



2FTP for DOS

User and Configuration Guide

Version 2.0

2net Limited

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2FTP User and Configuration Guide

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Description

2FTP is an FTP client program for DOS operating systems with integrated TCP/IP support. It can be used to manipulate files on an FTP server and to transfer files to or from the server. Commands may be entered on the command line or from batch files. Is has been optimised in code size and functionality for the embedded market. Uses include uploading data logs, downloading configuration changes and remote software update.

System Requirements

- Intel x86 compatible CPU
- 128 KB free RAM
- MS-DOS 3.3 or later
- A network adapter and packet driver

Configuration

A connection over an Ethernet LAN requires a packet driver. Almost all network cards are supplied with one, usually in a directory named PKTDRV. In most cases the packet driver will auto-detect the network card. If not, consult the manufacturer's documentation. The packet driver must be loaded before 2FTP, usually in the AUTOEXEC.BAT file.

In addition, some network parameters must be written into the 2NET.CFG file

2NET.CFG

Here is a sample file:

```
nameserver=158.152.1.58
nameserver=158.152.1.43
my_ip=10.0.0.2
gateway=10.0.0.1
netmask=255.255.255.0
```

The keywords have the following meanings:

nameserver – the IP address of a domain name server
my_ip – the IP address of the PC, usually allocated by a network administrator
netmask – obtained from a network administrator
gateway – the IP address of a network node that has a connection to other networks or the Internet

Command Reference

2FTP

The 2FTP command takes zero or more option flags and the name of the host to connect to on the command line. The host name may be an Internet domain name or an IP address. The options flags are:

- p** Start in passive data transfer mode (data connections are active by default. Passive mode works better with firewalls)
- q** Quiet mode (display brief messages)
- s** Read commands from a script file rather than the console
- v** Verbose mode (display all server responses). This is the default
- x** Causes 2FTP to exit if any command fails

For example

```
2ftp -x ftp.company.com
```

The `-x` switch is useful when running 2FTP from a batch file: when errors are detected control returns to the batch file where they can be notified or handled as appropriate, see the section on using with batch files later on.

2FTP checks for a network driver which may be an Ethernet packet driver or an established dial-up connection. If no driver is found it reports the error message:

NO PACKET DRIVER FOUND

If a driver is found, 2FTP attempts to contact the host and to log on. It then enters FTP command mode, indicated by an **ftp >** prompt.

FTP Commands

- !** Same as the **lexec** command
- ?** Same as the **help** command
- ascii** “Get” and “Put” files as text files. Newline characters are replaced by Carriage Return and Line Feed sequences. See also the **type** command.
- binary** “Get” and “Put” files as binary data: no translations are performed. See also the **type** command
- bye** Log off and exit the program
- cd** Change the working directory on the host. A directory name must be given.
- dir** Print a full listing of a directory on the host.

```
dir [directory] [file]
```

If *directory* is omitted, the listing is of the current working directory on the host. The expansion of wildcards is dependent on the host operating system and not 2ftp. If *file* is omitted the output is to stdout

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Example 1:

```
dir
```

Lists the current working directory to the console

Example 2:

```
dir *.txt
```

Lists all files with the ending .txt on the console

Example 3:

```
dir . dirlist.txt
```

Lists all files in the current working directory to the local file dirlist.txt. Note that the “.” (dot) indicates the current directory on Unix/Linux systems.

get Get a file from the host. If the *ascii* command has been given previously, the line ending characters will be translated.

Example 1:

```
get myfile.dat
```

This will copy the file “myfile.dat” from the host to the local working directory, using the same name as on the host. If a file with that name exists already, it is over-written. Sometimes a file name on the host is not valid under DOS. In the second example, a valid DOS name is given as the second parameter:

Example 2:

```
get myfile.dat.gz myfile.dat
```

help Displays a list of ftp commands

lcd The lcd command on its own displays the current local working directory. To change to a different one, enter lcd and the directory name.

Example

```
lcd a:\
```

This would set the working directory to be the root of the floppy disk.

lexec Execute a DOS command locally. For example

```
lexec pkunzip myfile.zip
```

When the command has completed, control passes back to 2FTP.

list Same as the **dir** command

ls Print a brief listing of a directory on the host. Usage:

```
ls [directory] [file]
```

See **dir** for a full description of the command options

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mget Multiple get command. Gets several files from the remote server using a wild card pattern that is recognised by the remote. For example

```
mget *.txt
```

mkdir Create a directory on the host

mput Multiple put command. Puts several files to the remote server using a wild card pattern that is recognised by DOS. For example

```
mput *.dat
```

passive Toggle passive mode for data connections. In passive mode data connections are initiated by 2ftp, which generally works better with firewalls.

put "put <localfile> <remotefile>",

pwd Print the working directory on the host.

quit Same as the **bye** command.

rmdir Remove a directory on the host

type On its own, this command displays the current file transfer type. If followed by the parameter **ascii** it sets the transfer type to ascii; if followed by **binary** or **image**, it set it to binary. Ascii, binary and image may be shortened to **a**, **b** and **i** respectively.

verbose Displays or sets the types of server messages displayed:

Verbose 1 – display error messages only. Has the same effect as the **-Q** command line switch

Verbose 2 – display all server messages. Has the same effect as the **-V** command line switch.

Calling 2FTP From Batch Files

A typical use of 2ftp is to transfer one or more files in an unattended batch job. To do this, first create a script file containing the ftp commands exactly as they would be typed. For example, the script below logs in as “anonymous” using the password “chris@2net.co.uk”, uploads a file and terminates the session

```
anonymous
chris@2net.co.uk
put license.txt
quit
```

NOTE: 2ftp will terminate the session when it comes to the end of the script, even if there is no final quit command.

To use the script file with 2ftp, enter a command like the following

```
2ftp -s script.txt ftp.company.com
```

where *script.txt* is the script file with the ftp commands. You may want to use the **-q** (quiet) switch to reduce the number of status messages:

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```
2ftp -q -s script.txt ftp.company.com
```

The **lexec** command is useful in scripts to do local processing before or after the transfer, for example to copy files to their correct destinations:

```
anonymous
chris@2net.co.uk
get file1.dat
lexec copy file1.dat c:\data
get update.exe
lexec copy update.exe c:\prog
quit
```

Error Handling

In most cases you will use the **-X** switch so that 2ftp will exit with a termination code on detecting an error. The batch file can then report the error as appropriate. Below is a simple example batch file:

```
@echo off
2ftp -x -s ftpcopy.txt 144.52.6.2 > ftpcopy.log
if errorlevel 1 goto ERROR
echo File copy done
goto END

:ERROR
echo File copy failed. The file ftpcopy.log contains
a log of the session.
:END
```

2ftp returns the following termination codes

Code	Description
1	Error in the command line parameters, either an invalid option has been given or no host has been specified.
2	The network drivers have not been loaded.
3	The username or password used to log on to the ftp server are invalid
4	The host cannot be found
5	Network error.
6	A connection cannot be established with the ftp server on the host
7	Network problem sending data to the host, e.g. connection lost
8	Problem writing to local storage, e.g. out of space
9	Network problem receiving data from the host
10	General error

Standards Implemented

RFC 959 File Transfer Protocol (FTP)

File List

Here is a complete list of files supplied as part of the package:

2FTP.EXE	The FTP client and TCP/IP protocol
2NET.CFG	Example configuration file
FTPCOPY.BAT	Example batch file
FTPCOPY.SCP	Example script file
LICENSE.TXT	End User License Agreement
PING.EXE	For diagnosing communications problems
USER.PDF	This User Guide in pdf (Adobe Acrobat) format.