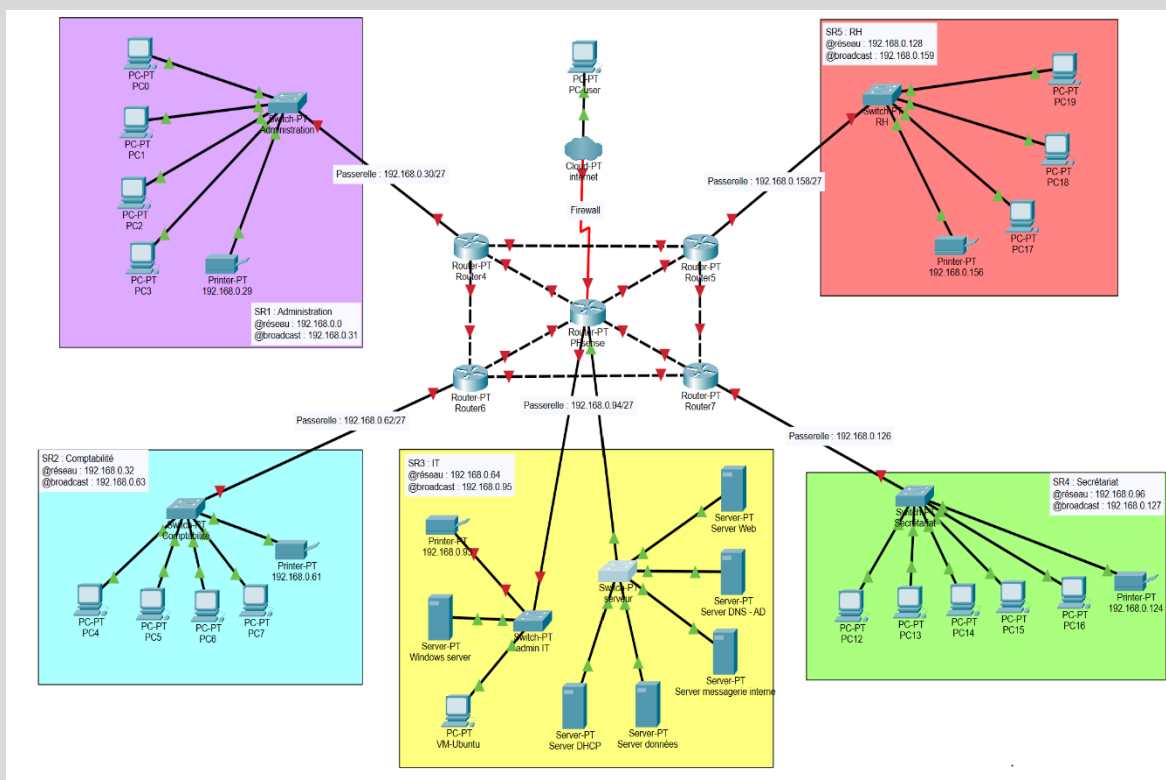


## Hariharani THEIVENDRAM Youri DENDELE BTS SIO - SISR



16/01/2024 au 26/03/2024



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## I. PFsense (routeur)

### 1. Installation de PFsense

#### 1.1. Configuration basique

Grâce à l'ISO, on va installer le PFsense dans notre réseau virtuel sur VirtualBox.

Appuyer sur :

Nouvelle > Nom : PFsense

Folder : l'emplacement de votre VM.

ISO Image : indiquer le chemin vers l'ISO pfsense

Hardware > Mémoire vive : 1024 MB

Processors : 2 CPUs

Virtual hard disk : cliquer sur create a virtual hard disk now.

Disk size > 25 Go

Cliquer sur suivant.

Nouvelle Ajouter Configuration Oublier Démarrer

**Général**

Nom : PFsense  
Système d'exploitation : FreeBSD (64-bit)

**System**

Mémoire vive : 1024 Mo  
Processeurs : 2  
Ordre d'amorçage : Disquette, Optique, Disque dur  
Accélération : Pagination imbriquée

**Prévisualisation**

PFsense

**Affichage**

Mémoire vidéo : 16 Mo  
Facteur d'échelle : 1.75  
Contrôleur graphique : VMSVGA  
Serveur de bureau à distance : Désactivé  
Enregistrement : Désactivé

**Stockage**

Contrôleur : IDE  
Maître primaire IDE : PFsense.vdi (Normal, 5,71 Gio)

**Audio**

Pilote hôte : Par défaut  
Contrôleur : ICH AC97

**Réseau**

Interface 1: Intel PRO/1000 MT Desktop (Interface pont Intel(R) Wi-Fi 6 AX201 160MHz )  
Interface 2: Intel PRO/1000 MT Desktop (Réseau interne, 'LAN\_VM')

**USB**

Contrôleur USB : OHCI, EHCI  
Filtres de périphérique : 0 (0 actif)

**Dossiers partagés**

Aucun

**Description**

Aucune



## 1.2. Configuration de la carte réseau

Cliquer sur configuration > réseau

Adaptateur 1 :

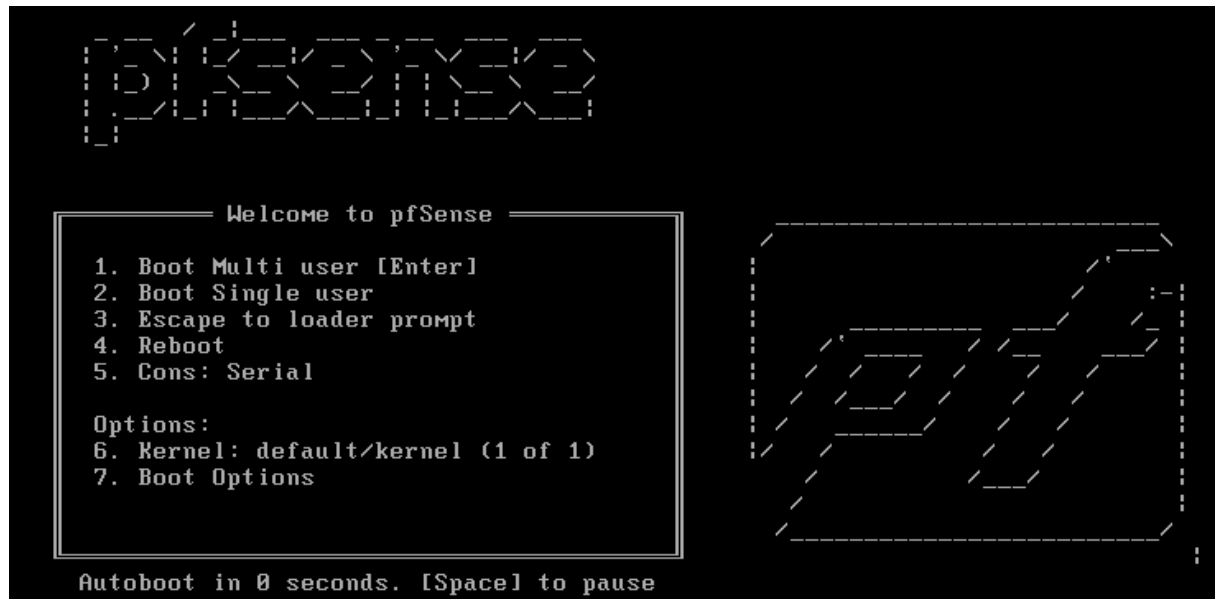
The screenshot shows the 'Réseau' (Network) configuration page for 'Adapter 1' in the PFsense interface. The left sidebar contains a menu with options: Général, Système, Affichage, Stockage, Son, Réseau (selected), Ports séries, USB, Dossiers partagés, and Interface utilisateur. The main content area is titled 'Réseau' and has tabs for Adapter 1, Adapter 2, Adapter 3, and Adapter 4. Under 'Adapter 1', the 'Activer l'interface réseau' checkbox is checked. The 'Mode d'accès réseau' is set to 'Accès par pont'. The 'Name' is 'Intel(R) Wi-Fi 6 AX201 160MHz'. The 'Advanced' section is expanded, showing 'Type d'interface' as 'Intel PRO/1000 MT Desktop (82540EM)', 'Mode Promiscuité' as 'Allow All', and 'Adresse MAC' as '080027B7E74E'. The 'Câble branché' checkbox is checked. At the bottom are buttons for 'OK', 'Annuler', and 'Aide'.

