Dans cette partie, nous allons créer un vlan et installer notre firewall.

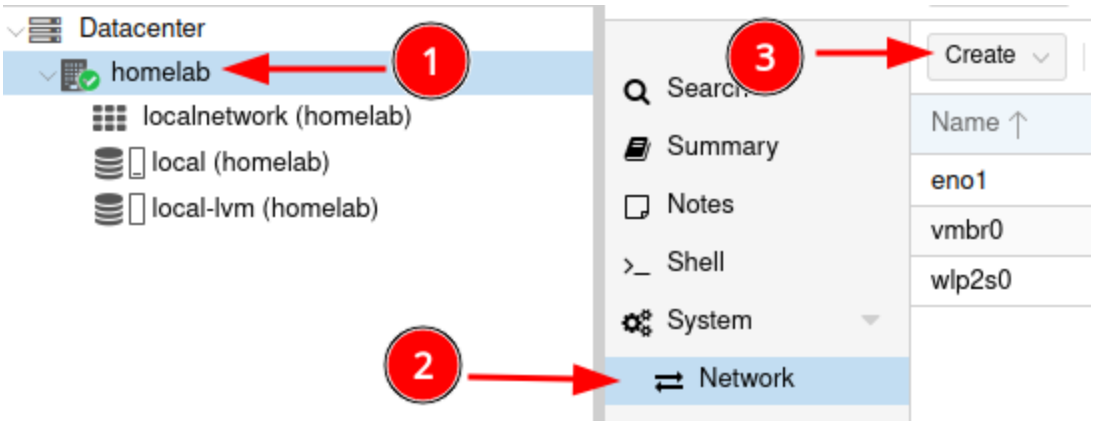
Les objectifs finaux sont les suivants :

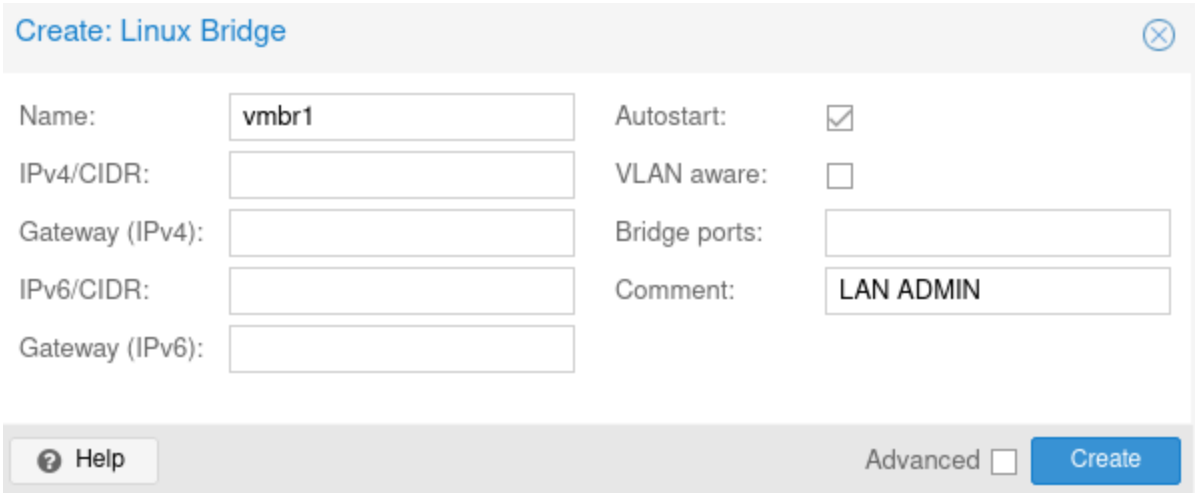
1. Segmenter le réseau en plusieurs VLAN
2. Paramétrer un VM de rebond afin d'administrer mes différents services
3. Configurer le firewall selon les VLAN

I - Création d'interfaces réseau avec proxmox

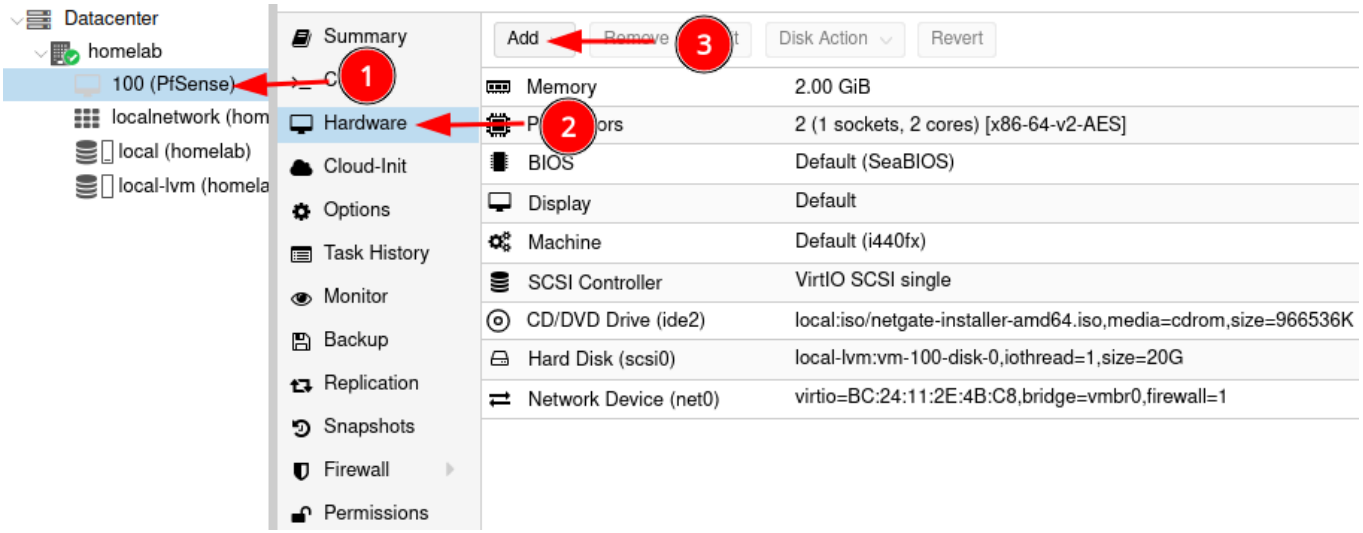
Contexte : Je n'ai pas plusieurs carte réseaux sur ma machine physique, or il est recommandé d'en avoir deux pour faire fonction pfsense sur un réseau WAN et sur le LAN.
Nous allons donc créer des interfaces virtuelles sur Proxmox dans un premier temps.

