Novell NetWare 6.5

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NETWARE FTP SERVER ADMINISTRATION GUIDE

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Novell, Inc.
1800 South Novell Place
Provo, UT 84606
U.S.A.

www.novell.com

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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 5
- Chapter 2, “Configuring NetWare FTP Server,” on page 9
- Chapter 3, “Managing and Administering,” on page 21
- Chapter 4, “Configuring with Cluster Services,” on page 35
- Chapter 5, “NetWare FTP Server FAQs,” on page 41
- Appendix A, “NetWare FTP Server Messages,” on page 45

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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1 Overview

NetWare® FTP Server software provides FTP service for 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
- Features of the NetWare FTP Server

What's New

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

  For details, see "Security Extensions" on page 24.
- By default, the changes made to the FTP Server configuration file now take effect dynamically. If required, you can disable the dynamic configuration.

  For more details, see "Dynamic Configuration Updates" on page 21.
- 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.
- You can now administer FTP Server using the web based administration utility provided by NPS Gadgets.

  For details, refer to "Configuring Using NPS Gadgets" on page 17.

- 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.

- NetWare FTP Server is highly scalable. It has been tested with 300 clients simultaneously for basic file transfer operations.
- Creating several anonymous user accounts with separate rights and contexts is now supported.
- NetWare FTP Server can now be used by UNIX clients.

Features of the NetWare FTP Server

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

- 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 of the NetWare FTP Server" on page 28.

- FTP access restrictions

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

  See "Specifying Access Restrictions" on page 29.

- 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 29.

- Remote server access

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

  See "Accessing a Remote Server" on page 25 and Table 6, "Login Parameters," on page 12.

- Anonymous user access

  An Anonymous user account can be set up to provide users with basic access to public files.

  See "Creating Anonymous User Access" on page 32.

- Special Quote 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 26.

- 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 8, "Firewall Support Parameters," on page 14.

- 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 34.

- 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 Quote Site commands.

  See "Site Commands" on page 26.

- 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 "FTP Log Files" on page 32

- 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 9, "Welcome Banner and Message Files Parameters," on page 14.

- MP Enabled

  The NetWare FTP Server is MP enabled.

- Web-based Administration

  You can configure the NetWare FTP Server using the NPS Gadgets management utility.

  See "Configuring Using NPS Gadgets" on page 17.

2 Configuring NetWare FTP Server

Before starting the NetWare® FTP Server software, you need to configure it by setting the configuration parameters in the configuration file.

This chapter discusses the following sections:

- “Configuring Using Files” on page 9.
- “Configuring Using NPS Gadgets” on page 17.

Configuring Using Files

The default configuration file is sys:/etc/ftpserv.cfg. After installing, this configuration files has all the parameters, commented with their default values.

Guidelines for Modifying Configuration File

- Use the 8.3 file naming format for the configuration, restriction, welcome banner, message files, and the log files. Long name for these files is not supported.
- 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.

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

- Table 1, “Multiple Instances Parameters,” on page 10
- Table 2, “FTP Session Parameters,” on page 10
- Table 3, “Data Transfer Parameter,” on page 11
- Table 4, “Anonymous User Access Parameters,” on page 11
- Table 5, “Access Restrictions Parameters,” on page 12
- Table 6, “Login Parameters,” on page 12
- Table 7, “Intruder Detection Parameters,” on page 13
- Table 8, “Firewall Support Parameters,” on page 14
- Table 9, “Welcome Banner and Message Files Parameters,” on page 14
- Table 10, “FTP Logs Parameters,” on page 15
- ??

Table 1 Multiple Instances 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.

Table 2 FTP Session Parameters

Parameter	Default Value	Description
MAX_FTP_SESSIONS	30	Maximum number of FTP sessions that can be active at any point of time. Minimum value is 1. The maximum value can be 2^{31} (2147483648). If this value is set to less than 0, then the FTP Server takes the default value.
IDLE_SESSION_TIMEOUT	600 (seconds)	The time (in seconds) that any session can remain idle. The maximum value is 2^{32} (4294967296) seconds. The session never times out if the value is set as negative. For example -1.