Adaptateur 2 :

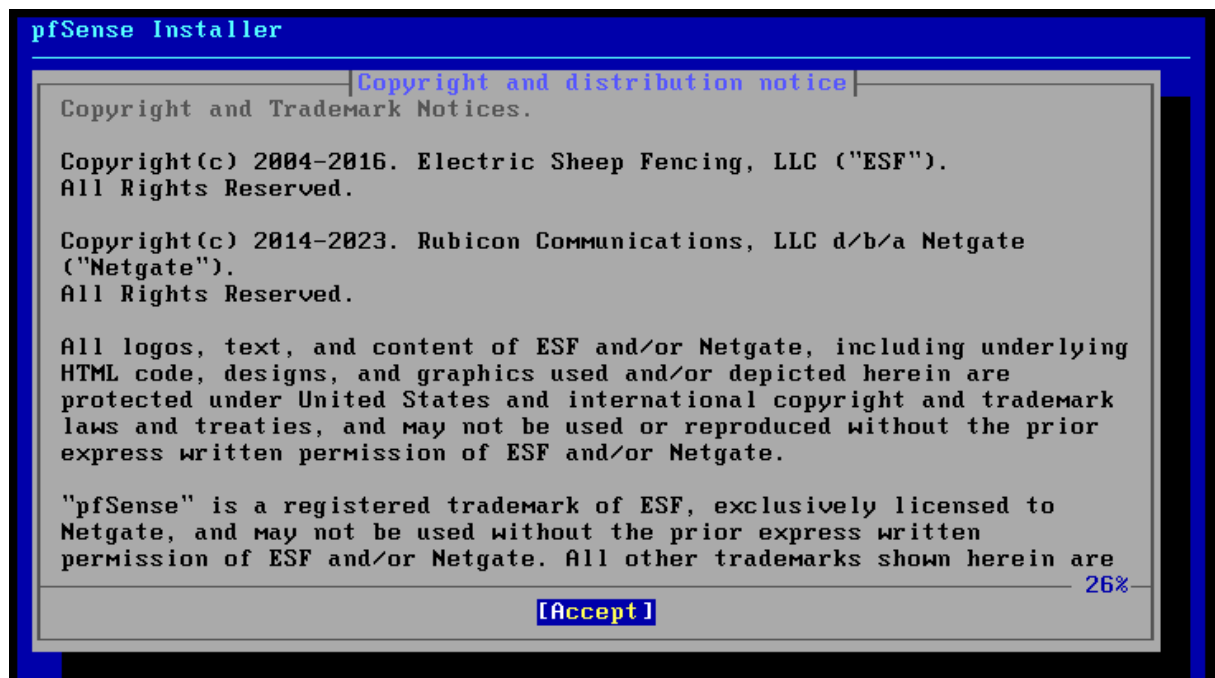
The screenshot shows the 'Réseau' (Network) configuration page for 'Adapter 2' in the PFsense interface. The left sidebar is the same as in the previous screenshot. The main content area is titled 'Réseau' and has tabs for Adapter 1, Adapter 2 (selected), Adapter 3, and Adapter 4. Under 'Adapter 2', the 'Activer l'interface réseau' checkbox is checked. The 'Mode d'accès réseau' is set to 'Réseau interne'. The 'Name' is 'LAN\_VM'. The 'Advanced' section is expanded, showing 'Type d'interface' as 'Intel PRO/1000 MT Desktop (82540EM)', 'Mode Promiscuité' as 'Allow All', and 'Adresse MAC' as '08002731F098'. The 'Câble branché' checkbox is checked. At the bottom are buttons for 'OK', 'Annuler', and 'Aide'.



### 1.3. License PfSense



Suivre les étapes suivantes :





## pfSense Installer

### Welcome

Welcome to pfSense!

**Install**

**Rescue Shell**

**Recover config.xml**

**Install pfSense**

Launch a shell for rescue operations

Recover config.xml from a previous install

< **OK** >

<Cancel>

## pfSense Installer

### Partitioning

How would you like to partition your disk?

**Auto (ZFS)**

Guided Root-on-ZFS

**Auto (UFS)**

**Guided UFS Disk Setup**

**Manual**

Manual Disk Setup (experts)

**Shell**

Open a shell and partition by hand

< **OK** >

<Cancel>

Menu options help choose which disk to setup using UFS and standard partitions



## FreeBSD Installer

### Partition

Would you like to use this entire disk (da0) for pfSense or partition it to share it with other operating systems? Using the entire disk will erase any data currently stored there.

[Entire Disk]

[ Partition ]

## FreeBSD Installer

### Partition Scheme

Select a partition scheme for this volume:

- APM Apple Partition Map
- BSD BSD Labels
- GPT GUID Partition Table
- MBR DOS Partitions

[ OK ]

[Cancel]

Bootable on most x86 systems



## FreeBSD Installer

## Partition Editor

Please review the disk setup. When complete, press the Finish button.

da0	20 GB MBR
da0s1	20 GB BSD
da0s1a	19 GB freebsd-ufs /
da0s1b	1.0 GB freebsd-swap none

[Create] [Delete] [Modify] [Revert] [Auto] [Finish]

## FreeBSD Installer

## Confirmation

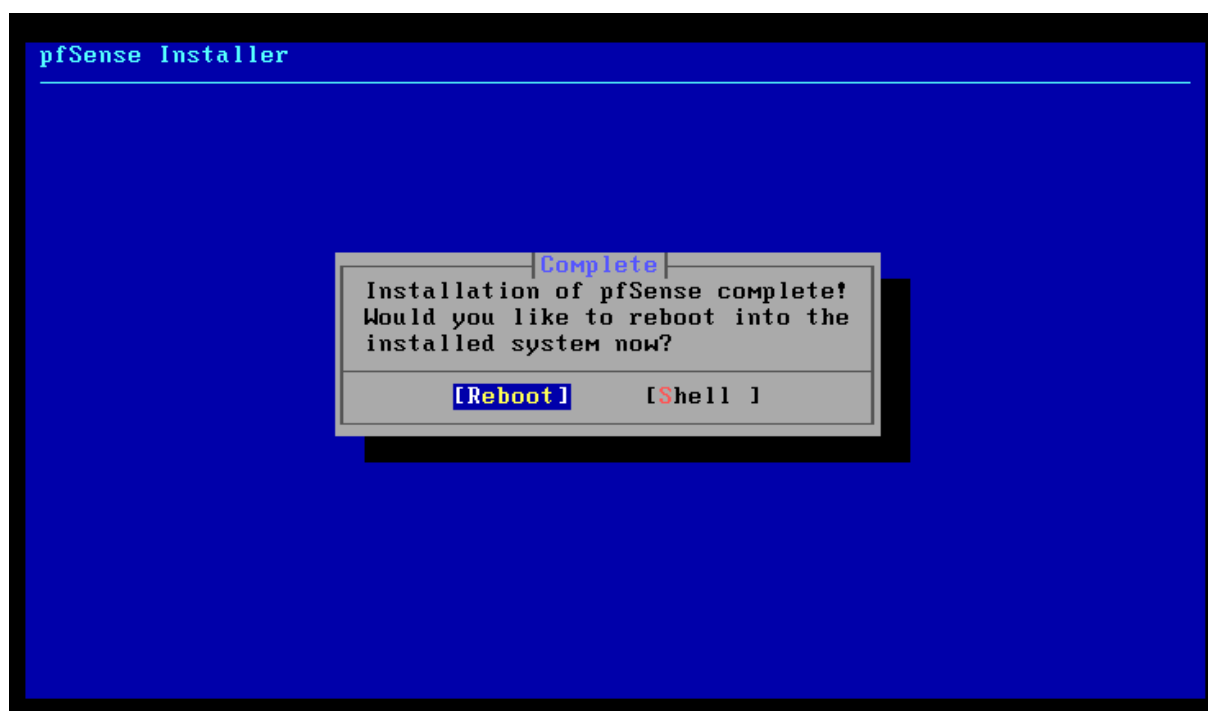
Please review the disk setup. When complete, press the Finish button.

