Image Services Resource Adapter

Deployment Guide

For BEA WebLogic 8.1

Release 3.4 Fixpack 5

June 2010

© Copyright International Business Machines Corporation 1984, 2010. All rights reserved.

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Contents

About This Manual 6

Conventions Used in the Document 6

Related References 6

Comments and Suggestions 6

1. ISRA Deployment 7

Deployment Requirements 7

Hardware Requirements 7

Software Requirements 7

Deploying ISRA in a Standalone Environment 7

ISRA RA Descriptor (WebLogic specific) 8

Deploying ISRA.rar 8

Deploying Exploded Archive Files 13

Deploying ISRA in a Clustered Environment 18

Mandatory Requirements for ISRA 3.4.0 24

2. ISRA Configuration 25

Configuring Deployed ISRA 25

Changing ISRA Specific Parameters 25

Configurable ra.xml Properties 25

DomainName 26

OrganizationName 26

LoggingLevel 26

LoggingMode 27

PageBufferSize 27

CacheRefreshInterval 27

SecurityCacheMode 27

MetaDataCacheRefreshMode 27

LogFileName 28

LogFileSize 28

LdapImplClassName 28

LdapImplClassString 29

InherentLogin 29

DeploymentInstance 29

PCHLogging 30

AllowAnonymousUser 30

RPCLogging 30
ClientCodepage 30
GMTEnabled flag 31
ISLocale 32
IgnoreObjectBusyMsgInDocMigration 32
Configuring Weblogic-Specific Entities 32
Configuring Multiple IS Servers with ISRA 33

3. Configuring and Deploying ISRA Console and Sample Application 35

ISRA Console 35
Configuring Sample Application 35
Deploying the ISRA Console and Sample Application in a Standalone Environment 37
Deploying the ISRA Console and Sample Application in a Clustered Environment 42
Using the ISRA Console 46
Deploying IBM FileNet Image Viewer in a Standalone Environment 48
Deploying IBM FileNet Image Viewer in a Clustered Environment 53
IBM FileNet Image Viewer Quick Start Feature 57
Enabling Quick Start Feature 58
Known Issues in the Quick Start Feature 59
Testing Sample Application 59

4. LDAP Configuration 61

Mapping Existing LDAP Server Users to IS 61
Changing ISRA Specific Parameters for LDAP 63

5. Undeployment 64

Undeploying ISRA 64
Undeploying ISRA Console and Sample Application 67
Undeploying IBM FileNet Image Viewer 70

6. Troubleshooting 71

Disabling NCH Broadcasts 71

Appendix A : ra.xml 72

ra.xml 72

Notices 76

Notices 76

COPYRIGHT LICENSE: 77

Trademarks 77

Index 79

About This Manual

This manual provides information about configuring Image Services Resource Adapter (ISRA) version 3.4.0 on BEA WebLogic 8.1 platform.

Conventions Used in the Document

The table lists the formatting conventions used in this document.

Conventions	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.

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

Comments and Suggestions

IBM FileNet invites all customers to communicate with the Documentation group on any question or comment related to IBM FileNet manuals and online help. Send email to comments@us.ibm.com. We will make every effort to respond within one week. Your suggestions help us improve the products we deliver.

1

ISRA Deployment

This chapter describes the deployment of ISRA on BEA WebLogic 8.1 platform. Refer the separate ISRA Installation Guide for Installing ISRA 3.4.0.

Note	The installation procedure for BEA WebLogic server 8.1 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 a BEA WebLogic 8.1 Application Server in a modular manner.

Deployment Requirements

This section lists the minimum software and hardware requirements for successful deployment of ISRA on BEA WebLogic 8.1 Application Server.

Caution	Do not copy xml contents straight from the Deployment Guide. All the xml content related to the deployment of ISRA must be created manually or a valid existing file should be used.

Hardware Requirements

- For additional information on BEA WebLogic, visit http://e-docs.bea.com/platform/suppconfigs/index.html.
- ISRA installation will require approximately 120MB free disk space

Software Requirements

- BEA WebLogic 8.1 installed on Sun Solaris 9/10, Red Hat Linux AS 3.0/4.0, HPUX 11i Patch Bundle B.11.11, Microsoft Windows 2003 Server or AIX 5.2 SP2 / 5.3 SP3
- IBM FileNet IS 3.6 SP2 and above

Deploying ISRA in a Standalone Environment

ISRA is deployed using the WebLogic server administration console. There are two ways of deploying the Resource Adapter on WebLogic 8.1:

- Deploying ISRA.rar file
- Deploying exploded archive files

ISRA RA Descriptor (WebLogic specific)

To deploy a resource adapter to WebLogic Server, user must first create and configure WebLogic Server-specific deployment descriptor, **weblogic-ra.xml** file. The steps include:

1. Copy isra.rar to ISRATemp. Change directory to ISRATemp and run the command `jar –xvf ISRA.rar.` This command extracts the **ISRA.rar** file in the current directory.
2. Create **weblogic-ra.xml** file using a preferred text editor. The **weblogic-ra.xml** file should resemble this specimen:

```
<!DOCTYPE Weblogic-connection-factory-dd PUBLIC"-
//BEA Systems, Inc.//DTD WebLogic 8.1.0 Connector//EN"
"http://www.bea.com/servers/wls810/dtd/Weblogic810-ra.dtd">
<weblogic-connection-factory-dd>
<connection-factory-name>ISCF</connection-factory-name>
<jndi-name>ISCF</jndi-name>
<pool-params>
<initial-capacity>0</initial-capacity>
<max-capacity>1000</max-capacity>
<capacity-increment>1</capacity-increment>
<shrinking-enabled>true</shrinking-enabled>
<connection-profiling-enabled>false</connection-profiling-
  enabled>
<shrink-frequency-seconds>180000</shrink-frequency-seconds>
<inactive-connection-timeout-seconds>100000</inactive-
  connection-timeout-seconds>
<highest-num-waiters>2147483647</highest-num-waiters>
<highest-num-unavailable>0</highest-num-unavailable>
<connection-creation-retry-frequency-seconds>0</connection-
  creation-retry-frequency-seconds>
<connection-reserve-timeout-seconds>10</connection-reserve-
  timeout-seconds>
<test-frequency-seconds>0</test-frequency-seconds>
<match-connections-supported>true</match-connections-
  supported>
  </pool-params>
<security-principal-map></security-principal-map>
  </weblogic-connection-factory-dd>
```

   The values corresponding to all attributes can be modified as required and saved as **weblogic-ra.xml** in the META-INF subfolder:

3. Reconstruct the ISRA.rar file. Run the command jar –cvf ISRA.rar * from ISRATemp. This command creates ISRA.rar file with weblogic-ra.xml bundled into it.

Deploying ISRA.rar

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

1. Start the WebLogic Server.
   - On Windows Server, start WebLogic Administration Server from the Start Menu by clicking:

     Start > Programs > BEA WebLogic Platform 8.1 > User Projects > <domain_name> > Start Server.

     Alternatively, the Configuration Wizard scripts can also be used to start the Administration Server. When the Configuration Wizard is used to

create a domain, the wizard also creates a script that can be used to start an Administration Server for the domain. To use the script, execute the **startWebLogic.cmd** file located at the following path:

```
<WebLogic Installation Directory>\
user_projects\domains\<domain_name>
```

- On an UNIX system, login as the root user and execute the startWebLogic script, as:

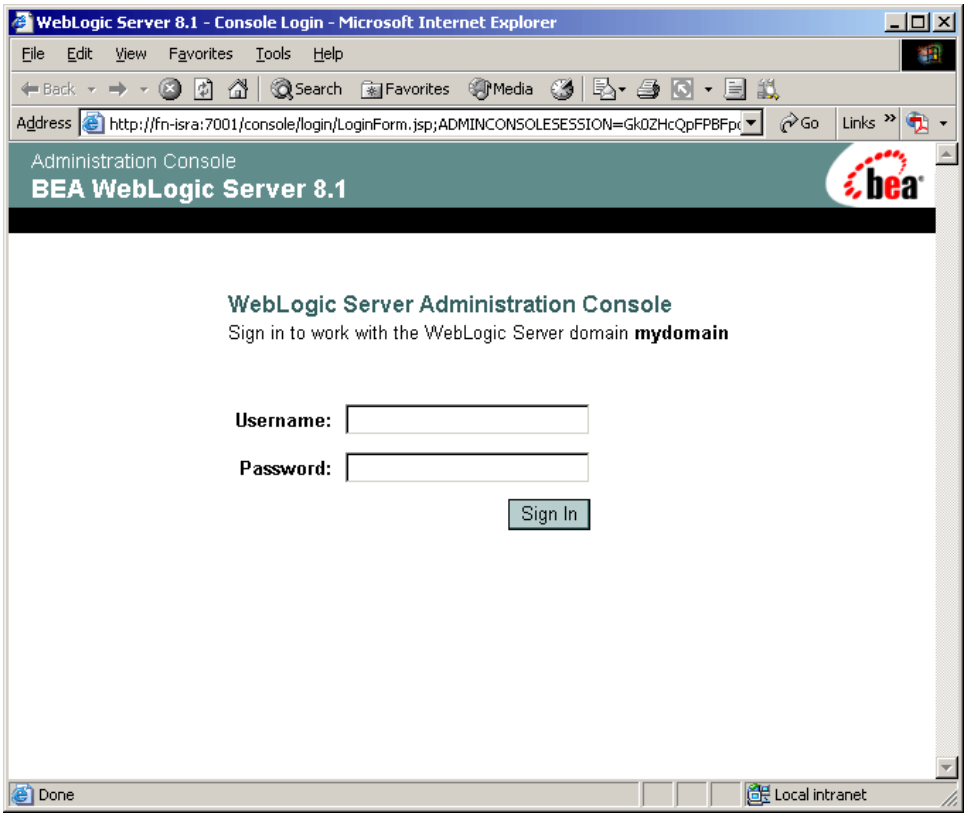
```
# cd <WebLogic Installation Directory>/
user_projects/domains/<domain_name>
# ./startWebLogic.sh
```

2. To open the administrative console, enter the following WebLogic admin console URL in a browser window:

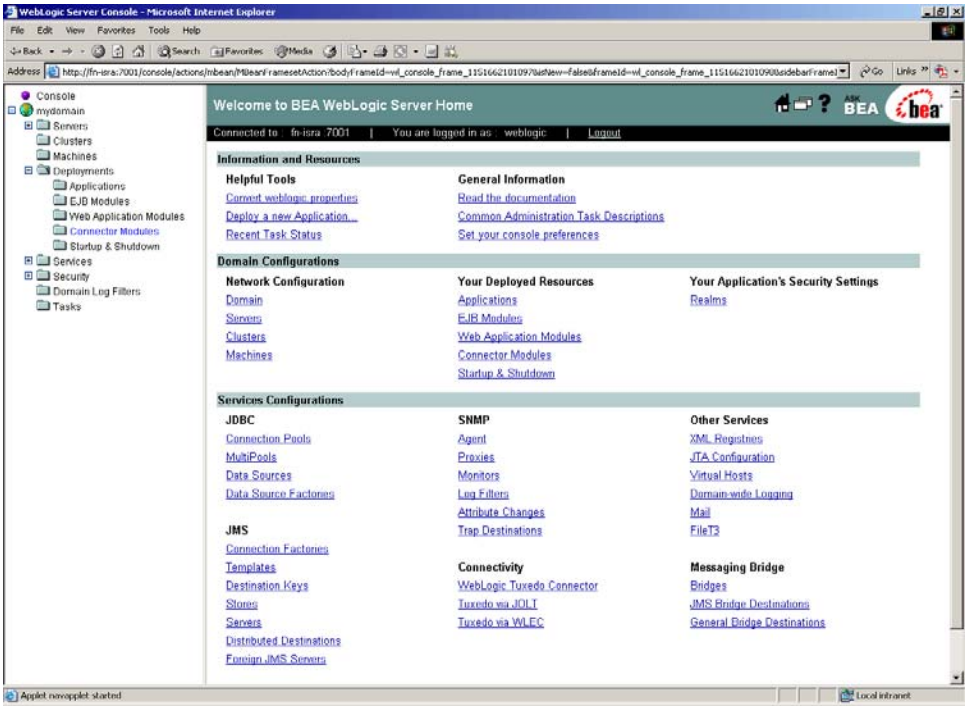
   http://<hostname>:<portnumber>/console

   Depending on the WebLogic admin server setup, user may be prompted to enter the WebLogic admin user name and password.

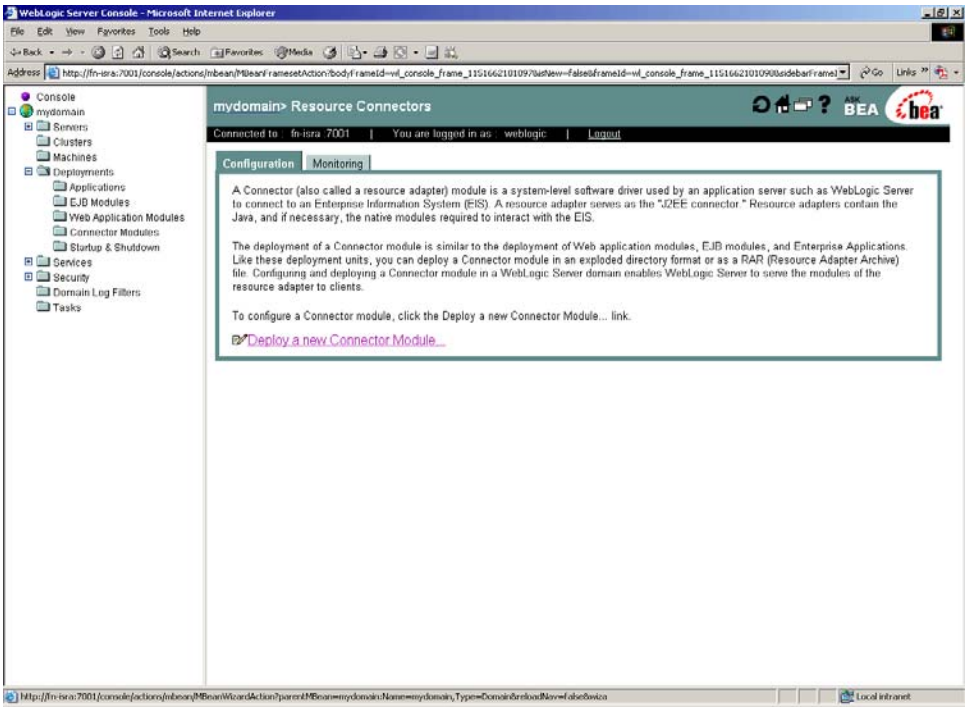
> **Note** The screen shots shown in this section (taken on Windows Server) might look slightly different depending on the browser, server, platform version or settings.



3. The WebLogic admin console sign on screen appears. Enter the WebLogic admin **Username** and **Password**. Click **Sign In** to access the WebLogic admin console. The following screen appears:

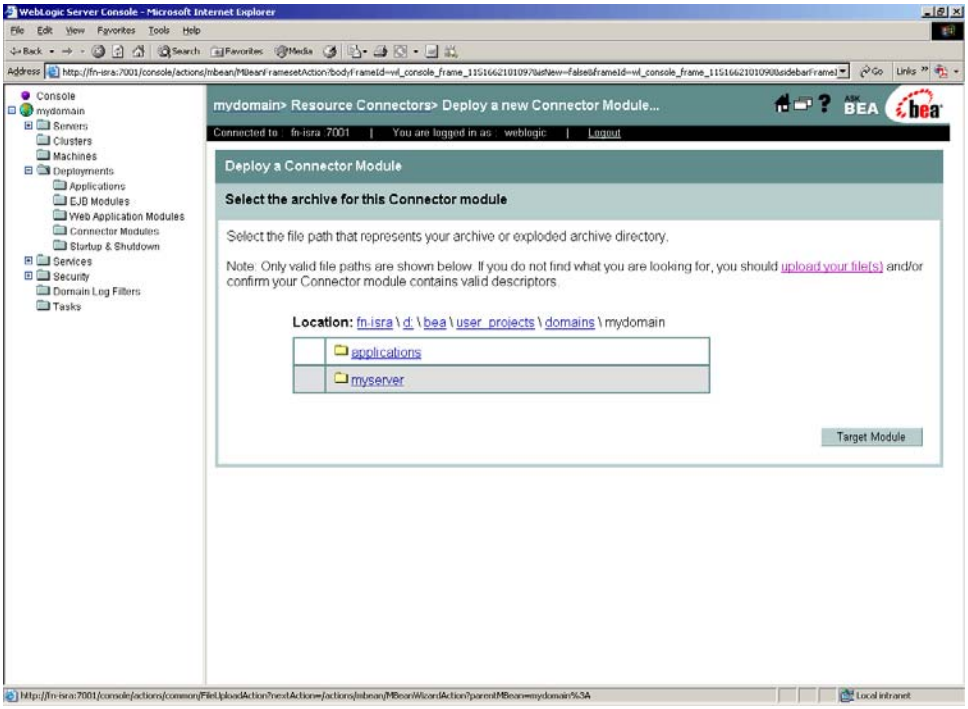


4. Under **Deployments**, click **Connector Modules**. The following screen appears:

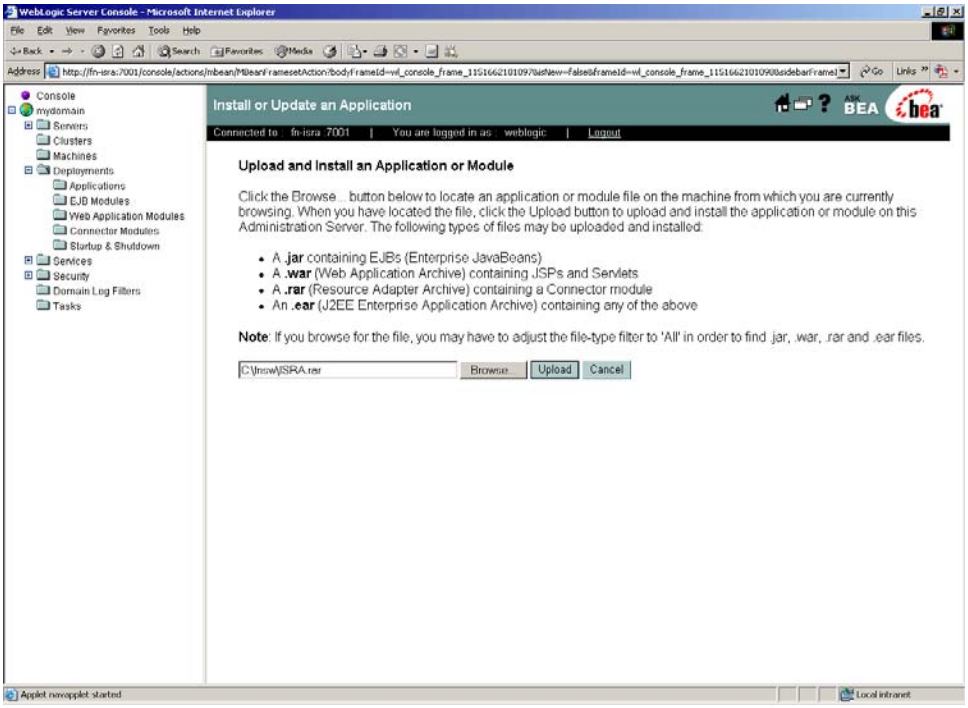


Note WebLogic 8.1 does not allow modification of the Connector Descriptor attributes. This requires modification of the attributes in the **ra.xml** file before deployment. This is explained in the Configuring Deployed ISRA section.

5. Click **Deploy a new Connector Module** link. The following screen appears:

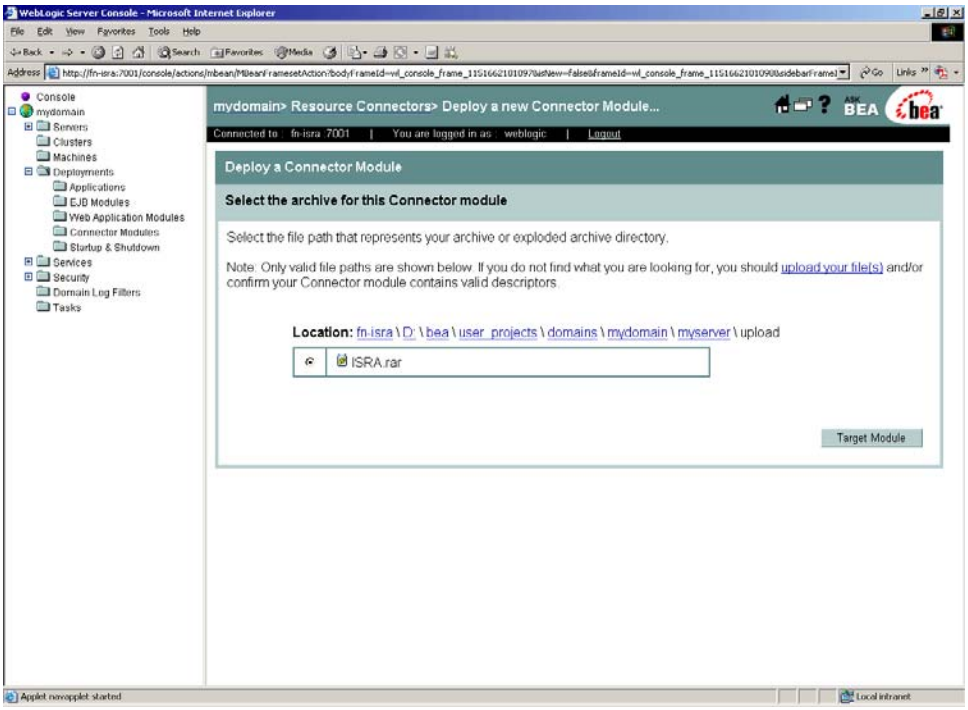


6. On the **Deploy a Connector Module** screen, click **upload your file(s)** link. The following screen appears:

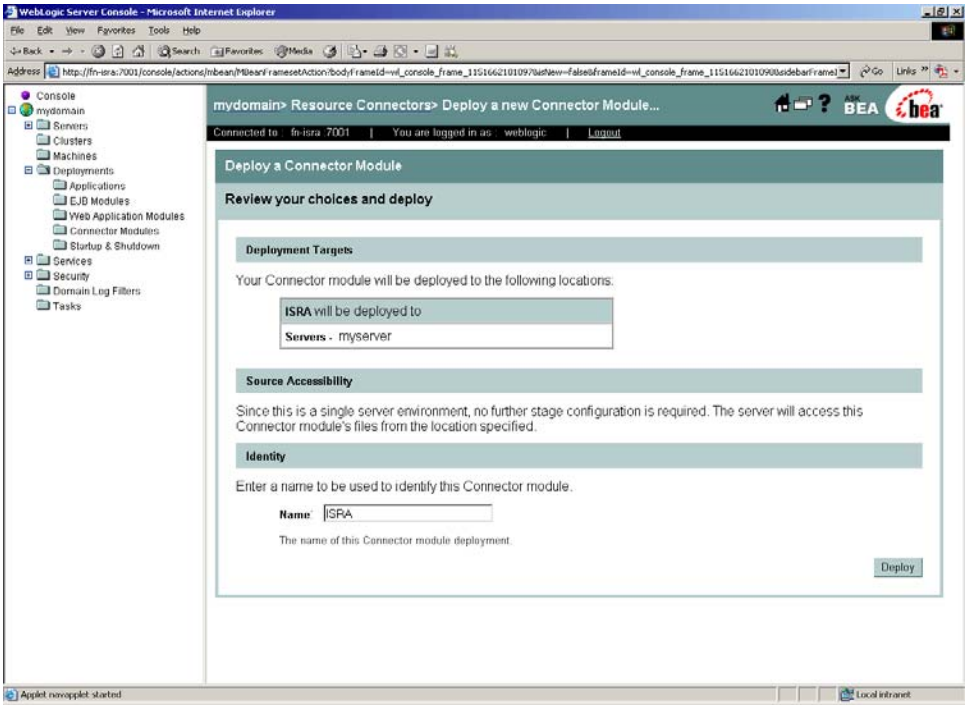


7. Click **Browse** to select the **ISRA.rar** file. The **ISRA.rar** file is located in **jar** subdirectory of the ISRA installation directory. For example, if user has installed ISRA in `C:\fnsw\ISRA` (`/fnsw/ISRA` on UNIX), the **ISRA.rar** is located in `C:/fnsw/ISRA/jar/` (`/fnsw/ISRA/jar` on UNIX) directory.

