

# FTP Server

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## Description

The FTP Server feature configures a router to act as an FTP server. FTP clients can copy files to and from certain directories on the router. In addition, the router can perform many other standard FTP server functions.

## Benefits

The FTP server allows you to retrieve files, such as syslog files, from the disk file system on the router.

## Supported FTP Commands

When the router receives a request for an FTP connection, the FTP server process is started. The FTP server prompts for a username and password.

After you supply a valid username and password, you can enter various commands. Not all FTP commands are supported by this FTP server implementation. The FTP server will service the following FTP client commands:

!	cr	image	nmap	reset	sunique
append	debug	lcd	ntrans	rhel	system
ascii	dir	ls	open	rstatus	tenex
binary	disconnect	macdef	prompt	runique	trace
bye	get	mdir	put	send	type
case	glob	mkdir	pwd	sendport	user
cd	hash	mls	quit	site	verbose
chmod	help	mode	quote	size	
close	idle	nlist	reget	status	

Refer to the documentation for your FTP client for detailed information on these commands. For example, if you are using a UNIX workstation as the FTP client, enter the **man ftp** command for descriptions of these commands.

## Configuration Tasks

To enable the FTP server, perform the following tasks in global configuration mode:

Task	Command
Enable the FTP server.	<b>ftp-server enable</b>
Restrict the region where the FTP clients can read or write files.	<b>ftp-server topdir</b> <i>directory</i>

## Configuration Examples

The following example enables the FTP server and limits client access to the syslogd.dir directory on disk0:

```
ftp-server enable
ftp-server topdir disk0:/syslogd.dir
```

After these commands have been entered, you can FTP to the router. In the following example, a user connects to the router and gets the file syslogd.1. Notice that the user starts in the directory specified by the **ftp-server topdir** command.

```
FTPClient% ftp FTProuter
Connected to FTProuter.cisco.com.
220 FTProuter IOS-FTP server (version 1.00) ready.
Name (FTProuter:me): aa
331 Password required for 'aa'.
Password:
230 Logged in.
Remote system type is Cisco.
ftp> pwd
257 "disk0:/syslogd.dir/" is current directory.
ftp> dir
200 PORT command successful.
150 Opening ASCII mode data connection for file list.
syslogd.1
syslogd.2
syslogd.3
syslogd.4
syslogd.5
syslogd.6
syslogd.7
syslogd.8
syslogd.9
syslogd.cur
226 Transfer complete.
ftp> bin
200 Type set to I.
ftp> get syslogd.1
200 PORT command successful.
150 Opening BINARY mode data connection for syslogd.1 (607317 bytes).
226 Transfer complete.
607317 bytes received in 7.7 seconds (77 Kbytes/s)
ftp>
```

Use the **debug ftpserver** command to observe the process on the router.

## Command Reference

This section documents new or modified commands. All other commands used with this feature are documented in the Cisco IOS Release 11.3 command references.

- **ftp-server enable**
- **ftp-server topdir**

## ftp-server enable

To enable the FTP server, use the **ftp-server enable** global configuration command. The **no** form of this command disables the FTP server.

**ftp-server enable**  
**no ftp-server enable**

### Syntax Description

This command has no arguments or keywords.

### Default

Disabled

### Command Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.3 AA.

When the FTP server is enabled, you can use FTP to transfer files to and from the router. For example, you can FTP performance data sets or syslog data subfiles to a network management station.

In order for clients to access files on the FTP server, you must configure both this command and the **ftp-server topdir** command.

### Example

The following example enables the FTP server and limits client access to the syslogd.dir directory on disk0:

```
ftp-server enable
ftp-server topdir disk0:/syslogd.dir
```

### Related Commands

**ftp-server topdir**

## ftp-server topdir

To restrict the region where FTP clients can read or write files, use the **ftp-server topdir** global configuration command. The **no** form of this command disables access completely.

```
ftp-server topdir directory  
no ftp-server topdir
```

### Syntax Description

*directory* Top-level directory path for FTP server client operations.

### Default

Denies read and write access to any location.

### Command Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.3 AA.

You must specify a top-level directory in order for clients to use the FTP server. If you do not configure this command, clients will not be able to access any files or directories on the router.

You must also configure the **ftp-server enable** command to enable the FTP server on the router.

### Example

The following example enables the FTP server and limits client access to the syslogd.dir directory on disk0:

```
ftp-server enable  
ftp-server topdir disk0:/syslogd.dir
```

### Related Commands

**ftp-server enable**

# Debug Commands

The **debug ftpserver** command has been added for this feature.

## debug ftpserver

Use the **debug ftpserver EXEC** command to display information about the FTP server process. The **no** form of this command disables debugging output.

