

# FTP for NetWare® Administration Guide

## Novell® Open Enterprise Server

**2 SP1**

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# About This Guide

This guide describes how to configure and use NetWare® FTP Server. The guide is divided into the following sections:

- ♦ Chapter 1, “Overview,” on page 9
- ♦ Chapter 2, “Configuring NetWare FTP Server,” on page 13
- ♦ Chapter 3, “Managing and Administering NetWare FTP Server,” on page 25
- ♦ Chapter 4, “Cluster-Enabling NetWare FTP Server,” on page 47
- ♦ Chapter 5, “Migrating FTP from NetWare to OES 2 Linux,” on page 53
- ♦ Chapter 6, “NetWare FTP Server FAQ,” on page 55
- ♦ Appendix A, “NetWare FTP Server Messages,” on page 63
- ♦ Appendix B, “Documentation Updates,” on page 69

## Audience

The guide is intended for NetWare administrators and end users who uses FTP.

## Feedback

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## Documentation Updates

The latest version of this *NetWare 6.5 FTP Server Administration Guide* is available at the [Novell documentation Web site \(http://www.novell.com/documentation/oes2/file\\_ftp\\_nw/data/front.html#front\)](http://www.novell.com/documentation/oes2/file_ftp_nw/data/front.html#front).

## Additional Documentation

See the [OES 2 Documentation Web site \(http://www.novell.com/documentation/oes2/\)](http://www.novell.com/documentation/oes2/).

## Documentation Conventions

In this documentation, a greater-than symbol (>) is used to separate actions within a step and items in a cross-reference path.

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When a single pathname can be written with a backslash for some platforms or a forward slash for other platforms, the pathname is presented with a backslash. Users of platforms that require a forward slash, such as LINUX\* and UNIX\*, should use forward slashes as required by your software.





NetWare® FTP Server software provides FTP service for securely transferring files to and from NetWare volumes. You can perform file transfers from any FTP client by using the NetWare FTP Server to log in to a Novell® eDirectory™ 8.7.3 tree.

After logging in, you can navigate to other NetWare servers in the same eDirectory tree even if they are not running the FTP service. NetWare FTP Server is based on the standard ARPANET File Transfer Protocol that runs over TCP/IP and conforms to RFC 959.

- ♦ [Section 1.1, “Features of the NetWare FTP Server,” on page 9](#)

## 1.1 Features of the NetWare FTP Server

The main features of NetWare FTP Server software include the following:

- ♦ Secure Login

Security extensions enable secure FTP clients that support SSL and TLS mechanism to establish secure connections with NetWare FTP server.

See [“Security Extensions” on page 29](#).

- ♦ Multiple instances of NetWare FTP Server software

Multiple instances of NetWare FTP Server software can be loaded on the same NetWare server, providing different FTP services to different sets of users.

See [“Initializing Multiple Instances” on page 33](#).

- ♦ FTP access restrictions

FTP access can be restricted at various levels through various types of access rights.

See [“Specifying Access Restrictions” on page 35](#).

- ♦ Intruder detection

An intruder host or user who tries to log in using an invalid password can be detected and restricted.

See [“Managing Intruder Detection” on page 34](#).

- ♦ Remote server access

FTP users can navigate and access files from other NetWare eDirectory servers in the same eDirectory tree whether or not the remote servers are running NetWare FTP Server software.

See [“Accessing a Remote Server” on page 30](#) and [Table 2-2 on page 18](#).

- ♦ Anonymous user access

An Anonymous user account can be set up to provide users with basic access to public files. Creating several anonymous user accounts with separate rights and contexts is now supported.

See [“Creating an Anonymous User” on page 26](#).

- ♦ Special SITE commands

These NetWare commands can be used to change or view some of the NetWare server-specific parameters.

See [“SITE Commands” on page 31](#).

- ♦ Firewall support

When the FTP client is behind a firewall and the NetWare FTP Server cannot connect to the FTP client, NetWare FTP Server software supports passive mode data transfer and the configuration of a range of passive data ports.

See [Table 2-1 on page 13](#).

- ♦ Active Sessions display

You can view details of all the active FTP instances at a particular time, such as a list of all instances, details of each instance, all sessions in an instance, and all details of each session.

See [“Viewing Active Sessions” on page 40](#).

- ♦ Name space support

NetWare FTP Server software can operate in both DOS and long name spaces. The FTP user can dynamically change the default name space by using one of the SITE commands.

See [“SITE Commands” on page 31](#).

- ♦ Simple Network Management Protocol error reporting service

Simple Network Management Protocol (SNMP) traps are issued when an FTP login request comes from an intruder host or from a node address restricted through Novell eDirectory. The traps can be viewed on the management console.

- ♦ FTP logs

The FTP service maintains a log of various activities: FTP sessions, unsuccessful login attempts, active sessions details, and system error and NetWare FTP Server-related messages.

See [“Monitoring FTP Log Files” on page 38](#).

- ♦ Welcome banner and message file support

NetWare FTP Server displays a welcome banner when an FTP client establishes a connection, and also displays a message file when a user changes the directory in which the file exists.

See [Table 2-1 on page 13](#).

- ♦ MP Enabled

The NetWare FTP Server is MP enabled.

- ♦ Web-based Administration

You can configure the NetWare FTP Server by using the iManager management utility. Through iManager, you can now run multiple instances of FTP on a server when separate IP addresses or ports are available.

See [Section 2.2, “Configuring by Using iManager,” on page 21](#).

- ♦ Cluster-enabled

The NetWare FTP Server can be cluster-enabled for high availability and load balancing.

See [Chapter 4, “Cluster-Enabling NetWare FTP Server,” on page 47](#).

- ♦ FTP Server is now capable of establishing secure connections with secure FTP clients. After successful negotiation of the SSL/TLS mechanism, all the commands and replies are encrypted

For details, see [“Security Extensions” on page 29](#).

- ♦ The NetWare FTP Server has better performance compared to the previous release.

You can increase performance by using the following configurable parameters, which are included in the `etc\ftpserv.cfg` configuration file.

- ♦ The `DATA_BUFF_SIZE` parameter enhances the data transfer performance.
- ♦ The `DEFAULT_FTP_CONTEXT` parameter specifies the default context in which the users are searched.
- ♦ The `KEEPALIVE_TIME` parameter specifies the timeout time (in minutes) to close a connection that might be broken on one side.
- ♦ The `PSEUDO_PERMISSIONS` parameter which includes `PSEUDO_FILE_PERMISSIONS` and `PSEUDO_DIR_PERMISSIONS`, specifies whether the FTP server should send UNIX-type permissions or trustee rights for display in the FTP client.
- ♦ The `SECURE_CONNECTIONS_ONLY` parameter lets you specify only secure FTP connections.
- ♦ By default, the changes made to the FTP Server configuration and restrictions file now take effect dynamically. If required, you can disable the dynamic configuration.

For more details, see [“Dynamic Configuration Updates” on page 25](#).

- ♦ When specifying a configuration file different from the default configuration file located at `sys:etc\ftpserv.cfg`, you can now specify the complete path of the file.
- ♦ The error handling is improved when compared to the previous release.

Invalid configuration parameter values are updated appropriately when dynamic updates are enabled, and new configuration information and error messages are logged into the log files.

- ♦ Creating several anonymous user accounts with separate rights and contexts is now supported.

For more details, see [“Creating an Anonymous User” on page 26](#).

- ♦ NetWare FTP Server is highly scalable. It has been tested with 300 clients simultaneously for basic file transfer operations.
- ♦ NetWare FTP Server can now be used by UNIX clients.
- ♦ `Ftpstat` has been moved to a secure connection.
- ♦ Viewing FTP statistics over plain HTTP port 2500 is no longer available. Instead, statistics can be accessed via the Monitor Active Sessions link in FTP administration through iManager.



# Configuring NetWare FTP Server

# 2

Before starting the NetWare<sup>®</sup> FTP Server software, configure the parameters in the configuration file.

You can configure the parameters using one of the following methods:

- ♦ [Section 2.1, “Configuring by Using Files,” on page 13](#)
- ♦ [Section 2.2, “Configuring by Using iManager,” on page 21](#)

## 2.1 Configuring by Using Files

The default configuration file is `sys:/etc/ftpserv.cfg`. After you install NetWare FTP Server, this configuration file has all the parameters, commented with their default values.

If you enter a non-integer value for parameters where integer values are required, then the FTP Server sets the value to 0 or default value of the parameter, if 0 is an invalid value.

If invalid values are specified for parameters in the file, they are replaced by the default values where necessary.

The following tables describe the configuration file parameters with the default values and range:

- ♦ [General Configuration Parameters \(page 13\)](#)
- ♦ [Login Configuration Parameters \(page 18\)](#)
- ♦ [Security Configuration Parameters \(page 20\)](#)
- ♦ [Log Configuration Parameters \(page 20\)](#)

**Table 2-1** *General Configuration Parameters*

Parameter	Default Value	Description
HOST_IP_ADDR	IP address of the host	The IP address of the host, where NetWare FTP Server software is loaded.  Make sure that this value is in the standard IP address format and does not exceed 15 characters. It should not contain any special characters such as @ # \$ % & * ( ) ? < > ; .  Range = 0.0.0.0 to 255.255.255.254

Parameter	Default Value	Description
FORCE_PASSIVE_ADDR		<p>The public IP address to be exposed in a passive reply to FTP clients. This address need not bind to the NetWare server. It usually binds to a NAT device that routes between a private FTP server and a public FTP client. If commented out or set to 0.0.0.0, FTP Server uses the HOST_IP_ADDR.</p> <p>Make sure that this value is in the standard IP address format and does not exceed 15 characters. It should not contain any special characters such as @ # \$ % &amp; * ( ) ? &lt; &gt; ;.</p> <p>Range = 0.0.0.0 to 255.255.255.254.</p> <p>Anytime FORCE_PASSIVE_ADDR is used and private clients need to contact the FTP server, a separate instance of FTP should be running on a secondary private-side IP address, with no public address set by the FORCE_PASSIVE_ADDR.</p> <p>This parameter is useful in the following scenarios:</p> <ul style="list-style-type: none"> <li>♦ When FTP is on a secure connection</li> <li>♦ Where the NAT device is not enhanced to look inside PASV replies to translate addresses there</li> <li>♦ Where SSL is in use, so the data portion is encrypted and not visible to the NAT device</li> </ul>
FTP_PORT	21 (Standard FTP port)	<p>The port number that the NetWare FTP Server should bind to and listen for connection requests from.</p> <p>Range = 0 to 65535</p> <p>If the port number value is not within the specified range, the FTP Server uses the default value.</p>
MAX_FTP_SESSIONS	30	<p>Maximum number of FTP sessions that can be activated at any point of time. Minimum value is 1.</p> <p>Maximum value = <math>2^{31} - 1</math> (2147483647)</p> <p>If this value is set to less than 0, the FTP Server uses the default value.</p>

Parameter	Default Value	Description
IDLE_SESSION_TIMEOUT	600	<p>The time (in seconds) that any session can remain idle.</p> <p>Maximum value = <math>2^{31} - 1</math> (2147483647)</p> <p>The session never times out if the value is set negative.</p>
SECURE_CONNECTIONS_ONLY	No	<p>Restricts the use of non-secure FTP connections.</p> <p>Select NO, to allow both secure and non-secure data and control connections.</p> <p>Select YES, to allow secure control connections and both secure and non-secure data connections.</p> <p>Select STRICT, to allow secure data and control connections.</p>
DEFAULT_NAMESPACE	Long	<p>The default name space.</p> <p>The valid values are DOS and LONG.</p>
DATA_BUFF_SIZE	64	<p>Specifies the buffer size (in kilobytes) for the file transfer. It is applicable to both record and file structures.</p> <p>This parameter applies to the commands put, ls, get, and dir.</p> <p>Enter the value in the following format:</p> <pre>DATA_BUFF_SIZE = 64</pre> <p>Range = 4 to 1020 KB</p> <p>If the value is less than 4, the FTP Server takes the value as 4 KB.</p> <p>If the value is greater than 1020, the FTP Server takes 1020 KB.</p> <p><b>Optimum Buffer Size for Mixed Operations:</b> 64 KB.</p> <p><b>Optimum Buffer Size for Store Operations:</b> Increase the buffer size for large files.</p> <p>When setting the value, consider system resources such as memory, network bandwidth, and speed available.</p>