8. Click **Upload** to upload the **ISRA.rar** file. The following screen appears:



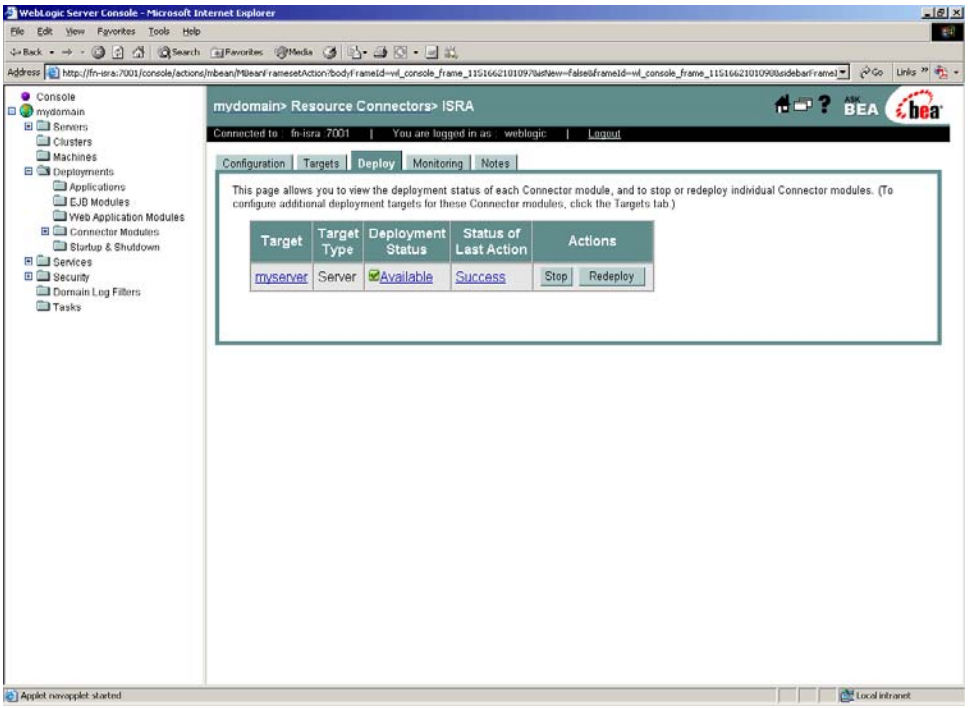
9. Select the radio button corresponding to the file name and click **Target Module.** The following screen appears:



This screen displays the target server on which the Connector module should be deployed.

10. Under Identity, provide a name for the Connector module. Click **Deploy** to complete ISRA deployment. The server may take some time to complete the

deployment process. The following screen appears, after successful deployment:



The ISRA.rar file is successfully deployed.

Deploying Exploded Archive Files

To deploy the **ISRA.rar** file in **exploded** form:

1. Create a temporary directory ISRATemp and copy **ISRA.rar** into it. Change the directory to ISRATemp and execute command `jar –xvf ISRA.rar`
2. Create the Weblogic-ra.xml file using any text editor.

   The values corresponding to all attributes can be modified as required and saved as **Weblogic-ra.xml** in the META-INF subfolder:

   ```
   ISRATemp\ISRA.jar
   \META-INF\ra.xml
   \META-INF\Weblogic-ra.xml
   ```

3. Start the WebLogic Server.
   - On Windows Server, start WebLogic Administration Server from the Start Menu by clicking:

     Start > Programs > BEA WebLogic Platform 8.1 > User Projects > <domain_name> > Start Server.

     Alternatively, the Configuration Wizard scripts can also be used to start the Administration Server. When the Configuration Wizard is used to create a domain, the wizard also creates a script that can be used to start an Administration Server for the domain. To use the script, execute the **startWebLogic.cmd** file located at the following path:

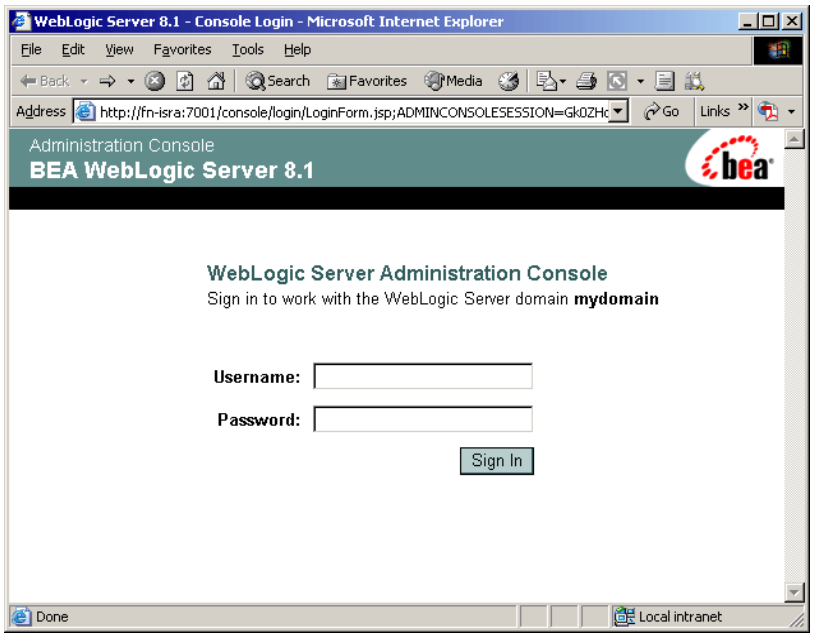
     ```
     <WebLogic Installation Directory>\
     user_projects\domains\<domain_name>
     ```

– On a UNIX system, login as the root user and execute the startWebLogic script, as:

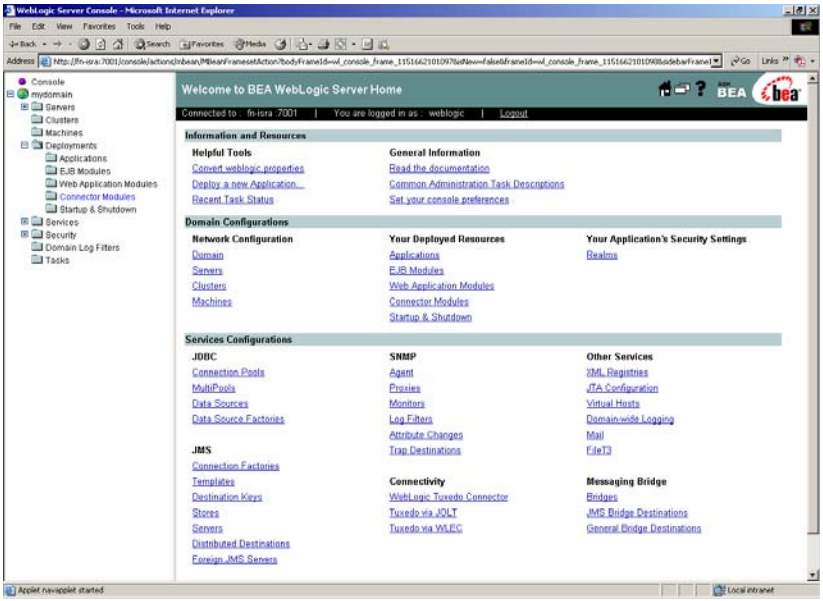
```
# cd <WebLogic Installation Directory>/
user_projects/<domain_name>
# ./startWebLogic.sh
```

4. To open the administrative console, enter the WebLogic admin console URL http://<hostname>:<portnumber>/console in a browser window

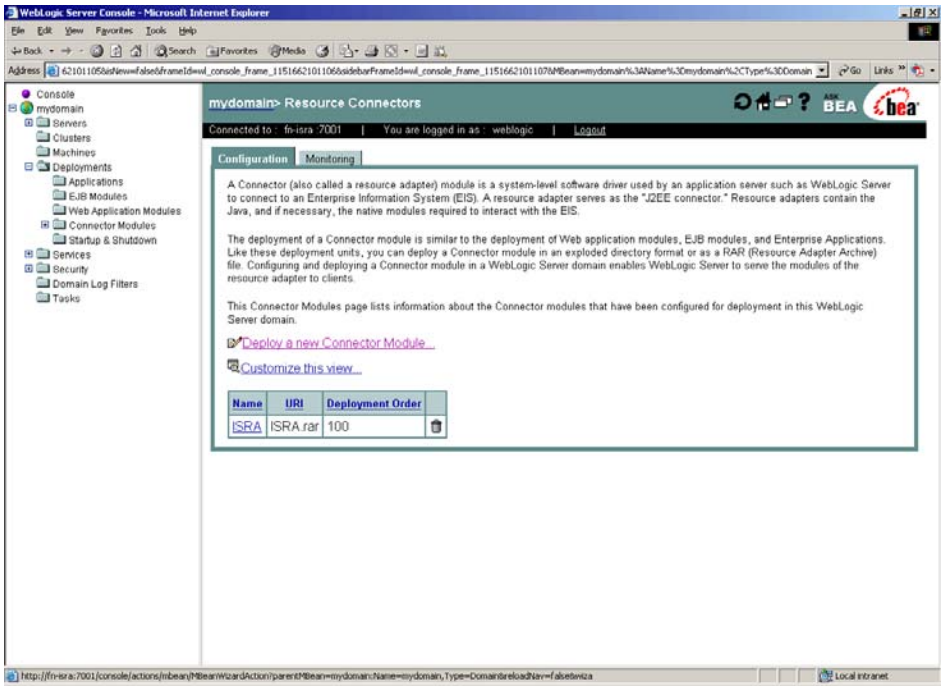
Note Depending on the WebLogic admin server setup, user may be prompted to enter the WebLogic admin user name and password.



5. The WebLogic admin console sign on screen appears. Enter the WebLogic admin **Username** and **Password**. Click **Sign In** to access the WebLogic admin console. The following screen appears:

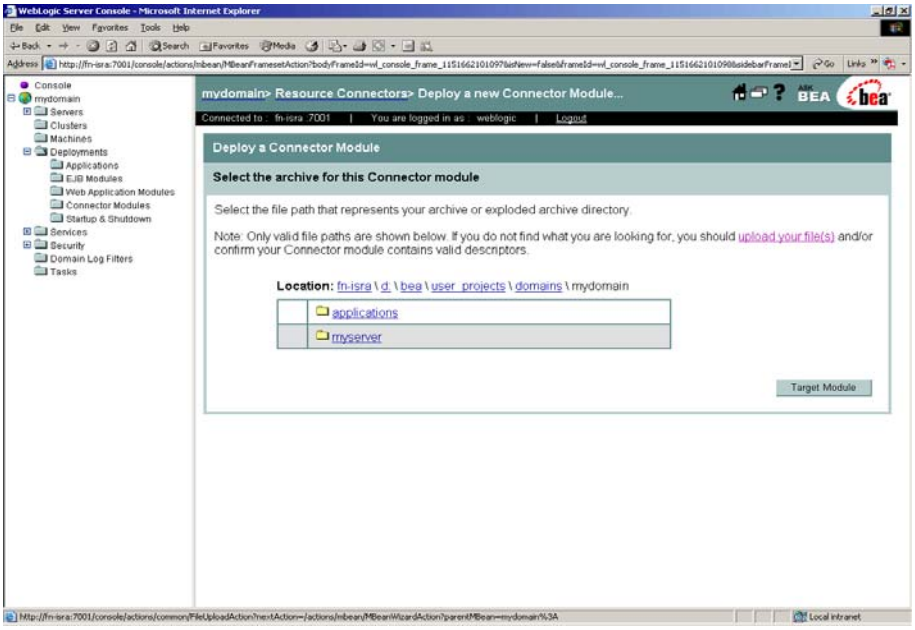


6. Navigate to **Deployments > Connector Modules**. The following screen appears:

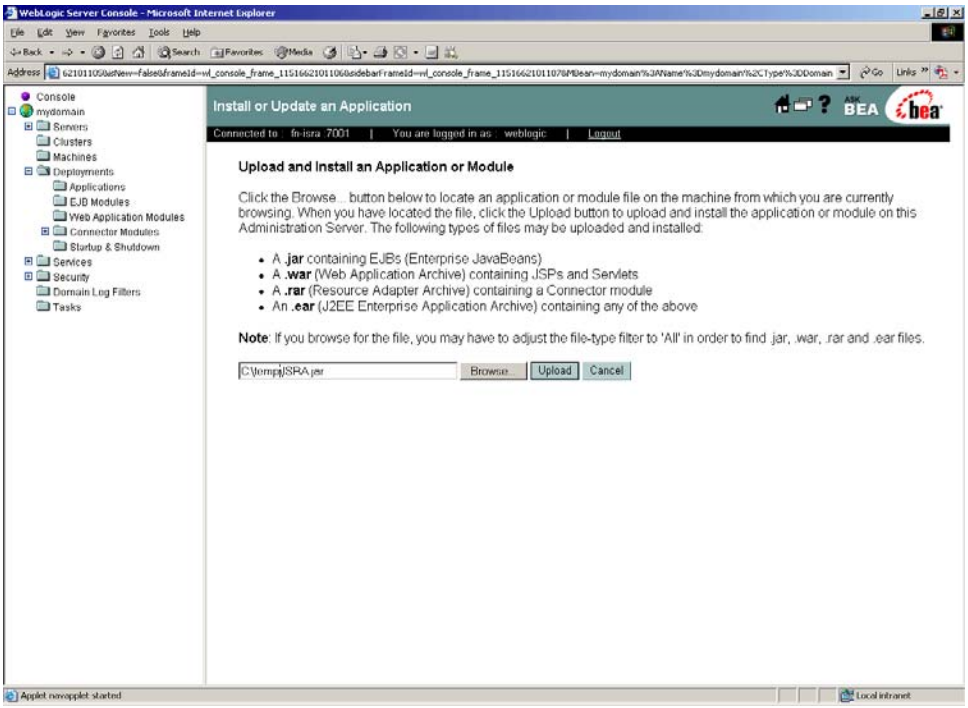


Note WebLogic 8.1 does not allow modification of the Connector Descriptor attributes. This requires modification of the attributes in the **ra.xml** file before deployment. This is explained in the Configuring Deployed ISRA section.

7. Click the **Deploy a new Connector Module** link. The following screen appears:



8. On the **Deploy a Connector Module** screen, click **upload your file(s)** link. The following screen appears:



9. Click **Browse** to select the **ISRA.jar** file. The **ISRA.jar** file will be located in **temp** directory. For example, if user has extracted **ISRA.rar** in `C:\temp (/tmp` on UNIX), the **ISRA.jar** is located in `C:\temp (/tmp` on UNIX) directory itself.
10. Click **Upload** to upload the **ISRA.jar** file.
11. Create a new directory META-INF in the **<WebLogic Installation Directory >\user_projects\<domain-name> \<server-name>\ upload** directory and copy **ra.xml** and **Weblogic-ra.xml** into it.

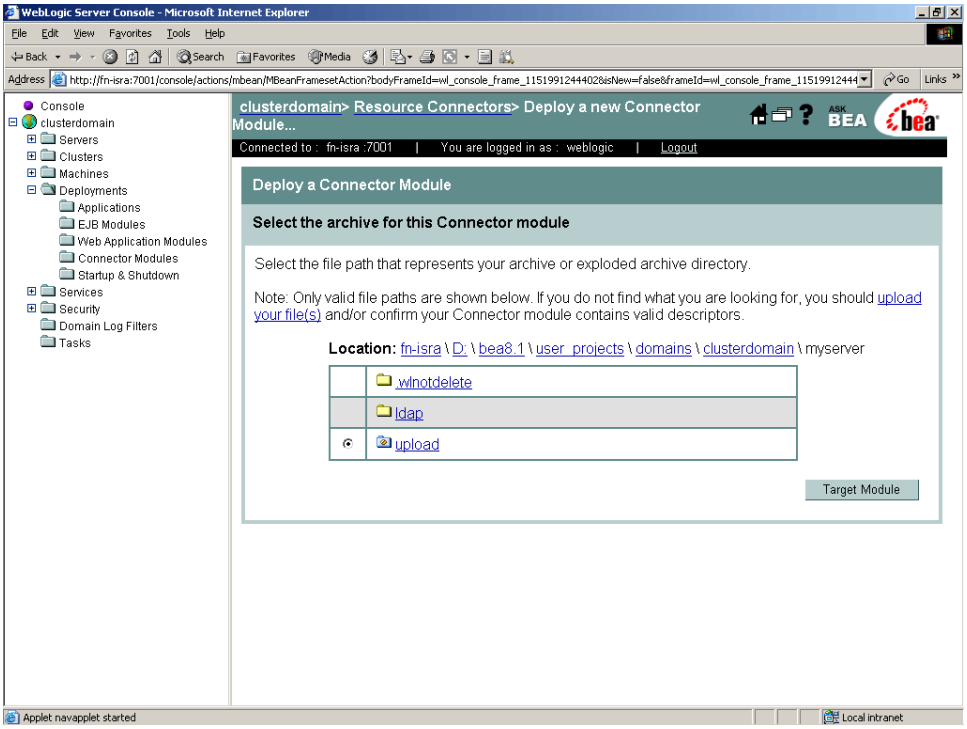
    On Windows Server, enter the command:

    ```
    copy C:\temp\META-INF <WebLogic Installation
    Directory>\user_projects\<domain-name>\<server-
    name>\upload\META-INF
    ```

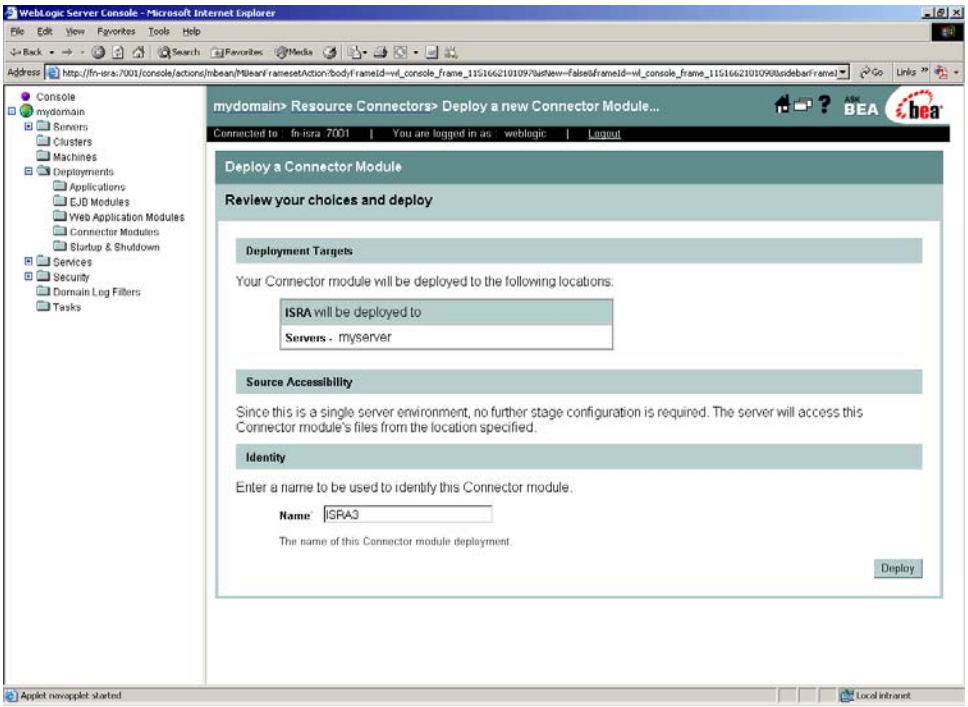
    On a UNIX machine, enter the command:

    ```
    cp /tmp/META-INF <WebLogic Installation
    Directory>/user_projects/<domain-name>/<server-
    name>/upload/META-INF
    ```

12. Click on the **<server-name>/upload** directory and check the radio button corresponding to **upload**. The following screen appears:

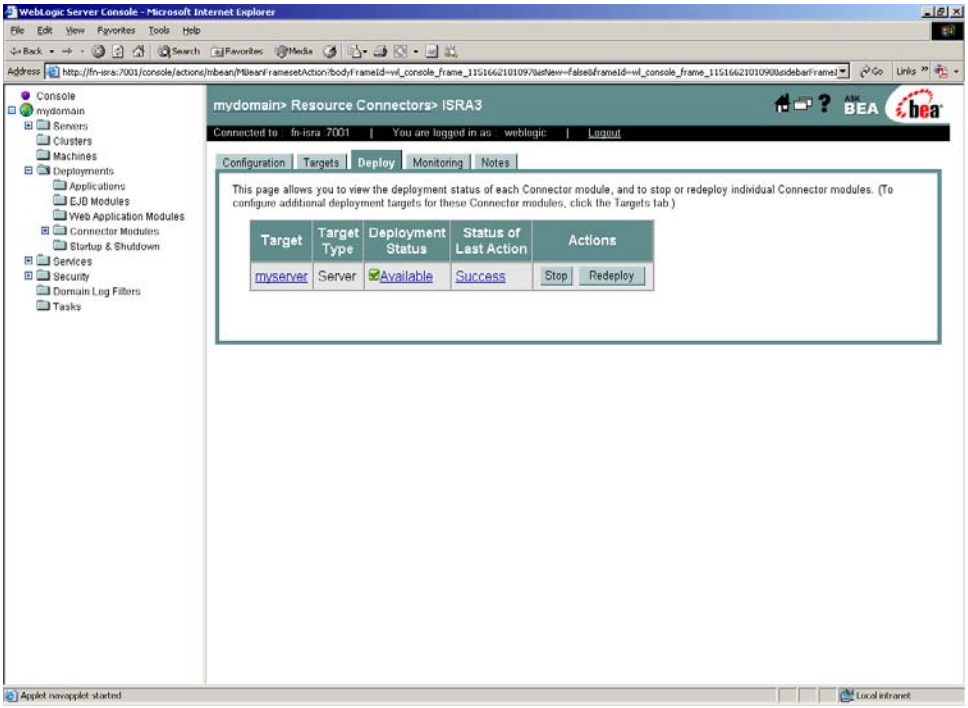


13. Click **Target Module.** The following screen appears:



This screen displays the target server on which the Connector module should be deployed.

14. Under Identity, provide a name for the Connector module. Click **Deploy** to complete ISRA deployment. The server may take some time to complete the deployment process. On completion, the following screen appears:



The exploded archive file is deployed.

Deploying ISRA in a Clustered Environment

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

1. Start the WebLogic Server.
   - On Windows Server, start WebLogic Administration Server from the Start Menu by clicking:

     Start > Programs > BEA WebLogic Platform 8.1 > User Projects > <domain_name> > Start Server.