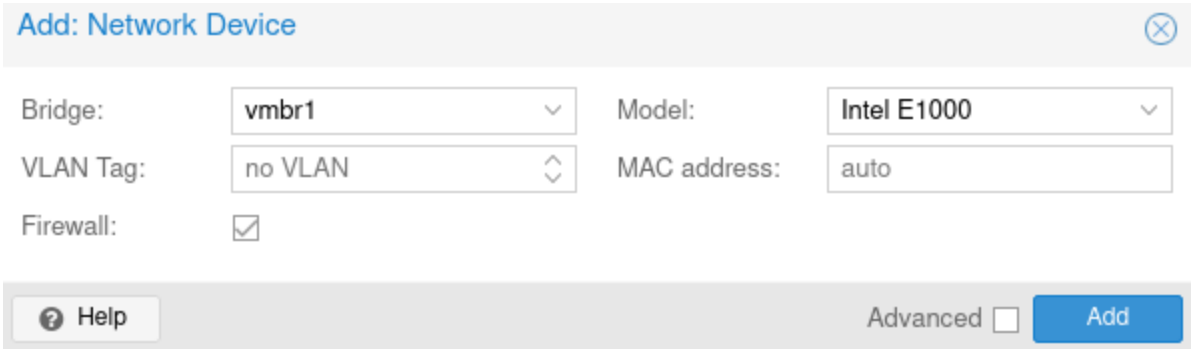
Sur le noeud proxmox, on ajoute un linux bridge depuis la partie réseau :

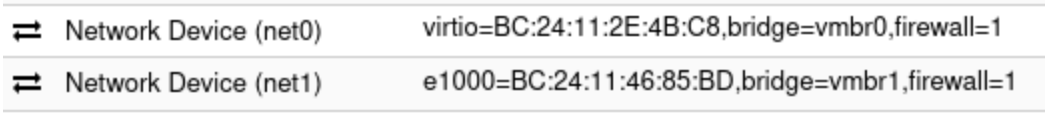




On ajoute ensuite la carte à la VM PfSense :

