

Novell iChain™ Community Service

1.5

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INSTALLATION AND
SETUP



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About This Guide

Introduction

The purpose of this documentation is to help you install and configure Novell® iChain™ community services in your iChain infrastructure.

The audience for this documentation is experienced network administrators.

1

Overview

Novell® iChain™ is a network infrastructure that provides a common security and management framework for integrating your Internet-based business applications and creating an electronic business (e-business) infrastructure.

iChain is not a single application. It is a set of components for building an electronic business infrastructure. The iChain community server is an optional add-on component that allows you to implement a variety of special iChain community services in your iChain infrastructure. This chapter lists and describes the features and services provided by iChain community services and describes the community services configuration. It contains the following sections:

- ◆ [“Understanding Community Services” on page 9](#)
- ◆ [“Understanding Community Services Configuration” on page 10](#)

Understanding Community Services

Community services allow you to manage users and user access in your iChain infrastructure. iChain community services enable you to do the following:

- ◆ Create communities. iChain allows you to create communities of users and define access policies for these users. You can create brand-new communities or convert NDS® Organizational Units (OUs) into communities. Each community can have its own administrator and customized interface.
- ◆ Set up customized community interfaces. When users log in to iChain, a custom home or portal page for members of their community is displayed containing links to the services the community needs to access. These portal pages can be set up to provide the user with FAQs or online, context-sensitive help via a tab.

- ♦ Provide community-specific content. iChain allows you to store content or information about communities inside NDS. Content can be in the form of an HTML file, a URL link, or links to folders containing documents. iChain also allows you to list the members of a community and use this list to send coordinated or targeted e-mail messages.
- ♦ Enable user self-registration. iChain allows you to set up communities where users can self-register using a customizable form. When users register, the administrator for the community is automatically notified via e-mail and a log entry is posted into a text-based self-registration log file. You can also allow community members to change information about themselves.

Understanding Community Services Configuration

Novell eDirectory™ is the underlying integration point for iChain community services. NDS maintains and stores all the configuration, access control, and relationship information for iChain community services in the Community object.

The Community object contains attributes that define iChain communities. This object is similar to an OU object, contains many of the same tab pages and properties of an OU object, and also includes a Community tab. The Community tab of the Community object lists the following five property pages:

- ♦ General—Allows you to assign an iChain Service object to the community.
- ♦ Updates—Allows you to create news, messages, or reminder notes for the community.
- ♦ Documents—Allows you to define document folders for community members to access.
- ♦ Links—Allows you to create URL links to points of interest for the community.
- ♦ Members—Allows you to list and define community members.

Additional Information

To install and setup iChain community services, continue on to [Chapter 2, “Installing iChain Services,” on page 13.](#)

For general information on implementing iChain, please consult the following documentation:

- ◆ *iChain Installation and Setup* (www.novell.com/documentation/lg/ichain/docui/index.html)
- ◆ *Internet Caching System Administration Guide* (<http://www.novell.com/documentation/lg/ics13/docui/index.html>)

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Installing iChain Services

This chapter provides instructions for installing Novell® iChain™ community services software and contains the following sections:

- ♦ “iChain Community Server Requirements” on page 13
- ♦ “Installing iChain Community Server Software on NetWare 5.1” on page 14
- ♦ “Installing iChain Community Server Software on Windows NT” on page 16

iChain Community Server Requirements

Review the following system requirements to ensure that your server environment meets the following installation prerequisites.

The iChain community server has the following hardware requirements:

- ♦ A PC with a Pentium* II 266-MHz or higher processor
- ♦ Minimum 128 MB of RAM, preferably 256 MB or more
- ♦ 70 MB of disk space on the SYS: volume (an additional 40 MB should be available during installation)
- ♦ 300 MB of disk space required to support the Novell Web server
- ♦ CD drive that can read ISO 9660 formatted disks
- ♦ One or more NIC cards

The iChain community server can be installed on NetWare® 5.1 or Windows* NT* 4.0. On NetWare 5.1, the iChain community server has the following software requirements:

- ◆ NetWare 5.1 with Support Pack 1

NOTE: Installation of iChain on a new, clean NetWare server is recommended. The NetWare server installation must include NDS®8.5 in addition to the following NetWare server components:

Enterprise Web server
Web Search

The NetWare server installation must *not* have the following server components installed:

