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Image Services Resource Adapter

Installation and Deployment Guide

For JBoss

Release 3.2.1

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About This Manual

This manual provides instructions to install and configure the Image Services Resource Adapter (ISRA) version 3.2.1 on JBoss platform.

Conventions Used in the Document

The table lists the formatting conventions used across this document.

<u>Convention</u>	<u>Description</u>
Fixed Size font	Used for commands entered in the system command prompt
Arial font	Used for important notes
Bold	Occasionally used to refer to portions of user interface, such as the Next button or the Install button

Education

For details on FileNet's Global Learning Services, please visit the Service and Support area at www.filenet.com.

Related References

For all ImageViewer parameters please refer to the FNImageViewer documentation provided with ISRA installation media.

<ISRA-home>\ISRA321\FNImageViewer\docs

For all P8 System Manager related information, please refer to P8 System Manager documentation provided with ISRA installation media.

<ISRA-home>\ISRA321\SystemManager\docs

Comments and Suggestions

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ISRA Installation

This document describes how to install, deploy and configure FileNet Image Services Resource Adapter (ISRA) version 3.2.1 on JBoss platform.

ISRA Overview

Integration with existing Enterprise Information Systems (EIS) is the key to success in business moving towards an e-business strategy.

The Java 2 Enterprise Edition (J2EE) Connector Architecture defines a standard architecture to connect the J2EE platform to the heterogeneous EIS's.

ISRA is a system-level software driver, compliant with the J2EE Connector Architecture v1.0, to connect to FileNet Image Services (IS) using a Java application component or client.

ISRA provides an alternative to Integrated Document Management (IDM) Web Services for IS customers. In addition, it provides a Web solution that does not require Microsoft technology or product support.

ISRA Package Overview

ISRA is bundled into a single package called the Resource Adapter Module, which contains all necessary files and information for the correct deployment on supported Application Server.

ISRA is available in two editions:

- View edition: Supports ISRA Read-only interactions
- Enterprise edition: Supports additional interactions that allow creation of documents and folders, and update of their properties. User can also print/fax the documents.

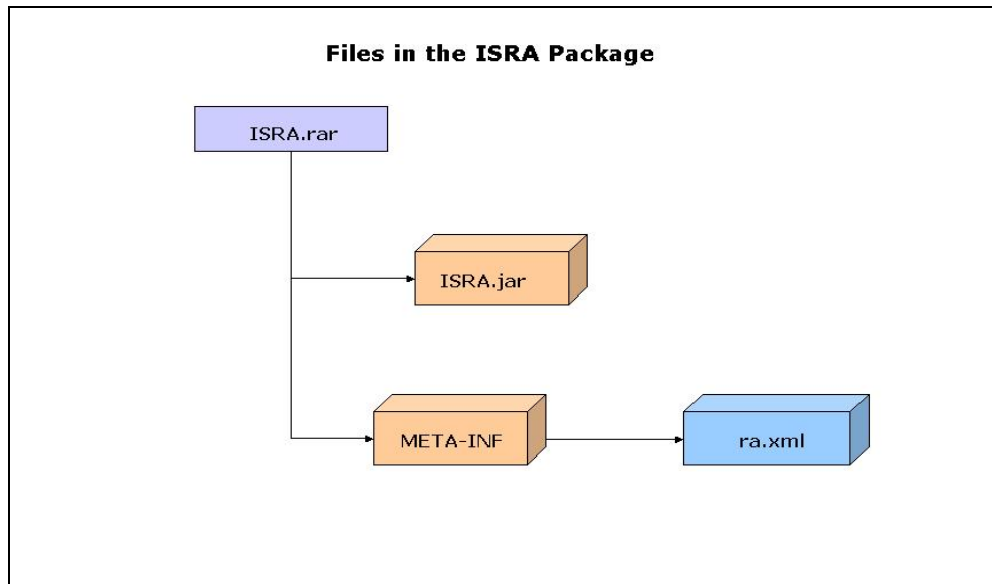
Resource Adapter Module

The Resource Adapter Module contains:

- Jar file that consists of ISRA class library.
- Deployment descriptor (XML file) that defines the run-time behavior of ISRA.

Structure of the ISRA Package

The following figure illustrates a listing of files in the ISRA package:



Installing ISRA

ISRA is installed from an executable installer file. To install ISRA:

Note The screenshots shown across this guide (taken on Windows Server, which includes both 2000 and 2003 Servers) may look slightly different on the system, depending on the platform version or settings etc.

1. Mount CD-ROM

On UNIX:

Perform this step only if CD-ROM device is not already mounted. Note that you must have the root user privileges to perform these tasks. Load the ISRA CD into the drive, open a terminal window and create the `/cdrom` directory using the following command:

```
# mkdir /cdrom
```

On Sun Solaris 9:

– Using a preferred editor (for example, `vi`), edit the `/etc/vfstab` file by adding an entry:

```
/vol/dev/dsk/c0t2d0/cdrom - /cdrom hsfs 4 - ro
```

where, `/vol/dev/dsk/c0t2d0/cdrom` is the CD-ROM device file path, `/cdrom` is the mount point for the CD and `hsfs` is the file system format of the CD. Refer to Solaris system manual for more details on mounting devices.

- On the system prompt, enter `# mount /cdrom` to mount the CD-ROM.

On Linux:

Open a terminal window and enter `# mount /dev/hdc /mnt/cdrom`, where, `/dev/hdc` is the CD-ROM device file path and `/mnt/cdrom` is the mount point for the CD. Refer to the Linux system manual for more details on mounting devices.

To ensure that CD-ROM is mounted correctly, on a terminal window, enter `# mount`

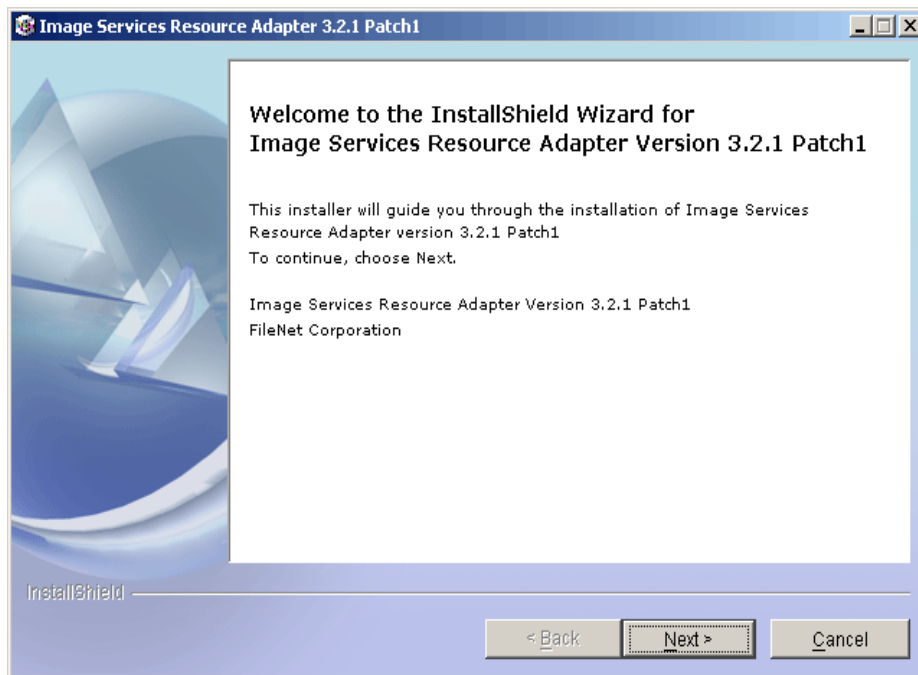
This lists the CD-ROM device.

