



BEA WebLogic Adapter for HTTP

User Guide

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BEA WebLogic Adapter for HTTP User Guide

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About This Document

The *BEA WebLogic Adapter for HTTP User Guide* is organized as follows:

- [Chapter 1, “Introducing the BEA WebLogic Adapter for HTTP,”](#) introduces the BEA WebLogic Adapter for HTTP, describes its features, and gives an overview of how it works.
- [Chapter 2, “Metadata, Schemas, and Repositories,”](#) describes metadata, how to name a schema repository and the schema manifest, how to create a schema, how to store directory and template files for transformations.
- [Chapter 3, “Defining an Application View for the BEA WebLogic Adapter for HTTP,”](#) describes how application views are created.
- [Chapter 4, “Service and Event Configuration,”](#) describes how to add services and events to application views.
- [Chapter 5, “BEA WebLogic Adapter for HTTP Integration Using Studio,”](#) describes how events are incorporated into workflow design.
- [Chapter 6, “Transforming Document Formats,”](#) describes how to utilize Message Format Language files to transform a document.
- [Chapter 7, “Using Tracing,”](#) describes how to use tracing.

What You Need to Know

This document is written for system integrators who develop client interfaces between HTTP and other applications. It describes how to use the BEA WebLogic Adapter for HTTP 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 HTTP Installation and Configuration Guide*
- *BEA WebLogic Adapter for HTTP Release Notes*
- *BEA Application Explorer Installation 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 HTTP 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 HTTP documentation.

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

If you have any questions about this version of the BEA WebLogic Adapter for HTTP, or if you have problems using the BEA WebLogic Adapter for HTTP, 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.

Convention	Item
<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> #include <iostream.h> void main () the pointer psz chmod u+w * \tux\data\ap .doc tux.doc BITMAP float
monospace boldface text	Identifies significant words in code. <i>Example:</i> void commit ()
<i>monospace italic text</i>	Identifies variables in code. <i>Example:</i> String <i>expr</i>
UPPERCASE TEXT	Indicates device names, environment variables, and logical operators. <i>Examples:</i> 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. <i>Example:</i> buildobjclient [-v] [-o name] [-f <i>file-list</i>]... [-l <i>file-list</i>]...

Convention	Item
	Separates mutually exclusive choices in a syntax line. The symbol itself should never be typed.
...	<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>
.	Indicates the omission of items from a code example or from a syntax line.
.	The vertical ellipsis itself should never be typed.
.	



1 Introducing the BEA WebLogic Adapter for HTTP

This section introduces the BEA WebLogic Adapter for HTTP, describes its features, and gives an overview of how it works. It includes the following topics:

- [Introduction](#)
- [How the BEA WebLogic Adapter for HTTP Works](#)

Introduction

From the company that delivers the market's fastest growing integration solution comes a standards-based method of implementing the critical "last mile" of connectivity to your enterprise applications. As an extension to BEA WebLogic Integration™, BEA offers a growing portfolio of application, technology, and utility adapters. These best-of-breed adapters completely conform to the J2EE Connector Architecture specification, and feature enhancements that enable faster, simpler, and more robust integration of your business-critical applications.

The BEA WebLogic Adapter for HTTP enables integration behind and beyond the firewall by utilizing the Hypertext Transfer Protocol (HTTP) to integrate information critical to any enterprise integration strategy.

Key features of the BEA WebLogic Adapter for HTTP include support for:

- Asynchronous, bi-directional message interactions between BEA WebLogic Integration and HTTP-based servers.
- A business process that runs within BEA WebLogic Integration to transfer data to and from HTTP-based servers.
- Integration of service (inbound) and event (outbound) operations in workflows.
- XML, Comma Separated Variable (CSV), Excel, Message Format Language (MFL), and Custom Data Formats. The adapter converts non-XML files into XML formats. Delimited, fixed length, and variable length file formats are supported. Custom Data Formats are expressed using an XML dictionary file, which generates the appropriate schemas required by WebLogic Integration.
- Events that can be routed to the HTTP messaging system. Message attachments can contain proprietary custom data formats that need to be transformed. The BEA WebLogic Adapter for HTTP supports processing of XML, ASCII (CSV, CDF, and Excel) and custom non-XML based messages containing structured, binary, and string data.

How the BEA WebLogic Adapter for HTTP Works

The adapter provides transport protocol support so that it can “listen” and “emit” documents using the HTTP protocol.

The listening capability has been implemented as an event within WebLogic Integration. The event can be configured to listen for a document by configuring the document root and supplying a port number, along with a number of options that are configured with the BEA Application Explorer and the WebLogic Application View Console:

- **Transformation services.** XML is quickly becoming the standard for exchanging information between applications; it is invaluable in integrating disparate applications. With this in mind, the BEA WebLogic Adapter for HTTP exposes parse/transformation services. Using pre-built customizable parsers to enable the parsing and conversion of a non-XML formatted document and XSLT transformation to modify XML document format, the BEA WebLogic Adapter for HTTP ensures that any incoming document can be converted to XML format dictated by your event or service schemas. The BEA WebLogic Adapter for HTTP can also be used in conjunction with other BEA WebLogic Adapters to process a variety of message types, such as SAP IDoc, SWIFT, FIX, HIPAA, and HL7.

The emitting capability has been implemented as a service within WebLogic Integration. When an outbound document is created, the service provides a number of options that are configured with the BEA Application Explorer and WebLogic Application View Console:

- **Transformation services.** Outbound documents can be parsed or transformed to convert XML documents to non-XML formats. The parsing of non-XML documents can also be provided by an XML file that defines a dictionary for certain file formats or a Java class designed to convert from an outgoing XML document into a non-XML document. The BEA WebLogic Adapter for HTTP can also be used in conjunction with other BEA WebLogic Adapters to process a variety of message types, such as SAP IDocs, SWIFT, FIX, HIPAA, and HL7.

- **Error Handling.** It is possible to define an alternative error-to option, such that in the event that a remote HTTP server or FTP server were unavailable, the file could be written to a local file system directory for further processing. Or, if the required outbound file system was full, the outbound file could be placed in another directory on a local system or remote FTP server.

2 Metadata, Schemas, and Repositories

This section explains how metadata for your enterprise information system (EIS) is described, how to name a schema repository and the schema manifest, how to create a schema, and how to store directory and template files for transformations. After the metadata for your EIS is described, you can create and deploy application views using the WebLogic Application View Console.

This section includes the following topics:

- [Understanding Metadata](#)
- [Schemas and Repositories](#)
- [The Repository Manifest](#)
- [Creating a Schema](#)
- [Storing Directory and Template Files for Transformations](#)

Understanding Metadata

When you define an application view, you are creating an XML-based interface between WebLogic Integration and an enterprise information system (EIS) or application within your enterprise. The BEA WebLogic Adapter for HTTP is used to define a file based interface to applications within and outside of the enterprise. Many applications or information systems use file systems to store and share data. These files contain information required by other applications, and this information can be fed information via the BEA WebLogic Adapter for HTTP.

The BEA WebLogic Adapter for HTTP can read, write, or manipulate different types of files stored in multiple file systems or FTP sites. WebLogic integration uses XML as the common format for data being processed in its workflows, which requires information that is not in XML to be transformed to XML. Alternatively, to share information successfully, the file adapter can transform information from the XML format used in WebLogic Integration to widely used formats, such as commercial XML schemas, EDI, SWIFT, HIPAA, HL7, and others.

For example, Excel is a widely used application that allows all types of professionals (from fund managers to administrative assistants) to collate information pertinent to their working environment. This information can be shared by other applications using the adapter's transformation capability, which can convert a worksheet to XML and to other business partners via an EDI stream.

To map this information within the workflow via event and service adapters, the BEA WebLogic Adapter for HTTP requires XML schemas for identifying and processing these documents. Because some of these documents may be in non-XML form, such as Excel, CSV, SWIFT, or HIPAA, they must be converted to XML and described to WebLogic Integration using these schemas. A manifest file is used to relate schemas to events or services. The schemas and manifest are stored in a folder or directory in the local file system referred to as the EIS repository. The repository location is required when creating an application view from which events and services can be configured.

Events are triggers to workflows. When a particular file arrives at a location, an event can be triggered to read and convert, if necessary, to the XML format that conforms to a particular schema, which then initiates a flow. Services are called from the workflow to perform supported operations.

The adapter converts non-XML, non-self describing documents into XML in two ways. The Format Builder tool can build MFL files that are stored in the WebLogic server local repository. The Format Builder is best used for unconventional or custom format files. The structure of this file can be defined using the Format Builder and used for basic conversion to or from XML. For conventional documents that are not self-describing, such as SWIFT, HIPAA, EDI/X12, EDIFACT, and HL7, the structure of the data is described using a data dictionary or .dic file.

Pre-built dictionaries are supplied for these formats, so creating them is not necessary, but you can customize them to conform with specific electronic trading agreements. Transformation templates or .xch files use these dictionaries to map the document to its XML form or vice versa.

Transformation templates use dictionaries as metadata for the file being read or created. The template defines the input value's relationship with the output values using the dictionary and XML schema. For events, the template is used to convert a non-XML format to XML and for services, the conversion can be reversed using an alternative template.

The templates are stored in the templates sub-directory of the EIS repository. Dictionaries are stored in the dictionaries sub-directory. The following is a sample data dictionary.