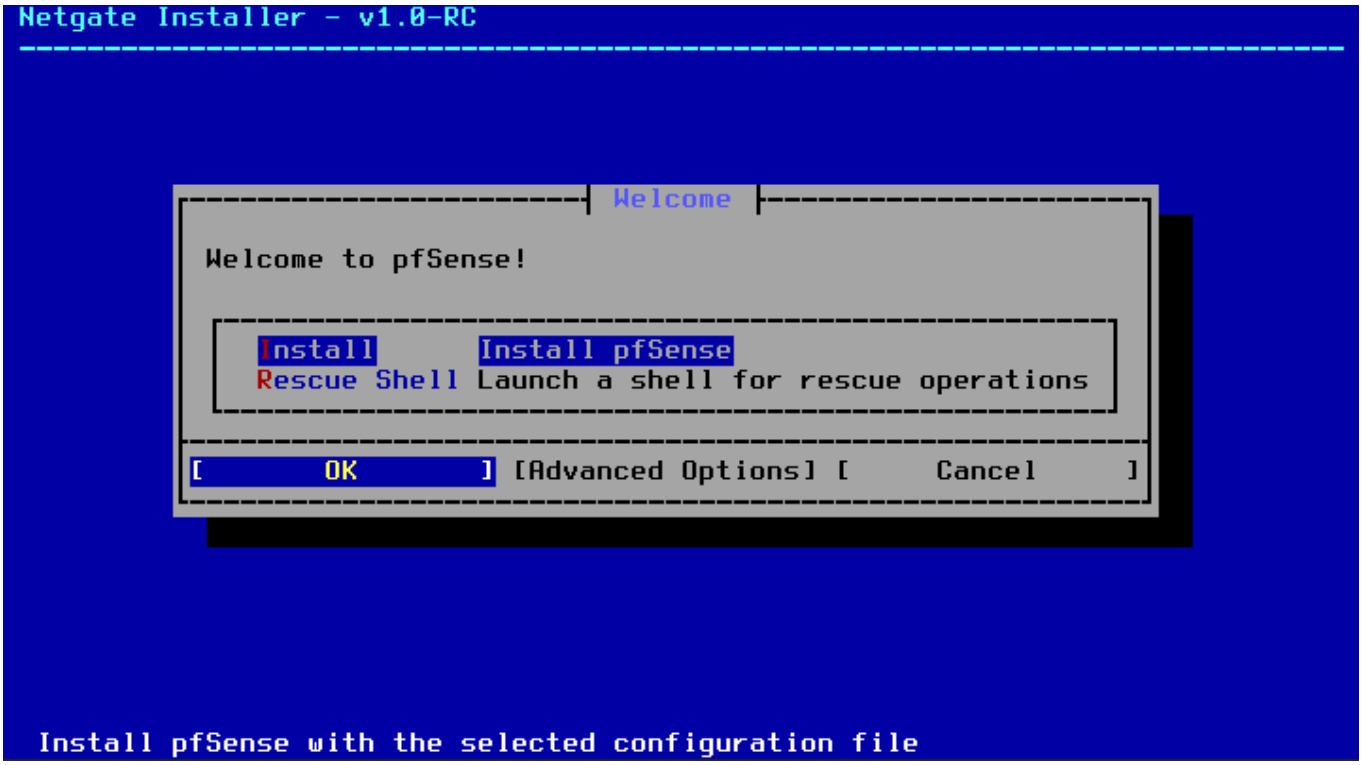




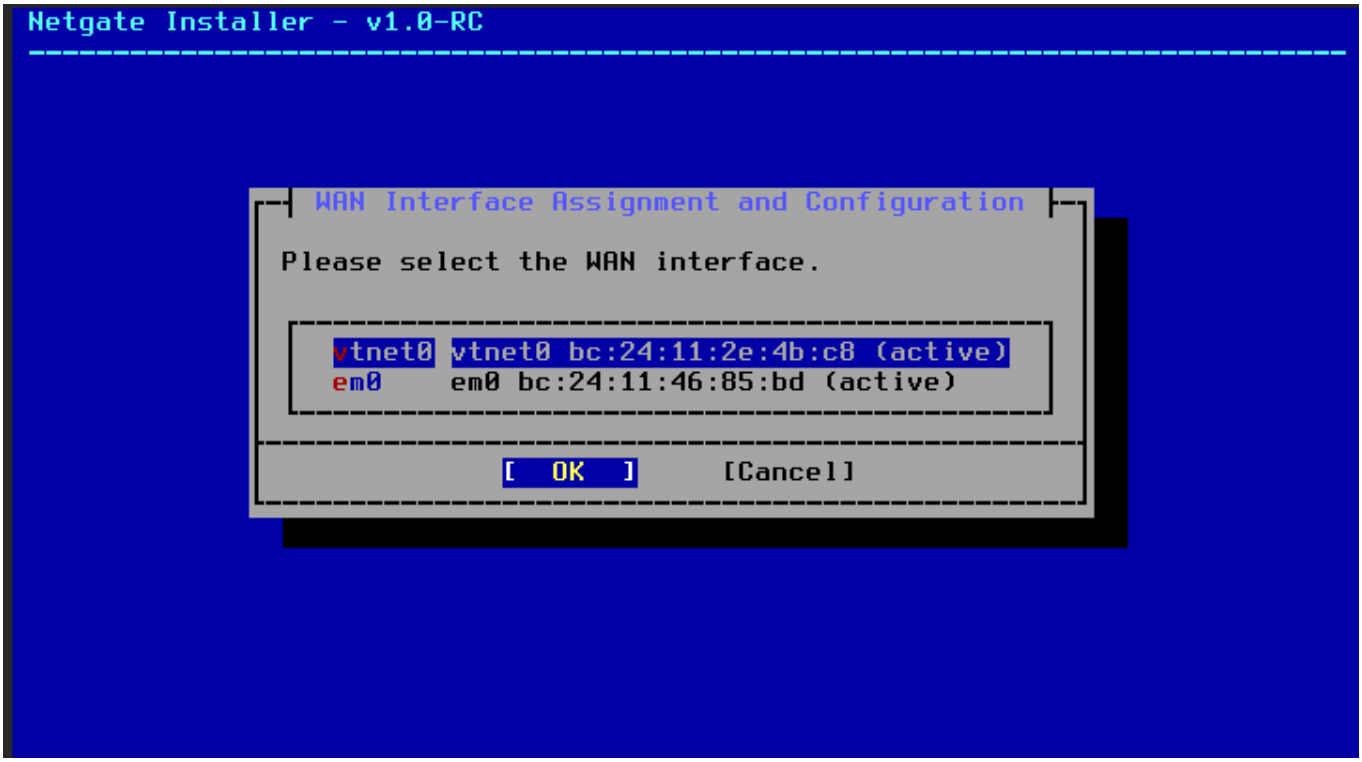


II - Installation PfSense

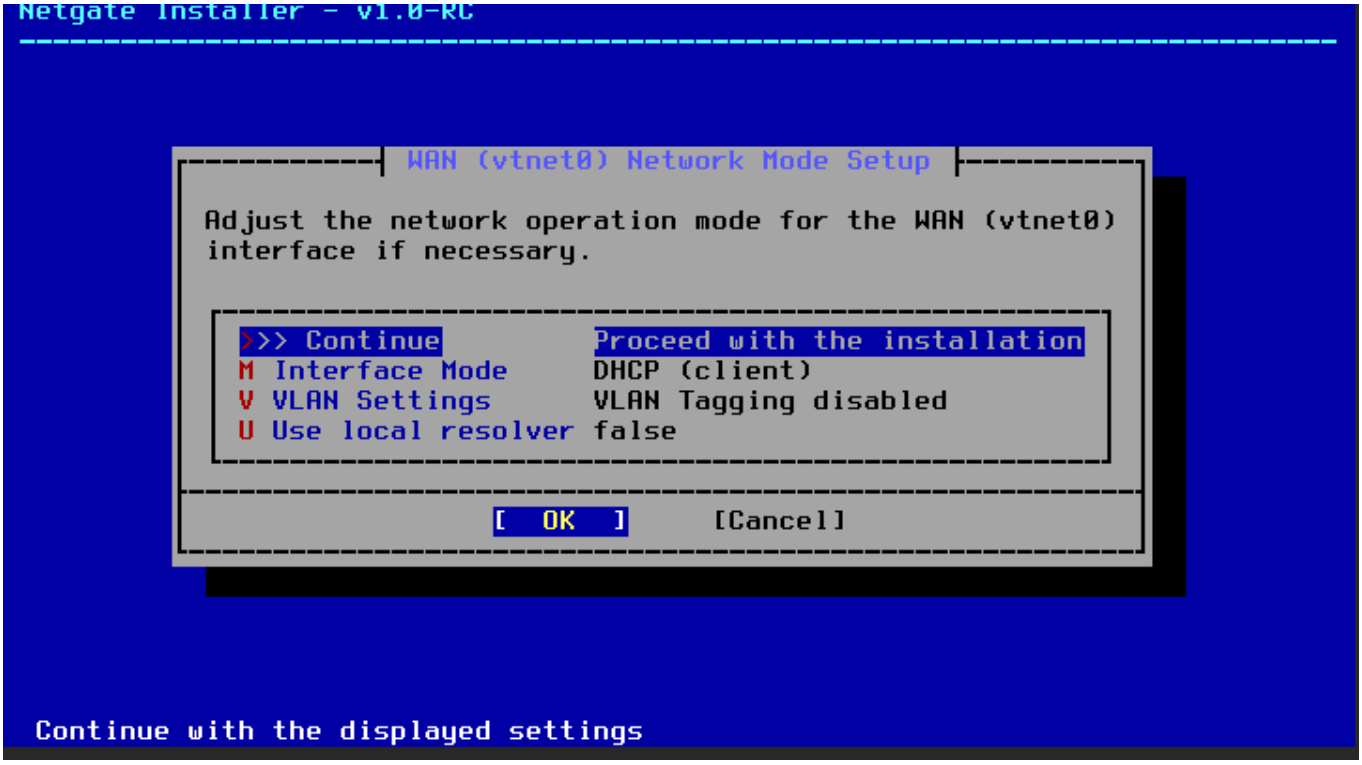
Installation de la VM PfSense



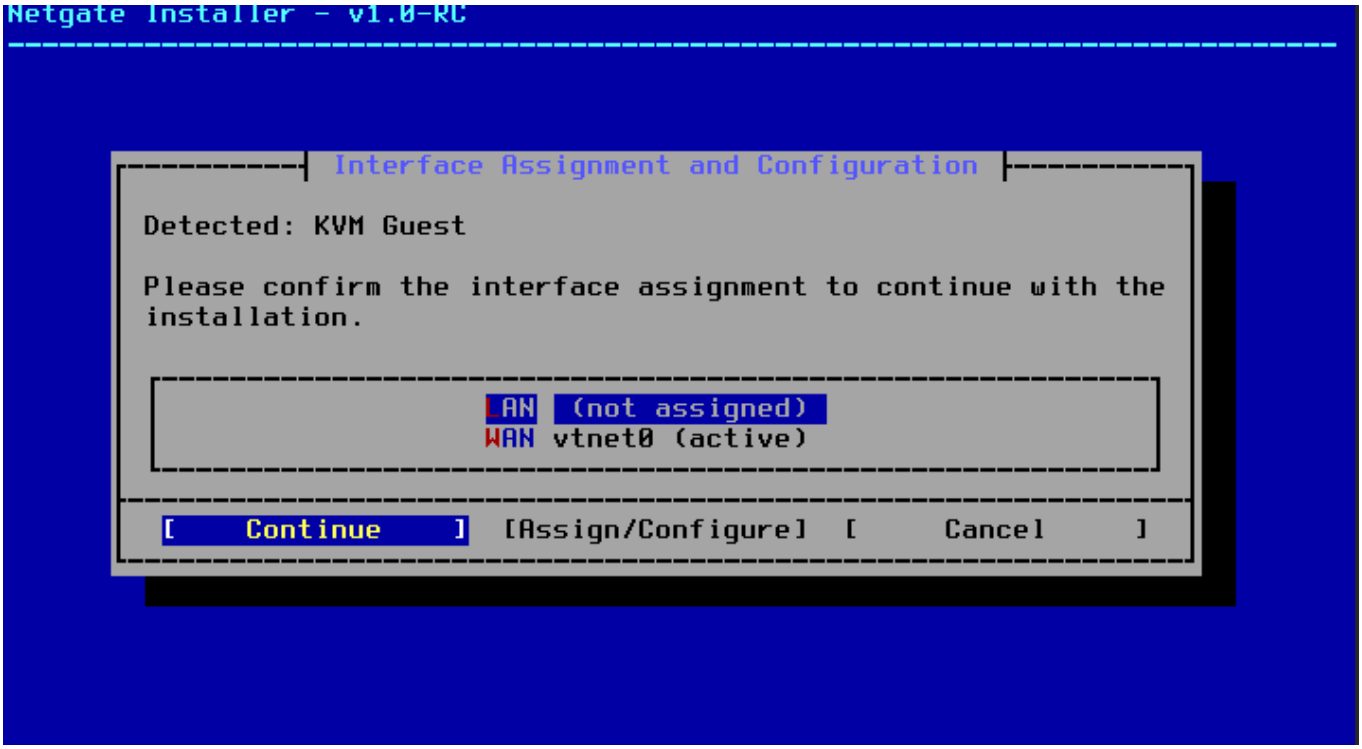
La carte em0 est la carte ajoutée pour le LAN ADMIN donc on choisit la carte vtnet0



