



BEA WebLogic Adapter for CORBA™

Installation and Configuration Guide for WebLogic Integration 7.0

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BEA WebLogic Adapter for CORBA Installation and Configuration Guide for WebLogic Integration 7.0

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About This Document

This document explains how to install the BEA WebLogic Adapter for CORBA, which is used to develop client-server interfaces between CORBA and other applications. It describes how to install the BEA WebLogic Adapter for CORBA with WebLogic Integration 7.0 and use adapter tools to develop online connections to CORBA applications.

This document is organized as follows:

- [Chapter 1, “Installing the Adapter for WebLogic Integration 7.0,”](#) describes how to install the BEA WebLogic Adapter for CORBA.
- [Appendix A, “Installing the JacORB Object Request Broker,”](#) provides instructions for optionally installing the JacORB Object Request Broker in order to test the adapter using the samples provided.

Audience

This document is written for system integrators who develop client interfaces between CORBA and other applications. It describes how to install and deploy the BEA WebLogic Adapter for CORBA and how to use it with WebLogic Integration 7.0 and adapter tools to develop online connections to CORBA applications. It is assumed that readers know Web technologies and have a general understanding of Microsoft Windows and UNIX systems as well as:

- General knowledge of CORBA concepts.
- Knowledge of CORBA processes and data model for the required application area.

- Knowledge of WebLogic Integration architecture.
- General knowledge of client-server concepts.

Related Information

The following documents provide additional information for the associated software components:

- *BEA WebLogic Adapter for CORBA User Guide*
- *BEA WebLogic Adapter for CORBA Release Notes*
- *BEA Application Explorer Installation and Configuration Guide*
- BEA WebLogic Server installation and user documentation, which is available at the following URL:

http://edocs.bea.com/more_wls.html

- BEA WebLogic Integration installation and user documentation, which is available at the following URL:

http://edocs.bea.com/more_wli.html

Contact Us!

Your feedback on the BEA WebLogic Adapter for CORBA documentation is important to us. Send us e-mail at docsupport@bea.com if you have questions or comments. Your comments will be reviewed directly by the BEA professionals who create and update the BEA WebLogic Adapter for CORBA documentation.

In your e-mail message, please indicate which version of the BEA WebLogic Adapter for CORBA documentation you are using.

If you have any questions about this version of the BEA WebLogic Adapter for CORBA, or if you have problems installing and running the BEA WebLogic Adapter for CORBA, contact BEA Customer Support through BEA WebSupport at www.bea.com. You can also contact Customer Support by using the contact information provided on the Customer Support Card, which is included in the product package. When contacting Customer Support, be prepared to provide the following information:

- Your name, e-mail address, phone number, and fax number
- Your company name and company address
- Your machine type and authorization codes
- The name and version of the product you are using
- A description of the problem and the content of pertinent error messages

Documentation Conventions

The following documentation conventions are used throughout this document.

Convention	Item
boldface text	Indicates terms defined in the glossary.
Ctrl+Tab	Indicates that you must press two or more keys simultaneously.
<i>italics</i>	Indicates emphasis or book titles.

Convention	Item
<code>monospace text</code>	Indicates code samples, commands and their options, data structures and their members, data types, directories, and file names and their extensions. Monospace text also indicates text that you must enter from the keyboard. <i>Examples:</i> <code>#include <iostream.h> void main () the pointer psz chmod u+w * \tux\data\ap .doc tux.doc BITMAP float</code>
<code>monospace boldface text</code>	Identifies significant words in code. <i>Example:</i> <code>void commit ()</code>
<i><code>monospace italic text</code></i>	Identifies variables in code. <i>Example:</i> <code>String <i>expr</i></code>
UPPERCASE TEXT	Indicates device names, environment variables, and logical operators. <i>Examples:</i> <code>LPT1 SIGNON OR</code>
<code>{ }</code>	Indicates a set of choices in a syntax line. The braces themselves should never be typed.
<code>[]</code>	Indicates optional items in a syntax line. The brackets themselves should never be typed. <i>Example:</i> <code>buildobjclient [-v] [-o name] [-f <i>file-list</i>]... [-l <i>file-list</i>]...</code>
<code> </code>	Separates mutually exclusive choices in a syntax line. The symbol itself should never be typed.

Convention	Item
...	<p>Indicates one of the following in a command line:</p> <ul style="list-style-type: none">■ That an argument can be repeated several times in a command line■ That the statement omits additional optional arguments■ That you can enter additional parameters, values, or other information <p>The ellipsis itself should never be typed.</p> <p><i>Example:</i></p> <pre>buildobjclient [-v] [-o name] [-f file-list]... [-l file-list]...</pre>
. . . .	<p>Indicates the omission of items from a code example or from a syntax line.</p> <p>The vertical ellipsis itself should never be typed.</p>

1 Installing the Adapter for WebLogic Integration 7.0

This section provides instructions for installing the BEA WebLogic Adapter for CORBA. It includes the following topics:

- [Before Installing the Adapter](#)
- [Understanding the Representation of Paths](#)
- [Step 1. Obtaining the BEA WebLogic Adapter for CORBA](#)
- [Step 2. Setting Up Your ORB Environment](#)
- [Step 3. Configuring the Domain](#)
- [Step 4. Modifying the Start Options for the Domain](#)
- [Step 5. Updating the BEA License](#)
- [Step 6. Deploying the Adapter Using the WebLogic Server Console](#)
- [Step 7. Creating or Updating the Adapter Group](#)
- [Step 8. Initializing BEA Application Explorer for JacORB](#)
- [Next Steps](#)

Before Installing the Adapter

Before you install the BEA WebLogic Adapter for CORBA, you must review the *BEA WebLogic Adapter for CORBA Release Notes* to ensure that you have the required prerequisite software installed. The *BEA WebLogic Adapter for CORBA Release Notes* is available at the following URL:

<http://edocs.bea.com/wlapters/doc70/index.html>

Understanding the Representation of Paths

Because the location of files in the WebLogic Integration environment depends on options selected during installation and configuration, the conventions that follow are used throughout to represent paths.

- *BEA_HOME* represents the BEA Home directory specified for your WebLogic installation.

For example, if you install the product in the default location on a Windows system, *BEA_HOME* represents `c:\bea`.

- *WLI_HOME* represents the root of your WebLogic Integration installation.

For example:

- If you install WebLogic Integration 7.0 in the default location on a Windows system, *WLI_HOME* represents `c:\bea\weblogic700\integration`.
- *domain* is used to indicate the name of a domain.
 - In WebLogic Integration 7.0, a new tool, the Configuration Wizard, is used to create custom user domains. When you use the Configuration Wizard to set up the domain configuration stored on the administration server, you are prompted to assign a domain name, *domain*, and to specify the location to which the *domain* directory will be installed. The files required by the administration server are installed in the *domain* directory under the specified location.

For additional information, see *Using the Configuration Wizard* which is available at the following URL:

<http://edocs.bea.com/platform/docs70/configwiz/index.html>

For example, if you accept the Configuration Wizard default location, *BEA_HOME*\user_projects, the files required by the administration server are installed in the following directory:

BEA_HOME\user_projects\domain

- *DOMAIN_HOME* represents the complete path to the root of a domain.

For example:

- If you use the WebLogic Integration 7.0 Configuration Wizard to create a domain in the default location on a Windows system, *DOMAIN_HOME* represents c:\bea\weblogic700\user_projects\domain.

Note: *WLI_HOME* and *BEA_HOME* (italicized) also represent the corresponding Windows and UNIX environment variables. For example, the literal interpretation of *WLI_HOME* is %WLI_HOME% for Windows and \$WLI_HOME for UNIX.

Unlike *WLI_HOME* and *BEA_HOME*, *DOMAIN_HOME* is not an environment variable that is set by default in the WebLogic Integration environment.

Step 1. Obtaining the BEA WebLogic Adapter for CORBA

Obtain the following BEA WebLogic Adapter for CORBA software components on CD or download them from www.bea.com:

- The BEA WebLogic Adapter for CORBA, which is packaged as an EAR file (*BEA_CORBA_1_0_70.ear*).
- The *BEA_CORBA_SAMPLES.zip* file, which includes JacORB components and sample service schemas.

Step 2. Setting Up Your ORB Environment

Before installing and configuring the BEA WebLogic Adapter for CORBA, you should set up your ORB environment and configure it to work with the adapter, as described in Appendix A, “Using CORBA Implementations with the Adapter” in the *BEA WebLogic Adapter for CORBA User Guide*. Verify that your ORB infrastructure is properly configured, your server is registered in the Naming Service, and your interface repository (IFR) is running and populated.

Step 3. Configuring the Domain

The adapter can only be deployed in a domain that includes support for application integration functionality. If you have not already done so, use the Configuration Wizard to create the domain and select one of the following domain templates:

- Enterprise application integration (EAI) domain template
- WebLogic Integration (WLI) domain template
- Platform domain template

For the information you need to configure a fully functional domain based on the template, see the appropriate section of the *Configuration Wizard Template Reference*:

- For the EAI domain template, see the following URL:

<http://edocs.bea.com/platform/docs70/template/eaidomain.html>

- For the WLI domain template, see the following URL:

<http://edocs.bea.com/platform/docs70/template/wlidomain.html>

- For the platform domain template, see the following URL:

<http://edocs.bea.com/platform/docs70/template/platjar.html>

For general information about using the Configuration Wizard, see *Using the Configuration Wizard* at the following URL:

<http://edocs.bea.com/platform/docs70/configwiz/index.html>

When you use the Configuration Wizard to create a domain based on the WLI or EAI domain template, a domain-specific version of the Database Wizard is installed in the `DOMAIN_HOME` directory. You must run the Database Wizard for the domain to initialize the database repository with the required tables and system data. For additional information, see “Configuring the Database for a Domain” in *Starting, Stopping and Customizing BEA WebLogic Integration*, which is available at the following URL:

<http://edocs.bea.com/wli/docs70/config/index.htm>

Step 4. Modifying the Start Options for the Domain

Modify the start options for the domain using the procedure appropriate for your system:

- [Modifying the Start Options on Windows](#)
- [Modifying the Start Options on UNIX](#)

Modifying the Start Options on Windows

To modify the start options on Windows, complete the following steps:

1. Go to the root directory for your domain:

```
cd DOMAIN_HOME
```

Note: You must choose a domain that supports application integration functionality.

