

How FTP Works With Example

FTP is a abbreviation of File Transfer Protocol , it is the main net work protocol used for downloading/uploading of files...From one host to another using a TCP based network like INTERNET.. FTP works on a principle of client-server model and uses data-connection between client and server..FTP basically runs on port no 21 as default ...

How does FTP works

A Client makes a TCP connection to the server port 21 . This connection remains open for the duration of the session...and thus is called a control session...

Then another connection is opened called the data connection...

The control connection is used for authenticating , command and administrating (I.e commands etc..) exchanged between the client and the server..

The server responds on the requests with status codes like 200 Ok , 404 error etc etc....

Code:

```
server                client
+-----+            +-----+
| comp1 |            | comp2 |
+-----+            +-----+
                                Client
Server                initiates a request
listens on            and initiates
port 21 as default    a TCP connection
```

The FTP uses mainly 2 file transfer modes

1. **Binary** - The binary mode transmits all eight bits per byte thus have much more transfer rate and reduces the chance of transmission error

2. **ASCII** - This is the default transfer mode and transmits 7 bits per byte..

FTP was not designed to be secure It is not much secured and has many security weaknesses ...

It is currently vulnerable to :-

- Sniffers
- Bounce attacks
- Spoof attacks
- Username Protection
- Port stealing
- Brute forcing

But today several programmers have contributed and made it secure by making add-ons.

Commands

To connect to a remote machine running a ftp server we can use :-

Code:

```
ftp machinename
```

Example :

Code:

```
aneesh@aneesh-laptop:~$ ftp ftp.freebsd.org
```

```
Connected to ftp.freebsd.org.
```

```
220 Welcome to freebsd.isc.org.
```

```
Name (ftp.freebsd.org:aneesh):
```

For exiting FTP we can use 'bye'

Example :

Code:

```
ftp> bye  
  
221 Goodbye.
```

To upload a file from your computer to the server we can use 'put'

Syntax :-

Code:

```
put (local_file_path)
```

Example :

Code:

```
ftp> put /home/aneesh/articles/crackme.c  
  
local: /home/aneesh/articles/crackme.c remote:  
/home/aneesh/articles/crackme.c  
  
200 PORT command successful. Consider using PASV.
```

We can also download files from the remote machine to our machine in FTP by using 'get'

Syntax :-

Code:

```
get (remote file path) (local path [where the file is to be saved])
```

Most of the basic unix commands works on ftp too..

Example :

Code:

```
ftp> ls

200 PORT command successful. Consider using PASV.

150 Here comes the directory listing.

drwxrwxr-x   3 110      1002          512 Oct 23  2006 pub

226 Directory send OK.

ftp> cd pub

250 Directory successfully changed.

ftp> ls

200 PORT command successful. Consider using PASV.

150 Here comes the directory listing.
drwxrwxr-x   3 110      1002          512 Oct 23  2006 pub

226 Directory send OK.

ftp> cd pub

250 Directory successfully changed.

ftp> ls

200 PORT command successful. Consider using PASV.

150 Here comes the directory listing.

drwxr-xr-x   17 110      1002          1024 Jan 30 15:13
FreeBSD
```

```
226 Directory send OK.
```

```
ftp> cd FreeBSD
```

```
250-If you're looking for one of the FreeBSD releases, please  
look in the
```

```
250-releases/${ARCH}/${RELNAME} directory, where ARCH =  
"alpha", "amd64",
```

```
250-"i386", "ia64", "pc98", or "sparc64" and RELNAME = the  
release
```

```
250-you're interested in, e.g. "7.1-RELEASE" or "8.0-RELEASE".
```

```
250 Directory successfully changed.
```

```
ftp> cd ../
```

```
250 Directory successfully changed.
```

```
ftp> pwd
```

```
257 "/pub"
```

```
ftp>
```

Source: <http://www.go4expert.com/articles/ftp-example-t24802/>