     Alternatively, the Configuration Wizard scripts can also be used to start the Administration Server. When the Configuration Wizard is used to create a domain, the wizard also creates a script that can be used to start an Administration Server for the domain. To use the script, execute the **startWebLogic.cmd** file located at the following path:

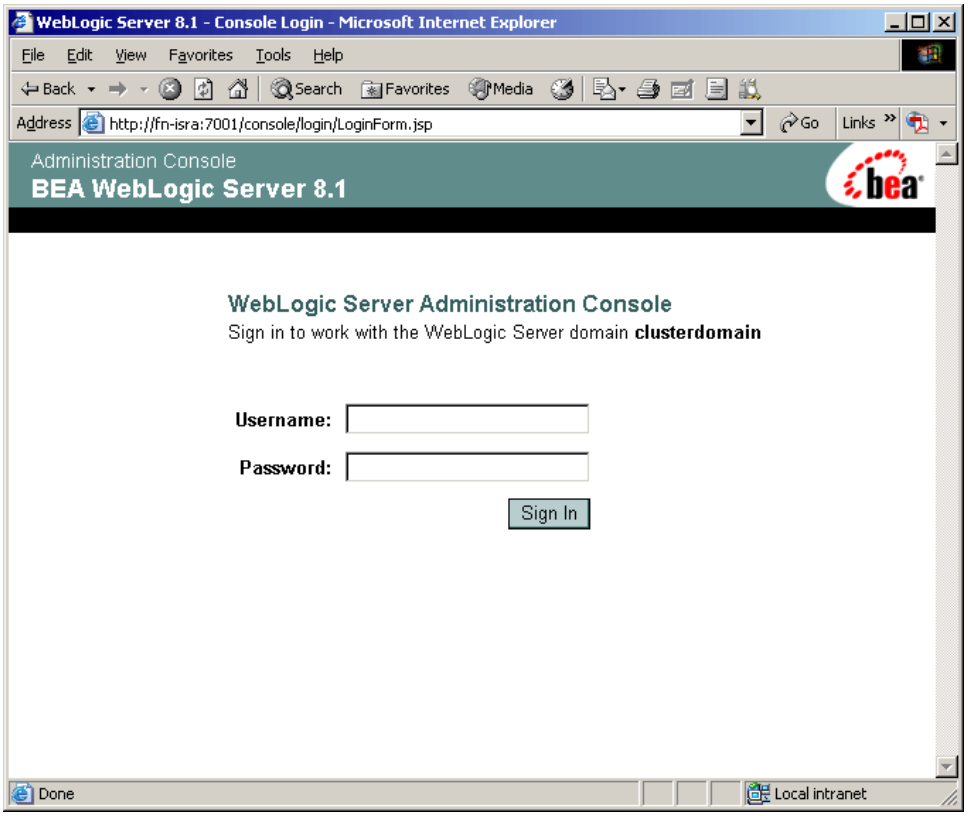
     ```
     <WebLogic Installation Directory>\
     user_projects\domains\<domain_name>
     ```

   - On an UNIX system, login as the root user and execute the startWebLogic script, as:

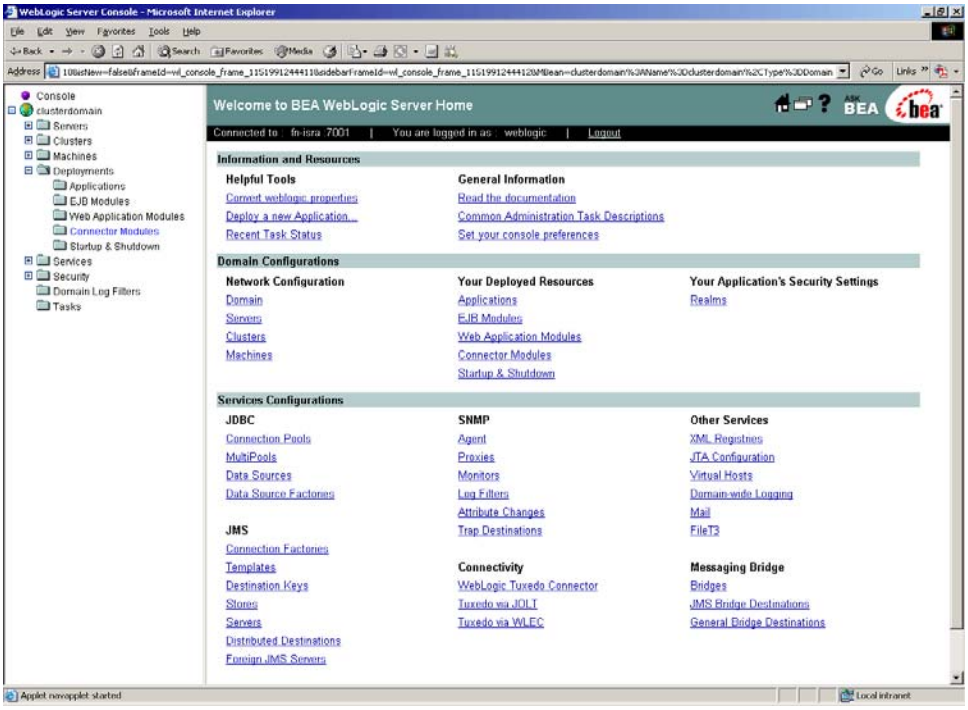
     ```
     # cd <WebLogic Installation Directory>/
     user_projects/domains/<domain_name>
     # ./startWebLogic.sh
     ```

2. To open the administrative console, enter the following WebLogic admin console URL in a browser window: http://<hostname>:<portnumber>/console

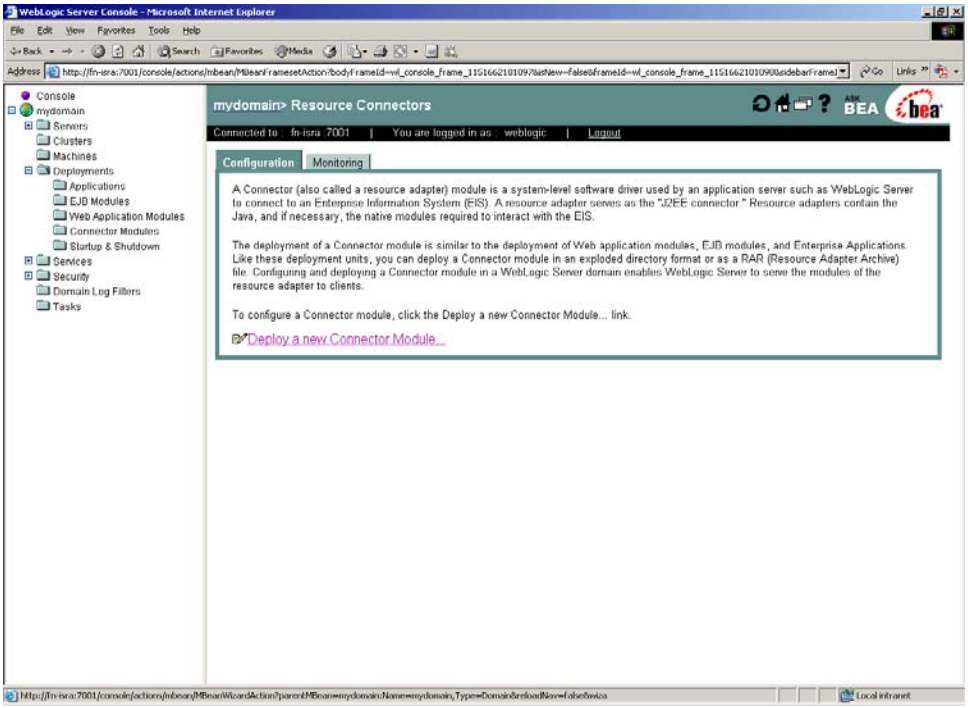
   Depending on the WebLogic admin server setup, user may be prompted to enter the WebLogic admin user name and password.



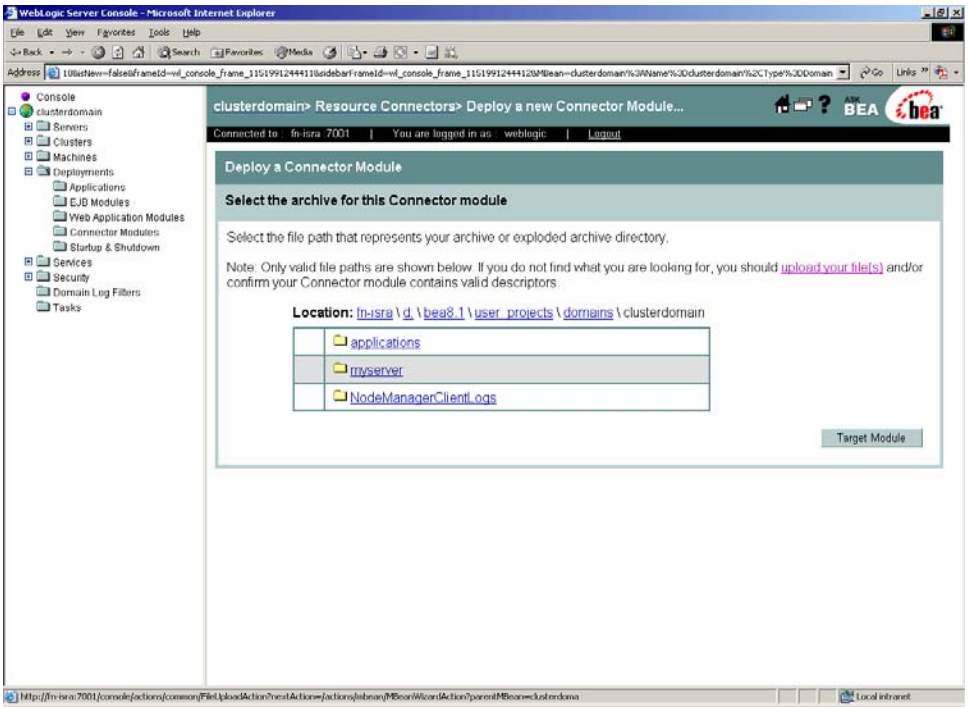
3. The WebLogic admin console sign on screen appears. Enter the WebLogic admin **Username** and **Password**. Click **Sign In** to access the WebLogic admin console. The following screen appears:



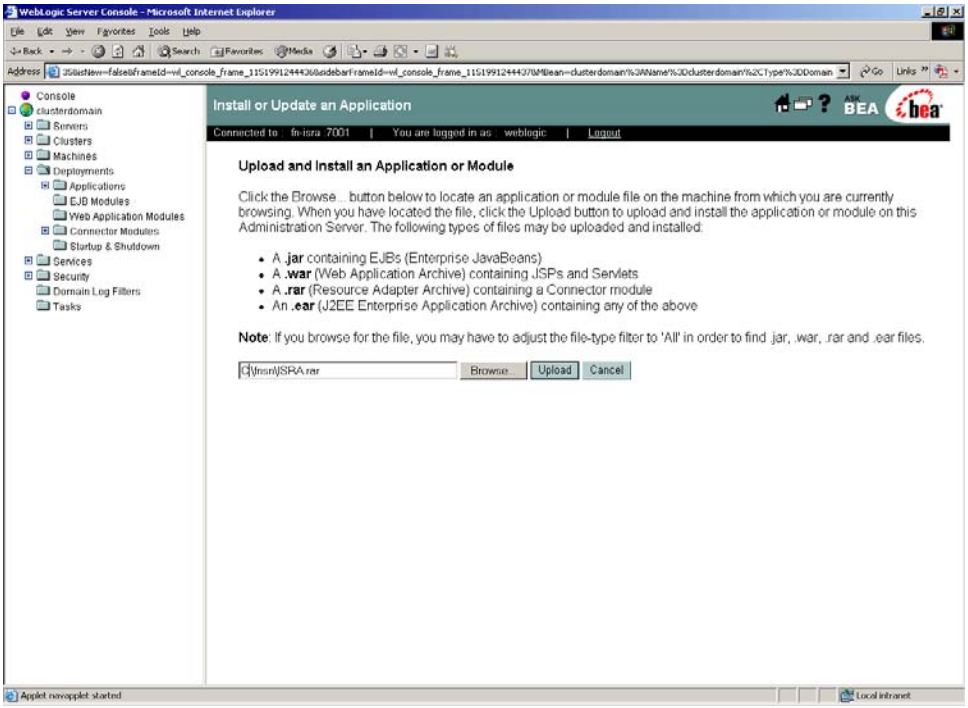
4. Now, deploy the applications on cluster, click on **Deployments** > **Connectors Module.**



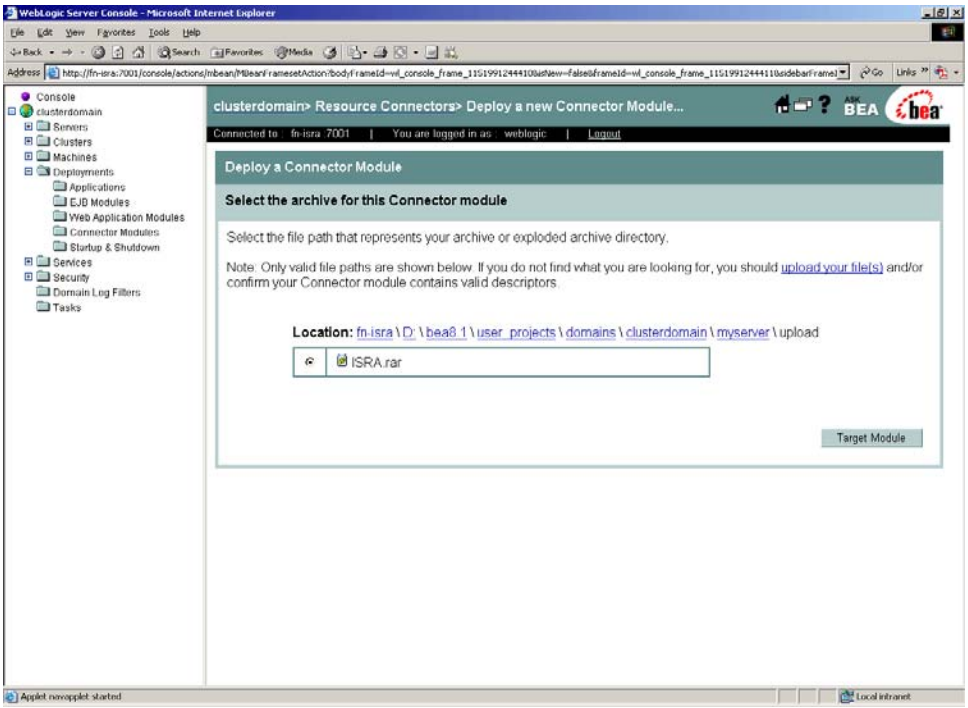
5. Click on **Deploy a new Connector Module** to deploy ISRA.rar on cluster. The following screen appears:



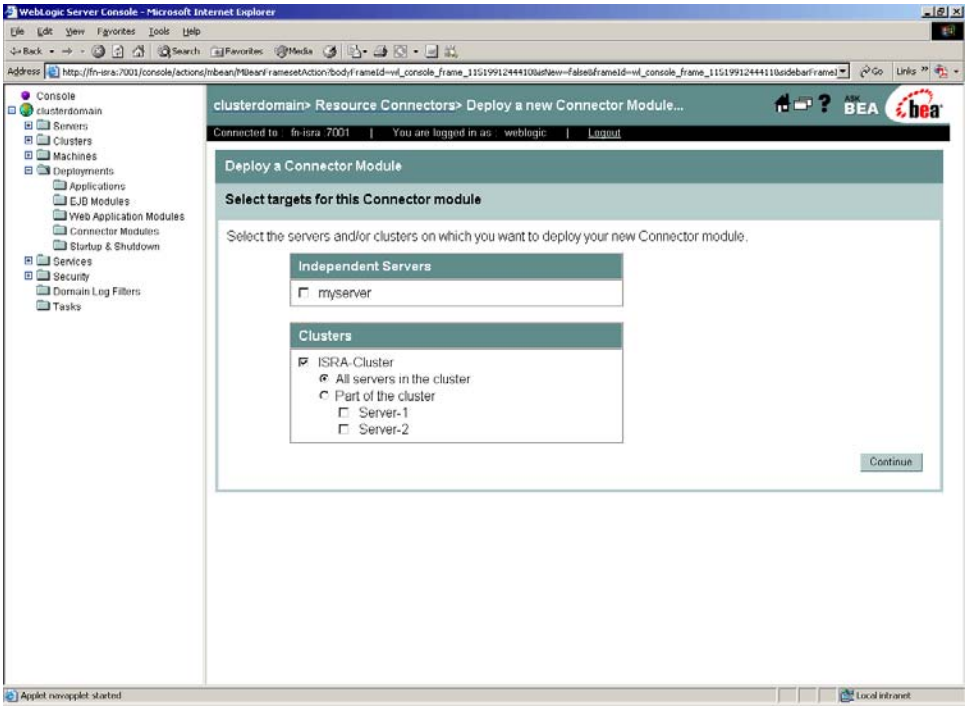
6. Click on **Upload your file(s)** link.



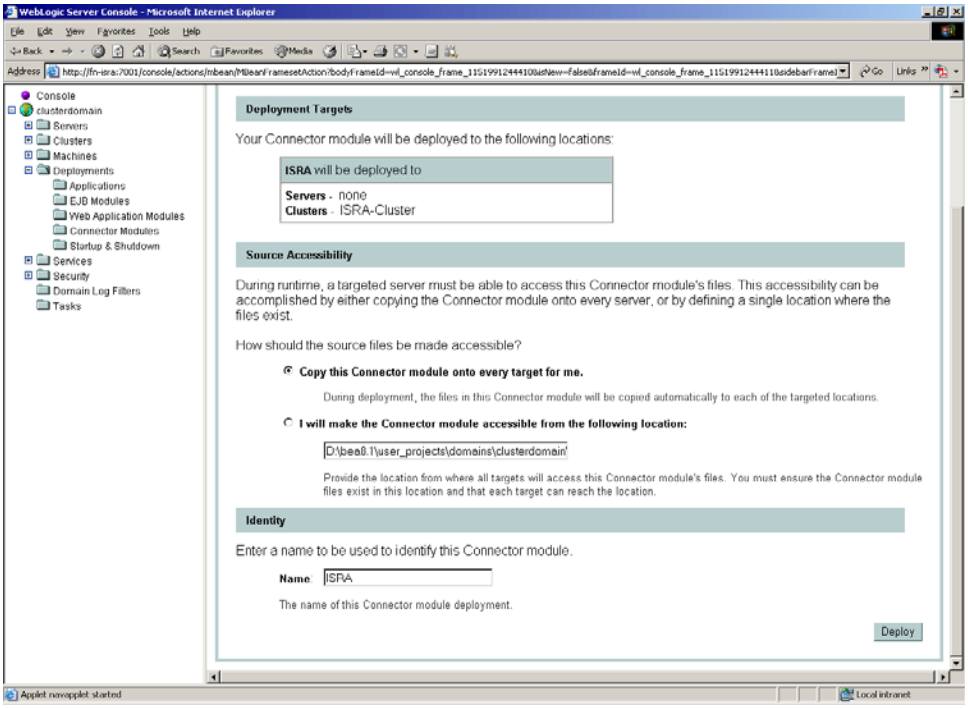
7. Click **Browse** to navigate to the directory where ISRA is installed. Upload **ISRA.rar** file.



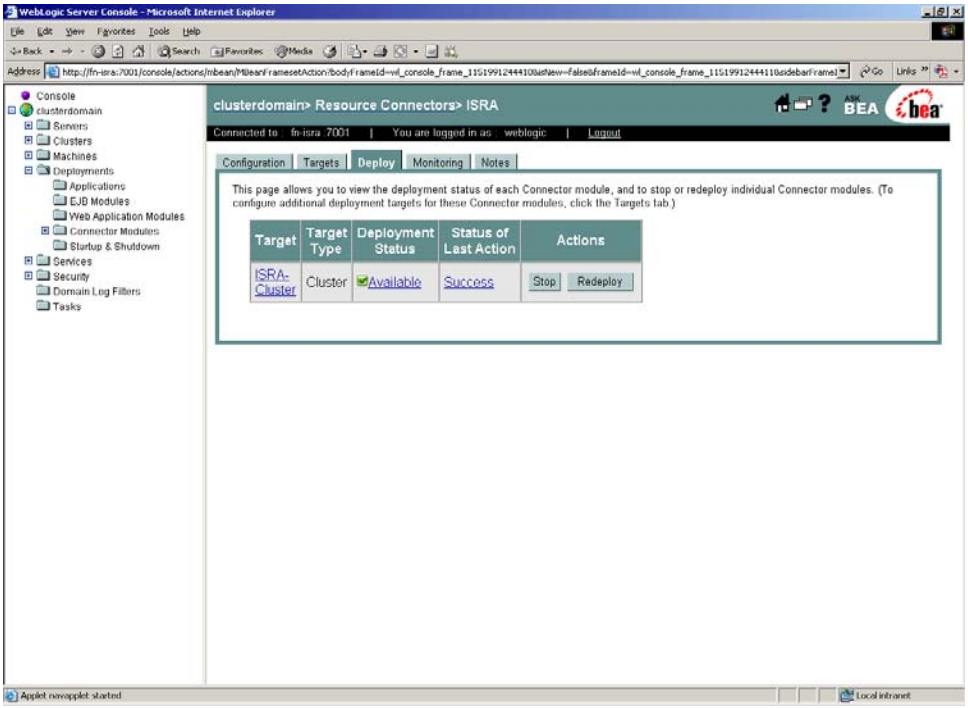
8. Select the radio button corresponding to ISRA.rar file, and click on **Target Module.**



9. Select deployment target Clusters **ISRA-Cluster** and click **Continue.**



10. Click **Deploy**. The following screen appears.


WebLogic Server Console - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Console
clusterdomain
Servers
Clusters
Machines
Deployments
Applications
EJB Modules
Web Application Modules
Connector Modules
Startup & Shutdown
Services
Security
Domain Log Filters
Tasks
clusterdomain> Resource Connectors> ISRA
Connected to: fn-isra :7001 | You are logged in as: weblogic | Logout
Configuration Targets Deploy Monitoring Notes
This page allows you to view the deployment status of each Connector module, and to stop or redeploy individual Connector modules. (To configure additional deployment targets for these Connector modules, click the Targets tab.)
Target
Target Type
Deployment Status
Status of Last Action
Actions
ISRA-Cluster
Cluster
Available
Success
Stop
Redeploy
Applet navapplet started
Local intranet

Mandatory Requirements for ISRA 3.4.0

The mandatory requirements for ISRA 3.4.0 include:

1. Include **ISRA.jar**, **listener.jar** and **log4j-1.2.8.jar** in the classpath of WebLogic server.

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

2. To include the jar files in classpath:
   a. Navigate to the folder containing Application Server.
   b. Click **User_projects > domains > mydomain**.
   c. For Windows, open **startWebLogic.cmd** and for UNIX, open **startWebLogic.sh** in a text editor.
   d. Include **ISRA.jar, listener.jar** and **log4j-1.2.8.jar** in the classpath.
3. 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.
4. Enter the initial and maximum JVM heap size as 512.

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 named[1] "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.

[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).

2

ISRA Configuration

This chapter describes the configuration of ISRA, deployed on BEA WebLogic 8.1 Application Server.

Configuring Deployed ISRA

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

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

To edit the ISRA deployment descriptor:

1. Remove all files from **ISRATemp** directory and copy **ISRA.rar** in it. Change directory to ISRATemp.
2. 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 the favorite text editor.

   For more details, refer Configurable ra.xml Properties, Changing ISRA Specific Parameters for LDAP and Configuring ISRA Parameters for Performance Statistics.
3. After making the modifications, save the **ra.xml** file in the same folder.
4. 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 your IS.

OrganizationName

This is the FileNet IS organization name. The default value for 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 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.

PageBufferSize

This is an integer value specified in kilobytes (KB). PageBufferSize specifies the chunk size that ISRA will use 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 and 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:

Value	Setting
1	Caches both users and Groups
2	Caches only groups

MetaDataCacheRefreshMode

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

Value	Setting
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 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 ID[2] 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 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'

In addition, LDAP implementation has been provided for Microsoft Active Directory Server for Windows 2003 and Novell NDS 8.7.3. The value of the property for LDAP implementation for Active directory is com.filenet.is.ra.fnis.FN_IS_ActiveDirImpl and for Novell NDS 8.7.3 is com.filenet.is.ra.fnis.FN_IS_NovellNDSImpl.

[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.

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 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 in a single WebLogic domain.

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 = 899 + DeploymentInstance(ra.xml) (Converted to Base 36 and used by ISRA)

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 parameter 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_0000_RPC.log is renamed to ISRA_1_0000_RPC_1.log, and a new file ISRA_1_0000_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 blank.

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 flag[3]

This parameter takes two values:

1. true

2. false

The default value of this parameter is false.

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.

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

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 Weblogic-Specific Entities

Once the configurable properties are set for ISRA, parameters specific to the WebLogic Application Server, need to be configured in **weblogic-ra.xml**. The configurable properties for a Connector in WebLogic are:

- Initial Capacity
- Max Capacity
- Capacity Increment
- Shrinking Enabled
- Shrink Frequency Seconds
- Highest Num Unavailable
- Highest Num Waiters
- Inactive Connection Timeout Seconds
- Connection Reserve Timeout Seconds
- Test Frequency Seconds
- Connection Creation Retry Frequency Seconds

A description of each attribute is given below:

- **Initial Capacity**: Defines the initial number of Managed Connections, which WebLogic 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 Capacity**: Represents the maximum number of Managed Connections that can be created by the ManagedConnectionFactory. After this number is reached, no new connections are created and the requester waits for the ConnectionTimeout or a `ResourceAllocationException` thrown by WebLogic. Maximum Connections must be greater than or equal to Minimum Connections.
- **Capacity Increment**: Represents maximum number of additional Managed Connections that WebLogic Server attempts to obtain during resizing of the maintained connection pool.
- **Shrinking Enabled**: Specifies whether the connection pool should reclaim unused managed connections to control system resources.