Listing 2-1 Data Dictionary Sample

```
<?xml version="1.0"?>
<!-- Title = EDI Transaction Dictionary by Transaction Set -->
<!-- Transaction = 276 Health Care Claim Status Request -->

<EDI Type="ASCII" Version="4010" Standard="X12">
<TransactionSet ID="276" Name="Health Care Claim Status Request"
Note="">

<!-- Table 1 -->

    <Segment ID="ST" Name="Transaction Set Header" Req="M"
MaxUse="1">

        <Element ID="01" Name="Transaction Set Identifier Code"
Req="M" Type="ID" MinLength="3" MaxLength="3" Note="The transaction
set identifier 'ST01' is used by the translation routines of the
interchange partners to select the appropriate transaction set
definition 'e.g., 810 select the Invoice Transaction Set'."/>
```

2 *Metadata, Schemas, and Repositories*

```
<Element ID="02" Name="Transaction Set Control Number" Req="M"
Type="AN" MinLength="4" MaxLength="9"/>

<Element ID="03" Name="Implementation Convention Reference"
Req="O" Type="AN" MinLength="1" MaxLength="35" Note="The
implementation convention reference 'ST03' is used by the
translation routines of the interchange partners to select the
appropriate implementation convention to match the transaction set
definition."/>

</Segment>

<Segment ID="BHT" Name="Beginning of Hierarchical Transaction"
Req="M" MaxUse="1">

<Element ID="01" Name="Hierarchical Structure Code" Req="M"
Type="ID" MinLength="4" MaxLength="4"/>

<Element ID="02" Name="Transaction Set Purpose Code" Req="M"
Type="ID" MinLength="2" MaxLength="2"/>

<Element ID="03" Name="Reference Identification" Req="O"
Type="AN" MinLength="1" MaxLength="50" Note="BHT03 is the number
assigned by the originator to identify the transaction within the
originator's business application system."/>
```

After the metadata for your EIS has been described, application views can be created and deployed using the WebLogic Integration Application View Console. For more information on creating application views, see [Chapter 3, “Defining an Application View for the BEA WebLogic Adapter for HTTP.”](#)

Schemas and Repositories

You describe all the documents entering and exiting your WebLogic Integration system using W3C XML schemas. These schemas describe each event arriving to and propagating out of an event, and each request sent to and each response received from a service. There is one schema for each event and two for each service (one for the request, one for the response). The schemas are usually stored in files with an `.xsd` extension.

Use the WebLogic Integration Application View Console to access events and services, and to assign a schema to each event, request, and response. Assign each application view to a schema repository; several application views can be assigned to the same repository.

BEA WebLogic Adapters all make use of a schema repository to store their schema information and present it to the WebLogic Application View Console. The schema repository is a directory containing:

- A manifest file that describes the event and service schemas.
- The corresponding schema descriptions.

To work with schemas, you must know how to:

- Name a schema repository.
- Create a manifest.
- Create a schema.

Naming a Schema Repository

The schema repository has a three-part naming convention:

session_base_directory\adapter\connection_name

- *session_base_directory* is the schema's session base path, which represents a folder under which multiple sessions of schemas may be held.
- *adapter* is the type of adapter (for example, HTTP or SAP).
- *connection_name* is a name representing a particular instance of the adapter type.

For example, if the session base path is `/usr/opt/bea/bse`, the adapter type is HTTP, and the connection name is HTTPDev, then the schema repository is the directory:

`/usr/opt/bea/bse/HTTP/HTTPDev`

The Repository Manifest

Each schema repository has a manifest that describes the repository and its schemas. This repository manifest is stored as an XML file named `manifest.xml`.

The following is an example of a sample manifest file showing relationships between events and services and their related schemas.

The manifest file relates documents (through their schemas) to services and events. The manifest exposes schema references to the event relating the required document (via the root tag) to the corresponding schema. Schemas and manifests are stored in the same directory, the repository root of the EIS. The following is an example of the a manifest file with a description of the elements.

Listing 2-2 Sample Manifest File

```
<?xml version="1.0" encoding="ISO-8859-1" ?>
<manifest>
  <connection/>
  <schemaref name="service_only">
    <request root="INVOICE" file="INVOICE.xsd"/>
    <response root="emitStatus" file="FileEmit.xsd"/>
  </schemaref>
  <schemaref name="event_only">
    <event root="PURCHASE_ORDER" file="PURCHASE_ORDER.xsd"/>
  </schemaref>
  <schemaref name="shared">
    <request root="STOCK_STATUS" file="STOCK_STATUS.xsd"/>
    <response root="emitStatus" file="FileEmit.xsd"/>
    <event root="STOCK_UPDATE" file="STOCK_UPDATE.xsd"/>
  </schemaref>
</manifest>
```

The manifest has a connection section (which is not used by the BEA WebLogic Adapter for HTTP) and a schema reference section, named `schemaref`. The schema reference name is displayed in the schema drop-down list on the Add Service and Add Event windows in the WebLogic Integration Application View Console. This sample manifest has three schema references or `schemaref` tags; one for services only, one for events only, and one for a combination of services and events. Events require only one schema, defined by the *event* tag. This relates the root tag of an XML document to a schema in the EIS repository. For services, two schemas are required: one for the document being passed to the service, represented by the *request* tag, and one for the expected *response* document received from the service operation, represented by the *response* tag.

Creating a Repository Manifest

The repository manifest is an XML file with the root element `manifest` and two sub-elements:

- `connection`, which appears once, and which you can ignore because it is not used by the BEA WebLogic Adapter for HTTP.
- `schemaref`, which appears multiple times, once for each schema name, and which contains all three schemas—request, response, and event.

To create a manifest:

1. Create an XML file with the following structure:

```
<manifest>
  <connection>
</connection>
</manifest>
```

2. For each new event or service schema you define, create a `schemaref` section using this model:

```
<schemaref name="OrderIn">
  <request root="OrderIn" file="service_OrderIn_request.xsd"/>
  <response root="emitStatus" file="MQEmitStatus.xsd"/>
  <event root="OrderIn" file="event_OrderIn.xsd"/>
</schemaref>
```

Here, the value you assign to:

- `file` is the name of the file in the schema repository.
- `root` is the name of the root element in the actual instance documents that will arrive at, or be sent to, the event or service.

Creating a Schema

Schemas describe the rules of the XML documents that will traverse WebLogic Integration. You can generate a schema manually or through a schema-generating tool.

WebLogic Integration interacts with application view events and services by sending and receiving XML messages. The XML messages are defined by XML schemas. The schemas are stored in directories specific for each adapter.

You must set up at least one directory for each adapter you use. This directory can contain multiple subdirectories, each of which can hold schemas specific to different instances of your application. You should name the parent directory to represent your adapter; you can name the subdirectories according to what is appropriate for your application.

For example, if you have four instances of an application that exchanges messages between the BEA WebLogic Adapter for HTTP and WebLogic Integration, you should set up four subdirectories to store the schemas; the subdirectories should be in a parent HTTP directory:

```
D: \TraderSystems\BEAapps\HTTP\FTPprod
D: \TraderSystems\BEAapps\HTTP\FTPdev
D: \TraderSystems\BEAapps\HTTP\FTPuat
```

The schemas for the documents being processed are stored within those directories.

The following is an example of an instance document for the OrderIn event referred to in [“Creating a Repository Manifest” on page 2-8](#).

Listing 2-3 Instance Document for OrderIn Event

```
<?xml version="1.0"?>
<OrderIn>
  <Store_Code>1003CA</Store_Code>
  <LineItem>
    <Prod_Num>1003</Prod_Num>
    <Quantity>100</Quantity>
    <Price>1.69</Price>
  </LineItem>
  <LineItem>
    <Prod_Num>1004</Prod_Num>
```

```
        <Quantity>10</Quantity>
        <Price>1.79</Price>
    </LineItem>
</OrderIn>
```

The following is a schema matching this instance document and may be manually coded or generated from any XML editor.

Listing 2-4 Schema Matching OrderIn Event Instance Document

```
<?xml version="1.0" encoding="UTF-8"?>

<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified">
  <xsd:element name="OrderIn">
    <xsd:complexType>
      <xsd:sequence>
        <xsd:element ref="Store_Code"/>
        <xsd:element ref="LineItem" maxOccurs="unbounded"/>
      </xsd:sequence>
    </xsd:complexType>
  </xsd:element>
  <xsd:element name="LineItem">
    <xsd:complexType>
      <xsd:sequence>
        <xsd:element ref="Prod_Num"/>
        <xsd:element ref="Quantity"/>
        <xsd:element ref="Price"/>
      </xsd:sequence>
    </xsd:complexType>
  </xsd:element>
  <xsd:element name="Price">
    <xsd:simpleType>
      <xsd:restriction base="xsd:decimal">
        <xsd:enumeration value="1.69"/>
        <xsd:enumeration value="1.79"/>
      </xsd:restriction>
    </xsd:simpleType>
  </xsd:element>
  <xsd:element name="Prod_Num">
    <xsd:simpleType>
      <xsd:restriction base="xsd:short">
        <xsd:enumeration value="1003"/>
        <xsd:enumeration value="1004"/>
      </xsd:restriction>
    </xsd:simpleType>
  </xsd:element>

```



```
</xsd:restriction>
</xsd:simpleType>
</xsd:element>
<xsd:element name="Quantity">
  <xsd:simpleType>
    <xsd:restriction base="xsd:byte">
      <xsd:enumeration value="10"/>
      <xsd:enumeration value="100"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="Store_Code" type="xsd:hexBinary"/>
</xsd:schema>
```

Storing Directory and Template Files for Transformations

The BEA WebLogic Adapter for HTTP supports the exchange of XML and non-XML messages with WebLogic Integration. Templates and dictionaries are created and associated with the BEA WebLogic Adapter for HTTP events and services. Dictionaries (.dic extension) are documents that describe an incoming non-XML document. Templates (.xch extension) describe the conversion from one format to another (XML to non-XML, and vice versa). Sample dictionaries and templates are supplied with the product and must be placed in a `transform` subdirectory in the root directory for your domain, as shown in the following paths:

```
DOMAIN_HOME\transform\xch
DOMAIN_HOME\transform\xslt
DOMAIN_HOME\transform\dic
```

Samples File

Supplied with the BEA WebLogic Adapter for HTTP are sample files (xml and edi format) that can be used to help test that your environment is correctly set up and working. The `BEA_SAMPLES.zip` file also includes sample manifest and schema files.

