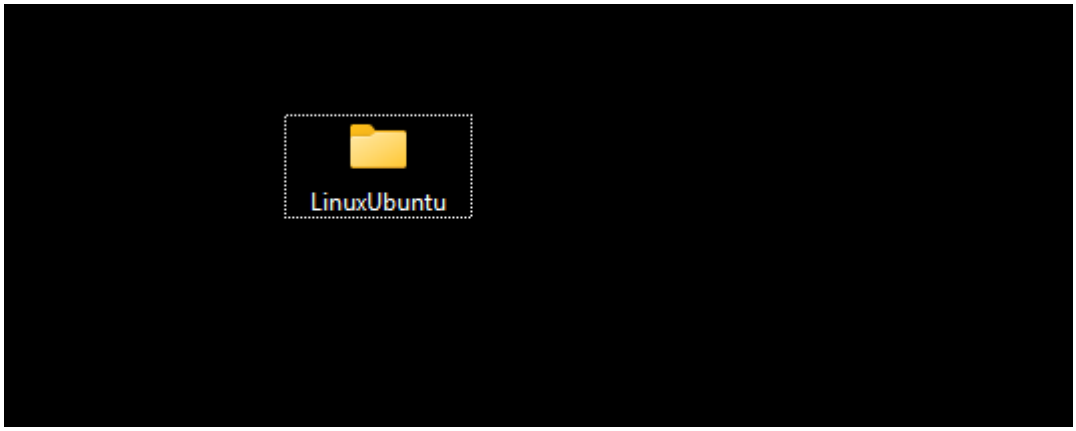
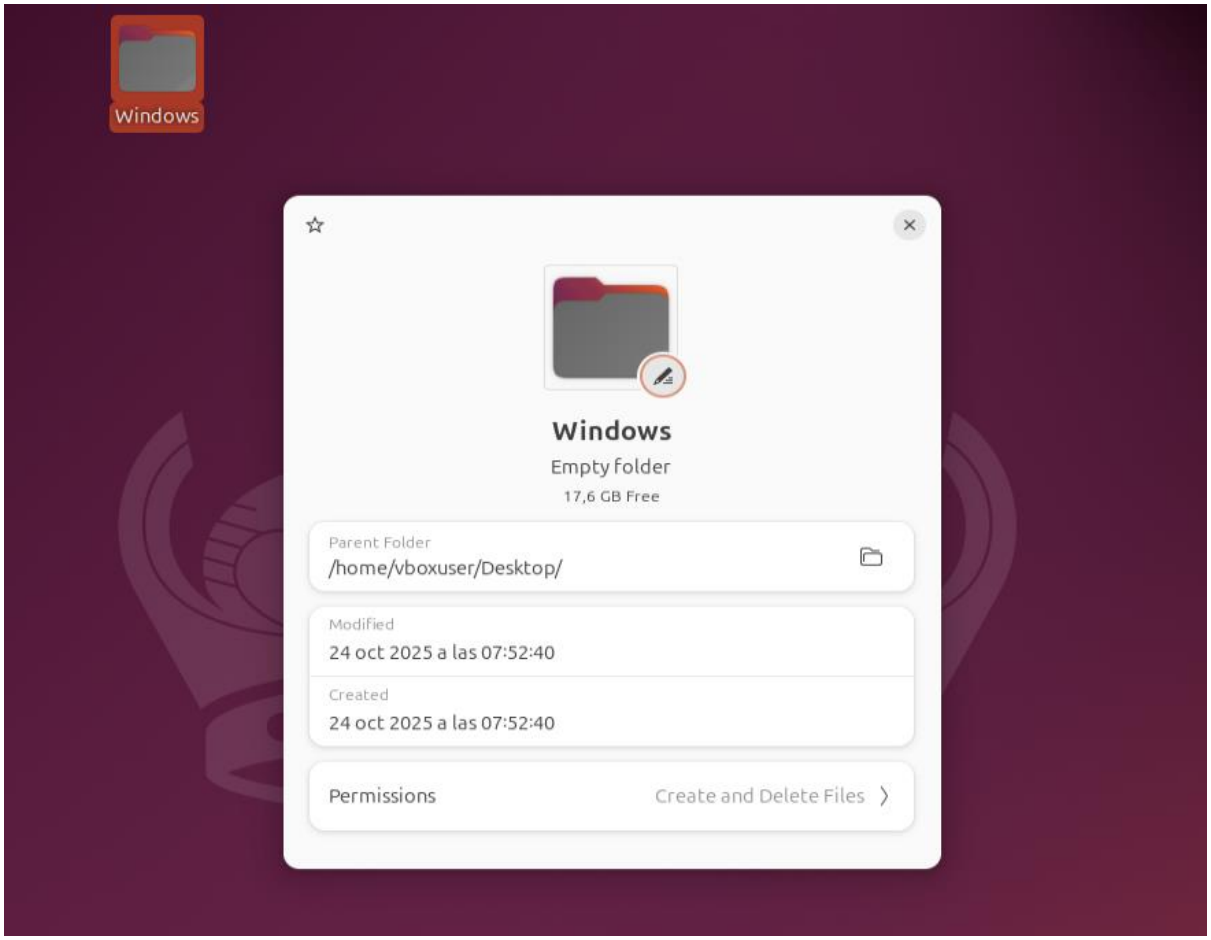
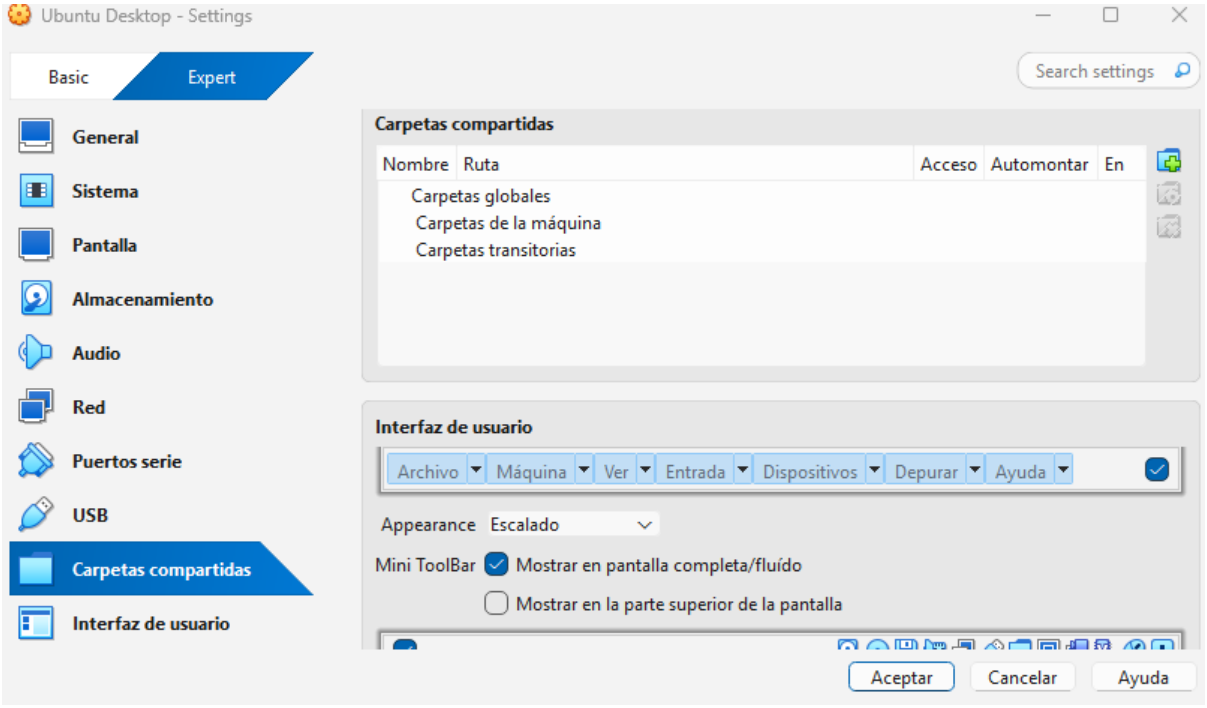
Primero de todo antes de nada tenemos que crear una carpeta compartida desde para poder conectar nuestro sistema Windows a Linux.

