iWay Software
An Information Builders Company

iWay

iWay Adapter for Oracle AQ for BEA WebLogic User's Guide Version 5 Release 5

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Preface

This documentation describes how to use the iWay Adapter for Oracle AQ for BEA WebLogic. It is intended for system integrators who develop client-server interfaces to various message-oriented middleware applications that have adopted the JMS standard.

How This Manual Is Organized

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

Chapter/Appendix		Contents
1	Introducing the iWay Adapter for Oracle AQ for BEA WebLogic	Introduces the iWay Adapter for Oracle AQ for BEA WebLogic.
2	Creating Connections and Business Services	Describes how to open a connection to Oracle AQ, create XML request and response schemas for Oracle AQ services, and create business services (or Web services).
3	Listening for Events in OracleAQ	Describes how to use the adapter to listen, react, and dispose of event data coming from the Oracle AQ queue
4	Using Web Services Policy-Based Security	Describes how to configure Web services policy-based security.
5	Management and Monitoring	Describes how to configure and use monitoring tools provided by iBSE and JCA to gauge the performance of your run-time environment.
A	Using Application Explorer in BEA WebLogic Workshop	Describes the use of iWay Application Explorer as implemented in BEA WebLogic Workshop.

Documentation Conventions

The following table lists the conventions that apply in this manual and a description of each.

Convention	Description
`THIS TYPEFACE` or `this typeface`	Denotes syntax that you must enter exactly as shown.
`this typeface`	Represents a placeholder (or variable) in syntax for a value that you or the system must supply.
`underscore`	Indicates a default setting.
this typeface	Represents a placeholder (or variable), a cross-reference, or an important term. It may also indicate a button, menu item, or dialog box option you can click or select.
this typeface	Highlights a file name or command.
Key + Key	Indicates keys that you must press simultaneously.
`{ }`	Indicates two or three choices; type one of them, not the braces.
`|`	Separates mutually exclusive choices in syntax. Type one of them, not the symbol.
`...`	Indicates that you can enter a parameter multiple times. Type only the parameter, not the ellipsis points (…).
`.` `.` `.`	Indicates that there are (or could be) intervening or additional commands.

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- Your six-digit site code number (*xxxx.xx*).
- Your software configuration.

The following table lists the information to provide about your software configuration.

	Version-Build Date	**HF/Service Pack**	**Patches**	**OS**	**Java Version**
iWay Product					
Third-party Application Server					
EIS (adapter target)					

Note: For the EIS, ensure you record the application or database name and release level, including minor versions, for example, 4.6.1.

- The exact nature of the error or problem, specified as follows:
  - Steps to reproduce the problem.
  - Problem description (be as specific as possible).
  - Error message(s).

- To best define the problem, provide the following:
  - Screen captures of the error
  - Error output files
  - Trace files and log files
  - Log transaction
  - XML schemas and/or document instances
  - Other input documents (for example, transformations)
  - Configuration files (all are applicable):

    .xch files

    config.xml file

    base.xml file

    repository.xml file

    ibserepo.xml file

    .dic files

    .rules files
  - Environment variable settings:

    `IWAY55`

    `IWAY55OEM`

    `CLASSPATH`

    `JAVA_HOME`

    `ACBDIR`

    `CBDIR (UNIX)`
- Has the process, procedure, or query ever worked in its current form? Has it changed recently? If so, how (provide specific details)? How often does the problem occur?
- Can this problem be reproduced? If so, how? Can it be consistently reproduced?
- Have you tried to reproduce your problem in the simplest form possible?
- Do you have a trace file?
- How is the problem affecting your business? Is it halting development or production?
- Do you just have questions about functionality or documentation?

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Contents

CHAPTER 1

Introducing the iWay Adapter for Oracle AQ for BEA WebLogic

Topics:

- Message Queueing
- Oracle Advanced Queuing
- Deployment Information for the Adapter

TheiWay Adapter for Oracle AQ for BEA WebLogic employs the Java Message Service (JMS) application programming interface (API) as the underlying technology for inter-client communication between distributed applications. JMS provides a common interface that wraps around the underlying message delivery systems of a number of vendors.

Message Queueing

Message queueing is a method by which a process can exchange or pass data using an interface to a system-managed message queue. Messages can vary in length and be assigned different types or usages.

A message queue can be created by one process and used by multiple processes that read and/or write messages to the queue. For example, a server process can read messages from and write messages to a queue created for client processes. The message type can be used to associate a message with a particular client process even though all messages are in the same queue.

An architecture for distributed systems is based on reliable message queueing. Messages are queued asynchronously between applications and systems.

Benefits of a Message Queueing System

The benefits of a message queueing system are:

- Multiple providers can post messages to a queue.
- Multiple message consumers can be attached to a single queue.
- The queueing infrastructure ensures messages are delivered only once.
- Messages can be submitted to a queue even when the message consumer(s) are not running or are unreachable.
- Multiple posters/readers ensure scalability.
- Systems that can make queues persistent provide reliability.
- Since producers and consumers are not interconnected, abstraction is provided (similar to a loosely coupled “pipes and filters” architecture).

Oracle Advanced Queuing

Oracle Advanced Queuing (AQ) is the message queuing function of the Oracle database system. With Oracle AQ, you can perform message queuing operations in a manner similar to that of SQL operations.

The message queuing function of AQ enables asynchronous communication, using queues, between applications and users on Oracle databases. It offers:

- Multiple ways for applications to place a message in a queue.
- Multiple ways for applications to retrieve a message from a queue.
- Ways to distribute messages to appropriate queues.
- Guaranteed delivery of messages, with exception handling (when messages cannot be delivered).

AQ offers ways to prioritize the messages and offers time properties for messages such as expiration and delays. Notifications also are provided for immediate attention.

With AQ, message queuing operations benefit from the reliability, integrity, high availability, security, and scalability of a database. All of the message queuing operations are transactional. After messages are committed, they are guaranteed to be delivered. You can perform multiple message queuing and database operations in the same transaction. A database offers disaster protection for the messages. You also can use the advanced security features of the Oracle database.

The integration of message queuing with a database also offers unique benefits. Message queuing can use the management functions of a database. All the AQ operations are automatically audited, and you can look up the messaging information using an SQL view. You can use these SQL views to extract additional intelligence about the messaging environment.

Message queuing can take advantage of the system type of the Oracle database. Each message can be of an Oracle object type. Queuing brings the structure to the messaging system, which brings benefits such as better querying and content-based subscriptions.

AQ is used extensively in application integration, e-Businesses for online operations, and B2B exchanges.

Deployment Information for the Adapter

The iWay Adapter for Oracle AQ for BEA WebLogic works in conjunction with the following components:

- iWay Application Explorer

with either

- iWay Business Services Engine (iBSE)

or

- iWay Enterprise Connector for J2EE™ Connector Architecture (JCA)

iWay Application Explorer, used to configure connections and create Web services and events, 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 such as BEA WebLogic Server with iWay Application Explorer and the adapters.

Deployment Roadmap

The following table lists the location of information about deploying the iWay Adapter for Oracle AQ for BEA WebLogic in the three iWay operating environments. A description of each environment follows the table.

