

## Experiment 12 : FTP server in Linux

**FTP (file transfer protocol)** is an internet protocol that is used for transferring files between client and server over the internet or a computer network. It is similar to other internet protocols like SMTP which is used for emails and HTTP which is used for websites. **FTP server** enables the functionality of transferring files between server and client. A **client** connects to the **server** with credentials and depending upon the permissions it has, it can either read files or upload files to the server as well. In this article, we will see how to set up an FTP server, configure user permissions, configure a firewall and finally encrypt our FTP traffic with SSL.

### Working of FTP server

FTP server facilitates the transfer of files between client and server. You can either upload a file to a server or download a file from the server. A client makes two types of connections with the server, one for giving commands and one for transferring data. The client issues the command to the FTP server on port 21, which is the **command port** for FTP. For transferring data, a **data port** is used. There are two types of connection modes for transferring data:

- **Active mode:** In Active mode, the client opens a port and waits for the server to connect to it to transfer data. The server uses its port 20 to connect to the client for data transfer. Active mode is not set by default in most of the FTP clients because most firewalls block the connections which are initiated from outside, in this case, the connection initiated by our FTP server. To use this, you have to configure your firewall.
- **Passive mode:** In this, when a client requests a file from the server, the server opens a random port and tells the client to connect to that port. In this case, the connections are initiated by the client and this also solves the firewall issues. Most of the FTP clients use passive mode by default.

### FTP server commands

You can also connect to your FTP server on the terminal and operate it with FTP commands. A list of a few of them is given below.

Command	Function
pwd	print the current working directory
cwd	change working directory
dele	delete the specified file
cdup	change to the parent directory
help	displays help information
cd	change the working directory
get filename	download the specified file
put filename	uploads the specified file
bye	end FTP session

