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1) Pré requis

Pré requis pour installer pfsense :

- Une machine virtuelle avec un hyperviseur (Vmware, VirtualBox, Hyper-v)
- Le fichier iso de pfsense

2) Installation de pfsense

2.1) Création de la VM

- Pour l'exemple j'utilise Vmware





New Virtual Machine Wizard

**Guest Operating System Installation**

A virtual machine is like a physical computer; it needs an operating system. How will you install the guest operating system?

Install from:

☐ Installer disc:

No drives available

☐ Installer disc image file (iso):

C:\Users\Dylan\Downloads\ubuntu-20.04.4-live-serve

Browse...

☒ I will install the operating system later.

The virtual machine will be created with a blank hard disk.

Help

< Back

Next >

Cancel

New Virtual Machine Wizard

**Select a Guest Operating System**

Which operating system will be installed on this virtual machine?

Guest operating system

☐ Microsoft Windows

☐ Linux

☐ VMware ESX

☒ Other

Version

FreeBSD version 10 and earlier 64-bit

Help

< Back

Next >

Cancel

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New Virtual Machine Wizard

Name the Virtual Machine
What name would you like to use for this virtual machine?

Virtual machine name:

Location:

The default location can be changed at Edit > Preferences.

< Back **Next >** Cancel

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New Virtual Machine Wizard

Specify Disk Capacity
How large do you want this disk to be?

The virtual machine's hard disk is stored as one or more files on the host computer's physical disk. These file(s) start small and become larger as you add applications, files, and data to your virtual machine.

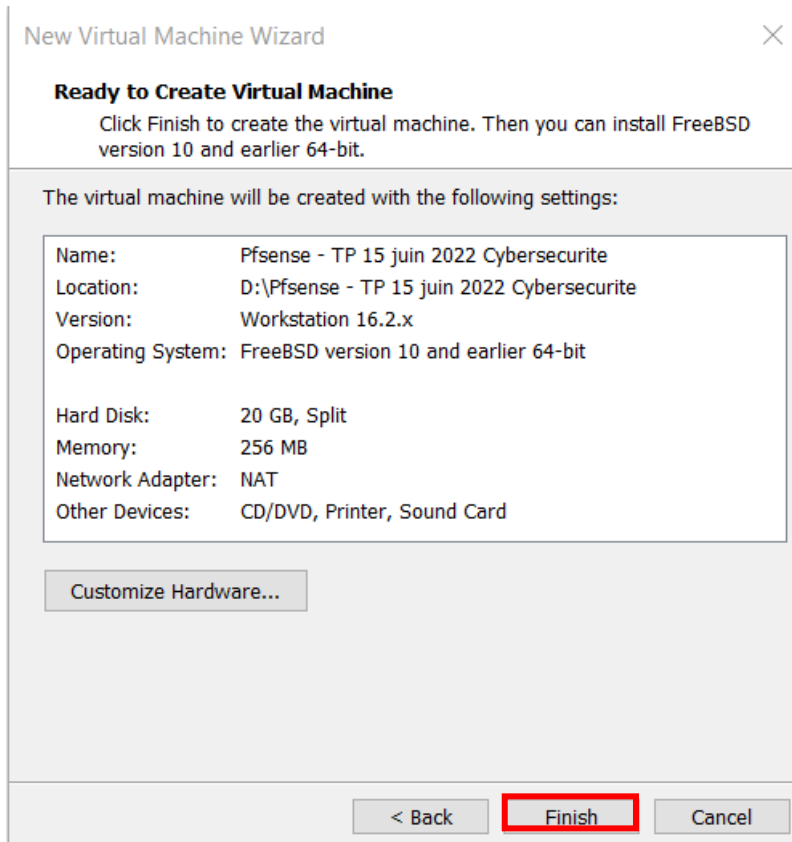
Maximum disk size (GB):

Recommended size for FreeBSD version 10 and earlier 64-bit: 20 GB

☐ Store virtual disk as a single file
☒ Split virtual disk into multiple files

Splitting the disk makes it easier to move the virtual machine to another computer but may reduce performance with very large disks.

Help < Back **Next >** Cancel



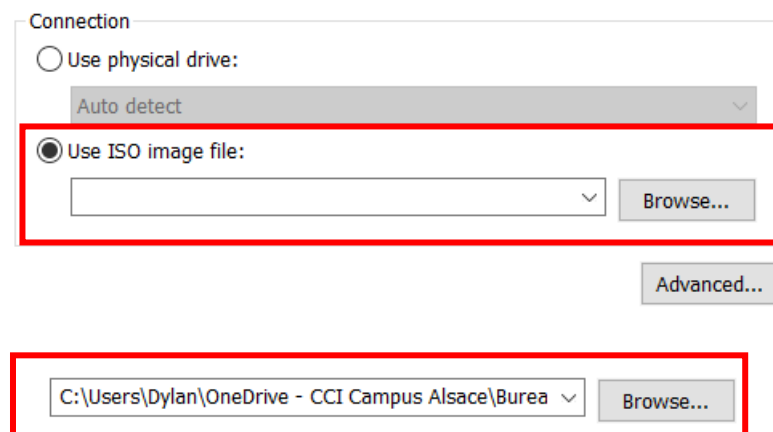
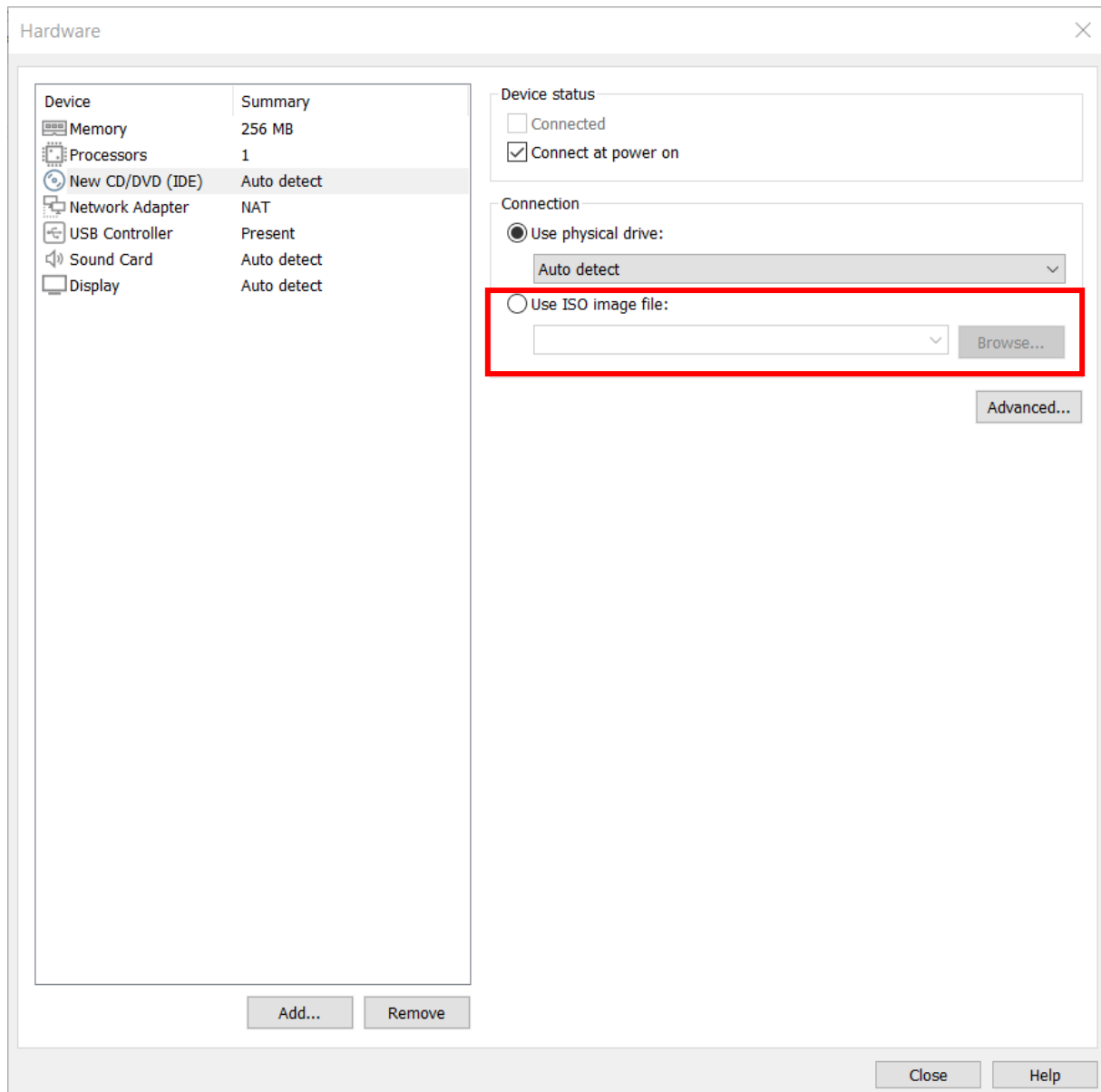
2.2) Pré requis pour la configuration de la VM

