

# Novell NetWare 6.5

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NETWARE FTP SERVER ADMINISTRATION  
GUIDE



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NetWare FTP Server Administration Guide for NetWare 6.5

February 28, 2005

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# About This Guide

This guide describes how to configure, and use NetWare FTP Server. The guide is intended for end users and network administrators and 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,” on page 23
- ◆ Chapter 4, “Cluster Enabling NetWare FTP Server,” on page 39
- ◆ Chapter 5, “NetWare FTP Server FAQs,” on page 43
- ◆ Appendix A, “NetWare FTP Server Messages,” on page 47

## Documentation Updates

The latest version of this *NetWare 6.5 FTP Server Administration Guide* is available at the [Novell documentation Web site \(http://www.novell.com/documentation/lg/nw65\)](http://www.novell.com/documentation/lg/nw65).

## 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 UNIX\*, should use forward slashes as required by your software.

## User Comments

We want to hear your comments and suggestions about this manual and the other documentation included with NetWare 6.5. To contact us, use the User Comments feature at the bottom of any page in the online documentation.





# 1

## Overview

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™ tree.

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

This chapter discusses the following topics:

- ♦ [What's New \(page 9\)](#)
- ♦ [Features of the NetWare FTP Server \(page 10\)](#)

## What's New

- ♦ 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 27](#).

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

The following configurable parameters, have been included in the configuration file `etc\ftpserv.cfg`.

- ♦ `DATA_BUFF_SIZE` parameter enhances the data transfer performance.
- ♦ `DEFAULT_FTP_CONTEXT` parameter specifies the default context in which the users will be searched.
- ♦ `KEEPALIVE_TIME` parameter specifies the timeout time (in minutes) to close the connection which might be broken on one side.
- ♦ `PSEUDO_PERMISSIONS` parameter that includes `PSEUDO_FILE_PERMISSIONS` and `PSEUDO_DIR_PERMISSIONS` specify whether the FTP server should send UNIX-type permissions or trustee rights for display in the FTP client.
- ♦ `SECURE_CONNECTIONS_ONLY` parameter lets you specify only secure FTP connections.
- ♦ You can now administer FTP Server using the Web-based administration utility provided by iManager.

Using iManager you can now run multiple instances of FTP on a server when separate IP addresses or ports are available.

For details, refer to [“Configuring Using iManager” on page 19](#).

- ◆ 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 23](#).

- ◆ 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 is enabled and New configuration related 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 23](#).

- ◆ 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 is moved to secure connection.
- ◆ Viewing FTP statistics over plain http port 2500 is no longer available. Instead it can be accessed via the monitor active sessions link in FTP administration through iManager.

## 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 27](#).

- ◆ 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 31](#).

- ◆ FTP access restrictions

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

See [“Specifying Access Restrictions” on page 32](#).

- ◆ 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 31](#).

- ◆ 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 28](#) and [Table 2, “Login Configuration Parameters,” on page 16](#).

- ◆ 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 23](#).
- ◆ Special Site commands

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

See [“Site Commands” on page 29](#).
- ◆ 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 1, “General Configuration Parameters,” on page 13](#).
- ◆ Active Sessions display

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 can be viewed.

See [“Viewing Active Sessions” on page 36](#).
- ◆ 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 29](#).
- ◆ 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 35](#)
- ◆ Welcome banner and message file support

NetWare FTP Server software displays a welcome banner when an FTP client establishes a connection as well as a message file when a user changes the directory in which the file exists.

See [Table 1, “General Configuration Parameters,” on page 13](#).
- ◆ MP Enabled

The NetWare FTP Server is MP enabled.
- ◆ Web-based Administration

You can configure the NetWare FTP Server using the iManager management utility.

See [“Configuring Using iManager” on page 19](#).

- ◆ 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 39

# 2

## Configuring NetWare FTP Server

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

You can set the configuration parameters using any one of the following:

- ◆ [Configuring Using Files \(page 13\)](#).
- ◆ [Configuring Using iManager \(page 19\)](#).

### Configuring Using Files

The default configuration file is `sys:/etc/ftpserv.cfg`. After installing, 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 the default value of the parameter if 0 is an invalid value.

The following tables describe the parameters in the configuration file along with the default values and range.