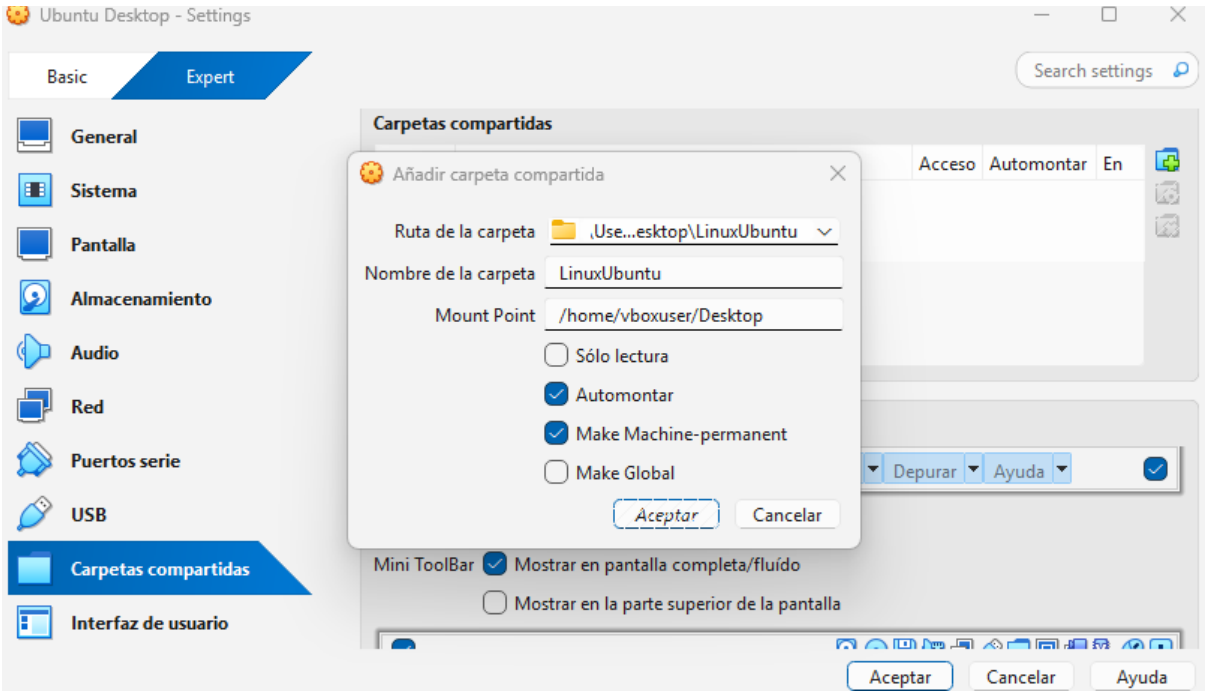


Creamos otro archivo al igual, pero en la MV y le ponemos Windows



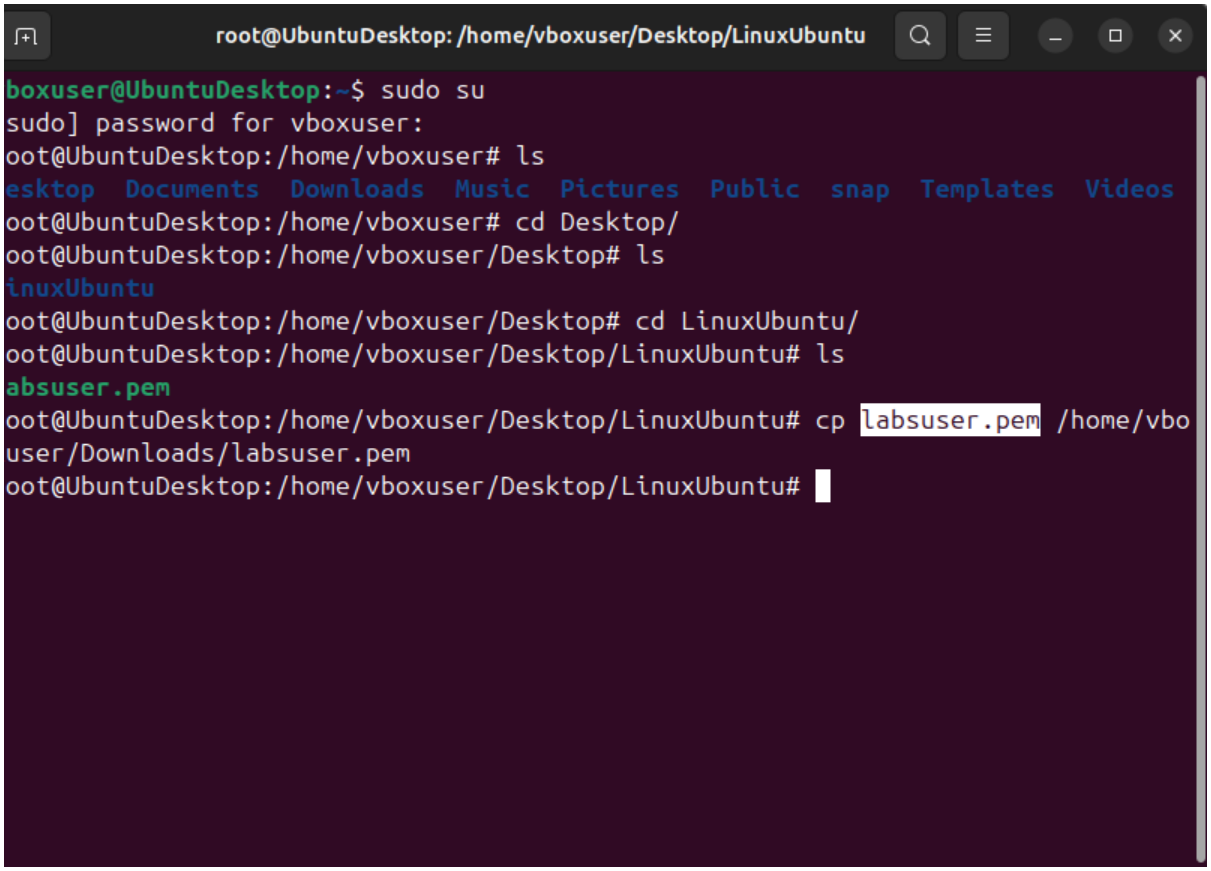
Ahora crear una carpeta compartida





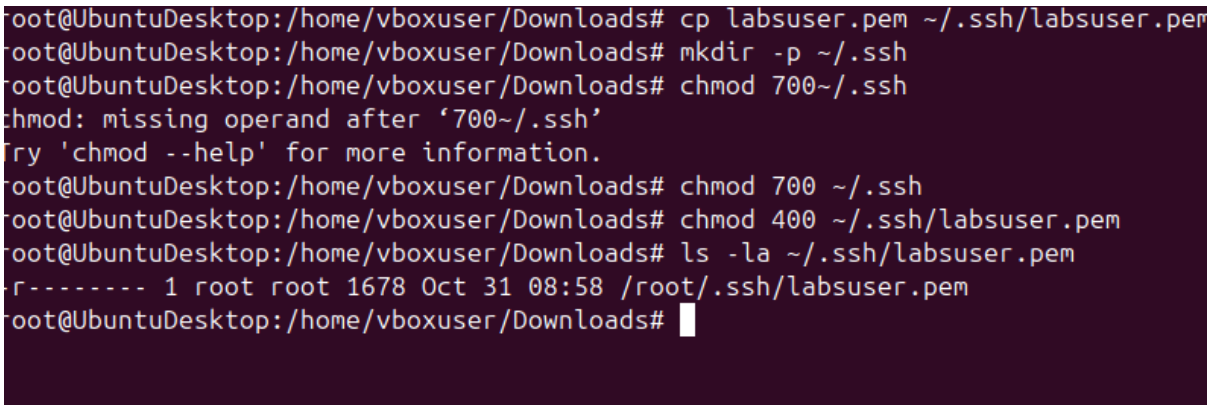
Añadimos el archivo de autorun.sh para qoue pueda ejecutarse en la terminal

Y ahora con los comandos comprobamos, que, efectivamente están las dos carpetas compartidas y con el mismo archivo .pem dentro.



Después de crear la carpeta compartida vamos a empezar con la parte 1:

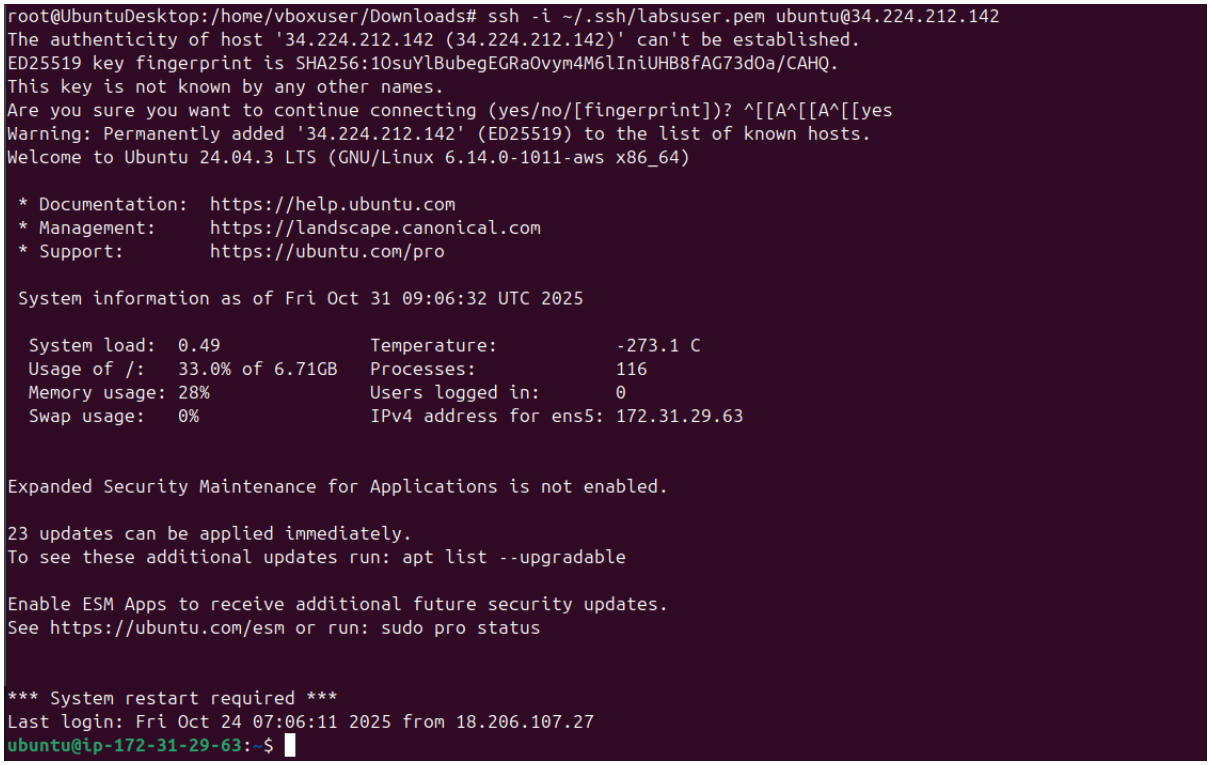
Pase el labsuser.pem a una carpeta a ssh para crear la conexion, dandoles persimos tabto a la carpeta como a la llave



Aquí está la tabla con los puertos configurados de aws:

Name	Security group rule ID	Port range
–	sgr-04c28f47b472f7be1	8080
–	sgr-0f548f7a1d7271b2b	8443
–	sgr-0341d9bcabb154ccd	22
–	sgr-06bcf797a0df06d4c	8081
–	sgr-0883dee4fe322bd4e	8082

Ahora conecto a traves de ssh hacia la mv aws



Ahora simplemente hay que seguir la práctica 2 directamente en la instancia ec2 conectada por ssh;

PARTE 1: INSTALACIÓN Y CONFIGURACIÓN DE APACHE

Actualizar el sistema

sudo apt update && sudo apt upgrade -y

```
root@UbuntuDesktop:/home/vboxuser# sudo apt update && sudo apt upgrade -y
Get:1 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Hit:2 http://es.archive.ubuntu.com/ubuntu noble InRelease
Get:3 http://es.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:4 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [1,270 kB]
Get:5 http://es.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:6 http://es.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [1,573 kB]
Get:7 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [21.5 kB]
Get:8 http://security.ubuntu.com/ubuntu noble-security/main amd64 c-n-f Metadata [9,008 B]
Get:9 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Components [212 B]
Get:10 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [906 kB]
Get:11 http://es.archive.ubuntu.com/ubuntu noble-updates/main Translation-en [297 kB]
Get:12 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [52.3 kB]
Get:13 http://es.archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [175 kB]
Get:14 http://security.ubuntu.com/ubuntu noble-security/universe amd64 c-n-f Metadata [19.4
```

Instalar Apache2

sudo apt install apache2 –y

```
root@UbuntuDesktop:/home/vboxuser# sudo apt install apache2 -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following package was automatically installed and is no longer required:
  libllvm19
Use 'sudo apt autoremove' to remove it.
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils libapr1t64 libaprutil1-dbd-sqlite3 libaprutil1-ldap libaprutil1t64
Suggested packages:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils libapr1t64 libaprutil1-dbd-sqlite3 libaprutil1-ldap libaprutil1
0 upgraded, 8 newly installed, 0 to remove and 0 not upgraded.
Need to get 1,902 kB of archives.
After this operation, 7,451 kB of additional disk space will be used.
Get:1 http://es.archive.ubuntu.com/ubuntu noble-updates/main amd64 libapr1t64 amd64 1.7.2-3.1ubuntu0.1 [108 kB]
Get:2 http://es.archive.ubuntu.com/ubuntu noble/main amd64 libaprutil1t64 amd64 1.6.3-1.1ubuntu7 [91.9 kB]
Get:3 http://es.archive.ubuntu.com/ubuntu noble/main amd64 libaprutil1-dbd-sqlite3 amd64 1.6.3-1.1ubuntu7 [11.2
Get:4 http://es.archive.ubuntu.com/ubuntu noble/main amd64 libaprutil1-ldap amd64 1.6.3-1.1ubuntu7 [9,116 B]
Get:5 http://es.archive.ubuntu.com/ubuntu noble-updates/main amd64 apache2-bin amd64 2.4.58-1ubuntu8.8 [1,331 kB
```

Configurar Apache en puerto 8080

sudo nano /etc/apache2/ports.conf

```
root@UbuntuDesktop:/home/vboxuser# sudo nano /etc/apache2/ports.conf
```

```
  GNU nano 7.2                                                    /etc
# If you just change the port or add more ports here, you will likely also
# have to change the VirtualHost statement in
# /etc/apache2/sites-enabled/000-default.conf

Listen 8080

<IfModule ssl_module>
        Listen 443
</IfModule>

<IfModule mod_gnutls.c>
        Listen 443
</IfModule>
```

Modificar el VirtualHost

sudo nano /etc/apache2/sites-available/000-default.conf

```
root@UbuntuDesktop:/home/vboxuser# sudo nano /etc/apache2/sites-available/000-default.conf
root@UbuntuDesktop:/home/vboxuser#
```

```
  GNU nano 7.2                                    /etc/apache2/sites-available/000-defa
<VirtualHost *:8080>
        # 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
        DocumentRoot /var/www/html

        # 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

        # For most configuration files from conf-available/, which are
        # enabled or disabled at a global level, it is possible to
        # include a line for only one particular virtual host. For example the
        # following line enables the CGI configuration for this host only
        # after it has been globally disabled with "a2disconf".
        #Include conf-available/serve-cgi-bin.conf
</VirtualHost>
```

Instalar PHP

sudo apt install php libapache2-mod-php -y

```
root@UbuntuDesktop:/home/vboxuser# sudo apt install php libapache2-mod-php -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following package was automatically installed and is no longer required:
  libllvm19
Use 'sudo apt autoremove' to remove it.
The following additional packages will be installed:
  libapache2-mod-php8.3 libsodium23 php-common php8.3 php8.3-cli php8.3-common php8.3-opcache php8.3-readline
Suggested packages:
  php-pear
The following NEW packages will be installed:
  libapache2-mod-php libapache2-mod-php8.3 libsodium23 php php-common php8.3 php8.3-cli php8.3-common php8.3-op
0 upgraded, 10 newly installed, 0 to remove and 0 not upgraded.
Need to get 5,084 kB of archives.
After this operation, 22.8 MB of additional disk space will be used.
Get:1 http://es.archive.ubuntu.com/ubuntu noble/main amd64 php-common all 2:93ubuntu2 [13.9 kB]
Get:2 http://es.archive.ubuntu.com/ubuntu noble-updates/main amd64 php8.3-common amd64 8.3.6-0ubuntu0.24.04.5 [
Get:3 http://es.archive.ubuntu.com/ubuntu noble-updates/main amd64 php8.3-opcache amd64 8.3.6-0ubuntu0.24.04.5
Get:4 http://es.archive.ubuntu.com/ubuntu noble-updates/main amd64 php8.3-readline amd64 8.3.6-0ubuntu0.24.04.5
Get:5 http://es.archive.ubuntu.com/ubuntu noble/main amd64 libsodium23 amd64 1.0.18-1build3 [161 kB]
Get:6 http://es.archive.ubuntu.com/ubuntu noble-updates/main amd64 php8.3-cli amd64 8.3.6-0ubuntu0.24.04.5 [1,9
Get:7 http://es.archive.ubuntu.com/ubuntu noble-updates/main amd64 libapache2-mod-php8.3 amd64 8.3.6-0ubuntu0.2
Get:8 http://es.archive.ubuntu.com/ubuntu noble/main amd64 libapache2-mod-php all 2:8.3+93ubuntu2 [4,224 B]
Get:9 http://es.archive.ubuntu.com/ubuntu noble-updates/main amd64 php8.3 all 8.3.6-0ubuntu0.24.04.5 [9,174 B]
Get:10 http://es.archive.ubuntu.com/ubuntu noble/main amd64 php all 2:8.3+93ubuntu2 [4,076 B]
```

