iWay

iWay Application Adapter for J.D. Edwards OneWorld for BEA WebLogic User’s Guide
Version 5 Release 5
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Preface

This document is written for system integrators with programming backgrounds and an understanding of the J.D. Edwards OneWorld product in an application space. Extensive knowledge of J.D. Edwards OneWorld is not required but may be helpful in learning about the adapter.

This document describes how to work with the adapter tools to develop online interconnections to J.D. Edwards OneWorld. For system integrators concerned with the development of a client/server interface between J.D. Edwards OneWorld and other applications, this guide addresses the OneWorld integration aspects. It does not cover other applications or application wrappers.

How This Manual Is Organized

The following table lists the numbers and titles of the chapters and appendixes for this manual with a brief description of the contents of each chapter and appendix.

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## Documentation Conventions

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<th>Convention</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>THIS TYPEFACE</strong> or <strong>this typeface</strong></td>
<td>Denotes syntax that you must enter exactly as shown.</td>
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<tr>
<td><strong>this typeface</strong></td>
<td>Represents a placeholder (or variable) in syntax for a value that you or the system must supply.</td>
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<tr>
<td><strong>underscore</strong></td>
<td>Indicates a default setting.</td>
</tr>
<tr>
<td><strong>this typeface</strong></td>
<td>Represents a placeholder (or variable) in a text paragraph, a cross-reference, or an important term.</td>
</tr>
<tr>
<td><strong>this typeface</strong></td>
<td>Highlights a file name or command in a text paragraph that must be lowercase.</td>
</tr>
<tr>
<td><strong>this typeface</strong></td>
<td>Indicates a button, menu item, or dialog box option you can click or select.</td>
</tr>
<tr>
<td><strong>Key + Key</strong></td>
<td>Indicates keys that you must press simultaneously.</td>
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Help Us to Serve You Better

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

The following tables list the specifications our consultants require.

<table>
<thead>
<tr>
<th>Platform</th>
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<tbody>
<tr>
<td>Operating System</td>
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<tr>
<td>OS Version</td>
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<tr>
<td>Product List</td>
<td></td>
</tr>
<tr>
<td>Adapters</td>
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</tr>
<tr>
<td>Adapter Deployment</td>
<td>For example, JCA, Business Services Engine, iWay Adapter Manager</td>
</tr>
<tr>
<td>Container Version</td>
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</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Component</th>
<th>Version</th>
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<tbody>
<tr>
<td>iWay Adapter</td>
<td></td>
</tr>
<tr>
<td>EIS (DBMS/APP)</td>
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</tr>
<tr>
<td>HOTFIX / Service Pack</td>
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</table>

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

<table>
<thead>
<tr>
<th>Application Explorer Type</th>
<th>Version</th>
<th>Platform</th>
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<tbody>
<tr>
<td>Swing</td>
<td></td>
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<tr>
<td>Servlet</td>
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<td>ASP</td>
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</table>
In the following table, specify the JVM version and vendor in the columns provided.

<table>
<thead>
<tr>
<th>Version</th>
<th>Vendor</th>
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The following table lists additional questions to help us serve you better.

<table>
<thead>
<tr>
<th>Request/Question</th>
<th>Error/Problem Details or Information</th>
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</thead>
<tbody>
<tr>
<td>Provide usage scenarios or summarize the application that produces the problem.</td>
<td></td>
</tr>
<tr>
<td>Did this happen previously?</td>
<td></td>
</tr>
<tr>
<td>Can you reproduce this problem consistently?</td>
<td></td>
</tr>
<tr>
<td>Any <strong>change in the application environment:</strong> software configuration, EIS/database configuration, application, and so forth?</td>
<td></td>
</tr>
<tr>
<td>Under what circumstance does the problem <strong>not</strong> occur?</td>
<td></td>
</tr>
<tr>
<td>Describe the <strong>steps</strong> to reproduce the problem.</td>
<td></td>
</tr>
<tr>
<td>Describe the <strong>problem.</strong></td>
<td></td>
</tr>
<tr>
<td>Specify the <strong>error</strong> message(s).</td>
<td></td>
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</tbody>
</table>

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

<table>
<thead>
<tr>
<th>XML schema</th>
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</tr>
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<td>Other input documents (transformation)</td>
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<td>Error screen shots</td>
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</tr>
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CHAPTER 1

Introducing the iWay Application Adapter for J.D. Edwards OneWorld

Topics:

- Executing a J.D. Edwards OneWorld Master Business Function
- Accessing Data Stored in J.D. Edwards OneWorld
- J.D. Edwards OneWorld Interoperability Framework
- Deployment Information for the iWay Application Adapter for J.D. Edwards OneWorld

The iWay Application Adapter for J.D. Edwards OneWorld provides a means to exchange real-time business data between J.D. Edwards OneWorld systems and other applications, databases, or external business partner systems. The adapter enables inbound and outbound processing with J.D. Edwards OneWorld.

This section provides information about the iWay Application Adapter for J.D. Edwards OneWorld to help you accomplish your integration projects.
Executing a J.D. Edwards OneWorld Master Business Function

You can use the iWay Application Adapter for J.D. Edwards OneWorld to invoke a J.D. Edwards OneWorld Master Business Function, such as Address Book, Purchase Order, and Sales Order. You can also use the adapter as part of an integration effort to connect OneWorld with non-OneWorld systems.

The adapter can receive an XML document, or it can run one or more J.D. Edwards Master Business Functions (MBFs) by passing an XML document into OneWorld through the J.D. Edwards OneWorld ThinNet API.

Resource Adapters

The iWay Application Adapter for J.D. Edwards OneWorld is a resource adapter. Resource adapters connect one application to another when those applications were not originally designed to communicate with each other. Adapters are bidirectional, that is, they can send requests to an Enterprise Information System (EIS), as well as receive notification of events occurring in an EIS.

Accessing Data Stored in J.D. Edwards OneWorld

J.D. Edwards OneWorld supports multiple methods and technologies to provide interoperability. The three supported entry points are:

- Flat files
- Database tables
- Master Business Function (MBF) interactive calls

You configure the adapter to send requests to J.D. Edwards OneWorld. The adapter processes requests for J.D. Edwards OneWorld Master Business Functions (MBF), embedded in XML documents, and forwards them to a back-end J.D. Edwards OneWorld system. The resulting response information is then returned and processed for further routing.

The adapter can receive an XML request document from a client and call a specific function in the target Enterprise Information System (EIS). The adapter acts as a consumer of request messages and provides a response. The adapter performs the following functions:

- Receives requests from a legacy system, another EIS, or a non-EIS client.
- Transforms the XML request document into the EIS-specific format.
  
  The request document conforms to a request XML schema.

  The schema is based on metadata in the EIS.
- Calls the underlying function in the EIS and waits for its response.
Introducing the iWay Application Adapter for J.D.

- Transforms the response from the EIS-specific data format to an XML document.
  The response document conforms to a response XML schema for the adapter.
  The schema is generated by Application Explorer and is based on metadata in the EIS.

You can configure a listener, known as a channel, for the adapter to receive messages from J.D. Edwards OneWorld. The information the listener receives is used to build an XML record and is forwarded to any specified disposition for further processing.

Listeners are consumers of EIS-specific messages and may or may not provide a response. A listener performs the following functions:

- Receives messages from an EIS client.
- Transforms the EIS-specific message format into an XML format.
  The XML format conforms to an XML schema.
  The schema is based on metadata in the EIS.

Propagating External Listeners Into J.D. Edwards OneWorld

When integrating external listeners into OneWorld using flat file input, the files are imported through a batch program and placed on an unedited transaction table. The records on the transaction table are processed by a batch program that makes calls to the appropriate MBF.

The database table method bypasses the first step in the flat file method, and records are written directly to the unedited transaction table. The records on the transaction table are processed by a batch program that makes calls to the appropriate MBF.

The third method, calling the MBF directly, bypasses the batch processing completely and provides synchronous access to OneWorld.

Propagating Internal Listeners Out of J.D. Edwards OneWorld

Integrating a J.D. Edwards OneWorld listener with external systems is similar to the inbound process, except in reverse. The Data Export Control table maintains the determination of whether a transaction must be integrated with an external system. When a transaction must be integrated, the MBF handles logging of all additions, changes, and deletions to the unedited transaction table. After the transaction information is written to the table, a key for that record is sent from the MBF to the subsystem data queue.

The subsystem data queue triggers the processing of the new record by launching an outbound subsystem batch process that is generic and handles all outbound transactions. The outbound subsystem then accesses the Data Export Control table to determine the configured external subscriber to run.
J.D. Edwards OneWorld Interoperability Framework

J.D. Edwards OneWorld provides for integration with systems through its interoperability framework. The adapter uses the OneWorld framework and leverages various integration access methods to provide the greatest amount of flexibility and functionality.

The iWay Application Adapter for J.D. Edwards OneWorld supports the following integration access methods:

- J.D. Edwards OneWorld ThinNet API
- J.D. Edwards OneWorld XML
- J.D. Edwards unedited transaction tables (Z tables)

The following diagram shows the J.D. Edwards OneWorld inbound processing (from the EIS to application server) framework. It shows the OneWorld components and the agent adapter in the inbound processing sequence.

The adapter uses the J.D. Edwards OneWorld ThinNet API to communicate with the OneWorld application. Using the ThinNet API, the adapter can run one or more Master Business Functions (MBFs) in a single Unit Of Work (UOW). When any of the MBFs fail, the entire UOW fails, preventing partial updates. Because the adapter runs the MBFs, validation of data, business rules, and communications to the underlying database are handled by the OneWorld application.
**J.D. Edwards OneWorld Outbound Processing Framework**

The following diagram shows the J.D. Edwards OneWorld outbound processing framework. It shows the OneWorld components and the listener adapter in the outbound processing sequence.

In the outbound process, the event starts when a specific MBF is executed in the J.D. Edwards OneWorld environment. The MBF writes the required information for the event into the appropriate interface table and then notifies the subsystem Batch Function (BF) that an event occurred. The subsystem BF then places an entry about the event on the Subsystem Data Queue.

The outbound subsystem retrieves the data queue entry and looks in the Data Export Control table for the external processes to notify. The outbound subsystem then calls the iWay Application Adapter for J.D. Edwards OneWorld listener with notification. The listener passes the notification to the generator. The generator then uses the J.D. Edwards OneWorld ThinNet API to retrieve the appropriate information from the interface table.
The iWay Application Adapter for J.D. Edwards OneWorld works with iWay Application Explorer in conjunction with one of the following components:

- iWay Business Services Engine (iBSE)
- iWay Enterprise Connector for J2EE™ Connector Architecture (JCA)

iWay Application Explorer is used to configure database connections and create Web services and events. It can be configured to work in a Web services environment in conjunction with the iWay Business Services Engine or with the iWay Enterprise Connector for J2EE Connector Architecture (JCA). When working in a JCA environment, the connector uses the Common Client Interface (CCI) to provide fast integration services using iWay Adapters instead of using Web services.

Both iBSE and the iWay Connector for JCA are deployed to an application server with iWay Application Explorer and the adapters.

**Deployment Information Roadmap**

The following table lists deployed components and describes where you can find information on each one. A description of the iWay Business Services Engine (iBSE) and the iWay Enterprise Connector for J2EE Connector Architecture (JCA) follows the table.

<table>
<thead>
<tr>
<th>Deployed Component</th>
<th>For more information, see</th>
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<tbody>
<tr>
<td>iWay Application Explorer</td>
<td>This guide</td>
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<td>iWay Installation and Configuration for BEA WebLogic</td>
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<tr>
<td></td>
<td>iWay Installation and Configuration for BEA WebLogic</td>
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</tbody>
</table>
**iWay Business Services Engine**

iWay Business Services Engine (iBSE) exposes—as Web services—enterprise assets that are accessible from adapters regardless of the programming language or the particular operating system.

iBSE simplifies the creation and execution of Web services when running:

- Custom and legacy applications
- Database queries and stored procedures
- Packaged applications
- Terminal emulation and screen-based systems
- Transactional systems

Web services is a distributed programming architecture that overcomes hurdles with Enterprise Application Integration (EAI) that other programming models cannot. It enables programs to communicate with one another using a text-based platform- and language-independent message format called XML.

Coupled with a platform- and language-independent messaging protocol called SOAP (Simple Object Access Protocol), XML enables application development and integration by assembling previously built components from multiple Web services.

**The iWay Enterprise Connector for J2EE Connector Architecture**

The iWay Enterprise Connector for J2EE Connector Architecture (JCA) enables developers of JCA-compliant applications to deploy iWay adapters as JCA resources.

The iWay Connector for JCA is distributed as a standard Resource Adapter Archive (RAR) for deployment to the application server. Thus, the connector can be used in systems that are non-compliant, although services such as pooled connections are not available.
CHAPTER 2

Creating XML Schemas and Web Services for J.D. Edwards OneWorld

Topics:

- Overview
- Starting Servlet Application Explorer
- Defining a Target to J.D. Edwards OneWorld
- Managing a Connection to J.D. Edwards OneWorld
- Creating an XML Schema for a J.D. Edwards OneWorld Master Business Function
- Creating a Business Service

This section describes how to open a connection to J.D. Edwards OneWorld, how to create schemas for J.D. Edwards OneWorld functions, and how to create business services (Web services). It describes how to use iWay Application Explorer as deployed to BEA WebLogic Server.

Note: This guide is specifically for OneWorld. iWay Software also has an iWay Application Systems Adapter for J.D. Edwards World.
Overview

The iWay Application Adapter for J.D. Edwards OneWorld enables the processing of OneWorld business functions through the J.D. Edwards OneWorld ThinNet API. Using the API eliminates the requirement of creating complex and impractical batch processes. In addition, a transport layer, such as IBM® MQSeries®, File, or HTTP is not required, because an agent or a listener is defined through a TCP connection.

External applications that access OneWorld through the iWay Application Adapter for J.D. Edwards OneWorld use either XML schemas or Web services to pass data between the external application and the adapter. The following topics describe how to use iWay Application Explorer to create XML schemas and Web services for the J.D Edwards Master Business Functions (MBFs) used with the adapter.

For more information on creating Web services and on Application Explorer in general, see the iWay Application Explorer for BEA WebLogic User’s Guide.

Using GenJava to Generate a Schema

To create schemas for the adapter, you must use GenJava wrappers. You create the GenJava wrappers using the OneWorld utility called GenJava. You use Application Explorer to generate schemas against OneWorld GenJava wrappers.

GenJava is supplied as a command line process with several run-time options. For more information on GenJava, see the J.D. Edwards Interoperability Guide for OneWorld Xe.

Starting Servlet Application Explorer

Before you can use Servlet Application Explorer, you must start your application server.

Procedure: How to Start BEA WebLogic Server on Windows

To start BEA WebLogic Server on Windows:

1. Click the Start menu.
2. Select Programs, BEA WebLogic Platform 8.1, User Projects, your domain for iWay, and then, click Start Server.

Procedure: How to Start BEA WebLogic Server on UNIX

To start BEA WebLogic Server on UNIX or from a command line:

1. Enter the following at the prompt:

   
   BEA_HOME/user_projects/domains/DOMAIN_NAME/startWebLogic.cmd

   where:
Creating XML Schemas and Web Services for J.D.

**BEA_HOME**

Is the directory where BEA WebLogic is installed.

**DOMAIN_NAME**

Is the domain you are using for iWay.

**Procedure: How to Open Servlet Application Explorer**

To open Application Explorer:

1. Ensure that your application server is running.

2. Enter the following URL in your browser:

   \[http://hostname:port/iwae/index.html\]

   where:

   **hostname**

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

   **port**

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

After you start Application Explorer, the following image shows on the left, the Service Adapters tab is active, and a list of the supported adapters appears. In the upper right, the Available Hosts drop-down list displays the Connector for JCA or Servlet iBSE instance you can access. A Welcome message appears in the right pane.
You are ready to create new targets for J.D. Edwards.

Defining a Target to J.D. Edwards OneWorld

To browse the available Master Business Functions, you must first define a target to the system you use. After you define the target, it is automatically saved. You must connect to the system every time you start Application Explorer or after you disconnect.

When you launch Application Explorer, the left pane displays (as nodes) the application systems supported by Application Explorer, based on the iWay adapters installed.

Connecting to J.D. Edwards OneWorld

To connect to an application system for the first time, you must define a new target.

Procedure: How to Define a New Target to J.D. Edwards OneWorld

To define a new target:

1. In the left pane, click the JDEdwards node.
2. In the right pane, move the pointer over Operations, and select Define a new target.

For more information on adding instances, see the BEA WebLogic ERP Adapter Installation and Configuration manual.
The following image shows the Add a new JDEWARDS target dialog box that opens in the right pane, with fields that prompt you to enter the target name and description and a drop-down list from which to select the target type. The Next and Cancel buttons are active.

**Add a new JDEWARDS target**

Targets represent configured connections to instances of backend systems. Choose a name and description for the new target that you wish to create.

- **Target Name:**
- **Description:**
- **Target Type:** JDE One World

3. Click Next.

The Set connection info pane opens as shown in following image with the Repository tab active with a field that prompts you to enter the repository directory.

**Set connection info**

- **Repository directory:**
4. Type the path to the GenJava repository.
   This is the location of the Java files created by the GenJava program.
   **Note:** Generating agent schemas requires the GenJava repository. For more information on building the J.D. Edwards OneWorld Master Business Function repository, see the *J.D. Edwards Interoperability Guide for OneWorld Xe*.

5. Click **Finish**.
   The following image shows the Logon tab active, with fields that prompt you to enter the information required for connecting to the server on which J.D. Edwards OneWorld is running.

   ![Set connection info](image)

   **Note:** The J.D. Edwards OneWorld connection parameters are consistent with those found in your J.D. Edwards OneWorld system. For more information on parameter values that are specific to your J.D. Edwards OneWorld configuration, consult your J.D. Edwards OneWorld system administrator.

6. Type the appropriate values for your target type based on the information in the following table.
The following table lists and describes the parameters required in the Logon tab.

<table>
<thead>
<tr>
<th>Target Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>User ID</td>
<td>Valid user ID for J.D. Edwards OneWorld.</td>
</tr>
<tr>
<td>User password</td>
<td>Password associated with the user ID.</td>
</tr>
<tr>
<td>JDE Environment</td>
<td>J.D. Edwards OneWorld environment, for example, DU7333. For more information about this parameter, see your J.D. Edwards OneWorld documentation or ask your OneWorld system administrator.</td>
</tr>
<tr>
<td>Application</td>
<td>XMLInterop or the application name in J.D. Edwards OneWorld. Optional.</td>
</tr>
<tr>
<td>Server IP address</td>
<td>Name of the server on which J.D. Edwards OneWorld is running. This can be the name of the server, for example, JDEOW, or its IP address, for example, 123.45.67.89.</td>
</tr>
<tr>
<td>Server port</td>
<td>Port number where the server is listening, for example, 6009.</td>
</tr>
</tbody>
</table>

7. Click Finish.

After the extraction finishes, the new target appears under the JDEdwards node.

The following image shows a new target named JDEConnection under the JDEdwards node. The x icon to the left of JDEConnection indicates that the node is not connected.

For information on how to create schemas for the adapter, see Creating an XML Schema for a J.D. Edwards OneWorld Master Business Function on page 2-9.

**Procedure: How to Connect to a Defined J.D. Edwards OneWorld Target**

1. In the left pane, expand the Service Adapters node.
2. Expand the JDEdwards node.
3. Click the target name (for example, JDEConnection) under the JDEdwards node.
4. In the right pane, move the pointer over Operations, and select Connect.

The Connect to JDEConnection dialog box opens, populated with values you entered for the connection parameters.
Managing a Connection to J.D. Edwards OneWorld

To manage J.D. Edwards OneWorld connections, you can:

- Disconnect from a connection that is not currently in use.
  
  Although you can maintain multiple open connections to different transaction processing systems, it is recommended to disconnect from connections not in use.

- Edit a connection.

- Delete a connection that is no longer required.

Procedure: How to Disconnect From a Connection to J.D. Edwards OneWorld

To disconnect from a connection to J.D. Edwards:

1. Expand the Service Adapters node.
2. Expand the JDEdwards node.
3. Click the target name (for example, JDEConnection) under the JDEdwards node.
4. In the right pane, move the pointer over Operations and select Disconnect.

The connection with JDEConnection is dropped, but the node remains.

The following image shows the x icon to the left of JDEConnection, indicating that the node is disconnected.

---

Procedure: How to Delete a Connection to J.D. Edwards OneWorld

1. Expand the Service Adapters node.
2. Expand the JDEdwards node.
3. Click the target name (for example, JDEConnection) under the JDEdwards node.
4. In the right pane, move the pointer over Operations, and select Delete.
A message appears, prompting you to confirm the deletion of the node.

5. Click OK.

The node disappears from the list of available connections.

**Procedure: How to Edit a Target**

To edit a target, you must first disconnect from the target.

1. In the left pane, click the target node.
2. In the right pane, move the pointer over *Operations* and select *Edit*.
   The Edit pane opens on the right.
3. Modify the target information.
4. To open another pane and modify additional information, click *Next*.
5. When you are finished editing, click *Finish*.

**Creating an XML Schema for a J.D. Edwards OneWorld Master Business Function**

To execute a Master Business Function (MBF), the adapter must receive a request document through the J.D. Edwards OneWorld ThinNet API. The agent processes the request and sends an XML response document indicating the result. Application Explorer creates both the XML request schema and the XML response schema.

**Note:** In a J2EE Connector Architecture (JCA) implementation of iWay adapters, Web services are not available. When the adapters are deployed to use the iWay Connector for JCA, the Common Client Interface provides integration services using the iWay adapters. For more information, see the *iWay Installation and Configuration for BEA WebLogic* manual and the *iWay Connector for JCA for BEA WebLogic User’s Guide*.

**Creating a Request and a Response Schema**

The following procedure explains how to create request and response schemas for a J.D.Edwards OneWorld Master Business Function using Application Explorer.

**Procedure: How to Create a Request Schema and a Response Schema**

1. If you are not connected to a J.D. Edwards OneWorld target, connect to one, as described in *How to Connect to a Defined J.D. Edwards OneWorld Target* on page 2-7.
2. Expand the *Service Adapters* node.
3. Expand the node of the Master Business Function (MBF) for which you want to create the schema.
4. Expand and then select the node beneath the MBF.

5. In the right pane, move the pointer over Operations, and select Generate Schema. Application Explorer creates the schemas.

The following image shows the Schemas information window that opens in the right pane. The second column shows the root tag for the generated request and response schema, and the third column provides access to the schema XML.

![Schemas Table]

<table>
<thead>
<tr>
<th>Part</th>
<th>Root Tag</th>
<th>Schema</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request</td>
<td>jdeRequest</td>
<td>...</td>
</tr>
<tr>
<td>Response</td>
<td>jdeResponse</td>
<td>...</td>
</tr>
<tr>
<td>Event</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>EventReply</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

6. To view the XML for each schema, click the ellipsis (…).
The following image shows sample XML for a request schema generated by Application Explorer.

```
<?xml version="1.0" encoding="UTF-8" ?>
<!- Generated by the ibSE 2004-02-06T19:23:15Z -->
- <xsd:schema
    xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  - <xsd:element name="jdeRequest">
    - <xsd:complexType>
      - <xsd:sequence>
        - <xsd:element name="callMethod">
          - <xsd:complexType>
            - <xsd:sequence>
              - <xsd:element
                  name="params">
                - <xsd:complexType>
                  - <xsd:sequence>
                    - <xsd:element
                        name="param"
                        minOccurs="0"
                        maxOccurs="9">
```

Creating a Business Service

You can generate a business service (also known as a Web service). You can explore the business function repository and generate business services for the functions you want to use with the adapter.

**Note:** In a J2EE Connector Architecture (JCA) implementation of iWay adapters, Web services are not available. When the adapters are deployed to use the iWay Connector for JCA, the Common Client Interface provides integration services using the iWay adapters. For more information, see the *iWay Installation and Configuration for BEA WebLogic* manual and the *iWay Connector for JCA for BEA WebLogic User’s Guide*.

**Procedure: How to Create a Business Service**

1. Expand the *JDEdwards* node and then expand the *Service Adapters* node.

2. Expand the node of the Master Business Function (MBF) for which you want to create a business service.

3. In the right pane, move the pointer over *Operations* and select *Create iWay Business Services*. 
Creating a Business Service

The following image shows the Create Web Service pane that opens, with option buttons enabling you to choose between creating a new service or using an existing service. The title indicates that the sample procedure applies to the AddressBookMaster MBF.

You can add the business function as a method for a new Web service or as a method for an existing one.

If you select the **Create a new service** option, another pane in the sequence opens as shown in the following image.
a. In the Service Name field, type a name for the service.

b. In the Description field, type a brief description.

c. Select one of the available licenses.

If you select the **Use an existing service** option, a different pane opens as shown in the following image with a drop-down list from which you select the service.

4. After you choose to create a new service or select an existing service, click **Next**. Another pane with additional fields opens.

   a. In the Method Name field, type a name for the method.

   b. In the Description field, type a brief description of the method.

5. Click **Finish**.

   Application Explorer switches the view to the iWay Business Services tab, and the new business service appears in the left pane.

**Testing a Business Service**

After you create a business service, test it to ensure that it functions properly. iWay provides a test tool for testing the business service.

**Procedure: How to Test a Business Service**

1. If you are not on the iWay Business Services tab of Application Explorer, click the tab to access business services.

2. If it is not expanded, expand the list of business services under iWay Business Services.

3. Expand the **Services** node.

4. Select the name of the business service you want to test.

   The business service name appears as a location in the right pane.
5. In the right pane, click the named business services location. The test option appears in the right pane.

If you are testing a Web service that requires XML input, an input xml field appears. The following image shows an input xml field, prompting you to enter XML code starting at the cursor location. An Invoke button enables you to test the operation.

![AddressUpdate Test](image)

6. In the input xml field, either type a sample XML document that queries the service, or browse to the location of an XML instance and click *Open*.

7. Click *Invoke*.

Application Explorer displays the results in the right pane.
Generating WSDL From a Web Service

Generating Web Services Description Language (WSDL) from a Web service enables you to make the Web service available to other services within a host server such as BEA WebLogic Server.

