

BEA WebLogic Adapter for HL7

Installation and Configuration Guide for WebLogic Integration 7.0

Release 7.0

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BEA WebLogic Adapter for HL7 Installation and Configuration Guide for WebLogic Integration 7.0

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About This Document

About This Document

This document explains how to install, configure, and deploy the BEA WebLogic Adapter for HL7 for WebLogic Integration 7.0 to develop online connections to HL7 applications.

This document is organized as follows:

Chapter 1, "Installing the BEA WebLogic Adapter for HL7" describes how to install the BEA WebLogic Adapter for HL7.

Audience

This document is written for system integrators who develop client interfaces between HL7 and other applications. It describes how to install the BEA WebLogic Adapter for HL7 and how to develop application environments with specific focus on message integration. It is assumed that readers know Web technologies and have a general understanding of Microsoft Windows and UNIX systems.

Related Information

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

- BEA WebLogic Adapter for HL7 User Guide
- BEA WebLogic Adapter for HL7 Release Notes
- BEA Application Explorer Installation Guide
- BEA WebLogic Platform installation and user documentation, which is available at the following URL:

http://edocs.bea.com/platform/docs70/index.html

Contact Us!

Your feedback on the BEA WebLogic Adapter for HL7 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 HL7 documentation.

In your e-mail message, please indicate which version of the BEA WebLogic Adapter for HL7 documentation you are using.

If you have any questions about this version of the BEA WebLogic Adapter for HL7, or if you have problems installing and running the BEA WebLogic Adapter for HL7, 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.	
italics	Indicates emphasis or book titles.	
monospace text	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.	
	Examples:	
	<pre>#include <iostream.h> void main () the pointer psz</iostream.h></pre>	
	chmod u+w *	
	\tux\data\ap	
	.doc	
	tux.doc	
	BITMAP	
	float	

Convention	Item	
monospace boldface text	Identifies significant words in code. Example: void commit ()	
monospace italic text	Identifies variables in code. Example: String expr	
UPPERCASE TEXT	Indicates device names, environment variables, and logical operators. Examples: LPT1 SIGNON OR	
{ }	Indicates a set of choices in a syntax line. The braces themselves should never be typed.	
[]	Indicates optional items in a syntax line. The brackets themselves should never be typed. Example: buildobjclient [-v] [-o name] [-f file-list] [-1 file-list]	
	Separates mutually exclusive choices in a syntax line. The symbol itself should never be typed.	
	Indicates one of the following in a command line: 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 The ellipsis itself should never be typed. Example: buildobjclient [-v] [-o name] [-f file-list] [-1 file-list]	
· ·	Indicates the omission of items from a code example or from a syntax line. The vertical ellipsis itself should never be typed.	

1 Installing the BEA WebLogic Adapter for HL7

This section provides instructions for installing the BEA WebLogic Adapter for HL7. It includes the following topics:

- Before Installing the Adapter
- Understanding the Representation of Paths
- Step 1. Obtaining the BEA WebLogic Adapter for HL7
- Step 2. Configuring the Domain
- Step 3. Adjusting the Classpath
- Step 4. Updating the BEA License
- Step 5. Deploying the Adapter Using the WebLogic Server Console
- Step 6. Creating or Updating the Adapter Group
- Next Steps

Before Installing the Adapter

Before you install the BEA WebLogic Adapter for HL7, you must review the BEA WebLogic Adapter for HL7 Release Notes to ensure that you have the required prerequisite software installed. The BEA WebLogic Adapter for HL7 Release Notes is available at the following URL:

http://edocs.bea.com/wladapters/doc70/index.html

Before Using the Adapter to Interact with MQSeries

To interact with IBM MQSeries (now known as WebSphere MQ) you must first install MQSeries or MQSeries Client on the machine where the BEA WebLogic Adapter for HIPAA will be installed. Additionally, you must install the classes required to develop MQSeries applications in Java through the following Java-based APIs:

- MQSeries classes for Java
- MQSeries classes for Java Message Service (JMS)

If you are using MQSeries 5.1 or 5.2, the required classes are provided in the MA88 SupportPac, which is available at the following URL:

http://www-3.ibm.com/software/ts/mqseries/txppacs/ma88.html

If you are using WebSphere MQ 5.3, the MQSeries classes for Java and JMS are included in the <code>java/lib</code> directory of the distribution.

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, <code>domain</code>, and to specify the location to which the <code>domain</code> directory will be installed. The files required by the administration server are installed in the <code>domain</code> 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/confgwiz/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, <code>DOMAIN_HOME</code> 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 HL7

The BEA WebLogic Adapter for HL7 is packaged as an EAR file (BEA_HL7_1_0_70.ear). You can obtain the software on CD or download it from www.bea.com.