Table 3 Data Transfer Parameter

Parameter	Default Value	Description
DATA_BUFF_SIZE	32 KB	Specifies the buffer size in kilobytes for the file transfer. It is applicable to both record and file structures. This parameter applies to the commands **put**, **ls, get**, and **dir**. Enter the value in the following format: **DATA_BUFF_SIZE = 32** Range = 4 to 1020 KB. The value can be set based on system memory available. If the value is less than 4, then the FTP Server takes the value as 4 KB. If the value is greater than 1020, then the FTP Server takes 1020 KB.

Table 4 Anonymous User Access Parameters

Parameter	Default Value	Description
ANONYMOUS_ACCESS	No	Specifies whether anonymous user access is allowed. Valid values are Yes and No.
ANONYMOUS_HOME	sys:/public	The home directory of the anonymous user. The path format is ***volumename*:[/*directory_name*/...]** 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_REQUIRED	Yes	Specifies whether to ask for an E-mail ID as the password for anonymous user to log in. Valid values are Yes and No.

Table 5 Access Restrictions Parameters

Parameter	Default Value	Description
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.

Table 6 Login Parameters

Parameter	Default Value	Description
DEFAULT_USER_HOME-SERVER	Server where FTP is running	The name of the server that the default home directory is on. The path can contain up to 97 bytes.
DEFAULT_USER_HOME	sys:/public	The default home directory of the user. The path with the filename can contain up to 512 bytes.
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 are Yes and 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 are Yes and No.
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 25 containers.
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.

Parameter	Default Value	Description
KEEPALIVE_TIME	10	Specifies the timeout time (in minutes) to close the connection which might be broken on one side. Range = 5 to 120 minutes. If the value is less than 0, then the FTP Server takes the value as 0. If the value is greater than 120 or between 1 to 4 (both inclusive) then the FTP Server takes 120 minutes. 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 5 (both inclusive) or greater than 120 minutes is taken as 120 minutes. 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. 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.

Table 7 Intruder Detection Parameters

Parameter	Default Value	Description
DEFAULT_NAMESPACE	Long	The default name space. The valid values are DOS and LONG.
INTRUDER_HOST_ ATTEMPTS	20	The number of unsuccessful log in attempts for intruder host detection. The maximum value is 2^{32} (4294967296) attempts.
INTRUDER_USER_ATTEMPTS	5	The number of unsuccessful log in attempts for intruder user detection. The maximum value is 2^{32} (4294967296) attempts.

Parameter	Default Value	Description
HOST_RESET_TIME	5	Time interval in minutes during which the intruder host is not allowed to log in. The maximum value is 2^{32} (4294967296) minutes.
USER_RESET_TIME	10	Time interval in minutes during which the intruder user is not allowed to log in. The maximum value is 2^{32} (4294967296) minutes.

Table 8 Firewall Support Parameters

Parameter	Default Value	Description
PASSIVE_PORT_MIN	1	Minimum port number used for establishing passive data connection. Range = 1 to 65534. If this value is not within the range, then the FTP Server takes the default value. 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.
PASSIVE_PORT_MAX	65534	Maximum port number used for establishing passive data connection. Range = 1 to 65534. If this value not within the range, then the FTP Server takes the default value.

Table 9 Welcome Banner and Message Files Parameters

Parameter	Default Value	Description
WELCOME_BANNER	sys:/etc/welcome.txt	The content of this file displays when the FTP client establishes a connection. The path with the filename can contain up to 256 characters.

Parameter	Default Value	Description
MESSAGE_FILE	message.txt	The content of this file displays, when the user changes the directory. For this, the file with that name must exist in the directory. The path with the filename can contain up to 256 characters.

Table 10 FTP Logs Parameters

Parameter	Default Value	Description
FTP_LOG_DIR	sys:/etc	The directory where log files are stored. This path could contain up to 256 characters.
NUM_LOG_MSG	32000	Maximum number of messages logged in each log file. The value can be a maximum of 2^{31} messages. However, the maximum messages allowed is based on the disk space available.
LOG_LEVEL	7	Indicates the level of messages logged. These are: 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	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 256 characters.