- ◆ [General Configuration Parameters \(page 13\)](#)
- ◆ [Login Configuration Parameters \(page 16\)](#)
- ◆ [Security Configuration Parameters \(page 18\)](#)
- ◆ [Log Configuration Parameters \(page 18\)](#)

**Table 1** General Configuration Parameters

Parameter	Default Value	Description
HOST_IP_ADDR	IP address of the host	The IP address of the host that the NetWare FTP Server software is being loaded on.  Range = 0.0.0.0 to 255.255.255.254
FTP_PORT	21 (Standard FTP port)	The port number that the NetWare FTP Server should bind to and listen for connection requests from.  Range = 0 to 65535  If the port number value is not within the specified range, then the FTP Server takes the default value.

Parameter	Default Value	Description
MAX_FTP_SESSIONS	30	<p>Maximum number of FTP sessions that can be active 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, then the FTP Server takes the default value.</p>
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 as negative.</p>
SECURE_CONNECTIONS_ONLY	No	<p>Enables only secure FTP connections.</p> <p>Specify Yes to enable only secure FTP 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> <p><b>DATA_BUFF_SIZE = 64</b></p> <p>Range = 4 to 1020 KB</p> <p>If the value is less than 4, then the FTP Server takes the value as 4 KB.</p> <p>If the value is greater than 1020, then 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
KEEPALIVE_TIME	10	<p>Specifies the timeout time (in minutes) to close the connection which might be broken on one side.</p> <p>Range = 5 to 120</p> <p>If the value is less than 0, then the FTP Server takes the value as 0.</p> <p>A value less than or equal to 0 minutes is taken as 0, which 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.</p> <p>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>
MESSAGE_FILE	message.txt	<p>The content of this file displays, when the user changes the directory. For this, the 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, then the FTP Server takes the default value.</p> <p>If this value is greater than the value specified for the maximum port number, then the FTP Server takes the default values of both parameters.</p>
PASSIVE_PORT_MAX	65534	<p>Maximum port number used for establishing passive data connection.</p> <p>Range = 1 to 65534</p> <p>If this value not within the range, then the FTP Server takes the default value.</p>

Parameter	Default Value	Description
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 will be UNIX Type: L8. By default, it is NETWARE Type: L8.</p> <p>The next bit to the LSB denotes the format that the permissions should be sent to the FTP client during a directory listing.</p> <p>If it is set to 1, then 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 in any way.</p> <p>This parameter is considered only when the PSEUDO_PERMISSIONS parameter is set to ON, otherwise this is ignored. The value must be a three digit octal value.</p> <p>Maximum value = 777</p>
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 this is ignored. The value must be a three digit octal value.</p> <p>Maximum value = 777</p>
DISABLE_PATH_DIR_LISTING	No	<p>Enables or disables prefixing of the command argument path to the results while directory listing.</p> <p>Valid Values: Yes, No</p>

**Table 2 Login Configuration Parameters**

Parameter	Default Value	Description
DEFAULT_USER_HOME_SERVER	Server where FTP is running	<p>The name of the server that 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>



Parameter	Default Value	Description
IGNORE_REMOTE_HOME	No	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.  Valid values = Yes, No
IGNORE_HOME_DIR	No	Specifies whether to ignore the home directory set in the eDirectory user object and go to the default directory.  Valid values = Yes, No
DEFAULT_FTP_CONTEXT		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.
SEARCH_LIST		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.  Each context specified by a fully distinguished name must begin with a leading dot (.).  You can specify a maximum of 30 containers.
RESTRICT_FILE	sys:\etc\ftprest.txt	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.  The path with the filename can contain up to 512 bytes.
ANONYMOUS_ACCESS	No	Specifies whether anonymous user access is allowed.  Valid values = Yes, No
ANONYMOUS_HOME	sys:\public	The home directory of the anonymous user.  The path format is  <b>volumename: [ /directory_name/... ]</b>  This path can contain up to 512 bytes.  If colon (:) does not exist in the anonymous home directory, then the FTP Server takes default (sys:/public) to be the anonymous user home directory.
ANONYMOUS_PASSWORD_REQU IRED	Yes	Specifies whether to ask for an E-mail ID as the password for anonymous user to log in.  Valid values = Yes, No

**Table 3 Security Configuration Parameters**

Parameter	Default Value	Description
INTRUDER_HOST_ATTEMPTS	20	The number of unsuccessful log in attempts for intruder host detection.  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 for intruder user detection.  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 4 Log Configuration Parameters**

Parameter	Default Value	Description
FTP_LOG_DIR	sys:\etc	The directory where log files are stored.  This path could contain up to 512 bytes.  Do not give a filename that ends with a back slash ( \ ) or a forward slash ( / ). Otherwise the log file does not get 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 ftpd.log file is created automatically. This file contains all the internal system related information that NetWare FTP Server encounters.  The path with the filename could contain up to 512 bytes.
AUDIT_LOG	FTPAUDIT	The ftpaudit.log file is created automatically. This file contains details of user login activities.  The path with the filename could contain up to 512 bytes.

