

¿QUÉ TE PEDIMOS QUE HAGAS?

Se pide:

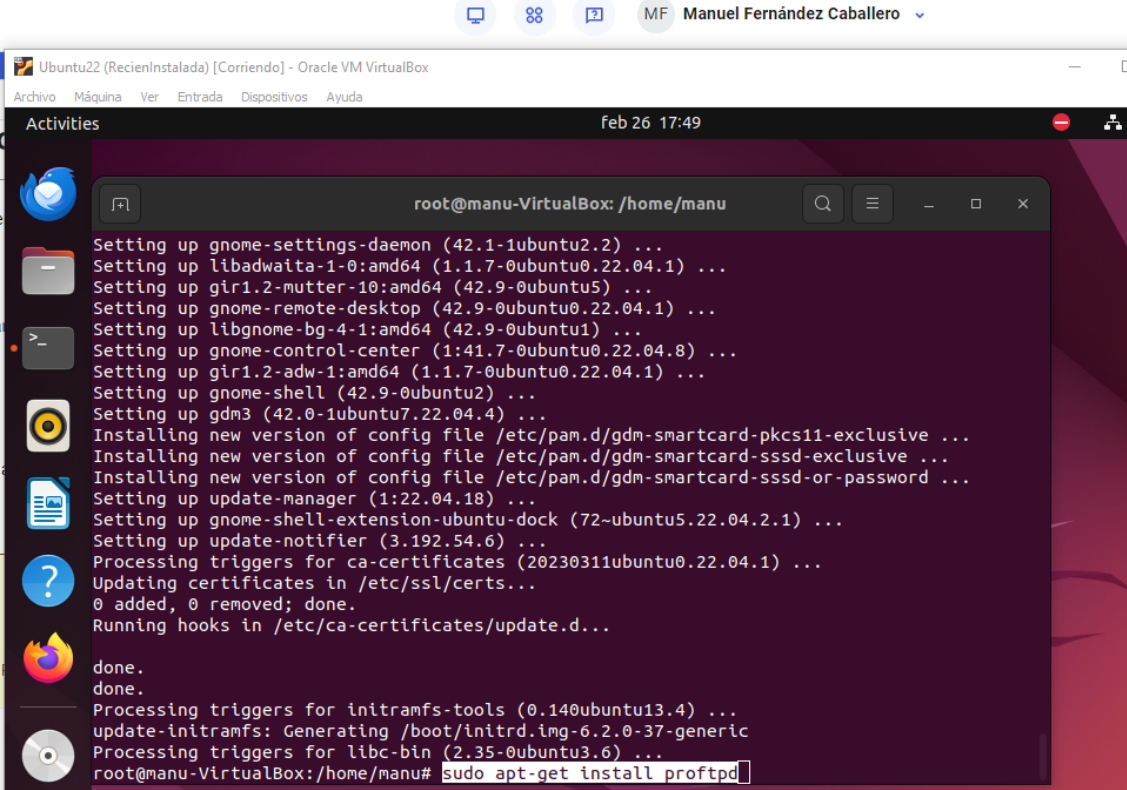
1. *Instalar un servidor FTP: ProFTPD (proftpd).*

Actualizamos el sistema operativo con

- `Apt-get update`
- `Apt-get upgrade`

E instalamos ProFTPD:

- `Sudo apt-get install proftpd`



The screenshot shows a terminal window titled 'root@manu-VirtualBox: /home/manu'. The terminal output displays the results of system updates and the installation of ProFTPD. The updates section lists various packages being updated, including gnome-settings-daemon, libadwaita-1-0, gir1.2-mutter-10, gnome-remote-desktop, libgnome-bg-4-1, gnome-control-center, gir1.2-adw-1, gnome-shell, gdm3, and update-manager. The ProFTPD installation is shown as successful, with the command 'sudo apt-get install proftpd' entered at the prompt.

```
Setting up gnome-settings-daemon (42.1-1ubuntu2.2) ...
Setting up libadwaita-1-0:amd64 (1.1.7-0ubuntu0.22.04.1) ...
Setting up gir1.2-mutter-10:amd64 (42.9-0ubuntu5) ...
Setting up gnome-remote-desktop (42.9-0ubuntu0.22.04.1) ...
Setting up libgnome-bg-4-1:amd64 (42.9-0ubuntu1) ...
Setting up gnome-control-center (1:41.7-0ubuntu0.22.04.8) ...
Setting up gir1.2-adw-1:amd64 (1.1.7-0ubuntu0.22.04.1) ...
Setting up gnome-shell (42.9-0ubuntu2) ...
Setting up gdm3 (42.0-1ubuntu7.22.04.4) ...
Installing new version of config file /etc/pam.d/gdm-smartcard-pkcs11-exclusive ...
Installing new version of config file /etc/pam.d/gdm-smartcard-sssd-exclusive ...
Installing new version of config file /etc/pam.d/gdm-smartcard-sssd-or-password ...
Setting up update-manager (1:22.04.18) ...
Setting up gnome-shell-extension-ubuntu-dock (72~ubuntu5.22.04.2.1) ...
Setting up update-notifier (3.192.54.6) ...
Processing triggers for ca-certificates (20230311ubuntu0.22.04.1) ...
Updating certificates in /etc/ssl/certs...
0 added, 0 removed; done.
Running hooks in /etc/ca-certificates/update.d...
done.
done.
Processing triggers for initramfs-tools (0.140ubuntu13.4) ...
update-initramfs: Generating /boot/initrd.img-6.2.0-37-generic
Processing triggers for libc-bin (2.35-0ubuntu3.6) ...
root@manu-VirtualBox:/home/manu# sudo apt-get install proftpd
```

