

# PROTOCOLE HTTP

## Système d'exploitation 2

Les commandes utilisées pour la réalisation du projet

Présenté par :

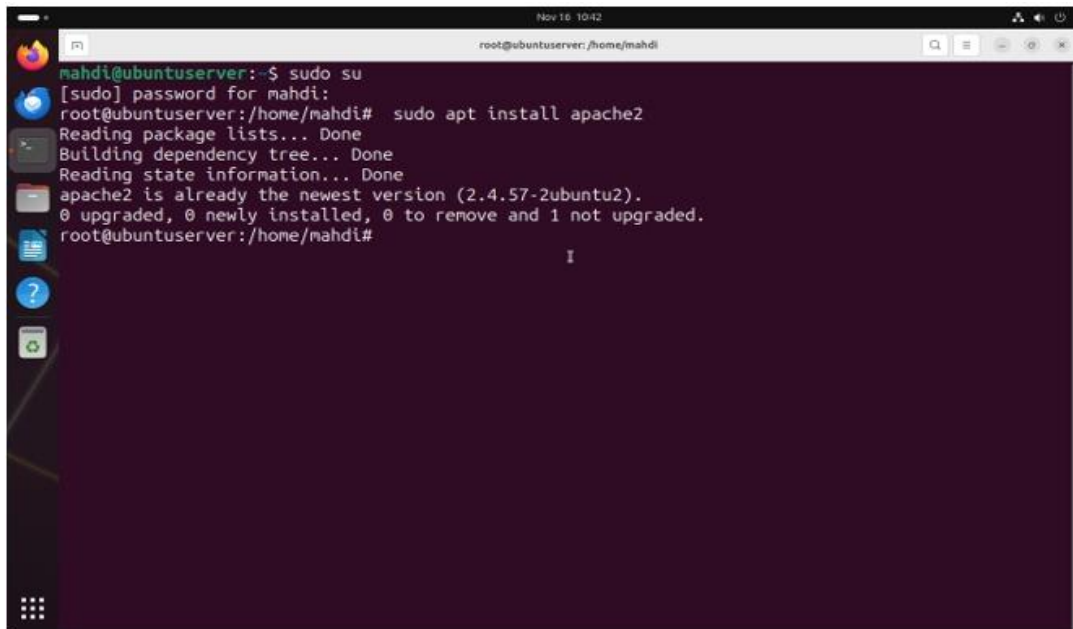
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## Étape 1 — Installation d'Apache :

- Sudo apt install apache2(en mode root)

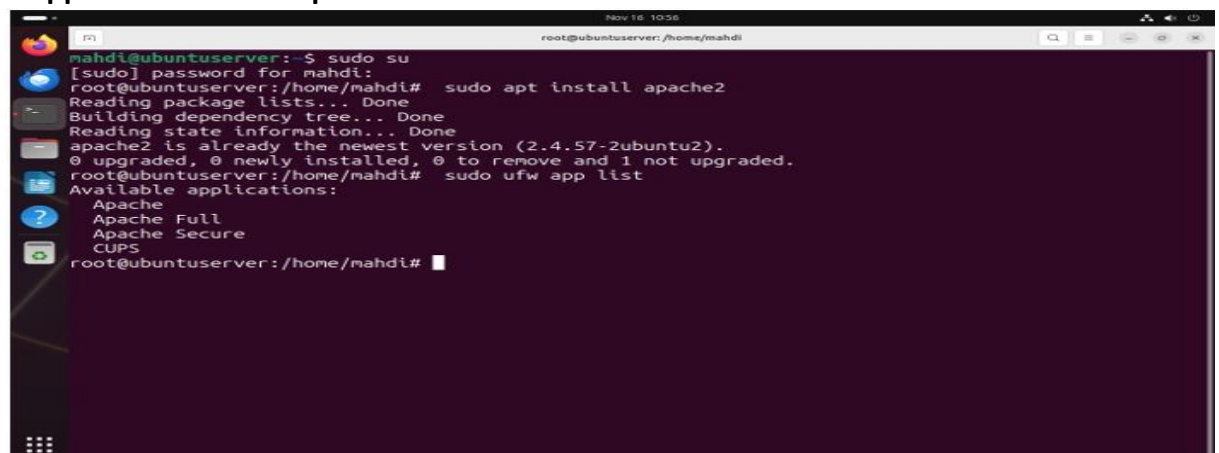
A terminal window on an Ubuntu server. The user 'mahdi' runs 'sudo su' to become root. Then, 'sudo apt install apache2' is executed. The terminal shows the package lists being read, the dependency tree being built, and state information being read. It confirms that apache2 is already the newest version (2.4.57-2ubuntu2) and that no packages need to be upgraded, installed, or removed.

```
mahdi@ubuntu-server:~$ sudo su
[sudo] password for mahdi:
root@ubuntu-server:/home/mahdi# sudo apt install apache2
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
apache2 is already the newest version (2.4.57-2ubuntu2).
0 upgraded, 0 newly installed, 0 to remove and 1 not upgraded.
root@ubuntu-server:/home/mahdi#
```

