BEA

BEA WebLogic ERP Adapter Installation and Configuration
Version 5.5.011
For WebLogic Server 9.1

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Preface

This documentation describes how to install and configure BEA ERP Adapters, Connector for JCA, Integration Business Services Engine (iBSE), and Application Explorer for use with BEA WebLogic Server. It is intended for those with an administrator's knowledge of the operating systems and target systems involved in their implementation.

How This Manual Is Organized

The following table includes numbers, titles, and brief descriptions of chapters and appendixes in this manual.

Chapter/Appendix		Contents
1	*BEA WebLogic ERP Adapter Installation Overview*	Provides a brief overview of BEA ERP Adapter products and components, as well as their installation steps.
2	*Installing the ERP Adapters*	Provides installation requirements, instructions for running the installation program, post-installation tasks, and third party requirements for adapters.
3	*Configuring Connector for JCA*	Provides instructions for configuring Connector for JCA.
4	*Configuring the Integration Business Services Engine*	Provides instructions for configuring Web services components.
5	*Configuring Application Explorer*	Provides instructions for configuring the different versions of Application Explorer.

Documentation Conventions

The following table lists the conventions that apply in this manual and a description of each.

Convention	Description
`THIS TYPEFACE` or `this typeface`	Denotes syntax that you must enter exactly as shown.

Convention	Description
this typeface	Represents a placeholder (or variable) in syntax for a value that you or the system must supply.
underscore	Indicates a default setting.
this typeface	Represents a placeholder (or variable), a cross-reference, or an important term.
this typeface	Highlights a file name or command.
Key + Key	Indicates keys that you must press simultaneously.
{ }	Indicates two or three choices; type one of them, not the braces.
|	Separates mutually exclusive choices in syntax. Type one of them, not the symbol.
. . .	Indicates that you can enter a parameter multiple times. Type only the parameter, not the ellipsis points (…).
. . .	Indicates that there are (or could be) intervening or additional commands.

Help Us to Serve You Better

To help our consultants answer your questions effectively, please be prepared to provide specifications and sample files and to answer questions about errors and problems.

The following tables list the specifications our consultants require.

Platform	
Operating System	
OS Version	
Product List	
Adapters	
Adapter Deployment	For example, JCA, Integration Business Services Engine.
Container Version	

The following table lists components. Specify the version in the column provided.

Component	**Version**
Adapter	
EIS (DBMS/APP)	
HOTFIX / Service Pack	

The following table lists the types of Application Explorer. Specify the version (and platform, if different than listed previously) in the columns provided.

Application Explorer Type	**Version**	**Platform**
Swing		
Servlet		
ASP		

In the following table, specify the JVM version and vendor in the columns provided.

Version	**Vendor**

The following table lists additional questions to help us serve you better.

Request/Question	**Error/Problem Details or Information**
Provide usage scenarios or summarize the application that produces the problem.	
Did this happen previously?	
Can you reproduce this problem consistently?	

Request/Question	**Error/Problem Details or Information**
Any **change in the application environment**: software configuration, EIS/ database configuration, application, and so forth?	
Under what circumstance does the problem *not* occur?	
Describe the **steps** to reproduce the problem.	
Describe the **problem**.	
Specify the **error** message(s).	

The following table lists error/problem files that might be applicable.

XML schema
XML instances
Other input documents (transformation)
Error screen shots
Error output files
Trace and log files
Log transaction

Contents

CHAPTER 1

BEA WebLogic ERP Adapter Installation Overview

Topics:

- BEA ERP Adapter Components
- Installation and Configuration Overview

This section provides an overview of the installation and configuration of BEA WebLogic ERP Adapters and components.

BEA ERP Adapter Components

This manual explains how to install and configure the following products for use with BEA WebLogic Server:

- ERP Adapters
- Connector for JCA
- Integration Business Services Engine (iBSE)
- Application Explorer

The following topics briefly summarize the components. This manual explains how to install all components. Most users require only a subset of the available components.

ERP Adapters

BEA ERP adapters provide the fastest and most efficient way to connect your applications to the following systems:

- PeopleSoft
- Oracle Applications
- Siebel
- SAP

Note: To connect BEA WebLogic to a different system, data source, or protocol, additional adapters are available through iWay Software. iWay Software provides over 200 types of adapters connecting everything from legacy systems and databases to the most recent advancements in information technology.

Connector for JCA

Connector for JCA runs in J2EE Connector Architecture (JCA) compliant application servers and uses the Common Client Interface (CCI) to provide fast integration services using adapters. The connector provides an extremely quick way to deploy adapters to connect data, applications, systems, and protocols through an application server.

Connector for JCA provides XML transformation, adapter hosting, and integration capabilities. After you deploy Connector for JCA, you have access to adapters.

Integration Business Services Engine

Integration Business Services Engine (iBSE) provides transformation and adapter hosting functionality as well as an environment for developing, running, and integrating Web services. It provides a transformation and integration engine for processing XML files and SOAP messages for exchanges with Web services applications. For use with application servers, iBSE is provided as a Web or Enterprise application and referred to as Servlet iBSE.

Servlet iBSE is deployed through a J2EE compliant application server. After you deploy Servlet iBSE, you have access to the adapters you installed. Although you can run both iBSE and Connector for JCA, only one is required to host adapters.

Application Explorer

Application Explorer is a GUI tool that uses adapters to create schemas and Web services for use with Connector for JCA,iBSE, or other XML or Web services based programs. It enables you to quickly generate schemas and publish Web services from objects and procedures in production ERP systems, without requiring in-depth knowledge of the objects or systems.

For use with your application server, Application Explorer is available as a Web application. It is referred to as Servlet Application Explorer to distinguish it from other versions of Application Explorer.

Installation and Configuration Overview

Depending on the adapters and components you wish to use, installation and configuration steps include the following:

1. Review the requirements and install any required third party components. (Chapter 2, *Installing the ERP Adapters*)
2. Run the installation program to install adapters and components. (Chapter 2, *Installing the ERP Adapters*)
3. On UNIX, set environment variables. (Chapter 2, *Installing the ERP Adapters*)
4. Copy third party adapter-related files into the adapter directory structure. (Chapter 2, *Installing the ERP Adapters*)
5. To use Connector for JCA, deploy the Connector for JCA and the JCA Test Tool on your application server. (Chapter 3, *Configuring Connector for JCA*)
6. To use the Integration Business Services Engine (iBSE), deploy Servlet iBSE on your application server and optionally set up a database repository. (Chapter 4, *Configuring the Integration Business Services Engine*)
7. Configure Application Explorer. (Chapter 5, *Configuring Application Explorer*)
8. Perform any adapter-specific post-installation steps described in the documentation for your adapters.

CHAPTER 2

Installing the ERP Adapters

Topics:

- Installation Requirements
- Installing the ERP Adapters
- Copying and Collecting Files for Adapters
- Configuration Steps

The following topics describe the requirements and initial installation procedures for BEA WebLogic ERP Adapters.

Installation Requirements

Review the following installation requirements to ensure your system supports the ERP Adapters.

BEA Requirements

The adapters run as part of your BEA WebLogic Server. Therefore, the adapters require the same hardware, operating system, and Java software requirements as BEA WebLogic Server. Ensure that BEA WebLogic Server 9.1 is properly installed and functioning before configuring it for use with the ERP adapters. Be sure to install any needed service packs.

You can use an existing domain or create a new domain for adapter components using the Configuration Wizard.

- You can access the Configuration Wizard on Windows from the *Start* menu by selecting *Programs, BEA Products, Tools,* and then *Configuration Wizard*.
- You can access the Configuration Wizard on UNIX by executing the following:

  `/BEA_HOME/weblogic91/common/bin/config.sh`

Note: If multiple domains run on your machine, be sure to change the default port so it does not conflict with other domains. For more information, see the BEA WebLogic documentation.

Additional Adapter Requirements

- Approximately 75 MB of disk space.
- For end users, Internet Explorer 6 or higher.
- Third party libraries or JDBC drivers. Some adapters require third party libraries or JDBC drivers provided by the vendor of the target system. You must copy these files into the adapter directory structure after you install the adapters. For more information, see *Copying and Collecting Files for Adapters* on page 2-10.
- One of the following operating systems: MS Windows 2000 with SP2, MS Windows 2003, Linux, Sun Solaris 8, Sun Solaris 9, HP/UX 11, or IBM AIX 5. For additional operating system support information, contact Customer Support.

The procedures, names, and paths in this manual use Windows conventions and default locations unless otherwise indicated. For other operating systems and non-default locations, substitute accordingly. Names and case may vary between operating systems.

Note: Ensure that /*JAVA_HOME*/bin is in PATH on UNIX.

Additional Integration Business Services Engine Requirements

The Integration Business Services Engine (iBSE) requires a repository in which to store transactions and metadata required for the delivery of Web services. A JDBC™ compliant database is recommended. However, a file system repository is available and configured by default, so no initial database configuration is required to get started.