Comprobación del servicio activo con **sudo service proftpd status**

```
root@manu-VirtualBox: /home/manu# sudo service proftpd status
● proftpd.service - ProFTPD FTP Server
   Loaded: loaded (/lib/systemd/system/proftpd.service; enabled; vendor preset: enable>
   Active: active (running) since Mon 2024-02-26 17:50:07 CET; 1min 2s ago
     Main PID: 45444 (proftpd)
        Tasks: 1 (limit: 11530)
       Memory: 3.9M
          CPU: 70ms
      CGroup: /system.slice/proftpd.service
              └─45444 "proftpd: (accepting connections)" "" "" "" "" "" "" "" "" "" "" "" >

Feb 26 17:50:07 manu-VirtualBox systemd[1]: Starting ProFTPD FTP Server...
Feb 26 17:50:07 manu-VirtualBox proftpd[45442]: Checking syntax of configuration file
Feb 26 17:50:07 manu-VirtualBox systemd[1]: proftpd.service: Can't open PID file /run/pr>
Feb 26 17:50:07 manu-VirtualBox systemd[1]: Started ProFTPD FTP Server.
```

2. Configurar el servidor ProFTPD con:

1. El usuario virtual: direccion con permisos de escritura.

Primero creamos el directorio al que acceder con FTP

```
root@manu-VirtualBox:/home/manu# mkdir /var/ftp
root@manu-VirtualBox:/home/manu# mkdir /var/ftp/todo-empresa-tareadaw04
root@manu-VirtualBox:/home/manu#
```

Reescribo el directorio, falta un guión:

```
root@manu-VirtualBox:/var/ftp# mv todo-empresa-tareadaw04/ todo-empresa-tarea-daw04/
root@manu-VirtualBox:/var/ftp# ls
todo-empresa-tarea-daw04
```

Id ftp para conocer el nº de identificación del usuario del servicio ftp, observamos que es el **130**

```
root@manu-VirtualBox:/home/manu# id ftp
uid=130(ftp) gid=65534(nogroup) groups=65534(nogroup)
root@manu-VirtualBox:/home/manu#
```

Y lo introducimos en el comando para crear un usuario virtual llamado **"direccion"** con el identificador de usuario **130**, bajo el directorio creado previamente **"/var/ftp/todo-empresa-tarea-daw04"**, y sin acceso al shell del sistema en un sistema Linux o Unix, para evitar brechas de seguridad

```
sudo ftpasswd --passwd --name direccion --file /etc/passwd.usuarios.virtuales --uid 130 --home /var/ftp/todo-empresa-tarea-daw04 --shell /bin/false
```

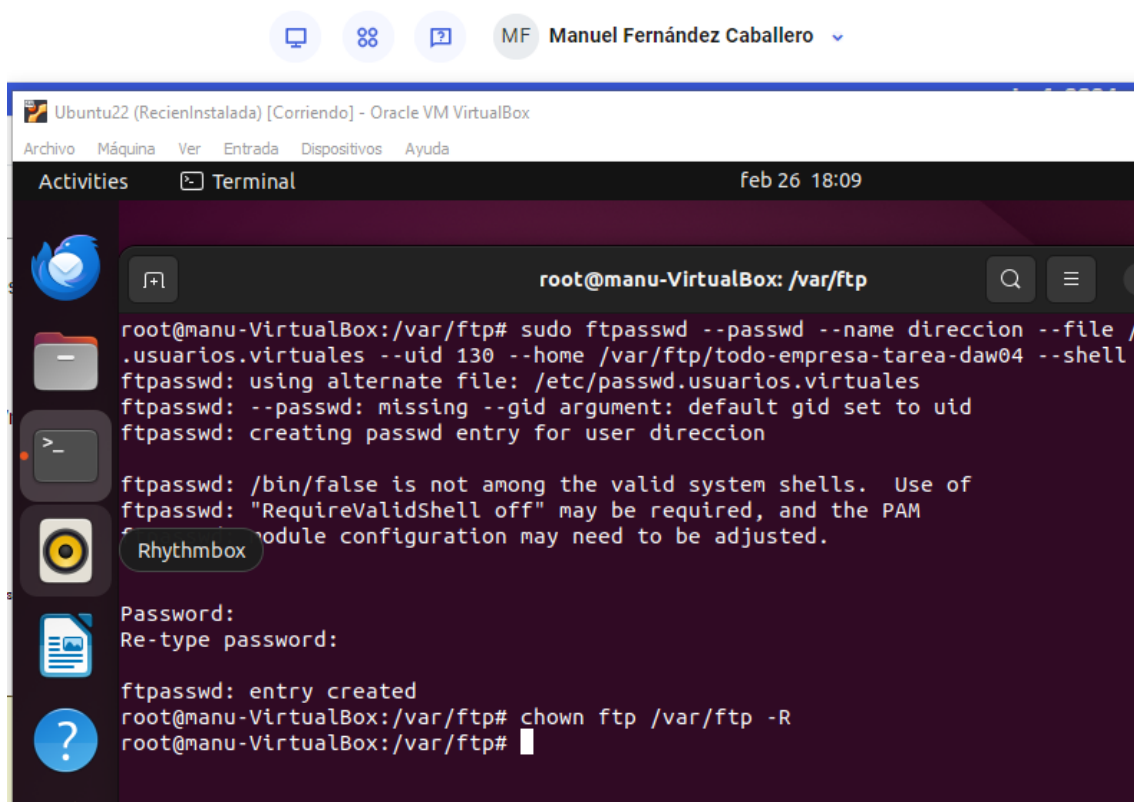
```
root@manu-VirtualBox:/var/ftp# sudo ftpasswd --passwd --name direccion --file /etc/passwd
.usuarios.virtuales --uid 130 --home /var/ftp/todo-empresa-tarea-daw04 --shell /bin/false
ftpasswd: using alternate file: /etc/passwd.usuarios.virtuales
ftpasswd: --passwd: missing --gid argument: default gid set to uid
ftpasswd: creating passwd entry for user direccion

ftpasswd: /bin/false is not among the valid system shells. Use of
ftpasswd: "RequireValidShell off" may be required, and the PAM
ftpasswd: module configuration may need to be adjusted.

Password:
Re-type password:

ftpasswd: entry created
root@manu-VirtualBox:/var/ftp#
```

