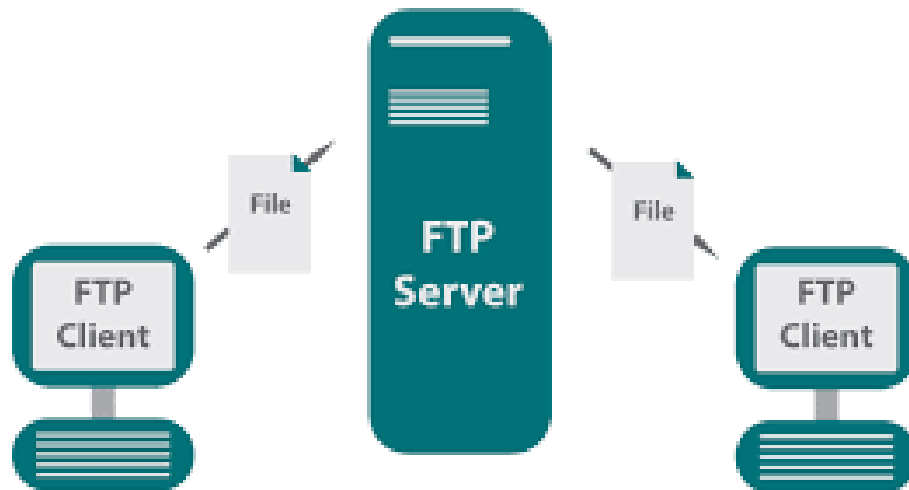


NETWORK OPERATIONS 1

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★ Install and configure the ftp server

Install vsftpd ftp server :

sudo apt update

sudo apt install vsftpd -y

```
Les NOUVEAUX paquets suivants seront installés :
  vsftpd
0 mis à jour, 1 nouvellement installés, 0 à enlever et 1367 non mis à jour.
Il est nécessaire de prendre 120 ko dans les archives.
Après cette opération, 312 ko d'espace disque supplémentaires seront utilisés.
Réception de :1 http://ci.archive.ubuntu.com/ubuntu noble-updates/main amd64 vsftpd amd64 3.0.5-0ubuntu3.1 [120 kB]
120 ko réceptionnés en 16s (7 451 o/s)
Préconfiguration des paquets...
Sélection du paquet vsftpd précédemment désélectionné.
(Lecture de la base de données... 270900 fichiers et répertoires déjà installés.)
Préparation du dépaquetage de ../vsftpd_3.0.5-0ubuntu3.1_amd64.deb ...
Dépaquetage de vsftpd (3.0.5-0ubuntu3.1) ...
Paramétrage de vsftpd (3.0.5-0ubuntu3.1) ...
Created symlink /etc/systemd/system/multi-user.target.wants/vsftpd.service → /usr/lib/systemd/system/vsftpd.service.
Traitement des actions différées (« triggers ») pour man-db (2.10.2-1) ...
neekway_amonny@hp-HP-ZBook-Power-15-6-inch-G8-Mobile-Workstation-PC:~$
```

Disable anonymous access:

Edit the configuration file

sudo nano /etc/vsftpd.conf

```
#
# Allow anonymous FTP? (Disabled by default).
anonymous_enable=NO
#
# Uncomment this to allow local users to log in
```

Enable chroot mode to confine users to their home directories:

Still in the configuration file enable chroot mode by deleting the # character :

```
# You may specify an explicit list of local users to chroot() to their home
# directory. If chroot_local_user is YES, then this list becomes a list of
# users to NOT chroot().
# (Warning! chroot'ing can be very dangerous. If using chroot, make sure that
# the user does not have write access to the top level directory within the
# chroot)
chroot_local_user=YES
chroot_list_enable=YES
# (default follows)
chroot_list_file=/etc/vsftpd.chroot_list
#
```

Configure virtual directories for specific user groups :

- **Open the vsftpd configuration file:**

```
sudo nano /etc/vsftpd.conf
```

- **Add the following lines :**

Enable user-specific local directory customization

```
user_sub_token=$USER
```

```
local_root=/home/$USER/ftp
```

