Image Services Resource Adapter

Version 3.2.1

Image Services Resource Adapter

Installation and Deployment Guide

For Sun Java System Application Server

Release 3.2.1

April 2006

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About This Manual

This manual provides information about installing and configuring FileNet Image Service Resource Adapter (ISRA) 3.2.1 on a Sun Java System Application Server.

Conventions Used in This Document

The table lists the formatting conventions used in this document.

Convention	Description
Fixed Size font	Used for commands entered at 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

FileNet provides various forms of instruction. Please visit the Global Learning Services in FileNet's 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

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1
ISRA Installation

This document describes how to install, deploy and configure FileNet ISRA version 3.2.1, on a Sun Java System Application Server.

ISRA Overview

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

The J2EE 1.3 Connector Architecture (JCA) provides a Java solution to the problem of connectivity between Application Servers and EISs. JCA defines a standard architecture to connect the Java 2 Enterprise Edition (J2EE) platform to heterogeneous EIS's.

ISRA is a JCA-compliant, system-level software driver, which is used by a Java application component or client to connect to FileNet Image Services (IS).

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 products.

ISRA Package Overview

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

ISRA is packaged into two different 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.
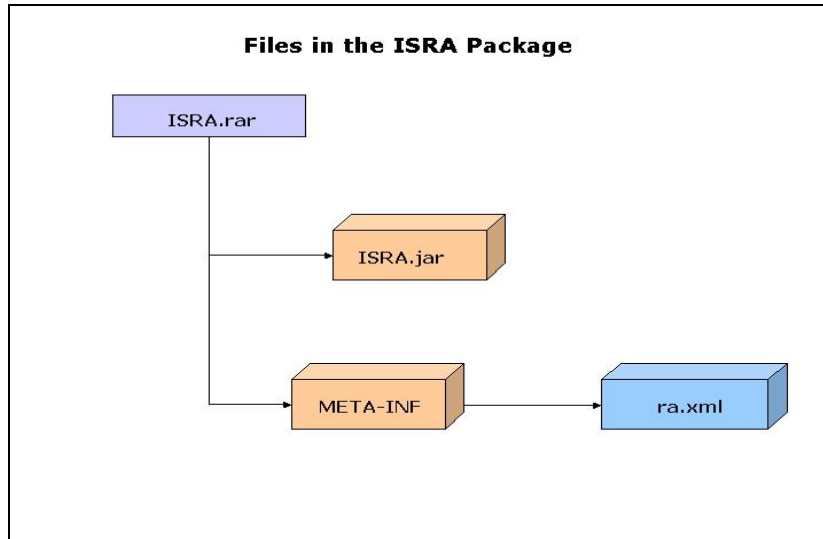
Resource Adapter Module

The contents of the Resource Adapter Module are:

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

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

Files in the ISRA Package

Installing ISRA

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

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.

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

This lists the CD-ROM device.

On HPUX:

– Using a preferred editor (for example, vi), edit the `/etc/pfs_fstab` file by adding an entry similar to `/dev/dsk/c2t2d0 /cdrom pfs-rrip xlat=unix 0 0` where `/dev/dsk/c2t2d0` is the CD-ROM device file path and `/cdrom` is the mount point for the CD.

– On the system prompt, enter:

```
# pfs_mountd &
# pfsd &
```

– On the system prompt enter the following command to mount the CD-ROM:

```
# pfs_mount /cdrom
```

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

This lists the CD-ROM device.

On IBM AIX 5.1 and 5.2:

Perform this step only if CD-ROM device is not already mounted. Note that one 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 command `# mkdir /cdrom`

– At the system prompt enter the following command to mount the CD-ROM:

```
# mount –rv cdrfs /dev/cd0 /cdrom
```

where /dev/cd0 is the CD-ROM device file path, /cdrom is the mount point for the CD and cdrfs is the file system format of the CD.

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 ISRA installer by executing **setup.bin** on Solaris, or **setup.exe** on Windows Server.

- For Solaris, HPUX, AIX or Linux platform, open a terminal and change directory to the Solaris folder on the CDROM drive to locate **setup.bin**. To do this, type:

```
# cd cdrom/<Solaris, HPUX, AIX, Linux>
# ./setup.bin
```

- On Windows Server, locate **setup.exe** in the Windows folder on the CDROM drive. Double-click **setup.exe** to launch the ISRA installer.

Note   The screenshots shown in this section (taken on Windows Server, which includes both 2000 and 2003 Servers) may look slightly different on the user's machine, depending on the server, platform version or settings etc.

The installation screen appears:
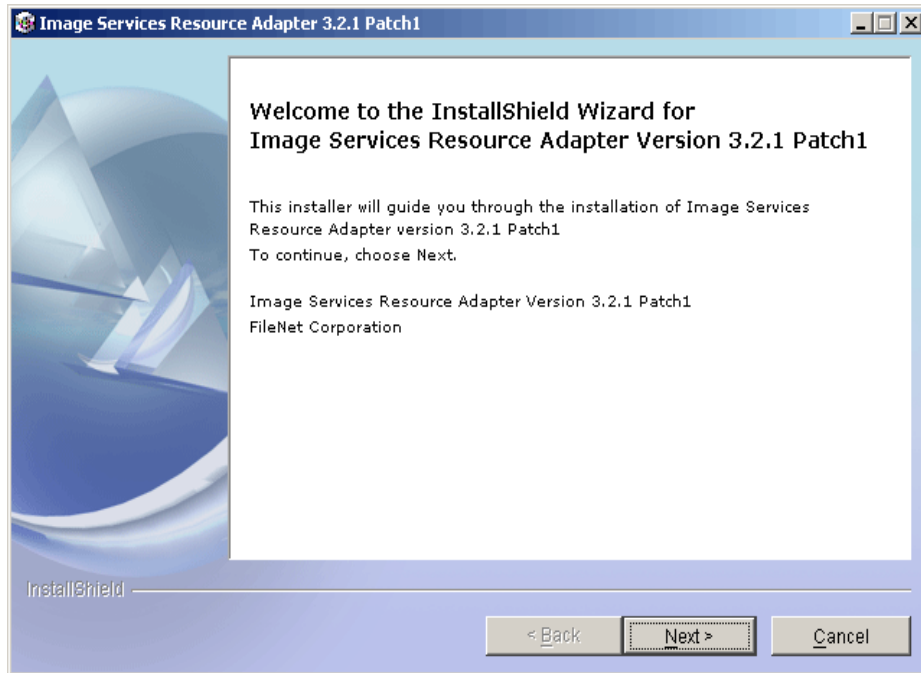
3. If user clicks **Cancel**, the following dialog box appears:
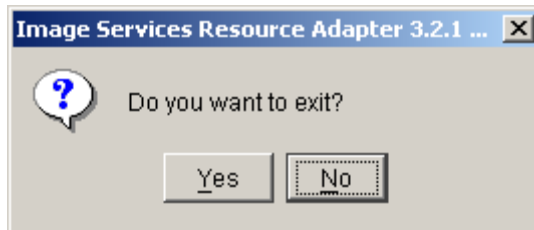
Click **No** to go back to the previous screen.

4. Click **Next** to proceed. The following screen appears:

Image Services Resource Adapter 3.2.1 Patch1

ISRA 3.2.1 Patch1 User Software License Notice

FileNet Notice to End User - A Software License is Required Prior to Use. BEFORE COMPLETING INSTALLATION OR USING THIS SOFTWARE, CAREFULLY READ THIS NOTICE. THIS SOFTWARE IS THE PROPRIETARY INTELLECTUAL PROPERTY OF FILENET CORPORATION (OR ITS SOFTWARE SUPPLIERS) AND USE OF ANY PORTION OF THE SOFTWARE IS ONLY PERMITTED IF YOU HAVE A VALID WRITTEN LICENSE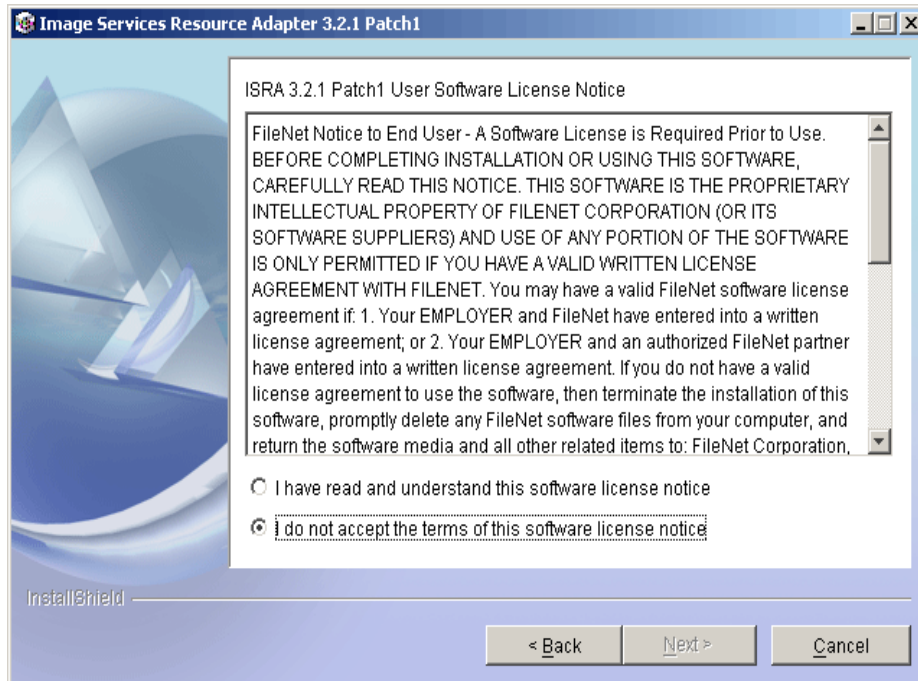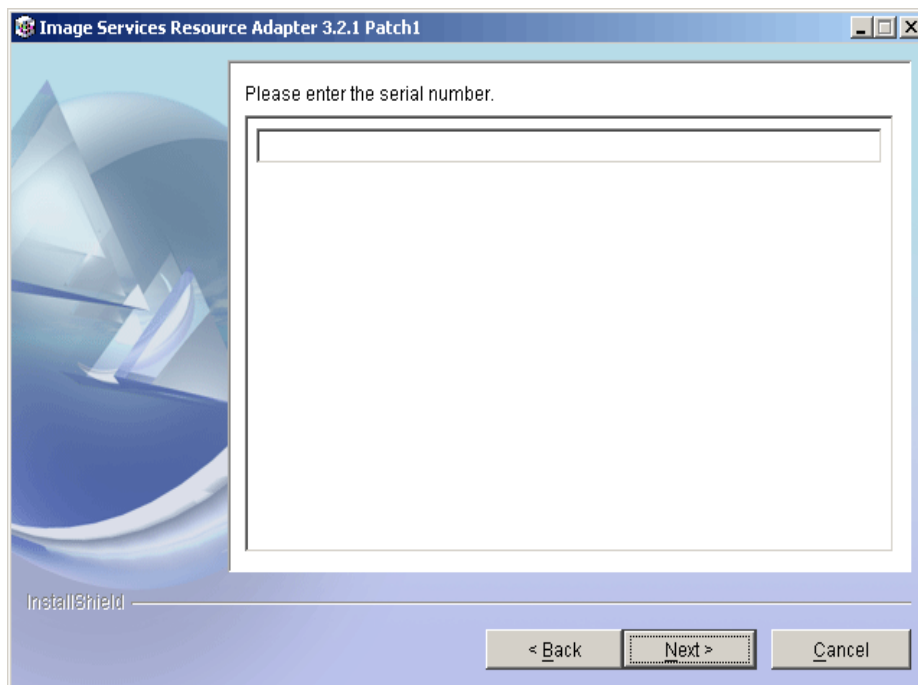 AGREEMENT WITH FILENET. You may have a valid FileNet software license agreement if: 1. Your EMPLOYER and FileNet have entered into a written license agreement; or 2. Your EMPLOYER and an authorized FileNet partner have entered into a written license agreement. If you do not have a valid license agreement to use the software, then terminate the installation of this software, promptly delete any FileNet software files from your computer, and return the software media and all other related items to: FileNet Corporation,

○ I have read and understand this software license notice

◉ I do not accept the terms of this software license notice

InstallShield

< Back   Next >   Cancel

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

Image Services Resource Adapter 3.2.1 Patch1

Please enter the serial number.

