



BEA WebLogic Adapter for HL7[®]

Installation and Configuration Guide

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About This Document

This document explains how to install and configure the BEA WebLogic Adapter for HL7.

Who Should Read This Documentation

This document is intended for the following members of an integration team:

- **Integration Specialists**—Lead the integration design effort. Integration specialists have expertise in defining the business and technical requirements of integration projects, and in designing integration solutions that implement specific features of WebLogic Integration. The skills of integration specialists include business and technical analysis, architecture design, project management, and WebLogic Integration product knowledge.
- **Technical Analysts**—Provide expertise in an organization’s information technology infrastructure, including telecommunications, operating systems, applications, data repositories, future technologies, and IT organizations. The skills of technical analysts include technical analysis, application design, and information systems knowledge.
- **Enterprise Information System (EIS) Specialists**—Provide domain expertise in the systems that are being integrated using WebLogic Integration adapters. The skills of EIS specialists include technical analysis and application integration design.
- **System Administrators**—Provide in-depth technical and operational knowledge about databases and applications deployed in an organization. The skills of system administrators include capacity and load analysis, performance analysis and tuning, deployment topologies, and support planning.

What You Need to Know

This document assumes that you have an understanding of:

- Web technologies
- WebLogic Integration
- HL7 software, system, and environment. This includes understanding of HL7 tools and configuration as well as processes and data models.
- Your specific HL7 business needs and applications.
- MQSeries, if you intend to use this system as a transport for the BEA WebLogic Adapter for HL7.

Product Documentation on the dev2dev Web Site

BEA product documentation, along with other information about BEA software, is available from the BEA dev2dev Web site:

<http://dev2dev.bea.com>

To view the documentation for a particular product, select that product from the list on the dev2dev page; the home page for the specified product is displayed. From the menu on the left side of the screen, select Documentation for the appropriate release. The home page for the complete documentation set for the product and release you have selected is displayed.

Related Information

Readers of this document may find the following documentation and resources especially useful:

- *BEA WebLogic Adapter for HL7 Release Notes*
<http://edocs.bea.com/wladders/hl7/docs812/pdf/relnotes.pdf>
- *BEA WebLogic Adapter for HL7 User Guide*
<http://edocs.bea.com/wladders/hl7/docs812/pdf/user.pdf>
- *Introduction to the BEA WebLogic Adapters*
<http://edocs.bea.com/wladders/docs81/pdf/intro.pdf>
- BEA WebLogic Adapters Dev2Dev Product Documentation
<http://dev2dev.bea.com/products/wladders/index.jsp>

- Application Integration documentation
<http://edocs.bea.com/wli/docs81/aiover/index.html>
<http://edocs.bea.com/wli/docs81/aiuser/index.html>
- BEA WebLogic Integration documentation
<http://edocs.bea.com/wli/docs81/index.html>
- BEA WebLogic Platform documentation
<http://edocs.bea.com/platform/docs81/index.html>
- HL7 documentation
<http://www.hl7.org>

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 that you are using the documentation for BEA WebLogic Adapter for HL7 and the version of the documentation.

If you have any questions about this version of BEA WebLogic Adapter for HL7, or if you have problems using 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
- 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.
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. <i>Examples:</i> <pre>#include <iostream.h> void main () the pointer psz chmod u+w * \tux\data\ap .doc tux.doc BITMAP float</pre>
monospace boldface text	Identifies significant words in code. <i>Example:</i> <pre>void commit ()</pre>
<i>monospace italic text</i>	Identifies variables in code. <i>Example:</i> <pre>String <i>expr</i></pre>
UPPERCASE TEXT	Indicates device names, environment variables, and logical operators. <i>Examples:</i> <pre>LPT1 SIGNON OR</pre>
{ }	Indicates a set of choices in a syntax line. The braces themselves should never be typed.