Deployed Component	For more information, see
iWay Application Explorer	• Chapters 2, 3, and 4, and Appendix A of this guide • *iWay Installation and Configuration for BEA WebLogic* • *iWay Application Explorer (Java Servlet Version) User's Guide*
iWay Business Services Engine (iBSE)	• *iWay Installation and Configuration for BEA WebLogic*

Deployed Component	For more information, see
iWay Enterprise Connector for J2EE Connector Architecture (JCA)	• *iWay Connector for JCA for BEA WebLogic User's Guide* • *iWay Installation and Configuration for BEA WebLogic*

The iWay Business Services Engine (iBSE)

The 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. The 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 promises to solve Enterprise Application Integration (EAI) hurdles that other programming models cannot. It enables programs to communicate with one another using a text-based, but platform and language independent message format called XML (Extensible Markup Language).

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 iBSE includes a preconfigured SOAP listener for incoming SOAP requests.

The iWay Enterprise Connector for J2EE Connector Architecture (JCA)

The iWay Enterprise Connector for J2EE Connector Architecture (JCA) enables developers of JCA-compliant applications to deploy iWay adapters as JCA resources. The connector is supported on J2EE-compliant application servers such as BEA WebLogic Server.

The iWay Connector for JCA is distributed as both a standard Resource Adapter Archive (RAR) for deployment to the application server and as a JAR file for stand-alone applications. Thus, the connector can be employed in systems that are non-compliant, although services such as pooled connections will not be available.

CHAPTER 2

Creating Connections and Business Services

Topics:

- Starting Servlet iWay Application Explorer
- Creating and Managing a Connection
- Creating Schemas for Services
- Understanding iWay Business Services

The iWay Adapter for Oracle AQ for BEA WebLogic uses XML documents to communicate with applications. The format of these XML documents is determined by schemas you generate using iWay Application Explorer. You can also use Application Explorer to create business services (or Web services) for your application.

Starting Servlet iWay Application Explorer

Before you can use iWay Application Explorer, you must start the server where Application Explorer is running.

Procedure How to Start Application Explorer

1. Ensure the server is started where Application Explorer is running.
2. Enter the following URL in your browser window:

   `http://hostname:port/iwae/index.html`

   where:

   hostname

   Is the machine where Application Explorer is installed.

   port

   Is the port number for Application Explorer.

   Application Explorer opens.

   The Available Hosts drop-down list appears in the upper-right corner. Three tabs appear near the top of the Application Explorer screen. From left to right they are:

   - iWay Adapters, where you create and manage connections to your Oracle AQ-enabled application.
   - iWay Events, where you configure event listening for your Oracle AQ-enabled application.
   - iWay Business Services, where you create and view business services.

   The left pane of the window contains an expandable list of adapter nodes (based on the iWay adapters installed), events, or business services, depending on the tab that is selected. The right pane provides the details of the selected adapter, event, or service, and is the work area where you will define and modify adapter functions and services.

   The Available Hosts drop-down list specifies to which Servlet iBSE instance or JCA instance you connect.

   For more information on accessing different instances of a JCA installation or a Servlet iBSE, see the *iWay 5.5 Installation and Configuration* documentation.

   You are now ready to define a new target to Oracle AQ.

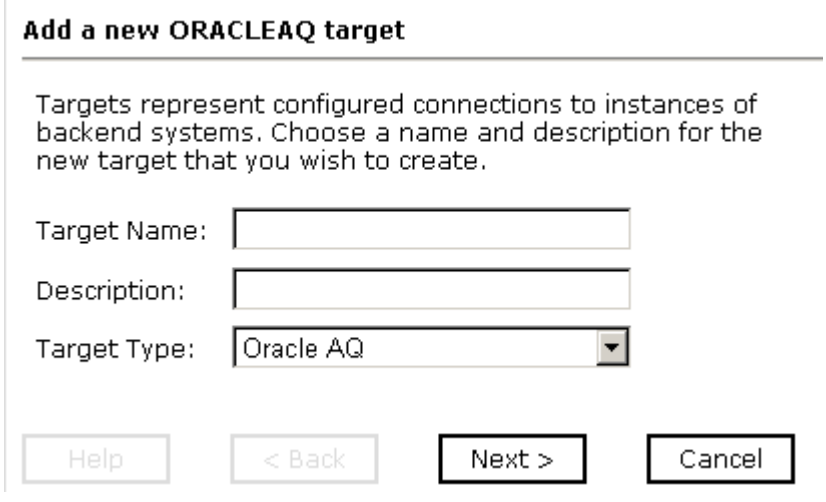
Creating and Managing a Connection

To access an adapter, you must define a target that connects to the adapter. After the defined target is created, it automatically is saved. You must establish a connection to the defined target every time you start Application Explorer or after disconnecting.

Procedure **How to Define a New Target**

1. In the left pane of Application Explorer, expand the *iWay Adapters* node.
2. Click the *OracleAQ* node.
3. In the right pane, move the pointer over *Operations* and select *Define a new target*.

   The Add a new ORACLEAQ target dialog box opens in the right pane containing the Target Name, Description, and Target Type fields.



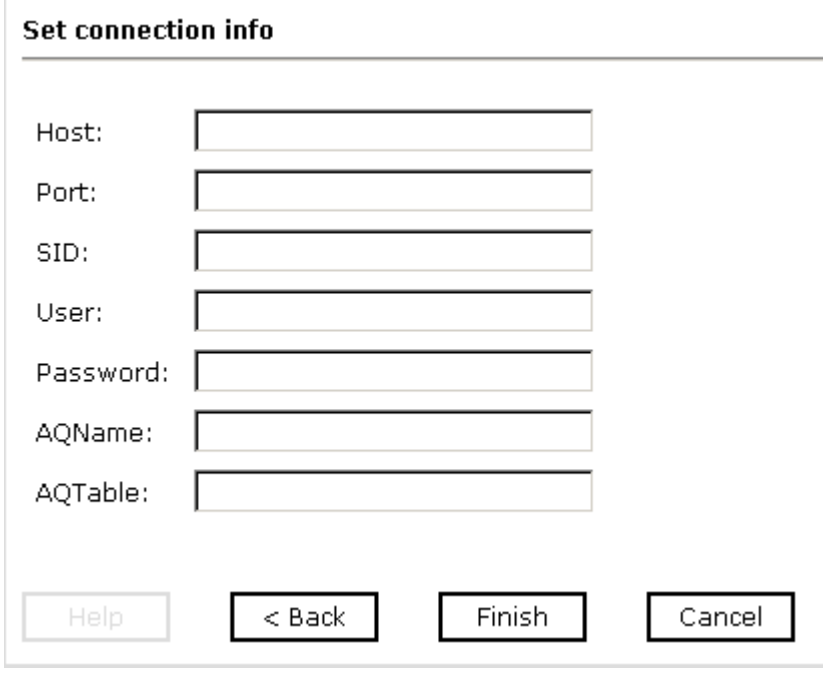
   a. In the Target Name field, type a descriptive name for the target, for example, OracleAQ.

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

   c. In the Target Type field, specify Oracle AQ.

4. Click *Next*.

The Set connection info dialog box opens in the right pane containing parameters and three action buttons (Back, Finish, and Cancel).



a. Specify the parameters in the Set connection info dialog box.