Reiniciar Apache

sudo systemctl restart apache2

sudo systemctl status apache2

```
root@UbuntuDesktop:/home/vboxuser# sudo systemctl restart apache2
root@UbuntuDesktop:/home/vboxuser# sudo systemctl status apache2
● apache2.service - The Apache HTTP Server
     Loaded: loaded (/usr/lib/systemd/system/apache2.service; enabled; preset: enabled)
     Active: active (running) since Fri 2025-10-31 09:35:55 UTC; 21s ago
       Docs: https://httpd.apache.org/docs/2.4/
    Process: 25502 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
   Main PID: 25505 (apache2)
      Tasks: 6 (limit: 4603)
     Memory: 10.7M (peak: 11.4M)
        CPU: 38ms
     CGroup: /system.slice/apache2.service
             ├─25505 /usr/sbin/apache2 -k start
             ├─25507 /usr/sbin/apache2 -k start
             ├─25508 /usr/sbin/apache2 -k start
             ├─25509 /usr/sbin/apache2 -k start
             ├─25510 /usr/sbin/apache2 -k start
             └─25511 /usr/sbin/apache2 -k start

Oct 31 09:35:54 UbuntuDesktop systemd[1]: Starting apache2.service - The Apache HTTP Server...
Oct 31 09:35:55 UbuntuDesktop apachectl[25504]: AH00558: apache2: Could not reliably determine the server's fully qualified domain
Oct 31 09:35:55 UbuntuDesktop systemd[1]: Started apache2.service - The Apache HTTP Server.
lines 1-20/20 (END)
```

Instalamos el paquete de net-tools

```
root@UbuntuDesktop:/home/vboxuser# sudo apt install net-tools
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following package was automatically installed and is no longer required:
  libllvm19
Use 'sudo apt autoremove' to remove it.
The following NEW packages will be installed:
  net-tools
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded
```

Comando adicional para verificar puerto: sudo netstat -tulpn | grep apache2

Verifica en qué puerto está escuchando Apache (debe mostrar 8080).

```
ubuntu@ip-172-31-29-63:~$ sudo netstat -tulpn | grep 8080
tcp6       0      0 :::8080                 :::*                    LISTEN      18631/apache2
ubuntu@ip-172-31-29-63:~$
```

echo "" | sudo tee /var/www/html/info.php

Crea un archivo que muestra información del PHP instalado.

```
root@UbuntuDesktop:/home/vboxuser# echo "<?php phpinfo(); ?>" | sudo tee /var/www/html/info.php
<?php phpinfo(); ?>
root@UbuntuDesktop:/home/vboxuser#
```

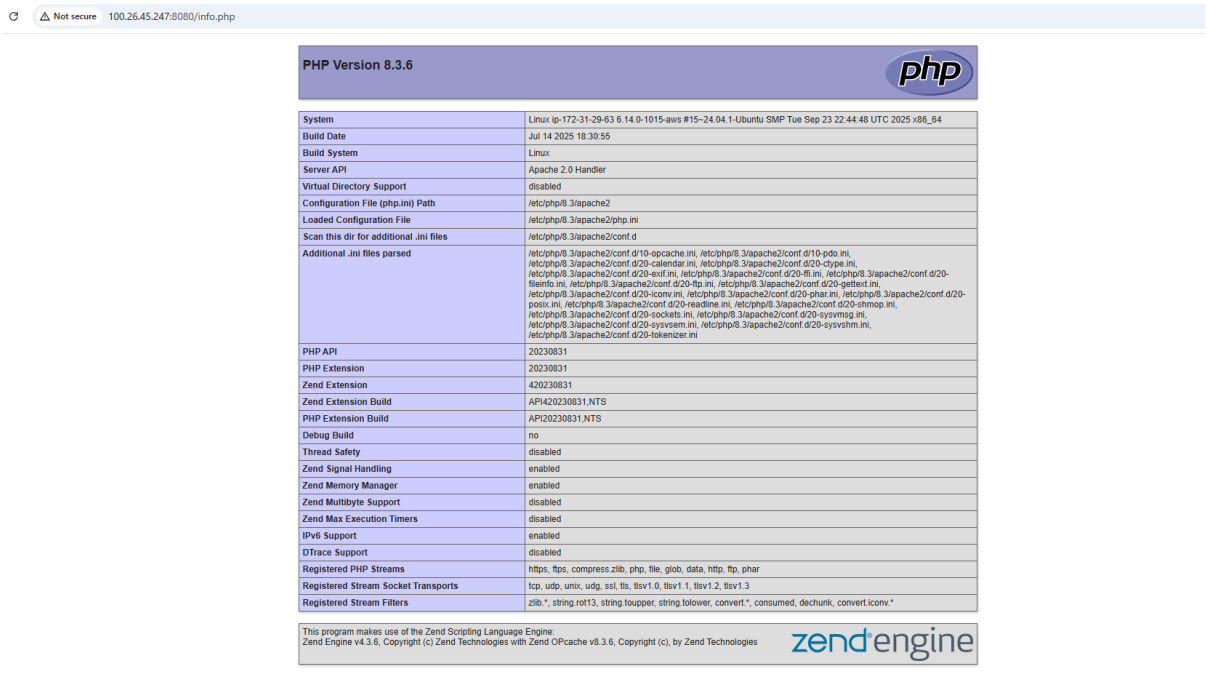
Probar Apache desde terminal

curl http://localhost:8080/info.php

Verifica que Apache sirve correctamente el contenido PHP

```
root@UbuntuDesktop:/home/vboxuser# curl http://localhost:8080/info.php
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml"><head>
<style type="text/css">
body {background-color: #fff; color: #222; font-family: sans-serif;}
pre {margin: 0; font-family: monospace;}
a:link {color: #009; text-decoration: none; background-color: #fff;}
a:hover {text-decoration: underline;}
table {border-collapse: collapse; border: 0; width: 934px; box-shadow: 1px 2px 3px rgba(0, 0, 0, 0.2);}
.center {text-align: center;}
.center table {margin: 1em auto; text-align: left;}
.center th {text-align: center !important;}
td, th {border: 1px solid #666; font-size: 75%; vertical-align: baseline; padding: 4px 5px;}
th {position: sticky; top: 0; background: inherit;}
h1 {font-size: 150%;}
h2 {font-size: 125%;}
h2 a:link, h2 a:visited{color: inherit; background: inherit;}
.p {text-align: left;}
.e {background-color: #ccf; width: 300px; font-weight: bold;}
.h {background-color: #99c; font-weight: bold;}
```

```
ubuntu@ip-172-31-29-63:~$ curl http://localhost:8080/info.php
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml"><head>
<style type="text/css">
body {background-color: #fff; color: #222; font-family: sans-serif;}
pre {margin: 0; font-family: monospace;}
a:link {color: #009; text-decoration: none; background-color: #fff;}
a:hover {text-decoration: underline;}
table {border-collapse: collapse; border: 0; width: 934px; box-shadow: 1px 2px 3px rgba(0, 0, 0, 0.
.center {text-align: center;}
.center table {margin: 1em auto; text-align: left;}
.center th {text-align: center !important;}
td, th {border: 1px solid #666; font-size: 75%; vertical-align: baseline; padding: 4px 5px;}
th {position: sticky; top: 0; background: inherit;}
h1 {font-size: 150%;}
h2 {font-size: 125%;}
h2 a:link, h2 a:visited{color: inherit; background: inherit;}
.p {text-align: left;}
.e {background-color: #ccf; width: 300px; font-weight: bold;}
.h {background-color: #99c; font-weight: bold;}
.v {background-color: #ddd; max-width: 300px; overflow-x: auto; word-wrap: break-word;}
.v i {color: #999;}
```

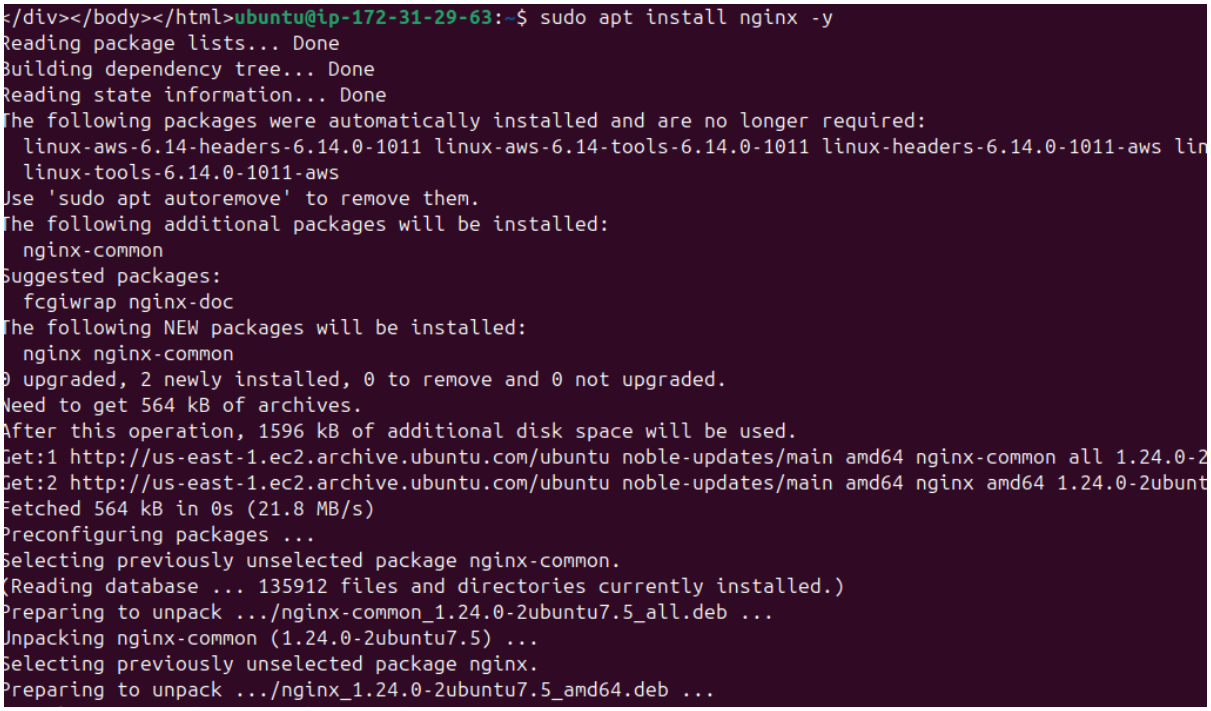


PARTE 2: INSTALACIÓN Y CONFIGURACIÓN DE NGINX

Instalar Nginx

sudo apt install nginx –y

Instala el servidor web Nginx en tu sistema.



