



Image Services Resource Adapter

Deployment Guide

For Oracle 10g Application Server

Release 3.4 Fixpack 5

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About This Manual

This manual provides information about configuring IBM FileNet Image Services Resource Adapter (ISRA) version 3.4.0.x on Oracle 10g platform. Refer the separate ISRA Installation Guide for Installing ISRA 3.4.0.x.

Conventions Used in the Document

The table lists the formatting conventions used in this document.

<u>Conventions</u>	<u>Description</u>
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

Related References

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

<ISRA-home>\ISRA340\FNImageViewer\docs

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

<ISRA-home>\ISRA340\SystemManager\docs

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ISRA Deployment

This chapter describes the deployment of ISRA on the Oracle 10g Application Server platform.

Note The installation procedure for Oracle 10g Application Server 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 implements J2EE Connector Architecture specified contracts and the EIS specific functionality. ISRA plugs into the Oracle 10g Application Server in a modular manner.

Deployment Requirements

This section lists the minimum software and hardware requirements for successful deployment of ISRA on Oracle 10g Application Server.

Caution All the xml related to the deployment of ISRA must be created manually or use a pre-existing file that is valid. Do not copy xml contents straight from the Deployment Guide

Hardware Requirements

- Please refer to the Oracle 10g Application Server system requirements section at: <http://otn.oracle.com>
- ISRA installation will require approximately 120 MB free disk space.

Software Requirements

- Oracle 10g (9.0.4) and 10g Release 3 (10.1.3) Server on Microsoft Windows 2003 Server, Microsoft Windows 2003 R2, Sun Solaris 9/10, HP-UX 11i v2/v3, IBM AIX 5.3, IBM AIX 6.1, Novell SUSE Linux Enterprise Server 9/10 and RedHat Linux AS 4/5.
- IBM FileNet IS 3.6 SP2 and above

Mandatory Requirements for ISRA

The mandatory requirements for ISRA 3.4.0.x include:

1. 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.

2. The files **listener.jar** and **log4j-1.2.8.jar** are not present in **ISRA.rar**. For Oracle 10g, the **listener.jar** and **log4j-1.2.8.jar** need to be bundled in the **ISRA.rar** file before deploying **ISRA.rar** on the Application Server.

Note Include **log4j-1.2.8.jar** only when PCHLogging is required i.e., if PCHLogging is to be enabled.

To bundle listener.jar and log4j-1.2.8.jar:

- a. Run **jar -xvf ISRA.rar** command from temporary folder location.
 - b. Delete ISRA.rar file from temporary folder.
 - c. Add **listener.jar** and **log4j-1.2.8.jar** to the temporary folder. (The System Manager folder contains the **listener.jar** and **log4j-1.2.8.jar**).
 - d. In the command prompt, navigate to temporary folder where ISRA.rar is extracted. Create ISRA.rar using the JAVA command:

```
jar -cvf ISRA.rar *.*.
```
3. Enter the initial and maximum JVM heap size as 512.

Deploying ISRA

ISRA is deployed using the Oracle 10g Application Server console. The Resource Adapter can be deployed on Oracle 10g Application Server by deploying **ISRA.rar** file.

Deploying ISRA.rar

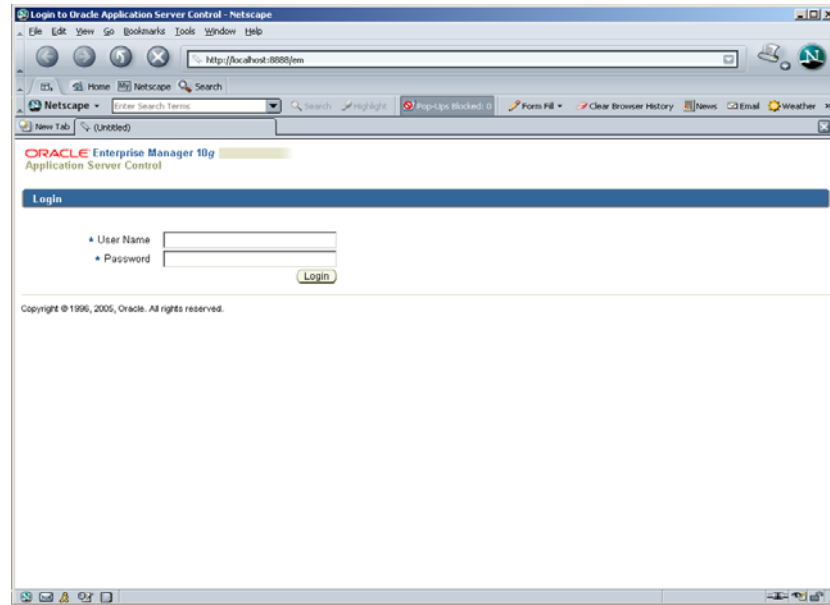
After the installation is complete, the ISRA software and documentation installed is in C:\fnsw\ISRA340, deploy the ISRA connector on OC4J.

Graphical Administration

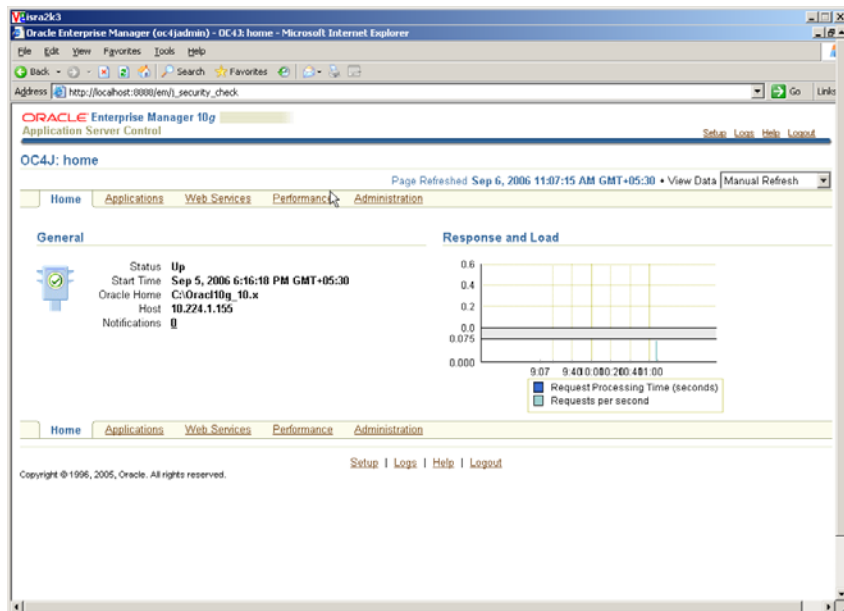
To deploy the **ISRA.rar** file:

1. From the DOS prompt, navigate to the directory where OC4J is installed. For example, <ORACLE_HOME>\bin
2. Start OC4J server by executing the command on the DOS prompt,

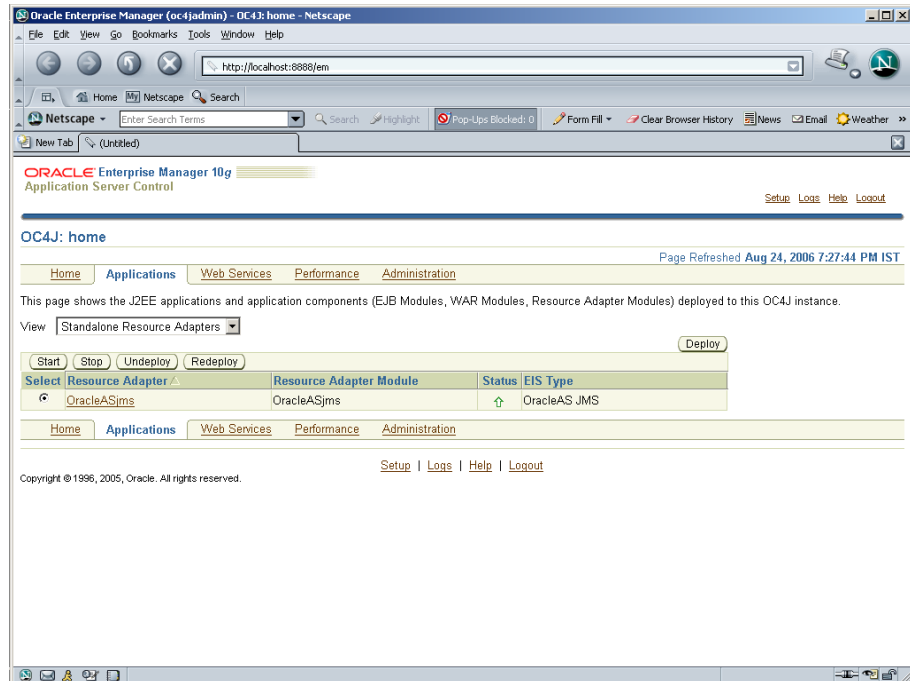
```
oc4j -start
```
3. Launch a Web browser and open the Oracle Enterprise Manager console using the URL as `http://localhost:<Port Number>/em` in the Address bar. The following screen appears:



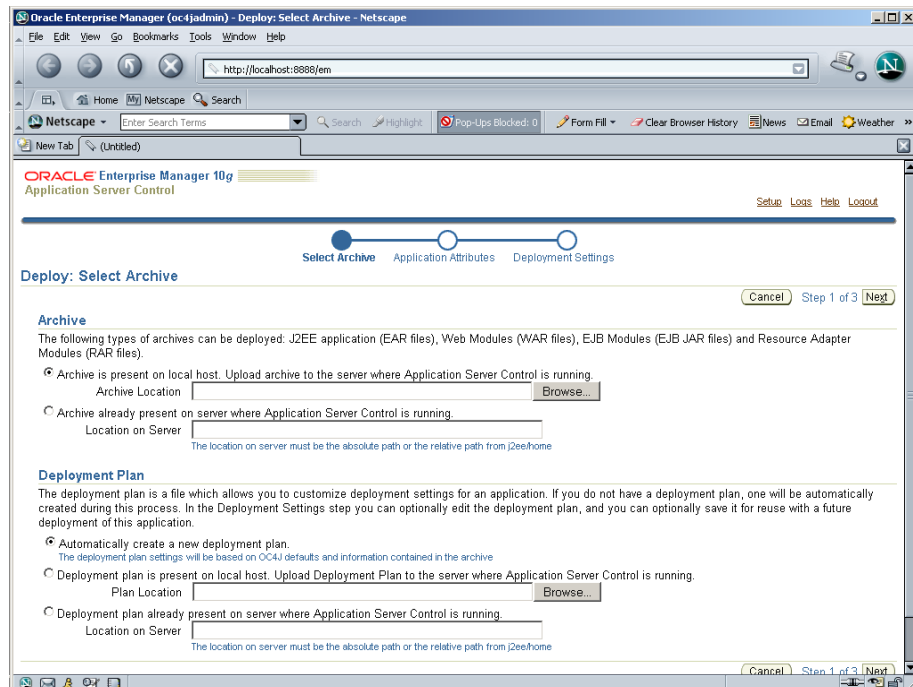
4. Enter the **User Name** and **Password**. Click **Login**. The following screen appears:



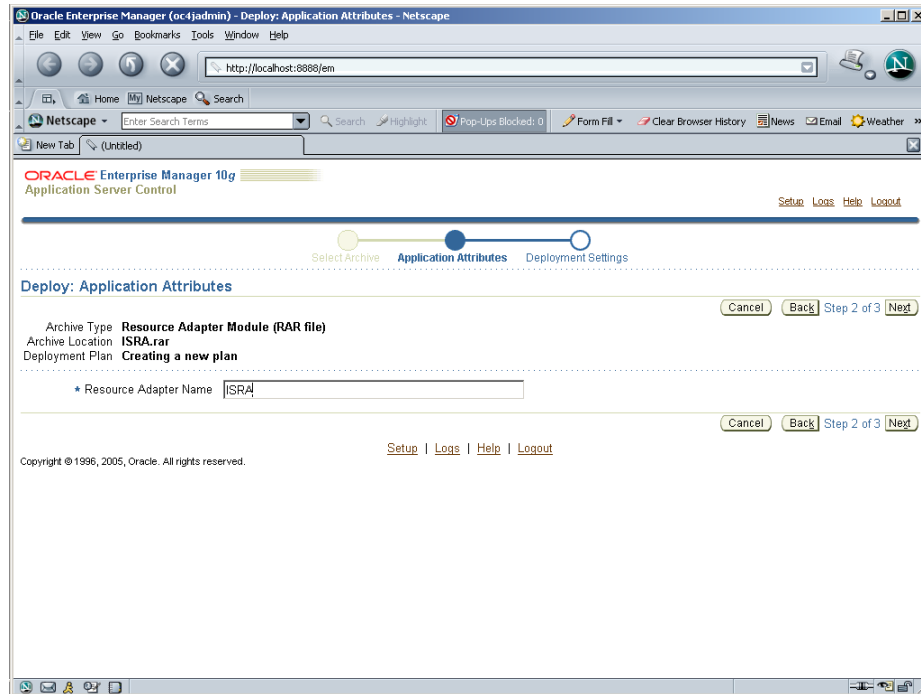
5. Click the **Applications** tab.



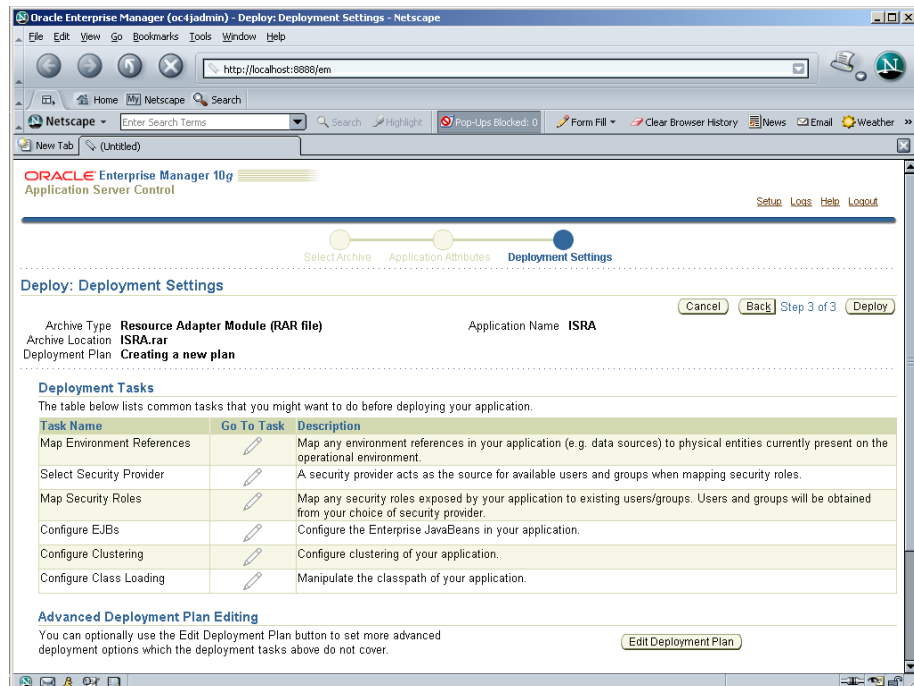
6. Select **Standalone Resource Adapter** in the **View** dropdown box. Click **Deploy**. The following screen appears:



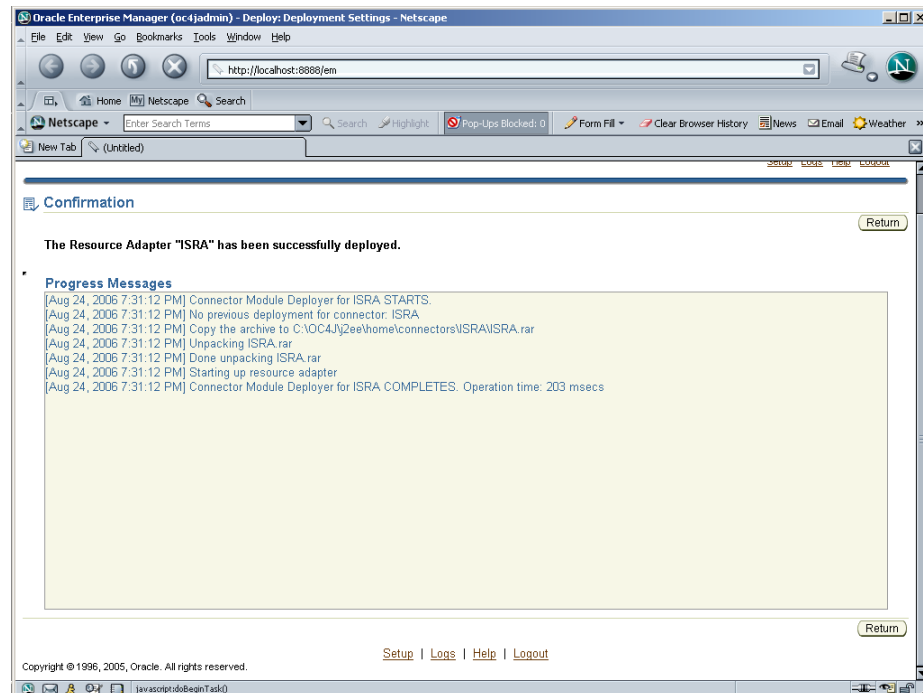
7. Click **Browse** button under **Archive**. Navigate to the directory where ISRA 3.4.0.x. is installed. Select the **ISRA.rar** file from the jar folder of ISRA installation directory. Click **Next**. The following screen appears:



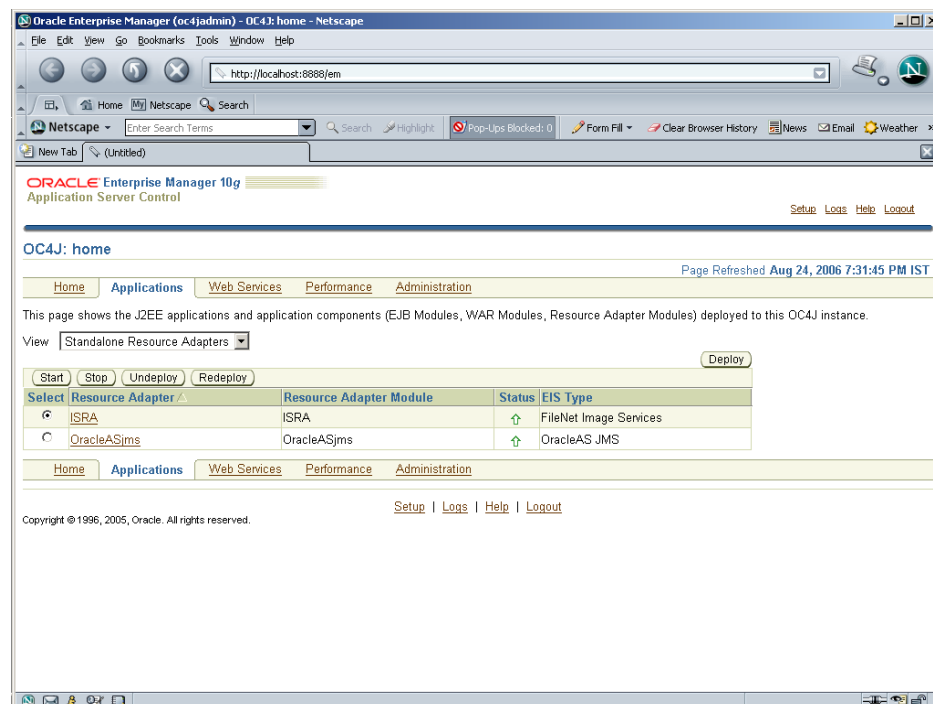
8. Enter the **Resource Adapter Name** and click **Next**. The following screen appears:



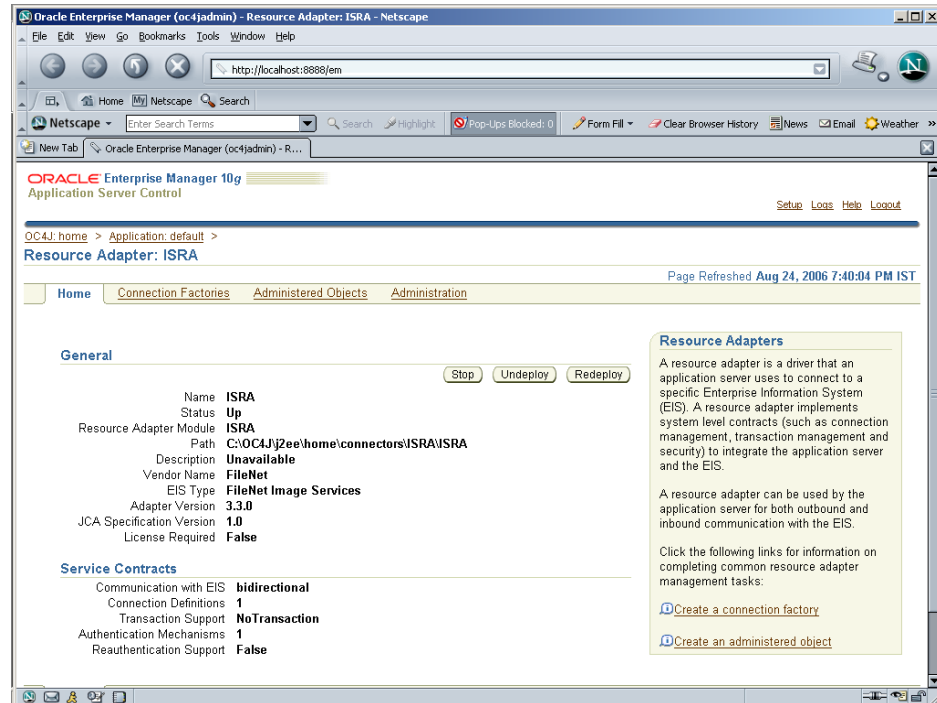
9. Click **Deploy**. The Confirmation screen appears:



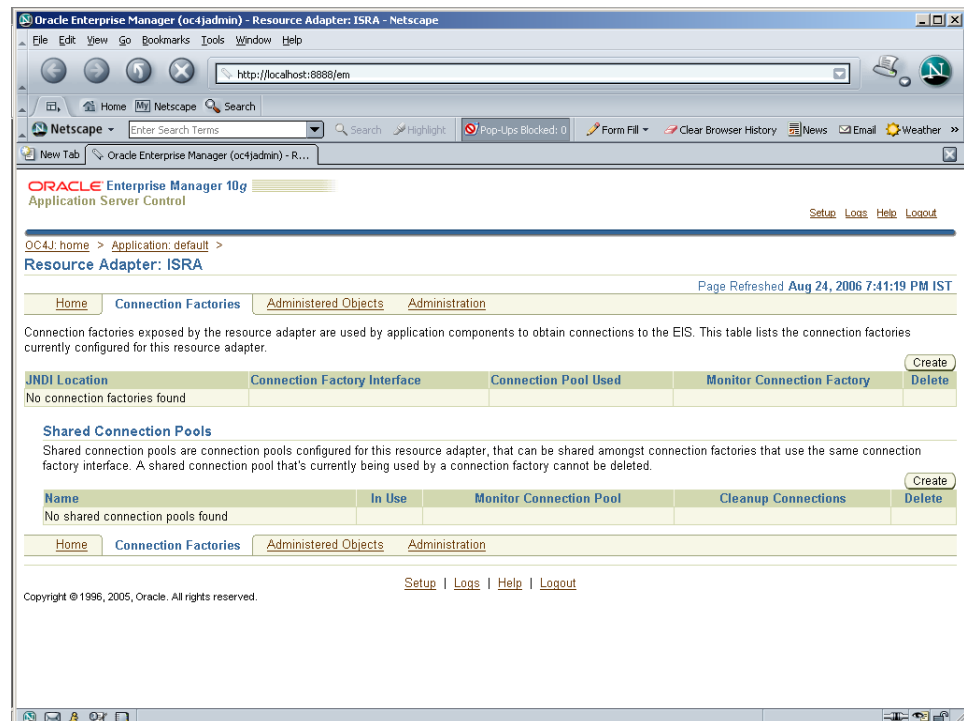
10. Click **Return**. The following screen appears:



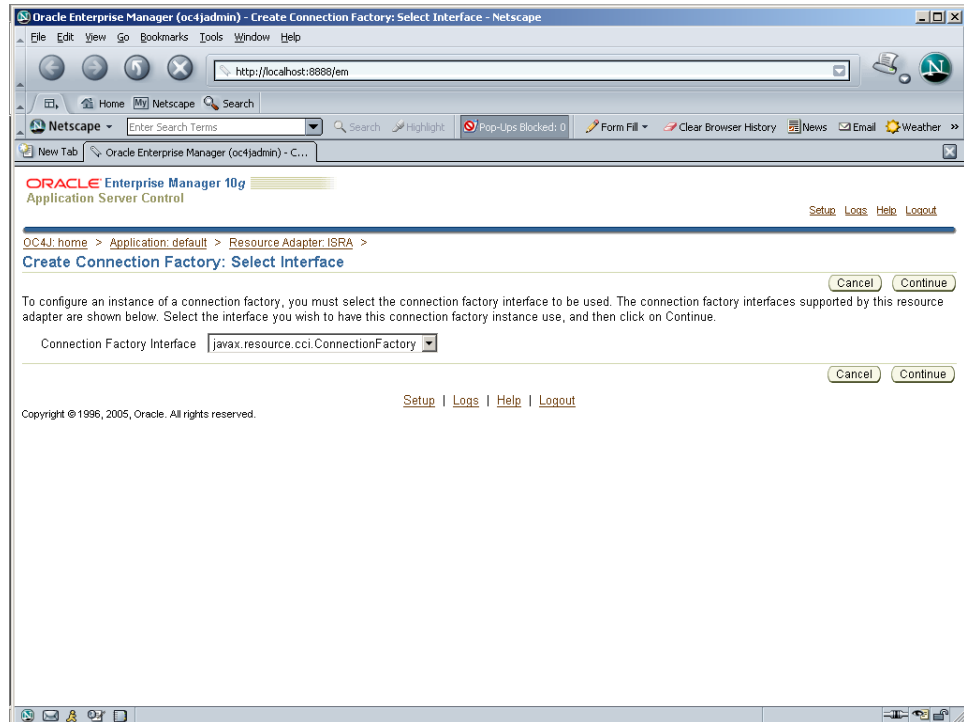
11. Click **ISRA** from the Resource Adapter list. The following screen appears:



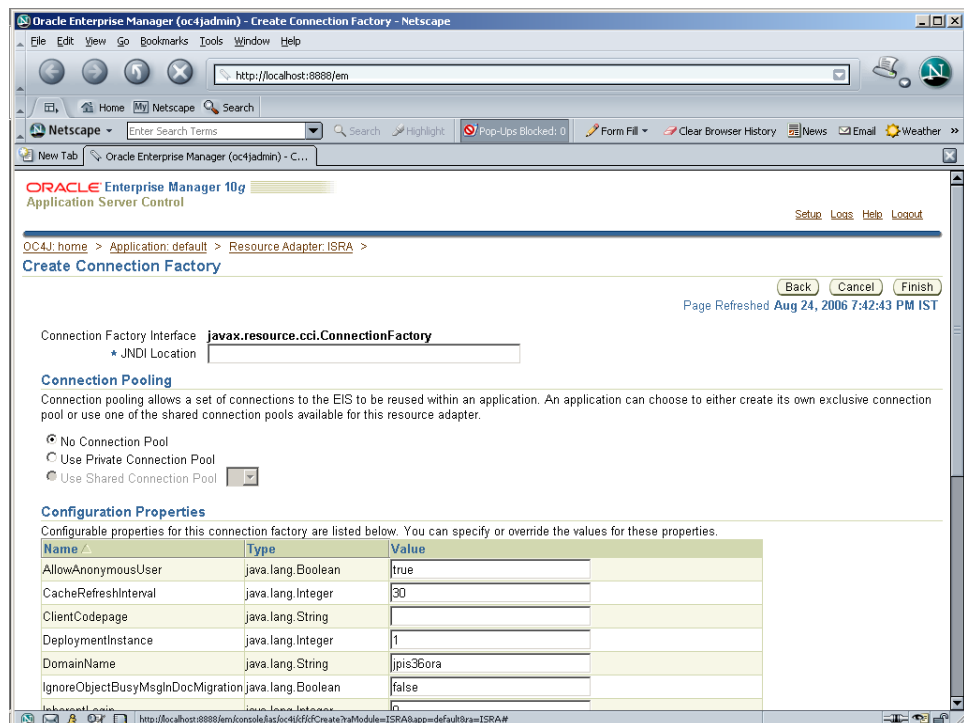
12. Click **Connection Factories** tab to configure the connection factory for the deployed resource adapter. The following screen appears:



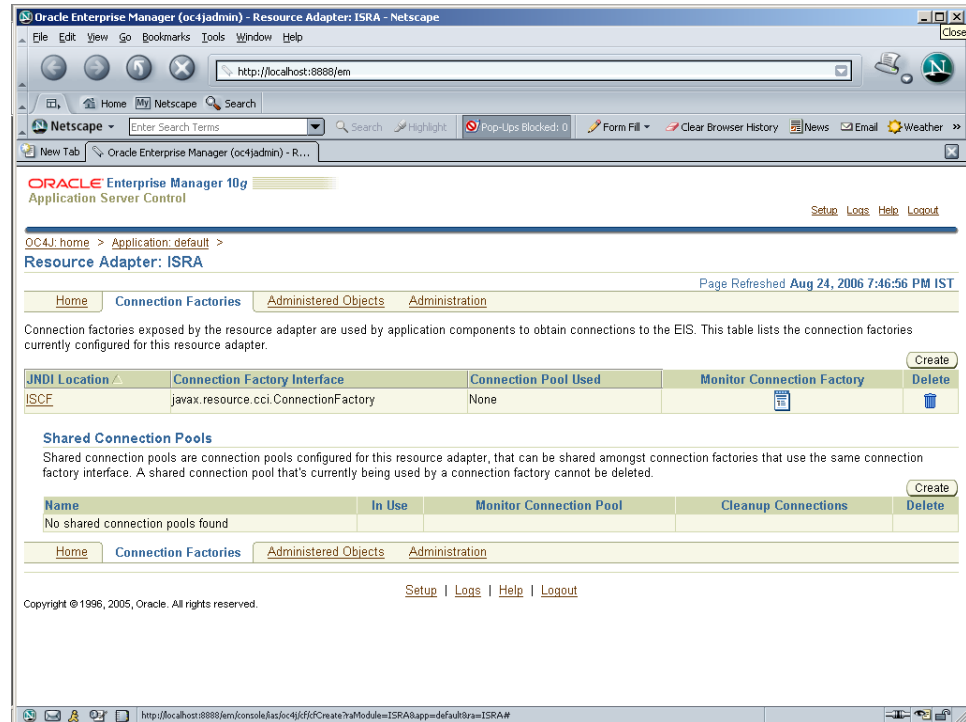
13. Click **Create** button of **JNDI Location**. The following screen appears:



14. Select the **Connection Factory Interface** and click **Continue**. The following screen appears:



15. Specify the **JNDI Location** and configurable properties and then click **Finish**. The following screen appears with the list of configured connection factories:



16. This completes the ISRA deployment through graphical administrative interface.
17. Deploying ISRA is completed.
18. Next step is to complete the Mandatory steps necessary for ISRA. Refer to [Mandatory Requirements for ISRA](#) section before restarting the Application Server.