The following table lists and describes the parameters for connecting to your Oracle AQ target.

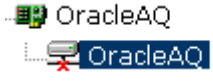
Parameter	Description
Host	Name of the server on which the Oracle database instance resides.
Port	Port number on which the database is listening.
SID	Unique name of the database service, chosen by the database administrator or the person who installed Oracle.
User	Oracle database user ID to access the Oracle database underlying the Oracle AQ system. The user ID must have database access to the interface tables being accessed.
Password	Password associated with the specified user ID.
AQName	Queue that enables asynchronous communication between your application and the Oracle database.
AQTable	Table in the Queue being queried.

5. Click *Finish*.

   In the left pane, the target name appears under the node where you created the new target. You have finished creating the new target.

Procedure How to Connect to a Defined Target

1. In the left pane of Application Explorer, expand the *iWay Adapters* node.
2. Expand the *OracleAQ* node and select the defined target (for example, OracleAQ) to which you want to connect.

3. In the right pane, move the pointer over *Operations* and select *Connect*.

   The connection dialog box opens displaying the connection information.

4. Verify your connection parameters and then click *OK*.

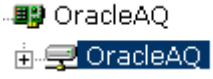
   If the parameters are correct and the Oracle AQ component is available, the node under the Oracle AQ node displays a plus sign indicating that you are connected to the defined target. Otherwise, an error message appears in the right pane.

Disconnecting From a Defined Target

Although you can maintain multiple open connections, iWay Software recommends disconnecting from targets that are not in use.

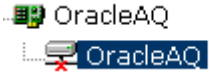
Procedure How to Disconnect From a Defined Target

1. In the left pane of Application Explorer, expand the *iWay Adapters* node.
2. Expand the *OracleAQ* node and select the defined target (for example, Oracle AQ) from which you want to disconnect.



3. In the right pane, move the pointer over *Operations* and select *Disconnect*.

   Disconnecting from the application closes the connection, but the connection still appears in the left pane so that you can re-open it. The connection node now has an x icon, indicating that it is closed, as shown in the following figure:



   When you want to re-establish a connection, Connect is available from the pop-up menu.

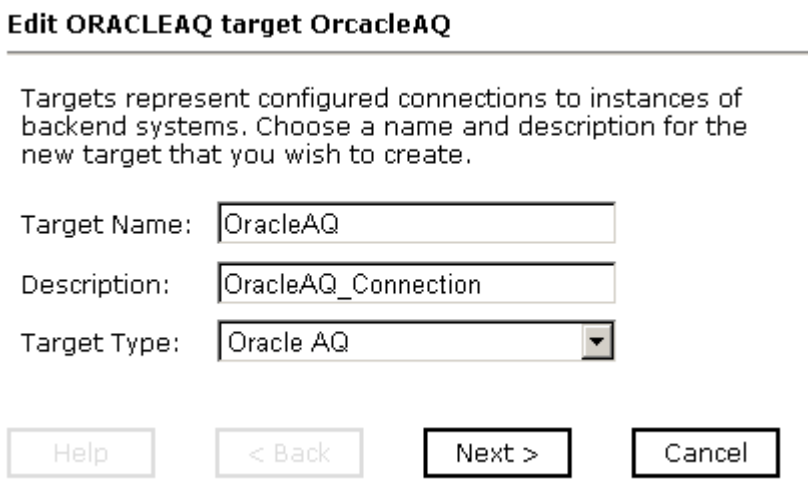
Editing a Defined Target

After you create a defined target using Application Explorer, you can edit any information that you provided during the creation process.

Procedure How to Edit a Defined Target

1. In the left pane of Application Explorer, expand the *iWay Adapters* node.
2. Expand the *OracleAQ* node and select the defined target (for example, Oracle AQ) you want to edit.
3. In the right pane, move the pointer over *Operations* and select *Edit*.

The Edit dialog box opens in the right pane containing three fields (Target Name, Description, and Target Type) and two action buttons (Next and Cancel).



4. Modify the target information as required and then click *Next*.

   The Set connection info dialog box opens in the right pane containing the connection parameters and three action buttons (Back, Finish, and Cancel).

5. Modify the connection information as required and then click *Finish*.

Deleting a Defined Target

You can delete a target, rather than just disconnecting and closing it. When you delete the target, the node disappears from the list of Oracle AQ targets in the left pane of the explorer.

Procedure How to Delete a Defined Target

1. In the left pane of Application Explorer, expand the *iWay Adapters* node.
2. Expand the *OracleAQ* node to view the list of connections.
3. Click the defined target you want to delete.
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*.

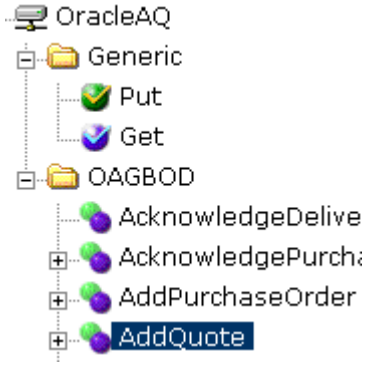
   The node disappears from the list of available connections.

Creating Schemas for Services

Application Explorer creates schemas for services that interact directly with your target Oracle AQ system. Each service the adapter uses must be defined by an XML schema. In order to use services, you must generate XML schemas for service requests and service responses. These schemas are dependent upon the application listening for the document being posted by the service.

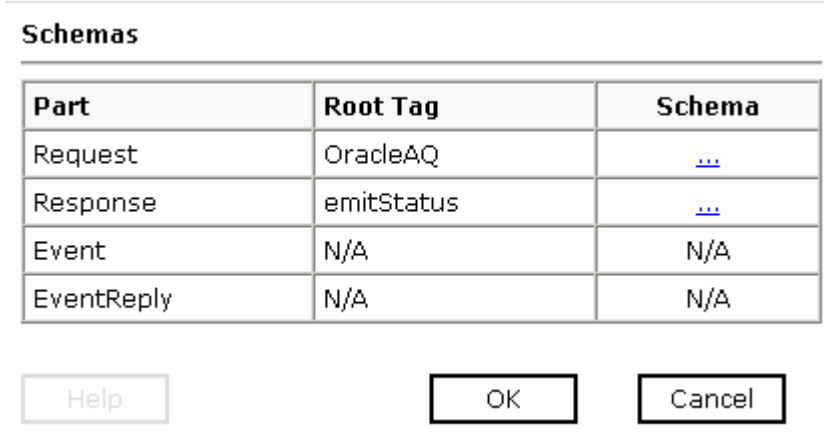
Procedure How to Create Schemas for Services

1. If you are not connected to an Oracle AQ target, connect to one, as described in *How to Connect to a Defined Target* on page 2-5.
2. Click the service for which you want to generate the schemas (for example, AddQuote). Note that the adapter supplies a generic queue where you can put services, and a predefined queue (OAGBOD).



3. In the right pane, move the pointer over *Operations* and select *Generate Schema*.

   A table that lists the created schemas appears in the right pane.



   a. To view the request schema, click the ellipsis symbol that is located in the third column of the Request row.

   b. To view the response schema, click the ellipsis symbol that is located in the third column of the Response row.