Parameter	Default Value	Description
AUDIT_LOG	FTPAUDIT	FTPAUDIT.LOG file is created automatically. This file contains details of user login activities. The path with the filename could contain up to 256 characters.
INTRUDER_LOG	FTPINTR	FTPINTR.LOG file is created automatically. This file contains details of unsuccessful login attempts. The path with the filename could contain up to 256 characters.
STAT_LOG	FTPSTAT	FTPSTAT.LOG file is created automatically. This file contains details of all active sessions. The path with the filename could contain up to 256 characters.

Table 11 Pseudo Permission Parameters

Parameter	Default Value	Description
PSEUDO_PERMISSIONS .	OFF	Specifies whether the FTP server should send UNIX-type permissions or trustee rights for display in the FTP client. When set to OFF (default), the FTP server sends the trustee rights to the FTP client. When set to ON, the FTP sends UNIX-type permissions to the FTP client. When this parameter flag is ON, the values for PSEUDO_FILE_PERMISSIONS and PSEUDO_DIR_PERMISSIONS are checked for length and validity. If their length exceeds 3 or any of the digits exceed 7, then the FTP Server takes the default values of these parameters.

Parameter	Default Value	Description
PSEUDO_FILE_PERMISSIONS	644	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. 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. Maximum value = 777.
PSEUDO_DIR_PERMISSIONS	755	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. 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. Maximum value = 777.

Configuring Using NPS Gadgets

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

Installing FTP Admin Gadget

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

- Apcahe 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 Installing Novell iManager section in the *Novell iManager 2.0 Administration Guide* available with this release.

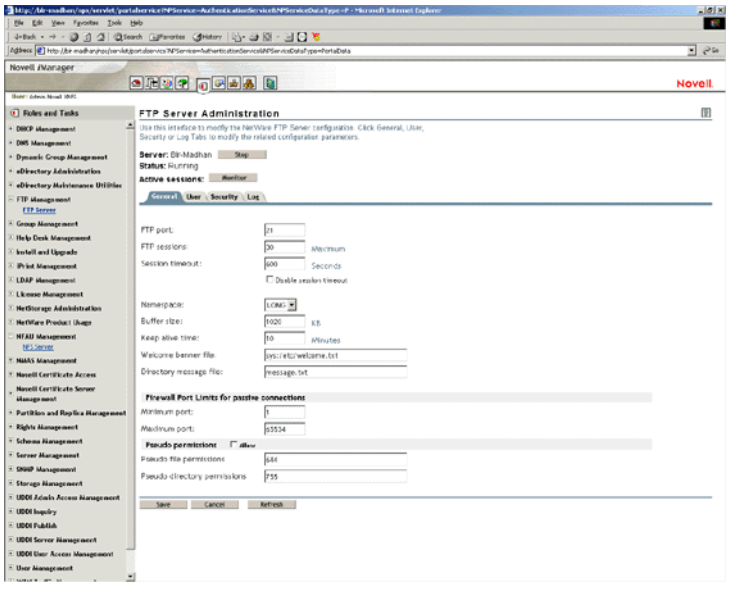
Configuring FTP Server Settings

1. Click the FTP Server link in iManager to launch the FTP Server Administration screen.

   You can view the General, User, Security and Log tabs where you can configure NetWare FTP Server.

2. Select the General tab to modify the FTP General parameters.

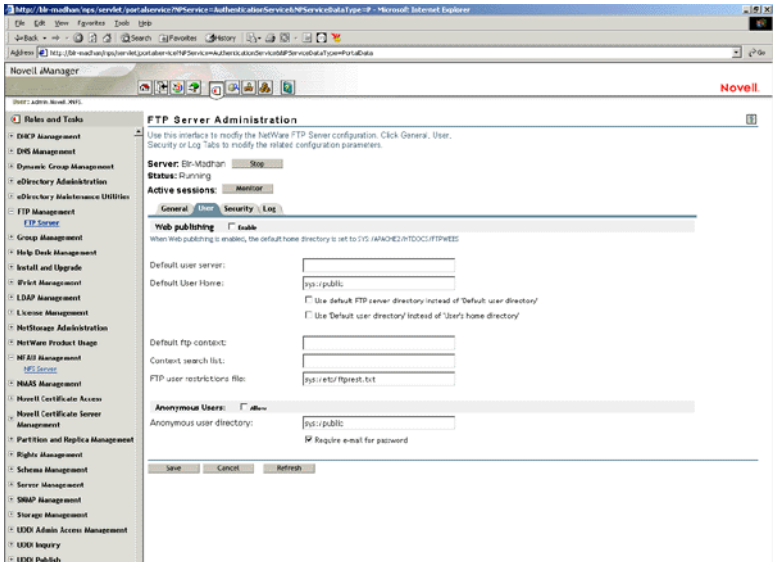
Figure 1 General tab



Use General tab to modify parameters related to Multiple Instances, FTP Session, Firewall Port Limits for passive connections, and Pseudo permissions