Con el comando **chown ftp /var/ftp -R** asignamos el propietario del directorio y sus contenidos en /var/ftp al usuario ftp de manera recursiva.



2. Un virtualhost basado en IP que permita el acceso, mediante ftp, al directorio del servidor ftp: todo-empresa-tarea-daw04

Editamos el archivo de configuración con **nano /etc/proftpd/proftpd.conf**

```
root@manu-VirtualBox: /var/ftp
GNU nano 6.2 /etc/proftpd/proftpd.conf *
# # Uncomment this if you're brave.
# # <Directory incoming>
# #   # Umask 022 is a good standard umask to prevent new files and dirs
# #   # (second parm) from being group and world writable.
# #   Umask022 022
# #   <Limit READ WRITE>
# #     DenyAll
# #   </Limit>
# #   <Limit STOR>
# #     AllowAll
# #   </Limit>
# # </Directory>
#
# </Anonymous>

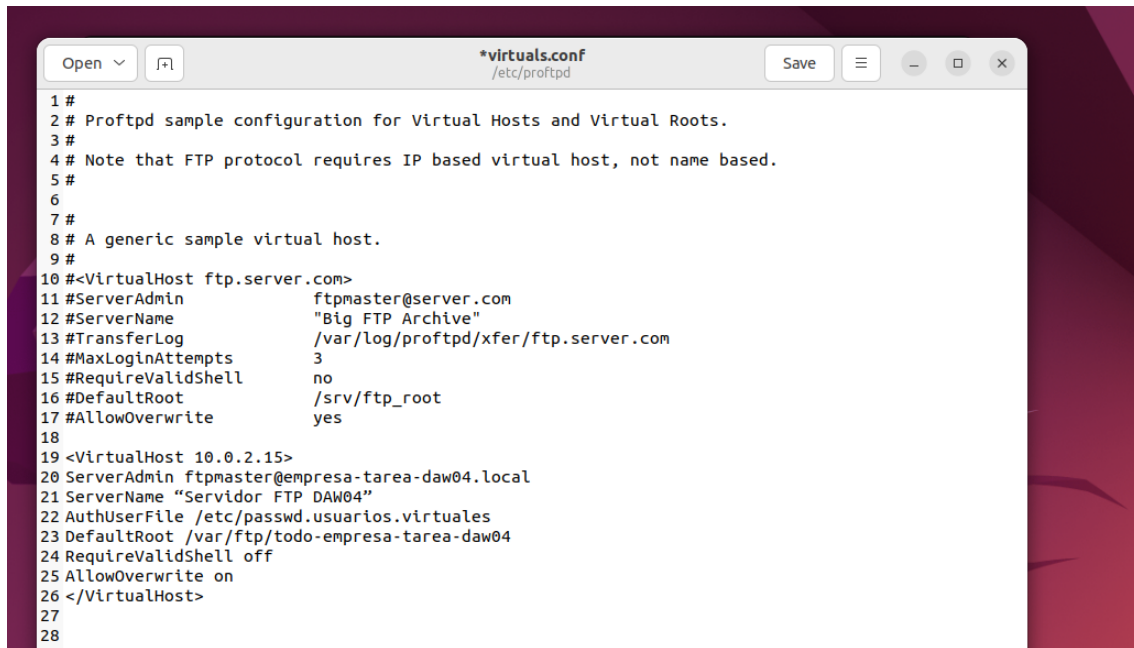
# Include other custom configuration files
# !! Please note, that this statement will read /all/ file from this subdir,
# i.e. backup files created by your editor, too !!!
# Eventually create file patterns like this: /etc/proftpd/conf.d/*.conf
Include /etc/proftpd/conf.d/
```