Parameter	Default Value	Description
INTRUDER_LOG	FTPINTR	The ftpintr.log file is created automatically. This file contains details of unsuccessful login attempts.  The path with the filename could contain up to 512 bytes.
STAT_LOG	FTPSTAT	The ftpstst.log file is created automatically. This file contains details of all active sessions.  The path with the filename could contain up to 512 bytes.

## Configuring 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.

## Installing FTP in iManager

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

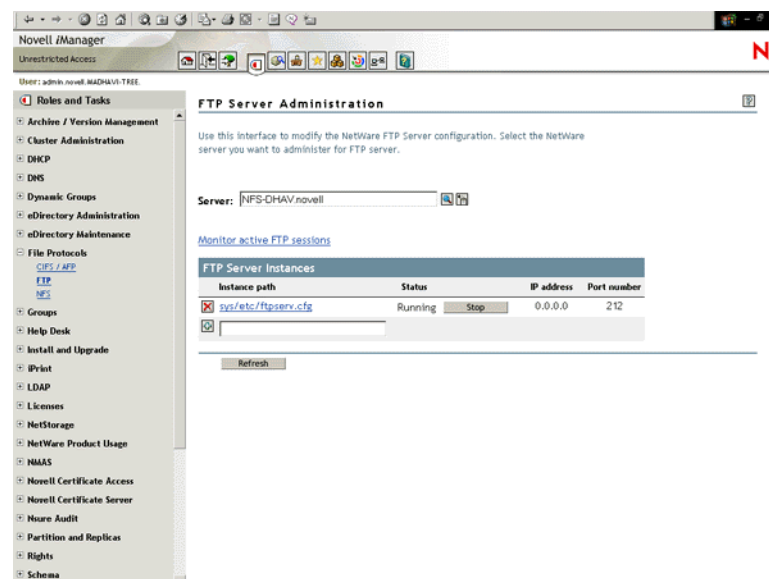
- Apache Web Server is selected during NetWare 6.5 install.
- iManager 2.0 is selected during the NetWare 6.5 install.

For more information about installing iManager 2.0, refer to the *Novell iManager 2.0 Administration Guide*.

## Configuring FTP Server Settings

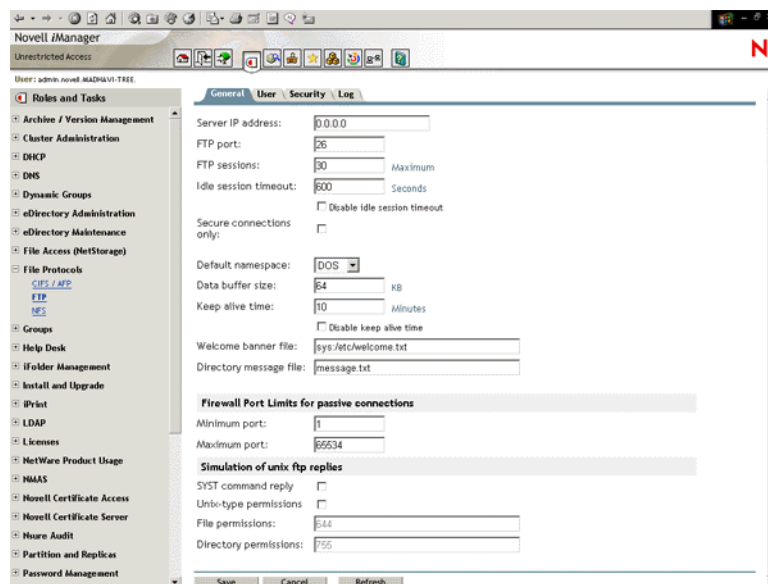
- 1 In the iManager window, click File Protocols > FTP to launch the FTP Server Administration page.

Figure 1 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** Select the instance you want to configure the parameters for.  
You can view the General, User, Security and Log tabs where you can configure the parameters.
- 6** Click the General tab to modify the FTP General parameters.