3 Defining an Application View for the BEA WebLogic Adapter for HTTP

This section describes how metadata is used and how to create application views. It includes the following topics:

- [Schemas, Dictionaries, and Transformation Templates](#)
- [Creating a Transformation Template](#)
- [Creating a New Application View](#)

Schemas, Dictionaries, and Transformation Templates

When you define an application view, you are creating an XML-based interface between WebLogic Server and a particular Enterprise Information System (EIS) application within your enterprise. In the case of the BEA WebLogic Adapter for HTTP, this is a set of files that your applications have to create or respond to.

For example, Excel is a widely used application that allows professionals to collate information pertinent to their working environment. SAP is also a valuable application used in the IT environment for CRM solutions. The BEA WebLogic Adapter for HTTP allows you to effectively share information between these disparate systems. The adapter can detect an update in the Excel document, transform it to XML, and pass it to WebLogic Integration. Based on a predefined workflow, WebLogic Integration can use the BEA WebLogic Adapter for SAP to send the information, in the appropriate format, and cause an update in the SAP system. As another example, WebLogic Integration can place the information on a file system, FTP site, or MQSeries queue for integration with applications that comply with industry- or government-mandated standards, such as HL7, HIPAA, or Swift. In this case, WebLogic Integration uses the BEA WebLogic Adapter for File or the BEA WebLogic Adapter for MQSeries in conjunction with the BEA WebLogic Adapter for HL7, the BEA WebLogic Adapter for HIPAA, or the BEA WebLogic Adapter for Swift.

The adapter requires schemas for processing these documents. As some of these documents may be in non-XML form (for example, Excel, CSV, SWIFT, and HIPAA), they have to be converted to XML and described to WebLogic Integration using schemas. For more information on schemas, see [Chapter 2, “Metadata, Schemas, and Repositories.”](#)

For non-XML, non-self-describing documents, the structure of the data needs to be described using a data dictionary such as the one shown:

Listing 3-1 Data Dictionary

```
<?xml version="1.0"?>
<!-- Title = EDI Transaction Dictionary by Transaction Set -->
<!-- Transaction = 276 Health Care Claim Status Request -->

<EDI Type="ASCII" Version="4010" Standard="X12">
<TransactionSet ID="276" Name="Health Care Claim Status Request"
Note="">

<!-- Table 1 -->

    <Segment ID="ST" Name="Transaction Set Header" Req="M"
MaxUse="1">

        <Element ID="01" Name="Transaction Set Identifier Code"
Req="M" Type="ID" MinLength="3" MaxLength="3" Note="The transaction
set identifier 'ST01' is used by the translation routines of the
interchange partners to select the appropriate transaction set
definition 'e.g., 810 select the Invoice Transaction Set'."/>

        <Element ID="02" Name="Transaction Set Control Number" Req="M"
Type="AN" MinLength="4" MaxLength="9"/>

        <Element ID="03" Name="Implementation Convention Reference"
Req="O" Type="AN" MinLength="1" MaxLength="35" Note="The
implementation convention reference 'ST03' is used by the
translation routines of the interchange partners to select the
appropriate implementation convention to match the transaction set
definition."/>

    </Segment>

    <Segment ID="BHT" Name="Beginning of Hierarchical Transaction"
Req="M" MaxUse="1">

        <Element ID="01" Name="Hierarchical Structure Code" Req="M"
Type="ID" MinLength="4" MaxLength="4"/>

        <Element ID="02" Name="Transaction Set Purpose Code" Req="M"
Type="ID" MinLength="2" MaxLength="2"/>

        <Element ID="03" Name="Reference Identification" Req="O"
Type="AN" MinLength="1" MaxLength="50" Note="BHT03 is the number
assigned by the originator to identify the transaction within the
originator's business application system."/>
```

Creating a Transformation Template

You can create a transformation template file by running the Session Connection utility from the BEA Application Explorer. The utility creates the template and the schema automatically, and configures the `manifest.mf` file accordingly. To create a transformation template file, the dictionary must have been defined as described in [“Schemas, Dictionaries, and Transformation Templates”](#) on page 3-2.

The templates are stored in the libraries created in the `wl1domain` directory in the correct folder (`transform/xch`). Dictionaries need to be stored in the `transform/dic` directory. For more information on file locations, see the *BEA WebLogic Adapter for HTTP Installation and Configuration Guide*.

Once the metadata for your EIS has been described, application views can be created and deployed using the WebLogic Integration Application View Console.

Creating a New Application View

You can create an application view once the metadata for your EIS has been described.

To create a new application view:

1. Open the Application View Console, which is found at the following location:

```
http://host:port/wlai
```

Here, *host* is the TCP/IP address or DNS name where WebLogic Integration Server is installed, and *port* is the socket on which the server is listening. The default port at the time of installation is 7001.

2. If prompted, enter a user name and password, as shown in the following figure.

Figure 3-1 Application View Console Logon Window

Note: If the user name is not `system`, it must be included in the adapter group. For more information on adding the administrative server user name to the adapter group, see the *BEA WebLogic Adapter for HTTP Installation and Configuration Guide*.

3. Click Login.

The WebLogic Integration Application View Console opens.

Figure 3-2 WebLogic Integration Application View Console Window

4. Click Add Application View to create an application view for the adapter. The Define New Application View dialog box opens. An application view enables a set of business processes for this adapter's target EIS application. For more information, see “Defining an Application View” in *Using Application Integration*:

- For WebLogic Integration 7.0, see <http://edocs.bea.com/wli/docs70/aiuser/2usrdef.htm>
- For WebLogic Integration 2.1, see http://edocs.bea.com/wlintegration/v2_1sp/aiuser/2usrdef.htm

Figure 3-3 Define New Application View Window

Define New Application View

This page allows you to define a new application view

Folder: [Root](#)

Application View Name: * HTTPApp

Description:

Associated Adapter: BEA_HTTP_1_0

OK Cancel

5. In the Application View Name field, enter a name. The name should describe the set of functions performed by this application. Each application view name must be unique to its adapter. Valid characters are a-z, A-Z, 0-9, and _ (underscore).
6. In the Description field, enter any relevant notes. Users view these notes when they access this application view in workflows using business process management functionality.
7. From the Associated Adapter list, select BEA_HTTP_1_0 to associate the BEA WebLogic Adapter for HTTP with this application view.
8. Click OK. The Configure Connection Parameters window opens.

Figure 3-4 Configure Connection Parameters Window

Configure Connection Parameters

Application View Console WebLogic Console

On this page, you supply parameters to connect to your EIS

The BEA Application Explorer generates schema information for a session stored at a location that must be known to the general adapter. Enter this session location here. A session can support multiple connections.

Once you have entered the **session path** location, click on the pulldown arrow for the **connection name**, which will display a selection list of valid connections.

Session path * D:\bea\way\Adaptercdg

Connection name * FileDev

Connect to EIS

The BEA Application Explorer is used to explore and present metadata relating to the BEA WebLogic Adapters. The BEA Application Explorer creates and exports the schemas required by WebLogic Integration Server to configure

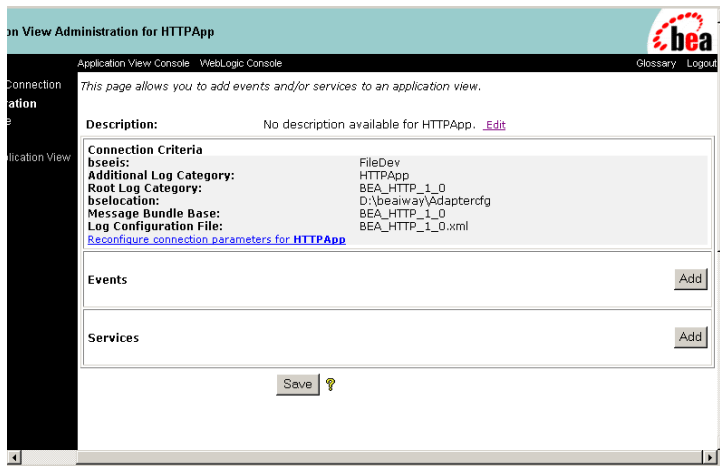
services and events. This metadata is stored in a file system (definable by the application designer) and needs to be supplied to the application view setup window. See [“Schemas, Dictionaries, and Transformation Templates” on page 3-2](#).