InstallShield

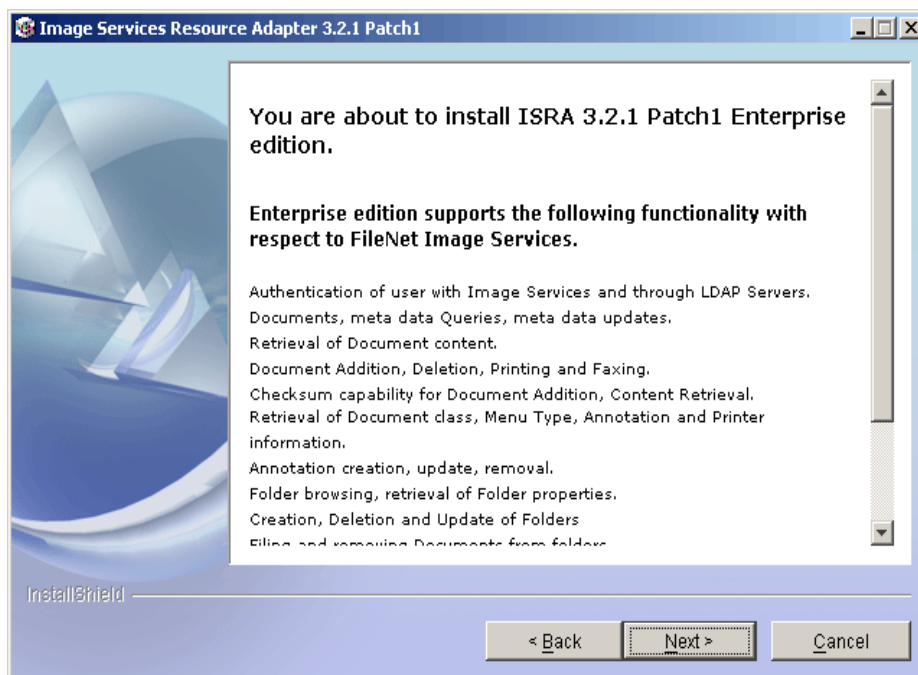< Back   Next >   Cancel

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

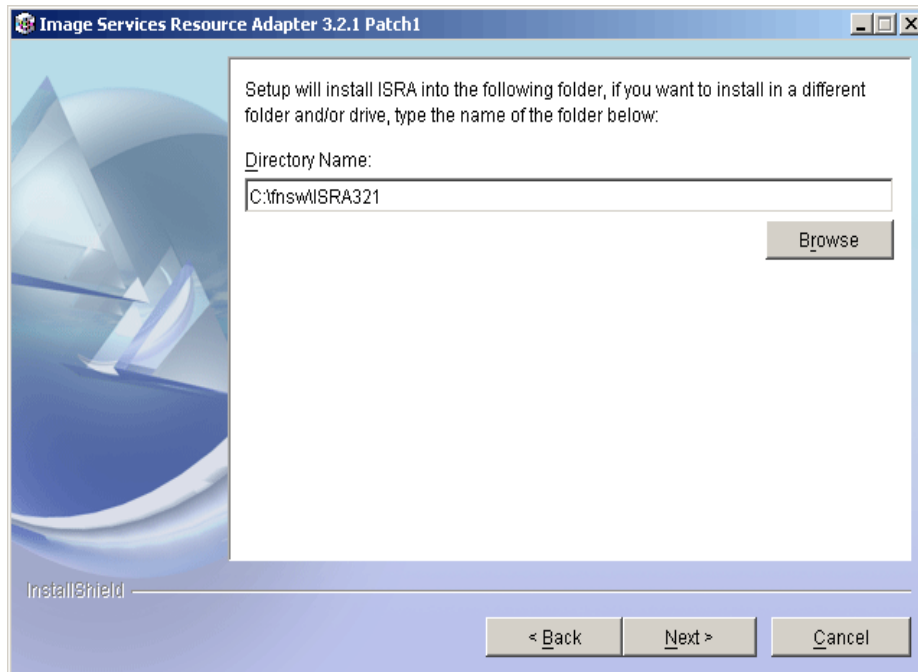Depending on the serial number, either View edition or Enterprise edition of ISRA will be installed.
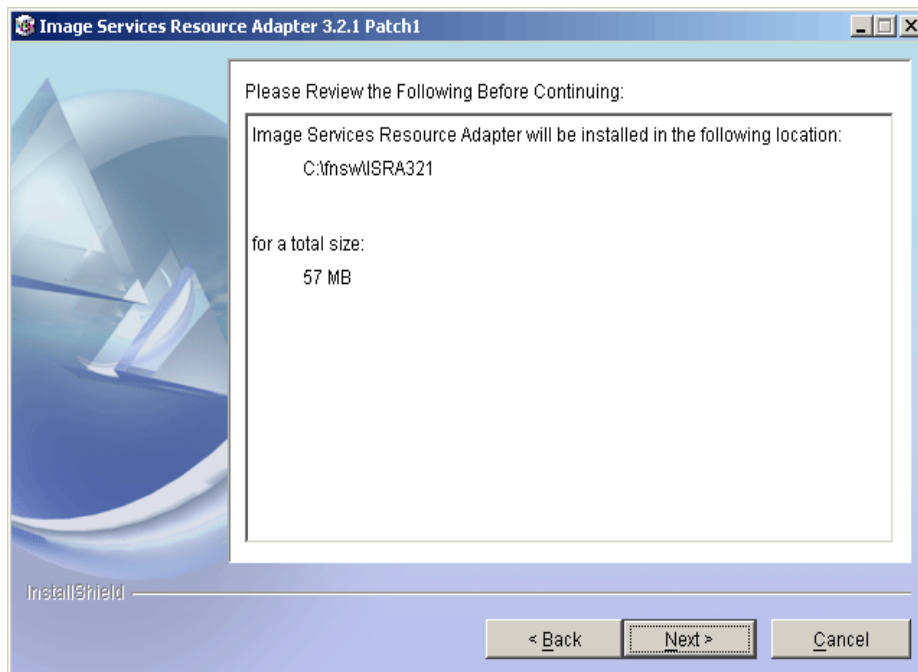
- The View edition screen appears:
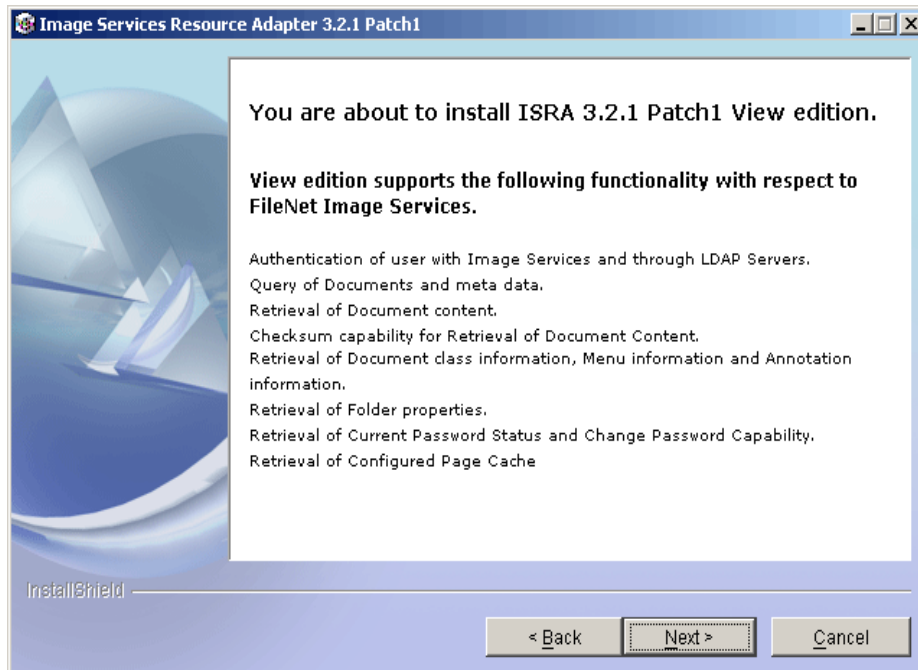
- The Enterprise edition screen appears:

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

Setup will install ISRA into the following folder, if you want to install in a different folder and/or drive, type the name of the folder below:

Directory Name:

C:\fnsw\ISRA321

Browse

InstallShield

< Back   Next >   Cancel

8. Choose the directory to install ISRA and click **Next** to proceed. On UNIX systems, the default path shown is /fnsw/ISRA321. The following screen appears:

Please Review the Following Before Continuing:

Image Services Resource Adapter will be installed in the following location:

C:\fnsw\ISRA321

for a total size:

57 MB

InstallShield

< Back   Next >   Cancel

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:
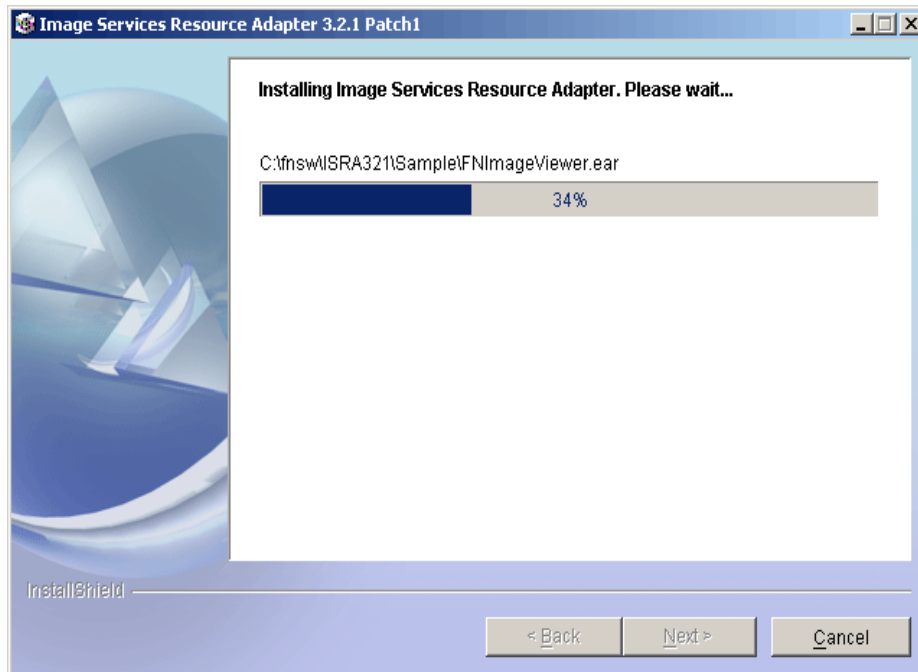
10. The following screen appears, when ISRA installation completes:
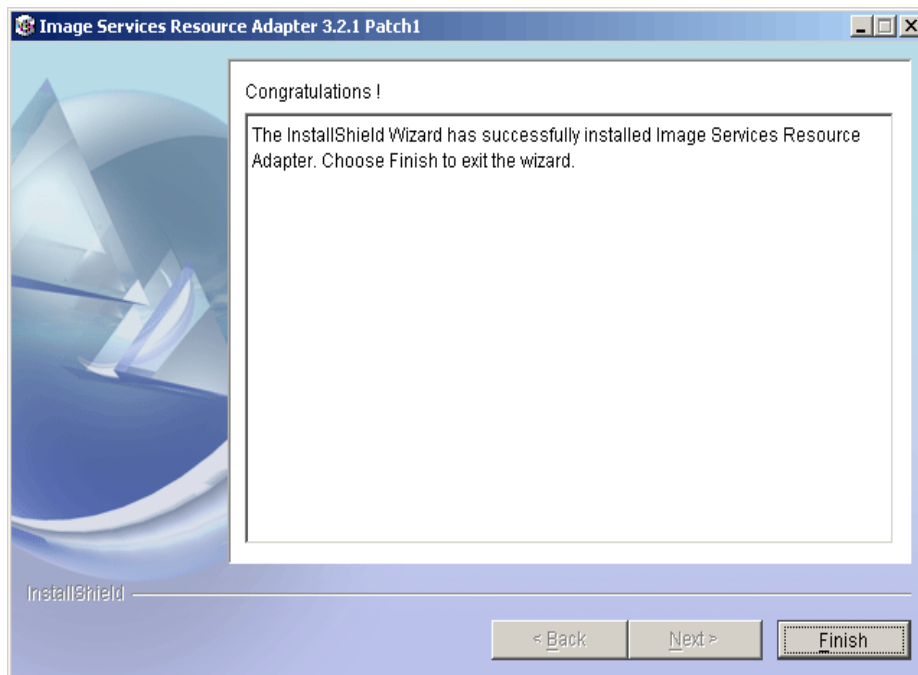
11. Click **Finish**.