2. Find the `StartWeblogic.cmd` file, which is in your `DOMAIN_HOME` directory.
3. Update the Java command line to add

```
-Xbootclasspath/p:x:\JacORB1_4_beta4\lib\jacorb.jar
```

immediately following

```
%JAVA_HOME%\bin\java %JAVA_VM%
```

as shown below.

Note: The following instructions are for access to JacORB services. For details for other ORBs, see your ORB documentation.

```
%JAVA_HOME%\bin\java %JAVA_VM%
-Xbootclasspath/p:x:\JacORB1_4_beta4\lib\jacorb.jar %JAVA_OPTIONS%
-Xmx256m -classpath %SVRCP% -Dbea.home=%BEA_HOME%
-Dweblogic.home=%WL_HOME%
-Dweblogic.system.home=D:\bea\user_projects\eaideomain
-Dwli.bpm.server.evaluator.supportsNull=false
-Dweblogic.management.username=
-Dweblogic.management.password= -Dweblogic.Name=myserver
-Dweblogic.RootDirectory=D:\bea\user_projects\eaideomain
-Djava.security.policy=%WL_HOME%\lib\weblogic.policy
-Dweblogic.management.discover=true
-Dweblogic.servlet.ClasspathServlet.disableStrictCheck=true
weblogic.Server
```

Modifying the Start Options on UNIX

To modify the start options on UNIX, complete the following steps:

1. Go to the root directory for your domain:

```
cd DOMAIN_HOME
```

Note: You must choose a domain that supports application integration functionality.

2. Find the `StartWeblogic.cmd` file, which is in your `DOMAIN_HOME` directory.
3. Update the Java command line to add

```
-Xbootclasspath/p:$AE_HOME/lib/jacorb.jar
```

immediately following

```
JAVA_HOME/bin/java $JAVA_VM
```

as shown below.

Note: The following instructions are for access to JacORB services. For details for other ORBs, see your ORB documentation.


```
JAVA_HOME/bin/java $JAVA_VM
-Xbootclasspath/p:$AE_HOME/lib/jacorb.jar $JAVA_OPTIONS -classpath
$SVRCP -Dbea.home=$BEA_HOME -Dweblogic.home=$WL_HOME
-Dweblogic.system.home=/qa/edantk/bea/user/abc
-Dwli.bpm.server.evaluator.supportsNull=false
-Dweblogic.management.username=
-Dweblogic.management.password= -Dweblogic.Name=myserver
-Dweblogic.RootDirectory=/qa/edantk/bea/user/abc
-Djava.security.policy=$WL_HOME/lib/weblogic.policy
-Dweblogic.management.discover=true
-Dweblogic.servlet.ClasspathServlet.disableStrictCheck=true
weblogic.Server
```

Step 5. Updating the BEA License

The BEA WebLogic Adapter for CORBA cannot be used without a valid software license. If you have downloaded the adapter for evaluation, you must obtain an evaluation license as described on the adapter download page. If you have purchased a license for the adapter, the license file is typically sent to you as an e-mail attachment.

When you have obtained a valid license for the adapter, update your `license.bea` file by completing the following steps:

1. Save the license file that you obtained with a name other than `license.bea`, in the `BEA_HOME` directory. For example, save the file as `corba_adapter_license.bea`. Use this file as the *license_update_file* in step 4 of this procedure.

Warning: Do not overwrite or change the name of the existing `license.bea` file.

2. Perform the step appropriate for your platform:
 - On a Windows system, open an MS-DOS session and go to the `BEA_HOME` directory.
 - On a UNIX system, go to the `BEA_HOME` directory.
3. If it is not already included, add the JDK to your `PATH` variable by executing the command appropriate to your system:
 - On a Windows system:

```
set PATH=BEA_HOME\jdk131_03\bin;%PATH%
```

- On a UNIX system:

```
PATH=BEA_HOME/jdk131_03/bin:$PATH
export PATH
```

4. Merge the license update file into your existing license by executing the command appropriate to your system:

- On a Windows system:

```
UpdateLicense license_update_file
```

- On a UNIX system:

```
sh UpdateLicense.sh license_update_file
```

Here, *license_update_file* is the name to which you saved the license update file in step 1.

5. Save a copy of your updated `license.bea` file in a safe place outside the WebLogic Integration and application installation directories.

Step 6. Deploying the Adapter Using the WebLogic Server Console

After the BEA WebLogic Adapter for CORBA is installed, it must be deployed to your domain. To configure and deploy an adapter using the WebLogic Server Administration Console, complete the following steps:

1. Start WebLogic Server.
2. Start the WebLogic Server Administration Console in a browser using the following URL:

```
http://host:port/console/
```

Here, *host* represents the machine on which WebLogic Server is running and *port* represents the listening port.