On Windows:

Open the explorer and select the CD-ROM drive that contains the ISRA CD.

2. Launch the ISRA installer by executing `setup.bin` on Solaris or `setup.exe` on Windows Server.
 - On Solaris server or Linux navigate to the respective folder on the CD-ROM drive to locate `setup.bin`. To do this, type:
`# cd cdrom/< Solaris, Linux >`
`# ./setup.bin`
 - On Windows Server, locate `setup.exe` in the Windows folder of the CD-ROM drive. Double-click to launch the ISRA installer.

The installation screen appears, as shown below:

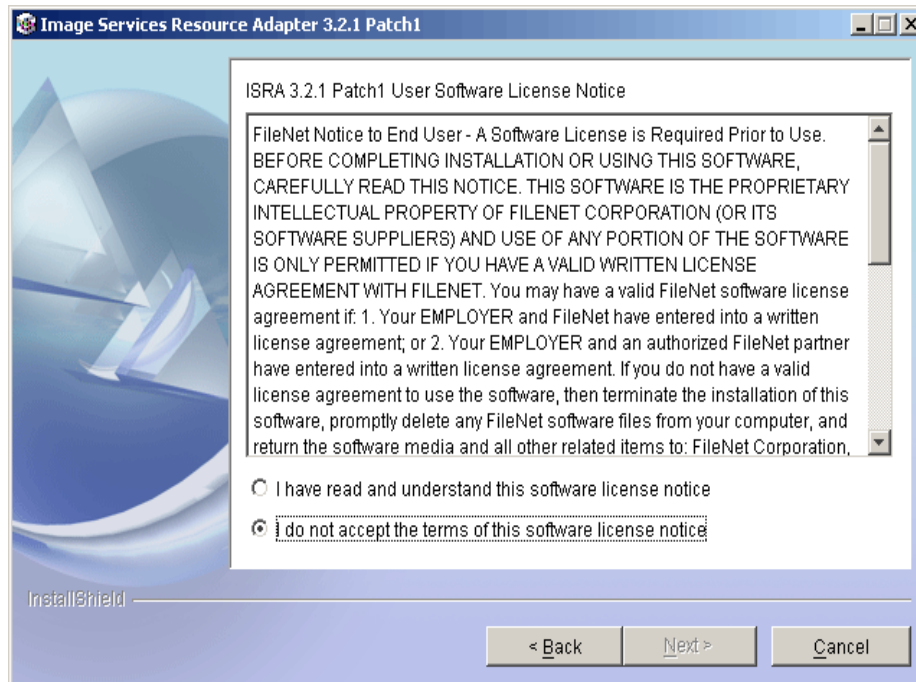


3. If user clicks **Cancel**, the following dialog box appears:

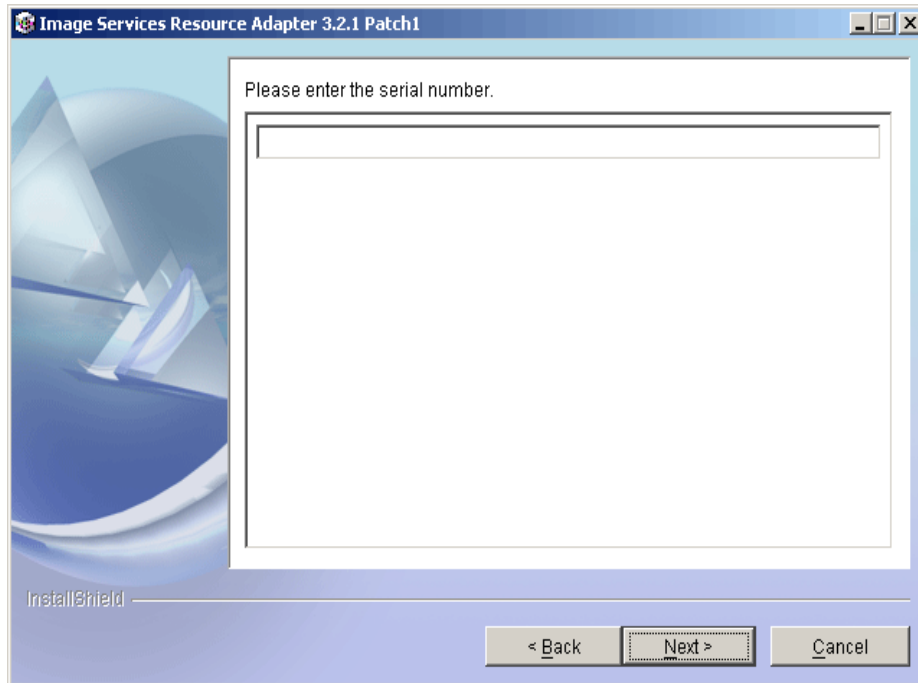


Click **No** to go back to the previous screen

4. Click **Next** to proceed.



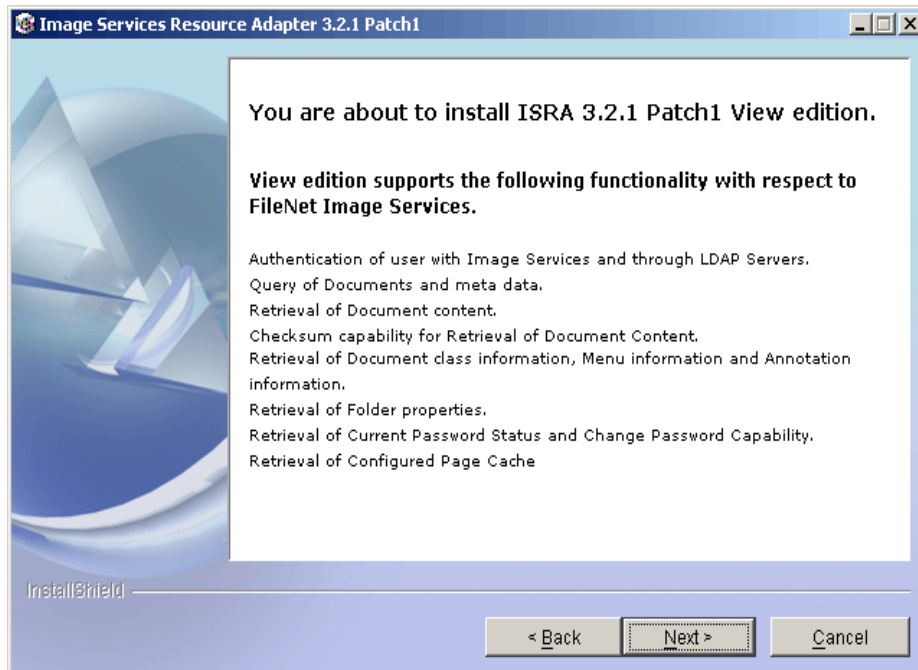
5. Accept the license agreement and click **Next** to proceed.