Procedure: How to Generate WSDL From a Web Service

1. Click the iWay Business Services tab.
2. In the left pane, expand the newly created Web service (for example, UpdateAddress).
3. In the right pane, right-click the Service Description hyperlink and select Save Target as. The Save As dialog box opens.
4. Choose a location for the file and specify .wsdl for the extension.
Creating a Business Service

**Note:** The file extension must be .wsdl.

5. Click **Save**.

**Identity Propagation**

If you test or execute a Web service using a third party XML editor, for example XMLSPY, the Username and Password values that you specify in the SOAP header must be valid and are used to connect to J.D. Edwards. The user name and password values that you provided for J.D. Edwards during target creation using Application Explorer are overwritten for this Web service request. The following is a sample SOAP header that is included in the WSDL file for a Web service:

```xml
<SOAP-ENV:Header>
  <m:ibsinfo xmlns:m="urn:schemas-iwaysoftware-com:iwse">
    <m:service>String</m:service>
    <m:method>String</m:method>
    <m:license>String</m:license>
    <m:disposition>String</m:disposition>
    <m:Username>String</m:Username>
    <m:Password>String</m:Password>
    <m:language>String</m:language>
  </m:ibsinfo>
</SOAP-ENV:Header>

**Note:** You can remove the following tags from the SOAP header, since they are not required:

```xml
<m:disposition>String</m:disposition>
<m:language>String</m:language>
```
CHAPTER 3

Listening for Database Events

Topics:

- Understanding Event Functionality
- Creating an Event Port
- Creating a Channel
- The OneWorld Event Listener
- Configuring the OneWorld Event Listener
- Logging and Error Handling

This section describes how to use the iWay Application Adapter for J.D. Edwards OneWorld, deployed to a server, such as BEA WebLogic Server, to listen for events.
Understanding Event Functionality

Events are generated as a result of activity in a database or in an application system. You can use events to trigger an action in your application. For example, an update to a database can reflect an update to customer information. If your application must perform when this happens, your application is a consumer of this event.

After you create a connection to your application system, you can add events using Servlet Application Explorer. To create an event, you must create a port and a channel.

- **Port**
  A port associates a particular business object exposed by the adapter with a particular disposition. A disposition defines the protocol and location of the event data. The port defines the end point of the event consumption. For example, you can use the MSMQ protocol to route the result of a Purchase Order update in the J.D. Edwards system to a queue hosted by BEA WebLogic Server. For more information, see *Creating an Event Port* on page 3-2.

- **Channel**
  A channel represents configured connections to particular instances of back-end systems. A channel binds one or more event ports to a particular listener managed by the adapter. For more information, see *Creating a Channel* on page 3-15.

Creating an Event Port

Application Explorer enables you to create event ports from the Service Adapters tab or from the iWay Events tab. You also can modify or delete an existing port.

Creating an Event Port From the Service Adapters Tab

You can bypass the Event Adapters tab and create an event port directly from the Service Adapters tab.
**Procedure: How to Create an Event Port From the Service Adapters Tab**

1. Select the J.D. Edwards OneWorld object for which you want to create an event port.

   The following image shows the selected transactions object under JDEConnection and Events in the left pane. It shows available operations in the right pane.

   ![Image of JDEConnection and Events]

2. In the right pane, move the pointer over *Operations* and select *Create iWay Event Port*.

   The following image shows the Create Event Port dialog box that opens in the right pane, with fields prompting you to enter the event port name and description and a drop-down list from which you select the disposition protocol. In this example, FILE is the selected disposition protocol.

**Create Event Port**

The Event Port is used to route events generated by external systems. An event port consists of an event schema bound to an event disposition and assigned to an event channel. Channels are configured by transport and you can assign multiple ports to each channel.

Event Port Name: 
Event Port Description: 
Disposition Protocol: FILE
Creating an Event Port

a. Specify a name and a brief description for the event port.

b. From the Disposition Protocol drop-down list, select the required disposition (for example, FILE).

3. Click Next.

   The Specify Disposition dialog box opens in the right pane.

4. Specify the Disposition Url and click Finish.

   For information on configuring port dispositions, see Creating an Event Port From the Event Adapters Tab on page 3-4.

Creating an Event Port From the Event Adapters Tab

The following procedures describe how to create an event port from the Event Adapters tab for various dispositions using Application Explorer. You can switch between an iBSE and a JCA deployment by choosing one or the other from the drop-down menu in the upper right of Application Explorer.

The following dispositions are available when using Application Explorer in conjunction with an iBSE deployment.

- File
- iBSE
- MSMQ
- JMSQ
- SOAP
- HTTP
- MQSeries
- Mail

**Note:** The Mail disposition option will be supported in a future release.

The following dispositions are available when using Application Explorer in conjunction with a JCA connector deployment.

- File
- JMSQ
- HTTP
- MQSeries
You also can create an event port directly from the Service Adapters tab. For more information, see Creating an Event Port From the Service Adapters Tab on page 3-2.

**Procedure: How to Create an Event Port for File**

1. Click the *Event Adapters* tab.
   The Event Adapters window opens.

2. In the left pane, expand the *JDEdwards* node.

3. Select the *ports* node.

4. In the right pane, move the pointer over *Operations* and select *Add a new port*.

   The following image shows the Create New Port dialog box that opens in the right pane, with fields prompting you to enter the port name and description, a drop-down list from which you select the disposition protocol, and a field prompting you to enter the disposition. In this example, the selected disposition protocol is *FILE*, and a disposition was entered.

   ![Create New Port](image)

   **Create New Port**

   Choose parameters of the port that you wish to create.

   - **Port Name:**
   - **Description:**
   - **Disposition Protocol:** *FILE*
   - **Disposition:** `ifile://[location];errorTo=[pre-defined port name or another disposition url]`

   a. Type a name and a brief description for the event port.

   b. From the Disposition Protocol drop-down list, select *FILE*.

   c. In the Disposition field, specify a destination file to which the event data is written.

   When pointing Application Explorer to an *iBSE* deployment, specify the destination file using the following format:

   `ifile://[location];errorTo=[pre-defined port name or another disposition url]`
Creating an Event Port

When pointing Application Explorer to a JCA deployment, specify the full path to the directory.

The following table lists and describes the disposition parameters for File.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>location</td>
<td>Destination and file name of the document where event data is written. For example, D:\in\x.txt</td>
</tr>
<tr>
<td>errorTo</td>
<td>Predefined port name or another disposition URL to which error logs are sent. Optional.</td>
</tr>
</tbody>
</table>

5. Click OK.

The port appears under the ports node in the left pane. In the right pane, a table appears that summarizes the information associated with the event port you created.

You are ready to associate the event port with a channel. For more information, see Creating a Channel on page 3-15.

Procedure: How to Create an Event Port for iBSE

1. Click the Event Adapters tab.
   The Event Adapters window opens.

2. In the left pane, expand the JDEdwards node.

3. Select the ports node.

4. In the right pane, move the pointer over Operations and select Add a new port.
   a. Type a name and a brief description for the event port.
   b. From the Disposition Protocol drop-down list, select iBSE.
   c. In the Disposition field, type an iBSE destination using the following format:

```
ibse:svcName.mthName;responseTo=[pre-defined port name or another disposition url];errorTo=[pre-defined port name or another disposition url]
```

The following table lists and describes the disposition parameters for iBSE.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>svcName</td>
<td>Name of the service created with iBSE.</td>
</tr>
<tr>
<td>mthName</td>
<td>Name of the method created for the Web service.</td>
</tr>
</tbody>
</table>
5. Click OK.

The port appears under the ports node in the left pane. In the right pane, a table appears that summarizes the information associated with the event port you created.

You are ready to associate the event port with a channel. For more information, see Creating a Channel on page 3-15.

**Procedure: How to Create an Event Port for MSMQ**

1. Click the Event Adapters tab.

   The Event Adapters window opens.

2. In the left pane, expand the JDEdwards node.

3. Select the ports node.

4. In the right pane, move the pointer over Operations and select Add a new port.

   a. Type a name and a brief description for the event port.

   b. From the Disposition Protocol drop-down list, select MSMQ.

   c. In the Disposition field, type an MSMQ destination using the following format:

   msmq:/host/private$/qName;errorTo=[pre-defined port name or another disposition url]

   **Note:** This syntax is for a private queue. Private queues are queues that are not published in Active Directory. They appear only on the local computer that contains them. Private queues are accessible only by Message Queuing applications that recognize the full path name or format name of the queue.

The following table lists and describes the disposition parameters for MSMQ.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>host</td>
<td>Machine name where the Microsoft Queuing system is running.</td>
</tr>
<tr>
<td>qName</td>
<td>Name of the private queue where messages are placed.</td>
</tr>
</tbody>
</table>
Creating an Event Port

5. Click OK.

The port appears under the ports node in the left pane. In the right pane, a table appears that summarizes the information associated with the event port you created.

You are now ready to associate the event port with a channel. For more information, see Creating a Channel on page 3-15.

Procedure: How to Create an Event Port for JMS Queue

1. Click the Event Adapters tab.

The Event Adapters window opens.

2. In the left pane, expand the JDEdwards node.

3. Select the ports node.

4. In the right pane, move the pointer over Operations and select Add a new port.

   a. Type a name and a brief description for the event port.

   b. From the Disposition Protocol drop-down list, select JMSQ.

   c. In the Disposition field, type a JMS destination.

      When pointing Application Explorer to an iBSE deployment, specify the destination using the following format:

      \[
      \text{jmsq:myQueueName@myQueueFac;\text{jndiurl}\{\text{myurl}\};jndifactory\{\text{myfactory}\};user\{\text{user}\};password\{\text{xxx}\};errorTo\{\text{pre-defined port name or another disposition url}\}}
      \]

      When pointing Application Explorer to a JCA deployment, specify the destination using the following format:

      \[
      \text{jms:jmsqueue@jmsfactory;\text{jndiurl}=;jndifactory=;}
      \]

The following table lists and describes the disposition parameters for JMSQ.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>errorTo</td>
<td>Predefined port name or another disposition URL to which error logs are sent. Optional.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>myQueueName</td>
<td>JNDI name of a queue to which events are emitted.</td>
</tr>
<tr>
<td>or jmsqueue</td>
<td></td>
</tr>
</tbody>
</table>
Click OK.

The port appears under the ports node in the left pane. In the right pane, a table appears that summarizes the information associated with the event port you created.

You are now ready to associate the event port with a channel. For more information, see Creating a Channel on page 3-15.

### Parameter | Description
--- | ---
myQueueFac or jmsfactory | A resource that contains information about the JMS Server. The WebLogic connection factory is: `javax.jms.QueueConnectionFactory`
jndiurl | The URL to use to contact the JNDI provider. The syntax of this URL depends on the JNDI provider being used. This value corresponds to the standard JNDI property. `java.naming.provider.url`. The URL of the WebLogic Server is `t3://host:port` where:
- `host` is the machine name where WebLogic Server is installed.
- `port` is the port on which WebLogic Server is listening. The default port, if not changed at installation, is 7001.
jndifactory | Is JNDI context.INITIAL_CONTEXT_FACTORY and is provided by the JNDI service provider. For WebLogic Server, the WebLogic factory is: `weblogic.jndi.WLInitialContextFactory`.user | Valid user name required to access a JMS server.
password | Valid password required to access a JMS server.
errorTo | Predefined port name or another disposition URL to which error logs are sent. Optional.
Procedure: How to Create a Port for the SOAP Disposition

The SOAP disposition allows an event response to launch a Web service specified by a WSDL file. A soapaction is optional, the default is "".

To create a port for a SOAP disposition using Application Explorer:

1. Click the Event Adapters tab.
   The Event Adapters window opens.

2. In the left pane, expand the J.D. Edwards adapter node.

3. Select the ports node.

4. Move the pointer over Operations and select Add a new port.
   The Create New Port pane opens on the right.

   a. In the Port Name field, type a name for the event.
   b. In the Description field, type a brief description.
   c. From the Disposition Protocol drop-down list, select SOAP.
   d. In the Disposition field, enter a SOAP destination, using the following format:

   \[
   \text{soap:}\left[\text{wsdl-url}\right];\text{soapaction=}\left[\text{myaction}\right];\text{method=}\left[\text{web service method}\right];\text{namespace=}\left[\text{namespace}\right];\text{responseTo=}\left[\text{pre-defined port name or another disposition URL}\right];\text{errorTo=}\left[\text{pre-defined port name or another disposition url}\right]
   \]
The following table defines the parameters for the disposition.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
</table>
| wsdl-url  | The URL to the WSDL file that is required to create the SOAP message. For example:  
where:  
webservice  
Is the name of the Web service you created using Application Explorer.  
This value can be found by navigating to the Integration Business Services tab and opening the Service Description option in a new window. The WSDL URL appears in the Address field.  
You can also open the WSDL file in a third party XML editor (for example, XMLSPY) and view the SOAP request settings to find this value. |
| soapaction | The method that will be called by the SOAP disposition. For example:  
webservice.method@test@@  
where:  
webservice  
Is the name of the Web service you created using Application Explorer.  
method  
Is the method being used.  
test  
Is the license that is being used by the Web service.  
This value can be found by navigating to the Integration Business Services tab and opening the Service Description option in a new window. Perform a search for soapAction.  
You can also open the WSDL file in a third party XML editor (for example, XMLSPY) and view the SOAP request settings to find this value. |
Creating an Event Port

Procedure: How to Create an Event Port for HTTP

1. Click the Event Adapters tab.
   The Event Adapters window opens.

2. In the left pane, expand the JDEdwards node.

3. Select the ports node.

4. In the right pane, move the pointer over Operations and select Add a new port.
   a. Type a name and a brief description for the event port.
   b. From the Disposition Protocol drop-down list, select HTTP.
   c. In the Disposition field, type an HTTP destination.

      When pointing Application Explorer to an iBSE deployment, specify the destination using the following format:

      \[ihttp://[myurl];responseTo=[pre-defined port name or another disposition url];\]
When pointing Application Explorer to a **JCA** deployment, specify the destination using the following format:

http://host:port/uri

The following table lists and describes the disposition parameters for HTTP when using an **iBSE** deployment.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>myurl</td>
<td>URL target for the post operation, for example,</td>
</tr>
<tr>
<td></td>
<td><a href="http://myhost:1234/docroot">http://myhost:1234/docroot</a></td>
</tr>
<tr>
<td>responseTo</td>
<td>Predefined port name or another disposition URL to which response documents are sent. Optional.</td>
</tr>
</tbody>
</table>

The following table lists and describes the disposition parameters for HTTP when using a **JCA** deployment.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>host:port</td>
<td>Combination of the name of the host on which the server resides and the port on which the server is listening for the post operation.</td>
</tr>
<tr>
<td>uri</td>
<td>Universal resource identifier that completes the URL specification.</td>
</tr>
</tbody>
</table>

5. Click **OK**.

The port appears under the ports node in the left pane. In the right pane, a table appears that summarizes the information associated with the event port you created.

You are now ready to associate the event port with a channel. For more information, see *Creating a Channel* on page 3-15.

**Procedure: How to Create an Event Port for MQSeries**

1. Click the *Event Adapters* tab.

   The iWay Event Adapters window opens.

2. In the left pane, expand the **JDEdwards** node.

3. Select the *ports* node.

4. In the right pane, move the pointer over *Operations* and select *Add a new port*.
   
   a. Type a name and a brief description for the event port.
   
   b. From the Disposition Protocol drop-down list, select **MQSeries**.
Creating an Event Port

c. In the Disposition field, type an MQSeries destination.

When pointing Application Explorer to an iBSE deployment, specify the destination using the following format:

`mqseries:/qManager/qName;host=[hostname];port=[port];channel=[channelname];errorTo=[pre-defined port name or another disposition url]`

When pointing Application Explorer to a JCA deployment, specify the destination using the following format:

`mq:qmanager@respqueue;host=;port=;channel=`

The following table lists and describes the disposition parameters for MQSeries.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>qManager</td>
<td>Name of the queue manager to which the server must connect.</td>
</tr>
<tr>
<td>qName or respqueue</td>
<td>Name of the queue where messages are placed.</td>
</tr>
<tr>
<td>host</td>
<td>Host on which the MQ server is located (for the MQ Client only).</td>
</tr>
<tr>
<td>port</td>
<td>Number to connect to an MQ server queue manager (for the MQ client only).</td>
</tr>
<tr>
<td>channel</td>
<td>Case-sensitive name of the channel that connects with the remote MQ server queue manager (for the MQ client only). The default channel name for MQSeries is SYSTEM.DEF.SVRCONN.</td>
</tr>
<tr>
<td>errorTo</td>
<td>Predefined port name or another disposition URL to which error logs are sent. Optional.</td>
</tr>
</tbody>
</table>

5. Click OK.

The port appears under the ports node in the left pane. In the right pane, a table appears that summarizes the information associated with the event port you created.

You are now ready to associate the event port with a channel. For more information, see Creating a Channel on page 3-15.

Editing and Deleting an Event Port

The following procedures describe how to edit and delete an event port.
Procedure: How to Edit an Event Port

1. In the left pane, select the event port you want to edit.
2. In the right pane, move the pointer over Operations and select Edit.
   The Edit Port dialog box opens.
3. Make the required changes and click OK.

Procedure: How to Delete an Event Port

1. Select the event port you want to delete.
2. In the right pane, move the pointer over Operations and select Delete.
   A confirmation dialog box opens.
3. To delete the event port you selected, click OK.
   The event port disappears from the list in the left pane.

Creating a Channel

The following procedure describes how to create a channel for your event. All defined event ports must be associated with a channel. This topic also describes how to start and stop a channel as well as how to edit and delete a channel.

Procedure: How to Create a Channel

1. Click the Event Adapters tab.
   The Event Adapters window opens. The adapters that appear in the left pane support events.
2. Expand the JDEdwards node.
   The ports and channels nodes appear in the left pane.
3. Click the channels node.
4. In the right pane, move the pointer over Operations and select Add a new channel.
Creating a Channel

The following image shows the Add a new JDEdwards channel dialog box that opens in the right pane, with fields prompting you to enter the channel name and description and a drop-down list from which to select the channel type. In this example, the selected channel type is TCP Listener.

![Add a new JDEdwards channel dialog box](image)

**Add a new JDEdwards channel**

Choose a name and description for the new channel that you wish to create.

- **Channel Name**: 
- **Description**: 
- **Channel Type**: TCP Listener

5. Click Next.

   ![Next button](image)

   ![Cancel button](image)

   ![Help button](image)

   ![Back button](image)

**a.** Type a name (for example, NewChannel) and a brief description for the channel.

**b.** From the drop-down list, select *TCP Listener*.
The following image shows the Edit channels dialog box that opens, with fields, a drop-down list, and check boxes prompting you for information required for the creation of a channel. In this example, localhost has been entered in the Host field, and REQUEST_RESPONSE has been selected from the Synchronization Type drop-down list.

![Edit channels dialog box]

6. Provide the system information that is specific to your J.D. Edwards environment per the following table.
Creating a Channel

The following table lists and describes the parameters required to create a channel.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host</td>
<td>Name or URL of the machine where the database is installed.</td>
</tr>
<tr>
<td>Port number</td>
<td>Port number on which the server is listening, for example, 6009.</td>
</tr>
</tbody>
</table>
| Synchronization Type | • If the event application expects a reply sent back to it, select \textit{REQUEST\_RESPONSE}. Specify a preemitter.  
                        • When a TCP/IP acknowledgement (ACK) is sent back to the event application, select \textit{REQUEST\_ACK}.  
                        • If the event application does not expect a return, select \textit{REQUEST}.  |
| Is Length Prefix     | For J.D. Edwards OneWorld events that send data back that is not in XML format. The TCP/IP event application must prefix the data with a 4-byte binary length field when writing the data to the TCP/IP port. |
| Is XML               | For J.D. Edwards OneWorld events that send data back in XML format. No preparser is required. |
| Is Keep Alive        | Maintains continuous communication between the event transaction and the channel. |
| User id              | Valid user ID for J.D. Edwards OneWorld.                                    |
| User Password        | Password associated with the user ID.                                       |
| JDE Environment      | J.D. Edwards OneWorld environment, for example, DU7333. For more information about this parameter, see your J.D. Edwards OneWorld documentation or ask your OneWorld system administrator. |
| Application          | XMLInterop or the application name in J.D. Edwards OneWorld. Optional.      |
| Server IP address    | Name of the server on which J.D. Edwards OneWorld is running. This can be the name of the server, for example, JDEOW, or its IP address, for example, 123.45.67.89. |
| Server port          | Port number on which J.D. Edwards OneWorld is running.                      |
7. Click Next.
   a. Select an event port from the list of available ports. To select more than one, hold down the Ctrl key and click the ports.
   b. Click the single right arrow button to transfer the selected port(s) to the list of current ports. To transfer all event ports, click the double right arrow button.
8. Click Finish.

An information summary for the new channel that appears in the right pane. It provides the channel, description, channel status, and ports.

An X over the icon for the channel name indicates that the channel is currently disconnected. You must start the channel to activate your event configuration.

**Procedure: How to Start and Stop a Channel**

1. Expand the Event Adapters node.
2. Expand the JDEdwards node.
3. Select the channel you want to start or stop.
4. To start the channel, move the pointer over Operations and select *Start the channel*.
5. To stop the channel, move the pointer over Operations and select *Stop the channel*.

**Editing and Deleting a Channel**

The following procedures describe how to edit and delete a channel.

**Procedure: How to Edit a Channel**

1. Expand the Event Adapters node.
2. Expand the JDEdwards node.
3. In the left pane, select the channel you want to edit.
4. In the right pane, move the pointer over Operations and select *Edit*.
   The Edit channels dialog box opens.
5. Make the required changes to the channel configuration and click *Finish*.

**Procedure: How to Delete a Channel**

1. Expand the Event Adapters node.
2. Expand the JDEdwards node.
3. In the left pane, select the channel you want to delete.
4. In the right pane, move the pointer over Operations and select *Delete*.
The OneWorld Event Listener

A confirmation dialog box opens.

5. To delete the channel you selected, click OK.

The channel disappears from the list in the left pane.

The OneWorld Event Listener

The iWay Application Adapter for J.D. Edwards OneWorld Event Listener is designed specifically to provide J.D. Edwards approved access to your OneWorld business events. The OneWorld Event Listener refers to a specialized application that runs in conjunction with OneWorld business functions and is called by the OneWorld application system.

The OneWorld application system provides the Event Listener with the information required to retrieve the event information for only the desired events. For information about configuring the OneWorld environment, see the J.D. Edwards Interoperability Guide for OneWorld.

The OneWorld Event Listener is called directly from the OneWorld application and is passed a Z-file record identifier. This identifier then generates a request document that is passed to the adapter for processing. The adapter retrieves the event information from the J.D. Edwards OneWorld system and propagates the information for integration with other application systems.

Configuring the OneWorld Event Listener

The OneWorld Event Listener is installed as part of the basic installation. The OneWorld Adapter is automatically installed in the appropriate directory. If BEA WebLogic Server is not installed on the same computer as the J.D. Edwards application server, you must configure the OneWorld Event Listener. For more information, see the J.D. Edwards Interoperability Guide for OneWorld.

The OneWorld Event Listener is invoked by J.D. Edwards for specific business functions as configured in the OneWorld environment.

The OneWorld Event listener includes the following components:

- Listener exit (IWOEvent)
  
The file extension you use depends on your operating system, for example, for Windows, the exit is IWOEvent.dll.

- Listener configuration file (iwoevent.cfg)

- Outbound agent (XDJdeOutboundAgent)
Listening for Database Events

The OneWorld Event listener exit is the function that passes the key fields for a record in the OneWorld outbound transaction tables to BEA WebLogic Server or processing by the outbound agent. The OneWorld Event listener is deployed under the J.D. Edwards OneWorld Server. The Java class for the OneWorld Event listener is called IWOEvent (the file extension depends on the operating system) and is case-sensitive.

Creating the iwoevent.cfg File

After OneWorld invokes the OneWorld Event listener, the listener accesses the configuration file, called iwoevent.cfg (case-sensitive). Based on the information in the configuration file, the listener sends the event notification to BEA WebLogic Server. If BEA WebLogic Server is unavailable or some exception occurs, the OneWorld Event listener saves the event information in a file called batch.log. After the server becomes available, the listener sends the information. All of the log information is saved in a file called iwoevent.log.

Procedure: How to Create the iwoevent.cfg File

1. On the J.D. Edwards OneWorld Server, create an iwoevent.cfg file in the defined directory. For information about the contents of this file, see Adding Connection Information on page 3-21.

2. Create an environment variable, IWOEVENT_HOME, to point to the directory containing the iwoevent.cfg file.
   - On Windows, add IWOEVENT_HOME to the system environment variables.
   - On UNIX, add the following command to your start-up script:
     
     ```
     export IWOEVENT_HOME =/directory_name
     ```

Adding Connection Information

The OneWorld Event listener requires connection information to initiate events properly. This information is contained in the iwoevent.cfg file. You must create this file and add the connection information to it.

The OneWorld Event listener requires connection information for the associated integration server to function properly. This information is contained in the iwoevent.cfg file.

A sample iwoevent.cfg file is installed on the J.D. Edwards server and is in the root path. The iwoevent.cfg file has three distinct sections:

- Common
- Alias
- Trans
Configuring the OneWorld Event Listener

The common section of the configuration file contains basic configuration options. Currently, only the trace option is supported.

The alias section of the configuration file contains the connection information required to send transactions to specific servers. The alias values to these entries are as follows:

```
Alias.aliasname={ipaddressordnsname}:port, trace={on|off}
```

where:

- **ipaddressordnsname**
  - Is the IP address or DNS name for the server containing the Adapter for J.D. Edwards OneWorld (required).

- **port**
  - Is the port defined for the Adapter for J.D. Edwards OneWorld (required).

- **on**
  - Sets tracing on for the particular alias.

- **off**
  - Sets tracing off for the particular alias. Off is the default value.

The trans section of the configuration file contains transaction information required to route J.D. Edwards OneWorld transactions to specified servers.

**Note:** If a particular J.D. Edwards OneWorld transaction is not defined to an alias, it is sent to all aliases. The trans values to these entries are as follows:

```
trans.jdeTransactionName=alias1,alias2,aliasn
```

where:

- **jdeTransactionName**
  - Is the JDE-defined name for the outbound transaction.

- **alias1,alias2,alias3**
  - Is the list of aliases to which the transactions are sent.

**Procedure: How to Add Connection Information to iwoevent.cfg**

1. Add the server and port entries to the iwoevent.cfg file.
2. To set the trace option, select `on` or `off`.

   ```
   common.trace={on|off}
   ```

   where:

   - **on**
     - Sets tracing on.
off
Sets tracing off. Off is the default value.

**Example:** Adding Connection Information to iwoevent.cfg

The following is a sample entry from iwoevent.cfg that supplies connection information:

```plaintext
common.trace=on

alias.edamcs1=172.1.1.1:3694
alias.edamcs1t=172.1.1.1:3694, trace=on
alias.edamcs2=222.2.2.2:1234

trans.JDESOW=edamcs1t,edamcs2
trans.JDEPOOUT=edamcs1
```

**Logging and Error Handling**

The client listener provides a log of each transaction it processes. The log is placed in iwoevent.log in the directory specified by the IWOEVENT_HOME environment variable.

When an event failure occurs, the event payload is saved to the local file system in a subdirectory of the IWOEVENT_HOME directory.

For example, if the IWOEVENT_HOME environment variable is set to d:\IWOEVENT, the Adapter for J.D. Edwards OneWorld is not available, and you have the following alias:

```plaintext
edamcs1
```

The event information is saved to the following directory:

```plaintext
d:\IWOEVENT\edamcs1
```
The following is a sample portion of the log file.