Command Line Administration

To deploy the **ISRA.rar** file:

1. From the DOS prompt, navigate to the directory where OC4J is installed. For example, `<ORACLE_HOME>\bin` for OC4J 10g (Version 10.1.3.0.0) and `<ORACLE_HOME>\j2ee\home` for OC4J 10g (Version 9.0.4.0.0)
2. Start OC4J server by executing the following command on the DOS prompt,


```
oc4j -start (For OC4J 10g Version 10.1.3.0.0)
java -jar oc4j.jar (For OC4J 10g Version 9.0.4.0.0)
```
3. From the DOS prompt, navigate to the directory where OC4J is installed. For example,


```
<ORACLE_HOME>\j2ee\home
```
4. Then enter the following command:


```
java -jar admin.jar
ormi://<oc4j_host>:<oc4j_ormi_port>
admin <password> -deployConnector -name ISRA -
file <drive>:\fns\ISRA340\jar\ISRA.rar
```
5. This will deploy the ISRA connector in the OC4J server.
6. The JNDI name and configurable properties can be specified using the **oc4j-ra.xml** file located at:


```
<ORACLE_HOME>\j2ee\home\application-  
deployments\default\ISRA\oc4j-ra.xml
```

7. Open the **oc4j-ra.xml** file and edit the connection factory tag to include the location value. This is the JNDI name that the Sample Application will use to find the connector. The Sample Application, by default, uses ISCF. For example, `<connector-factorylocation="ISCF" connector-name="ISRA">`
8. Before stopping and restarting the OC4J server, modify the descriptor xml files by changing the property names to begin with lower case (For OC4J 10g Version 9.0.4.0.0).

9. Using Windows Explorer, navigate to the following directory:

```
<ORACLE_HOME>\j2ee\home\connectors\ISRA\ISRA\META-INF
```

User is required to have a backup of these XML files, in case, an error occurs.

10. Edit all the property names (except "RPCLogging", "ISLocale" and "PCHLogging") in **ra.xml** file to start with a lower case, for example,

```
<config-property-name>DomainName</config-property-name>
```

is changed to

```
<config-property-name>domainName</config-property-name>
```

11. Modify the property value of both the Domain Name and Organization Name to match the domain and Organization name of the IS Server, which is being connected. For example,

```
<config-property-value>YOUR_DOMAIN</config-property-  
value>
```

```
<config-property-value>YOUR_ORG</config-property-value>
```

12. Change the server setting in the **oc4j-ra.xml** file at the following location:

```
<ORACLE_HOME>\j2ee\home\application-deployments\default\ISRA\
```

13. Open the file **oc4j-ra.xml** in a text editor.

14. Edit all the property names (except "RPCLogging", "ISLocale" and "PCHLogging") to start with a lower case. For example:

```
<config-property name="DomainName" value="DemoIS" />
```

is changed to

```
<config-property name="domainName" value="DemoIS" />
```

15. Edit the value of the DomainName and OrganizationName to match the IS environment.

16. Stop the OC4J server by executing the following command at the DOS prompt:

```
<ORACLE_HOME>\bin\ oc4j -shutdown -port  
<oc4j_ormi_port> -password <pwd> (For OC4J 10g Version  
10.1.3.0.0)
```

```
<ORACLE_HOME>\j2ee\home\java -jar admin.jar  
ormi://<oc4j_host>:<oc4j_ormi_port> admin <password> -  
shutdown (For OC4J 10g Version 9.0.4.0.0)
```

17. After the shutdown is complete, restart the OC4J server.

The server should start without errors. If there are case sensitive errors in any of the configuration files edited above, correct them, stop the server and

again restart the server. If the server initializes without errors then the connector is deployed.

This completes the ISRA deployment through command line administrative interface.

Explanation for Terminal name and ISRALock folder

The first instance of ISRA deployed on an Application Server creates a folder named "ISRALock" and a file named¹ "ISRALock.0" inside that folder. The counter "0" in the file name "ISRALock.0" increments subsequently with each new deployment of ISRA and the same is appended to the terminal name generated for an ISRA instance. This folder is created in the path resolved by the system property "user.dir", which is the same path where the ISRA logs are generated. This functionality has been introduced in ISRA 3.2.1 to support vertical cluster environment.

Terminal name identifies ISRA instance with a unique id so that IS can distinguish each ISRA client uniquely for communication. Earlier, the terminal name used to be of the form "SV<instance number>.<Counter1>@IPAddress". In case of a vertical cluster, ISRA can be deployed across the cluster on a single machine. But in such a scenario, all the managed server instances in a cluster will have the same ISRA instance deployed and will generate the same terminal name, as the "IPAddress" and "instance number" will be same for all the ISRA instances. The current format of a terminal name generated by ISRA is "R<instance number><Counter1><Counter2>@IPAddress", where Counter2 is the counter appended to the files created in the ISRALock folder as mentioned above. The files created in the ISRALock folder will be automatically removed if the managed servers are gracefully shut down (in case of proper JVM shutdown).

See [Configurable ra.xml Properties](#) section below for "[DeploymentInstance](#)" [property setting](#).

ISRA Configuration

This chapter describes the configuration of ISRA deployed on oracle 10g Application Server.

Configuring Deployed ISRA

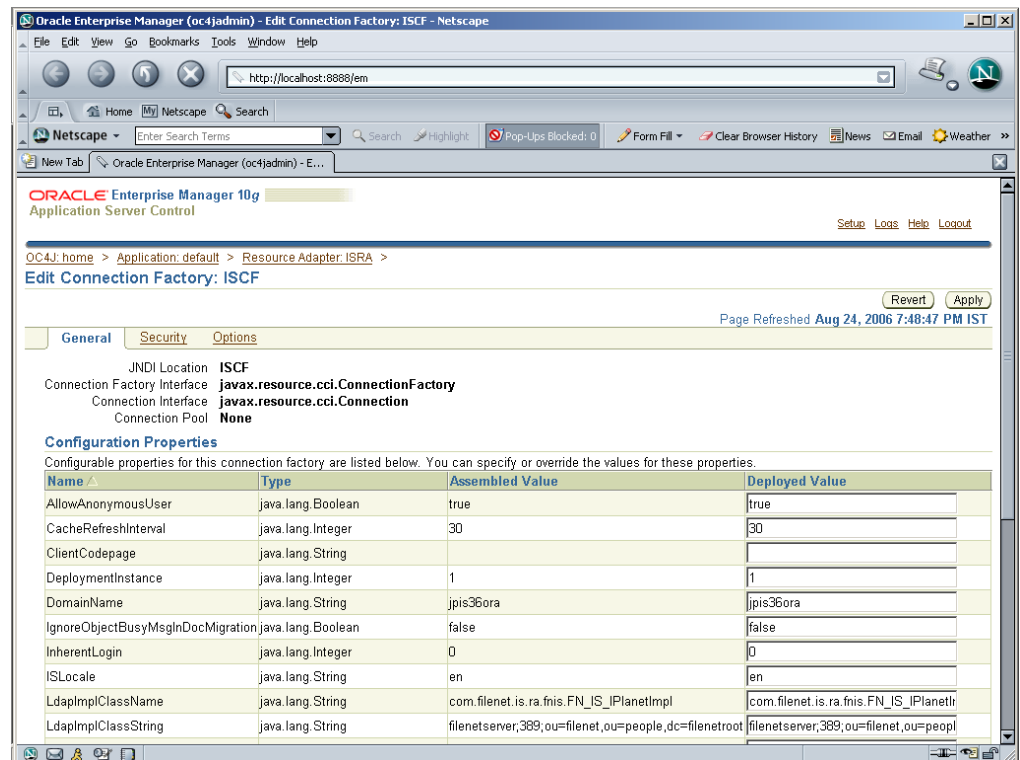
This section describes how to edit the ISRA deployment descriptor after deployment.

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).

¹ ISRALock.0 (0-9 and a-z) would be created in ISRA 3.4 FP3 and above. Prior versions of ISRA would have files created as ISRALock.0000 (0000-9999).

To edit the ISRA deployment descriptor:

1. Click the Connection Factory created (Refer to [Deploying ISRA.rar](#) section for details). The following screen appears:



2. Modify the required property and click **Apply**. Restart the server for settings to take place.

Alternatively,

1. Remove all files from ISRATemp directory and copy **ISRA.rar** in it. Change directory to ISRATemp.

In the **ISRATemp** directory, run the command `jar -xvf ISRA.rar`

This command will cause the **ISRA.rar** file to extract in the current directory.

- Select the **ra.xml** file in the META-INF folder and edit the **ra.xml** file in a preferred text editor

For more details, refer [Configurable ra.xml Properties](#) and [Changing ISRA Specific Parameters for LDAP](#).

2. After making the modifications, save the **ra.xml** file in the same folder.
3. To reconstruct the **ISRA.rar** file, enter the command from ISRATemp 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 Properties

Note Please note that all properties described in the deployment descriptor are mandatory and no property should be removed. Default values should be specified for properties that users do not want to use.

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

- [DomainName](#)
- [OrganizationName](#)
- [LoggingLevel](#)
- [LoggingMode](#)
- [PageBufferSize](#)
- [CacheRefreshInterval](#)
- [SecurityCacheMode](#)
- [MetaDataCacheRefreshMode](#)
- [LogFileName](#)
- [LogFileSize](#)
- [LdapImplClassName](#)
- [LdapImplClassString](#)
- [InherentLogin](#)
- [DeploymentInstance](#)
- [PCHLogging](#)
- [AllowAnonymousUser](#)
- [RPCLogging](#)
- [ClientCodepage](#)
- [GMTEnabled flag](#)
- [ISLocale](#)
- [IgnoreObjectBusyMsgInDocMigration](#)

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 IBM. It should be changed according to the operational environment.

LoggingLevel

This is an integer representing the amount of log information to be generated. The values are dynamically updatable by using the ISRA Console. The valid values are:

Logging Level	Description
-1	Disables ISRA Logging
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.

PageBufferSize

This is an integer value specified in kilobytes (KB). It 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. The document buffer size on IS and ISRA should match to optimize image transfer performance.

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.

SecurityCacheMode

This parameter can take two values:

<u>Value</u>	<u>Setting</u>
1	Caches both users and Groups
2	Caches only groups

MetaDataCacheRefreshMode

This parameter can have a value in the range of (0-15).

<u>Value</u>	<u>Setting</u>
0	No Metadata cache refresh
1	Printer cache refresh only
2	Document class cache refresh only
4	Key Fields cache refresh only
8	Menu Value cache refresh only
15	is the default value for this parameter, which will refresh all metadata.

Add corresponding values to get a combination of data.

For example, $1+2 = 3$ Printer and Document class data

$1+2+4 = 7$ Printer, Document class, Key Fields data

$0+1+2+4+8 = 15$ all data

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.

To ensure that each ISRA instance has a unique log file, the following steps will be followed:

- Configurable property "DeploymentInstance" will be read from ra.xml and appended to the log file name. If not specified, the default value "1" will be used as the deployment instance of ISRA.
- The unique ID used for terminal ID generation in ISRA will be appended to the log file name.

For instance, if the log file name configured in ra.xml is **ISRA.log** and the deployment instance is 1, the modified log file name would be **ISRA_1_0.log**. Here, "0-9 and a-z" is the unique ID² generated at run time. This ensures a unique name of the log file for each instance of ISRA.

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_1_0.log** is renamed to **ISRA_1_0_1.log**, and a new file **ISRA_1_0.log** is

² The modified log file name would be ISRA_1_<unique-ID>.log. The value for unique ID is 0-9, a-z in ISRA 3.4 FP3 and above. Older versions of ISRA use the unique ID value between 0000-9999.

created. The default value of LogFileSize is 5MB. Automatic purging of old ISRA log files has been implemented leaving behind only 5 latest versions.

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'

The value of the property for LDAP implementation for Active directory is com.filenet.is.ra.fnis.FN_IS_ActiveDirImpl and for Novell NDS 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.

Note In case that the LDAP server is located on a different subnet, it may be necessary to enter IP address or a full domain name.

- Port Number – LDAP Server's port number used for transactions.
- User Path – Organization unit 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;ADS.com

- **For IPlanet**

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

- **For Novell NDS**

filenetserver;389;ou= ISRA, ou=odc,ou=filenet,o=com

InherentLogin

To use LDAP security, the value will be set to 1 from the default value 0.

DeploymentInstance

This is the instance number of ISRA that is being deployed. It is a user defined number between 1 and 100. The default value for this parameter is 1 when none is specified. The maximum is 100, which means that 100 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, there can be 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.

IS always expects unique IDs from ISRA clients, and when it receives duplicate IDs from ISRA, it will reject communication.

So it is always advised to increment the deployment instance number when another instance of ISRA is deployed to achieve its unique id.

Format of the terminal ID is used by ISRA and IS in distinguishing a Unique ISRA instance.

RXXYYYZ@<ip-address>

Where,

XX = takes values from 1 to 100. If there is only one instance then it defaults to 1. Else the value has to be set to the Number of Deployment instances.

YYY = Counter that increments with the creation of a new LogonSession object (Values in base 36)

Z = Unique ID generated per ISRA instance. Introduced to support ISRA in clustered environment (Unique ID is a number in Base 36)

<ip-address> = IP Address of the machine where ISRA is deployed

The Unique ID is obtained from the place holder file ISRALock.z (where Z=Unique ID) that is created in the ISRALock folder. Each cluster member creates its own place holder file (like ISRALock.0, ISRALock.1 and so on) within the common ISRALock folder.

PCHLogging

This is a String parameter to enable/disable PCH logging in ISRA. The default value for this is "Disabled". PCHLogging enables user to log performance monitoring data of IS.

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	No Logging
1	File Logging

The default Value of RPCLogging parameter is 0. It can be changed to 1 if RPC Logging is required.

The RPC LogFileSize is taken as double the size of that of ISRA LogFileSize. So, when the size of the RPC log file reaches its maximum limit (10mb), the log file is renamed, and a new file is created with the same name. For example,

ISRA_1_0_RPC.log is renamed to ISRA_1_0_RPC_1.log, and a new file ISRA_1_0_RPC.log is created. Automatic purging of old ISRA RPC log files has been implemented leaving behind only 5 latest versions.

ClientCodepage

This is the code page for encoding Text and Sticky Note annotations. The default value for this property is Cp1252.

On Microsoft Windows platform, the Locale character set is the Windows Code Page (1252 for US English and Western Europe) whereas on a UNIX platform, it is an ISO 8859-X character set (ISO 8859-1 for US English and Western Europe).

Thus, if the client locale character set, is Windows Code Page based (for example: Cp1252 for US English and Western Europe), and the server is UNIX based, then Windows Code Page should be used for encoding the annotations data before committing to the server. This is because; there is an inconsistency in characters mapping between Microsoft Windows Code Pages and the equivalent ISO 8859-X series. For instance, Code page 1252 is built on ISO 8859-1 but uses the range 0x80-0x9F for extra printable characters rather than the C1 control codes used in ISO8859-1.

For Annotations data, ISRA internally retrieves the IS character set and uses the equivalent Windows Code Pages for the following ISO encodings.

ISO Encoding	MS Windows counterpart
ISO8859_1	Cp1252
ISO8859_2	Cp1250
ISO8859_5	Cp1251
ISO8859_6	Cp1256
ISO8859_7	Cp1253
ISO8859_8	Cp1255
ISO8859_9	Cp1254
ISO8859_13	Cp1257

Note Specifying an incorrect code page may lead to inconsistency and/or corruption of Annotations data.

GMTEnabled flag³

This parameter takes two values:

1. true
2. false

The default value of this parameter is false.

³ GMTEnable flag is available from ISRA 3.4 FP3 and above.

Setting “GMTEnabled” to false: When the flag is set to false, it is assumed that the ISRA client application is not “GMT Enabled” i.e. client applications will not do any timezone conversion. ISRA returns the date committed on the IS to client applications after adjusting the difference between the Application Server timezone and the GMT Timezone. As a result, the dates displayed in applications will be in accordance with the dates committed on the IS.

Setting “GMTEnabled” to true: When the flag is set to true, it is assumed that the client application is “GMT Enabled” i.e. client applications will display the dates in GMT. In this case, ISRA returns the date committed on the IS in the GMT timezone, without any adjustment. Set this value to true only if you have made changes to your application after of an upgrade to ISRA 3.3 FP6 or ISRA 3.4 FP2.

ISLocale

This is a String parameter which represents the ISRA Locale. The administrator can set the value of this configurable property as that of the IS locale. It is a lower-case two-letter code as defined by ISO-639. The default value of this parameter is “en” (English locale). The ResourceBundle used in ISRA will depend on the value set by the user for this property.