6. Enter the serial number and click **Next** to proceed.

Depending on the serial number, either View edition or Enterprise edition of ISRA will be installed.

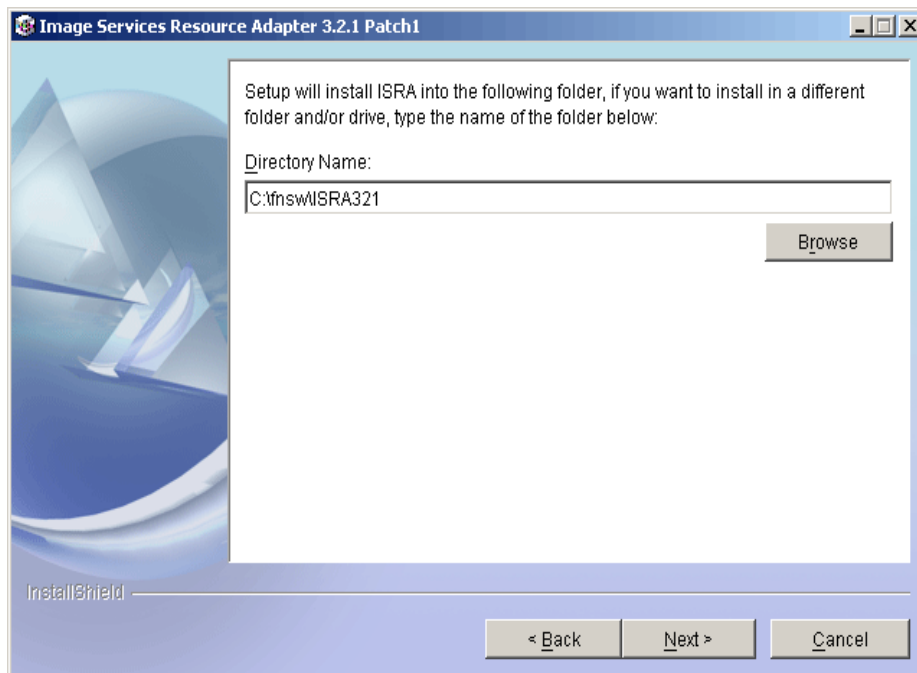
- The View edition screen appears, as shown below.



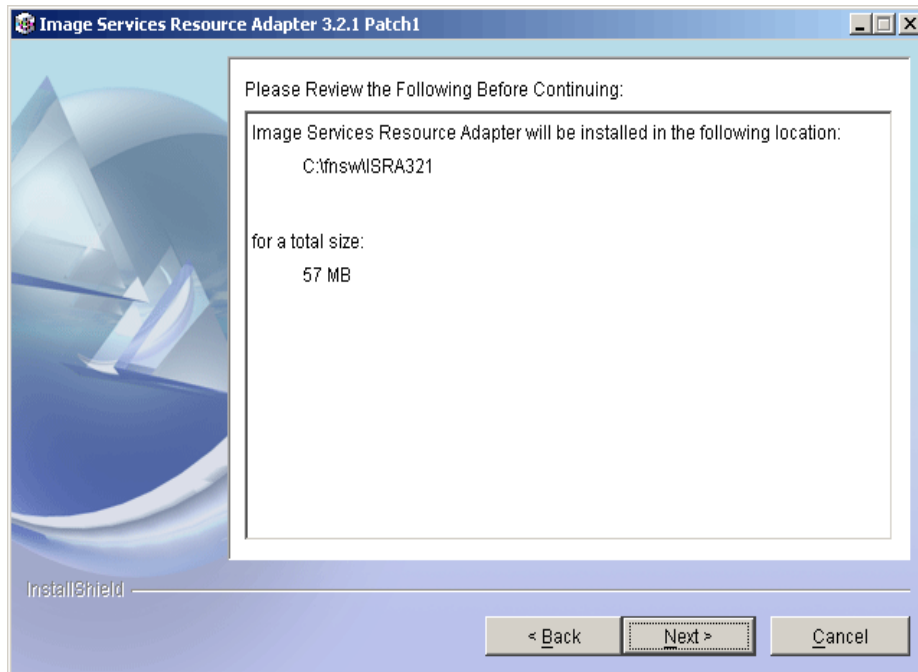
- The Enterprise edition screen appears, as shown below.



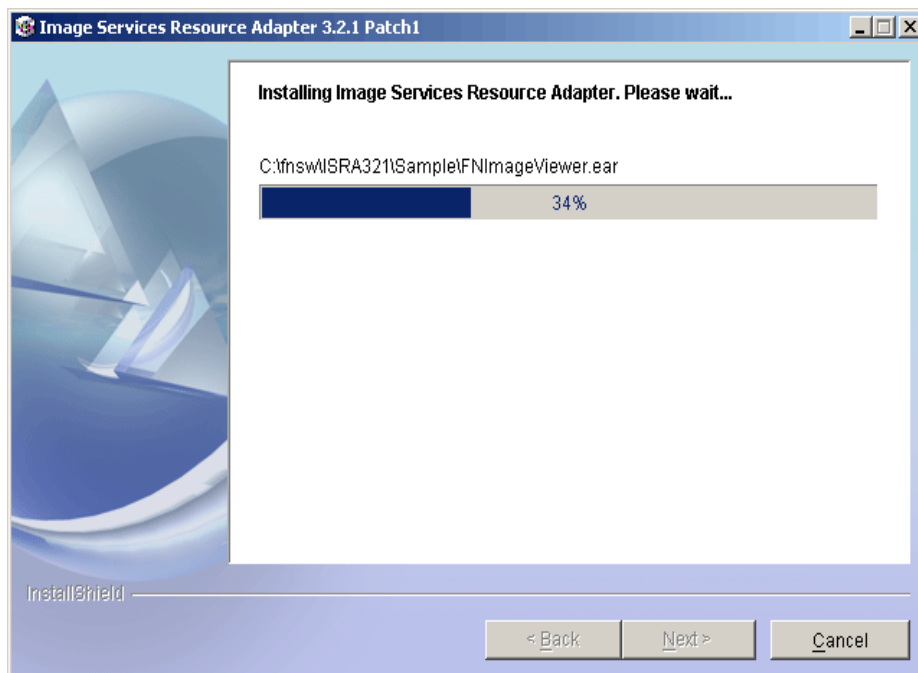
7. Click **Next** to proceed with the installation.