Reference Schema Location

Application Explorer stores the schemas it creates in subdirectories under the iWay home directory of the machine where it is installed. The exact location of the schemas differs depending on whether you deploy Application Explorer with an iBSE or a JCA configuration.

- When using the adapter with an iBSE configuration, the schemas are stored under a \schemas subdirectory of the iWay home directory, for example,

  `C:\Program Files\iway55\bea\ibse\wsdl\schemas\service\OracleAQ\OracleAQ`

  where:

  `OracleAQ`

  Is the name of the connection to the Oracle AQ system as defined in Application Explorer. Under this directory, Application Explorer creates subdirectories containing schemas.

- When using the adapter with a JCA configuration, the schemas are stored under a \schemas subdirectory of the iWay home directory, for example,

  ```
  C:\Program Files\iWay55\config\base\schemas\OracleAQ\OracleAQ
  ```

  where:

  OracleAQ

  Is the name of the connection to the Oracle AQ system as defined in Application Explorer. Application Explorer stores the schemas in this directory.

Understanding iWay Business Services

Application Explorer provides Web developers with a simple, consistent mechanism for extending the capabilities of the adapter. The iWay Business Services Engine exposes functionality as Web services. It serves as a gateway to heterogeneous back-end applications and databases.

A Web service is a self-contained, modularized function that can be published and accessed across a network using open standards. It is the implementation of an interface by a component and is an executable entity. For the caller or sender, a Web service can be considered as a "black box" that may require input and delivers a result. A Web service integrates within an enterprise as well as across enterprises on any communication technology stack, whether asynchronous or synchronous, in any format.

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*.

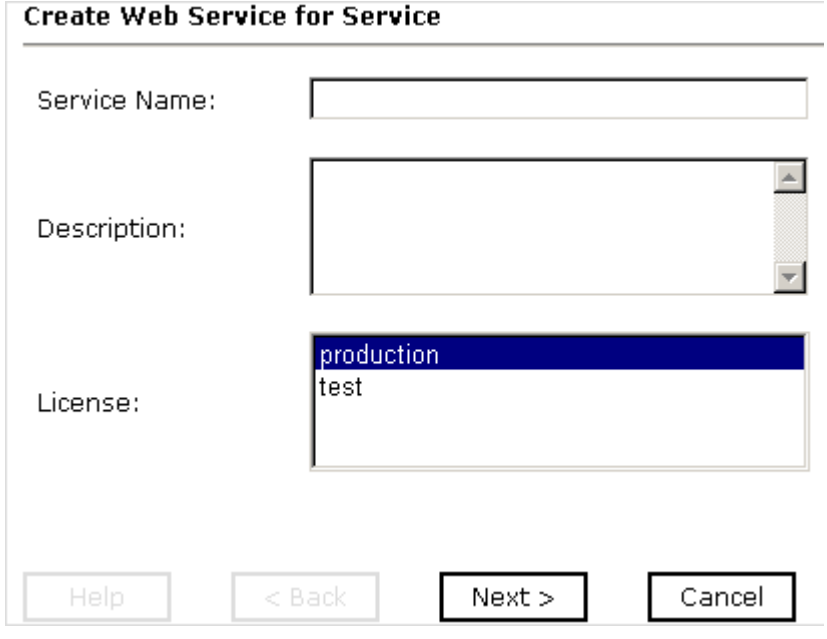
Procedure How to Generate a Business Service

1. If you are not connected to a defined target, connect to one, as described in *How to Connect to a Defined Target* on page 2-5.
2. Click the node containing the service for which you want to create a business service.
3. In the right pane, move the pointer over *Operations* and select *Create iWay Business Service*.

   The Create Web Service information appears in the right pane.

4. Choose whether to create a new service or use an existing service.

   - If you select *Use an existing service*, a drop-down list appears from which you must select the service. Select an existing service and proceed to step 5.
   - If you select *Create a new service*, the Create Web Service dialog box opens in the right pane:



   If you are creating a new service, type the following parameters:

   a. In the Service Name field, type a name to identify the Web service (under the Service node in the left pane of the iWay Business Services tab).

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

   c. In the License field, select the license(s) with which you want to associate this business service. To select more than one, hold down the *Ctrl* key and click the licenses.

5. Click *Next*.

   Another dialog box with the Method Name and Description fields opens.

   a. In the Method Name field, type a name to specify the name of the SQL statement or stored procedure to be added to the business service.

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

6. 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 a business service is created, 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 link in the right pane.
5. In the right pane, click the named business services link.

   The test option appears in the right pane. This pane provides a text field in which to paste the XML input or browse to a file that can be uploaded. Below the text field is the browse field and three action buttons.
6. Provide the appropriate XML input.
7. Click *Invoke*.

   The result appears 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. If you are not already in the iWay Business Services tab, click the tab to access business services.
2. In the left pane, expand the list of services to display the Web service for which you want to generate WSDL.
3. Click the Web service.

   The link for the service appears in the right pane.
4. Right-click the *Service Description* link and choose *Save Target As*.
5. Choose a location for the file and specify .wsdl for the extension.

   Note: The file extension must be .wsdl.
6. Click *Save*.

Credential Mapping

For each SOAP request that is received, iBSE checks to see if a user name and password is included in the SOAP header. If a user name and password is available, iBSE acquires this information and replaces the values retrieved from the repository when pushing the request to the iWay Adapter.

CHAPTER 3

Listening for Events in Oracle AQ

Topics:

- Understanding iWay Event Functionality
- Creating, Editing, or Deleting an Event Port
- Creating, Editing, or Deleting an Event Channel

Application Explorer, deployed to a BEA WebLogic Server, enables you to listen for events posted to a Oracle AQ queue. This section describes how to use the iWay Adapter for Oracle AQ for BEA WebLogic to listen, react, and dispose of event data coming from the Oracle AQ queue.

Understanding iWay Event Functionality

Events are generated as a result of a document arriving on an Oracle AQ queue. For example, an update to an application (for example, Oracle applications) results in a document being posted to an Oracle AQ queue. If your integration application must perform an act upon this event, your integration application is the consumer of the 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 an adapter with a particular disposition. A disposition defines the protocol and resulting location of the event data. The port defines the end point of the event consumption. For more information, see *Creating, Editing, or Deleting an Event Port* on page 3-3.

- Channel

  A channel represents configured connections to particular instances of back-end systems or protocols. A channel binds one or more event ports to a particular listener managed by an adapter. For more information, see *Creating, Editing, or Deleting an Event Channel* on page 3-16.

Creating, Editing, or Deleting an Event Port

The following topics describe how to create, edit, or delete an event port using Application Explorer.