IgnoreObjectBusyMsgInDocMigration

This is a Boolean parameter which can be set to true to ignore the [77,0,11 The object is busy] error, incase of DocMigration. The default value for this parameter is false.

Configuring 10g-Specific Parameters

Once the configurable properties are set for ISRA, the Application Server-specific parameters can be configured. In case of Oracle 10g server, the properties that can be specified are:

- maxConnections
- minConnections
- scheme
- waitTimeout

To configure the above properties modify the **oc4j-ra.xml** file present in the location `<ORACLE_HOME>\j2ee\home\application-deployments\default\ISRA\`. Set the maxConnections, minConnections, scheme, and waitTimeout

maxConnections

This property represents the maximum number of managed connections that can be created by the ManagedConnectionFactory. After this number is reached, no new connections are created. If no value is specified then the number of connections can grow indefinitely.

minConnections

This parameter represents minimum number of managed connections maintained by the Application Server. If minConnections is greater than 0, the

specified number of connections are opened on initialization of OC4J. OC4J may not be able to open the connections, if necessary information is unavailable at initialization time. For instance, if the connection requires a JNDI lookup, it cannot be created because JNDI information is not available until initialization is complete. The default value is 0.

scheme

This property specifies how OC4J handles connection requests after the maximum permitted number of connections is reached. The user must specify one of the following values:

- **dynamic:** OC4J always creates a new connection and returns it to the application, even if this violates the maximum limit. When these limit-violating connections are closed, they are destroyed instead of being returned to the connection pool.

Note OC4J does not destroy pooled connections upon close of connection unless the pool size is above the maximum limit specified in the `maxConnections` property.

- **fixed:** OC4J raises an exception when the application requests a connection and the maximum limit has been reached.
- **fixed wait:** OC4J blocks the application's connection request until an in-use connection is returned to the pool. If `waitTimeout` is specified, OC4J throws an exception in case no connection becomes available within the specified time limit.

waitTimeout

This property represents the maximum number of seconds that OC4J waits for an available connection if `maxConnections` has been exceeded and the `fixed_wait` scheme is in effect. In all other cases, this property is ignored.

Note If the user makes no `waitTimeout` specification, the default behavior is not to time out.

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.

Configuring and Deploying ISRA Console and Sample Application

ISRA Console

The LoadISRA utility from ISRA 3.4.0 has now been replaced with the ISRA Console (in ISRA3.4 fixpack 1 and above). This ISRA console has been developed to show the ra.xml properties in a well formatted table and also features buttons to enable/disable/edit logging levels dynamically.

The dynamic update of logging allows the user to enable and change logging levels while the ISRA is running and without needing to restart the appserver. The console also features links to launch Sample Application and to view JVM statistics.

This console is available as a Web Module (ISRAConsole.war) within ISRAConsole.ear and gets deployed automatically during the deployment of ISRAConsole.ear

Configuring Sample Application

The ISRA console and Sample Application are packaged within a single Enterprise Application Archive File (**ISRAConsole.ear**).

ISRAConsole.ear consists of:

- Two Web modules:
 - ISRASampleWEB.war (ISRA Sample Application)
 - ISRAConsole.war (ISRA Console)
- Deployment Descriptor (application.xml)

This chapter illustrates the deployment and configuration of the ISRA Console and Sample Application on Oracle 10g Application Server platform.

Note ISRA product media comes with an IBM 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 it should not be expected to perform useful work, or be used for production deployment. This Sample Application is to be used strictly as reference material.

It is assumed that ISRA is deployed and configured for the target IS.

In ISRA3.4 fixpack 1, a new properties file "jndiISRA.properties" has been introduced and it gets created in Application Server home directory. The JNDI names of connection factories mentioned in this properties file, which will be used by Sample application to display on the login page. Two JNDI names "ISCF" and "ISCF1" are mentioned in the file by default. Additional library names can be included by providing comma separated entries. The property file is mandatory and it should contain the same names as the JNDI Binding Paths specified for the configured ISRA ConnectionFactories.

For configuring Sample application, certain properties need to be updated in the web.xml of the **ISRASampleWEB.war**.

Follow the below steps for extracting **web.xml** from **ISRASampleWEB.war**.

1. Extract **ISRASampleWEB.war** from **ISRAConsole.ear**.
2. Extract **web.xml** from **ISRASampleWEB.war**.
4. To enable extended annotation functionality modify the following parameters in **web.xml**:
 - a. Change env-entry-value for "DOCCLASSNAME" to the document class configured in the IS for digital signatures.
`<env-entry-value>digDocClass</env-entry-value>`
 - b. 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**:
 - a. 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>`
 - b. 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 **ISRAConsole.ear**.

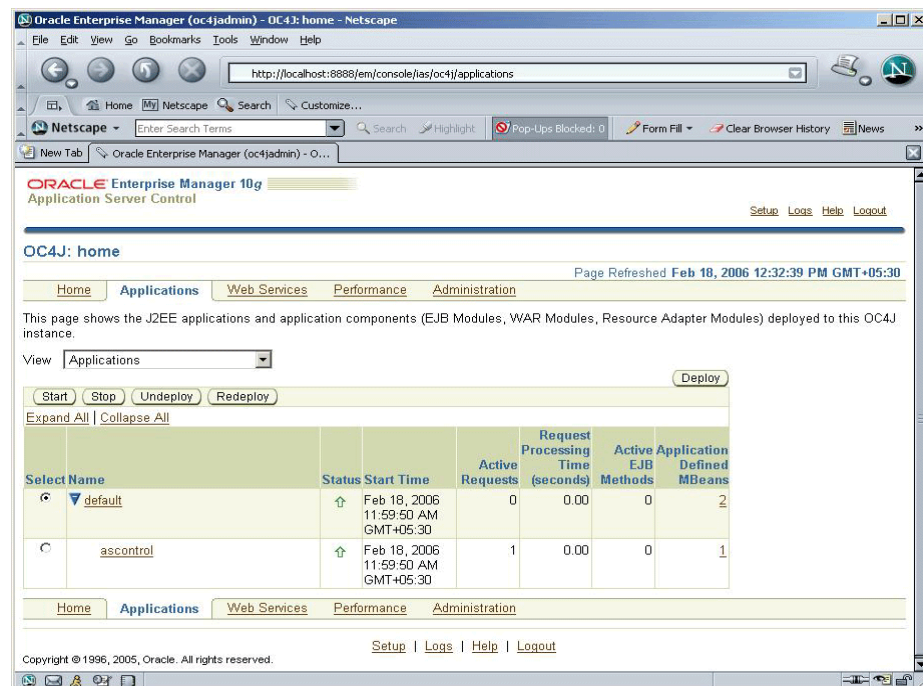
Deploying ISRA Console and Sample Application

Deployment of the ISRA Console and Sample Application allows testing the connectivity and functionality of the ISRA connector. This step is optional.

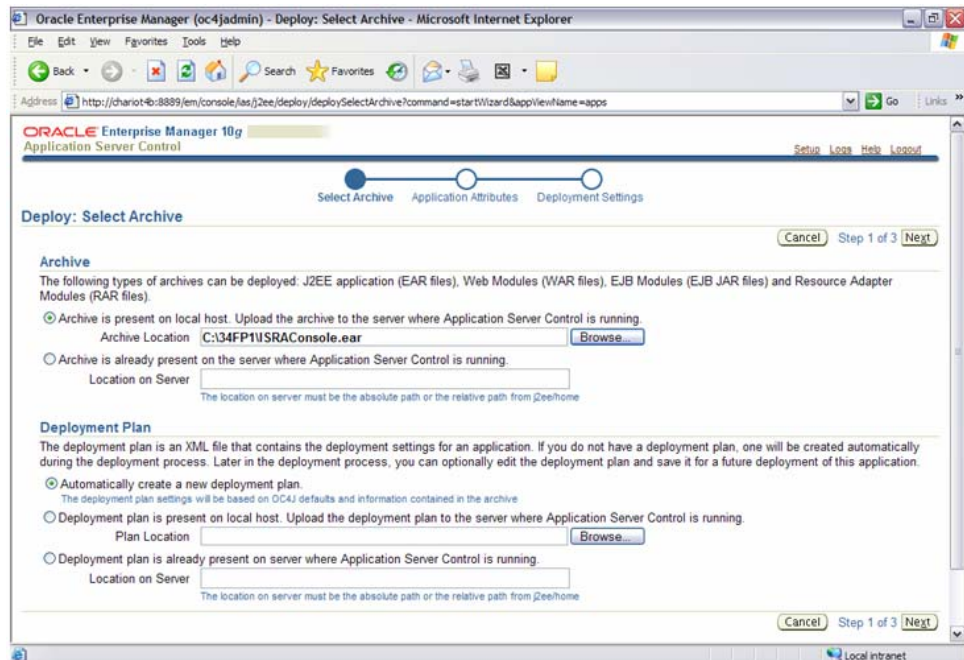
To deploy the ISRA Console and Sample Application, perform the following steps:

Graphical Administration

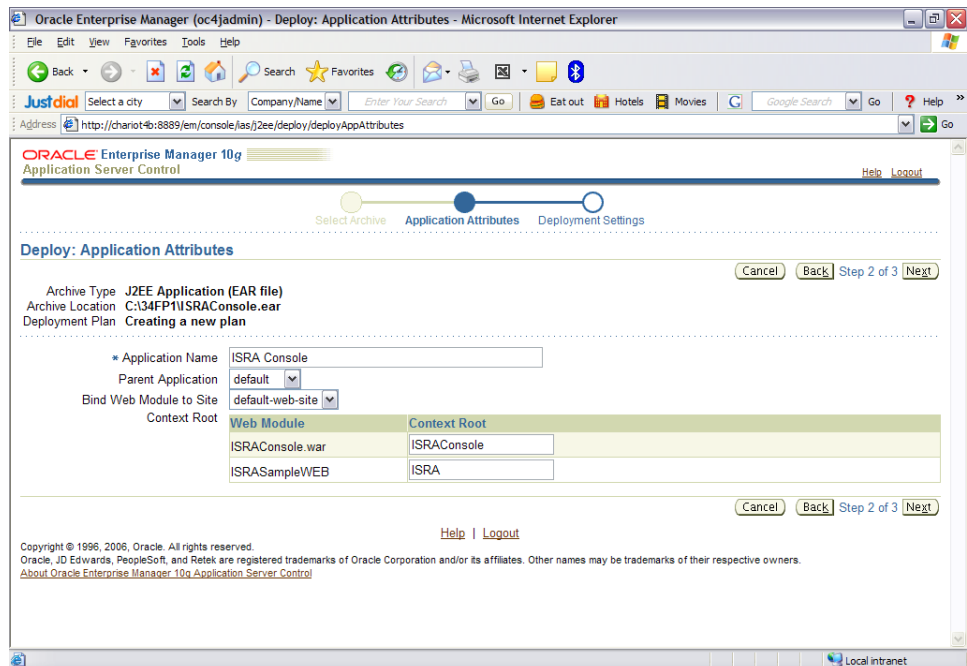
1. Launch a Web browser and open the Oracle Enterprise Manager console using the URL as `http://localhost:<Port Number>/em` in the Address bar.
2. Login to the Oracle 10g Application Server console.
3. Click **Applications** tab. The following screen appears:



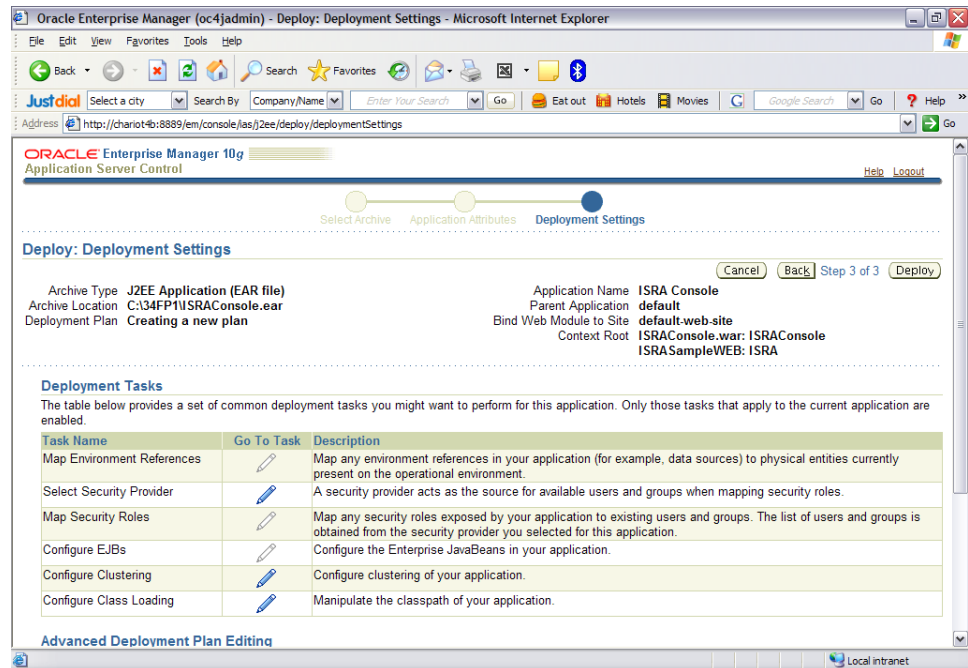
4. Click **Deploy**. The following screen appears:



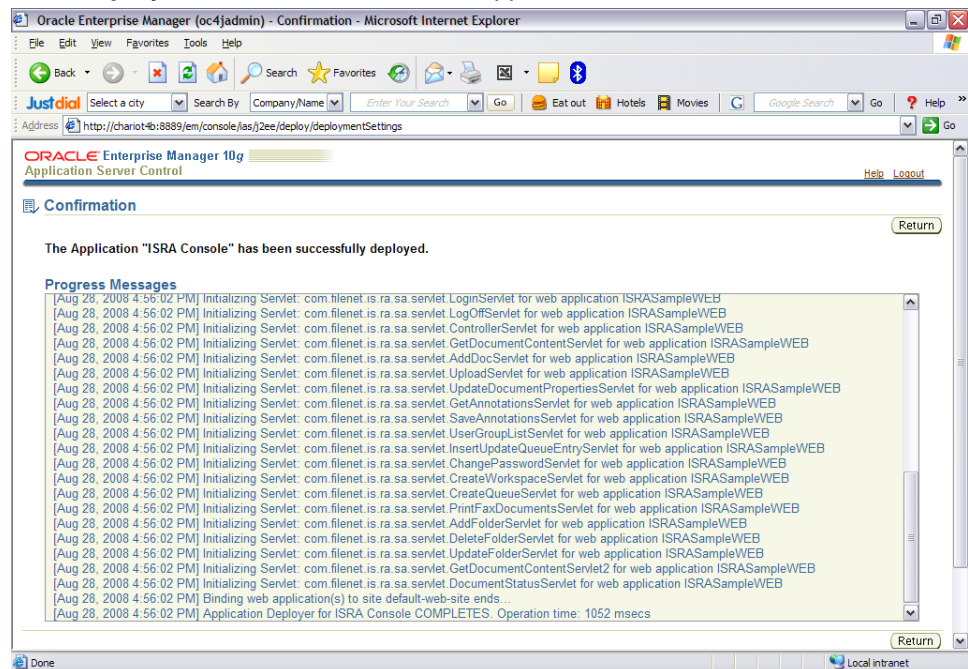
5. Click **Browse**. Navigate to the **ISRAConsole.ear** file under the ISRA installed directory.
6. Click **Next**. The following screen appears:



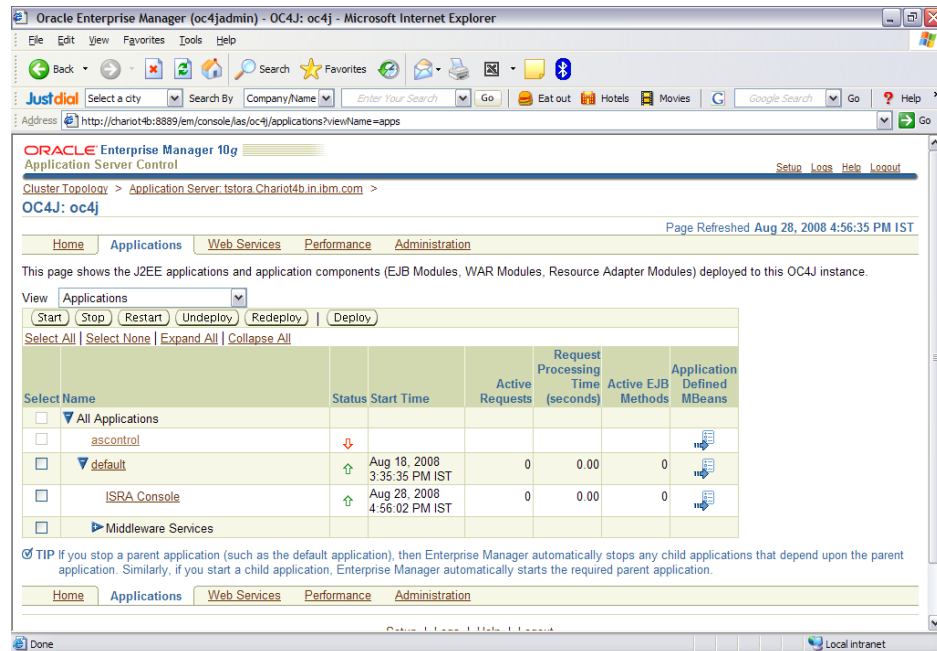
7. Enter the **Application Name** and click **Next**. The following screen appears:



8. Click **Deploy**. The Confirmation screen appears:



9. Click **Return**. The following screen appears:



10. This completes the deployment of the ISRA Console through graphical administrative interface.

Command Line Administration

1. From the DOS prompt, navigate to the directory where OC4J is installed. For example,

```
<ORACLE_HOME>\j2ee\home
```

2. Enter the following command:

```
java -jar admin.jar
ormi://<oc4j_host>:<oc4j_ormi_port> admin <password>
-deploy -file
<drive>:\fns\ISRA340\Sample\ISRAConsole.ear -
deploymentName ISRASample
```

This will deploy the ISRA Sample Application.