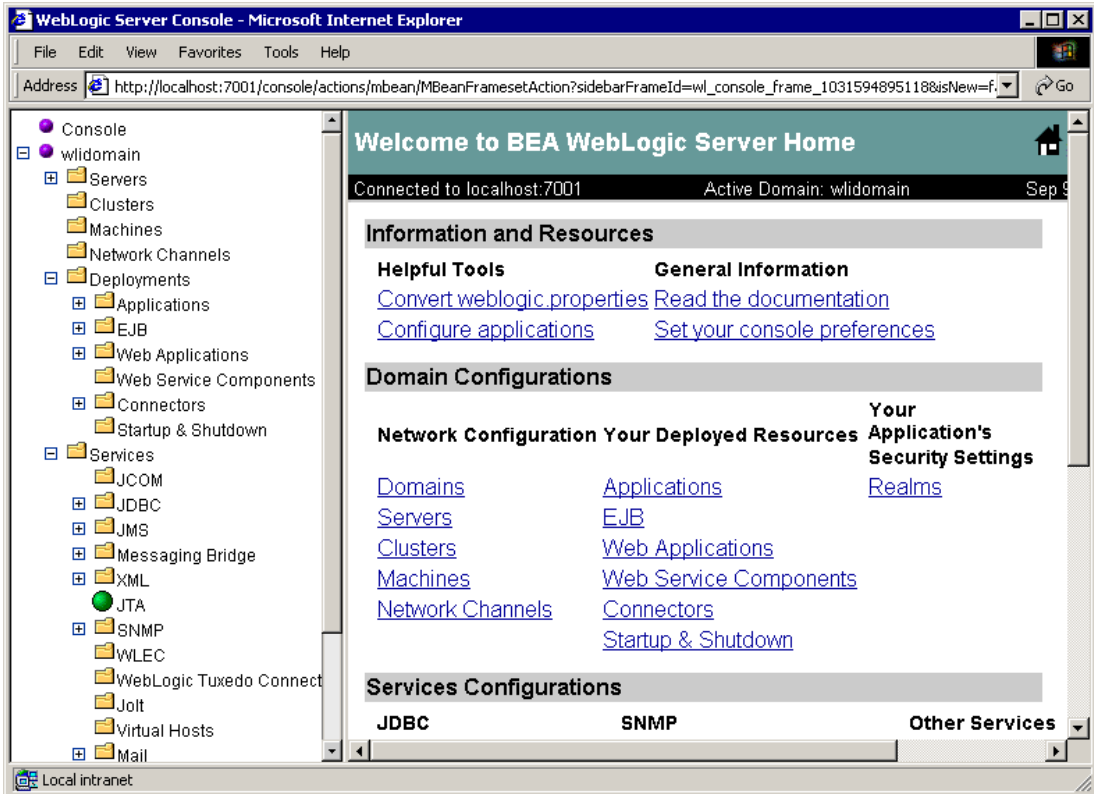
For example, `http://localhost:7001/console/`

3. When prompted, enter the user name and password for the server.

Step 6. Deploying the Adapter Using the WebLogic Server Console

The WebLogic Server Administration Console opens.

Figure 1-1 WebLogic Server Console

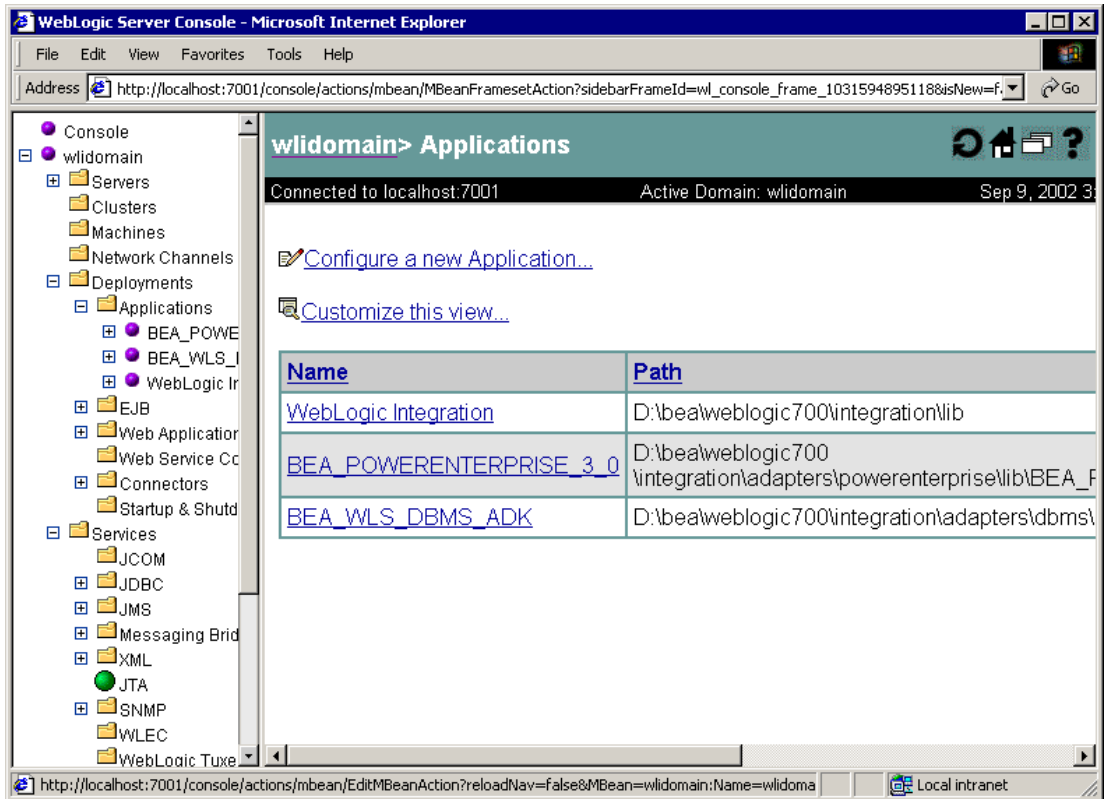


4. In the left pane, choose Deployments and then Applications from the navigation tree.

The console displays the Applications window.