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 tab for various dispositions. You can switch between an iBSE and a JCA deployment by using 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

Procedure How to Create an Event Port for File

1. Click the *iWay Events* tab.

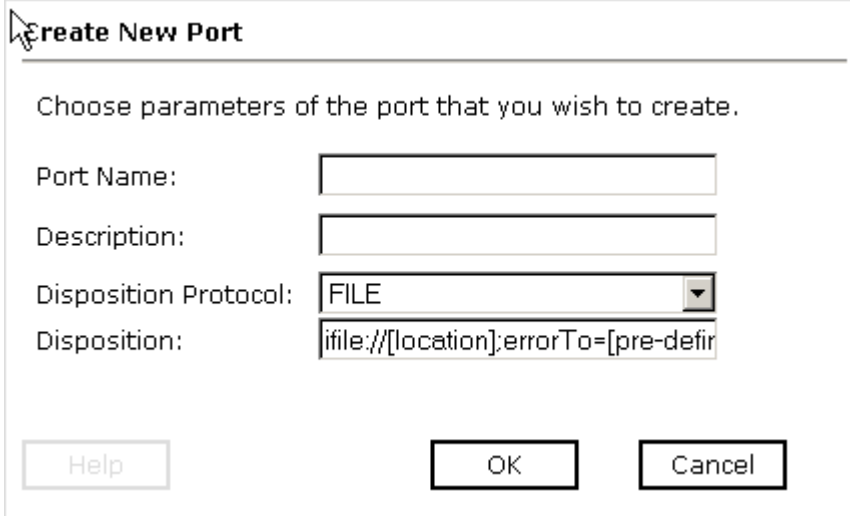
   The iWay Event Adapters window opens.

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

3. Select the *ports* node.

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

   The Create New Port dialog box opens in the right pane containing fields to enter a name, description, disposition protocol, and disposition.



   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]
      ```

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

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

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

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, Editing, or Deleting an Event Channel* on page 3-16.

Procedure How to Create an Event Port for iBSE

1. Click the *iWay Events* tab.

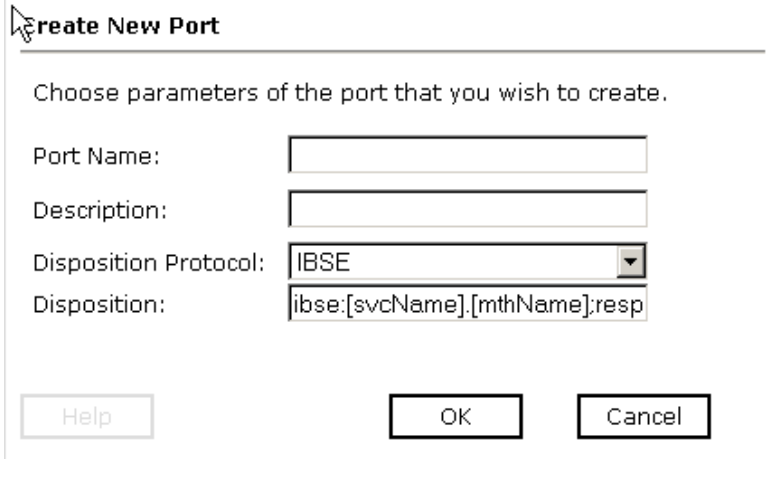
   The iWay Event Adapters window opens.

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

3. Select the *ports* node.

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

   The Create New Port dialog box opens in the right pane containing fields to enter a name, description, disposition protocol, and disposition.



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 defines the parameters for the iBSE disposition.

Parameter	Description
svcName	Name of the service created with iBSE.
mthName	Name of the method created for the Web service.
responseTo	Location where responses to the Web service are posted. A predefined port name or another full URL. Optional.
errorTo	Location where error documents are sent. A predefined port name or another full URL. Optional.

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, Editing, or Deleting an Event Channel* on page 3-16.

Procedure How to Create an Event Port for MSMQ

1. Click the *iWay Events* tab.

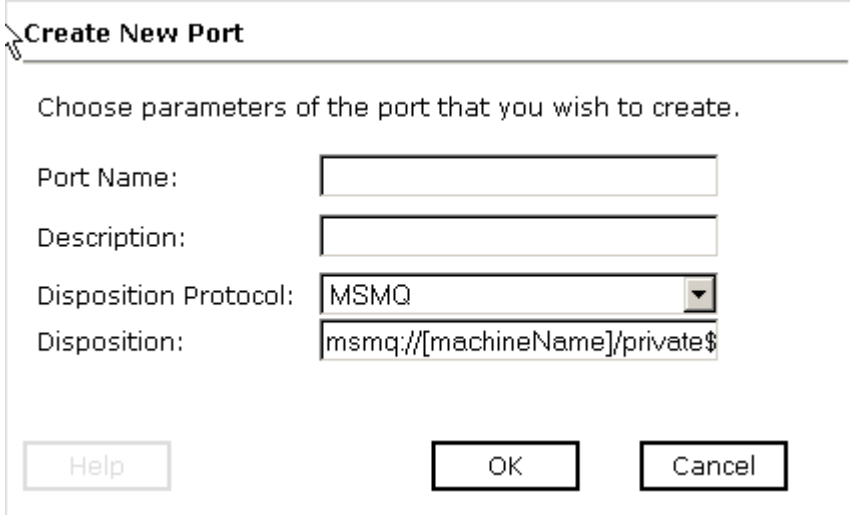
The iWay Event Adapters window opens.

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

3. Select the *ports* node.

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

   The Create New Port dialog box opens in the right pane containing fields to enter a name, description, disposition protocol, and disposition.



   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:/[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 lists and defines the parameters for the MSMQ disposition.

Parameter	Description
machineName	Machine name where the Microsoft Queuing system is running.
qName	Name of the private queue where messages are placed.
errorTo	Predefined port name or another disposition URL to which error logs are sent. Optional.

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, Editing, or Deleting an Event Channel* on page 3-16.

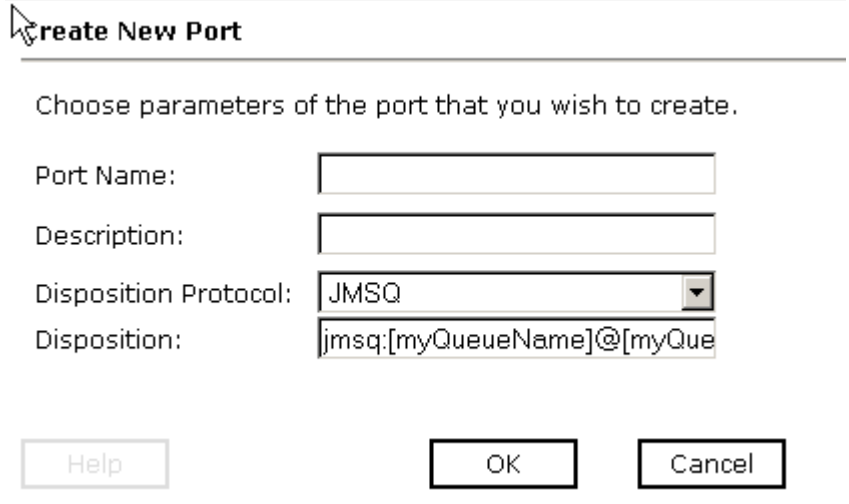
Procedure How to Create an Event Port for JMSQ

1. Click the *iWay Events* tab.

   The iWay Event Adapters window opens.

2. In the left pane, expand the *OracleAQ* node.
3. Select the *ports* node.
4. In the right pane, move the pointer over *Operations* and select *Add a new port*.

   The Create New Port dialog box opens in the right pane containing fields to enter a name, description, disposition protocol, and disposition.