Parameter	Default Value	Description
TRANSMITFILE_SUPPORT	NO	<p>This new parameter has been added in <code>ftpserv.cfg</code> to improve the performance of downloading large files.</p> <p>If this is set to YES, the FTP server uses new TransmitFile calls to transfer the file to the FTP client. Information is read from the file and directly written to the TCP socket.</p> <p>If this is set to NO, the FTP server uses a data buffer to read the information from file and writes it to the socket.</p> <p>The FTP Server uses the TransmitFile interface only while sending data from local volumes to an FTP client.</p> <p>Files being received (uploaded) by the FTP server are not impacted by this parameter.</p> <p>Record structure file transfer and remote server file transfer are not supported by TransmitFile. They use the existing data buffer transfer mechanism.</p>
KEEPALIVE_TIME	10	<p>Specifies the timeout time (in minutes) to close a connection that might be broken on one side.</p> <p>Range = 5 to 120</p> <p>If the value is less than 0, the FTP Server takes the value as 0.</p> <p>A value less than or equal to 0 minutes means no keep alive check is done. A value between 1 and 4 (both inclusive) or greater than 120 minutes is taken as 120 minutes.</p> <p>Vary the time based on FTP service usage. Typically, 10 minutes is adequate. However, for frequently broken connections (as is common with dial-up connections), decrease the timeout to clear broken connections faster.</p> <p>Some FTP clients might process keep alive packets incorrectly. In such a scenario, increase or disable the timeout to allow longer sessions without a keep alive check.</p>
WELCOME_BANNER	sys:\etc\welcome.txt	<p>The content of this file displays when the FTP client establishes a connection.</p> <p>The path with the filename can contain up to 512 bytes.</p>



Parameter	Default Value	Description
MESSAGE_FILE	message.txt	<p>The content of this file displays when the user changes the directory. For this to occur, a file with that name must exist in the directory.</p> <p>The path with the filename can contain up to 512 bytes.</p>
PASSIVE_PORT_MIN	1	<p>Minimum port number used for establishing passive data connection.</p> <p>Range = 1 to 65534</p> <p>If this value is not within the range, the FTP Server uses the default value.</p> <p>If this value is greater than the value specified for the maximum port number, the FTP Server uses the default values of both parameters.</p>
PASSIVE_PORT_MAX	65534	<p>Maximum port number used for establishing a passive data connection.</p> <p>Range = 1 to 65534</p> <p>If this value not within the range, the FTP Server uses the default value.</p>
PSEUDO_SERVER_FLAG	0	<p>Specifies how the Netware FTP server should simulate UNIX FTP server behavior.</p> <p>It can take decimal values from 0 through 3. This value is converted to binary format and each bit is assigned a behavior. The LSB (least significant bit) denotes the reply string that is sent for the SYST command.</p> <p>If it is set to 1, the string is UNIX Type: L8. By default, it is NETWARE Type: L8. The next bit to the LSB denotes the format that the permissions should use when sent to the FTP client during a directory listing.</p> <p>If it is set to 1, then the UNIX-like format is sent. By default, the permissions are sent in NetWare trustee rights format.</p>
PSEUDO_FILE_PERMISSIONS	644	<p>Specifies the pseudo permissions displayed for files in the FTP client. This does not impact the actual trustee rights available for the files.</p> <p>This parameter is considered only when the PSEUDO_PERMISSIONS parameter is set to ON; otherwise it is ignored. The value must be a three-digit octal value. Maximum value = 777.</p>

Parameter	Default Value	Description
PSEUDO_DIR_PERMISSIONS	755	<p>Specifies the pseudo permissions displayed for directories in the FTP client. This does not impact the actual trustee rights available for the directories in any way.</p> <p>This parameter is considered only when the PSEUDO_PERMISSIONS parameter is set to ON; otherwise it is ignored. The value must be a three-digit octal value. Maximum value = 777.</p>
DISABLE_PATH_DIR_LISTING	No	<p>Enables or disables prefixing of the command argument path to the results while listing directories.</p> <p>The valid values are Yes and No.</p>

**Table 2-2** *Login Configuration Parameters*

Parameter	Default Value	Description
DEFAULT_USER_HOME_SERVER	Server where FTP is running	<p>The name of the server, where the default home directory is on.</p> <p>The path can contain up to 97 bytes.</p>
DEFAULT_USER_HOME	sys:\public	<p>The default home directory of the user.</p> <p>The path with the filename can contain up to 512 bytes.</p>
IGNORE_REMOTE_HOME	No	<p>Specifies whether to ignore the home directory set in the Novell eDirectory user object, if it is on a remote server, and go to the default directory.</p> <p>The valid values are Yes and No.</p>
IGNORE_HOME_DIR	No	<p>Specifies whether to ignore the home directory set in the eDirectory user object and go to the default directory.</p> <p>The valid values are Yes and No.</p>
DEFAULT_FTP_CONTEXT		<p>Specifies the default context in which the users will be searched. Specify this as fully distinguished name (FDN). If you do not set the default FTP context, or if the specified context is invalid, then the bindery context of the server, if available, is set as default FTP context; otherwise, the context of the server object is used.</p>

Parameter	Default Value	Description
SEARCH_LIST		<p>A list of fully distinguished names of containers (contexts) in which FTP users are to be looked for (without any spaces), separated by commas. The length of this string including the commas should not exceed 2048 bytes.</p> <p>Each context specified by a fully distinguished name must begin with a leading dot (.).</p> <p>You can specify a maximum of 30 containers.</p> <p>To enable searching the user in the subtree under a search #container, append 's' to the search container.</p>
RESTRICT_FILE	sys:\etc\ftpr est.txt	<p>NetWare FTP Server can define access restrictions to various levels of users, hosts, etc. These restrictions are defined in a file, which can be specified here.</p> <p>The path with the filename can contain up to 512 bytes.</p>
ANONYMOUS_ACCESS	No	<p>Specifies whether anonymous user access is allowed.</p> <p>The valid values are Yes and No.</p>
ANONYMOUS_HOME	sys:\public	<p>The home directory of the anonymous user.</p> <p>The path format is</p> <p><i>volumename:[/directory_name/ ...]</i></p> <p>This path can contain up to 512 bytes.</p> <p>If colon (:) does not exist in the anonymous home directory, then the FTP Server uses the default (sys:/public) to be the anonymous user home directory.</p>
ANONYMOUS_PASSWORD_REQUIRED	Yes	<p>Specifies whether to ask for an E-mail ID as the password for an anonymous user to log in.</p> <p>The valid values are Yes and No.</p>

**Table 2-3** *Security Configuration Parameters*

Parameter	Default Value	Description
INTRUDER_HOST_ATTEMPTS	20	The number of unsuccessful login attempts before intruder host detection activates.  The maximum value is $2^{31} - 1$ (2147483647) attempts.
HOST_RESET_TIME	5	Time interval (in minutes) during which the intruder host is not allowed to log in.
INTRUDER_USER_ATTEMPTS	5	The number of unsuccessful login attempts before intruder user detection activates.  The maximum value = $2^{31} - 1$ (2147483647)
USER_RESET_TIME	10	Time interval (in minutes) during which the intruder user is not allowed to log in.

**Table 2-4** *Log Configuration Parameters*

Parameter	Default Value	Description
FTP_LOG_DIR	sys:\etc	The directory where log files are stored.  This path can contain up to 512 bytes.  Do not give a filename that ends with a backslash ( \ ) or a forward slash ( / ). Otherwise, the log file is not created.
MAX_LOG_SIZE	1024	Maximum size (in KB) of the log files up to which messages will be logged.  Range = 1 to 4194303
LOG_LEVEL	7	Indicates the level of messages logged.  1 = ERROR  2 = WARNING  4 = INFORMATION  The following combinations can be given:  3 = ERROR, WARNING  5 =ERROR, INFORMATION  6 = INFORMATION, WARNING  7 = ERROR, WARNING, and INFORMATION
FTPD_LOG	FTPD	The <code>ftpd.log</code> file is created automatically. This file contains all the internal system-related information that NetWare FTP Server encounters.  The path with the filename can contain up to 512 bytes.

Parameter	Default Value	Description
AUDIT_LOG	FTPAUDIT	The <code>ftpaudit.log</code> file is created automatically. This file contains details of user login activities.  The path with the filename can contain up to 512 bytes.
INTRUDER_LOG	FTPINTR	The <code>ftpintr.log</code> file is created automatically. This file contains details of unsuccessful login attempts.  The path with the filename can contain up to 512 bytes.
STAT_LOG	FTPSTAT	The <code>ftpstst.log</code> file is created automatically. This file contains details of all active sessions.  The path with the filename can contain up to 512 bytes.

## 2.2 Configuring by Using iManager

You can use the iManager management utility that NetWare 6.5 provides to configure the NetWare FTP Server.

**NOTE:** The FTP Server iManager snap-in does not work in the Novell Remote Manager browser.

- ♦ [Section 2.2.1, “Installing FTP in iManager,” on page 21](#)
- ♦ [Section 2.2.2, “Configuring FTP Server Settings,” on page 21](#)

### 2.2.1 Installing FTP in iManager

Meet the following requirements for the FTP Admin to be installed in iManager.

- ☐ Apache Web Server is selected during the NetWare 6.5 install.
- ☐ iManager 2.7 is selected during the NetWare 6.5 install.

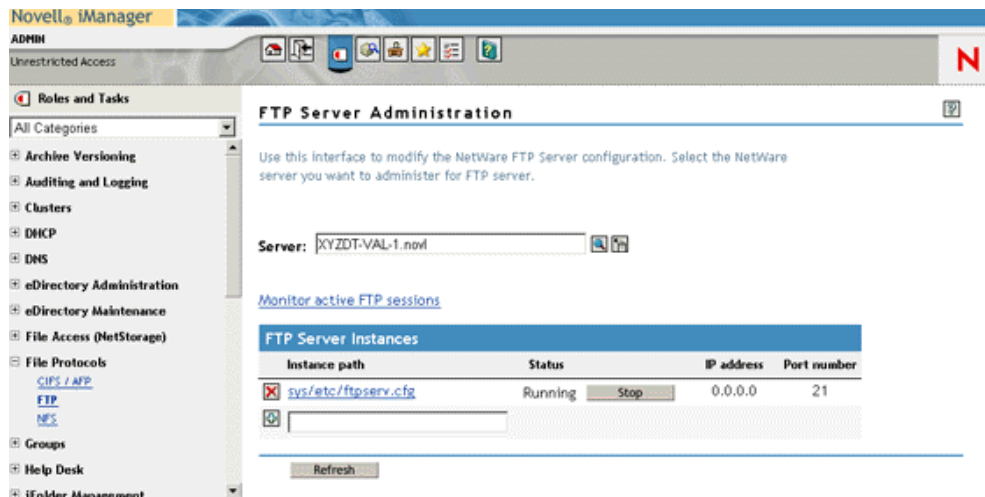
For more information about installing iManager 2.7, refer to the [Novell iManager 2.7 Installation Guide \(http://www.novell.com/documentation/imanager27/imanager\\_install\\_27/data/hk42s9ot.html\)](http://www.novell.com/documentation/imanager27/imanager_install_27/data/hk42s9ot.html).

To go to FTP plug-in, select *Infrastructure* category, then click *File Protocols > FTP* to launch the FTP Server Administration page. The links under *Infrastructure* category and under *All categories* refer to same plug-in object on the server.

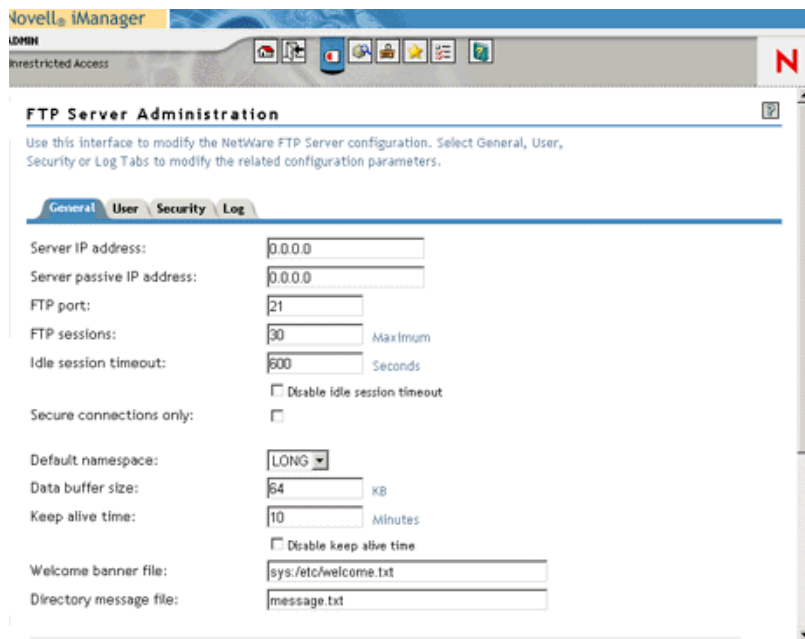
### 2.2.2 Configuring FTP Server Settings

- 1 In iManager, click the *Infrastructure* category and click *File Protocols > FTP* to launch the FTP Server Administration page.

In iManager 2.7, plug-ins are segregated based on categories they belong to. The FTP plug-in can be located in the *Infrastructure* category as well as in *All categories*, because the FTP link in both *Infrastructure* and *All categories* points to the same FTP Server Administration page.