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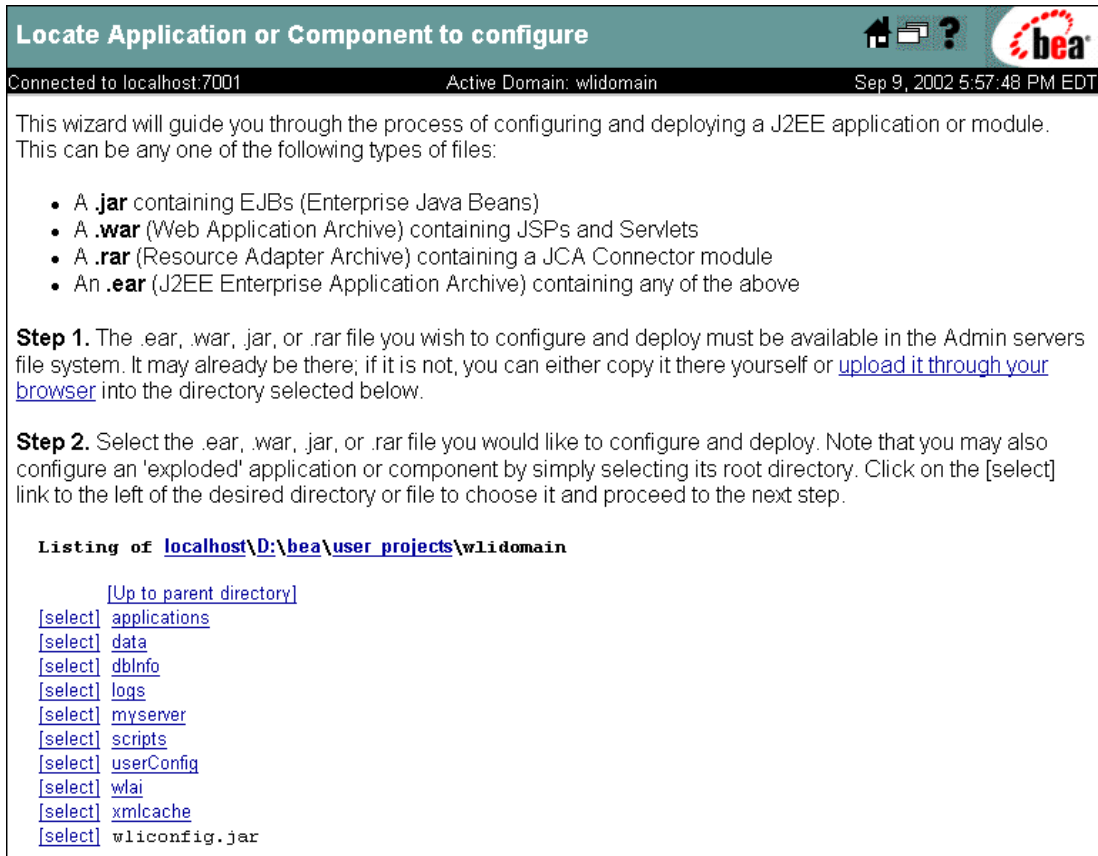
Figure 1-2 Applications Window



5. Click the Configure a new Application link.

The console displays the Locate Application or Component to configure window.

Figure 1-3 Locate Application or Component to Configure Window



6. Do one of the following:

If you copied the `BEA_CORBA_1_0_70.ear` file to a directory on the administrative server, navigate to that directory. For example, if you copied the file to the `D:\bea\AdapterEars` directory, select the directory as shown in the following figure.

Figure 1-4 Locating the Adapter EAR File

Listing of [localhost\D:\bea\AdapterEars](#)

[\[Up to parent directory\]](#)
[\[select\]](#) BEA_CORBA_1_0_70.ear

If you have not copied the BEA_CORBA_1_0_70.ear file to a directory on the administrative server, do the following:

- a. Navigate to the directory to which the file will be uploaded.

For example, to upload the adapter from your local machine to the D:\bea\AdapterEars directory on the administrative server, select the directory as shown in the following figure.

Figure 1-5 Selecting the Target Directory

Listing of [localhost\D:\bea\AdapterEars](#)

[\[Up to parent directory\]](#)

- b. Click the upload it through your browser link to display the Install or Update an Application window.
- c. Click Browse to display the Choose File dialog box.
- d. In the Choose File dialog box, locate the file, and then click Open.

The console displays the selected location.