If you wish to use a database repository, the SQL required to create the repository tables is installed with the adapters. The required steps are explained in Chapter 4, *Configuring the Integration Business Services Engine*. The following are certified as iBSE repository databases:

- Microsoft SQL Server 2000 with SP1
- Oracle 8i and 9i
- Sybase 12
- DB2 8.1

Installing the ERP Adapters

The BEA WebLogic ERP Adapter installation installs a set of ERP Adapters, Connector for JCA, iBSE, and Application Explorer. After installation, components and adapters are available for a 90 day trial. After the trial period, contact BEA Software to obtain a license for the components you wish to continue using.

On Windows, you must be an administrator for the local machine to run the installation.

On UNIX, since adapter components run as part of your application server, it is a good idea to install as the user ID under which your application server runs.

Running the Installation

Use the steps below to install adapters and components.

Warning: Installing the ERP Adapters for BEA WebLogic 9 (5.5.011) on the same machine as the ERP Adapters for BEA WebLogic 8.1 (5.5.006) is not currently supported.

Procedure: How to Install the ERP Adapters

1. Execute the installation program for your platform. The name of this program may vary, for example:

   - On Windows:

     ```
     bwl9sp0.win32.exe9
     ```

   - On UNIX platforms, there are two options:

     If you have an X Windows environment, you can use a GUI-based installation by executing the installation program with no options, for example:

     ```
     ./bwl9sp0.linux.bin
     ```

     If you do not have an X Windows environment, use the text-based installation by executing the installation program with the -console option, for example:

     ```
     ./bwl9sp0.linux.bin -console
     ```

     Note: This procedure follows the GUI installation. The prompts for the text-based installation are almost identical.

   The installation begins and the Welcome window opens.

2. Click *Next*.

   The License Agreement appears.

3. Review the information, indicate that you accept the terms, and click *Next* to continue.

The Choose Destination Location window opens.

Note: If you previously installed the ERP Adapters or an iWay 5.5 product, you may not be prompted to choose the destination if the previous installation was not uninstalled.

4. Accept the default or click *Browse* to specify a new location and then click *Next*.

   The BEA parameters window appears.

5. Complete the *Base Url* and *BEA Home* fields as follows and then click *Next*.

Base Url	Specify the URL (http vs. https, hostname, and port) for accessing your application server, for example: `http://hostname:7001`
BEA Home	Specify the BEA directory into which WebLogic and other BEA software are installed. If BEA WebLogic Workshop is installed, Swing Application Explorer and the Connector for JCA (CCI) Control are added to it.

   If you receive a screen saying:

   ```
   Setup was unable to verify the location of the BEA WebLogic 9 Platform
   Installation.
   ```

   Check the box next to *I have entered the correct location and want to continue* and then click *Next*.

   The Start Copying Files window appears.

6. Click *Next* to start the installation.

Files are copied to your system in the directory you specified.

Post-Installation Topics and Tasks

Review the remainder of this chapter to determine if any tasks are required for your platform and adapters.

Reference: Adapter Directory Structure

After installation, an iWay55 directory is created and contains the following subdirectories:

`bea`

Contains components to be deployed into your application server.

`bin`

Contains XML files required for adapters.

`config`

Contains configuration directories for Connector for JCA. By default, the connector is set to access the base configuration, and connector information is written to the base subdirectory. When additional connector configurations are created, their directories are placed here.

On UNIX, ensure that the user ID your application server runs under has full permissions to the iWay55/config directory and subdirectories. If you installed under a different user ID than the user ID that runs the application server processes, you may need to use chmod, chown, and/or group ownership.

`etc`

Contains miscellaneous tools and files to configure additional components.

`lib`

Contains adapters, drivers, and other files used by adapter components. All components must access this directory. In most cases, after components recognize this location, the adapters and other files are accessible.

Warning: A license.xml file appears in the iWay55 directory. Do not delete this file.

Procedure: How to Set Environment Variables

After installation, environment variables are required to use adapters and components. The variables can be set in your profile or in the WebLogic environment settings (commEnv.cmd or commEnv.sh).

- On **Windows**, environment variables are automatically set by the installation program. No steps are necessary, but it is a good idea to be aware of them in case you need to troubleshoot.
- On **UNIX**, the installation program appends the PATH, IWAY55OEM, and IWAY55 environment variables to the end of the .profile (or .bash_profile) in your home directory. However, you may need to add the shared library path variable listed below. In addition, if you run components under different user IDs, be sure to add these variables to those profiles as well. This includes user IDs that run any third party components such as your application server. You must also add files to the WebLogic CLASSPATH variable (WEBLOGIC_CLASSPATH) in commEnv.sh.

  Ensure profiles are executed before attempting to run adapters and components.

Note: If you plan to run multiple installations of adapters and components, environment variables must have different values when running and installing each installation.

The following environment variable settings are required to use adapters and components:

1. The following variable must be defined and set to the location of the iWay55 directory:

   ```
   IWAY55
   ```

   For example:

   ```
   IWAY55=/opt/iWay55/
   export IWAY55
   ```

   Note: Be sure to include the trailing slash.

2. The PATH variable must contain the iWay55/lib directory, for example:

   ```
   PATH=$PATH:/opt/iWay55/lib
   export PATH
   ```

3. The IWAY55OEM variable must be defined and set as follows:

   ```
   IWAY55OEM=BEA
   ```

   For example:

   ```
   export IWAY55OEM=BEA
   ```

4. On UNIX, the shared library variable must contain the iWay55/lib directory. This variable varies depending on your platform as defined in the following table which lists platforms and associated variables.

AIX	LIBPATH
HP-UX	SHLIB_PATH
Other UNIX Platforms	LD_LIBRARY_PATH

For example:

```
LD_LIBRARY_PATH=/opt/iWay55/lib:$LD_LIBRARY_PATH
export LD_LIBRARY_PATH
```

5. The WEBLOGIC_CLASSPATH (or CLASSPATH) variable must contain several files installed with the adapters.

On **Windows**, this is done for you in:

BEA_HOME\weblogic91\common\bin\commEnv.cmd

On **UNIX**, you must set this in:

BEA_HOME/weblogic91/common/bin/commEnv.sh

Eight files must be added to the WEBLOGIC_CLASSPATH. Their locations depend on where you installed the adapters:

```
/opt/iWay55/lib/iwaf.jar
/opt/iWay55/lib/iwafcont.jar
/opt/iWay55/lib/iwrepository.jar
/opt/iWay55/lib/iwutil.jar
/opt/iWay55/bea/iwjcaivp/WEB-INF/lib/iwafjca.jar
/opt/iWay55/bea/iwjcaivp/WEB-INF/lib/xalan.jar
/opt/iWay55/bea/iwjcaivp/WEB-INF/lib/xercesImpl.jar
/opt/iWay55/bea/iwjcaivp/WEB-INF/lib/xmlParserAPIs.jar
```

For example, you can add the following line to the end of the commEnv.sh file:

```
WEBLOGIC_CLASSPATH=$WEBLOGIC_CLASSPATH:/opt/iWay55/lib/iwaf.jar:/opt/i
Way55/lib/iwafcont.jar:/opt/iWay55/lib/iwrepository.jar:/opt/iWay55/li
b/iwutil.jar:/opt/iWay55/bea/iwjcaivp/WEB-INF/lib/iwafjca.jar:/opt/iWa
y55/bea/iwjcaivp/WEB-INF/lib/xalan.jar:/opt/iWay55/bea/iwjcaivp/WEB-IN
F/lib/xercesImpl.jar:/opt/iWay55/bea/iwjcaivp/WEB-INF/lib/xmlParserAPI
s.jar

export WEBLOGIC_CLASSPATH
```

Do not forget to export the variable on UNIX.

Note: When you run the startup script for a domain (e.g., startWebLogic.sh), the startup script imports variables from the commEnv.sh or commEnv.cmd file. It then sets the CLASSPATH variable to include the WEBLOGIC_CLASSPATH variable. If you are not using clusters, you can set WEBLOGIC_CLASSPATH in the startWebLogic.sh file. Also, if you plan to run multiple instances of the adapters on different servers, set this in startWebLogic.sh so that each server uses different files. If you do set the WEBLOGIC_CLASSPATH in the startup script (startWebLogic.sh), be sure to set it before the line that adds WEBLOGIC_CLASSPATH to CLASSPATH.

Licensing Adapters

When you license adapters, you receive .xml files that you must rename and copy into the iWay55 directory.

Procedure: How to Update the License

After receiving a license, do the following:

1. Rename the license file to the following:

   `license_adaptername.xml`

   where:

   adaptername

   Is the name of the adapter.

   For example:

   `license_sap.xml`

2. Copy the license file to the iWay55 directory. The default location on Windows is:

   `C:\Program Files\iWay55`

   On other platforms, use the corresponding location.

3. Restart your domain.

Note: Do not delete the license.xml file that was installed with the adapters.

Reference: Using Licenses in Clustered Environments

If you deploy iBSE or Connector for JCA to a clustered environment, each system configured as a Managed server must have a valid license installed in the iWay55 directory. For example, if Production System 1 has three Managed servers configured with iBSE, only a single license is required. However, if Production System 1 and Production System 2 are two separate machines that have Managed servers configured with iBSE, you need iWay55 installed with the proper licenses on both machines.