Pour la configuration de la VM de pfsense il vous faut :

- L'image iso disponible sur ce lien : [Download pfSense Community Edition](#)
- Configurer deux carte réseaux

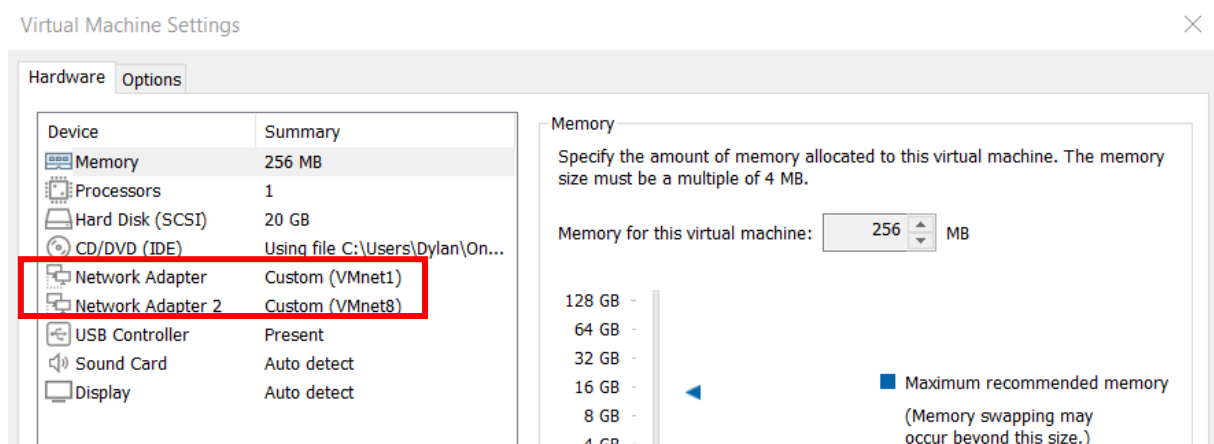
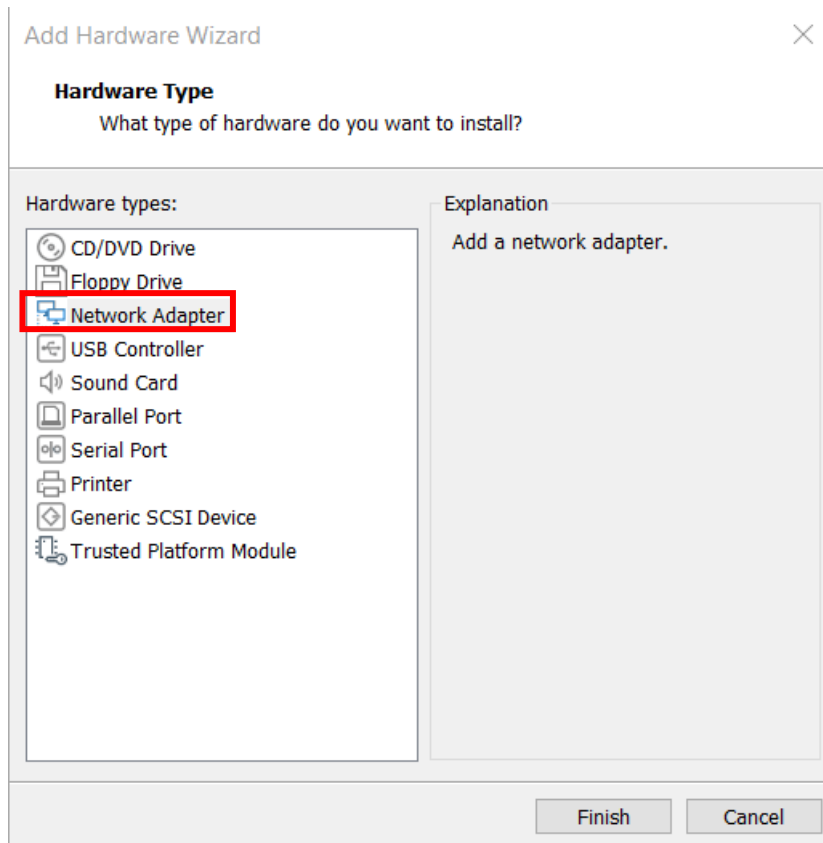
2.2.1) Mise en place de l'image iso et configuration des cartes réseaux.

- Mise en place de l'image iso





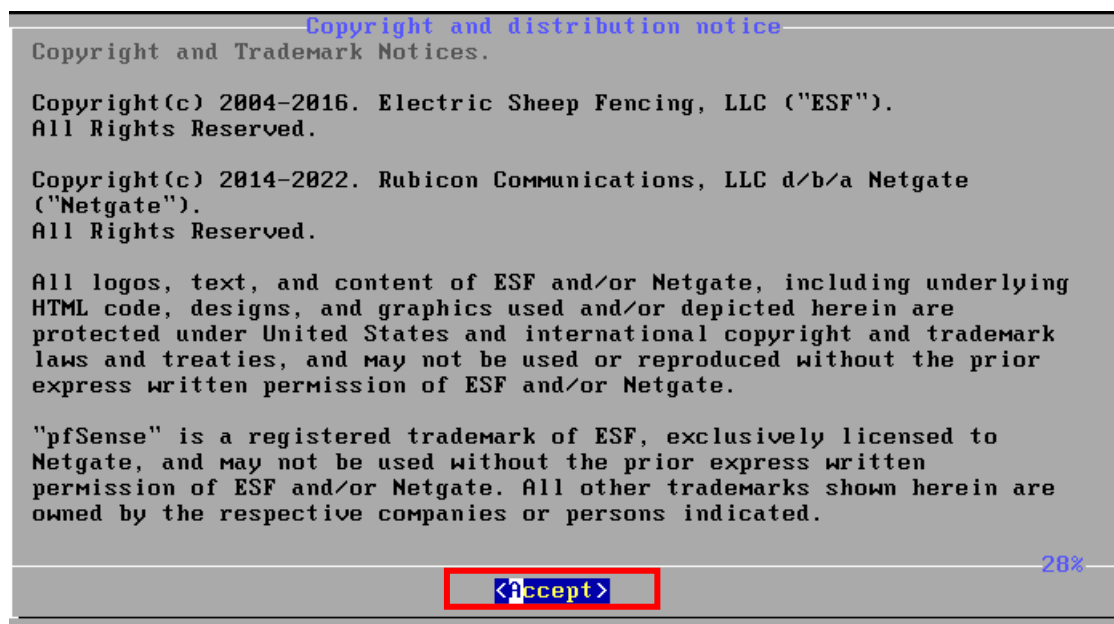
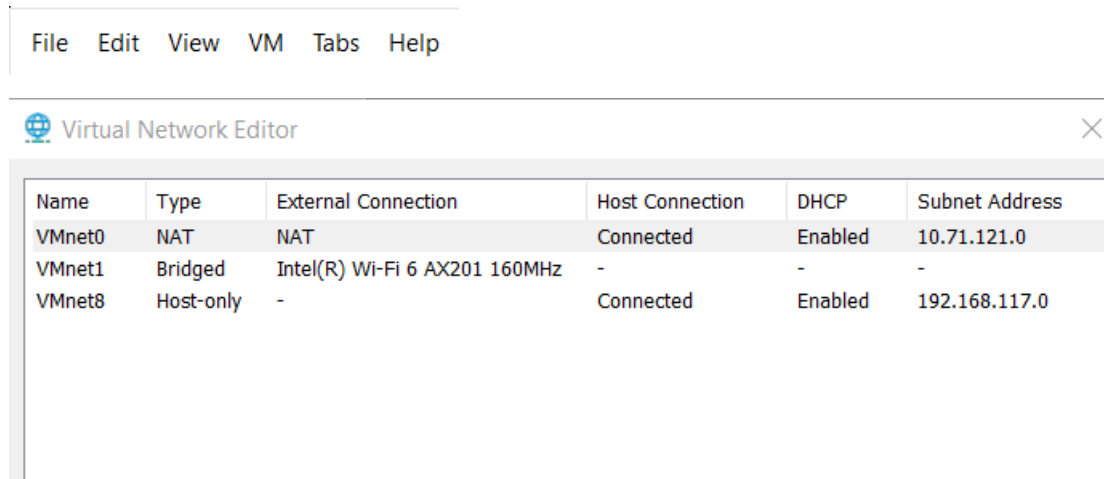
- Configuration des deux cartes réseaux.