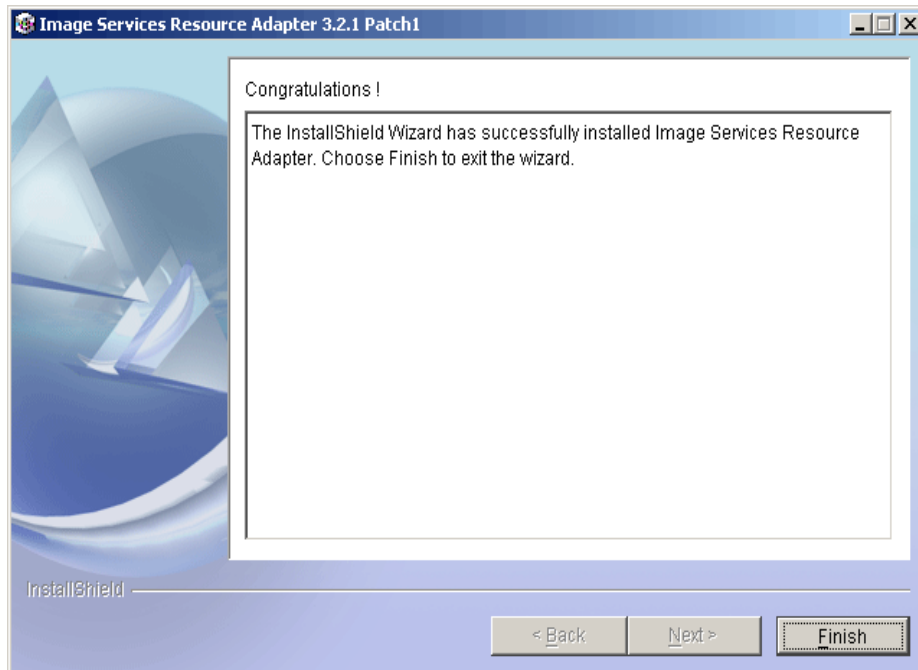
8. Choose the directory to install ISRA and click **Next** to proceed. On UNIX/Linux systems, the default path shown is `//fnsw/ISRA321`.



9. Verify the information. If there are any errors, click **Back** to make the necessary changes. Else, click **Next** to proceed with the installation of ISRA. The following screen appears:



10. When ISRA installation completes, the following screen appears:



11. Click Finish.

For UNIX platforms, login as root user and execute the following command to unmount the CD-ROM:

```
# umount /cdrom
```

For Linux, enter `# umount /mnt/cdrom`

Remove the CD from the drive.

Silent Installation of ISRA

For Silent Installation of ISRA, perform the following steps:

1. Execute the following command on the command prompt to generate a template file:

```
java -cp setup_ISRA321Patch1.jar run -options-template  
<Real Path>/<name of template file>, e.g.  
fns\ISRASilent\ISRASilent.txt
```

2. Copy the template file and **setup_ISRA321Patch1.jar** to a desired location.
3. Set the following values in template file:
 - -P installLocation = <value> variable to
 - -P ISRAProductBean.installLocation = <value>.
 - LicenseBean.selection variable as 1 to accept the license agreement
 - SerialNumberFieldBean.SerialNumber variable to the specific serial number for Enterprise or View edition
 - ISRAProductBean.installLocation variable to the directory under which the installation has to take place in the template file.
4. Set the path to location containing **setup_ISRA321Patch1.jar** file on command prompt. Execute the following command to start the Silent installation:

```
java -cp setup_ISRA321Patch1.jar run -silent -options  
<Real Path>/ISRASilent.txt
```

2

ISRA Deployment

ISRA can be deployed on a J2EE 1.3 compliant Application Server. This section describes the deployment of ISRA on JBoss platform.

Note The installation procedure for JBoss is outside the scope of this document. This guide assumes that the required settings and configurations have already been made.

The ISRA module is a set of Java interfaces/classes that implement J2EE Connector Architecture-specified contracts and the EIS specific functionality. ISRA plugs into a J2EE 1.3 compliant Application Server in a modular manner.

Deployment Requirements

This section lists the minimum software and hardware requirements for successful deployment of ISRA on JBoss Application Server.

Hardware Requirements

- For additional information on JBoss, visit <http://www.jboss.org/>
- ISRA installation will require at least 80MB free disk space.

Software Requirements

- JBoss installed on Sun Solaris 9, Red Hat Linux AS 3.2 or Microsoft Windows 2000 and 2003 Server
- FileNet IS 3.6 SP2 and above

Deploying ISRA

Deploying ISRA.rar

The steps to deploy the **ISRA.rar** file are:

1. Extract **ra.xml** from **ISRA.rar**.
2. Change config-property-value for the following:
 - DomainName
 - OrganizationName
 - LoggingLevel

- LogFileName
- LoggingMode
- LogFileSize
- PageBufferSize
- CacheRefreshInterval

For more information, refer [Configurable ra.xml Entities](#).

3. Update **ra.xml** in **ISRA.rar** with the new file.
4. Copy **ISRA.rar** to <jboss installation directory>\server\default\deploy directory.

ISRA RA Descriptor (JBoss specific)

1. Create the **isra-ds.xml** file using a preferred text editor. The **isra-ds.xml** file should resemble this specimen:

For JBoss 3.2.x:

```
<?xml version="1.0" encoding="UTF-8"?>
<connection-factories>
<tx-connection-factory>
    <jndi-name>ISCF</jndi-name>
    <adapter-display-name>ISRA</adapter-
display-name>
</tx-connection-factory>
</connection-factories>
```

For JBoss 4.0.1:

Remove <adapter-display-name>ISRA</adapter-display-name> property and add the following two properties:

```
<rar-name>ISRA.rar</rar-name> and
<connection-
definition>javax.resource.cci.ConnectionFactory
</connection-definition>
```

2. Copy **isra-ds.xml** to <jboss installation directory>\server\default\deploy directory.
3. Start the JBoss Server.
 - On Windows server, execute the **run.cmd** or **run.bat** script on the command prompt using:

```
<JBoss Installation Directory>\bin\run.cmd
```

Or

```
<JBoss Installation Directory>\bin\run.bat
```
 - On a Solaris and LINUX system, login as the root user and execute the **run.sh** script in the command prompt using:

```
# cd <JBoss Installation Directory>\bin\
# ./run.sh
```


Mandatory Requirements for ISRA 3.2.1

The mandatory requirements for ISRA 3.2.1 are:

1. Include **listener.jar** and **log4j-1.2.8.jar** in the classpath of JBoss server. To include the jar files in classpath, navigate to **bin** folder of JBoss.
 - On Windows, open **run.bat** or **run.cmd** file in a preferred text editor and include the files in classpath.
 - On UNIX/Linux, open **run.sh** file in a preferred text editor and include the files in classpath.
2. Include the folder in which **WinPerfMon.dll** is present in the system path in case of Windows operating system. In LINUX, this file is not required.

ISRA Configuration

This chapter describes the ISRA configuration, deployed on JBoss Application Server.

Configuring Deployed ISRA

This section describes how to edit the ISRA deployment descriptor before deployment.

ISRA uses the J2EE Connector Architecture deployment descriptor, called **ra.xml** to define its operational parameters. The deployment descriptor is defined by Sun Microsystems in the J2EE Connector Architecture 1.0 specification. It describes the Resource Adapter related attributes, types, and deployment properties using a standard Document Type Definition (DTD).

To edit the ISRA deployment descriptor:

1. Change directory to ISRAtemp. Remove all files from ISRAtemp directory and copy **ISRA.rar** in it.
In the ISRAtemp directory, run the command `jar -xvf ISRA.rar`
This command will cause the **ISRA.rar** file to be extracted in the current directory.
2. Select the **ra.xml** file in the META-INF folder and edit the **ra.xml** file in a preferred text editor. The configurable properties that may be set (modified) in **ra.xml** are:
 - DomainName
 - OrganizationName
 - LogFileName
 - LoggingLevel
 - LoggingMode
 - LogFileSize
 - PageBufferSize
 - CacheRefreshInterval
 - CacheUser/CacheUserPassword
 - DeploymentInstance

For more information, refer [Configurable ra.xml Entities](#) section.