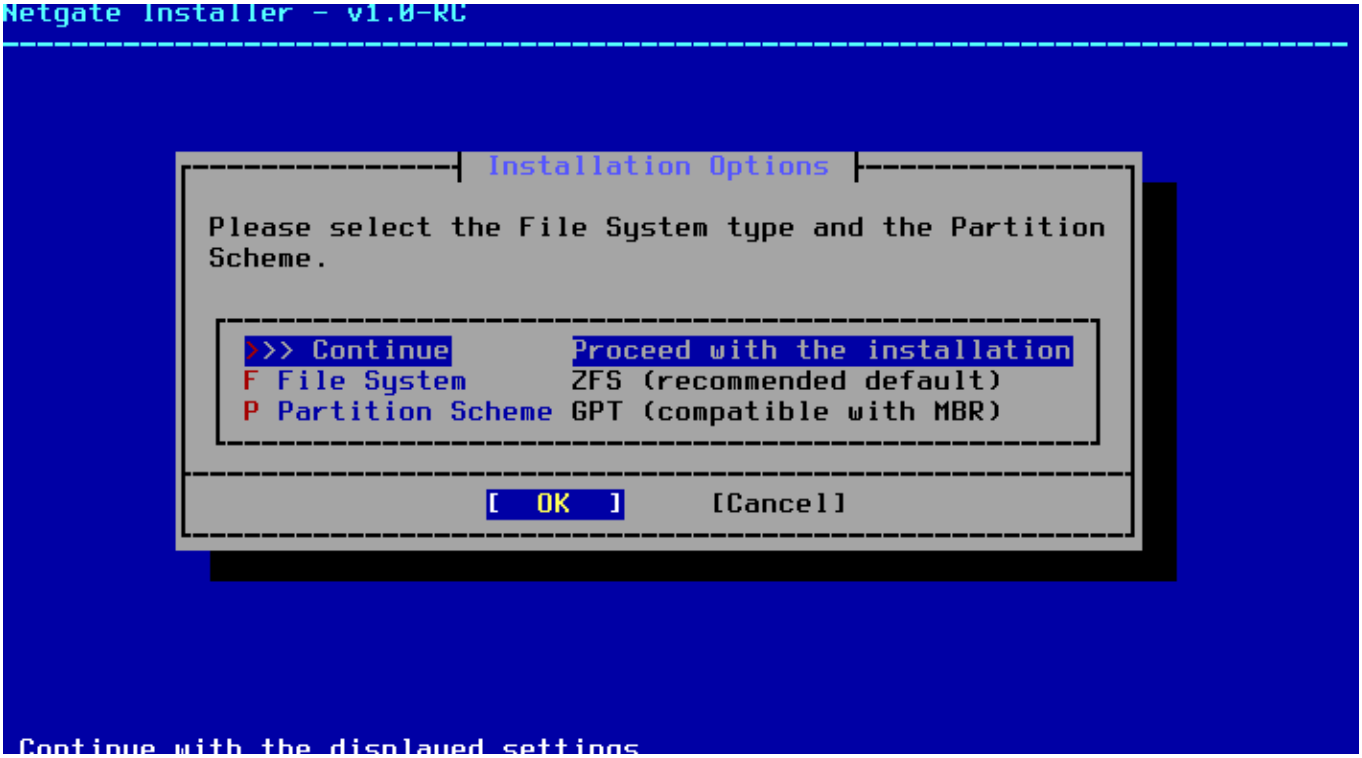
Je laisse l'adressage en DHCP car je changerai en fixe par la suite.



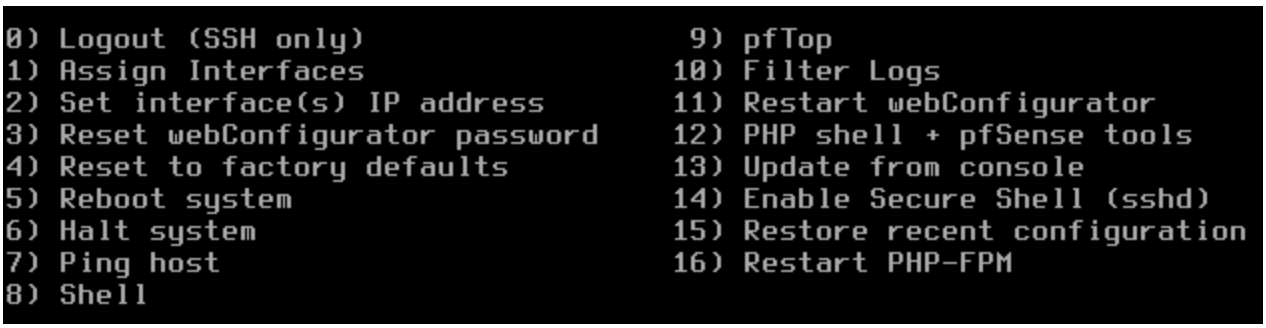
L'interface LAN sera renseignée par la suite :



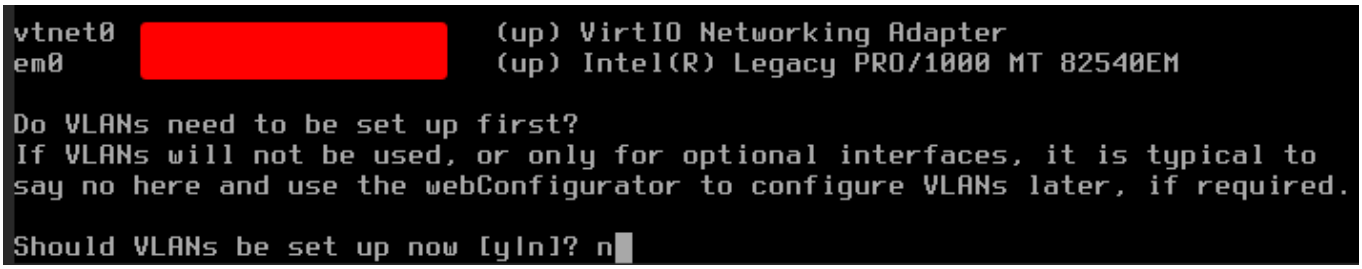
On continue l'installation :

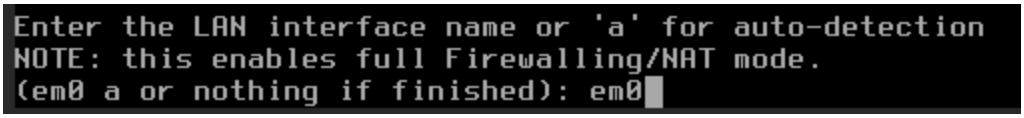


A la fin de l'installation, nous avons cette interface :



Nous allons assigner nos interfaces :





Nous allons ensuite assigner des ip à nos interfaces :