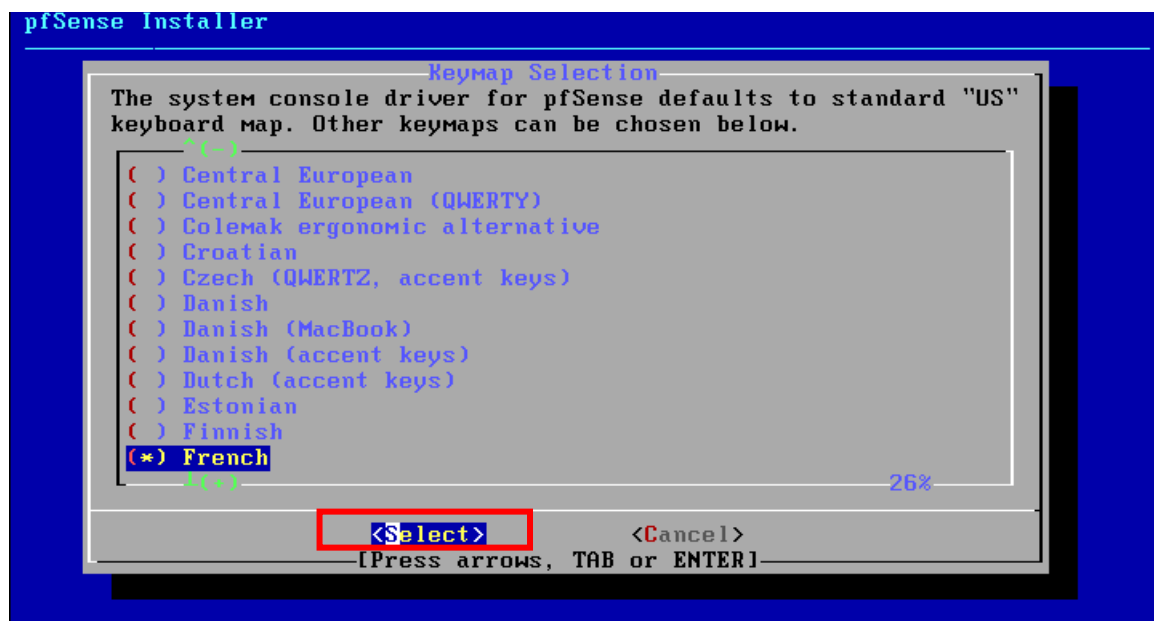
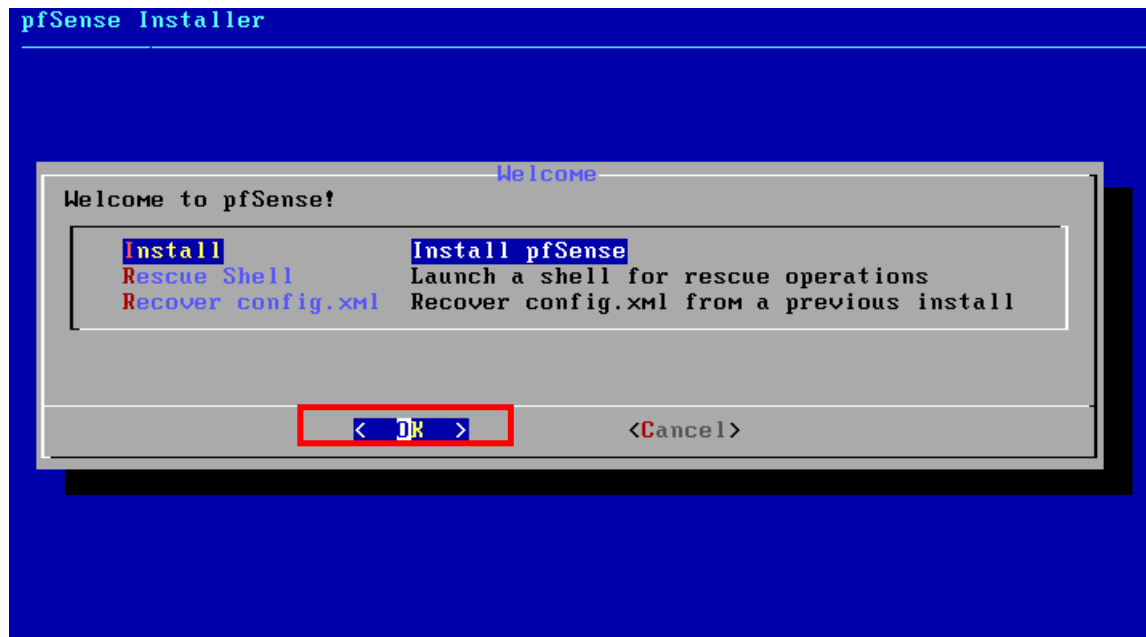




- Pour la carte réseaux principal il faut la mettre en custom (VMnet1)
- Pour la seconde carte réseaux il faut la mettre en custom (VMnet8)

Il faut maintenant configurer la carte VMnet1 pour cela, il faut se rendre dans les paramètres de l'hyperviseur





pfSense Installer

Partitioning

How would you like to partition your disk?

Auto (ZFS)	Guided Root-on-ZFS
Auto (UFS) BIOS	Guided Disk Setup using BIOS boot method
Auto (UFS) UEFI	Guided Disk Setup using UEFI boot method
Manual	Manual Disk Setup (experts)
Shell	Open a shell and partition by hand

