

## Introduction

Apache est le nom de la fondation qui a développé le serveur *Apache httpd*, elle a développé en premier le serveur web *httpd* mais aussi d'autres projets à la suite.

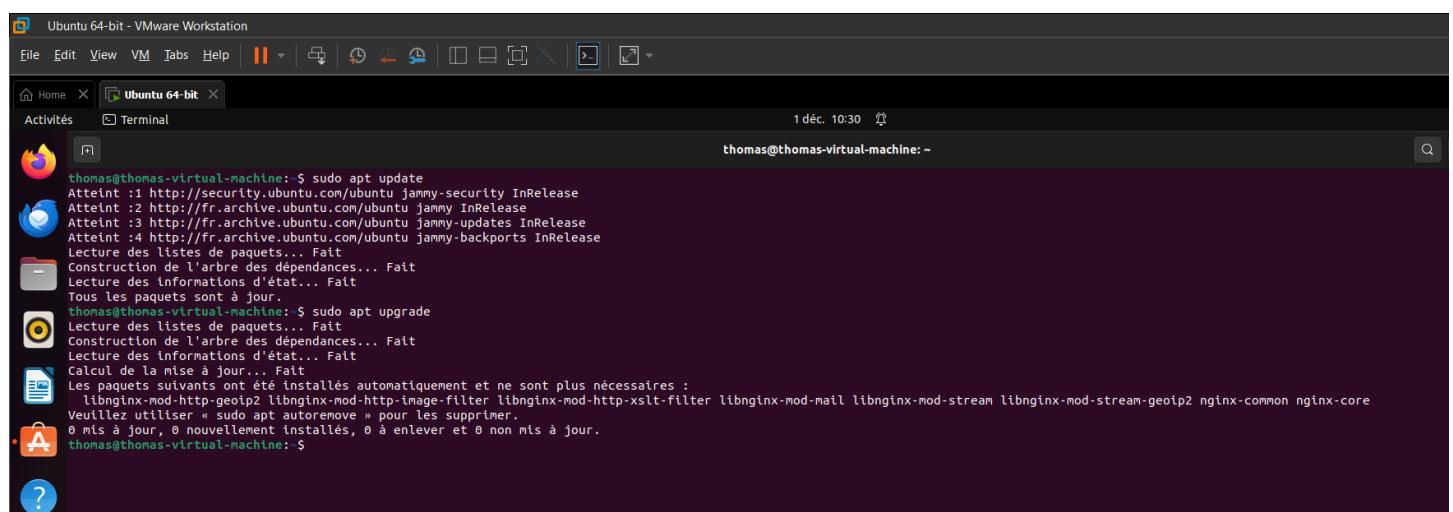
Apache existe depuis plus de 20 ans c'est le serveur web le plus utilisé au monde. Son principal concurrent est un autre logiciel libre appelé *Nginx*.

Les parts de marché sont donnée par le site suivant : <https://fr.hostadvice.co:m/marketshare/>