Print server
FTP server
IBM* WebSphere* Application Server

- ◆ TCP/IP network interface, bound and configured

On Windows NT 4.0, the iChain community server has the following software requirements:

- ◆ Windows NT with Service Pack 4 and Option Pack 4 or greater
- ◆ Microsoft* Internet Information Server 4.0
- ◆ JDK* 1.1.8 or JRE 1.1.8
- ◆ Microsoft Internet Explorer 4.01 Support Pack 2 or greater
- ◆ Novell Client™ for Windows NT/2000 or NDS for NT
- ◆ Novell Servlet Gateway. Included on the iChain CD. Configuration instructions can be found in the “Configuring an IIS Server on NT” section of *Novell Servlet Gateway* (<http://developer.novell.com/NDK/servgate.htm>.)
- ◆ TCP/IP network interface, bound and configured

Installing iChain Community Server Software on NetWare 5.1

iChain community server software is released separately from the main product as a self-extracting file. This file is available for download from the [Novell Products page](http://www.novell.com/products/ichain/communityservices/) (<http://www.novell.com/products/ichain/communityservices/>).

IMPORTANT: We recommend installing the iChain authorization server and community server on separate servers. When installed on separate servers, the iChain authorization server and iChain community server must exist under the same NDS tree.

To install iChain services software as a community server on NetWare 5.1, complete the following steps:

- 1** If you have not already done so, install the NetWare 5.1 software and the NetWare 5.1 Support Pack 1 on the machine which will be your community server.
- 2** Enter the following commands at the target community server console to unload the Java NLM™, down the Web server NLM, and down the Web server admin NLM.

UNLOAD JAVA

NVXWEBDN

NVXADMDN

- 3** If you have not already done so, download the self-extracting community server software file to the local drive of the server to be your community server. This file is available for download from the [Novell Products page \(http://www.novell.com/products/ichain/communityservices/\)](http://www.novell.com/products/ichain/communityservices/)
- 4** Double-click the download file to extract the files to a directory on your local drive.
- 5** Run START.EXE to launch the installation program.
- 6** Click Install iChain on NetWare.
- 7** From the Welcome screen, click Next twice.
- 8** Read the license agreement. If you accept the terms of the agreement, click Yes.
- 9** To select the install destination for the community server, click Browse, and select a drive that is mapped to the SYS: volume of the server on which you are installing the software > click OK > Next.
- 10** Verify that the tree name listed is the same tree where the community server resides.
- 11** Enter a name for the iChain Service Object to be associated with this community (for example, Test_ISO) > click Next.
- 12** Enter a fully distinguished administrator name and password for the server > click Next.

- 13** Confirm that the information on the installation summary screen is correct and click Next to start copying the files.
- 14** Click OK at the information screen.
- 15** Click Readme to view the issues that you should know about iChain > click Finish.
- 16** Close the Readme > click Exit.
- 17** Enter **RESTART SERVER** at the server prompt.
- 18** If you plan to use the NetWare Web Manager to administer the community server, complete the following steps so that iChain configuration information can be loaded into the NetWare Web Manager:
 - 18a** From a client on the private network, use a browser to access the URL of the NetWare Web Manager on the community server.

The default URL is `https://server-address:2200/`. This URL may be different depending on the exact configuration of the Web Manager.
 - 18b** From NetWare Web Manager, under the NetWare Enterprise Web Server field, click the name of the community server.

A warning message appears indicating manual edits were not loaded.
 - 18c** Click Apply > Load Configuration Files.

Installing iChain Community Server Software on Windows NT

iChain community server software is released separately from the main product as a self-extracting file. This file is available for download from the [Novell Products page \(http://www.novell.com/products/ichain/communityservices/\)](http://www.novell.com/products/ichain/communityservices/)

To install iChain services software as a community server on Windows NT 4.0, complete the following steps:

- 1** If you have not already done so, download the self-extracting community server software file to the local drive of the server to be your community server. This file is available for download from the [Novell Products page \(http://www.novell.com/products/ichain/communityservices/\)](http://www.novell.com/products/ichain/communityservices/)
- 2** Double-click the download file to extract the files to a directory on your local drive.