< OK > <Cancel>

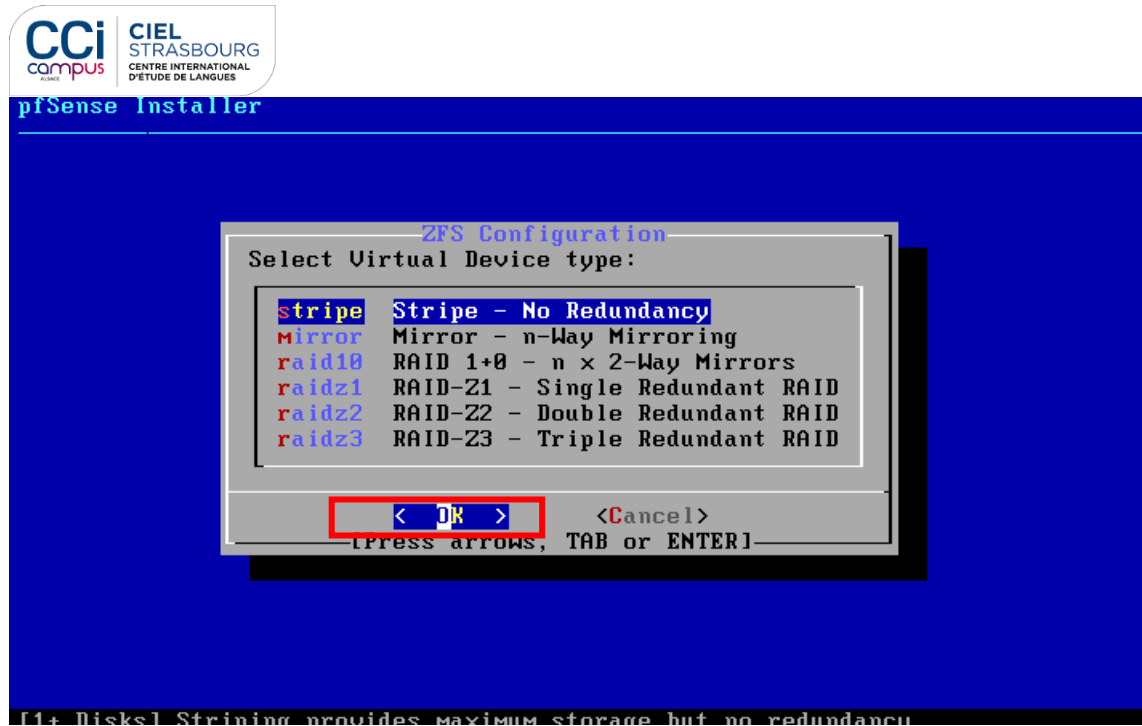
pfSense Installer

ZFS Configuration

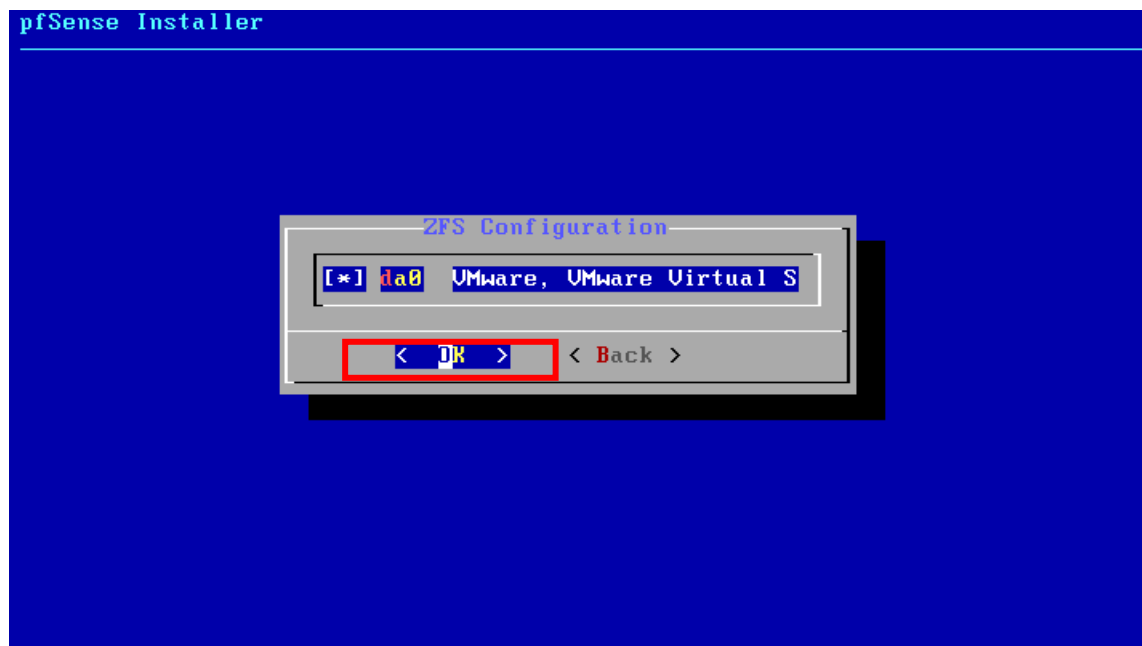
Configure Options:

>>> Install	Proceed with Installation
T Pool Type/Disks:	stripe: 0 disks
- Rescan Devices	*
- Disk Info	*
N Pool Name	pfSense
4 Force 4K Sectors?	YES
E Encrypt Disks?	NO
P Partition Scheme	GPT (BIOS)
S Swap Size	1g
M Mirror Swap?	NO
W Encrypt Swap?	NO

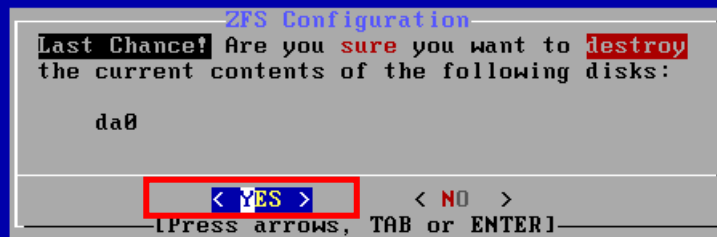
<Select> <Cancel>



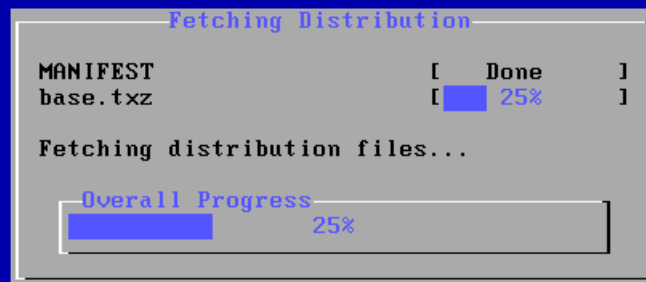
- Pour valider le choix appuyer la barre d'espace