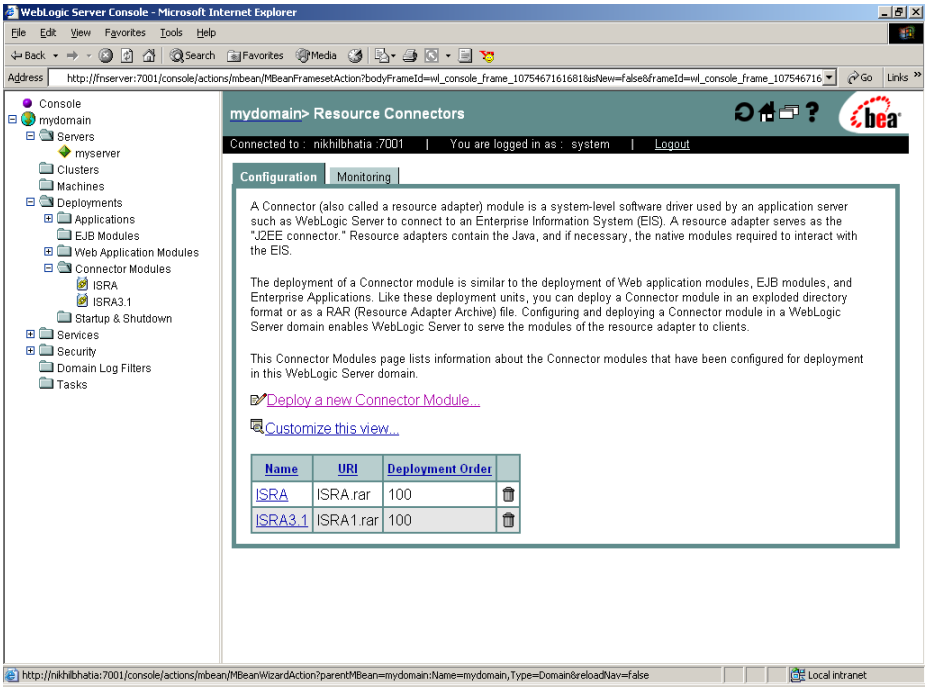
- **Shrink Frequency Seconds**: Specifies the amount of time the connection pool Manager will wait between attempts to reclaim unused managed connections.
- **Highest Num Unavailable**: Specifies the maximum number of connection requests that can concurrently block threads while waiting to reserve a connection from the connection pool.
- **Highest Num Waiters**: Specifies the maximum number of connections in the connection pool that can be made unavailable for use by an application.
- **Inactive Connection Timeout Seconds**: Specifies the amount of time the connection pool Manager will wait before attempting to reclaim unused managed connections. It is suggested to set the inactive-connection-timeout-seconds value to greater than 0 (zero).
- **Connection Reserve Timeout Seconds**: Specifies the number of seconds after which a call to reserve a connection from the pool will timeout.
- **Test Frequency Seconds**: Specifies the number of seconds between two consecutive WebLogic Server tests for unused database connections. Connections that fail the test are closed and reopened to re-establish a valid physical database connection.
- **Connection Creation Retry Frequency Seconds:** Specifies the number of seconds between two consecutive trials of the connection pool to establish connections to the database.

5. Apply the changes, explained above for the changes to take effect.

Configuring Multiple IS Servers with ISRA

To configure ISRA for accessing multiple IS servers:

1. Deploy a new ISRA instance for each IS that user wants to connect. Before deploying the second (and subsequent) ISRA, rename the ISRA.rar file. 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 before deployment, for connecting to the target IS.

3

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 ISRA 3.4 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 BEA WebLogic 8.1 platform using the WebLogic Administration Console.

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 ISRA 3.4 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**
3. 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>
      ```
4. 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.

---

5. Update **web.xml** in **ISRASampleWEB.war**
6. Add **weblogic.xml** with the following code into the WEB-INF folder of the ISRASampleWEB.war.