Convention	Item
[]	<p>Indicates optional items in a syntax line. The brackets themselves should never be typed.</p> <p><i>Example:</i></p> <pre>buildobjclient [-v] [-o name] [-f file-list]... [-l file-list]...</pre>
	<p>Separates mutually exclusive choices in a syntax line. The symbol itself should never be typed.</p>
...	<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. The vertical ellipsis itself should never be typed.</p>

Installing the BEA WebLogic Adapter for HL7

This section explains how to install the BEA WebLogic Adapter for HL7 with WebLogic Integration on both Windows and UNIX systems.

This section is organized as follows:

- [Preparing to Install the Adapter](#)
- [Installing the Adapter](#)
- [Next Steps](#)

Preparing to Install the Adapter

Before you install the BEA WebLogic Adapter for HL7, be sure to complete the following tasks:

- [Install MQSeries](#)
- [Review the Release Notes](#)
- [Understanding the Representation of Paths](#)

Install MQSeries

To use the BEA WebLogic Adapter for HL7 with IBM MQSeries (now known as WebSphere MQ) as a transport, you must install MQSeries or the MQSeries client on the machine where the BEA WebLogic Adapter for HL7 will be installed. You must also install the classes required to develop MQSeries applications in Java through the following Java 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 from 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 are included in the `java/lib` directory of the WebSphere MQ distribution.

Review the Release Notes

The *BEA WebLogic Adapter for HL7 Release Notes* contain important information about the software you must install prior to installing the BEA WebLogic Adapter for HL7. Also, check the release notes for information about any required patches for your system. The *BEA WebLogic Adapter for HL7 Release Notes* are available at the following URL:

<http://edocs.bea.com/wladders/hl7/docs812/pdf/relnotes.pdf>

Understanding the Representation of Paths

When you install WebLogic Integration, you specify the locations for files. Some of these files are required by the adapter. This document uses the following conventions to represent the locations of these files.

- *BEA_HOME* represents the BEA Home directory of your WebLogic installation. For example:
 - If you install the product in the default location on a Windows system, *BEA_HOME* represents `c:\bea`.
 - If you install the product in the default location on a UNIX system, *BEA_HOME* represents `/bea`.
- *WLI_HOME* represents the root of your WebLogic Integration installation. For example:
 - If you install WebLogic Integration in the default location on a Windows system, *WLI_HOME* represents `c:\bea\weblogic81\integration`.
 - If you install WebLogic Integration in the default location on a UNIX system, *WLI_HOME* represents `/bea/weblogic81/integration`.
- *domain* is used to indicate the name of a domain.

You use the Configuration Wizard to create custom user domains. When you set up the domain configuration with the Configuration Wizard, you must specify a domain name, *domain*. You must also indicate where the directory associated with this domain is created. This directory contains files required for that domain. To learn more about the Configuration Wizard, see *Using the Configuration Wizard* which is available at the following URL:

<http://edocs.bea.com/platform/docs81/configwiz/index.html>

- *DOMAIN_HOME* represents the complete path to the root of a domain.
For example, if you use the Configuration Wizard to create a domain in the default location on a Windows system, *DOMAIN_HOME* represents `c:\bea\weblogic81\user_projects\domain`.

If you use the Configuration Wizard to create a domain in the default location on a UNIX system, *DOMAIN_HOME* represents `/bea/weblogic81/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.

Installing the Adapter

This section explains how to install the BEA WebLogic Adapter for HL7 with WebLogic Integration. It includes the following steps:

- [Step 1. Obtain the BEA WebLogic Adapter for HL7](#)
- [Step 2. Configure the Domain](#)
- [Step 3. Extract the Adapter Files and Change the WebLogic Script](#)
- [Step 4. Update the BEA License](#)
- [Step 5. Deploy the Adapter](#)
- [Step 6. Create an Adapter Administrative User](#)

Step 1. Obtain the BEA WebLogic Adapter for HL7

To obtain the EAR file containing the BEA WebLogic Adapter for HL7 software (BEA_HL7_8_1.ear), do one of the following:

- Download the file from the following URL:
http://commerce.bea.com/products/weblogicadapters/wl_adapter_home.jsp
- Obtain the software on CD.