Your changes will now be written to disk. If you have chosen to overwrite existing data, it will be PERMANENTLY ERASED. Are you sure you want to commit your changes?

[Commit] [Revert & Exit] [Back]

[Create] [Delete] [Modify] [Revert] [Auto] [Finish]







PFsense va se lancer, tester et configurer les services dont il a besoin.

Ejecter le disque et reboot la machine.

```
Starting device manager (devd)...2023-08-14T16:36:43.739744+00:00 - php-fpm 372
- - /rc.linkup: DHCP Client not running on wan (em0), reconfiguring dhclient.
2023-08-14T16:36:43.768898+00:00 - php-fpm 371 - - /rc.linkup: Ignoring link eve
nt during boot sequence.
done.
Loading configuration....done.
Updating configuration.....Migrating System Memory RRD file to new format
.done.
Checking config backups consistency...done.
Setting up extended sysctls...done.
Setting timezone...done.
Configuring loopback interface...done.
Starting syslog...done.
Setting up interfaces microcode...done.
Configuring loopback interface...done.
Configuring LAN interface...done.
Configuring WAN interface...done.
Configuring CARP settings...done.
Syncing OpenVPN settings...done.
Configuring firewall.....done.
Starting PFLOG...done.
Setting up gateway monitors...done.
Setting up static routes...done.
Setting up DNSs...
Starting DNS Resolver...█
```

Une fois que le démarrage est finalisé, il y aura cette page :

```
Starting syslog...done.
Starting CRON... done.
pfSense 2.7.0-RELEASE amd64 Wed Jun 28 03:53:34 UTC 2023
Bootup complete

FreeBSD/amd64 (pfSense.home.arp) (ttyv0)

VMware Virtual Machine - Netgate Device ID: a86f287011fe9e1cd7a2

*** Welcome to pfSense 2.7.0-RELEASE (amd64) on pfSense ***

WAN (wan)      -> em0      -> v4/DHCP4: 10.128.0.1/8
LAN (lan)      -> em1      -> v4: 192.168.1.1/24

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: █
```



## 2. Configuration PfSense

### 2.1. Configuration des interfaces

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

Please wait while the changes are saved to WAN...
Reloading filter...
Reloading routing configuration...
Press <ENTER> to continue.
VirtualBox Virtual Machine - Netgate Device ID: 0477fecb9fcc76bdf429