Enable per-user configuration

```
user_config_dir=/etc/vsftpd/user_config
```

```
# Activer la personnalisation du répertoire local en fonction de l'utilisateur
user_sub_token=$USER
local_root=/home/$USER/ftp

# Activer la configuration par utilisateur
user_config_dir=/etc/vsftpd/user_config
```

- **Create the directory for user-specific configurations :**

```
sudo mkdir /etc/vsftpd/user_config
```

- **Let's say we have two users: user1 and user2 belonging to the same ftpgroup . You want:**

user1 has access to a virtual directory /repertoire1

user2 has access to a virtual directory /repertoire2

- **Create the group and Add users:**

```
sudo addgroup group1
```

```
sudo addgroup group2
```

Ajoutez des utilisateurs à ces groupes :

```
sudo adduser user1
```

```
sudo adduser user2
```

```
sudo usermod -aG group1 user1
```

```
sudo usermod -aG group2 user2
```

```
group1:x:1003:user1  
group2:x:1004:user2
```

- **Create the physical directories on the server that will be mapped to the virtual directories :**

```
sudo mkdir -p /var/ftp/repertoire_1
```

```
sudo mkdir -p /var/ftp/repertoire_2
```

```
neekway_amonny@hp-HP-ZBook-Power-15-6-inch-G8-Mobile-Workstation-PC:~$ ls /var/ftp/  
repertoire_1 repertoire_2
```

- **Set the appropriate permissions for these directories:**

```
sudo chown user1:ftpgroup /var/ftp/repertoire_1
```

```
sudo chown user2:ftpgroup /var/ftp/repertoire_2
```

```
sudo chmod 755 /var/ftp/repertoire_1
```

```
sudo chmod 755 /var/ftp/repertoire_2
```

```
neekway_amonny@hp-HP-ZBook-Power-15-6-inch-G8-Mobile-Workstation-PC:~$ sudo chown user1:ftpgroup /var/ftp/repertoire_1  
sudo chown user2:ftpgroup /var/ftp/repertoire_2  
sudo chmod 755 /var/ftp/repertoire_1  
sudo chmod 755 /var/ftp/repertoire_2
```

```
sudo chown devTeam:devTeam /var/ftp/dev
```

```
sudo chmod 750 /var/ftp/dev
```

```
sudo chown qaTeam:qaTeam /var/ftp/qa
```

```
sudo chmod 750 /var/ftp/qa
```

sudo chown clientUser:clientUser /var/ftp/client

sudo chmod 750 /var/ftp/client

Enable SSL/TLS support to secure FTP connections :

Generate a self-signed SSL certificate:

*sudo openssl req -x509 -nodes -days 365 -newkey rsa:2048 -keyout
/etc/ssl/private/vsftpd.pem -out /etc/ssl/private/vsftpd.pem*

Configure vsftpd to use encryption by adding this to specify the path where the generated key is located in order to secure the connection:

```
rsa_cert_file=/etc/ssl/certs/ssl-cert-snakeoil.pem  
rsa_private_key_file=/etc/ssl/private/ssl-cert-snakeoil.key  
ssl_enable=YES
```

★ Create and manage users with advanced specific rights

Create the following users :

❖ Add users with specific directories :

Admin

sudo adduser admin

sudo passwd admin

sudo usermod -aG sudo admin

DevTeam

sudo adduser devteam

sudo passwd devteam

QaTeam

sudo adduser qateam

sudo passwd qateam

ClientUser

sudo adduser clientuser

sudo passwd clientuser

```
admin:x:1003:1006:admin,,,:/home/admin:/bin/bash
devteam:x:1004:1007:devteam,,,:/home/devteam:/bin/bash
qateam:x:1005:1008:qateam,,,:/home/qateam:/bin/bash
clientuser:x:1006:1009:clientuser,,,:/home/clientuser:/bin/bash
```

❖ Create the necessary directories :

sudo mkdir -p /var/ftp/dev

sudo mkdir -p /var/ftp/qa

sudo mkdir -p /var/ftp/client

```
lrwxr-xr-x 2 root    root    4096 févr.  6 09:54 client
lrwxr-xr-x 2 root    root    4096 févr.  6 09:54 dev
lrwxr-xr-x 2 root    root    4096 févr.  6 09:54 qa
```