- Add the following code, when Sample Application is deployed in cluster environment for session replication.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE weblogic-web-app PUBLIC "-//BEA Systems,
Inc.//DTD Web Application 8.1//EN"
"http://www.bea.com/servers/wls810/dtd/weblogic810-web-
jar.dtd">
<weblogic-web-app>
   <session-descriptor>
      <session-param>
         <param-name>PersistentStoreType</param-name>
         <param-value>replicated_if_clustered</param-
         value>
      </session-param>
   </session-descriptor>
</weblogic-web-app>
```

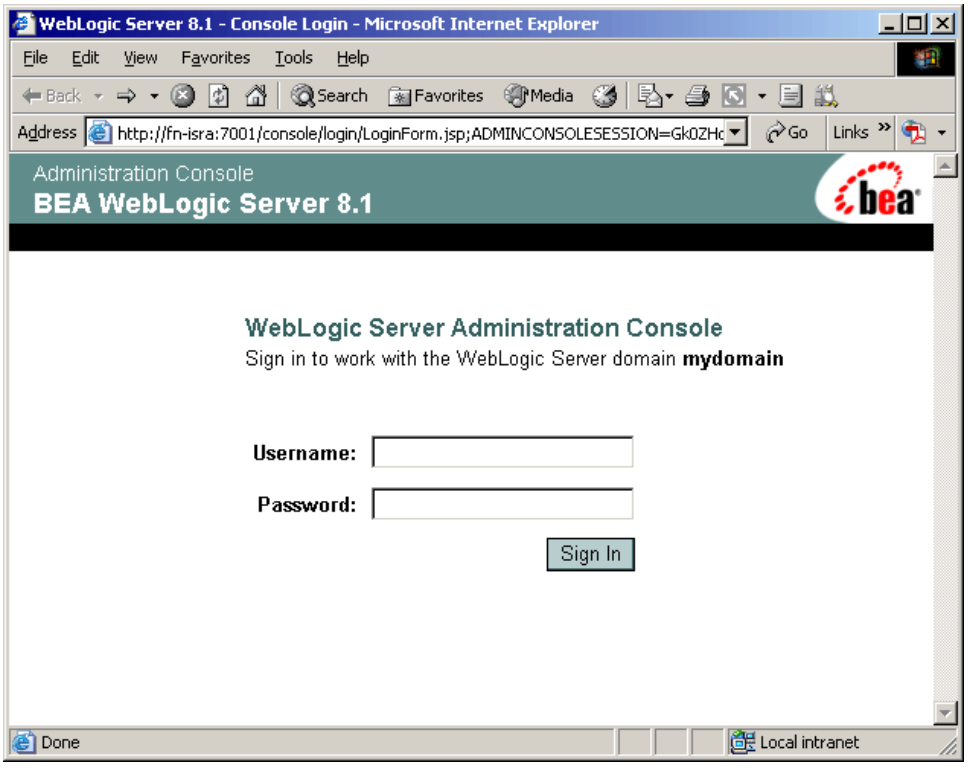
7. Update **ISRASampleWEB.war** in **ISRAConsole.ear**

Deploying the ISRA Console and Sample Application in a Standalone Environment

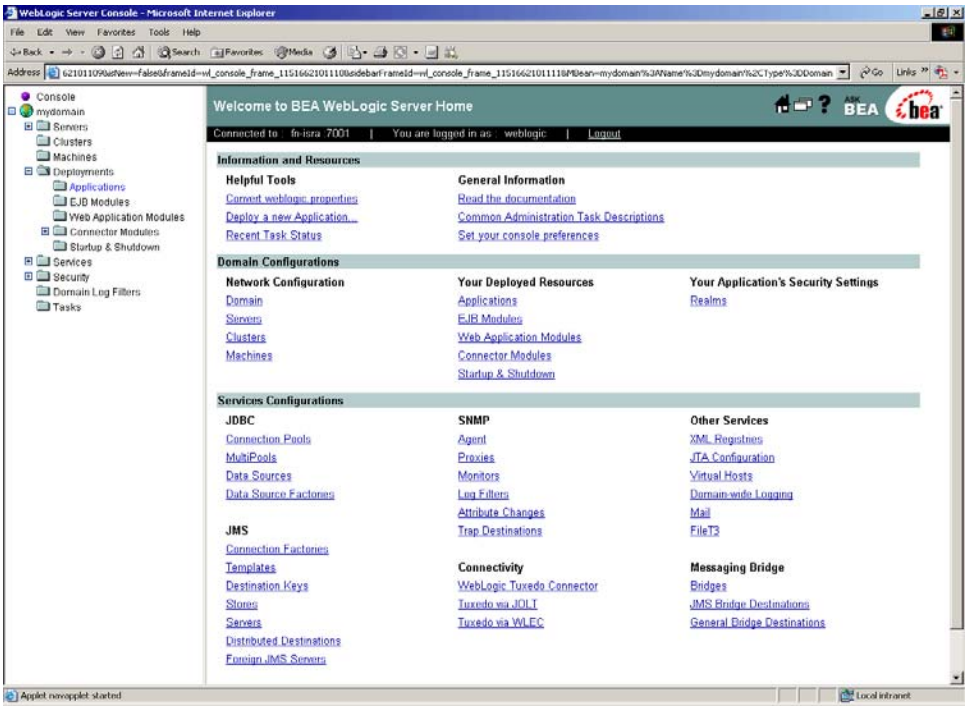
This section describes how to deploy the ISRA Console and Sample Application on a WebLogic Server to access ISRA in a managed environment. It is assumed that ISRA is deployed and configured for the target IS.

Before deploying the ISRA Console and Sample Application through the WebLogic Server Administration Console, ensure WebLogic Administration Server is running, else, start the Administration server as explained in the Deploying ISRA in a Standalone Environment section.

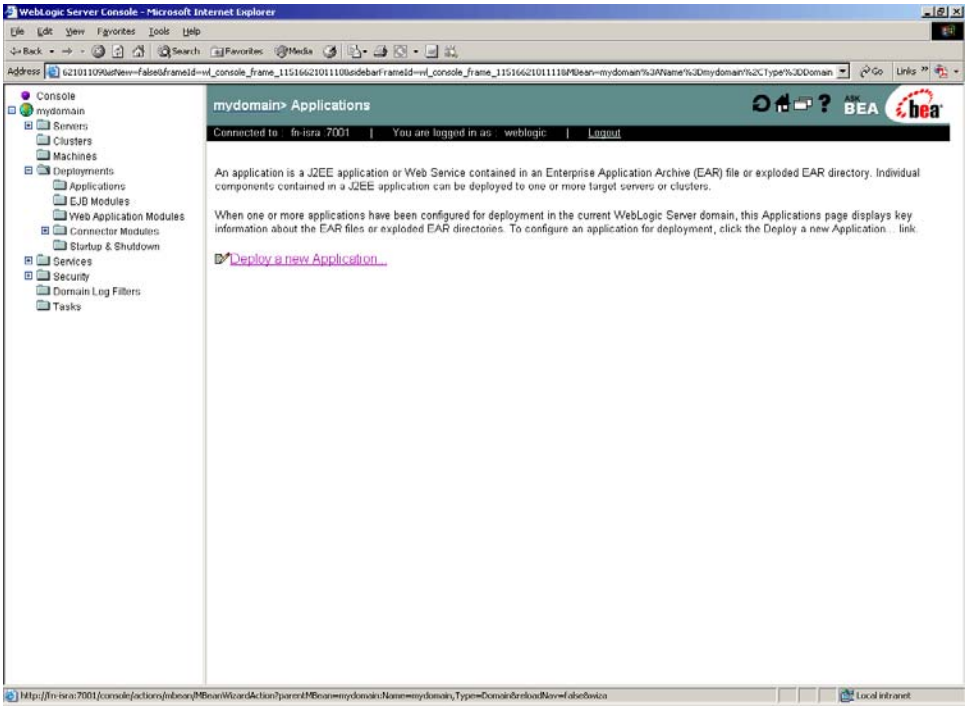
1. Start the administrative console. Open a browser window and enter the WebLogic admin console URL http://<hostname>:<portnumber>/console



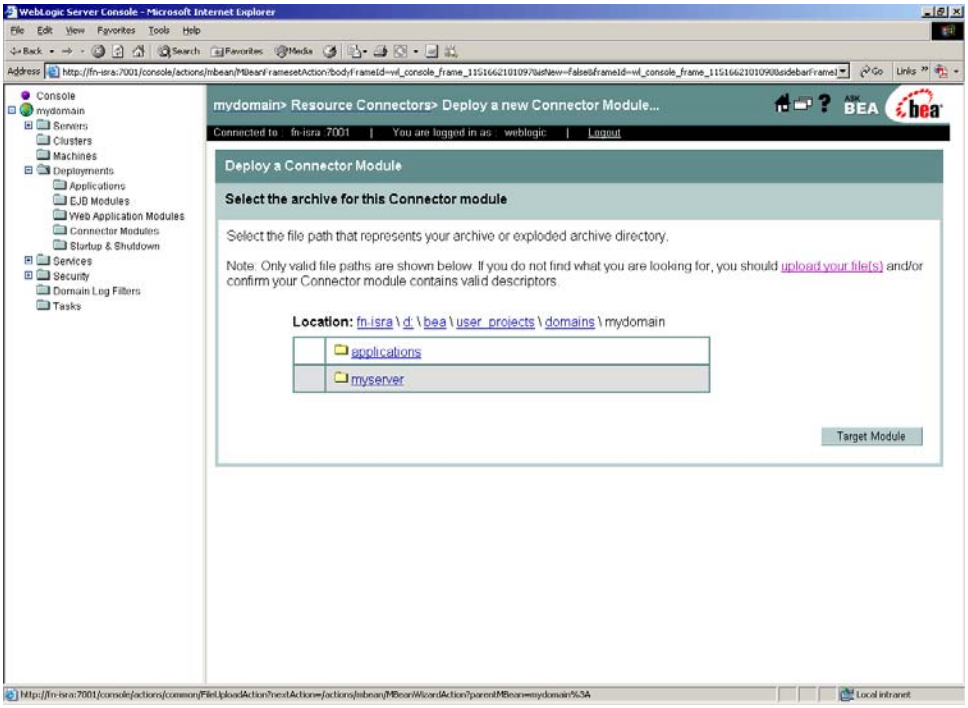
2. The WebLogic admin console sign on screen appears. Enter the WebLogic admin **Username** and **Password**. Click **Sign In** to access the WebLogic admin console.



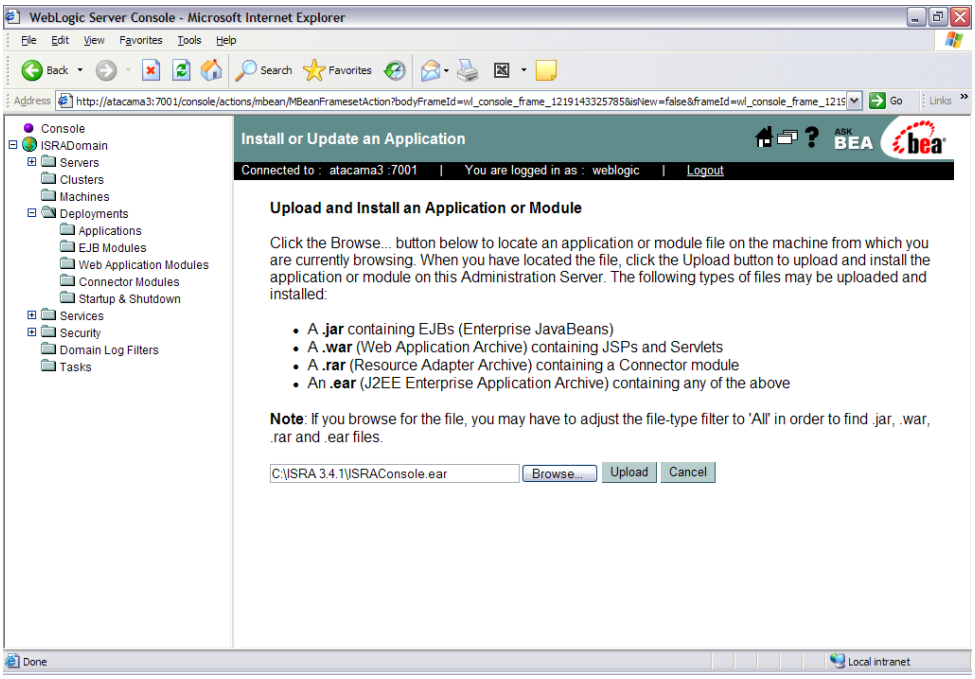
3. Navigate to **Deployments > Applications**. The following screen appears:



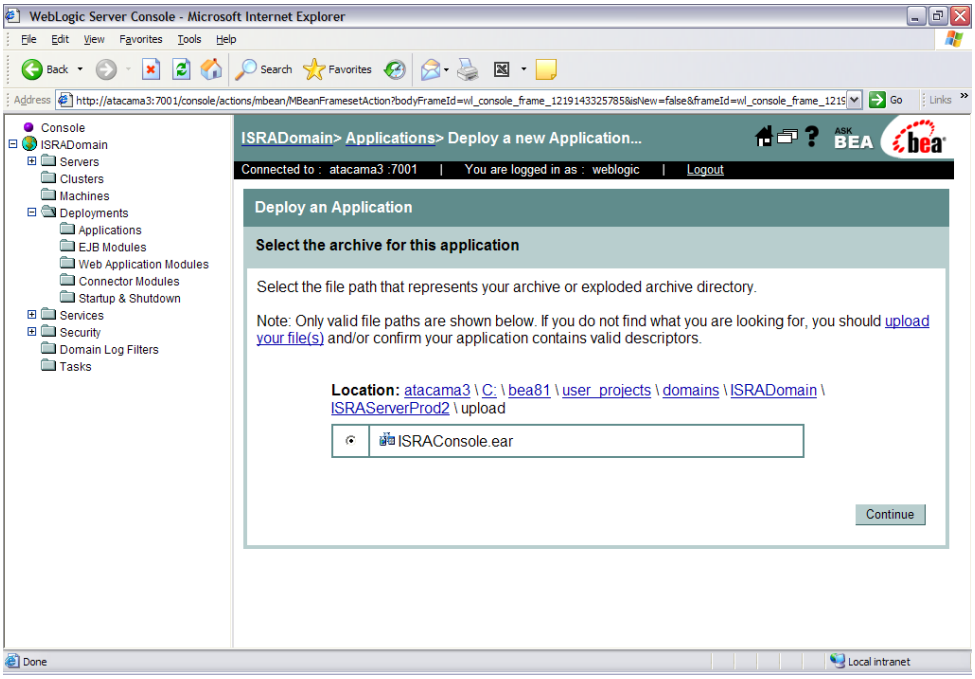
4. Click **Deploy a new Application**. The following screen appears:



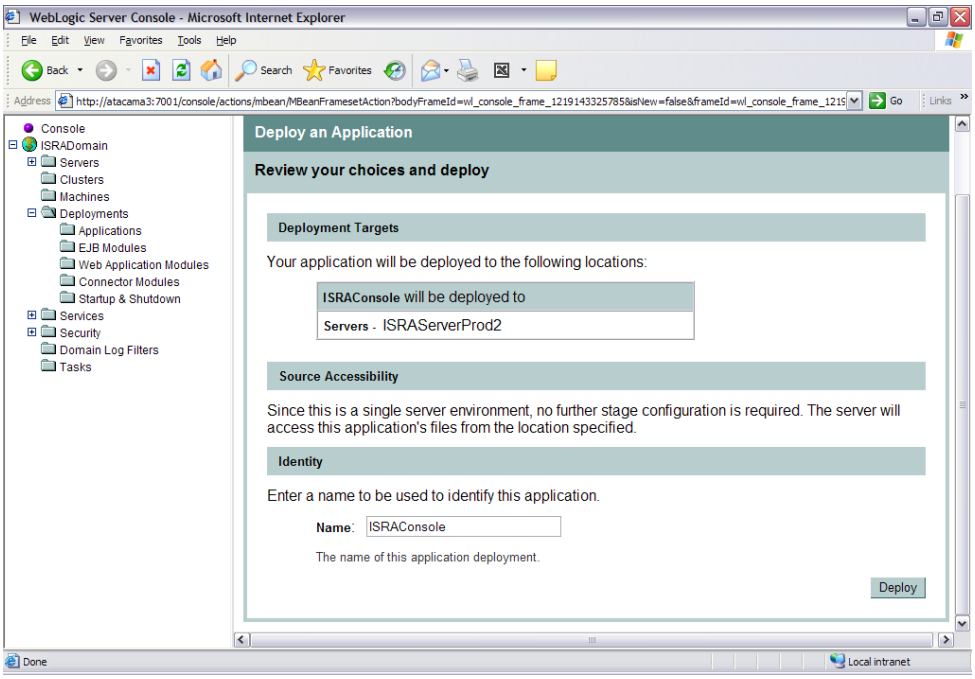
5. Click the **upload your file(s)** link. The following screen appears:



6. Click **Browse** to select the **ISRAConsole.ear**. The **ISRAConsole.ear** file is located in **sample** subdirectory of ISRA installation directory. For example if user has installed ISRA in `C:\fnsw\ISRA` (`/fnsw/ISRA` on UNIX), the **ISRAConsole.ear** can be found in `C:\fnsw\ISRA\sample` (`/fnsw/ISRA/sample` on UNIX) directory. Click **Upload** to upload the sample .ear file.

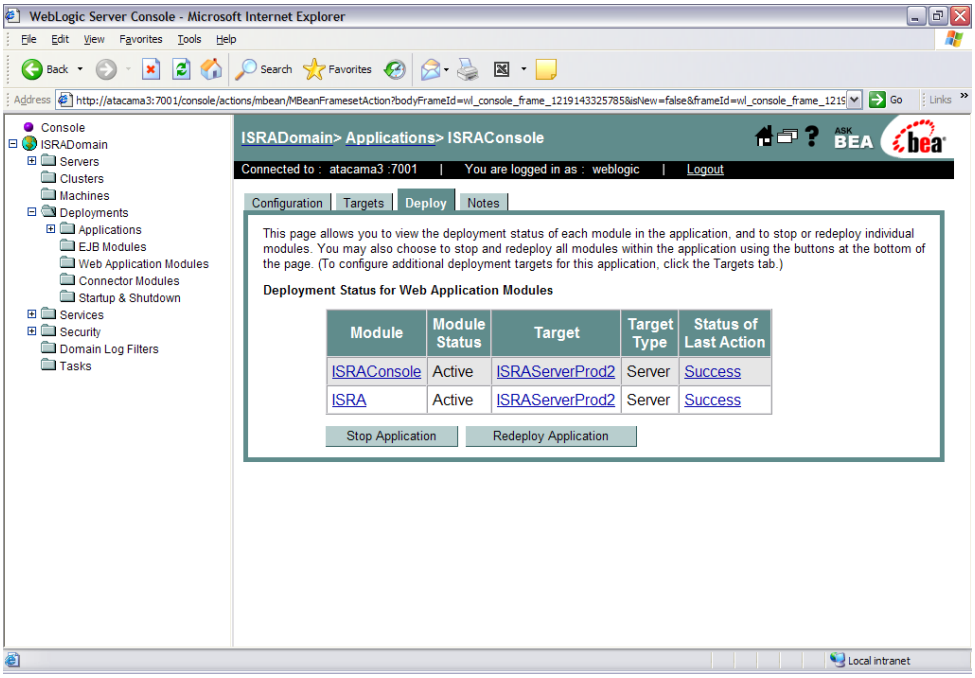


7. Select the radio box corresponding to **ISRAConsole.ear** file, and click **Continue**.



The screen will show the Target Application Server on which the ISRA Console and Sample Application will be deployed, in the WebLogic administrative domain.

8. Click **Deploy** to finish the deployment of the ISRA Console and Sample Application.

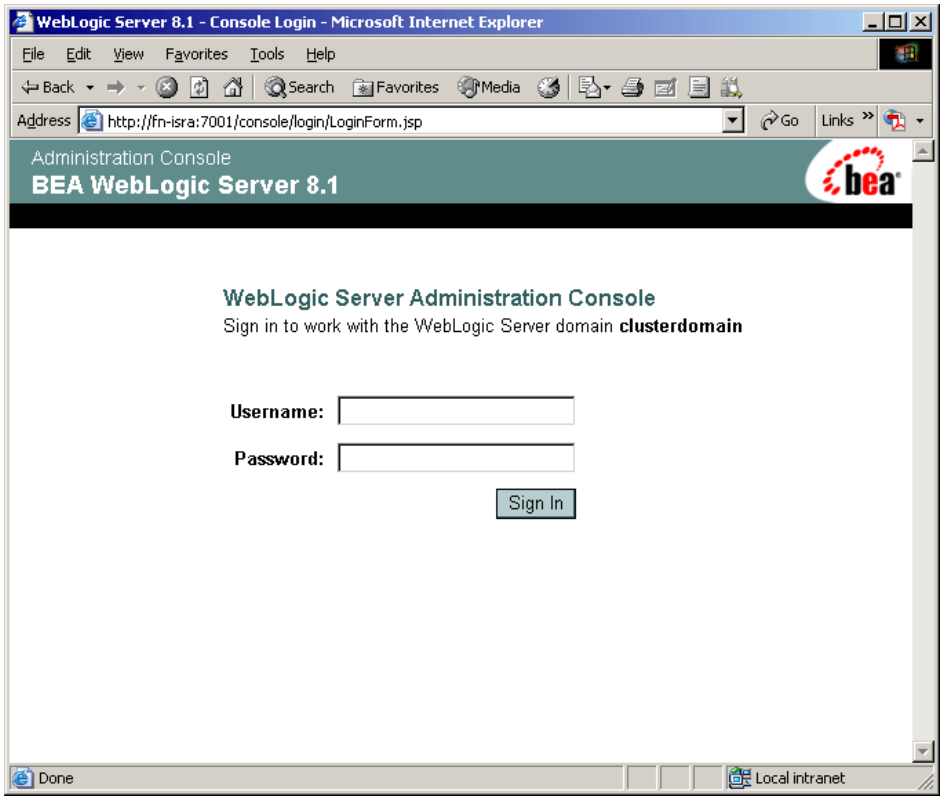


Deploying the ISRA Console and Sample Application in a Clustered Environment

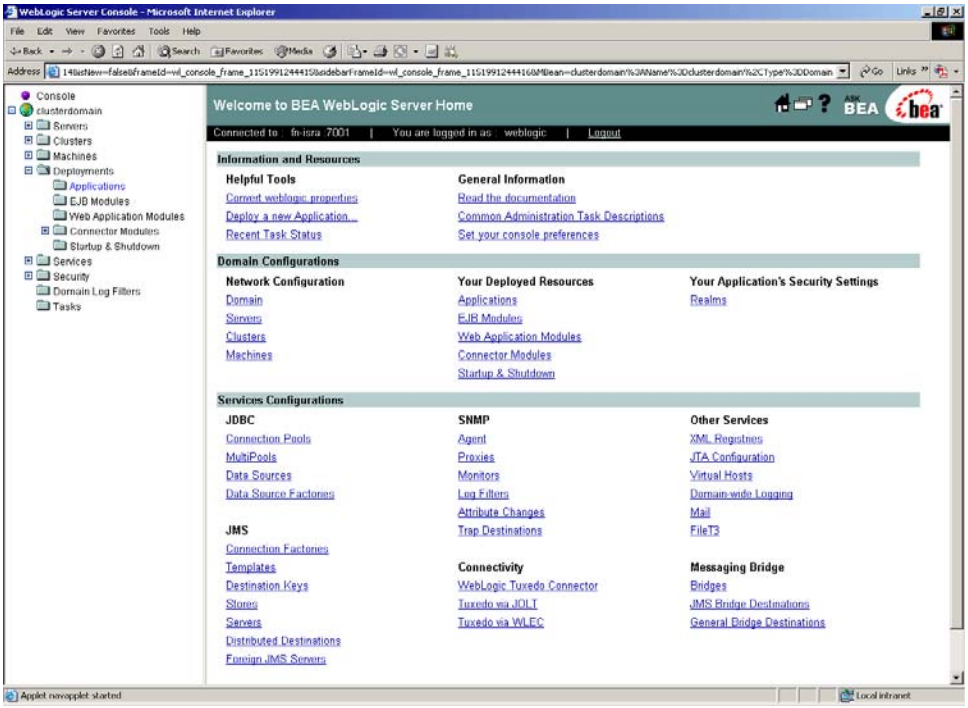
This section describes how to deploy the ISRA Console and Sample Application on a WebLogic Server to access ISRA in a managed environment. It is assumed that ISRA is deployed and configured for the target IS.

Before deploying the ISRA Console and Sample Application through the WebLogic Server Administration Console, ensure WebLogic Administration Server is running, else, start the Administration server as explained in the Deploying ISRA in a Standalone Environment section.

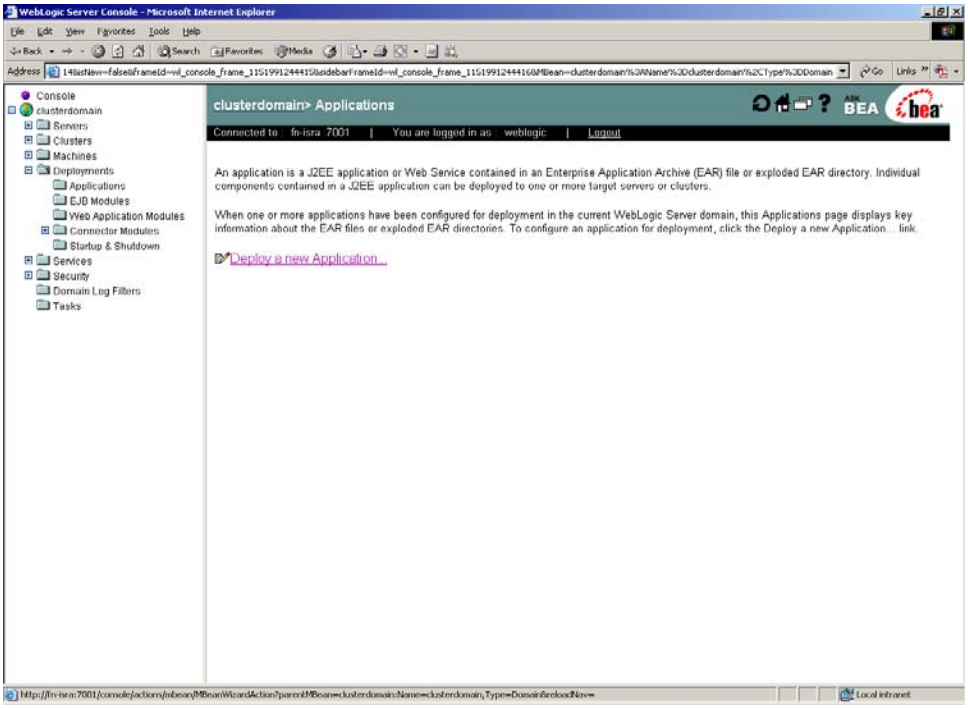
1. Start the administrative console. Open a browser window and enter the WebLogic admin console URL http://<hostname>:<portnumber>/console



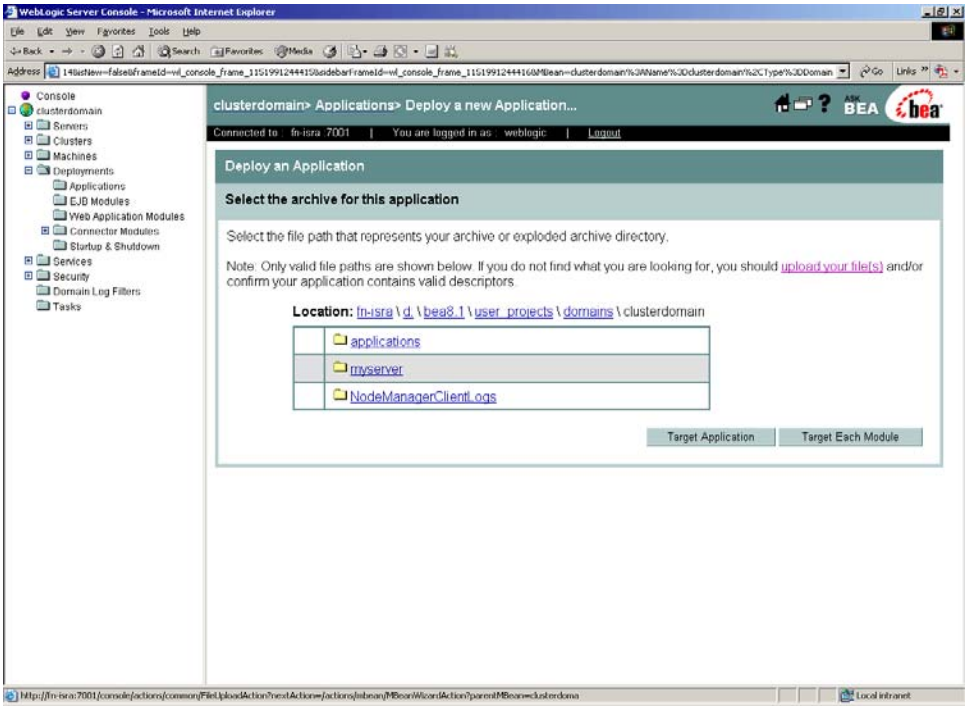
2. The WebLogic admin console sign on screen appears. Enter the WebLogic admin **Username** and **Password**. Click **Sign In** to access the WebLogic admin console.



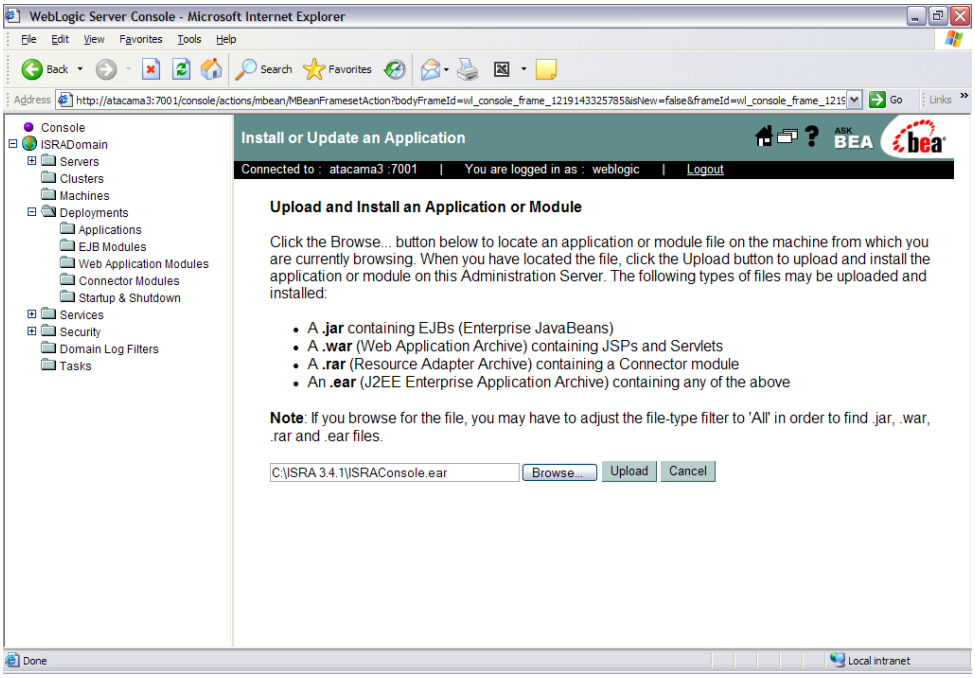
3. Navigate to **Deployments > Applications**. The following screen appears:



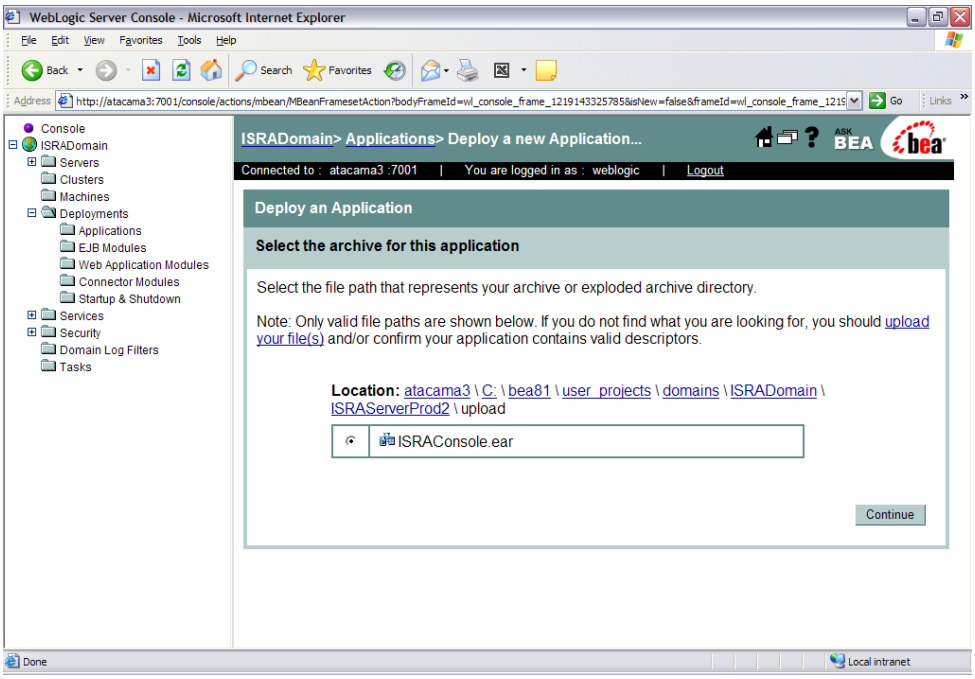
4. Click **Deploy a new Application**. The following screen appears:



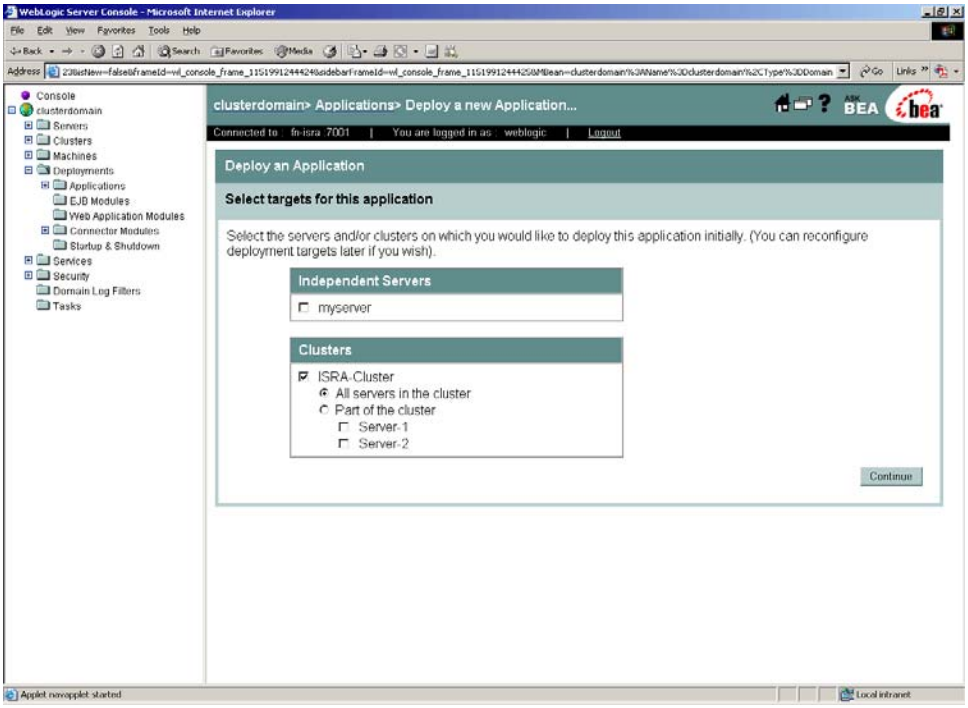
5. Click **upload your file(s)** link. The following screen appears:



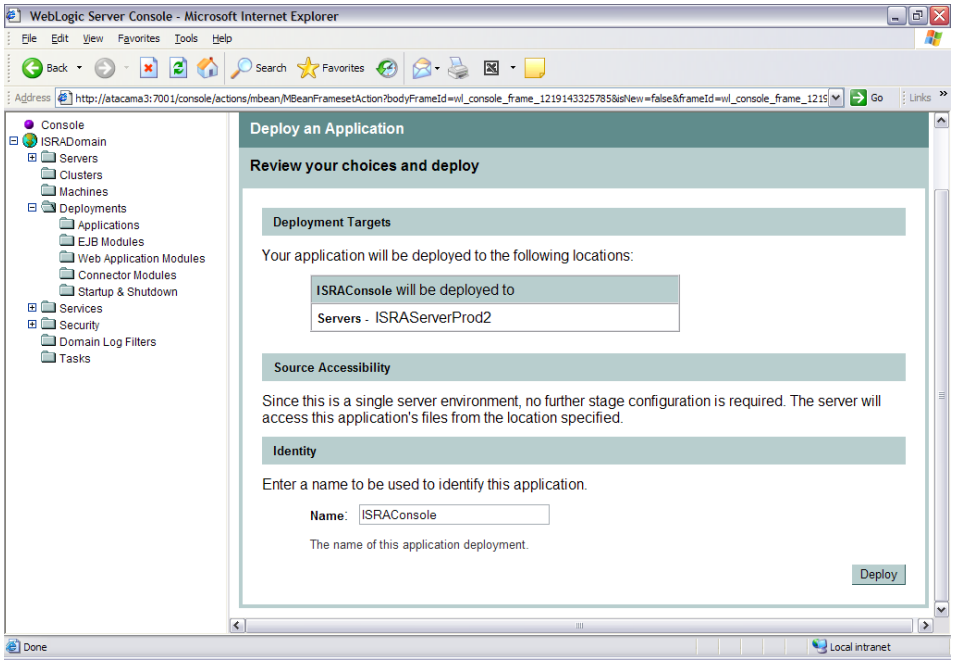
6. Click **Browse** to select the **ISRAConsole.ear**. The **ISRAConsole.ear** file is located in **sample** subdirectory of ISRA installation directory. For example if user has installed ISRA in `C:\fnsw\ISRA` (`/fnsw/ISRA` on UNIX), the **ISRAConsole.ear** can be found in `C:\fnsw\ISRA\sample` (`/fnsw/ISRA/sample` on UNIX) directory. Click **Upload** to upload the sample .ear file.



7. Select the radio box corresponding to **ISRAConsole.ear** file, and click **Target Application**.

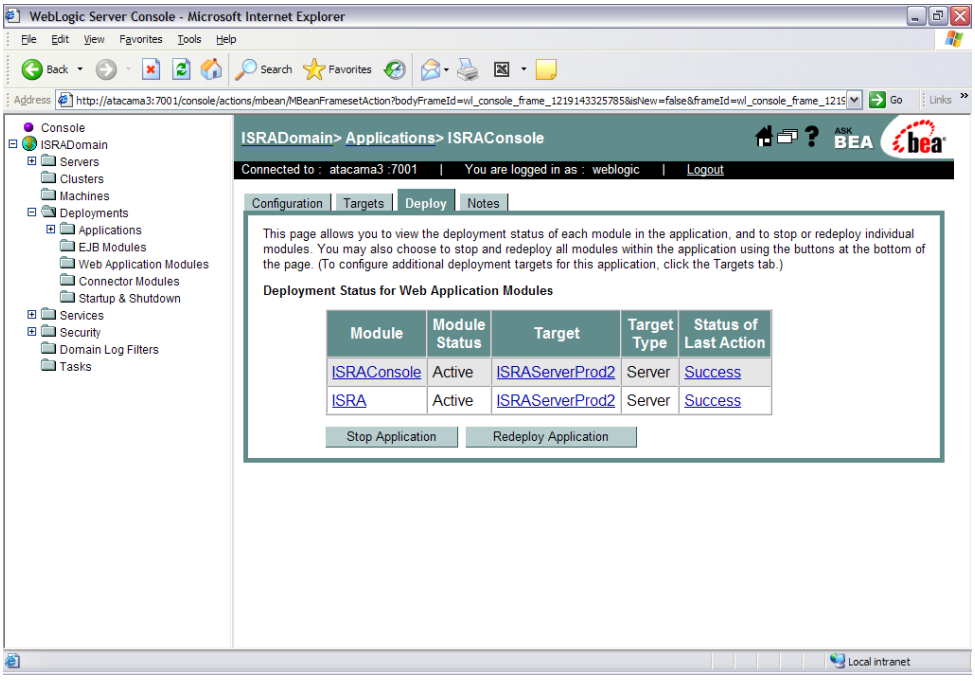


8. Select the check box corresponding to **ISRA-Cluster**, and click **Continue**.



The screen will show the Target Application Server on which the ISRA Console and Sample Application will be deployed, in the WebLogic administrative domain.

9. Click **Deploy** to finish the deployment of the ISRA Console and Sample Application.

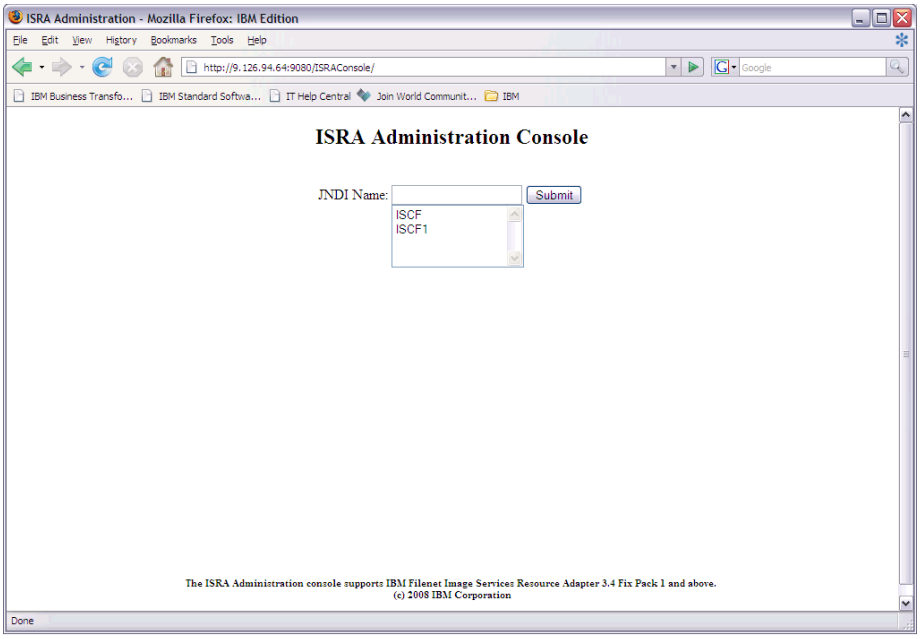


Using the ISRA Console

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**.

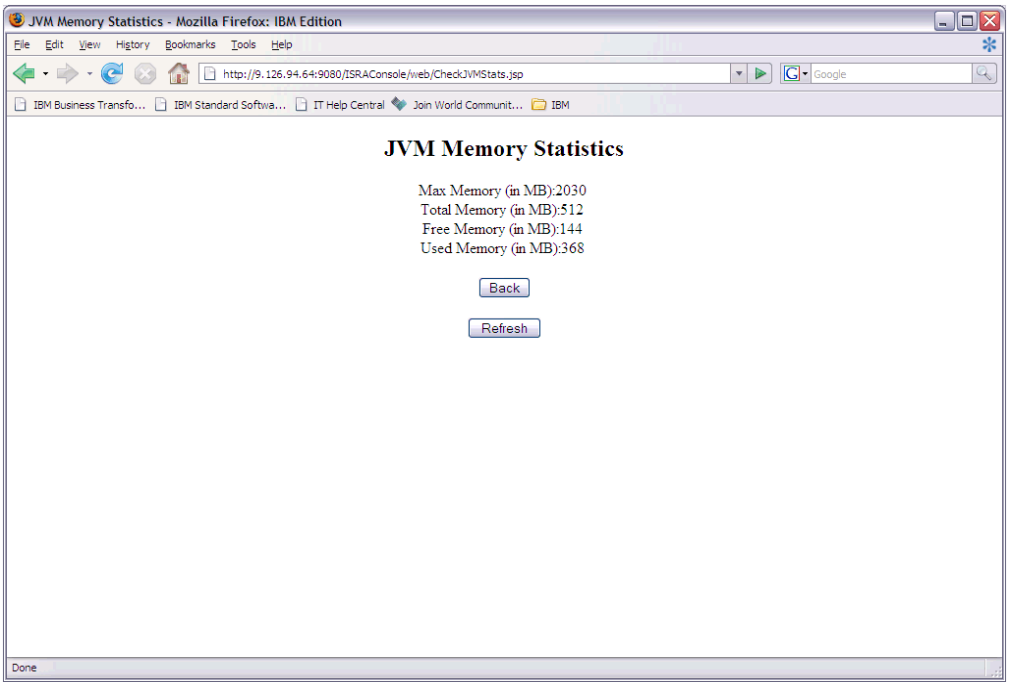
A page showing the current values configured in the ra.xml is shown along with controls to edit the ISRA logging levels.

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.