3 Select the User tab to modify the FTP User settings.

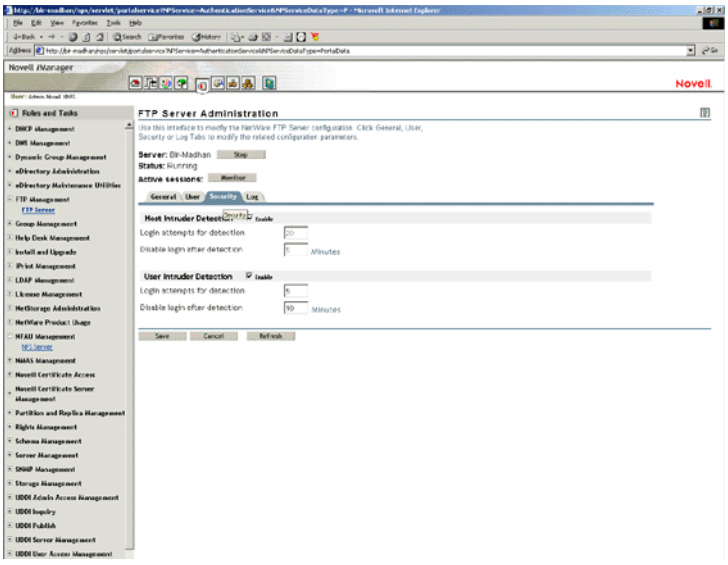
Figure 2 User tab



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

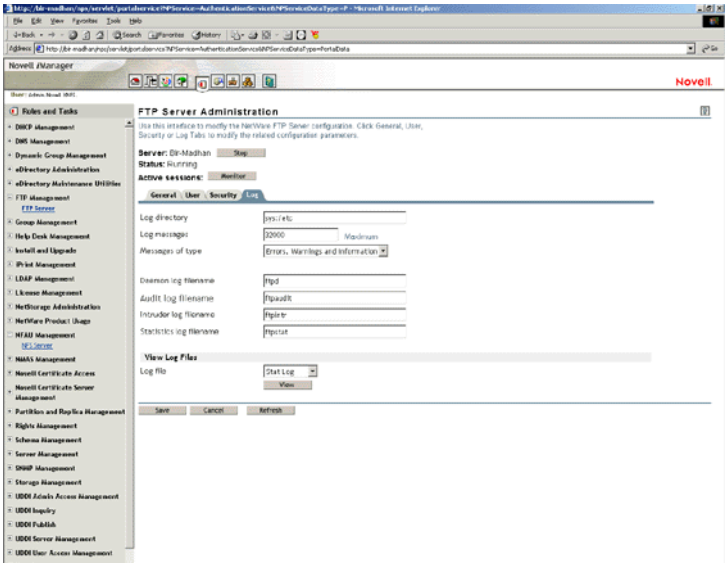
4 Select Security tab to modify Intruder Detection parameters such as Host and User Intruder Detection Settings.

Figure 3 Security tab



5 Select the Log tab to view FTP log files on the server

Figure 4 Log Settings screen



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

7 Click Save to save your settings or click cancel to retain the previous settings.

3 Managing and Administering

This chapter discusses the following topics:

- "Starting NetWare FTP Server" on page 21
- "Using the NetWare FTP Server from an FTP Client" on page 22
- "Administering" on page 28

Starting NetWare FTP Server

Load the NetWare® 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:

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.

For more details, see Table 4, “Anonymous User Access Parameters,” on page 11.

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 can have 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” on page 23
- “Paths Formats” on page 26

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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
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 this parameter only when connecting from UNIX or Linux clients.