Le site officiel de apache2 est <https://httpd.apache.org/>

## A- Installation de apache2

### 1. Mettre à jour la machine



```
thomas@thomas-virtual-machine:~$ sudo apt update
Atteint :: http://security.ubuntu.com/ubuntu jammy-security InRelease
Atteint :: http://fr.archive.ubuntu.com/ubuntu jammy InRelease
Atteint :: http://fr.archive.ubuntu.com/ubuntu jammy-updates InRelease
Atteint :: http://fr.archive.ubuntu.com/ubuntu jammy-backports InRelease
Lecture des listes de paquets... Fait
Construction de l'arbre des dépendances... Fait
Lecture des informations d'état... Fait
Tous les paquets sont à jour.

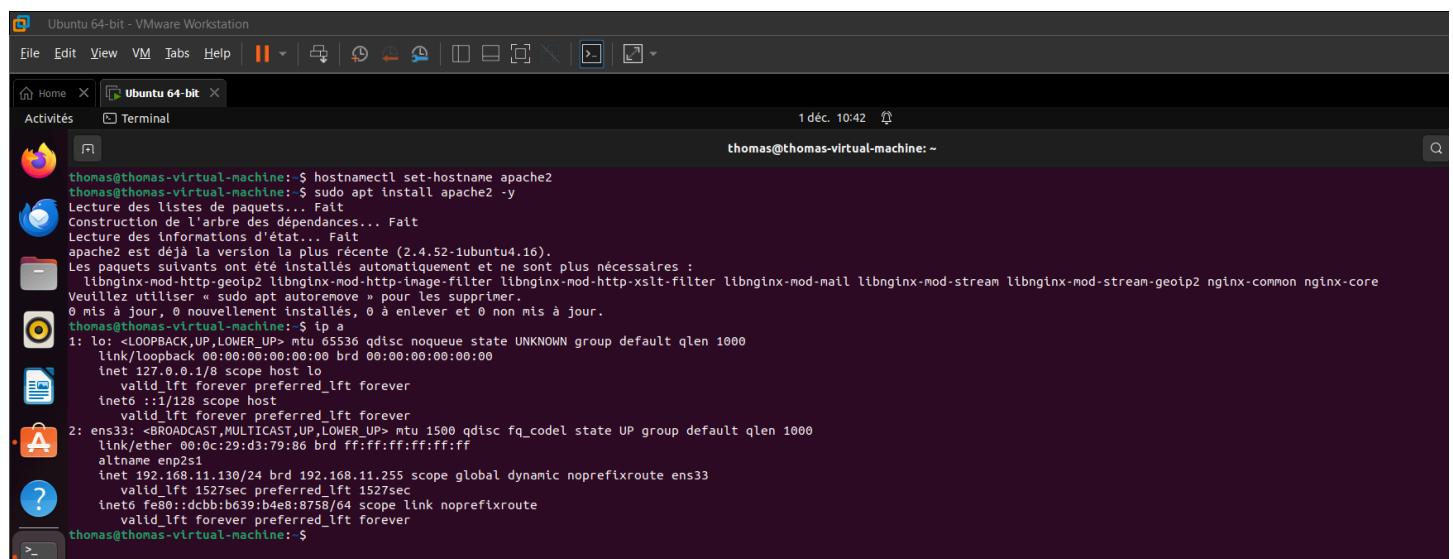
thomas@thomas-virtual-machine:~$ sudo apt upgrade
Lecture des listes de paquets... Fait
Construction de l'arbre des dépendances... Fait
Lecture des informations d'état... Fait
Calcul de la mise à jour... Fait
Les paquets suivants ont été installés automatiquement et ne sont plus nécessaires :
  libnginx-mod-http-geoplugin libnginx-mod-http-image-filter libnginx-mod-mail libnginx-mod-stream libnginx-mod-stream-geoip2 nginx-common nginx-core
Veuillez utiliser « sudo apt autoremove » pour les supprimer.
0 mis à jour, 0 nouvellement installés, 0 à enlever et 0 non mis à jour.

thomas@thomas-virtual-machine:~$
```

### 2. Donner un nom à la machine apache2

### 3. Installation du paquet apache2n

### 4. Récupération de l'IP de la machine apache2



```
thomas@thomas-virtual-machine:~$ hostnamectl set-hostname apache2
thomas@thomas-virtual-machine:~$ sudo apt install apache2 -y
Lecture des listes de paquets... Fait
Construction de l'arbre des dépendances... Fait
Lecture des informations d'état... Fait
apache2 est déjà la version la plus récente (2.4.52-1ubuntu4.16).
Les paquets suivants ont été installés automatiquement et ne sont plus nécessaires :
  libnginx-mod-http-geoplugin libnginx-mod-http-image-filter libnginx-mod-mail libnginx-mod-stream libnginx-mod-stream-geoip2 nginx-common nginx-core
Veuillez utiliser « sudo apt autoremove » pour les supprimer.
0 mis à jour, 0 nouvellement installés, 0 à enlever et 0 non mis à jour.

thomas@thomas-virtual-machine:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: ens3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 00:0c:29:d3:79:86 brd ff:ff:ff:ff:ff:ff
    altname ens3si
    inet 192.168.11.130/24 brd 192.168.11.255 scope global dynamic noprefixroute ens3
        valid_lft 1527sec preferred_lft 1527sec
        inet6 fe80::dcbb:b639:be48:8758%64 scope link noprefixroute
            valid_lft forever preferred_lft forever

thomas@thomas-virtual-machine:~$
```

### 4. Test de la connexion apache2

Sur votre machine physique tapez l'adresse ip de votre machine apache

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Debian systems. If you can read this page, it means that the Apache HTTP server installed 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 administrator.

### Configuration Overview

Debian's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Debian 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 Debian 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`, `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, Debian 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 has a web document root located elsewhere (such as in `/srv`) you may need to whitelist your document root directory in `/etc/apache2/apache2.conf`.