9. Enter the root directory containing your schema subdirectories. For example, D:\beaiway\Adaptercfg.
10. Select the connection name (the subdirectory containing schemas and the manifest file) from the drop-down list. For example, FileDev.

For more information on schemas and the manifest file, see [Chapter 2, “Metadata, Schemas, and Repositories.”](#)

11. Click Connect to EIS to view the Application View Console Administration window.

Figure 3-5 Application View Console Administration Window



You can now configure services and events as described in [Chapter 3, “Defining an Application View for the BEA WebLogic Adapter for HTTP.”](#)

3 *Defining an Application View for the BEA WebLogic Adapter for HTTP*

4 Service and Event Configuration

This section describes how to add services and events to application views. It includes the following topics:

- [Adding a Service to an Application View](#)
- [Adding an Event to an Application View](#)
- [Deploying an Application View](#)
- [Testing a Service or Event](#)

Adding a Service to an Application View

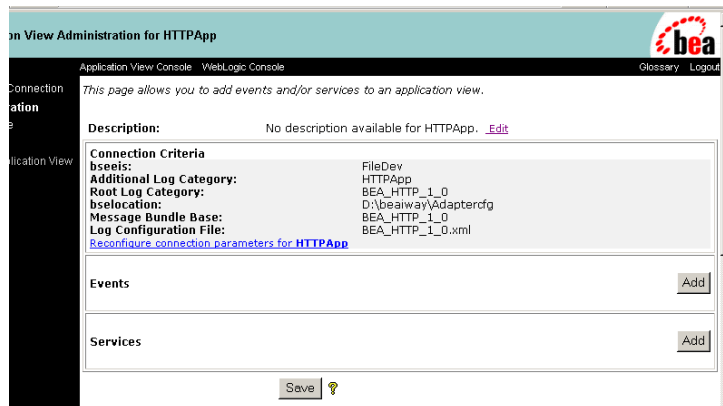
After you create and configure an application view as described in [Chapter 3](#), “[Defining an Application View for the BEA WebLogic Adapter for HTTP](#),” you can add services that support the application's functions.

4 Service and Event Configuration

To add a service to an application view:

1. If it is not already open, open the application view to be modified. For more information, see “Editing an Application View” in “Defining an Application View” in *Using Application Integration*:
 - For WebLogic Integration 7.0, see <http://edocs.bea.com/wli/docs70/aiuser/2usrdef.htm>
 - For WebLogic Integration 2.1, see http://edocs.bea.com/wlintegration/v2_1sp/aiuser/2usrdef.htm
2. If the application view is deployed, you must undeploy it before adding the service. See “Optional Step: Undeploying an Application View” in “Defining an Application View” at the URL referenced in the previous step.
3. In the left pane, click Administration from the Configure Connection list. The Application View Console Administration window opens.

Figure 4-1 Application View Console Administration Window



4. Click Add in the Services pane. The Add Service window opens.
5. In the Unique Service Name field, enter a name. The name should describe the function performed by this service. Each service name must be unique to its application view. Valid characters are a-z, A-Z, 0-9, and _ (underscore).

Figure 4-2 Add Service Window

Add Service

Configure Connection Administration

Add Service

Add Event

Deploy Application View

Application View Console

WebLogic Console

Glossary

Logout

On this page, you add services to your application view.

Unique Service Name:*

HTTP Post

Transform name

type

Transform engine

URL*

returnresponse

Secure Connection

Use 128-bit encryption

truststore

truststoreType

provider

protocol

algorithm

User ID for challenges

password for challenge

if on, emit through proxy server

URL of the proxy server

header1 name(equal sign)header1 value

Table 4-1 Add Service Window Parameters

Setting	Meaning/Properties
Transform Name	Type/Value: String (parameters) Description: name and extension of the transformation template. If it is not stored in the standard location, supply the full path. Note: Do not enter an .mfl extension for a Message Format Language (MFL) file; these files are not stored with an extension.
type	Type/Value: Dropdown list Description: The output type of the HTTP document. Choose flat for non-XML output or XML for XML output.

4 Service and Event Configuration

Table 4-1 Add Service Window Parameters (Continued)

Setting	Meaning/Properties
Transform engine	Type/Value: String Description: The the engine required to transform the document (Message Format Language (mfl), XSL Transformation, (XSLT), or Supplied transformation templates (XCH)).
URL* (*Required)	Type/Value: Address Description: The target URL for the POST operation.
returnresponse	Type/Value: Dropdown list Description: Return a response or status from the HTTP server.
Secure Connection	Type/Value: Checkbox Description: If selected, secure connection will be used.
Use 128-bit encryption	Type/Value: Checkbox Description: If selected, 128-bit encryption will be used.
truststore	Type/Value: String Description: Path to truststore file. The truststore contains the information needed to authenticate the server.
truststoreType	Type/Value: String Description: The type of truststore file (JKS is the default).
provider	Type/Value: String Description: The name of the class that implements some or all parts of Java security, including: algorithms, key generation, conversion and management facilities. The default Sun provider is com.sun.net.ssl.internal.ssl.Provider.
protocol	Type: Dropdown list Values: <ul style="list-style-type: none">■ TLS - Transport Layer Security 1.0 support■ SSL - Secure sockets layer v3 support Description: Protocol used to enable security.

Table 4-1 Add Service Window Parameters (Continued)

Setting	Meaning/Properties
algorithm	Type/Value: String Description: The algorithm used to enable security (SunX509 is the default).
User ID for challenges	Type/Value: String Description: If emitting to a secure server, the user ID to be used for challenges.
password for challenge	Type/Value: String Description: The password for the user ID to be used for challenges.
if on, emit through a proxy server	Type/Value: Checkbox Description: If selected, indicates that emitting will take place through a proxy server.
URL of proxy server	Type/Value: Address Description: The address of the proxy server.
Trace on/off	Type/Value: Check box Description: Generates a basic trace that displays the input XML (up to 300 bytes) before parsing, and shows the request being processed. For more information about tracing, see Chapter 7, “Using Tracing.”
Verbose Trace on/off	Type/Value: Check box Description: Generates a trace that displays configuration parameters used by the adapter. For more information about tracing, see Chapter 7, “Using Tracing.”
Document Trace on/off	Type/Value: Check box Description: Generates a trace that displays the input document after it was analyzed and the response document being returned. For more information about tracing, see Chapter 7, “Using Tracing.”
root to transform template directory	Type/Value: string Description: Location of the xsd files used for transformations.

4 Service and Event Configuration

Table 4-1 Add Service Window Parameters (Continued)

Setting	Meaning/Properties
root to XML style sheet directory	Type/Value: string Description: Location of the style sheet file (.xsl) used for the xslt transformations.

Note: You can use any parameter listed in Table 4-1 to configure dynamic services. For more information, see [Chapter , “Dynamically Configuring Services.”](#)

6. Enter (if required) combinations of header name and header values in header=value format. The HTTP protocol supports HTTP post operations, requiring a target URL and allows up to 20 header name and header values to be supplied.
7. Select the required schema at the bottom of the window, from the schema drop-down list.
8. If required, update the settings for the location of the transform or stylesheet.

Figure 4-3 Add Service Window

schema: EXCEL_ADDR_IN

settings

Trace on/off	<input type="checkbox"/>
Verbose Trace on/off	<input type="checkbox"/>
Document Trace on/off	<input type="checkbox"/>
root to transform template directory	transform/xch
root to XML Style sheet directory	transform/xslt

Add

9. Click Apply. The Application View Console Administration window opens.

Figure 4-4 Application View Console Administration Window

Application View Console - WebLogic Console Glossary Logout

This page allows you to add events and/or services to an application view.

Description: No description available for HTTPApp. [Edit](#)

Connection Criteria	FileDev
bseels:	WARN
Log Level:	HTTPApp
Additional Log Category:	BEA_HTTP_1_0
Root Log Category:	D:\bea\way\Adaptercrg
bselocation:	BEA_HTTP_1_0
Message Bundle Base:	BEA_HTTP_1_0.xml
Log Configuration File:	

[Reconfigure connection parameters for HTTPApp](#)

Events [Add](#)

HTTPevent [Edit](#) [Remove Event](#) [View Summary](#) [View Event Schema](#)

Services [Add](#)

HTTPPost1 [Edit](#) [Remove Service](#) [View Summary](#) [View Request Schema](#) [View Response Schema](#)

[Continue](#) [Save](#) [?](#)

At this point, the application can be deployed or more services or events can be configured. Once the application has been deployed, you can test the service. To deploy the application, see “[Deploying an Application View](#)” on page 4-15. To test the application, see “[Testing a Service or Event](#)” on page 4-17.

Dynamically Configuring Services

Services for the BEA WebLogic Adapter for HTTP support dynamic configuration of all parameters. You can dynamically configure some services to behave differently depending on the values being passed by a workflow to a service.

These values can be obtained from the following sources:

- **Input document**

The syntax is `XPATH(root/field)`.

- **File**

The syntax is `FILE(drive:\filename)`.

- **LDAP directory**

The syntax is `LDAP()`.

4 *Service and Event Configuration*

Note: In addition to the sources listed, you can also hard code a value directly into the service configuration.