Tip: If you use a clustered environment where Application Explorer is deployed to an Admin server and you have iBSE or Connector for JCA deployed to multiple Managed servers on separate machines, you can use the Available Hosts drop-down list to determine which license has failed. For example, if you select an iBSE or Connector for JCA configuration from the Available Hosts drop-down list and a licensing error message appears in the left pane, the license on the corresponding system that is hosting the Managed server has expired or has not been installed.

Uninstalling the ERP Adapters

An uninstall utility is provided to properly remove adapter components from your system.You should use the uninstall utility rather than manually deleting directories. Manually removing directories on Windows or UNIX may cause problems if you wish to reinstall at a later time.

Procedure: How to Uninstall the ERP Adapters

To uninstall, do the following:

1. If you have deployed components to your application servers, undeploy them.
2. Ensure your domain is stopped.
3. Copy any files you wish to save out of the iWay55 directories.
4. Execute the uninstall utility. The utility's location varies depending on your platform, for example:

   ```
   C:\Program Files\iWay55\etc\uninstall\bwl9sp0\uninstaller.exe
   ```

   On UNIX, the file is named uninstaller.bin.

Copying and Collecting Files for Adapters

Some adapters require third party libraries or JDBC drivers. To enable these adapters, you must:

1. Use the table that follows to determine third party files required for your adapter. Adapters may vary depending on the software you install.
2. Copy any required files into the iWay55\lib directory. The default location for this directory on Windows is:

   ```
   C:\Program Files\iWay55\lib
   ```

   On other platforms, use the corresponding location.

   If the required third party files are not copied into this directory, then your adapter will not be available and may not appear in the JCA Test Tool or Application Explorer.

   Note: On UNIX, be sure to copy files and not use links.

3. For the adapters for SAP and when using an MQ Series transport, some files must be added to your domain CLASSPATH.
4. If your adapter uses MQ Series as a transport, meet the requirements for MQ Series in the table that follows.

Note: The table sometimes lists the actual names of required files rather than the generic name of the driver or library. However, your vendor may change file names, update files, or have different versions of the drivers for different releases. Therefore, confirm which files are required by reviewing information provided by your vendor. Ensure you use the latest version of the driver for the correct release of your target system, data source, or protocol.

The following table lists the required libraries or drivers for your adapter.

Adapter for	**Required Libraries or Drivers**

MQ Series (IBM WebSphere MQ)	`com.ibm.mq.jar`
	`com.ibm.mqbind.jar`
	For BEA WebLogic, these files must be added to your WebLogic domain CLASSPATH.
	Also ensure that the following MQ Series directory is in PATH:
	`MQSeries\Java\lib`
	or
	`WebSphereMQ\Java\lib`
	For MQ Series 5.2, you need IBM Product Extension MA88 MQ Series classes.

Oracle Applications (E-Business Suite)	Oracle JDBC drivers (thin type4 or OCI type2) and/or Oracle Client NET8 or NET9. All calls to Oracle E-Business Suite occur through these drivers. If you do not have the appropriate JDBC driver, Oracle Technology Network (OTN) provides a download site: `http://otn.oracle.com/software/tech/java/sqlj_jdbc/content.html` **Note:** You require a logon ID to download the drivers. If you are using OCI drivers, you must install and configure Oracle Client on the machine with the Adapter for Oracle. To use Concurrent Program request functionality, you must install and configure Oracle Client on the Oracle database that supports Oracle E-Business Suite.

Adapter for	Required Libraries or Drivers
PeopleSoft	• PeopleSoft Java Object Adapter (psjoa.jar) This file provides a low level interface between client applications and PeopleSoft. This file is provided with PeopleSoft in the following directory: *PS_HOME*\web\PSJOA where: *PS_HOME* Is the PeopleSoft home directory. **Note**: The psjoa.jar file is different for every version of PeopleSoft. When you upgrade your Peopletools release, ensure you copy the psjoa.jar file for the new release into the iWay55\lib directory and restart all components. • pstools.properties (for PeopleSoft 8.1x) PeopleSoft release 8.1x requires an additional file called pstools.properties in the following directory: *PS_HOME*\web\jmac For more information, see the *Adapter for PeopleSoft User's Guide*.

Adapter for	**Required Libraries or Drivers**
SAP R/3	SAP Java connector 2.16 (normally sapjco.jar). For the current release status of the SAP Java Connector, refer to SAP Note #549268 in the SAP Service Marketplace Web site. A valid SAP service ID is required to access this site. To download the current version, follow the information provided on the SAP Java Connector (SAP JCo) overview page. For more information, contact your SAP BASIS Administrator. Using the appropriate archive tool, open the archive containing the SAP Java Connector (SAP JCo) and extract the run-time files. The file names may vary by platform but usually are contained in the root of the archive. When using an application server, if you run into problems with the adapter for SAP, add sapjco.jar to your application server CLASSPATH. For BEA WebLogic, the sapjco.jar file must be added to your WebLogic domain CLASSPATH.

Adapter for	Required Libraries or Drivers

Siebel	For Siebel 6.3.x - 7.8, Siebel Java Data Bean API.
	
	This is distributed as .jar files with the Siebel Thin Client. These libraries vary by Siebel release in both content and name. Therefore, the Siebel Thin Client provided with the target Siebel system must always be used with the adapter, for example:
	
	• Siebel 6.3.x
	
	`SiebelTcOM.jar`
	`SiebelTcCommon.jar`
	`SiebelTC_enu.jar`
	`SiebelDataBean.jar`
	
	• Siebel 7.0.3
	
	`SiebelJI_Common.jar`
	`SiebelJI_enu.jar`
	
	• Siebel 7.5.2
	
	`SiebelJI_Common.jar`
	`SiebelJI_enu.jar`
	`SiebelJI.jar`
	
	• Siebel 7.7
	
	`SiebelJI_enu.jar`
	`Siebel.jar`
	
	The Siebel COM-based API (Windows only) requires the Siebel Thin Client to be installed and accessible to the adapter.
	
	Note: The following files are for English language implementations:
	
	`SiebelTC_enu.jar`
	`SiebelJI_enu.jar`
	
	For non-English installations, the last three letters (*_enu*) vary.
	
	If you are using MQ Series as a transport, you also need the files for *MQ Series (IBM WebSphere MQ)* on page 2-11.

Adding Drivers to CLASSPATH for SAP or MQ Series

In addition to copying files into the lib directory, the following must be added to your domain CLASSPATH. If you use the Adapter for SAP:

```
sapjco.jar
```

If your adapter uses MQ Series as a transport, the following file must be added to your domain CLASSPATH:

```
com.ibm.mq.jar
```

You can set CLASSPATH by setting the WEBLOGIC_CLASSPATH variable in the file that sets variables for all servers:

- Windows:

  BEA_HOME\weblogic91\common\bin\commEnv.cmd

- UNIX:

  BEA_HOME/weblogic91/common/bin/commEnv.sh

Note: When you start a domain, variables are imported from the commEnv.sh or commEnv.cmd file. The CLASSPATH variable is set to include the WEBLOGIC_CLASSPATH variable. If you are not using clusters or manager servers, you can set CLASSPATH in the startWebLogic.sh or startWebLogic.cmd file for your domain. If you are not sure where to set CLASSPATH, consult BEA WebLogic documentation.

Procedure: How to Add Files to CLASSPATH

1. If it is started, stop the domain you are using.
2. Open the commEnv.cmd or commEnv.sh file in a text editor.
3. Add the full path to any files required for your adapter to the WEBLOGIC_CLASSPATH variable. You can add lines at the end of the file. For example

   On Windows:

   ```
   set WEBLOGIC_CLASSPATH=%WEBLOGIC_CLASSPATH%;"C:\Program
   Files\iWay55\lib\sapjco.jar"
   ```

   On UNIX:

   ```
   WEBLOGIC_CLASSPATH="${WEBLOGIC_CLASSPATH}":/opt/iWay55/lib/sapjco.jar
   export WEBLOGIC_CLASSPATH
   ```

   Note: Adding directories is not sufficient. You must add the full paths including each file. On UNIX, make sure to export the variable.

4. Save and exit the file.

Configuration Steps

After installation, the configuration steps depend on the components you wish to use.

1. For Connector for JCA, deploy the connector and JCA Test Tool. (Chapter 3, *Configuring Connector for JCA*)
2. For iBSE, configure Servlet iBSE and optionally set up a database repository. (Chapter 4, *Configuring the Integration Business Services Engine*)
3. Configure a version of Application Explorer. (Chapter 5, *Configuring Application Explorer*)
4. Perform any adapter-specific post-installation steps described in the documentation for your adapters.

CHAPTER 3

Configuring Connector for JCA

Topics:

- Deploying and Configuring Connector for JCA
- Deploying and Running the JCA Test Tool

This section explains how to configure Connector for JCA. If you are using Servlet iBSE, but do not plan to use Connector for JCA, you can skip to Chapter 4, *Configuring the Integration Business Services Engine*.

Deploying and Configuring Connector for JCA

Connector for JCA runs in J2EE™ Connector Architecture (JCA) compliant application servers and uses the Common Client Interface (CCI) to provide fast integration services using adapters. The connector provides a quick way to deploy adapters and connect data, applications, systems, and protocols. After you deploy the connector, you have access to the adapters.