Note It is mandatory to configure DomainName and OrganizationName properties, as the ISRA needs these properties to access the IS. The other properties are optional. DomainName and OrganizationName are the second and third part of the three-part IS library name (for example: DefaultIMS:FileNetIS:FileNet).

3. After modifying, save the **ra.xml** file in the same folder.
4. To reconstruct the **ISRA.rar** file enter the command from ISRA Temp directory `jar -cvf ISRA.rar *`

This command will create **ISRA.rar** file with modified **ra.xml** bundled into it.

Changing ISRA Specific Parameters

Configurable ra.xml Entities

The configurable properties to be set (modified) in **ra.xml** are:

- [DomainName](#)
- [OrganizationName](#)
- [LogFileName](#)
- [LoggingLevel](#)
- [LoggingMode](#)
- [LogFileSize](#)
- [PageBufferSize](#)
- [CacheRefreshInterval](#)
- [CacheUser/CacheUserPassword](#)
- [DeploymentInstance](#)
- [PCHLogging](#)
- [AllowAnonymousUser](#)
- [RPCLogging](#)

DomainName

This is the domain name of the IS server. The default value of DomainName is FileNetIS. It should be set according to the operational environment. Change this property to the domain name of the IS.

OrganizationName

This is the FileNet IS organization name. The default value of OrganizationName is FileNet. It should be changed according to the operational environment.

LogFileName

The LogFileName is a string containing the name and path of the log file. The default value of LogFileName is ISRA.log. A complete or relative path can be provided to create the log file at a specific location on the disk.

LoggingLevel

This is an integer representing the amount of log information to be generated. The valid values are:

Logging Level	Description
0	Only Error and Warning messages will be logged by ISRA
1	Informative messages will also be logged by ISRA
2	Prints debug message in the log

The default value of LoggingLevel is 0. It can be modified to other valid Logging Levels. It is recommended to keep the logging level at 0. LoggingLevel can be increased if user encounters a problem while accessing ISRA through the application.

LoggingMode

This is an integer representing the logging mode. The valid values are:

Logging Mode	Description
0	No Logging
1	Only console logging
2	Only file logging
3	Both console logging and file logging

The default Value of LoggingMode is 3. It can be changed to other valid values according to the operational environment.

LogFileSize

This is an integer representing the maximum size of the log file in Megabytes (MB). When the size of the file reaches this maximum limit, the log file is renamed and a new file is created with the same name. For example, **ISRA.log** is renamed to **ISRA.log_1**, and a new file **ISRA.log** is created. The default value of LogFileSize is 5MB.

PageBufferSize

This is an integer value specified in kilobytes (KB). PageBufferSize specifies the chunk size used by ISRA to transfer page data to and from IS. The default value is 64 KB. Specifying a higher value will require more memory for the Application Server process, and a low PageBufferSize will mean more trips to IS. The value should be set to an average page size on the target IS.

CacheRefreshInterval

This is an integer value specified in minutes. ISRA stores meta-data information like Document class, Indices, menu details etc. in a local cache for faster retrieval. ISRA refreshes the cache information based on the CacheRefreshInterval value. The default value is 30 minutes.

CacheUser/CacheUserPassword

This is the user name to be used to configure ISRA Cache. If there is no value set for this parameter, ISRA will use the name and password of the first user to logon to IS through ISRA to build its Cache.

Note The CacheUser name has to be either empty or a valid IS user name otherwise access to the IS through ISRA will fail.

DeploymentInstance

This is the instance number of ISRA that is being deployed. It is a user defined number between 1 and 10. The default value for this parameter is 1 when none is specified. The maximum is 10, which means that 10 different instances of ISRA can be deployed on a single machine.

Each deployment/JNDI of ISRA on the same Web/Application server requires its own instance number. For example, you have 2 ISRA applications deployed on the same Web/Application server. Each deployment would require its own instance number and JNDI name. This number is used on the IS server to differentiate between multiple connections from the same IP address of the Web/Application server.

PCHLogging

This is a String parameter to enable/disable PCH logging in ISRA. The default value for this is disabled.

AllowAnonymousUser

It's a Boolean value to allow Anonymous user logon through LDAP, when blank password is passed from user/client. The default value of this parameter is false.

RPCLogging

This is an integer representing the RPC logging level. The valid values are:

RPCLogging	Description
0	Exceptions and Warnings
1	Info
2	Debug Level

Click **RPCLogging**. The default Value of RPCLogging is 1. It can be changed to other valid values according to the operational environment.

Configuring JBoss Specific Entities

Once the configurable properties are set for ISRA, parameters specific to the JBoss Application Server, need to be configured. The configurable properties for a Connector in JBoss are:

- MaxSize
- MinSize
- IdleTimeoutMinutes

These properties can be configured by accessing the JMX console Web application using the URL: <http://localhost:8080/jmx-console/index.jsp>

Note The above mentioned parameters may be configured in the **isra-ds.xml** file to be reflected in the administrative console.

Configuring Multiple IS Servers with ISRA

To configure ISRA to access multiple IS servers:

1. Deploy a **new ISRA instance for each IS** that you want to connect. Before deploying the second (and subsequent) ISRA, rename the **ISRA.rar** file. Observe that the new ISRA will overwrite the previously deployed ISRA configuration settings if the .rar file is not renamed.
2. Ensure that the renamed **ISRA.rar** has the .rar file extension.
3. Configure the new ISRA and enter a DomainName and OrganizationName in **ra.xml** before deployment for connecting to the target IS.
4. Create a new **<new name>-ds.xml** file in the following directory:
`<jboss installation directory>\server\default\deploy`

4

Configuring and Deploying ISRA Sample Application

The ISRA Sample Application is packaged as an Enterprise Application Archive File (**ISRASample.ear**). It consists of:

- A Web module (**SampleWEB.war**)
- Deployment Descriptor (**Web.xml**)

The ISRA Sample Application can be deployed on a J2EE 1.3 compliant Application Server. This chapter illustrates the deployment and configuration of the Sample Application on JBoss Application Server.

Note ISRA product media contains FileNet Image Viewer, which can be used to display the TIFF, JPEG, BMP, and other supported file formats on a Java-enabled browser.

This sample application is intended solely for illustrative purposes, and one should not expect this sample application to perform useful work, or to be used for production deployment. This sample application is to be used strictly as a reference material.

Configuring Sample Application

This section describes how to deploy the Sample Application on JBoss Application Server to access ISRA in a managed environment. It is assumed that ISRA is deployed and configured for the target IS.

1. Extract **ISRASampleWEB.war** from **ISRASample.ear**.
2. Extract **web.xml** from **ISRASampleWEB.war**.
3. Change param-value for "LIBRARY_NAMES" as follows:

For **JBoss 3.2.x**:

```
<param-value>java:/ISCF</param-value>
```

For **JBoss 4.0.1**:

```
<param-value>java:ISCF</param-value>
```

Note The LIBRARY_NAMES property is mandatory and it should be the same as the **JNDI Binding Path** specified for the configured ISRA ConnectionFactory.