   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:

```
jmsq:[myQueueName]@[myQueueFac];jndiurl=[myurl];jndifactory=[myfac
tory];user=[user];password=[xxx];errorTo=[pre-defined port name or
another disposition url]
```

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

```
jms:jmsqueue@jmsfactory;jndiurl=;jndifactory=;
```

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

Parameter	Description
myQueueName or jmsqueue	JNDI name of a queue to which events are emitted.
myQueueFac or jmsfactory	Resource that contains information about the JMS Server. The WebLogic connection factory is: `javax.jms.QueueConnectionFactory`

jndiurl	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.

Parameter	Description
errorTo	Predefined port name or another disposition URL to which error logs are sent. Optional.

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, Editing, or Deleting an Event Channel* on page 3-16.

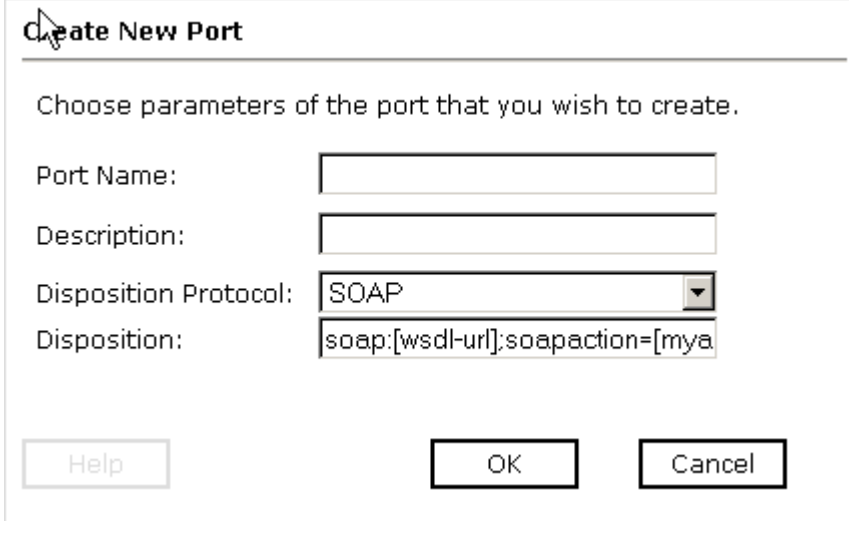
Procedure How to Create a Port for SOAP

1. Click the *iWay Events* tab.

   The iWay Event Adapters window opens.

2. In the left pane, expand the *OracleAQ* node.
3. Select the *ports* node.
4. In the right pane, move the pointer over *Operations* and select *Add a new port*.

   The Create New Port dialog box opens in the right pane containing fields to enter a name, description, disposition protocol, and disposition.



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

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

c. In the Disposition field, type a SOAP destination using the following format:

```
soap:[wsdl-url];soapaction=[myaction];responseTo=[pre-defined port
name or another disposition URL];errorTo=[pre-defined port name or
another disposition url]
```

The following table lists and defines the parameters for the SOAP disposition.

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.

soapaction	The method that will be called by the disposition. For example:
	`ORACLEAQ.mt200Request@test@@`
	where
	`ORACLEAQ`
	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.

responseTo	Predefined port name or another disposition URL to which response documents are sent. Optional.

Parameter	Description
errorTo	Predefined port name or another disposition URL to which error logs are sent. Optional.

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, or Deleting an Event Channel* on page 3-16.

Procedure How to Create an Event Port for HTTP

1. Click the *iWay Events* tab.

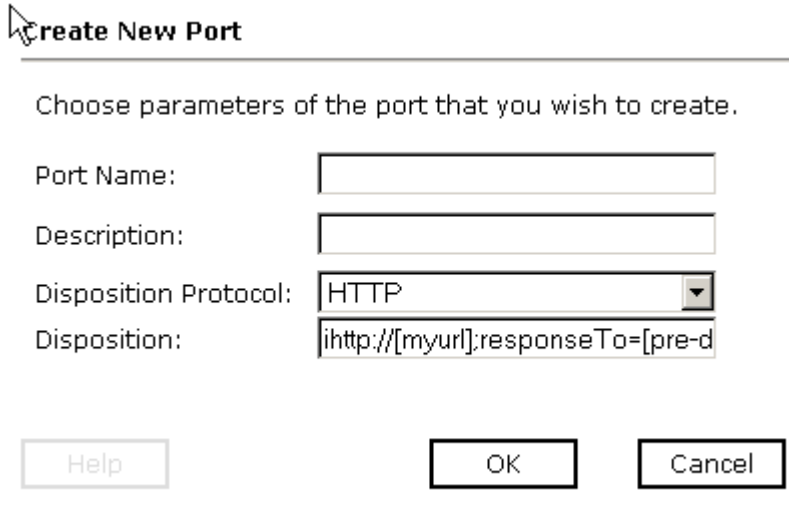
   The iWay Event Adapters window opens.

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

3. Select the *ports* node.

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

   The Create New Port dialog box opens in the right pane containing fields to enter a name, description, disposition protocol, and disposition.



   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 defines the parameters for the HTTP disposition when using an **iBSE** deployment.

Parameter	Description
myurl	URL target for the post operation, for example, `http://myhost:1234/docroot`
responseTo	Predefined port name or another disposition URL to which response documents are sent. Optional.

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

Parameter	Description
host:port	Combination of the name of the host on which BEA WebLogic Server resides and the port on which the server is listening for the post operation.
uri	Universal resource identifier that completes the URL specification.

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, Editing, or Deleting an Event Channel* on page 3-16.

Procedure How to Create an Event Port for MQSeries

1. Click the *iWay Events* tab.

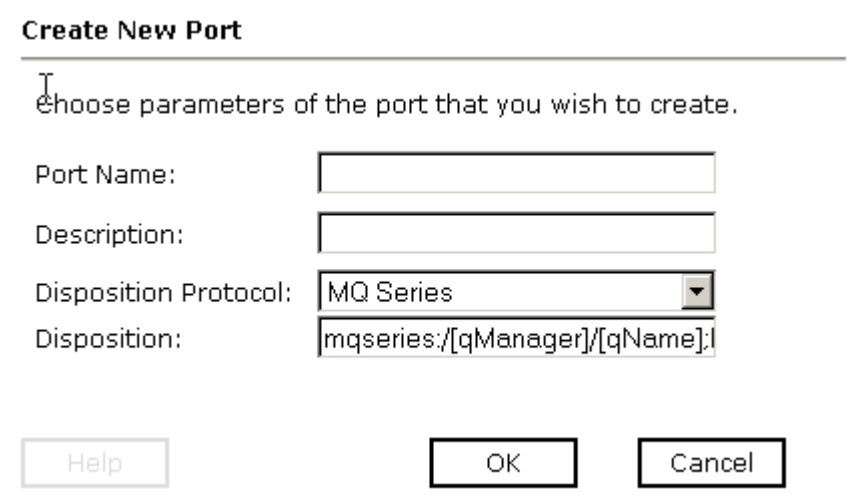
   The iWay Event Adapters window opens.

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

3. Select the *ports* node.

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

   The Create New Port dialog box opens in the right pane containing fields to enter a name, description, disposition protocol, and disposition.