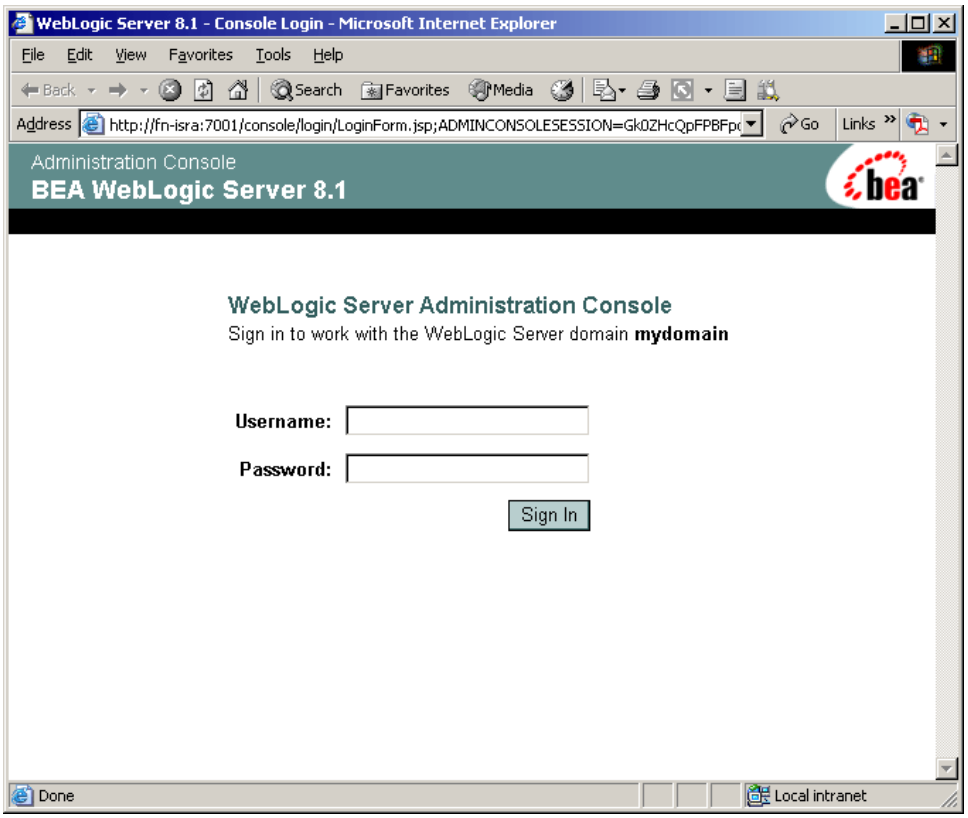
Deploying IBM FileNet Image Viewer in a Standalone Environment

This section describes how to deploy the IBM 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 IBM FileNet Image Viewer configured with the ISRA Sample application.

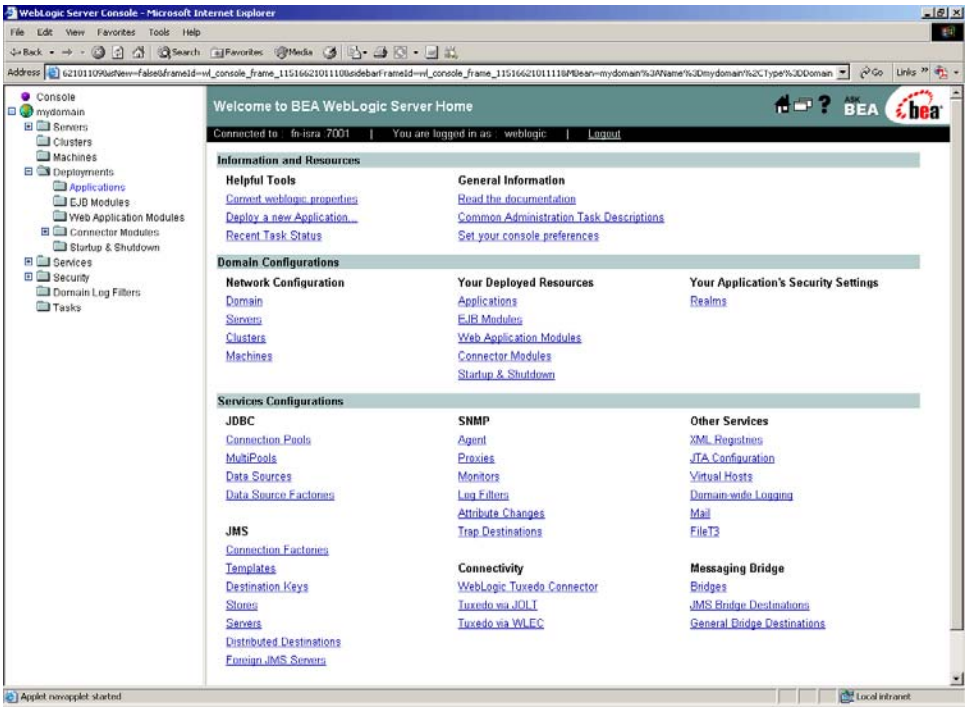
Before deploying IBM FileNet Image Viewer application through the WebLogic Server Administration Console, ensure that the WebLogic Administration Server is running, else, start the Administration as explained in the beginning of Deploying ISRA in a Standalone Environment section.

To deploy IBM FileNet Image Viewer:

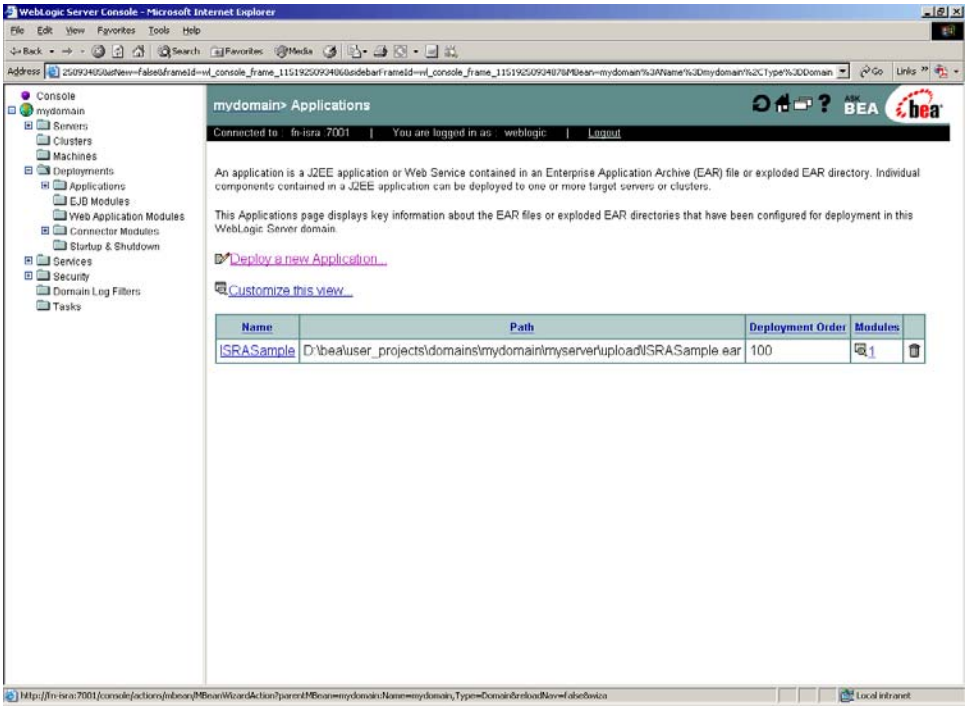
1. Start the administrative console. Open a browser window and enter the WebLogic admin console URL http://<hostname>:<portnumber>/console.



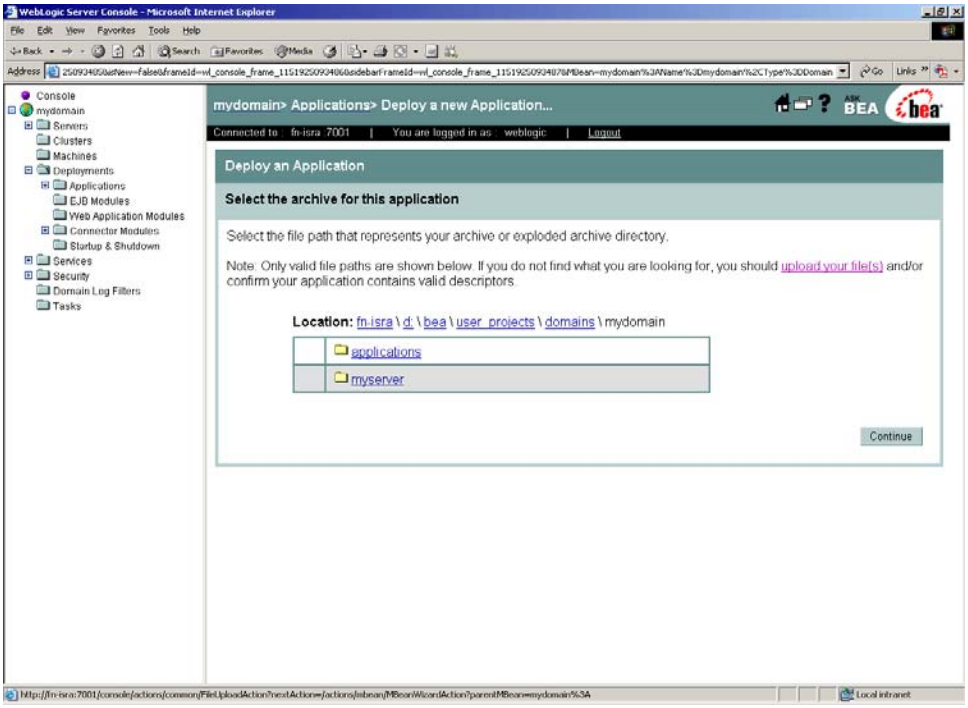
2. Enter the WebLogic admin **Username** and **Password,** and click **Sign In** to access the WebLogic admin console.



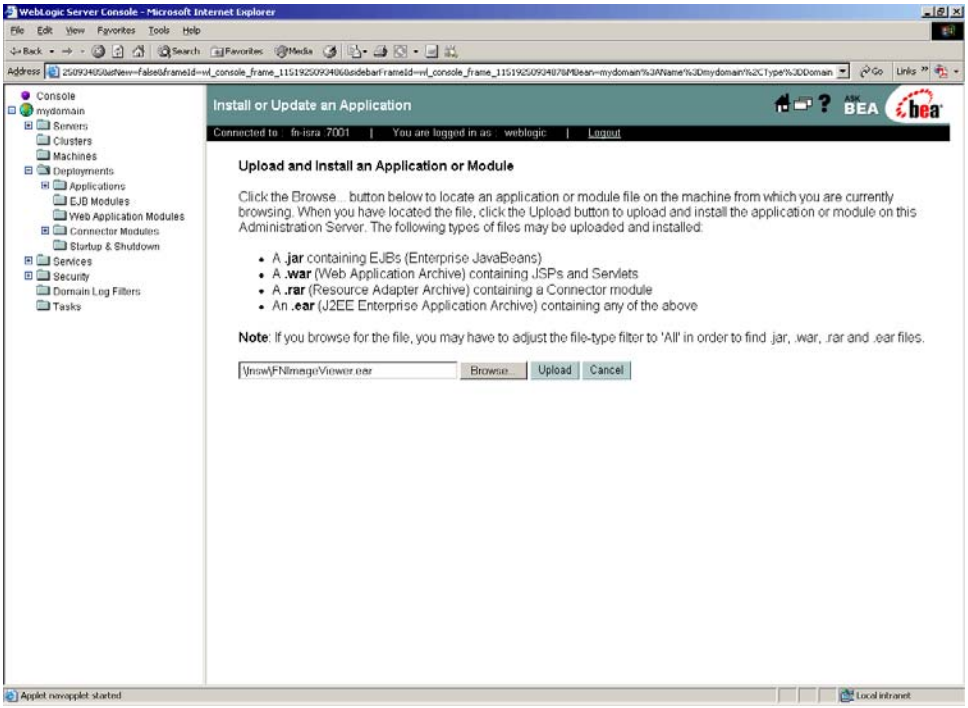
3. Navigate to **Deployments -> Applications**. The following screen appears:



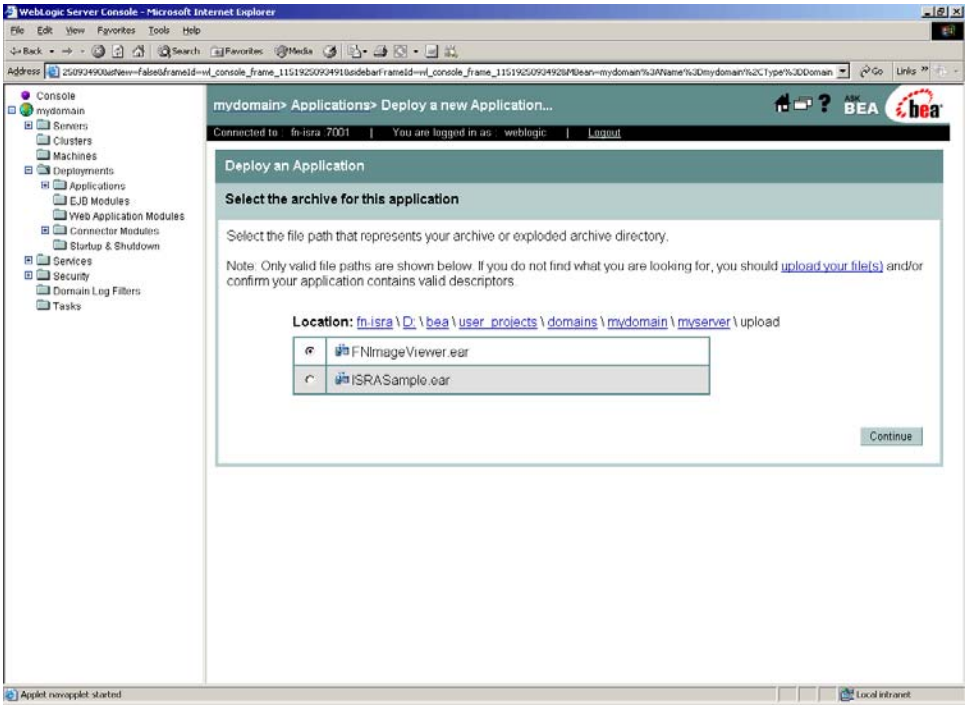
4. Click **Deploy a new Application**. The following screen appears:



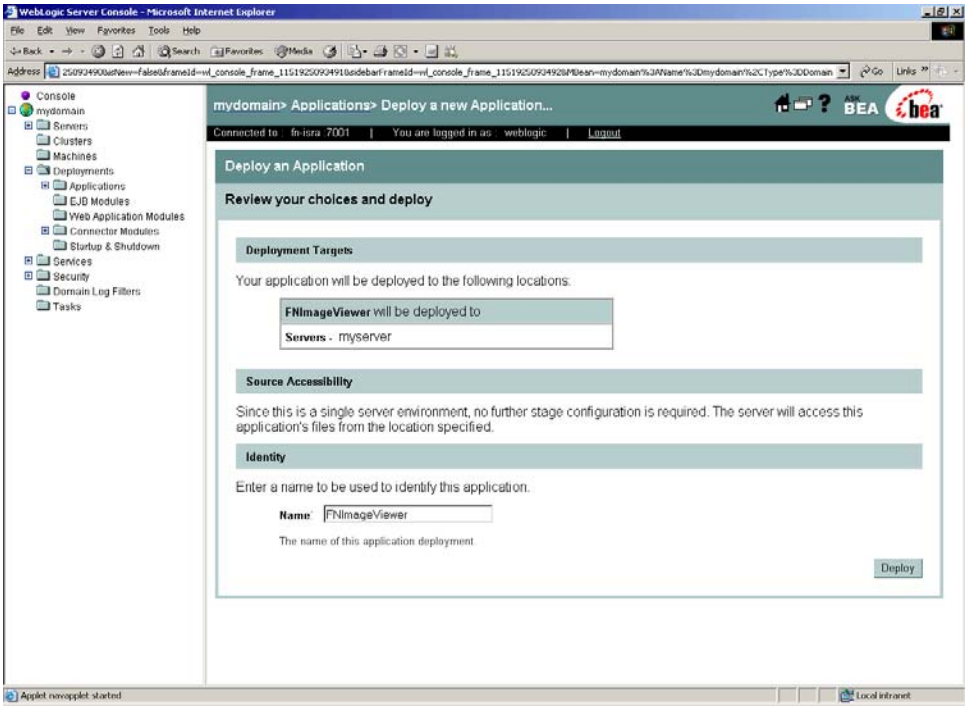
5. Click **upload your file(s)** link. The following screen appears:



6. Click **Browse** to locate the **FNImageViewer.ear,** to deploy the IBM FileNet Image Viewer in the target environment. After selecting **FNImageViewer.ear** file, click **Upload**. The following screen appears:

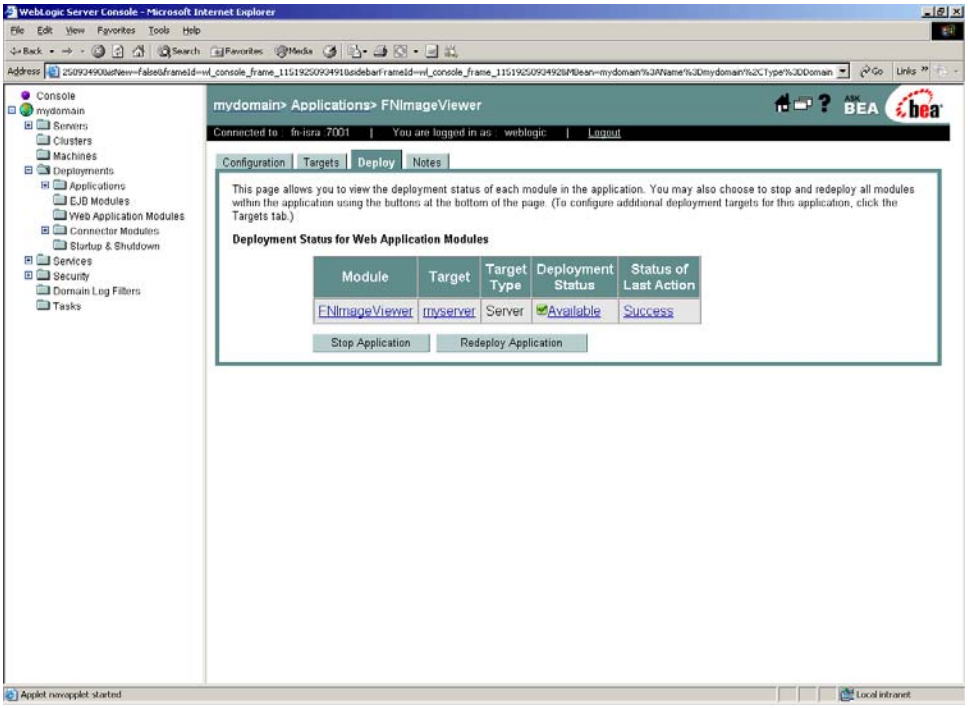


7. Click the radio button corresponding to **FNImageViewer.ear** and click **Continue**. The following screen appears:



Note Ensure that **FNImageViewer.ear** application is installed on the same Application Server where the Sample Application is installed.

8. Click **Deploy** to deploy the IBM FileNet Image Viewer.



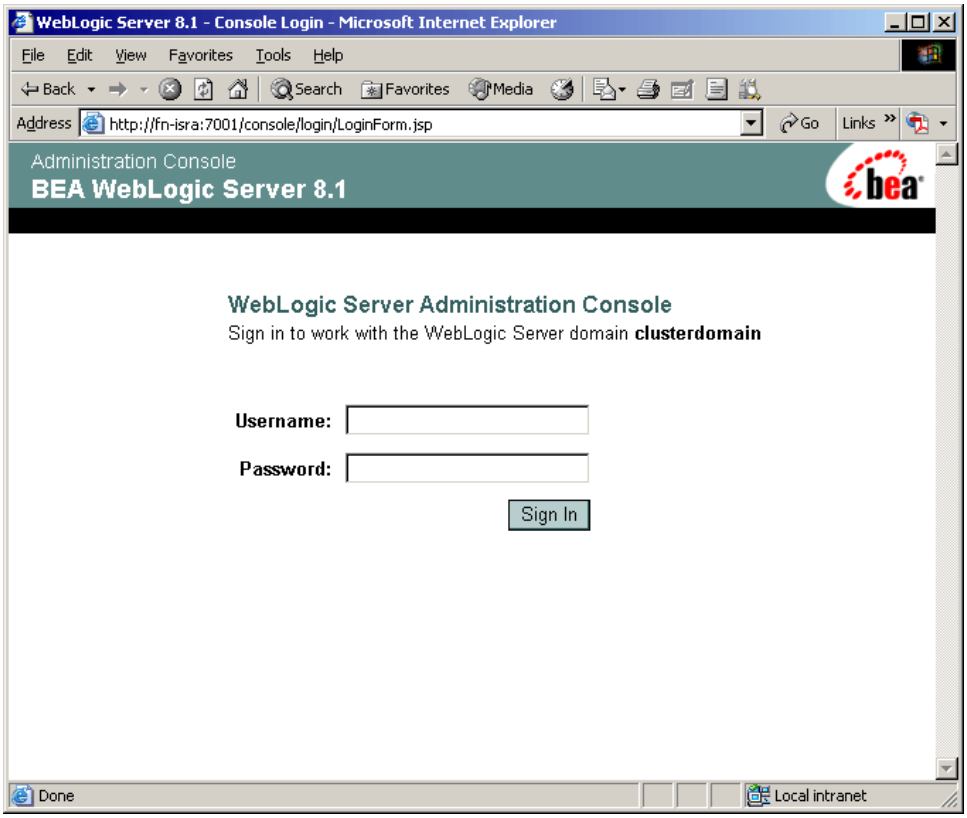
Deploying IBM FileNet Image Viewer in a Clustered Environment

This section describes how to deploy the IBM 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 IBM FileNet Image Viewer configured with the ISRA Sample application.

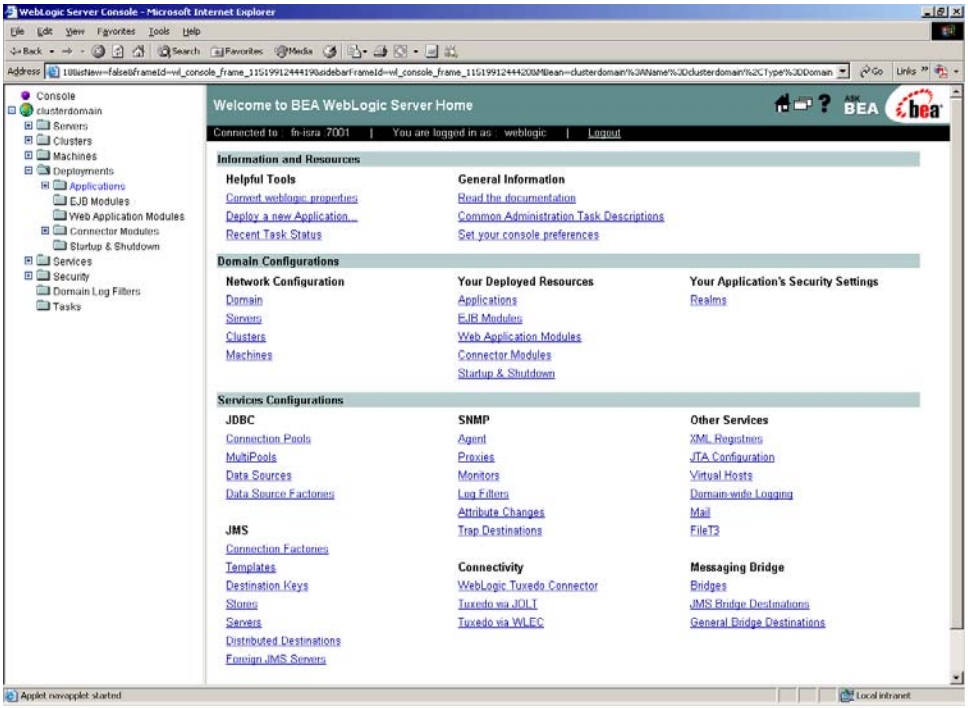
Before deploying IBM FileNet Image Viewer application through the WebLogic Server Administration Console, ensure that the WebLogic Administration Server is running, else, start the Administration as explained in the beginning of Deploying ISRA section.

To deploy IBM FileNet Image Viewer:

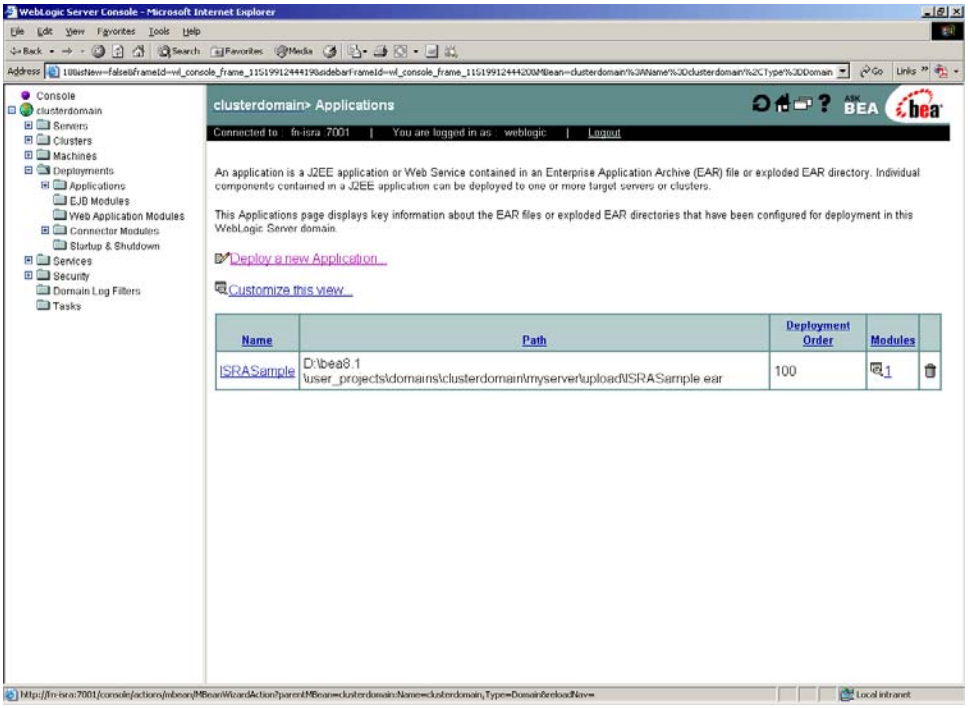
1. Start the administrative console. Open a browser window and enter the WebLogic admin console URL http://<hostname>:<portnumber>/console.



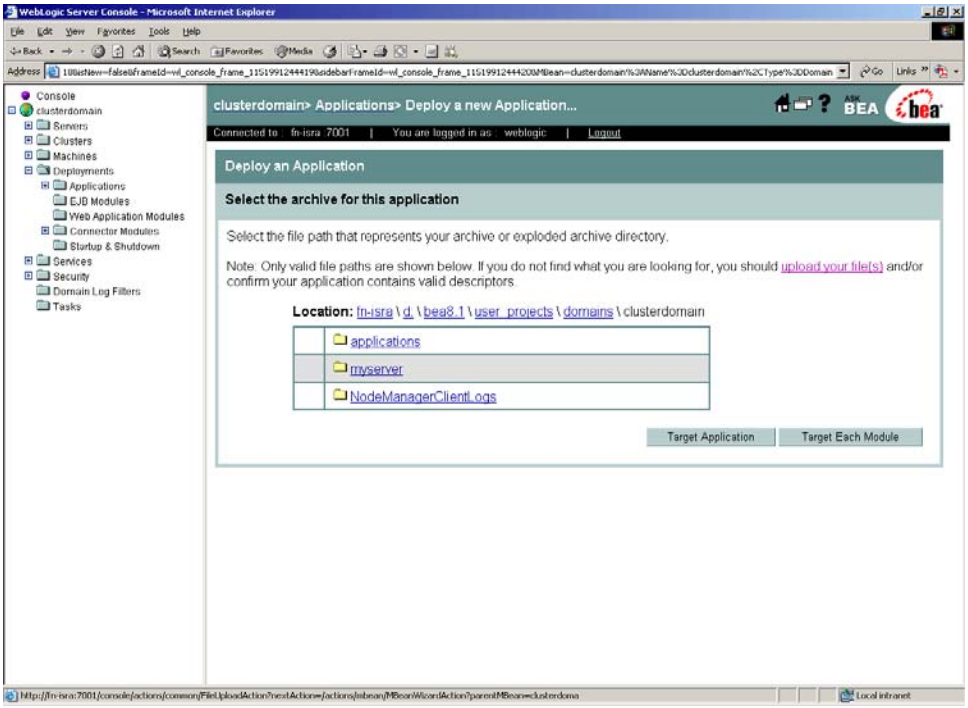
2. Enter the WebLogic admin **Username** and **Password,** and click **Sign In** to access the WebLogic admin console.



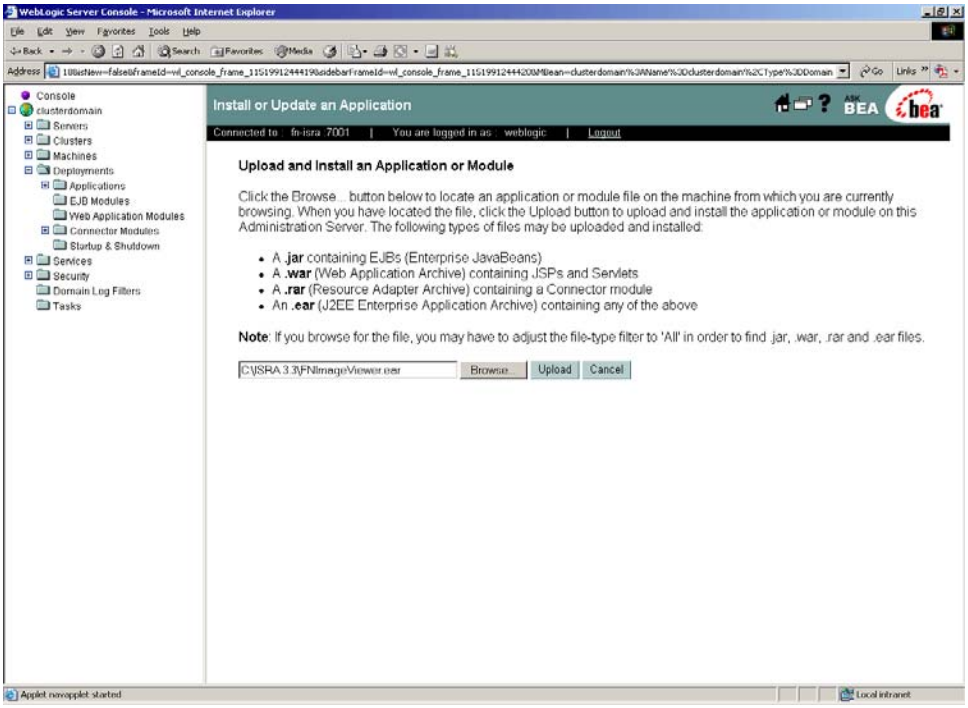
3. Navigate to **Deployments > Applications**. The following screen appears:



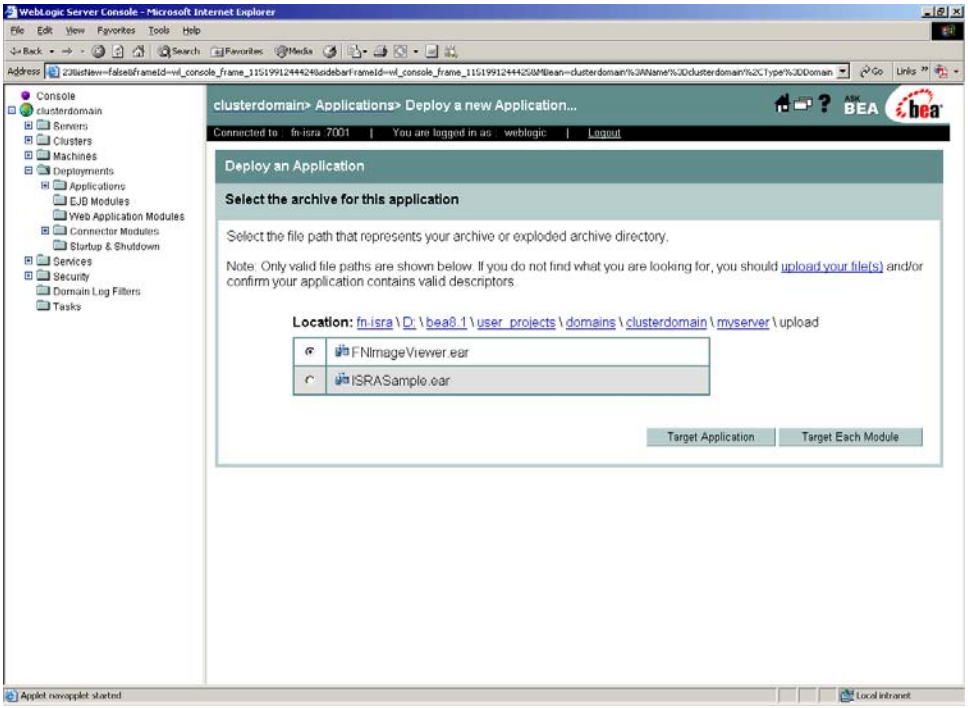
4. Click on **Deploy a new Application** to deploy FNImageViewer.ear on cluster. The following screen appears:



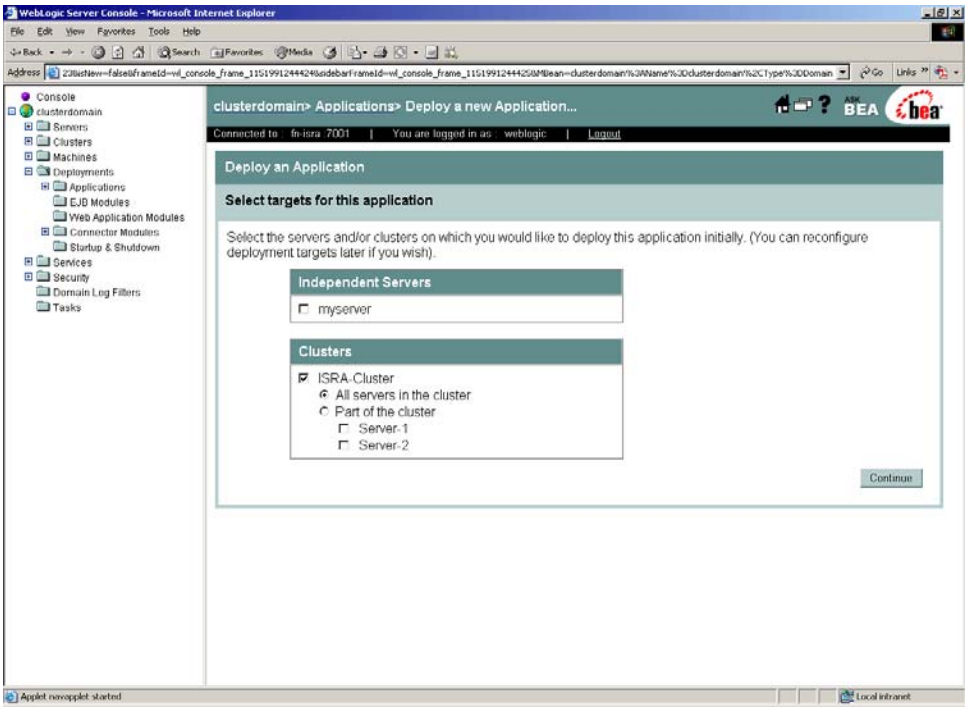
5. Click on **Upload your file(s)** link.



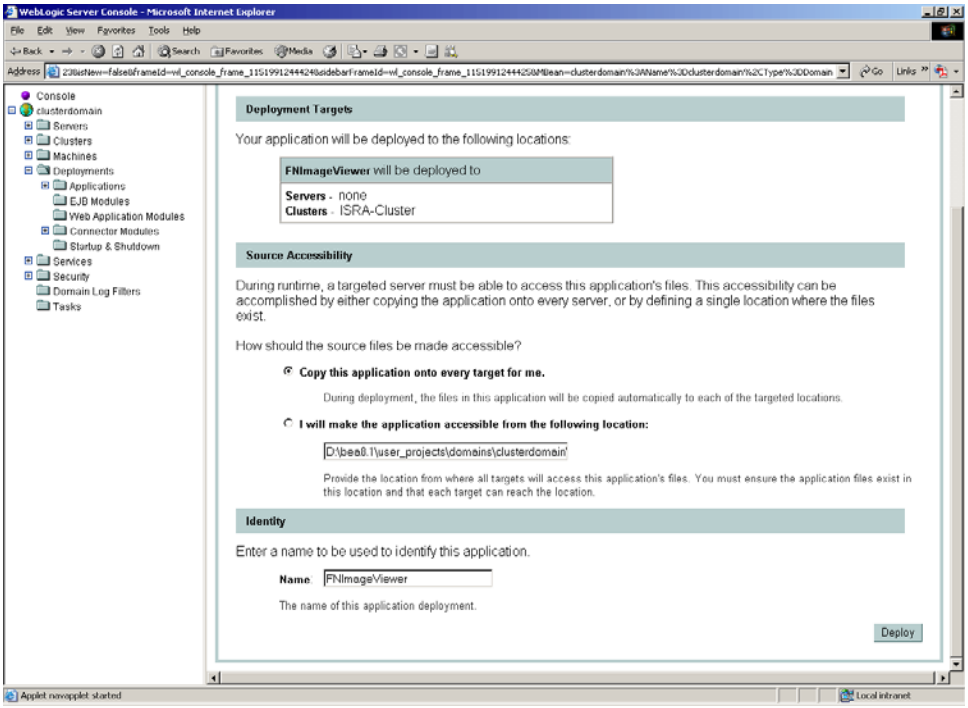
6. Click **Browse** to navigate to the directory where FNImageViewer is installed. Upload **FNImageViewer.ear** file.



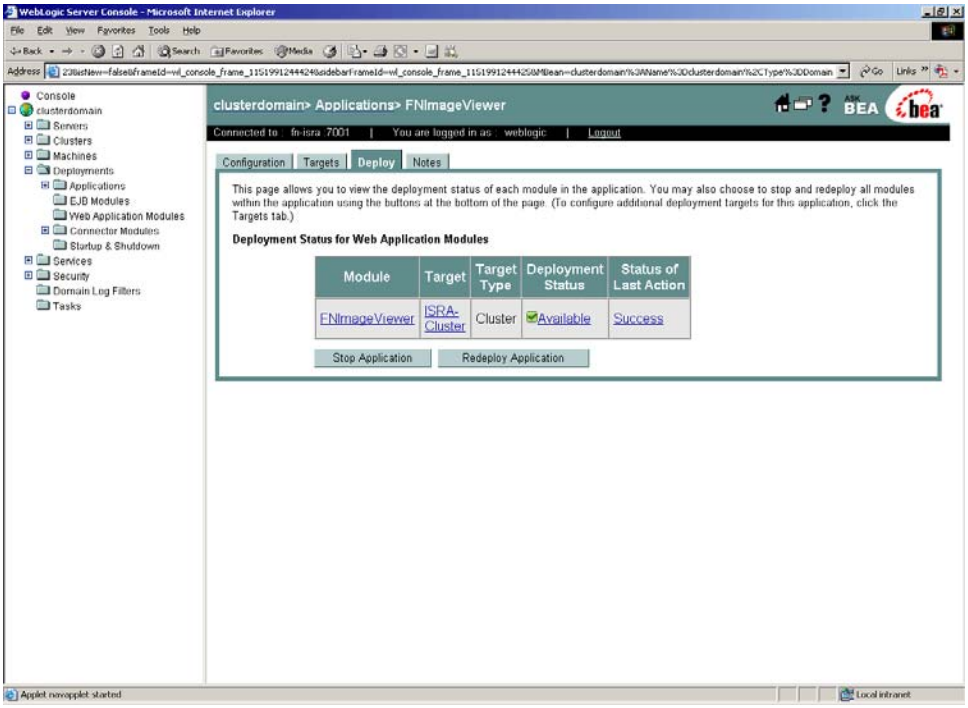
7. Select the radio button corresponding to **FNImageViewer.ear** file, and click on **Target Module.**



8. Select deployment target Clusters **ISRA-Cluster** and click **Continue.**



9. Click **Deploy**. The following screen appears.



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 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, the a security dialog box is displayed.
- QuickStart feature is not available in Image Viewer if web server is accessed using IP address instead of host name in the URL.

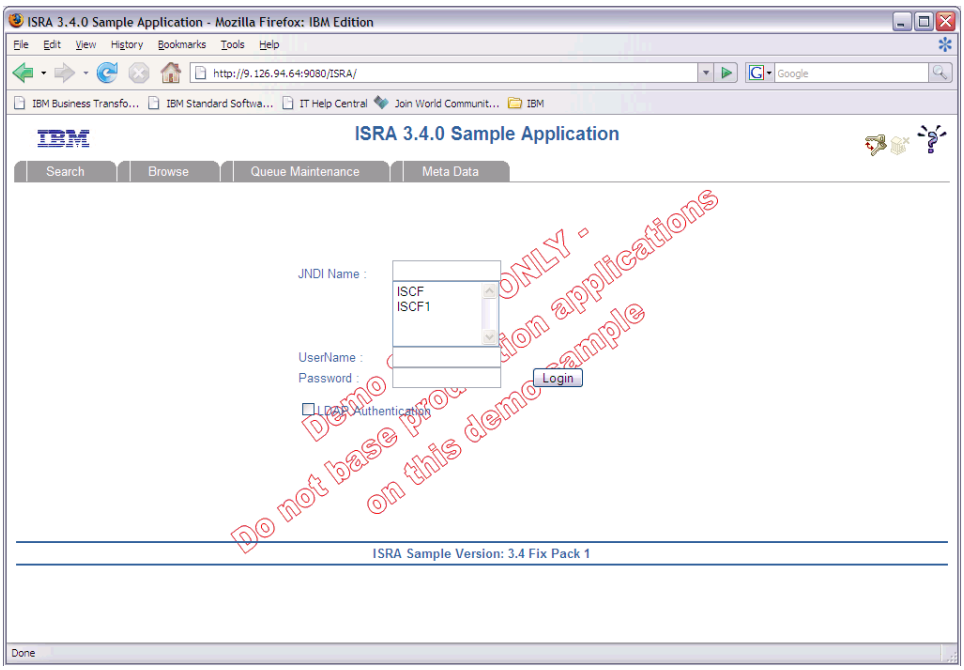
Testing Sample Application

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

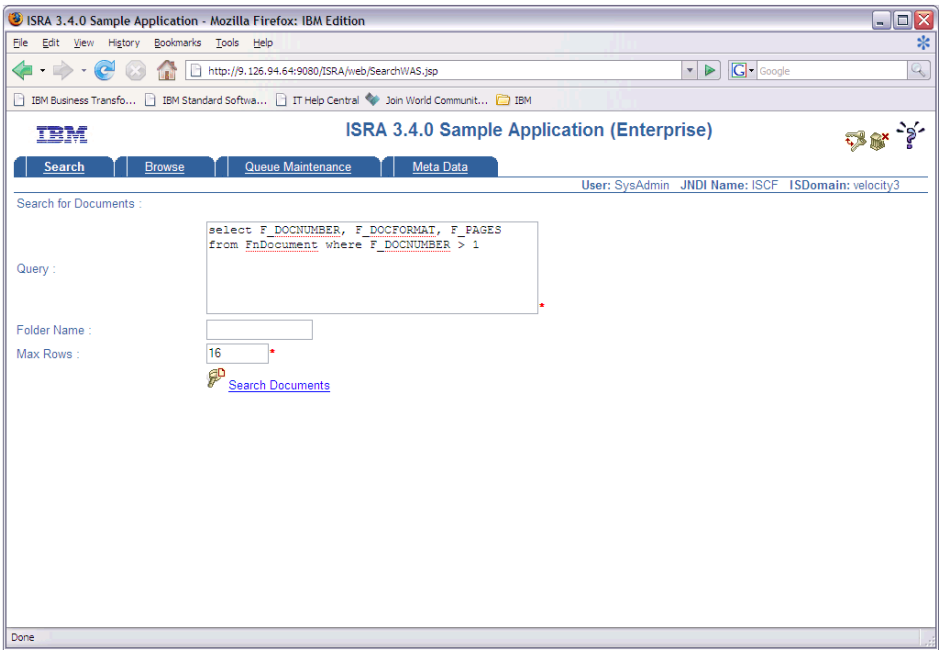
1. Open a Web browser and enter the URL

    ```
    http://<server:port>/context_root.
    For example: http://9.126.94.39:9088/ISRA/
    ```

    The Web application context_root is case sensitive. On a Weblogic Server, the default port number is 7001. The default context_root of the Sample Application is ISRA.



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



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

4

LDAP Configuration

In addition to direct IS logging, ISRA 3.4.0 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.

IBM 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 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 remaining attributes (including “password”) can be assigned any value.
2. Use the **LDAP_EXP.exe** utility to export the user entries created into an XML file.
3. LDAP_EXP program has the following parameters options:

Option	Description
s <server>	LDAP server name or IP address required value.
p <port>	LDAP port number, optional value, 389 is default.
d <binddn>	LDAP administrator bind domain name (DN), required value.
w <bindpw>	LDAP administrator bind password, required value.
t <ldap server type>	Required value for server type: msft – Microsoft Active Directory sun – Sun One Directory (iPlanet) nov – Novell eDirectory(NDS).