Step 2. Configure the Domain

You must deploy the BEA WebLogic Adapter for HL7 in a domain that supports application integration functionality. You can create one of your own, or use the sample integration domain. The sample integration domain is:

- On Windows: `BEA_HOME\weblogic81\samples\domains\integration`
- On UNIX: `BEA_HOME/weblogic81/samples/domains/integration`

If you have not already done so, use the Configuration Wizard to create the domain using the Integration domain template.

To learn more about the Configuration Wizard, see the *Configuration Wizard Template Reference* at the following URL:

<http://edocs.bea.com/platform/docs81/confgwiz/index.html>

Step 3. Extract the Adapter Files and Change the WebLogic Script

This section explains how to extract the BEA WebLogic Adapter for HL7 files and edit your WebLogic script (`setDomainEnv`) to add jar files to the CLASSPATH, and adjust the PATH.

Set the classpath using the procedure appropriate for your system:

- [Extracting Files and Adjusting the Classpath for Windows](#)
- [Extracting Files and Adjusting the Classpath for UNIX](#)

Note: These procedures reference MQSeries or WebSphere MQ files. To learn more about obtaining these files, see [Install MQSeries](#).

Extracting Files and Adjusting the Classpath for Windows

To extract the BEA WebLogic Adapter for HL7 files and edit the WebLogic script:

1. Use WinZip (or another similar file extraction product) to extract the `BEA_HL7_8_1.ear` file to a directory of your choice (for example, `BEA_HOME\adapters\hl7`).
2. Go to the root directory for your domain:

```
cd DOMAIN_HOME
```

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

3. Open the `setDomainEnv.cmd` file with an ASCII editor.
4. Find the following command in the `setDomainEnv.cmd` file:

```
set CLASSPATH=%ARDIR%\ant\ant.jar;%JAVA_HOME%\jre\lib\rt.jar
```

5. Immediately *after* this command line, insert the following command lines so that the CLASSPATH and PATH point to the files you extracted in Step 1:

```
rem ==== Libraries for MQSeries ====
```

```
set CLASSPATH=%CLASSPATH%; "D:\Program Files\MQSeries\Java\lib\com.ibm.mqjms.jar"
```

```
set CLASSPATH=%CLASSPATH%; "D:\Program Files\MQSeries\Java\lib\com.ibm.mq.jar"
```

```
set CLASSPATH=%CLASSPATH%; "D:\Program Files\MQSeries\Java\lib\com.ibm.mqbind.jar"
```

```
CLASSPATH=%CLASSPATH%; "BEA_HOME\adapters\jdom.jar"
```

```
rem ==== Native Libraries and Localized Properties ====  
set CLASSPATH=%CLASSPATH%; "D:\Program Files\MQSeries\Java\lib"
```

6. Save your changes and close the `setDomainEnv.cmd` file.

Extracting Files and Adjusting the Classpath for UNIX

To extract the BEA WebLogic Adapter for HL7 files and edit the WebLogic script:

1. Use `jar` (or another similar file extraction product) to extract `BEA_HL7_8_1.ear` to a directory of your choice (for example, `BEA_HOME/adapters/hl7`).
2. Go to the root directory for your domain:

```
cd DOMAIN_HOME
```

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

3. Find the `setDomainEnv.sh` file.
4. Find the following command in the `setDomainEnv.sh` file:

```
set CLASSPATH="$ {ARDIR}/ant/ant.jar; $ {JAVA_HOME}/jre/lib/rt.jar"
```

5. Immediately *after* this command, insert the following command lines so that the `CLASSPATH` and `PATH` point to the files you extracted in Step 1:

```
# ==== Libraries for MQSeries ====  
CLASSPATH=$CLASSPATH:/usr/MQSeries/Java/lib/com.ibm.mqjms.jar  
CLASSPATH=$CLASSPATH:/usr/MQSeries/Java/lib/com.ibm.mq.jar  
CLASSPATH=$CLASSPATH:/usr/MQSeries/Java/lib/com.ibm.mqbind.jar  
CLASSPATH="$CLASSPATH:BEA_HOME/adapters/jdom.jar"
```

```
# ==== Native Libraries and Localized Properties =====  
CLASSPATH=$CLASSPATH:/usr/MQSeries/Java/lib
```

6. Save your changes and close the `setDomainEnv.sh` file.

Step 4. Update the BEA License

To use the BEA WebLogic Adapter for HL7 you must have a valid software license. If you have downloaded the adapter for evaluation, see the instructions on the adapter download page to obtain an evaluation license. If you have purchased a license for the adapter, you should receive

the license file as an e-mail attachment. Once you have the license file for the adapter, you must update your `license.bea` file to include the new information for the adapter.