- 3** Run START.EXE to launch the installation program.
- 4** Click Install Novell Servlet Gateway.
- 5** From the Welcome screen, click Next twice.
- 6** Read the license agreement. If you accept the terms of the agreement, click Yes.
- 7** Enter the local drive as the install location.
- 8** Confirm the destination folder in which to install the gateway files, for example, C:/NOVELL/JAVA.
- 9** Click Next to start copying the files.
- 10** Click Install iChain on NT.
- 11** From the Welcome screen, click Next twice.
- 12** Read the license agreement. If you accept the terms of the agreement, click Yes.
- 13** Click Browse and select a folder in which to install the software.
- 14** Enter the name of the NDS tree that contains or will contain the iChain service.
- 15** Enter the name of a server in the NDS tree.

You can enter the Windows NT server if it is running NDS. If it is not and the Windows NT server is running only the Novell Client, enter the name of iChain authorization server or an iChain community server running on NetWare that is hosting the same iChain service.
- 16** Enter the fully distinguished administrator name and password for the server > click Next.
- 17** Confirm that the information on the installation summary screen is correct > click Next to start copying the files.
- 18** Click Readme to view the issues that you should know about iChain > click Finish.
- 19** Close the Readme > click Exit.
- 20** Configure the Novell Servlet Gateway on the Windows NT server.

To configure the Novell Servlet Gateway, follow the instructions in the “Configuring an IIS Server on NT” section of *Novell Servlet Gateway* (<http://developer.novell.com/NDK/servgate.htm>)

21 Use a text editor to edit the `SERVLETGATEWAY.PROPERTIES` file. Replace all references to `C:\JDK1.1.7b` with the appropriate path for your system.

For example, if JDK 1.1.8 is installed, replace `C:\JDK1.1.7b` with `C:\JDK1.1.8`.

22 Restart the Windows NT server.

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Setting Up Community Services

This chapter explains the tasks to set up Novell® iChain™ community services. This chapter contains the following sections:

- ◆ [“Setting Up Communities” on page 19](#)
- ◆ [“Setting Up Community Server Parameters” on page 22](#)
- ◆ [“Setting Up User Password Management” on page 22](#)
- ◆ [“Setting Up iChain Self-Registration” on page 23](#)
- ◆ [“Setting Up and Viewing the Community Server Log File” on page 28](#)

Setting Up Communities

For each iChain Service object, you must define or associate at least one iChain community. This enables members of the iChain community to access the portal and the resources defined by the service object. iChain communities can have Organizational Units (OUs), groups, or users as members. Before you can associate a community you must create one. iChain allows you to convert an existing OU into a community, create a new community from scratch, and add new members if you need to. Once the community members are defined, you must also define the community properties.

To set up communities, complete the following procedures:

- ◆ [“Creating a New Community” on page 20](#)
- ◆ [“Converting an Existing Community” on page 20](#)
- ◆ [“Adding New Members to a Community” on page 20](#)
- ◆ [“Setting Up Community Properties” on page 21](#)
- ◆ [“Associating a Community with an iChain Service Object” on page 21](#)

Creating a New Community

To create a new community, complete the following steps:

- 1** From ConsoleOne™, select an OU in which to create the community.
- 2** Select File > New > iChain Object.
or
Click the New iChain icon (to the right of the New Object icon).
- 3** Select Create a New Community.
- 4** Enter the community name.
- 5** Browse the NDS® tree for the iChain Service object with which the community will be associated.
- 6** Click OK.

Converting an Existing Community

To convert an existing OU to a community, complete the following steps:

- 1** From ConsoleOne, select the OU you want to convert.
- 2** Select File > New > iChain Object.
or
Click the New iChain icon (to the right of the New Object icon).
- 3** Select Convert an OU to a Community.
- 4** Browse the NDS tree for the iChain Service object with which the community will be associated.
- 5** Click OK.

Adding New Members to a Community

To add new member to a community, complete the following steps:

- 1** From ConsoleOne, right-click the community object for the community where you want to add members and select Properties.
- 2** Click Community > Member List > Add.
- 3** Browse the NDS tree for the object that represents the OU, group, or user that you want to add as a member of a community > click OK.