Configurar Nginx en puerto 8081

sudo nano /etc/nginx/sites-available/default

Abre la configuración por defecto. Cambia listen 80 por listen 8081.

```
#
# You should look at the following URL's in order to grasp a solid understanding
# of Nginx configuration files in order to fully unleash the power of Nginx.
# https://www.nginx.com/resources/wiki/start/
# https://www.nginx.com/resources/wiki/start/topics/tutorials/config_pitfalls/
# https://wiki.debian.org/Nginx/DirectoryStructure
#
# In most cases, administrators will remove this file from sites-enabled/ and
# leave it as reference inside of sites-available where it will continue to be
# updated by the nginx packaging team.
#
# This file will automatically load configuration files provided by other
# applications, such as Drupal or Wordpress. These applications will be made
# available underneath a path with that package name, such as /drupal8.
#
# Please see /usr/share/doc/nginx-doc/examples/ for more detailed examples.
##

# Default server configuration
#
server {
        listen 8081 default_server;
        listen [::]:8081 default_server;

        # SSL configuration
        #
        # listen 443 ssl default_server;
        # listen [::]:443 ssl default_server;
        #
        # Note: You should disable gzip for SSL traffic.
        # See: https://bugs.debian.org/773332
        #
        # Read up on ssl_ciphers to ensure a secure configuration.
        # See: https://bugs.debian.org/765782
```

Crear página HTML personalizada

echo " Funcionando en puerto 8081”

" | sudo tee /usr/share/nginx/html/index.html Descripción: Crea una página HTML identificable para Nginx ”

```
ubuntu@ip-172-31-29-63:~$ echo "<h1>Servidor Nginx</h1><p>Funcionando en puerto 8081</p>" | sudo tee
/usr/share/nginx/html/index.html
<h1>Servidor Nginx</h1><p>Funcionando en puerto 8081</p>
-bash: /usr/share/nginx/html/index.html: Permission denied
ubuntu@ip-172-31-29-63:~$
```

Reinicar nginx y ver el estado y comprobar que esta funcionando correctamente

sudo systemctl restart nginx

```
ubuntu@ip-172-31-29-63:~$ sudo systemctl restart nginx
ubuntu@ip-172-31-29-63:~$ sudo systemctl status nginx
● nginx.service - A high performance web server and a reverse proxy server
     Loaded: loaded (/usr/lib/systemd/system/nginx.service; enabled; preset: enabled)
     Active: active (running) since Fri 2025-10-31 09:56:08 UTC; 19s ago
       Docs: man:nginx(8)
    Process: 19160 ExecStartPre=/usr/sbin/nginx -t -q -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
    Process: 19161 ExecStart=/usr/sbin/nginx -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
   Main PID: 19163 (nginx)
      Tasks: 3 (limit: 1017)
     Memory: 2.4M (peak: 2.6M)
        CPU: 18ms
     CGroup: /system.slice/nginx.service
             ├─19163 "nginx: master process /usr/sbin/nginx -g daemon on; master_process on;"
             ├─19164 "nginx: worker process"
             └─19165 "nginx: worker process"

Oct 31 09:56:08 ip-172-31-29-63 systemd[1]: Starting nginx.service - A high performance web server and a reverse proxy server...
Oct 31 09:56:08 ip-172-31-29-63 systemd[1]: Started nginx.service - A high performance web server and a reverse proxy server.
ubuntu@ip-172-31-29-63:~$
```

Comando adicional para verificar puerto:

sudo netstat -tulpn | grep nginx

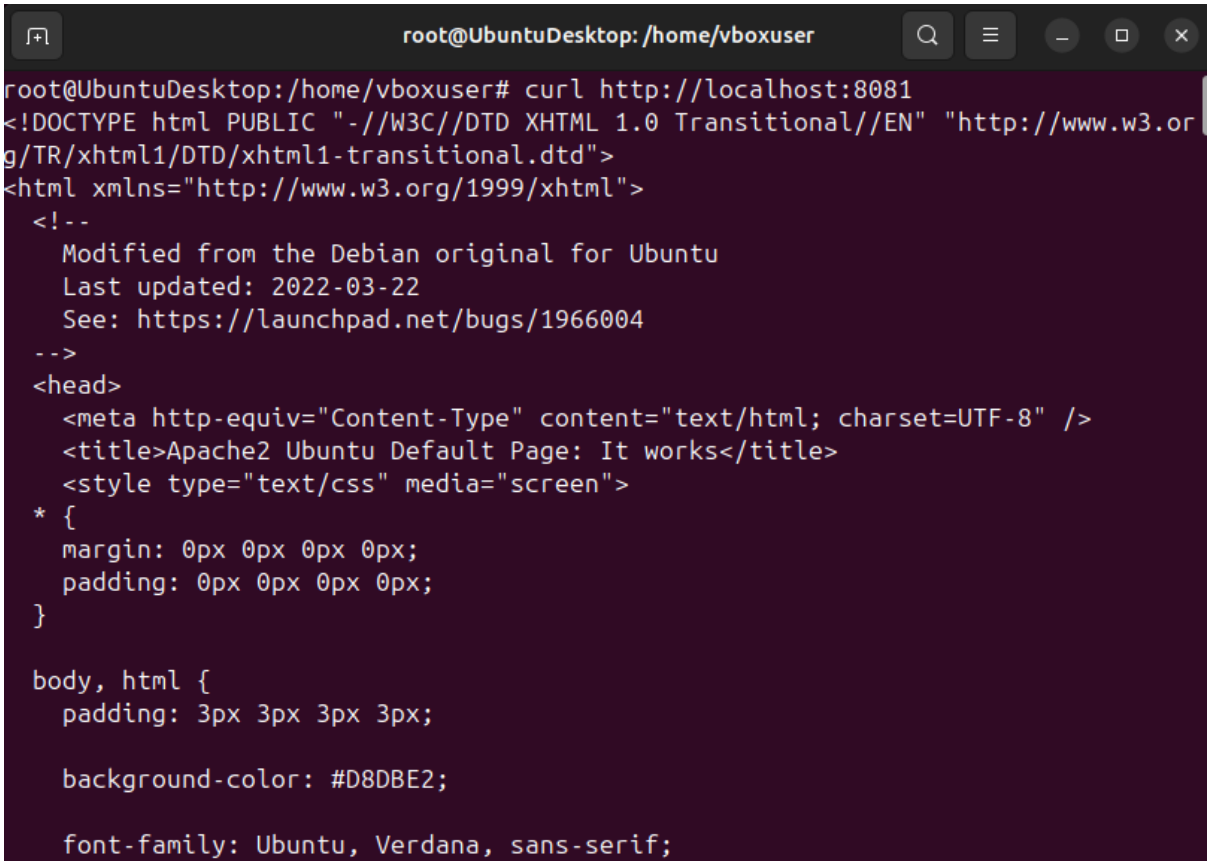
Verifica en qué puerto está escuchando Nginx (debe mostrar 8081).

```
ubuntu@ip-172-31-29-63:~$ sudo netstat -tulpn | grep nginx
tcp        0      0 0.0.0.0:8081            0.0.0.0:*               LISTEN      19163/nginx: master
tcp6       0      0 :::8081                 :::*                    LISTEN      19163/nginx: master
ubuntu@ip-172-31-29-63:~$
```

Probar Nginx desde terminal

curl http://localhost:8081

echo Verifica que Nginx sirve correctamente el contenido HTML


root@UbuntuDesktop: /home/vboxuser
root@UbuntuDesktop:/home/vboxuser# curl http://localhost:8081
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<!--
Modified from the Debian original for Ubuntu
Last updated: 2022-03-22
See: https://launchpad.net/bugs/1966004
-->
<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
<title>Apache2 Ubuntu Default Page: It works</title>
<style type="text/css" media="screen">
* {
margin: 0px 0px 0px 0px;
padding: 0px 0px 0px 0px;
}
body, html {
padding: 3px 3px 3px 3px;
background-color: #D8DBE2;
font-family: Ubuntu, Verdana, sans-serif;