For example, suppose an incoming document must be posted to a particular URL, but the value of the URL is not known until after the document is processed. When the XML document is passed to the service configured in the adapter, it has the following structure:

Listing 4-1 Example Structure of Document Passed to the Service

```
<Cust_Update>
  <msg_header>
    <destination>http://CST_SERVER:1700</destination>
    <header1>operation</header1>
    <value1>update</value1>
  </msg_header>
</Cust_Update>
```

Using xpath notation, for example, `xpath(Cust_Update/msg_header/destination)`, the value of the URL to which the document will be posted can be extracted from the document passed to the service. In this case, the URL is `http://CST_SERVER:1700`. The xpath notation is entered in the URL field of the Add Services window:

Figure 4-5 Add Services Window

HTTP Post	
Transform name	
type	flat
Transform engine	xml
URL *	XPATH(Cust_update/msg_header/de
returnresponse	status
Secure Connection	<input type="checkbox"/>
Use 128-bit encryption	<input type="checkbox"/>
truststore	
truststoreType	JKS
provider	com.sun.net.ssl.internal.ssl.Provider
protocol	TLS
algorithm	SunX509
User ID for challenges	
password for challenge	
if on, emit through proxy server	<input type="checkbox"/>
URL of the proxy server	
header1_name=header1_value	
header2_name=header2_value	
header3_name=header3_value	
header4_name=header4_value	
header5_name=header5_value	

Adding an Event to an Application View

To add events to the application view, schemas must be present and mapped to the BEA WebLogic Adapter for HTTP EIS that is configured for the application view. For more information on creating an application view, see [Chapter 3, “Defining an Application View for the BEA WebLogic Adapter for HTTP.”](#)

To add an event to an application view:

1. If your application is deployed, you need to undeploy the application and then edit the application view.

Figure 4-6 Application View Console Administration Window

Connection Criteria	
bseels:	FileDev
Log Level:	WARN
Additional Log Category:	HTTPApp
Root Log Category:	BEA_HTTP_1_0
bseolocation:	D:\beaiway\Adaptercfg
Message Bundle Base:	BEA_HTTP_1_0
Log Configuration File:	BEA_HTTP_1_0.xml

2. From the Application View Console Administration window, click Add in the Events section of the administration pane.

The Add Event window opens.

Note: Before you configure an HTTP event that includes SSL keystore parameters, make sure the following three Java Secure Socket Extension (JSSE) JAR files are included in your classpath:

- JSSE.jar
- JCERT.jar
- JNET.jar

These files are part of the JSSE 1.0.3 software and documentation package. You can download the global or domestic package from the following URL:

<http://java.sun.com/products/jsse/index-103.html>

Figure 4-7 Add Event Window

Add Event

Application View Console WebLogic Console Glossary Logout

On this page, you add events to your application view.

Unique Event Name: *

HTTP

Character Set Encoding*	UTF-8
port*	<input type="text"/>
transform	<input type="text"/>
XSLT Transform	<input type="text"/>
Keystore password	<input type="text"/>
Keystore location	<input type="text"/>
Security Provider Class	com.sun.net.ssl.internal.ssl.Provider
Security Protocol	TLS
Client Authentication	<input type="checkbox"/>
Security Algorithm	SunX509
Keystore Type	JKS

schema: EXCEL_ADDR_IN

settings

Trace on/off	<input type="checkbox"/>
Verbose Trace on/off	<input type="checkbox"/>
Document Trace on/off	<input type="checkbox"/>
root to transform template directory	transform/xch
root to XML Style sheet directory	transform/xslt

Note: The required fields are marked with an asterisk.

Table 4-2 HTTP Event Settings

Setting	Meaning/Properties
Character Set Encoding* (*Required)	Type/Value: String Description: The character encoding system to use. It defaults to UTF-8.
port	Type/Value: string Description: The required HTTP port.

4 Service and Event Configuration

Table 4-2 HTTP Event Settings (Continued)

Setting	Meaning/Properties
transform	<p>Type/Value: String (parameters)</p> <p>Description: This is where the specific preparse/transform information is specified.</p> <p>Values:</p> <ul style="list-style-type: none">■ excel – used for parsing and transforming Excel documents. Two parameters can be passed to this parser. HAS_HEADERS uses the row 1 headings as tag names for the XML document. NO_HEADERS assumes that the whole spreadsheet is data and defines tag names based on column number (col1, col2, col3, and so on).■ mfl – this is the preparser that uses Message Format Language based transformations created using the WebLogic Integration Format Builder, for example, mfl(<i>mflname</i>).■ transform – this is the general preparser that uses .xch files and dictionaries (.dic), where the data is non-self describing. The value that needs to be passed to the transform is the .xch file name (with extension), for example, transform(CSVtoXML.xch).
XSLT Transform	<p>Type/Value: String</p> <p>Description: The name and extension of the xslt file to be used to transform the incoming XML document. The xslt file should be placed in the directory specified for the root_to_transform_template_directory setting.</p>
Keystore password	<p>Type/Value: password</p> <p>Description: The password needed to recover private keys from the keystore.</p>
Keystore location	<p>Type/Value: File name with its absolute path</p> <p>Description: The full path and file name of the keystore location. The keystore contains the key material required to authenticate the client. For example:</p> <p>c:\ssl\keystore\myfile.keystore</p> <p>or</p> <p>/home/ssl/keystore/myfile.keystore</p>

Table 4-2 HTTP Event Settings (Continued)

Setting	Meaning/Properties
Security Provider Class	<p>Type/Value: String</p> <p>Description: The name of the class that implements some or all parts of Java security, including: algorithms, key generation, conversion and management facilities. The default Sun provider is com.sun.net.ssl.internal.sss.Provider.</p>
Security Protocol	<p>Type: Dropdown list</p> <p>Values:</p> <ul style="list-style-type: none"> ■ TLS - Transport Layer Security 1.0 support ■ SSL - Secure sockets layer v3 support <p>Description: Protocol used to enable security.</p>
Client Authentication	<p>Type/Value: Check box</p> <p>Description: If checked, the client will be required to authenticate itself, the client will have to have a keystore of its own.</p>
Security Algorithm	<p>Type/Value: String</p> <p>Description: The algorithm used to enable security (SunX509 is the default).</p>
Keystore Type	<p>Type/Value: String</p> <p>Description: The type of keystore file (JKS is the default).</p>
Trace on/off	<p>Type/Value: Check box</p> <p>Description: Generates a basic trace that displays the input XML (up to 300 bytes) before parsing, and shows the request being processed. For more information about tracing, see Chapter 7, “Using Tracing.”</p>
Verbose Trace on/off	<p>Type/Value: Check box</p> <p>Description: Generates a trace that displays configuration parameters used by the adapter. For more information about tracing, see Chapter 7, “Using Tracing.”</p>
Document Trace on/off	<p>Type/Value: Check box</p> <p>Description: Generates a trace that displays the input document after it was analyzed and the response document being returned. For more information about tracing, see Chapter 7, “Using Tracing.”</p>

4 Service and Event Configuration

Table 4-2 HTTP Event Settings (Continued)

Setting	Meaning/Properties
root to transform template directory	Type/Value: string Description: Location of the xsd files used for transformations.
root to XML style sheet directory	Type/Value: string Description: Location of the style sheet file (.xsl) used for the xslt transformations.

3. Enter a Unique Event Name, an HTTP port, and other event settings.
4. Select the required schema from the schema drop-down list.
5. If required, the settings options for the location of the transform or stylesheet can be changed from the default location.
6. Click Add.

After adding the event process, you are presented with the following window.

Figure 4-8 Application View Administration Window

on View Administration for HTTPApp

Application View Console WebLogic Console

This page allows you to add events and/or services to an application view.

Description: No description available for HTTPApp. [Edit](#)

Connection Criteria

bsocid:	FileDev
Additional Log Category:	HTTPApp
Log Level:	WARN
Root Log Category:	BEA_HTTP_1_0
bselocation:	D:\bealway\Adaptercfg
Log Configuration File:	BEA_HTTP_1_0.xml
Message Bundle Base:	BEA_HTTP_1_0

[Reconfigure connection parameters for HTTPApp](#)

Events [Add](#)

HTTPEvent	Edit Remove Event View Summary View Event Schema
-----------	--

Services [Add](#)

HTTPPost	Edit Remove Service View Summary View Request Schema View Response Schema
HTTPPost1	Edit Remove Service View Summary View Request Schema View Response Schema

[Continue](#) [Save](#)

7. Click Save to save your settings. You can deploy your application view (complete with configured events and/or services) by following the steps described in “Deploying an Application View”. Then you can test your application view by following the steps described in “Testing a Service”.

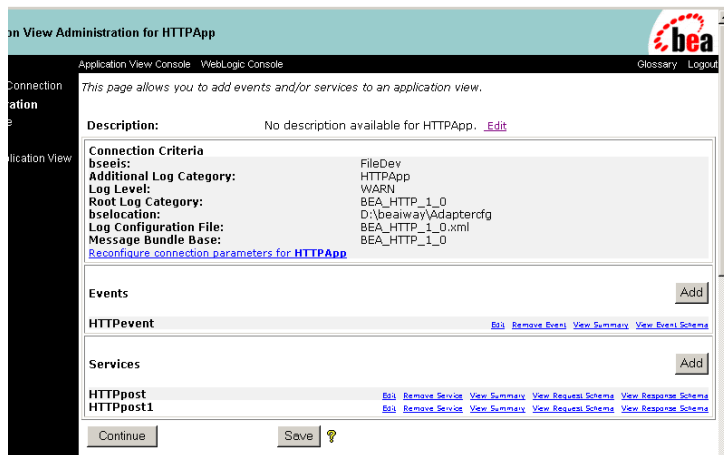
Deploying an Application View

You can deploy an application view when you have added at least one event or service to it. You must deploy an application view before you can test its services and events or use the application view in the WebLogic Server environment. Application view deployment places relevant metadata about its services and events into a run-time metadata repository. Deployment makes the application view available to other WebLogic Server clients. This means business processes can interact with the application view, and you can test the application view's services and events.