## Étape 2 — Réglage du pare-feu :

- Sudo ufw app list

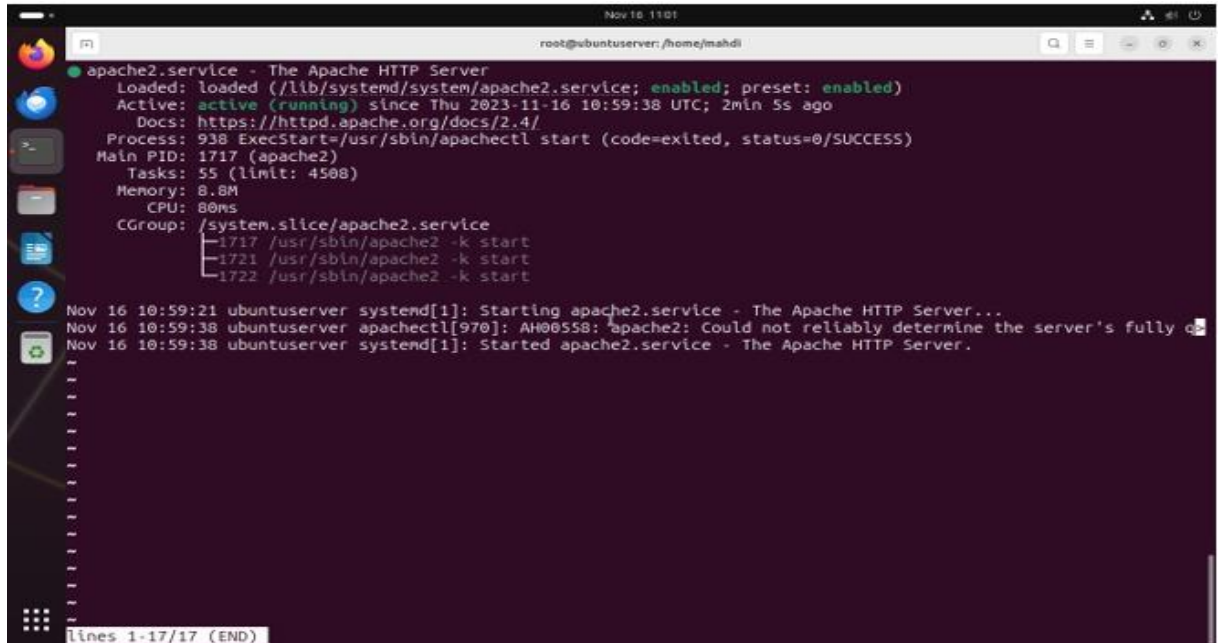
Avant de tester Apache, il est nécessaire de modifier les paramètres du pare-feu pour permettre à l'extérieur d'accéder aux ports web par défaut. En supposant que vous ayez suivi les instructions des conditions préalables, vous devriez avoir un pare-feu UFW configuré pour restreindre l'accès à votre serveur. Listez les profils d'application ufw en tapant :

A terminal window on an Ubuntu server. The user 'mahdi' runs 'sudo su' to become root. Then, 'sudo apt install apache2' is executed. After that, 'sudo ufw app list' is run to show available applications. The output lists 'Apache', 'Apache Full', 'Apache Secure', and 'CUPS'.

```
mahdi@ubuntu-server:~$ sudo su
[sudo] password for mahdi:
root@ubuntu-server:/home/mahdi# sudo apt install apache2
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
apache2 is already the newest version (2.4.57-2ubuntu2).
0 upgraded, 0 newly installed, 0 to remove and 1 not upgraded.
root@ubuntu-server:/home/mahdi# sudo ufw app list
Available applications:
Apache
Apache Full
Apache Secure
CUPS
root@ubuntu-server:/home/mahdi#
```