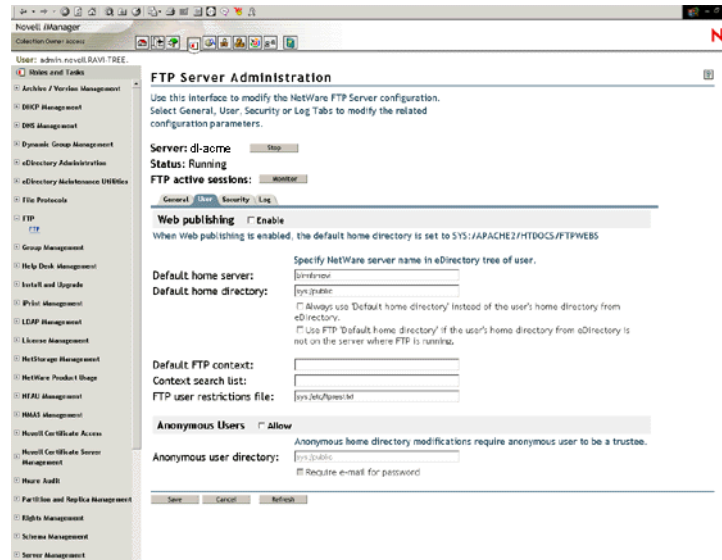
**Figure 2 General Page**



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** Click the User tab to modify the FTP User settings.

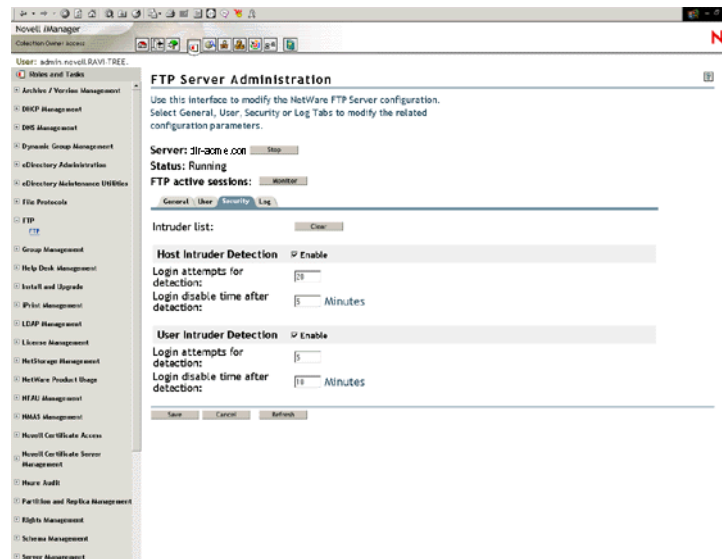
**Figure 3 User Page**



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

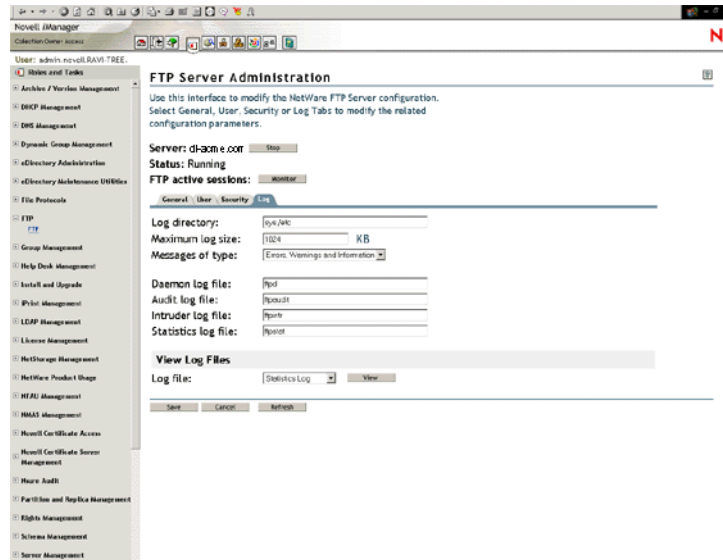
- 8 Click the Security tab to modify Intruder Detection parameters such as Host and User Intruder Detection Settings.

**Figure 4 Security Page**



- 9 Click the Log tab to view FTP log files on the server

Figure 5 Log Settings Page



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.

# 3

## Managing and Administering

This chapter discusses the following topics:

- ♦ [Starting NetWare FTP Server \(page 23\)](#)
- ♦ [Using the NetWare FTP Server from an FTP Client \(page 25\)](#)
- ♦ [Administering \(page 30\)](#)

### Starting NetWare FTP Server

Load the NetWare<sup>®</sup> FTP Server software from the NetWare server using the following command:

```
nwftpd
```

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`:

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

### Dynamic Configuration Updates

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

#### Disabling Dynamic Configuration Updates

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

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

### Creating an Anonymous User

NetWare FTP Server software supports 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 will not be placed in sys:\public.

For more details, see [Table 2, “Login Configuration Parameters,” on page 16](#).

To create an anonymous user, use the following format:

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

### Using -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 taken. 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 using 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 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 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.