Setting Up Community Properties

Community properties enable you to define the user interface for a community, such as links to other services, shared document folders, and update messages. To set up community properties, complete the following steps:

- 1** From ConsoleOne, right-click the community object you want to set up > select Properties.
- 2** Click Community > select one of the following pages to set up the appropriate properties:
 - ◆ Member List—Specify the OUs, groups, or users that you want to be members of the community.
 - ◆ General—Define a description of the community. You can optionally define the community for public access, enabling anyone to join or leave the community at will.
 - ◆ Documents—Define the labels for and locations of the document folders for the community. The location must specify the full path to the directory on the Web server file system where the documents reside. You may assign the same folder location to more than one community, enabling document folders to be shared among communities.
 - ◆ Updates—Add one or more news items that you want the community members to see.
 - ◆ Links—Define names and URLs of other sites that can be accessed by the community.

Associating a Community with an iChain Service Object

To enable members of a community to access the portal resources of an iChain service, you must associate the community with the corresponding iChain Service object. An association was set when the community was originally created or converted, but you can change the association, if necessary.

- 1** From ConsoleOne, right-click the iChain Service object > select Properties.
- 2** Click Communities > Add
- 3** Browse the NDS tree for the object that represents the community > click OK.

Setting Up Community Server Parameters

Community server parameters are stored in the server object for the Web server. During the installation of the Community server, some system-specific community parameters values are set. These parameters include the default iChain installation folder, the custom class used by the registration process, and the distinguished name of the administrator (or an object with admin rights). However, depending on the needs of your particular implementation, you may want to alter these settings or define additional values.

NOTE: Because these parameters affect the operation of community services and self-registration, only administrators familiar with iChain Community Services and self-registration should attempt to modify these parameter settings.

To alter the setting of any of these parameters, complete the following steps:

- 1** From ConsoleOne, right-click the Web server object and select Properties.
- 2** Click the iChain tab and select Servlet Settings.
- 3** If prompted for the iChain Path, specify the initial path of the iChain installation. For example, on an NT server this would be C:\Novell\iChain.
- 4** Specify or verify the Web server's fully distinguished name in the Server Distinguished Name field.
- 5** Specify or verify the iChain installation directory in the iChain Installation Directory field.
- 6** Specify or verify the name of the registration custom class for the registration process to use. Make sure you have this custom class specified in the iChain classpath.
- 7** Specify or verify the fully distinguished name of the admin object in the Admin Distinguished Name field.
- 8** If the password is different from the existing one in the system, specify the new password.
- 9** Click OK to save the changes.

Setting Up User Password Management

You can set up iChain so users can manage their passwords from a browser. To set up this feature, complete the following steps:

- 1 Access the URL of the ICS server on which you installed the iChain Internet Caching Server software to launch the ICS browser-based administration tool.

For example, `http://xx.xx.xx.xx:1959/appliance/config.html`

where `xx.xx.xx.xx` is the IP address.

- 2 Click Cache > Access Control > Password Management Servlet.

- 3 Enter the following URL in the Servlet field:

`http://servername/iChain/PasswordExpired.html`

where *servername* is the server name for users to access the community server.

Setting Up iChain Self-Registration

The iChain self-registration feature allows users to register themselves as a member of an iChain community. To self-register, a user clicks the New Register button and is presented with a form requesting information such as username, password, and so on. When the user submits the form, the form is processed by a servlet on the server. Based on the information submitted in the form, the user is registered into the appropriate community or communities. If the self-registration is successful, a notification is e-mailed to the administrator and the user.

A new user can be automatically placed in a default community or in one or more existing active communities. Typically, iChain is configured to register new users into a single default community. The administrator can then move the user to the appropriate community or communities at a later time.

Sample HTML files, text files, and forms are provided for use during the self-registration process. You can customize the self-registration user interface by altering these HTML files, text files, and forms, or by creating new ones.

NOTE: Only administrators familiar with HTML and forms syntax should attempt to modify the self-registration files.

During the self-registration process, the following HTML pages are displayed to the user:

NOTE: Pathnames are shown in relation to the install directory.

- ♦ `install_dir/DOCS/INDEX.HTML`—This is the initial portal page. The Access Account link calls the `/ICHAIN/INDEX.HTML` page. It also

contains the Register link which calls the next page in the self-registration process, the registration form.