Connector for JCA is installed with the adapters as the iwafjca.rar file. The default location on Windows is:

```
C:\Program Files\iWay55\bea\iwafjca.rar
```

For other platforms, see the corresponding location.

Caution: The iwafjca.rar file in the iWay55\etc\setup directory is not configured by default. This should only be used if the bea\iwafjca.rar file does not exist or causes problems. If you use the file in the iWay55\etc\setup directory, you must manually edit the ra.xml file located inside the archive.

Before deploying the connector, review the information below regarding configurations and settings.

Connector Configurations Overview

Connector for JCA has configuration directories where repository, schemas, and other information are stored. By default, a configuration called base is used and files and information are written under the iWay55 directories to the following default location on Windows:

```
C:\Program Files\iway55\config\base
```

For other platforms, see the corresponding location.

The default file system repository for the base configuration on Windows is:

```
C:\Program Files\iway55\config\base\repository.xml
```

The repository.xml file is not created until you access the configuration using Application Explorer or the JCA Test Tool.

A second repository stores the states of channels:

```
C:\Program Files\iway55\config\base\st_repository.xml
```

Connector for JCA configurations can be created by manually creating directories under iway55\config with the name of the configuration.

On UNIX, ensure the user ID under which your application server runs has full permissions to the iWay55/config directory and subdirectories. If you installed under a user ID other than the user ID that runs the application server processes, you may be required to use chmod, chown, and/or group ownership.

For more information on Connector for JCA, see the *Connector for JCA for BEA WebLogic Server User's Guide*.

Deploying Connector for JCA to BEA WebLogic 9

The following procedure refers to the directory where BEA WebLogic is installed as *BEA_HOME*. The procedure refers to the root of a domain as *DOMAIN_NAME*. Substitute the absolute paths on your system for *BEA_HOME* and *DOMAIN_NAME*. The procedure contains paths for a Windows system. If you are on a UNIX system, substitute accordingly.

Procedure: How to Deploy Connector for JCA

1. Start the domain you are using for the adapters, for example:

   ```
   BEA_HOME\user_projects\domains\DOMAIN_NAME\startWebLogic.cmd
   ```

2. Open the BEA WebLogic Console in a browser at:

   ```
   http://hostname:port/console
   ```

   where:

   hostname

   Is the hostname of the machine where WebLogic is running.

   port

   Is the port for the domain you are using. The port for the default domain is 7001.

   For example:

   ```
   http://localhost:7001/console
   ```

   A logon page opens. If the page does not open, ensure your domain is started, and you used the correct port.

3. Log on to WebLogic.
4. In the left pane, click *Lock & Edit*.
5. In the left pane, click *Deployments*.
6. On the right, click *Install*.

   A page appears where you can specify the location of the file or directory you wish to deploy.

7. Click the links below *Location* to navigate to and then select the radio button next to the iwafjca.rar file, for example:

   ```
   C:\Program Files\iWay55\bea\iwafjca.rar
   ```

8. Click *Next* after selecting the radio button next to iwafjca.rar.
9. Leave the default *Install this deployment as an application* selected and click *Next*.
10. Click *Next* again leaving the defaults.
11. Click *Finish* to complete the deployment.

12. On the left, click *Activate Changes*.
13. On the right, click the *Control* tab.
14. Check *iwafjca*.
15. Click *Start* and choose *Servicing All Requests*.
16. Click *Yes*.

    The *State* of the iwafjca resource module should be *Active*.

Changing Default Connector Settings

The behavior of Connector for JCA is controlled by the following file inside the iwafjca.rar archive:

```
META-INF/ra.xml
```

The following topic explains how to change the default settings for Connector for JCA.

Procedure: How to Configure Connector for JCA Settings

This is not a required configuration. It is provided for reference. If you wish, you can proceed to *Deploying and Running the JCA Test Tool* on page 3-7.

To change defaults, you must:

1. Extract the META-INF\ra.xml file from the iwafjca.rar archive. To do this:

   a. Open a command prompt and navigate to the directory containing the connector, for example:

      ```
      C:\Program Files\iWay55\bea
      ```

   b. Issue the following command:

      ```
      jar xvf iwafjca.rar META-INF/ra.xml
      ```

      The jar command is located in the Java SDK bin directory which might not be in your search path. If you receive an error, execute the jar command using its full path. This path varies depending on which version of Java is installed, for example:

      ```
      C:\j2sdk1.4.1_03\bin\jar xvf iwafjca.rar META-INF/ra.xml
      ```

      Note: Be sure to use the jar command and not Winzip. Winzip does not properly extract Java related archives.

2. Open the extracted ra.xml file in a text editor.

3. Modify the contents of the <config-property-value> tags to change defaults. Ensure the IWayHome variable specifies the iWay55 directory.

   The following settings can be changed:

   - **IWayHome.** The installation directory where iWay 5.5. is installed.

     ```
     <config-property-name>IWayHome</config-property-name>
       <config-property-type>java.lang.String</config-property-type>
       <config-property-value>c:\program files\iway55</config-property-
     value>
     </config-property>
     ```

   - **IWayConfig.** Configuration instance for the connector to use at run time. By default, a base configuration is available and defined in this file. A program can access this information via JNDI, or it can override these values.

     ```
     <config-property>
         <config-property-name>IWayConfig</config-property-name>
         <config-property-type>java.lang.String</config-property-type>
         <config-property-value>base</config-property-value>
      </config-property>
     ```

     Note: If you create a new configuration, you may need to manually create a directory with the same named under iWay55\config. You may also need to manual create a log directory under that new directory.

   - **LogLevel.** Trace setting. This can be set to DEBUG, INFO, or ERROR.

     ```
     <config-property>
         <config-property-name>LogLevel</config-property-name>
         <config-property-type>java.lang.String</config-property-type>
         <config-property-value></config-property-value>
     </config-property>
     ```

     For example:

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

     A directory in the configuration directory contains the logs. Also, be sure to review logs generated by your application server.

   Leave the remainder of this file unchanged.

4. Save the file and exit the editor.

5. Use the jar command to return the ra.xml file to the META-INF directory within the archive. To do this, you can:

   a. Ensure that you are in the directory that contains the connector, for example:

      ```
      C:\Program Files\iWay55\bea
      ```

   b. Issue the following command:

      ```
      jar uvf iwafjca.rar META-INF/ra.xml
      ```

6. Redeploy the connector.

Deploying and Running the JCA Test Tool

A sample Web application called the JCA Test Tool is installed with the adapters. The JCA Test Tool lets you test Service and Event adapters with Connector for JCA. On Windows, the default location for the Test Tool Web application is:

```
C:\Program Files\iWay55\bea\iwjcaivp
```

On other platforms, use the corresponding location.

Deploying the JCA Test Tool

Deploy the JCA Test Tool to BEA WebLogic as explained below.

Before deploying the JCA Test Tool, ensure you have deployed Connector for JCA (iwafjca.rar). Connector for JCA must be deployed first.

Procedure: How to Deploy the JCA Test Tool to BEA WebLogic

To deploy the JCA Test Tool:

1. Ensure your domain is started.

2. Open the BEA WebLogic Console in a browser at:

   ```
   http://hostname:port/console
   ```

   where:

   hostname

   Is the hostname of the machine where WebLogic is running.

   port

   Is the port for the domain you are using. The port for the default domain is 7001.

   For example:

   ```
   http://localhost:7001/console
   ```

A logon page opens. If the page does not open, ensure your domain is started, and you used the correct port.

3. Log on to WebLogic.
4. In the left pane, click *Lock & Edit*.
5. In the left pane, click *Deployments*.
6. On the right, click *Install*.

   A page appears where you can specify the location of the file or directory you wish to deploy.

7. Click the links below *Location* to navigate to and then select the radio button next to the iwjcaivp directory, for example:

   ```
   C:\Program Files\iWay55\bea\iwjcaivp
   ```

8. Click *Next* after selecting the radio button next to the iwjcaivp directory.
9. Leave the default *Install this deployment as an application* selected and click *Next*.
10. Click *Next* again leaving the defaults.
11. Click *Finish* to complete the deployment.
12. On the left, click *Activate Changes*.
13. On the right, click the *Control* tab.
14. Check *iwjcaivp*.
15. Click *Start* and choose *Servicing All Requests*.
16. Click *Yes*.

    The *State* of the iwjcaivp application should be *Active*.

    If the Connector for JCA is not already installed, this will fail. Connector for JCA must be deployed first.

Running the JCA Test Tool

After deploying the JCA Test Tool, access it to test the deployment.

Procedure: How to Run the JCA Test Tool

To run the JCA Test Tool:

1. Open a browser to:

   `http://hostname:port/iwjcaivp`

   where:

   hostname

   Is the name of the machine where your application server is running.

   port

   Is the port for the domain you are using. The port for the default domain is 7001.

   For example:

   `http://localhost:7001/iwjcaivp`

   The JCA Test Tool window opens and provides links for viewing Service or Event adapters.

2. To display the available adapters, click the *Service adapters* or *Event adapters* links.

A page appears displaying links for available adapters.

The adapters that appear vary depending on which files are in the iWay55\lib directory. If your adapter requires third party drivers or libraries, they must be in the lib directory or your adapter may not appear.