Comprobamos la dirección ip de nuestro servidor con **ifconfig**, observamos que es la 10.0.2.15

```
root@manu-VirtualBox: /var/ftp# ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
    inet6 fe80::7d1a:4ba5:b7cd:c3f4 prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:e7:de:dd txqueuelen 1000 (Ethernet)
    RX packets 566918 bytes 854949017 (854.9 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 22851 bytes 1480193 (1.4 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 305 bytes 27576 (27.5 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 305 bytes 27576 (27.5 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

Y editamos el archivo con **gedit /etc/proftpd/virtuals.conf**



```
1 #
2 # Proftpd sample configuration for Virtual Hosts and Virtual Roots.
3 #
4 # Note that FTP protocol requires IP based virtual host, not name based.
5 #
6
7 #
8 # A generic sample virtual host.
9 #
10 <VirtualHost ftp.server.com>
11 #ServerAdmin      ftpmaster@server.com
12 #ServerName       "Big FTP Archive"
13 #TransferLog      /var/log/proftpd/xfer/ftp.server.com
14 #MaxLoginAttempts 3
15 #RequireValidShell no
16 #DefaultRoot      /srv/ftp_root
17 #AllowOverwrite   yes
18
19 <VirtualHost 10.0.2.15>
20 ServerAdmin ftpmaster@empresa-tarea-daw04.local
21 ServerName "Servidor FTP DAW04"
22 AuthUserFile /etc/passwd.usuarios virtuales
23 DefaultRoot /var/ftp/todo-empresa-tarea-daw04
24 RequireValidShell off
25 AllowOverwrite on
26 </VirtualHost>
27
28 ..
```

Con este bloque de configuración defino:

- Un virtualhost FTP en la dirección **IP 10.0.2.15** con un **administrador de servidor**, **nombre del servidor**, **archivo de usuarios virtuales**, **directorio raíz predeterminada**, **deshabilitación de verificación de shell** y **permisos de sobrescritura habilitados**.

3. El cifrado TLS Explícito para asegurar la comunicación con empresa-tarea-daw04

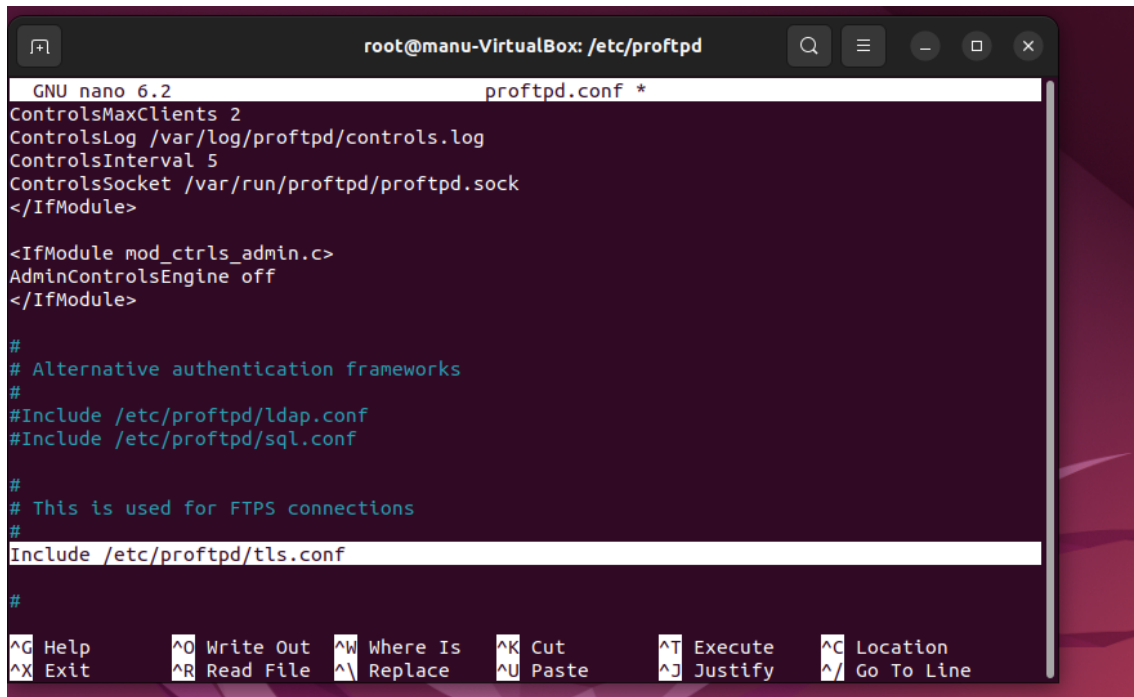
`sudo nano etc/proftpd.conf`



```
root@manu-VirtualBox:/etc/proftpd# ls
blacklist.dat  dhparams.pem  ldap.conf     proftpd.conf  snmp.conf    tls.conf
conf.d         geoip.conf    modules.conf  sftp.conf     sql.conf     virtuals.conf
root@manu-VirtualBox:/etc/proftpd# nano proftpd.conf
```

y descomentamos la línea

include /etc/proftpd/tls.conf



```
root@manu-VirtualBox: /etc/proftpd
GNU nano 6.2 proftpd.conf *
ControlsMaxClients 2
ControlsLog /var/log/proftpd/controls.log
ControlsInterval 5
ControlsSocket /var/run/proftpd/proftpd.sock
</IfModule>