# Using the NetWare FTP Server from an FTP Client

This section discusses the following:

- ◆ [Starting an FTP Session \(page 25\)](#)
- ◆ [Security Extensions \(page 27\)](#)
- ◆ [Paths Formats \(page 28\)](#)
- ◆ [Accessing a Remote Server \(page 28\)](#)
- ◆ [Site Commands \(page 29\)](#)
- ◆ [Name Space and Filenames \(page 30\)](#)

## Starting an FTP Session

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

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

Parameter	Description
<i>hostname</i>   <i>IP Address</i>	Name of the server in the DNS or IP address of the NetWare server running the FTP service.
<i>Port number</i>	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 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 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 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 Default\_Home\_Server\Default\_User\_Home directory. If this fails (either because the home server is down or the home directory is not present in 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 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 in 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. So, navigation between IBM servers and eDirectory servers is not possible.

## Security Extensions

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

SSL and TLS are similar to the encryption system used by https web pages. It provides 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

For 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 [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 it from [BSDFTPD-SSL Web site \(http://bsdftpd-ssl.sc.ru\)](http://bsdftpd-ssl.sc.ru).

- ◆ **Secure FTP 2**

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

## Accessing a Remote Server

The remote server can be another NetWare server or an IBM server, provided they are in the same tree.

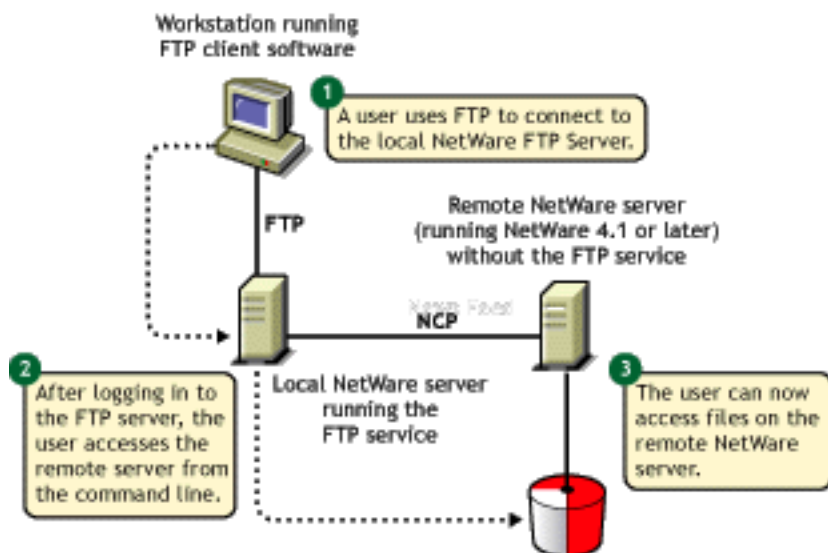
The double slash (//) indicates that the user wants to access a remote server. After the double slash, the first entry must be the name of the remote server.