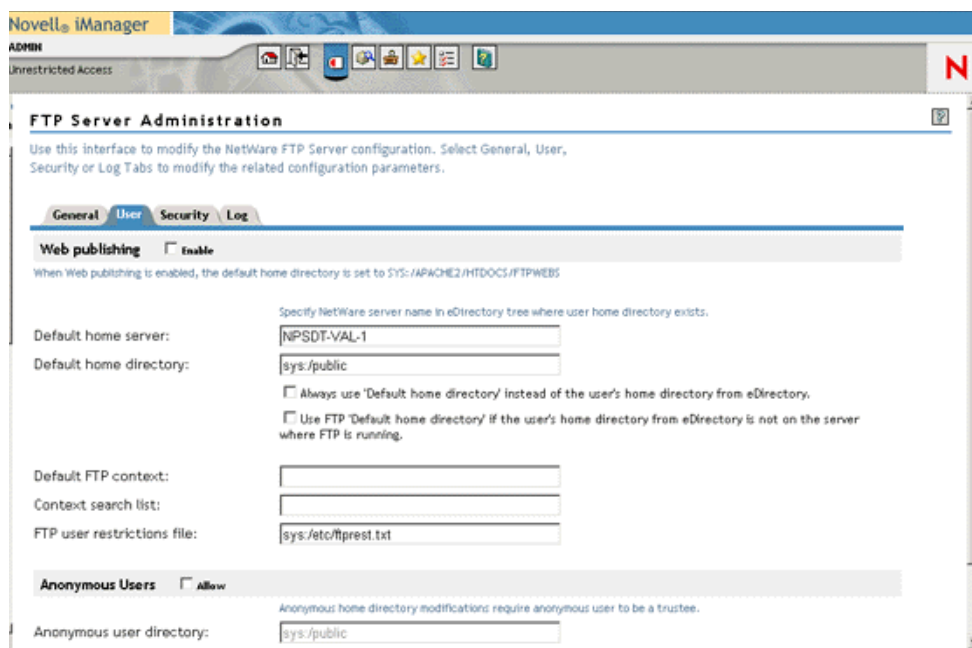


- 2 Click the Object selector to select the server where you will administer the FTP Server.
- 3 (Optional) Click *Monitor Active FTP Sessions* to view the number of active FTP instances and instance details such as IP address, port number, peak bandwidth, and the location of the configuration file.
- 4 In the FTP Server Instances section, view the details of the FTP server instances.  
Use this section to select the instance that you want to configure, start, or stop. You can also use it to add or delete instances.
- 5 Click the instance for which you want to configure the parameters.  
The General, User, Security, and Log tabs, are where you configure the parameters.
- 6 Select the *General* tab to modify the FTP General parameters.



Use General page to modify parameters related to multiple instances, FTP session, firewall port limits for passive connections, and simulation of UNIX FTP replies. Click *Monitor* to view the active sessions.

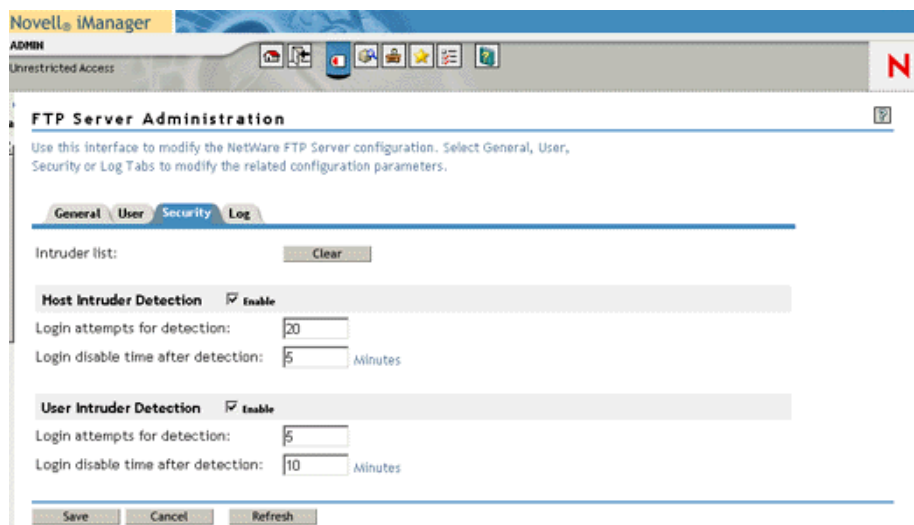
- 7 Select the *User* tab to modify the FTP User settings.



The screenshot shows the 'FTP Server Administration' window in Novell iManager, with the 'User' tab selected. The window title is 'Novell iManager' and 'ADMIN'. Below the title bar, there's a navigation bar with 'General', 'User', 'Security', and 'Log' tabs. The 'User' tab is active. The main content area is titled 'Web publishing' with a checkbox 'Enable'. Below this, there's a text box for 'Default home server' containing 'NPSDT-VAL-1' and a text box for 'Default home directory' containing 'sys:/public'. There are two checkboxes: 'Always use 'Default home directory' instead of the user's home directory from eDirectory.' and 'Use FTP 'Default home directory' if the user's home directory from eDirectory is not on the server where FTP is running.'. Below these are text boxes for 'Default FTP context:', 'Context search list:', and 'FTP user restrictions file:' containing 'sys:/etc/ftprest.txt'. At the bottom, there's a section for 'Anonymous Users' with a checkbox 'Allow' and a text box for 'Anonymous user directory:' containing 'sys:/public'.

Use this page to modify parameters for FTP login and anonymous access.

- 8 Select the *Security* tab to modify intruder detection parameters such as host and user intruder detection settings.



The screenshot shows the 'FTP Server Administration' window in Novell iManager, with the 'Security' tab selected. The window title is 'Novell iManager' and 'ADMIN'. Below the title bar, there's a navigation bar with 'General', 'User', 'Security', and 'Log' tabs. The 'Security' tab is active. The main content area is titled 'Intruder list:' with a 'Clear' button. Below this, there's a section for 'Host Intruder Detection' with a checkbox 'Enable'. Below this are text boxes for 'Login attempts for detection:' containing '20' and 'Login disable time after detection:' containing '5' with 'Minutes' next to it. Below this is a section for 'User Intruder Detection' with a checkbox 'Enable'. Below this are text boxes for 'Login attempts for detection:' containing '5' and 'Login disable time after detection:' containing '10' with 'Minutes' next to it. At the bottom, there are buttons for 'Save', 'Cancel', and 'Refresh'.

- 9 Select the *Log* tab to view FTP log files on the server.

**Novell iManager**  
ADMIN  
Unrestricted Access

### FTP Server Administration

Use this interface to modify the NetWare FTP Server configuration. Select General, User, Security or Log Tabs to modify the related configuration parameters.

**General User Security Log**

Log directory:   
Maximum log size:  KB  
Messages of type:

Daemon log file:   
Audit log file:   
Intruder log file:   
Statistics log file:

**View Log Files**

Log file:

For more information on the parameters, refer to the online help.

- 10 Click *Save* to save your settings, click *Refresh* to display the changes, or click *Cancel* to retain the previous settings.



# Managing and Administering NetWare FTP Server

# 3

This section discusses the following topics:

- ♦ [Section 3.1, “Starting NetWare FTP Server,” on page 25](#)
- ♦ [Section 3.2, “Using the NetWare FTP Server from an FTP Client,” on page 27](#)
- ♦ [Section 3.3, “Administering,” on page 33](#)
- ♦ [Section 3.4, “Security Guidelines,” on page 44](#)

## 3.1 Starting NetWare FTP Server

Load the NetWare® FTP Server software from the NetWare server by using the `nwftpd` command.

When you start the software, the NetWare FTP Server uses the IP address of the host (`HOST_IP_ADDR`) and the port number (`FTP_PORT`), as defined in `sys:/etc/ftpserv.cfg`, the default configuration file, to bind to and listen for FTP client connection requests.

If these parameters are not defined in the configuration file, the NetWare FTP Server binds to all configured network interfaces and the standard FTP ports (port number 21).

To start the NetWare FTP Server software with a different configuration file (for example, `myconfig.cfg`), enter the following at the command line:

```
nwftpd -c [volname:[/dirname/...]]myconfig.cfg
```

Default directory = `sys:/etc`. Default volume = `sys:`

---

**NOTE:** FTP Server aborts if the configuration file specified with `-c` option does not exist.

---

- ♦ [Section 3.1.1, “Dynamic Configuration Updates,” on page 25](#)
- ♦ [Section 3.1.2, “Creating an Anonymous User,” on page 26](#)

### 3.1.1 Dynamic Configuration Updates

The `nwftpd` command supports dynamic configuration updates by default. This means that the changes made to the configuration file with which the server has loaded take effect dynamically. The administrator does not need to unload and reload the server for the changes to take effect.

However, it takes some time for the parameter values that were dynamically changed to take effect.

#### Disabling Dynamic Configuration Updates

To disable the dynamic configuration updates, use the following format:

```
nwftpd [-c [volname:[/dirname/...]]myconfig.cfg] -d
```

## 3.1.2 Creating an Anonymous User

NetWare FTP Server software supports an anonymous user account. This account provides users access to public files. You can enable or disable access to the anonymous user account by setting the `ANONYMOUS_ACCESS` parameter in the configuration file. By default, the parameter is set to No. Specify the path of the Anonymous user's home directory in the `ANONYMOUS_HOME` directory parameter of the configuration file. If the `ANONYMOUS_HOME` path does not exist, anonymous login fails and anonymous user cannot be placed in `sys:\public`.

For more details, see [Table 2-2 on page 18](#).

To create an anonymous user, use the following format:

```
nwftpd -a [-c [volname:[/dirname/...]myconfig.cfg]
```

### Using the -a Option

When you use the `-a` option, NetWare FTP Server does the following:

1. Creates the anonymous user, creates the home directory (if it is not available), and assigns the rights to the directory.
2. On-screen prompts are displayed to enter the administrator name and password. The anonymous user is created in the eDirectory™ tree at the default context.
3. The `-a` option modifies the configuration file for anonymous user access.  
However, it does not start the NetWare FTP Server. To start the NetWare FTP Server after this change, reload `nwftpd`.
4. The configured anonymous home directory displays on the screen with an option to modify it.
5. If the administrator does not specify a home directory, then the default directory is used. The anonymous user has only Read and File Scan rights to the default directory. If the administrator specifies the anonymous home directory, then the directory is created and the Anonymous user will get Read, File Scan, Create, Delete, and Modify rights to that directory.
6. The server takes the anonymous user home directory from the configuration file and displays it on the screen with the option to modify the directory.

### Rights

When you manually create the anonymous user through a method other than `nwftpd -a`, ensure that the anonymous user has adequate rights to the anonymous home directory configured in the FTP Server. If adequate rights are not given, the file operations for the anonymous user might fail.

### Password

The FTP Server assigns a blank password to the anonymous user. When the anonymous user attempts to log in, even though the FTP server gets an e-mail account as a password, the anonymous user is logged on using a blank password.

The anonymous user login succeeds in the following conditions:

- ♦ When you create the anonymous user by using `nwftpd -a`.
- ♦ When you manually create the anonymous user and assign a password, but leave it blank.

The anonymous user login fails when you manually create the anonymous user, and when doing so, either assign a password that is not blank, or do not assign a password. This is because the FTP Server expects a blank password for the anonymous user.

## 3.2 Using the NetWare FTP Server from an FTP Client

This section discusses the following:

- ♦ [Section 3.2.1, “Starting an FTP Session,” on page 27](#)
- ♦ [Section 3.2.2, “Security Extensions,” on page 29](#)
- ♦ [Section 3.2.3, “Accessing a Remote Server,” on page 30](#)
- ♦ [Section 3.2.4, “Path Formats,” on page 31](#)
- ♦ [Section 3.2.5, “SITE Commands,” on page 31](#)
- ♦ [Section 3.2.6, “Name Space and Filenames,” on page 32](#)

### 3.2.1 Starting an FTP Session

- ♦ [“Logging In to the eDirectory Tree” on page 28](#)
- ♦ [“User Home Directory” on page 28](#)
- ♦ [“Logging In to a Server Running an IBM Operating System” on page 29](#)

To start an FTP session from a workstation running the FTP client software, use the following format:

```
ftp hostname | IP Address [Port Number]
```

**Table 3-1** *FTP session start parameters*

Parameter	Description
hostname   IP address	Name of the server in the DNS or IP address of the NetWare server running the FTP service.
Port number	The port where the server is listening for connection requests.  Use with the <code>open</code> command.

When you enter this command, the FTP client prompts for a username and password.

## Logging In to the eDirectory Tree

You can log in to the NetWare FTP Server in one of the following ways:

- ◆ Specify the username with full context, including a leading dot (.).

For example:

```
.user1.sales.company.
```

If you do not specify the context, the NetWare FTP Server searches for the user only in the current session context.

- ◆ Specify the context relative to the default context (which is the context of the NetWare server where FTP is running).

Relative contexts do not include leading dots.

For example, if the default context of NetWare FTP Server is `.company`, then the `user1` located in the `.sales.company` container can log in using the following format:

```
user1.sales
```

- ◆ When logging in for the first time only with a username without specifying the context, the NetWare FTP Server searches for the user in the following sequence:

1. Default FTP context.
2. The first bindery context of the server, if it is set.
  - a. The context of the NetWare Server object, if the bindery context is not set.
  - b. The contexts listed in the `SEARCH_LIST` parameter of the configuration file `ftpserv.cfg`, in the order listed.