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, is 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.

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 mechanism to establish secure connections with the server.

SSL is similiar 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 your commands or your password, as is possible with all non encrypted FTP sessions.

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

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

- SSL encryption mechanism
- Command channel encryption. Data channel encryption is not supported
- 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 mechanism.

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

- **SmartFTP V1.0**

  This is a browser based secure FTP client. You can download it from SmartFTP Website (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 website (http://bsdftpd-ssl.sc.ru).

- **Secure FTP 2**

  This is a command line Secure FTP client. You can download it from GlubTech Inc website (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.

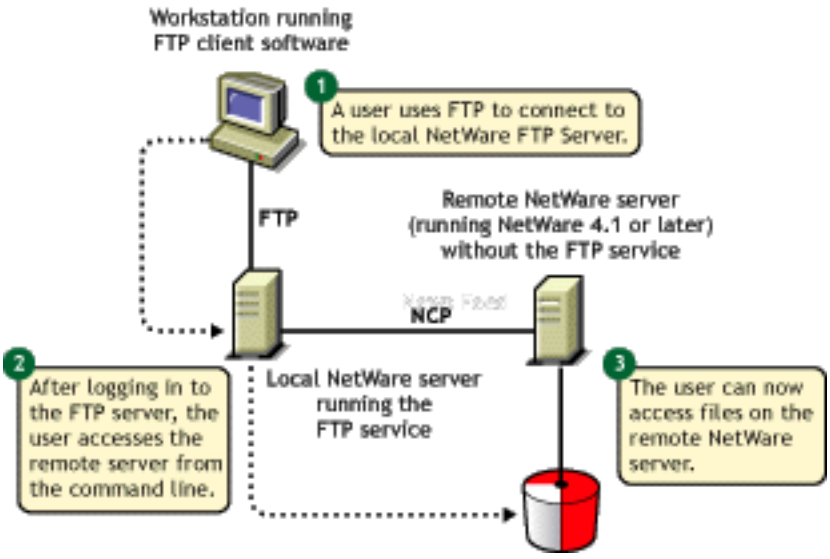
The double slash (//) indicates that the user wants to access a remote server. After the double slash, the first entry must be the name of the remote server.

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 Novell FTP Server software.

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

Figure 5 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	*//server_name/volume_name/directory_path*
Navigating to different volumes	cd */volume_name*
Switching back to the home directory	cd ~
Switching to home directory of any user	cd *~user_name*

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 quote 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 Quote 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 QUOTE SITE DOS command or the QUOTE SITE LONG command.

NOTE: The name space changed using Quote 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`** 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:

- *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 administering the NetWare FTP Server in the following areas:

- "Initializing Multiple Instances of the NetWare FTP Server" on page 28
- "Managing Intruder Detection" on page 29
- "Specifying Access Restrictions" on page 29
- "Creating Anonymous User Access" on page 32
- "FTP Log Files" on page 32
- "Viewing Active Sessions" on page 34

Initializing Multiple Instances of the NetWare FTP Server

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, and can listen on different IP addresses and port numbers.

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, "Multiple Instances Parameters," on page 10.

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.

Restriction Levels

The following table describes the supported levels of access restrictions.

Restriction Level	Description
Container	Restriction can be specified for any eDirectory container. This controls all the users in that container and its sub-OUs. *.*container name* The asterisk (*) indicates the container level restriction. The container should be a fully distinguished name.
User	Restriction can be specified for a particular user. *.user name* The period (.) indicates user level restriction. The username should be a fully distinguished name.
Domain	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: DOMAIN= *domain name* The DOMAIN= key word indicates the domain level restriction. 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.
Address Range	Restriction can be specified based on the IP address or range. 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.
Host	Restriction can be specified for a particular host machine. ADDRESS= *host name/IP address* The ADDRESS= key word indicates the host level restriction. The host name or IP address of the host can be specified. The DNS configuration should be proper for address and domain name restrictions.

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	During login, the NetWare FTP Server determines the user's home server / home directory. The user is unable to navigate outside the home server. **NOTE:** 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 / home directory. The user is unable to navigate outside of the home directory. **NOTE:** 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.blr.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 5, “Access Restrictions Parameters,” on page 12

Creating Anonymous User Access

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.