To update your `license.bea` file:

1. Save the adapter license file in the `BEA_HOME` directory. To avoid overwriting your `license.bea` file, use a name other than `license.bea`. For example, save the file as `hl7_adapter_license.bea`. The adapter license file is the `license_update_file` referred to in step 4 of this procedure.

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

2. Go to the `BEA_HOME` directory:
 - 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. Add the JDK to your `PATH` variable. If it is already included, skip to step 4.

- On a Windows system:

```
set PATH=BEA_HOME\jdk141_05\bin;%PATH%
```

- On a UNIX system:

```
PATH=BEA_HOME/jdk141_05/bin:$PATH
export PATH
```

4. Merge the adapter license file into your existing license:

- 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 of the adapter license file you saved in step 1.

5. Save a backup copy of your updated `license.bea` file. This backup location should be a safe place that is neither the WebLogic Integration nor the application installation directories.

Step 5. Deploy the Adapter

After you have installed the BEA WebLogic Adapter for HL7, you must deploy it to your domain.

To deploy the adapter:

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

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

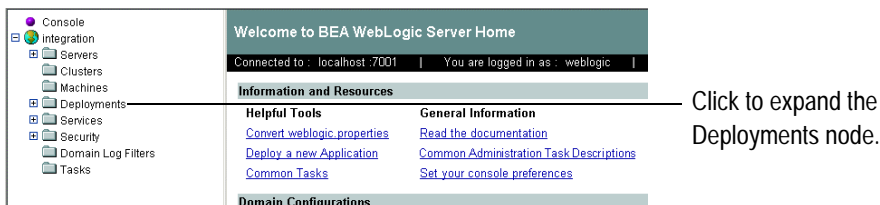
Where,

- *host* represents the machine on which WebLogic Server is running
- *port* represents the listening port.

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

3. Enter the user name and password for the server.

The WebLogic Server Administration Console appears.



4. In the left pane, expand the Deployments node.
5. Under the Deployments node, right-click Applications and select Deploy a New Application.

This initiates the Deployment Assistant in the right panel.

An application is a J2EE application or Web Service contained in an Enterprise Application Archive (EAR) file or exploded EAR directory. Individual components contained in a J2EE application can be deployed to one or more target servers or clusters.

This Applications page displays key information about the EAR files or exploded EAR directories that have been configured for deployment in this WebLogic Server domain.

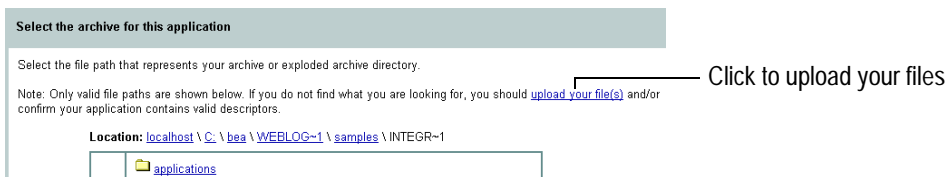
[Deploy a new Application](#)

Click to deploy a new application

[Customize this view...](#)

6. Click the Deploy a new Application link.

The Administration Console displays the Deploy an Application window.



- Click the upload your files(s) link.

The Administration Console displays the Install or Update an Application window.

