FTP

FTP (File Transfer Protocol) is a standard network protocol used for transferring files between a client and a server over the internet or a local network.

Default port number 21 – FTP, 20 – FTP Data

Note: firewall should be disabled

Steps to follow:

Step-1: Install vsftpd package in server

yum install vsftpd

```
[root@server /]# yum install vsftpd
Last metadata expiration check: 5:32:15 ago on Monday 18 November 2024 09:37:25 AM.
Package vsftpd-3.0.5-6.el9.x86_64 is already installed.
Dependencies resolved.
```

Step-2: Install ftp package in server

yum install ftp

```
[root@client /]# yum install ftp
Last metadata expiration check: 4:03:38 ago on Monday 18 November 2024 11:11:37 AM.
Package ftp-0.17-89.el9.x86_64 is already installed.
Dependencies resolved.
```

Step-3: Start and enable the vsftpd service in server

systemctl enable vsftpd.service

systemctl start vsftpd.service

```
[root@server /]# systemctl enable vsftpd
[root@server /]# systemctl start vsftpd
[root@server /]# systemctl status vsftpd
● vsftpd.service - Vsftpd ftp daemon
     Loaded: loaded (/usr/lib/systemd/system/vsftpd.service; enabled; preset: disabled)
     Active: active (running) since Mon 2024-11-18 12:54:49 IST; 2h 18min ago
   Main PID: 6268 (vsftpd)
      Tasks: 1 (limit: 10740)
     Memory: 736.0K
        CPU: 39ms
     CGroup: /system.slice/vsftpd.service
             └─6268 /usr/sbin/vsftpd /etc/vsftpd/vsftpd.conf

Nov 18 12:54:49 server systemd[1]: vsftpd.service: Deactivated successfully.
Nov 18 12:54:49 server systemd[1]: Stopped Vsftpd ftp daemon.
Nov 18 12:54:49 server systemd[1]: Starting Vsftpd ftp daemon...
Nov 18 12:54:49 server systemd[1]: Started Vsftpd ftp daemon.
```

Step-4: Trying connecting the FTP server using server ip address from client

ftp 192.168.88.128

```
[root@client /]# ftp 192.168.88.128
Connected to 192.168.88.128 (192.168.88.128).
220 (vsFTPd 3.0.5)
```

Step-5: Connect FTP using user account in client machine

- Create files in server to perform ftp

  # ftp 192.168.88.128

```
[root@client /]# ftp 192.168.88.128
Connected to 192.168.88.128 (192.168.88.128).
220 (vsFTPd 3.0.5)
Name (192.168.88.128:root): siddharrth
331 Please specify the password.
Password:
230 Login successful.
Remote system type is UNIX.
Using binary mode to transfer files.
ftp>
```

Step-6: Connect FTP using anonymous in client

- Edit in vsftpd.conf in server

  # vi /etc/vsftpd/vsftpd.conf

- Change the anonymous_enable

```
# Allow anonymous FTP? (Beware - allowed by default if you comment this out).
anonymous_enable=YES
#
```

  # systemctl restart vsftpd

Step-7: Connect FTP using anonymous user in client

  # ftp 192.168.88.128

```
[root@client /]# ftp 192.168.88.128
Connected to 192.168.88.128 (192.168.88.128).
220 (vsFTPd 3.0.5)
Name (192.168.88.128:root): anonymous
331 Please specify the password.
Password:
230 Login successful.
Remote system type is UNIX.
Using binary mode to transfer files.
```

Upload & download in user account

ls -listing server dir.

!ls – listing the local dir.

Open dir. Where you want to upload and download files

ftp 192.168.88.128

Username: siddharrth

Password: root

Step-8: Download a file using user in client

get touch (change the file permission to 666)

```
-rwxrwxrwx    1 1000     1000            8 Oct 07 05:16 try
```

```
ftp> get try
local: try remote: try
227 Entering Passive Mode (192,168,88,128,167,124).
150 Opening BINARY mode data connection for try (8 bytes).
226 Transfer complete.
8 bytes received in 2.6e-05 secs (307.69 Kbytes/sec)
ftp>
```

Step-9: Upload a file using user in client

put newfile

```
ftp> put newfile
local: newfile remote: newfile
227 Entering Passive Mode (192,168,88,128,174,80).
150 Ok to send data.
226 Transfer complete.
```

#bye – logout

Upload & download in anonymous user

ftp 192.168.88.128

Username: anonymous

Password:

Step-10: Edit vsftpd.conf

vi /etc/vsftpd/vsftpd.conf

Add anon_upload_enable=YES

```
# has an effect if the above global write enable is activated. Also, you will
# obviously need to create a directory writable by the FTP user.
# When SELinux is enforcing check for SE bool allow_ftpd_anon_write, allow_ftpd_full_access
anon_upload_enable=YES
#
```

Restart the service (each and every time changes in conf file services need to restarted)

systemctl restart vsftpd.service

Step-11: Upload a file using anonymous in client

Change the dir. Pub

cd pub

Check the local dir.