When a user login is successful, the NetWare FTP Server context gets set to the user's context. Therefore, when a user is logged in to an FTP session and decides to authenticate as another user (without specifying a context) with the command `USER username`, this new username is searched for under the context of the user who previously logged in successfully. If the user is not found here, the user is searched in the order of contexts listed in the `SEARCH_LIST` parameter of `ftpserv.cfg`.

If a user with an expired password attempts to log in to the NetWare FTP Server, a message stating that the password has expired displays after the user logs in. Logging in with an expired password uses the grace logins. If all the grace logins of the user expire, the user cannot log in and receives an error message.

## User Home Directory

After the user logs in, the NetWare FTP Server places the user in the user's eDirectory home directory (if it is defined) and attaches the user to the server where the home directory resides.

If the home directory is not defined or cannot be located, the NetWare FTP Server places the user in the default user home directory specified in the configuration file.

To specify the name of the server where the default user home directory is located, use the `DEFAULT_USER_HOME_SERVER` parameter. If the parameter is not specified, by default the NetWare FTP Server considers the default user home directory to be on the server where the NetWare FTP Server is running.

A user is placed in the default user home directory under the following conditions:

- ♦ If IGNORE\_HOME\_DIR = Yes.
- ♦ If IGNORE\_REMOTE\_HOME = Yes, and the user's home directory is on a remote server.
- ♦ If the remote server on which the home directory exists is down.

The user without a home directory is placed in the Default\_Home\_Server\Default\_User\_Home directory. If this fails (either because the home server is down or the home directory is not present on the home server), then the user is placed in Local\_server\Default\_User\_Home. If that fails too, (because Default\_User\_Home is not present in the local server also), then the user is placed in Local\_server\Sys:\public.

### Logging In to a Server Running an IBM Operating System

To log in to a remote Server running an IBM\* operating system, the user must have a user account on that server.

To log in to the IBM server from FTP client, start an FTP session using FTPHost. Give the username in the following format:

```
@IBMservername.username
```

To log in to an IBM server from a browser, use the following format:

```
ftp //+IBMserver+username:password@FTPHost
```

To log in as an anonymous user, the user name and password can be omitted:

```
ftp //+IBMservername@FtpHost
```

After logging in to an IBM server, the user is placed in the home directory of that IBM server.

While logging in to an IBM server, the user is not authenticated to the eDirectory tree. This means, navigation between IBM servers and eDirectory servers is not possible.

## 3.2.2 Security Extensions

Security extensions enable secure FTP clients that support the SSL and TLS mechanisms to establish secure connections with the server.

SSL and TLS are similar to the encryption system used by HTTPS Web pages. SSL and TLS provides a secure method for sending sensitive information across connections. The control and data connections are fully encrypted so no one can view the FTP commands, username, password, and data transferred as is possible with all non-encrypted FTP sessions.

After successful negotiation of the SSL/TLS mechanism, all the commands and replies are encrypted.

Netware FTP server supports the following mechanisms and commands related to security extensions:

- ♦ SSL encryption mechanism
- ♦ TLS encryption mechanism

- ♦ Command channel encryption and data channel encryption.
- ♦ The following security extension commands:
  - ♦ AUTH *Mechanism Name*
  - ♦ PBSZ *Protection Buffer Size*
  - ♦ PROT *Protection Level*

## FTP Clients

If you are using security extensions, use FTP clients that support SSL/TLS mechanism.

The following list gives a representative list of such FTP Clients:

**SmartFTP V1.0** This is a secure GUI FTP client. You can download it from the [SmartFTP Web site \(http://www.smartftp.com\)](http://www.smartftp.com).

**ftps** This is a command line FTP client from FreeBSD\* that can be installed in Windows\* and UNIX\* machines. You can download `bsdftpd-ssl-1.1.0.tar.gz` file from the [FreeBSD Web site \(ftp://ftp.freebsd.org/pub/FreeBSD/ports/distfiles\)](http://ftp.freebsd.org/pub/FreeBSD/ports/distfiles).

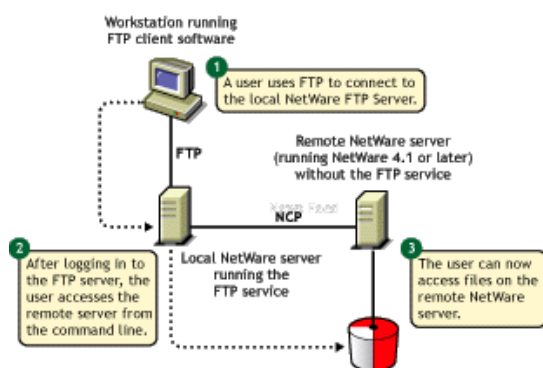
**Secure FTP 2** This is a command line Secure FTP client. You can download it from the [Glub Tech Inc. Web site \(http://www.glub.com/products/secureftp/download.shtml\)](http://www.glub.com/products/secureftp/download.shtml).

## 3.2.3 Accessing a Remote Server

After logging in to the eDirectory™ tree, users can access files and directories on a remote NetWare server whether or not the server is running NetWare FTP Server software. The remote server can be another NetWare server or an IBM server, if they are in the same tree.

The NCP™ protocol lets you transfer files and navigate to and from remote eDirectory servers.

**Figure 3-1** How a NetWare FTP Server Accesses Remote NetWare Servers



To navigate to remote servers, use the following format:

```
cd //remote server name/volume/directory pathname
```

File operations such as get, put, and delete can be used on the remote server, even without changing directory path to that server. For example:

```
get //remote_server_name/volume/directory path/filename
```

The double slash (//) indicates that the user wants to access a remote server. After the double slash, the first entry must be the name of the remote server.

During remote server navigation, to check the server to which you are doing FTP operations, execute the `quote stat` command. This displays the current server in the statistics listing.

---

**NOTE:** Quote command is not case sensitive, if entered from the FTP client.

---

If the current directory is on a remote server and the remote server goes down, the user is placed in the home directory in the home server. If the home server is not available, the user is placed in the default user home directory.

## 3.2.4 Path Formats

**Table 3-2** *NetWare FTP Server path formats*

Task	Command Format
Specifying the volume and directory path name	<code>//server_name/volume_name/directory_path</code>
Navigating to different volumes	<code>cd /volume_name</code>
Switching back to the home directory	<code>cd ~</code>
Switching to home directory of any user	<code>cd ~user_name</code>
Switching to the root of the server	<code>cd /</code>

---

**IMPORTANT:** NetWare FTP Server does not support wildcards at the root of the server.

---

## 3.2.5 SITE Commands

The SITE command enables FTP clients to access features specific to the NetWare FTP Server.

---

**NOTE:** SITE command is not case sensitive, if entered from an FTP client.

---

The SITE command has the following syntax:

```
SITE [SLIST | SERVER | HELP | CX {CONTEXT} | LONG | DOS | OU]
```

---

**NOTE:** The settings done through SITE commands are valid only for current session.

---

These commands are unique to the NetWare FTP service and are not standard FTP commands.

The following table provides the list of SITE commands along with their descriptions:

**Table 3-3** *NetWare FTP SITE commands*

Command	Description
SLIST	Lists all the NetWare servers within the eDirectory tree.
SERVER	<p>Lists all NetWare servers in the current eDirectory context and its sub-OUs.</p> <p>For example, SITE SERVER displays all NetWare servers in the current context.</p>
HELP	Displays the help file related to the SITE commands. It gives the syntax, and description of all SITE commands.
CX	<p>CX without a context displays the current context of the NetWare FTP Server</p> <p>CX with a context as an argument sets the current eDirectory context to a given value. For example:</p> <p>To change to an OU named "test" within the current context, use <code>cx ou=test</code> (which specifies a relative context).</p> <p><code>cx .ou=test.o=acme</code> sets the context to the OU test using the absolute context</p> <p>CX with the argument <code>~</code> resets the context back to user's context</p>
OU	<p>Displays all the organizational units relative to the current context</p> <p>OU enables users to display the eDirectory organizations (containers) below the current eDirectory context.</p>
LONG	Changes the configured name space to the LONG name space.
DOS	<p>Changes to the configured name space to the DOS name space.</p> <p>DOS changes the configured name space to the DOS name space. This change takes place only for the current session. All NetWare volumes support the DOS name space.</p>

### 3.2.6 Name Space and Filenames

NetWare FTP Server software supports DOS and LONG name space. The default name space is configured in the configuration file. FTP users can also change it dynamically by using the `SITE DOS` command or the `SITE LONG` command.

**NOTE:** The name space changed by using SITE command is in effect only in the current session.

The default configured name space is LONG.

When the user changes the name space, the change affects only those volumes that support the specified name space. If the LONG name space is not supported on a specific volume, users must follow the DOS file naming conventions of using no more than eight characters for the name plus no more than three additional characters for the extension.

In both name spaces, the user views the response to the `ls` or `Dir` command in the NetWare format only. Format of the directory listing is as follows:



*type rights owner size time name*

where the above variables stand for the following:

- ♦ *Type*: Type of file, where (-) indicates a file and (d) indicates a directory.
- ♦ *Rights*: The file owner's effective NetWare rights of this file or directory.
- ♦ *Owner*: NetWare user who created this file or directory. If the object mapping and the owner's name are not found, the object ID is displayed.
- ♦ *Size*: The size, in bytes, of the file or directory. For a directory, it is always 512.
- ♦ *Time*: The modification date and time of the file or directory.
- ♦ *Name*: The name of the file or directory in the current name space.

## 3.3 Administering

This section discusses various ways to administer the NetWare FTP Server:

- ♦ [Section 3.3.1, "Supporting Extended Characters in a User Password," on page 33](#)
- ♦ [Section 3.3.2, "Initializing Multiple Instances," on page 33](#)
- ♦ [Section 3.3.3, "Unloading Specific Instances," on page 34](#)
- ♦ [Section 3.3.4, "Managing Intruder Detection," on page 34](#)
- ♦ [Section 3.3.5, "Specifying Access Restrictions," on page 35](#)
- ♦ [Section 3.3.6, "Monitoring FTP Log Files," on page 38](#)
- ♦ [Section 3.3.7, "Viewing Active Sessions," on page 40](#)
- ♦ [Section 3.3.8, "Setting Modification Time," on page 41](#)
- ♦ [Section 3.3.9, "Subtree Search Support," on page 42](#)

### 3.3.1 Supporting Extended Characters in a User Password

Users are unable to log in if a password containing extended characters is set from a Windows workstation, such as from iManager. This is because of code page differences between the server and the client.

To ensure that the user login is successful, you need to set a password with extended characters from the server console.

### 3.3.2 Initializing Multiple Instances

Multiple instances of the NetWare FTP Server can run on a single machine with different IP addresses, or port numbers.

You can initialize multiple instances of the NetWare FTP Server, if each instance of the NetWare FTP Server has a unique IP address and port number combination. Each NetWare FTP Server instance can have its own configuration file and access restrictions file.

The NetWare FTP Server uses the IP address of the host (HOST\_IP\_ADDR) and the port number (FTP\_PORT) as defined in the configuration file to bind to and listen for FTP client connection requests. You can specify the configuration file while starting the NetWare FTP Server. If these parameters are not defined in the configuration file, the NetWare FTP Server listens to the standard FTP port number on all of the NetWare Server's IP addresses.

If multiple instances of NetWare FTP Server (NWFTPD) are running and if you need to set the FORCE\_PASSIVE\_ADDR parameter (non-default), then any instance where this is set must have a unique value.

If one instance of NetWare FTP Server is listening on multiple addresses and the configured passive address is not reachable from clients on some networks, then the administrator can configure separate instances of FTP for each network address. Each instance can then have its own FORCE\_PASSIVE\_ADDR setting.

For more details, see [Table 2-1 on page 13](#).

### 3.3.3 Unloading Specific Instances

You can unload specific instances of NetWare FTP Server that correspond to the specified configuration file by using the following syntax:

```
nwftpd -u [volname: [/dirname/...]] myconfig.cfg
```

Default directory = sys:/etc. Default volume = sys:

### 3.3.4 Managing Intruder Detection

You can enable either host detection or user intruder detection at a time, but not both at the same time.

For example, INTRUDER\_HOST\_ATTEMPTS can be disabled (set to 0) while INTRUDER\_USER\_ATTEMPTS is enabled (set to 1 or higher).

If a successful login takes place before the maximum specified number of unsuccessful login attempts, the login failures count is reset to 0.

If the invalid login attempts of the users and hosts are fewer than maximum attempts allowed, and they are not detected as an intruder, they are removed from the corresponding list after refresh time of 72 hours.

The intruder host list and the intruder user list are refreshed every 72 hours.

- ♦ [“Host Intruder Detection” on page 34](#)
- ♦ [“What Happens When the Host Is Identified As an Intruder” on page 35](#)
- ♦ [“User Intruder Detection” on page 35](#)
- ♦ [“What Happens When the User Is Identified As an Intruder” on page 35](#)

#### Host Intruder Detection

A host or a client machine is considered an intruder when the number of consecutive login failures for any user from that host is more than the configured limit set by the INTRUDER\_HOST\_ATTEMPTS parameter.

## What Happens When the Host Is Identified As an Intruder

- ♦ The Server closes the session.
- ♦ The host machine's access to the NetWare FTP Server is denied the time interval specified by the `HOST_RESET_TIME` parameter in the configuration file.