```
...  
Event call begin...
userId     : JDE
batchNumber: 0
transactionNumber: 102628
lineNumber  : 2.000000
transactionType : JDEWO
sequenceNumber : 1.000000
Request xml:
========================
<?xml version="1.0" encoding="UTF-8"?><eda><request><connection><dsn/>
</eda></request></eda>
========================
Connection failed with Error
connect socket failed: IO_DRIVERERROR
WSAECONNREFUSED(274D)
Payload dumped into file
[g:\jdedwardsoneworld\ddp\b7333\outbound\ibiwk\1055355515.xml]

Event call begin...
userId     : JDE
batchNumber: 0
transactionNumber: 102629
lineNumber  : 2.000000
transactionType : JDEWO
sequenceNumber : 1.000000
Request xml:
========================
<?xml version="1.0" encoding="UTF-8"?><eda><request><connection><dsn />
</user /></ediUserId><ediBatchNumber>0
</ediBatchNumber><ediTransactionNumber>102629
</ediTransactionNumber></data></proc><dsn>
</ediUserI...
Example: **Supplying Connection Information**

The following example is an iwoevent.cfg file that supplies connection information.

```plaintext
DSN=jde
   Server=localhost
   Port=4575
```

where:

- **DSN**
  - Is the name of the data source in dataSource.cfg (optional).

- **Server**
  - Is the IP address of BEA WebLogic Server.

- **Port**
  - Is the TCP port waiting for the TCP request.
Example: Sending a Request to BEA WebLogic Server (DSN Specified)

The following is a sample request sent to BEA WebLogic Server when the DSN is specified.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<eda>
  <request agent="XDJdeOutboundAgent">
    <connection>
      <dsn>jde</dsn>
      <user/>
      <password/>
      <sp>
        <proc>JDESOOUT</proc>
        <data>
          <ediUserId>islywm</ediUserId>
          <ediBatchNumber>100</ediBatchNumber>
          <ediTransactionNumber>100100</ediTransactionNumber>
        </data>
      </sp>
    </connection>
  </request>
</eda>
```

Example: Sending a Request to BEA WebLogic Server (DSN Not Specified)

The following is the same request as in the previous example but without a specified DSN.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<eda>
  <request>
    <connection>
      <dsn/>
      <user/>
      <password/>
      <sp>
        <proc>JDESOOUT</proc>
        <data>
          <ediUserId>islywm</ediUserId>
          <ediBatchNumber>100</ediBatchNumber>
          <ediTransactionNumber>100100</ediTransactionNumber>
        </data>
      </sp>
    </connection>
  </request>
</eda>
```
When the integration server receives the XML request from the listener exit, it invokes the XDJdeOutboundAgent to process the request. The XDJdeOutboundAgent creates a J.D. Edwards XML request and executes the request against the OneWorld system, using the DSN information in the DataSource.cfg file.

**Note:** No user ID or password information passes to the integration server from the OneWorld Event listener. Secured communication from the OneWorld Event listener to the adapter is not implemented.

**Example:** Sending Requests to J.D. Edwards OneWorld

The following is a sample request sent to J.D. Edwards OneWorld.

```
<jdeRequest environment="DV7333" user="JDE" type="trans"
sessionidle="300" session="" pwd="JDE">

    <transaction type="JDESOOUT" action="transactionInfo">
        <key>
            <column name="EdiUserId">islywm</column>
            <column name="EdiBatchNumber">100</column>
            <column name="EdiTransactionNumber">100100</column>
        </key>
    </transaction>

</jdeRequest>
```
Logging and Error Handling

Example: Sending Responses From J.D. Edwards OneWorld

The following is a sample response from J.D. Edwards OneWorld.

```xml
<jdeResponse type='trans' user='user' session='session1'
            environment='env'>

  <transaction type='JDESOOUT' action='transactionInfo'>
    <returnCode code='0'>XML Request OK</returnCode>
    <key>
      <column name='EdiUserId'></column>
      <column name='EdiBatchNumber'></column>
      <column name='EdiTransactNumber'></column>
    </key>
    <table name='F4201Z1' type='header'>
      <column name='EdiUserId'></column>
      <column name='EdiBatchNumber'></column>
    </table>
    <table name='F4211Z1' type='detail'>
      <column name='EdiUserId'></column>
      <column name='EdiBatchNumber'></column>
    </table>
    <table name='F49211Z1' type='additionalHeader'>
      <WARNING>No record found</WARNING>
    </table>
  </transaction>
</jdeResponse>
```
CHAPTER 4

Using Web Services Policy-Based Security

Topics:

- Integration Business Services Policy-Based Security
- Configuring Integration Business Services Policy-Based Security

Servlet Application Explorer provides a security feature called Integration Business Services policy-based security. The following topics describe how this feature works and how to configure it.

Note: For the iWay 5.5 RG2 Release, it is recommended that policy-based security not be enabled.
Integration Business Services Policy-Based Security

Integration Business Services provide a layer of abstraction between the back-end business logic they invoke and the user or application running the business service. This enables easy application integration but raises the issue of controlling the use and execution of critical and sensitive business logic that is run as a business service.

Servlet Application Explorer controls the use of business services that use adapters with a feature called policy-based security. This feature enables an administrator to apply policies to Integration Business Services (iBS) to deny or permit their execution.

A policy is a set of privileges associated with the execution of a business service that can be applied to an existing or new iBS. When you assign specific rights or privileges inside a policy, you need not recreate privileges for every iBS that has security issues in common with other Integration Business Services. Instead, you can use one policy for many Integration Business Services.

The goal is to secure requests at both the transport and the SOAP request level that is transmitted on the wire. Some policies do not deal with security issues directly but affect the run-time behavior of the business services to which they are applied.

The iBSE administrator creates an instance of a policy type, names it, associates individual users and/or groups (a collection of users), and then applies the policy to one or more business services.

You can assign a policy to an iBS or to a method within an iBS. If a policy is applied only to a method, other methods in that iBS are not governed by it. However, if a policy is applied to the iBS, all methods are governed by it. At run time, the user ID and password that are sent to iBSE in the SOAP request message are checked against the list of users for all policies applied to the specific iBS. The Resource Execution policy type is supported and dictates who can or cannot execute the iBS.

When a policy is not applied, the default value for an iBS is to “grant all.” For example, anyone can execute the iBS until the Resource Execution policy is associated to the iBS. At that time, only users granted execution permission, or those who do not belong to a group that was denied execution permissions, have access to the iBS.
Configuring Integration Business Services Policy-Based Security

Before you create instances of policies, you must have a minimum of one user or one group to associate to an instance. You can create users and groups using Servlet Application Explorer. For more information, see How to Create a User to Associate With a Policy on page 4-3 or How to Create a Group to Associate With a Policy on page 4-5.

An execution policy governs who can execute the business service to which the policy is applied. For more information, see How to Create an Execution Policy on page 4-8.

You configure the IP and Domain Restriction policy type slightly differently from other policy types. The IP and Domain Restriction policy type controls connection access to iBSE and therefore, need not be applied to an individual business service. You need not create a policy, however, you must enable the Security Policy option in Servlet Application Explorer. For more information, see How to Configure IP and Domain Restrictions on page 4-12.

**Note:** For the iWay 5.5 RG2 Release, it is recommended that policy-based security not be enabled.

**Procedure: How to Create a User to Associate With a Policy**

To create a user to associate with a policy:

1. Open Servlet Application Explorer.

   The following image shows the window that opens and includes three tabs corresponding to Service Adapters, Event Adapters, and Integration Business Services. The Integration Business Services tab is active and displays a Welcome screen on the right. The image shows the Integration Business Services node expanded in the left pane.

   ![Image](image_url)

   **Welcome**

   This Application Explorer is running within a servlet container using the set of metadata introspection Web Services provided by the Integration Business Services Engine and the Adapter Framework.

   **a.** Click the *Integration Business Services* tab.

   **b.** Expand the *Configuration* node.

   **c.** Expand the *Security* node.
d. Expand the Users and Groups node.

e. Select Users.

2. In the right pane, move the pointer over Operations and select Add.

The following image shows the Add a new user pane that opens and includes fields where you enter a user name, a password, and a description of the user. The pane includes a Help button, an OK button to instruct the system to accept inputs, and a Cancel button to escape from the pane.

**Add a new user**

<table>
<thead>
<tr>
<th>Name:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Password:</td>
<td></td>
</tr>
<tr>
<td>Description:</td>
<td></td>
</tr>
</tbody>
</table>

- a. In the Name field, type a user ID.
- b. In the Password field, type the password associated with the user ID.
- c. In the Description field, type a description of the user (optional).

3. Click OK.
The following image opens and shows a new user added to the configuration. It includes a definition of a user and a user ID and description.

**Operations ▶**

**Users**

A user is an object that can be granted or denied permissions to run Integration Business Services. A user can be belong to one or more groups. Policies that specify particular rights can be associated with user.

<table>
<thead>
<tr>
<th>User Id</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>bse1</td>
<td></td>
</tr>
</tbody>
</table>

**Procedure: How to Create a Group to Associate With a Policy**

To create a group to associate with a policy:

1. Open Servlet Application Explorer.
   a. Click the *Integration Business Services* tab.
   b. Expand the *Configuration* node.
   c. Expand the *Security* node.
   d. Expand the *Users and Groups* node.
   e. Select *Groups*.

2. In the right pane, move the pointer over *Operations* and click *Add*. 
The following image shows the Add new group pane that opens with fields where you enter a name and a description for the group. To continue after typing inputs, click the Next button. The pane also includes a Help button, a Back button to return to the previous screen, and a Cancel button to escape from the pane.

**Add new group**

- **Name**: 
  - In the Name field, type a name for the group.

- **Description**: 
  - In the Description field, type a description for the group (optional).

3. Click Next.
The following image shows the Modify Group Membership pane where you can move users to or from a group using the arrow keys to move them between the Current and Available lists and then clicking the Finish button. The pane includes a Help button, a Back button to return to the previous screen, and a Cancel button to escape from the pane.

**Modify Group Membership**

![Modify Group Membership Pane](image)

You can either highlight a single user in the list of available users and add it to the current list by clicking the left arrow, or you can click the double left arrow to add all users in the list of available users to the group.

4. After you select a minimum of one user, click *Finish*. 
The new group is added.
The following image shows a pane with a new group added to the configuration. It includes a definition of a group and the group name and description.

**Groups**

A group is an object that can be granted or denied permissions to run Integration Business Services. A group is used as a container for one or more users. Policies that specify particular rights can be associated with a group.

<table>
<thead>
<tr>
<th>Group name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>newgroup</td>
<td></td>
</tr>
</tbody>
</table>

**Procedure: How to Create an Execution Policy**

To create an execution policy:

1. Open Servlet Application Explorer.
   a. Click the *Integration Business Services* tab.
   b. Expand the *Configuration* node.
   c. Select *Policies*.

The following image shows the Policies pane on the right where you apply a policy. The Operations menu becomes available with three options, Build/Rebuild, Add, and Refresh.
2. Move the pointer over Operations and click Add.

The following image shows the Add a new policy pane that opens with fields for entering the name, type, and description of the policy. To continue, click the Next button. The pane includes a Help button, a Back button to return to the previous screen, and a Cancel button to escape from the pane.

![Add a new policy pane](image)

<table>
<thead>
<tr>
<th>Add a new policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
</tr>
<tr>
<td>Type: Execution</td>
</tr>
<tr>
<td>Description:</td>
</tr>
</tbody>
</table>

**a.** In the Name field, type a name for the policy.

**b.** From the Type drop-down list, select Execution.

**c.** In the Description field, type a description for the policy (optional).

3. Click Next.
The following image shows the Modify policy targets pane that opens and includes a list of current and available targets and arrow buttons to move targets from one list to the other. The pane also includes a Help button, a Back button to return to the previous screen, a Next button to continue to the next screen, and a Cancel button to escape from the pane.

4. Select a minimum of one user or group from the Available pane.
   **Note:** This user ID is checked against the value in the user ID element of the SOAP header sent to iBSE in a SOAP request.

5. Click Next.
The following image shows the Modify policy permissions pane that opens and includes drop-down lists where you can select to grant or deny permission to members and then click a button to finish. The pane also includes a Help button, a Back button to return to the previous screen, and a Cancel button to escape from the pane.

### Modify policy permissions

<table>
<thead>
<tr>
<th>Member Id</th>
<th>Permission</th>
</tr>
</thead>
<tbody>
<tr>
<td>user.ibse1</td>
<td>Deny</td>
</tr>
<tr>
<td>group.ibse_group</td>
<td>Deny</td>
</tr>
</tbody>
</table>

### Operations ➤

#### Policies

You can configure policies for the Integration Business Services Engine to manage resource execution, service routing, data restrictions and failover/recovery actions.

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ibse_policy</td>
<td>Execution</td>
<td></td>
</tr>
</tbody>
</table>
Procedure: How to Configure IP and Domain Restrictions

To configure IP and domain restrictions:

1. Open Servlet Application Explorer.
   a. Select the Integration Business Services tab.
   b. Expand the Configuration node.
   c. Expand the Security node.
   d. Select IP and Domain.

2. In the right pane, move the pointer over Operations and click Add.

The following image shows the Add a new IP/Domain pane that opens where you enter information for the IP/Domain in four fields. You must select a type of restriction from a drop-down list before you can enter information in the IP(Mask)/Domain field. The pane also includes a Help button, an OK button to instruct the system to accept inputs, and a Cancel button to escape from the pane.

![Add a new IP/Domain Pane](image)

- **From the Type drop-down list, select the type of restriction.**
- **In the IP(Mask)/Domain field, type the IP or domain name using the following guidelines.**
If you select Single (Computer) from the Type drop-down list, you must provide the IP address for that computer. If you only know the DNS name for the computer, click *DNS Lookup* to obtain the IP Address based on the DNS name.

If you select Group (of Computers), you must provide the IP address and subnet mask for the computer group.

If you select Domain, you must provide the domain name, for example, yahoo.com.

3. From the Access Control drop-down list, select *Grant* to permit access or *Deny* to restrict access for the IP addresses and domain names you are adding.

4. Click *OK*.

The following image shows the pane that opens and summarizes your configuration including the domain name, whether access is granted or denied, and a description (optional).

Operations ▶

**IP and Domain**

You can configure the Integration Business Services Engine to use policies that control access from a single IP address, a group of IP addresses, or all addresses within a particular domain.

<table>
<thead>
<tr>
<th>IP(Mask) / Domain</th>
<th>Access</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>test</td>
<td></td>
<td>Deny</td>
</tr>
</tbody>
</table>
Configuring Integration Business Services Policy-Based Security
CHAPTER 5

Management and Monitoring

Topics:
• Managing and Monitoring Services and Events Using iBSE
• Managing and Monitoring Services and Events Using the JCA Test Tool
• Setting Engine Log Levels
• Configuring Connection Pool Sizes
• Migrating Repositories
• Exporting or Importing Targets
• Retrieving or Updating Web Service Method Connection Information
• Starting or Stopping a Channel Programmatically

After you create services and events using Servlet Application Explorer, you can use managing and monitoring tools provided by the Integration Business Services Engine (iBSE) and the iWay Connector for JCA to measure the performance of your run-time environment. This section describes how to configure and use these features.
Managing and Monitoring Services and Events Using iBSE

Integration Business Services Engine (iBSE) provides a console to manage and monitor services and events currently in use and to display resource usage and invocation statistics. These indicators can help you adjust your environment for optimum efficiency.

The following monitoring levels are available for services:

- System
- Service
- Method

The following monitoring levels are available for events:

- System
- Channel
- Port

Procedure: How to Configure Monitoring Settings

To configure monitoring settings:

1. Ensure that your BEA WebLogic Server is started.

2. To access the monitoring console, enter the following URL in your Web browser:

   http://localhost:port/ibse/IBSEConfig

   where:

   localhost
   
   Is the machine where the application server is running.

   port
   
   Is the HTTP port for the application server.

The following image shows the iBSE Settings window that opens. It lists property names and includes fields where you can enter values for each property. To configure system settings, the System pane contains drop-down lists for selecting language, encoding, the debug level, and the number of asynchronous processors. It also contains a field where you can enter a path to the adapters lib directory.

To configure security settings, the Security pane contains fields for typing the Admin User name and the associated password and a check box for specifying policy.
To configure repository settings, the Repository pane contains a drop-down list for selecting the repository type, fields to type information for the repository URL, driver, user, and password, and a check box where you can enable repository pooling. In the upper and lower right of the window is a Save button. In the lower left of the window is an option to click to access more configuration settings.

<table>
<thead>
<tr>
<th>Property Name</th>
<th>Property Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>System</td>
<td></td>
</tr>
<tr>
<td>Language</td>
<td>English</td>
</tr>
<tr>
<td>Adapter Lib Directory</td>
<td>C:\Program Files\iWay\55\lib</td>
</tr>
<tr>
<td>Encoding</td>
<td>UTF-8</td>
</tr>
<tr>
<td>Debug Level</td>
<td>NONE</td>
</tr>
<tr>
<td>Number of Async. Processors</td>
<td>0</td>
</tr>
<tr>
<td>Security</td>
<td></td>
</tr>
<tr>
<td>Admin User</td>
<td>iWay</td>
</tr>
<tr>
<td>Admin Password</td>
<td>****</td>
</tr>
<tr>
<td>Policy</td>
<td></td>
</tr>
<tr>
<td>Repository</td>
<td></td>
</tr>
<tr>
<td>Repository Type</td>
<td>File System</td>
</tr>
<tr>
<td>Repository Url</td>
<td>file:///C:\Program Files\iWay\55\bea\lib</td>
</tr>
</tbody>
</table>

3. Click **More configuration**.

**Tip:** To access the monitoring console directly, enter the following URL in your Web browser:

http://localhost:port/ibse/IBSEStatus
Managing and Monitoring Services and Events Using iBSE

where:

**localhost**
Is the machine where the application server is running.

**port**
Is the HTTP port for the application server.

The following image shows the iBSE Monitoring Settings window that opens. It lists property names and includes a corresponding field where you can enter values for each property. The Monitoring pane contains a drop-down list for selecting the repository type, fields to type information for the repository URL, driver, user, and password, and a check box where you can enable repository pooling. The Auditing pane contains an option button to click to specify whether to store a message and a drop-down list where you can select the maximum messages to store. At the bottom of the window is a row of buttons that you can click to save your configuration, view events, or view services. The Save History button is inactive. After you enter properties and choose whether to save or view, you can click the Start Monitoring button.

### iBSE Monitoring Settings:

<table>
<thead>
<tr>
<th>Property Name</th>
<th>Property Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitoring</td>
<td></td>
</tr>
<tr>
<td>Repository Type</td>
<td>File System</td>
</tr>
<tr>
<td>Repository Url</td>
<td>file://C:\Program Files\iWay56\seq</td>
</tr>
<tr>
<td>Repository Driver</td>
<td></td>
</tr>
<tr>
<td>Repository User</td>
<td></td>
</tr>
<tr>
<td>Repository Password</td>
<td></td>
</tr>
<tr>
<td>Repository Pooling</td>
<td></td>
</tr>
<tr>
<td>Auditing</td>
<td></td>
</tr>
<tr>
<td>Store Message</td>
<td>○ yes ○ no</td>
</tr>
<tr>
<td>Max Message Stored</td>
<td>10,000</td>
</tr>
</tbody>
</table>

Buttons:
- Save Configuration
- Save History
- View Events
- View Services
- Start Monitoring
In the Monitoring pane, from the Repository Type drop-down list, select the type of repository you are using.

To connect to the database in the Repository Url field, type a JDBC URL.

To connect to the database in the Repository Driver field, type a JDBC Class.

To access the monitoring repository database, type a user ID and password.

To enable pooling, click the Repository Pooling check box.

In the Auditing pane, select yes if you want to store messages. This option is disabled by default.

Note: You must start and then, stop monitoring to enable this option.

Select the maximum number of messages you want to store. By default, 10,000 is selected.

Note: Depending on your environment and the number of messages that are exchanged, storing a large number of messages may affect system performance. If you need more information about your system resources, consult your system administrator.

Click Save Configuration.

4. Click Start Monitoring.

iBSE begins to monitor all services and events currently in use. If you selected the option to store messages, iBSE stores messages.

5. To stop monitoring, click Stop Monitoring.

**Procedure: How to Monitor Services**

To monitor services:

1. Ensure that your BEA WebLogic Server is started.

2. From the iBSE Monitoring Settings window, click Start Monitoring.

3. Click View Services.
The following image shows the System Level Summary (Service Statistics) window that opens. The Web Service Methods pane contains a drop-down list where you select a service. On the right, space is reserved for a drop-down list of methods that will appear. The Statistics pane contains a table with a summary of service statistics and two drop-down lists where you can select a successful or failed invocation to view more information about that service. At the bottom of the window is a home button to click to return to the iBSE Monitoring Settings window.

<table>
<thead>
<tr>
<th>Service Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Web Service Methods</strong></td>
</tr>
<tr>
<td>Service</td>
</tr>
<tr>
<td>all</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Time</td>
</tr>
<tr>
<td>Total Request Count</td>
</tr>
<tr>
<td>Total Success Count</td>
</tr>
<tr>
<td>Total Error Count</td>
</tr>
<tr>
<td>Average Request Size</td>
</tr>
<tr>
<td>Average Response Size</td>
</tr>
<tr>
<td>Average Execution Time</td>
</tr>
<tr>
<td>Last Execution Time</td>
</tr>
<tr>
<td>Average Back End Time</td>
</tr>
<tr>
<td>Last Back End Time</td>
</tr>
<tr>
<td>Successful Invocations</td>
</tr>
<tr>
<td>Failed Invocations</td>
</tr>
</tbody>
</table>

The system level summary provides services statistics at a system level.
The following table consists of two columns, one that lists the name of each statistic and the other that describes the corresponding service statistic.

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Time</td>
<td>Total amount of time iBSE monitors services. The time starts after you click Start Monitoring in the iBSE Monitoring Settings window.</td>
</tr>
<tr>
<td>Total Request Count</td>
<td>Total number of services requests that were made during the monitoring session.</td>
</tr>
<tr>
<td>Total Success Count</td>
<td>Total number of successful service executions.</td>
</tr>
<tr>
<td>Total Error Count</td>
<td>Total number of errors that were encountered.</td>
</tr>
<tr>
<td>Average Request Size</td>
<td>Average size of an available service request.</td>
</tr>
<tr>
<td>Average Response Size</td>
<td>Average size of an available service response size.</td>
</tr>
<tr>
<td>Average Execution Time</td>
<td>Average execution time for a service.</td>
</tr>
<tr>
<td>Last Execution Time</td>
<td>Last execution time for a service.</td>
</tr>
<tr>
<td>Average Back End Time</td>
<td>Average back end time for a service.</td>
</tr>
<tr>
<td>Last Back End Time</td>
<td>Last back end time for a service.</td>
</tr>
<tr>
<td>Successful Invocations</td>
<td>A list of successful services arranged by correlation ID. To retrieve more information for a service, you can select the service from the drop-down list.</td>
</tr>
<tr>
<td>Failed Invocations</td>
<td>A list of failed services arranged by correlation ID. To retrieve more information for a service, you can select the service from the drop-down list.</td>
</tr>
</tbody>
</table>

4. Select a service from the drop-down list.
Managing and Monitoring Services and Events Using iBSE

The following image shows the System Level Summary (Service Statistics) window that opens. The Web Service Methods pane contains a drop-down list on the left where you select a service and a drop-down list on the right where you select a service method. The Statistics pane contains a table with a summary of service statistics and two drop-down lists. To view more information about that service, you can select it from the Successful Invocations or Failed Invocations drop-down list. To suspend or resume a service, you can click a button in the lower right. To return to the iBSE Monitoring Settings window, you click the home button (also located in the lower right).

![Service Statistics](image)

5. Select a method for the service from the Method drop-down list.

- **a.** To stop a service at any time, click **Suspend Service**.
- **b.** To restart the service, click **Resume Service**.
The following image shows the Method Level Summary (Service Statistics) window that opens. The Web Service Methods pane contains a drop-down list on the left where you select a service and a drop-down list on the right where you select a service method. The Statistics pane contains a table with a summary of service statistics and two drop-down lists. To view more information about that service, you can select it from the Successful Invocations or Failed Invocations drop-down list. To suspend or resume a service, you can click a button in the lower right. To return to the iBSE Monitoring Settings window, you click the home button (also located in the lower right).

6. For additional information about a successful service and its method, select a service based on its correlation ID from the Successful Invocation drop-down list.
The following image shows the Invocation Level Statistics window that opens. The Message Information pane contains a table of information about the message. The Client Information pane contains a table of information about the client. The Detail pane contains a table that shows the size of the request and response messages, with options to click to view the respective XML documents. In the lower right of the window is a home button to click to return to the iBSE Monitoring Settings window.

**Invocation Statistics**

<table>
<thead>
<tr>
<th>Message Information</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Received</td>
<td>2004-09-14 12:04:16.312</td>
</tr>
<tr>
<td>Sent to adapter</td>
<td>2004-09-14 12:04:16.406</td>
</tr>
<tr>
<td>Received from adapter</td>
<td>2004-09-14 12:04:16.936</td>
</tr>
<tr>
<td>Responded</td>
<td>2004-09-14 12:04:16.968</td>
</tr>
<tr>
<td>Status</td>
<td>SUCCESS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Client Information</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Client IP</td>
<td>127.0.0.1</td>
</tr>
<tr>
<td>Client Host Name</td>
<td>127.0.0.1</td>
</tr>
<tr>
<td>User Name</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Detail</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Request Message</td>
<td>409 bytes</td>
</tr>
<tr>
<td>Response Message</td>
<td>665 bytes</td>
</tr>
</tbody>
</table>

7. To view the XML request document in your Web browser, click *Request Message*. You can also view the XML response document for the service.

