

# FTP Short Reference<sup>1</sup>

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The ftp (**f**ile **t**ransfer **p**rogram) utility is commonly used for copying files to and from other computers. These computers may be at the same site or at different sites thousands of miles apart. For the purposes of this document, the *local* machine refers to the machine you are initially logged into, the one on which you type the ftp command. The *remote* machine is the other one, the one that is the argument of the ftp command.

A user interface for the standard File Transfer Protocol for ARPANET, ftp acts as an interpreter on the remote machine. The user may type a number of UNIX-like commands under this interpreter to perform desired actions on the remote machine.

**Getting Started:** To connect your local machine to the remote machine, type

```
ftp machinename
```

where *machinename* is the full machine name of the remote machine, e.g. `cs.colorado.edu`. If the name of the machine is unknown, you may type

```
ftp machinenumber
```

where *machinenumber* is the net address of the remote machine, e.g. `128.138.243.151`. In either case, this command is similar to logging onto the remote machine. If the remote machine has been reached successfully, ftp responds by asking for a *loginname* and *password*.

When you enter your own *loginname* and *password* for the remote machine, it returns the prompt

```
ftp>
```

and permits you access to your own home directory on the remote machine. You should be able to move around in your own directory and to copy files to and from your local machine using the ftp interface commands given on the following page.

**Anonymous ftp:** At times you may wish to copy files from a remote machine on which you do not have a *loginname*. This can be done using **anonymous ftp**.

When the remote machine asks for your *loginname*, you should type in the word **anonymous**. Instead of a *password*, you should enter your own electronic mail address. This allows the remote site to keep records of the anonymous ftp requests.

Once you have been logged in, you are in the **anonymous** directory for the remote machine. This usually contains a number of public files and directories. Again you should be able to move around in these directories. However, you are only able to copy the files from the remote machine to your own local machine; you are not able to write on the remote machine or to delete any files there.

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**Common ftp Commands:**

? – to request **help** or information about the ftp commands

ascii – to set the mode of file transfer to ASCII (this is the default and transmits seven bits per character)

binary – to set the mode of file transfer to binary (the binary mode transmits all eight bits per byte and thus provides less chance of a transmission error and must be used to transmit files other than ASCII files)

bye – to exit the ftp environment (same as quit)

cd – to change directory on the remote machine

delete – to delete (remove) a file in the current remote directory (same as rm in UNIX)

get – to copy one file from the remote machine to the local machine

- get ABC DEF – copies file ABC in the current remote directory to (or on top of) a file named DEF in your current local directory.
- get ABC – copies file ABC in the current remote directory to (or on top of) a file with the same name, ABC, in your current local directory.

lcd – to change directory on your local machine (same as UNIX cd)

ls – to list the names of the files in the current remote directory

mkdir – to make a new directory within the current remote directory

mget – to copy multiple files from the remote machine to the local machine

- mget \* – copies all the files in the current remote directory to your current local directory, using the same filenames. Notice the use of the wild card character, \*.

mput – to copy multiple files from the local machine to the remote machine

put – to copy one file from the local machine to the remote machine

pwd – to find out the pathname of the current directory on the remote machine

quit – to exit the ftp environment (same as bye)

rmdir – to remove (delete) a directory in the current remote directory

**Further Information:** Many other interface commands are available. Also ftp can be run with different options. Please refer to the man page on ftp for more information.

Examples of two ftp sessions are given on the next two pages. These show the type of interaction you may expect when using the ftp utility.

```
% ftp cs.colorado.edu
Connected to cs.colorado.edu.
220 bruno FTP server (SunOS 4.1) ready.
Name (cs.colorado.edu:schauble): anonymous
331 Guest login ok, send ident as password.
Password:
230-This server is courtesy of Sun Microsystems, Inc.
230-
230-The data on this FTP server can be searched and accessed via WAIS, using
230-our Essence semantic indexing system. Users can pick up a copy of the
230-WAIS ".src" file for accessing this service by anonymous FTP from
230-ftp.cs.colorado.edu, in pub/cs/distrib/essence/aftp-cs-colorado-edu.src
230-This file also describes where to get the prototype source code and a
230-paper about this system.
230-
230-
230 Guest login ok, access restrictions apply.
ftp> cd /pub/HPSC
250 CWD command successful.
ftp> ls
200 PORT command successful.
150 ASCII data connection for /bin/ls (128.138.242.10,3133) (0 bytes).
AVSTutorial.ps.Z
CM2Tutorial.ps.Z
Chapter1.ps.Z
Chapter10.ps.Z
Chapter12.ps.Z
Chapter2.ps.Z
:
Overview.ps.Z
README
Syllabus.Z
UNIXShortRef.ps.Z
execsumm_tr.ps.Z
viShortRef.ps.Z
226 ASCII Transfer complete.
418 bytes received in 0.043 seconds (9.5 Kbytes/s)
ftp> get README
200 PORT command successful.
150 ASCII data connection for README (128.138.242.10,3134) (2881 bytes).
226 ASCII Transfer complete.
local: README remote: README
2939 bytes received in 0.066 seconds (43 Kbytes/s)
ftp> bye
221 Goodbye.
% ls
....
README
....
```

Figure 1: An ftp session to obtain the HPSC README file from the `cs.colorado.edu` `anonymous` ftp directory using a *loginname* of `anonymous` and a *password* of one's own electronic mail address.

```
% ftp nordsieck.cs.colorado.edu
Connected to nordsieck.cs.colorado.edu.
220 nordsieck FTP server (Version 5.53 Tue Aug 25 10:46:12 MDT 1992) ready.
Name (nordsieck.cs.colorado.edu:schauble):  schauble
331 Password required for schauble.
Password:
230 User schauble logged in.
ftp> cd HPSC/exercises
250 CWD command successful.
ftp> ls
200 PORT command successful.
550 No files found.
ftp> put tmul.out
200 PORT command successful.
150 Opening ASCII mode data connection for tmul.out.
226 Transfer complete.
local: tmul.out remote: tmul.out
1882 bytes sent in 0.0095 seconds (1.9e+02 Kbytes/s)
ftp> ls
200 PORT command successful.
150 Opening ASCII mode data connection for file list.
tmul.out
226 Transfer complete.
9 bytes received in 0.0021 seconds (4.3 Kbytes/s)
ftp> mput *
mput Makefile? y
200 PORT command successful.
150 Opening ASCII mode data connection for Makefile.
226 Transfer complete.
local: Makefile remote: Makefile
1020 bytes sent in 0.0062 seconds (1.6e+02 Kbytes/s)
mput jobhead? y
200 PORT command successful.
150 Opening ASCII mode data connection for jobhead.
226 Transfer complete.
local: jobhead remote: jobhead
67 bytes sent in 0.0012 seconds (53 Kbytes/s)
mput tmul.out? n
ftp> quit
221 Goodbye.
% ls
....
Makefile
jobhead
tmul.out
....
```

Figure 2: An ftp session to copy files from a remote machine back to nordsieck.cs.colorado.edu using one's own login and password.