Figure 1-6 Install or Update an Application Window

Install or Update an Application

Connected to localhost:7001 Active Domain: wlidomain Sep 9, 2002 5:01:00 PM EDT

Upload and Install an Application

Click on the 'browse' button below to locate an application archive on the machine from which you are browsing. When you have located the file, click 'upload' to install it on this WebLogic Administration Server. The following types of application files may be uploaded:

- A **.jar** containing EJBs (Enterprise Java Beans)
- A **.war** (Web Application Archive) containing JSPs and Servlets
- A **.rar** (Resource Adapter Archive) containing a JCA Connector module
- An **.ear** (J2EE Enterprise Application Archive) containing any of the above

Note: if you browse for the file, you may have to adjust the file-type filter to 'All' in order to find .jar, .war, .rar and .ear files.

C:\downloads\BEA_CORBA_1_0_ear Browse... Upload Cancel

e. Click Upload.

The browser status bar indicates upload progress. When the upload is complete, you are returned to the Locate Application or Component to configure window. The uploaded file now resides in the directory selected in step a.

Figure 1-7 Adapter EAR File Uploaded to Administrative Server

Listing of [localhost\D:\bea\AdapterEars](#)

[\[Up to parent directory\]](#)
[\[select\]](#) BEA_CORBA_1_0_70.ear

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7. Click the [select] link to the left of the adapter EAR file.

The console displays the Configure Application or Component window.

Figure 1-8 Configure Application or Component Window



Configure Application or Component

Connected to localhost:7001 Active Domain: wldomain Sep 9, 2002 5:33:42 PM EDT

Step 3. You have chosen to configure

D:\bea\AdapterEars\BEA_CORBA_1_0_70.ear

Select the Servers and/or Clusters on which you would like to deploy this application initially.
(You can reconfigure deployment targets later if you wish).

Available Servers		Target Servers
myserver	 	

Step 4. Enter a name for this application.

BEA_CORBA_1_0_70

Step 5. Press 'Configure and Deploy' to configure and deploy the application, or 'Cancel' to leave the Domain unchanged.

8. Select the servers or clusters on which to deploy the adapter by using the arrow buttons to move entries from the available list to the target list.

9. You must change the application name from BEA_CORBA_1_0_70 to BEA_CORBA_1_0.

Note: If you do not change the application name, the adapter will not be available to application views.

Step 6. Deploying the Adapter Using the WebLogic Server Console

The following figure shows a configured application.

Figure 1-9 Configured Application

Configure Application or Component

Connected to localhost:7001 Active Domain: wldomain Sep 9, 2002 5:33:42 PM EDT

Step 3. You have chosen to configure

D:\bea\AdapterEars\BEA_CORBA_1_0_70.ear

Select the Servers and/or Clusters on which you would like to deploy this application initially.
(You can reconfigure deployment targets later if you wish).

Available Servers		Target Servers
	↓	myserver
	↑	

Step 4. Enter a name for this application.

BEA_CORBA_1_0

Step 5. Press 'Configure and Deploy' to configure and deploy the application, or 'Cancel' to leave the Domain unchanged.

Configure and Deploy Cancel

10. Click Configure and Deploy.

The console displays the deployment status, which includes a description, status, begin time, and end time for the deployed adapter.

Step 7. Creating or Updating the Adapter Group

Before you create an application view that uses the events or services supported by an adapter, the following requirements must be met:

- The user group, `adapter`, must be defined.
- The administrative server user name must be a member of the `adapter` group.

The action required to complete the configuration depends on which domain template you selected when you created the domain. See the following table for guidelines.

Table 1-1 Configuration Requirements

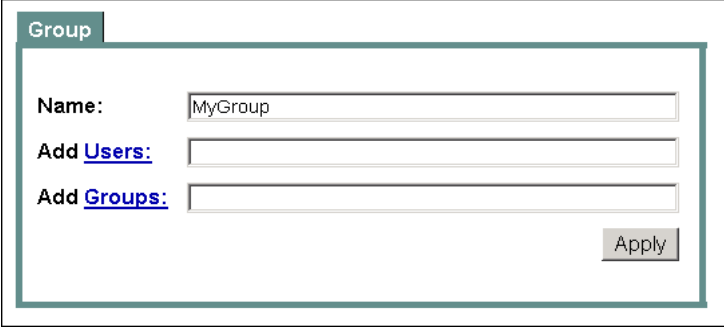
If you created a domain based on the . . .	And the administrative server user name is . . .	Then . . .
Platform domain template	Any value	Create the adapter group and add the administrative user name to it as described in “Creating the Adapter Group” on page 1-17.
WLI or EAI domain template	<code>system</code>	The adapter group is already defined. This group includes the <code>system</code> user name by default. No further configuration is required.
WLI or EAI domain template	A value other than <code>system</code>	The adapter group is already defined. Add the user name to the group as described in “Adding the User Name to the Adapter Group” on page 1-18.

Creating the Adapter Group

To create the adapter group and add the administrative server user name to it, complete the following steps:

1. In the left pane of the WebLogic Server Administration Console, choose Compatibility Security and then Groups from the navigation tree.
2. Click the Create a New Group link to display the Group window.