❖ Configure directory permission :

sudo chown admin:admin /var/ftp/ && sudo chmod 770 /var/ftp/

*sudo chown devTeam:devTeam /var/ftp/dev/ && sudo chmod 750
/var/ftp/dev/*

```
sudo chown qaTeam:qaTeam /var/ftp/qa/ && sudo chmod 750 /var/ftp/qa/
```

```
sudo chown clientUser:clientUser /var/ftp/client/ && sudo chmod 750 /var/ftp/client/
```

```
File Actions Edit View Help

(root@kali)-[~]
# sudo chown admin:admin /var/ftp/
sudo chmod 770 /var/ftp/

(root@kali)-[~]
# sudo chown devTeam:devTeam /var/ftp/dev
sudo chmod 750 /var/ftp/dev

(root@kali)-[~]
# sudo chown qaTeam:qaTeam /var/ftp/qa
sudo chmod 750 /var/ftp/qa

(root@kali)-[~]
# sudo chown clientUser:clientUser /var/ftp/client
sudo chmod 750 /var/ftp/client
```

★ Installing and Configuring an FTP client(Filezilla)

```
sudo apt install filezilla -y
```

```
(root@kali)-[/home/kali]
# sudo apt install filezilla -y

The following packages were automatically installed and are no longer required:
libabsl20220623 libboost1.83-dev libglvnd-dev libmimalloc2.0 libpython3-all-dev libxsimd-dev python3-jose python3-pyrsistent python3.11-dev xcacpe
libadwaita-1-0 libbgl-dev libphoto2-l10n libnsl-dev libpython3.11-dev python3-all-dev python3-lib2to3 python3-pythran python3.11-minimal xtl-dev
libaio1 libgl1-mesa-dev libiniparser1 libopenblas-dev libpython3.13 python3-anyjson python3-mistune0 python3-pytzdata python3.13-dev zenity
libatk-adaptor libgles-dev libjim0.82 libopenblas-pthread-dev libpython3.13-dev python3-beniget python3-pendulum python3-rsa python3-time-machine rwho
libbftio1 libgles1 libllvml17 libopenblas0 libtirpc-dev python3-diskcache python3-pyatspi python3-time-machine rwhod
libboost-dev libglvnd-core-dev libmbcrypted7 libpthread-stubs0-dev libunibreak5 python3-gast python3-pypdf2 python3.11 samba-vfs-modules

Use 'sudo apt autoremove' to remove them.
kali pts/0 2025-02-05 07:57
Installing: /16 2025-01-17 13:58
filezilla /6 2025-01-31 07:19
kali pts/0 2025-02-05 08:34
Installing dependencies:
filezilla-common libfilezilla-common libfilezilla46 libpcre2-32-0 libpugixml1v5 libwxbase3.2-1t64 libwxgtk3.2-1t64
kali pts/0 2025-02-05 08:34
Summary: 3 up 2 days, 14:20, 1 user, load average: 0.79, 0.49, 0.41
Upgrading: 0, Installing: 8, Removing: 0, Not Upgrading: 855 WHAT
Download size: 11.5 MB 07Jan25 5days 0.00s 0.11s lightning --session-child 13 24
Space needed: 43.1 MB / 60.4 GB available
(root@kali)-[/home/kali]
Get:1 http://kali.download/kali kali-rolling/main i386 filezilla-common all 3.68.1-1 [2,332 kB]
Get:2 http://kali.download/kali kali-rolling/main i386 libfilezilla-common all 0.49.0-2 [78.0 kB]
Get:3 http://kali.download/kali kali-rolling/main i386 libfilezilla46 i386 0.49.0-2 [386 kB]
Get:4 http://kali.download/kali kali-rolling/main i386 libpugixml1v5 i386 1.14-2 [94.2 kB]
Get:5 http://kali.download/kali kali-rolling/main i386 libpcre2-32-0 i386 10.44-5 [246 kB]
Get:6 http://http.kali.org/kali kali-rolling/main i386 libwxbase3.2-1t64 i386 3.2.6+dfsg-2 [1,099 kB]
```

Configure it to connect to your FTP server using the adminftp ,devTeam,qaTeam, and clientUser accounts.