After you configure an event or service, you can deploy your application view from the Application View Console Administration window.

1. If it is not already open, open the application view to be deployed. For more information, see “Editing an Application View” in “Defining an Application View” in *Using Application Integration*:
 - For WebLogic Integration 7.0, see <http://edocs.bea.com/wli/docs70/aiuser/2usrdef.htm>
 - For WebLogic Integration 2.1, see http://edocs.bea.com/wlintegration/v2_1sp/aiuser/2usrdef.htm

Figure 4-9 Application View Console Administration Window



2. From the Application View Console Administration window, click Continue.

4 Service and Event Configuration

The Deploy Application View window opens.

Figure 4-10 Deploy Application View Window

The screenshot shows the 'Deploy Application View' window. On the left is a navigation pane with options: 'Configure Connection', 'Administration', 'Add Service', 'Add Event', and 'Deploy Application View' (which is selected). The main area contains the following sections:

- Required Service Parameters:** 'Enable asynchronous service invocation?' with a checked checkbox.
- Required Event Parameters:** 'Event Router URL' with a text field containing 'http://localhost:7001/BEA_HTTP_1_0_EventRouter/EventRo'.
- Connection Pool Parameters:** A note 'Use these parameters to configure the connection pool used by this application view' followed by:
 - 'Minimum Pool Size' with a text field '1'.
 - 'Maximum Pool Size' with a text field '10'.
 - 'Target Fraction of Maximum Pool Size' with a text field '0.7'.
 - 'Allow Pool to Shrink?' with a checked checkbox.
- Log Configuration:** 'Set the log verbosity level for this application view.' with a dropdown menu set to 'Log warnings, errors, and audit messages'.
- Configure Security:** A link 'Restrict Access to HTTPApp using J2EE Security'.
- At the bottom are 'Deploy' and 'Save' buttons, and a checkbox 'Deploy persistently?' which is checked.

Note: To enable other authorized clients to asynchronously call the services (if any) of this application view, select Enable asynchronous service invocation.

3. To deploy the application view, click Deploy Application View. The Summary for Application View window opens.

Note: You may choose to click Save and deploy the application view later.

Figure 4-11 Summary for Application View Window

The screenshot shows the 'Summary for Application View' window for 'HTTPApp'. The title bar says 'Application View HTTPApp'. Below the title bar are tabs for 'Connection', 'Security', 'Deploy', and 'Events and Services' (which is selected). The main content area displays:

- Name:** HTTPApp
- Description:**
- Status:** Deployed
- Available Actions:** Includes an 'Undeploy' link.

Below this, there are two sections:

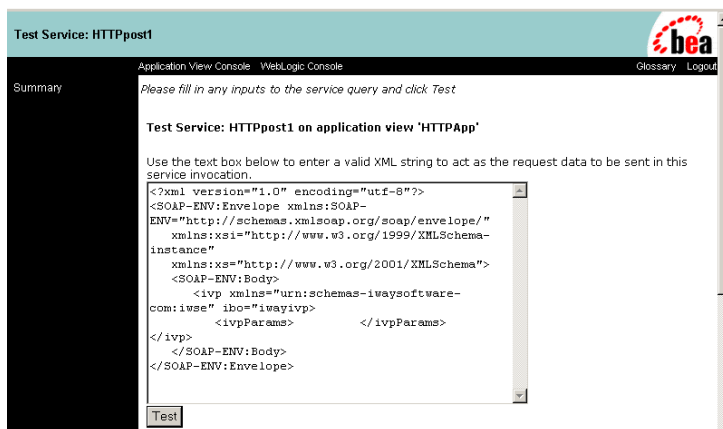
- Events:** A table with one row 'HTTPevent' and links 'Test', 'View Summary', and 'View Event Schema'.
- Services:** A table with two rows: 'HTTPPost' and 'HTTPPost1'. Each row has links 'Test', 'View Summary', 'View Request Schema', and 'View Response Schema'.

Testing a Service or Event

After you create and deploy an application view, you can test the services and events.

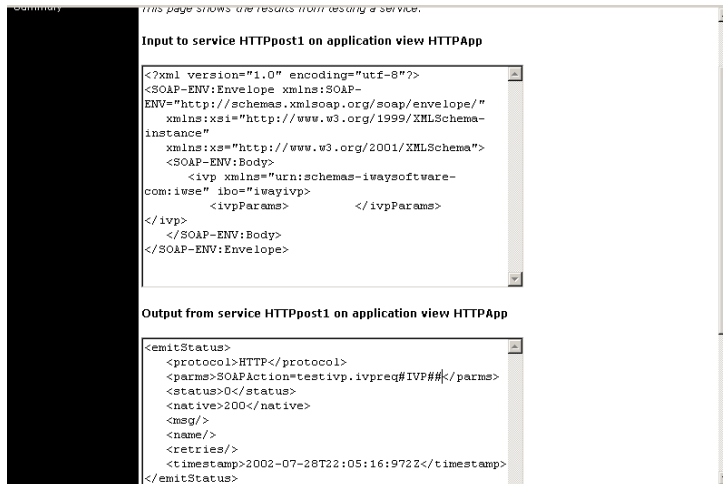
1. In the Summary for Application view window, click Test for the configured service or event. The Test Service Window opens.

Figure 4-12 Test Service Window



2. Enter the required XML by cutting and pasting a sample XML document. You can use the sample `Headers.xml` supplied with the product.
3. Click Test. If your service has been configured correctly, you receive a response from the file emit process with a status code of "0." Also, you will find that the file has been written to the correct location.

Figure 4-13 Test Service Window



Once you have confirmed that the file has been written correctly (in the correct format, if transformation has been configured) your service or event has been successfully configured.

You can now write custom code to exploit the adapter or create a process flow in Studio. For more information, see “Using Application Views in the Studio” in *Using Application Integration*:

- For WebLogic Integration 7.0, see <http://edocs.bea.com/wli/docs70/aiuser/3usruse.htm>
- For WebLogic Integration 2.1, see http://edocs.bea.com/wlintegration/v2_1sp/aiuser/3usruse.htm

5 BEA WebLogic Adapter for HTTP Integration Using Studio

This section describes how events are incorporated into workflow design. It includes the following topic:

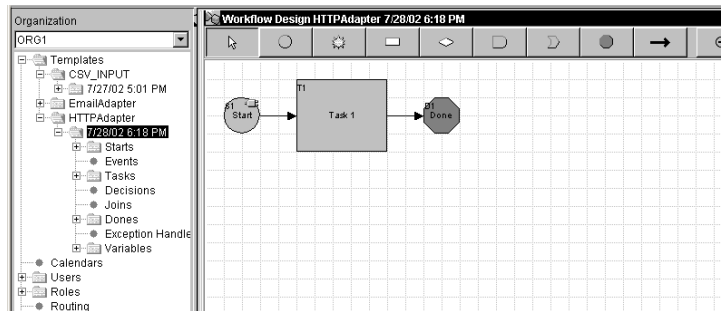
- [Business Process Management Functionality](#)

Business Process Management Functionality

You can integrate your application view, including services and events, into WebLogic Integration business process management workflow tasks.

The following window depicts a simple workflow design to be triggered by an event described in [Chapter 3, “Defining an Application View for the BEA WebLogic Adapter for HTTP.”](#) The BEA WebLogic Adapter for HTTP allows post operations to be directed towards WebLogic Integration and that information can then be integrated into the environment. The incoming event can be converted to XML format (if required) by using the HTTP post transform that converts header information into XML tags or values. The service can propagate information supplied from the business process management engine using HTTP POST methods.

Figure 5-1 Workflow Design Window



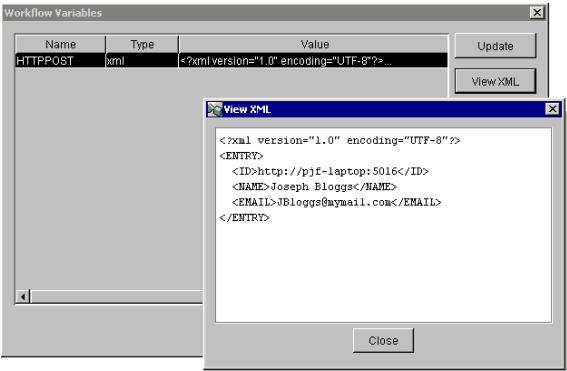
The HTTP listener event is configured to accept HTTP post operations of XML or non-XML content and transformations (if necessary) from non-XML to XML format. To test this functionality, an HTTP client, servlet, Java Server page (JSP) and so on, can support the HTTP POST method. The POST method only needs the host and port number (configured at event configuration) to test this function. We do not supply such a servlet, but the supplied `header.xml` or `header.csv` can be used to supply the body of the post to test the event listener and help configure the event. The following is an example of this process:

Figure 5-2 Sample Active Server Page

The screenshot shows a web form titled 'Add your name to our mailing list'. It has three input fields: 'url' with the value 'http://weblsrv:5016', 'Name' with the value 'Joseph Bloggs', and 'E-mail' with the value 'jBloggs@myemail.com'. There is a 'Submit' button at the bottom left.