*** Welcome to pfSense 2.7.2-RELEASE (amd64) on pfSense ***

WAN (wan)      -> em0      ->
LAN (lan)      -> em1      ->

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
```

On va tout d'abord déterminer les interfaces.

*Enter an option : 1 <entrée>*

*Should VLANs be set up now [y/n]? n <entrée>*

*Enter the WAN interface name or "a" for auto-detection (em0 or a) : em0 <entrée>*

*Enter the LAN interfaces name or "a" for auto-detection (a or nothing if finished) : em1 <entrée>*

*Enter the OPT1 interfaces name or "a" for auto-detection (a or nothing if finished) : em2 <entrée>*

*Do you want to proceed [y/n] : y <entrée>*

Le menu PfSense s'affiche à nouveau.

### 2.2. Attribution des adresses réseau

#### WAN-em0

*Enter an option : 2 <entrée>*

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

*Configure IPV4 address WAN interface via DHCP?(y/n) y*

*Configure IPV6 address WAN interface via DHCP 6(y/n) n*



*Enter the new wan IPv6 address. Press <ENTER> for none:*

*The IPv4 WAN address has been set to dhcp*

*Press <ENTER> to continue. <ENTER>.*

### LAN-em1 (SR-IT)

La même configuration, mais ici on va utiliser l'adresse IPv4 : 192.168.3.254 avec le masque /24.

A la fin nous allons configurer le DHCP avec :

*Enter an option : 2 <entrée>*

*Enter the number of interface you wish to configure:2*

*Configure IPV4 address LAN interface via DHCP?(y/n) n*

*Enter the new wan IPv4 address. Press <ENTER> for none:*

*192.168.3.1*

*Enter the new LAN IPv4 subnet bit count (1 to 32)*

*24*

*For a WAN,enter the new LAN IPv4 upstream gateway address.*

*For a LAN,press <ENTER> for none*

*192.168.3.254*

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

*Configure IPV6 address LAN interface via DHCP 6(y/n) n*

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

*Do you want to enable the dhcp server on LAN?(y/n) Y*

*Enter the start address of the IPV4 client address range : 192.168.3.1*

*Enter the end address of the IPV4 client address range : 192.168.3.252*

*The IPv4 WAN address has been set to 192.168.3.1 /24*

*Press <ENTER> to continue. <ENTER>.*

**OPT1-em2 (SR-SERVER)**

La même configuration, mais ici on va utiliser l'adresse IPv4 : 192.168.4.254 avec le masque /24.

A la fin nous allons configurer le DHCP avec :

*Enter an option : 2 <entrée>*

*Enter the number of interface you wish to configure:3*

*Configure IPV4 address LAN interface via DHCP?(y/n) n*

*Enter the new wan IPv4 address. Press <ENTER> for none:*

*192.168.4.1*

*Enter the new LAN IPv4 subnet bit count (1 to 32)*

*24*

*For a WAN,enter the new LAN IPv4 upstream gateway address.*

*For a LAN,press <ENTER> for none*

*192.168.4.254*

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

*Configure IPV6 address LAN interface via DHCP 6(y/n) n*

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

*Do you want to enable the dhcp server on LAN?(y/n) n*

*The IPv4 WAN address has been set to 192.168.3.1 /24*

*Press <ENTER> to continue. <ENTER>.*

**➔ TESTER LA COMMUNICATION:**

*Routeur vers le WAN*

*Enter an option : 7 <entrée>*

*Enter the host name or IP address:8.8.8.8*

*Routeur vers le server ubuntu :*

*Routeur vers le WAN*

*Enter an option : 7 <entrée>*

*Enter the host name or IP address:192.168.4.2*



## II. Serveur LAMP-IIS-SMTP-BDD-BACKUPMANAGER

### 1. Installation de UBUNTU sur VirtualBox

Grâce à l'ISO on va installer le Ubuntu dans notre réseau virtuel sur VirtualBox.

Appuyer sur :

Nouvelle > Nom : SRV-LAMP-SMTP-BDD-IIS

Folder : l'emplacement de votre VM.

ISO Image : indiquer le chemin vers l'ISO ubuntu

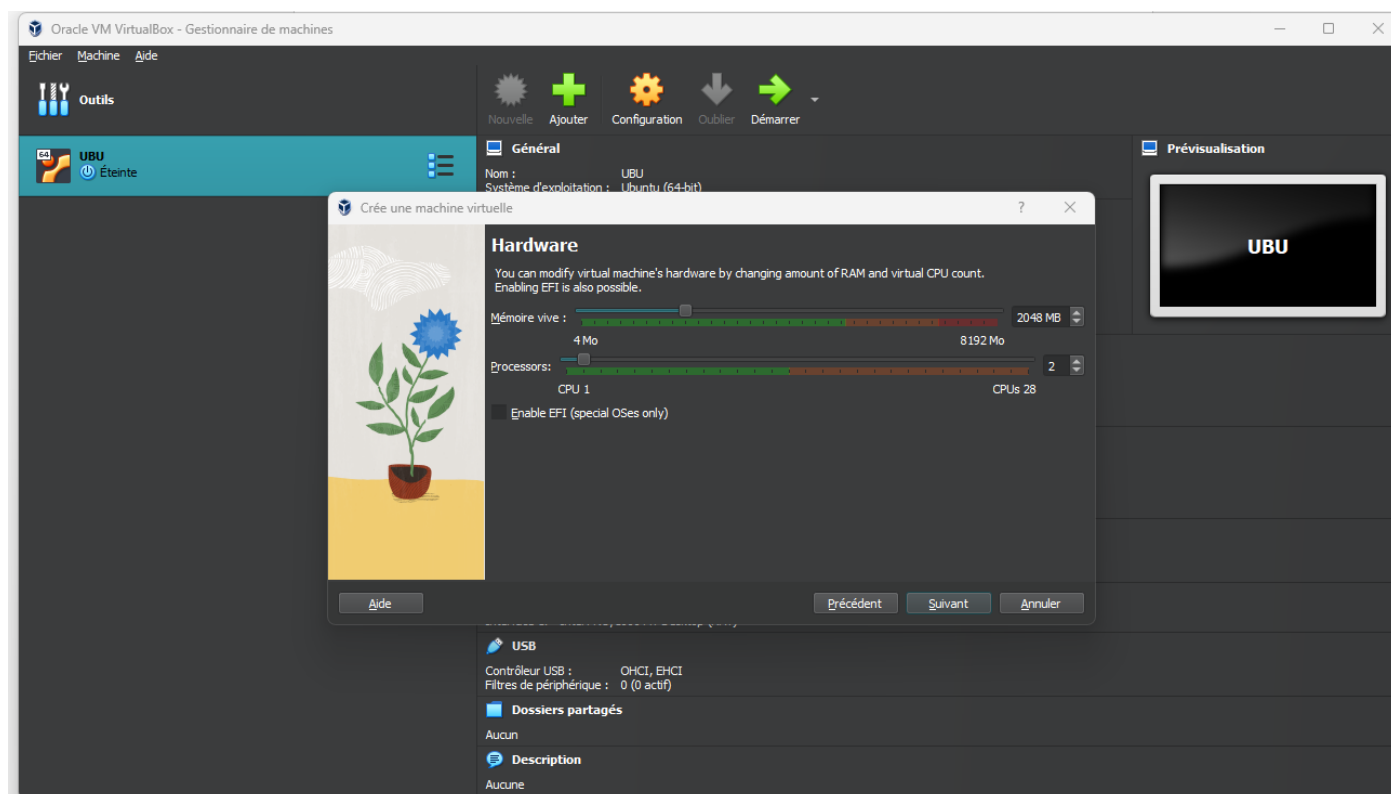
Hardware > Mémoire vive : 2048 MB

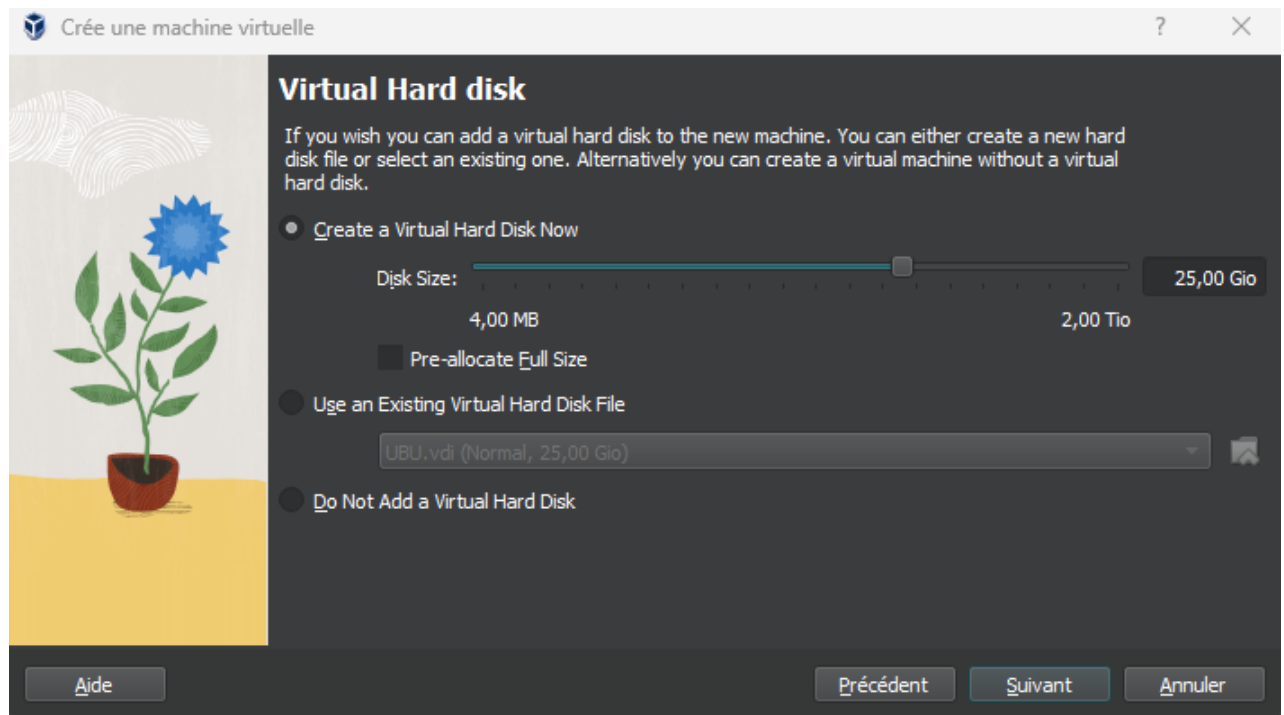
Processors : 4 CPUs

Virtual hard disk : cliquer sur create a virtual hard disk now.

Disk size > 25Go

Cliquer sur suivant.





## 2. Installation du terminator

Une fois connecté à la session, installer terminator :

Si le terminal ne se lance pas, effectuer les commandes suivantes pour accéder à TTY3 :

**Ctrl+alt+F3**

Entrée le login/mot de passe utilisateur de votre machine.

Appuyer sur entrée, taper les commandes suivantes :

**Sudo apt update**

**su**

**Visudo**

```
# User privilege specification
root                ALL=(ALL:ALL) ALL
vboxuser            ALL=(ALL:ALL) ALL

root@Ubuntun:~# exit
```

Se diriger dans user privilege spécification.



Effectuer un copier-coller du root ou réécrire la commande avec le nom de sa machine.

(vboxuser ALL=(ALL:ALL) ALL)

Apt get install terminator

### 3. Apache

<https://www.digitalocean.com/community/tutorials/how-to-install-the-apache-web-server-on-ubuntu-20-04-fr>


#### 3.1. Installation Apache

Sudo apt update

Sudo apt install apache2

Sudo systemctl status apache2

Une fois l'installation terminée cette page s'affiche.



## Apache2 Ubuntu Default Page

### ubuntu

**It works!**

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Ubuntu systems. It is based on the equivalent page on Debian, from which the Ubuntu Apache packaging is derived. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should **replace this file** (located at `/var/www/html/index.html`) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

#### Configuration Overview

Ubuntu's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Ubuntu tools. The configuration system is **fully documented in** `/usr/share/doc/apache2/README.Debian.gz`. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the **manual** if the `apache2-doc` package was installed on this server.

The configuration layout for an Apache2 web server installation on Ubuntu systems is as follows:

```
/etc/apache2/
|-- apache2.conf
|   |-- ports.conf
|-- mods-enabled
|   |-- *.load
|   |-- *.conf
|-- conf-enabled
|   |-- *.conf
|-- sites-enabled
|   |-- *.conf
```

- `apache2.conf` is the main configuration file. It puts the pieces together by including all remaining configuration files when starting up the web server.
- `ports.conf` is always included from the main configuration file. It is used to determine the listening ports for incoming connections, and this file can be customized anytime.
- Configuration files in the `mods-enabled/`, `conf-enabled/` and `sites-enabled/` directories contain particular configuration snippets which manage modules, global configuration fragments, or virtual host configurations, respectively.
- They are activated by symlinking available configuration files from their respective `*-available/` counterparts. These should be managed by using our helpers `a2enmod`, `a2dismod`, `a2ensite`, `a2dissite`, and `a2enconf`, `a2disconf`. See their respective man pages for detailed information.
- The binary is called `apache2`. Due to the use of environment variables, in the default configuration, `apache2` needs to be started/stopped with `/etc/init.d/apache2` or `apache2ctl`. Calling `/usr/bin/apache2` directly will not work with the default configuration.

#### Document Roots

By default, Ubuntu does not allow access through the web browser to any file apart of those located in `/var/www`, `public_html` directories (when enabled) and `/usr/share` (for web applications). If your site is using a web document root located elsewhere (such as in `/srv`) you may need to whitelist your document root directory in `/etc/apache2/apache2.conf`.

The default Ubuntu document root is `/var/www/html`. You can make your own virtual hosts under `/var/www`. This is different to previous releases which provides better security out of the box.

#### Reporting Problems

Please use the `ubuntu-bug` tool to report bugs in the Apache2 package with Ubuntu. However, check **existing bug reports** before reporting a new bug.

Please report bugs specific to modules (such as PHP and others) to respective packages, not to the web server itself.





## 4. MySQL

<https://doc.ubuntu-fr.org/mysqlda>

### 4.1. Installation MySQL

Taper les commandes suivantes :