8. To return to the iBSE Monitoring Settings window, click *home*.

**Procedure: How to Monitor Events**

To monitor events:

1. Ensure that your BEA WebLogic Server is started.
2. In the iBSE Monitoring Settings window, click *Start Monitoring*.
3. Click *View Events*. 
The following image shows the System Level Summary (Channel Statistics) window that opens. The Channels pane contains a drop-down list on the left where you select a channel. On the right, space is reserved for a drop-down list of ports that will appear. The Statistics pane contains a table with a summary of event statistics and two drop-down lists where you can select a successful or failed event to view more information about that event. In the lower right of the window is a home button to click to return to the iBSE Monitoring Settings window.

<table>
<thead>
<tr>
<th>Channels</th>
<th>Ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channels</td>
<td>Ports</td>
</tr>
<tr>
<td>all</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statistics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Event Count</td>
<td>4</td>
</tr>
<tr>
<td>Total Success Count</td>
<td>3</td>
</tr>
<tr>
<td>Total Error Count</td>
<td>1</td>
</tr>
<tr>
<td>Average Event Size</td>
<td>337.0 bytes</td>
</tr>
<tr>
<td>Average Event Reply Size</td>
<td>na</td>
</tr>
<tr>
<td>Average Delivery Time</td>
<td>1274.0 ms</td>
</tr>
<tr>
<td>Last Delivery Time</td>
<td>250 ms</td>
</tr>
<tr>
<td>Successful Events</td>
<td>select a correlation id</td>
</tr>
<tr>
<td>Failed Events</td>
<td>select a correlation id</td>
</tr>
</tbody>
</table>

The system level summary provides event statistics at a system level.
The following table consists of two columns, one that lists the name of each statistic and the other that describes the corresponding event statistic.

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Event Count</td>
<td>Total number of events.</td>
</tr>
<tr>
<td>Total Success Count</td>
<td>Total number of successful event executions.</td>
</tr>
<tr>
<td>Total Error Count</td>
<td>Total number of errors that were encountered.</td>
</tr>
<tr>
<td>Average Event Size</td>
<td>Average size of an available event request.</td>
</tr>
<tr>
<td>Average Event Reply Size</td>
<td>Average size of an available event response.</td>
</tr>
<tr>
<td>Average Delivery Time</td>
<td>Average delivery time for an event.</td>
</tr>
<tr>
<td>Last Delivery Time</td>
<td>Last delivery time for an event.</td>
</tr>
<tr>
<td>Successful Events</td>
<td>List of successful events arranged by correlation ID. To retrieve more information for an event, select the event from the drop-down list.</td>
</tr>
<tr>
<td>Failed Events</td>
<td>List of failed events arranged by correlation ID. To retrieve more information for an event, select the event from the drop-down list.</td>
</tr>
</tbody>
</table>

4. Select a channel from the drop-down list.
The following image shows the Channel Level Event Summary (Channel Statistics) window that opens. The Channels pane contains a drop-down list on the left where you select a channel and a drop-down list on the right where you select a port. The Statistics pane contains a table with a summary of event statistics and two drop-down lists where you can select a successful or failed event to view more information about that event. In the lower right of the window is a button to click to suspend or resume a channel and a home button to click to return to the iBSE Monitoring Settings window.

<table>
<thead>
<tr>
<th>Channels</th>
<th>Ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>TestChan</td>
<td>all</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statistics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Event Count</td>
<td>3</td>
</tr>
<tr>
<td>Total Success Count</td>
<td>2</td>
</tr>
<tr>
<td>Total Error Count</td>
<td>1</td>
</tr>
<tr>
<td>Average Event Size</td>
<td>401.0 bytes</td>
</tr>
<tr>
<td>Average Event Reply Size</td>
<td>na</td>
</tr>
<tr>
<td>Average Delivery Time</td>
<td>1542.0 ms</td>
</tr>
<tr>
<td>Last Delivery Time</td>
<td>250 ms</td>
</tr>
<tr>
<td>Successful Events</td>
<td>select a correlation id</td>
</tr>
<tr>
<td>Failed Events</td>
<td>select a correlation id</td>
</tr>
</tbody>
</table>

- a. To stop a channel at any time, click **Suspend Channel**.
- b. To start the channel, click **Start Channel**.
- 5. From the Ports drop-down list, select a port for the channel.
The following image shows the Port Level Event Summary (Channel Statistics) window that opens. The Channels pane contains a drop-down list on the left where you select a channel and a drop-down list on the right where you select a port. The Statistics pane contains a table with a summary of event statistics and two drop-down lists where you can select a successful or failed event to view more information about that event. In the lower right of the window is a button to click to suspend or resume a channel and a home button to click to return to the iBSE Monitoring Settings window.

<table>
<thead>
<tr>
<th>Channel Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Channels</strong></td>
</tr>
<tr>
<td>Channels</td>
</tr>
<tr>
<td>TestChan</td>
</tr>
<tr>
<td><strong>Statistics</strong></td>
</tr>
<tr>
<td>Total Event Count</td>
</tr>
<tr>
<td>Total Success Count</td>
</tr>
<tr>
<td>Total Error Count</td>
</tr>
<tr>
<td>Average Event Size</td>
</tr>
<tr>
<td>Average Event Reply Size</td>
</tr>
<tr>
<td>Average Delivery Time</td>
</tr>
<tr>
<td>Last Delivery Time</td>
</tr>
<tr>
<td>Successful Events</td>
</tr>
<tr>
<td>Failed Events</td>
</tr>
</tbody>
</table>

6. For more information about a successful event and its port, select an event based on its correlation ID from the Successful Events drop-down list.
The following image shows the Event Level Statistics (Message Statistics) window that opens. The Message Information pane contains a table of information pertaining to the event message. The Messages pane contains a table that shows the size of the event and reply messages, with an option to view an XML document of the event message. In the lower right of the window is a home button to click to return to the iBSE Monitoring Settings window.

<table>
<thead>
<tr>
<th>Message Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Message Information</strong></td>
</tr>
<tr>
<td>Received At</td>
</tr>
<tr>
<td>Disposed At</td>
</tr>
<tr>
<td>Delivered At</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Messages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Detail</strong></td>
</tr>
<tr>
<td>Event Message</td>
</tr>
<tr>
<td>Reply Message</td>
</tr>
</tbody>
</table>

a. To view the XML event document in your Web browser, click Event Message.
b. To return to the iBSE Monitoring Settings window, click home.
Managing and Monitoring Services and Events Using the JCA Test Tool

The JCA Test Tool, which is also known as the JCA Installation Verification Program (IVP), provides a console to manage and monitor services and events currently in use and to display resource usage and invocation statistics. These indicators can help you adjust your environment for optimum efficiency.

Procedure: How to Manage and Monitor Services Using the JCA Test Tool

To manage and monitor services using the JCA Test Tool:

1. Open a Web browser to:

   http://localhost:port/iwjcaivp

   where:

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

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

   http://localhost:7001/iwjcaivp

   The following image shows the JCA Test Tool page that opens. The page contains a description of the function of the tool and configuration information, including options to change your connection settings. It also provides options for viewing service or event adapters.

   The JCA Test Tool runs in managed mode by default.

2. Perform the following steps to monitor the latest service adapter configuration.

   Note: You must perform these steps for every new adapter target that is created using a JCA implementation of Application Explorer. In addition, you also must perform these steps for every new JCA configuration that is created using Application Explorer.
3. Click **Service adapters**.

The following image shows the Service Adapters page that opens. The page provides a live list of available service adapters and a list of targets configured for a specific adapter. In the lower right is a Back button to click to return to the previous page.

![Service Adapters](image)

### Service Adapters
Select an adapter from the following list to review its available targets (configurations):

- Oracle Applications
- Peoplesoft
- SAP
- Siebel

### Targets for Oracle Applications
No targets configured for this adapter.

4. Select a service adapter to monitor.
Managing and Monitoring Services and Events Using the JCA Test Tool

The following image shows the page that opens. The left side provides a live list of available service adapters and a list of any targets configured for a specific adapter. The upper right side shows statistics for a selected target. The middle right has a User field and a Password field. The lower right contains a box where you type or paste an input document. Below the input box is a Send button to click to send a request for a test service and a Reset button to click to reset the fields. In the lower right is a Back button to click to return to the previous page.

Service Adapters
Select an adapter from the following list to review its available targets (configurations)

- Oracle Applications
- PeopleSoft
- SAP
- Siebel

Statistics for Siebel target TestService
TotalRequestCount : 0
TotalSuccessCount : 0
TotalErrorCount : 0
AverageExecutionTime : 0 msec.
LastExecutionTime : 0 msec.

Request for Siebel target TestService
Enter the data for this interaction. The configured user/password will be used if the User name is not provided.

User: 
Password: 
Input Doc:

a. Click the desired target for your service adapter.
b. In the Request area, enter a user name and password.
c. In the Input Doc area, enter a request document that was created from the request schema for your service.

5. Click Send.
The following image shows the updated statistics that appear for your service if the request is successful. The statistics include the total number of requests, successes, and errors and the average and last execution time in milliseconds.

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TotalRequestCount</td>
<td>0</td>
</tr>
<tr>
<td>TotalSuccessCount</td>
<td>0</td>
</tr>
<tr>
<td>TotalErrorCount</td>
<td>0</td>
</tr>
<tr>
<td>AverageExecutionTime</td>
<td>0 msec</td>
</tr>
<tr>
<td>LastExecutionTime</td>
<td>0 msec</td>
</tr>
</tbody>
</table>

**Procedure: How to Manage and Monitor Events Using the JCA Test Tool**

To manage and monitor events using the JCA Test Tool:

1. Open a Web browser to:

   http://localhost:port/iwjcaivp

   where:

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

   - **port**
     
     Is the port for the domain you are using. The port for the default domain is 7001, for example:

     http://localhost:7001/iwjcaivp

The following image shows the JCA Test Tool page that opens. The page contains a description of the function of the tool and configuration information, including options to change your connection settings. It also provides options for viewing service or event adapters.

The JCA Test Tool runs in managed mode by default.
2. Perform the following steps to monitor the latest event adapter configuration.

   **Note:** You must perform these steps for every new adapter target that is created using a JCA implementation of Application Explorer. In addition, you must also perform these steps for every new JCA configuration that is created using Application Explorer.

   a. Click *Destroy Connection Factory for redeployment*.
   
   b. Redeploy the JCA connector module using the BEA WebLogic Server console.
   
   c. In the JCA Test Tool, click *Refresh Connection Factory after redeployment*.

3. Click *Event adapters*.

   The Event Adapters page opens.

4. Select the event adapter to monitor.

5. Click the desired channel for your event adapter.

6. Click *start*.

   The following image shows the updated statistics for your channel and the port. The statistics include the total number of requests, successes, and errors and the average and last execution time in milliseconds. There are options to click in the upper right of the page to start or refresh the channel.

<table>
<thead>
<tr>
<th>Current channel Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Commands:</strong> start refresh</td>
</tr>
<tr>
<td>Active: false</td>
</tr>
<tr>
<td>TotalRequestCount : 0</td>
</tr>
<tr>
<td>TotalSuccessCount : 0</td>
</tr>
<tr>
<td>TotalErrorCount : 0</td>
</tr>
<tr>
<td>AverageExecutionTime : 0 msec.</td>
</tr>
<tr>
<td>LastExecutionTime : 0 msec.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statistics for port 'fileIN'</th>
</tr>
</thead>
<tbody>
<tr>
<td>TotalRequestCount : 0</td>
</tr>
<tr>
<td>TotalSuccessCount : 0</td>
</tr>
<tr>
<td>TotalErrorCount : 0</td>
</tr>
<tr>
<td>AverageExecutionTime : 0 msec.</td>
</tr>
<tr>
<td>LastExecutionTime : 0 msec.</td>
</tr>
</tbody>
</table>
Setting Engine Log Levels

The following section describes how to set engine log levels for Servlet iBSE and JCA. For more information, see the *iWay Installation and Configuration for BEA WebLogic* documentation.

**Procedure: How to Enable Tracing for Servlet iBSE**

To enable tracing for Servlet iBSE:

1. Open the Servlet iBSE configuration page at:
   
   http://localhost:port/ibse/IBSEConfig
   
   where:

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

   *port*
   
   Is the port for the domain you are using. The port for the default domain is 7001, for example:

   http://localhost:7001/ibse/IBSEConfig

2. In the System pane, from the Debug drop-down list, select the level of tracing.

3. Click *Save*.

The default location for the trace information on Windows is:

C:\Program Files\bea\ibse\ibselogs

**Procedure: How to Enable Tracing for JCA**

To enable tracing for JCA:

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

2. Locate and change the following setting:

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

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

   For example:

   `<config-property-value>DEBUG</config-property-value>`
Configuring Connection Pool Sizes

A directory in the configuration directory contains the logs.

a. Review the logs generated by your application server.

b. Leave the remainder of the previous file unchanged.

3. Save the file and exit the editor.

4. Redeploy the connector.

Configuring Connection Pool Sizes

The following topic describes how to configure connection pool sizes for the JCA connector.

Procedure: How to Configure Connection Pool Sizes

To configure connection pool sizes:

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

2. Locate and change the following setting:

   pool-params. The JCA Resource Connector has an initial capacity value of 0 by default and cannot be changed. The maximum capacity value is 10 by default and can be changed to a higher value.

   ```xml
   <weblogic-connection-factory-dd>
     <connection-factory-name>IWAFJCA</connection-factory-name>
     <jndi-name>eis/IWAFConnectionFactory</jndi-name>
     <pool-params>
       <initial-capacity>0</initial-capacity>
       <max-capacity>10</max-capacity>
       <capacity-increment>1</capacity-increment>
       <shrinking-enabled>false</shrinking-enabled>
       <shrink-period-minutes>200</shrink-period-minutes>
     </pool-params>
     <security-principal-map />
   </weblogic-connection-factory-dd>
   ```

3. Save the file and exit the editor.

4. Redeploy the connector.
Migrating Repositories

During design time, a repository is used to store metadata created when using Application Explorer to configure adapter connections, browse EIS objects, configure services, and configure listeners to listen for EIS events. For more information on configuring repositories, see the *iWay Installation and Configuration for BEA WebLogic* documentation.

The information in the repository also is referenced at run time. For management purposes, you can migrate iBSE and JCA repositories to new destinations without affecting your existing configuration. For example, you may want to migrate a repository from a development environment to a production environment. The BEA WebLogic Server must be restarted to detect new repository changes.

File Repositories

If you want to migrate a File repository to another destination, copy the ibserepo.xml file from the following path:

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

where:

`drive`

Is the location of your iWay 5.5 installation.

You can place the ibserepo.xml file in a new location that is a root directory of the iBSE Web application, for example:

```
drive:\ProductionConfig\bea\ibse\ibserepo.xml
```

iBSE Repositories

The following topic describes how to migrate an iBSE repository that is configured for Oracle. You can follow the same procedure if you want to migrate an iBSE repository that is configured for Microsoft SQL Server 2000, Sybase, or DB2. However, when you are configuring a new environment, you must execute the script that creates the repository tables for your database. In addition, verify that all required files and drivers for your database are in the class path. For more information on configuring repositories, see the *iWay Installation and Configuration for BEA WebLogic* documentation.

**Note:** The following procedure allows you to migrate only Web services. If migrating event handling information is one of your requirements, you must migrate at the database level. For more information, see *Migrating Event Handling Configurations* on page 5-28.
**Procedure: How to Migrate an iBSE Repository Configured for Oracle**

To migrate an iBSE repository that is configured for Oracle:

1. Copy the iBSE configuration service URL, for example:
   
   ![URL Example](http://localhost:7777/ibse/IBSEServlet/admin/iwconfig.ibs?wsdl)

2. Open a third party XML editor, for example, XMLSPY.
   
   The following image shows the XMLSPY window. The upper left has a Project pane that contains a tree of sample files, and the lower left has a blank Info pane. The middle pane is blank. The right side is divided into three blank panes.

3. From the SOAP menu, select *Create new SOAP request*.
   
   The following image shows the WSDL file location dialog box that opens, where you enter a local path or URL. The dialog includes Browse, Window, OK, and Cancel buttons.
4. In the Choose a file field, paste the iBSE configuration service URL.

5. Click OK.

The following image shows the soap operation name dialog box that opens with a list of available control methods. You can select from the list and click OK or to escape from the dialog box, you can click Cancel.

6. Select the MIGRATEREPO(MIGRATEREPO parameters) control method and click OK.
Migrating Repositories

The following image shows a portion of the window that opens with the structure of the SOAP envelope. It includes information about location and schemas.

7. Locate the Text view icon in the tool bar.

In the following image, the pointer points to the Text view icon.

8. To display the structure of the SOAP envelope as text, click the Text view icon.

The <SOAP-ENV:Header> tag is not required and can be deleted from the SOAP envelope.
9. Locate the following section:

```
<m:MIGRATEREPO
xmlns:m="urn:schemas-iwaysoftware-com:jul2003:ibse:config" version="">  
<m:repositorysetting>  
<m:rname>oracle</m:rname>  
<m:rconn>String</m:rconn>  
<m:rdriver>String</m:rdriver>  
<m:ruser>String</m:ruser>  
<m:rpwd>String</m:rpwd>  
</m:repositorysetting>  
<m:servicename>String</m:servicename>  
</m:MIGRATEREPO>
```

a. For the `<m:rconn>` tag, replace the String placeholder with the repository URL where you want to migrate your existing iBSE repository.

   For example, the Oracle repository URL has the following format:

   `jdbc:oracle:thin:@[host]:[port]:[sid]`

b. For the `<m:rdriver>` tag, replace the String placeholder with the location of your Oracle driver.

   **Note:** This is an optional tag. If you do not specify a value, the default Oracle JDBC driver is used.

c. For the `<m:ruser>` tag, replace the String placeholder with a valid user name to access the Oracle repository.

d. For the `<m:rpwd>` tag, replace the String placeholder with a valid password to access the Oracle repository.

10. Perform one of the following migration options.

   If you want to migrate a **single** Web service from the current iBSE repository, enter the Web service name in the `<m:servicename>` tag, for example:

   `<m:servicename>Service1</m:servicename>`

   If you want to migrate **multiple** Web services from the current iBSE repository, duplicate the `<m:servicename>` tag for each Web service, for example:

   `<m:servicename>Service1</m:servicename>`
   `<m:servicename>Service2</m:servicename>`

   If you want to migrate **all** Web services from the current iBSE repository, remove the `<m:servicename>` tag.

11. From the SOAP menu, select **Send request to server**.

    Your iBSE repository and the Web services you specified migrate to the new Oracle repository URL that you specified.
Migrating Repositories

JCA Repositories

The following procedure describes how to migrate a JCA repository. For more information on configuring JCA repositories, see the iWay Installation and Configuration for BEA WebLogic documentation.

Procedure: How to Migrate a JCA Repository

To migrate a JCA repository:

1. Navigate to the location of your JCA configuration directory where the repository schemas and other information is stored, for example:

   C:\Program Files\iway55\config\base

2. Locate and copy the repository.xml file.

3. Place this file in a new JCA configuration directory to migrate the existing repository.

   Your JCA repository migrates to the new JCA configuration directory.

Migrating Event Handling Configurations

This topic describes how to migrate your iBSE repositories at a database level for Microsoft SQL Server 2000, Oracle, Sybase, or DB2. You can use this information to migrate event handling information, for example, port or channel configurations.

Procedure How to Migrate a Microsoft SQL Server 2000 Repository

To migrate a Microsoft SQL Server 2000 repository:

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

   C:\Program Files\iWay55\etc\setup

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

   iwse.sql
You can use iwse.sql to create the database tables that are used by iBSE. For example, the following image shows the tree in the left pane and tables in the right pane. The tables are listed by name in one column with corresponding columns for information about owner, type, and the date the table was created.

For more information on configuring the Microsoft SQL Server 2000 repository, see the iWay Installation and Configuration for BEA WebLogic documentation.

2. To migrate the tables that were created by the iwse.sql script for iBSE, use your Microsoft SQL Server 2000 database tool set. For more information, consult your database administrator.

Procedure **How to Migrate an Oracle Repository**

To migrate an Oracle repository:

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

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

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

   For Oracle 8:

   `iwse.ora`
For Oracle 9:

**iwse.ora9**

2. To create the Oracle database tables that are used by iBSE, use the SQL script as shown in the example in the following image that shows a list of tables.

```
AT.Bindings
AT.Channels
AT.CONFIG
AT.Keys
AF_Forts
AF_Targets
ChannelState
IBS_dataSources
IBS_group
IBS_Group_User
IBS_IPDomain_Type
IBS_IPDomainPermission
IBS_licenseGroup
IBS_licences
IBS_methods
IBS_Object
IBS_Object_Policy
IBS_permissions
IBS_Policy
IBS_Policy_Member_Action
IBS_Policy_Type
IBS_Policy_UGF_Type
IBS_services
IBS_servicesState
IBS_SOAP_servers
IBS_states
IBS_User
IBS_web_servers
```

For more information on configuring the Oracle repository, see the *iWay Installation and Configuration for BEA WebLogic* documentation.

3. To migrate the tables that were created by the SQL script for iBSE, use your Oracle database tool set. For more information, consult your database administrator.

**Procedure**  **How to Migrate a Sybase Repository**

To migrate a Sybase repository:

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

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

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

   `sybase-iwse.sql`
2. To create the Sybase database tables that are used by iBSE, use the SQL script as shown in the example in the following image that shows a list of tables.

```
AF_Bindings
AF_Channels
AF_CONFIG
AF_Keys
AF_Ports
AF_Targets
ChannelState
IBS_databases
IBS_GROUP
IBS_Group_User
IBS_IPDomain_Type
IBS_IPDomainPermission
IBS_LicenseGroup
IBS_licenses
IBS_methods
IBS_Object
IBS_Object_Policy
IBS_permissions
IBS_Policy
IBS_Policy_Member_Action
IBS_Policy_Type
IBS_Policy_UOP_Type
IBS_services
IBS_servicesState
IBS_SOAP_servers
IBS_Services
IBS_User
IBS_web_servers
```

For more information on configuring the Sybase repository, see the iWay Installation and Configuration for BEA WebLogic documentation.

3. To migrate the tables that were created by the SQL script for iBSE, use your Sybase database tool set. For more information, consult your database administrator.

**Procedure**  **How to Migrate a DB2 Repository**

To migrate a DB2 repository:

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

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

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

```
db2-iwse.sql
```
Exporting or Importing Targets

2. To create the DB2 database tables that are used by iBSE, use the SQL script as shown in the example in the following image that shows a list of tables.

For more information on configuring the DB2 repository, see the iWay Installation and Configuration for BEA WebLogic documentation.

You can migrate the tables that were created by the SQL script for iBSE using your DB2 database toolset. For more information, consult your database administrator.

Exporting or Importing Targets

After you migrate your repository, you can export or import targets with their connection information and persistent data between repositories.

Procedure: How to Export a Target

To export a target:

1. Copy the iBSE administrative services for Application Explorer URL, for example:
   

2. Open a third party XML editor, for example, XMLSPY.
The following image shows the XMLSpy window. The upper left has a Project pane that contains a tree of sample files, and the lower left has a blank Info pane. The middle pane is blank. The right side is divided into three blank panes.

3. From the SOAP menu, select *Create new SOAP request.*
   The WSDL file location dialog box opens.

4. In the Choose a file field, paste the iBSE administrative services for Application Explorer URL.

5. Click *OK.*
   The soap operation name dialog box opens and lists the available control methods.

6. Select the *EXPORTTARGET(EXPORTTARGET parameters)* control method and click *OK.*
   A window opens that shows the structure of the SOAP envelope.

7. Locate the *Text view* icon in the tool bar.
   In the following image, the pointer points to the Text view icon.
8. To display the structure of the SOAP envelope as text, click the Text view icon.
   The <SOAP-ENV:Header> tag is not required and can be deleted from the SOAP envelope.

9. Locate the following section:

   ```xml
   <m:EXPORTTARGET
   xmlns:m="urn:schemas-iwaysoftware-com:dec2002:iwse:af">
   <m:target>String</m:target>
   <m:name>String</m:name>
   </m:EXPORTTARGET>
   ```

   a. For the <m:target> tag, replace the String placeholder with the EIS target system name as it appears in Application Explorer and verify whether this value is case sensitive.

   b. For the <m:name> tag, replace the String placeholder with the name of the target you want to export.

10. From the SOAP menu, select Send request to server.

    A response is returned that contains the <m:exporttime> and <m:contents> elements. You must use these elements when importing your target.

**Procedure: How to Import a Target**

To import a target:

1. Copy the iBSE administrative services for Application Explorer URL, for example:
   ```
   ```

2. Open a third party XML editor, for example, XMLSPY.
The following image shows the XMLSPY window. The upper left has a Project pane that contains a tree of sample files, and the lower left has a blank Info pane. The middle pane is blank. The right side is divided into three blank panes.

3. From the SOAP menu, select *Create new SOAP request*. The WSDL file location dialog box opens.

4. In the Choose a file field, paste the iBSE administrative services for Application Explorer URL and click *OK*. The soap operation name dialog box opens and lists the available control methods.

5. Select the `IMPORTTARGET(IMPORTTARGET parameters)` control method and click *OK*. A window opens, which shows the structure of the SOAP envelope.

6. Locate the *Text view* icon in the toolbar.

In the following image, the pointer points to the Text view icon.

7. To display the structure of the SOAP envelope as text, click the *Text view* icon.
Retrieving or Updating Web Service Method Connection Information

The <SOAP-ENV:Header> tag is not required and can be deleted from the SOAP envelope.

8. Locate the following section:

   <m:IMPORTTARGET
   xmlns:m="urn:schemas-iwaysoftware-com:dec2002:iwse:af">
   <m:targetinstance>
   <m:target>String</m:target>
   <m:name>String</m:name>
   <m:description>String</m:description>
   <m:repositoryid>String</m:repositoryid>
   <m:exporttime>2001-12-17T09:30:47-05:00</m:exporttime>
   <m:contents>R0lGODlhcgGSALMAAAQCAEMmCZtuMFQxDS8b</m:contents>
   </m:targetinstance>
   </m:IMPORTTARGET>

   a. For the <m:target> tag, replace the String placeholder with the EIS target system name.

   b. For the <m:name> tag, replace the String placeholder with the new name of the target you want to import.

   c. For the <m:description> tag, replace the String placeholder with a description of the target.

   d. For the <m:repositoryid> tag, copy and paste the contents of the <m:repositoryid> tag that was returned when you exported your target.

   e. For the <m:exporttime> tag, copy and paste the contents of the <m:exporttime> tag that was returned when you exported your target.

   f. For the <m:contents> tag, copy and paste the contents of the <m:contents> tag that was returned when you exported your target.

9. From the SOAP menu, select Send request to server.

Retrieving or Updating Web Service Method Connection Information

After you migrate your repository, you can retrieve or update connection information for your Web service methods.