To create an anonymous user account, load the NetWare FTP Server with the **-a** option. This creates the anonymous user, creates the home directory (if it is not available), and assigns access rights to the anonymous user. The administrator name and password are then taken from the screen and the anonymous user is created in the eDirectory tree at the default context. Also, the configured anonymous home directory is displays on the screen with an option to modify it.

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 can have Read, File Scan, Create, Delete, and Modify rights to that directory.

For more details, see Table 4, “Anonymous User Access Parameters,” on page 11.

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 NUM_LOG_MSG parameter specifies the maximum number of messages that is logged into each of the log files. After exceeding this limit, the log files are overwritten and the old messages are lost.

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:

- The address of the machine where the login originated
- The time of the attempted access
- The 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 10, “FTP Logs Parameters,” on page 15.

Viewing Active Sessions

To load the Active Sessions display utility, enter

`ftpstat [-p port number]`

The server takes a port number that the HTTP browser should connect to in order to view the NetWare FTP active sessions. The default port is 2500.

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.

4 Configuring with Cluster Services

To configure NetWare® FTP Server with Novell® Cluster Services™, NetWare FTP Server must be installed on each server in your cluster that will run it.

NetWare FTP Server is selected by default during the NetWare 6.5 installation, and might already be installed.

Preparing to Cluster Enable

The configuration file ftpserv.cfg is created by default during the NetWare FTP Server installation and is placed in the sys:\etc directory. A separate ftpserv.cfg file exists for each NetWare FTP Server that is installed on the cluster.

Each ftpserv.cfg file contains a line that specifies the IP address assigned to the NetWare FTP Server. By default, the IP address assigned to the NetWare FTP Server is the same IP address that is assigned to the NetWare server where the NetWare FTP Server resides.

Editing Configuration File

Edit the configuration file, ftpserv.cfg and make the following changes:

1. Change the HOST_IP_ADDR line to assign a separate unique IP address to the NetWare FTP Server.

   By assigning a unique IP address to the NetWare FTP Server, you enable it to bind to the unique IP address instead of to the IP address of the local host and move with the NetWare FTP Server during failover and failback.

   For example, if the unique IP address you want to assign to the NetWare FTP Server is 123.45.67.012, the line would read as follows:

   ```
   Host_IP_ADDR=123.45.67.012.
   ```

2. Change the DEFAULT_USER_HOME line to specify the user home directory and volume on the shared disk system.

   For example, if the user home directory on the shared volume is share1:/home, the line would read as follows:

   ```
   DEFAULT_USER_HOME=share1:home.
   ```

The ftpserv.cfg also contains a line that specifies the default home directory for FTP users. This home directory must reside on a volume on the shared disk system. Cluster-enabling the volume where the home directory resides is not required.

Running in Active/Active and Active/Passive Modes

NetWare FTP Server can be run in ACTIVE/ACTIVE and in ACTIVE/PASSIVE modes.

Mode	Functionality	Remarks
Active/Active	NetWare FTP Server runs simultaneously on multiple servers in the cluster. When a Web server fails, the FTP sites on that server failover to other FTP servers in the cluster. Only FTP sites move	Provides faster recovery after a failure. We recommend running NetWare FTP Server in this mode
Active/Passive	NetWare FTP Server runs on only one node in the cluster at a time. When a Web server fails, NetWare FTP Server starts on other specified nodes in the cluster, and the FTP sites that were on the failed server fail over to other nodes in the cluster.	Marginally slower because NetWare FTP Server has to load on other servers in the cluster before FTP sites can fail over.

Configuring Active/Active Mode

Running FTP Server in ACTIVE/ACTIVE mode is required if you plan to run more than one FTP Server on the same NetWare server.

Each FTP server must have its own configuration file with a unique name which specifies the FTP server's IP address and shared volume directory.

1. Launch NetWare FTP Server from the autoexec.ncf file of each NetWare server in the cluster that will run NetWare FTP Server.
2. In the autoexec.ncf file of each NetWare server in the cluster that will run NetWare FTP Server in ACTIVE/ACTIVE mode, add the following lines in the order specified.