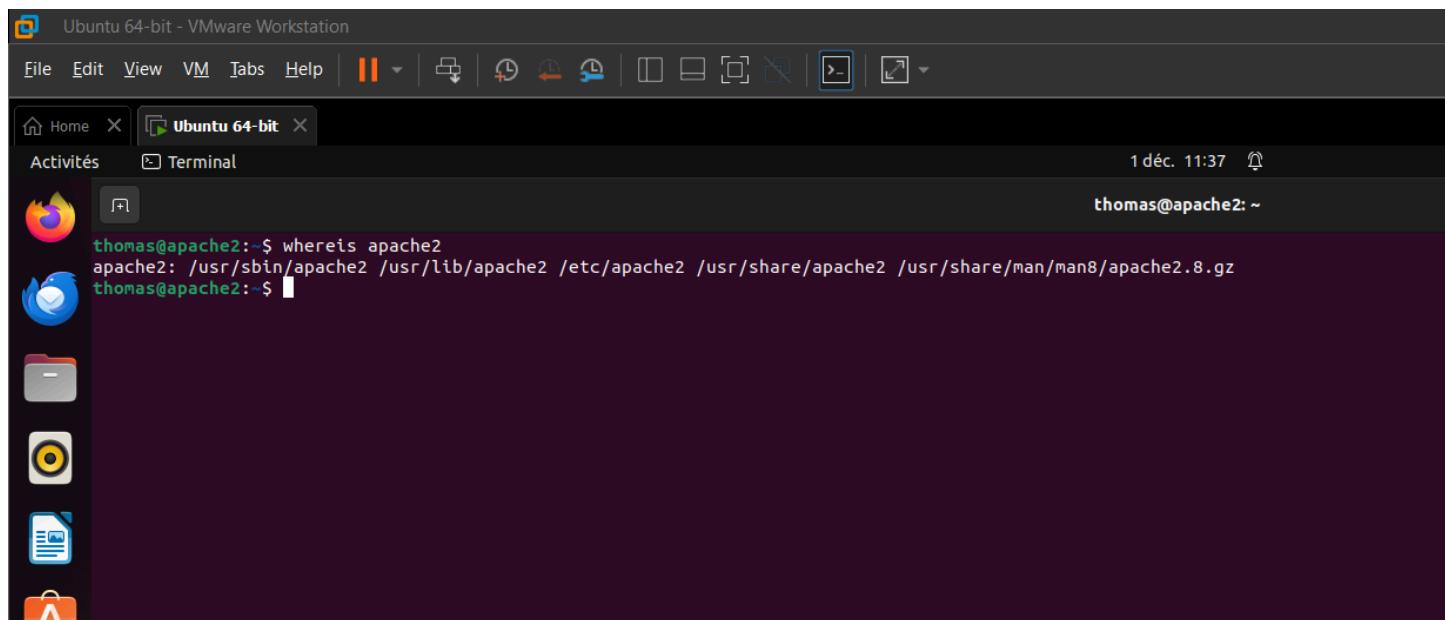
The default Debian document root is `/var/www/html`. You can make your own virtual hosts under `/var/www`. This is different to previous releases which provides better security out of the box.

### Reporting Problems

Please use the `reportbug` tool to report bugs in the Apache2 package with Debian. However check existing bug reports before reporting a new bug.

## 5. Comprendre l'arborescence des fichier d'apache2 Localiser les fichiers

On va explorer les différents répertoires qui hébergent apache2, avec la commande whereis on va identifier ces répertoires.



**/usr/sbin/apache2** il s'agit ici de l'exécutable dans le répertoire sbin nous avons des binaires système comme son nom l'indique



**/usr/lib/apache2** lib pour bibliothèque

**/etc/apache2**, est le répertoire où se trouve les fichiers de configuration d'apache2

/usr/ share/apache2, des fichiers partagés

/usr/share/man/man8/apache2.8.gz la documentation, obtenu avec la commande man

Le fichier **apache2.conf** nous donne une image de notre arborescence et de la configuration d'apache2.

```
thomas@apache2:~$ whereis apache2
apache2: /usr/sbin/apache2 /usr/lib/apache2 /etc/apache2 /usr/share/apache2 /usr/share/man/man8/apache2.8.gz
thomas@apache2:~$ cd /usr/sbin
thomas@apache2:/usr/sbin$ ls a2* *apache*
a2disconf a2dissite a2enmod a2query apache2ctl
a2dismod a2enconf a2ensite apache2 apachectl
thomas@apache2:/usr/sbin$ cd /etc/apache2/
thomas@apache2:/etc/apache2$ cat apache2.conf
# This is the main Apache server configuration file. It contains the
# configuration directives that give the server its instructions.
# See http://httpd.apache.org/docs/2.4/ for detailed information about
# the directives and /usr/share/doc/apache2/README.Debian about Debian specific
# hints.
#
# Summary of how the Apache 2 configuration works in Debian:
# The Apache 2 web server configuration in Debian is quite different to
# upstream's suggested way to configure the web server. This is because Debian's
# default Apache2 installation attempts to make adding and removing modules,
# virtual hosts, and extra configuration directives as flexible as possible, in
# order to make automating the changes and administering the server as easy as
# possible.
#
# It is split into several files forming the configuration hierarchy outlined
# below, all located in the /etc/apache2/ directory:
#
# /etc/apache2/
#   |-- apache2.conf
#   |   '-- ports.conf
#   '-- mods-enabled
#       '-- *.load
#       '-- *.conf
#   '-- conf-enabled
#       '-- *.conf
#   '-- sites-enabled
#       '-- *.conf
#
```

On affiche le contenu de notre répertoire