## User Intruder Detection

A user is considered an intruder when the number of unsuccessful login attempts is more than those specified by the `INTRUDER_USER_ATTEMPTS` parameter in the configuration file.

All failed attempts from a user from different hosts are considered for intruder detection as the same user. When the accumulated attempts for the same user from different hosts exceed the maximum number of allowed attempts, then that user is detected as intruder.

## What Happens When the User Is Identified As an Intruder

- ♦ The user account is locked out for an interval of time specified by the `USER_RESET_TIME` parameter in the configuration file.
- ♦ The user cannot log in from a different host until the reset time is over.

## 3.3.5 Specifying Access Restrictions

The FTP service lets you specify access restrictions for a user, a client host, and the IP address of a client host. The access restrictions are specified in the `RESTRICT_FILE` restrictions file, which can be configured. You can specify the access restrictions at various levels, and multiple access rights are allowed.

By default, changes to the `RESTRICT_FILE` take effect dynamically. But when the objects restricted in `ftprest.txt` file are renamed in eDirectory, these objects should be synchronized manually in the `ftprest.txt` restriction file.

- ♦ [“Restriction Levels” on page 35](#)
- ♦ [“Access Rights” on page 36](#)
- ♦ [“Keywords” on page 37](#)
- ♦ [“Restriction File” on page 37](#)

### Restriction Levels

The following table describes the supported levels of access restrictions.

**Table 3-4** *NetWare FTP Access Restrictions and Support Levels*

Restriction Level	Description
Container	<p>Restriction can be specified for any eDirectory container. This controls all the users in that container and its sub-OU's.</p> <p><i>*.container name</i></p> <p>The asterisk (*) indicates the container level restriction. The container should be a fully distinguished name.</p> <p>To apply restrictions if the container names have aliases, add the alias of the container names in the restrictions file.</p>
User	<p>Restriction can be specified for a particular user.</p> <p><i>.user name</i></p> <p>The period (.) indicates user level restriction. The username should be a fully distinguished name.</p> <p>To apply restrictions if the user names have aliases, add the alias of the user names in the restrictions file.</p>
Domain	<p>Restriction can be specified at the domain level. This controls all the hosts in that domain and its subdomains. The following is the RESTRICT file format:</p> <p><i>DOMAIN= domain name</i></p> <p>The DOMAIN= key word indicates the domain level restriction.</p> <p>The domain restrictions do not work if the NetWare server is not configured to query a valid DNS server, or if the restricted domain's DNS database does not contain a pointer record (address to name resolution) for the FTP client address.</p>
Address Range	<p>Restriction can be specified based on the IP address or range.</p> <p>Restricts any node that has the IP address within the specified IP address range. The range is specified by two IP addresses separated by a space. The range = 0.0.0.0 to 255.255.255.254. The value 255.255.255.255 is invalid since 255.255.255.255 is a broadcast address and not supported for ADDRESS_RANGE.</p>
Host	<p>Restriction can be specified for a particular host machine.</p> <p><i>ADDRESS= host name/IP address</i></p> <p>The ADDRESS= key word indicates the host level restriction. The host name or IP address of the host can be specified.</p> <p>The DNS configuration should be appropriate for address and domain name restrictions.</p>

## Access Rights

The following table describes the permitted access rights.

**Table 3-5** *NetWare FTP Access Rights list*

Access Right	Description
DENY	Denies access to the NetWare FTP Server for that client.
READONLY	Gives read-only access to the client.
NOREMOTE	During login, the NetWare FTP Server determines the user's home server and home directory. The user is unable to navigate outside the home server.  <b>NOTE:</b> The home server can be different from the server where NetWare FTP Server is running.
GUEST	During login, the NetWare FTP Server determines the user's home server and home directory. The user is unable to navigate outside of the home directory.  <b>NOTE:</b> The home server can be different from the NetWare FTP Server.
ALLOW	Gives normal FTP access without restriction.

## Keywords

The following table describes the possible keywords.

**Table 3-6** *NetWare FTP Access Restriction Keywords*

Keyword	Description
ADDRESS=	Restricts a particular node. The IP address or machine name can be used.
DOMAIN=	Restricts a particular domain.  The asterisk (*) should be used for container-level restrictions.
ADDRESS_RANGE=	Restricts a range of nodes based on the IP address. It applies the restriction to any node that has the IP address within the specified IP address range.
ACCESS=	Mandatory for each line. It should be followed by access rights.

## Restriction File

The format and organization of the RESTRICT\_FILE restriction file is as follows:

- ♦ Each line should have one entity name and corresponding access rights.
- ♦ The rights of the entities are assigned according to the order of the restriction file. If different rights apply to the same entity, the latest entities that appear in the restriction file are used.

- ♦ All rights specified in the same line are applied to that entity.
- ♦ If the restriction file does not exist or is empty, the **ALLOW** access is given to all users. Users have no restrictions other than those imposed by their own effective trustee rights to the file system.

### Example 1

```
*.novell                ACCESS=ALLOW
*.testou.novell         ACCESS=DENY
.user1.testou.novell    ACCESS=READONLY
```

User1 at testou is granted read-only rights. The other users at testou.novell are denied the right to log in. However, all other OUs at .novell are allowed.

### Example 2

```
*.testou.novell        ACCESS=DENY
*.novell               ACCESS=ALLOW
```

All OUs at .novell are allowed because both rights apply to testou and the second one would be used.

### Example 3

```
ADDRESS=Clientmachine1.testou.novell.com ACCESS=NOREMOTE
.user1.novell ACCESS=READONLY
```

User1 logging from clientmachine1 will have read-only rights and no remote access.

For more details, see [Table 2-2 on page 18](#)

## 3.3.6 Monitoring FTP Log Files

The NetWare FTP Server has four log files for recording different activity information. All the log files are created in the `FTP_LOG_DIR` directory specified in the configuration file.

The `LOG_LEVEL` parameter defined in the configuration file controls the number and type of information logged.

All the log files now support comma-delimited format for log messages.

### Specifying Log Levels

The log levels indicate bits for which you can give any combination.

- ♦ 1 = ERROR
- ♦ 2 = WARNING
- ♦ 4 = INFO

**Table 3-7** *NetWare FTP Server Log Levels*

Log Level	Combination Logged
LOG_LEVEL = 3	Error messages and warning messages.
LOG_LEVEL = 4	Error messages and warning messages.
LOG_LEVEL = 7 (Default)	All messages are logged

The MAX\_LOG\_SIZE parameter specifies the maximum size of the log files (in KB), up to which messages can be logged. After exceeding this limit, the existing contents of log files are copied to the corresponding backup (\*.bak) files.

### Statistics Log File

The statistics log file contains details of all active sessions in the log file. The default path is `sys:/etc/ftpstat.log`.

The statistics log file maintains the following three record types. Every record type is separated by a comma.

- ♦ TRANSFER: Contains information related to the data transfer.
- ♦ USER: Contains information related to users logged in or logged out.
- ♦ FAILURE: Contains information about the number of failures during data transfer.

### Intruder Log File

The intruder log file contains information about unsuccessful login attempts. The default path is `sys:/etc/ftpintr.log`.

The following information is recorded in the file:

- ♦ Address of the machine where the login originated
- ♦ Time of the attempted access
- ♦ Login name of the user

The general intruder log format is:

ErrorLevel, Date Time, Client IPaddress, UserName, message

### System Log File

The system log file contains all the internal system-related information encountered by the NetWare FTP Server.

The general system log file format is:

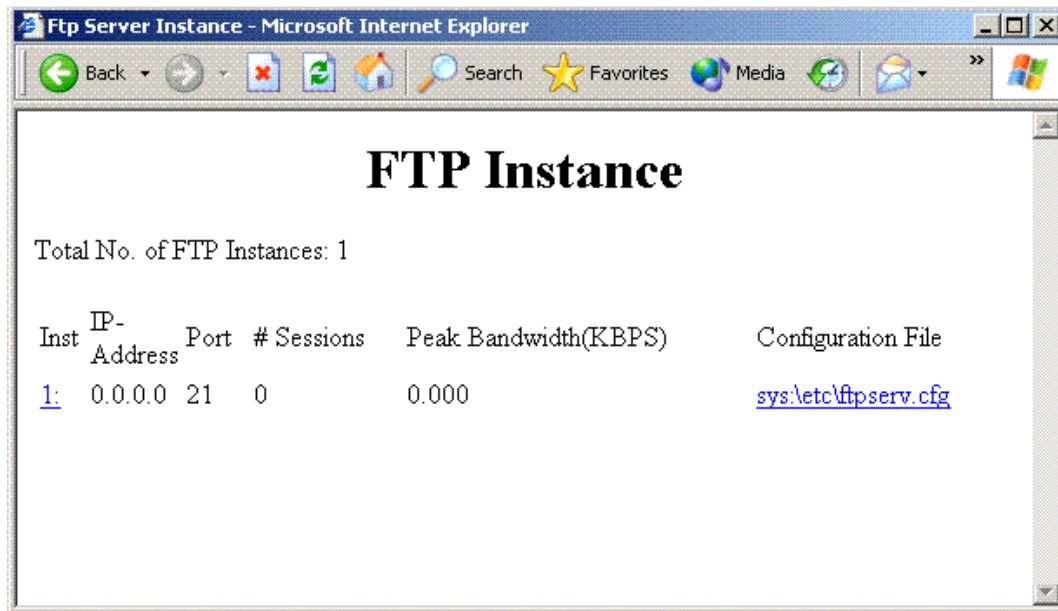
Error, Thread ID, Date Time, Message

For more details, see [Table 2-4 on page 20](#).

### 3.3.7 Viewing Active Sessions

To load the Active Sessions display utility, click the *Monitor Active Session* link in iManager.

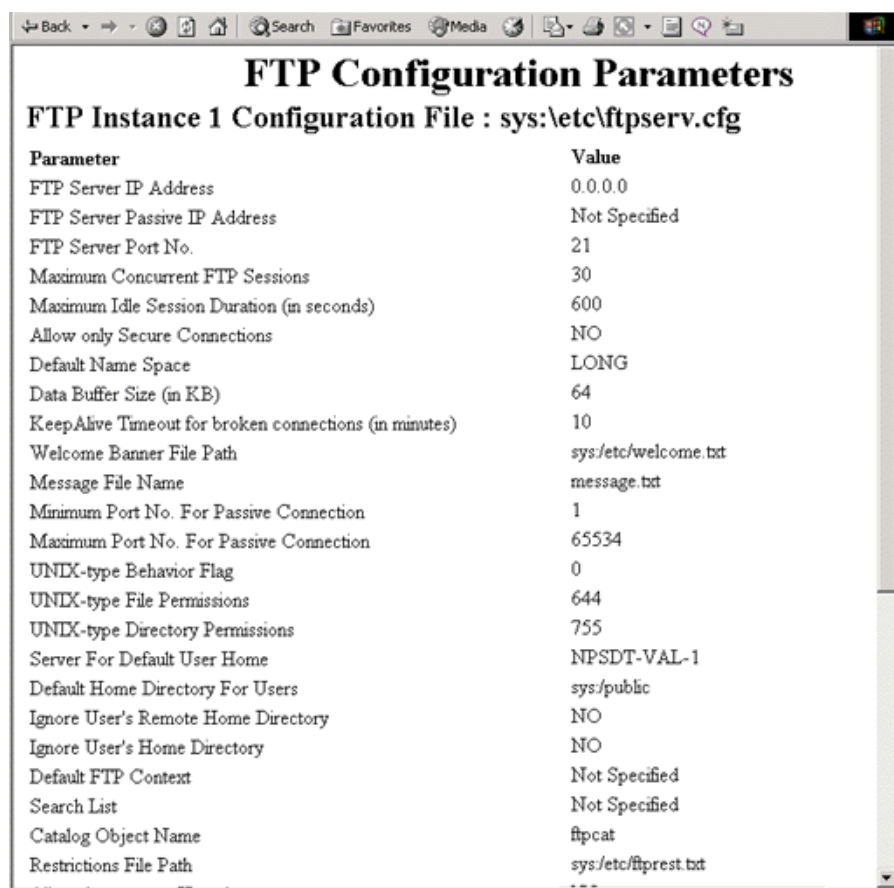
**Figure 3-2** *Active Session Display*



Inst	IP-Address	Port	# Sessions	Peak Bandwidth(KBPS)	Configuration File
<a href="#">1</a>	0.0.0.0	21	0	0.000	<a href="#">sys:\etc\ftpserv.cfg</a>



**Figure 3-3** Session-based Details



Parameter	Value
FTP Server IP Address	0.0.0.0
FTP Server Passive IP Address	Not Specified
FTP Server Port No.	21
Maximum Concurrent FTP Sessions	30
Maximum Idle Session Duration (in seconds)	600
Allow only Secure Connections	NO
Default Name Space	LONG
Data Buffer Size (in KB)	64
KeepAlive Timeout for broken connections (in minutes)	10
Welcome Banner File Path	sys:/etc/welcome.txt
Message File Name	message.txt
Minimum Port No. For Passive Connection	1
Maximum Port No. For Passive Connection	65534
UNIX-type Behavior Flag	0
UNIX-type File Permissions	644
UNIX-type Directory Permissions	755
Server For Default User Home	NPSDT-VAL-1
Default Home Directory For Users	sys:/public
Ignore User's Remote Home Directory	NO
Ignore User's Home Directory	NO
Default FTP Context	Not Specified
Search List	Not Specified
Catalog Object Name	ftpcat
Restrictions File Path	sys:/etc/ftprest.txt

You can view session-based details such as bytes sent, bytes received, session duration, files sent, files received, and current Novell® eDirectory 8.7.3 context. These details are not tied to individual user logins.