!ls

Change /var/ftp/pub permission (777)

chmod 777 pub

put file2

```
ftp> put file2
local: file2 remote: file2
227 Entering Passive Mode (192,168,88,128,53,70).
150 Ok to send data.
226 Transfer complete.
```

Step-12: Download a file using anonymous in client

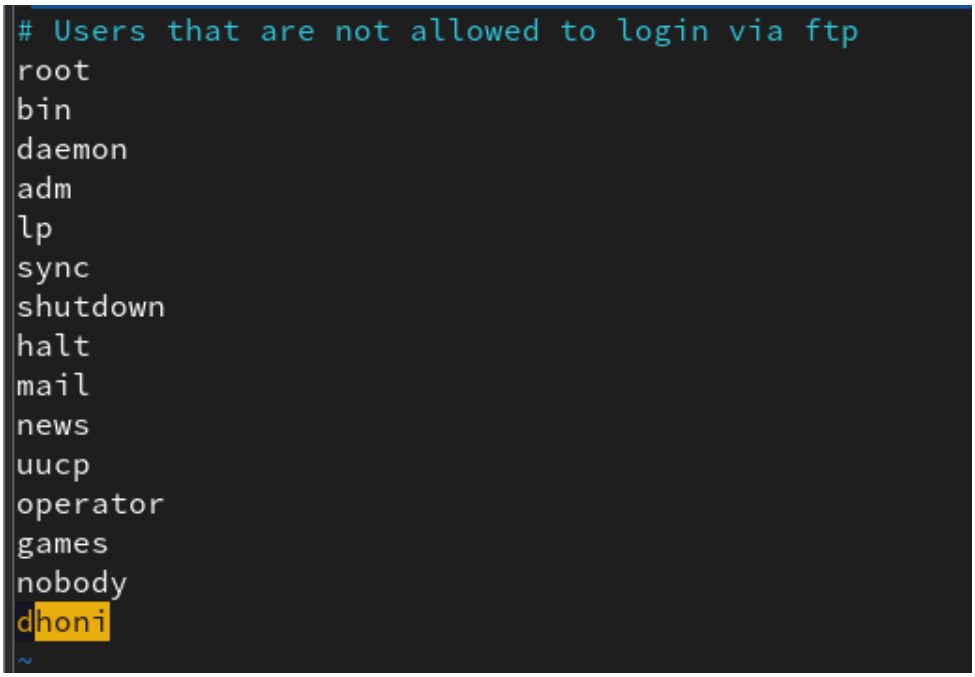
```
ftp> get text1
local: text1 remote: text1
227 Entering Passive Mode (192,168,88,128,40,111).
150 Opening BINARY mode data connection for text1 (0 bytes).
226 Transfer complete.
```

Step-13: Deny users in ftpusers file in server

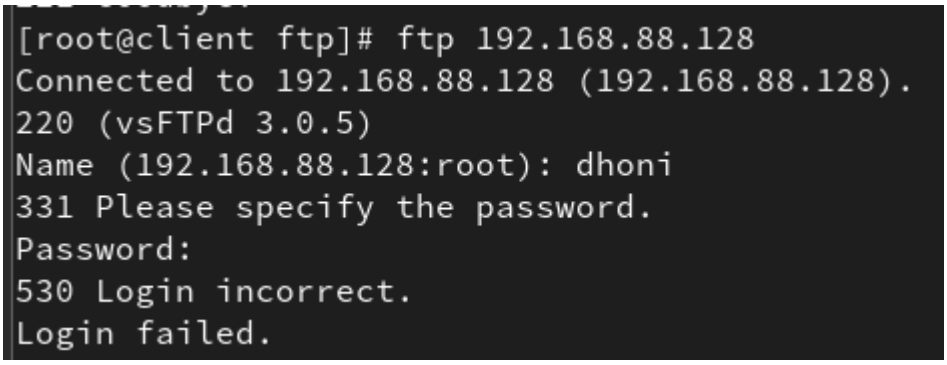
vi /etc/vsftpd/ftpusers

Add users, that will not allowed

dhoni



Step-14: Try login FTP using dhoni user in client



Step-15: Deny users in user_list file in server

vi /etc/vsftpd/user_list

- If userlist_deny=NO, only allow users in this file
- If userlist_deny=YES (default), never allow users in this file, and do not even prompt for a password.

dhoni

```
# vsftpd userlist
# If userlist_deny=NO, only allow users in this file
# If userlist_deny=YES (default), never allow users in this file, and
# do not even prompt for a password.
# Note that the default vsftpd pam config also checks /etc/vsftpd/ftpusers
# for users that are denied.
root
bin
daemon
adm
lp
sync
shutdown
halt
mail
news
uucp
operator
games
nobody
dhoni
~
```

Step-16: Try login FTP using dhoni user in client

```
[root@client ftp]# ftp 192.168.88.128
Connected to 192.168.88.128 (192.168.88.128).
220 (vsFTPd 3.0.5)
Name (192.168.88.128:root): dhoni
530 Permission denied.
Login failed.
ftp>
```