<IfModule mod_ctrls_admin.c>
AdminControlsEngine off
</IfModule>

#
# Alternative authentication frameworks
#
#Include /etc/proftpd/ldap.conf
#Include /etc/proftpd/sql.conf

#
# This is used for FTPS connections
#
Include /etc/proftpd/tls.conf

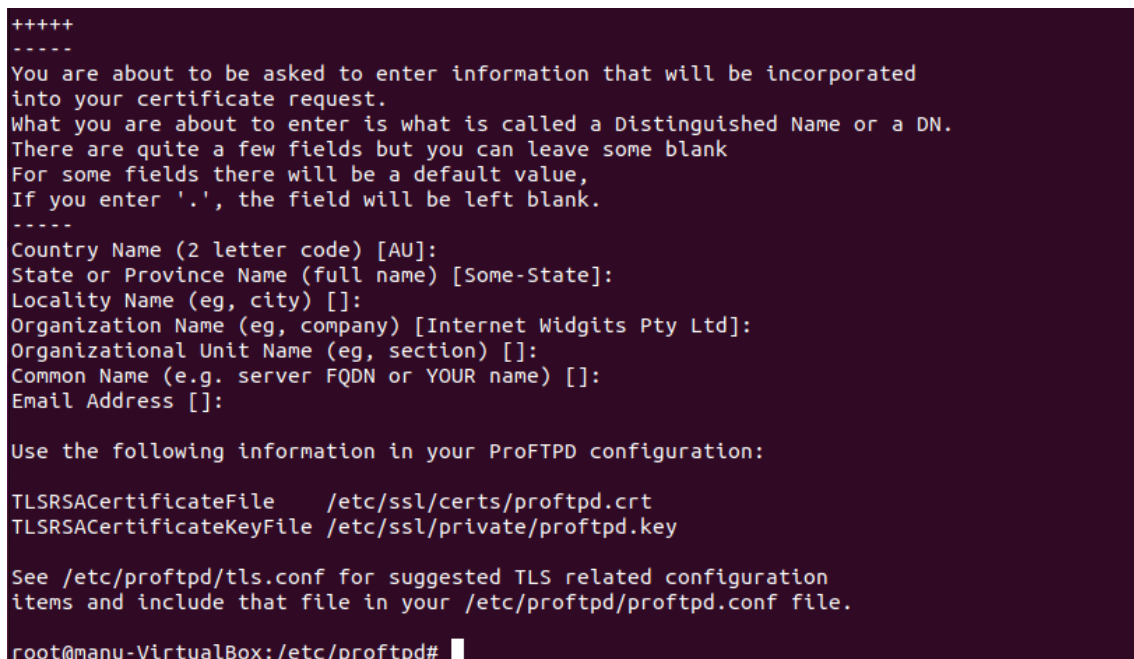
#
^G Help      ^O Write Out ^W Where Is  ^K Cut       ^T Execute  ^C Location
^X Exit      ^R Read File ^_ Replace   ^U Paste     ^J Justify  ^_ Go To Line
```

Control + O, guardamos, intro, Control + X para cerrar.

Creamos las claves públicas y privadas:

proftpd-gencert

Y tras contentar las preguntar que dejaré en blanco, se habrá creado los ficheros del certificado:



```
+++++
-----
You are about to be asked to enter information that will be incorporated
into your certificate request.
What you are about to enter is what is called a Distinguished Name or a DN.
There are quite a few fields but you can leave some blank
For some fields there will be a default value,
If you enter '.', the field will be left blank.
-----
Country Name (2 letter code) [AU]:
State or Province Name (full name) [Some-State]:
Locality Name (eg, city) []:
Organization Name (eg, company) [Internet Widgits Pty Ltd]:
Organizational Unit Name (eg, section) []:
Common Name (e.g. server FQDN or YOUR name) []:
Email Address []:

Use the following information in your ProFTPD configuration:

TLSRSACertificateFile    /etc/ssl/certs/proftpd.crt
TLSRSACertificateKeyFile /etc/ssl/private/proftpd.key