## Navigating to eDirectory Servers

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

Figure 6 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
```

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.

## Paths Formats

Task	Command Format
Specifying the volume and directory path name	<i>//server_name/volume_name/directory_path</i>
Navigating to different volumes	<i>cd /volume_name</i>

Task	Command Format
Switching back to the home directory	cd ~
Switching to home directory of any user	cd ~ <i>user_name</i>
Switching to the root of the server	cd /

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

## Site Commands

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

The SITE command has the following syntax:

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

**NOTE:** The settings done through Site Comments 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:

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

## 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 using the SITE DOS command or the SITE LONG command.

**NOTE:** The name space changed 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. In case the mapping of objects and the owner's name is not found, the object ID is displayed.
- ◆ *Size*: The size, in bytes, of the file or directory. In case of 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.

## Administering

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

- ◆ [Supporting Extended Characters in a User Password \(page 30\)](#)
- ◆ [Initializing Multiple Instances \(page 31\)](#)
- ◆ [Unloading Specific Instances \(page 31\)](#)
- ◆ [Managing Intruder Detection \(page 31\)](#)
- ◆ [Specifying Access Restrictions \(page 32\)](#)
- ◆ [Monitoring FTP Log Files \(page 35\)](#)
- ◆ [Viewing Active Sessions \(page 36\)](#)

### Supporting Extended Characters in a User Password

Users will be unable to log in if a password containing extended characters is set from a Windows workstation, for example, 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.

## 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.

For more details, see [Table 1, “General Configuration Parameters,” on page 13](#).

## Unloading Specific Instances

You can unload specific instances of NetWare FTP Server corresponding to the specified configuration file, using the following syntax:

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

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

**NOTE:** You cannot unload specific instance of NetWare FTP Server using the iManager user interface.

## Managing Intruder Detection

You can enable either host or user intruder detection at a 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 less than maximum attempts allowed, and they are not detected as intruder, they are removed from the corresponding list after refresh time of 72 hours.

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

### 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 same user. When the accumulated attempts for the same user from different hosts exceeds the maximum 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.
- ◆ User cannot log in from a different host until the reset time is over.

## 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 restrictions file, RESTRICT\_FILE, that 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.

### Restriction Levels

The following table describes the supported levels of access restrictions.

Restriction Level	Description
Container	<p>Restriction can be specified for any eDirectory container. This controls all the users in that container and its sub-OUs.</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>If the container names have aliases, then to apply the restrictions to them, 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>If the user names have aliases, then to apply the restrictions to them, add the alias of the user names in the restrictions file.</p>



Restriction Level	Description
Domain	<p>Restriction can be specified at the domain level. This controls all the hosts in that domain and its sub domains. The following is the RESTRICT file format:</p> <p>DOMAIN= <i>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.</p> <p>The range is specified by two IP addresses separated by a space. The range = 0.0.0.0 to 255.255.255.254.</p> <p>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>ADDRESS= <i>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 proper for address and domain name restrictions.</p>

## Access Rights

The following table describes the permitted access rights.

Access Right	Description
DENY	Denies access to the NetWare FTP Server for that client.
READONLY	Gives read-only access to the client.
NOREMOTE	<p>During login, the NetWare FTP Server determines the user's home server / home directory. The user is unable to navigate outside the home server.</p> <p><b>NOTE:</b> The home server can be different from the server where NetWare FTP Server is running.</p>

Access Right	Description
GUEST	During login, the NetWare FTP Server determines the user's home server / 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.

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=	Is mandatory for each line. It should be followed by access rights.

## Restrict File

The format and organization of the restrict 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 RESTRICT file. If different rights apply to the same entity, the latest entities that appear in the RESTRICT file are taken.
- ◆ All rights specified in the same line are applied to that entity.
- ◆ If the RESTRICT 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 later would be taken.

### Example 3

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

The user1 logging from clientmachine1 will have read-only and no remote access.