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

```
# umount /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.
    fnsw\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 manual describes the deployment of ISRA on a Sun Java System Application Server.

Note	The installation procedure for Sun Java System Application Server is outside the scope of this document, and it is assumed that required settings and configurations have been satisfied. Please ensure that policy file (server.policy) at <Sun App Server 8.1.02 installation Directory>/domains/<domain name>/<server name>/config/server.policy is updated with required security permissions. Grant the following permissions for the default domain:

```
permission java.net.SocketPermission "*",
"connect,listen,resolve";
permission java.lang.RuntimePermission
"modifyThreadGroup";
permission java.io.FilePermission "<<ALL FILES>>",
"read,write,delete";
```

The ISRA module is a set of Java interfaces/classes that implements JCA 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 a Sun Java System Application Server.

Hardware Requirements

- UltraSPARC 168MHz or better
- 256MB RAM
- Free disk space of 80MB or more

Software Requirements

- Sun Java System Application Server on Sun Solaris 9, HPUX, IBM AIX 5.1 and 5.2, Linux or Microsoft Windows 2000 and 2003 Server
- FileNet IS 3.6 SP2 and above

Deploying ISRA

ISRA is deployed using the Sun Java System Application Server administration console. To deploy ISRA:

1. Start the Sun Java System Application Server.

   – On Windows Server, start Sun Java System Application Server from the Start Menu by clicking:

      Start → Programs → Sun Microsystems → Application Server PE → Admin Console.

Note	Ensure that J2EE server is started. The message on the console, J2EE server startup complete, indicates that the admin server is running successfully.

2. To open the administrative console, enter the Sun Java System admin console url < `http://hostname:portnumber/admin`> in a browser window. The following screen appears:
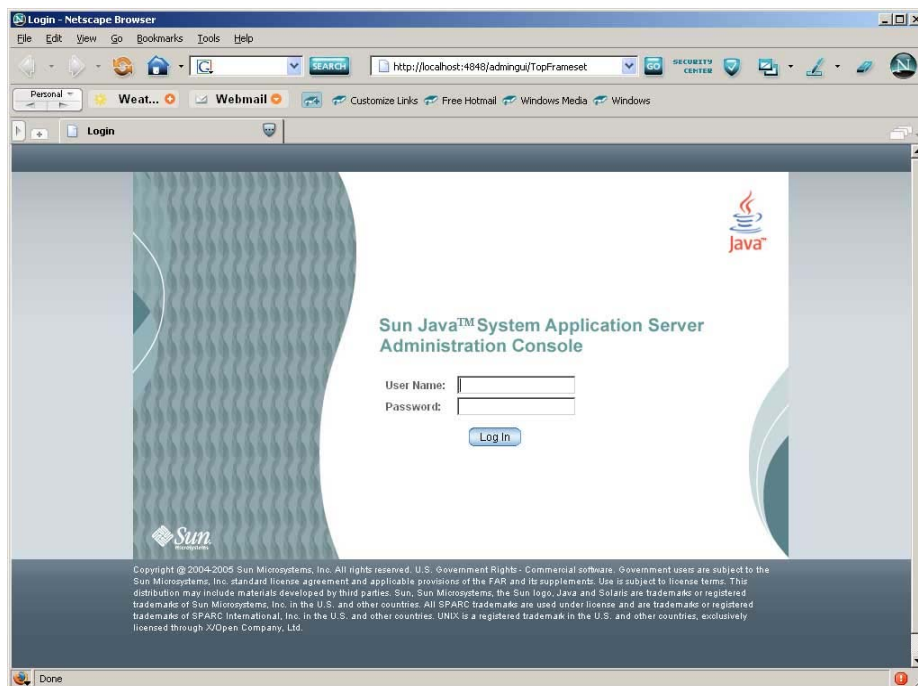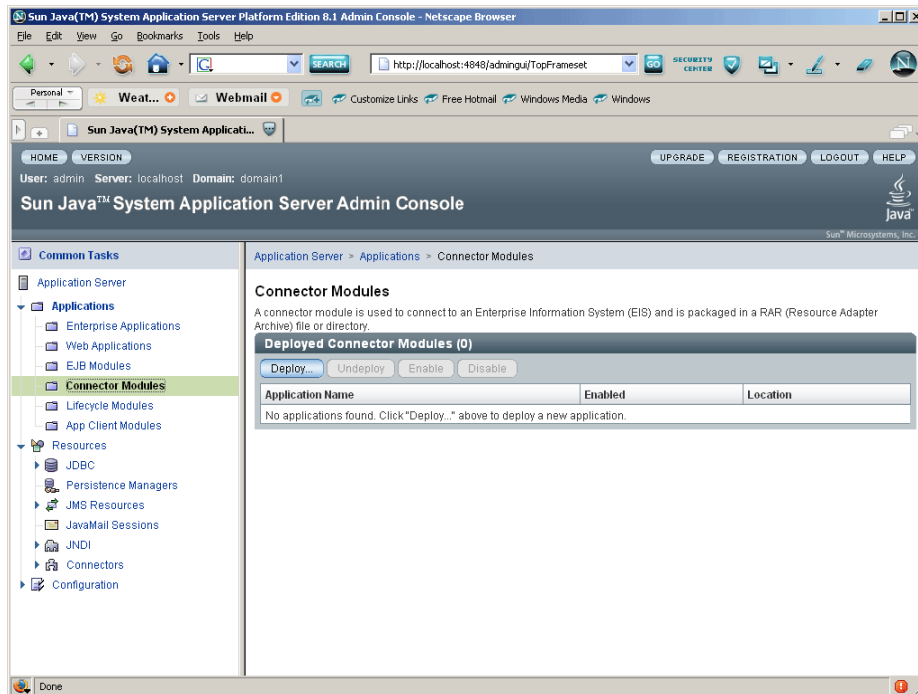

3. Specify **User Name** and **Password**, and click **Log In**. The Welcome screen appears:
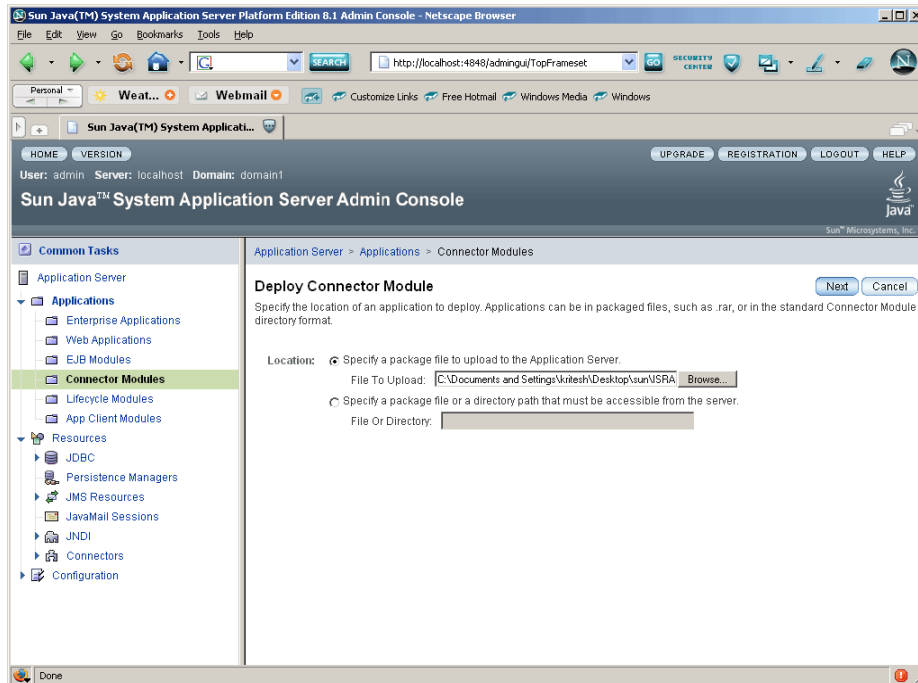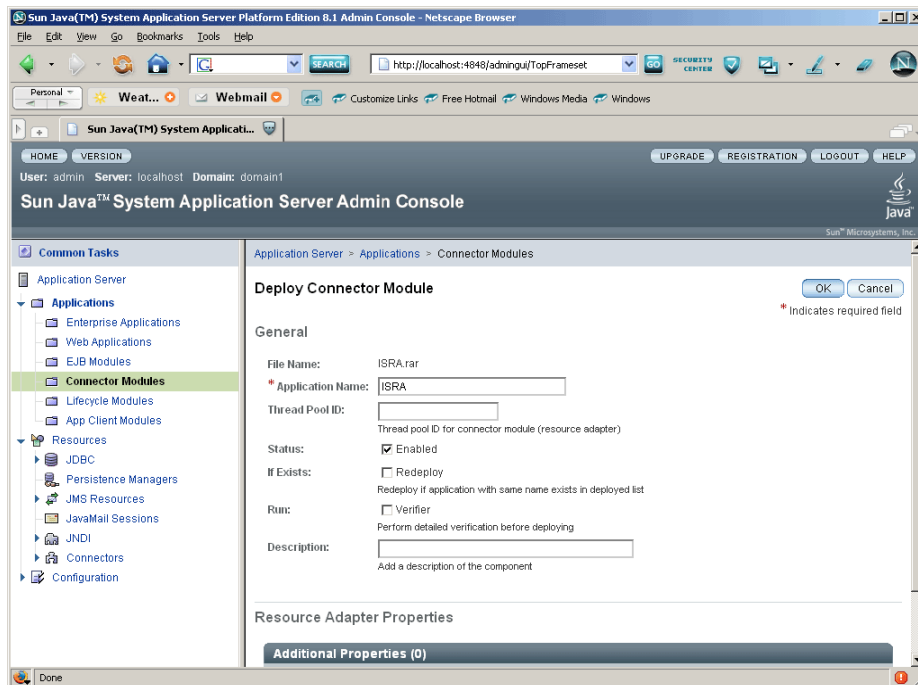
4. Click **Applications → Connector Modules**. The following screen appears:
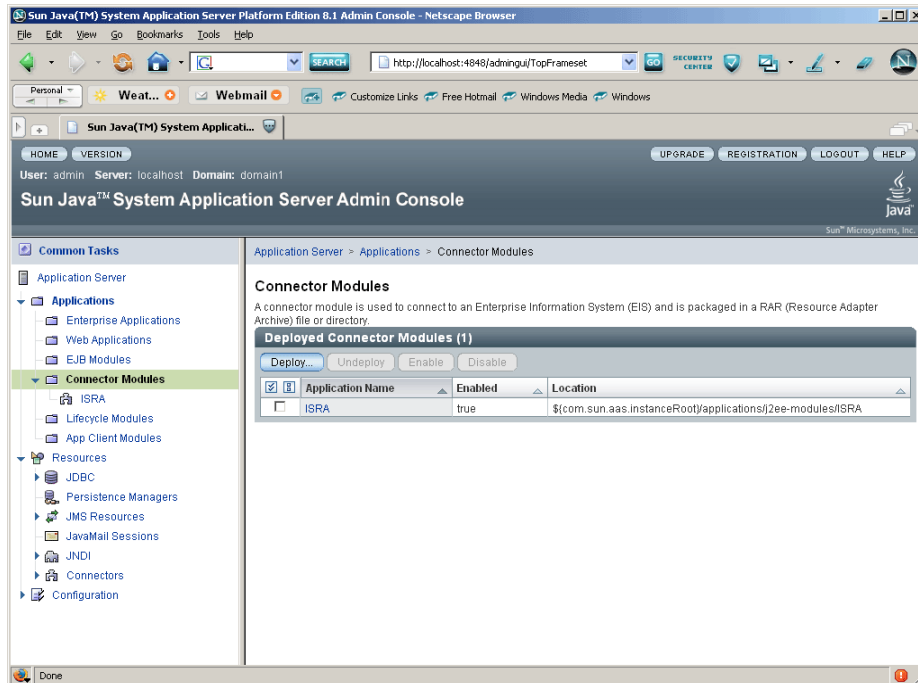

5. Click **Deploy**. The following screen appears:

6. Specify the location of the ISRA.rar file or click **Browse** to navigate to the directory containing ISRA.rar. Click **Next**. The following screen appears:

7. Click **OK**. The following screen appears:

Note   The check box against the Application Name(s) may be used to Deploy/Undeploy/Enable/Disable it. The Status field, corresponding to the application name will be modified accordingly.

Mandatory Requirements for ISRA 3.2.1

The mandatory requirements for ISRA 3.2.1 include:

1. Include **listener.jar** and **log4j-1.2.8.jar** in the classpath of Sun Java System Application Server. To include the jar files in classpath:

    i.   Start **Administrative console**.

    ii.   Click Server name (for example, here it is Server1) from the left panel.

    iii.   Click **JVM Settings** tab in the right panel. The following screen appears:
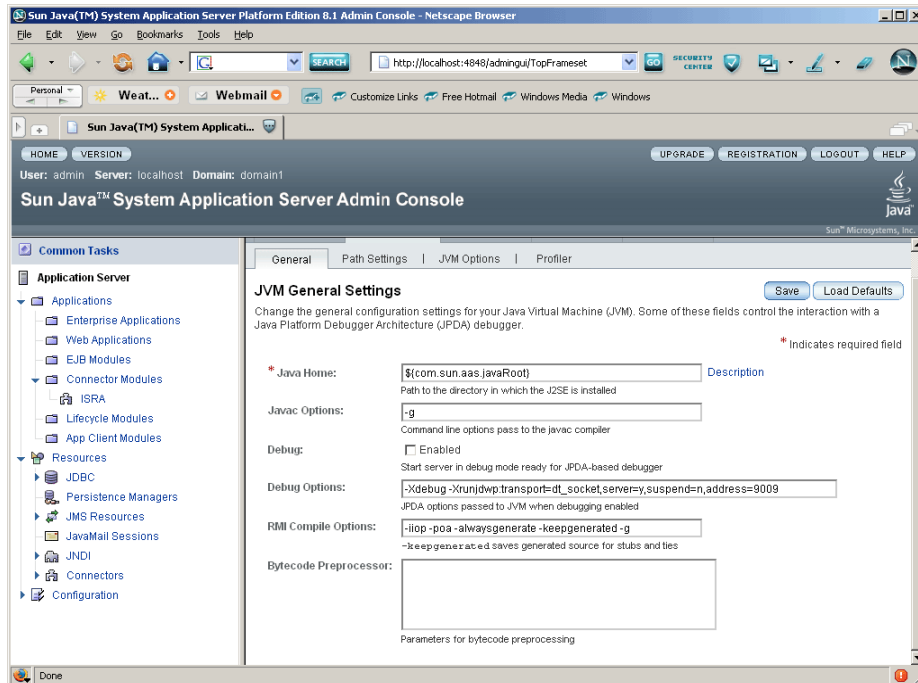
iv. Click **Path Settings** tab. Include **listener.jar** and **log4j-1.2.8.jar** in the **Classpath Suffix**, and enable the **Environment Classpath** check box. The screen appears, as shown below:
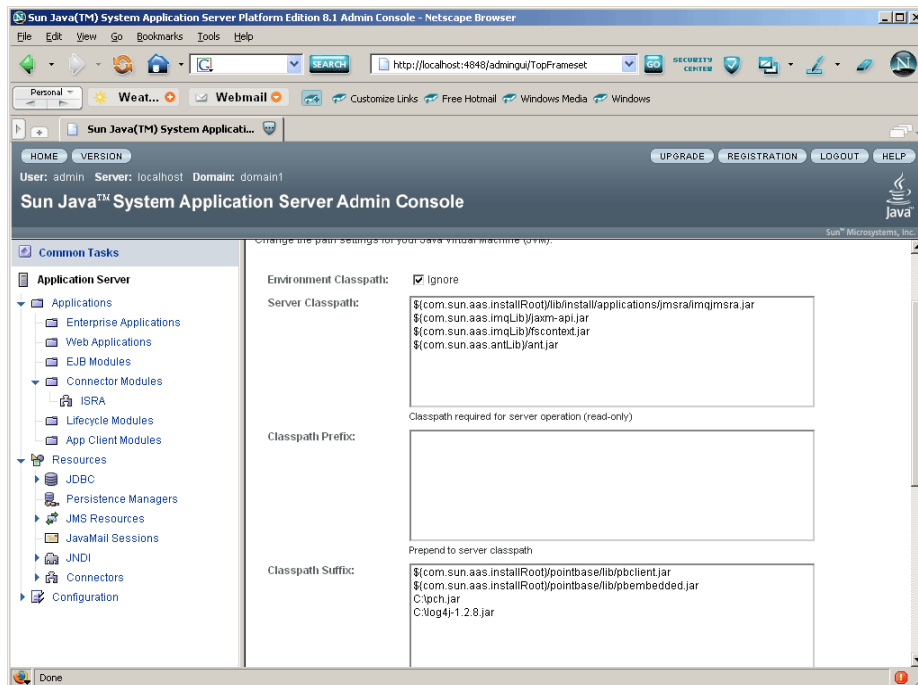
v. Click **Save** to save the settings.

2. Include the folder in which **WinPerfMon.dll** is present in the system path in case of Windows operating system. In UNIX, this file is not required.

3
ISRA Configuration

This section details the process to configure ISRA on a Sun Java System Application Server, after it is deployed.

Configuring Deployed ISRA

This section describes the procedure to edit ISRA's deployment descriptor using the deployment tool.

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

Ensure that Sun Java System Application Server is running; else start the server. Open the administrative console and login. See Deploying ISRA section for more details.

1. To configure Connector Connection Pools, perform the following steps:

   i. Navigate to **Resources. → Connectors → Connector Connection Pools**. The following screen appears:
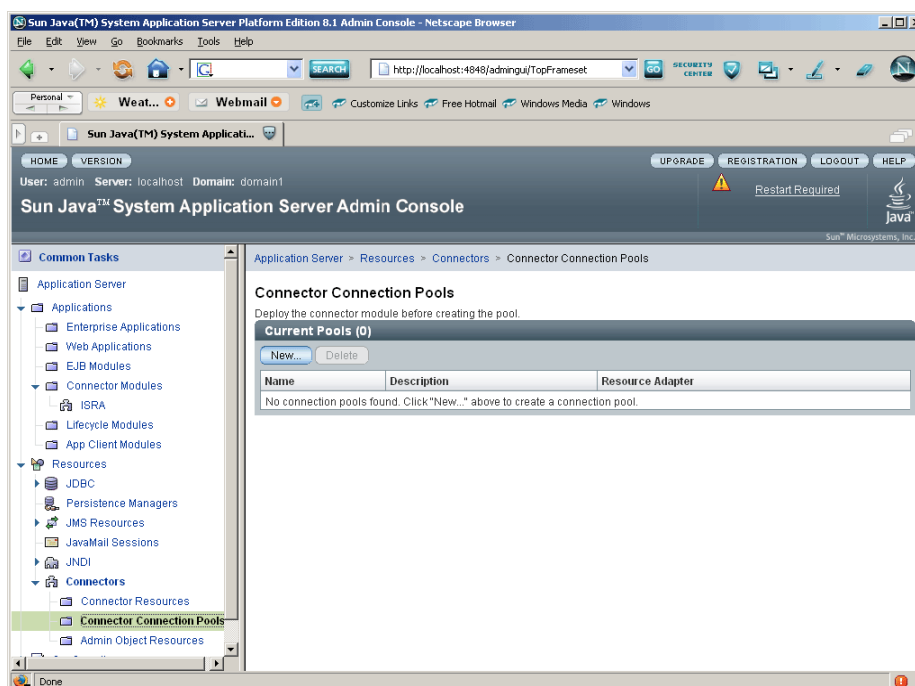
ii. Click **New**. The following screen appears:
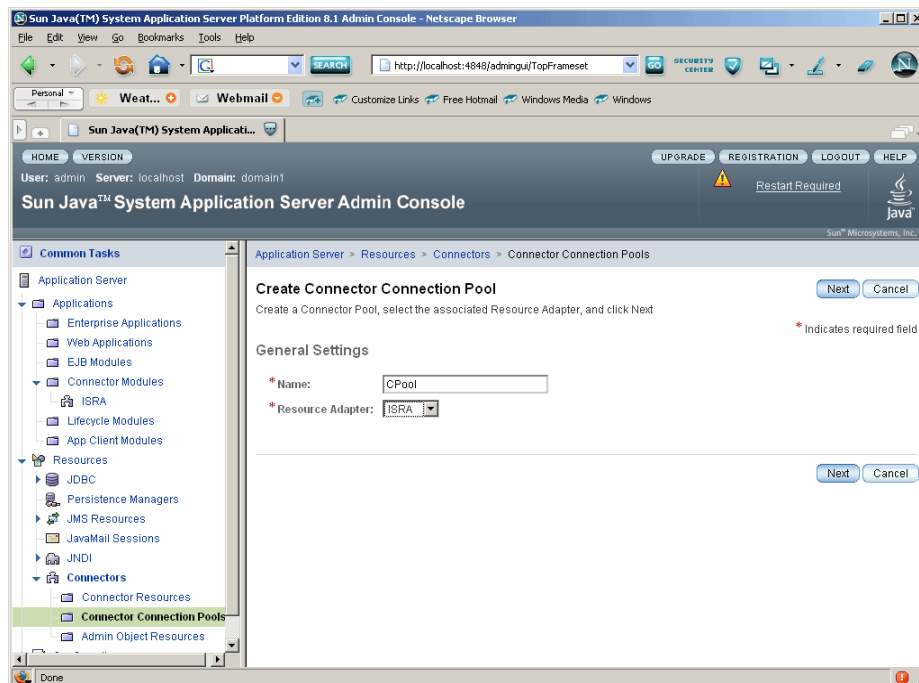
iii. Specify a name for the Connector Pool. Select the associated
Resource Adapter, and click **Next**. The following screen appears
that displays General Settings:
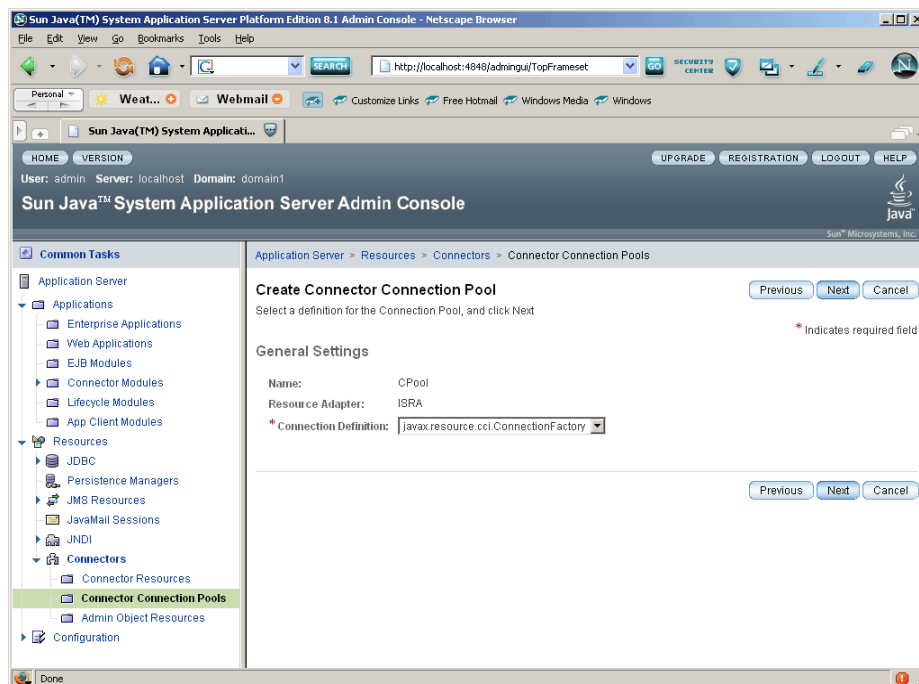
iv. Select the appropriate value against the **Connection Definition**
field, and click **Next**. The following screen appears:
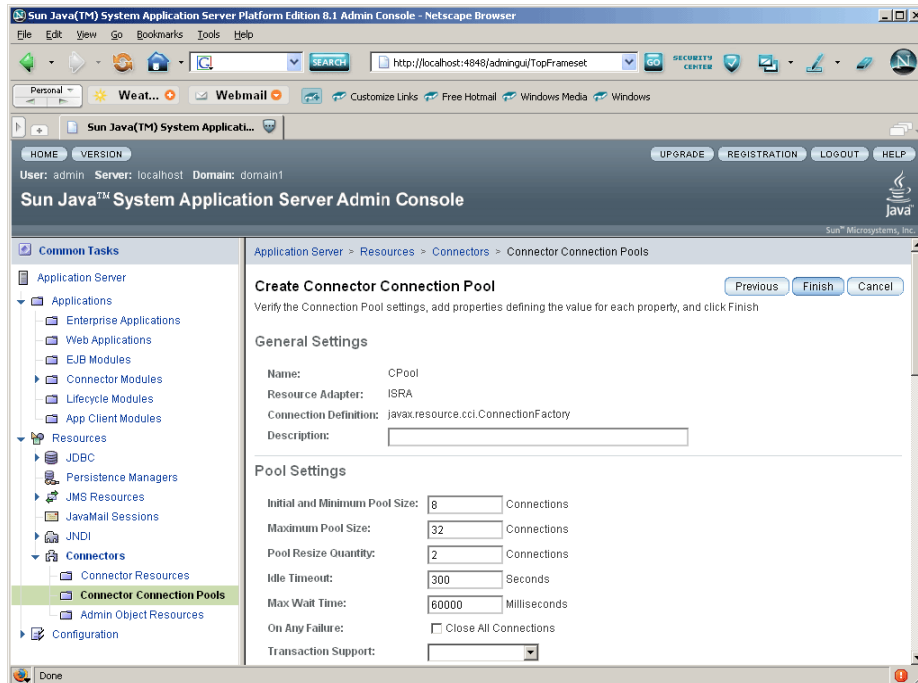
v. Verify the Connection Pool settings, and if required, modify the values. Click **Finish**. The following screen appears:
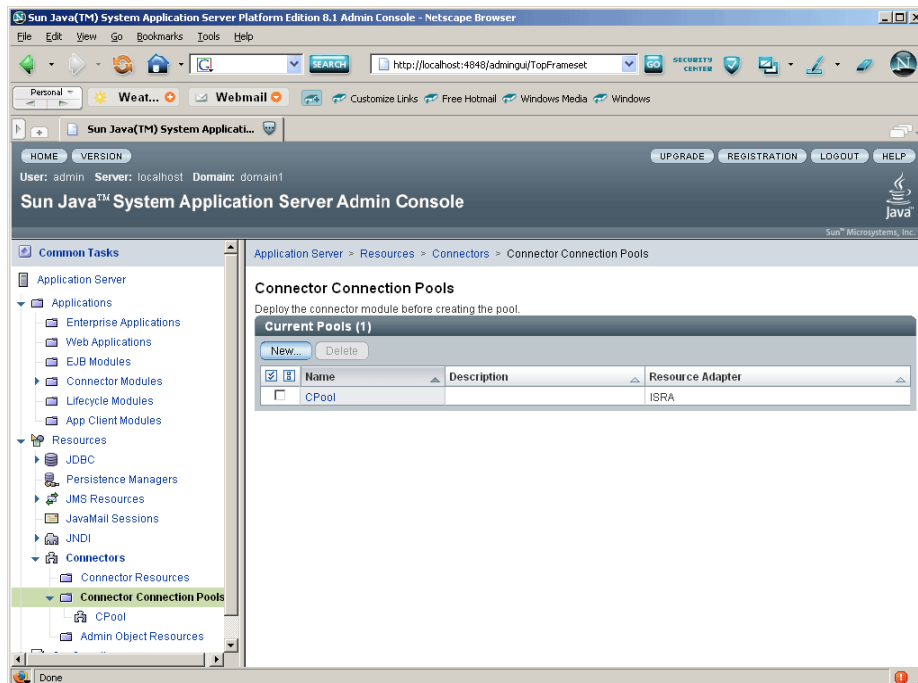
The Connector Connection Pool is created.

2. To configure Connector Resources,

i. Navigate to **Resources → Connectors → Connector Resources**. The following screen appears:
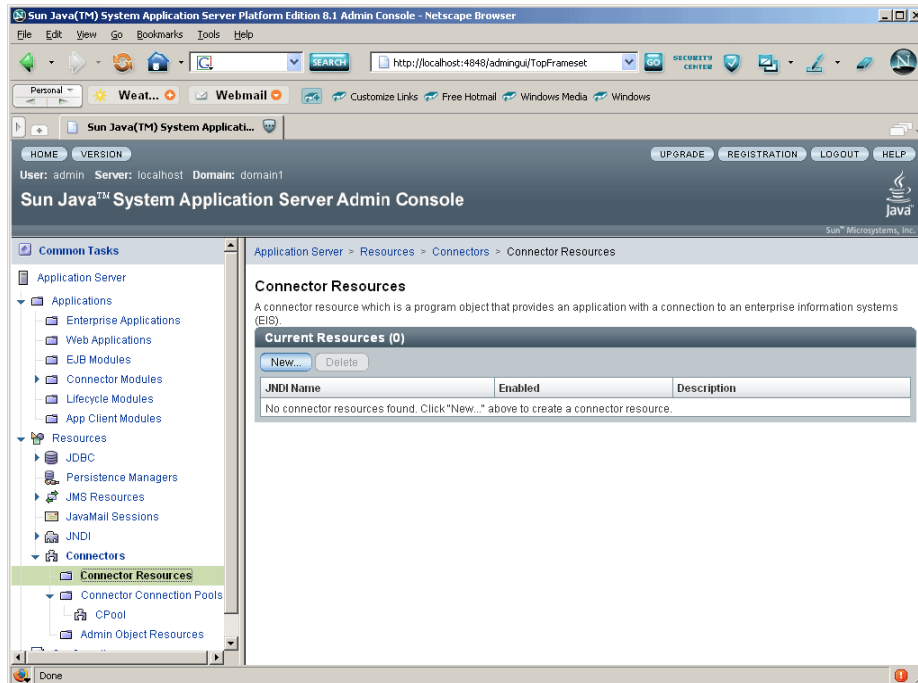
ii. Click **New** to create a Connector Resource. The following screen appears:
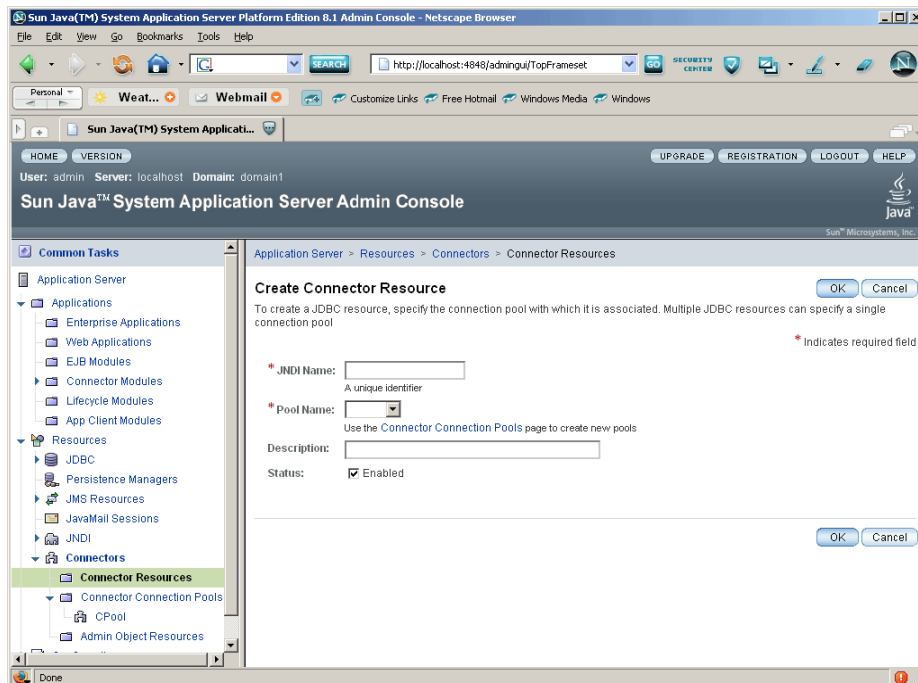
iii. Provide the **JNDI Name**, select the **Pool Name**, and click **OK**. The following screen appears:
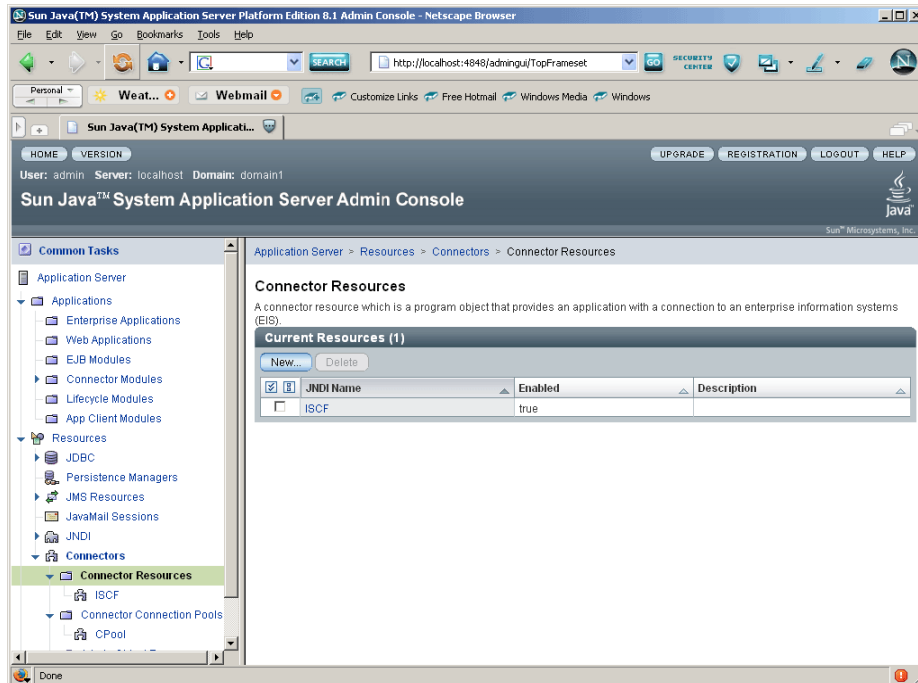
A new Connector Resource is created.

Alternatively, to configure Sun Java System parameters, user can package the **sun-ra.xml** file in **ISRA.rar** under the META-INF directory before deploying. This enables the custom values to be applied.

Changing Parameters Specific to ISRA

After ISRA is deployed, change some of the Deployment Descriptor parameters to configure it for the target IS server.

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

Note It is mandatory to configure DomainName and OrganizationName properties. 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).ISRA needs Domain Name and Organization Name to access the IS.

DomainName

This is the name of the domain of the IS server. Default value for DomainName is FileNetIS. It should be set according to the operational environment.

OrganizationName

This represents the name of the Organization. Default value for OrganizationName is FileNet. It should be set 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 disk.

LoggingLevel

This is an integer representing the level 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. While it can be modified to other valid Logging Levels, it is recommended to keep the logging level to 0. LoggingLevel can be increased if a problem is encountered 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 mega bytes. 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. PageBufferSize specifies the chunk size that ISRA will use while transferring 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, such as Document class, Indices and menu details in a local cache for faster retrieval. ISRA refreshes the cache information based on the CacheRefreshInterval value. The default value is 30 minutes. Click Apply after modifying the property.

Note	To configure ISRA for multiple IS servers; create a Connection Factory for each IS that user wants to connect. DomainName and OrganizationName pair has to be distinct among the configured Connection Factories.

CacheUser/CacheUserPassword

This is the name of the user that will be used to configure ISRA Cache. If there is no value set for this parameter then ISRA will use the name and password of the first user who logs into 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 Sun Java System Application Server-Specific Entities