These statistics-related pages time out after every 20 minutes. Users can reload by clicking the *Monitor Active Session* link again.

### 3.3.8 Setting Modification Time

NetWare FTP Server now supports extended functionality for the `mdtm` modification time command. This command, now allows you to set the last modified date and time for both files and directories.

Previously, the `mdtm` command functionality was limited to retrieving the last modified date and time of a file only.

The command syntax is as follows:

```
mdtm [timestamp] pathname
```

- ♦ The format for the optional *timestamp* is YYYYMMDDHHMMSS.
- ♦ The *timestamp* is required only when setting the modified date and time of the target.
- ♦ FTP Server considers the timestamps set or retrieved to be in server local time.

- ♦ The *pathname* can be any existing file or directory on the server. You can use relative and absolute paths.
- ♦ FTP Server supports and accepts pathnames that either begin with spaces or include spaces. However, use the spaces in file and directory names with caution because the handling of spaces in these names varies with each FTP client. Certain FTP clients do not handle spaces well when they parse the user's command prior to sending it to the server, and some clients might handle this better if the pathname is enclosed in double quotes.

For example,

"*pathname*"

## FTP Client Response

If the FTP client does not recognize the `mdtm` command, then the client software might reject the command that the user enters and might not forward it to the server.

To ensure that the client forwards the `mdtm` command to the server, enter a customized `quote` command in the following format:

```
quote MDTM [timestamp] pathname
```

Most FTP clients view the `quote` command as a signal that they should send the rest of the line to the FTP Server even if the client software does not recognize it.

However, some clients might change spaces and quotation marks within the `quote` command, so successful execution on paths or names containing spaces might not be possible from some FTP clients.

## 3.3.9 Subtree Search Support

FTP Server now supports subtree searching while looking for user objects under specified contexts.

To enable subtree search, add the delimiter `:s` to the end of the context in the `SEARCH_LIST` parameter in `ftpserv.cfg` file. The FTP server then searches the context and all sub containers. If `:s` is not added to a context, the search is done only within the specified context.

The contexts in the list should be specified in the preferred search order.

For example:

```
SEARCH_LIST=.accounting.boston.novell:s,.development.boston.novell:s,.boston.novell
1
```

Here the search begins for user objects in `.accounting.boston.novell` and in the subtree below. If the user is not found under this subtree, the search continues under `.development.boston.novell` and in the subtree. If the user is not found, `.boston.novell` is searched again, without searching any further sub containers.

The subtree search is performed by `ndsilib.nlm`. This module accesses the tree through the `nfauuser` user object. This user is normally created during the NetWare 6.5 install, for use by Native File Access for UNIX (NFS), but can also be created by loading `schinst -n` at the server console.

The load sequence in the `autoexec.ncf` file should be changed to load `ftpstart.ncf` first. Alternatively, if `nfsstart.ncf` is remarked out because NFS is not being used, load `ndsilib.nlm` before `ftpstart.ncf`.

For more information on this utility please refer to online documentation on [Native File Access for UNIX](http://www.novell.com/documentation/oes/native/index.html?page=/documentation/oes/native/data/h9izvdye.html#h9izvdye) (<http://www.novell.com/documentation/oes/native/index.html?page=/documentation/oes/native/data/h9izvdye.html#h9izvdye>).

Any duplicate contexts in the `SEARCH_LIST` will be eliminated and the modified list is noted in the `ftpd.log` file.

Context duplication is checked according to the order specified in `SEARCH_LIST`. That is, if a parent context has subtree search enabled, all the subsequent child contexts specified in the `SEARCH_LIST` is eliminated irrespective of whether they are specified for subtree search or one-level search.

For example:

```
SEARCH_LIST=.boston.novell:s,.accounting.boston.novell:s,.development.boston.novell
```

In the above case both the contexts, `.accounting.boston.novell` and `development.boston.novell` could be eliminated from the list because `.boston.novell` is the parent and is specified for subtree search.

However, a parent context that is specified after a child context is not eliminated. This allows searches to resolve more quickly by specifying smaller areas with frequently used user populations before a larger subtree search is done.

For example:

```
SEARCH_LIST=.development.boston.novell:s,.accounting.boston.novell,.boston.novell:s
```

In this case, none of the contexts is eliminated. The development subtree is searched, then if no match is found, the accounting container is searched. If a match is not found, an entire subtree search of `boston.novell` is done.

If a problem prevents the use of `ndsilib` for subtree searching, the FTP server treats each context in the `SEARCH_LIST` as a plain, single-level search context.

---

**NOTE:** The current `SEARCH_LIST` in use is always be noted in the `ftpd.log` file. In troubleshooting, it might be useful to compare the intended `SEARCH_LIST` in `ftpserv.cfg` with the effective result in `ftpd.log`.

---

When the process of locating a user object depends upon a subtree search, the user should submit only the username upon login. Submitting a relative or partial context with the username is not successful in a subtree search. Submitting a full context, beginning with a leading dot (.) is recommended because this does not rely on a subtree search.

For example:

```
.user1.boston.novell
```

If a context name contains the delimiter itself (:s), it should be separated with a backslash, irrespective of whether it is specified for subtree search or for context-level search.

For example:

SEARCH\_LIST=.north\:south

where the eDirectory container object name is .north:south.

When a user is found, the FTP session's context is set to the context where the user was found.

## 3.4 Security Guidelines

The following security guidelines and best practices are essential to ensure a secure environment for FTP Server.

- ♦ [Section 3.4.1, “Security Configuration,” on page 44](#)
- ♦ [Section 3.4.2, “Security Best Practices,” on page 45](#)

### 3.4.1 Security Configuration

Configure the following parameters in the `ftpserv.cfg` file to protect the FTP environment.

**Table 3-8** *FTP Parameters and Their Recommended Values*

FTP Parameters	Recommended Value	Reason for Recommendation	Default Value
SECURE_CONNECTIONS_ONLY	YES	If this parameter is set to YES, only secure connections from FTP clients are supported. This means that you can only use FTP clients that support secure connections with this setting. The advantage of using this is that control channel information such as usernames and passwords are encrypted and protected from spoofing and sniffing. Optionally, the data channel also can be encrypted, if the client chooses to do so. Refer to <a href="#">Section 3.2.2, “Security Extensions,” on page 29</a> for details on security mechanisms supported by NetWare FTP Server.	NO
INTRUDER_HOST_ATTEMPTS	20	If this value is set to 0, host intruder detection is disabled, which is not advisable.	20

FTP Parameters	Recommended Value	Reason for Recommendation	Default Value
INTRUDER_USER_ATTEMPTS	5	If this value is set to 0, user intruder detection is disabled, which is not advisable.	5
MAX_FTP_SESSIONS	30	Setting this to a lower value limits the concurrent FTP connections allowed to the server. This is useful if a denial of service attack is mounted; the scope for exploitation is limited.	30
IDLE_SESSION_TIMEOUT	180	It is recommended to specify a small value because if the system remains idle for a long time, it could result in malicious attacks.	600
ANONYMOUS_ACCESS	NO	To avoid a denial of service attack, if MAX_FTP_SESSIONS runs out of space because the maximum number of anonymous sessions has been exceeded.	NO

It is also recommended that you set restrictions for hosts, containers, users, domains, IP addresses and IP address ranges, in the `ftprest.txt` file. By default, no restrictions are set.

### 3.4.2 Security Best Practices

The following best practices can help create a more secure FTP setup:

- ♦ It is a good practice to check the following log files on a regular basis:

```
ftpaudit.log
ftpstat.log
ftpintruder.log
ftpd.log
```

These files contain details about user activities, statistics, intruders, and other information and error messages.

- ♦ You should restrict FTP Server access to users by making relevant configuration changes in the `ftprest.txt` file. To restrict access to remote server navigation for a user, set `ACCESS=NOREMOTE`.

---

**NOTE:** While using iManager to administer FTP Server, the FTP administrator has access and rights to the configuration and statistics of all the FTP servers in the tree

---

# Cluster-Enabling NetWare FTP Server

# 4

You can configure NetWare<sup>®</sup> FTP Server in either active/active or in active/passive modes of Novell<sup>®</sup> Cluster Services<sup>™</sup>.

To optimally utilize the services of cluster-enabled NetWare FTP Server, we recommend using FTP clients with the Reconnect option.

With iManager, you can use the object selector to select any server in the eDirectory<sup>®</sup> tree, and administer the FTP Server on that server.

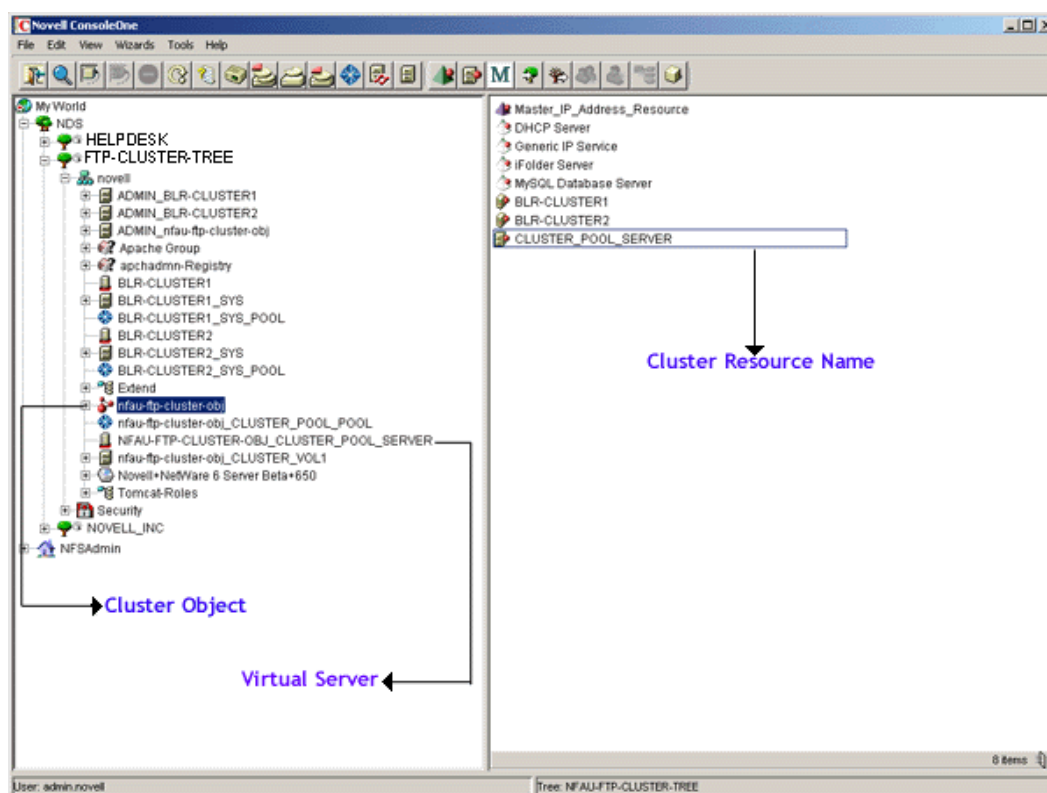
- ♦ [Section 4.1, “Prerequisites,” on page 47](#)
- ♦ [Section 4.2, “Cluster-Enabling for the First Time,” on page 48](#)
- ♦ [Section 4.3, “Upgrading Cluster-Enabled FTP Server,” on page 50](#)

## 4.1 Prerequisites

- ❑ NetWare FTP Server is installed on every server in the cluster
- ❑ Novell Cluster Services is installed and set up

For step-by-step information on setting up Novell Cluster Services, refer to [Installation and Setup \(http://www.novell.com/documentation/oes/cluster\\_admin/data/hc8jxt45.html#hc8jxt45\)](http://www.novell.com/documentation/oes/cluster_admin/data/hc8jxt45.html#hc8jxt45) in the *OES Novell Cluster Services 1.8 Administration Guide for NetWare*.

**Figure 4-1** Cluster Objects



## 4.2 Cluster-Enabling for the First Time

You can cluster-enable the FTP server in one of the following modes:

- [Section 4.2.1, “Active/Passive Mode,” on page 48](#)
- [Section 4.2.2, “Active/Active Mode,” on page 49](#)

### 4.2.1 Active/Passive Mode

In the active/passive cluster mode, NetWare FTP Server runs on only one node in the cluster at a time. For example, if the node where FTP Server is installed fails, NetWare FTP Server starts on other specified nodes in the cluster and the FTP sites on the failed server fail over to other nodes in the cluster.

Cluster-enabling in this mode has the following advantages:

- A common user restriction can be maintained across the cluster setup because only a single configuration and restriction file exists in the cluster. The restriction for any eDirectory 8.7.3 user on a particular FTP Server continues even when the FTP service fails over to another node in the cluster.
- The FTP system log files for the cluster can be saved at a common location.