**Sudo apt install mysql-server**

**Sudo systemctl start mysql**

### 4.2. Accéder à la console

**Sudo mysql**

### 4.3. Créer un utilisateur

**Mysql> create user 'handy'@'localhost' identified by 'connexion';**

### 4.4. Privilèges

**Mysql> grant all on \*.\* to 'handy'@'localhost';**

### 4.5. Créer une base de données

**Mysql> create database client;**

## 5. PhpMyAdmin

<https://www.malekal.com/installer-phpmyadmin-ubuntu-debian/>

<https://www.youtube.com/watch?v=rTKi6cfMVF0&t=291s>

**sudo apt update & sudo apt upgrade**

**sudo mysql\_secure\_installation**

**press y|Y for Yes, any other key for No : y**

**please enter 0 = LOW, 1 = MEDIUM and 2 = STRONG : 0**

**remove anonymous users? (Press y|Y for yes, any other key for no) : y**

Une fois installé, connectez-vous à l'interpréteur de commandes MySQL via la commande suivante :

**Sudo mysql**



**ALTER USER 'root'@'localhost' IDENTIFIED with mysql\_native\_password by 'dirtechit';**

**sudo service mysql restart**

**sudo mysql**

Entrée le mot de passe mais cela ne fonctionnera pas, car vous avez attribuer le mot de passe pour l'utilisateur root.

**mysql -u root -p**

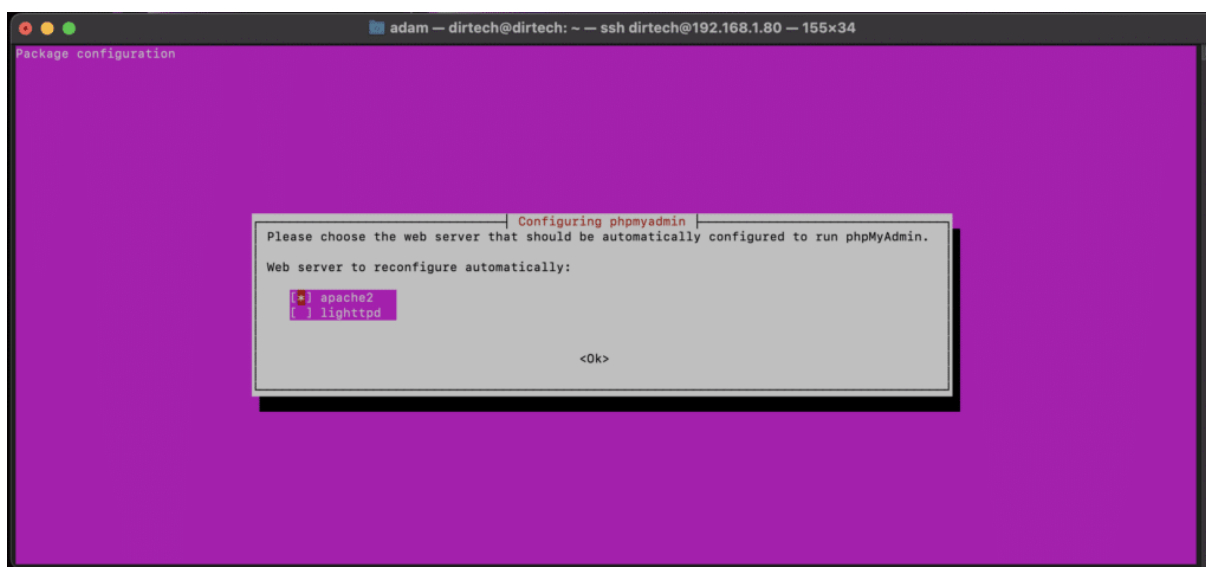
➔ Installation de PHP :

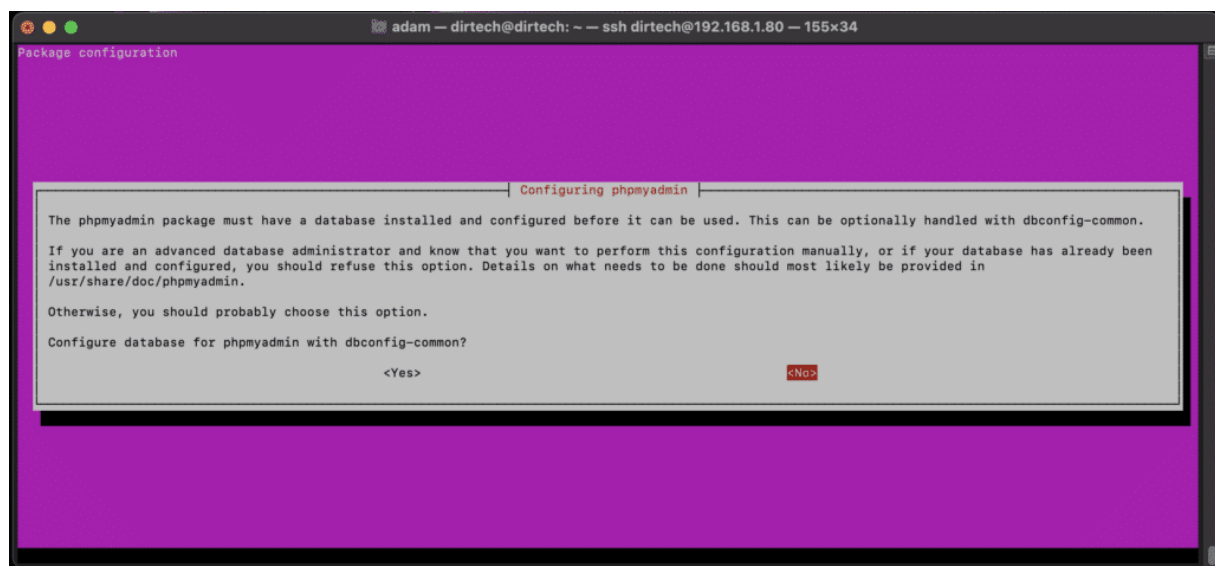
**sudo apt install php libapache2-mod-php php-mysql**

**php -v**

➔ Installation de PhpMyAdmin :

**Sudo apt install phpmyadmin**





Sudo systemctl restart apache2

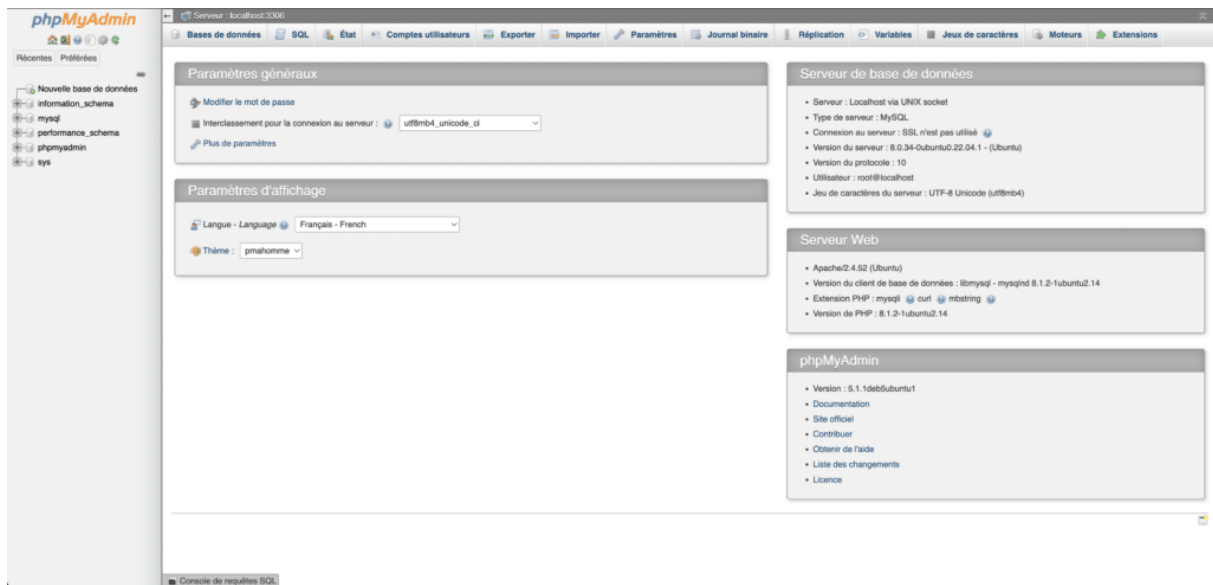
[http://votre\\_adresse\\_ip/phpmyadmin](http://votre_adresse_ip/phpmyadmin)

phpMyAdmin  
Bienvenue dans phpMyAdmin

Langue - Language  
Français - French

Connexion  
Utilisateur : root  
Mot de passe : .....

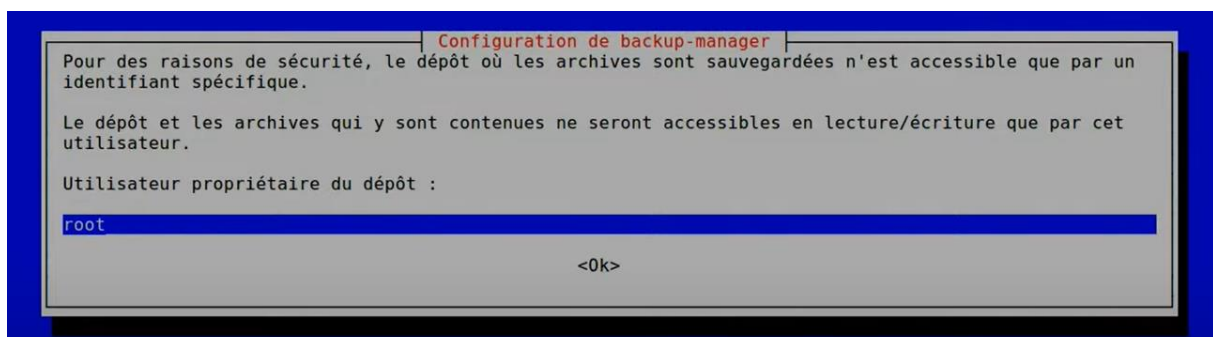
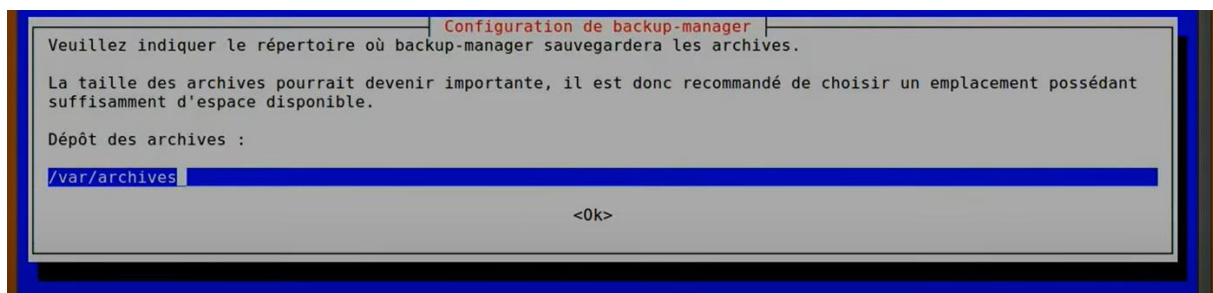
Exécuter

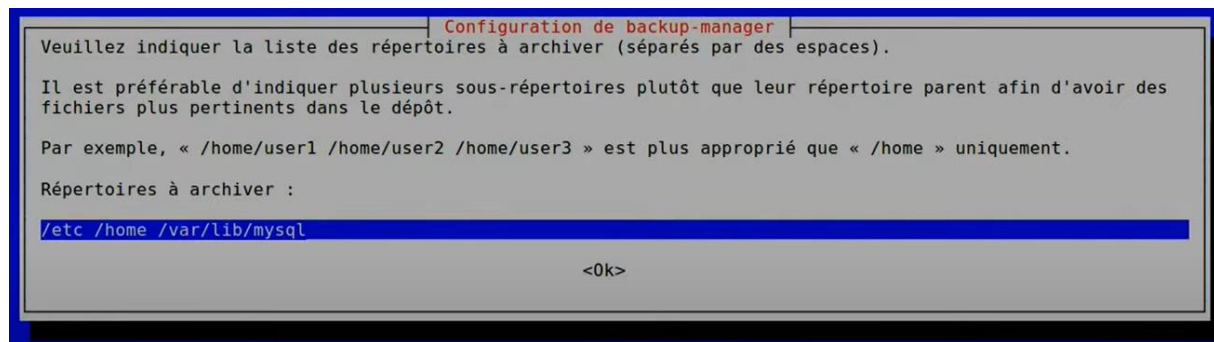


## 6. Backup manager

[https://www.youtube.com/watch?v=sL0a-HAZZ\\_k](https://www.youtube.com/watch?v=sL0a-HAZZ_k)

**apt-get install backup-manager**





**Vi /etc/backup-manager.conf**

Vérifier les configurations et ensuite accéder à la l'interface graphique.

**Cd /etc/cron.daily/**

**Vi backup-manager**

**# !/bin/sh**

**# cron script for backup-manager**

**Test -x /usr/sbin/backup-manager || exit 0**

**/usr/sbin/backup-manager**

**Exit**

**Chmod 751 backup-manager**

**Ls -l backup-manager**

**ftp ftpback-rbx2-68.ovh.net**

## 7. Serveur IIS

<https://www.youtube.com/watch?v=PQOZEjzPMc>

**Sudo su**

**Apt-get update**

**Apt-get upgrade**

**Apt-get dist-upgrade**

**Ufw app list**

**Ufw app infor "Apache Full"**



### Ufw allow in "Apache full"

Dans le navigateur, vous devez pouvoir accéder à la l'interface graphique à l'aide de votre adresse IP.

### Mysql -u root -p