Procedure: How to Retrieve Web Service Method Connection Information

To retrieve Web service method connection information:

1. Copy the iBSE configuration service URL, for example:

   http://localhost:7777/ibse/IBSEServlet/admin/iwconfig.ibs?wsdl

2. Open a third party XML editor, for example, XMLSPY.
The following image shows the XMLSPY window. The upper left has a Project pane that contains a tree of sample files, and the lower left has a blank Info pane. The middle pane is blank. The right side is divided into three blank panes.

3. From the SOAP menu, select **Create new SOAP request**.
   The WSDL file location dialog box opens.

4. In the Choose a file field, paste the iBSE configuration service URL, and click OK.
   The soap operation name dialog box opens and lists the available control methods.

5. Select the **GETMTHCONNECTION(GETMTHCONNECTION parameters)** control method and click **OK**.
   A window opens, which shows the structure of the SOAP envelope.

6. Locate the **Text view** icon in the toolbar.
   In the following image, the pointer points to the Text view icon.

7. To display the structure of the SOAP envelope as text, click the **Text view** icon.
Retrieving or Updating Web Service Method Connection Information

The `<SOAP-ENV:Header>` tag is not required and can be deleted from the SOAP envelope.

8. Locate the following section:

   `<m:GETMTHCONNECTION
   xmlns:m="urn:schemas-iwaysoftware-com:jul2003:ibse:config">
   <m:servicename>String</m:servicename>
   <m:methodname>String</m:methodname>
</m:GETMTHCONNECTION>

   a. For the `<m:servicename>` tag, replace the String placeholder with the name of the Web service.

   b. For the `<m:methodname>` tag, replace the String placeholder with name of the Web service method.

9. From the SOAP menu, select *Send request to server*.

   A response is returned that contains the `<m: descriptor>` element. You must use this element when updating your Web service method.

Procedure: How to Update Web Service Method Connection Information

To update Web service method connection information:

1. Copy the iBSE configuration service URL, for example:

   http://localhost:7777/ibse/IBSEServlet/admin/iwconfig.ibs?wsdl

2. Open a third party XML editor, for example, XMLSPY.
The following image shows the XMLSpy window. The upper left has a Project pane that contains a tree of sample files, and the lower left has a blank Info pane. The middle pane is blank. The right side is divided into three blank panes.

3. From the SOAP menu, select *Create new SOAP request.*
   The WSDL file location dialog box opens.

4. In the Choose a file field, paste the iBSE configuration service URL, and click **OK.**
   The soap operation name dialog box opens and lists the available control methods.

5. Select the *SETMTHCONNECTION(SETMTHCONNECTION parameters)* control method and click **OK.**
   A window opens that shows the structure of the SOAP envelope.

6. Locate the *Text view* icon in the toolbar.
   In the following image, the pointer points to the Text view icon.

7. To display the structure of the SOAP envelope as text, click the *Text view* icon.
Starting or Stopping a Channel Programmatically

The <SOAP-ENV:Header> tag is not required and can be deleted from the SOAP envelope.

8. Locate the following section:

<m:SETMTHCONNECTION xmlns:m="urn:schemas-iwaysoftware-com:jul2003:ibse:config">
  <m:servicename>String</m:servicename>
  <m:methodname>String</m:methodname>
  <m:descriptor format="" channel="">
    <m:option title="">
      <m:group title="">
        <m:param/>
      </m:group>
      </m:option>
  </m:descriptor>
</m:SETMTHCONNECTION>

a. For the <m:servicename> tag, replace the String placeholder with the name of the Web service.

b. For the <m:methodname> tag, replace the String placeholder with the name of the Web service method.

c. For the <m: descriptor> tag, copy and paste the contents of the <m: descriptor> tag that was returned when you retrieved Web Service method connection information.

9. Modify the contents of the <m: descriptor> tag to change the existing Web Service method connection information.

10. From the SOAP menu, select Send request to server.

Starting or Stopping a Channel Programmatically

The following topic describes how to start or stop a channel programmatically.

Procedure: How to Start a Channel Programmatically

To start a channel programmatically:

1. Copy the iBSE control event URL, for example:
   http://localhost:7777/ibse/IBSEServlet/admin/iwevent.ibs?wsdl

2. Open a third party XML editor, for example, XMLSPY.
3. From the SOAP menu, select *Create new SOAP request*.
The WSDL file location dialog box opens.

4. In the Choose a file field, paste the iBSE control event URL, and click *OK*.
Starting or Stopping a Channel Programmatically

The following image shows the soap operation name dialog box that opens with a list of available control methods. You can select one and click OK or to escape from the dialog box, you can click Cancel.

5. Select the STARTCHANNEL(STARTCHANNEL parameters) control method and click OK.
   A window opens, which shows the structure of the SOAP envelope.

6. Locate the Text view icon in the toolbar.
   In the following image, the pointer points to the Text view icon.

7. To display the structure of the SOAP envelope as text, click the Text view icon.
   The <SOAP-ENV:Header> tag is not required and can be deleted from the SOAP envelope.

8. Locate the following section:

   <SOAP-ENV:Body>
   <m:STARTCHANNEL
     xmlns:m="urn:schemas-iwaysoftware-com:dec2002:iwse:event">
     <m:channel>String</m:channel>
   </m:STARTCHANNEL>
   </SOAP-ENV:Body>

9. For the <m:channel> tag, replace the String placeholder with the name of the Channel you want to start.

10. From the SOAP menu, select Send request to server.
**Procedure: How to Stop a Channel Programmatically**

To stop a channel programmatically:

1. Copy the iBSE control event URL, for example:
   
   ```
   http://localhost:7777/ibse/IBSEServlet/admin/iwevent.ibs?wsdl
   ```

2. Open a third party XML editor, for example, XMLSPY.
   The following image shows the XMLSPY window. The upper left has a Project pane that contains a tree of sample files, and the lower left has a blank Info pane. The middle pane is blank. The right side is divided into three blank panes.

3. From the SOAP menu, select *Create new SOAP request*.
   The WSDL file location dialog box opens.

4. In the Choose a file field, paste the iBSE control event URL, and click OK.
The following image shows the soap operation name dialog box that opens with a list of available control methods. You can select one and click OK or to escape from the dialog box, you can click Cancel.

5. Select the STOPCHANNEL(STOPCHANNEL parameters) control method and click OK.
   A window opens, which shows the structure of the SOAP envelope.

6. Locate the Text view icon in the toolbar.
   In the following image, the pointer points to the Text view icon.

7. To display the structure of the SOAP envelope as text, click the Text view icon.
   The <SOAP-ENV:Header> tag is not required and can be deleted from the SOAP envelope.

8. Locate the following section:

   `<SOAP-ENV:Body>
    <m:STOPCHANNEL
      xmlns:m="urn:schemas-iwaysoftware-com:dec2002:iwse:event">
    <m:channel/String</m:channel>
    </m:STOPCHANNEL>
   </SOAP-ENV:Body>`

9. For the <m:channel> tag, replace the String placeholder with the name of the Channel you want to stop.

10. From the SOAP menu, select Send request to server.
CHAPTER 6

Troubleshooting

Topics:

• Troubleshooting
• iWay Business Services Engine Error Messages

This section explains the limitations and workarounds when connecting to J.D. Edwards.

The adapter-specific errors listed in this section can occur when using the adapter with a JCA or with an iWay Business Services Engine (iBSE) configuration.
Troubleshooting

This topic provides troubleshooting information for J.D. Edwards, separated into four categories:

- Application Explorer
- J.D. Edwards
- JCA
- iBSE

**Note:** Log file information that can be relevant in troubleshooting can be found in the following locations:

- The JCA trace information can be found under the C:\Program Files\iWay55\config\base\log directory.
- iBSE trace information can be found under the C:\Program Files\iWay55\bea\ibse\ibselogs directory.
- The log file for Application Explorer can be found under the C:\Program File\iWay55\tools\iwae\bin directory.

**Reference: Application Explorer**

The following table describes errors and corresponding solutions for Application Explorer.

<table>
<thead>
<tr>
<th>Error</th>
<th>Solution</th>
</tr>
</thead>
</table>
| Cannot connect to the iWay Application Adapter for J.D. Edwards OneWorld from Application Explorer. | Ensure that:  
  - J.D. Edwards is running.  
  - The J.D. Edwards user ID and password is correct.  
  - The port number is correct.  
  - The custom Component Interface is properly installed. |
| The following error message appears:  
  java.lang.IllegalStateException:  
  java.lang.Exception: Error Logon to J.D. Edwards OneWorld System | You provided invalid connection information for J.D. Edwards One World or the wrong JAR file is in the lib directory. |
| J.D. Edwards does not appear in the Application Explorer Adapter node list. | Ensure that the J.D. Edwards JAR files are added to the lib directory. |
## Troubleshooting

The following table describes errors and corresponding causes and solutions for J.D. Edwards OneWorld.

<table>
<thead>
<tr>
<th>Error</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
</table>
| Action code invalid. | In the Sales Order request, the Action code appears as “H,” an invalid action code. | Use:  
  - “I” for inquiry.  
  - “C” for change.  
  - “D” for delete.  
  - “A” to add a new record. |

The following error message appears:  
Jolt Session Pool cannot provide a connection to the appserver. This appears to be because there is no available application server domain.  
[Fri Aug 27 13:06:27 EDT 2004]  
bea.jolt.ServiceException: Invalid Session  
The host name or port number for PeopleSoft is incorrect.
## Troubleshooting

<table>
<thead>
<tr>
<th>Error</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invalid address number.</td>
<td>The address number does not exist in the Address Book Master file (F0101).</td>
<td>Enter an address number using the Address Book Revisions program (PO1051). Ensure that the number entered is correct.</td>
</tr>
<tr>
<td>Record invalid</td>
<td>The record being processed either already exists for an ADD function or does not exist for an INQUIRY, CHANGE, or DELETE function.</td>
<td>If you are attempting to inquire, change, or delete a record you added previously, data base problems might exist in your production library. Contact your data processing department.</td>
</tr>
<tr>
<td>Item Branch record does not exist.</td>
<td>An Item Branch record (F4102) does not exist for this item in the Branch/Plant specified.</td>
<td>Correct the Branch or enter an Item Branch record for this item in Branch Plant Item Information (P41026).</td>
</tr>
<tr>
<td>&amp;1 does not match any of the valid values.</td>
<td>The &amp;1 does not match any of the valid values specified in the Data Dictionary for this field.</td>
<td>Enter a valid value.</td>
</tr>
<tr>
<td>Date out of range.</td>
<td>The Last Service Date and the Inspection Date must be within the range of the effective dates of the Service Contract.</td>
<td>Change the date to be greater than or equal to the beginning effective date and less than or equal to the ending effective date of the Service Contract.</td>
</tr>
</tbody>
</table>

**Reference: JCA**

The following table describes errors and corresponding solutions for JCA.
**Troubleshooting**

### iWay Business Services Engine Error Messages

This topic discusses the different types of errors that can occur when processing iWay Business Services through iWay Business Services Engine (iBSE).

**General Error Handling in iBSE**

iBSE serves as both a SOAP gateway into the adapter framework and as the engine for some of the adapters. In both design time and execution time, various conditions can cause errors in iBSE when Integration Business Services that use adapters are running. Some of these conditions and resulting errors are exposed the same way, regardless of the specific adapter; others are exposed differently, based on the adapter being used. This topic explains what you can expect when you encounter some of the more common error conditions on an adapter-specific basis.

Usually, the SOAP gateway (agent) inside iBSE passes a SOAP request message to the adapter required for iWay Business Services. If an error occurs, how it is exposed depends on the adapter and the API or interfaces that the adapter uses. A few scenarios cause the SOAP gateway to generate a SOAP fault. In general, anytime the SOAP agent inside iBSE receives an invalid SOAP request, a SOAP fault element is generated in the SOAP response. The SOAP fault element contains fault string and fault code elements. The fault code contains a description of the SOAP agent error.

The following SOAP response document results when iBSE receives an invalid SOAP request:

```
  <SOAP-ENV:Body>
    <SOAP-ENV:Fault>
      <faultcode>SOAP-ENV:Client</faultcode>
      <faultstring>Parameter node is missing</faultstring>
    </SOAP-ENV:Fault>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

<table>
<thead>
<tr>
<th>Error</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Application Explorer, the following error message appears when you attempt to connect to a JCA configuration: Could not initialize JCA</td>
<td>In the Details tab in the right pane, ensure that the directory specified in the Home field points to the correct directory, for example, C:\Program Files\iWay55.</td>
</tr>
</tbody>
</table>
In this example, iBSE did not receive an element in the SOAP request message that is mandatory for the WSDL for this business service.

**Adapter-Specific Error Handling**

When an adapter raises an exception during execution, the SOAP agent in iBSE produces a SOAP fault element in the generated SOAP response. The SOAP fault element contains fault code and fault string elements. The fault string contains the native error description from the adapter target system. Since adapters use the target system interfaces and APIs, whether or not an exception is raised depends on how the target systems interface or API treats the error condition. If a SOAP request message is passed to an adapter by the SOAP agent in iBSE, and that request is invalid based on the WSDL for that service, the adapter may raise an exception yielding a SOAP fault.

While it is almost impossible to anticipate every error condition that an adapter may encounter, the following is a description of how adapters handle common error conditions and how they are then exposed to the Integration Business Services consumer application.

**iWay Application Adapter for J.D. Edwards OneWorld Invalid SOAP Request**

When the J.D. Edwards agent receives a SOAP request message that does not conform to the WSDL for the business service being executed, the following SOAP response is generated.

```
<SOAP-ENV:Envelope xmlns:xsi="http://www.w3.org/1999/XMLSchema-instance"
xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/1999/XMLSchema">
  <SOAP-ENV:Body>
    <m:CARRIERResponse xmlns:m="urn:schemas-iwaysoftware-com:iwse"
                        xmlns="urn:schemas-iwaysoftware-com:iwse"
                        cid="2A3CB42703EB20203F91951B89F3C5AF">
      <PS8>
        <error>Cannot find Component Interface {VARRIER} (91,2) Initialization failed (90,7) Not Authorized (90,6) Failed to execute PSSession request Cannot find Component Interface {VARRIER} (91,2)</error>
      </PS8>
    </m:CARRIERResponse>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```
Invalid SOAP Request

When the adapter receives a SOAP request message that does not conform to the WSDL for the business service being executed, the following SOAP response is generated.

```
<?xml version="1.0" encoding="ISO-8859-1" ?>
<SOAP-ENV:Envelope
xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
<SOAP-ENV:Body>
<SOAP-ENV:Fault>
  <faultcode>SOAP-ENV:Server</faultcode>
  <faultstring>RPC server connection failed: Connection refused: connect</faultstring>
</SOAP-ENV:Fault>
</SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

Empty Result From an Adapter Request

When the adapter executes a SOAP request using input parameters passed that do not match records in the target system, the following SOAP response is generated.

**Note:** The condition for this adapter does not yield a SOAP fault.

```
<SOAP-ENV:Envelope xmlns:xsi="http://www.w3.org/1999/XMLSchema-instance"
xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
xmils:xsd="http://www.w3.org/1999/XMLSchema">
  <SOAP-ENV:Body>
   <m:RunDBQueryResponse xmlns:m="urn:schemas-iwaysoftware-com:iwse"
      xmlns="urn:schemas-iwaysoftware-com:iwse"
cid="2A3CB42703EB20203F91951B09F3C5AF">
    <RunDBQueryResult run="1" />
  </RunDBQueryResponse>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```
This section describes the use of the iWay Application Explorer as implemented in the BEA WebLogic Workshop. The Application Explorer deployed in the WebLogic Workshop is functionally similar to the servlet Application Explorer.

**Topics:**

- Overview
- Starting Application Explorer in WebLogic Workshop
- Creating a New Configuration
- Defining a Target
- Disconnecting From or Deleting a Connection
- Creating an XML Schema
- Creating a Business Service
- Adding a Control for an iWay Resource in BEA WebLogic Workshop
- Adding an Extensible CCI Control
Overview

The iWay Application Adapter for J.D. Edwards OneWorld enables the processing of OneWorld business functions through the J.D. Edwards OneWorld ThinNet API. Using the API eliminates the requirement of creating complex and impractical batch processes. In addition, a transport layer, such as IBM® MQSeries®, File, or HTTP is not required, because an agent or a listener is defined through a TCP connection.

External applications that access OneWorld through the iWay Application Adapter for J.D. Edwards OneWorld use either XML schemas or Web services to pass data between the external application and the adapter. The following topics describe how to use Application Explorer in BEA WebLogic Workshop to create XML schemas and Web services for the J.D Edwards Master Business Functions (MBFs) used with the adapter.

For more information on creating Web services and on Application Explorer in general, see the iWay Application Explorer User’s Guide.

Using GenJava to Generate a Schema

To create schemas for the adapter, you must use GenJava wrappers. You create the GenJava wrappers using the OneWorld utility called GenJava. You use Application Explorer to generate schemas against OneWorld GenJava wrappers.

GenJava is supplied as a command line process with several run-time options. For more information on GenJava, see the J.D. Edwards Interoperability Guide for OneWorld Xe.

Starting Application Explorer in WebLogic Workshop

The server must be started where iWay Application Explorer is running. Before you can use Application Explorer, you must start BEA WebLogic server.

Procedure  How to Start Application Explorer in WebLogic Workshop

2. Ensure that the server on which Application Explorer is deployed is started. If it is not started, select WebLogici Server from the Tools menu and then click Start WebLogici Server.
3. From the View menu, select Windows and then click iWay Application Explorer.
Creating a New Configuration

Before you can start using Application Explorer, you must define a new configuration for iBSE or JCA.

Procedure  How to Create a New Configuration for iBSE or JCA

To create a new configuration:

1. Right-click iWay Configurations and select New.
The New Configuration dialog box opens.

2. Type the name of the new configuration and click OK.

**Note:** If you are creating a new JCA configuration, type *base* in the name field. You must use this value if you are pointing to the default iWay configuration.

The following dialog box opens.

3. From the Service Provider drop-down list, select *iBSE* or *JCA*.
   - If you select iBSE, type the URL for iBSE, for example,
     
     http://localhost:7001/ibse/IBSEServlet
     
     where:
     
     localhost
     
     is where your application server is running.
   - If you select JCA, enter the full path to the directory where iWay 5.5 is installed, for example,
     
     C:\Program Files\iWay55
     
     where:
     
     iWay55
     
     is the full path to your iWay installation.
Using Application Explorer in BEA WebLogic Workshop to Create XML Schemas

A node representing the new configuration appears under the iWay Configurations node. The right pane provides details of the configuration you created.

After you add your configuration, you must connect to it.

4. Right-click the configuration to which you want to connect, for example, base, and select Connect.

The iWay Adapters and iWay Events nodes appear.

When you connect to iBSE, the iWay Adapters, iWay Events, and iWay Business Services nodes appear.

5. To display the service and event adapters that are installed, expand each node.

Defining a Target

To browse the available Master Business Functions, you must first define a target to the system you use. After you define the target, it is automatically saved. You must connect to the system every time you start Application Explorer or after you disconnect.

Connecting to J.D. Edwards OneWorld

To connect to an application system for the first time, you must define a new target.
Defining a Target

**Procedure**  How to Define a New Target to J.D. Edwards OneWorld

1. Expand the *iWay Service Adapters* node.
   
   The application systems supported by Application Explorer display as nodes based on the iWay adapters installed.

2. Expand the *JDEdwards* node.

3. Right-click the *JDEdwards* node and select *Add Target*.

   The Add Target dialog box opens:

   ![Add Target dialog box](image)

   a. Type a name (for example, JDEConnection) and a brief description for the new target.

   b. From the Type drop-down list, select the type of target (for example, JDE OneWorld).
4. Click OK. The Repository dialog box opens:

![Repository dialog box]

5. Type the path to the GenJava repository.

   This is the location of the Java™ files created by the GenJava program.

**Note:** Generating agent schemas requires the GenJava repository. For more information on building the J.D. Edwards OneWorld Master Business Function repository, see the *J.D. Edwards Interoperability Guide for OneWorld Xe*. 
6. Click the Logon tab. The Logon dialog box opens:

![Logon dialog box](image)

**Note:** The J.D. Edwards OneWorld connection parameters are consistent with those found in your J.D. Edwards OneWorld system. For more information on parameter values that are specific to your J.D. Edwards OneWorld configuration, consult your J.D. Edwards OneWorld system administrator.

7. Type values for the following parameters. Fields with an asterisk are required.

<table>
<thead>
<tr>
<th>Target Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>User id*</td>
<td>Valid user ID for J.D. Edwards OneWorld.</td>
</tr>
<tr>
<td>User password*</td>
<td>Password associated with the user ID.</td>
</tr>
<tr>
<td>JDE Environment*</td>
<td>J.D. Edwards OneWorld environment, for example, DU7333. For more information about this parameter, see your J.D. Edwards OneWorld documentation or ask your JDEOW system administrator.</td>
</tr>
<tr>
<td>Application</td>
<td>XMLInterop or the application name in J.D. Edwards OneWorld. Optional.</td>
</tr>
<tr>
<td>Server IP address*</td>
<td>Name of the server on which J.D. Edwards OneWorld is running. This can be the name of the server, for example, JDEOW, or its IP address, for example, 123.45.67.89.</td>
</tr>
</tbody>
</table>
Using Application Explorer in BEA WebLogic Workshop to Create XML Schemas

<table>
<thead>
<tr>
<th>Target Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server port*</td>
<td>Port number on which the server is listening, for example, 6009.</td>
</tr>
</tbody>
</table>

8. Click OK.

After the extraction finishes, the new target, JDEConnection, appears under the JDEdwards node.

**Procedure How to Connect to a Defined J.D. Edwards OneWorld Target**

1. Expand the *iWay Service Adapters* node.
2. Expand the *JDEdwards* node.
3. Click the target name (for example, JDEConnection) under the JDEdwards node:

![JDEdwards](image1.png)

![JDEConnection](image2.png)

The Connection dialog box opens, populated with values you entered for the connection parameters.

4. Verify your connection parameters. If required, provide the password.
5. Right-click the target name and select *Connect*.

The x icon disappears, indicating that the node is connected:

![JDEdwards](image3.png)

![JDEConnection](image4.png)

**Disconnecting From or Deleting a Connection**

To manage J.D. Edwards OneWorld connections, you can:

- Disconnect from a connection that is not currently in use.
  
  Although you can maintain multiple open connections to different transaction processing systems, it is recommended to disconnect from connections not in use.

- Delete a connection that is no longer required.

**Procedure How to Disconnect From a Connection to J.D. Edwards OneWorld**

1. Expand the *iWay Service Adapters* node.
2. Expand the *JDEdwards* node.
3. Right-click the target to which you are connected (for example, JDEConnection), and select Disconnect.

Disconnecting from J.D. Edwards drops the connection with J.D. Edwards, but the node remains.

The x icon appears, indicating that the node is disconnected:

![JDEdwards node](image)

### Procedure How to Delete a Connection to J.D. Edwards OneWorld

1. Expand the **iWay Service Adapters** node.
2. Expand the **JDEdwards** node.
3. Right-click the target to which you are connected (for example, JDEConnection), and select **Delete**.

The node disappears from the list of available connections.

### Creating an XML Schema

To execute a Master Business Function (MBF), the adapter must receive a request document through the J.D. Edwards OneWorld ThinNet API. The agent processes the request and sends an XML response document indicating the result. Application Explorer creates both the XML request schema and the XML response schema.

### Creating a Request and a Response Schema

The following procedure explains how to create request and response schemas for a J.D. Edwards OneWorld Master Business Function using Application Explorer.

### Procedure How to Create a Request Schema and a Response Schema

1. If you are not connected to a J.D. Edwards OneWorld target, connect to one, as described in *How to Connect to a Defined J.D. Edwards OneWorld Target* on page A-9.
2. Expand the **Services** node.
3. Expand the node of the Master Business Function (MBF) for which you want to create the schema.
4. Expand and then select the node beneath the MBF.

The following screen appears in the right pane:

5. Click the parameters tab to view the parameter information:

6. Click the Request Schema tab to view the request schema information:
Creating an XML Schema

7. Click the Response Schema tab to view the response schema information:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="Response">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="callMethod"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

For information about exporting schemas, see How to Export a Schema on page A-12.

**Procedure** How to Export a Schema

1. If you are not connected to a J.D. Edwards OneWorld target, connect to one, as described in How to Connect to a Defined J.D. Edwards OneWorld Target on page A-9.

2. Expand the Services node.

3. Expand the node of the Master Business Function (MBF) for which you want to create the schema.

4. Expand and then select the node beneath the MBF.
5. Right-click the node from which you want to export a schema, and select *Export Schema(s)*:

![Image of iWay Application Explorer with right-click context menu]

6. The Select Export Directory dialog box opens:

![Image of Select Export Directory dialog box]

7. Select the directory to which you want to save the schema and click *OK*. 

---

**Using Application Explorer in BEA WebLogic Workshop to Create XML Schemas**

- **Right-click the node from which you want to export a schema, and select **Export Schema(s)**:**
  
  ![Image of Application Explorer with right-click context menu]

- **The Select Export Directory dialog box opens:**
  
  ![Image of Select Export Directory dialog box]

- **Select the directory to which you want to save the schema and click OK.**
Creating a Business Service

You can generate a business service (also known as a Web service). You can explore the business function repository and generate business services for the functions you want to use with the adapter.

**Procedure**  
**How to Create a Business Service**

1. If you are not connected to a J.D. Edwards OneWorld target, connect to one, as described in *How to Connect to a Defined J.D. Edwards OneWorld Target* on page A-9.

2. Expand the *Services* node.

3. Expand the node of the Master Business Function (MBF) for which you want to create a business service.

4. Expand and then select the node beneath the MBF.

5. Right-click the node from which you want to create a business service, and select *Create iWay Business Service*:
6. The service information dialog box opens:

   ![Service Information Dialog Box]

   a. Select either a new service or an existing service from the Existing Service Names drop-down list.

   b. Type a service name if you are creating a new service. This name identifies the Web service in the list of services under the iWay Business Services node.

   c. Type a description for the service.

7. Click Next.

   The license and method dialog box opens:

   ![License and Method Dialog Box]

   a. In the License field, select one or more license codes to assign to the Web Service. To select more than one, hold down the Ctrl key and click the licenses.

   b. In the Method Name field, type a descriptive name for the method.

   c. In the Description field, type a brief description for the method.

8. Click OK.

   Application Explorer expands the iWay Business Services node in the left pane to show the newly created business service and presents a test input area in the right pane.
Creating a Business Service

Testing a Business Service

After a business service is created, use the test tool to ensure that it functions properly.

