

FTP and SSH

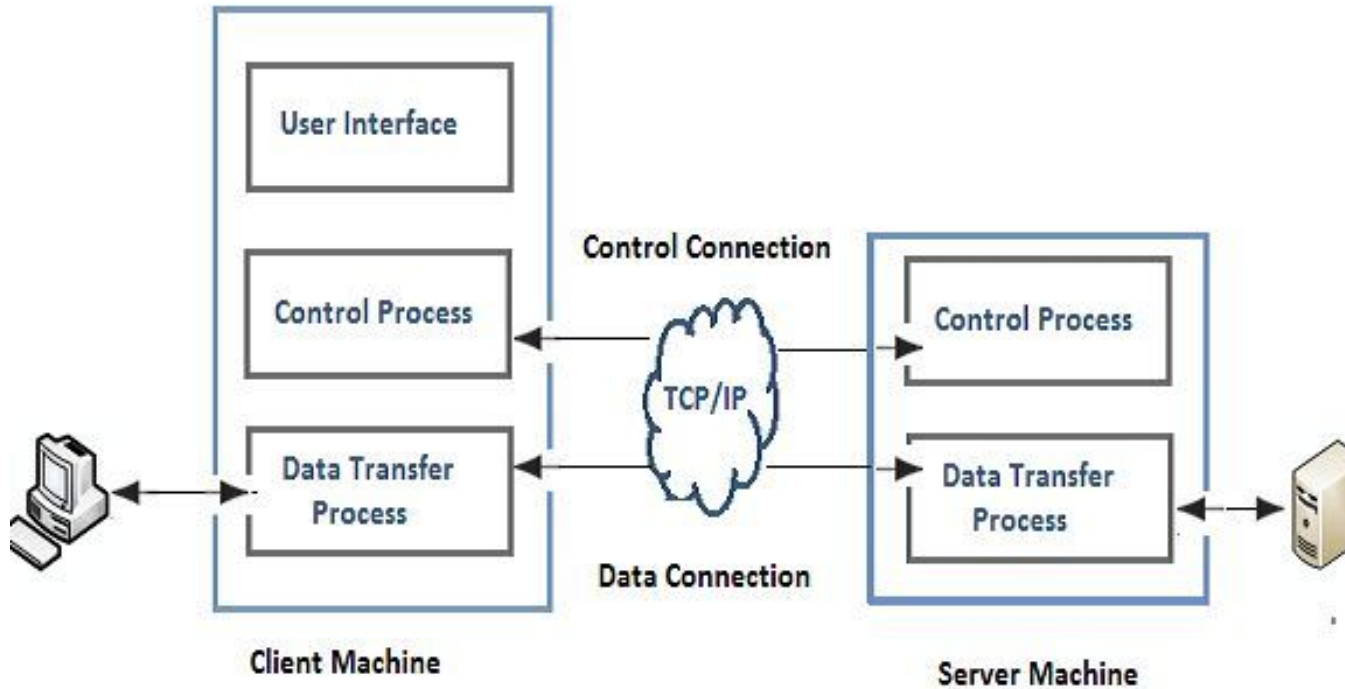
Terminologies:

- Protocol
- IP address
- Port
- Port Number
- OSI model
- Client
- Server

FTP :

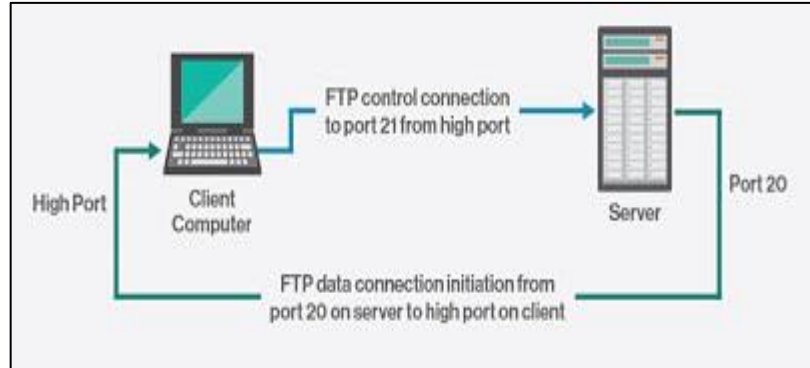
- File Transfer Protocol
- Standard Network Protocol for File transfer
- Client-Server Protocol
- Establishes two connections :
 - Data Transfer :
 - Port 20
 - Opens and closes for each file transfer
 - Control Information :
 - Port 21
 - Remain connected through entire ftp session

FTP Communication

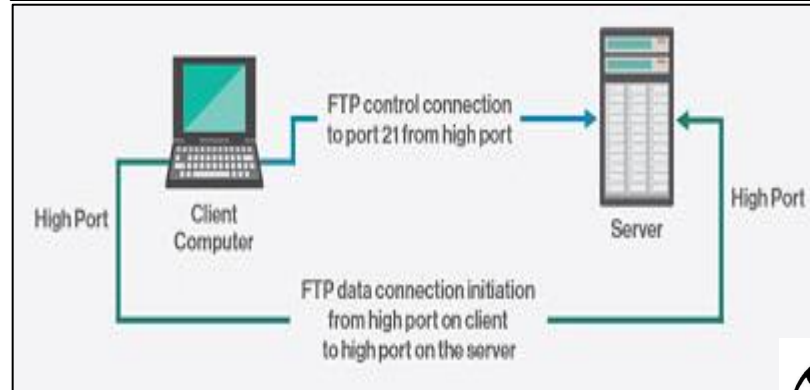


Active and Passive File Transfer :

ACTIVE FTP



PASSIVE FTP



FTP Server Configuration :

- Open terminal (Ctrl+Alt+t).
- **\$ sudo apt-get install vsftpd**
- Enter password.
- Configure FTP preferences with editor
 - **i.e. (sudo nano /etc/vsftpd.conf)**
- **\$ sudo service vsftpd start**
- **\$ sudo service vsftpd status**

1. Login to FTP server : `ftp server_ip_address`
2. List contents : `ls`
3. Create directory : `mkdir dir_name`
4. Directory navigation : `cd dir_name, cd..`
5. Delete a directory : `rmdir dir_name`
6. Upload single file to server : `put filename`
7. Upload multiple file to server : `mput filenames`
8. Download single file to server : `get filename`
9. Download multiple files to server : `mget filenames`

TELNET :

- TELEtype NETwork.
- Telnet is a Remote Host Access Protocol.
- Uses Port 23.
- Designed specifically for local area networks.
- Insecure For Data Transmission.

SSH :

- Secured Shell or Secured Socket Shell
- Uses Port 22
- Provides strong authentication and secure communications over insecure channels.
- it shares and sends the information in encrypted form
- Uses a public key for the authentication of users accessing a server
- Mostly used in all popular operating systems like Unix, Solaris, Red-Hat Linux, CentOS, Ubuntu etc. and also adopted in latest windows updates

SSH over TELNET :

- SSH is more secure compared to Telnet
- SSH encrypts the data while Telnet sends data in plain text
- SSH uses authentication while Telnet does not use any authentication
- Telnet has been replaced by SSH in almost all uses
- SSH and Telnet commonly serves the same purpose

Installation of the OpenSSH client and server applications :

Commands :

```
$sudo apt-get update
```

1. To install client :

```
$sudo apt-get install openssh-client
```

2. To install server :

```
$sudo apt-get install openssh-server
```

1. `ssh username@ip_address`
2. Enter password
3. Create file : `touch filename`
4. Add content to file : `cat >> filename`
5. Display contents of file : `cat filename`

Aptitude