LIBRARY_NAMES is the name of the ConnectionFactory. Provide the JNDI name of the ISRA Connection Factory that the ISRA Sample Application uses to access IS resources.

The default value of LIBRARY_NAMES is ISCF. It can be changed according to the operational environment. Multiple Connection Factory names can be specified by using comma (,) as a separator. For example: ISCF1, ISCF2.

4. To enable extended annotation functionality modify the following parameters in **web.xml**:
 - i. Change env-entry-value for "DOCCLASSNAME" to the document class configured in the IS for digital signatures.

```
<env-entry-value>digDocClass</env-entry-value>
```
 - ii. Change env-entry-value for "MAXROWS" to the number of records to be fetched from the given document class.

```
<env-entry-value>200</env-entry-value>
```
5. To enable Remote Printing functionality modify the following parameters in **web.xml**:
 - i. Change env-entry-value for "USEPRINTVIEWOPTION" to either Yes or No. This value will determine whether to honor the print/view preference set in the **web.xml** or to take the value returned by ViewOne. Default value is No.

```
<env-entry-value>No</env-entry-value>
```
 - ii. Change env-entry-value for "PRINTVIEWOPTION" to either View Only =1, Print Only =2, Print/View =3. This value indicates the value of Print/View. The default value is 3.

```
<env-entry-value>3</env-entry-value>
```

Note If the PRINTVIEWOPTION is set to 3 (default) then the sticky note would be saved as a normal sticky note. If PRINTVIEWOPTION value is specified as 1 or 2 then the annotations will be saved as an extended annotation (**Extended annotations** are non-standard annotations which are saved with a class name parameter (F_CLASSNAME) of "Proprietary", a class id property (CLASS_ID) of {A91E5DF2-6B7B-11D1-B6D7-00609705F027} and a subclass name property (F_SUBCLASS) that describes the annotation).

The value of PRINTVIEWOPTION would be honored for each sticky note individually, and not for all the sticky notes on a document as a whole.

Thus, the setting for PRINTVIEWOPTION would be processed for either a new annotation being added or an existing annotation being modified.

6. Update **web.xml** in **ISRASampleWEB.war**.
7. Update **ISRASampleWEB.war** in **ISRASample.ear**.

Deploying the Sample Application

This section describes how to deploy the Sample Application on a JBoss Server to access ISRA in a managed environment. It is assumed that ISRA is deployed and configured for the target IS. To deploy the Sample Application, copy **ISRASample.ear** to `<jboss installation directory>\server\default\deploy directory`.

Deploying the FileNet Image Viewer

This section describes how to deploy the FileNet Image Viewer, used by the ISRA Sample Application to display documents of specific mime types (TIFF, JPEG and BMP). Skip this section, if you do not want the FileNet Image Viewer configured with the ISRA Sample application. To deploy FileNet Image Viewer, copy **FNImageViewer.ear** to `<jboss installation directory>\server\default\deploy directory`.

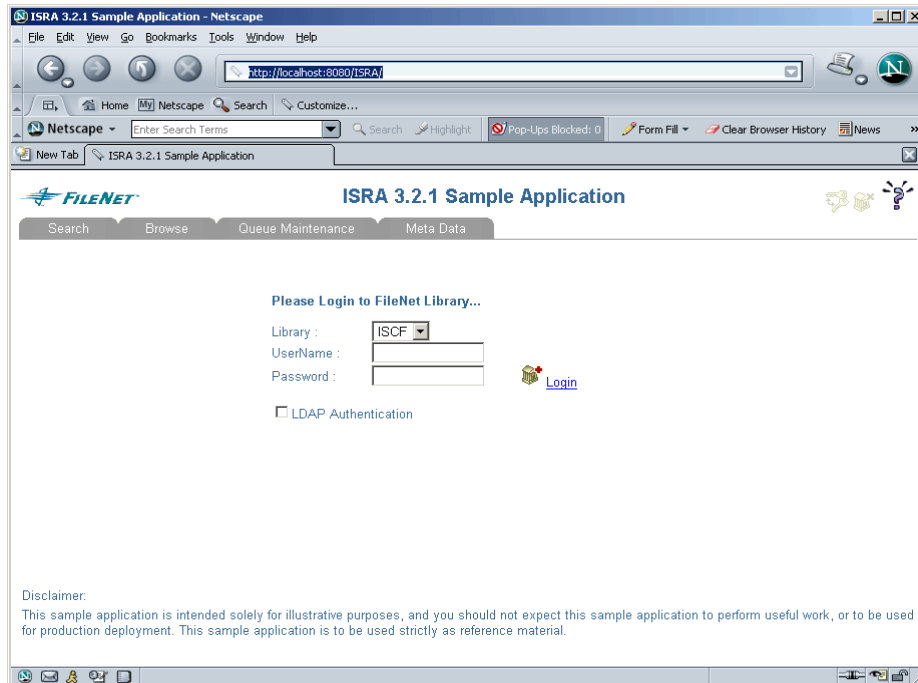
Testing Sample Application Deployment

After the ISRA Sample Application is started, the steps to verify the deployment and access the ISRA Sample Application are:

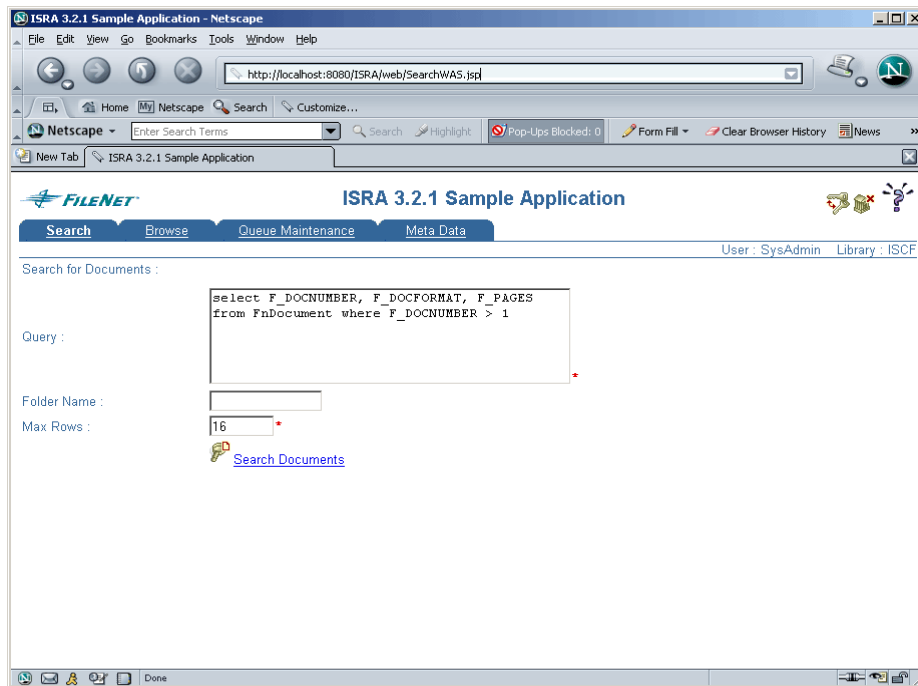
1. Open a Web browser and enter the URL
`http://<server:port>/context_root`

The Web application context_root is case sensitive. On a JBoss Server, the default port number is 8080. The default context_root of the Sample Application is ISRA.