Option	Description
	ibm – IBM Directory.
b <basedn>	LDAP Base DN, optional value.
g <grouplist filename>	Group list file for input, optional value.
o <XML output filename>	XML output filename, optional value.
l <log filename>	Log Filename to use, optional value.
i	Check for special characters on <id> tags only
e	Remove all escape characters – '\'.
k	Use paged results. Windows to AD only
z	Use secure socket connection.
x <grouplist filename>	Group list file name for output, optional value.
v	Verbose log output.
c1 <user object class>	Class type for User, default is 'person'.
c2 <group object class>	Class type for Group, default is 'groupofuniquenames'.
a1 <user attribute>	Attribute to be used for user; default is 'dn'.
a2 <group attribute>	Attribute to be used for group; default is 'dn'
a3 <member attribute>	Attribute to be used for member; default is 'uniqueMember'.

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

Example command lines:

- **Sun One directory (iPlanet) server:**

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

- **Microsoft Active Directory (AD) server:**

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

- **Novell eDirectory(NDS) server:**

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

- **IBM Directory server:**

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

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

For example, to import user entries from XML file:

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

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

5. The IBM FileNet users created will have a password 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 entities.

5

Undeployment

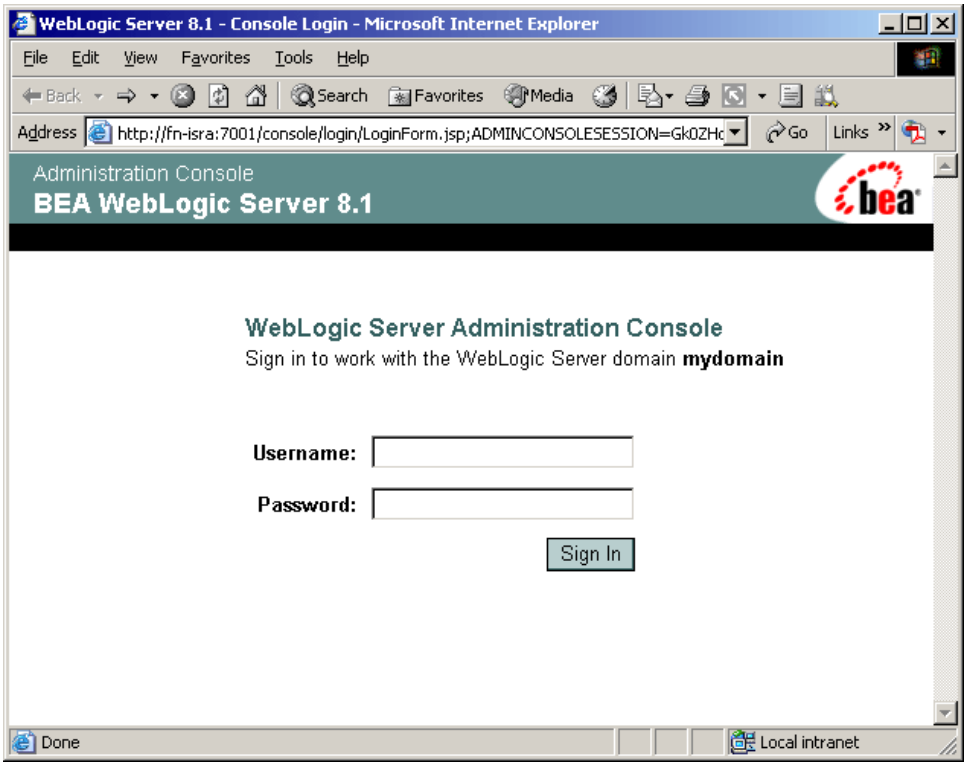
This section describes undeployment procedure to remove the ISRA and the Sample Application from the WebLogic Server.

Undeploying ISRA

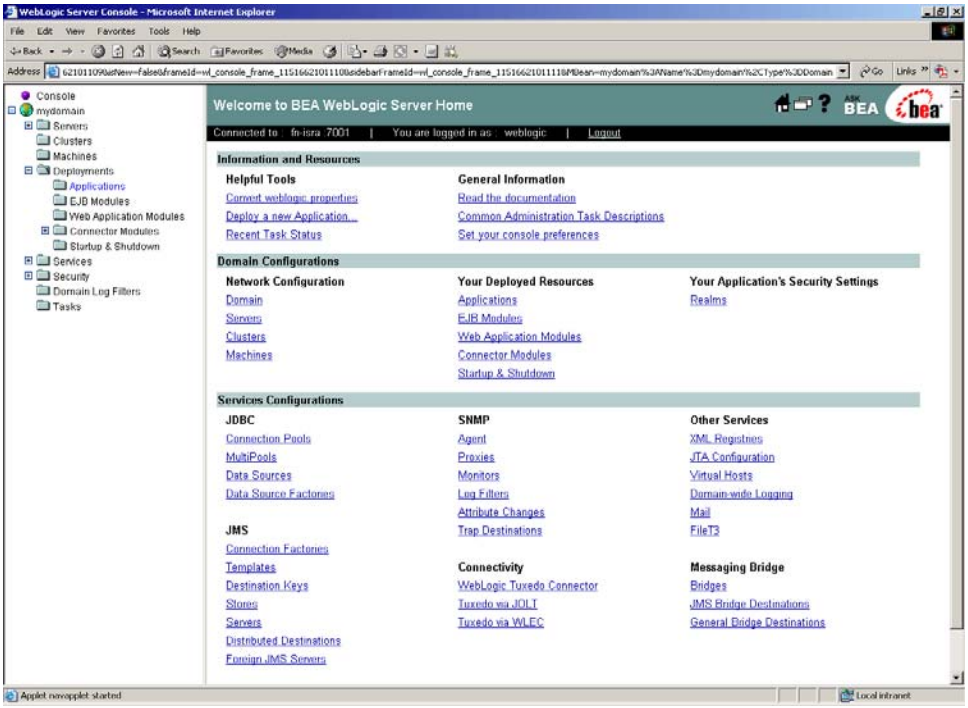
To undeploy ISRA ensure that WebLogic admin server is running. If it is not, start the WebLogic Administration Server as explained in the Deploying ISRA section.

The steps to undeploy ISRA using the Administration Console are:

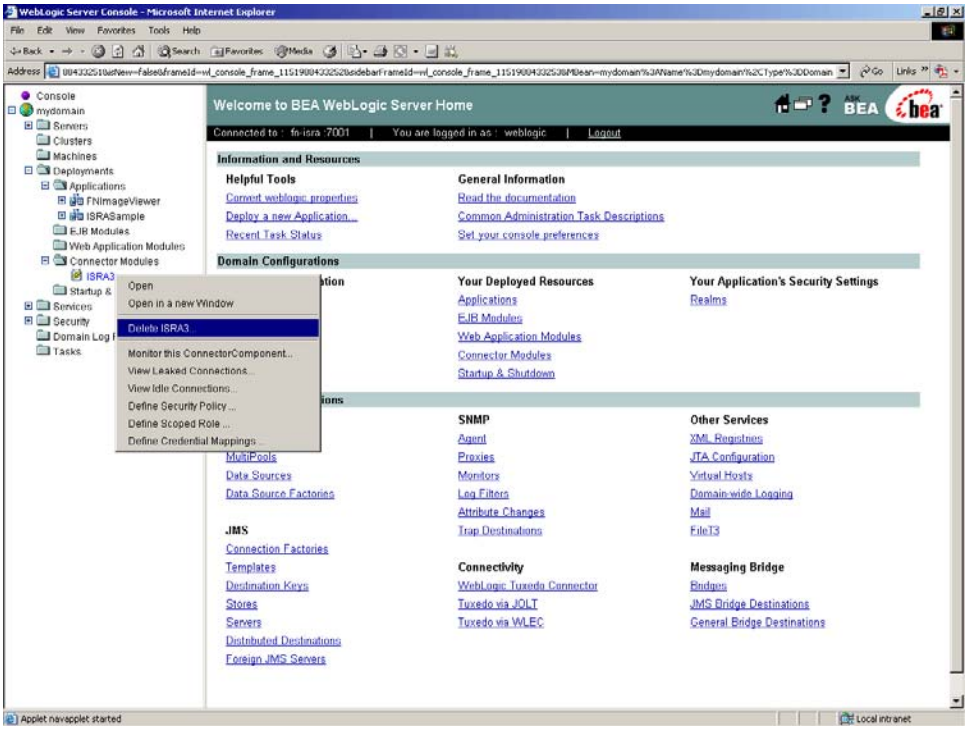
1. To start the administrative console, enter the following URL in the Web browser http://hostname:portnumber/console. The WebLogic admin console sign on screen appears, as shown below:



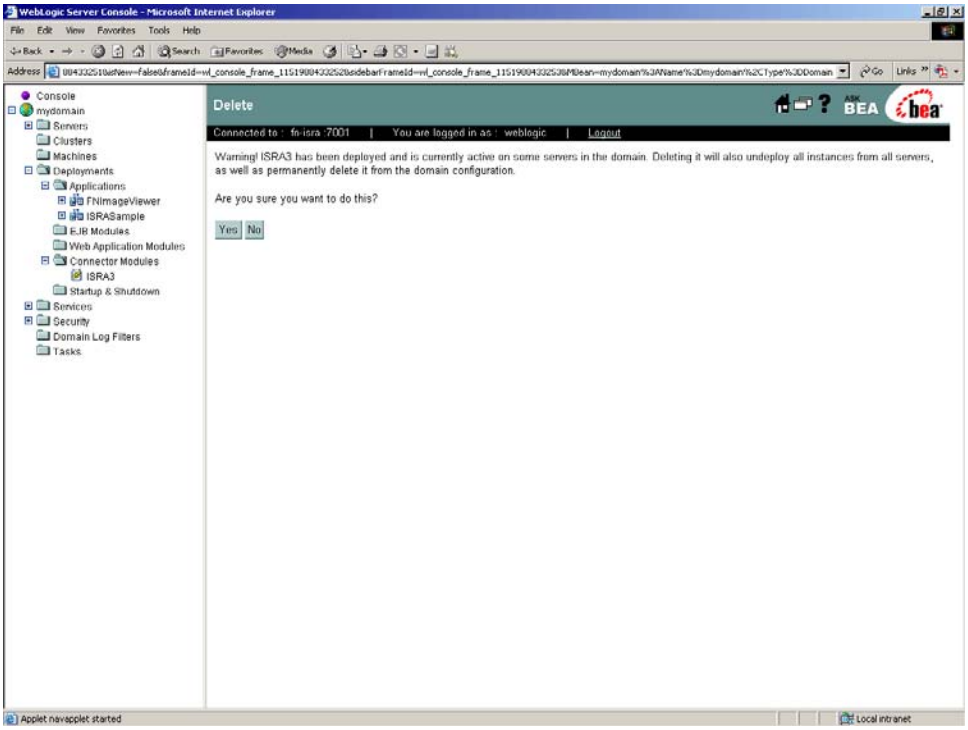
2. Enter **Username** and **Password**. Click **Sign In** to access the WebLogic admin console. The following screen appears:



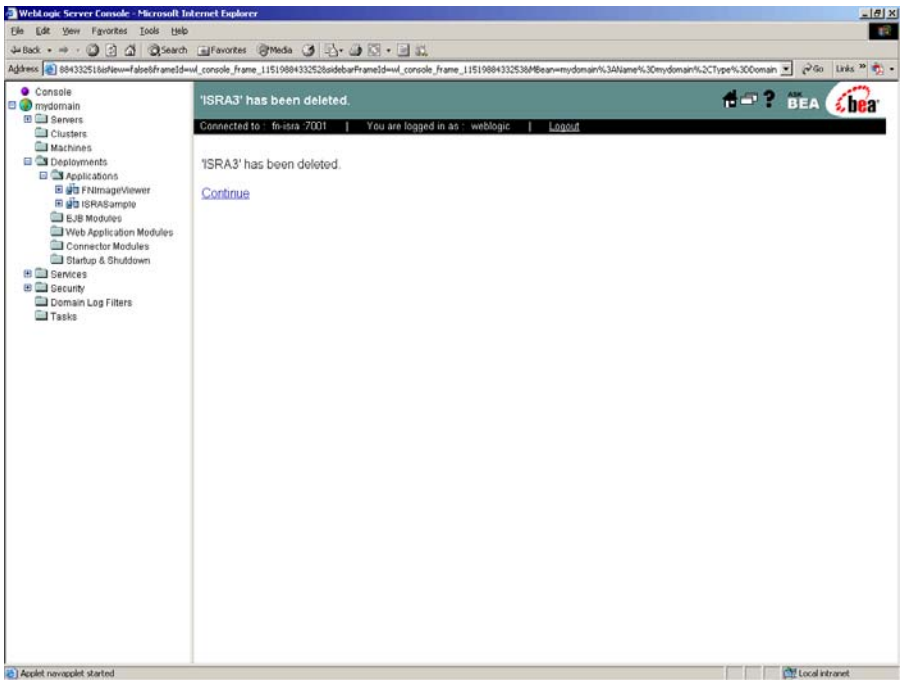
3. Navigate to **Deployments** > **Connectors Modules**. Right-click on ISRA in the left pane. The following screen appears:



4. Click **Delete ISRA** (Here, ISRA3, name of the rar file).The **Delete** screen appears.



5. Click **Yes** to confirm deletion of the ISRA. The screen appears, as shown below:



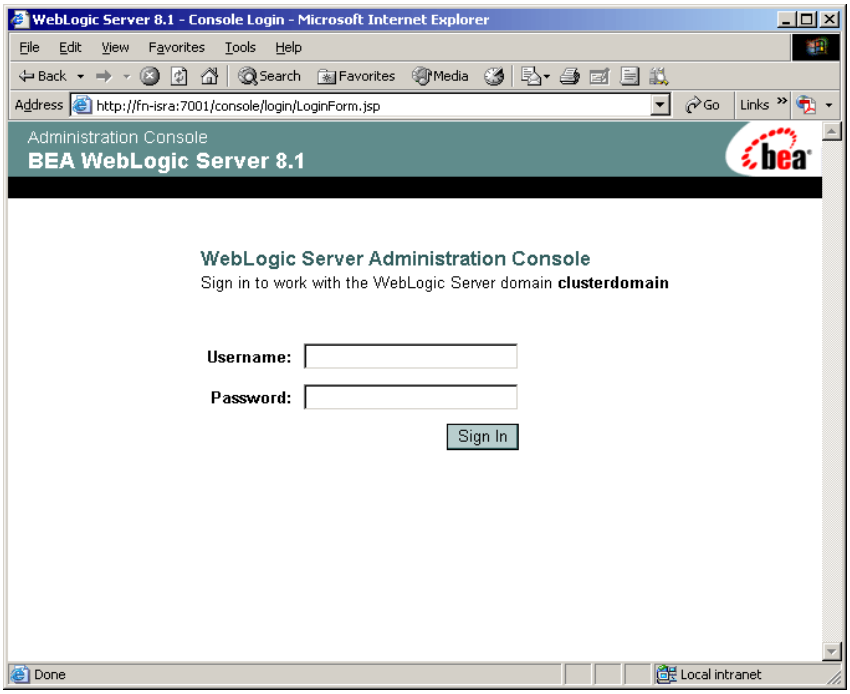
Note The steps to undeploy the ISRA in clustered environment are same as the above steps.

Undeploying ISRA Console and Sample Application

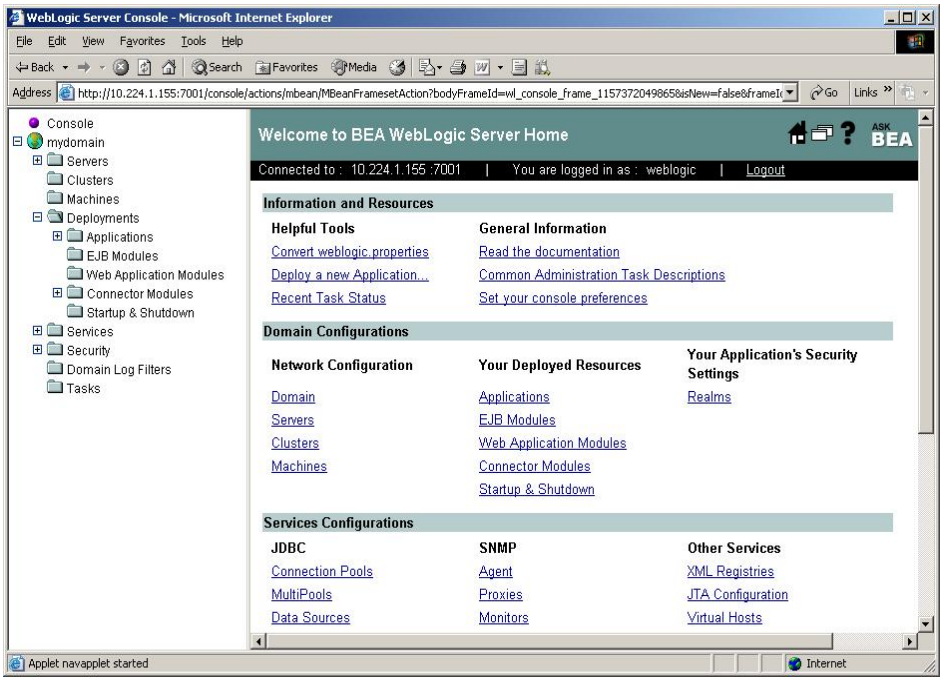
Ensure that WebLogic Administration server is running; else start the WebLogic Administration Server as explained in the Deploying ISRA section.

The steps to undeploy the ISRA Console and Sample Application using the Administration Console are:

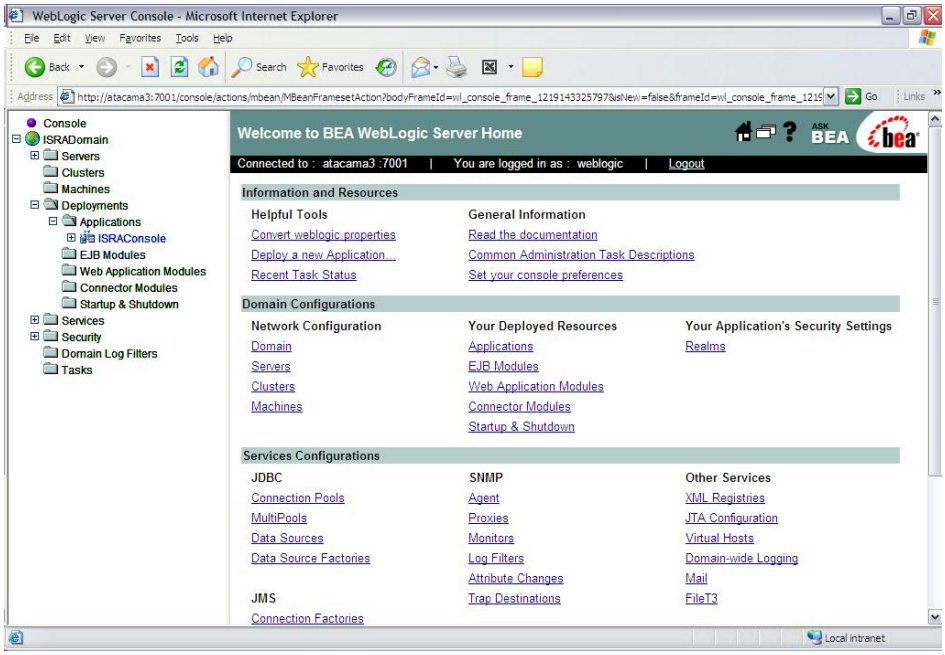
1. To start the administrative console, enter the following URL in the Web browser http://hostname:portnumber/console. The WebLogic admin console sign on screen appears, as shown below:



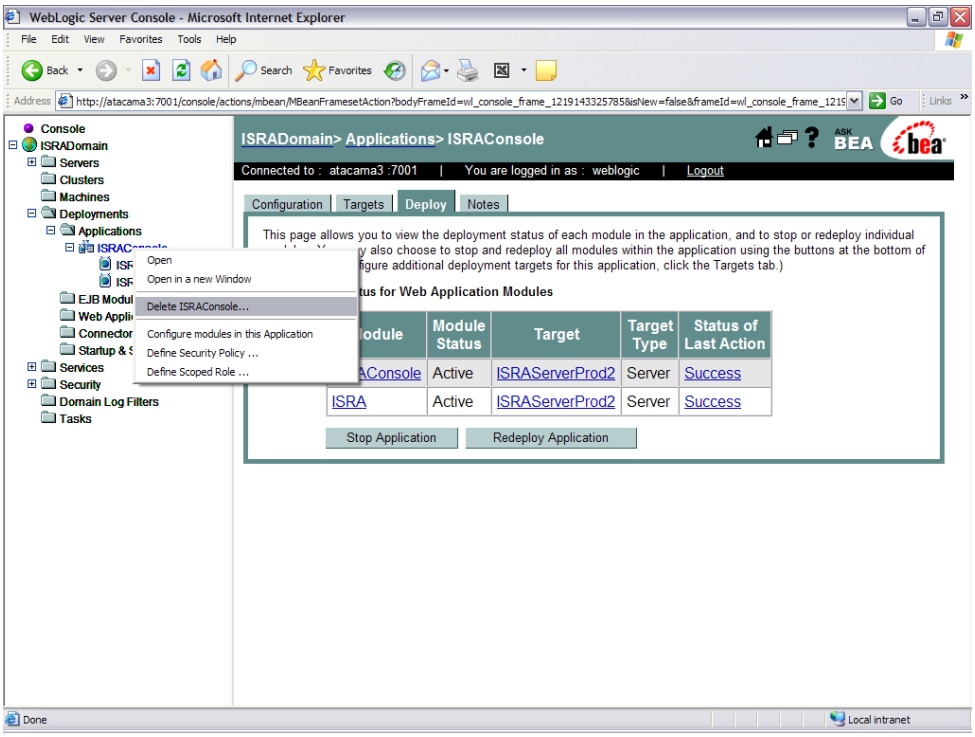
2. Enter **Username** and **Password,** and click **Sign In** to access the WebLogic admin console. The following screen appears:



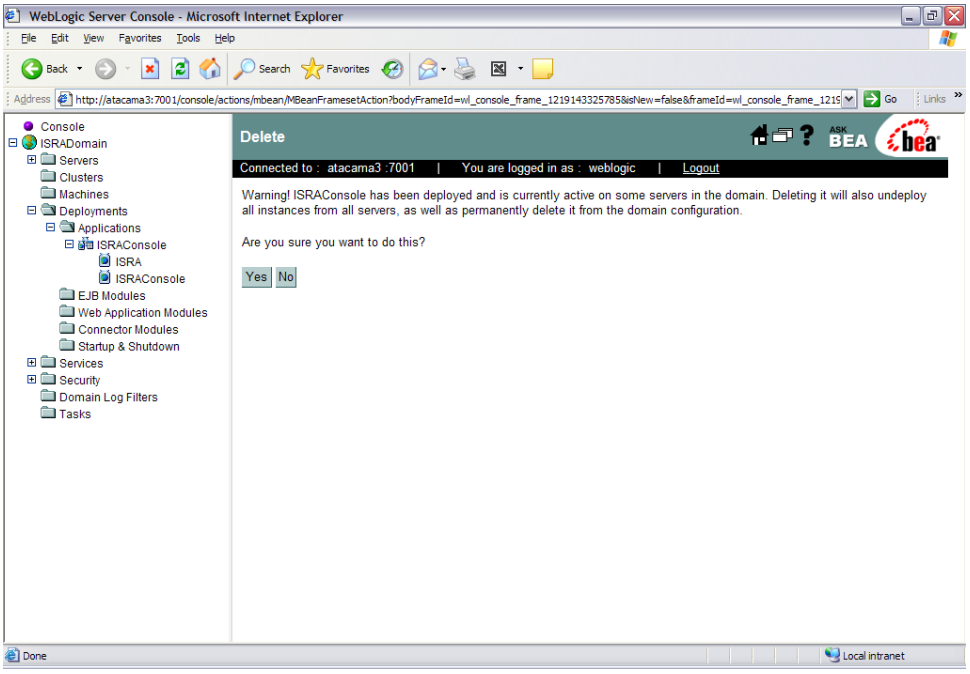
3. Navigate to **Deployments** > **Applications**. The following screen appears:



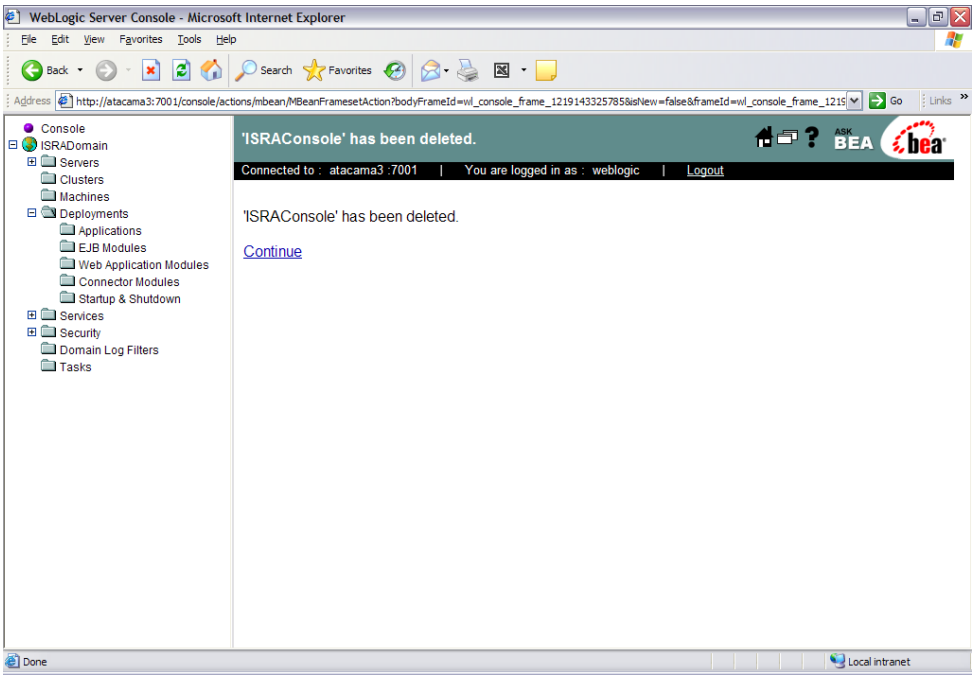
4. Right-click **ISRAConsole** in the left pane. The following screen appears.



5. Click **Delete ISRAConsole.** The **Delete** screen appears:



6. Click **Yes** to confirm deletion. The screen appears, as shown below:



Note The steps to undeploy the ISRA Console and Sample Application in clustered environment are same as the above steps.

Undeploying IBM FileNet Image Viewer

The procedure of undeploying IBM FileNet Image Viewer is same as Undeploying Sample Application. Refer to Undeploying Sample Application section for the details.

Ensure that WebLogic Administration server is running; else start the WebLogic Administration Server as explained in the Deploying ISRA section.

6

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 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 text editor. If the hosts file does not exist, create a new file.
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 `23.45.6.78 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>


    <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>

    <config-property>
      <description>Selective metadata 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=Users,ou=FileNet,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 = 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>
   <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>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>
```