- ♦ A User home directory can be saved in the shared volume path.
- ♦ FTP Server status can be monitored by using the `ftpstat` command. This command lets you view session-based details such as bytes sent, bytes received, session duration, files sent, files received, and current Novell eDirectory context.

To configure an active/passive mode:

- 1** Stop FTP Services by executing `unload nwftpd` on every node in the cluster.
- 2** Edit `autoexec.ncf` and comment/remove the `ftpstart.ncf` entry from every FTP Server in each of the nodes in the cluster. This lets FTP Server to be started by NetWare Cluster Services.
- 3** Create an `etc` directory in the shared volume directory and copy FTP Server configuration file (`ftpserv.cfg`) and restrictions file (`ftprest.txt`) to `shared_vol_name:/etc`.
- 4** Edit `shared_vol_name:/etc/ftpserv.cfg` and make the following changes:
  - ♦ In the `RESTRICT_FILE` parameter, change the FTP user restrictions file path to `shared_vol_name:/etc/ftprest.txt`
  - ♦ In the `FTPD_LOG` parameter, change the FTP daemon log file path to `shared_vol_name:/etc`.
- 5** Bring the resource status to offline and then modify the load and unload scripts:
  - 5a** Using ConsoleOne<sup>®</sup>, select and right-click the Cluster resource object, then click *Properties > Scripts > Cluster Resource Load Script* and *Cluster Resource Unload Script*.
  - 5b** Add the following at the end of the existing load script:

```
load nwftpd -c shared_vol_name:\etc\ftpserv.cfg
```

```
load ftpstat
```

The load script specifies the commands to start the resource or service on a server or to mount the volume on a server.

- 5c** Add the following at the beginning of the unload script:

```
unload ftpstat
```

```
unload nwftpd
```

The unload script specifies how the application or resource should terminate.

- 6** Bring the cluster resource online.  
FTP Server is now configured to work in the active/passive clustering mode.

## 4.2.2 Active/Active Mode

In active/active cluster mode, services of the NetWare FTP Server (`nwftpd` and `ftpstat`) run on all nodes in cluster.

For example, when a server fails, the FTP sites on that server have transparent failover to other FTP servers in the cluster. Only FTP sites move.

Cluster-enabling in this mode has the following advantages:

- ♦ Faster recovery after a failure
- ♦ Effective load balancing

#### Prerequisites:

- ☐ Ensure that every node in the cluster has the same configuration and restrictions file
- ☐ Make sure to use the default load/unload scripts

To configure an active/passive mode:

- 1 Edit the `autoexec.ncf` file and uncomment the `ftpstart.ncf` entry in individual nodes/servers of the cluster that will run NetWare FTP Server.
- 2 Bring the resource status to offline and then modify the load/unload scripts.
  - 2a Using ConsoleOne®, select and right-click the Cluster resource object, then click *Properties > Scripts > Cluster Resource Load Script* and *Cluster Resource Unload Script*.
  - 2b Add the following at the end of the existing load script:

```
nwftpd -c shared_vol_name:\etc\ftpserv.cfg
```

The load script specifies the commands to start the resource or service on a server or to mount the volume on a server.

- 2c For every FTP Server instance running, add the following at the beginning of the unload script:

```
nwftpd -u shared_vol_name:\etc\ftpserv.cfg
```

Unload script specifies how the application or resource should terminate.

- 3 Bring the cluster resource online.

FTP Server is now configured to work in the active/active clustering mode.

## 4.3 Upgrading Cluster-Enabled FTP Server

Use the following sections to know more about upgrading cluster-enabled FTP server:

- ♦ [Section 4.3.1, “Active/Passive Cluster Mode,” on page 50](#)
- ♦ [Section 4.3.2, “Active/Active Cluster Mode,” on page 51](#)

### 4.3.1 Active/Passive Cluster Mode

- 1 After the upgrade from NetWare 6 Support Pack 3/NetWare 5.1 Support Pack 6 is complete, execute `unload nwftpd` to stop FTP services running on all the nodes that you are cluster-enabling.
- 2 Edit `autoexec.ncf` and comment out or remove the `nwftpd` entry from every FTP server in each node in the cluster.

This lets FTP Server be started by Novell Cluster Services.

- 3 Bring the resource offline.
- 4 Bring the resource status to offline and then modify the load and unload scripts:
  - 4a Using ConsoleOne®, select and right-click the Cluster resource object, then click *Properties > Scripts > Cluster Resource Load Script* and *Cluster Resource Unload Script*.
  - 4b Add the following at the end of the existing load script:

```
load nwftpd -c shared_vol_name:\etc\ftpserv.cfg
```

```
load ftpstat
```

The load script specifies the commands to start the resource or service on a server or to mount the volume on a server.

- 4c Add the following at the beginning of the unload script:

```
unload ftpstat
```

```
unload nwftpd
```

The unload script specifies how the application or resource should terminate.

## 4.3.2 Active/Active Cluster Mode

Prerequisites:

- ☐ Ensure that every node in the cluster has the same configuration and restrictions file
  - ☐ Make sure to use the default load/unload scripts
- 1 After the upgrade from NetWare 6 Support Pack 3 / NetWare 5.1 Support Pack 6 is complete, execute `unload nwftpd` to stop FTP services running on all the nodes that you are cluster enabling.
  - 2 Edit `autoexec.ncf`, and if it is commented, uncomment the `nwftpd` entry from every FTP server in each node in the cluster.  
This lets FTP Server be started by Novell Cluster Services.
  - 3 Bring the resource offline.



# Migrating FTP from NetWare to OES 2 Linux

# 5

The OES 2 SP1 Migration Tool has a plug-in architecture and is made up of Linux command line utilities with a GUI wrapper. You can migrate CIFS from a NetWare server to an OES 2 SP1 Linux server either using the GUI Migration Tool or from the command line.

To get started with migration, see *OES 2 SP1: Migration Tool Administration Guide*

For more information on migrating NTPv3, see “**Migrating FTP from NetWare to OES 2 Linux**”.



# NetWare FTP Server FAQ

# 6

This section discusses questions that the users and system administrators might have while using NetWare® FTP Server.

- ♦ [Section 6.1, “FTP Server FAQs,” on page 55](#)
- ♦ [Section 6.2, “Using iManager to Configure FTP Server,” on page 59](#)
- ♦ [Section 6.3, “Localization Issues,” on page 61](#)

## 6.1 FTP Server FAQs

### **Where can I get more information on the FTP Server error messages displayed on the system console?**

Action: Refer to [Appendix A, “NetWare FTP Server Messages,” on page 63](#) for information on FTP Server error messages.

### **Why are some file size values displaying as -1?**

Explanation: For files that are greater than 2 GB in size, NetWare FTP server displays the file size value as -1.

For files greater than 4 GB, NetWare FTP Server supports all FTP operations except `size` `display` and `restart`.

### **Why am I unable to login to NetWare FTP Server even though I have entered valid user id and password?**

Explanation: Successful login to NetWare FTP Server requires that a read-write/master server in the eDirectory tree is up.

Action: Make sure that the read-write/master server in the eDirectory tree is up.

### **Why is the anonymous user unable to perform any write operation? How can this be resolved ?**

Explanation: The anonymous home directory could be in a NFS Gateway volume that might not have the write permissions for the Other category in a remote UNIX file system.

Action: Ensure that the directory in the remote UNIX system corresponding to the anonymous home directory of the NFS Gateway volume has write permission for Other category.

### **Why is the log file not created even though I have specified the name of the directory?**

Explanation: The log file is not get created if the filename ends with a backslash ( \ ) or a forward slash ( / )

Action: Make sure that log directory name does not end with a backslash ( \ ) or a forward slash ( / ).

### **Why am I unable to navigate to remote servers?**

Explanation: Remote Server navigation is not accessible through an IP address.

Action: Make sure that you specify the NCP address of the server and not the DNS name.

### **Why am I not able to see directory listing in my FTP client even after connecting to the NetWare FTP server?**

Explanation: The FTP client that you are using might be one that expects UNIX-like file permissions. The NetWare FTP Server by default sends NetWare trustee rights along with the files, so this might be incomprehensible to your FTP client.

Action: Set the PSEUDO\_PERMISSIONS parameter to ON in the configuration file (Default = sys:\etc\ftpserv.cfg). Set the PSEUDO\_FILE\_PERMISSIONS and PSEUDO\_DIR\_PERMISSIONS parameters based on the kind of permissions you want to display for files and directories in the FTP client.

### **After connecting to Netware FTP Server, certain GUI FTP Clients such as Crystal FTP and FTPSurfer are not displaying contents of the directories. Why does this happen and how can it be resolved?**

Possible Cause: Certain clients expect directory listing to be in UNIX-like format.

Action: In the configuration file of the Netware FTP server, set the PSEUDO\_PERMISSIONS parameters to ON in the configuration file (Default = sys:\etc\ftpserv.cfg).

### **Why is an anonymous user not able to log on to the NetWare FTP server even after setting the ANONYMOUS\_USER\_ACCESS to ON in the configuration file?**

Explanation: The anonymous user might have been created manually by using a method other than nwftpd -a.

Action: While creating an anonymous user, make sure that the anonymous user has been assigned a blank password and has been given proper access rights to the anonymous home directory.

Explanation: The anonymous user login expects an e-mail address as input for the password. Most FTP servers check only for the at sign (@) sign in the password, but the NetWare FTP server checks for the at sign (@) followed by at least a single valid character.



**I have an anonymous user account in the DEFAULT\_FTP\_CONTEXT. I am able to access my anonymous account irrespective of the current context that I am in, but why am I not able to do this for other user accounts present in the DEFAULT\_FTP\_CONTEXT?**

Explanation: Although all users are searched in the current session context and then also in the contexts specified in the SEARCH\_LIST, the anonymous user is always searched only in the DEFAULT\_FTP\_CONTEXT irrespective of the current session context. The anonymous user is never searched in the contexts specified in the SEARCH\_LIST because of security reasons.

Action: If you want all your users present in a particular context to be able to log in irrespective of the current session context, then include that context in the SEARCH\_LIST parameter of the configuration file.

**Even after I load the FTP server, why am I not able to connect to it from my client?**

Explanation: There were problems while loading the FTP Server, such as another application was using the same port. These problems are reported in the logger screen of the NetWare Server.

**Why is dynamic configuration of NetWare FTP Server not working?**

Explanation: Dynamic configuration does not take effect immediately if the `ftpserv.cfg` configuration file is modified by using Notepad or any application from a mapped drive.

Action: Wait for the change to take effect.

or

For the changes to take effect immediately, use the iManager UI utility, or edit the file by using `edit.nlm`.

**I am unable to get an entire directory from the server and the message "No Such file or Directory" is displaying. How do I resolve this?**

Possible Cause: You might be trying to get the entire directory without having that directory on your local disk.

Action: Complete the following:

- 1 Create a directory with the same *directory name* on the local disk, then execute `get directory name`.
- 2 To get all files, do a CD to that directory on the server.

**Why am I unable to connect from a MAC IE client to NetWare FTP Server?**

Explanation: The MAC IE client prepends a `/` to home directory. Therefore, the FTP server assumes it to be a remote server navigation and does not respond.

**How do I make use of SITE Commands?**

Explanation: Most FTP clients have implemented the `quote` command to send arbitrary FTP command to the server.

Enter `quote SITE help` to get the list of valid SITE commands and use `quote SITE SITE-cmd`.

If your FTP client has not implemented the `quote` command, find out how to send arbitrary or custom commands from your FTP clients and then send `site site-cmd` to make use of SITE commands.

### **The `cd` multiple dots (`cd ../`) is not changing to a different volume. Why does this happen?**

Possible Cause: You are trying to access across volumes using the `cd. ./` (multiple dots) command.

Explanation: You cannot traverse across volumes using the `cd. ./` command.

For example, if you are in `/sys` (where `sys` is a volume) and you execute `cd. ./Vol`, you are placed in `/` (root) and not in `vol1`. Even if you specify a fictitious volume name, such as `cd. ./fictitious_Vol`, Netware FTP server cannot access beyond the `/` with this command. You are placed in `/` and no error is reported.

Action: To change directories across volumes, use the `cd` command without multiple dots.

### **How do I return to main page from the instance data page?**

Action: To return to the main page, click *Cancel* or click the *FTP Task* link in the left pane.

### **Why is the iManager page displaying the default IP address values even though I have entered another value?**

Possible Cause: You might have entered special characters such as `@ # $ % & * ( ) ? < >` as values for IP address or server passive IP address.

Explanation: FTP behaves inconsistently if special characters are entered in the values for the IP address. The `ftpstat` page displays the value that the you enter, but the FTP iManager plug-in field displays the default values for these two parameters. At times, the FTP page does not come up if special characters are entered.

Action: Click *FTP* in the left task link in iManager to go to the FTP page again.

### **After the modification time set, the file time stamp varies by a second. Is this all right?**

Explanation: Yes, when setting the modification time, the result varies from the value specified by a second.