Figure 1-10 Group Window

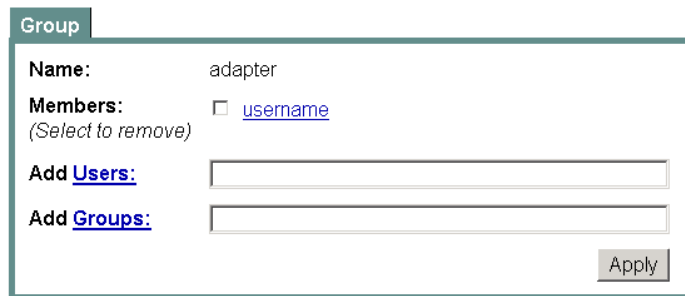


The screenshot shows a web form titled "Group". It contains three input fields. The first field is labeled "Name:" and contains the text "MyGroup". The second field is labeled "Add [Users:](#)" and is empty. The third field is labeled "Add [Groups:](#)" and is empty. An "Apply" button is located at the bottom right of the form.

3. Enter adapter in the Name field.
4. Enter the administrative server user name in the Add Users field.
5. Click Apply.

The Group window is updated as shown in the following figure.

Figure 1-11 Group Window



Group

Name: adapter

Members: ☐ [username](#)
(Select to remove)

Add [Users](#):

Add [Groups](#):

Apply

Adding the User Name to the Adapter Group

To add the administrative server user name to the `adapter` group, complete the following steps:

1. In the left pane of the WebLogic Server Administration Console, choose Compatibility Security and then Groups from the navigation tree.
The console displays the groups currently defined for the domain.
2. Locate and click the link for the `adapter` group to display the group definition.

Figure 1-12 Group Definition

mydomain> [Realms](#)> myRealm> Groups

Connected to localhost:7001 Active Domain: mydomain Sep 10, 2002 5:41:32 PM EDT

Group

Name: adapter

Members:
(Select to remove) ☐ [admin](#) ☐ [wlcSamplesUser](#) ☐ [joe](#) ☐ [wlisystem](#) ☐ [hub](#)
☐ [system](#) ☐ [mary](#) ☐ [guest](#)

Add [Users](#):

Add [Groups](#):

Apply

3. If the administrative server user name is not included in the Members list, enter the user name in the Add Users field.
4. Click Apply to add the user name to the group.
The name is added to the Members list.

Step 8. Initializing BEA Application Explorer for JacORB

To use the BEA Application Explorer to generate schemas for JacORB:

1. Open the BEA Application Explorer command file:

- On a Windows system, the default location of this .bat file is:

```
C:\Program Files\BEA Systems\BEA Application Explorer\bin\ae.bat
```

- On a UNIX system, the location of this shell script is

```
/installation_directory/bin/ae
```

For example: /home/apps/bea/bae/bin/ae

2. Uncomment the following statement:

- On a Windows system:

```
REM "%JAVACMD%" -Xbootclasspath/p:"%AE_HOME%\lib\jacorb.jar"
-classpath "%LOCALCLASSPATH%" com.ibi.bse.gui.BseFlashScreen
```

- On a UNIX system:

```
#$JAVACMD -Xbootclasspath/p:$AE_HOME/lib/jacorb.jar
-classpath $LOCALCLASSPATH com.ibi.bse.gui.BseFlashScreen $@
```

3. Comment the following statement:

- On a Windows system:

```
"%JAVACMD%" -classpath "%LOCALCLASSPATH%"
com.ibi.bse.gui.BseFlashScreen
```

- On a UNIX system:

```
$JAVACMD -classpath $LOCALCLASSPATH
com.ibi.bse.gui.BseFlashScreen $@
```

You can now generate schemas for JacORB using the BEA Application Explorer.

Next Steps

If you have not already installed the BEA Application Explorer, install it now. See the *BEA Application Explorer Installation and Configuration Guide*.

When you have successfully deployed the adapter and installed the BEA Application Explorer, you can log on to the WebLogic Integration Application View Console to create application views that employ events and services supported by the BEA WebLogic Adapter for CORBA. For more information, see the *BEA WebLogic Adapter for CORBA User Guide*.

A Installing the JacORB Object Request Broker

This section provides instructions for optionally installing the JacORB Object Request Broker in order to test the adapter using the samples provided. It contains the following topics:

- [Overview](#)
- [Building and Running the JacORB Request Broker](#)

Overview

The BEA WebLogic Adapter for CORBA includes a sample ORB called JacORB, which is distributed as an open source sample ORB under the GNU license. The adapter also supports commercial ORBs, such as ORBIX and VisiBroker. For more information on these ORBs, see the corresponding ORB documentation.

JacORB is an open source implementation of the Object Management Group's (OMG) Common Object Request Broker Architecture (CORBA) specification, targeted at developers using the Java language. It is being supplied with your software to enable you to test your adapter using the samples provided.

JacORB is designed to be compliant with the CORBA 2.3 Java language mapping and supports commonly used CORBA services. It runs on all platforms that implement the Java Virtual Machine (JVM). JacORB is made available using the GNU Library General Public License (LGPL) terms. Commercial support is provided by Object Computing Inc (OCI). OCI is a Sun Authorized Java Center and member of the OMG. For more information, see the Web site <http://www.ocweb.com>.

JacORB interoperates with any CORBA-compliant ORB over IIOP. In practice, JacORB has been used successfully with at least the following ORBs: MICO, TAO, Orbacus, Iona Orbix, Borland VisiBroker, ORBit, omniORB, Vitria C++, and Java.