- ♦ *install_dir/iSampleUI/REGISTRATIONRESULTMESSAGE.HTML*— This HTML file is used as a template to display results messages after successful registration. The page contains a standard message indicating the registration process is successful, along with a special tag that enables the system to output customized information to the user, such as registration information, membership details, and so on. The tag format is `<SELF REGISTRATION/SELF REGISTRATION>`. When self-registration is complete, the code substitutes system-generated information at the tag location.
- ♦ *install_dir/iSampleUI/REGISTRATIONERRORMESSAGE.HTML*— This HTML file is similar to the `REGISTRATIONRESULTSMESSAGE.HTML` file except that this file displays error messages when self-registration is not successful. When errors occur, this file displays the system error messages in the file location designated by the `<SELF REGISTRATION/SELF REGISTRATION>` tag.

When a user successfully self-registers, an e-mail is sent to the user and to the administrator or administrators of the community or communities to which the user registered. These e-mail messages are created using the following text files as templates:

NOTE: Pathnames are shown in relation to the install directory.

- ♦ *install_dir/iSampleUI/TXT/ADMINMAIL.TXT*—This text file is used as the template for the administrator e-mail message to inform the administrator of a successful self-registration. This file contains a special tag, `<SELF REGISTRATION/SELF REGISTRATION>`, which enables the system to output customized information about the self-registering user.
- ♦ *install_dir/iSampleUI/TXT/USERMAIL.TXT*—This text file is used as the template for the user e-mail message to inform the user of a successful self-registration. This file contains a special tag, `<SELF REGISTRATION/SELF REGISTRATION>`, which enables the system to output customized information about the self-registering user.
- ♦ *install_dir/iSampleUI/TXT/Dictionary.TXT*—This text file is used for password checking. Strings in the dictionary file cannot be used as passwords.

iChain self-registration processing is handled by a servlet on the server. To process self-registration, the servlet invokes a Java* customization class. This class uses a set of Java APIs. Sample self-registration classes are provided. You can alter the samples or create new ones to customize the self-registration process. For example, the default registration process creates new users under the context specified in the NewRegister.html form and registers the user with the username provided in the form. Suppose you want to assign a context based on criteria provided by the form or assign a username created by the process, not the user. To do this, you must alter or customize these self-registration classes.

NOTE: Only administrators familiar with programming principles and Java programming syntax should attempt to modify the self-registration process.

The APIs for customizing the iChain self-registration process are available in the iChain Novell Developer Kit (NDK). Novell NDKs are available for download at the [Novell Developer site \(http://developer.novell.com/ndk/ichain.htm\)](http://developer.novell.com/ndk/ichain.htm).

To set up self-registration, perform the following procedures:

- ◆ “Setting Up Self-Registration for Public Access” on page 25
- ◆ “Setting Up Self-Registration Parameters” on page 26
- ◆ “Testing the Self-Registration Process” on page 28

Setting Up Self-Registration for Public Access

If there are areas on your Web server you want to make accessible to the public through self-registration, you can set those areas up for public access and enable the self-registration feature. To set up public access with self-registration, complete the following steps:

- 1** Access the URL of the ICS server where you installed the iChain Internet Caching Server software to launch the ICS browser-based administration tool.

For example, <http://xx.xx.xx.xx:1959/appliance/config.html>

where *xx.xx.xx.xx* is the IP address.

- 2** Click Cache > Web Server Accelerator > Modify.
- 3** Click Authentication Options.
- 4** Check Authenticate Only When User Attempts to Access a Restricted Page.
- 5** Click OK > OK > Apply.

- 6** From ConsoleOne, select File > New > New Object and create a new User object in the NDS[®] tree.

This user will act as the guest account for unregistered users. Make sure this user does not have a password.

NOTE: If you have previously defined a user object for Public access you may use that user account.

- 7** Specify the new User object to be a guest user by selecting the object from the Guest User list in the ISO object for the service.
- 8** Select File > New > New Object, or click the New iChain icon and create an ACL rule that defines the resources that the public will be allowed to access, as follows:
 - 8a** Define the list of URLs that the public will be allowed to access.
 - 8b** Add the guest user to the public access ACL object's Apply To list.
 - 8c** Check the Enable Access Control check box.
- 9** To set up self-registration with the public access feature, complete the following substeps:
 - 9a** Create the self-registration forms and save them in a folder on the Web server.
 - 9b** If a self-registration folder exists, add its URL to the ACL rule that defines the public access URLs.

This enables new users to self-register by going directly to the self-registration URL without going to the login page first.
 - 9c** Verify that the Authentication Profile contains the container where new members are created.