### **On a remote server, why are the values retrieved or set by the MDTM command not complying to its timezone?**

Explanation: The get and set values on file or directory on the remote server will comply to the local server time values where FTP is running.

### **Why am I unable to set the last modified time (MDTM) of a file or directory?**

Possible Cause: When setting the modified time (mdtm), for a volume, file, or directory, your current working directory might be root (/).

Explanation: When setting mdtm for a volume or a file or a directory, using an absolute path does not work.

Action: Change the directory to a valid volume or directory and try repeating the set MDTM operation from there.

### **At times the FTP client hangs at '150 Opening Data connection...'. Why?**

Possible Cause: Certain FTP clients do not handle the error message sent by the server after a '150 Opening Data connection..' reply.

Action: Stop the FTP data connection and restart the FTP session.

### **Why is it that a user with write access to a directory can set the timestamps for read-only files in a directory?**

Explanation: This is because of regular NetWare access methods.

Action: To prevent this, remove the user's access rights to modify time. The related rights, such as modify and write that are to be removed are prohibitive.

### **What if a user with read-only access tries to get the timestamp of a non-existent file?**

Explanation: If a user with read-only access tries to get the timestamp of a non-existent file, FTP Server returns the Restricted action error instead of Invalid path.

This is because FTP Server now evaluates the mdtm command for both getting and setting timestamps, but it cannot evaluate the possibility of setting the timestamp for read-only users.

### **Why does the FTP binding and loading fail when I set the FORCE\_PASSIVE\_ADDRESS as a DNS name?**

Explanation: Make sure that this value is in the standard IP address format and does not exceed 15 characters. The IP address should be valid and it should not contain any special characters such as @ # \$ % & \* ( ) ? < > ; .

## **6.2 Using iManager to Configure FTP Server**

The following are questions about using iManager to configure FTP Server:

### **While upgrading the iManager snap-ins from iManager configuration, a message displays, indicating "This package has an earlier version than the module that is currently installed. Installation has been cancelled." How can I resolve this?**

Action: To resolve this and install the latest FTP iManager snap-ins, delete the previous module.

To delete the module, go to *iManager menu > Configure > iManager configuration > Modules*.

**How do I resolve the error message “failed to unload the instance” when using multiple instance administration?**

Explanation: You might have unloaded multiple instances consecutively.

Action: Complete the following:

- 1 Click the *Close* button to come back to main page. This is because the unload instance has failed.
- 2 Click the *Refresh* button to see the status of the instance.

**In the iManager page for FTP administration, pressing the Enter key after typing the server name does not display anything.**

Action: The Enter key functionality is not supported in this page. Instead of typing the server name, you can select the server by clicking the *Object Selector* icon. This displays a list of available FTP Server instances.

**Why is that when I access the FTPStat page by using the Monitor active FTP Sessions link in the FTP Server Administration Page and refresh it, the page contents do not refresh and go blank instead?**

Explanation: The FTP Server Administration Page refreshes automatically every 10 seconds. Because manual refresh is not supported, manually refreshing the page leads to a blank page. This behavior does not exist in other pages in ftpstat; pages other than the first page can be manually refreshed.

Action: To view the refreshed page, click the *Monitor active FTP Sessions* link on the FTP Server Administration page.

**When I do a Ctrl N (^n) on configuration page of ftpstat, a new browser window (with the URL window displaying the IP address and port) is launched with same page contents in new window, even though ftpstat is now over a secure connection. Why?**

Explanation: When you execute Ctrl+N on the ftpstat page, the browser launches a new session with same URL in a new window. Ftpstat on the server, however, cannot distinguish it from the previous page, because the browser client does not distinguish between the old page and the newly opened window for the server. This results in the display of the same contents of the page in the new browser window. This is an issue with browser behavior and not with ftpstat.

**Is the FTP iManager plug-in well supported by all browsers?**

Explanation: Yes, it is. However, some of the browsers do not handle the ftpstat session timeout well. At times, the browser prompts the user to open/save file to disk for the cookie.

Also, after 20 minutes, the session timeout message might not be displayed correctly by some of the browsers. There could be broken contents on the page.

Action: These issues do not affect the FTP Server functionality. Ignore the browser prompt to open or save the file to disk for the cookie.

Ignore the broken contents and open a new session by clicking the *Monitor Active Sessions* in iManager again.

## 6.3 Localization Issues

The following are the NetWare FTP Server localization FAQs:

### **When using FTP Server on a Japanese language machine, the user is not placed in the home directory. How can I resolve this?**

Action: To resolve this, replace backslashes (\) with forward slashes (/) as path separators in the user's home directory path. In ConsoleOne®, right-click *User*, then click *Properties* > *General* > *Environment* > *Modify*.

### **Does FTP Server support files and directories created in a DOS name space on a server with double-byte characters?**

Explanation: If you create a file or directory in a DOS name space on a server with double-byte characters, the file or directory is created on that server with the name specified. However, the message to the FTP client might contain a different file or directory name. This happens in particular with the 0x8374 character in Shift\_JIS, 30D5 in Unicode\*, which is converted to 0x8354 in Shift\_JIS, 30B5.



# NetWare FTP Server Messages

# A

This section explains NetWare® FTP Server messages along with possible causes and suggested actions to resolve the problems.

- ♦ [Section A.1, “NWFTPD Messages,” on page 63](#)
- ♦ [Section A.2, “Anonymous User Creation,” on page 65](#)
- ♦ [Section A.3, “FTPSTAT Messages,” on page 66](#)
- ♦ [Section A.4, “FTPUPGRD Messages,” on page 67](#)

## A.1 NWFTPD Messages

### Failed to bind to FTP port

Source: `nwftpd.nlm`

Explanation: The port that the NetWare FTP Server is trying to bind is busy.

Possible Cause: Another instance of the NetWare FTP Server or another application is bound to the port.

Action: Unload the application that is bound to the port, or bind the NetWare FTP Server to a different port.

### Failed to initialize Anonymous user

Source: `nwftpd.nlm`

Explanation: The NetWare FTP Server failed to create an anonymous user.

Possible Cause: Incorrect data was entered to create the user.

Action: Use the following syntax:

```
nwftpd -a [-c [volname:[/dirname/...]]myconfig.cfg]
```

### Failed to add Anonymous User object to NDS

Source: `nwftpd.nlm`

Possible Cause: The administrator user entered has insufficient rights.

Action: When prompted for the name of the administrator, enter a user with sufficient rights.

### Failed to generate an ObjectKeyPair for the Anonymous User

Source: `nwftpd.nlm`

Possible Cause: The anonymous user entered has insufficient rights.

Action: Ensure that the anonymous user has sufficient rights.

### **Failed to open configuration file**

Source: `nwftpd.nlm`

Possible Cause: The configuration file is not available at the specified location.

Action: Ensure that the configuration file is available at the specified location.

### **Unable to find default configuration file**

Source: `nwftpd.nlm`

Possible Cause: The configuration file is not available at the default location (`sys:/etc`).

Action: Ensure that the configuration file is available at the default location.

### **Unable to locate Anonymous user in default context**

Source: `nwftpd.nlm`

Possible Cause: `sys:etc\hosts` has an incorrect or missing entry for its own server address and name, or the anonymous user does not exist at the NetWare FTP Server's context.

Action: Ensure that `sys:etc\hosts` contains an entry for its own server, in the format:

```
ip_address servername
```

Run `nwftpd -a` to create the anonymous user, then reload `nwftpd`.

### **USAGE : nwftpd [-a] [-c <Config File>] [-d]**

Source: `nwftpd.nlm`

Possible Cause: The user might have tried to load `nwftpd.nlm` incorrectly.

Action: To load FTP Server with the default configuration file, enter the following command:

```
nwftpd
```

To create an anonymous user, use the following command:

```
nwftpd -a
```

To load FTP Server with a specific configuration filename, enter the following command syntax::

```
nwftpd -c [volname:[/dirname/...]]myconfig.cfg
```

To disable dynamic configuration updates, enter the following command:

```
nwftpd -d
```

### **Aborting load. Configuration file not found.**

Possible Cause: The configuration file was not found in the location specified.

Action: Ensure that the configuration file exists in the location specified.



**UNLOAD\_THIS\_INSTANCE parameter set in the configuration file. Unloaded the corresponding instance.**

Possible Cause: The UI administration utility might have opted to stop this instance.

**Failed to get Server Context.**

Action: Verify the server context. If it is a bindery context, then give a valid context, or set the DEFAULT\_FTP\_CONTEXT parameter of the configuration file.

**Failed to create ContextHandle for FTPServer retcode=*n***

Possible Cause: DS failure.

## **A.2 Anonymous User Creation**

**Login failed for user**

Possible Cause: The password might be invalid or the user does not exist.

Action: Give the Admin User ID (or User ID with security equivalent to admin) and password.

**Failed to map Name to ID. Trying to contact Master server. This could take several minutes.**

Possible Cause: The server might be a read-only/non-replica server and the master server is down or the anonymous user object just created would not have been synchronized in the master server.

Action: Try again later.

**Failed to allocate and initialize NDS buffers.**

Possible Cause: Inadequate system memory.

Action: Free some system memory.

**Failed to add Anonymous user object to NDS.**

Possible Cause: The username should have security equivalent to admin to create an anonymous user object.

Action: Create an admin user (or user with security equivalent to admin) and password.

**Failed to generate an ObjectKeyPair for the Anonymous object.**

Possible Cause: The username should have security equivalent to admin to create an anonymous user object.

Action: Create an admin user (or user with security equivalent to admin) and password.

### **Failed to open a connection with the local server**

Possible Cause: The NCP connection table might be full.

Action: Do the following:

- 1 Load `monitor.nlm`.
- 2 Clear the connections that are not required.

### **Failed to create Anonymous home directory**

Possible Cause: Any of the following:

- ♦ The username might not be security equivalent to admin to create an anonymous user object
- ♦ The volume does not exist
- ♦ There is a directory I/O error
- ♦ There is a hardware failure

### **Failed to add rights to Anonymous user**

Possible Cause: Any of the following:

- ♦ The username might not be security equivalent to admin to create an anonymous user object
- ♦ The volume does not exist
- ♦ There is a directory I/O error
- ♦ There is a hardware failure

### **Failed to initialize Anonymous user access**

Possible Cause: Any of the following:

- ♦ The user should be security equivalent to an admin user
- ♦ The memory is insufficient
- ♦ The local server might be a read-only/no-replica server and the master server is down or not reachable
- ♦ The connection table might be full

## **A.3 FTPSTAT Messages**

### **USAGE: ftpstat [-p <port number>]**

Possible Cause: The user might have tried to load `ftpstat.nlm` incorrectly.

Action: To load `ftpstat` with the default port number (2500), enter the following command:

```
ftpstat
```

To load `ftpstat` on a different port number, use the following command syntax:

```
ftpstat -p port number
```

#### Unable to bind to port

Possible Cause: The port that the `ftpstat.nlm` is trying to bind is busy. Another instance of the `ftpstat.nlm` or another application might be bound to the port.

Action: Unload the application that is bound to the port, or bind the `ftpstat` to a different port.

#### Invalid port number, binding to default port, valid range is 1 to 65534

Action: Give a valid port number.

## A.4 FTPUPGRD Messages

#### Could not create the .cfg file.

Source: `FtpUpgrd.nlm`

Possible Cause:

The configuration file does not exist for the NetWare FTP Server upgrade, or the existing configuration file has read-only access.

Action: Modify the file access if it is read-only, or specify the correct configuration file name with the following command:

```
ftpupgrd [-c [volname:[/dirname/...]]myconfig.cfg]
```

#### Could not create the NetWare FTP Server Restriction file.

Source: `FtpUpgrd.nlm`

Possible Cause: The restriction file does not exist for NetWare FTP Server upgrade, or the existing restriction file has read-only access.

Action: Modify the file access if it is read-only, or specify the correct restriction filename.

#### Failed to upgrade

Source: `FtpUpgrd.nlm`

Possible Cause: Any of the following:

- ♦ The configuration file does not exist for the NetWare FTP Server upgrade
- ♦ The existing configuration file has read-only access
- ♦ The restriction file does not exist for the NetWare FTP Server upgrade
- ♦ The existing Restriction file has read-only access

Action: Modify the file access if it's read-only, or specify the correct configuration file name with the following command:

```
ftpupgrd [-c [volname:[/dirname/...]]myconfig.cfg]
```

**Correct Usage: ftpupgrd [-c <Config File>]**

Source: FtpUpgrd.nlm

Possible Cause: The user might have tried to load FtpUpgrd.nlm incorrectly.

Action: Use the following command syntax:

```
ftpupgrd [-c [volname:[/dirname/...]]myconfig.cfg]
```

# Documentation Updates

# B

- ♦ Section B.1, “December 2008,” on page 69
- ♦ Section B.2, “June 20, 2007,” on page 69

## B.1 December 2008

- ♦ Migration chapter revised and moved out to *OES 2 SP1: Migration Tool Administration Guide*.
- ♦ Updated to the latest file template.
- ♦ Edited the guide for changes in some sections.

## B.2 June 20, 2007

- ♦ Added new chapter **Chapter 5**, “Migrating FTP from NetWare to OES 2 Linux,” on page 53.