Upload and Install an Application or Module

Click the Browse... button below to locate an application or module file on the machine from which you are currently browsing. When you have located the file, click the Upload button to upload and install the application or module on this Administration Server. The following types of files may be uploaded and installed:

- A **.jar** containing EJBs (Enterprise JavaBeans)
- A **.war** (Web Application Archive) containing JSPs and Servlets
- A **.rar** (Resource Adapter Archive) containing a 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.



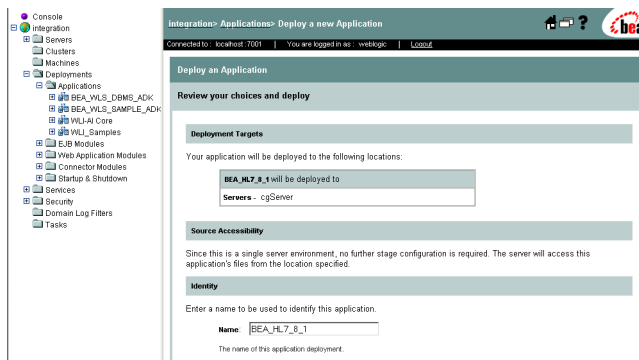
Click to browse to the ear file's location.

- Click Browse, navigate to the directory in which the BEA_HL7_8_1.ear file resides, and then click Upload.

The Administration Console prompts you to confirm the uploaded application.

- Click the radio button next to the application file and then click Continue.

The Administration Console uploads the file and displays the Deploy an Application window (specifying the default target server).



- Click Deploy.

The Administration Console deploys the application and displays its deployment status.

Step 6. Create an Adapter Administrative User

If you want to manage security for the BEA WebLogic Adapter for HL7, you can create an administrative user (such as hl7AdapterAdmin) who is authorized to log in to the Application View Console, create application views, configure services and events, deploy, and test. This adapter administrator also needs to be added to the Administrators group.

To learn more about the Application View Console, see Viewing and Changing Application View Details in *Managing WebLogic Application Integration Solutions* at the following URL:
<http://edocs.bea.com/wli/docs81/manage/index.html>

To create a new adapter administrative user:

1. In the left pane of the WebLogic Server Administration Console, click the Security node.
2. In the left pane, click the Realms node.
3. In the left pane, click the name of the realm for which you want to configure security.
4. In the left pane, click Users.

The Users page is displayed.



Users are entities that can be authenticated. A user can be a person or software entity, such as a Java client. Each user is given a unique identity within a security realm. BEA recommends assigning users to groups for two reasons: it makes the WebLogic Security Service perform better, and makes it more efficient for administrators who work with large numbers of users.

This Users page displays key information about each user that has been configured in this security realm.

 [Configure a new User...](#)

Click to configure a new user.

Filter By:

User	Description	Provider	
weblogic	weblogic	DefaultAuthenticator	
installadministrator	installadministrator	DefaultAuthenticator	

5. Under the Deployments node, right-click Applications and select Deploy a New Application. This initiates the Deployment Assistant in the right panel. Click the Configure a New User link.

The Create User page is displayed.

 [Configure a new User...](#)

General | Groups | Details

This page allows you to define a user in this security realm.

Name: MyAdapterAdmin

The login name for this user:

Description:

A short description of this user. For example, the user's full name.

Password: [Change...](#)

Enter a description for this user.

Click to change the password.

6. Click the Groups tab.

The Groups page is displayed.

[Configure a new User...](#)

Select a group for the user.

7. In the Possible Groups list, select Administrators and then click the right arrow to add the Administrators group to the list of current groups.
8. Click Apply.
9. In the left pane, right-click the Users node, select Open and confirm that the user you created appears in the list of users.

Next Steps

After you have finished installing the BEA WebLogic Adapter for HL7, you can proceed to the following tasks:

- [Starting Integration with HL7](#)

Starting Integration with HL7

After you have successfully installed and deployed the BEA WebLogic Adapter for HL7, you can begin integrating your application with your HL7 system using the adapter and BEA WebLogic Integration. To learn more about integrating with HL7, see the *BEA WebLogic Adapter for HL7 User Guide* at the following URL:

<http://edocs.bea.com/wlapters/hl7/docs812/pdf/user.pdf>

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