## Étape 3 — vérification de votre serveur web :

- Sudo systemctl status apache2



```
Nov 16 11:01
root@ubuntuuser: /home/mahdi

● apache2.service - The Apache HTTP Server
   Loaded: loaded (/lib/systemd/system/apache2.service; enabled; preset: enabled)
   Active: active (running) since Thu 2023-11-16 10:59:38 UTC; 2min 5s ago
     Docs: https://httpd.apache.org/docs/2.4/
   Process: 938 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
    Main PID: 1717 (apache2)
       Tasks: 55 (limit: 4500)
      Memory: 8.8M
         CPU: 80ms
    CGroup: /system.slice/apache2.service
            └─1717 /usr/sbin/apache2 -k start
              └─1721 /usr/sbin/apache2 -k start
                └─1722 /usr/sbin/apache2 -k start

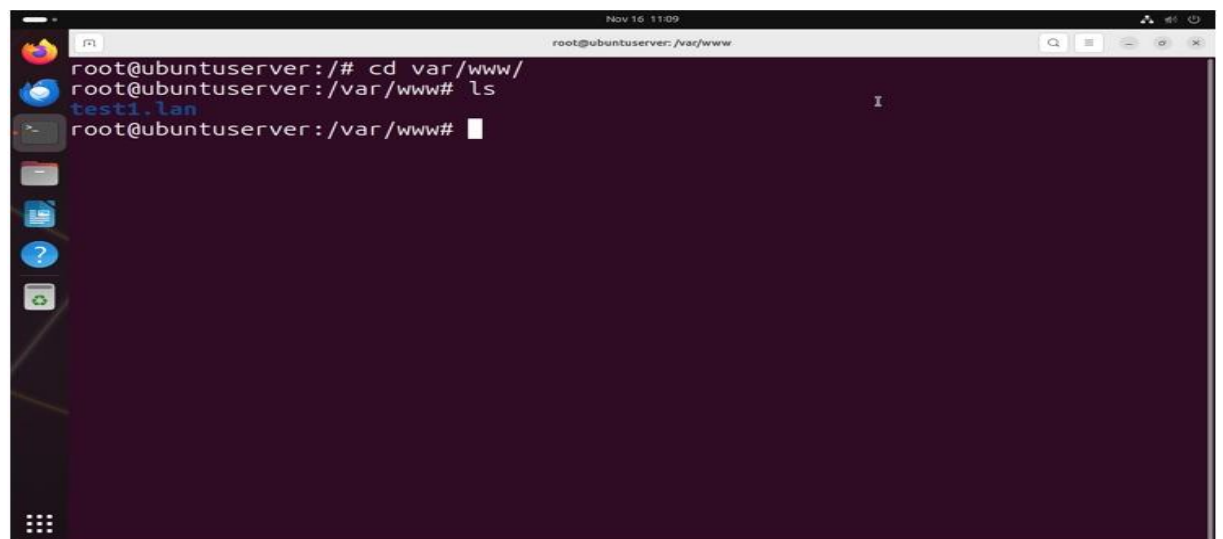
Nov 16 10:59:21 ubuntuuser systemd[1]: Starting apache2.service - The Apache HTTP Server...
Nov 16 10:59:38 ubuntuuser apachectl[970]: AH00558: apache2: Could not reliably determine the server's fully q
Nov 16 10:59:38 ubuntuuser systemd[1]: Started apache2.service - The Apache HTTP Server.

lines 1-17/17 (END)
```