PARTE 3: INSTALACIÓN Y CONFIGURACIÓN DE CADDY

1. Instalar dependencias necesarias

sudo apt install -y debian-keyring debian-archive-keyring apt-transport-https curl
Instala herramientas necesarias para añadir repositorios externos.

```
ubuntu@ip-172-31-29-63:~$ sudo apt install -y debian-keyring debian-archive-keyring apt-transport-https curl
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
curl is already the newest version (8.5.0-2ubuntu10.6).
The following packages were automatically installed and are no longer required:
  linux-aws-6.14-headers-6.14.0-1011 linux-aws-6.14-tools-6.14.0-1011 linux-headers-6.14.0-1011-aws linux-image-6.14.0-1011-aws linux-modules-6.14.0-1011-aws
  linux-tools-6.14.0-1011-aws
Use 'sudo apt autoremove' to remove them.
The following NEW packages will be installed:
  apt-transport-https debian-archive-keyring debian-keyring
0 upgraded, 3 newly installed, 0 to remove and 0 not upgraded.
Need to get 31.5 MB of archives.
After this operation, 33.4 MB of additional disk space will be used.
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 apt-transport-https all 2.8.3 [3970 B]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 debian-archive-keyring all 2023.4ubuntu1 [168 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 debian-keyring all 2023.12.24 [31.3 MB]
Fetched 31.5 MB in 0s (77.7 MB/s)
Selecting previously unselected package apt-transport-https.
(Reading database ... 135960 files and directories currently installed.)
Preparing to unpack .../apt-transport-https_2.8.3_all.deb ...
Unpacking apt-transport-https (2.8.3) ...
Selecting previously unselected package debian-archive-keyring.
Preparing to unpack .../debian-archive-keyring_2023.4ubuntu1_all.deb ...
Unpacking debian-archive-keyring (2023.4ubuntu1) ...
Selecting previously unselected package debian-keyring.
Preparing to unpack .../debian-keyring_2023.12.24_all.deb ...
Unpacking debian-keyring (2023.12.24) ...
```

Agregar repositorio de Caddy curl –1sLf

'https://dl.cloudsmith.io/public/caddy/stable/gpg.key' | sudo gpg --dearmor -o /usr/share/keyrings/caddy-stable-archive-keyring.gpg curl -1sLf 'https://dl.cloudsmith.io/public/caddy/stable/debian.deb.txt' | sudo tee /etc/apt/sources.list.d/caddy-stable.list

Añade el repositorio oficial de Caddy a tu sistema.

```
ubuntu@ip-172-31-29-63:~$ curl -1sLf 'https://dl.cloudsmith.io/public/caddy/stable/gpg.key' | sudo gpg --dearmor -o /usr/share/keyrings/caddy-stable-archive-keyring.gpg
ubuntu@ip-172-31-29-63:~$ curl -1sLf 'https://dl.cloudsmith.io/public/caddy/stable/debian.deb.txt' | sudo tee /etc/apt/sources.list.d/caddy-stable.list
# Source: Caddy
# Site: https://github.com/caddyserver/caddy
# Repository: Caddy / stable
# Description: Fast, multi-platform web server with automatic HTTPS


deb [signed-by=/usr/share/keyrings/caddy-stable-archive-keyring.gpg] https://dl.cloudsmith.io/public/caddy/stable/deb/debian any-version main

deb-src [signed-by=/usr/share/keyrings/caddy-stable-archive-keyring.gpg] https://dl.cloudsmith.io/public/caddy/stable/deb/debian any-version main
ubuntu@ip-172-31-29-63:~$
```

Actualizar e instalar Caddy

sudo apt update && sudo apt install caddy -y

Actualiza la lista de paquetes e instala Caddy

```
ubuntu@ip-172-31-29-63:~$ sudo apt update && sudo apt install caddy -y
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu noble-security InRelease
Get:5 https://dl.cloudsmith.io/public/caddy/stable/deb/debian any-version InRelease [14.8 kB]
Get:6 https://dl.cloudsmith.io/public/caddy/stable/deb/debian any-version/main amd64 Packages [4329 B]
Fetched 19.1 kB in 1s (34.9 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
All packages are up to date.
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
```

Crear directorio para Caddy

sudo mkdir -p /var/www/caddy

Crea un directorio específico para los archivos de Caddy.

```
ubuntu@ip-172-31-29-63:~$ sudo mkdir -p /var/www/caddy
ubuntu@ip-172-31-29-63:~$
```

Crear archivo Markdown de prueba

echo "# Bienvenido a Caddy" | sudo tee /var/www/caddy/README.md echo "" | sudo tee -a /var/www/caddy/README.md

echo "Este servidor está funcionando correctamente." | sudo tee -a /var/www/caddy/README.md echo "" | sudo tee -a /var/www/caddy/README.md echo "## Características" | sudo tee -a /var/www/caddy/README.md echo "- Servidor moderno" | sudo tee -a /var/www/caddy/README.md echo "- HTTPS automático" | sudo tee -a /var/www/caddy/README.md echo "- Fácil configuración" | sudo tee -a /var/www/caddy/README.md

Crea un archivo Markdown con contenido de ejemplo.

```
ubuntu@ip-172-31-29-63:~$ echo "# Bienvenido a Caddy" | sudo tee /var/www/caddy/README.md
echo "" | sudo tee -a /var/www/caddy/README.md
echo "Este servidor está funcionando correctamente." | sudo tee -a
/var/www/caddy/README.md
echo "" | sudo tee -a /var/www/caddy/README.md
# Bienvenido a Caddy

Este servidor está funcionando correctamente.
-bash: /var/www/caddy/README.md: Permission denied

ubuntu@ip-172-31-29-63:~$
```

```
ubuntu@ip-172-31-29-63:~$ echo "## Características" | sudo tee -a /var/www/caddy/README.md
echo "- Servidor moderno" | sudo tee -a /var/www/caddy/README.md
echo "- HTTPS automático" | sudo tee -a /var/www/caddy/README.md
echo "- Fácil configuración" | sudo tee -a /var/www/caddy/README.md
## Características
- Servidor moderno
- HTTPS automático
- Fácil configuración
ubuntu@ip-172-31-29-63:~$
```

Crear imagen de prueba (cuidado WSL hay que hacer ajustes)

curl -o /tmp/test-image.jpg "https://www.python.org/static/apple-touch-icon-144x144-precomposed.png" sudo mv /tmp/test-image.jpg /var/www/caddy/test.jpg

Descarga una imagen de prueba para verificar que Caddy sirve archivos estáticos.

```
ubuntu@ip-172-31-29-63:~$ curl -o /tmp/test-image.jpg "https://www.python.org/static/apple-touch-icon-144x144-precomposed.png"
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100  7382  100  7382    0     0   175k      0 --:--:-- --:--:-- --:--:--  180k
ubuntu@ip-172-31-29-63:~$
```

Crear Caddyfile personalizado

sudo nano /etc/caddy/Caddyfile

Abre el archivo de configuración de Caddy. Escribe el siguiente contenido: :8082 { root * /var/www/caddy file_server browse @markdown path *.md header @markdown Content-Type text/plain

```
:8082 {
root * /var/www/caddy
file_server browse
@markdown path *.md
header @markdown Content-Type text/plain
}

# Refer to the Caddy docs for more information:
# https://caddyserver.com/docs/caddyfile
```

Reiniciar y ver el estado de cady

```
ubuntu@ip-172-31-29-63:~$ sudo nano /etc/caddy/Caddyfile
ubuntu@ip-172-31-29-63:~$ sudo systemctl restart caddy
ubuntu@ip-172-31-29-63:~$ sudo systemctl status caddy
● caddy.service - Caddy
     Loaded: loaded (/usr/lib/systemd/system/caddy.service; enabled; preset: enabled)
     Active: active (running) since Fri 2025-10-31 10:09:40 UTC; 11s ago
       Docs: https://caddyserver.com/docs/
   Main PID: 20115 (caddy)
      Tasks: 7 (limit: 1017)
     Memory: 11.3M (peak: 11.7M)
        CPU: 95ms
     CGroup: /system.slice/caddy.service
             └─20115 /usr/bin/caddy run --environ --config /etc/caddy/Caddyfile
```

Comando adicional para verificar puerto

sudo netstat -tulpn | grep caddy

Verifica en qué puerto está escuchando Caddy (debe mostrar 8082

```
ubuntu@ip-172-31-29-63:~$ sudo netstat -tulpn | grep caddy
tcp        0      0 127.0.0.1:2019          0.0.0.0:*               LISTEN      20115/caddy
tcp6       0      0 :::8082                 :::*                    LISTEN      20115/caddy
ubuntu@ip-172-31-29-63:~$
```