1. This sample Active Server Page (ASP) demonstrates how a POST operation, for example, the Submit button works. It invokes an ASP that converts the parameter values into XML format and, using the post method, posts the XML document to the adapter event.
2. Once the XML has been posted, the event picks up the document and initiates the workflow.
3. The workflow can be configured to call any service available to WebLogic Integration, for example, conversion to another proprietary format like SWIFT or HIPAA after some enrichment in the flow.

Figure 5-3 Emission Report



6 Transforming Document Formats

This section describes how to utilize Message Format Language (MFL) files to transform a document. It includes the following topic:

- [Message Format Language Transformations](#)

Message Format Language Transformations

The BEA WebLogic Adapter for HTTP supports custom defined transformations defined using the WebLogic Integration Format Builder. Once defined and tested, the adapter can utilize these Message Format Language files to apply transformation to an incoming document. [Chapter 3, “Defining an Application View for the BEA WebLogic Adapter for HTTP,”](#) describes how to configure events and services to use a Message Format Language transformation. This section provides a brief overview of how a Message Format Language template is built and tested using the Format Builder, and how this template can then be tested (once deployed in a application view) using the adapter.

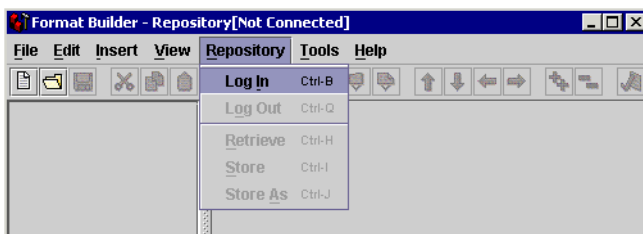
For more information about Message Format Language transformations, see “Building Format Definitions” in *Translating Data*:

- For WebLogic Integration 7.0, see <http://edocs.bea.com/wli/docs70/diuser/fmtdef.htm>
- For WebLogic Integration 2.1, see http://edocs.bea.com/wlintegration/v2_1sp/diuser/fmtdef.htm

To test using the sample MFL file supplied with this product (`Sprockets_PO.mfl`), follow the procedure outlined below:

1. From the Windows Start menu, choose Programs→BEA WebLogic E-Business Platform→WebLogic Integration 2.1→Format Builder. The Format Builder window opens.

Figure 6-1 Format Builder - Repository Window



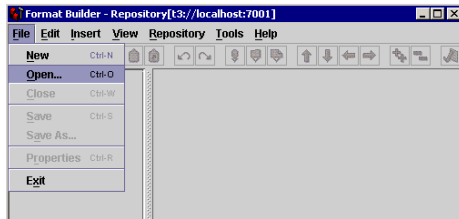
2. Choose Log In from the Repository menu. The WebLogic Integration Repository window opens.

Figure 6-2 WebLogic Integration Repository Login Window



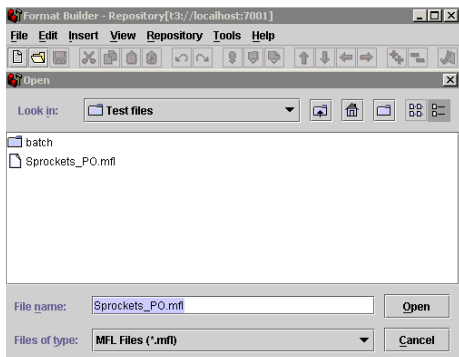
3. Enter your user name and password and click Continue.
After successfully signing on, you can import the sample Message Format Language template.
4. Choose Open from the File menu.

Figure 6-3 Format Builder Repository Window



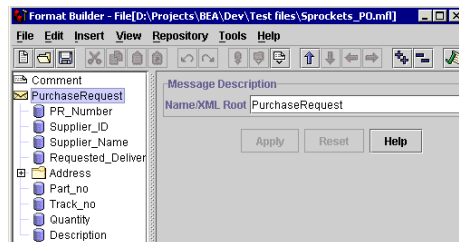
5. Select the `Sprockets_PO.mfl` file that is supplied in the `BEA_SAMPLES.zip` file.

Figure 6-4 Format Builder Repository Window



6. Double-click the `PurchaseRequest` envelope to expand the field definitions below and to see how field types were defined.

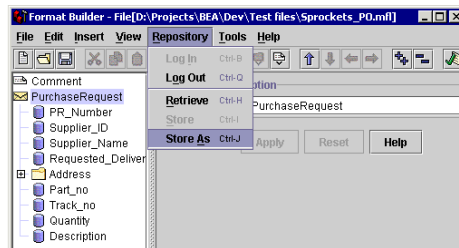
Figure 6-5 Format Builder Window



All that is required now is to store the MFL in the repository.

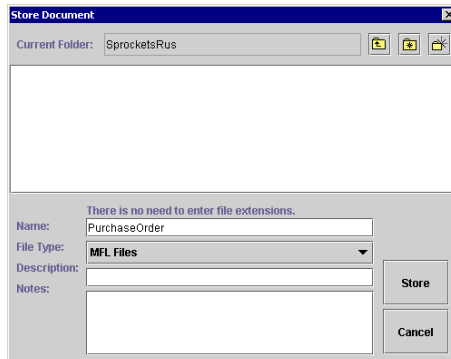
7. Choose `Store As` from the `Repository` menu.

Figure 6-6 Format Builder Window



8. Give your MFL a name and store it in the root folder or any folder you desire. In this example, the MFL PurchaseOrder is stored in a folder called `SprocketsRus`.

Figure 6-7 Store Document Window



Once stored, you can test your service or event by configuring as documented in [Chapter 3, “Defining an Application View for the BEA WebLogic Adapter for HTTP.”](#) To test this document, use the sample documents supplied in the `BEA_SAMPLES.zip` file. `Sprockets_PO.txt` can be used to test inbound transformations (for example, event and service File Read operations) or `Sprockets_PO.xml` to test outbound service operations. For service and event File Read tests, place the file (`Sprockets_PO.txt`) in the location that is being polled for the document. For service tests, the contents of the `Sprockets_PO.xml` must be copied and pasted into the text window in the test screen.

7 Using Tracing

Tracing is an essential feature of an adapter. Most adapters integrate different applications and do not interact with end users while processing data. Unlike a front-end component, when an adapter encounters an error or a warning condition, the adapter cannot stop processing and wait for an end user to respond.

Moreover, many business applications that are connected by adapters are mission-critical. For example, an adapter might maintain an audit report of every transaction with an EIS. Consequently, adapter components must provide both accurate logging and auditing information. The adapter tracing and logging framework is designed to accommodate both logging and auditing.

This section describes tracing for services and events. It contains the following topics:

- [Levels and Categories of Tracing](#)
- [Tracing and Performance](#)
- [Creating Traces for Services and Events](#)

Levels and Categories of Tracing

Tracing is provided by both the BEA adapter framework and by each individual adapter product. The BEA WebLogic Integration framework provides five distinct levels of tracing:

Table 7-1 Trace levels

Level	Indicates
AUDIT	An extremely important log message related to the business processing performed by an adapter. Messages with this priority are always written to the log.
ERROR	An error in the adapter. Error messages are internationalized and localized for the user.
WARN	A situation that is not an error, but that could cause problems in the adapter. Warning messages are internationalized and localized for the user.
INFO	An informational message that is internationalized and localized for the user.
DEBUG	A debug message, that is, information used to determine how the internals of a component are working. Debug messages usually are not internationalized.

The adapter framework provides three specialized categories of tracing:

Table 7-2 Trace categories

Level	Indicates
Basic Trace	Basic traces. Displays the input XML (up to 300 bytes) before parsing, and shows the request being processed. The default setting is off.
Verbose Trace	More extensive traces. Displays configuration parameters used by the adapter. The default setting is off.

Table 7-2 Trace categories

Level	Indicates
Document Trace	Displays the input document after it was analyzed and the response document being returned. Because some documents are very large, this trace category can severely affect performance and memory use. The default setting is off.

Note: To obtain the appropriate trace, both the level and the category must be declared. In a debug situation, BEA Customer Support will request (minimally) a Basic and a Verbose trace.

Tracing and Performance

The additional trace capabilities provided by the adapter are not strictly hierarchic; rather they are categorized. These traces are designed to provide debugging help with minimum effect on performance. All internal adapter traces are controlled through the additional tracing settings, and all additional settings route their output to the standard debug setting.

If you configure the adapter for additional settings and do not configure standard trace settings, the traces are generated but never appear in output. This affects performance, as the production of the trace continues even though you receive no benefit of the additional trace information.

Creating Traces for Services and Events

The following topics discuss the steps required to create traces to diagnose adapter problems.

Creating Traces for a Service

To create traces for a service:

1. Create or modify the service.
2. Ensure that all of the adapter parameters are entered correctly.

Figure 7-1 Add Service window

schema: EXCEL_ADDR_IN ▼	
settings	
Trace on/off	<input checked="" type="checkbox"/>
Verbose Trace on/off	<input checked="" type="checkbox"/>
Document Trace on/off	<input checked="" type="checkbox"/>
root to transform template directory	transform/xch
root to XML Style sheet directory	transform/xslt
<input type="button" value="Add"/>	

3. Select the appropriate schema from the drop-down list.
4. Select the appropriate trace levels as described in [Table 7-2](#): Trace, Verbose trace, and Document trace.
5. Click Add to continue to the next configuration pane.
6. Click Continue to move to the next configuration pane.