## Étape 4— configuration des hôtes virtuels:

- mkdir -p var/www/test1.lan

La création de la racine de notre arborescence



```
Nov 16 11:09
root@ubuntuuser: /var/www

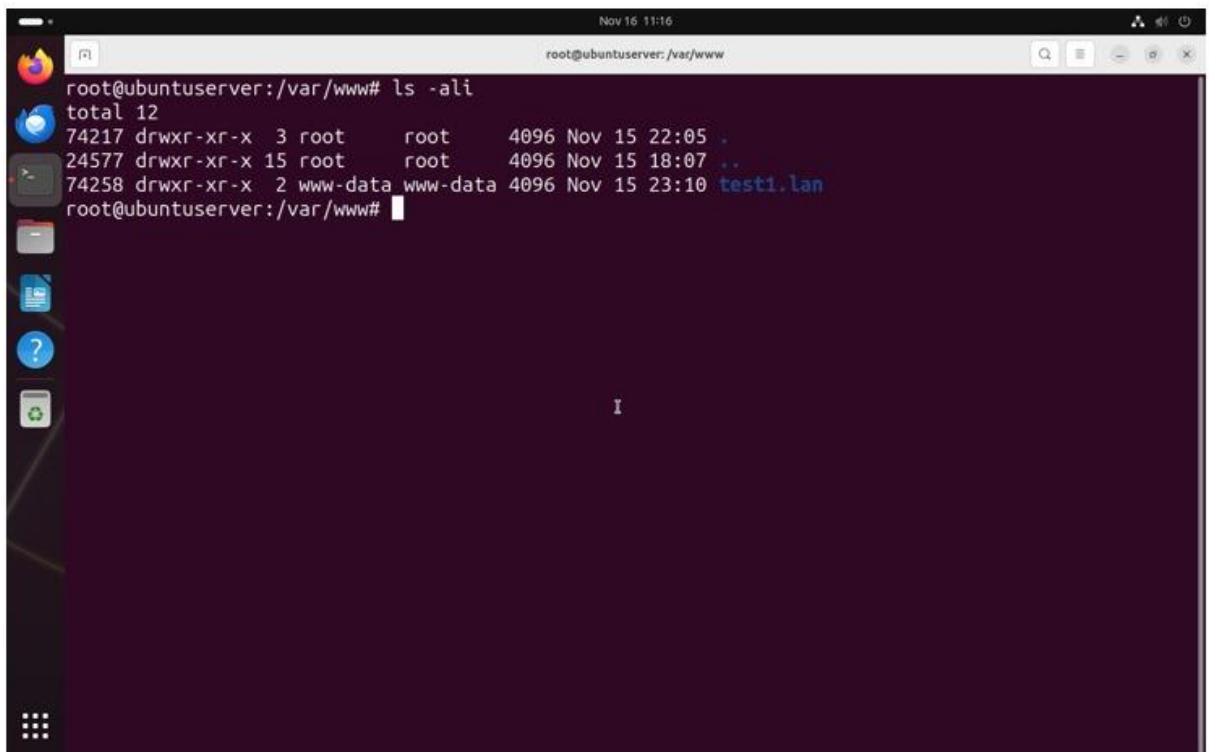
root@ubuntuuser: /# cd var/www/
root@ubuntuuser: /var/www# ls
test1.lan
root@ubuntuuser: /var/www#
```