For more details, see [Table 2, “Login Configuration Parameters,” on page 16](#)

## 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.

### Specifying Log Levels

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

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

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

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

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/out.
- ◆ FAILURE: Contains information about the number of failures during data transfer.

## Intruder Log File

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

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

The general System log file format is

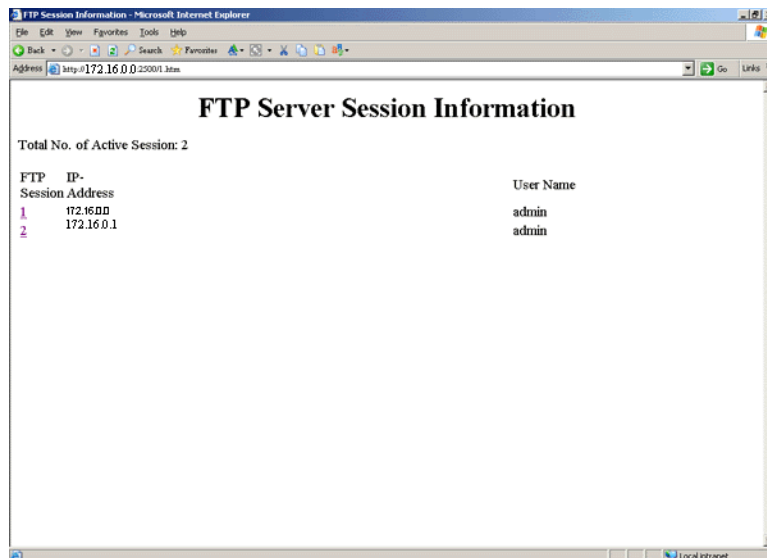
```
Error: Thread ID: Date Time: Message
```

For more details, see [Table 4, “Log Configuration Parameters,”](#) on page 18.

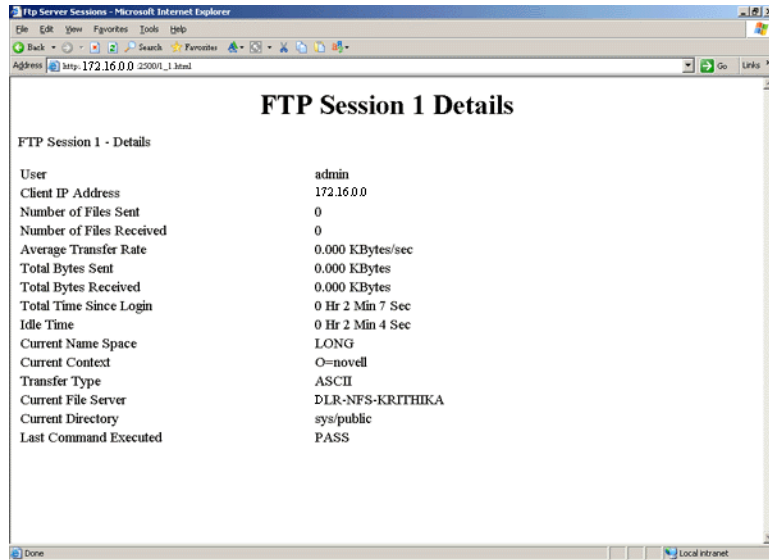
## Viewing Active Sessions

To load the Active Sessions display utility, click on the monitor active sessions link in iManager.

**Figure 7 Active Session Display**



**Figure 8 Session-based Details**



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

These statistics related pages time out after every 20 minutes, the user needs to reload it by clicking monitor active session link again.



# 4

## Cluster Enabling NetWare FTP Server

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.

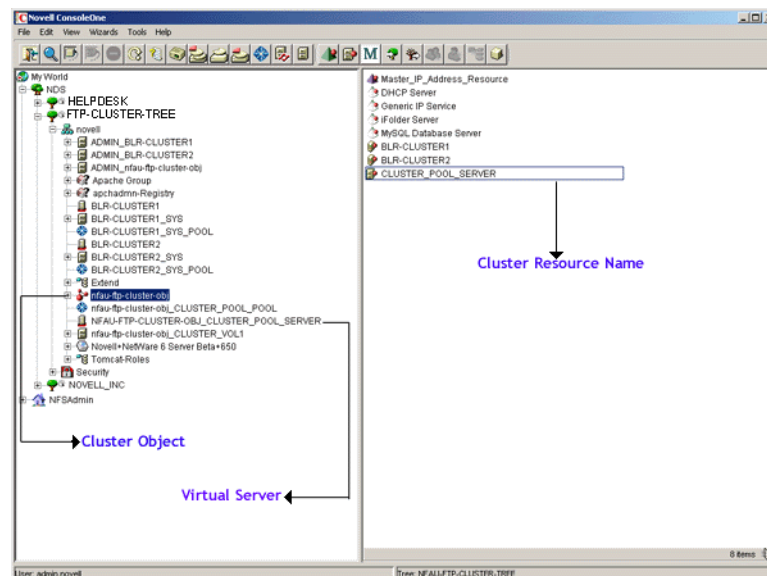
Using iManager, you can select any server in the eDirectory tree using the Object Selector and administer the FTP Server on that Server.

### 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](#)" in the *Novell Cluster Services 1.7 Administration Guide*.

Figure 9 Cluster Objects



# Cluster Enabling for the First Time

## 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™ 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.
- ◆ User home directory can be saved in the shared volume path.
- ◆ FTP Server status can be monitored 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.

## Configuring in Active/Passive Mode

- 1** Stop FTP Services by executing `unload nwftpd` on every node in the cluster.
- 2** Edit `autoexec.ncf` and comment/remove `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 `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.

Using ConsoleOne®, select and right-click the Cluster resource object, and then click Properties > Scripts > Cluster Resource Load Script and Cluster Resource Unload Script.

- 5a** 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.



**5b** 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.

## 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

### Configuring in Active/Active 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.

Using ConsoleOne, select and right-click the Cluster resource object, and then click Properties > Scripts > Cluster Resource Load Script and Cluster Resource Unload Script.

**2a** 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.

**2b** 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.

# Upgrading Cluster-Enabled FTP Server

## 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** Complete [Step 5 on page 40](#) to upgrade the cluster setup.

## Active / Active Cluster Mode

- 1** Meet the prerequisites listed in [“Prerequisites” on page 41](#).
- 2** 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.
- 3** Edit `autoexec.ncf`, and if commented, uncomment `nwftpd` entry from every FTP server in each node in the cluster.  
  
This lets FTP Server be started by Novell Cluster Services.
- 4** Bring the resource offline.

# 5

## NetWare FTP Server FAQs

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

### NetWare FTP Server FAQs

The following are the NetWare 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 47](#) for information on FTP Server error messages.

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

Explanation: For the files that are greater than 2 GB in size, NetWare FTP server displays 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 which may not have the write permissions for Other category in 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 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 which expects UNIX-like file permissions. The NetWare FTP Server by default sends NetWare trustee rights along with the files and therefore this may 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 respectively in the FTP client.

## **After connecting to Netware FTP Server, certain GUI FTP Clients such as Crystal FTP, 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 to ON.

## **Why is 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 be created manually using a method other than nwftpd -a.

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

**Explanation:** The anonymous user login expects an e-mail address as input for the password. While most FTP servers check only for the at sign (@) sign in the password, 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. Though I am able to access my anonymous account irrespective of the current context that I am in, why am I not able to do the same for other user accounts present in the DEFAULT\_FTP\_CONTEXT?**

**Explanation:** While 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 due to 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 must have been some problems while loading the FTP Server. (For example, 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 effect immediately if the configuration file, ftpserv.cfg is modified using notepad or any application from 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 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 of same *directory name* on the local disk, and 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 would 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, then 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 feature.

Explanation: You cannot traverse across volumes using the `cd` multiple dots feature.