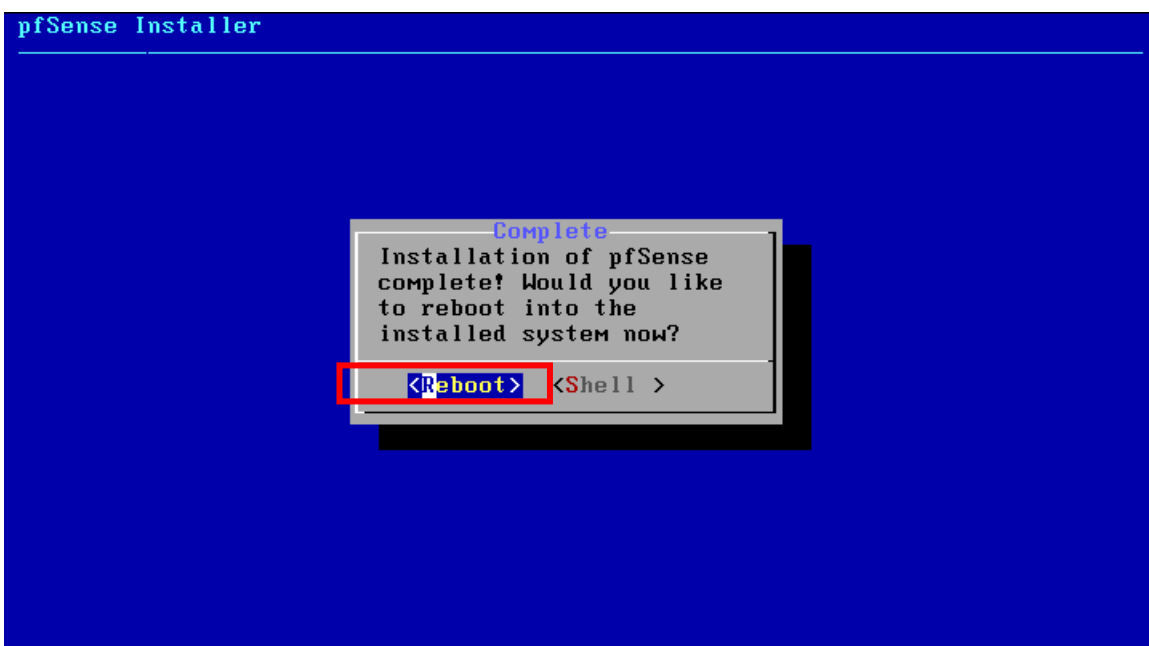
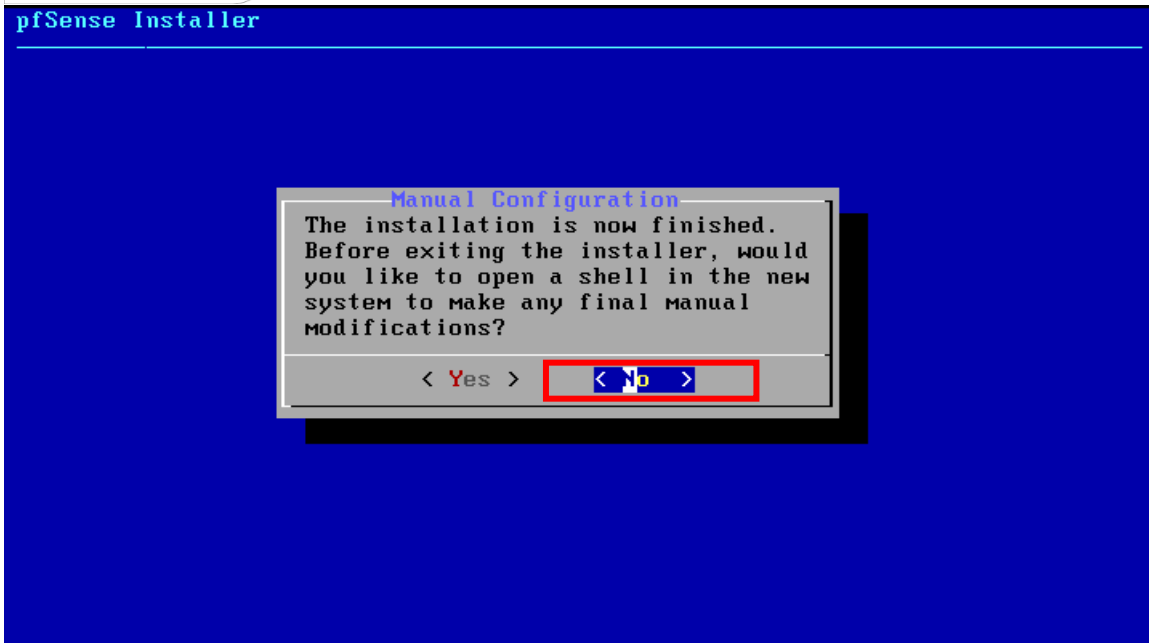


pfSense Installer



pfSense Installer





3) Configuration de pfsense



```

PING google.fr (64.233.184.94): 56 data bytes
64 bytes from 64.233.184.94: icmp_seq=0 ttl=108 time=14.579 ms
64 bytes from 64.233.184.94: icmp_seq=1 ttl=108 time=15.134 ms
^CVMware Virtual Machine - Netgate Device ID: 84e49a9bc7f1ad9ddfd8

*** Welcome to pfSense 2.6.0-RELEASE (amd64) on pfSense ***

WAN (wan)      -> em0      -> v4/DHCP4: 10.71.121.135/23
LAN (lan)      -> em1      -> v4: 192.168.117.254/24

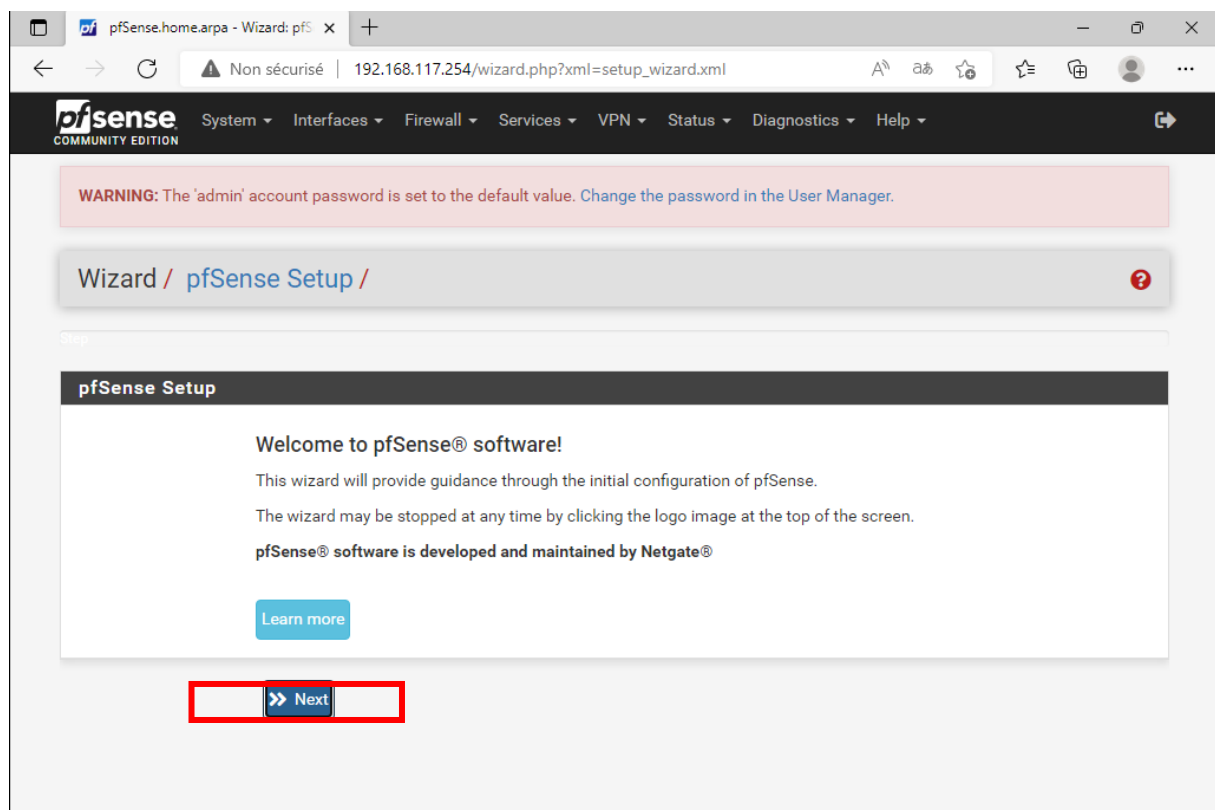
0) Logout (SSH only)          9) pfTop
1) Assign Interfaces          10) Filter Logs
2) Set interface(s) IP address 11) Restart webConfigurator
3) Reset webConfigurator password 12) PHP shell + pfSense tools
4) Reset to factory defaults  13) Update from console
5) Reboot system              14) Enable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

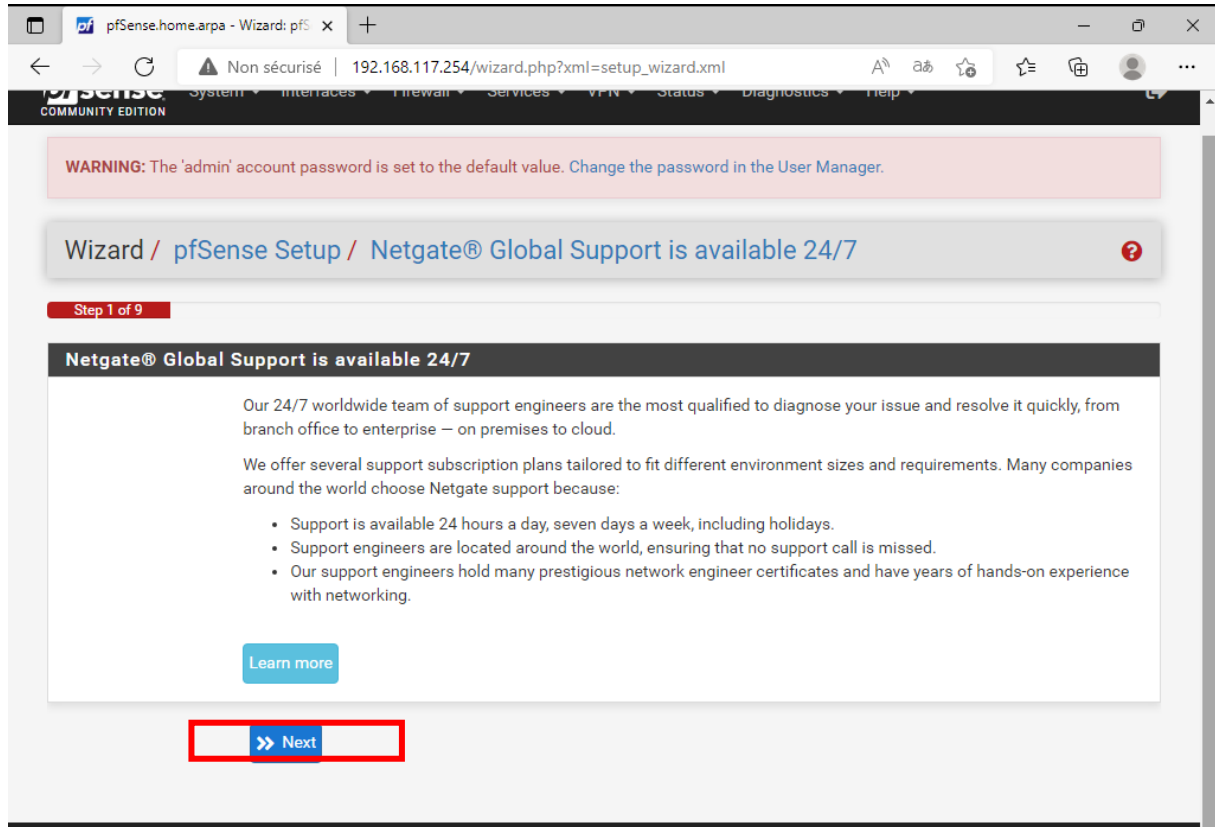
Enter an option:
Message from syslogd@pfSense at Jun 15 09:02:01 ...
php-fpm[65491]: /index.php: Successful login for user 'admin' from: 192.168.117.1
00 (Local Database)