Setting Up Self-Registration Parameters

The iChain installation utility installs all the files necessary to support self-registration. However, to enable iChain self-registration you must set some special parameters or verify their settings. For example, you must create and set up the default container for placing newly self-registered users.

To set up iChain self-registration, complete the following steps:

- 1** From ConsoleOne, right-click the iChain Service object for which you want to set up self-registration.
- 2** Select Properties > General.

- 3** Verify or specify the DNS host name or the IP address of the mail server for this object.
- 4** Verify or specify the e-mail address of the administrator for this object. When users self-register, e-mail will be sent to this e-mail address.
- 5** Select General > click Allow Member Self Registration.
- 6** Right-click the server object that is specified in the ichain.properties file of the Community server > click Properties.
- 7** From the iChain tab, select the ISO properties. Verify that the ISO properties page contains the fully distinguished name of the iChain Service Object from **Step 1**.
- 8** Create a container under your tree for newly self-registered users such as NewMembers.MyTree.
- 9** Use a text editor to edit the /NEWREGISTER.HTML file located in the <webroot directory>/ISAMPLEUI directory.
- 10** Verify that DefaultContext variable contains the fully distinguished name of the NDS context of the container where you want new self-registering users to be placed in the following line:

```
<INPUT TYPE-"hidden" NAME="DefaultContext"  
VALUE="NewMembers.MyTree"
```
- 11** Stop the Web server and servlet gateway by doing the following:
For NetWare, use these commands:

```
NVXWEBDN  
NVXADMNDN  
UNLOAD JAVA
```

or

For NT, at the Services dialog, stop the IIS Admin Service.

NOTE: There are other services that depend on IIS that will be stopped when you stop the IIS Admin Service. You will need to restart the other services.

- 12** Restart the Web server:

For NetWare, use these commands:

```
NVXADMNUP  
NVXWEBUP
```

or

For NT, at the Services dialog, select Start. Restart all other services that were shut down automatically.

Testing the Self-Registration Process

Once you have set up the self-registration process, you should test the setup to confirm that it is working correctly.

- 1** Start a Web browser and access the link to the initial iChain home or portal page for the service.

For example, `http://server-address:port/index.html`,

where `server-address:port` is the actual server address and port number for the ICS server for the service.

- 2** Click the Create New Account link.
- 3** Enter the registration information > click Submit.
- 4** Access the initial portal page again.
- 5** Log in, if necessary, and verify that you can access the community services for the community.

Setting Up and Viewing the Community Server Log File

When the iChain community server is installed on a NetWare[®] server, the community server has a logging feature that allows you to monitor normal operations and troubleshoot problems. Each log entry contains a time stamp and optional fields that provide relevant information about Web server operations. You can specify the level of detail of the log messages, and also redirect logging output to a file or to the console.

There are two logs associated with the iChain Web server: a main log and a self-registration log. The second log contains messages specifically related to self-registration; these messages are automatically echoed to the main iChain log as well. The two logs have a common format, but they can be configured independently.

Setting Up a Log File Location

By default, the Web server outputs the log messages to the console. To redirect the log messages from the main iChain log to a file, set the `ichain.logfile` system property by adding `-Dichain.logfile=logfile` to the `java.args` line in the

SYS:/JAVA/SERVLETS/SERVLETGATEWAY.PROPERTIES file (on a NetWare server) or in the C:/NOVELL/JAVA/SERVLETS/SERVLETGATEWAY.PROPERTIES file (on an NT server). For example, on a NetWare server, enter the following:

```
java.args=-mp0 -Dichain logfile=SYS:/iChain/iChain.log -envCWD=sys:/java/servlets -classpath $SERVLETCLASSPATH
```

On an NT server, enter the following:

```
java.args= -Dichain logfile=c:/Novell/iChain/ichain.log -classpath c:/jdk1.1.7b/lib/classes.zip;c:/Novell/java/servlets;c:/Novell/java/lib/servgate.jar;c:/Novell/java/lib/jsdk.jar
```

The corresponding system property for the self-registration log is `ichain.selfreg.logfile`.

NOTE: The system property names used for log configuration are case sensitive. Property names such as “`ichain.logfile`” and “`ichain.loglevel`” must be in lowercase.