3. Bind the Sample Application to a Web site by executing the following command:

```
java -jar admin.jar
ormi://<oc4j_host>:<oc4j_ormi_port> admin <password>
-bindWebApp ISRASample ISRASampleWEB default-web-site
/ISRA (For OC4J 10g Version 10.1.3.0.0)
```

```
java -jar admin.jar
ormi://<oc4j_host>:<oc4j_ormi_port> admin <password>
-bindWebApp ISRASample ISRASampleWEB http-web-site
/ISRA (For OC4J 10g Version 9.0.4.0.0)
```

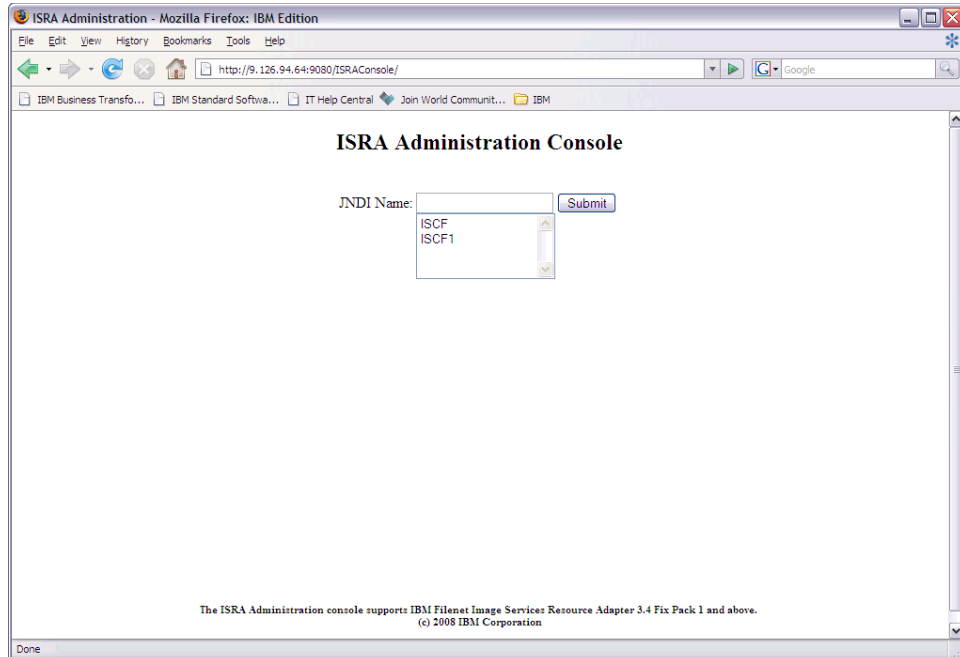
This completes the deployment of the Sample Application through command line administrative interface.

Using the ISRA Console

To access the ISRA Console, follow the steps below:

1. Go to the location where the application is available
(http://<AppServerName>:
<AppServerPort>/<ApplicationContextRoot>)ApplicationContextRoot is
ISRAConsole.

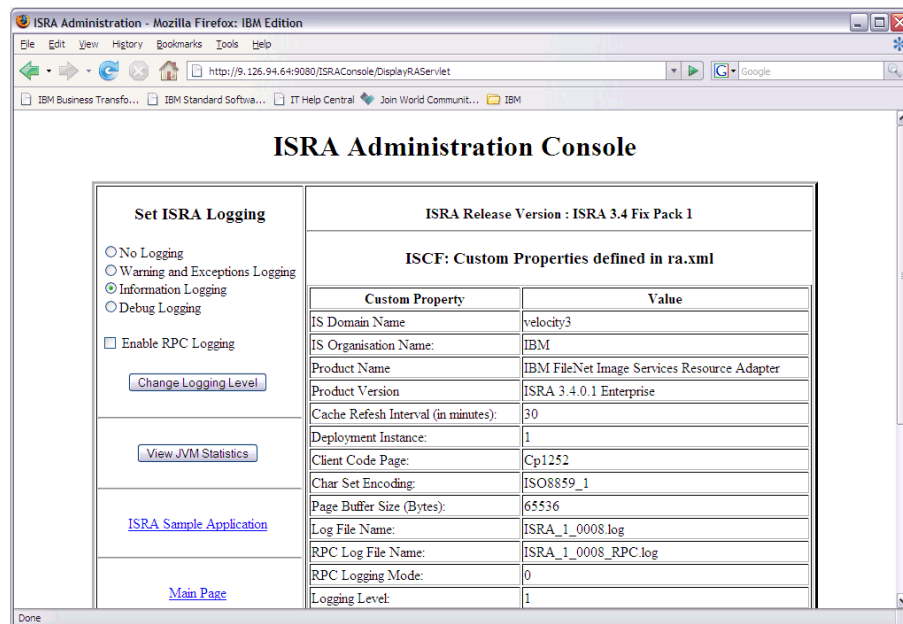
For example : http://9.126.94.39:9088/ISRAConsole/



2. Enter the JNDI name of the library and click **Submit**.

A page showing the current values configured in the ra.xml is shown along with controls to edit the ISRA logging levels.

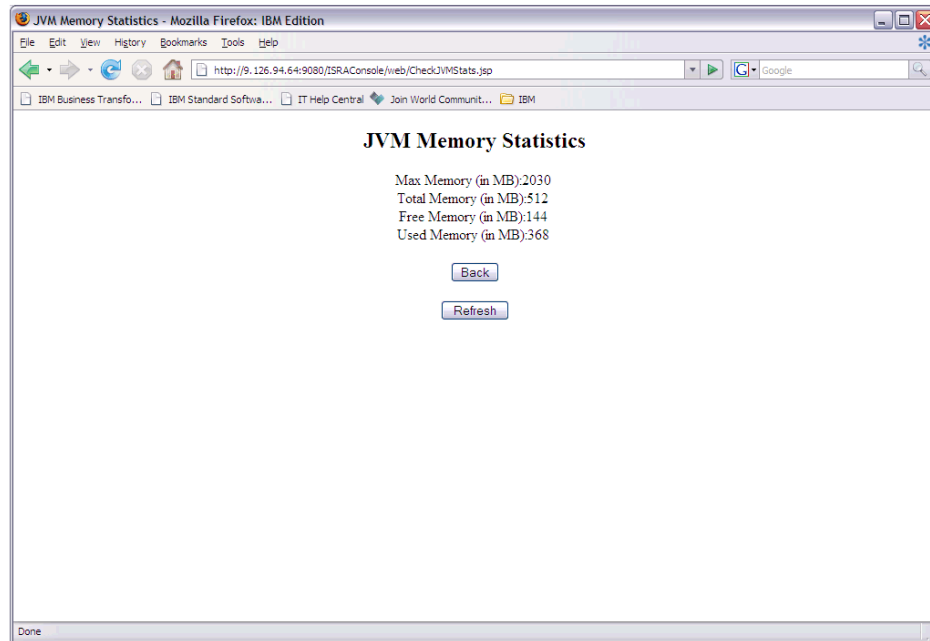
A link has been provided on the page, to access the ISRA Sample Application.



Changes to the logging level settings are applied to ISRA with immediate effect. The changes to logging levels are updated in the properties displayed on the screen.

The changes are valid till the application server is recycled. When the application server is restarted the log level settings specified in the ra.xml are used.

3. The JVM statistics can be used to study the memory usage in the Application Server JVM.



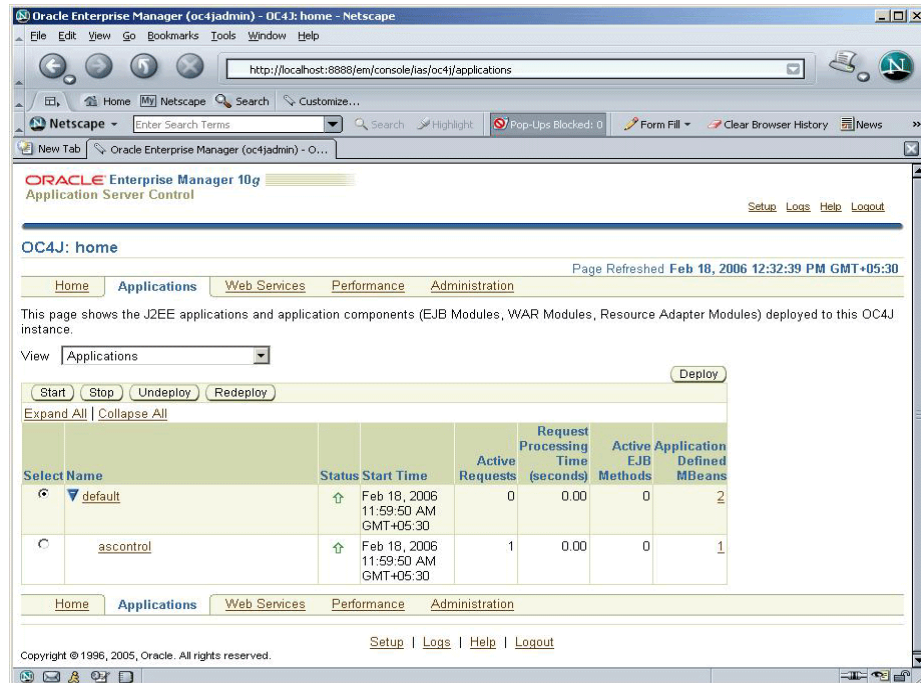
Deploying IBM FileNet Image Viewer

This section describes how to deploy the IBM FileNet Image Viewer. This viewer is used by the ISRA Console and Sample Application to display documents of specific mime types (TIFF, JPEG and BMP). Skip this section, if you do not want the IBM FileNet Image Viewer configured with the ISRA Sample Application.

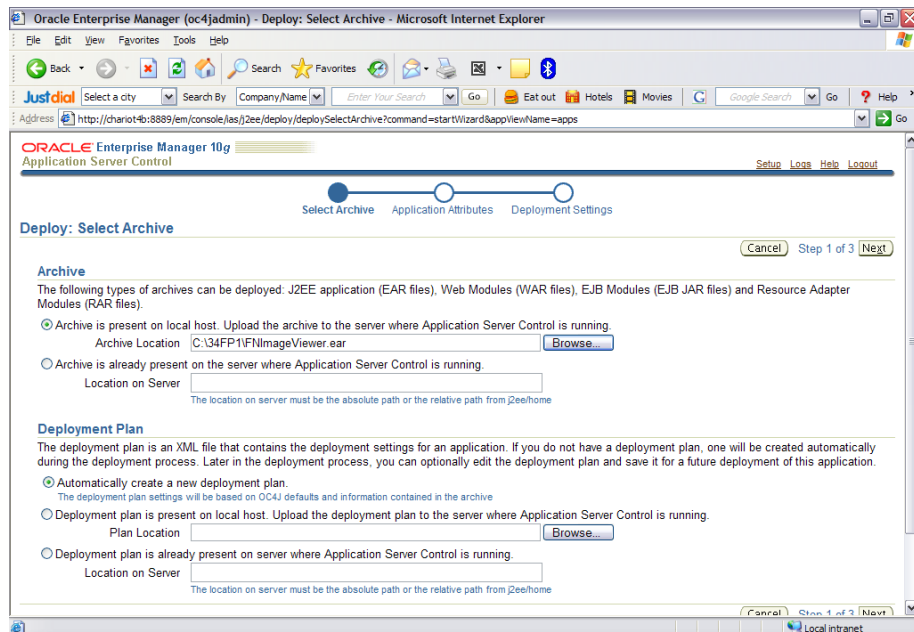
To deploy IBM FileNet Image Viewer:

Graphical Administration

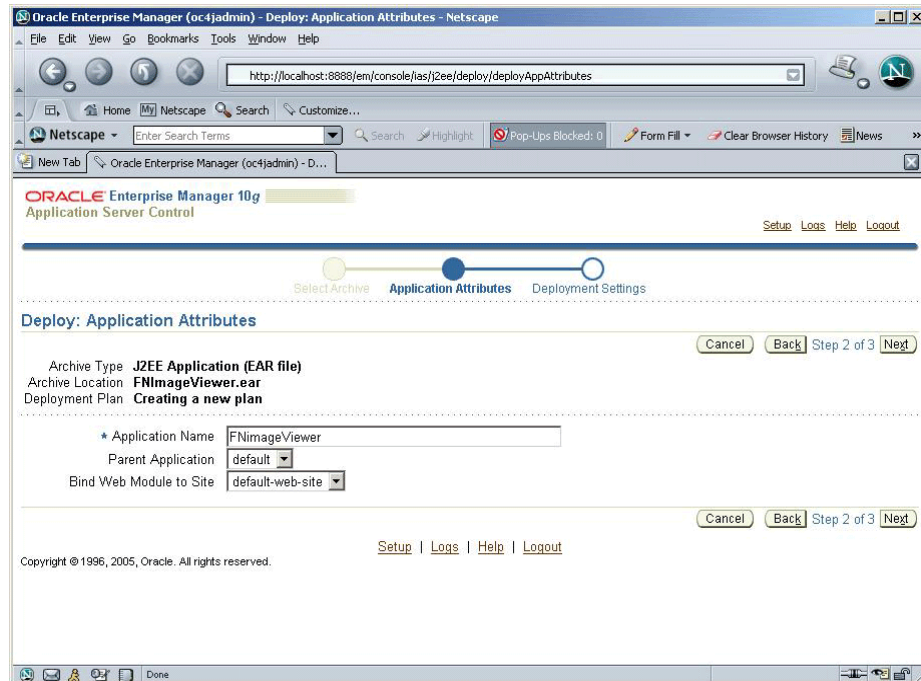
1. Launch a Web browser and open the Oracle Enterprise Manager console using the URL as `http://localhost:<Port Number>/em` in the Address bar.
2. Login to the Oracle 10g Application Server console.
3. Click **Applications** tab. The following screen appears:



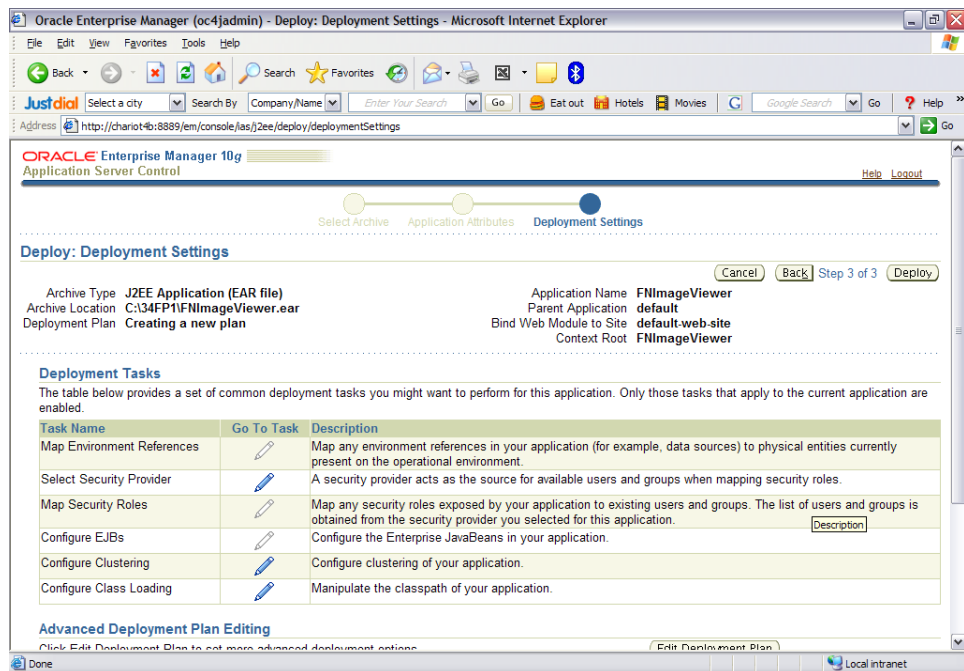
4. Click **Deploy**. The following screen appears:



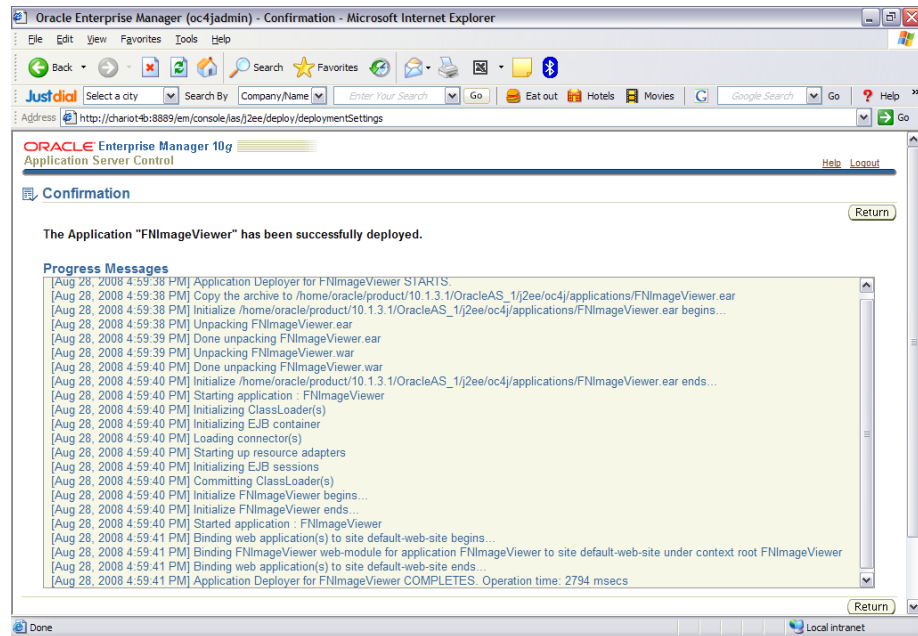
5. Click **Browse**. Navigate to the **FNImageViewer.ear** file under the ISRA installed directory.
6. Click **Next**. The following screen appears:



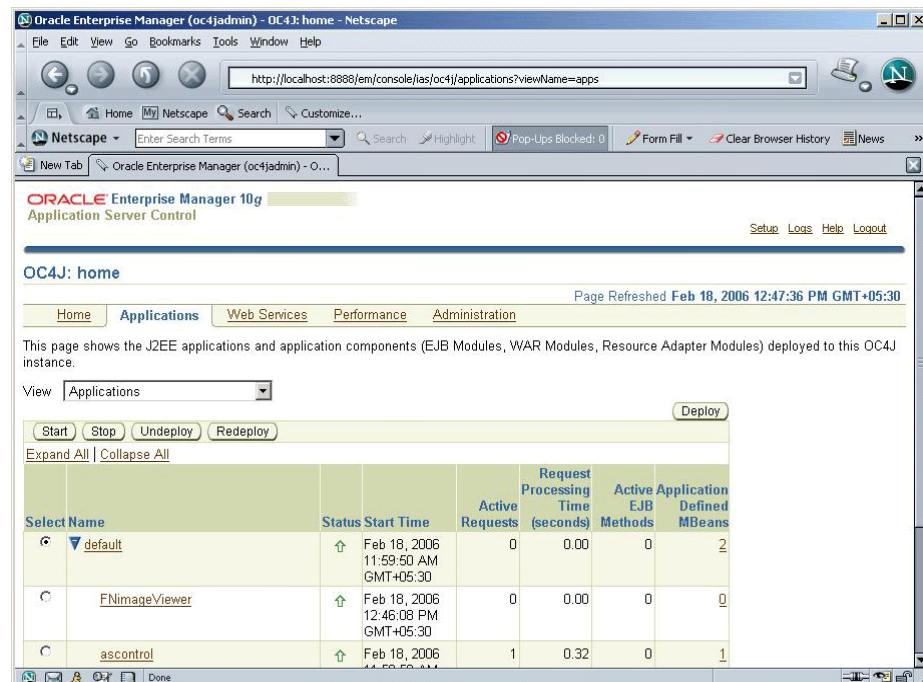
7. Enter the **Application Name** and click **Next**. The following screen appears:



8. Click **Deploy**. The Confirmation screen appears:



9. Click **Return**. The following screen appears:



10. This completes the deployment of IBM FileNet Image Viewer through graphical administrative interface.

Command Line Administration

- From the DOS prompt, navigate to the directory where OC4J is installed. For example,
`<ORACLE_HOME>\j2ee\home`
- Enter the following command:

```
java -jar admin.jar
ormi://<oc4j_host>:<oc4j_ormi_port> admin <password>
-deploy -file
<drive>:\fsw\ISRA340\Sample\FNImageViewer.ear -
deploymentName FNImageViewer
```

This will deploy the ISRA Sample Application.

3. Bind the Sample Application to a Web site by executing the following command:

```
java -jar admin.jar
ormi://<oc4j_host>:<oc4j_ormi_port> admin <password>
-bindWebApp FNImageViewer FNImageViewer default-Web-
site /FNImageViewer (For OC4J 10g Version 10.1.3.0.0)
```

```
java -jar admin.jar
ormi://<oc4j_host>:<oc4j_ormi_port> admin <password>
-bindWebApp FNImageViewer FNImageViewer http-Web-site
/FNImageViewer (For OC4J 10g Version 9.0.4.0.0)
```

This completes the deployment of IBM FileNet Image Viewer through command line administrative interface.

IBM FileNet Image Viewer Quick Start Feature

The Quick Start feature provides a mechanism for initializing a Web browser, Java, and Image Viewer session. The background task required to initialize an Image Viewer session is done at the time when the Web browser is initialized, prior to the time when Image Viewer is actually required. This reduces the startup time of Image Viewer. This feature is supported on various Operating Systems, such as Microsoft Windows 98, NT, 2000 Professional, and XP. The only Web browser supported for this feature is Internet Explorer. The Quick Start feature is not enabled by default, user needs to manually enable it.

Enabling Quick Start Feature

To enable Quick Start feature:

1. Extract **FNImageViewer.ear** from the patch.
2. Check the availability of "quickstart.htm" file in the **FNImageViewer.war** extracted from **FNImageViewer.ear**.
3. Extract **ISRAConsole.ear** from the patch.
4. Extract **ISRASampleWEB.war** file from ISRAConsole.ear.
5. Extract '**DisplayDocument.jsp**' file from ISRASampleWEB.war.
6. Add the highlighted tag to the file as shown in the code segment below:

```
<APPLET CODEBASE = "/FNImageViewer/FNJavaV1Files" ARCHIVE
="ji.jar"
CODE = "ji.applet.jiApplet.class" NAME = " viewONE" WIDTH =
"100%"
HEIGHT = "97%" HSPACE = 0 VSPACE = 0 ALIGN = middle
MAYSCRIPT="true">
```

```
-- -- --
```

```
<%if(RAVersion2.equalsIgnoreCase("Enterprise")){%>
```


-- -- --

```
<param name="UserId" value="<%=userId%>">
<param name="quickstartURL" value="quickstart.htm">
<%/*End of if condition where
RAVersion2.equalsIgnoreCase("Enterprise")*/%>
</Applet>
```

7. Save and close the file.
8. Bundle the new file into **ISRASampleWEB.war**.
9. Bundle the WAR file into **ISRAConsole.ear**.
10. Undeploy the old **ISRAConsole.ear**.
11. Deploy the new **ISRAConsole.ear**.
12. Open a document in IBM FileNet Image Viewer.
13. Right-click the document to open the context menu.
14. From the context menu, click **Preferences > QuickStart** to enable the Quick Start feature. A 'tick' icon appears on the left-hand side of the Quick Start menu indicating that the feature is enabled.

Enabling the Quick Start feature will add an icon within the System tray (bottom right of the Windows Desktop) and a menu item "IBM FileNet JavaView QuickStart for Internet Explorer" under Start > Programs > Startup menu. After enabling Quick Start, if the machine is rebooted, the Quick Start feature remains enabled. Disabling the Quick Start feature will remove the Quick Start icon from the System tray and the menu item "IBM FileNet JavaView QuickStart for Internet Explorer" from the Start > Programs > Startup menu.

Known Issues in the Quick Start Feature

Following are the known issues in IBM FileNet Image Viewer:

- Web session will not end until Quick Start feature is disabled or the user explicitly logs out of the session with the Web server. If the Quick Start feature is enabled, closing the browser window(s) will not terminate the session with the Web server.
- If Quick Start is enabled and Internet Explorer is not the default browser, then on machine re-login or reboot, a message will display asking whether you want to make Internet Explorer the default browser. To avoid the message:
 1. Open a browser window.
 2. Select **Tools > Internet Options**.
 3. Click **Programs** tab and deselect the check box corresponding to "Internet Explorer should check to see whether it is the default browser".
 4. Click **Apply**.
 5. Click **OK**.
- If Always button is not selected on the security dialog box of the security certificate associated with the Image Viewer, then on machine re-login or reboot, a security dialog box is displayed.
- QuickStart feature is not available in Image Viewer when we access web server using IP address instead of host name in the URL.

Testing Sample Application

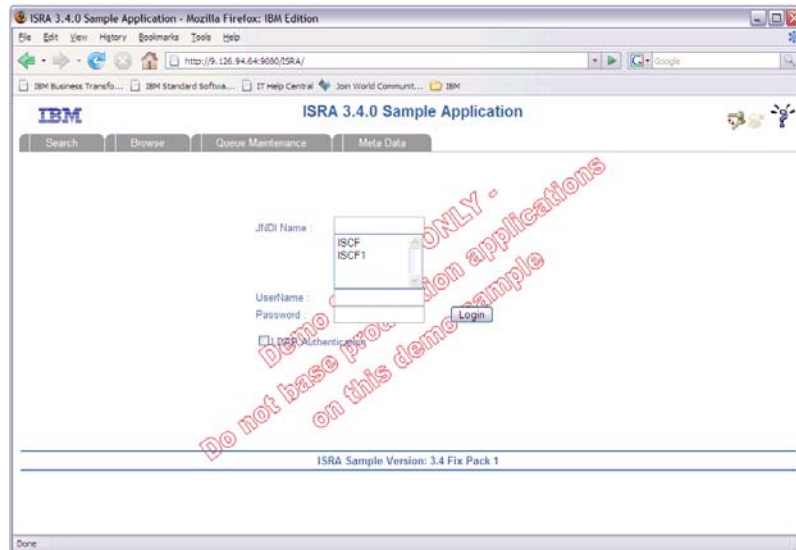
After the ISRA Sample Application is started, the steps to verify the deployment and access the ISRA Sample Application are:

1. Open a Web browser and enter the URL

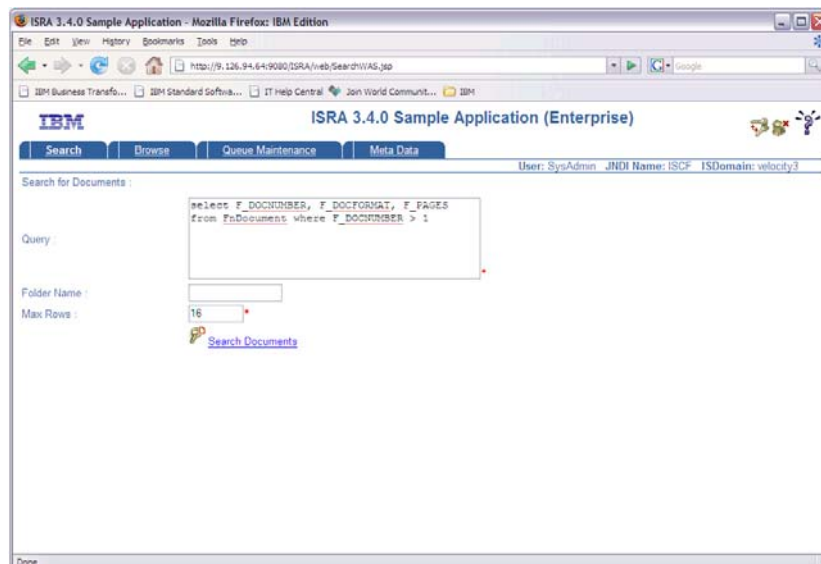
`http://<server:port>/context_root.`

For example: `http://9.126.94.39:9088/ISRA/`

The Web application context_root is case sensitive. On an Oracle 10g Server, the default port number is 8888. The default context_root of the Sample Application is ISRA.



2. Enter valid user name and password for the configured IS (check configured ConnectionFactory for IS details) and click **Logon**.



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

LDAP Configuration

ISRA 3.4.0 supports LDAP Authentication by third party Servers in addition to direct IS logging.

It is necessary to map users present on the LDAP Server onto 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.

IBM FileNet provides utilities for mapping users existing in the LDAP Server onto the IS. These utilities are part of the IS package and are to be executed on the machines running the LDAP Server and the IS.

IBM FileNet provides two utilities – ldap_export and ldap_import. The ldap_export utility is used to export names of the users on the LDAP Server onto an xml file.

The ldap_import utility imports the names of the users that have been mapped onto the xml file and creates corresponding users on the IS. It is mandatory that the ldap_import algorithm as well as the xml file be present on the same machines where IS exists.

The ldap_import algorithm uses a hashing algorithm to generate the user passwords for the IS.

Mapping Existing LDAP Server Users to IS

To configure user IDs in an IBM 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 rest of the 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.

Option	Description
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.