- chown -R www-data:www-data var/www/test1.lan

Changer la propriété du répertoire en utilisateur actue

- **chmod -R 755 var/www/test1.lan**

Attribuer les autorisations nécessaires

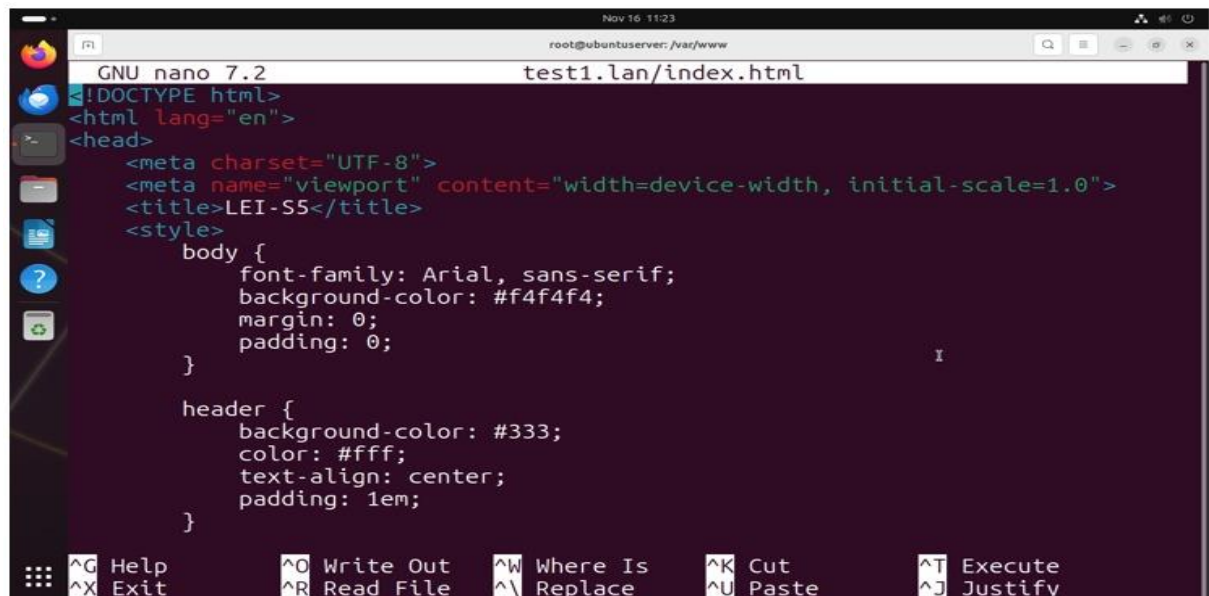


A terminal window on an Ubuntu server showing the command `ls -ali` executed in the `/var/www` directory. The output lists the directory's permissions and ownership, including a subdirectory named `test1.lan` owned by `www-data`.

```
root@ubuntuuserver:/var/www# ls -ali
total 12
74217 drwxr-xr-x  3 root    root    4096 Nov 15 22:05 .
24577 drwxr-xr-x 15 root    root    4096 Nov 15 18:07 ..
74258 drwxr-xr-x  2 www-data www-data 4096 Nov 15 23:10 test1.lan
root@ubuntuuserver:/var/www#
```