JacORB Name Service

Name servers are used to locate objects using a human-readable reference (their name) rather than a machine or network address. If objects providing a certain service are looked up using the service name, their clients are decoupled from the actual locations of the objects that provide this service. The binding from name to service can be changed without the clients needing to know.

JacORB provides an implementation of the OMG's Interoperable Naming Service (INS) which supports binding names to object references and to lookup object references using these names. It also allows clients to easily convert names to strings and vice versa. The JacORB name service comprises two components: the name server program, and a set of interfaces and classes used to access the service.

JacORB Interface Repository

Run-time type information in CORBA is managed by the ORB's Interface Repository (IR) component. It allows applications to request, inspect, and modify IDL type information dynamically, for example, to find out which operations an object supports. Some ORBs may also need the IR to find out whether a given object's type is a subtype of another. Most ORBs can do without the IR by encoding this kind of type information in the helper classes generated by the IDL compiler.

In essence, the IR is a remotely accessible CORBA object that offers operations to retrieve (and in theory also modify) type information. The IR manages type information in a hierarchical containment structure that corresponds to the structure of

scoping constructs in IDL specifications: modules contain definitions of interfaces, structures, constants, and so on. Interfaces in turn contain definitions of exceptions, operations, attributes, and constants.

Building and Running the JacORB Request Broker

To build and run the JacORB Request Broker, perform the following steps. (You will need the ANT 1.4.1, a Java-based build tool.)

1. Unzip `JacORB1_4_beta4-full.zip`. This will create a directory called `JacORB1_4_beta4` on the selected drive. For example, if you selected to unzip to drive D, the result will be `D:\JacORB1_4_beta4`.
2. Unzip `beacorba.zip` under the `JacORB1_4_beta4` directory created in step 1.
3. Copy the `JacORB1_4_beta4\jacorb_properties.template` and rename it `JacORB1_4_beta4\jacorb.properties`.
4. Edit the `jacorb.properties` file as follows:

```
ORBInitRef.NameService=file:/d:/JacORB1_4_beta4/bea/ns_ref.txt
```

Here, *d* is the drive where you unzipped your JacORB files.
5. Copy `JacORB1_4_beta4\bea\jaco.bat` into the `JacORB\bin` directory, replacing `JacORB1_4_beta4\bin\jaco.bat`.

6. Edit `JacORB1_4_beta4\bea\setenv-sample.bat`.

```
set JAVA_HOME=jdk_directory
set JACORB_HOME=JacORB1_4_beta4_directory
set ANT_HOME=ant_tool_directory
```

Here, *jdk_directory* is the directory where your JDK resides, *JacORB1_4_beta4_directory* is the directory where JacORB resides, and *ant_tool_directory* is the directory where your ANT tool resides. For example,

```
set JAVA_HOME=c:\jdk1.3
set JACORB_HOME=d:\JacORB1_4_beta4
set ANT_HOME=c:\jakarta-ant-1.4
```

7. Rename `JacORB1_4_beta4\bea\club\ClubServer.java.jackorb` to `JacORB1_4_beta4\bea\club\ClubServer.java`

Note: To compile for Visibroker, rename

```
JacORB1_4_beta4\bea\club\ClubServer.java.vb to
JacORB1_4_beta4\bea\club\ClubServer.java
```

8. Build the JacORB application. In a new DOS command window:

- a. Execute `JacORB1_4_beta4\bea\setenv-sample.bat`
- b. Execute `JacORB1_4_beta4\bea\club\ant`

9. Start the Interface Repository service. In a new DOS command window:

- a. Execute `JacORB1_4_beta4\bea\ setenv-sample.bat`
- b. Execute the following command:

```
ir repository_class_path IOR_filename
```

Here, *repository_class_path* is the path to your repository class files, and *IOR_filename* is the name of the Interface Object Repository file. For example,

```
JacORB1_4_beta4\bea\ir ..\classes ir_ref.txt.
```

10. Start the name service. The JacORB NameManager, a GUI for the name service, can be started using the `nmg` command. The NameManager then tries to connect to an existing name service. The JacORB name server is a process that needs to be started before the name service can be accessed by programs. In a new DOS command window:

- a. Execute `D:\JacORB1_4_beta4\bea\ setenv-sample.bat`
- b. Execute the following command:

```
ns [ins_filename] [-p port] [-t timeout]
```

Here, *ins_filename* is the name of the Naming Service file specified in the `jacorb.properties` file, *port* is the number of the port on which the service is listening, and *timeout* is the server timeout. For example,

```
JacORB1_4_beta4\bea\ns ns_ref.txt
```

11. Start the Java interpreter explicitly by typing:

- a. Execute `D:\JacORB1_4_beta4\bea\ setenv-sample.bat`
- b. Execute the following command:

```
jaco jacob.naming.NameServer [filename] [-p port] [-t timeout]
```

Here, *jacob.naming.NameServer* is the name of the Name Server, *filename* is the name of the Naming Service file specified in the `jacorb.properties` file, *port* is the number of the port on which the service is listening, and *timeout* is the server timeout. For example,

```
JacORB1_4_beta4\bea\jaco bea.club.ClubServer
```