```

- Pour modifier les options il faut taper « 2 » puis pfsense vous demanderas de renseigner une adresse ip, puis le CIDR, et enfin à la question répondre « n » pour non puis entrer

3.1) Accès à pfsense depuis une machine cliente windows





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pfSense.home.arpa - Wizard: pfSense
Non sécurisé | 192.168.117.254/wizard.php?xml=setup_wizard.xml

Step 2 of 9

General Information

On this screen the general pfSense parameters will be set.

Hostname
EXAMPLE: myserver

Domain
EXAMPLE: mydomain.com

The default behavior of the DNS Resolver will ignore manually configured DNS servers for client queries and query root DNS servers directly. To use the manually configured DNS servers below for client queries, visit Services > DNS Resolver and enable DNS Query Forwarding after completing the wizard.

Primary DNS Server

Secondary DNS Server

Override DNS ☒
Allow DNS servers to be overridden by DHCP/PPP on WAN

[Next](#)

- Mettre en DNS server 8.8.8.8

pfSense COMMUNITY EDITION
System Interfaces Firewall Services VPN Status Diagnostics Help

WARNING: The 'admin' account password is set to the default value. [Change the password in the User Manager.](#)

Wizard / pfSense Setup / Configure LAN Interface

Step 5 of 9

Configure LAN Interface

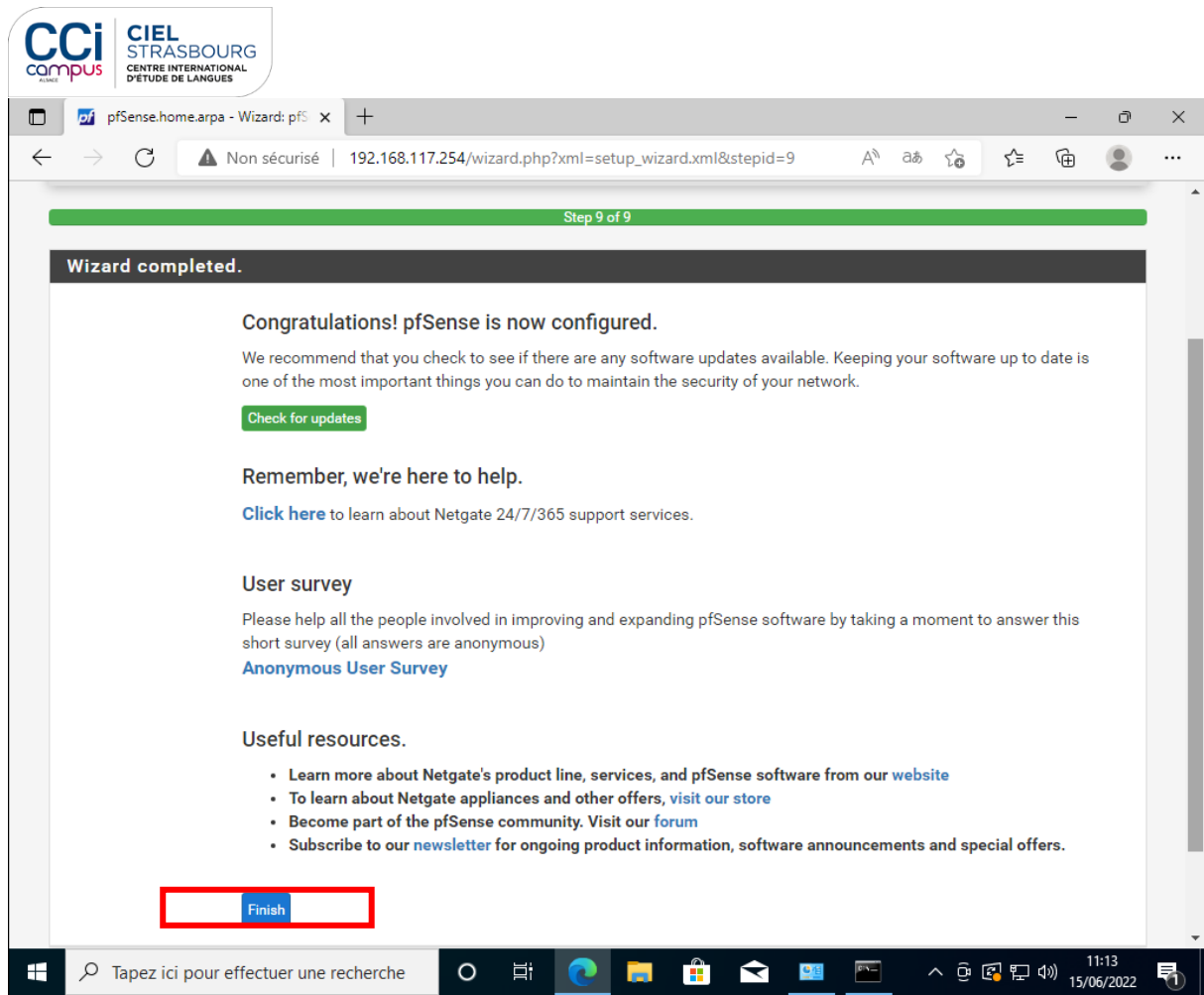
On this screen the Local Area Network information will be configured.

LAN IP Address
Type dhcp if this interface uses DHCP to obtain its IP address.