Probar Caddy desde terminal

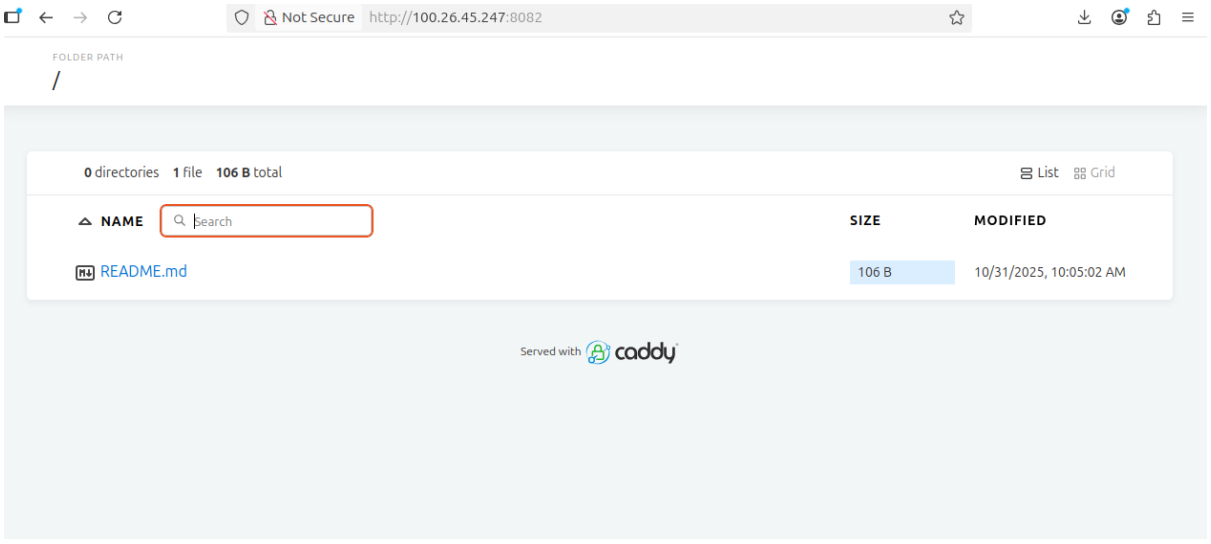
Lista los archivos disponibles en el servidor Caddy.

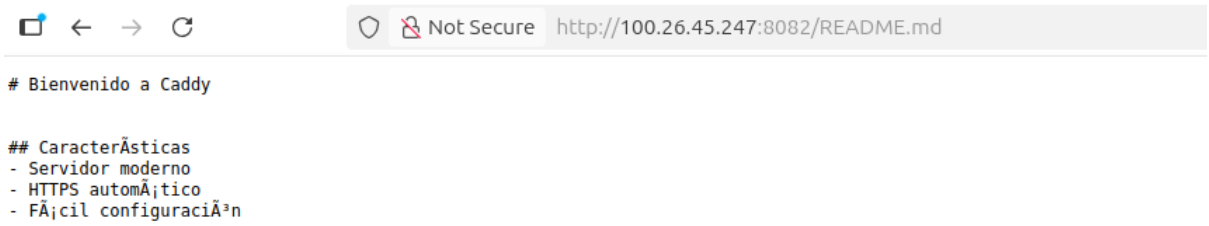
```
ubuntu@ip-172-31-29-63:~$ curl http://localhost:8082/

<!DOCTYPE html>
<html>
        <head>
                <title>/</title>
                <link rel="canonical" href="//"  />
                <meta charset="utf-8">
                <meta name="color-scheme" content="light dark">
                <meta name="viewport" content="width=device-width, initial-scale=1.0">
<style nonce="71ac8d54-e9e9-4ff3-b5b8-cac3c1c56e6f">
* { padding: 0; margin: 0; box-sizing: border-box; }

body {
        font-family: Inter, system-ui, sans-serif;
        font-size: 16px;
        text-rendering: optimizespeed;
        background-color: #f3f6f7;
        min-height: 100vh;
}

img,
```

Probar archivo Markdown

Verifica que Caddy sirve correctamente archivos Markdown.

```
ubuntu@ip-172-31-29-63:~$ curl http://localhost:8082/README.md
# Bienvenido a Caddy


## Características
- Servidor moderno
- HTTPS automático
- Fácil configuración
ubuntu@ip-172-31-29-63:~$
```

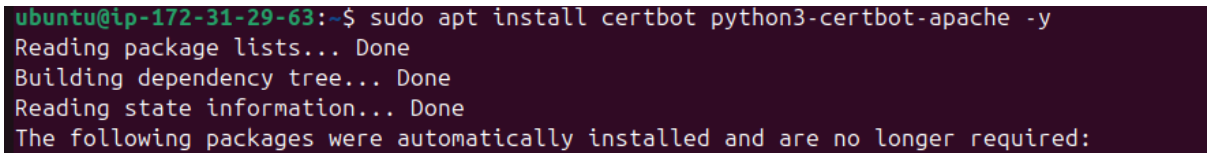




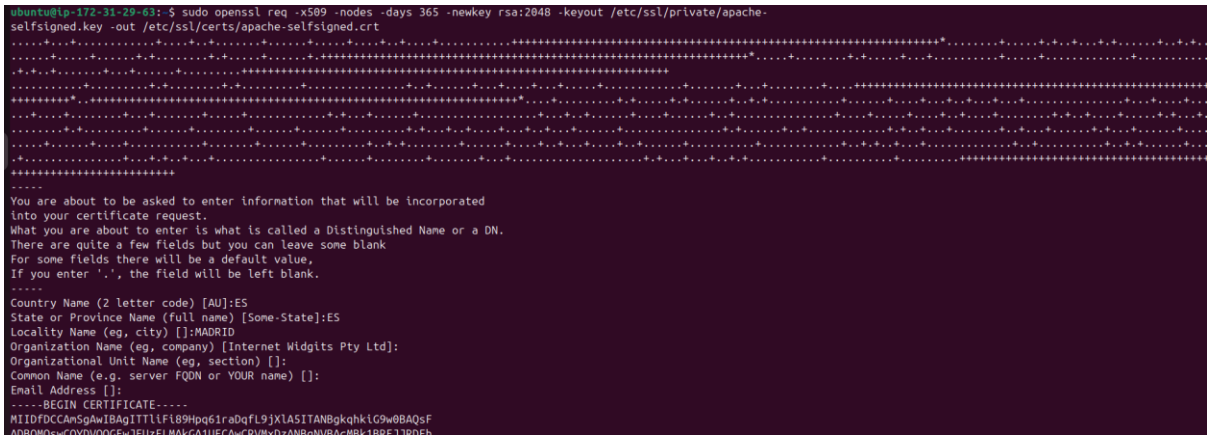
PARTE 4: CONFIGURACIÓN DE HTTPS CON CERTBOT EN APACHE

Instalar Certbot y el plugin de Apache

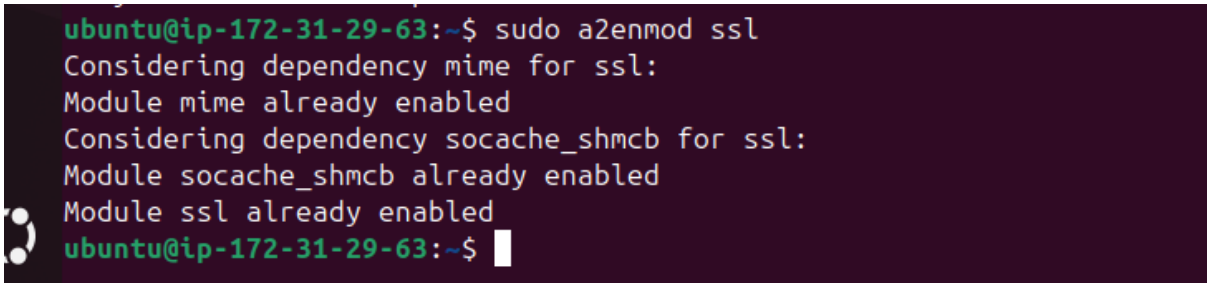
Instala Certbot y su integración con Apache para gestionar certificados SSL.



Crea un certificado autofirmado para practicar HTTPS localmente. Completa los campos solicitados (puedes usar valores por defecto o responder: ES, Madrid, Madrid, vacío, vacío, localhost y ejemplo@gmail.com).



Activa el módulo SSL necesario para HTTPS en Apache.