   ```
   ADD SECONDARY IPADDRESS A.B.C.D NOARP
   NWFTPD
   LOAD DELAY.NLM
   DELAY 5
   DEL SECONDARY IPADDRESS A.B.C.D
   ```

   Replace *A.B.C.D* with the unique IP address you assigned the NetWare FTP Server.

   If you are running multiple FTP servers on your cluster, repeat the ADD and DEL SECONDARY IPADDRESS lines for each FTP server, because each FTP server requires its own IP address.

Example

If you have three FTP servers on the cluster:

1. Create three configuration files named ftpserv1.cfg, ftpserv2.cfg, and ftpserv3.cfg.
2. Copy them to the sys:\etc directory of each NetWare server in the cluster that will run the FTP servers.

Each configuration file contains the IP address and shared volume directory for its corresponding FTP server.

3 Add the following lines to the autoexec.ncf file of each server in the cluster that will run the three FTP servers in active/active mode:

```
ADD SECONDARY IPADDRESS A1.B1.C1.D1 NOARP
ADD SECONDARY IPADDRESS A2.B2.C2.D2 NOARP
ADD SECONDARY IPADDRESS A3.B3.C3.D3 NOARP
NWFTPD -C FTPSERV1.CFG
NWFTPD -C FTPSERV2.CFG
NWFTPD -C FTPSERV3.CFG
LOAD DELAY.NLM
DELAY 5
DEL SECONDARY IPADDRESS A1.B1.C1.D1
DEL SECONDARY IPADDRESS A2.B2.C2.D2
DEL SECONDARY IPADDRESS A3.B3.C3.D3
```

delay.nlm provides enough time for the FTP server to load before the secondary IP addresses are deleted. To ensure that enough time is allotted, alter the delay time.

Configuring Active/Passive Mode

1 Launch NetWare FTP Server from the NetWare FTP Server Cluster Resource load script.

For more details, see *Novell Cluster Services Overview and Installation* (http://www.novell.com/documentation).

2 After NetWare FTP Server is installed, you must create and configure an NetWare FTP Server resource in Novell Cluster Services for each FTP server that will run in your cluster.

This includes configuring load and unload scripts; setting Start, Failover, and Failback modes; and assigning the NetWare FTP Server resource to specific nodes in your cluster.

IMPORTANT: When you configure NetWare FTP Server to run in the Active/Passive mode, make sure to comment the **nwftpd** entry in autoexec.ncf. Also, before you bring the resource online, execute **unload nwftpd** to bring down the FTP service already running.

Creating a Cluster Volume Object

Before starting to use NetWare FTP Server with cluster support, create a shared volume and a Cluster Volume object.

1 Create a shared volume using NWCONFIG > NSS volumes.

2 Create a Cluster Volume object in ConsoleOne.

2a Select the Cluster object.

2b Click File > New > Cluster > Cluster Volume.

2c Browse and select the shared volume.

2d Enter the secondary IP address or the virtual IP address associated with the cluster.

The format for the address is:

```
AAA.BBB.CCC.DDD
```

2e Check the Define Additional Properties check box and click Create.

2f Set the Start, Failover, and Failback Modes.

2g Verify the order of the servers in the nodes list.

2h Click OK to save the changes to the Cluster Volume object.

IMPORTANT: After the shared volume *servername_shared vol name* is cluster- enabled, ConsoleOne renames it to *cluster object name_shared vol name*.

ConsoleOne creates a virtual server associated with the shared volume called *cluster object name_shared vol name_SERVER*.

ConsoleOne also creates a Cluster Volume object called *shared vol name_SERVER* in the Cluster object container.

Configuring NetWare FTP Server Load and Unload Scripts

Select and right-click the Cluster Volume object and then click Properties to find the Cluster Resource Load Script and Cluster Resource Unload Script. Novell Cluster Services requires Load and unload scripts to start and stop the NetWare FTP Server.

1. Add nwftpd at the end of the existing load script
2. Add unload nwftpd at the beginning of the existing unload script.

   Replace *VOLUME* in both the load and unload scripts with the name of the shared disk volume where webroot exists. Replace *A.B.C.D* with the secondary IP address assigned to the NetWare FTP Server cluster volume object. This is the IP address that moves with the NetWare FTP Server during failover and failback. The nwftpd command is omitted in Active/ Active mode.