Setting Up Logging Levels

You can set up different logging levels for the logs. The logging level determines the amount of detail shown in the log by controlling the number of messages generated. Higher levels include all messages generated by lower levels. The following levels are supported:

- ◆ NONE—Logging is turned off
- ◆ ADMIN—Messages for the administrator (default)
- ◆ ADMIN_VERBOSE—More detailed messages for the administrator
- ◆ DEBUG—Messages for debugging and development; shows some control flow information
- ◆ DEBUG_VERBOSE—More detailed debugging messages; shows additional error information

The logging level for the main log is specified in the `ichain.loglevel` system property. To change it, edit the `SERVLETGATEWAY.PROPERTIES` file by adding `-Dichain.loglevel=loglevel` to the `java.args` line. For example, on a NetWare server, enter the following:

```
java.args=-mp0 -Dichain.loglevel=ADMIN_VERBOSE -envCWD=sys:/java/servlets -classpath $SERVLETCLASSPATH
```

On an NT server, enter the following:

```
java.args= -Dichain.loglevel=ADMIN_VERBOSE -classpath c:/jdk1.1.7b/  
lib/classes.zip;c:/Novell/java/servlets;c:/Novell/java/lib/servgate.jar;c/  
Novell/java/lib/jsdk.jar
```

NOTE: The log levels are case sensitive and must be entered in all uppercase letters.

The corresponding system property for the self-registration log is `ichain.selfreg.loglevel`.

Setting Up Log Flushing

You can control log flushing by specifying a flush level. These flush levels address file flushing problems on NetWare and can be used to provide a more real-time view of server activity. The following levels are supported:

- ◆ Level 0—Do not flush after write. May cause output delays and lost output. Not recommended.
- ◆ Level 1—Flush after write (default).
- ◆ Level 2—Flush, close, and reopen after write (only applies if log output is being redirected to a file). Provides the most real-time view of the log. Incurs additional overhead.

The logging level for the main log is specified in the `ichain.log.flushlevel` system property. To change it, edit the `SERVLETGATEWAY.PROPERTIES` file by adding `-Dichain.log.flushlevel=flushlevel` to the `java.args` line. For example, on a NetWare server, enter the following:

```
java.args=-mp0 -Dichain.log.flushlevel=2  
-envCWD=sys:/java/servlets -classpath $SERVLETCLASSPATH
```

On an NT server, enter the following:

```
java.args= -Dichain.log.flushlevel=2 -classpath c:/jdk1.1.7b/lib/  
classes.zip;c:/Novell/java/servlets;c:/Novell/java/lib/servgate.jar;c:/Novell/  
java/lib/jsdk.jar
```

The corresponding system property for the self-registration log is `ichain.selfreg.log.flushlevel`.

Understanding the Log File Format

Each log file entry contains an ISO-8601 compliant time stamp followed by zero or more optional fields specified as name/value pairs. The format of a log file entry is as follows, with everything contained on a single line:

```
YYYY-MM-DD <space> hh:mm:ss <space> name1=value1  
<space> name2=value2 <space> name3=value3...  
<newline>
```

The following is an example of what a log file entry might look like, bearing in mind that not all fields may be used in a log entry. Again, the following is contained on a single line:

```
1999-12-20 18:53:24 log=2 usr=fred.novell url=http://  
/ichain.sjf.novell.com/iChain/index.html  
cli=153.24.55.32 msg="access denied: user unknown"
```

The optional fields in the Web server log are as follows:

- ◆ **Log Level**—The logging level of this entry, specified as a number. The log displays all entries with a logging level less than or equal to the level specified in the `ichain.loglevel` property.
- ◆ **User ID**—The user ID of the client. May be a common name or a distinguished name.
- ◆ **Requested URL**—The URL request currently being processed.
- ◆ **Client Hostname**—The hostname of the client.
- ◆ **Client IP**—The IP address of the client.
- ◆ **Session ID**—The session ID.
- ◆ **Transaction ID**—The transaction ID.
- ◆ **Status**—The status of an operation. This field is usually used for error codes or to indicate success or failure of an operation.
- ◆ **Message**—A detail message. The value of this field is enclosed in double quotes and may contain whitespace. In the log entry, the characters newline, double-quote ("), and backslash (\) are escaped as `\n`, `\"`, and `\\`, respectively.

With the exception of the message, the value specified for a field will be a string containing no white space.