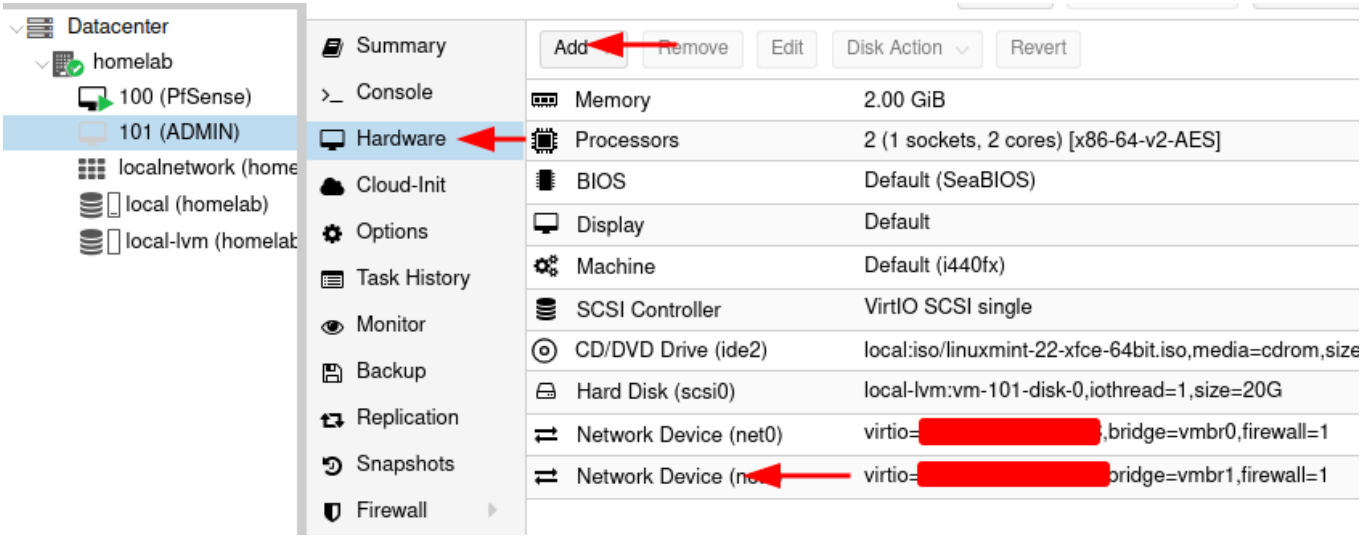
```
 0) Logout (SSH only)                  9) pfTop
 1) Assign Interfaces                 10) Filter Logs
 2) Set interface(s) IP address       11) Restart webConfigurator
 3) Reset webConfigurator password    12) PHP shell + pfSense tools
 4) Reset to factory defaults         13) Update from console
 5) Reboot system                     14) Enable Secure Shell (sshd)
 6) Halt system                       15) Restore recent configuration
 7) Ping host                         16) Restart PHP-FPM
 8) Shell

Enter an option: 2
```

```
1 - WAN (vtnet0 - dhcp, dhcp6)
2 - LAN (em0 - static)

Enter the number of the interface you wish to configure: 1

Configure IPv4 address WAN interface via DHCP? (y/n) n

Enter the new WAN IPv4 address.  Press <ENTER> for none:
> [redacted]

Subnet masks are entered as bit counts (as in CIDR notation) in pfSense.
e.g. 255.255.255.0 = 24
     255.255.0.0   = 16
     255.0.0.0     = 8

Enter the new WAN IPv4 subnet bit count (1 to 32):
> 24

For a WAN, enter the new WAN IPv4 upstream gateway address.
For a LAN, press <ENTER> for none:
> [redacted]

Should this gateway be set as the default gateway? (y/n) y
```

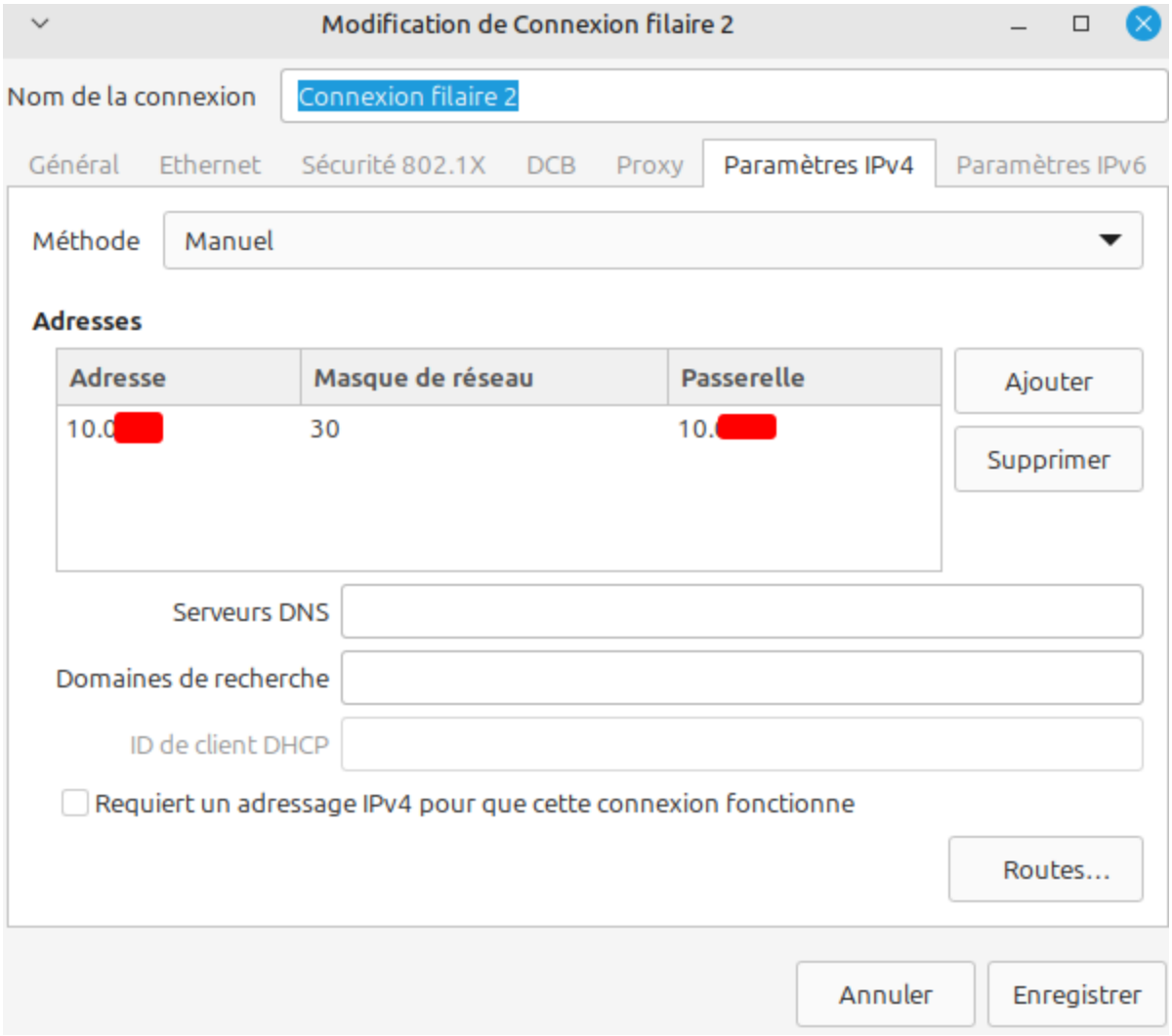
```
Configure IPv4 address LAN interface via DHCP? (y/n) n

Enter the new LAN IPv4 address.  Press <ENTER> for none:
> [redacted]

Subnet masks are entered as bit counts (as in CIDR notation) in pfSense.
e.g. 255.255.255.0 = 24
     255.255.0.0   = 16
     255.0.0.0     = 8

Enter the new LAN IPv4 subnet bit count (1 to 32):
> [redacted]

For a WAN, enter the new LAN IPv4 upstream gateway address.
For a LAN, press <ENTER> for none:
>

Configure IPv6 address LAN interface via DHCP6? (y/n) n

Enter the new LAN IPv6 address.  Press <ENTER> for none:
> n
```

III - Machine d'administration

Nous allons maintenant créer une machine permettant d'administrer notre pfsense.