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

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

   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=[channnelname];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 defines the parameters for the MQSeries disposition.

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

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, Editing, or Deleting an Event Channel* on page 3-16.

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. In the left pane, 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, Editing, or Deleting an Event Channel

The following topics describe how to create, edit, or delete a channel for your iWay Event. All defined event ports must be associated with a channel.

Creating a Channel

The following procedure describes how to create a channel using Application Explorer.

Procedure How to Create a Channel

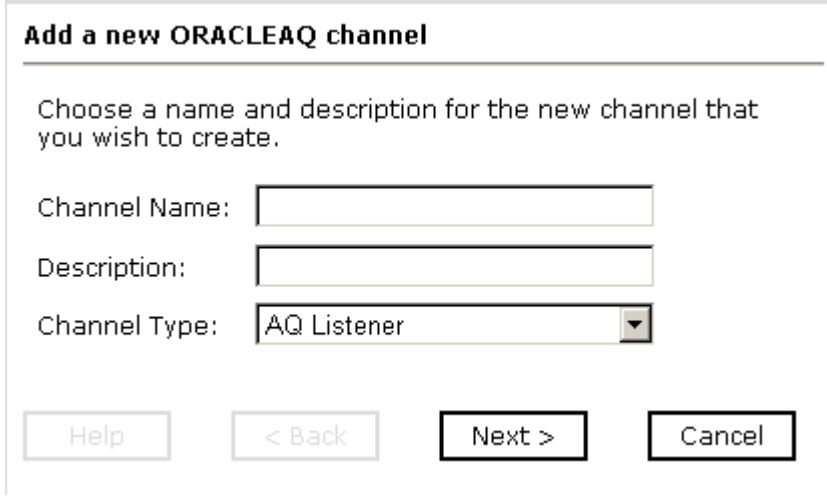
1. Click the *iWay Events* tab.

   The iWay Event Adapters window opens. The iWay Adapters that appear in the left pane support events.
2. In the left pane, expand the *OracleAQ* node.

   The ports and channels nodes appear in the left pane.
3. Select the *channels* node.

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

The Add a new ORACLEAQ channel dialog box opens in the right pane containing fields to enter a name, description, and channel type.



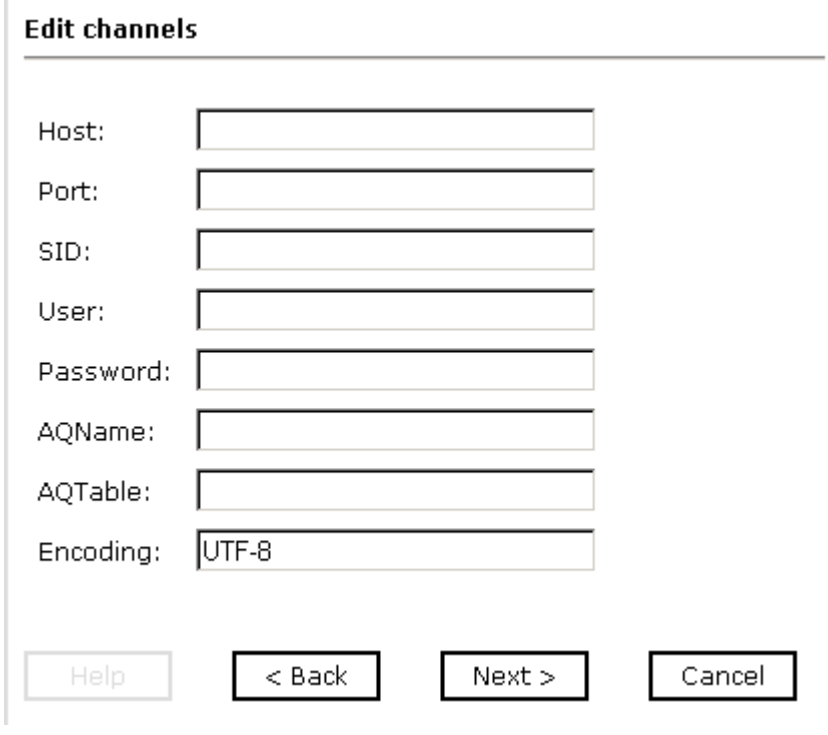
a. In the Channel Name field, type a descriptive name for the channel, for example, NewChannel.

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

c. In the Channel Type field, specify AQ Listener.

5. Click *Next*.

The Edit Channels dialog box opens in the right pane containing parameters and three action buttons (Back, Finish, and Cancel).



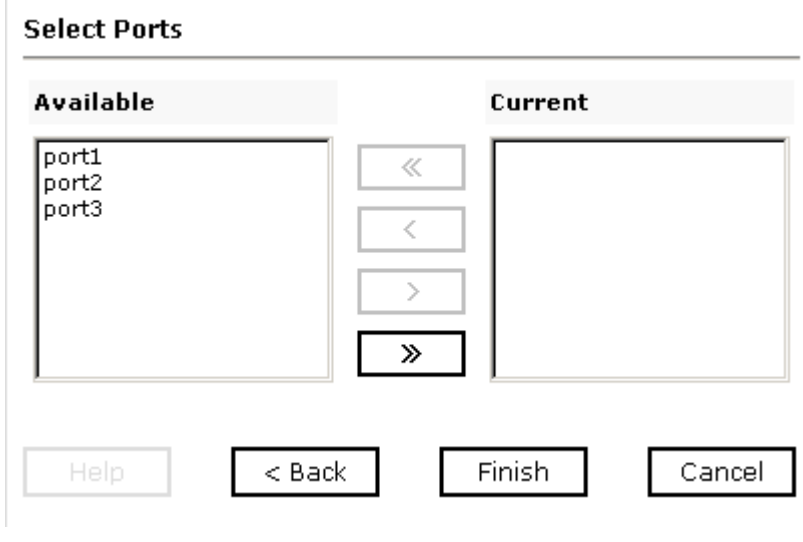
a. Specify the parameters in the Edit channels dialog box.

The following table lists and describes the parameters for creating an Oracle AQ event.

Parameter	Description
Host	Name of the server on which the Oracle database instance resides.
Port	Port number on which the database is listening.
SID	Unique name of the database service, chosen by the database administrator or the person who installed Oracle.
User	Oracle database user ID to access the Oracle database underlying the Oracle AQ system. The user ID must have database access to the interface tables being accessed.
Password	Password associated with the specified user ID.
AQName	Queue that enables asynchronous communication between your application and the Oracle database.
AQTable	Table in the Queue being queried.
Encoding	Code representing data (for example, UTF-8).

6. Click *Next*.

The Select Ports dialog box opens in the right pane containing lists for available and current ports and buttons to enable you to move ports from one list to the other:



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.

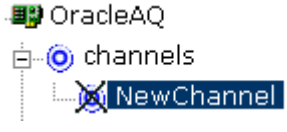
b. Click the single right (>) arrow button to transfer the selected port(s) to the list of current ports. To transfer all event ports, click the double right (>>) arrow button.

7. Click *Finish*.

Summary information appears in the right pane:

The summary information provides the channel description, channel status, and current ports. All the information is associated with the channel you created.

The channel also appears under the channels node in the left pane:



An X over the icon 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 *iWay Events* node.