- **touch var/www/test1.lan/index.html**

On écrit un code HTML

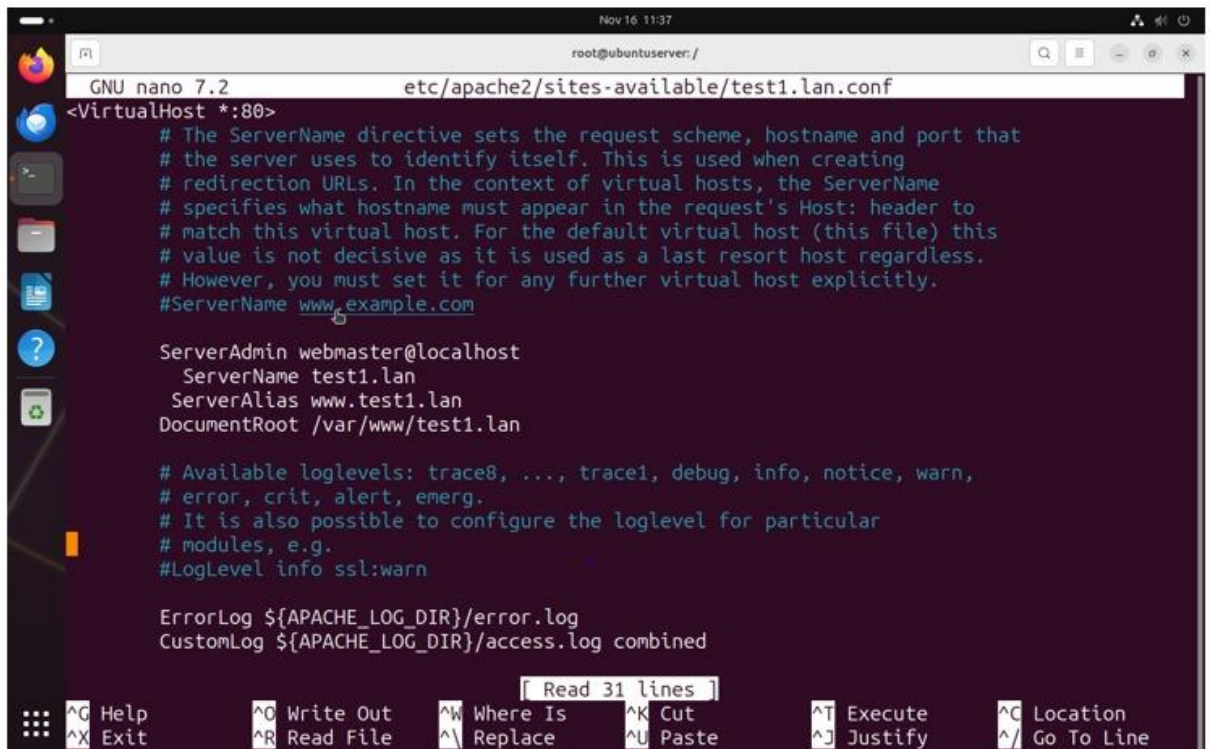


A terminal window showing the `GNU nano 7.2` editor editing `test1.lan/index.html`. The code is a basic HTML document with a viewport meta tag and CSS styles for body and header.

```
GNU nano 7.2 test1.lan/index.html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>LEI-S5</title>
  <style>
    body {
      font-family: Arial, sans-serif;
      background-color: #f4f4f4;
      margin: 0;
      padding: 0;
    }
    header {
      background-color: #333;
      color: #fff;
      text-align: center;
      padding: 1em;
    }
  </style>
</head>
<body>
</body>
</html>
```

- **cd etc/apache2/sites-available**

sites-available contient les configurations des différents sites



```
GNU nano 7.2 etc/apache2/sites-available/test1.lan.conf
<VirtualHost *:80>
# The ServerName directive sets the request scheme, hostname and port that
# the server uses to identify itself. This is used when creating
# redirection URLs. In the context of virtual hosts, the ServerName
# specifies what hostname must appear in the request's Host: header to
# match this virtual host. For the default virtual host (this file) this
# value is not decisive as it is used as a last resort host regardless.
# However, you must set it for any further virtual host explicitly.
#ServerName www.example.com

ServerAdmin webmaster@localhost
    ServerName test1.lan
    ServerAlias www.test1.lan
    DocumentRoot /var/www/test1.lan

# Available loglevels: trace8, ..., trace1, debug, info, notice, warn,
# error, crit, alert, emerg.
# It is also possible to configure the loglevel for particular
# modules, e.g.
#LogLevel info ssl:warn

ErrorLog ${APACHE_LOG_DIR}/error.log
CustomLog ${APACHE_LOG_DIR}/access.log combined

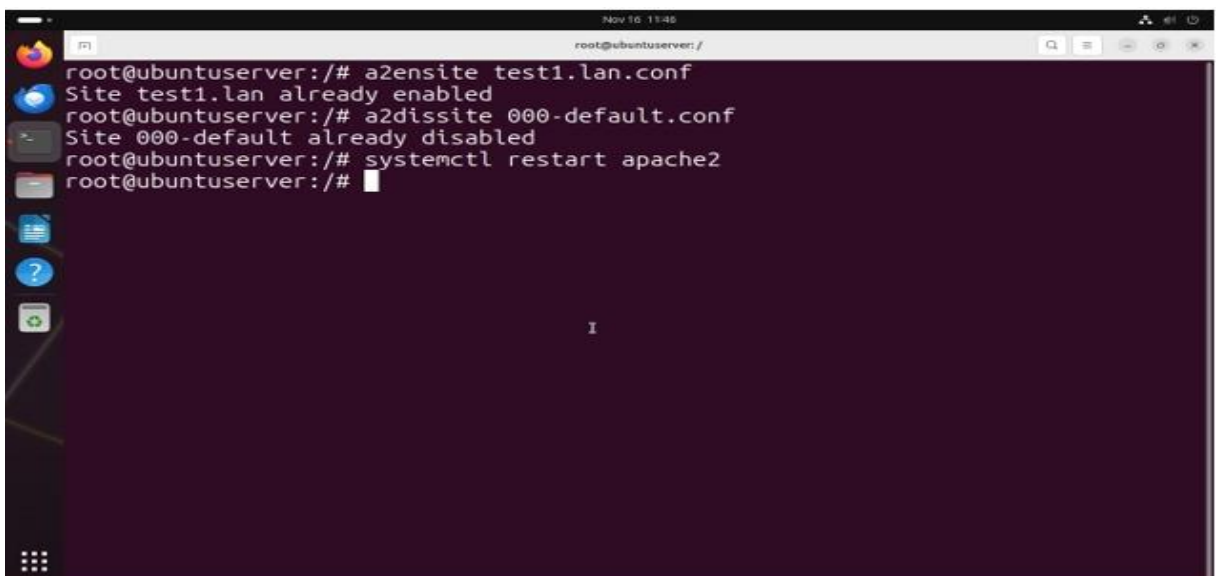
[ Read 31 lines ]
^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location
^X Exit      ^R Read File  ^\ Replace    ^U Paste      ^J Justify    ^_ Go To Line
```