The Login screen appears:



2. Enter valid **Username** and **Password** for the configured IS (check configured ConnectionFactory for IS details) and click **Logon**.



3. Click **Help** icon, on the Sample Application page, for details on the interaction parameters and options.

5

LDAP Configuration

In addition to direct IS logging, ISRA 3.2.1 also supports LDAP Authentication by third party Servers.

It is necessary to map users present on the LDAP Server to the IS before using LDAP Authentication.

Note The installation of LDAP Server and creation of users on the LDAP machine are out of the scope of this document.

FileNet provides two utilities - `ldap_export` and `ldap_import`, to map existing users on the LDAP Server to the IS. These utilities are part of the IS package and must be executed on the machines running the LDAP Server and the IS.

The `ldap_export` utility is used to export usernames on the LDAP Server to an xml file. While, the `ldap_import` utility imports usernames that have been mapped to the xml file and creates corresponding users on the IS.

It is mandatory that the `ldap_import` algorithm and the xml file be present on the same machines, where IS exists. The `ldap_import` algorithm uses a hashing algorithm to generate user passwords for the IS.

Mapping Existing LDAP Server Users to IS

To configure user IDs in a FileNet IS library:

1. Create user entries on the LDAP server. The user attribute “uid” will be used to create a user on IS. The remaining attributes (including “password”) can be assigned any value.
2. Use the `LDAP_EXP.exe` utility to export the user entries created into an XML file.
3. `LDAP_EXP` program has the following parameters options:

Option	Description
s <server>	LDAP server name or IP address, required value.
p <port>	LDAP port number, optional value, 389 is default.
d <binddn>	LDAP administrator bind domain name (DN), required value.
w <bindpw>	LDAP administrator bind password, required value.
t <ldap server type>	Required value for server type: msft – Microsoft Active Directory sun – Sun One Directory (iPlanet) nov – Novell eDirectory(NDS). ibm – IBM Directory.
b <basedn>	LDAP Base DN, optional value.
g <grouplist filename>	Group list file for input, optional value.
o <XML output filename>	XML output filename, optional value.
l <log filename>	Log Filename to use, optional value.
l	Check for special characters on <id> tags only
E	Remove all escape characters – '\'
k	Use paged results. Windows to AD only
Z	Use secure socket connection
x <grouplist filename>	Group list file name for output, optional value.
v	Verbose log output.
c1 <user object class>	Class type for User, default is 'person'.
c2 <group object class>	Class type for Group, default is 'groupofuniquenames'.
a1 <user attribute>	Attribute to be used for user; default is 'dn'.
a2 <group attribute>	Attribute to be used for group; default is 'dn'
a3 <member attribute>	Attribute to be used for member; default is 'uniqueMember'

Note User may use /?, -?, /h or -h to generate help.

Example command lines:

Sun One directory(iPlanet) server:

```
ldap_exp -s SunSrvr1 -d "cn=Directory Manager" -w
"/, .++=" -t sun -b "dc=iPlanet, dc=com"
```

Microsoft Active Directory(AD) server:

```
ldap_exp -s Win2KSrvr1 -d
"CN=Administrator,CN=Users,DC=win2ksrvr1,DC=com" -w
"/, .++=" -t msft -b "dc=win2ksrvr1,dc=com"
```

Novell eDirectory(NDS) server:

```
ldap_exp.exe -s NovSrvr1 -d "cn=Admin, o=server" -w
"/, .++=" -t nov -b "o=wa"
```

IBM Directory server:

```
ldap_exp -s IBMSrvr1 -d "Cn=Administrator" -w "/, .++="
-t ibm
-b "dc=ibmsrvr1, dc=com"
```

4. Use the LDAP_IMPORT.exe for IS libraries to import the user entries from XML file into the specified FileNet IS library.

Parameters:

<i>/?</i>	Help screen
/h<host>[:organization]	IS host or domain name, organization.
/u<id> (used with /p)	Authorized IS user name
/p"<pwd>" (used with /u)	Encrypted IS user password.
/i<file>	XML input file

For example, to import user entries from XML file:

```
C:\>ldap_import /hIMGSERV:FileNet /ildap_exp.xml
```

Note Options are not case sensitive. All the information or error messages are logged to the system log or the file 'ldap_importyyyymmddlog.txt'. If Username and password are not specified in the command, it prompts for username and password.

5. The FileNet users created will have a password generated from the corresponding user IDs.

Changing ISRA Specific Parameters for LDAP

Configurable ra.xml Entities

The configurable properties to be set (modified) in **ra.xml** are:

- LdapImplClassName
- LdapImplClassString

LdapImplClassName

It is the name of the Implementation class for LDAP Authentication. This parameter contains the complete path of the LDAP Implementation class to be entered along with the LDAP Implementation Class Name.

The default value is 'com.filenet.is.ra.fnis.FN_IS_IPlanetImpl'

In addition, LDAP implementation has been provided for Microsoft Active Directory Server for Windows 2000 and Novell NDS 8.7.3. The value of the property for LDAP implementation for Active directory is com.filenet.is.ra.fnis.FN_IS_ActiveDirImpl and for Novell NDS 8.7.3 is com.filenet.is.ra.fnis.FN_IS_NovellNDSImpl.

LdapImplClassString

This parameter is a general string that takes in all the LDAP Server specific parameters required for authentication. It takes the following inputs:

- Server Name – Name of the Server/ Machine on which LDAP Server exists.

- Port Number – LDAP Server’s port number used for transactions.
- User Path – Directory under which the users are filed in the LDAP Directory Server.

The three parameters must be separated by semicolon and must appear in the order - server name, port number and user path. An example of LDAPImplClassString is:

- **For Active Directory**

filenetserver;389;isra.odc.filenet.com

- **For IPlanet**

filenetserver;389;uid= user1, ou=ISRA, dc=odc, dc=filenet, dc=com

- **For Novell NDS**

filenetserver;389;cn=user1, ou= ISRA, o=FileNet

6

UnDeployment

This section describes the undeployment procedure to remove ISRA and the Sample Application from the JBoss Server.

UnDeployment of ISRA

To undeploy ISRA delete the **ISRA.rar** file and **isra.ds.xml** file from the directory `<jboss installation directory>\server\default\deploy`.

UnDeployment of the Sample Application

To undeploy ISRA Sample Application delete the ISRASample.ear file from the directory `<jboss installation directory>\server\default\deploy`.

Similarly, FNImageViewer can also be undeployed.

Note The user must undeploy the previous version of FileNet Image Viewer before deploying the latest version.

This section describes how to troubleshoot ISRA.

Disabling NCH Broadcasts

ISRA users (application client) need to access IS libraries across routers on networks where broadcasts are disabled. This is done by creating alias entries for the IS libraries in the hosts file, where ISRA is deployed. ISRA must locate the IP address of the NCH server to find other IS services for an IS setup.

ISRA attempts to find the NCH server by generating broadcast packets, even if the NCH server was not reachable using broadcasts. User can disable NCH server location broadcasts to reduce broadcast traffic on the network.

User may want to disable NCH broadcasts if:

- Routers are present between servers,
- Want no broadcast activity on the networks,
- Want to force a multi-homed server to use a specific IP address configured by the operating system network directory search facility.