Procedure  How to Test the Business Service

1. If you are not in the iWay Business Services node of Application Explorer, click the node to access business services.

2. If it is not expanded, expand the list of business services under iWay Business Services.

3. Expand the Services node.

4. Select the name of the business service you want to test (for example, JDE).
   The business service name appears as a link in the right pane.

5. In the right pane, click the named business services link.
   The test option appears in the right pane:

   ![Diagram of iWay Application Explorer](image)

6. In the input xml field, either type a sample XML document that queries the service, or browse to the location of an XML instance and click Open.

7. Click Invoke.
Application Explorer displays the results in the right pane.

**Generating WSDL From a Web Service**

Generating Web Services Description Language (WSDL) from a Web service enables you to make the Web service available to other services within a host server such as BEA WebLogic Server.

**Procedure** **How to Generate WSDL From a Web Service**

1. Expand the *iWay Business Services* node.
2. Expand the *Services* node to display the Web service for which you want to generate WSDL.
3. Right-click the Web service and select *Export WSDL*.
   
   The Save dialog box opens.
4. Choose a location for the file and specify .wsdl for the file extension.
   
   **Note:** The file extension must be .wsdl.
5. Click *Save*.

**Identity Propagation**

If you test or execute a Web service using a third party XML editor, for example XMLSPY, the Username and Password values that you specify in the SOAP header must be valid and are used to connect to J.D. Edwards. The user name and password values that you provided for J.D. Edwards during target creation using Application Explorer are overwritten for this Web service request. The following is a sample SOAP header that is included in the WSDL file for a Web service:

```
<SOAP-ENV:Header>
  <m:ibsinfo xmlns:m="urn:schemas-iwaysoftware-com:iwse">
    <m:service>String</m:service>
    <m:method>String</m:method>
    <m:license>String</m:license>
    <m:disposition>String</m:disposition>
    <m:Username>String</m:Username>
    <m:Password>String</m:Password>
    <m:language>String</m:language>
  </m:ibsinfo>
</SOAP-ENV:Header>
```
Adding a Control for an iWay Resource in BEA WebLogic Workshop

Note: You can remove the following tags from the SOAP header, since they are not required:

- `<m:disposition>String</m:disposition>`
- `<m:language>String</m:language>`

Adding a Control for an iWay Resource in BEA WebLogic Workshop

Java controls provide a convenient way to incorporate access to iWay resources. You can add controls in BEA WebLogic Workshop to use Web services created by Application Explorer, or you can add controls that enable you to take advantage of the JCA resources of Application Explorer.

Adding a Web Service Control to a BEA WebLogic Workshop Application

After you create an iWay Web service using Application Explorer and export the WSDL file, you can create a control for the Web service.

For more information on exporting a WSDL file, see How to Generate WSDL From a Web Service on page A-17.

Procedure How to Add a Web Service Control

To add a Web service control:

1. After exporting the WSDL file from Application Explorer, locate the file in the Application tab of your BEA WebLogic Workshop application.

For example, a WSDL file saved to the \resources directory in your BEA WebLogic Workshop Web application directory structure appears as follows:
2. Right-click the WSDL file and select Generate Service Control.

The control for the WSDL appears below the WSDL file in the resources tree.

![iWayWebServiceWSDL.wsdl](image1)

![iWayWebServiceWSDLControl.jcx](image2)

**Adding an Extensible CCI Control**

An iWay control enables access to resources provided by Application Explorer when it is
used in conjunction with a JCA deployment. You must add an iWay control before using it
in a BEA WebLogic Workshop application workflow.

The following topic describes the enhanced CCI control, which is extensible and provides
JCX with typed inputs and outputs for JCA in BEA WebLogic Workshop.

**Overview**

The extensible iWay CCI control provides:

- **Method and tag validation.** BEA WebLogic Workshop provides warnings regarding
  invalid methods and tags.

- **Improved error handling.**

You can define new methods that rely on the generic service and authService methods. For
example, you can define a JCX with a new method without writing casting code or explicit
transformations such as the following:

```java
public ResponseDataType MethodName(RequestDataType VariableName) throws
Exception;
```

where:

- **ResponseDataType**
  - Is the XML Bean Class value that is generated from the response schema.

- **MethodName**
  - Is the method name used by the extensible CCI control.

- **RequestDataType**
  - Is the XML Bean Class value that is generated from the request schema.

- **VariableName**
  - Is the request variable that stores the request document, which is used as input by the
    extensible CCI control.
Adding an Extensible CCI Control

In addition, the extensible CCI control now generates a JCX file to which you can add your own methods. For more information, see Defining a Control Using the Extensible CCI Control on page A-20.

You can also use dynamic class casting to specify schema-based input or output XmlObjects to be casted into a pure XmlObject as a service method, which is expected by the CCI control. For more information, see Using Dynamic Class Casting on page A-26.

Example Defining a Control Using the Extensible CCI Control

The following sample JCX demonstrates how to define a control for J.D. Edwards using the extensible CCI control in BEA WebLogic Workshop.

1. Start BEA WebLogic Workshop and create a new project.

2. Click Add from the Controls section in the Data Palette tab, select Integration Controls, and click iWay 5.5 JCA.

The Insert Control message box opens.
3. Click Yes.

The Select dialog box opens.

4. Choose a subfolder for the CCI control and click Select.
Adding an Extensible CCI Control

The Insert Control - iWay 5.5 JCA dialog box opens.

a. Provide a variable name for the control.

b. Click *Create a new iWay 5.5 JCA control to use* and provide a new JCX name.

c. Enter the adapter name, target name, and select a debug level from the drop-down list.

5. Click *Create*. 
A new JCX file is created.

6. Right-click the control, for example, JDECCI, and select *Edit*.
   The Design View for the control opens.

7. Click the *Source View* tab.
Adding an Extensible CCI Control

The Source View for the control opens.

```
// A version number for this JCE. You would increment this to ensure
// that conversations for instances of earlier versions were invalid.
public static final long serialVersionUID = 11;

// Add you methods here, according to the following examples. You can choose your
// own method names, the adapter uses the number of parameters to determine whether
// to call the service() or the authService() method.
public ResponseMessage responseMethod(String variable) throws Exception
{

// A call to an authenticated service has two additional parameters
// corresponding to the users credentials.
public SAPMaterialGetDetailResponseDocument getDetail(String aUser, String a.
```

Perform the following steps:

a. Uncomment the public class definition.

b. Change the existing response data type to match your response data type that is
   generated from your J.D. Edwards response schema.

c. Change the existing method name to match your method.

d. Change the existing request data type to match your request data type that is
   generated from your J.D. Edwards request schema.

The following control is now available in BEA WebLogic Workshop and can be added to
a workflow:
Using Application Explorer in BEA WebLogic Workshop to Create XML Schemas

**Note:** You can view available data types under the *XML Bean Classes* folder in the *Application* tab, which are added once you import your XML request or response schemas from Application Explorer.

These data types are case sensitive and must be entered exactly as shown.

**Using the Extensible CCI Control**

The extensible CCI control functions much like a database control since it generates JCX files to which you can add your own methods.

Your own methods can use the correct input and output types rather than the generic XmlObject types that the JCA control uses. Since the control is just a proxy that uses a reflection to call the relevant method, it handles the casting for you. You are no longer required to write custom code that does the cast or transformations that are cast between an XmlObject.

For example, instead of the generic XmlObject:

```java
XmlObject service(XmlObject input) throws java.lang.Exception;
```

you call:

```java
public ResponseDataType MethodName(RequestDataType VariableName) throws Exception;
```

where:

- **ResponseDataType**
  
  Is the XML Bean Class value that is generated from the response schema.

- **MethodName**
  
  Is the method name used by the extensible CCI control.

- **RequestDataType**
  
  Is the XML Bean Class value that is generated from the request schema.

- **VariableName**
  
  Is the request variable that stores the request document, which is used as input by the extensible CCI control.
**Example**  **Using Dynamic Class Casting**

The following example uses dynamic class casting to specify a schema-based input XmlObject to be casted into a pure XmlObject as a service method, which is expected by the CCI control.
The following example uses dynamic class casting where the CCI control returns a pure XmlObject, which is casted dynamically into a schema-based output XmlObject.
Adding an Extensible CCI Control
APPENDIX B

Using Application Explorer in BEA WebLogic Workshop for Event Handling

Topics:

- Overview
- Starting Application Explorer in WebLogic Workshop
- Understanding iWay Event Functionality
- Creating, Editing, and Deleting a Port
- Creating, Editing, and Deleting a Channel
- Deploying iWay Components in a Clustered BEA WebLogic Environment

This section describes how to use Java Swing Application Explorer running in BEA WebLogic Workshop to create events for J.D. Edwards. In addition, this section provides information on deploying components in a clustered BEA WebLogic environment.
Overview

The iWay Application Adapter for J.D. Edwards OneWorld enables the processing of OneWorld business functions through the J.D. Edwards OneWorld ThinNet API. Using the API eliminates the requirement of creating complex and impractical batch processes. In addition, a transport layer, such as IBM® MQSeries®, File, or HTTP is not required, because an agent or a listener is defined through a TCP connection.

External applications that access OneWorld through the iWay Application Adapter for J.D. Edwards OneWorld use either XML schemas or Web services to pass data between the external application and the adapter. The following topics describe how to use Application Explorer in BEA WebLogic Workshop to create XML schemas and Web services for the J.D Edwards Master Business Functions (MBFs) used with the adapter.

For more information on creating Web services and on Application Explorer in general, see the iWay Application Explorer User's Guide.

Using GenJava to Generate a Schema

To create schemas for the adapter, you must use GenJava wrappers. You create the GenJava wrappers using the OneWorld utility called GenJava. You use Application Explorer to generate schemas against OneWorld GenJava wrappers.

GenJava is supplied as a command line process with several run-time options. For more information on GenJava, see the J.D. Edwards Interoperability Guide for OneWorld Xe.

Starting Application Explorer in WebLogic Workshop

The server must be started where iWay Application Explorer is running. Before you can use Application Explorer, you must start BEA WebLogic server.

**Procedure** How to Start Application Explorer in WebLogic Workshop

1. Start WebLogic Workshop.
2. Ensure that the server on which Application Explorer is deployed is started. If it is not started, select WebLogic Server from the Tools menu and then click Start WebLogic Server.
3. From the View menu, select Windows and then click iWay Application Explorer.
Application Explorer opens as a frame within the Workshop:

![Application Explorer](image)

**Understanding iWay Event Functionality**

Events are generated as a result of activity in a database or in an application system. You can use events to trigger an action in your application. For example, an update to a database can reflect an update to customer information. If your application must perform when this happens, your application is a consumer of this event.

After you create a connection to your application system, you can add events using Application Explorer. To create an iWay event, you must create a port and a channel.

- **Port**

  A port associates a particular business object exposed by the iWay Adapter with a particular disposition. A disposition defines the protocol and location of the event data. The port defines the end point of the event consumption. For example, you can use the MSMQ protocol to route the result of a Purchase Order update in the J.D. Edwards system to a queue hosted by BEA WebLogic Server. For more information, see *Creating, Editing, and Deleting a Port* on page B-4.
Creating, Editing, and Deleting a Port

- Channel
  A channel represents configured connections to particular instances of back-end systems. A channel binds one or more event ports to a particular listener managed by the iWay Adapter. For more information, see Creating, Editing, and Deleting a Channel on page B-16.

Creating, Editing, and Deleting a Port

Application Explorer enables you to create event ports from the iWay Adapters tab or from the iWay Events tab. You also can modify or delete an existing port.

Creating an Event Port From the iWay Event Adapters Tab

The following procedures describe how to create an event port from the iWay Event Adapters window for various dispositions using Application Explorer. The following dispositions are available when using Application Explorer in conjunction with an iBSE deployment:

- File
- iBSE
- MSMQ
- JMSQ
- SOAP
- HTTP
- MQ Series

Note: You can switch between an iBSE and a JCA deployment using the servlet Application Explorer. For more information, see Creating an Event Port in Chapter 3, Listening for Database Events.
Procedure How to Create an Event Port for File

1. Expand the iWay Event Adapters node.
2. Expand the JDEdwards node.
3. Right-click the Ports node and select Add Port.
   The Add Port dialog box opens:
   ![](image)

   a. Type a name and a brief description for the event port.
   b. From the Protocol drop-down list, select File.
   c. In the URL field, type a File destination using the following format:

   `ifile://[location];errorTo=[pre-defined port name or another disposition url]`

   The following table defines the parameters for the File disposition.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>location</td>
<td>Destination and file name of the document where event data is written. For example, D:\in\x.txt</td>
</tr>
<tr>
<td>errorTo</td>
<td>Predefined port name or another disposition URL to which error logs are sent. Optional.</td>
</tr>
</tbody>
</table>

4. Click OK.
Creating, Editing, and Deleting a Port

The port appears under the ports node in the left pane. To review the port settings, select the port name. A table summarizing the port settings appears in the right pane.

You are ready to associate the event port with a channel. For more information, see Creating, Editing, and Deleting a Channel on page B-16.

Procedure  How to Create an Event Port for iBSE

1. Expand the iWay Event Adapters node.
2. Expand the JDEdwards node.
3. Right-click the Ports node and select Add Port.

The Add Port dialog box opens:

- **Name:** Type a name and a brief description for the event port.
- **Protocol:** From the Protocol drop-down list, select iBSE.
- **URL:** In the URL field, type an iBSE destination using the following format:
  
  ibse:[svcName].[mthName];responseTo=[pre-defined port name or another disposition url];errorTo=[pre-defined port name or another disposition url]
The following table defines the parameters for the iBSE disposition.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>svcName</td>
<td>Name of the service created with iBSE.</td>
</tr>
<tr>
<td>mthName</td>
<td>Name of the method created for the Web service.</td>
</tr>
<tr>
<td>responseTo</td>
<td>Location where responses to the Web service are posted. A predefined port name or another full URL. Optional.</td>
</tr>
<tr>
<td>errorTo</td>
<td>Predefined port name or another disposition URL to which error logs are sent. Optional.</td>
</tr>
</tbody>
</table>

4. Click OK.

The port appears under the ports node in the left pane. To review the port settings, select the port name. A table summarizing the port settings appears in the right pane.

You are ready to associate the event port with a channel. For more information, see Creating, Editing, and Deleting a Channel on page B-16.

**Procedure**  
**How to Create an Event Port for MSMQ**

1. Expand the *iWay Event Adapters* node.
2. Expand the *JDEdwards* node.
3. Right-click the *Ports* node and select *Add Port*.

The Add Port dialog box opens:
Creating, Editing, and Deleting a Port

a. Type a name and a brief description for the event port.

b. From the Protocol drop-down list, select **MSMQ**.

c. In the URL field, type an MSMQ destination using the following format:
   
   `msmq://[machineName]/private$/[qName];errorTo=[pre-defined port name or another disposition url]`

   **Note:** This syntax is for a private queue. Private queues are queues that are not published in Active Directory. They appear only on the local computer that contains them. Private queues are accessible only by Message Queuing applications that recognize the full path name or format name of the queue.

The following table defines the parameters for the MSMQ disposition:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>machineName</td>
<td>Machine name where the Microsoft Queuing system is running.</td>
</tr>
<tr>
<td>qName</td>
<td>Name of the private queue where messages are placed.</td>
</tr>
<tr>
<td>errorTo</td>
<td>Predefined port name or another disposition URL to which error logs are sent. Optional.</td>
</tr>
</tbody>
</table>

4. Click **OK**.

   The port appears under the ports node in the left pane. To review the port settings, select the port name. A table summarizing the port settings appears in the right pane.

You are ready to associate the event port with a channel. For more information, see "Creating, Editing, and Deleting a Channel" on page B-16.

**Procedure**  
**How to Create an Event Port for JMSQ**

1. Expand the **iWay Event Adapters** node.

2. Expand the **JDEdwards** node.

3. Right-click the **Ports** node and select **Add Port**.
Using Application Explorer in BEA WebLogic Workshop for Event Handling

The Add Port dialog box opens:

```
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>myQueueName</td>
<td>JNDI name of a queue to which events are emitted.</td>
</tr>
<tr>
<td>myQueueFac</td>
<td>Resource that contains information about the JMS Server. The WebLogic connection factory is:</td>
</tr>
<tr>
<td></td>
<td><code>javax.jms.QueueConnectionFactory</code></td>
</tr>
</tbody>
</table>
```
Creating, Editing, and Deleting a Port

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>jndiurl</td>
<td>URL used to contact the JNDI provider. The syntax of this URL depends on which JNDI provider is being used. This value corresponds to the standard JNDI property.</td>
</tr>
<tr>
<td></td>
<td>java.naming.provider.url.</td>
</tr>
<tr>
<td></td>
<td>The URL of the WebLogic Server is t3://host:port.</td>
</tr>
<tr>
<td></td>
<td>where:</td>
</tr>
<tr>
<td></td>
<td>host</td>
</tr>
<tr>
<td></td>
<td>Is the machine name where WebLogic Server is installed.</td>
</tr>
<tr>
<td></td>
<td>port</td>
</tr>
<tr>
<td></td>
<td>Is the port on which WebLogic Server is listening. The default port, if not changed at installation, is 7001.</td>
</tr>
<tr>
<td>jndifactory</td>
<td>Is JNDI context.INITIAL_CONTEXT_FACTORY and is provided by the JNDI service provider.</td>
</tr>
<tr>
<td></td>
<td>For WebLogic Server, the WebLogic factory is: weblogic.jndi.WLInitialContextFactory.</td>
</tr>
<tr>
<td>user</td>
<td>Valid user name required to access a JMS server.</td>
</tr>
<tr>
<td>password</td>
<td>Valid password required to access a JMS server.</td>
</tr>
<tr>
<td>errorTo</td>
<td>Predefined port name or another disposition URL to which error logs are sent. Optional.</td>
</tr>
</tbody>
</table>

4. Click OK.

The port appears under the ports node in the left pane. To review the port settings, select the port name. A table summarizing the port settings appears in the right pane.

You are now ready to associate the event port with a channel. For more information, see Creating, Editing, and Deleting a Channel on page B-16.

**Procedure** How to Create a Port for the SOAP Disposition

The SOAP disposition allows an event response to launch a Web service specified by a WSDL file. A soapaction is optional, the default is "".
To create a port for a SOAP disposition using Application Explorer:

1. Click the iWay Events tab.
   The iWay Event Adapters window opens.

2. In the left pane, expand the J.D. Edwards adapter node.

3. Select the ports node.

4. Move the pointer over Operations and select Add a new port.
   The Create Event Port window opens in the right pane.
   a. Type a name for the event port and provide a brief description.
   b. From the Disposition Protocol drop-down list, select SOAP.
   c. In the Disposition field, enter a SOAP destination using the following format:
      
      
      soap:wsdl-url;soapaction=action;responseTo=respDest;errorTo=errorDest
      
      The following table lists and describes the disposition parameters for SOAP.

      | Parameter | Description |
      |-----------|-------------|
      | wsdl-url  | The URL to the WSDL file that is required to create the SOAP message. For example: http://localhost:7001/ibse/IBSEServlet/test/sw2xml2003MQ.ibs?wsdl |
      |           | This value can be found by navigating to the iWay Business Services tab and opening the Service Description link in a new window. The WSDL URL appears in the Address field. |
      |           | You can also open the WSDL file in a third party XML editor (for example, XMLSPY) and view the SOAP request settings to find this value. |
Creating, Editing, and Deleting a Port

5. Click OK.

The port appears under the ports node in the left pane. In the right pane, a table appears that summarizes the information associated with the port you created.

You are now ready to associate the event port with a channel. For more information, see Creating, Editing, and Deleting a Channel on page B-16.

**Procedure**  
**How to Create an Event Port for HTTP**

1. Expand the iWay Event Adapters node.
2. Expand the JDEdwards node.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
</table>
| action    | The method that will be called by the disposition. For example: JDE.mt200Request@test@@  
where:  
JDE  
Is the name of the Web service you created using Application Explorer.  
mt200  
Is the method being used.  
test  
Is the license that is being used by the Web service.  
This value can be found by navigating to the iWay Business Services tab and opening the Service Description link in a new window. Perform a search for soapAction.  
You can also open the WSDL file in a third party XML editor (for example, XMLSPY) and view the SOAP request settings to find this value. |
| respDest  | The location to which responses are posted. A predefined port name or another full URL. Optional.  
A predefined port name or another disposition URL. The URL must be complete, including the protocol. |
| errorDest | The location to which error logs are sent. Optional.  
A predefined port name or another disposition URL. The URL must be complete, including the protocol. |
3. Right-click the *Ports* node and select *Add Port*.

The Add Port dialog box opens:

```
Name: 
Description: 
Protocol: HTTP
URL: http://[myurl];responseTo=[pre-defined port name or another disposition url]
```

- **a.** Type a name and a brief description for the event port.
- **b.** From the Protocol drop-down list, select *HTTP*.
- **c.** In the URL field, type an HTTP destination using the following format:

  `http://[myurl];responseTo=[pre-defined port name or another disposition url]`

The following table defines the parameters for the HTTP disposition.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>myurl</td>
<td>URL target for the post operation. For example, <code>http://myhost:1234/docroot</code></td>
</tr>
<tr>
<td>responseTo</td>
<td>Predefined port name or another disposition URL to which response documents are sent. Optional.</td>
</tr>
</tbody>
</table>

4. Click *OK*.

The port appears under the ports node in the left pane. To review the port settings, select the port name. A table summarizing the port settings appears in the right pane.

You are now ready to associate the event port with a channel. For more information, see *Creating, Editing, and Deleting a Channel* on page B-16.
Creating, Editing, and Deleting a Port

Procedure  How to Create an Event Port for MQ Series

1. Expand the iWay Event Adapters node.
2. Expand the JDEdwards node.
3. Right-click the Ports node and select Add Port.

The Add Port dialog box opens:

- Type a name and a brief description for the event port.
- From the Protocol drop-down list, select MQ Series.
- In the URL field, type an MQ Series destination using the following format:
  
  mqseries://[qManager]/[qName];host=[hostname];port=[port];
  channel=[channelname];errorTo=[pre-defined port name or another disposition url]

The following table defines the parameters for the MQ Series disposition.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>qManager</td>
<td>Name of the queue manager to which the server must connect.</td>
</tr>
<tr>
<td>qName</td>
<td>Name of the queue where messages are placed.</td>
</tr>
<tr>
<td>host</td>
<td>Host on which the MQ Server is located (for the MQ Client only).</td>
</tr>
</tbody>
</table>
Using Application Explorer in BEA WebLogic Workshop for Event Handling

4. Click OK.

The port appears under the ports node in the left pane. To review the port settings, select the port name. A table summarizing the port settings appears in the right pane.

You are now ready to associate the event port with a channel. For more information, see Creating, Editing, and Deleting a Channel on page B-16.

### Editing and Deleting an Event Port

The following procedures provide information on how to edit and delete an event port using Application Explorer.

**Procedure** **How to Edit an Event Port**

1. Expand the *iWay Event Adapters* node.
2. Expand the *JDEdwards* node.
3. Right-click the event port you want to edit and select *Edit*.
   The Edit Port window opens.
4. Make the required changes and click *OK*.

**Procedure** **How to Delete an Event Port**

1. Expand the *iWay Event Adapters* node.
2. Expand the *JDEdwards* node.
3. Right-click the event port you want to delete and select *Delete*.
   The event port disappears from the list in the left pane.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>port</td>
<td>Number to connect to an MQ Server queue manager (for the MQ client only).</td>
</tr>
<tr>
<td>channel</td>
<td>Case-sensitive name of the channel that connects with the remote MQ Server queue manager (for the MQ client only). The default channel name for MQSeries is SYSTEM.DEF.SVRCONN.</td>
</tr>
<tr>
<td>errorTo</td>
<td>Predefined port name or another disposition URL to which error logs are sent. Optional.</td>
</tr>
</tbody>
</table>

Creating, Editing, and Deleting a Channel

The following procedure describes how to create a channel for your iWay event. All defined event ports must be associated with a channel.

**Procedure** How to Create a Channel

1. Expand the *iWay Event Adapters* node.
2. Expand the *JDEdwards* node.
3. Right-click the *Channels* node and select *Add Channel*.

The Add Channel dialog box opens:

![Add Channel dialog box](image.png)
4. Specify information for the channel you are creating.
   a. Type a name (for example, JDEChannel) and a brief description for the channel.
   b. From the Protocol drop-down list, select a protocol (for example, TCP Listener).
   c. Select an event port from the list of available ports. To select more than one, hold down the Ctrl key and click the ports.
   d. Click the double right arrow (>>) to transfer the port(s) to the list of selected ports.

5. Click Next.

The Basic settings in the TCP Listener dialog box appear:
Creating, Editing, and Deleting a Channel

6. Specify values for the following parameters. Fields with an asterisk are required.

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host*</td>
<td>Name or URL of the machine where the database is installed.</td>
</tr>
<tr>
<td>Port Number*</td>
<td>Port on which the Host database is listening.</td>
</tr>
</tbody>
</table>
| Synchronization Type    | • Select RECEIVE_REPLY if the event application expects a reply sent back to it. Specify a preemitter.  
|                         | • Select RECEIVE_ACK when a TCP/IP acknowledgement (ACK) is sent back to the event application.  
|                         | • Select RECEIVE if the event application does not expect a return.         |
| Is Length Prefix        | For J.D. Edwards OneWorld events that send data back that is not in XML format. The TCP/IP event application must prefix the data with a 4-byte binary length field when writing the data to the TCP/IP port. |
| Is XML                  | For J.D. Edwards OneWorld events that send data back in XML format. No preparser is required. |
| Is Keep Alive           | Maintains continuous communication between the event transaction and the channel. |

7. Click the preparser tab.
The preparser settings in the TCP Listener dialog box appear:

8. Specify values for the following parameters. Fields with an asterisk are required.

<table>
<thead>
<tr>
<th><strong>Property</strong></th>
<th><strong>Description</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>User id*</td>
<td>A valid user ID for J.D. Edwards OneWorld.</td>
</tr>
<tr>
<td>User password*</td>
<td>The password associated with the user ID.</td>
</tr>
<tr>
<td>JDE Environment*</td>
<td>The J.D. Edwards OneWorld environment, for example, DU7333. For more information about this parameter, see your J.D. Edwards OneWorld documentation or ask your OneWorld system administrator.</td>
</tr>
<tr>
<td>Application</td>
<td>XMLInterop or the application name in J.D. Edwards OneWorld. Optional.</td>
</tr>
<tr>
<td>Server IP address*</td>
<td>Name of the server on which J.D. Edwards OneWorld is running. This can be the name of the server, for example, JDEOW, or its IP address, for example, 123.45.67.89.</td>
</tr>
<tr>
<td>Server port*</td>
<td>The port number on which the server is listening, for example, 6009.</td>
</tr>
</tbody>
</table>
**Creating, Editing, and Deleting a Channel**

9. Click **OK**.
   
   The channel appears under the channels node in the left pane:
   
   ![JDEdwards](image)
   
   An X over the icon indicates that the channel is currently disconnected. You must start the channel to activate your event configuration.