Initially, no targets are configured for the Connector for JCA. However, after targets are configured using Application Explorer, you can test them using this tool.

Note: After configuring targets using Application Explorer, you may need to redeploy the JCA Test Tool before the targets appear.

Configuring the JCA Test Tool

Although there is normally no need to do this, you can change JCA Test Tool default settings by modifying its web.xml file. The default location on Windows is:

```
C:\Program Files\iWay55\bea\iwfjcaivp\WEB-INF\web.xml
```

On other platforms, use the corresponding location.

This file defines aspects of the JCA Test Tool running environment. Modifying this file is optional in most environments. You change parameters in this file by modifying the contents of the <param-value> tags.

The following parameters can be changed:

- **iway.jndi.** (optional) Connection factory name for Connector for JCA. The connection factory name under BEA WebLogic is eis/IWAFConnectionFactory. The JCA Test Tool attempts to connect to the adapter via JNDI if JNDI is defined. If JNDI is undefined, iway.home and iway.config are used instead.

```
<context-param>
  <description>JNDI name for the IWAF JCA Resource Adapter.
     If not provided, the application will create a new one based
     on iway.home, iway.config and iway.loglevel.</description>
  <param-name>iway.jndi</param-name>
     <param-value>eis/IWAFConnectionFactory</param-value>
</context-param>
```

- **iway.home.** The installation directory where the adapters are installed (iWay55).

```
<context-param>
  <description>ONLY USED IF IWAY.JNDI NOT SET. Absolute path of iway
     installation directory.</description>
  <param-name>iway.home</param-name>
     <param-value>C:/Program Files/iWay55/</param-value>
</context-param>
```

- **iway.config.** Configuration used at run time. A configuration named base is installed and available by default.

```
<context-param>
  <description>ONLY USED IF IWAY.JNDI NOT SET. Configuration
     name</description>
  <param-name>iway.config</param-name>
     <param-value>base</param-value>
</context-param>
```

- **iway.loglevel.** Tracing level. The level can be DEBUG, INFO, and ERROR.

```
<context-param>
  <description>ONLY USED IF IWAY.JNDI NOT SET. Log level: DEBUG FATAL
ERROR INFO WARN</description>
  <param-name>iway.loglevel</param-name>
     <param-value>DEBUG</param-value>
</context-param>
```

For more information on Connector for JCA, see the *Connector for JCA for BEA WebLogic Server User's Guide*.

CHAPTER 4

Configuring the Integration Business Services Engine

Topics:

- Deploying, Configuring, and Verifying Servlet iBSE
- Creating and Configuring the iBSE Repository

This section explains how to configure and install Integration Business Services Engine (iBSE) components. If you are not using Web services components, proceed to Chapter 5, *Configuring Application Explorer*.

Deploying, Configuring, and Verifying Servlet iBSE

The Integration Business Services Engine (iBSE) is a transformation and integration engine for processing XML files and SOAP messages for exchange with Web services applications and other systems. For use with BEA WebLogic, iBSE is available as a Web application and referred to as Servlet iBSE.

To use Servlet iBSE:

1. Deploy the ibse Web application. (*Deploying Servlet iBSE* on page 4-2)
2. Configure Servlet iBSE. (*Configuring Servlet iBSE* on page 4-4)
3. Verify Servlet iBSE. (*Verifying Servlet iBSE* on page 4-6).

Deploying Servlet iBSE

Servlet iBSE is a Web application installed as an expanded directory with the adapters. The default location on Windows is:

```
C:\Program Files\iWay55\bea\ibse
```

For other platforms, see the corresponding location.

When using a file-based repository, information is written within the Web application's directory structure. Therefore, the user ID under which your domain runs must have full access to this directory.

Procedure: How to Configure BEA WebLogic 9 for Servlet iBSE Deployment

1. Start the domain you are using for the adapters, for example:

   BEA_HOME\user_projects\domains*DOMAIN_NAME*\startWebLogic.cmd

2. Open the BEA WebLogic Console in a browser at:

   http://*hostname*:*port*/console

   where:

   hostname

   Is the hostname of the machine where WebLogic is running.

   port

   Is the port for the domain you are using. The port for the default domain is 7001.

   For example:

   http://localhost:7001/console

A logon page opens. If the page does not open, ensure your domain is started, and you used the correct port.

3. Log on to WebLogic.
4. In the left pane, click *Lock & Edit*.
5. In the left pane, click *Deployments*.
6. On the right, click *Install*.

   A page appears where you can specify the location of the file or directory you wish to deploy.
7. Click the links below *Location* to navigate to and then select the radio button next to the ibse directory, for example:

   ```
   C:\Program Files\iWay55\bea\ibse
   ```
8. Click *Next* after selecting the radio button next to the ibse directory.
9. Leave the default *Install this deployment as an application* selected and click *Next*.
10. Click *Next* again leaving the defaults.
11. Click *Finish* to complete the deployment.
12. On the left, click *Activate Changes*.
13. On the right, click *Control*.
14. Check *ibse*.
15. Click *Start* and choose *Servicing All Requests*.
16. Click *Yes*.

    The *State* of the ibse application should be *Active*.

Configuring Servlet iBSE

After Servlet iBSE is deployed through your application server, you can configure it using its configuration Web page.

Procedure: How to Configure Servlet iBSE

1. Open the following page in your browser:

   `http://hostname:port/ibse`

   where:

   hostname

   Is the hostname of the application server machine.

   port

   Is the port for the domain you are using. The port for the default domain is 7001.

   For example:

   `http://localhost:7001/ibse`

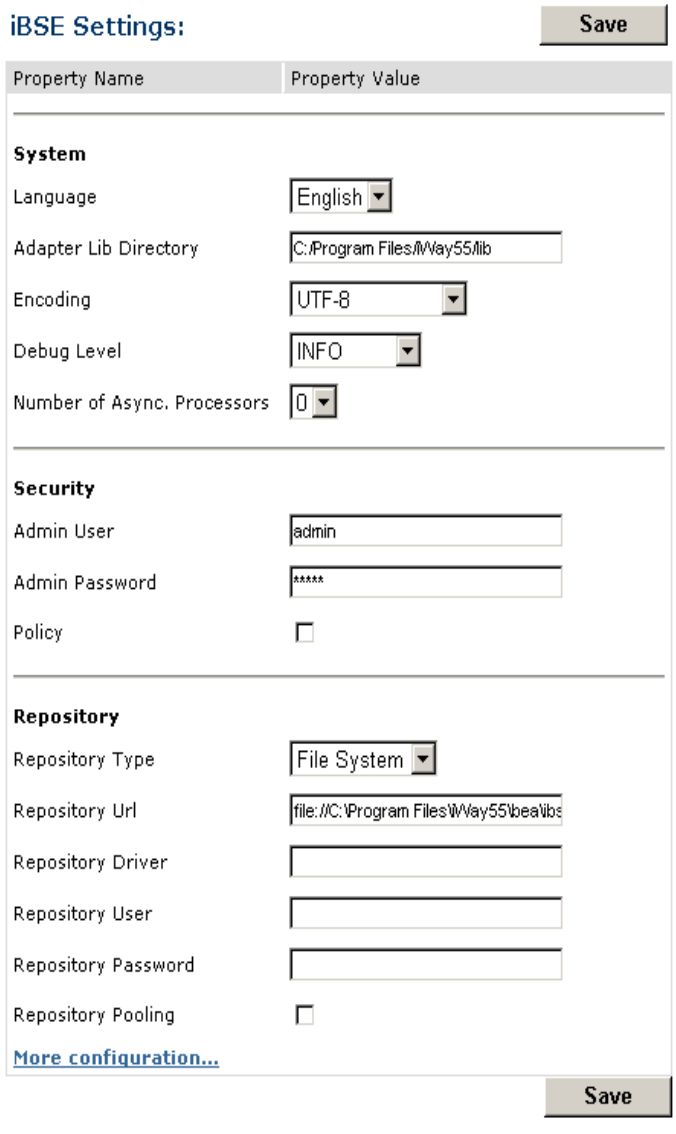
   Note: The first time you access this page, it may take some time to load.

2. Log on when prompted. When first installed, the user ID and the password are:

User Name	`admin`
Password	`adminwls`

Note: For BEA WebLogic 9, the password is adminwls because 8 characters are required. If you cannot log on, try adding the user ID and the password to your WebLogic security realm as explained in *Security Realm Settings* on page 4-8.

The Servlet iBSE configuration page opens and provides fields for editing iBSE parameters.



3. Ensure the *Adapter Lib Directory* field specifies the path to the iWay55/lib directory, for example:

   ```
   C:\Program Files\iWay55\lib
   ```

   For some environments, this defaults, but for others, it does not.

   After the path is specified, adapters in the lib directory are available to Servlet iBSE.

4. For security purposes, provide a new password in the *Admin Password* field.

   Note: The *Repository Url* field specifies where the file system repository will be created. To use a database repository, you must enter the repository connection information. For now, use a file system repository for the initial verification. You can switch to a database repository as explained later in this section.

5. Click *Save*.

   The file-based repository is created, and Servlet iBSE is ready for use. If you wish, you can change to a database repository after verifying Servlet iBSE.