```
Mysql> select user ,authentication_string,plugin,host from mysql.user;
```

Exit

### Nano /etc/apache2/mods-enabled/dir.conf

```
root@serveur-web: /home/omayma
GNU nano 2.5.3      Fichier : /etc/apache2/mods-enabled/dir.conf      Modifié
<IfModule mod_dir.c>
    DirectoryIndex index.php index.cgi index.pl index.html index.xhtml index$
</IfModule>

# vim: syntax=apache ts=4 sw=4 sts=4 sr noet

Sauver l'espace modifié (RÉPONDRE « Non » EFFACERA LES CHANGEMENTS) ?
O Oui
N Non      ^C Annuler
```

### Systemctl restarts apache2

### Nano /var/www/html/info.php

```
<?php
```

```
Phpinfo() ;
```

```
?>
```

### Nano /var/www/html/pfe.html

```
<html>
```



**<head><title>ma première page</title></head>**

**<body>**

**<center><h1>Projet PPE test</h1></center>**

**<a href="pfe2.html">voici ma 2<sup>e</sup> page</a>**

**</body>**

**</html>**

**Nano /var/www/html/pfe2.html**

**<html>**

**<head><title>ma deuxième page</title></head>**

**<body>**

**<center><h1>Projet PPE test</h1></center>**

**<a href="pfe.html">voici ma 1<sup>e</sup> page</a>**

**</body>**

**</html>**



### III. WS10-user-IT-admin

#### 1. Configuration basique

Grâce à l'ISO, on va installer le PC qui servira pour effectuer des tests par l'administrateur dans notre réseau virtuel sur VirtualBox.

Appuyer sur :

Nouvelle > Nom : WS10-user-IT-admin

Folder : l'emplacement de votre VM.

ISO Image : indiquer le chemin vers l'ISO Windows 10

Hardware > Mémoire vive : 4096 MB

Processors : 3 CPUs

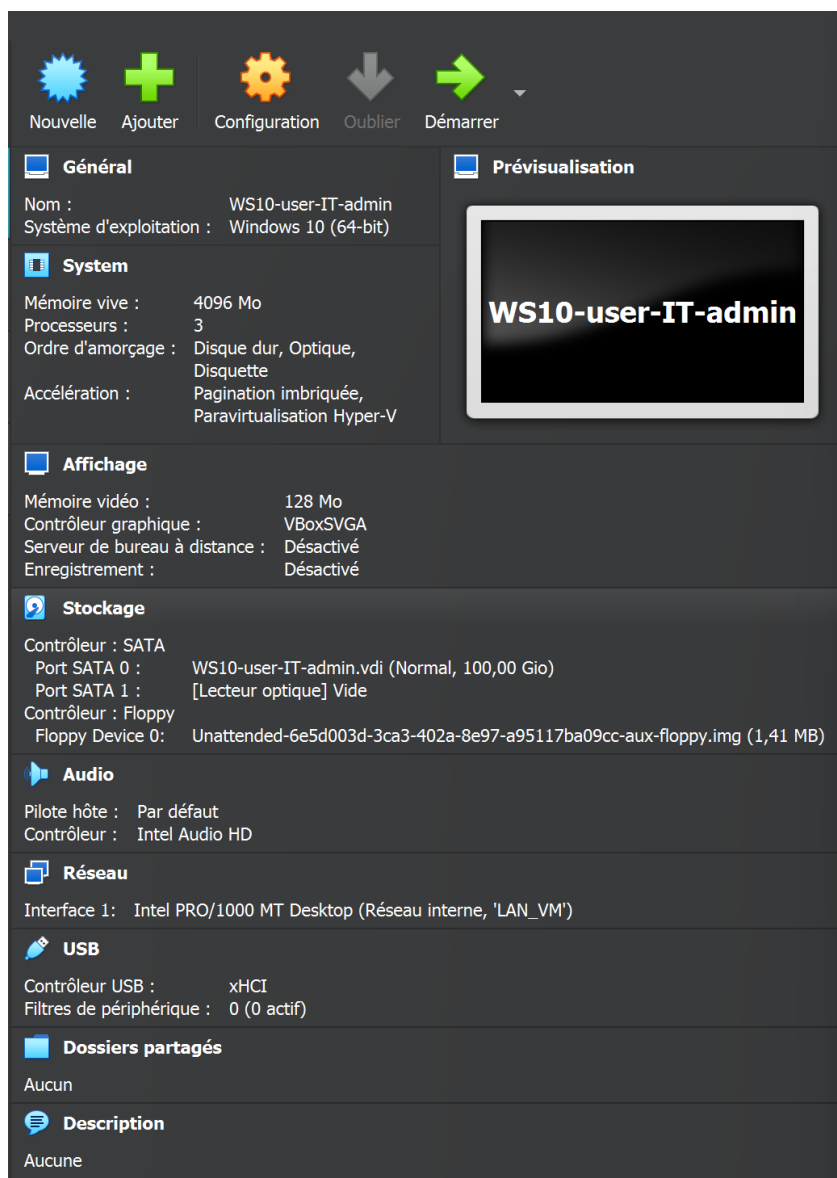
Virtual hard disk : cliquer sur  
create a virtual hard disk now.

Disk size > 100 Gio

Cliquer sur suivant.

Installation des logiciels  
:Wampserver,Visualstudio-code.

Installation







## IV. WS10-user-externe

### 1. Configuration basique

Grâce à l'ISO, on va installer le PC qui est l'hôte client, c'est-à-dire utilisé par un vrai client.

Nouvelle > Nom : WS10-user-externe

Folder : l'emplacement de votre VM.

ISO Image : indiquer le chemin vers l'ISO Windows 10

Hardware > Mémoire vive : 4096 MB

Processors : 3 CPUs

Virtual hard disk : cliquer sur create a virtual hard disk now.

Disk size > 100 Gio

Cliquer sur suivant.





## V. SRV-LAMP-SMTP-IIS

### 1. Postfix

Voici les différentes étapes pour installer et configurer votre server postfix.

Tout d'abord ouvrir le port 587 pour envoyé directement via le port :

Ouvrir le port SMTP 587 en entrée/sorti sur le pare-feu

**sudo iptables -A INPUT -p tcp --dport 587 -j ACCEPT**

**sudo iptables -A OUTPUT -p tcp --dport 587 -j ACCEPT**

C'est deux commandes de base :

**sudo apt update**

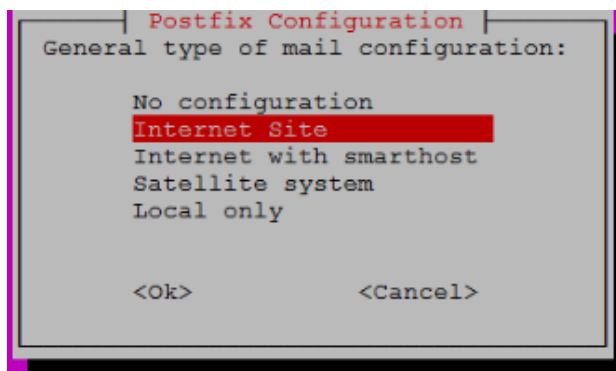
**sudo apt upgrade**

**sudo apt install postfix**

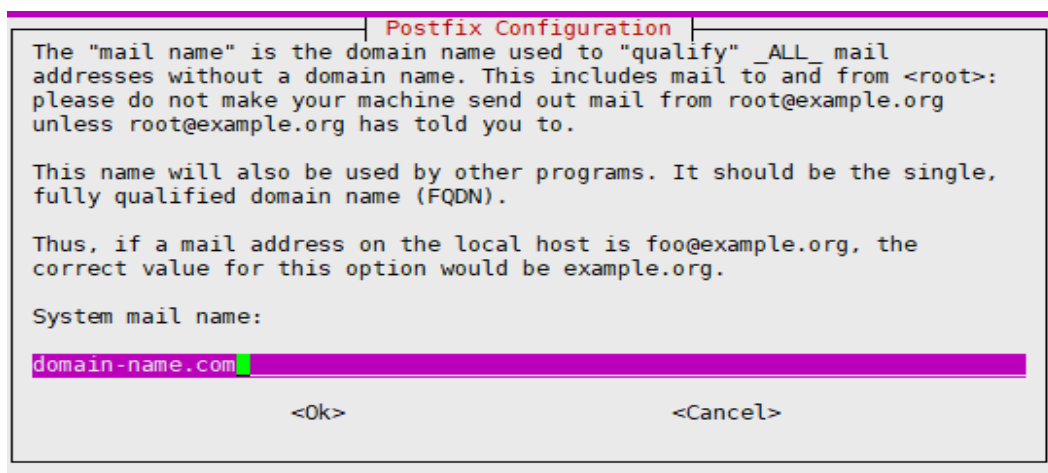
```
avlnash@ubuntu: ~  
avlnash@ubuntu:~$ sudo apt-get install postfix  
[sudo] password for avlnash:  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
Suggested packages:  
  procmail postfix-mysql postfix-pgsql postfix-ldap postfix-pcre sasl2-bin  
  dovecot-common resolvconf postfix-cdb  
The following NEW packages will be installed:  
  postfix  
0 upgraded, 1 newly installed, 0 to remove and 183 not upgraded.  
E: Could not get lock /var/cache/apt/archives/lock - open (11: Resource temporarily unavailable)  
E: Unable to lock directory /var/cache/apt/archives/  
avlnash@ubuntu:~$
```



Choisissez l'option "Site Internet" ou "Internet Site" pour une configuration standard.



Ensuite fournir un nom de domaine qualifié (FQDN) et qu'il soit correctement configuré.



Postfix utilise des fichiers de configuration principaux situés dans /etc/postfix/.

Les fichiers de configuration principaux incluent main.cf et master.cf. Vous pouvez ajuster les paramètres principaux dans main.cf en fonction de vos besoins spécifiques.



Ensuite redémarrage du service Postfix

