

How to Use Anonymous FTP

Status of this Memo

This memo provides information for the Internet community. This memo does not specify an Internet standard of any kind. Distribution of this memo is unlimited.

Abstract

This document provides information for the novice Internet user about using the File Transfer Protocol (FTP). It explains what FTP is, what anonymous FTP is, and what an anonymous FTP archive site is. It shows a sample anonymous FTP session. It also discusses common ways files are packaged for efficient storage and transmission.

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What is FTP?

FTP refers to the File Transfer Protocol [1], one of the protocols within the TCP/IP protocol suite used on the Internet. The File Transfer Protocol makes it possible to transfer files from one computer (or host) on the Internet to another. There are many FTP implementations built on the specification of the FTP protocol. A user of an FTP program must log in to both hosts in order to transfer a file from one to the other.

It is common for a user with files on more than one host to use the FTP program to transfer files from one host to another. In this case, the user has an account on both hosts involved, so he has passwords for both hosts.

However, Internet users may also take advantage of a wealth of information available from archive sites by using a general purpose account called "anonymous FTP".

What is an Archive Site?

An archive site is a host that acts as a repository of information, much like a conventional library. Information stored on these Internet hosts is made available for users to transfer to their local sites. Users run software to identify this information and transfer it to their own hosts. Such a transfer is done with a program that implements the File Transfer Protocol (FTP).

What is Anonymous FTP?

Anonymous FTP is a means by which archive sites allow general access to their archives of information. These sites create a special account called "anonymous". User "anonymous" has limited access rights to the archive host, as well as some operating restrictions. In fact, the only operations allowed are logging in using FTP, listing the contents of a limited set of directories, and retrieving files. Some sites limit the contents of a directory listing an anonymous user can see as well. Note that "anonymous" users are not usually allowed to transfer files TO the archive site, but can only retrieve files from such a site.

Traditionally, this special anonymous user account accepts any string as a password, although it is common to use either the password "guest" or one's electronic mail (e-mail) address. Some archive sites now explicitly ask for the user's e-mail address and will not allow login with the "guest" password. Providing an e-mail address is a courtesy that allows archive site operators to get some idea of who is using their services.

What Information Do You Need to Know?

To retrieve a specific file, a user needs to know what host it is on, and the pathname of the file. A pathname tells the directory (and possibly subdirectories) that house the file, and the name of the file. Often discussions of available files will not specifically say, "This file is available for anonymous FTP from X host with Y pathname". However, if a file is publicly announced as available and referred to as something like pub/good-stuff on nisc.sri.com, it is a good assumption that you can try to transfer it.

You may also need to know if your machine uses an ASCII, EBCDIC, or other character set to know how likely a transfer of binary information will work, or whether such a transfer will require other

keywords, such as is true for TENEX.

In the general case, you may assume that an ASCII transfer will always do the right thing for plain text files. However, more and more information is being stored in various compressed formats (which are discussed later in this document), so knowing the binary characteristics of your machine may be important.

A Sample Session

To start an FTP session on a UNIX or VMS host, you type "ftp" and the host name or host IP address of the machine to which you want to connect. For example, if you wish to access the NASA Network Applications and Information Center archive site, you would normally execute one of the following commands at the UNIX prompt:

```
ftp naic.nasa.gov
or
ftp 128.102.128.6
```

Observe that the first form uses the fully-qualified domain name and the second uses the Internet address for the same host.

The following is an example of connecting to the naic.nasa.gov host to retrieve STD 9, [RFC 959](#), "File Transfer Protocol (FTP)" [1].

Note several things about the session.

1. Every response the FTP program at the archive site gives is preceded by a number. These numbers are called Reply Codes and are defined in the FTP specification, [RFC 959](#). The text that accompanies these reply codes can vary in different FTP implementations, and usually does.

Also note that some FTP client implementations (e.g., MVS systems) may not echo the reply codes or text as transmitted from the remote host. They may generate their own status lines or just hide the non-fatal replies from you. For the purposes of this document, the more popular UNIX interface to the FTP client will be presented.

2. The password you type is never shown on your screen.
3. It is possible to "browse" in archives, but most often users already know the pathname of the file they want. The pathname for [RFC 959](#) on this host is files/rfc/rfc959.txt. In the

example, we first connect to the 'files/rfc' directory (cd files/rfc), then get the specific file we know we want. If you do not know the name of the file you want, a file called README or something similar (00README.1ST, AAREAD.ME, INDEX, etc.) is probably the one to retrieve first.

```
atlas.arc.nasa.gov% ftp naic.nasa.gov
Connected to naic.nasa.gov.
220 naic.nasa.gov FTP server (Wed May 4 12:15:15 PDT 1994) ready.
Name (naic.nasa.gov:amarine): anonymous
331 Guest login ok, send your complete e-mail address as password.
Password:
230-----
230-Welcome to the NASA Network Applications and Info Center Archive
230-
230-      Access to NAIC's online services is also available through:
230-
230-      Gopher          - naic.nasa.gov (port 70)
230-      World-Wide-Web - http://naic.nasa.gov/naic/naic-home.html
230-
230-      If you experience any problems please send email to
230-
230-                      naic@nasa.gov
230-
230-                      or call +1 (800) 858-9947
230-----
230-
230-Please read the file README
230- it was last modified on Fri Dec 10 13:06:33 1993 - 165 days ago
230 Guest login ok, access restrictions apply.
ftp> cd files/rfc
250-Please read the file README.rfc
250- it was last modified on Fri Jul 30 16:47:29 1993 - 298 days ago
250 CWD command successful.
ftp> get rfc959.txt
200 PORT command successful.
150 Opening ASCII mode data connection for rfc959.txt (147316 bytes).
226 Transfer complete.
local: rfc959.txt remote: rfc959.txt
151249 bytes received in 0.9 seconds (1.6e+02 Kbytes/s)
ftp> quit
221 Goodbye.
atlas.arc.nasa.gov%
```

Variations

The above example is of the FTP program available on UNIX systems. Other operating systems also make FTP programs available. The actual commands you type may vary somewhat with other programs. However, in general, you will do the following with every FTP program:

- Log in to your local host, and invoke the FTP program.
- Open a connection to the host (using either the host name or its IP address)
- Once connected to the remote host, log in with username "anonymous".
- Provide either the password "guest" or whatever the password the site requests.
- Issue whatever FTP commands you require, such as those to change directories or to retrieve a file.
- When finished, exit the FTP program, which will close your connection to the archive host.

Friendly Servers

These days, many sites are using a form of FTP that allows them to display several lines of explanatory text that help direct users through their archive. The listing of alternative services on naic.nasa.gov is an example. If these effusive servers confuse the client you are using, try typing a hyphen (-) before your password when you log in. That should disable the verbose mode of the server.

Other FTP Commands

We have demonstrated some of the commands available with FTP programs. Many others are possible. For example, once you have logged in to a remote host:

- You may ask the FTP program to display a list of available commands, typically by invoking the FTP program without arguments and typing "help".
- You may view the contents of the directory to which you are connected. Type "dir" or "ls" to do so.
- You may rename a file by using the "get" command's optional local file name, which follows the remote file



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