Verifying Servlet iBSE

When applications, such as Application Explorer, access Servlet iBSE, they can use one of the following URLs:

```
http://hostname:port/ibse/IBSEServlet/
```

```
http://hostname:port/ibse/IBSEServlet/XDSOAPAdapterFactory
```

Procedure: How to Verify Servlet iBSE

You verify iBSE from the iBSE home page. This page should automatically open when you click *Save* on the configuration page.

1. If it is not open, open the following page in your browser:

   `http://hostname:port/ibse/IBSEServlet/`

   where:

   hostname

   Is the hostname of the application server machine.

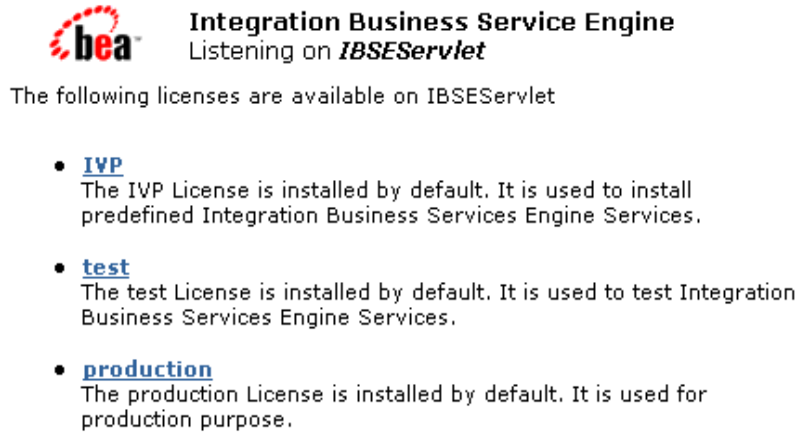
   port

   Is the port for the domain you are using. The port for the default domain is 7001.

   For example:

   `http://localhost:7001/ibse/IBSEServlet/`

   The iBSE home page opens.



   This page enables you to test the sample Web service provided with iBSE.

   When you create Web services using Application Explorer, you can also test them from this page.

2. Click *IVP*.
3. Click *iwayivp*.
4. Click *ivp*.
5. Click *Invoke*.

An XML response like the following appears in your browser:

```
  <?xml version="1.0" encoding="UTF-8" ?>
- <SOAP-ENV:Envelope xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:SOAP-
  ENV="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
   - <SOAP-ENV:Body>
   - <ivpResponse xmlns="urn:iwaysoftware:ibse:jul2003:ivp:response"
     cid="A0328ED84ABFA055C4F64B8039C991AA">
     <CurrentTime>2004-01-05T19:15:48Z</CurrentTime>
     <Version>IWAY5.5</Version>
    </ivpResponse>
   </SOAP-ENV:Body>
  </SOAP-ENV:Envelope>
```

Security Realm Settings

In BEA WebLogic 9, you should use the WebLogic Security Realms page to enter the user ID and password for the iBSE configuration page. Otherwise, messages like the following may appear in the WebLogic Server logs:

```
<Jan 23, 2006 12:15:46 PM EST> <Notice> <Security> <BEA-090078> <User
admin in security realm myrealm has had 5 invalid login attempts, locking
account for 30 minutes.>
```

Procedure: How to Add the IBSE User ID and Password to the Security Realm

1. Open the BEA WebLogic Console in a browser at:

   `http://hostname:port/console`

2. Log on to WebLogic.
3. In the left pane, click *Lock & Edit*.
4. In the left pane, click *Security Realms*.
5. On the right, click your realm name, for example, *myrealm*.
6. Select the *Users and Groups* tab.
7. Click *New* to add a new user.
8. In the *Name* field, enter the user ID to access the iBSE configuration page:

   `admin`

9. In the *Description* field, enter:

   `iBSE Administrator`

10. In the *Password* and *Confirm Password* fields, enter the password to access the IBSE configuration page. If you left the default, this is:

```
adminwls
```

11. Click *OK*.
12. Restart the WebLogic Server.

Enabling Tracing for Servlet iBSE

iBSE provides tracing functionality for troubleshooting problems with Web services. Only enable this for troubleshooting as it can affect performance.

Procedure: How to Enable Tracing for Servlet iBSE

To enable tracing:

1. Open the Servlet iBSE configuration page:

   `http://hostname:port/ibse/IBSEConfig`

   where:

   `hostname`
   Is the hostname of the application server machine.

   `port`
   Is the port for the domain you are using. The port for the default domain is 7001.

   For example:

   `http://localhost:7001/ibse/IBSEConfig`

2. In the top *System* area, specify the level of tracing from the *Debug* drop-down list.
3. Click *Save*.

The default location for the trace information on Windows is:

`C:\Program FIles\bea\ibse\ibselogs`

On other platforms, use the corresponding location.

Creating and Configuring the iBSE Repository

iBSE requires a repository in which to store transactions and metadata needed for the delivery of Web services. In addition, a second repository can be used for information needed to monitor services and events. Using a JDBC-compliant database for repositories is recommended, but file system repositories are available and configured by default. To use database repositories, the SQL required to create the repository tables is installed with iBSE.

To set up repositories, you must:

- Create the repositories and tables.
- Configure iBSE to access the repositories.

Creating the iBSE Repository

Follow the steps for your type of repository:

- For a **File System** repository, see *How to Use a File System Repository* on page 4-10.
- For **Microsoft SQL Server 2000**, see *How to Configure a Microsoft SQL Server 2000 Repository* on page 4-11.
- For **Oracle**, see *How to Configure an Oracle Repository on page 4-13*.
- For **Sybase**, see *How to Configure a Sybase Repository* on page 4-14.
- For **DB2**, see *How to Configure a DB2 Repository* on page 4-14.

Procedure: How to Use a File System Repository

If you do not have access to a database, you can store repository information in an XML file on your local machine. However, a file system repository is less secure and efficient than a database repository. When iBSE is first installed, it is automatically configured to use a file system repository.

For Servlet iBSE, the default location is the root directory of the ibse Web application. On Windows, this is:

```
C:\Program Files\iWay55\bea\ibse\ibserepo.xml
```

On other platforms, use the corresponding location.

If you wish to use the iBSE monitoring information, a second repository is required. The default file for the monitoring repository on Windows is:

```
C:\Program Files\iWay55\bea\ibse\ibsemrepo.xml
```

On other platforms, use the corresponding location.

For a file system repository, no additional configuration is needed. You can proceed to Chapter 5, *Configuring Application Explorer*.

Procedure: How to Configure a Microsoft SQL Server 2000 Repository

Note: SQL Server 2005 is not supported at this time.

To configure a Microsoft SQL Server 2000 repository:

1. Create a SQL Server database to use as the iBSE repository.
2. Ensure that SQL Server authentication is supported.

   You can do this from the SQL Server Enterprise Manager by right-clicking your SQL Server, choosing *Properties*, and clicking the *Security* tab. If Authentication is set to *Windows only*, change it to *SQL Server and Windows*, and then restart SQL Server.

   Note: SQL Server has two authentication modes, Windows and SQL Server. Windows Authentication uses the same IDs as the Windows operating system. SQL Server Authentication uses IDs defined within SQL Server. iBSE uses the Microsoft SQL Server 2000 JDBC driver, and this driver requires SQL Server authentication.
3. Create a SQL Server ID and grant it db_owner rights to the iBSE repository database.
4. Open a command prompt and navigate to the iWay setup directory. The default location on Windows is:

   ```
   C:\Program Files\iWay55\etc\setup
   ```

   This directory contains SQL to create the repository tables in the following file:

   ```
   iwse.sql
   ```

   Once the database exists, you can use iwse.sql to create the database tables.

   Tip: If SQL Server is not on the same machine as iBSE, copy the iwse.sql file to the SQL Server machine. From a command prompt on the SQL Server machine, navigate to the directory containing the iwse.sql file.

5. Issue the following command:

   ```
   osql -S hostname -d databasename -U loginID -P password -i iwse.sql
   ```

   where:

   hostname

   Is the name of the machine where SQL Server is running.

   databasename

   Is the database you created in Step 1.

   loginID

   Is the SQL Server ID with db_owner rights from Step 3.

   password

   Is the password for the SQL Server ID.

   The tables should be created in your database.

6. If you wish to use iBSE monitoring features, create the monitoring tables in the same or a different database.

   The SQL to create monitoring tables is in the following file:

   ```
   C:\Program Files\iWay55\etc\setup\monitoring.sql
   ```

   You can create these tables in the same database as the regular repository, or create a new database for the monitoring information. Creating a new database is recommended. Repeat the steps above, but submit monitoring.sql instead of iwse.sql when executing osql, for example:

   ```
   osql -S hostname -d databasename -U loginID -P password -i
   monitoring.sql
   ```

7. Proceed to *Configuring iBSE to Use a Repository Database* on page 4-15.

Procedure: How to Configure an Oracle Repository

To configure an Oracle repository:

1. Contact your database administrator to obtain an Oracle user ID and password to create the iBSE repository.

   This user ID should have rights to create and modify tables as well as the ability to create and execute stored procedures.

2. Open a command prompt and navigate to the iWay setup directory. Its default location on Windows is:

   ```
   C:\Program Files\iWay55\etc\setup
   ```

   For other platforms, see the corresponding location.