   To review the settings for the channel, select the channel. In the right pane, Detail, TCP Listener, and preparser tabs summarize the channel settings.

**Procedure**  **How to Start and Stop a Channel**

1. Expand the **iWay Event Adapters** node.
2. Expand the **JDEdwards** node.
3. To start a channel, right-click the channel node and select **Start**.
   
   The channel becomes active and the X over the icon disappears.
4. To stop a channel, right-click the connected channel node and select **Stop**.
   
   The channel becomes inactive and the X appears over the icon.

**Editing and Deleting a Channel**

The following procedures describe how to edit and delete a channel.

**Procedure**  **How to Edit a Channel**

1. Expand the **iWay Event Adapters** node.
2. Expand the **JDEdwards** node.
3. Right-click the channel you want to edit and select **Edit**.
   
   The Edit Channel dialog box opens.
4. Make the required changes to the channel configuration and click **OK**.
**Procedure**  How to Delete a Channel

1. Expand the *iWay Event Adapters* node.
2. Expand the *JDEdwards* node.
3. Right-click the channel you want to delete and select *Delete*.

The channel disappears from the list in the left pane.

For more information, see the following topics in Chapter 3, *Listening for Database Events*:

- *The OneWorld Event Listener on page 3-20*
- *Configuring the OneWorld Event Listener on page 3-20*
- *Logging and Error Handling on page 3-23*

**Deploying iWay Components in a Clustered BEA WebLogic Environment**

Events can be configured in a clustered BEA WebLogic environment. You can deploy iBSE or JCA to this environment. This topic uses iBSE as an example, but you can follow the same procedures when deploying JCA. The only difference is that you need to deploy the JCA connector .RAR file to the clustered environment.

A cluster consists of multiple server instances running simultaneously, yet appears to clients to be a single server instance. The server instances that contain a cluster can be run on one machine, but are usually run on multiple machines.

Clustering provides the following benefits:

- Load balancing
- High availability

Service requests are processed through the HTTP router and routed to an available managed server.

Events are server-specific and are not processed through the HTTP router. You must configure each server separately.

**Procedure**  How to Deploy iWay Components in a Clustered Environment

To deploy iWay components in a clustered environment:

1. Using the BEA Configuration Wizard:
   a. Configure an administrative server to manage the managed servers.
   b. Add and configure as many managed servers as required.
   c. Add and configure an HTTP router. This does not have to be a part of WebLogic and can be an outside component.
Deploying iWay Components in a Clustered BEA WebLogic Environment

d. If you configure the HTTP router within WebLogic, start it by entering the following command:

```bash
StartManagedWebLogic HTTPROUTER http://localhost:7001
```

where:

- **HTTPROUTER**
  - Is the name of the server on which the HTTP router is running.
- **http://localhost:7001**
  - Is the location of the admin console.

e. Add the managed servers to your cluster/clusters.

For more information on configuring WebLogic Integration for deployment in a clustered environment, see *Deploying WebLogic Integration Solutions*.

2. Start the WebLogic Server and open WebLogic Server Console.

3. Deploy iBSE to the cluster by selecting *Web Application Modules* from the Domain Configurations section, and clicking *Deploy a new Web Application Module*.

A page appears for you to specify where the Web application is located.

4. To deploy iBSE, select the option button next to the ibse directory and then click *Target Module*.

5. To deploy servlet Application Explorer, select the option button next to the iwae directory and then click *Target Module*. 

<table>
<thead>
<tr>
<th>Deploy a Web Application Module</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select the archive for this Web application module</td>
</tr>
<tr>
<td>Select the file path that represents your archive or exploded archive directory.</td>
</tr>
<tr>
<td><strong>Location:</strong> localhost \ C: \ iWay55 \ bea</td>
</tr>
<tr>
<td><img src="ibse" alt="ibse" /></td>
</tr>
<tr>
<td><img src="iwae" alt="iwae" /></td>
</tr>
<tr>
<td><img src="iwjcaiyx" alt="iwjcaiyx" /></td>
</tr>
</tbody>
</table>

5. To deploy servlet Application Explorer, select the option button next to the iwae directory and then click *Target Module*. 

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If you are using servlet Application Explorer, deploy it only on the admin server or one of the managed servers.

### Deploy a Web Application Module

**Select the archive for this Web application module**

Select the file path that represents your archive or exploded archive directory.

Note: Only valid file paths are shown below. If you do not find what you are looking for, you should upload your file(s) and/or confirm your Web application module contains valid descriptors.

- Location: `localhost \ C: \ Program Files \ iWay55 \ bea`
  - `ibso`
  - `iway`
  - `iwayclm`

The following window opens.

### Select targets for this Web application module

Select the servers and/or clusters on which you want to deploy your new Web Application module.

#### Independent Servers

- AdminServer
- HTTPROUTER

#### Clusters

- MYCluster
  - All servers in the cluster
  - Part of the cluster
    - MS1
    - MS2

6. Select the servers and/or clusters on which you want to deploy the application and click **Continue**.
Deploying iWay Components in a Clustered BEA WebLogic Environment

The following window opens.

### Source Accessibility

During runtime, a targeted server must be able to access this Web Application module's files. This access can be accomplished by either copying the Web Application module onto every server, or by defining a single location where the files exist.

How should the source files be made accessible?

- Copy this Web Application module onto every target for me.
  
  During deployment, the files in this Web Application module will be copied automatically to each of the targeted locations.

- I will make the Web Application module accessible from the following location:

  ![File Path]

  Provide the location from where all targets will access this Web Application module's files. You must ensure the Web Application module's files exist in this location and that each target can reach the location.

7. Select the *I will make the Web Application module accessible from the following location* option button and provide the location from which all targets will access iBSE.

iWay Software recommends that you use a single instance of iBSE, rather than copying iBSE onto every target.

**Note:** iBSE must use a database repository (SQL or Oracle). Do not use a file repository. You can select this in the Repository Type drop-down list in the iBSE monitoring page. After configuring a database repository, you must restart all of the managed servers.

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

where:

- **hostname**
  
  Is where your application server is running. Use the IP address or machine name in the URL; do not use localhost.

- **port**
  
  Is the port specific to each server, since you deploy iBSE to an entire cluster. For example, 8001, 8002, or any other port that is specified for each managed node.

8. Click *Deploy*. 
Procedure  How to Configure Ports and Channels in a Clustered Environment

**Note:** Before using Servlet Application Explorer in a clustered environment, you must edit the web.xml file and specify the correct URL to your iBSE deployment. The default location on Windows is:

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

For more information on configuring the web.xml file for the Servlet Application Explorer, see *[iWay Installation and Configuration for BEA WebLogic]*.

To configure ports and channels in a clustered environment:

1. Open Swing Application Explorer in BEA WebLogic Workshop.
2. Create a new connection to the iBSE instance. For information on creating a new configuration, see *Creating a New Configuration* on page A-3.

   **Note:** Use the IP address or machine name in the URL; do not use localhost.

3. Connect to the new configuration and select the iWay Events node in the left pane of Application Explorer.
4. Add a new port for the J.D. Edwards OneWorld adapter. For more information, see *Creating an Event Port From the iWay Event Adapters Tab* on page B-4.
5. Create a channel and add the port you created. For more information, see *Creating, Editing, and Deleting a Channel* on page B-16.
6. Click Next and enter the application server parameters.
7. Start the channel.
8. Create a new configuration and connect to the second iBSE instance.
   The connection to iBSE must be configured to each instance of the managed server.
   The following graphic shows two configurations.

The following operations performed on one managed server will be replicated on all other managed servers:
• Create port and channel: Creates the channel and port under all available servers.
• Delete port and channel. Deletes the port and channel under all available servers.
The following operations must be performed on each server:

- Start channel. Starts the channel for the specific server.
- Stop channel. Stops the channel for the specific server.
Topics:

- Specifying Outbound Functionality for a Business Function
- Modifying the OneWorld jde.ini File

J.D. Edwards enables you to specify outbound functionality for Master Business Functions (MBFs).

This section describes how to enable outbound transaction processing in J.D. Edwards and how to modify the jde.ini file for XML support.
Specifying Outbound Functionality for a Business Function

You can specify outbound functionality for business functions and manage the flow of data. You enable outbound transaction processing using a processing option that controls how a transaction is written.

Outbound Transaction Processing

To process outbound data, you use the:

- Data Export Control table
- Processing Log table

The Data Export Control table manages the flow of the outbound data to third-party applications. The Processing Log table contains all the information about the OneWorld event.

For more information on configuring J.D. Edwards for outbound processing, see Detailed Tasks for OneWorld Operations in the J.D. Edwards Interoperability Guide for OneWorld Xe.

Procedure: How to Enable Outbound Transaction Processing

To enable outbound transaction processing:

1. Right-click the application that contains the processing options for the Master Business Functions of the transaction.
   
   For a list of these options, see Appendix B of the J.D. Edwards Interoperability Guide for OneWorld Xe.

2. From the shortcut menu, select Prompt for Values.

3. Click either the Outbound tab or the Interop tab.

4. Enter the transaction type.
   
   The OneWorld Event listener processes only the after image for the business function. You are not required to set the before image function.
The Data Export Control Table and the Processing Log Table

The Data Export Control table manages the flow of the outbound data to third-party applications. OneWorld allows for the subscription of multiple vendor-specific objects for an interoperability transaction.

The records in the Data Export Control table are used to determine the vendor-specific objects to call from the Outbound Subsystem batch process (R00460) or the Outbound Scheduler batch process (R00461).

The Processing Log table contains all the information about the OneWorld event including the transaction type, order type, and sequence number from the Data Export Control table.

Procedure: How to Use the Data Export Controls

To use the data export controls:

1. On the Work With Data Export Controls pane, click Add.
2. Type values in the Transaction Type and Order Type fields.
3. For each detail row, enter either a batch process name or version or a function name and the library.
4. To launch the vendor-specific object for an add or insert, type 1.
5. For the update, delete, and inquiry actions, type 1.
6. In the Launch Immediately column, type 1.
7. Click OK.
Modifying the OneWorld jde.ini File

Because the iWay Application Adapter for J.D. Edwards OneWorld uses XML for the transfer of information to and from J.D. Edwards, you must configure the OneWorld environment to support XML. You can do this easily by modifying the OneWorld jde.ini file.

Example: Modifying a jde.ini File for XML Support

The following is a sample of the modifications required to implement XML support.

1. Add the following blocks of code:

```ini
[JDENET_KERNEL_DEF6]
;krnlName=CALL OBJECT KERNEL
;dispatchDLLName=jdekrnl.dll
;dispatchDLLFunction=_JDEKDispatchCallObjectMessage@28
;maxNumberOfProcesses=10
;numberOfAutoStartProcesses=0
krnlName=CALL OBJECT KERNEL
dispatchDLLName=XMLCallObj.dll
dispatchDLLFunction=_XMLCallObjectDispatch@28
maxNumberOfProcesses=10
numberOfAutoStartProcesses=0

[JDENET_KERNEL_DEF15]
krnlName=XML TRANSACTION KERNEL
dispatchDLLName=XMLTransactions.dll
dispatchDLLFunction=_XMLTransactionDispatch@28
maxNumberOfProcesses=1
numberOfAutoStartProcesses=1
```

2. Change the following block of code:

```ini
[JDENET]
serviceNameListen=6009
serviceNameConnect=6009
maxNetProcesses=5
maxNetConnections=400
maxKernelProcesses=50
maxKernelRanges=15
netTrace=1
ServiceControlRefresh=5
MonitorOption=0 0 0 0 0 0 0 0
```

Note: Change maxKernelRanges to 15.

For more information on establishing your J.D. Edwards environment for XML support, see Setting the jde.ini File for XML in the J.D. Edwards Interoperability Guide for OneWorld Xe.
The iWay Application Adapter for J.D. Edwards OneWorld supports the jdeRequest and jdeResponse XML structures for executing business functions within EnterpriseOne. Using EnterpriseOne XML, you can:

- Aggregate business function calls into a single object.
- Use the EnterpriseOne ThinNet API.
- Access both Z files and business functions.

This section provides examples of the jdeRequest and jdeResponse XML structures for executing business functions within EnterpriseOne.
Issuing a Single-Function Request

The following example, GetEffectiveAddress, is a single-function call to EnterpriseOne, and the result of this request is a standard jdeResponse document. In a single-function request, only one callMethod within the XML object is specified.

Example: Executing a Business Function With a Single-Function Call

The following code is a sample GetEffectiveAddress jdeRequest.

```xml
<jdeRequest type="callmethod" user="JDE" pwd="JDE" environment="DV7333" session="">
    <callMethod name="GetEffectiveAddress" app="BSE" runOnError="no">
        <params>
            <param name="mnAddressNumber">1001</param>
            <param name="jdDateBeginningEffective"/>
            <param name="cEffectiveDateExistence10"/>
            <param name="szAddressLine1"/>
            <param name="szAddressLine2"/>
            <param name="szAddressLine3"/>
            <param name="szAddressLine4"/>
            <param name="szZipCodePostal"/>
            <param name="szCity"/>
            <param name="szCountyAddress"/>
            <param name="szState"/>
            <param name="szCountry"/>
            <param name="szUserId"/>
            <param name="szProgramid"/>
            <param name="jdDateupdated"/>
            <param name="szWorkstationid"/>
            <param name="mnTimelastupdated"/>
            <param name="szNamealpha"/>
        </params>
        <onError abort="yes"/>
    </callMethod>
</jdeRequest>
```
The following code is a sample GetEffectiveAddress jdeResponse.

```xml
<?xml version="1.0"?>
<!DOCTYPE jdeResponse>
<jdeResponse  
environment="DV7333"
    
pwd="JDE"
    session="516.1029417972.68"
    type="callmethod"
    user="JDE">
<callMethod app="BSE"
    
    name="GetEffectiveAddress"
    runOnError="no">
    
    <returnCode code="0"/>
<params>
    <param name="mnAddressNumber">1001</param>
    <param name="jdDateBeginningEffective"/>
    <param name="cEffectiveDateExistence10"/>
    <param name="szAddressLine1">8055 Tufts Avenue, Suite 1331</param>
    <param name="szAddressLine2"/>
    <param name="szAddressLine3"/>
    <param name="szAddressLine4"/>
    <param name="szZipCodePostal">80237</param>
    <param name="szCity">Denver</param>
    <param name="szCountyAddress"/>
    <param name="szState">CO</param>
    <param name="szCountry"/>
    <param name="szUserid"/>
    <param name="szProgramid"/>
    <param name="jdDateupdated"/>
    <param name="szWorkstationid"/>
    <param name="mnTimeLastupdated">0</param>
    <param name="szNamealpha">J.D. Edwards & Company</param>
</params>
</callMethod>
</jdeResponse>
```
Issuing a Multiple-Function Request

Issuing a Multiple-Function Request

The following example, GetEffectiveAddress, is a multiple-function call to EnterpriseOne, and the result of this request is a standard jdeResponse document with multiple sections. In a multiple-function request, more than one callMethod within the XML object is specified.

Example: Executing a Business Function With a Multiple-Function Call

The following code is a sample Purchase Order in the jdeRequest format. The XML contains return parameter specifications as well as file cleanup logic.

```xml
<?xml version='1.0' encoding='utf-8' ?>
<jdeRequest pwd='password' type='callmethod' user='user' session='
environment='DV7333' sessionidle=''>
  <callMethod app='XMLTest' name='GetLocalComputerId'
    runOnError='no'>
    <params>
      <param name='szMachineKey' id='machineKey'></param>
    </params>
  </callMethod>
  <callMethod app='XMLTest' name='F4311InitializeCaching'
    runOnError='no'>
    <params>
      <param name='cUseWorkFiles'>2</param>
    </params>
  </callMethod>
  <callMethod app='XMLTest' name='F4311FSBeginDoc' runOnError='no'
    returnNullData='yes'>
    <params>
      <param name='mnJobNumber' id='jobNumber'></param>
      <param name='szComputerID' idref='machineKey'></param>
      <param name='cHeaderActionCode'>A</param>
      <param name='cProcessEdits'>1</param>
      <param name='cUpdateOrWriteToWorkFile'>2</param>
      <param name='cRecordWrittenToWorkFile'>0</param>
      <param name='szOrderCompany' id='orderCompany'>00200</param>
      <param name='szOrderType'>OP</param>
      <param name='szOrderSuffix'>000</param>
      <param name='szBranchPlant'>M30</param>
      <param name='mnSupplierNumber' id='supplierNumber'>4343</param>
      <param name='mnShipToNumber'>0.0</param>
      <param name='jdOrderDate'>2000/03/02</param>
      <param name='cEvaluatedReceiptsFlag'>N</param>
      <param name='cCurrencyMode'>D</param>
    </params>
  </callMethod>
</jdeRequest>
```
<param name='szTransactionCurrencyCode'>USD</param>
<param name='mnCurrencyExchangeRate'>0.0</param>
<param name='szOrderedPlacedBy'>SUBSTITUTE</param>
<param name='szProgramID'>EP4310</param>
<param name='szPurchaseOrderPrOptVersion' id='Version'>ZJDE0001</param>
<param name='szUserID'>SUBSTITUTE</param>
<param name='mnProcessID' id='processID'></param>
<param name='mnTransactionID' id='transactionID'></param>
</params>
<onError abort='yes'>
<callMethod app='XMLTest' name='F4311ClearWorkFiles' runOnError='yes' returnNullData='yes'>
<params>
<param name='szComputerID' idref='jobNumber'></param>
<param name='mnJobNumber' idref='machineKey'></param>
<param name='cClearHeaderFile'>1</param>
<param name='cClearDetailFile'>1</param>
<param name='mnLineNumber'>0</param>
<param name='cUseWorkFiles'>2</param>
<param name='mnProcessID' idref='processID'></param>
<param name='mnTransactionID' idref='transactionID'></param>
</params>
</callMethod>
</onError>
<!-- This is the first EditLine entry -->
<callMethod app='XMLTest' name='F4311EditLine' runOnError='yes' returnNullData='no'>
<params>
<param name='mnJobNumber' idref='jobNumber'></param>
<param name='szComputerID' idref='machineKey'></param>
<param name='cDetailActionCode'>A</param>
<param name='cProcessEdits'>1</param>
<param name='cUpdateOrWriteWorkFile'>2</param>
<param name='cCurrencyProcessingFlag'>Y</param>
<param name='szPurchaseOrderPrOptVersion' idref='version'></param>
<param name='szOrderCompany' idref='orderCompany'></param>
<param name='szOrderType'>OP</param>
<param name='szOrderSuffix'>000</param>
<param name='szBranchPlant'>M30</param>
<param name='mnSupplierNumber' idref='supplierNumber'></param>
<param name='mnShipToNumber'>0.0</param>
<param name='jdRequestedDate'>2000/03/02</param>
<param name='jdTransactionDate'>2000/03/02</param>
<param name='jdPromisedDate'>2000/03/02</param>
<param name='jdGLDate'>2000/03/02</param>
<param name='szUnformattedItemNumber'>1001</param>
<param name='mnQuantityOrdered'>1</param>
<param name='szDetailLineBranchPlant'>M30</param>
<param name='szLastStatus'>220</param>
<param name='szNextStatus'>230</param>
<param name='cEvaluatedReceipts'>N</param>
<param name='szTransactionCurrencyCode'>USD</param>
<param name='cSourceRequestingPOGeneration'>0</param>
<param name='szProgramID'>XMLTest</param>
<param name='szUserID'>SUBSTITUTE</param>
<param name='szAgreementNumber'></param>
<param name='mnAgreementSupplement'>0</param>
<param name='jdEffectiveDate'></param>
<param name='szPurchasingCostCenter'></param>
<param name='szObjectAccount'></param>
<param name='szSubsidiary'></param>
<param name='mnProcessID' idref='processID'></param>
<param name='mnTransactionID' idref='transactionID'></param>
</params>
</callMethod>
<!-- This is the second EditLine entry -->
<callMethod app='XMLTest' name='F4311EditLine' runOnError='yes'
    returnNullData='no'>
    <params>
    <param name='mnJobNumber' idref='jobNumber'></param>
    <param name='szComputerID' idref='machineKey'></param>
    <param name='cDetailActionCode'>A</param>
    <param name='cProcessEdits'>1</param>
    <param name='cUpdateOrWriteWorkFile'>2</param>
    <param name='cCurrencyProcessingFlag'>Y</param>
    <param name='szPurchaseOrderPrOptVersion' idref='version'></param>
    <param name='szOrderCompany' idref='orderCompany'></param>
    <param name='szOrderType'>OP</param>
    <param name='szOrderSuffix'>000</param>
    <param name='szBranchPlant'>M30</param>
    <param name='mnSupplierNumber' idref='supplierNumber'></param>
    <param name='mnShipToNumber'>0.0</param>
    <param name='jdRequestedDate'>2000/03/02</param>
    <param name='jdTransactionDate'>2000/03/02</param>
    <param name='jdPromisedDate'>2000/03/02</param>
    <param name='jdGLDate'>2000/03/02</param>
    <param name='szUnformattedItemNumber'>2001</param>
    <param name='mnQuantityOrdered'>3</param>
    <param name='szDetailLineBranchPlant'>M30</param>
</params>
<param name='szNextStatus'>230</param>
<param name='cEvaluatedReceipts'>N</param>
<param name='cTransactionCurrencyCode'>USD</param>
<param name='cSourceRequestingPOGeneration'>0</param>
<param name='szProgramID'>XMLTest</param>
<param name='szUserID'>SUBSTITUTE</param>
<param name='szAgreementNumber'></param>
<param name='mnAgreementSupplement'>0</param>
<param name='jdEffectiveDate'></param>
<param name='szPurchasingCostCenter'></param>
<param name='szObjectAccount'></param>
<param name='szSubsidiary'></param>
<param name='mnProcessID' idref='processID'></param>
<param name='mnTransactionID' idref='transactionID'></param>
</params>
</callMethod>
<callMethod app='XMLTest' name='F4311EditDoc' runOnError='no' returnNullData='no'>
<params>
<param name='szOrderSuffix'>000</param>
<param name='szComputerID' idref='machineKey'></param>
<param name='mnJobnumber' idref='jobNumber'></param>
<param name='mnAddressNumber' idref='supplierNumber'></param>
<param name='szOrderType'>OP</param>
<param name='szOrderCompany' idref='orderCompany'></param>
<param name='cActionCode'>A</param>
<param name='mnProcessID' idref='processID'></param>
<param name='mnTransactionID' idref='transactionID'></param>
</params>
</callMethod>
<callMethod app='XMLTest' name='F4311EndDoc' runOnError='no' returnNullData='no'>
<params>
<param name='szComputerID' idref='machineKey'></param>
<param name='mnJobNumber' idref='jobNumber'></param>
<param name='szCallingApplicationName'>XMLTest</param>
<param name='szVersionProcOption' idref='version'></param>
<param name='szUserID'>SUBSTITUTE</param>
<param name='mnOrderNumberAssigned' id='orderNumberAssigned'></param>
<param name='cUseWorkFiles'>2</param>
<param name='cConsolidateLines'>0</param>
<param name='mnProcessID' idref='processID'></param>
<param name='mnTransactionID' idref='transactionID'></param>
</params>
</callMethod>
<returnParams runOnError='yes' returnNullData='no'>
Issuing a Multiple-Function Request