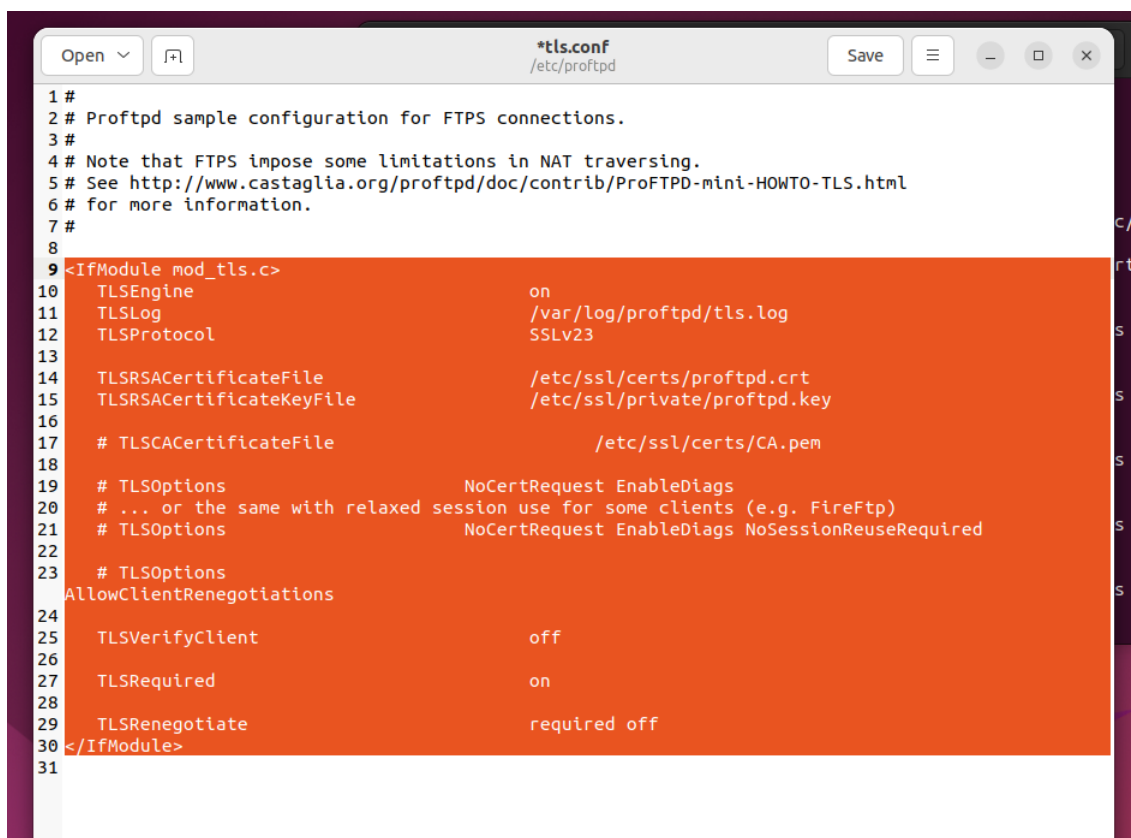
See /etc/proftpd/tls.conf for suggested TLS related configuration
items and include that file in your /etc/proftpd/proftpd.conf file.
root@manu-VirtualBox:/etc/proftpd#
```

Moveremos la clave privada de ProFTPD a un directorio específico, establecemos permisos restrictivos para la clave privada y el certificado, proporcionando seguridad en la configuración de TLS para el servidor FTP.

- **mv /etc/ssl/private/proftpd.key /etc/ssl/**
- **chmod 0600 /etc/ssl/proftpd.key**
- **chmod 0644 /etc/ssl/certs/proftpd.crt**

```
root@manu-VirtualBox:/etc/proftpd# mv /etc/ssl/private/proftpd.key /etc/ssl/
root@manu-VirtualBox:/etc/proftpd# chmod 0600 /etc/ssl/proftpd.key
root@manu-VirtualBox:/etc/proftpd# chmod 0644 /etc/ssl/certs/proftpd.crt
```

Editamos el archivo de configuración tls **con gedit /etc/proftpd/tls.conf** y descomentamos



```
*tls.conf
/etc/proftpd

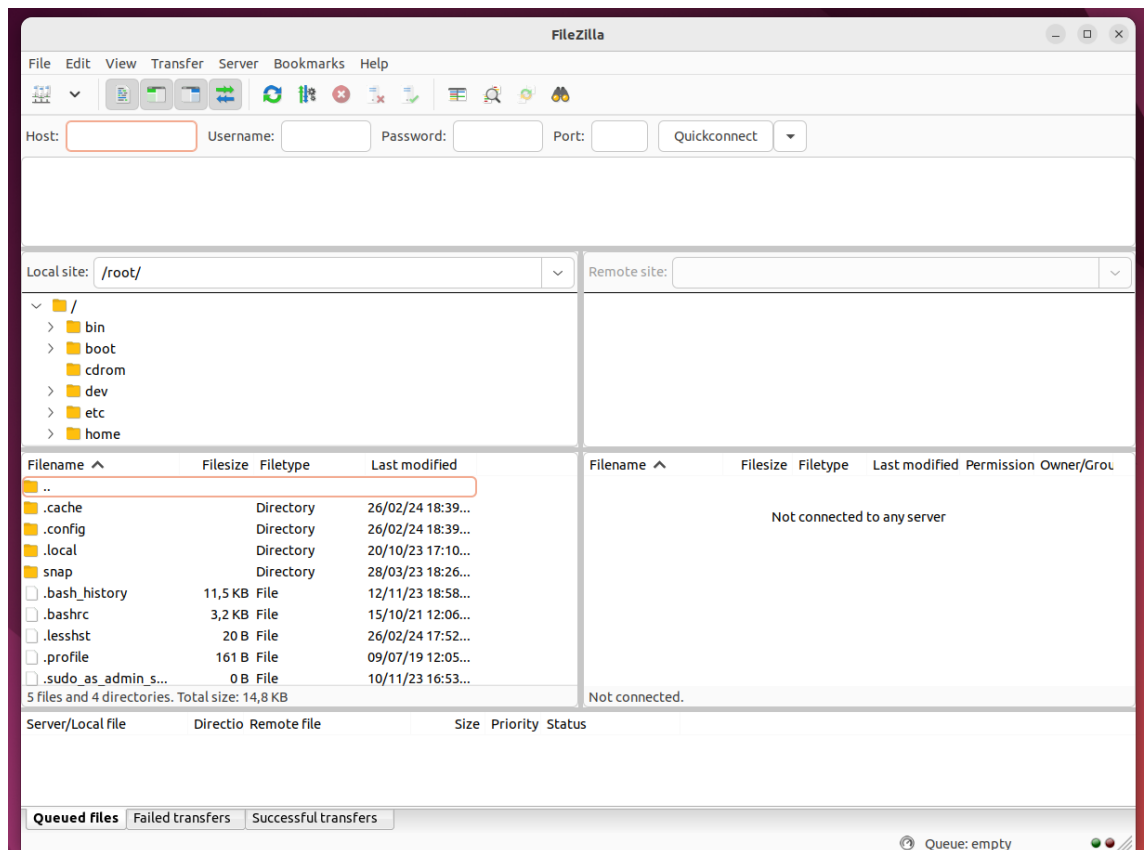
1 #
2 # Proftpd sample configuration for FTPS connections.
3 #
4 # Note that FTPS impose some limitations in NAT traversing.
5 # See http://www.castaglia.org/proftpd/doc/contrib/ProFTPD-mini-HOWTO-TLS.html
6 # for more information.
7 #
8
9 <IfModule mod_tls.c>
10     TLSEngine                 on
11     TLSLog                    /var/log/proftpd/tls.log
12     TLSProtocol                SSLv23
13
14     TLSRSACertificateFile      /etc/ssl/certs/proftpd.crt
15     TLSRSACertificateKeyFile   /etc/ssl/private/proftpd.key
16
17     # TLSCACertificateFile     /etc/ssl/certs/CA.pem
18
19     # TLSOptions                NoCertRequest EnableDiags
20     # ... or the same with relaxed session use for some clients (e.g. FireFtp)
21     # TLSOptions                NoCertRequest EnableDiags NoSessionReuseRequired
22
23     # TLSOptions
24     AllowClientRenegotiations
25
26     TLSVerifyClient            off
27
28     TLSRequired                on
29
30     TLSRenegotiate             required off
31 </IfModule>
```

3. Instalar el cliente FTP gráfico FileZilla (filezilla)

sudo apt install filezilla y compruebo su instalación:

```
root@manu-VirtualBox:/etc/proftpd# dpkg -l | grep filezilla
ii  filezilla                 3.58.0-1ubuntu0.1
d64  Full-featured graphical FTP/FTPS/SFTP client
ii  filezilla-common          3.58.0-1ubuntu0.1
l    Architecture independent files for filezilla
ii  libfilezilla-common       0.36.0-2
l    build high-performing platform-independent programs (translations)
ii  libfilezilla24:amd64     0.36.0-2
d64  build high-performing platform-independent programs (runtime lib)
root@manu-VirtualBox:/etc/proftpd#
```

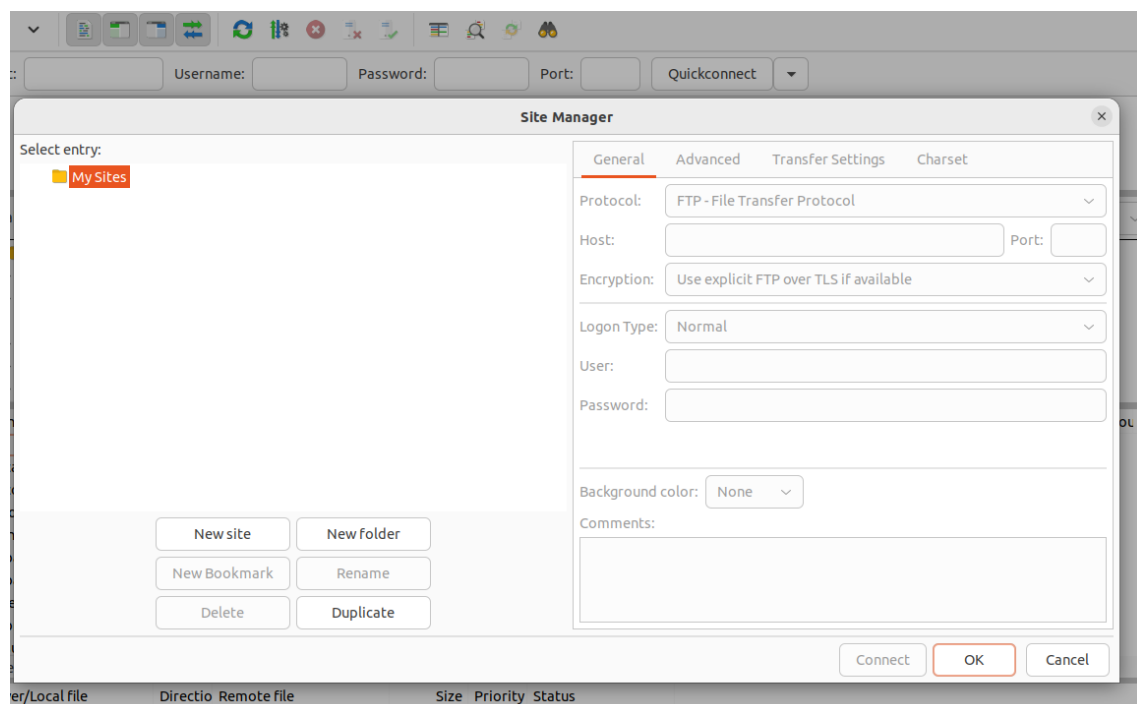
Pruebo a ejecutarlo escribiendo filezilla:



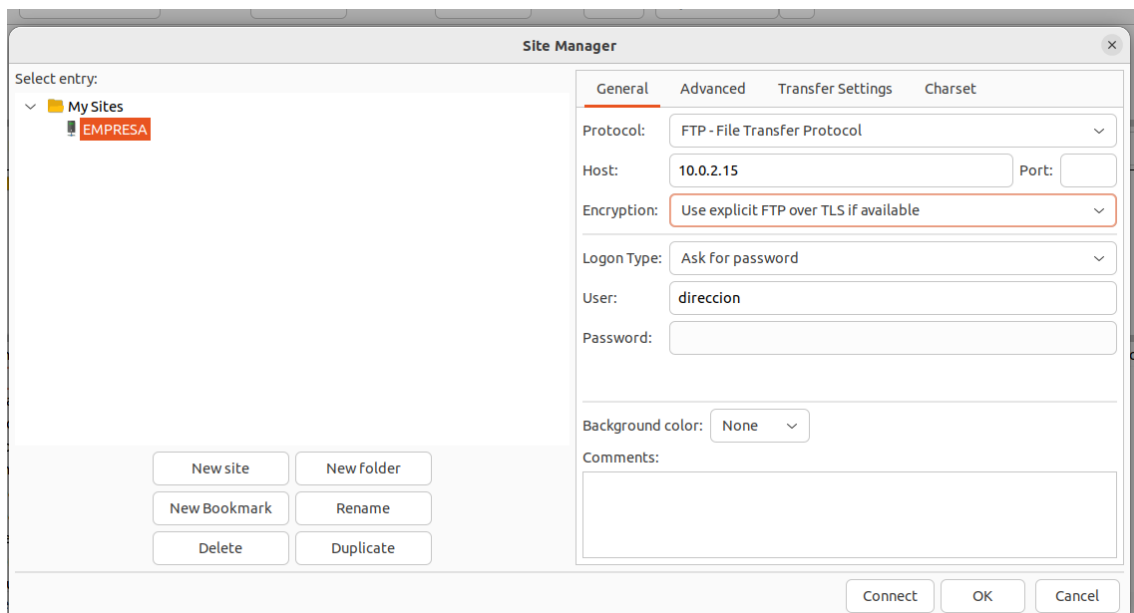
4. Configurar el servidor ProFTPD con:

1. Una plantilla en el Gestor de Sitios de nombre EMPRESA que contenga la configuración pedida en el enunciado.

Clicamos en file -> Site Manager...

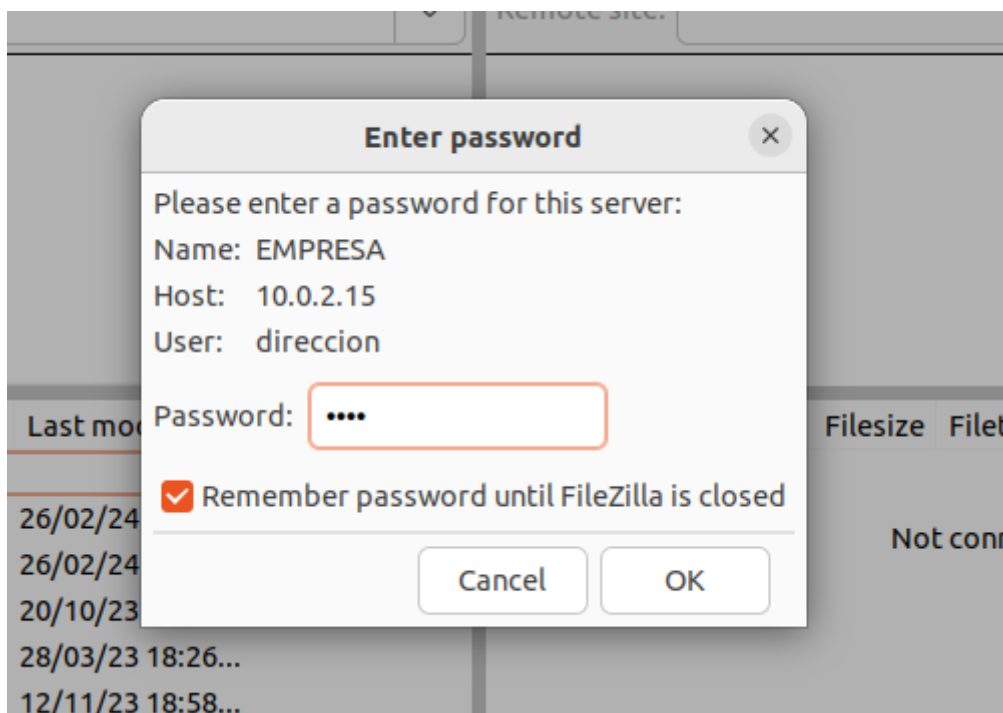


New site, e introducimos de nombre “EMPRESA”



Introducimos la dirección IP, el puerto vacío establecerá el puerto por defecto, el 21,

El usuario dirección y que nos pregunte la contraseña cuando nos conectemos.



Podemos usar el has de la contraseña para conectarnos alternativamente de una manera más segura: \$1\$hWAhBiVy\$uQOS7Q2LTQcqmbMchX1OJ1