   This directory should contains SQL to create the repository tables.

For Oracle 8	`iwse.ora`
For Oracle 9:	`iwse.ora9`

   Note: If Oracle is not on the same machine as iBSE copy iwse.ora or iwse.ora9 to the Oracle machine. Then, from a command prompt on the Oracle machine, navigate to the directory containing the iwse.ora or iwse.ora9 file.

3. Issue the following command depending on your Oracle release:

   ```
   sqlplus userid/password @database @ iwse.ora
   ```

   or

   ```
   sqlplus userid/password @database @ iwse.ora9
   ```

4. If you wish to use iBSE monitoring features, create the monitoring tables.

   SQL to create monitoring tables is provided in:

For Oracle 8	`monitoring.ora`
For Oracle 9:	`monitoring.ora9`

   The monitoring tables are separate from the other iBSE tables, so you can create them in a different instance or tablespaces if you wish. To create an iBSE monitoring repository, submit the monitoring.ora SQL.

5. Proceed to *Configuring iBSE to Use a Repository Database* on page 4-15.

Procedure: How to Configure a Sybase Repository

SQL needed to create the repository is installed in the following file on Windows:

```
C:\Program Files\iWay55\etc\setup\sybase-iwse.sql
```

For other platforms, see the corresponding location.

A Sybase DBA should submit this SQL to create the repository tables and structure.

If you wish to use the iBSE monitoring features, the SQL to create monitoring tables is in the following file on Windows:

```
C:\Program Files\iWay55\etc\setup\sybase-monitoring.sql
```

For other platforms, see the corresponding location.

A Sybase DBA should submit this SQL to create the monitoring tables and structure.

Procedure: How to Configure a DB2 Repository

Note: For z/OS systems, contact iWay Software to obtain the correct scripts.

SQL needed to create the repository is installed in the following file on Windows:

```
C:\Program Files\iWay55\etc\setup\db2-iwse.sql
```

For other platforms, see the corresponding location.

A DB2 DBA should submit this SQL to create the repository tables and structure.

If you wish to use the iBSE monitoring features, the SQL to create monitoring tables is in the following file on Windows:

```
C:\Program Files\iWay55\etc\setup\db2-monitoring.sql
```

For other platforms, see the corresponding location.

A DB2 DBA should submit this SQL to create the monitoring tables and structure. You can create monitoring tables in the same database as the regular repository, or create a new database for the monitoring information. Creating a new database is recommended.

Configuring iBSE to Use a Repository Database

After creating the repository database, you must provide the connection information that iBSE requires to access the repository.

Procedure: How to Enter Connection Information for Servlet iBSE

To enter connection information for Servlet iBSE:

1. Copy the JDBC driver for your database into the ibse\WEB-INF\lib directory where the ibse Web application is deployed, for example:

   C:\Program Files\iWay55\bea\ibse\WEB-INF\lib

   The required driver files depend on your database and driver, for example:

SQL Server 2000 (three files): msbase.jar mssqlserver.jar msutil.jar
Oracle: classes12.zip or ojdbc14.jar (SDK 1.4.x and higher)
Sybase: jconn.jar
DB2 Type 4 Universal JDBC driver: db2jcc.jar db2jcc_license_cisuz.jar **DB2 Type 2 Legacy App driver:** db2java.zip See your driver documentation for more information. If both iBSE and DB2 are on z/OS or OS/400, refer to IBM driver documentation.

2. Add the JDBC driver to your domain CLASSPATH:

   CLASSPATH is set in different places depending on the server release and type of domain. You can set CLASSPATH by setting the WEBLOGIC_CLASSPATH variable in the file that sets variables for all servers:

   - Windows:

     BEA_HOME\weblogic91\common\bin\commEnv.cmd

   - UNIX:

     BEA_HOME/weblogic91/common/bin/commEnv.sh

   Note: When you start a domain, variables are imported from the commEnv.sh or commEnv.cmd file. The CLASSPATH variable is set to include the WEBLOGIC_CLASSPATH variable. If you are not using clusters or manager servers, you can set CLASSPATH in the startWebLogic.sh or startWebLogic.cmd file for your domain. If you are not sure where to set CLASSPATH, consult BEA WebLogic documentation.

   Edit the commEnv.cmd, commEnv.sh, or other file where you are setting CLASSPATH, and add lines for any files you wish to add using the WEBLOGIC_CLASSPATH variable, for example:

   On Windows:

   ```
   set WEBLOGIC_CLASSPATH=%PATCH_CLASSPATH%;%JAVA_HOME%\lib\tools.jar;%WL
   _HOME%\server\lib\weblogic_sp.jar;%WL_HOME%\server\lib\weblogic.jar;C:
   \drivers\ojdbc14.jar
   ```

   On UNIX:

   ```
   WEBLOGIC_CLASSPATH="${PATCH_CLASSPATH}${CLASSPATHSEP}${JAVA_HOME}/lib/
   tools.jar${CLASSPATHSEP}${WL_HOME}/server/lib/weblogic_sp.jar${CLASSPA
   THSEP}${WL_HOME}/server/lib/weblogic.jar":/opt/iWay55/lib/ojdbc14.jar

   export WEBLOGIC_CLASSPATH
   ```

   Note: Adding directories is not sufficient. You must add the full paths including each file. On UNIX, make sure to export the variable.

3. Restart the domain.

4. Log on to the Servlet iBSE Configuration page at:

   http://*hostname:port*/ibse

   Note: This page was introduced in *Configuring Servlet iBSE* on page 4-4.

5. At the bottom of the page, provide the repository connection information.

The following table lists and describes the fields.

Field	Description
Repository Type	Specify the type of repository you are using. **Note:** *Data Source* is not supported.
Repository URL	Provide a JDBC URL to connect to the database. Examples follow this table.

Repository Driver	Provide the JDBC Class to connect to the database.
	For SQL Server:
	`com.microsoft.jdbc.sqlserver.SQLServerDriver`
	For Oracle:
	`oracle.jdbc.driver.OracleDriver`
	For Sybase:
	`com.sybase.jdbc2.jdbc.SybDriver`
	For DB2 Type 4 Universal JDBC driver:
	`com.ibm.db2.jcc.DB2Driver`
	For DB2 Type2 App driver:
	`COM.ibm.db2.app.DB2Driver`
	See your driver documentation for more information. If both iBSE and DB2 are on z/OS or OS/400, refer to IBM driver documentation.

Repository User	Provide the user ID to access the repository database.
Repository Password	Provide the password to access the repository database.

The repository URLs have the forms listed in the following table.

Database	JDBC URL
SQL Server	`jdbc:microsoft:sqlserver://hostname:port;DatabaseName=dbname;SelectMethod=cursor`
Oracle	`jdbc:oracle:thin:@hostname:port;SID`
Sybase	`jdbc:sybase:Tds:hostname:port`

DB2	For DB2 Type 4 Universal JDBC driver:
	`jdbc:db2://hostname:port/dbname`
	For DB2 Type2 App driver:
	`jdbc:db2:dbname`
	See your driver documentation for more information. If both iBSE and DB2 are on z/OS or OS/400, refer to IBM driver documentation.

where:

hostname

Is the name of the machine for the database server.

port

Is the port number for the database server. The SQL Server default is 1433. The Oracle default is 1521.

dbname

Is the database name or DB2 database alias or location name.

SID

Is the ORACLE SID.

6. Click *Save*.

   You should be redirected to the Servlet iBSE home page where you can test the sample Web service. However, until you redeploy or restart the server, your repository is not actually used.

7. Restart the application server.

   After the server restarts or the application is redeployed, test it by going to the Servlet iBSE home page at:

   `http://hostname:port/ibse/IBSEServlet`

   If you receive an error, confirm the settings in:

`http://hostname:port/ibse/IBSEConfig`

If you receive an error, ensure CLASSPATH is properly set and redeploy the ibse Web application.

8. If you wish to use the iBSE monitoring, return to the Servlet iBSE Configuration page:

   `http://hostname:port/ibse/IBSEConfig`

9. At the bottom of the page, click *More configuration....*
10. Specify the information to connect to the monitoring repository. If it is the same database as the regular iBSE repository, enter the same information as you did for the regular repository. If you set up a different database, provide the information for the monitoring database.
11. Click *Save Configuration*.
12. Click *Start Monitoring*.
13. Restart the server or redeploy the iBSE Web application.

CHAPTER 5

Configuring Application Explorer

Topic:

- Configuring Servlet Application Explorer

This section explains how to configure Application Explorer. For use with BEA WebLogic 9.1, Application Explorer is provided as a Web application and referred to as Servlet Application Explorer.

Configuring Servlet Application Explorer

Servlet Application Explorer is a GUI tool that uses adapters to create schemas and business services for use with Connector for JCA, iBSE, or other XML or Web services based programs. It enables you to generate and publish a Web service from objects and procedures in many different systems, without requiring in-depth knowledge of the object or system.

Servlet Application Explorer is a Web application installed as an expanded directory with the adapters. The default location on Windows is:

```
C:\Program Files\iWay55\bea\iwae
```

For other platforms, see the corresponding location.