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 `/` even in this case and no error is reported.

Action: To change directories across volumes use `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 the ftp task link in the left-pane.

## **Configuring FTP Server Using iManager**

The following are configuring FTP Server Using iManager FAQs:

### **While upgrading the iManager snap-ins from iManager configuration, the message "This package has an earlier version than the module that is currently installed. Installation has been cancelled." displays. 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 unload instance has failed.
- 2 Click the Refresh button to know the status of the instance.

## In the FTP Administration through iManager page, hitting the Enter key after typing the server name does not display anything.

Action: The Enter key functionality is not supported in this page. The user instead of typing in the server name, can select the server by clicking on the Object Selector icon. This displays a list of available ftp server instances.

## Why is that when I access the FTPStat page using the Monitor active FTP Sessions link in the FTP Server Administration Page and refresh it, the page contents do not refresh and turn 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 in the FTP Server Administration Page.

## When I do a Ctrl N (^n) on configuration page of ftpstat, a new browser window (with url window contents displaying IP address and port) is launched with same page contents in new window though ftpstat is now over secure connection, why is it so?

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

## 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.

# A

## NetWare FTP Server Messages

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

### 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 specified location.

Action: Verify if the configuration file is available at the specified location.

### Unable to find default configuration file

Source: nwftpd.nlm

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

Action: Verify if 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 it's own server address and name, or the anonymous user does not exist at the NetWare FTP Server's context.

Action: Verify that sys:etc\hosts contains an entry for it's own server, in the format:

**ip\_address servername**

Run **nwftpd -a** to create anonymous user and reload nwftpd.

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

Source: nwftpd.nlm

Possible Cause: The user might have tried to load nwftpd.nlm with wrong usage.

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

**nwftpd**

To create anonymous user, use the following command:

**nwftpd -a**

To load FTP Server with for 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: Verify 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

Action:

## 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 got synced in the master server.

Action: Try after sometime.

**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: Username should have security equivalent to admin to create anonymous user object.

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

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

Possible Cause: Username should have security equivalent to admin to create anonymous user object.

Action: Create using 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 connection that are not required.

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

Possible Cause: Username might not have security equivalent to admin to create anonymous user object.

or

Volume does not exist.

or

Directory I/O error.

or

Hardware failure.

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

Possible Cause: Username might not have security equivalent to admin to create anonymous user object.

or

Server might be out of memory.

or

Volume does not exist.

or

Directory I/O error.

or

Hardware failure.

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

Possible Cause: User entered should be security equivalent to admin user.

or

Insufficient memory.

Or

Local server might be a read only/ no replica server and the master server is down or not reachable.

or

Connection table might be full.

# FTPSTAT Messages

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

Possible Cause: The user might have tried to load ftpstat.nlm with wrong usage.

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

```
ftpstat
```

To load ftpstat on a different port number, use the following comand 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.

# FTPUPGRD Messages

## Could not create the .cfg file.

Source: FtpUpgrd.nlm

Possible Cause: Configuration file does not exist for 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 proper 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: Restriction file does not exist for NetWare FTP Server upgrade, or existing Restriction file has read-only access.

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

## Failed to upgrade.

Source: FtpUpgrd.nlm

Possible Cause: Configuration file does not exist for NetWare FTP Server upgrade, or existing configuration file has read-only access, or 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's read-only or specify proper configuration file name with the following command. Modify the file access if it is read-only or specify proper restriction filename.

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

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

Source: FtpUpgrd.nlm

Possible Cause: User might have tried to load FTPUPGRD.NLM with wrong usage.

Action: Use the specified usage:

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