



CHAPTER 1

In addition to the WWW service, the Microsoft Internet Information Server includes two additional services: File Transfer Protocol (FTP) and Gopher. These services are “legacy” services on the Internet, meaning that they are older protocols. However, far from being outdated, these services’ simplicity is often a compelling reason to consider using them in your Internet Information Server site.

This chapter explains:

- ▣ The FTP and Gopher services and how they work.
- ▣ When to use the FTP and Gopher services.
- ▣ How to configure the services.

What is the FTP Service?

FTP was one of the earliest protocols used on TCP/IP networks and the Internet. FTP is used to transfer files from one computer on a network to another computer on the same network. FTP was especially useful for transferring files between different computers, such as transferring files from a UNIX computer to a computer running MS-DOS® or Windows 3.1.

Early FTP client software was character based, and was similar to using the Windows NT command prompt to list and copy files. A character-based program was used to log on to the remote computer, browse directories, and to then transfer files.

Internet Explorer simplifies this process by automatically logging you onto the FTP server if anonymous connections are permitted. Directory listings are automatically displayed as hypertext links, permitting point-and-click simplicity in traversing directories and copying files from a server to a client. (Note that you cannot copy files from a client to a server by using Internet Explorer.)

When Should I Use the FTP Service?

The World Wide Web (WWW) has replaced most functions of FTP. However, only FTP can be used to copy files from a client computer to a server. If your remote users need to do this, they must use FTP.

Also, if you have existing files that you want to make available to remote users, FTP is an extremely easy server to install and maintain. After installation, point the FTP service to your files; no additional configuration is necessary.

Files made available through FTP can be in any format, such as document files, multimedia files, or application files. If your remote clients are using Internet Explorer, the clients can specify whether to copy the file or to start a helper application to immediately display or play the file.

How Does the FTP Service Work?

The FTP service requires that users log on to use the service. Once logged on, users can navigate the directories made available to the FTP service. And on older, dedicated FTP clients, remote users can copy files to the server and issue other FTP commands, including logging off.

Configuring Session Activity

You can configure the number of simultaneous connections allowed, and the amount of time allowed for connections.

Because users are logged on until they log off or break the connection, you can use the Connected Users button in the Service property sheet to keep track of which users are currently connected..

Configuring FTP Logon

You use Internet Service Manager to configure logon requirements for the FTP service.

If the FTP service is configured for anonymous logon, clients can log on with the user name "anonymous." Traditionally, anonymous FTP users log on using their e-mail addresses as passwords. Note that Internet Explorer automatically logs on anonymously to all FTP servers that permit anonymous logon.

FTP clients are also permitted, by default, to log on with a Windows NT username and password permitted to use that computer. This allows you to control every user's access permissions and file access on Windows NT File System (NTFS) drives.

Select the Allow anonymous only check box to prevent users from using usernames. With this check box enabled, any account other than “anonymous” cannot log on. This is useful for security because only one account, that assigned for anonymous logon, is permitted access; intruders cannot attempt to gain access with the administrator account.

Configuring FTP Directories

Setting the Home Directory

By default, all subdirectories are available in the home directory. You should place all your FTP files in the home directory.

You can also add virtual directories, just as with the WWW service; however, because of FTP’s technical limitations as an older protocol, virtual directories are not visible to users. Users can enter a virtual directory only if they know the alias of the virtual directory.

Setting Listing Style

Some browsers require that the FTP listing be styled in UNIX format. You should set the FTP listing style to UNIX format for maximum compatibility with browsers.

Setting Read and Write Permission

Read permissions is set to all directories by default. Remove Read permission and set Write permission to create a dedicated directory to which users can copy files, but cannot see any files left by others.

Setting Write permission will allow users to leave files on your computer.

You must set Read and Write permission by using Internet Service Manager. On NTFS drives you must also set matching permissions by using File Manager.

Creating Annotation Files

Each directory can contain an annotation file, which can be used to summarize the information that the directory contains. This summary appears automatically to remote browsers.

You can add directory descriptions to show FTP users the contents of a particular directory on the server. This is done by

creating a file called `~ftpsvc~.ckm` in that directory. Usually you want to make this a hidden file so that directory listings do not display it.