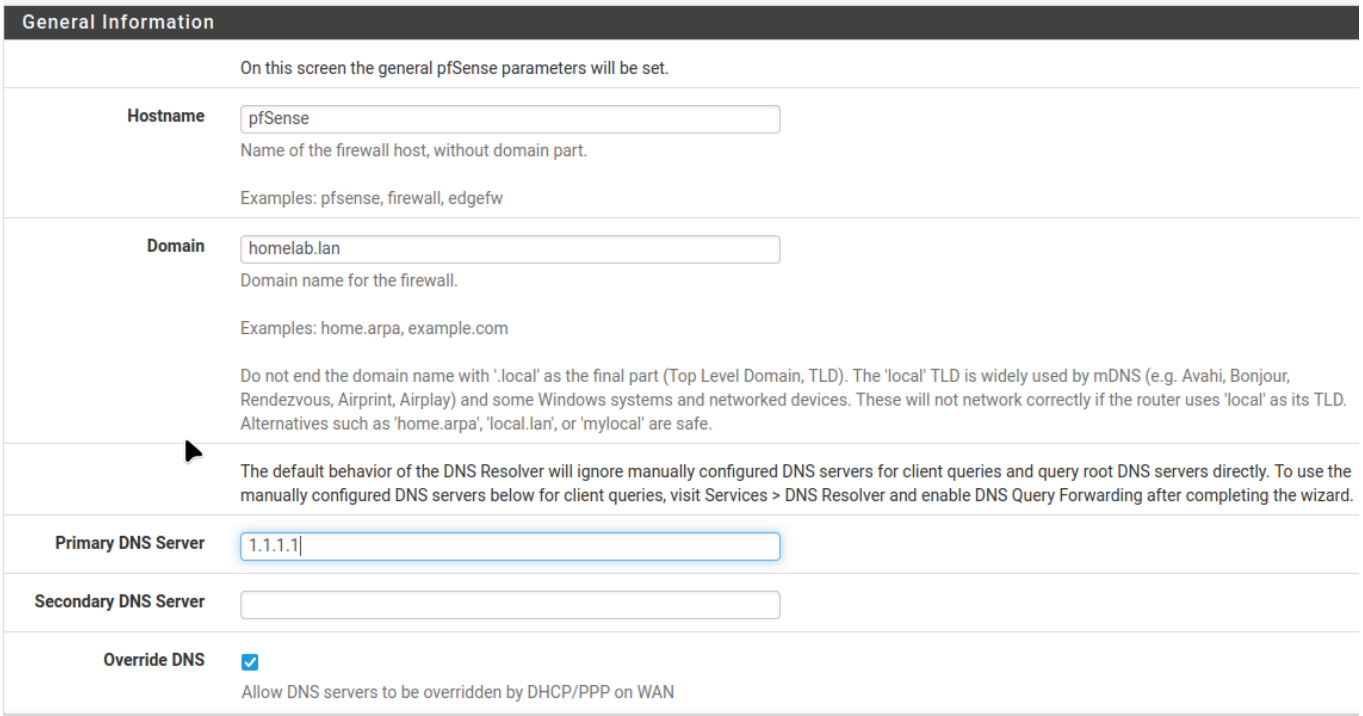
On configure le réseau sur la machine d'administration :



Première connexion :
login : admin

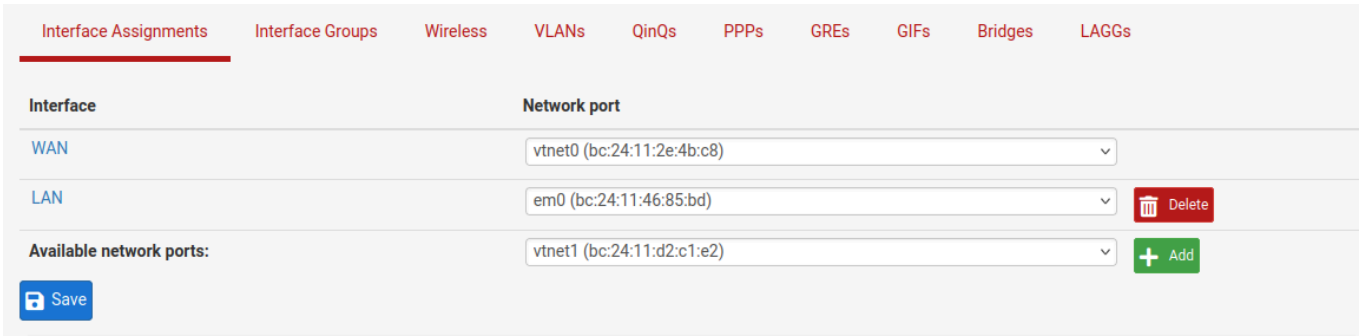
mot de passe : pfsense

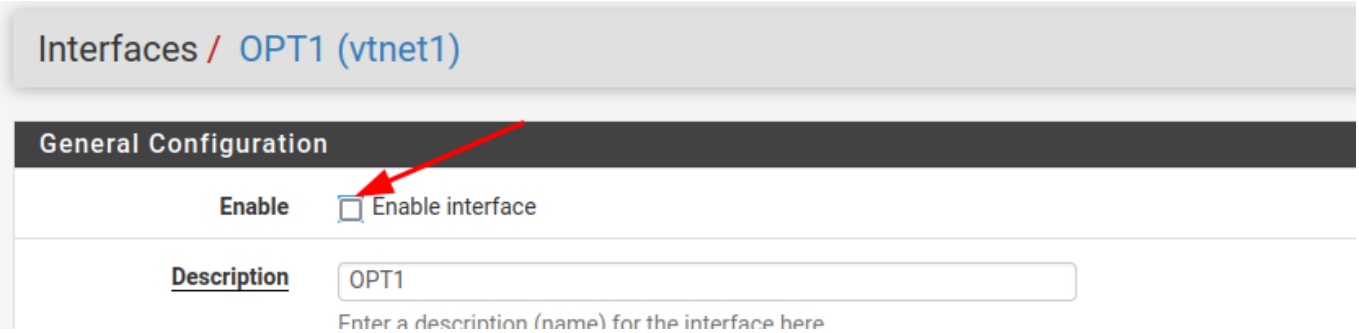
A noter: changez immédiatement le mot de passe par défaut.