```
sudo systemctl restart postfix
```

```
sudo systemctl enable postfix
```

Ensuite effectuer ces commandes suivantes :

```
Sudo mkdir /etc/postfix/ssl/
```

```
Cd /etc/postfix/ssl/
```

```
sudo openssl req -newkey rsa:2048 -new -nodes -x509 -days 3650 -keyout cacert-smtp-gmail.key -out cacert-smtp-gmail.pem
```

```
larevuegeek@larevuegeek-ubuntu: /etc/postfix/ssl
larevuegeek@larevuegeek-ubuntu:/$ sudo mkdir /etc/postfix/ssl/
larevuegeek@larevuegeek-ubuntu:/$ cd /etc/postfix/ssl/
larevuegeek@larevuegeek-ubuntu:/etc/postfix/ssl$ sudo openssl req -newkey rsa:2048 -new -nodes -x509 -days 3650 -keyout cacert-smtp-gmail.key -out cacert-smtp-gmail.pem
```

Il faudra aussi obligatoirement associer une clé privée à un certificat SSL est essentiel pour établir une communication sécurisée via le protocole HTTPS (HTTP sécurisé) ou d'autres protocoles sécurisés comme SMTPS (SMTP sécurisé) utilisé avec Postfix .

Des informations seront demandé mais ce n'est pas obligatoire de tout remplir car ce n'est pas un vrai certificat.

Ensuite effectuer un ls pour vérifier ceci devrait être afficher :

```
larevuegeek@larevuegeek-ubuntu:/etc/postfix/ssl$ ls
cacert-smtp-gmail.key  cacert-smtp-gmail.pem
larevuegeek@larevuegeek-ubuntu:/etc/postfix/ssl$
```

**Cacert-smtp-gmail.key** représente la clé.

**Cacert-smtp-gmail.pem** représente le certificat.



Maintenant la configuration des paramètre principaux :

**sudo nano /etc/postfix/main.cf**

Rajouter ces informations suivantes importantes :

**relayhost = [smtp.gmail.com]:587**

**smtp\_sasl\_auth\_enable = yes**

**smtp\_sasl\_password\_maps = hash:/etc/postfix/smtp\_sasl\_password\_map**

**smtp\_sasl\_security\_options = noanonymous**

**smtp\_tls\_CAfile = /etc/postfix/ssl/cacert-smtp-gmail.pem**

**smtp\_use\_tls = yes**

Ensuite pour l'enregistrement du fichier ctrl 0 ensuite ctrl x

```
relayhost = [smtp.gmail.com]:587
mynetworks = 127.0.0.0/8 [::ffff:127.0.0.0]/104 [::1]/128
mailbox_size_limit = 0
recipient_delimiter = +
inet_interfaces = all
inet_protocols = all

smtp_sasl_auth_enable = yes
smtp_sasl_password_maps = hash:/etc/postfix/smtp_sasl_password_map
smtp_sasl_security_options = noanonymous
smtp_tls_CAfile = /etc/postfix/ssl/cacert-smtp-gmail.pem
smtp_use_tls = yes
```

Maintenant on passe a Création du fichier smtp\_sasl\_password\_map:

**sudo nano /etc/postfix/smtp\_sasl\_password\_map**

Ecrire ceci dans le fichier :

**[smtp.gmail.com]:587 [USERNAME@gmail.com:MDP\\_Application](#)**

Remplacer le username l'adresse eamail choisie puis MDP\_Application par le mot de passe voulu.



Ensuite pour l'enregistrement du fichier ctrl 0 ensuite ctrl x.

Sécuriser le fichier pour que personne n'y est accès en écriture ou en lecture avec un chmod.

```
sudo chmod 400 /etc/postfix/smtp_sasl_password_map
```

```
sudo postmap /etc/postfix/smtp_sasl_password_map
```

Ensuite viendra la phase de test :

```
sudo systemctl restart postfix
```

```
sudo systemctl status postfix
```

```
echo "Ceci est un test" | mail -s "Test de Postfix" USERNAME@gmail.com
```

Vérifier les journaux de postfix pour les éventuels problèmes:

```
sudo tail -f /var/log/mail.log
```