GETTING STARTED

WITH

FILE TRANSFER PROTOCOL

➢ FILE TRANSFER PROTOCOL (FTP):

- FTP server or VSFTP server, the Very Secure File Transfer Protocol is a network protocol, that was once widely used for moving files between client and server.
- FTP is one of the oldest and most commonly used protocols found on the Internet today. Its purpose is to reliably transfer files between computer hosts on a network without requiring the user to log directly into the remote host or have knowledge of how to use the remote system.
- It allows users to access files on remote systems using a standard set of simple commands.
- An issue with FTP protocol is that transfer data without encryption.
- The **Very Secure FTP Daemon (vsftpd)** is designed from the ground up to be fast, stable, and, most importantly, secure.
- vsftpd is the only stand-alone FTP server distributed with Red Hat Enterprise Linux, due to its ability to handle large numbers of connections efficiently and securely.

❖ VSFTPD INSTALLATION AND CONFIGURATION:

PRE-REQUISITES:

Package name	**:** vsftpd
Main config file	**:** /etc/vsftpd/vsftpd.conf
Files sharing location	**:** /var/ftp
Users not allowed file	**:** /etc/vsftpd/ftpusers
Deny / allow access to users	**:** /etc/vsftpd/user_list
Log file	**:** /var/log/xferlog
Service / Daemon	**:** vsftpd
Ports	**:** FTP data - 20
	: FTP control - 21

→ **Installing vsftpd server package:**

#dnf install vsftpd -y

→ **Reload the systemd manager configuration:**

#systemctl daemon-reload

→ **Start and enable the vsftpd service:**

#systemctl start vsftpd

#systemctl enable vsftpd

→ **Verify the status of the vsftpd:**

#systemctl status vsftpd

→ **Verify the port number of vsftpd:**

#netstat -pantl

→ **Create some file for sharing in /var/ftp location:**

#touch myfile java php

#ls

VSFTPD CONFIGURATION:

→ **Edit the /etc/vsftpd/vsftpd.conf file:**

#vim /etc/vsftpd/vsftpd.conf

Allows anonymous users to log in:

anonymous_enable=YES

local_enable=YES

anonymous FTP user to upload files:

anon_upload_enable=YES

Log file enable:

xferlog_file=/var/log/xferlog

Login banner string:

ftpd_banner=Welcome to FTP Service...

→ **Restart the vsftpd service:**
#systemctl daemon-reload

#systemctl start vsftpd

❖ FTP CLIENT CONFIGURATION:

Install ftp, lftp client packages:

#dnf install ftp lftp -y

CONNECTING FTP SERVER:

SYNTAX: #ftp / lftp <server-ip address / Hostname>

#ftp 192.168.10.254

NOTE: By default, it connects **anonymous** user to login.

FTP COMMANDS:

pwd	**:** Display **server-side** directory
!pwd	**:** Display **client-side** directory
cd	**:** Change the working directory
!cd	**:** Change directory at client side
get	**:** Retrieve the file
mget	**:** Retrieve multiple files
put	**:** Store a local file to remote machine
mput	**:** Send multiple files to remote machine
bye	**:** To quit ftp prompt

NOTE: Starting with **"!" (Exclamation)** client-side commands.

FTP USERS:

- In Red Hat Enterprise Linux (RHEL), an FTP user is a user who can access FTP services using a File Transfer Protocol (FTP) account.
- An FTP account allows users to transfer files between a local workstation and a server using an FTP client.

→ **Create ftp users and setting up password:**

#useradd ftp1 #passwd ftp1

#useradd ftp2 #passwd ftp2

→ **To disable anonymous user:**

#vim /etc/vsftpd/vsftpd.conf

anonymous_enable=NO

→ **Reload vsftpd service:**

#systemctl restart vsftpd

→ **Now connect and test vsftpd server using ftp users:**

#ftp 192.168.10.254

Login: ftp1

Passwd: xxxx

Users should now able to login via FTP to the server using their new username and password.

If you absolutely don't want any FTP users to be able to write to any directory then you should comment out the write_enable=YES line in your configuration file.

#vim /etc/vsftpd/vsftpd.conf

write_enable=YES

→ **Reload vsftpd service:**

#systemctl restart vsftpd

FTP USER SECURITY:

- There is one other security step you should take for the FTP server.

  /etc/vsftpd/ftpusers: A list of users not allowed to log in to vsftpd. By default, this list includes the **root, bin,** and **daemon** users, among others.

  /etc/vsftpd/user_list: This file can be configured to either deny or allow access to the users listed, depending on whether the userlist_deny directive is set to YES (default) or NO in /etc/vsftpd/vsftpd.conf. If /etc/vsftpd/user_list is used to grant access to users, the user names listed must not appear in /etc/vsftpd/ftpusers.

  → **To restrict ftp1 user to login into the FTP server:**
  #vim /etc/vsftpd/vsftpd.conf
  userlist_enable=YE

  → **Edit /etc/vsftpd/user_list file:**

  #vim /etc/vsftpd/user_list

  #Add restricted user name to login

  ftp1

  → **Reload vsftpd service:**

  #systemctl restart vsftpd

  → **Now login and test with FTP users:**

  #ftp 192.168.10.254

  Login: ftp1

  #ftp 192.168.10.254

  Login: ftp2

  → **Logs Verification:**

  #tail -f /var/log/ xferlog