IV - Création du VLAN SERVER

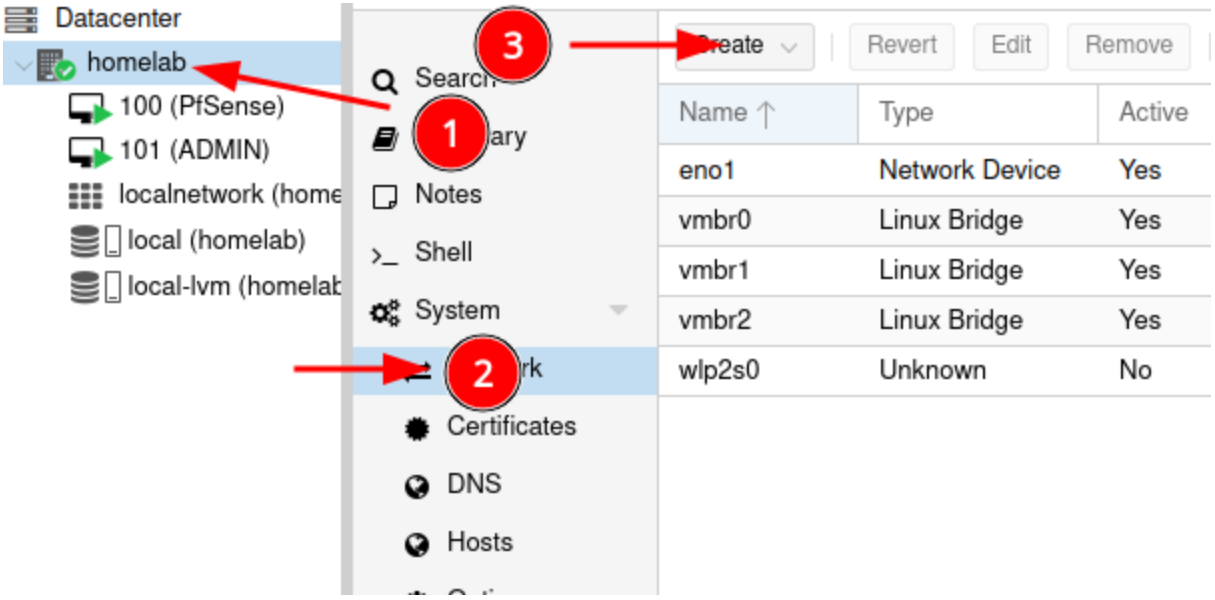
Le Vlan server va comprendre l'intégralité de mes serveurs (monitoring, vpn, Windows serveur, DNS)

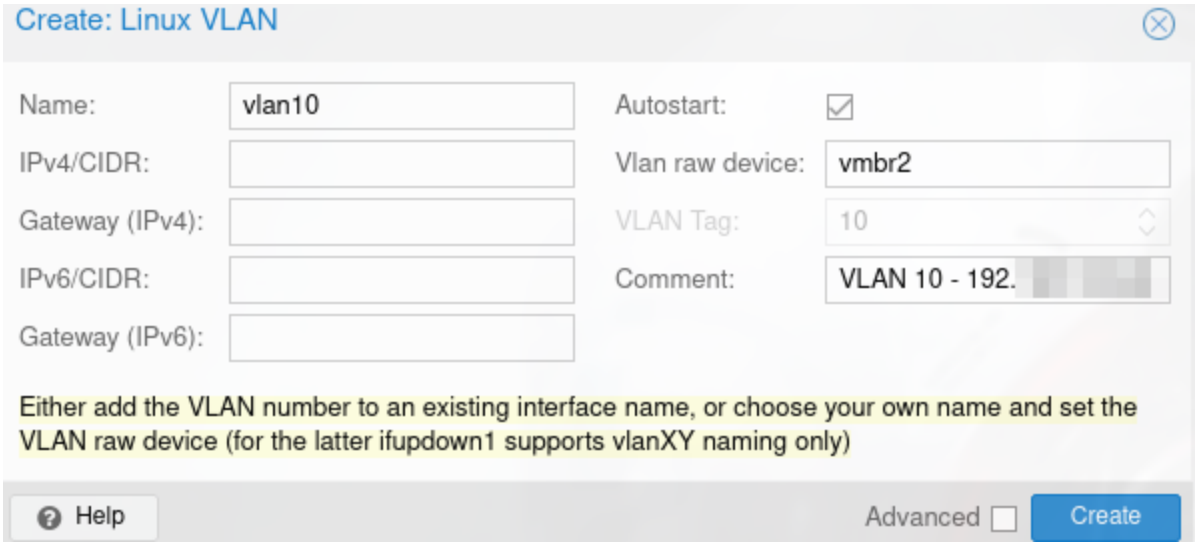




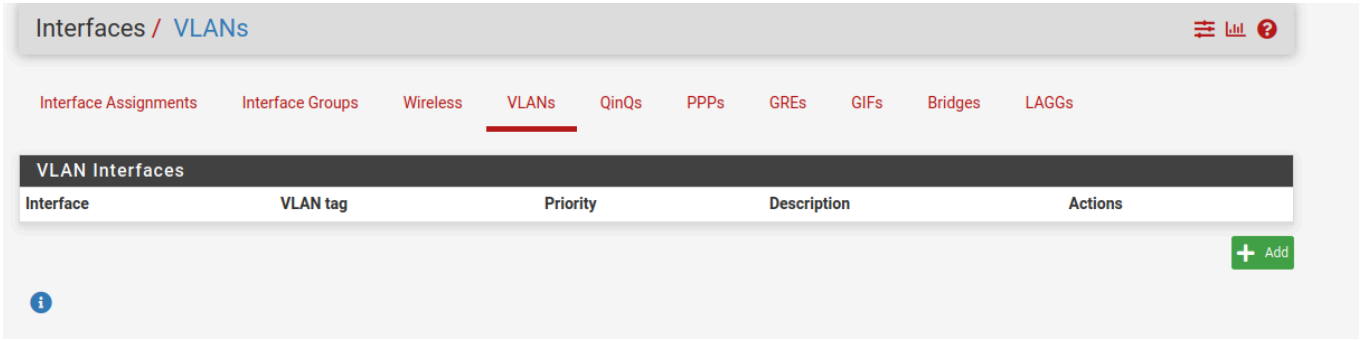
V - Création de VLAN dans Proxmox et PfSense