Once the configurable properties are set for ISRA, user needs to configure the parameters specific to Sun Java System Application Server. The configurable properties for a Connector in Sun Java System are:

- JNDI Name: Represents the name of the Java Naming and Directory Interface for the Connector.

- Max Pool Size: Represents the maximum number of Managed Connections that can be created by the ManagedConnectionFactory. Once this limit is reached, no new connections are created and the requester waits for the ConnectionTimeout or a `ResourceAllocationException` thrown by Sun Java System. Maximum Connections must be greater than or equal to Minimum Connections.

- Steady Pool Size: Defines the initial number of Managed Connections, which Sun Java System Application Server attempts to obtain on creating a ConnectionFactory. Default value is 0. It is suggested to keep the default value unless user wants to configure Container managed sign-on on this ConnectionFactory.

- Max wait time (in milliseconds): Specifies the number of seconds after which a call to reserve a connection from the pool will timeout.

- Idle time out (in seconds): Specifies the time that the connection pool manager will wait for, before attempting to reclaim unused managed connections.

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
Configuring and Deploying ISRA Sample Application

The 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 Sun Java System Application Server.

Note	ISRA product media comes with a FileNet Image Viewer, which can be used to display the TIFF, JPEG, BMP, and other supported file formats on a Java-enabled browser. Deployment of FileNet Image Viewer is also explained in this chapter.
	This Sample Application is intended solely for illustrative purposes, and should not be expected to perform useful work, or 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 Sun Java System 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" to `<param-value>`**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: ISCF, 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 Sun Java System Application Server to access ISRA in a managed environment.
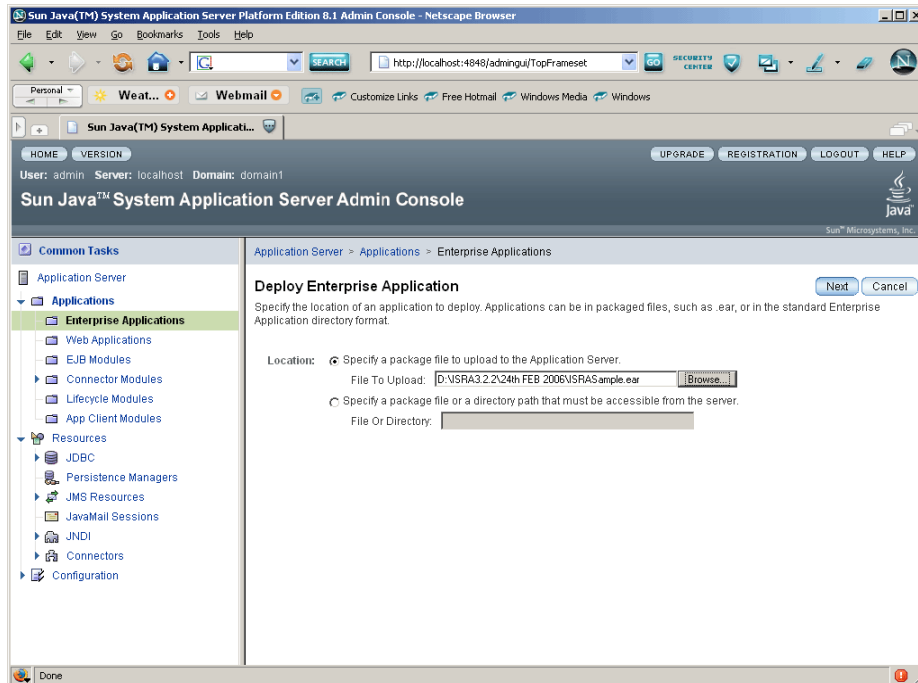
To deploy the Sample Application:

1. Ensure that Sun Java System Application Server is running; else start the server. Open the administrative console and login. See Deploying ISRA section for more details.

2. Click **Applications → Enterprise Applications**. The following screen appears:
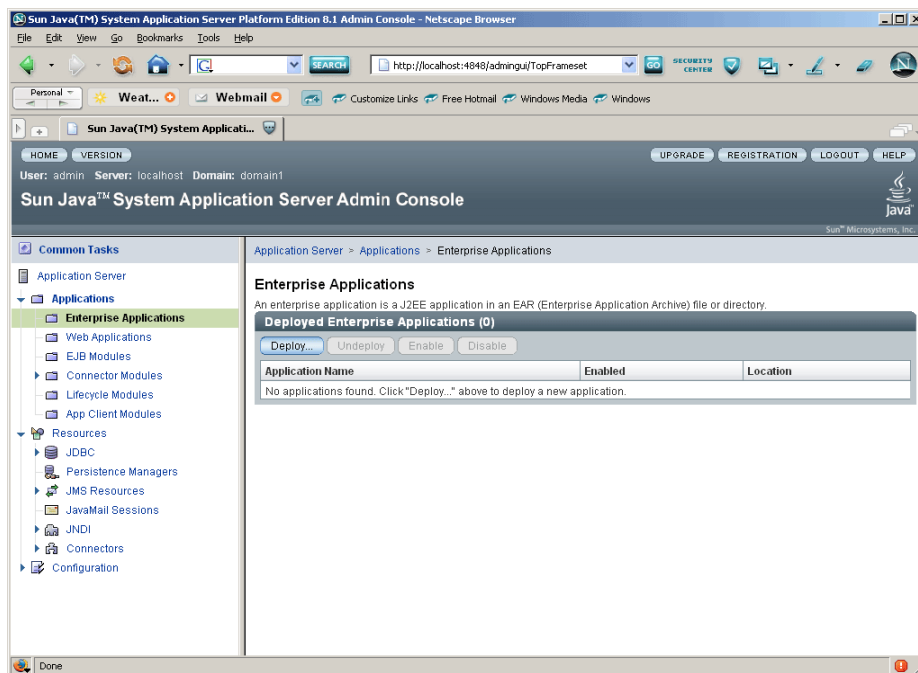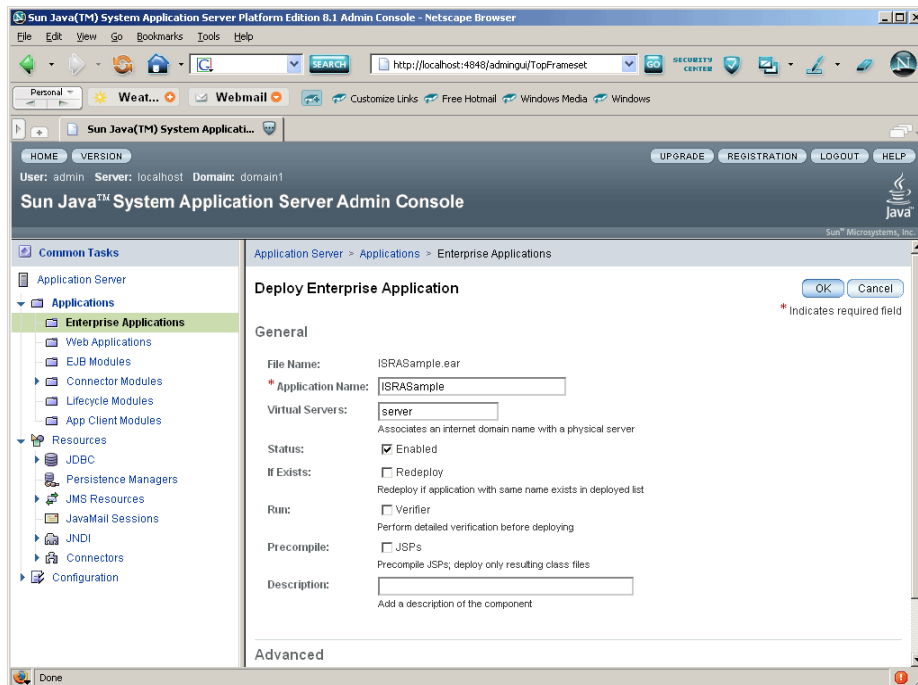
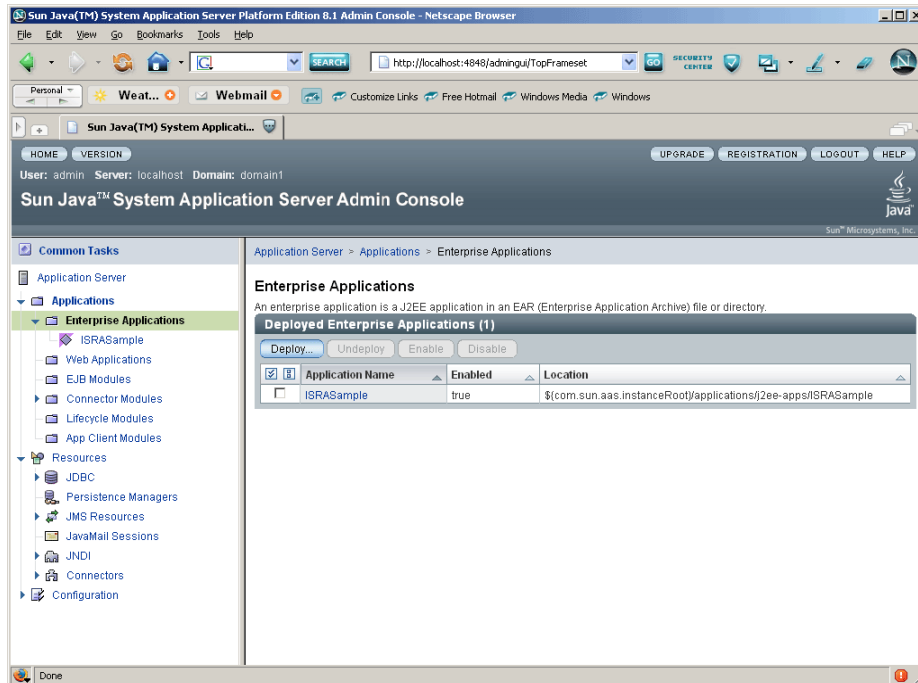

3. Click **Deploy**. The following screen appears:

4. Specify the location of the ISRA.ear file or click **Browse** to navigate to the directory containing ISRA.ear: Click **Next**. The following screen appears:

5. Click **OK**. The following screen appears:

Note The check box against the Application Name(s) may be used to Deploy/Undeploy/Enable/Disable it. The Status field, corresponding to the application name, will be modified accordingly.

Deployment of the FileNet Image Viewer

This section describes how to deploy the FileNet Image Viewer. This viewer is 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 the FileNet Image Viewer:

1. Ensure that Sun Java System Application Server is running; else start the server. See Deploying ISRA section for more details.
2. Click **Applications → Enterprise Applications**. The following screen appears:

3. Click **Deploy.** The following screen appears:

4. Specify the location of the FNImageViewer.ear file or click **Browse** to navigate to the directory containing FNImageViewer.ear. Click **Next**, The following screen appears:
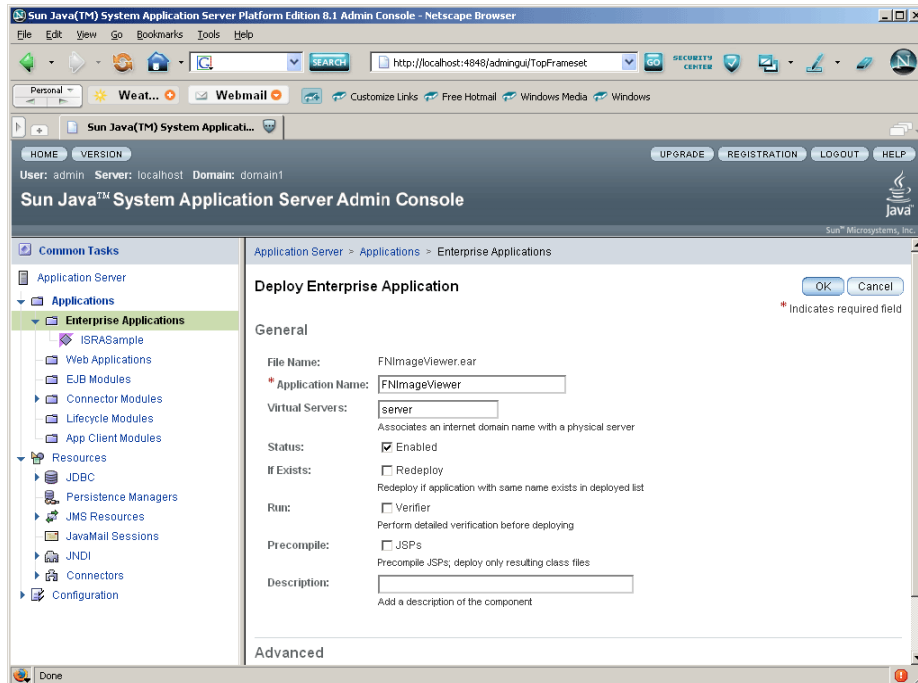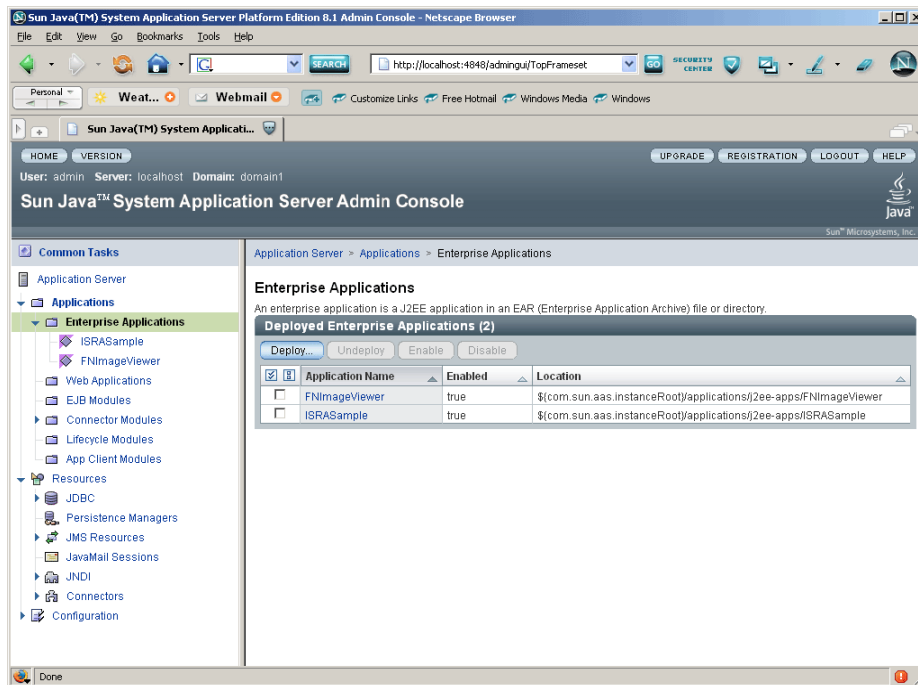
5. Click **OK**. The following screen appears:

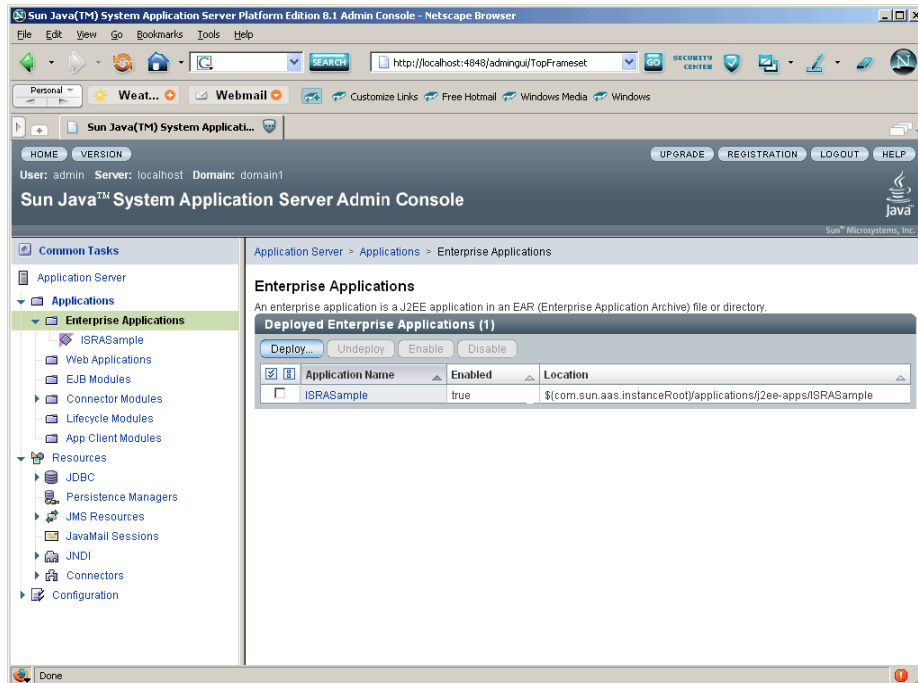| Note | The check box against the Application Name(s) may be used to Deploy/Undeploy/Enable/Disable it. The Status field, corresponding to the application name, will be modified accordingly. |

Starting the Sample Application

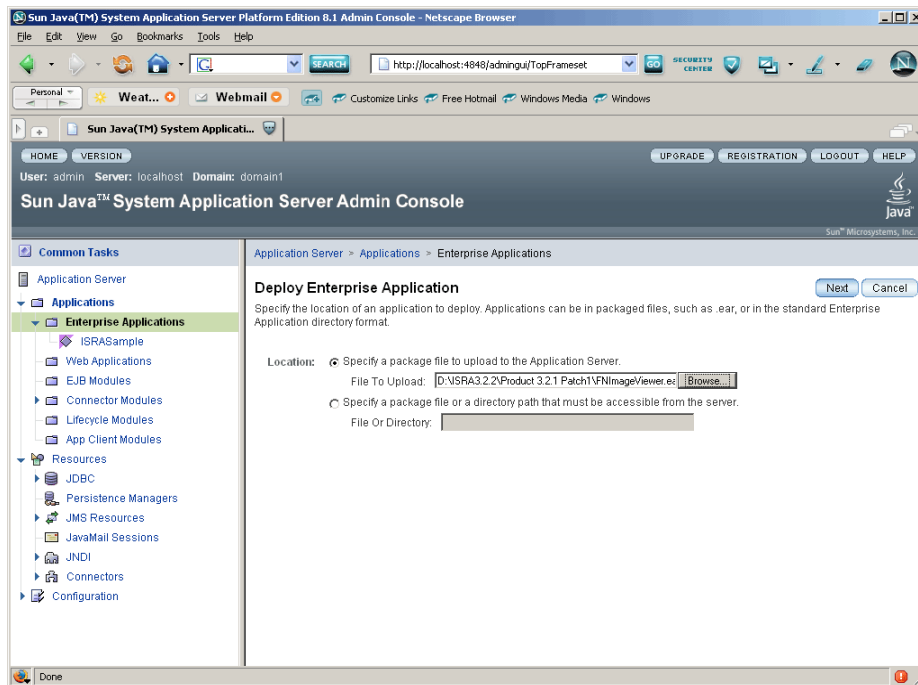Ensure that Sun Java System Application Server is running; else start the server as described in the [Deploying ISRA](#) section.

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. The default port number of the Sun Java System Application Server is 80. The default context_root of the Sample Application is ISRA.

The Login screen appears:
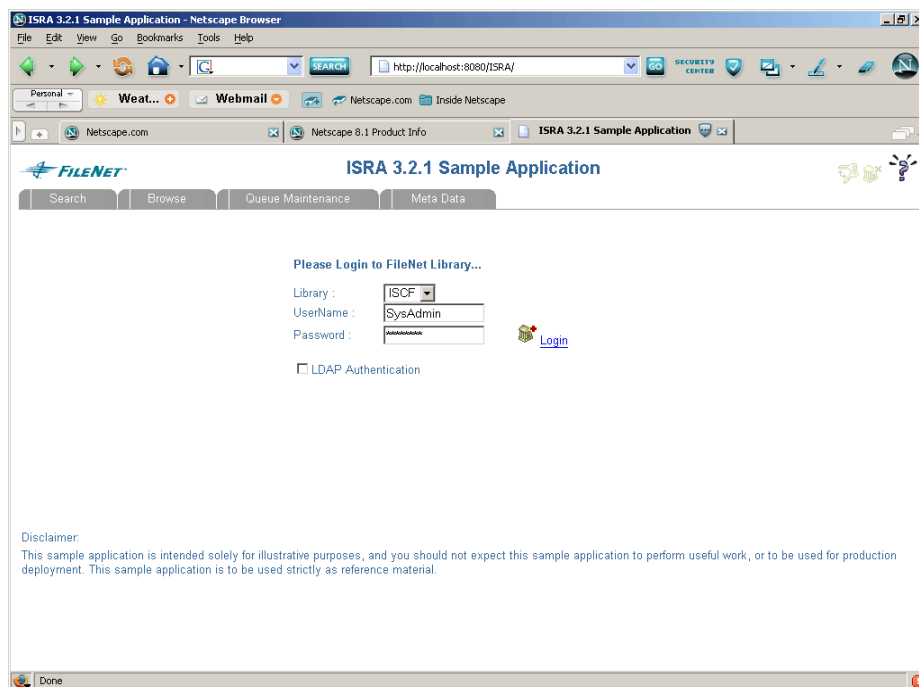
2. Enter the **UserName** and **Password** for the configured IS (check configured ConnectionFactory for IS details) and click **Login**. A screen appears, as shown below:
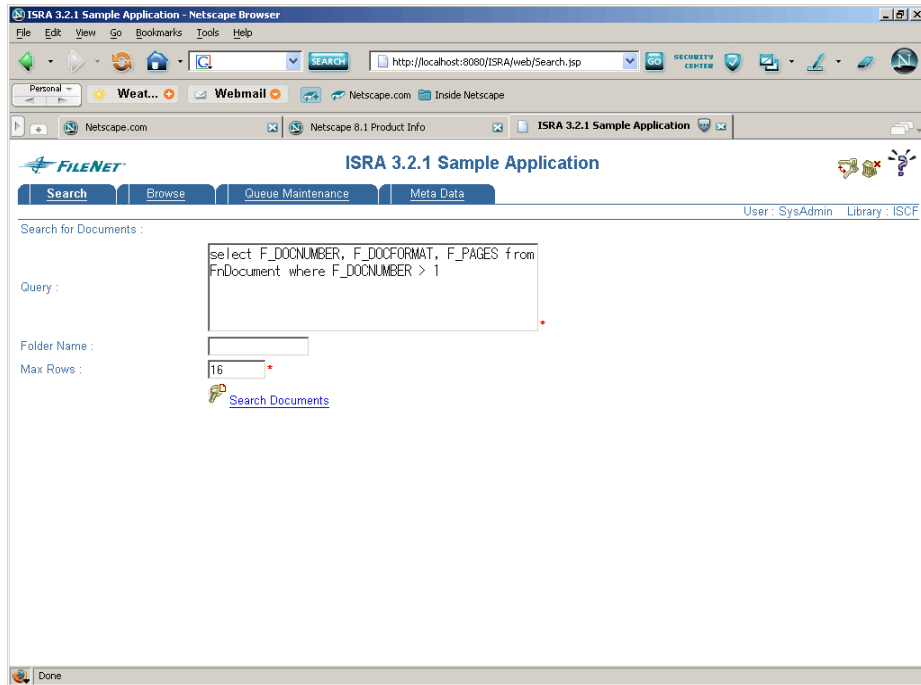
3. Click the **Help** icon on the Sample Application page for details on the interaction parameters and options.

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:

4. 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.

5. Use the **LDAP_EXP.exe** utility to export the user entries created into an XML file.

6. 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.
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.
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.

For example, to export users from LDAP server into the XML file:

```
C:\>ldap_exp.exe -s filenetsrv -b "dc=cm, dc=filenet,
dc=com" -d "admin" -w ""
```

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

Parameters:

/?	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.

8. 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. The value of the property for this LDAP Server is - com.filenet.is.ra.fnis.FN_IS_ActiveDirImpl.

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 undeployment procedure to remove ISRA and the Sample Application from the Sun Java System Application Server.

UnDeployment of ISRA

Undeploying ISRA on a Sun Java System Application Server physically removes the ISRA files.

To undeploy, ISRA:

1. Ensure that Sun Java System Application Server is running; else start the server. Open the administrative console and login as described in the Deploying ISRA section.

The deployment tool appears, as shown below:

Note	Ensure that Connector Connection Pools and Connector Resources associated with the Connector are deleted before undeploying ISRA.

2. Click **Application → Connector Modules.** The following screen appears:

3. Select the check box against the connector module, and click **Disable** to stop the connector module. The following screen appears:

4. Select the check box again, and click **Undeploy**. The following confirmation screen appears:

http://localhost:4848

Resources dependent on the selected connector module(s) will be deleted. Continue?

OK   Cancel

5. Click **OK** and the connector module gets undeployed, as shown below:

UnDeployment of the Sample Application

Undeploying the ISRA Sample Application on a Sun Java System Application Server will physically remove the Sample Application files.

1. To undeploy, ensure that Sun Java System Application Server is running; else start the server. Open the administrative console and login as described in Deploying ISRA section.

The deployment tool appears, as shown below:

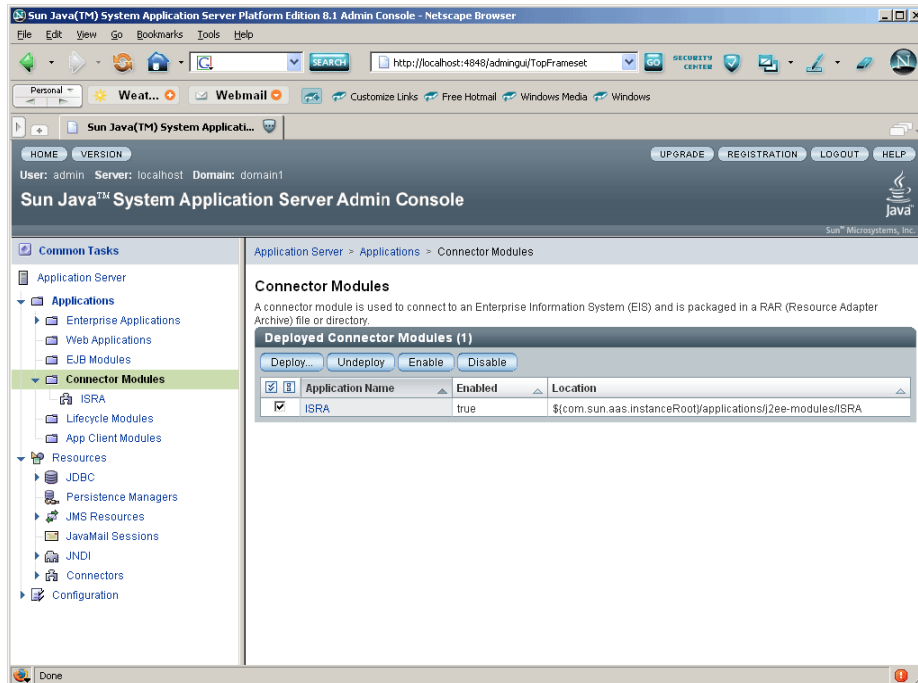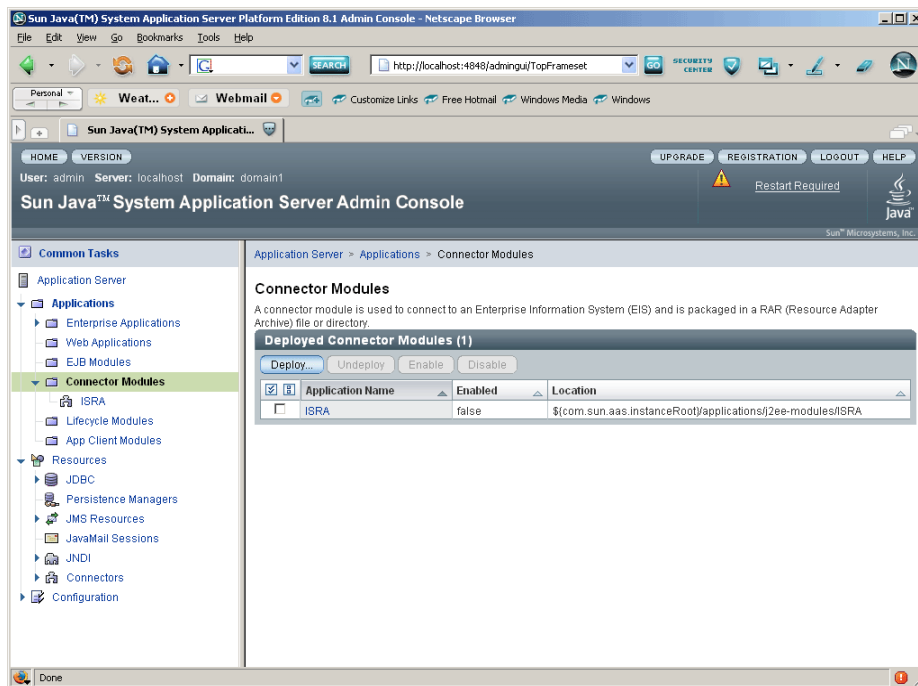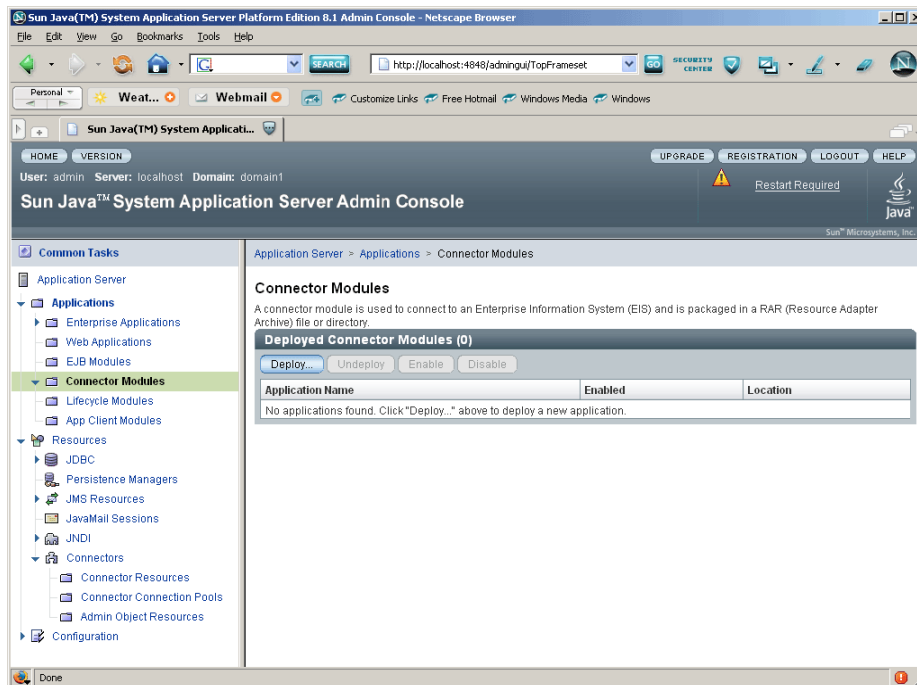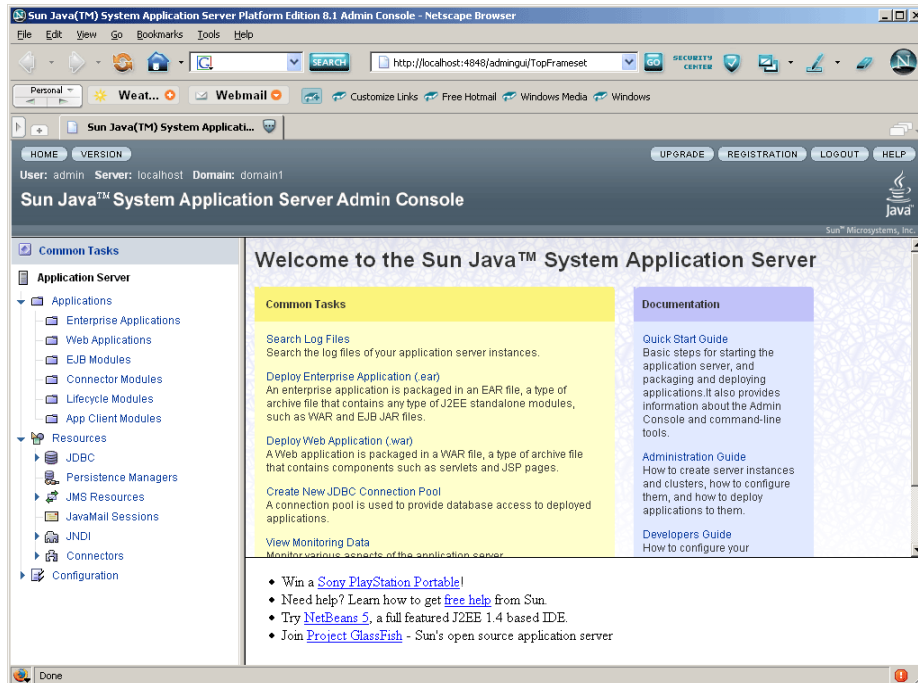**2.** Click **Application → Enterprise Applications.** The following screen appears:
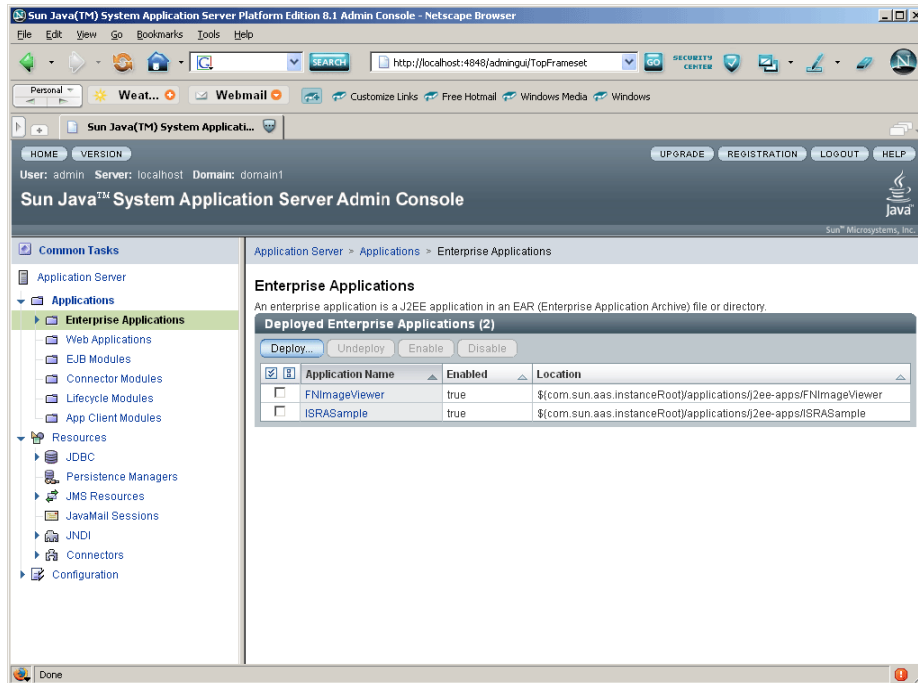
3. Select the check box against the application, and click **Disable** to stop the application. The following screen appears:
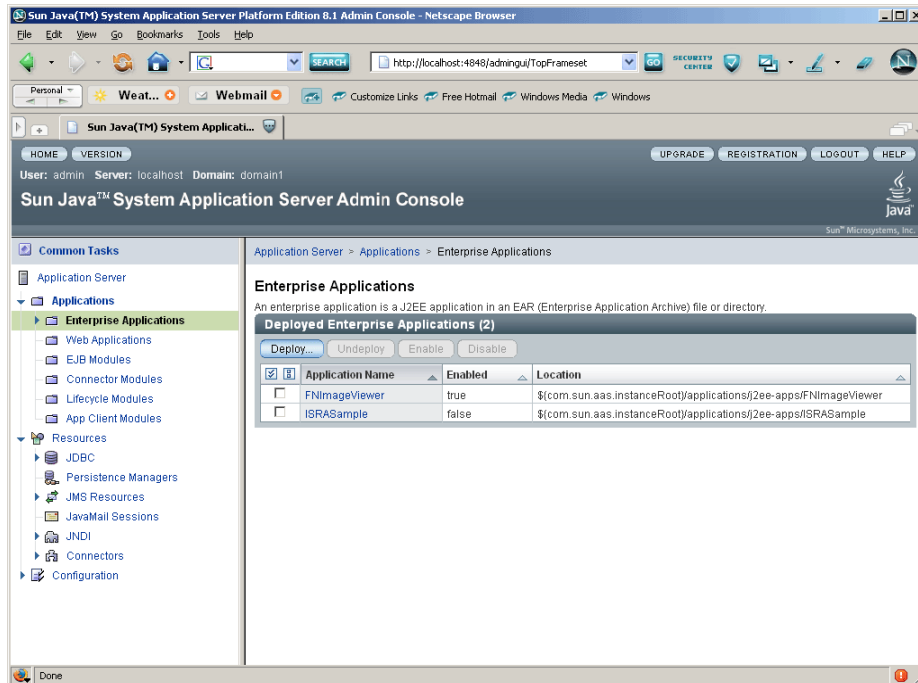
4. Select the check box again, and click **Undeploy.** The application gets undeployed, as shown below.
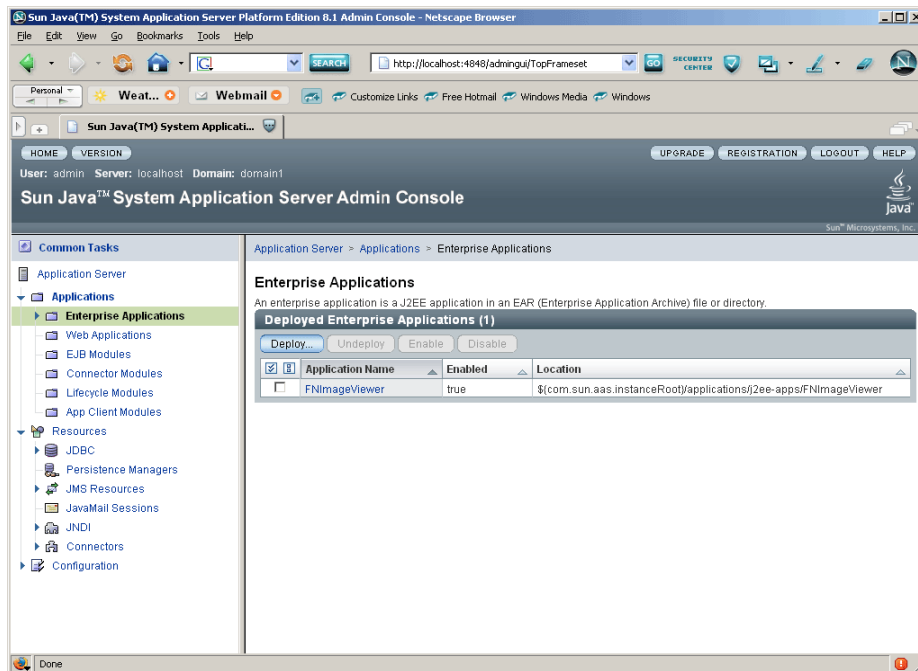
Similarly, FNImageViewer can be undeployed.

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

7
Troubleshooting

This section describes how to troubleshoot ISRA.

Disabling NCH Broadcasts

ISRA users (application client) need to access libraries across routers on networks where broadcasts are disabled. This is made possible by creating alias entries for the IS libraries in the hosts file. ISRA must locate the IP address of the NCH server to locate 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 in 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 systems. On a Microsoft Windows Server, it is located in the `\system32\drivers\etc` under the Windows installation directory. Open the hosts file with Notepad or any text editor. If any hosts file does not exist, create a new file using a preferred text editor.

2. 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. When specifying the domain-organization name, follow these rules:

     - 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 that the underscore character has been removed from the fn_is domain name and the F and NET in the FileNet organization name have been converted to lower case.

Appendix A

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Appendix B

ra.xml

```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>LoggingLevel</config-property-name>
      <config-property-type>java.lang.Integer</config-property-type>
      <config-property-value>0</config-property-value>
    </config-property>
```

```xml
<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>
```

```xml
                <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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