Special Directories in the Home Directory

You can add special directories to the home directories to control the root directory displayed to FTP users. These directories must be physical subdirectories; they cannot be specified by using virtual directories.

Using Username Directories

Username directories are directories in the home directory with names that match a username. If a user logs on with a username that has a matching directory in the home directory, that directory is used as the root.

You can use FTP username directories to control the root directory presented to users. FTP username directories are not created by default during setup.

Using the Anonymous Directory

The Anonymous directory is a directory in the home directory named "Anonymous". If a user logs on using the password Anonymous, the directory name Anonymous is used as the root.

You can use FTP username directories to control the root directory presented to users. FTP username directories are not created by default during setup.

FTP Clients

You can use any FTP client to connect to the Internet Information Server FTP service. Windows NT Workstation and Windows NT Server include a character-based FTP client (this client can be started only at the command prompt).

Microsoft Internet Information Server includes Internet Explorer, which allows you to browse FTP servers. You use a Uniform Resource Locator (URL) to connect to an FTP server; for example, `ftp://ftp.microsoft.com/`.

What is the Gopher Service?

Although the Gopher service is similar to FTP because it allows you to easily publish existing archives of files, the Gopher service overcomes some limitations of the FTP service. The Gopher service allows you to create links to other computers or services,

to annotate your files and directories, and to create custom menus. See Help for more information about the Gopher service.

Configuring the Gopher Server

This section gives you an overview of configuring the Gopherspace, which consists of all files available for display by the server. To configure your Gopherspace you should configure the following:

- The directory or directories documents come from.
- Items that the server will make available under a specified directory tree.
- Tags and how they are to be stored.
- Indexes to speed up searches.
- Activity-log records.
- Number of simultaneous connections allowed and the amount of time allowed each connection.

Tag Files

All information about a file that is sent to a client comes from tag files. This information includes the name of a file displayed for the client. Typical tag files contain:

- Display name
- Host name
- Port number

If you are running Gopher Plus, you can add more information to each tag file, such as the server administrator's name and e-mail name, the file's date of creation, and date of last modification.

You must first create the file and then store it on the server.

Note that if your server is configured for NTFS, you must move the tag file manually when you move the corresponding data files. To move the tag file, first make it visible, because tag files are hidden files. Then move the file, and make hidden it again. (You can use File Manager to make files hidden or visible.)

If disk space is critical, make sure that you include the hidden tag files when you calculate how much space your files will take up.

Creating Tag Files

To create a tag file, type the following syntax on the command line:

```
gdsset -c -gn -f "description of file" -a "administrator's name" -e e-mail filename
```

where

- **-c** Use this flag to edit or create a new file.
- **-gn** The value for *n* can be any single-digit code from 0 to 9. If you omit this flag, the code for the file type will default to 9, binary.
- **-a "administrator's name"** The value between the quotation marks is the administrator's name. If you omit this flag, the value defaults to the service administrator's name in the Service dialog box of the Microsoft Internet Service Manager.
- **-e -email** The value is the administrator's e-mail address. If you omit this flag, the value defaults to the service administrator's e-mail name in the Service dialog box of the Microsoft Internet Service Manager.
- **filename** The value is the name of the tag file you're creating or editing.

This command line automatically hides the tag files you create.

To create a batch command to tag a series of files that have the same type, such as a series of text files, use the following syntax:

```
for %1 in (*.txt) do <echo %i&& gdsset -c -gn -f %i %i
```

Interpreting Item Types

The following list shows all possible Gopher item type codes and what they mean. The first character is the type code.

0 A file, usually a flat text file.

1 A Gopher directory.

2 A CSO phone-book server.

3 An error.

4 A BinHex'ed Macintosh® file.

5 An MS-DOS binary archive.

6 A UNIX Uuencoded file.

7 An index-search server.

8 A Telnet session.

9 A binary file.

c A calendar or calendar of events.

g A graphic interchange file (GIF) graphic.

h An HTML World Wide Web hypertext page.

i An in-line text that is not an item.

l Another kind of image file.

m A BSD format mbox file.

P A PDF document.

T A TN3270 mainframe session.

: A bitmap Image (use Gopher Plus information for type of image).

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