Notices

This information was developed for products and services offered in the U.S.A.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing

IBM Corporation

North Castle Drive

Armonk, NY 10504-1785

U.S.A.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

IBM World Trade Asia Corporation

Licensing

2-31 Roppongi 3-chome, Minato-ku

Tokyo 106-0032, Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law: INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Corporation

J46A/G4

555 Bailey Avenue

San Jose, CA 95141-1003

U.S.A.

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs.

Trademarks

- IBM is a registered trademark of International Business Machines Corporation in the United States, other countries, or both.

- Adobe, the Adobe logo, PostScript, and the PostScript logo are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States, and/or other countries.
- Cell Broadband Engine is a trademark of Sony Computer Entertainment, Inc. in the United States, other countries, or both and is used under license there from.
- Java and all Java-based trademarks are trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.
- Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.
- Intel, Intel logo, Intel Inside, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.
- UNIX is a registered trademark of The Open Group in the United States and other countries.
- Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.
- ITIL is a registered trademark, and a registered community trademark of the Office of Government Commerce, and is registered in the U.S. Patent and Trademark Office.
- IT Infrastructure Library is a registered trademark of the Central Computer and Telecommunications Agency, which is now part of the Office of Government Commerce.
- Other company, product, or service names may be trademarks or service marks of others.

Index

AllowAnonymousUser, 26
CacheRefreshInterval, 26
Changing ISRA Specific Parameters for LDAP, 63
ClientCodepage, 26
Configuring and Deploying ISRA ISRA Console and Sample Application, 35
Configuring Deployed ISRA, 25
Configuring Multiple IS Servers with ISRA, 33
Configuring Sample Application, 35
Configuring Weblogic-Specific Entities, 32
Deploying FileNet Image Viewer in a Clustered Environment, 53
Deploying FileNet Image Viewer in a Standalone Environment, 48
Deploying ISRA in a Clustered Environment, 18
Deploying ISRA in a Standalone Environment, 7
Deploying the ISRA Console and Sample Application in a Clustered Evnironment, 42
Deploying the ISRA Console and Sample Application in a Standalone Environment, 37
Deployment Requirements, 7
DeploymentInstance, 24, 26
Disabling NCH Broadcasts, 71
DomainName, 25
Enabling Quick Start Feature, 58
Explanation for Terminal name and ISRALock folder, 24
FileNet Image Viewer Quick Start Feature, 57
GMTEnabled flag, 31
Hardware Requirements, 7
InherentLogin, 26
ISRA Console, 35
Known Issues in the Quick Start Feature, 59
LdapImplClassName, 26
LdapImplClassString, 26
LogFileName, 26
LogFileSize, 26
LoggingLevel, 25
LoggingMode, 26
Mandatory Requirements for ISRA 3.3.0, 24
Mapping Existing LDAP Server Users to IS, 61
OrganizationName, 25
PageBufferSize, 26
PCHLogging, 26
RPCLogging, 26
Software Requirements, 7
Testing Sample Application, 59
Undeploying FileNet Image Viewer, 70
Undeploying ISRA, 64
Undeploying ISRA Console and Sample Application, 67
Using the ISRA Console, 46