DHCP server on MANAGEMENTCRITIQUE interface
  - Deny Unknown Clients: Allow all clients
    - When set to Allow all clients, any DHCP client will get an IP address within this scope/range on this interface. If set to Allow known clients from any interface, any DHCP client with a MAC address listed in a static mapping on **any** scope(s)/interface(s) will get an IP address. If set to Allow known clients from only this interface, only MAC addresses listed in static mappings on this interface will get an IP address within this scope/range.
  - Ignore Client Identifiers:  Do not record a unique identifier (UID) in client lease data if present in the client DHCP request
    - This option may be useful when a client can dual boot using different client identifiers but the same hardware (MAC) address. Note that the resulting server behavior violates the official DHCP specification.
  - DNS Registration: Track server
    - Optionally overrides the DHCP server default DNS registration policy to force a specific policy.
  - Early DNS Registration: Track server
    - Optionally overrides the DHCP server default early DNS registration policy to force a specific policy.
- Primary Address Pool:**
  - Subnet: 192.168.110.0/24
  - Subnet Range: 192.168.110.1 - 192.168.110.254
  - Address Pool Range: 192.168.110.100 - 192.168.110.150

# Assigner un VLAN à une VM



Ajouter le tag correspondant dans les paramètres de la carte réseau de la VM.

The screenshot shows the Proxmox VE 9.0.3 interface. On the left, the 'Server View' sidebar lists various hosts and virtual machines. The main window displays a 'Virtual Machine 106 (Debian-ZABBIX) on node 'pve'' configuration. The 'Hardware' tab is selected. In the center, an 'Edit: Network Device' dialog is open for the 'Network Device (net0)' of the VM. The 'Bridge:' dropdown is set to 'vmbr0'. The 'VLAN Tag:' dropdown is set to 'no VLAN'. A yellow arrow points to the 'Firewall' checkbox, which is checked. Other settings include 'Model: VirtIO (paravirtualized)', 'MAC address: BC:24:11:D1:6F:71', 'Disconnect: 'unchecked'', 'Rate limit (MB/s): unlimited', 'MTU: Same as bridge', and 'Multiqueue:'. At the bottom right of the dialog are 'Help', 'Advanced' (checkbox), and 'OK' buttons.



# Passerelles

pfSense aura une passerelle dans chaque VLAN, l'IP renseigner dans l'interface directement sur pfSense. Les clients pourront ou non se connecter à l'interface de pfSense via cette IP sauf si une règle restreint cet accès.

# Recapitulatif

Priorité 1 au plus critique vers 7 le moins critique

The screenshot shows the pfSense Community Edition web interface. The top navigation bar includes links for System, Interfaces, Firewall, Services, VPN, Status, Diagnostics, and Help. The current page is 'Interfaces / VLANs'. A sub-navigation bar below the title includes tabs for Interface Assignments, Interface Groups, Wireless, VLANs (which is highlighted in red), QinQs, PPPs, GREs, GIFs, Bridges, and LAGGs. The main content area is titled 'VLAN Interfaces' and displays a table with the following data:

| Interface | VLAN tag | Priority | Description   | Actions |
|-----------|----------|----------|---------------|---------|
| em0 (lan) | 10       | 1        | Management    |         |
| em0 (lan) | 20       |          | Clients       |         |
| em0 (lan) | 30       | 2        | Serveurs      |         |
| em0 (lan) | 40       |          | Developpement |         |
| em0 (lan) | 99       |          | VPN           |         |

A green 'Add' button is located at the bottom right of the table. A blue information icon is at the bottom left.