**[no] debug ftpserver**

### Sample Display

The following is sample output from the **debug ftpserver** command:

```
Router# debug ftpserver

Mar  3 10:21:10: %FTPSERVER-6-NEWCONN: FTP Server - new connection made.
-Process= "TCP/FTP Server", ipl= 0, pid= 53
Mar  3 10:21:10: FTPSRV_DEBUG:FTP Server file path: 'disk0:'
Mar  3 10:21:10: FTPSRV_DEBUG:(REPLY)  220
Mar  3 10:21:10: FTPSRV_DEBUG:FTProuter IOS-FTP server (version 1.00) ready.
Mar  3 10:21:10: FTPSRV_DEBUG:FTP Server Command received: 'USER aa'
Mar  3 10:21:20: FTPSRV_DEBUG:(REPLY)  331
Mar  3 10:21:20: FTPSRV_DEBUG>Password required for 'aa'.
Mar  3 10:21:20: FTPSRV_DEBUG:FTP Server Command received: 'PASS aa'
Mar  3 10:21:21: FTPSRV_DEBUG:(REPLY)  230
Mar  3 10:21:21: FTPSRV_DEBUG:Logged in.
Mar  3 10:21:21: FTPSRV_DEBUG:FTP Server Command received: 'SYST'
Mar  3 10:21:21: FTPSRV_DEBUG:(REPLY)  215
Mar  3 10:21:21: FTPSRV_DEBUG:Cisco IOS Type: L8 Version: IOS/FTP 1.00
Mar  3 10:21:21: FTPSRV_DEBUG:FTP Server Command received: 'PWD'
Mar  3 10:21:35: FTPSRV_DEBUG:(REPLY)  257
Mar  3 10:21:39: FTPSRV_DEBUG:FTP Server Command received: 'CWD disk0:/syslogd.d'r/'
Mar  3 10:21:45: FTPSRV_DEBUG:FTP Server file path: 'disk0:/syslogd.dir'
Mar  3 10:21:45: FTPSRV_DEBUG:(REPLY)  250
Mar  3 10:21:45: FTPSRV_DEBUG:CWD command successful.
Mar  3 10:21:45: FTPSRV_DEBUG:FTP Server Command received: 'PORT 171,69,30,20,22',32
Mar  3 10:21:46: FTPSRV_DEBUG:(REPLY)  200
Mar  3 10:21:46: FTPSRV_DEBUG:PORT command successful.
Mar  3 10:21:46: FTPSRV_DEBUG:FTP Server Command received: 'LIST'
Mar  3 10:21:47: FTPSRV_DEBUG:FTP Server file path: 'disk0:/syslogd.dir/.'
Mar  3 10:21:47: FTPSRV_DEBUG:(REPLY)  220
Mar  3 10:23:11: FTPSRV_DEBUG:Opening ASCII mode data connection for file list.
Mar  3 10:23:11: FTPSRV_DEBUG:(REPLY)  226
Mar  3 10:23:12: FTPSRV_DEBUG:Transfer complete.
Mar  3 10:23:12: FTPSRV_DEBUG:FTP Server Command received: 'TYPE I'
Mar  3 10:23:14: FTPSRV_DEBUG:(REPLY)  200
Mar  3 10:23:14: FTPSRV_DEBUG:Type set to I.
Mar  3 10:23:14: FTPSRV_DEBUG:FTP Server Command received: 'PORT 171,69,30,20,22',51
Mar  3 10:23:20: FTPSRV_DEBUG:(REPLY)  200
Mar  3 10:23:20: FTPSRV_DEBUG:PORT command successful.
Mar  3 10:23:20: FTPSRV_DEBUG:FTP Server Command received: 'RETR syslogd.1'
Mar  3 10:23:21: FTPSRV_DEBUG:FTP Server file path: 'disk0:/syslogd.dir/syslogd.1'
Mar  3 10:23:21: FTPSRV_DEBUG:FTPSERVER: Input path passed Top-dir(disk0:/syslogd.dir/)
test.
Mar  3 10:23:21: FTPSRV_DEBUG:(REPLY)  150
Mar  3 10:23:21: FTPSRV_DEBUG:Opening BINARY mode data connection for syslogd.1 (607317
bytes).
Mar  3 10:23:21: FTPSRV_DEBUG:(REPLY)  226
Mar  3 10:23:29: FTPSRV_DEBUG:Transfer complete.
```

The sample output corresponds to the following FTP client session. In this example, the user connects to the FTP server, views the contents of the top-level directory, and gets a file.

```
FTPclient% ftp FTProuter
Connected to FTProuter.cisco.com.
220 FTProuter IOS-FTP server (version 1.00) ready.
Name (FTProuter:me): aa
331 Password required for 'aa'.
Password:
230 Logged in.
Remote system type is Cisco.
ftp> pwd
257 "disk0:/syslogd.dir/" is current directory.
ftp> dir
200 PORT command successful.
150 Opening ASCII mode data connection for file list.
syslogd.1
syslogd.2
syslogd.3
syslogd.4
syslogd.5
syslogd.6
syslogd.7
syslogd.8
syslogd.9
syslogd.cur
226 Transfer complete.
ftp> bin
200 Type set to I.
ftp> get syslogd.1
200 PORT command successful.
150 Opening BINARY mode data connection for syslogd.1 (607317 bytes).
226 Transfer complete.
607317 bytes received in 7.7 seconds (77 Kbytes/s)
ftp>
```

The following **debug ftpserver** command output indicates that no top-level directory is specified. Therefore, the client cannot access any location on the FTP server. Use the **ftp-server topdir** command to specify the top-level directory.

```
Mar  3 10:29:14: FTPSRV_DEBUG:(REPLY)  550
Mar  3 10:29:14: FTPSRV_DEBUG:Access denied to 'disk0:'
```