Añade la línea Listen 8443 para que Apache escuche HTTPS en puerto 8443.

```
 GNU nano 7.2                                                    /etc/a
# If you just change the port or add more ports here, you will likely also
# have to change the VirtualHost statement in
# /etc/apache2/sites-enabled/000-default.conf

Listen 8080
Listen 8443
<IfModule ssl_module>
        Listen 443
</IfModule>

<IfModule mod_gnutls.c>
        Listen 443
</IfModule>
```

```
 GNU nano 7.2                                  /etc/apache2/sites-available/default-ssl.conf *
<VirtualHost *:8443>
        ServerAdmin webmaster@localhost

        DocumentRoot /var/www/html

        # 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

        # For most configuration files from conf-available/, which are
        # enabled or disabled at a global level, it is possible to
        # include a line for only one particular virtual host. For example the
        # following line enables the CGI configuration for this host only
        # after it has been globally disabled with "a2disconf".
        #Include conf-available/serve-cgi-bin.conf

        #   SSL Engine Switch:
        #   Enable/Disable SSL for this virtual host.
        SSLEngine on

        #   A self-signed (snakeoil) certificate can be created by installing
        #   the ssl-cert package. See
        #   /usr/share/doc/apache2/README.Debian.gz for more info.
        #   If both key and certificate are stored in the same file, only the
        #   SSLCertificateFile directive is needed.
        SSLCertificateFile      /etc/ssl/certs/ssl-cert-snakeoil.pem
        SSLCertificateKeyFile   /etc/ssl/private/ssl-cert-snakeoil.key

        #   Server Certificate Chain:
```

Activa la configuración SSL en Apache.

```
ubuntu@ip-172-31-29-63:~$ sudo a2ensite default-ssl.conf
Site default-ssl already enabled
ubuntu@ip-172-31-29-63:~$
```

Prueba la conexión HTTPS (el flag -k ignora el aviso del certificado autofirmado).

```
ubuntu@ip-172-31-29-63:~$ curl -i -k https://localhost:8443
HTTP/1.1 200 OK
Date: Fri, 31 Oct 2025 10:23:21 GMT
Server: Apache/2.4.58 (Ubuntu)
Last-Modified: Fri, 31 Oct 2025 09:46:01 GMT
ETag: "29af-642713bbb654d"
Accept-Ranges: bytes
Content-Length: 10671
Vary: Accept-Encoding
Content-Type: text/html

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.or
<html xmlns="http://www.w3.org/1999/xhtml">
  <!--
    Modified from the Debian original for Ubuntu
```

PARTE 5: VERIFICACIÓN FINAL DE LOS TRES SERVIDORES

sudo systemctl status apache2

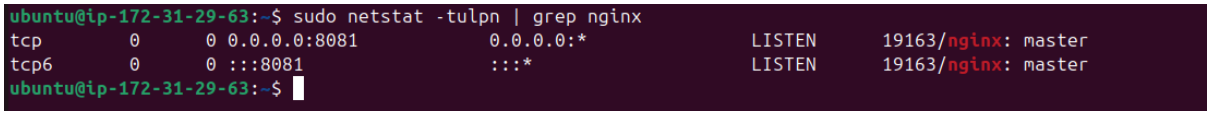
```
ubuntu@ip-172-31-29-63:~$ sudo systemctl status apache2
● apache2.service - The Apache HTTP Server
     Loaded: loaded (/usr/lib/systemd/system/apache2.service; enabled; preset: enabled)
     Active: active (running) since Fri 2025-10-31 10:22:39 UTC; 1min 23s ago
       Docs: https://httpd.apache.org/docs/2.4/
    Process: 20611 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
   Main PID: 20615 (apache2)
      Tasks: 6 (limit: 1017)
     Memory: 11.8M (peak: 12.3M)
        CPU: 67ms
     CGroup: /system.slice/apache2.service
             ├─20615 /usr/sbin/apache2 -k start
             ├─20617 /usr/sbin/apache2 -k start
             ├─20618 /usr/sbin/apache2 -k start
             ├─20619 /usr/sbin/apache2 -k start
             ├─20620 /usr/sbin/apache2 -k start
             └─20621 /usr/sbin/apache2 -k start

Oct 31 10:22:39 ip-172-31-29-63 systemd[1]: Starting apache2.service - The Apache HTTP Server...
Oct 31 10:22:39 ip-172-31-29-63 systemd[1]: Started apache2.service - The Apache HTTP Server.
ubuntu@ip-172-31-29-63:~$
```

sudo netstat -tulpn | grep apache2

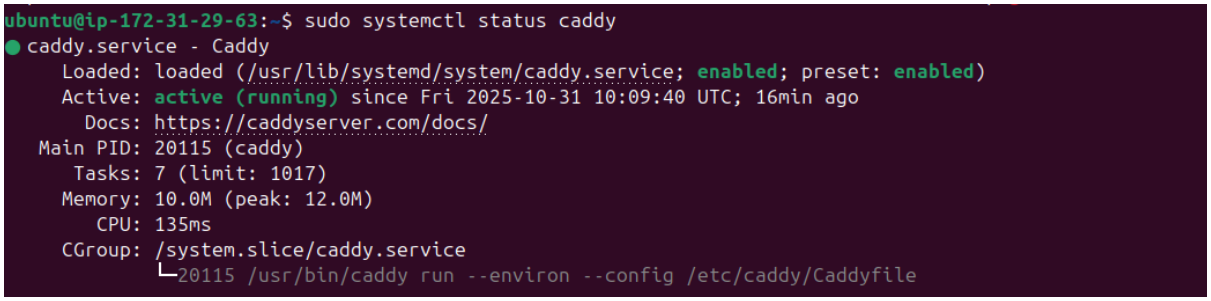
```
ubuntu@ip-172-31-29-63:~$ sudo netstat -tulpn | grep apache2
tcp6       0      0 :::8443                 :::*                    LISTEN      20615/apache2
tcp6       0      0 :::443                  :::*                    LISTEN      20615/apache2
tcp6       0      0 :::8080                 :::*                    LISTEN      20615/apache2
ubuntu@ip-172-31-29-63:~$
```

sudo systemctl status nginx

sudo netstat -tulpn | grep nginx

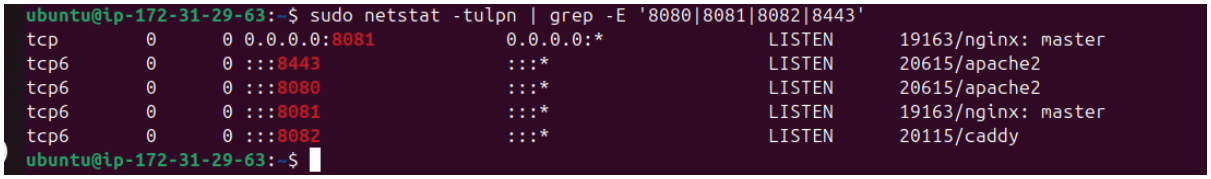


sudo systemctl status caddy



sudo netstat -tulpn | grep caddy

sudo netstat -tulpn | grep -E '8080|8081|8082|8443'



Verifica que cada servidor responde correctamente en su puerto asignado

```
ubuntu@ip-172-31-29-63:~$ curl http://localhost:8080
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
  <!--
    Modified from the Debian original for Ubuntu
    Last updated: 2022-03-22
    See: https://launchpad.net/bugs/1966004
  -->
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
    <title>Apache2 Ubuntu Default Page: It works</title>
    <style type="text/css" media="screen">
  * {
    margin: 0px 0px 0px 0px;
```

```
buntu@ip-172-31-29-63:~$ curl http://localhost:8081
!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
html xmlns="http://www.w3.org/1999/xhtml">
 <!--
   Modified from the Debian original for Ubuntu
   Last updated: 2022-03-22
   See: https://launchpad.net/bugs/1966004
 -->
 <head>
   <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
   <title>Apache2 Ubuntu Default Page: It works</title>
   <style type="text/css" media="screen">
 * {
   margin: 0px 0px 0px 0px;
   padding: 0px 0px 0px 0px;
 }
```

```
ubuntu@ip-172-31-29-63:~$ curl http://localhost:8082

<!DOCTYPE html>
<html>
        <head>
                <title>/</title>
                <link rel="canonical" href="//"  />
                <meta charset="utf-8">
                <meta name="color-scheme" content="light dark">
                <meta name="viewport" content="width=device-width, initial-scale=1.0">
<style nonce="3ef1db7e-2171-4dce-b7e2-26833a2aa217">
* { padding: 0; margin: 0; box-sizing: border-box; }

body {
        font-family: Inter, system-ui, sans-serif;
        font-size: 16px;
        text-rendering: optimizespeed;
        background-color: #f3f6f7;
        min-height: 100vh;
```

```
ubuntu@ip-172-31-29-63:~$ curl -i -k https://localhost:8443
HTTP/1.1 200 OK
Date: Fri, 31 Oct 2025 10:31:40 GMT
Server: Apache/2.4.58 (Ubuntu)
Last-Modified: Fri, 31 Oct 2025 09:46:01 GMT
ETag: "29af-642713bbb654d"
Accept-Ranges: bytes
Content-Length: 10671
Vary: Accept-Encoding
Content-Type: text/html

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-tr
<html xmlns="http://www.w3.org/1999/xhtml">
  <!--
    Modified from the Debian original for Ubuntu
    Last updated: 2022-03-22
    See: https://launchpad.net/bugs/1966004
  -->
```