Setting NetWare FTP Server Start, Failover, and Failback Modes

1. In ConsoleOne, double-click the cluster object container.
2. Right-click the cluster resource object *shared vol name*_SERVER and select Properties.
3. Click the Policies tab on the property page.
4. View or change the Start, Failover, or Failback mode.

The following table explains the different NetWare FTP Server resource modes.

Mode	Settings	Description
Start	AUTO, MANUAL	AUTO allows NetWare FTP Server to automatically start on a designated server when the cluster is first brought up. MANUAL lets you manually start the NetWare FTP Server on a specific server whenever you want. Default = AUTO

Mode	Settings	Description
Failover	AUTO, MANUAL	AUTO allows NetWare FTP Server to automatically move to the next server in the Assigned Nodes list in the event of a hardware or software failure. MANUAL lets you intervene after a failure occurs and before NetWare FTP Server is moved to another node. Default = AUTO
Failback	AUTO, MANUAL, DISABLE	AUTO allows NetWare FTP Server to automatically move back to its preferred node when the preferred node is brought back online. MANUAL prevents NetWare FTP Server from moving back to its preferred node when that node is brought back online until you are ready to allow it to happen. DISABLE causes NetWare FTP Server to continue running in an online state on the node it has failed to. Default = DISABLE

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

When nwftpd.nlm is loaded, why does the message "Unable to find default configuration file FTPSERV.CFG" display?

Explanation: This message displays when you load the nwftpd.nlm without the **-c** option and when ftpserv.cfg, the default configuration file, is not the configuration file in SYS:\ETC, the default directory.

Action: When loading nwftpd.nlm, use the **-c** option to specify the configuration filename in use and include the complete path if this configuration file is not in the default directory SYS:\ETC.

When I load FTPServer, the message "FTPSERVER failed to bind to port" displays. What should I do?

Action: Check whether FTPServer is already loaded and is using the same port number. Also check if any other application is running on the same port which FTPServer is trying to use. For information on the valid port number range, refer to the FTP_PORT parameter in the default configuration file (Default = sys:\etc\ftpserv.cfg).

The access restrictions specified in the restrictions file aren't working. What should I do?

Explanation: The restrictions will not work if the restriction file is not in the 8.3 format.

Action: Make sure that the restrictions file is in the 8.3 file format. Specify the DOS name assigned for the new restriction file in the ftpserv.cfg.

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 therefor 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.

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 atleast 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 are directory listing command options not working from my FTP client?

Explanation: The NetWare FTP Server does not support the directory listing command options such as ls -al.

Why is dynamic configuration of NetWare FTP Server not working?

Explanation: Dynamic configuration does not work if the configuration file, ftpserv.cfg is modified using notepad or any application from mapped drive.

NPS Gadgets User Interface

Does the UI provide all invalid parameter handling that the ftpserv.cfg provides?

Explanation: Most of the invalid parameter handling is done by the UI except for the following that will be resolved in the FCS release:

General Tab

- When the Disable Timeout check box is selected, the Session timeout parameter is not disabled.
- Although pseudo permission parameter is set to Off by default, the UI does not disable the parameters Pseudo file permissions and Pseudo directory permissions.

  This issue occurs only the first instance when you modify Pseudo Permission parameter using the UI.

User Tab

- Although the Anonymous User access is disabled (not checked), you can edit Anonymous user directory parameter, and Require e-mail for password check box.

This issue occurs only the first instance when you modify Pseudo Permission parameter using the UI.

Security Tab

- UI does not check the valid value range for parameters related to Host Intruder Detection and User Intruder Detection.

Action: Refer to the online help for valid values for the parameters.

In the Log Tab, when I select a log file and click View, I get an error, and the FTP Server Administration page does not display. How can I proceed?

Explanation: This error displays because the log file that you select is empty.

Action: To proceed administering FTP Server select the FTP Server from the iManager roles and tasks. The navigation issue will be resolved in the FCS release.

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, or delete the busy port from TCPCON.

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: Enter **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:

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

To disable dynamic configuration updates, enter the following command:

nwftpd [-d]

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]