Subnet Mask

[Next](#)

- Mettre l'adresse ip du serveur



- La pré configuration est terminée, dans un premier temps on va changer le mot de passe

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pfSense.home.arp - Status: Das x +

Non sécurisé | 192.168.117.254

pfSense COMMUNITY EDITION

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

WARNING: The 'admin' account password is set to the default value. [Change the password in the User Manager.](#)

Status / Dashboard

System Information

Name	pfSense.home.arp
User	admin@192.168.117.100 (Local Database)
System	VMware Virtual Machine Netgate Device ID: 84e49a9bc7f1ad9ddfd8
BIOS	Vendor: Phoenix Technologies LTD Version: 6.00 Release Date: Thu Nov 12 2020
Version	2.6.0-RELEASE (amd64) built on Mon Jan 31 19:57:53 UTC 2022 FreeBSD 12.3-STABLE Obtaining update status
CPU Type	11th Gen Intel(R) Core(TM) i5-1135G7 @ 2.40GHz AES-NI CPU Crypto: Yes (inactive) QAT Crypto: No
Hardware crypto	

Netgate Services And Support

Contract type Community Support
Community Support Only

NETGATE AND pfSense COMMUNITY SUPPORT RESOURCES

If you purchased your pfSense gateway firewall appliance from Netgate and elected **Community Support** at the point of sale or installed pfSense on your own hardware, you have access to various community support resources. This includes the **NETGATE RESOURCE LIBRARY**.

You also may upgrade to a Netgate Global Technical Assistance Center (TAC) Support subscription. We're always on! Our team is staffed 24x7x365 and committed to delivering enterprise-class, worldwide support at a price point that is more than competitive when compared to others in our space.

- Upgrade Your Support
- Community Support Resources

System / User Manager / Users / Edit

Users Groups Settings Authentication Servers

User Properties

Defined by	SYSTEM
Disabled	<input type="checkbox"/> This user cannot login
Username	admin
Password	<input type="password"/> Password <input type="password"/> Confirm Password
Full name	System Administrator User's full name, for administrative information only
Expiration date	<input type="text"/> Leave blank if the account shouldn't expire, otherwise enter the expiration date as MM/DD/YYYY
Custom Settings	<input type="checkbox"/> Use individual customized GUI options and dashboard layout for this user.

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pfSense.home.arpa - System: User Manager / Users

System / User Manager / Users

Users Groups Settings Authentication Servers

	Username	Full name	Status	Groups	Actions
<input type="checkbox"/>	admin	System Administrator	✓	admins	

[+ Add](#) [Delete](#)

- Configuration DHCP

pfSense.home.arpa - Services: DHCP

Non sécurisé | 192.168.117.254/services_dhcp.php

Enable ☒ Enable DHCP server on LAN interface

BOOTP ☐ Ignore BOOTP queries

Deny unknown 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 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 below (i.e. for this interface) will get an IP address within this scope/range.

Ignore denied clients ☐ Denied clients will be ignored rather than rejected.
 This option is not compatible with failover and cannot be enabled when a Failover Peer IP address is configured.

Ignore client identifiers ☐ If a client includes a unique identifier in its DHCP request, that UID will not be recorded in its lease.
 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.

Subnet 192.168.117.0

Subnet mask 255.255.255.0

Available range 192.168.117.1 - 192.168.117.254

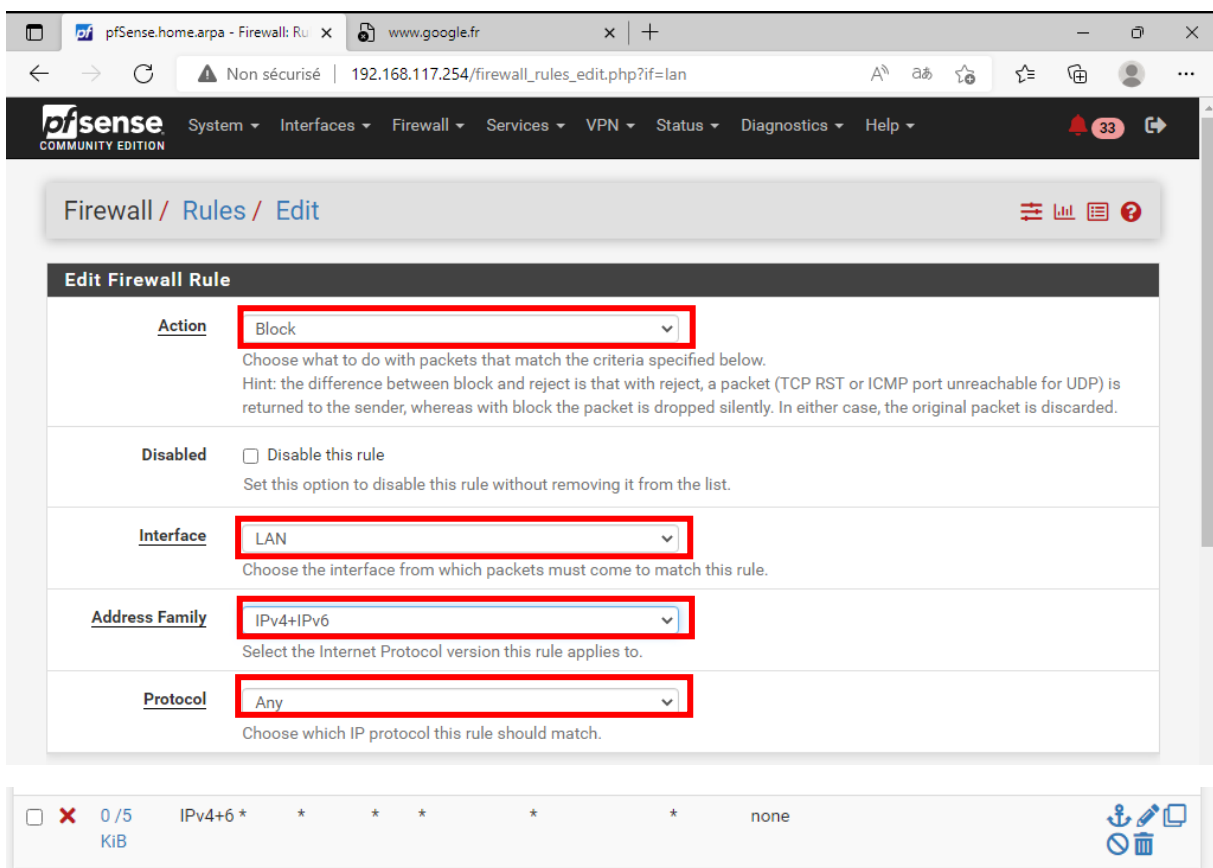
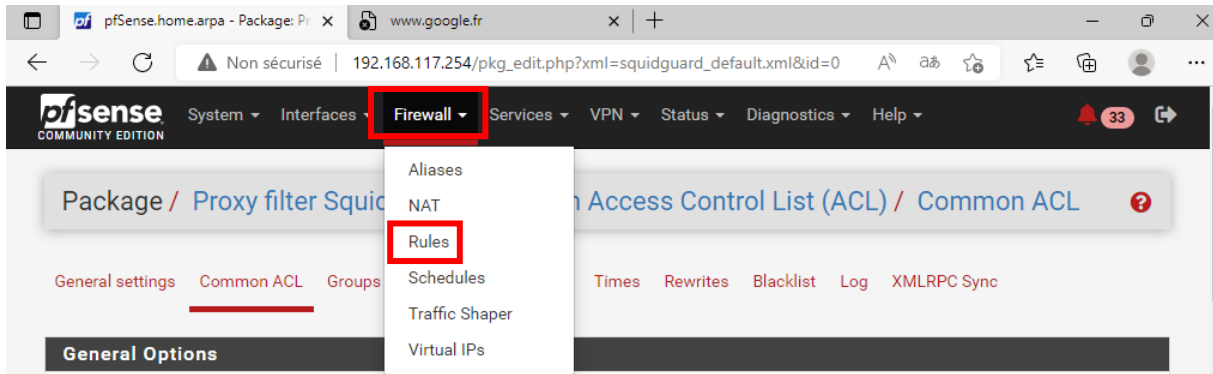
Range
 From To