To specify the alias in the hosts file:

1. Locate **hosts file** on the server. It is located in the `/etc` folder on UNIX/Linux systems. On a Microsoft Windows Server, it is located in the `\system32\drivers\etc` under the Windows installation directory.
2. Open the hosts file with a preferred text editor. If a hosts file does not exist, create a new file using the preferred text editor.
3. For each FileNet library that user needs to connect through ISRA, entries should be made in the hosts file as `<IP address of domain:organization> <domain-organization>-nch-server`, where:
 - `<IP address of domain:organization>` is IP address of a FileNet domain and organization identifying the target FileNet library system (NCH Server).
 - `<domain-organization>` is domain and organization name. The rules to follow while specifying the domain-organization name are:
 - Delete all characters except ASCII alphanumeric characters and hyphens.
 - Convert all upper case characters to lower case.

- Insert a hyphen between the domain and organization names.
- Append nch-server as a literal.

For example, if a FileNet library has a domain, fn_is, and organization, FileNet, and its IP address is 123.45.6.78, the hosts file entry will be `123.45.6.78 fnis-filenet-nch-server`

Note The underscore character is removed from the fn_is domain name and the F and Net in the FileNet organization name are converted to lower case.

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Appendix B

ra.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE connector PUBLIC "-//Sun Microsystems, Inc.//DTD Connector
1.0//EN" 'http://java.sun.com/dtd/connector_1_0.dtd'>
<connector>
  <display-name>ISRA</display-name>
  <vendor-name>FileNet</vendor-name>
  <spec-version>1.0</spec-version>
  <eis-type>FileNet Image Services</eis-type>
  <version>3.2.1</version>
  <license>
    <license-required>>false</license-required>
  </license>
  <resourceadapter>
    <managedconnectionfactory-
class>com.filenet.is.ra.spi.FN_IS_SpiManagedConnectionFactory</managedc
onnectionfactory-class>
    <connectionfactory-
interface>javax.resource.cci.ConnectionFactory</connectionfactory-
interface>
    <connectionfactory-impl-
class>com.filenet.is.ra.cci.FN_IS_CciConnectionFactory</connectionfacto
ry-impl-class>
    <connection-interface>javax.resource.cci.Connection</connection-
interface>
    <connection-impl-
class>com.filenet.is.ra.cci.FN_IS_CciConnection</connection-impl-class>
    <transaction-support>NoTransaction</transaction-support>
    <config-property>
      <description>Domain name of the Image Services
Server</description>
      <config-property-name>DomainName</config-property-name>
      <config-property-type>java.lang.String</config-property-type>
      <config-property-value>FileNetIS</config-property-value>
    </config-property>
    <config-property>
      <description>Organization name of the Image Services
Server</description>
      <config-property-name>OrganizationName</config-property-name>
      <config-property-type>java.lang.String</config-property-type>
      <config-property-value>FileNet</config-property-value>
    </config-property>
    <config-property>
      <description>0-Exceptions and Warnings; 1-Info; 2-
Debug_Level</description>
      <config-property-name>LogLevel</config-property-name>
      <config-property-type>java.lang.Integer</config-property-type>
      <config-property-value>0</config-property-value>
    </config-property>
  </resourceadapter>
</connector>
```

```

    <config-property>
      <description>0-No Logging; 1-Console Logging; 2-File Logging; 3-
Both(File and console)</description>
      <config-property-name>LoggingMode</config-property-name>
      <config-property-type>java.lang.Integer</config-property-type>
      <config-property-value>3</config-property-value>
    </config-property>
    <config-property>
      <description>Page data fetch size (in kilo bytes)</description>
      <config-property-name>PageBufferSize</config-property-name>
      <config-property-type>java.lang.Integer</config-property-type>
      <config-property-value>64</config-property-value>
    </config-property>
    <config-property>
      <description>Cache refresh interval(in minutes)</description>
      <config-property-name>CacheRefreshInterval</config-property-name>
      <config-property-type>java.lang.Integer</config-property-type>
      <config-property-value>30</config-property-value>
    </config-property>
    <config-property>
      <description>Name of the Product</description>
      <config-property-name>ProductName</config-property-name>
      <config-property-type>java.lang.String</config-property-type>
      <config-property-value>FileNet Image Services Resource
Adapter</config-property-value>
    </config-property>
    <config-property>
      <description>Product Version</description>
      <config-property-name>ProductVersion</config-property-name>
      <config-property-type>java.lang.String</config-property-type>
      <config-property-value>ISRA 3.2.1 Enterprise</config-property-
value>
    </config-property>
    <config-property>
      <description>ISRA Logfile name (can include path) </description>
      <config-property-name>LogFileName</config-property-name>
      <config-property-type>java.lang.String</config-property-type>
      <config-property-value>ISRA.log</config-property-value>
    </config-property>
    <config-property>
      <description>Maximum Size of ISRA LogFile (in mega
bytes)</description>
      <config-property-name>LogFileSize</config-property-name>
      <config-property-type>java.lang.Integer</config-property-type>
      <config-property-value>5</config-property-value>
    </config-property>
    <config-property>
      <description>LDAP Authentication Class
Name</description>
      <config-property-name>LdapImplClassName</config-property-
name>
      <config-property-type>java.lang.String</config-property-
type>
      <config-property-
value>com.filenet.is.ra.fnis.FN_IS_IPlanetImpl</config-property-value>
    </config-property>
  </config-property>

```

```

        <description>Server details for LDAP Authentication
</description>
        <config-property-name>LdapImplClassString</config-property-
name>
        <config-property-type>java.lang.String</config-property-
type>
        <config-property-
value>filenetserver;389;ou=filenet,ou=people,dc=filenetroot</config-
property-value>
        </config-property>
        <config-property>
            <description>Inherently login through LDAP authentication
or not 0-Direct IS Login;1-LDAP Authentication</description>
            <config-property-name>InherentLogin</config-property-name>
            <config-property-type>java.lang.Integer</config-property-type>
            <config-property-value>0</config-property-value>
        </config-property>
        <config-property>
            <description>Name of the User that is used to create Cache for
ISRA</description>
            <config-property-name>CacheUser</config-property-name>
            <config-property-type>java.lang.String</config-property-type>
            <config-property-value>SysAdmin</config-property-value>
        </config-property>
        <config-property>
            <description>Password of the User that is used to create Cache
for ISRA</description>
            <config-property-name>CacheUserPassword</config-property-name>
            <config-property-type>java.lang.String</config-property-type>
            <config-property-value>SysAdmin</config-property-value>
        </config-property>
        <config-property>
            <description>ISRA instance that is currently being deployed on a
single machine; Min Value = 1, Max Value = 10</description>
            <config-property-name>DeploymentInstance</config-property-name>
            <config-property-type>java.lang.Integer</config-property-type>
            <config-property-value>1</config-property-value>
        </config-property>
        <authentication-mechanism>
            <authentication-mechanism-type>BasicPassword</authentication-
mechanism-type>
            <credential-
interface>javax.resource.security.PasswordCredential</credential-
interface>
        </authentication-mechanism>
        <reauthentication-support>>false</reauthentication-support>
    </resourceadapter>
</connector>

```

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