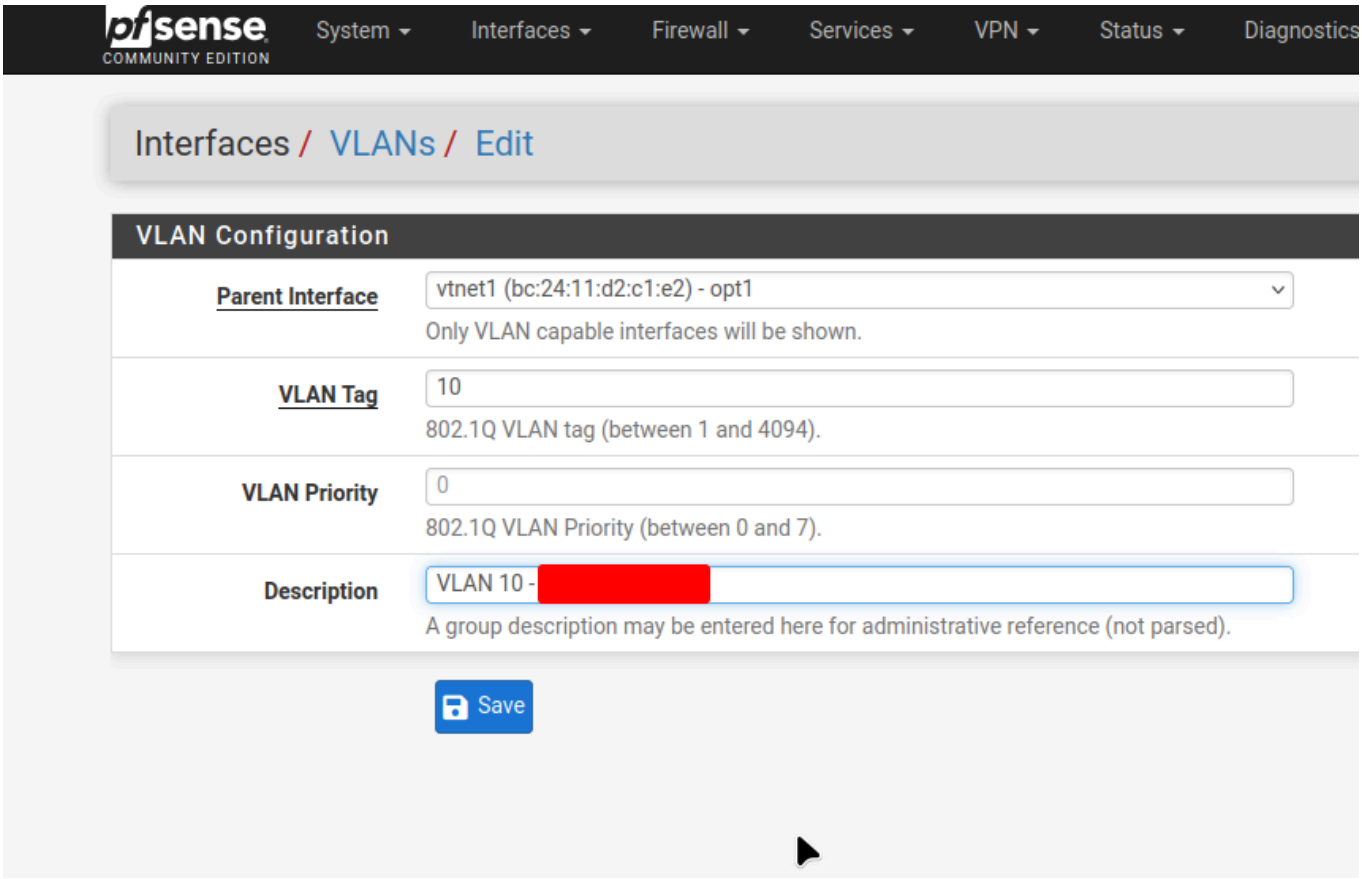
Nous créons ensuite un vlan dans proxmox.

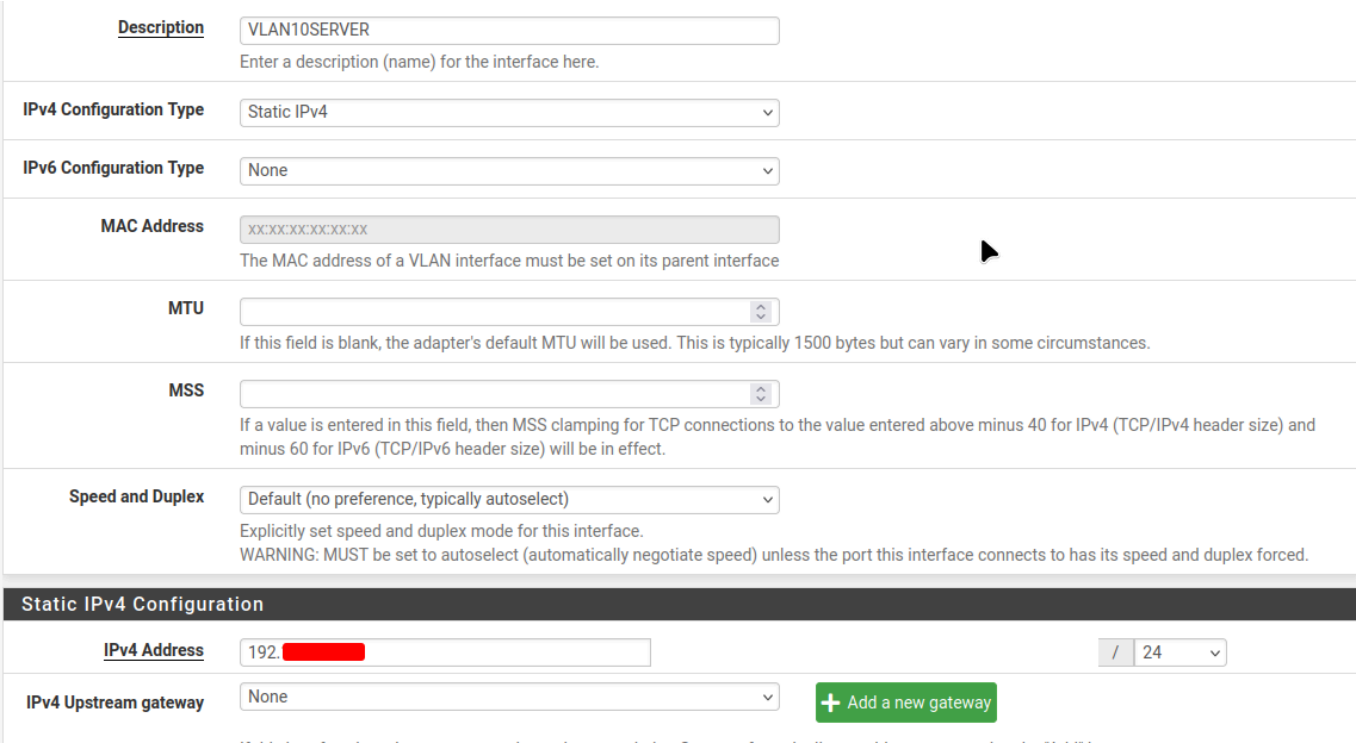




Nous assignons ensuite le vlan proxmox dans notre pfsense


Interfaces / VLANs
Interface Assignments
Interface Groups
Wireless
VLANs
QinQs
PPPs
GREs
GIFs
Bridges
LAGGs
VLAN Interfaces
Interface
VLAN tag
Priority
Description
Actions
Add


pfsense
COMMUNITY EDITION
System
Interfaces
Firewall
Services
VPN
Status
Diagnostics
Interfaces / VLANs / Edit
VLAN Configuration
Parent Interface
vtnet1 (bc:24:11:d2:c1:e2) - opt1
Only VLAN capable interfaces will be shown.
VLAN Tag
10
802.1Q VLAN tag (between 1 and 4094).
VLAN Priority
0
802.1Q VLAN Priority (between 0 and 7).
Description
VLAN 10 -
A group description may be entered here for administrative reference (not parsed).
Save



A noter : il est nécessaire de redémarrer proxmox pour que le VLAN soit pris en compte
Nos Vlan sont désormais fonctionnels.