Step 2. 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/confgwiz/index.html
```

When you use the Configuration Wizard to create a domain that includes support for application integration, a domain-specific version of the Database Wizard is installed in the <code>DOMAIN_HOME</code> 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 <code>Starting</code>, <code>Stopping and Customizing BEA WebLogic Integration</code>, at the following URL:

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

Step 3. Adjusting the Classpath

Set the classpath using the procedure appropriate for your system:

- Adjusting the Classpath for Windows
- Adjusting the Classpath for UNIX

Note: The following procedures reference files that must be obtained from the MA88 SupportPac (if you are using MQSeries 5.1 or 5.2) or from your WebSphere MQ 5.3 distribution. For additional information, see "Before Using the Adapter to Interact with MQSeries" on page 1-2. Be sure you know the location of the required files.

Adjusting the Classpath for Windows

To adjust the classpath 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 Set Domain Type Data. cmd file.

Here, <code>DomainType</code> is the type of the domain. For example, if your domain is configured to support the development of solutions that employ the full range of WebLogic Integration functionality, it contains the <code>SetwliDomainData.cmd</code> file.

Update the SVRCP environment variable settings in the SetDomainTypeData.cmd file.

Note: The SVRCP environment variable is used in the Set*DomainType*Data script to set the classpath for the java executable.

After the following line:

set SVRCP=%SVRCP%;%PBCOMMONCP%

add the following JAR files:

```
REM ===== Libraries for MQSeries =====
set SVRCP=%SVRCP%;"D:\Program Files\MQSeries\Java\lib\com.ibm.mq.iiop.jar"
set SVRCP=%SVRCP%;"D:\Program Files\MQSeries\Java\lib\com.ibm.mq.jar"
set SVRCP=%SVRCP%;"D:\Program Files\MQSeries\Java\lib\com.ibm.mqbind.jar"
REM ===== Native Libraries and Localized Properties =====
set SVRCP=%SVRCP%;"D:\Program Files\MQSeries\Java\lib"
```

Here, *D:\Program Files\MQSeries\Java\lib* is a sample directory in which the required MQSeries classes for Java and JMS are located. For additional information, see "Before Using the Adapter to Interact with MQSeries" on page 1-2.

Adjusting the Classpath for UNIX

To adjust the classpath on UNIX, complete the following steps:

1. Go to the root directory for your domain:

```
cd DOMAIN HOME
```

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

2. Find the Set Domain Type Data. cmd file.

Here, <code>DomainType</code> is the type of the domain. For example, if your domain is configured to support the development of solutions that employ the full range of WebLogic Integration functionality, it contains the <code>SetwliDomainData.cmd</code> file.

Update the SVRCP environment variable settings in the SetDomainTypeData.cmd file.

Note: The SVRCP environment variable is used in the Set Domain TypeData script to set the classpath for the java executable.

After the following line:

```
SVRCP=%SVRCP%;%PBCOMMONCP%
```

add the following JAR files:

```
# ===== Libraries for MQSeries =====
SVRCP=$SVRCP:/usr/MQSeries/Java/lib/com.ibm.mq.iiop.jar
SVRCP=$SVRCP:/usr/MQSeries/Java/lib/com.ibm.mq.jar
SVRCP=$SVRCP:/usr/MQSeries/Java/lib/com.ibm.mqbind.jar
# ===== Native Libraries and Localized Properties =====
SVRCP=$SVRCP:/usr/MQSeries/Java/lib
```

Here, /usr/MQSeries/Java/lib is a sample directory in which the required MQSeries classes for Java and JMS are located. For additional information, see "Before Using the Adapter to Interact with MQSeries" on page 1-2.

Step 4. Updating the BEA License

The BEA WebLogic Adapter for HL7 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 HL7_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, <code>license_update_file</code> 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 5. Deploying the Adapter Using the WebLogic Server Console

After the BEA WebLogic Adapter for HL7 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.

The WebLogic Server Administration Console opens.

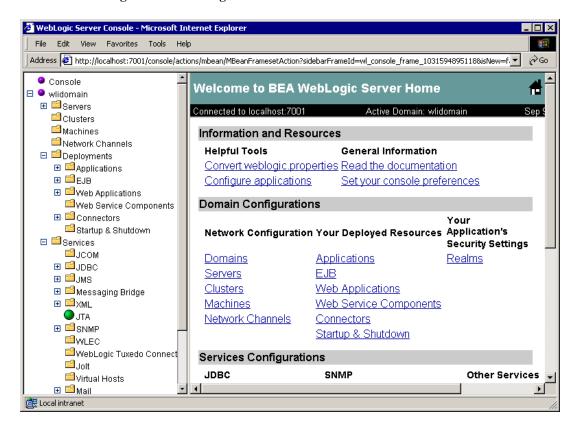


Figure 1-1 WebLogic Server Console

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

The console displays the Applications window.

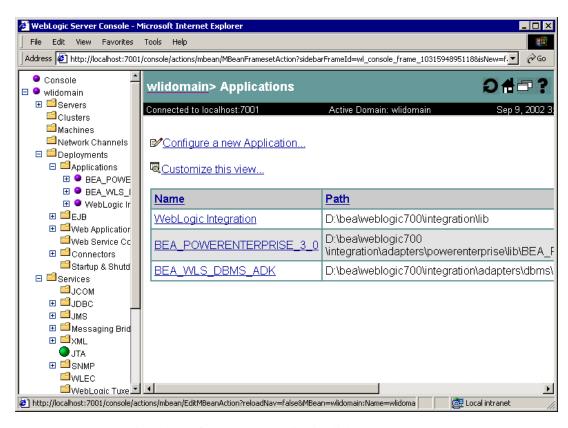
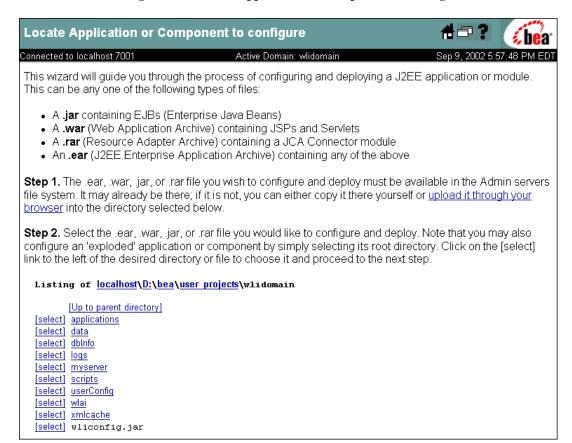


Figure 1-2 Applications Window

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_HL7_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_HL7_1_0_70.ear

If you have not copied the BEA_HL7_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

[Up to parent directory]

- 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.

Install or Update an Application Sep 9, 2002 5:01:00 PM EDT Connected to localhost:7001 Active Domain: wlidomain 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. Upload Cancel C:\downloads\BEA_HL7_1_0.ear Browse...

Figure 1-6 Install or Update an Application Window

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.

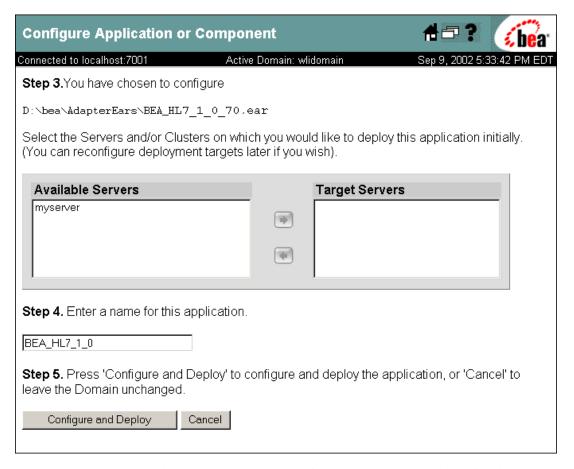
Figure 1-7 Adapter EAR File Uploaded to Administrative Server

Listing of <u>localhost\D:\bea\AdapterEars</u>

[Up to parent directory]
[select] BEA_HL7_1_0_70.ear

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

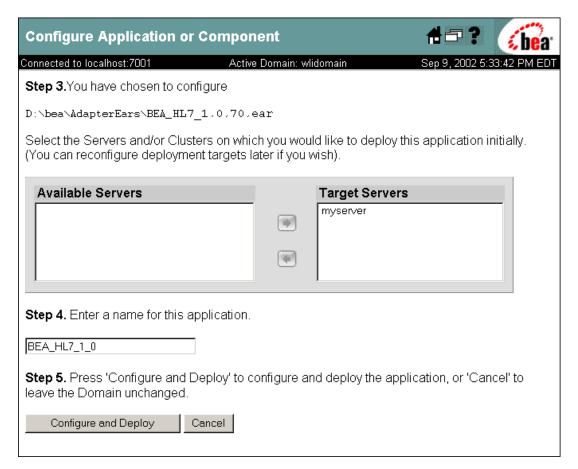


- 8. Select the servers or clusters on which to deploy the adapter by using the arrow buttons to move entries from the available list to the target list.
- 9. You must change the application name from BEA_HL7_1_0_70 to BEA_HL7_1_0.

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

The following figure shows a configured application.

Figure 1-9 Configured Application



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 6. 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

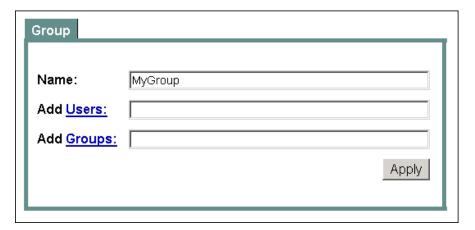
If you created a domain based on the	And the administrative server user name is	Then
Platform domain template	Any value	Create the adapter group and add the administrative user name to it as described in "Creating the Adapter Group" on page 1-19.
WLI or EAI domain template	system	The adapter group is already defined. This group includes the system user name by default. No further configuration is required.
WLI or EAI domain template	A value other than system	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 1-20.

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



- 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



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

- 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.

Next Steps

When you have successfully installed and deployed the adapter, 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 HL7. For more information, see the *BEA WebLogic Adapter for HL7 User Guide*.