- La configuration est maintenant terminée



4) Filtrage « deny all »

- Il faut aller dans Pare-feu > règles > LAN > ajouter > block > et le reste on laisse any et on ajoute



5) Filtrage internet (par règle)



Pour le filtrage internet on créer 4 règles :

- Pour la règle 1 c'est : Pass > IPV4+6, TCP et port 80 http
- La règle 2 c'est : Pass > IPV4+6 et port 443 https
- Règle 3 c'est : Pass > Ipv4+6 et port 53 DNS
- Enfin la 4^{ème} règle c'est : IPV4 et ICMP pour le ping

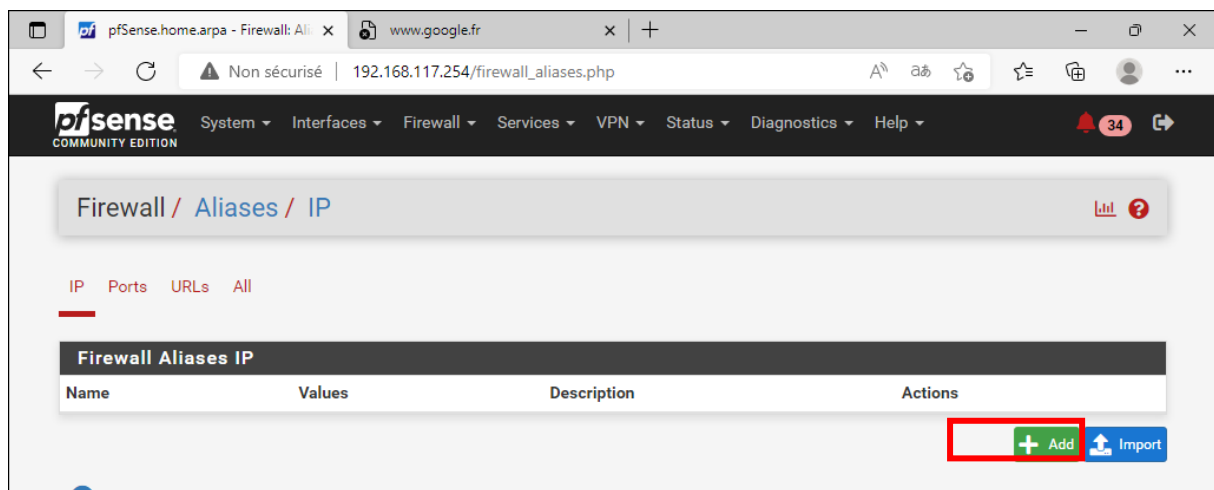
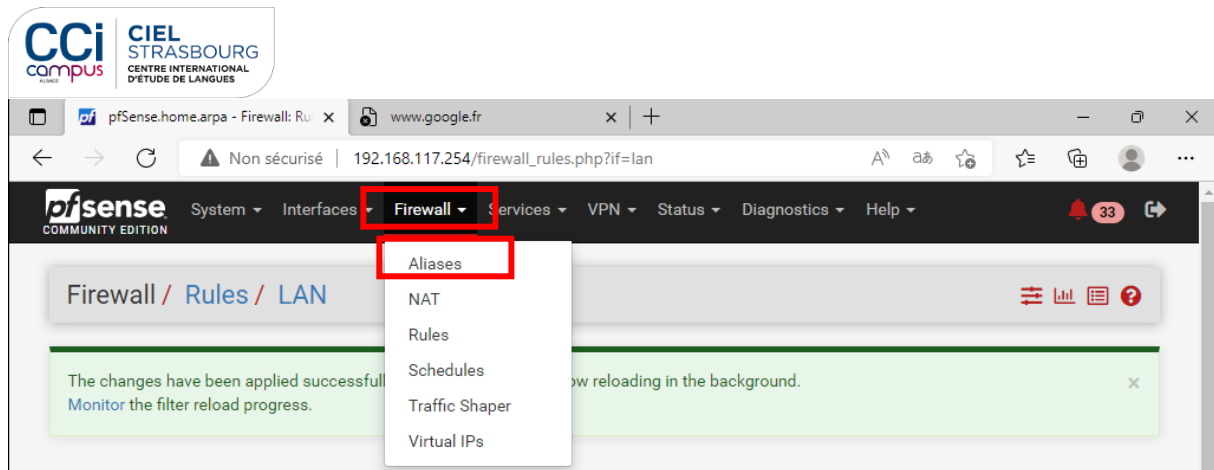
Vous deviez avoir ceci comme affichage :

Rules (Drag to Change Order)											
<input type="checkbox"/>	States	Protocol	Source	Port	Destination	Port	Gateway	Queue	Schedule	Description	Actions
<input checked="" type="checkbox"/>	3 / 39 KiB	*	*	*	LAN Address	80	*	*		Anti-Lockout Rule	
<input type="checkbox"/>		0 / 0 B	IPv4 ICMP any	*	*	*	*	none			
<input type="checkbox"/>		0 / 0 B	IPv4+6 TCP	*	*	*	443 (HTTPS)	none			
<input type="checkbox"/>		0 / 0 B	IPv4+6 TCP	*	*	*	80 (HTTP)	none			
<input type="checkbox"/>		4 / 4 KiB	IPv4+6 TCP/UDP	*	*	*	53 (DNS)	none			
<input type="checkbox"/>		0 / 0 B	IPv4 *	LAN net	*	*	*	none		Default allow LAN to any rule	
<input type="checkbox"/>		0 / 0 B	IPv6 *	LAN net	*	*	*	none		Default allow LAN IPv6 to any rule	
<input type="checkbox"/>		0 / 5 KiB	IPv4+6 *	*	*	*	*	none			

5.1) Filtrage internet (par alias)

Les aliases nous permettent de de rassembler les règles vues précédemment dans une seule règle en soit mettre les ports sur une seul règle

Firewall > Aliases > Add > puis on renseigne les éléments et save



Firewall / Aliases / Edit

Properties

Name Filtrage_Internet_Aliases
The name of the alias may only consist of the characters "a-z, A-Z, 0-9 and _".

Description Port_53_80_443
A description may be entered here for administrative reference (not parsed).

Type Port(s)

Port(s)

Hint Enter ports as desired, with a single port or port range per entry. Port ranges can be expressed by separating with a colon.

Port	Protocol	Action
53	DNS	Delete
80	http	Delete
443	https	Delete

Firewall / Aliases / Ports

IP Ports URLs All

Firewall Aliases Ports

Name	Values	Description	Actions
Filtrage_Internet_Aliases	53, 80, 443	Port_53_80_443	

Add Import

Pour finir on peut ajouter l'alias dans une règle pour cela il faut retourner dans firewall > rules > choisir une règle > puis changer le port et mettre en personnalisé et mettre le nom de notre alias

Destination

Destination

☐ Invert match

any

Destination Address

/

Destination Port Range

HTTPS (443)

HTTPS (443)

From

Custom

To

Custom

Specify the destination port or port range for this rule. The "To" field may be left empty if only filtering a single port.

Destination

Destination

☐ Invert match

any

Destination Address /

Destination Port Range

(other)

From

Filtrage_Internet_A

Custom

To

(other)

Custom

Filtrage_Internet_A

Specify the destination port or port range for this rule. The "To" field may be left empty if only filtering a single port.

Protocol	Port	Direction	Source	Destination	Filter	Filter Name	Filter Action
IPV4 ICMP	*	*	*	*	any	any	none
IPV4+6 TCP	*	*	*	Filtering Internet Aliases	Filtering Internet Aliases	Filtering Internet Aliases	Filtering Internet Aliases
IPV4+6 TCP	*	*	*	80 (HTTP)	80 (HTTP)	80 (HTTP)	80 (HTTP)

Voilà notre aliases est créé.