The Deploy Application View window opens.

Figure 7-2 Deploy Application View window

Deploy Application View app1 to Server

Application View Console WebLogic Console

On this page you deploy your application view to the application server.

Required Service Parameters

Enable asynchronous service invocation? ☒

Connection Pool Parameters

Use these parameters to configure the connection pool used by this application view

Minimum Pool Size*

Maximum Pool Size*

Target Fraction of Maximum Pool Size*

Allow Pool to Shrink? ☒

Log Configuration

Set the log verbosity level for this application view.

Log all messages
Log errors and audit messages
Log warnings, errors, and audit messages
Log informationals, warnings, errors, and audit messages
Log all messages

☒ Deploy persistently?

7. Navigate to the Log Configuration area and select the desired trace level.

This pane enables you to select the trace level for the BEA WebLogic Integration framework.

For maximum tracing, select Log all Messages. This is recommended to obtain optimum debugging information for BEA support personnel.

Note: This causes all generated messages to be written to the log. You must select the desired category as defined in [Table 7-2](#) in the adapter to generate the required messages.

8. Click Deploy (or Save) to set the trace settings and deploy the application view.

Traces are created the next time the service is invoked.

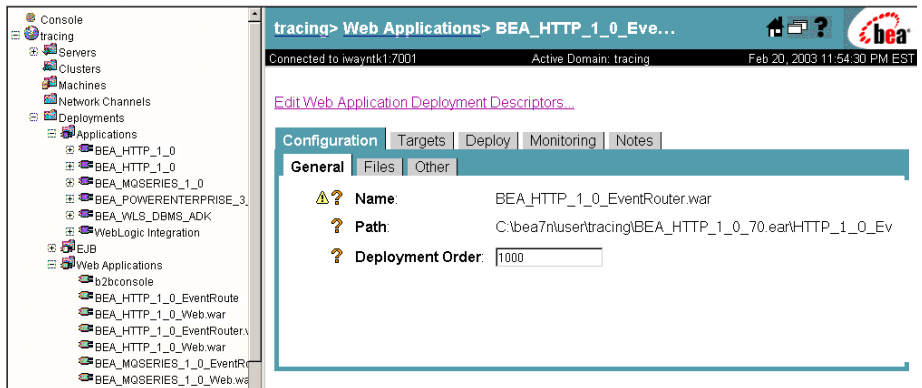
Traces are output to a file named BEA_HTTP_1_0.log in the WebLogic Domain home directory.

Creating or Modifying the Tracing Level for an Event

To create or modify the WebLogic framework tracing level for an event:

1. Logon to the BEA WebLogic Server Console.

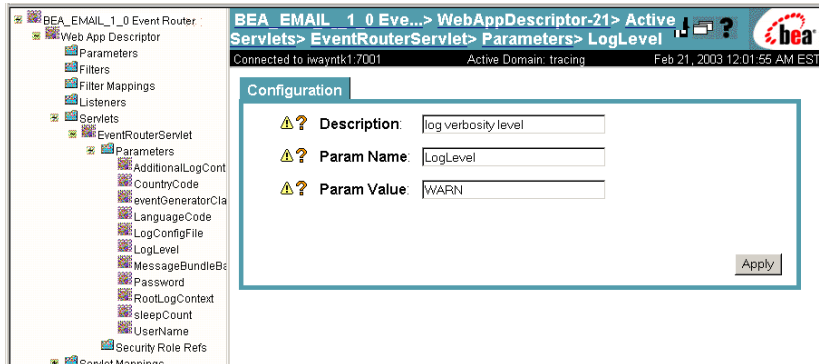
Figure 7-3 WebLogic Server Console



2. Select Web Applications.
3. Select the EventRouter corresponding to the adapter that will be traced. For example, if you require traces for an HTTP event, select BEA_HTTP_1_0_EventRouter.war.
4. Click Edit Application Deployment Descriptors.

- When the following window opens, select Servlets.

Figure 7-4 WebLogic Server Console: Configuration



- In the folder below Servlets, select EventRouterServlet.
- Select Parameters.
- Select LogLevel.

This pane enables you to select the trace level for the BEA WebLogic Integration framework.

For maximum tracing, enter DEBUG. This is recommended to obtain optimum debugging information for BEA support personnel.

The following levels are valid:

Table 7-3 Tracing levels

Level	Indicates
AUDIT	An extremely important log message related to the business processing performed by an adapter. Messages with this priority are always written to the log.
ERROR	An error in the adapter. Error messages are internationalized and localized for the user.
WARN	A situation that is not an error, but that could cause problems in the adapter. Warning messages are internationalized and localized for the user.

Table 7-3 Tracing levels

Level	Indicates
INFO	An informational message that is internationalized and localized for the user.
DEBUG	A debug message, that is, information used to determine how the internals of a component are working. Debug messages usually are not internationalized.

9. Click Apply to save the newly entered trace level.

10. Click the EventRouter Servlet.

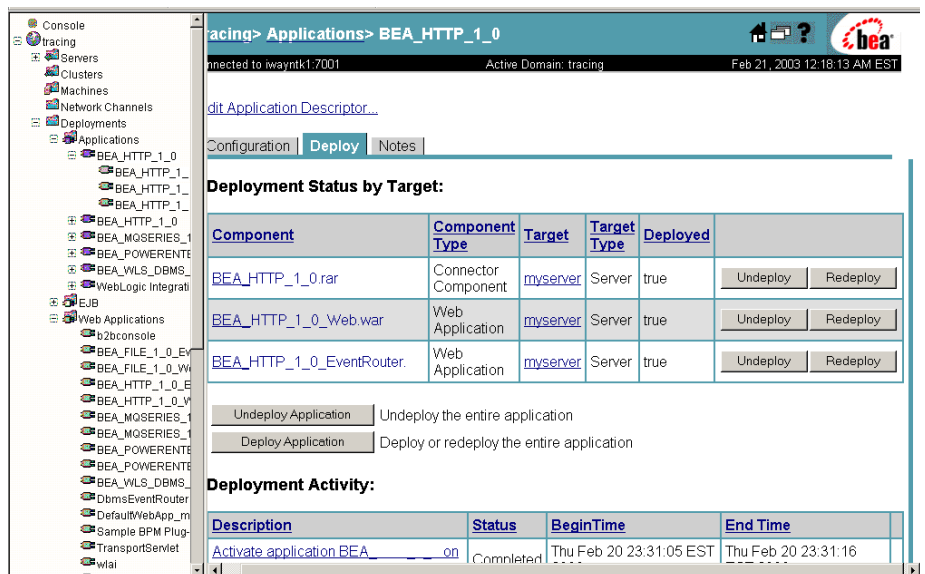
11. Select Persist to apply the logging changes.

This change need only be made once.

It is set for all events associated with a given adapter.

12. Return to the WebLogic Server Console.

Figure 7-5 WebLogic Server Console: Redeploy



13. Select Applications from the WebLogic Server Console.

14. Select the adapter whose EventRouter you have modified in the previous steps.
15. The right pane displays the following adapter components:
 - BEA_HTTP_1_0.rar
 - BEA_HTTP_1_0.web.rar
 - BEA_HTTP_1_0_EventRouter.war.
16. Redeploy the EventRouter by clicking the Redeploy button to the right of BEA_HTTP_1_0_EventRouter.war.

Creating Adapter Logs for an Event

To create adapter logs for an event:

1. Create or modify the event.
2. Ensure that all of the adapter parameters are entered correctly.

Figure 7-6 Add Event window

settings	
Trace on/off	<input checked="" type="checkbox"/>
Verbose Trace on/off	<input checked="" type="checkbox"/>
Document Trace on/off	<input checked="" type="checkbox"/>
root to transform template directory	transform/xsch
root to XML Style sheet directory	transform/xslt

Add

3. Select the appropriate schema from the drop-down list.
4. Select the appropriate trace levels as described in [Table 7-2: Trace, Verbose trace, and Document trace](#).
5. Click Add to continue to the next configuration pane.
6. Click Continue to move to the next configuration pane.

The Deploy Application View window opens.

Figure 7-7 Deploy Application View window

Deploy Application View app1to Server

Application View Console WebLogic Console

Configure Connection
Administration
Add Service
Add Event
Deploy Application View

On this page you deploy your application view to the application server.

Required Service Parameters

Enable asynchronous service invocation? ☒

Connection Pool Parameters

Use these parameters to configure the connection pool used by this application view

Minimum Pool Size*

Maximum Pool Size*

Target Fraction of Maximum Pool Size*

Allow Pool to Shrink? ☒

Log Configuration

Set the log verbosity level for this application view.

Log all messages
Log errors and audit messages
Log warnings, errors, and audit messages
Log informationals, warnings, errors, and audit messages
Log all messages

Deploy ☒ Deploy persistently?

7. Navigate to the Log Configuration area and select the desired trace level.

This pane enables you to select the trace level for the BEA WebLogic Integration framework.

For maximum tracing, select Log all Messages. This is recommended to obtain optimum debugging information for BEA support personnel.

8. Click Deploy (or Save) to set the trace settings and deploy the application view.

Traces are created the next time the event occurs.

Traces are output to a file named BEA_HTTP_1_0.log in the WebLogic Domain home directory.