The following code shows the Purchase Order response document, which contains individual return codes for each callMethod executed. In addition, this method returns the order number assigned to the Purchase Order.

```xml
<?xml version="1.0" encoding="utf-8" ?>
<jdeResponse environment="DV7333" user="JDE" type="callmethod" sessionidle="" session="2612.1026498135.5" pwd="JDE">
  <callMethod name="GetLocalComputerId" runOnError="no" app="XMLTest">
    <returnCode code="0"/>
    <params>
      <param name="szMachineKey" id="machineKey">XEENT</param>
    </params>
  </callMethod>
  <callMethod name="F4311InitializeCaching" runOnError="no" app="XMLTest">
    <returnCode code="0"/>
    <params>
      <param name="cUseWorkFiles">2</param>
    </params>
  </callMethod>
  <callMethod name="F4311FSBeginDoc" returnNullData="yes" runOnError="no" app="XMLTest">
    <returnCode code="0"/>
    <params>
      <param name="mnJobNumber" id="jobNumber">3</param>
    </params>
  </callMethod>
</jdeResponse>
```
<param name="szComputerID" idref="machineKey">XEENT</param>
<param name="cHeaderActionCode">1</param>
<param name="cProcessEdits">1</param>
<param name="cUpdateOrWriteToFileWorkFile">2</param>
<param name="cRecordWrittenToFileWorkFile">1</param>
<param name="cCurrencyProcessingFlag">Z</param>
<param name="szOrderCompany" id="orderCompany">00200</param>
<param name="mnOrderNumber">0</param>
<param name="szOrderType">OP</param>
<param name="szOrderSuffix">000</param>
<param name="szBranchPlant">M30</param>
<param name="szOriginalOrderCompany"/>
<param name="szOriginalOrderNumber"/>
<param name="szOriginalOrderType"/>
<param name="szRelatedOrderCompany"/>
<param name="szRelatedOrderNumber"/>
<param name="szRelatedOrderType"/>
<param name="mnSupplierNumber" id="supplierNumber">17000</param>
<param name="mnShipToNumber">6074</param>
<param name="jdRequestedDate">2002/07/12</param>
<param name="jdOrderDate">2000/03/02</param>
<param name="jdPromisedDate">2002/07/12</param>
<param name="jdCancelDate"/>
<param name="szReference01"/>
<param name="szReference02"/>
<param name="szDeliveryInstructions01"/>
<param name="szDeliveryInstructions02"/>
<param name="szPrintMessage"/>
<param name="szSupplierPriceGroup"/>
<param name="szPaymentTerms"/>
<param name="szTaxExplanationCode"/>
<param name="szTaxRateArea"/>
<param name="szTaxCertificate"/>
<param name="cAssociatedText"/>
<param name="szHoldCode"/>
<param name="szFreightHandlingCode"/>
<param name="mnBuyerNumber">0</param>
<param name="mnCarrierNumber">0</param>
<param name="cEvaluatedReceiptsFlag">N</param>
<param name="cSendMethod"/>
<param name="szLandedCostRule"/>
<param name="szApprovalRouteCode"/>
<param name="mnChangeOrderNumber">0</param>
<param name="cCurrencyMode">D</param>
<param name="szTransactionCurrencyCode">USD</param>
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<param name="mnCurrencyExchangeRate">0</param>
<param name="szOrderedPlacedBy">SUBSTITUTE</param>
<param name="szOrderTakenBy"/>
<param name="szProgramID">EP4310</param>
<param name="szApprovalRoutePO"/>
<param name="szPurchaseOrderPrOptVersion" id="Version">ZJDE0001</param>
<param name="szBaseCurrencyCode">USD</param>
<param name="szUserID">SUBSTITUTE</param>
<param name="cAddNewLineToExistingOrder"/>
<param name="idInternalVariables">0</param>
<param name="cSourceOfData"/>
<param name="mnSODOrderNumber">0</param>
<param name="szSODOrderType"/>
<param name="szSODOrderCompany"/>
<param name="szSODOrderSuffix"/>
<param name="mnRetainage">0</param>
<param name="szDescription"/>
<param name="szRemark"/>
<param name="jdEffectiveDate"/>
<param name="jdPhysicalCompletionDate"/>
<param name="mnTriangulationRateFromCurrency">0</param>
<param name="mnTriangulationRateToCurrency">0</param>
<param name="cCurrencyConversionMethod"/>
<param name="szPriceAdjustmentScheduleN"/>
<param name="cAIADocument"/>
<param name="mnProcessID" idref="processID">2612</param>
<param name="mnTransactionID" idref="transactionID">4</param>
</params>
</callMethod>
<callMethod name="F4311EditLine" returnNullData="no" runOnError="yes" app="XMLTest">
  <returnCode code="0"/>
  <params>
    <param name="mnJobNumber" idref="jobNumber">3</param>
    <param name="szComputerID" idref="machineKey">XEENT</param>
    <param name="mnOrderLineNumber">1</param>
    <param name="cDetailActionCode">1</param>
    <param name="cProcessEdits">1</param>
    <param name="cUpdateOrWriteWorkFile">2</param>
    <param name="cRecordWrittenToWorkFile">1</param>
    <param name="cCurrencyProcessingFlag">Y</param>
    <param name="szPurchaseOrderPrOptVersion" idref="version">ZJDE0001</param>
    <param name="szOrderCompany" idref="orderCompany">00200</param>
    <param name="szOrderType">OP</param>
    <param name="szOrderSuffix">000</param>
  </params>
</callMethod>
<param name="szBranchPlant">M30</param>
<param name="mnSupplierNumber" idref="supplierNumber">17000</param>
<param name="mnShipToNumber">6074</param>
<param name="jdRequestedDate">2000/03/02</param>
<param name="jdTransactionDate">2000/03/02</param>
<param name="jdPromisedDate">2000/03/02</param>
<param name="jdGLDate">2000/03/02</param>
<param name="szUnformattedItemNumber">1001</param>
<param name="mnQuantityOrdered">1</param>
<param name="mnUnitPrice">32,1000</param>
<param name="mnExtendedPrice">32,1</param>
<param name="szLineType">S</param>
<param name="szDescription1">Bike Rack - Trunk Mount</param>
<param name="szDetailLineBranchPlant">M30</param>
<param name="szLocation">. . .</param>
<param name="szLotNumber">. . .</param>
<param name="szTransactionUoM">EA</param>
<param name="szPurchasingUoM">EA</param>
<param name="szLastStatus">220</param>
<param name="szNextStatus">230</param>
<param name="mnDiscountFactor">1</param>
<param name="szInventoryPriceRule">. . .</param>
<param name="cTaxable">Y</param>
<param name="szGLClassCode">IN30</param>
<param name="mnBuyerNumber">8444</param>
<param name="szPurchasingCategoryCode1"> </param>
<param name="szPurchasingCategoryCode2"> </param>
<param name="szPurchasingCategoryCode3"> </param>
<param name="szPurchasingCategoryCode4">240</param>
<param name="szLandedCostRule">. . .</param>
<param name="mnWeight">80</param>
<param name="szWeightUoM">OZ</param>
<param name="mnVolume">2,25</param>
<param name="szVolumeUoM">FC</param>
<param name="cEvaluatedReceipts">N</param>
<param name="cInventoryInterface">Y</param>
<param name="szTransactionCurrencyCode">USD</param>
<param name="szBaseCurrencyCode">USD</param>
<param name="cSourceRequestingPOGeneration">0</param>
<param name="szProgramID">XMLTest</param>
<param name="szUserID">SUBSTITUTE</param>
<param name="szAgreementNumber"/>
<param name="mnAgreementSupplement">0</param>
<param name="jdEffectiveDate"/>
<param name="szPurchasingCostCenter"/>
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<callMethod name="F4311EditLine" returnNullData="no"
   runOnError="yes" app="XMLTest">
   <returnCode code="0"/>
   <params>
      <param name="mnJobNumber" idref="jobNumber">3</param>
      <param name="szComputerID" idref="machineKey">XEENT</param>
      <param name="mnOrderLineNumber">2</param>
      <param name="cDetailActionCode">1</param>
      <param name="cProcessEdits">1</param>
      <param name="cUpdateOrWriteWorkFile">2</param>
      <param name="cRecordWrittenToWorkFile">1</param>
      <param name="cCurrencyProcessingFlag">Y</param>
      <param name="szPurchaseOrderPrOptVersion"
         idref="version">ZJDE0001</param>
      <param name="szOrderCompany"
         idref="orderCompany">00200</param>
      <param name="szOrderType">OP</param>
      <param name="szOrderSuffix">000</param>
      <param name="szBranchPlant">M30</param>
      <param name="mnSupplierNumber"
         idref="supplierNumber">17000</param>
      <param name="mnShipToNumber">6074</param>
      <param name="jdRequestedDate">2000/03/02</param>
      <param name="jdTransactionDate">2000/03/02</param>
      <param name="jdPromisedDate">2000/03/02</param>
      <param name="jdGLDate">2000/03/02</param>
      <param name="szUnformattedItemNumber">2001</param>
      <param name="mnQuantityOrdered">3</param>
      <param name="mnUnitPrice">164,0817</param>
      <param name="mnExtendedPrice">492,2451</param>
      <param name="szLineType">S</param>
      <param name="szDescription1">Cro-Moly Frame, Red</param>
      <param name="szDescription2"></param>
      <param name="szDetailLineBranchPlant">M30</param>
      <param name="szLocation"></param>
      <param name="szLotNumber"></param>
      <param name="szTransactionUoM">EA</param>
      <param name="szPurchasingUoM">EA</param>
      <param name="szLastStatus">220</param>
   </params>
</callMethod>
<param name="szNextStatus">230</param>
<param name="mnDiscountFactor">1</param>
<param name="szInventoryPriceRule"></param>
<param name="szPrintMessage"></param>
<param name="cTaxable">Y</param>
<param name="szGLClassCode">IN30</param>
<param name="szPurchasingCategoryCode1"></param>
<param name="szPurchasingCategoryCode2"></param>
<param name="szPurchasingCategoryCode3"></param>
<param name="szPurchasingCategoryCode4">200</param>
<param name="szLandedCostRule"></param>
<param name="mnWeight">3</param>
<param name="szWeightUoM">OZ</param>
<param name="szVolumeUoM">FC</param>
<param name="cEvaluatedReceipts">N</param>
<param name="cInventoryInterface">Y</param>
<param name="szTransactionCurrencyCode">USD</param>
<param name="szBaseCurrencyCode">USD</param>
<param name="cSourceRequestingPOGeneration">0</param>
<param name="szProgramID">XMLTest</param>
<param name="szUserID">SUBSTITUTE</param>
<param name="szAgreementNumber"></param>
<param name="mnAgreementSupplement">0</param>
<param name="jdEffectiveDate"></param>
<param name="szPurchasingCostCenter"></param>
<param name="szObjectAccount"></param>
<param name="szSubsidiary"></param>
<param name="cStockingType">M</param>
<param name="mnProcessID" idref="processID">2612</param>
<param name="mnTransactionID" idref="transactionID">4</param>
<param name="mnIdentifierShortItem">60062</param>
</params>
</callMethod>
<callMethod name="F4311EditDoc" returnNullData="no" runOnError="no" app="XMLTest">
    <returnCode code="0"/>
</callMethod>
<params>
    <param name="szOrderSuffix">000</param>
    <param name="szComputerID" idref="machineKey">XEENT</param>
    <param name="mnJobnumber" idref="jobNumber">3</param>
    <param name="mnAddressNumber" idref="supplierNumber">17000</param>
    <param name="szOrderType">OP</param>
    <param name="szOrderCompany" idref="orderCompany">00200</param>
    <param name="szVersionProcOption" idref="version">ZJDE0001</param>
    <param name="cActionCode">A</param>
</params>
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<param name="mnProcessID" idref="processID">2612</param>
<param name="mnTransactionID" idref="transactionID">4</param>
</params>
</callMethod>
<callMethod name="F4311EndDoc" returnNullData="no"
    runOnError="no" app="XMLTest">
<returnCode code="0"/>
<params>
    <param name="szComputerID" idref="machineKey">XEENT</param>
    <param name="mnJobNumber" idref="jobNumber">3</param>
    <param name="szCallingApplicationName">XMLTest</param>
    <param name="szVersion" idref="version">ZJDE0001</param>
    <param name="szUserID">SUBSTITUTE</param>
    <param name="mnOrderNumberAssigned" id="orderNumberAssigned">4884</param>
    <param name="cUseWorkFiles">2</param>
    <param name="cConsolidateLines">0</param>
    <param name="mnProcessID" idref="processID">2612</param>
    <param name="mnTransactionID" idref="transactionID">4</param>
</params>
</callMethod>
<returnParams>
    <param name="JobNumber" idref="machineKey">XEENT</param>
    <param name="ComputerID" idref="jobNumber">3</param>
    <param name="OrderNumberAssigned" idref="orderNumberAssigned">4884</param>
</returnParams>
</jdeResponse>
Sample Sales Order Request

The following is a sample Sales Order request.

Example: Executing a Sales Order Request

The following code is an example of a Sales Order request.

```xml
<?xml version='1.0' encoding='utf-8' ?>
<jdeRequest type='callmethod' user='JDE' pwd='JDE' environment='DV7333'>
  <callMethod name='GetLocalComputerId' app='XMLInterop'
    runOnError='no'>
    <param name='szMachineKey' id='2'></param>
  </callMethod>
  <callMethod name='F4211FSBeginDoc' app='XMLInterop'
    runOnError='no'>
    <params>
      <param name='mnCMJobNumber' id='1'></param>
      <param name='cCMDocAction'>A</param>
      <param name='cCMProcessEdits'>1</param>
      <param name='szCMComputerID' idref='2'></param>
      <param name='cCMUpdateWriteToWF'>2</param>
      <param name='szCMProgramID'>XMLInterop</param>
      <param name='szCMVersion'>ZJDE0001</param>
      <param name='szOrderType'>SO</param>
      <param name='szBusinessUnit'>M30</param>
      <param name='mnAddressNumber'>4242</param>
      <param name='jdOrderDate'>2000/03/29</param>
      <param name='szReference'>10261</param>
      <param name='cApplyFreightYN'>Y</param>
      <param name='szCurrencyCode'></param>
      <param name='cWKSourceOfData'></param>
      <param name='cWKProcMode'></param>
      <param name='mnWKSuppressProcess'>0</param>
    </params>
    <onError abort='yes'>
      <callMethod name='F4211ClearWorkFile' app='XMLInterop'
        runOnError='yes'>
        <params>
          <param name='mnJobNo' idref='1'></param>
          <param name='szComputerID' idref='2'></param>
          <param name='mnFromLineNo'>0</param>
          <param name='mnThruLineNo'>0</param>
          <param name='cClearHeaderWF'>2</param>
          <param name='cClearDetailWF'>2</param>
        </params>
      </callMethod>
    </onError>
  </callMethod>
</jdeRequest>
```
<callMethod name='F4211FSEditLine' app='XMLInterop' runOnError='yes'>
<params>
  <param name='mnCMJobNo' idref='1'/>
  <param name='cCMLineAction'>A</param>
  <param name='cCMProcessEdits'>0</param>
  <param name='cCMWriteToWFFlag'>2</param>
  <param name='szCMComputerID' idref='2'/>
  <param name='mnLineNo'>10261</param>
  <param name='szItemNo'>1001</param>
  <param name='mnQtyOrdered'>1</param>
  <param name='cSalesTaxableYN'>N</param>
  <param name='szTransactionUOM'>EA</param>
  <param name='szCMProgramID'>XMLInterop</param>
  <param name='szCMVersion'>ZJDE0001</param>
  <param name='cWKSourceOfData'></param>
</params>
<onError abort='no'/>
</callMethod>
<callMethod name='F4211FSEditLine' app='XMLInterop' runOnError='yes'>
<params>
  <param name='mnCMJobNo' idref='1'/>
  <param name='cCMLineAction'>A</param>
  <param name='cCMProcessEdits'>0</param>
  <param name='cCMWriteToWFFlag'>2</param>
  <param name='szCMComputerID' idref='2'/>
  <param name='mnLineNo'>10262</param>
  <param name='szItemNo'>1001</param>
  <param name='mnQtyOrdered'>10</param>
  <param name='cSalesTaxableYN'>N</param>
  <param name='szTransactionUOM'>EA</param>
  <param name='szCMProgramID'>XMLInterop</param>
  <param name='szCMVersion'>ZJDE0001</param>
  <param name='cWKSourceOfData'></param>
</params>
<onError abort='no'/>
</callMethod>
<callMethod name='F4211FSEndDoc' app='XMLInterop' runOnError='no'>
<jdeRequest>
  <params>
    <param name='mnCMJobNo' idref='1'></param>
    <param name='szCMComputerID' idref='2'></param>
    <param name='szCMProgramID'>XMLInterop</param>
    <param name='szCMVersion'>ZJDE0001</param>
    <param name='cCMUseWorkFiles'>2</param>
  </params>
  <onError abort='no'>
    <callMethod name='F4211ClearWorkFile' app='XMLInterop'
      runOnError='yes'>
      <params>
        <param name='mnJobNo' idref='1'></param>
        <param name='szComputerID' idref='2'></param>
        <param name='mnFromLineNo'>0</param>
        <param name='mnThruLineNo'>0</param>
        <param name='cClearHeaderWF'>2</param>
        <param name='cClearDetailWF'>2</param>
        <param name='szProgramID'>XMLInterop</param>
        <param name='szCMVersion'>ZJDE0001</param>
      </params>
    </callMethod>
  </onError>
  <returnParams failureDestination='ERROR.Q'
    successDestination='SUCCESS.Q' runOnError='yes'>
  </returnParams>
  <onError abort='yes'>
    <callMethod name='F4211ClearWorkFile' app='XMLInterop'
      runOnError='yes'>
      <params>
        <param name='mnJobNo' idref='1'></param>
        <param name='szComputerID' idref='2'></param>
        <param name='mnFromLineNo'>0</param>
        <param name='mnThruLineNo'>0</param>
        <param name='cClearHeaderWF'>2</param>
        <param name='cClearDetailWF'>2</param>
        <param name='szProgramID'>XMLInterop</param>
        <param name='szCMVersion'>ZJDE0001</param>
      </params>
    </callMethod>
  </onError>
</jdeRequest>
This is the corresponding response document for the Sales Order request. There are error messages returned in the document. The error messages can be used within a workflow. The following shows sample error codes:

<error code="2597">Warning: WARNING: Duplicate Customer Order Number</error>
<error code="4136">Warning: Pick date is less than today's date</error>

Example: Using the Sales Order Response

The following code is the jdeResponse document.

```xml
<?xml version="1.0" encoding="utf-8" ?>
<jdeResponse environment="DV7333" user="JDE" type="callmethod" pwd="JDE">
    <callMethod name="GetLocalComputerId" runOnError="no" app="XMLInterop">
        <returnCode code="0"/>
        <params>
            <param name="szMachineKey" id="2">XEENT</param>
        </params>
    </callMethod>
    <callMethod name="F4211FSBeginDoc" runOnError="no" app="XMLInterop">
        <returnCode code="1"/>
        <params>
            <param name="mnCMJobNumber" id="1">3</param>
            <param name="cCMDocAction">A</param>
            <param name="cCMProcessEdits">1</param>
            <param name="szCMComputerID" idref="2">XEENT</param>
            <param name="cCMErrorConditions">1</param>
            <param name="cCMUpdateWriteToWF">2</param>
            <param name="szCMProgramID">XMLInterop</param>
            <param name="szCMVersion">ZJDE0001</param>
            <param name="szOrderCo">00200</param>
            <param name="szOrderType">SO</param>
            <param name="szBusinessUnit">M30</param>
            <param name="mnAddressNumber">4242</param>
            <param name="mnShipToNo">4242</param>
            <param name="jdRequestedDate">2000/03/29</param>
            <param name="jdOrderDate">2000/03/29</param>
            <param name="jdPromisedDate">2000/03/29</param>
            <param name="szReference">10261</param>
            <param name="szDeliveryInstructions1"> </param>
            <param name="szDeliveryInstructions2"> </param>
            <param name="szPrintMesg"> </param>
            <param name="szPaymentTerm"> </param>
        </params>
    </callMethod>
</jdeResponse>
```
<param name="cPaymentInstrument"> </param>
<param name="mnTradeDiscount">,000</param>
<param name="szTaxExplanationCode">S</param>
<param name="szTaxArea">DEN</param>
<param name="szCertificate"> </param>
<param name="szHoldOrdersCode"> </param>
<param name="cPricePickListYN">Y</param>
<param name="szRouteCode"> </param>
<param name="szStopCode"> </param>
<param name="szZoneNumber"> </param>
<param name="szFreightHandlingCode"> </param>
<param name="cApplyFreightYN">Y</param>
<param name="mnCommissionCode1">6001</param>
<param name="mnCommissionRate1">5,000</param>
<param name="mnCommissionRate2">,000</param>
<param name="szWeightDisplayUOM"> </param>
<param name="szVolumeDisplayUOM"> </param>
<param name="cMode">D</param>
<param name="szCurrencyCode">USD</param>
<param name="jdDateUpdated">2002/07/12</param>
<param name="szWKBaseCurrency">USD</param>
<param name="cWKAdvancedPricingYN">N</param>
<param name="szWKCreditMesg"> </param>
<param name="szWKTempCreditMesg"> </param>
<param name="cWKSourceOfData"/>
<param name="cWKProcMode"/>
<param name="mnWKSuppressProcess">0</param>
<param name="szPricingGroup">PREFER</param>
<param name="mnProcessID">2252</param>
<param name="mnTransactionID">4</param>
</params>
</callMethod>
</callMethod>
<callMethod name="F4211FSEditLine" runOnError="yes"
app="XMLInterop">
<returnCode code="1"/>
<params>
<param name="mnCMJobNo" idref="1">3</param>
<param name="cCMLineAction">A</param>
<param name="cCMProcessEdits">1</param>
<param name="cCMWriteToWFFlag">2</param>
<param name="cCMRecdWrittenToWF">1</param>
<param name="szCMComputerID" idref="2">XEENT</param>
<param name="cCMErrorConditions">1</param>
<param name="szOrderCo">00200</param>
<param name="szOrderType">SO</param>
<param name="szBusinessUnit">M30</param>
<param name="mnShipToNo">4242</param>
<param name="jdRequestedDate">2000/03/29</param>
</params>
</callMethod>

Warning: WARNING: Duplicate Customer Order Number</error>
<error code="4136">Warning: Pick date is less than today's date</error></errors>
</callMethod>
<callMethod name="F4211FSEditLine" runOnError="yes"
app="XMLInterop">
<returnCode code="1"/>
<params>
<param name="mnCMJobNo" idref="1">3</param>
<param name="cCMLineAction">A</param>
<param name="cCMProcessEdits">1</param>
<param name="cCMWriteToWFFlag">2</param>
<param name="cCMRecdWrittenToWF">1</param>
<param name="szCMComputerID" idref="2">XEENT</param>
<param name="cCMErrorConditions">1</param>
<param name="szOrderCo">00200</param>
<param name="szOrderType">SO</param>
<param name="szBusinessUnit">M30</param>
<param name="mnShipToNo">4242</param>
<param name="jdRequestedDate">2000/03/29</param>
</params>
</callMethod>
<param name="jdPromisedDate">2000/03/29</param>
<param name="jdPromisedDlvryDate">2000/03/29</param>
<param name="szItemNo">1001</param>
<param name="szLocation">.</param>
<param name="szDescription1">Bike Rack Trunk Mount</param>
<param name="szDescription2"></param>
<param name="szLineType">S</param>
<param name="szLastStatus">900</param>
<param name="szNextStatus">540</param>
<param name="mnQtyOrdered">1</param>
<param name="mnQtyBackordered">1</param>
<param name="mnUnitPrice">44,99</param>
<param name="mnUnitCost">32,1000</param>
<param name="szPrintMesg"></param>
<param name="cPaymentInstrument"></param>
<param name="cSalesTaxableYN">N</param>
<param name="cAssociatedText"></param>
<param name="szTransactionUOM">EA</param>
<param name="szPricingUOM">EA</param>
<param name="mnItemWeight">80</param>
<param name="szWeightUOM">OZ</param>
<param name="mnForeignUnitPrice">44,99</param>
<param name="mnForeignUnitCost">32,1000</param>
<param name="mnDiscountFactor">1</param>
<param name="mnCMLineNo">1</param>
<param name="szCMProgramID">XMLInterop</param>
<param name="szCMVersion">ZJDE0001</param>
<param name="mnSupplierNo">4343</param>
<param name="mnWKOrderTotal">44,99</param>
<param name="mnWKForeignOrderTotal">44,99</param>
<param name="mnWKTotalCost">32,1</param>
<param name="mnWKForeignTotalCost">32,1</param>
<param name="cWKSourceOfData"></param>
<param name="cWKCheckAvailability">1</param>
<param name="mnLastLineNoAssigned"></param>
<param name="cStockingType">P</param>
<param name="cParentItmMethdOfPriceCalcn"></param>
<param name="mnShortItemNo">60003</param>
<param name="jdPriceEffectiveDate">2000/03/29</param>
<param name="jdPromisedShip">2000/03/29</param>
<param name="mnQuantityAvailable">-34</param>
<param name="mnItemVolume_ITVL">2.25</param>
<param name="szVolumeUOM_VLUM">FC</param>
<param name="szRevenueBusinessUnit">M30</param>
<param name="mnProcessID">2252</param>
<param name="mnTransactionID">4</param>
<errors><error code="030B">Warning: Order Quantity Exceeds what's Available</error></errors>
<callMethod name="F4211FSEditLine" runOnError="yes"
    app="XMLInterop"><returnCode code="1"/></callMethod>
<param name="mnCMJobNo" idref="1">3</param>
<param name="cCMLineAction">A</param>
<param name="cCMProcessEdits">1</param>
<param name="cCMWriteToWFFlag">2</param>
<param name="cCMRecdWrittenToWF">1</param>
<param name="szCMComputerID" idref="2">XEENT</param>
<param name="cCMErrorConditions">1</param>
<param name="szOrderCo">00200</param>
<param name="szOrderType">SO</param>
<param name="szBusinessUnit">M30</param>
<param name="mnShipToNo">4242</param>
<param name="jdRequestedDate">2000/03/29</param>
<param name="jdPromisedDate">2000/03/29</param>
<param name="jdPromisedDlvryDate">2000/03/29</param>
<param name="szItemNo">1001</param>
<param name="szDescription1">Bike Rack-Trunk Mount</param>
<param name="szDescription2"></param>
<param name="szLineType">S</param>
<param name="szLastStatus">900</param>
<param name="mnQtyOrdered">10</param>
<param name="mnQtyBackordered">10</param>
<param name="mnUnitPrice">44,99</param>
<param name="mnUnitCost">32,1000</param>
<param name="szPrintMesg"></param>
<param name="cPaymentInstrument"></param>
<param name="cSalesTaxableYN">N</param>
<param name="cAssociatedText"></param>
<param name="szTransactionUOM">EA</param>
<param name="szPricingUOM">EA</param>
<param name="mnItemWeight">800</param>
<param name="szWeightUOM">OZ</param>
<param name="mnForeignUnitPrice">44,99</param>
<param name="mnForeignUnitCost">32,1000</param>
<param name="mnDiscountFactor">1</param>
<param name="mnCMLineNo">2</param>
<param name="szCMProgramID">XMLInterop</param>
<param name="szCMVersion">ZJDE0001</param>
<param name="mnSupplierNo">4343</param>
<param name="mnWKOrderTotal">494,89</param>
<param name="mnWKForeignOrderTotal">494,89</param>
<param name="mnWKTotalCost">321</param>
<param name="mnWKForeignTotalCost">321"/>
Sample Sales Order Response

<param name="cWKSourceOfData"/>
<param name="cWKCheckAvailability">1</param>
<param name="mnLastLineNoAssigned">2</param>
<param name="cStockingType">P</param>
<param name="cParentItmMethdOfPriceCalcnn">1</param>
<param name="mnShortItemNo">60003</param>
<param name="szSalesOrderFlags">0</param>
<param name="jdPriceEffectiveDate">2000/03/29</param>
<param name="jdPromisedShip">2000/03/29</param>
<param name="mnQuantityAvailable">-44</param>
<param name="mnItemVolume_ITVL">22,5</param>
<param name="szVolumeUOM_VLUM">FC</param>
<param name="szRevenueBusinessUnit">M30</param>
<param name="mnProcessID">2252</param>
<param name="mnTransactionID">4</param>
</params><errors><error code="030B">Warning: Order Quantity Exceeds what's Available</error></errors>
</callMethod><callMethod name="F4211FSEndDoc" runOnError="no" app="XMLInterop"><returnCode code="0"/>
<params>
<param name="mnCMJobNo" idref="1">3</param>
<param name="mnSalesOrderNo">2623</param>
<param name="szCMComputerID" idref="2">XEENT</param>
<param name="cCMErrorCondition">0</param>
<param name="szOrderType">SO</param>
<param name="szKeyCompany">00200</param>
<param name="mnOrderTotal">494,89</param>
<param name="szWorkstationID">XEENT</param>
<param name="szCMProgramID">XMLInterop</param>
<param name="szCMVersion">ZJDE0001</param>
<param name="mnTimeOfDay">174220</param>
<param name="cCMUseWorkFiles">2</param>
<param name="cCMProcessEdits">1</param>
<param name="mnProcessID">2252</param>
<param name="mnTransactionID">4</param>
</params>
</callMethod><returnParams failureDestination="ERROR.Q" successDestination="SUCCESS.Q">
</returnParams>
</jdeResponse>
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