Usage of exporting users from LDAP server into the XML file:

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

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

Example Usage

```
C:\>ldap_import/hIMGSESV: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 IBM FileNet users thus created will have a password that is generated from the corresponding user IDs.

Changing ISRA Specific Parameters for LDAP

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

- `LdapImplClassName`
- `LdapImplClassString`
- `InherentLogin`

Refer to [LdapImplClassName](#), [LdapImplClassString](#), and [InherentLogin](#), in section [Configurable ra.xml Properties](#) for details on the configuration of the respective properties.

Undeployment

This section describes the undeployment procedure to remove the ISRA and the Sample Application from the Oracle 10g Application Server.

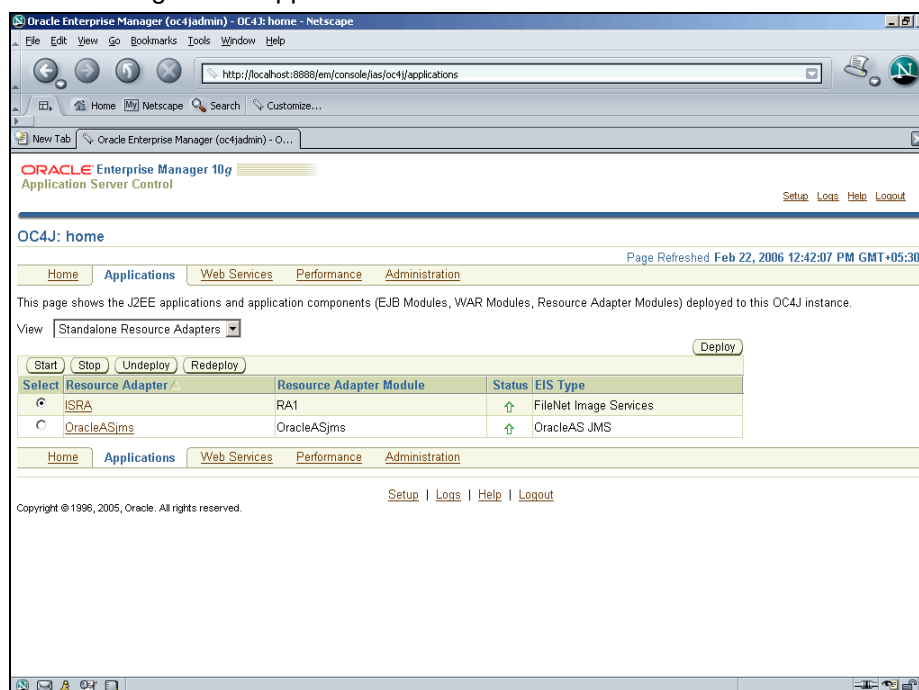
Undeploying ISRA

To undeploy the ISRA, perform the following steps:

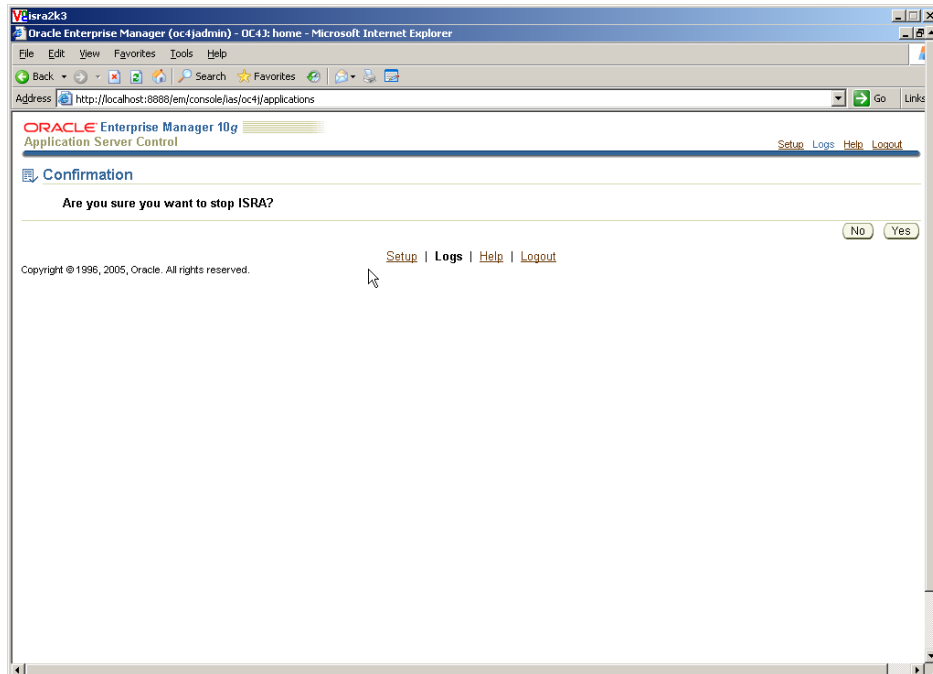
Graphical Administration

To undeploy ISRA using the Oracle 10g Application Server Console:

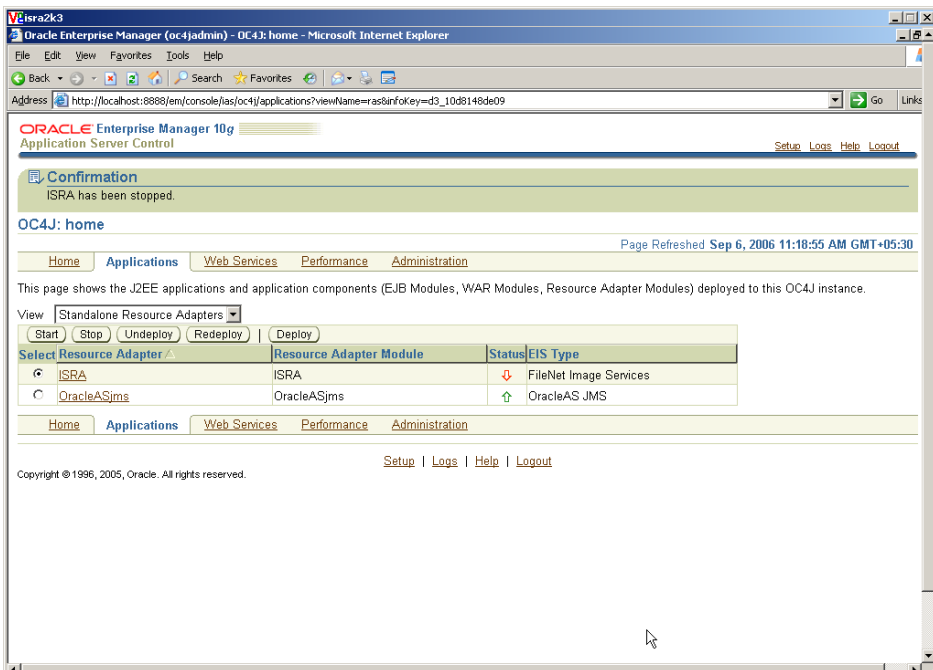
1. Launch a Web browser and open the Oracle Enterprise Manager console using the URL as `http://localhost:<Port Number>/em` in the Address bar.
2. Login to the Oracle 10g Application Server console.
3. Click **Applications** tab.
4. Select **Standalone Resource Adapters** value from the **View** drop down box. The following screen appears:



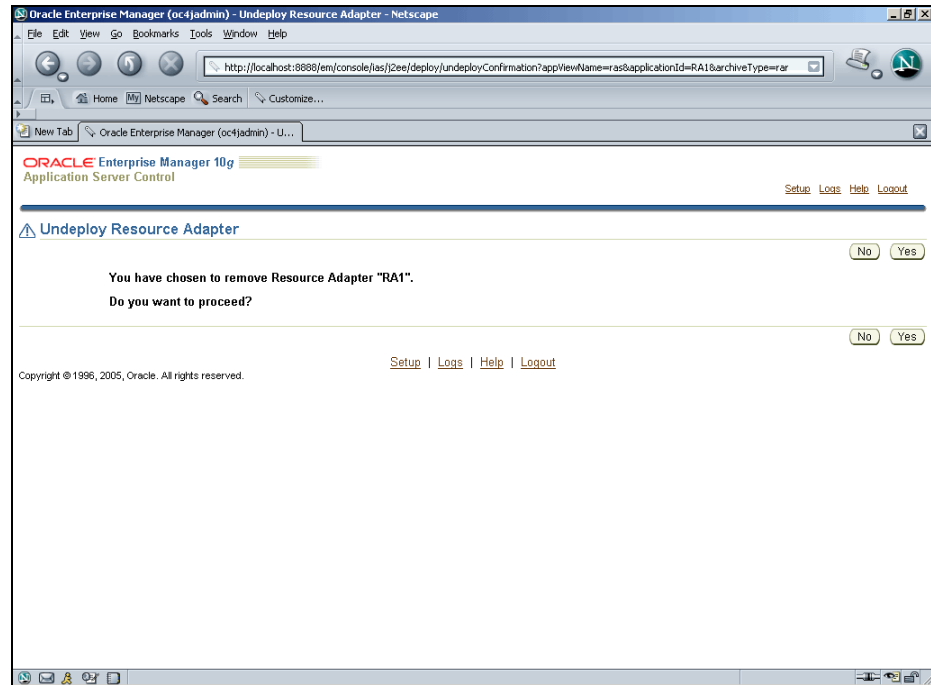
5. Select **ISRA** and click **Stop** to stop the ISRA resource adapter. The following message appears:



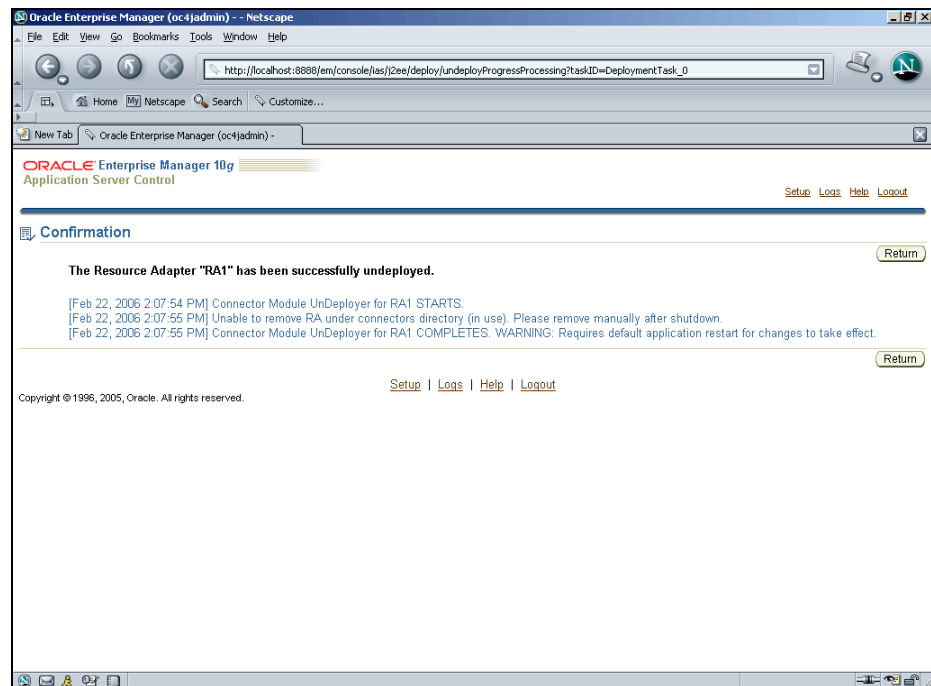
6. Click **Yes**. The following screen appears:



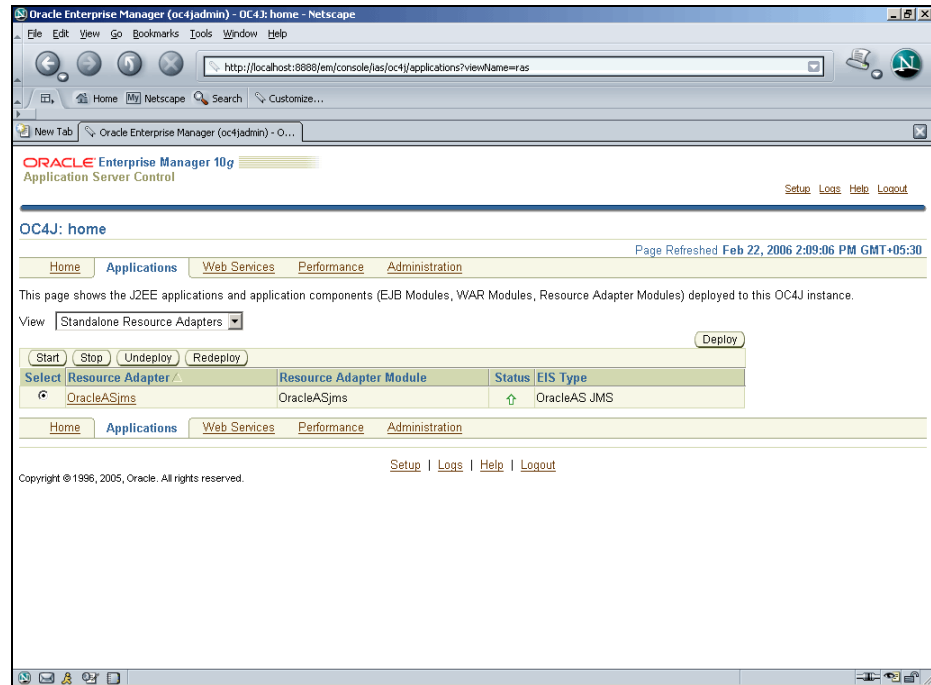
7. Click **Undeploy**. The following message appears



8. Click **Yes**. The Confirmation screen appears:



9. Click **Return** to verify that the selected ISRA application is undeployed.



10. This completes the undeployment of ISRA resource adapter through graphical administrative interface.

Command Line Administration

To remove a deployed resource adapter, use the **-undeployconnector** switch of **admin.jar**. The syntax is:

1. From the DOS prompt, navigate to the directory where OC4J is installed. For example,

```
<ORACLE_HOME>\j2ee\home
```

2. Then enter the following command:

```
java -jar admin.jar
ormi://<oc4j_host>:<oc4j_ormi_port> admin
adminpassword -undeployconnector -name ISRA
```

The required **-name** argument specifies which adapter is being removed. This command removes all **<connector>** entries that use the specified resource adapter from **oc4j-connectors.xml** and deletes the **ISRA** directory from **<ORACLE_HOME>\j2ee\home\connectors** directory.

User can remove an adapter manually by deleting all **<connector>** entries that refer to the adapter from **oc4j-connectors.xml** and deleting the **ISRA** directory from **<ORACLE_HOME>\j2ee\home\connectors** directory.

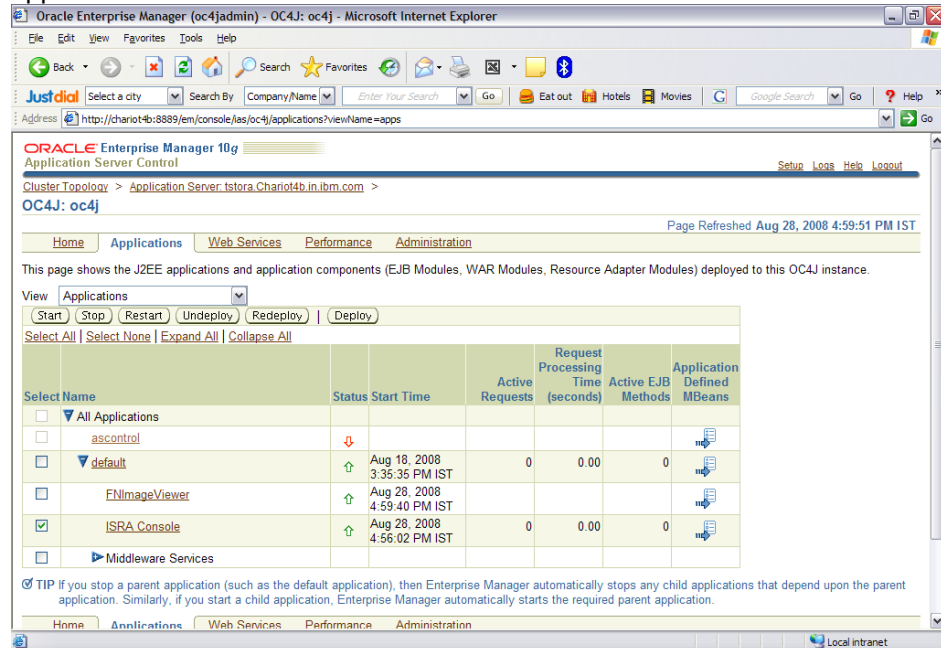
Undeploying ISRA Console and Sample Application

To undeploy the ISRA Console and Sample Application and IBM FileNet Image Viewer, perform the following steps:

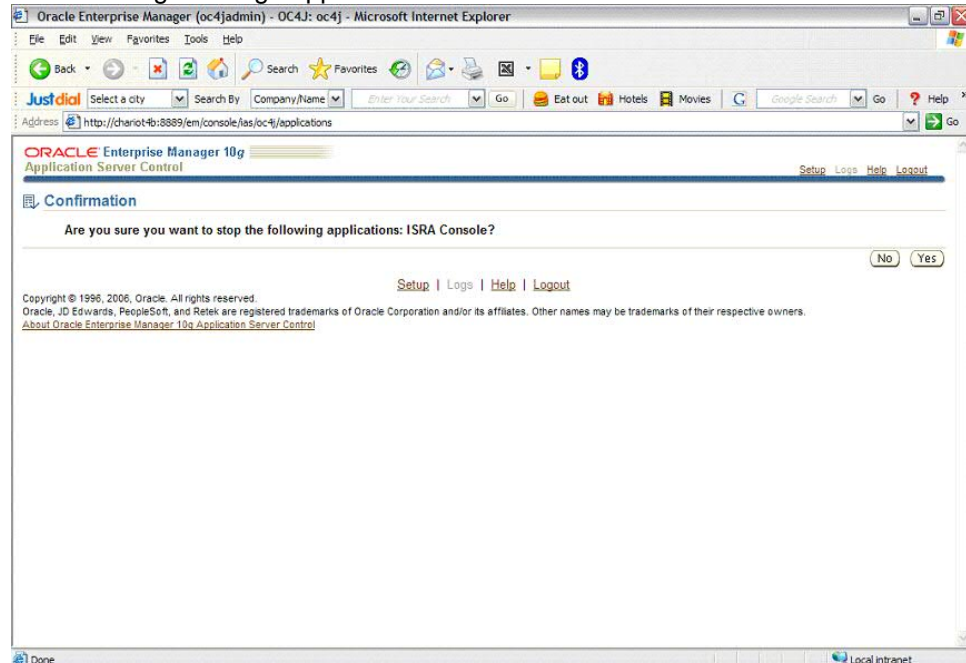
Graphical Administration

To undeploy ISRA Console and Sample application and IBM FileNet Image Viewer using the Oracle 10g Application Server Console,

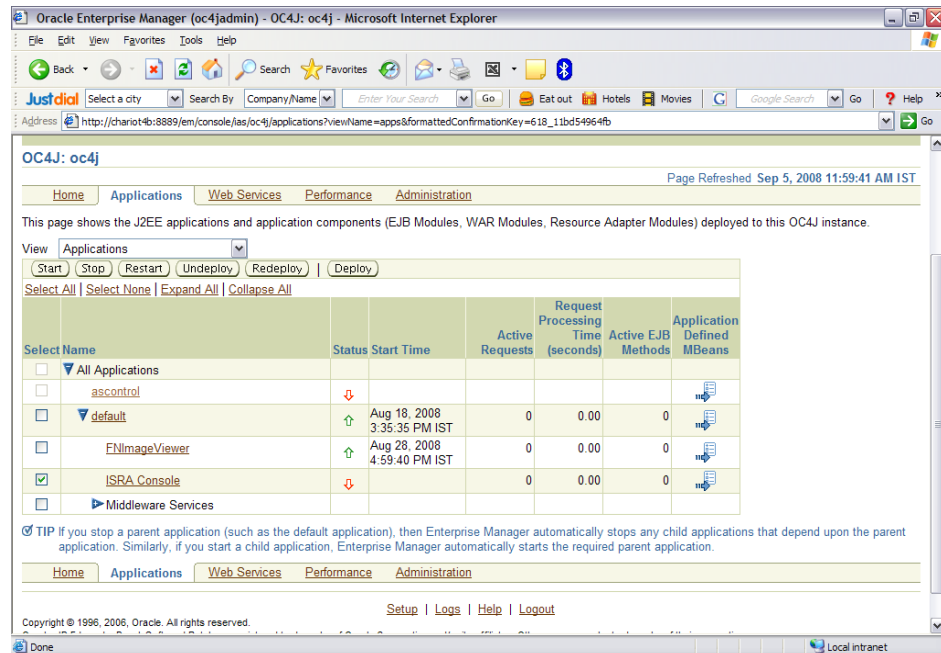
1. Click **Applications** tab.
2. Select **Application** value from the **View** dropdown box. The following screen appears:



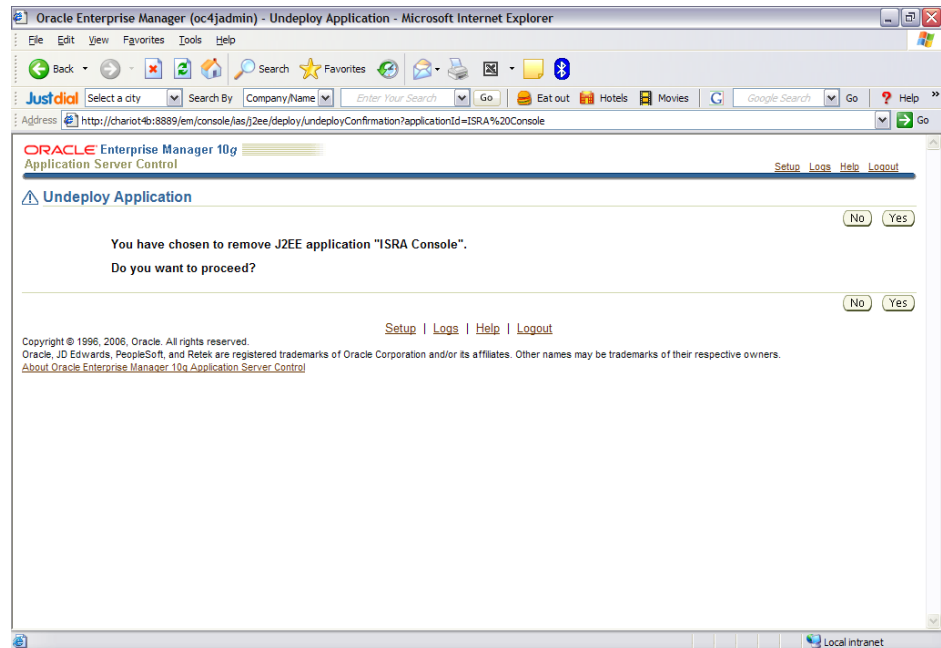
3. Select the **ISRA Console** and click **Stop** to stop the selected application. The following message appears:



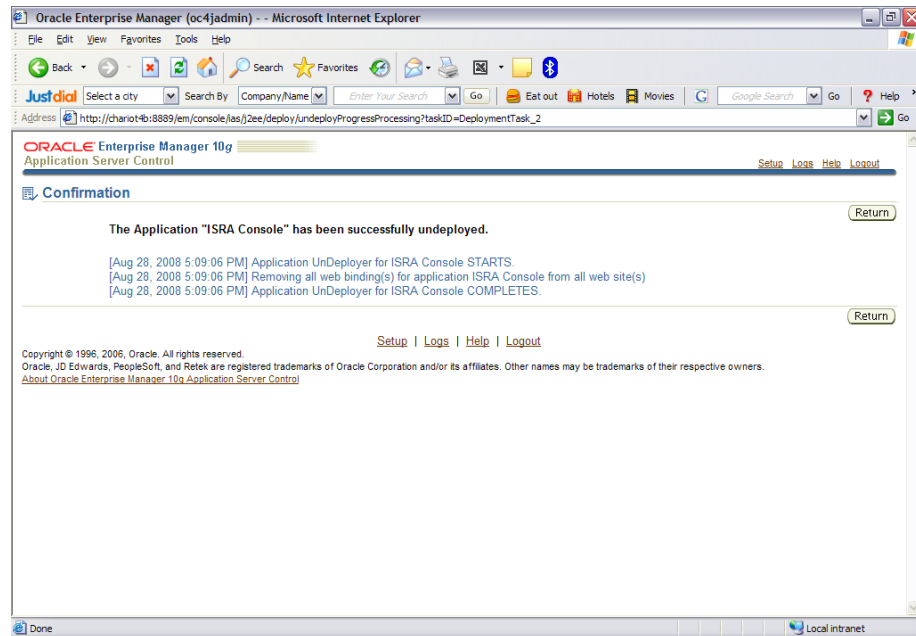
4. Click **Yes**. The following screen appears:



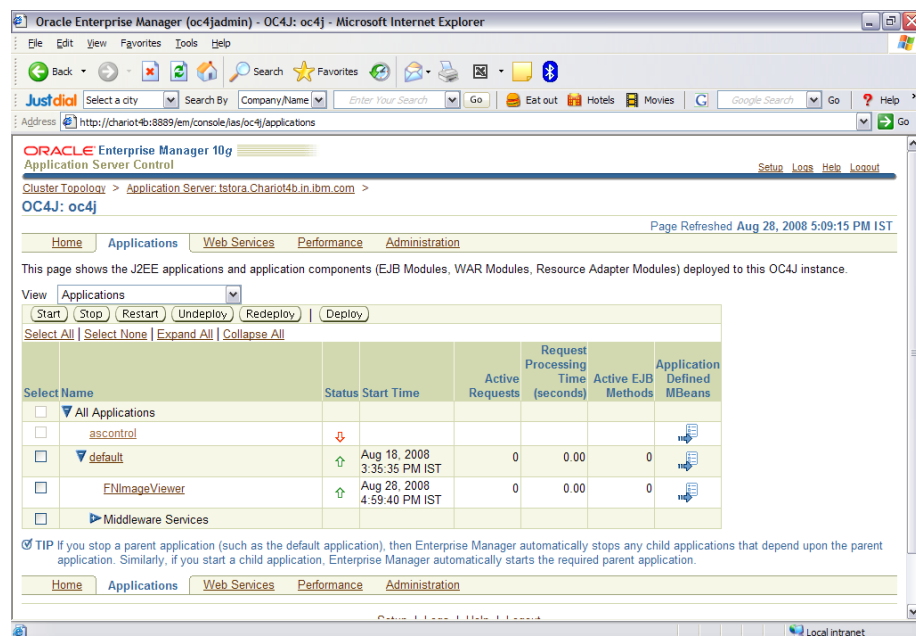
5. Click **Undeploy**. The following message appears:



6. Click **Yes**. The Confirmation screen appears:



7. Click **Return** to verify that the selected ISRA Console and Sample application is undeployed.



8. This completes the undeployment of ISRA Console and Sample application through graphical administrative interface.

Command Line Administration

User can remove a J2EE Web application from the OC4J Web server using the -undeploy option with the admin.jar command-line tool. The syntax is as follows:

1. From the DOS prompt, navigate to the directory where OC4J is installed. For example,

<ORACLE_HOME>\j2ee\home

2. Then enter the following command:

```
java -jar admin.jar  
ormi://<oc4j_host>:<oc4j_ormi_port> admin  
adminpassword -undeploy ISRAConsole -keepFiles
```

This command removes the deployed J2EE application known as applicationName and results in the following:

- The application is removed from the OC4J runtime.
- All bindings for the Web modules are removed from all the Web sites to which the Web modules were bound.
- The application files are removed from both the applications/ and application-deployments directories. If you do not want these files to be removed, use the -keepFiles switch.

Undeploying IBM FileNet Image Viewer

The procedure of undeploying IBM FileNet Image Viewer is same as Undeploying ISRA Console and Sample Application. Refer to [Undeploying Console and Sample Application](#) section for the details.

Troubleshooting

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 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.
2. Open the hosts file with a preferred text editor. If a host file does not exist, create a new file using a preferred text editor.
3. For each IBM 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 an IBM FileNet domain and organization identifying the target IBM 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 an IBM FileNet library has a domain, `fn_is`, and organization, `IBM`, and its IP address is `123.45.6.78`, the hosts file entry will be:

```
123.45.6.78 fnis-IBM-nch-server
```

Appendix A: ra.xml

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>IBM</vendor-name>
  <spec-version>1.0</spec-version>
  <eis-type>IBM FileNet Image Services</eis-type>
  <version>3.4.0</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>IBM</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>
    <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>
    <!-- Added by IBM for caching of groups only-->
    <config-property>
      <description>Security cache mode(1-caches users and groups 2-
caches groups only)</description>
      <config-property-name>SecurityCacheMode</config-property-name>
      <config-property-type>java.lang.Integer</config-property-type>
      <config-property-value>1</config-property-value>
    </config-property>

    <!-- Added by IBM for selective metadata cache refresh-->
    <config-property>
      <description>Selective metadata refresh(0-No refresh 1-printer
cache 2-doc class cache 4-key fields cache 8-menu values cache
)</description>
      <config-property-name>MetaDataCacheRefreshMode</config-property-
name>
      <config-property-type>java.lang.Integer</config-property-type>
      <config-property-value>15</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>IBM 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 3.4.0 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>ISRA instance that is currently being deployed on a
single machine; Min Value = 1, Max Value = 100</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>
    <config-property>
        <description>Parameter to enable PCH Logging in ISRA
</description>
        <config-property-name>PCHLogging</config-property-name>
        <config-property-type>java.lang.String</config-property-type>
        <config-property-value>Disabled</config-property-value>
    </config-property>
    <config-property>
        <description>LDAP Anonymous user login flag</description>
        <config-property-name>AllowAnonymousUser</config-property-
name>
        <config-property-type>java.lang.Boolean</config-property-type>
        <config-property-value>true</config-property-value>

```



```

</config-property>
<config-property>
  <description>0-No Logging; 1-File Logging</description>
  <config-property-name>RPCLogging</config-property-name>
  <config-property-type>java.lang.Integer</config-property-type>
  <config-property-value>0</config-property-value>
</config-property>
<config-property>
  <description>Codepage for ISRA</description>
  <config-property-name>ClientCodepage</config-property-name>
  <config-property-type>java.lang.String</config-property-type>
  <config-property-value>cp1250</config-property-value>
</config-property>
<config-property>
  <description>Set this flag to true if your application displays
the dates returned from ISRA in GMT Timezone</description>
  <config-property-name>GMTEnabled</config-property-name>
  <config-property-type>java.lang.Boolean</config-property-type>
  <config-property-value>>false</config-property-value>
</config-property>
<config-property>
  <description>Locale of the Image Services Server (two letter ISO
language code, for example en, de, ar, ja)</description>
  <config-property-name>ISLocale</config-property-name>
  <config-property-type>java.lang.String</config-property-type>
  <config-property-value>en</config-property-value>
</config-property>
<config-property>
  <description>It is a configurable parameter to Ignore [77,0,11 The
object is busy] error, incase of DocMigration</description>
  <config-property-name>IgnoreObjectBusyMsgInDocMigration</config-
property-name>
  <config-property-type>java.lang.Boolean</config-property-type>
  <config-property-value>>false</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>

```

oc4j-ra.xml

```

<?xml version="1.0"?>
<!DOCTYPE oc4j-connector-factories PUBLIC "-//Oracle//DTD Oracle
Connector 9.04//EN" "http://xmlns.oracle.com/ias/dtds/oc4j-connector-
factories-9_04.dtd">

<oc4j-connector-factories>
  <connector-factory location="ISCF" connector-name="ISRA">

```

```

        <config-property name="domainName" value="DemoIS"/>
        <config-property name="organizationName" value="IBM
FileNet"/>
        <config-property name="loggingLevel" value="0"/>
        <config-property name="loggingMode" value="3"/>
        <config-property name="pageBufferSize" value="64"/>
        <config-property name="cacheRefreshInterval" value="30"/>
        <config-property name="productName" value="IBM FileNet
Image
Services Resource Adapter"/>
        <config-property name="productVersion" value="ISRA3.4.0
Enterprise"/>
        <config-property name="logFileName" value="ISRA.log"/>
        <config-property name="logFileSize" value="5"/>
    </connector-factory>
</oc4j-connector-factories>

```

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