Configuring Servlet Application Explorer Communications

Servlet Application Explorer communications are defined in the Web application's web.xml file. The default location on Windows is:

```
C:\Program Files\iWay55\bea\iwae\WEB-INF\web.xml
```

For other platforms, see the corresponding location.

Communications vary depending on whether you access iBSE or Connector for JCA:

- To create Web services or schemas for iBSE, Application Explorer connects to iBSE. Therefore, Application Explorer must know the correct URL to access it.
- For Connector for JCA, Application Explorer handles schema generation and target configuration itself. Application Explorer then writes information to the configuration directories that Connector for JCA uses. Therefore, Application Explorer must know the location of the configuration directories.

By default Application Explorer is set to connect to both Servlet iBSE and the Connector for JCA base configuration. You must edit web.xml as explained below if you are not using Servlet iBSE, if you provided the wrong Base Url during installation, or if you wish to access a different connector configuration. If you are confident that default settings are sufficient, proceed to *Deploying Servlet Application Explorer* on page 5-4.

Procedure: How to Configure Application Explorer Communications

To configure Application Explorer communications:

1. Open the web.xml file for the iwae Web application. The default location on Windows is:

   ```
   C:\Program Files\iWay55\bea\iwae\WEB-INF\web.xml
   ```

   For other platforms, see the corresponding location.

2. Find the "<service..." lines which define the connections, for example:

   ```
   <explorer>
      <service displayName="ibse" url="http://hostname:7001/ibse/IBSEServ
   let"/>
      <service displayName="ijca" provider="com.ibi.adapter.jspae.CustomJ
   CAIWAEConnection" url=C:\Program Files\iWay55#base"/>
   </explorer>
   ```

3. If you are using Servlet iBSE but not Connector for JCA, remove the Connector for JCA line:

   ```
   <service displayName="ijca" provider="com.ibi.adapter.jspae.CustomJCAI
   WAEConnection" url=C:\Program Files\iWay55#base"/>
   ```

4. If you are using Connector for JCA but not Servlet iBSE, remove the Servlet iBSE line:

   ```
   <service displayName="ibse" url="http://hostname:7001/ibse/IBSEServlet
   "/>
   ```

5. Optionally add or edit “<service...” lines to define connections.

   You can define as many connections as you wish. When you access Application Explorer in a browser, you choose the connections to access, and you can switch between them.

   - For **Servlet iBSE**, ensure the correct port appears. If you wish to access Servlet iBSE installed on a different host, modify the hostname as well. The URL is as follows:

     ```
     url="http://hostname:port/ibse/IBSEServlet/"
     ```

     For example:

     ```
     <service displayName="ibse" url="http://hostname:22001/ibse/IBSESe
     rvlet"/>
     ```

   - For **Connector for JCA**, if you wish to use different configurations, edit or copy the existing JCA line and change the URL to indicate your configuration. The URL has the following form

     ```
     url="IWAY_HOME#IWAY_CONFIG"
     ```

     where:

IWAY_HOME

Is the directory where the adapters are installed.

IWAY_CONFIG

Is the Connector for JCA configuration instance. By default, a base configuration exists.

For example:

```
<service displayName="ijca configuration" provider="com.ibi.adapter.jspae.CustomJCAI
WAEConnection" url="C:\Program Files\iWay55#test"/>
```

6. Save and exit the web.xml file.

Deploying Servlet Application Explorer

Use the BEA WebLogic Console to deploy Servlet Application Explorer.

Procedure: How to Configure Servlet Application Explorer for BEA WebLogic

To deploy Servlet Application Explorer:

1. Ensure your domain is started.
2. Open the BEA WebLogic Console in a browser at:

   `http://hostname:port/console`

   where:

   hostname

   Is the hostname of the machine where WebLogic is running.

   port

   Is the port for the domain you are using. The port for the default domain is 7001.

   For example:

   `http://localhost:7001/console`

   A logon page opens. If the page does not open, ensure your domain is started, and you used the correct port.
3. Log on to WebLogic.
4. In the left pane, click *Lock & Edit*.
5. In the left pane, click *Deployments*.
6. On the right, click *Install*.

   A page appears where you can specify the location of the file or directory you wish to deploy.

7. Click the links below *Location* to navigate to and then select the radio button next to the iwae directory, for example:

   ```
   C:\Program Files\iWay55\bea\iwae
   ```

8. Click *Next* after selecting the radio button next to the iwae directory.
9. Leave the default *Install this deployment as an application* selected and click *Next*.
10. Click *Next* again leaving the defaults.
11. Click *Finish* to complete the deployment.
12. On the left, click *Activate Changes*.
13. On the right, click *Control*.
14. Check *iwae*.
15. Click *Start* and choose *Servicing All Requests*.
16. Click *Yes*.

    The *State* of the iwae application should be *Active*.

    Warning: To use Application Explorer, the server *Listen Address* cannot be set to localhost. This is set by expanding *Environment*, clicking *Servers*, and clicking your server name. The *Listen Address* appears on the *General* tab and must be either blank or the fully qualified hostname for WebLogic. This field should not say localhost. To edit this field, you must click *Lock & Edit* on the left.

Accessing Servlet Application Explorer

After Servlet Application Explorer is deployed through your application server, you can access it.

Note: You may receive errors if you use Internet Explorer 5.5 or earlier. Before using Application Explorer, update to Internet Explorer 6 or higher.

Procedure: How to Access Servlet Application Explorer

After Servlet Application Explorer is deployed through your application server, you can access it as follows:

1. Go to the following URL in a browser:

   `http://hostname:port/iwae/index.html`

   where:

   `hostname`

   Is the hostname for the application server machine.

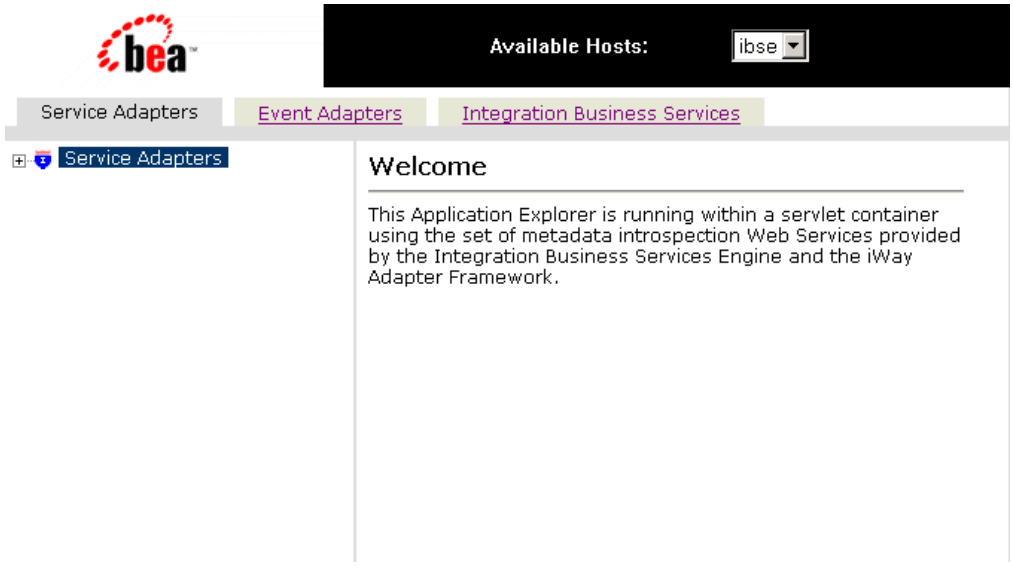
   `port`

   Is the port for the domain you are using. The port for the default domain is 7001.

   For example:

   `http://localhost:7001/iwae/index.html`

   Servlet Application Explorer opens in your browser as shown in the image that follows.



The *Available Hosts* drop-down list in the upper right determines which Connector for JCA configuration or Servlet iBSE instance you access. If one of them is not available, you receive an error if it is selected in the *Available Hosts* drop-down list. You can remove, add, or modify connections by editing web.xml.

Tabs representing service adapters, event adapters, and business services appear above the lower two-thirds of the window that is divided into two panes. The supported adapters appear in the left pane. A Welcome pane appears on the right.

2. Expand *Service Adapters* to see available adapters.

Available adapters may vary depending on which files are in the iWay55\lib directory. If your adapter requires third party drivers or libraries, they must be in the lib directory or your adapter may not appear.

Information is generated when you configure adapters, Web services, settings, or schemas. This information is then stored in the repository and directories corresponding to what is selected in the *Available Hosts* drop-down list.

For example, for file system repositories with the default base configuration:

- For Connector for JCA, information is created in the repository.xml file for the configuration, for example:

  ```
  C:\Program Files\iway55\config\base\repository.xml
  ```

  Additional information, such as schemas, is created in subdirectories of base.

- For Servlet iBSE, information is created in ibserepo.xml under the ibse Web application's root.

  ```
  C:\Program Files\iWay55\bea\ibse\ibserepo.xml
  ```

  Additional information, such as schemas and wsdl, is created in subdirectories beneath the ibserepo.xml file, for example:

  ```
  C:\Program Files\iWay55\bea\ibse\
  ```

For more information on Servlet Application Explorer, see the *Application Explorer (Java Servlet Version) User's Guide*.