Colorado State University Computer Science Department

Basic FTP Commands

What is FTP?

The FTP (**F**ile **T**ransfer **P**rotocol) utility program 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. FTP is a general protocol that works on UNIX systems as well as a variety of other (non-UNIX) systems.

For the purposes of this Web page, 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.

Most operating systems and communication programs now include some form of an FTP utility program, but the commands differ slightly between them. The following explanations and alphabetical list of commands refers to the common FTP utility program as provided on a UNIX machine. Check the documentation for your own machine to determine the comparable commands.

Most computers today include a windows-based type FTP program that is more PC-oriented and does not require full knowledge of these commands.
You can also perform FTP through a browser. For example, bring up Internet Explorer and type in

```
ftp://yourLoginName@IPaddress
```

instead of a normal web page URL.

The FTP site of the Computer Science department at CSU requires the user to use **sftp**, the secure version of FTP. Just type **sftp** instead of **ftp**, when you are using FTP in a terminal window.

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., `purcell.cs.colostate.edu`. If the name of the machine is unknown, you may type

```
ftp machinennumber
```

where *machinennumber* is the net address of the remote machine, e.g., `129.82.45.181`. 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.

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
`close`	to terminate a connection with another computer
	`close brubeck` closes the current FTP connection with `brubeck`, but still leaves you within the FTP environment.
`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.
`help`	to request a list of all available FTP commands
`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; you are prompted for a `y`/`n` answer before transferring each file	
	`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; you are prompted for a `y`/`n` answer before transferring each file	
`open`	to open a connection with another computer	
	`open brubeck`	opens a new FTP connection with `brubeck`; you must enter a username and password for a `brubeck` account (unless it is to be an anonymous connection).
`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 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 your manual or the UNIX `man` page on `ftp` for more information.

Example Sessions

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.

Example of Anonymous FTP Session

```
%   ftp cs.colorado.edu
Connected to cs.colorado.edu.
220 bruno FTP server (SunOS 4.1) ready.
Name (cs.colorado.edu:yourlogin): 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/distribs/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).
ElementsofAVS.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
   . . .
```

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.

Example of Regular FTP Session

```
%   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:yourlogin): yourlogin
331 Password required for yourlogin.
Password:
230 User yourlogin 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 tmul.out? n
```

```
ftp> quit
221 Goodbye.
%   ls
    . . .
Makefile
tmul.out
    . . .
```

An FTP session to copy files from a remote machine back to `nordsieck.cs.colorado.edu` using one's own login and password.

Comments: schauble@cs.colostate.edu