- a2ensite test1.lan.conf

Activer le siteweb

- systemctl restart apache2

Recharger maintenant la configuration d'Apache pour prendre en compte vos modifications

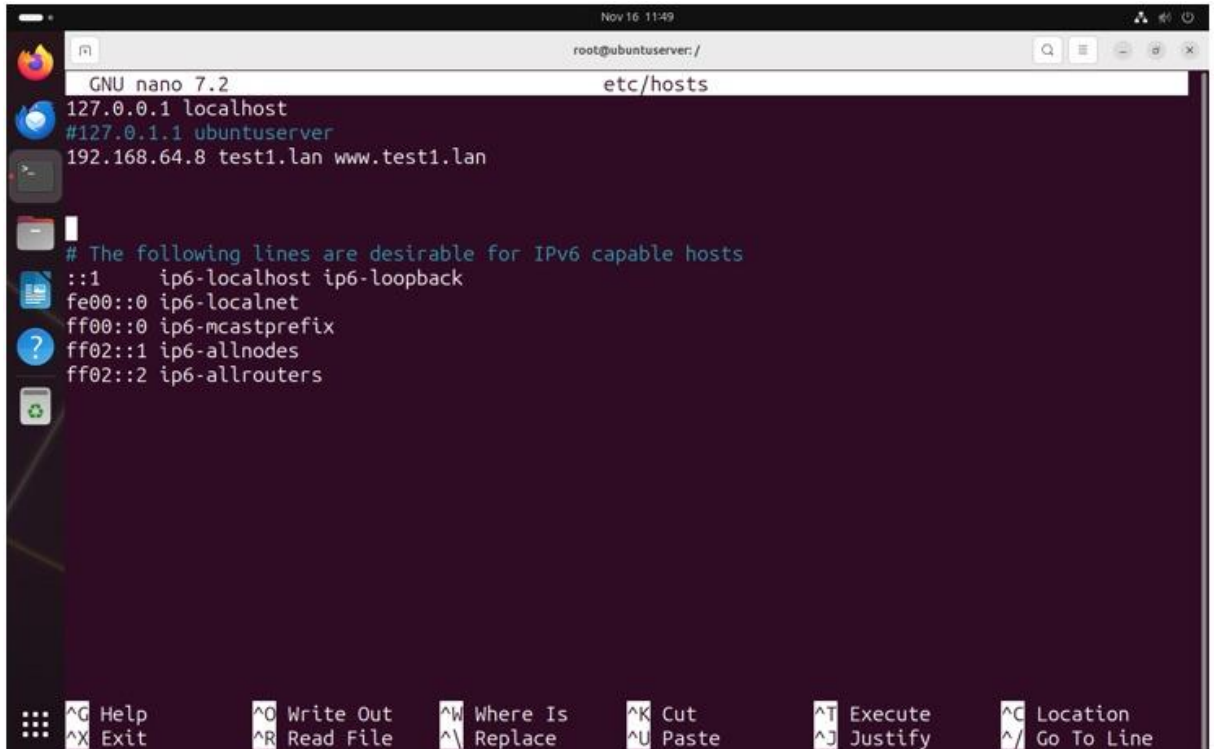


```
root@ubuntuserver:/# a2ensite test1.lan.conf
Site test1.lan already enabled
root@ubuntuserver:/# a2dissite 000-default.conf
Site 000-default already disabled
root@ubuntuserver:/# systemctl restart apache2
root@ubuntuserver:/#
```

- nano etc/hosts

<< 192.168.64.8 >> [www.test1.lan](http://www.test1.lan) test1.lan

on ajoute IP avec le DNS



The screenshot shows a terminal window with the nano 7.2 text editor open to the file /etc/hosts. The file contains the following entries:

```
127.0.0.1 localhost
#127.0.1.1 ubuntuserver
192.168.64.8 test1.lan www.test1.lan
```

Below these entries, there is a comment and several IPv6 addresses with their corresponding hostnames:

```
# The following lines are desirable for IPv6 capable hosts
::1      ip6-localhost ip6-loopback
fe00::0  ip6-localnet
ff00::0  ip6-mcastprefix
ff02::1  ip6-allnodes
ff02::2  ip6-allrouters
```

The terminal window has a dark background and a light-colored border. The nano editor's status bar at the bottom shows various keyboard shortcuts like Help, Exit, Write Out, Read File, etc.

• Sortie :