2. Expand the *OracleAQ* 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*.

The channel becomes active and the X over the icon disappears:

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 *iWay Events* node.
2. Expand the *OracleAQ* 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 *iWay Events* node.
2. Expand the *OracleAQ* 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*.

   A confirmation dialog box opens.
5. To delete the channel you selected, click *OK*.

   The channel disappears from the list in the left pane.

CHAPTER 4

Using Web Services Policy-Based Security

Topics:

- Web Services Policy-Based Security
- Configuring Web Services Policy-Based Security

iWay Servlet Application Explorer provides a security feature called Web services policy-based security. The following topics describe how this feature works and how to configure it.

Web Services Policy-Based Security

Web services provide a layer of abstraction between the back-end business logic they invoke and the user or application running the Web 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 Web service.

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

A policy is a set of privileges dealing with the execution of an iWay Business Service (iBS) that can be applied to an existing or new iBS. When you set specific rights or privileges inside a policy, you do not have to recreate privileges for every iBS that has security concerns in common with other iWay Business Services. Instead, you can use one policy for many iWay Business Services.

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

The iBS administrator creates an "instance" of a policy type, names it, associates individual users and/or groups (a collection of users), and then applies that policy to one or more iWay 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 that specific iBS. The policy type that is supported is Resource Execution, which 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, anybody can execute the iBS, until the Resource Execution policy is associated to the iBS. At that time, only those granted execution permission, or users who are not part of a group that was denied execution permissions, have access to the iBS.

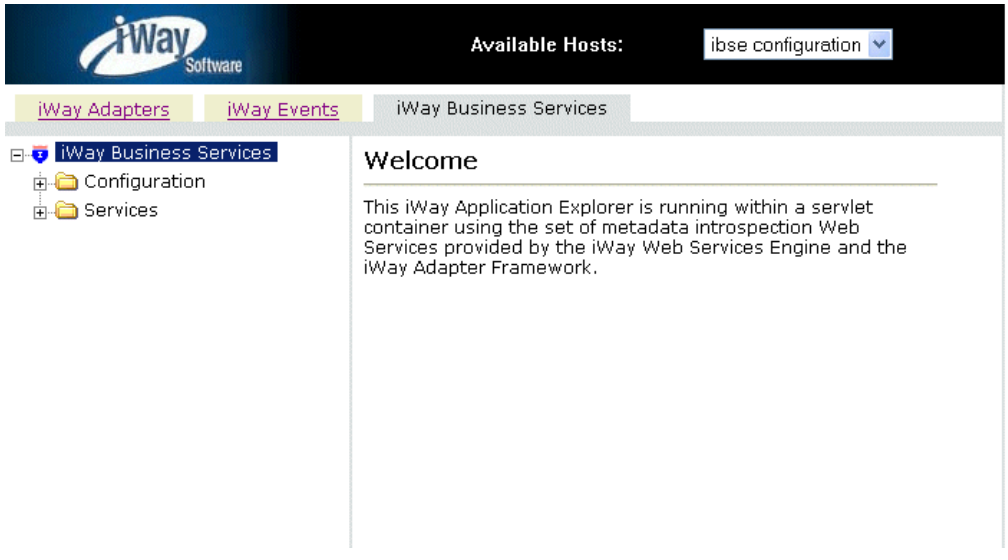
Configuring Web Services Policy-Based Security

The following procedure describes how to configure iBSE policy-based security.

Procedure How to Create and Associate a User With a Policy

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 iWay Servlet Application Explorer.

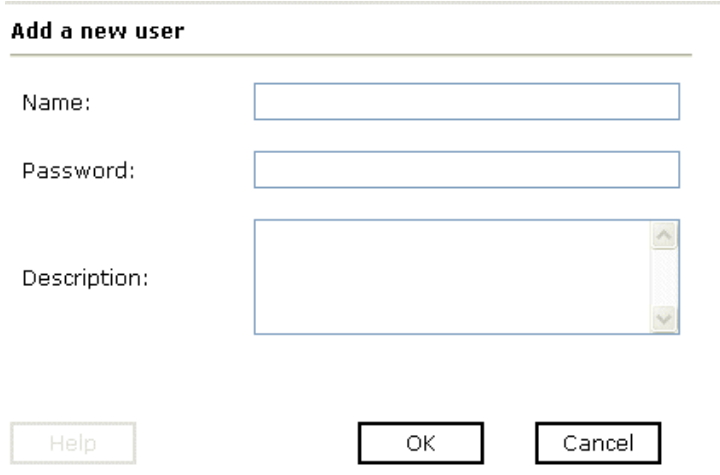
1. Open *iWay Servlet Application Explorer*.



   a. Select the *iWay 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 Add a new user dialog box opens in the right pane.



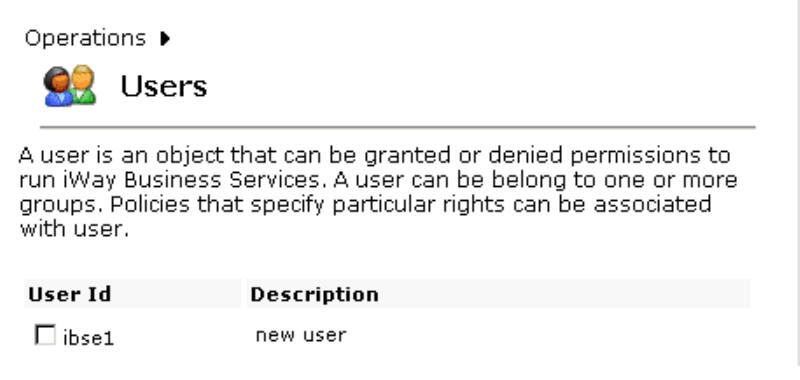
   a. In the Name field, type a user ID.

   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 new user is added to the configuration.

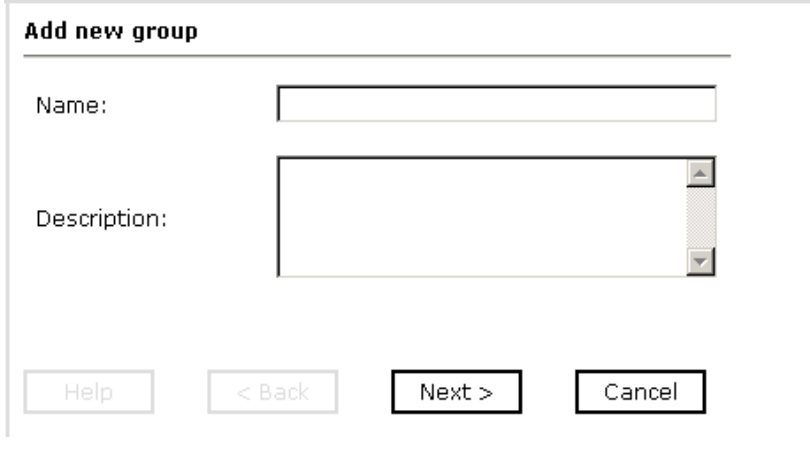


Procedure How to Create a Group to Use With a Policy

To create a group to use with a policy:

1. Open *iWay Servlet Application Explorer*.
   a. Select the *iWay 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*.

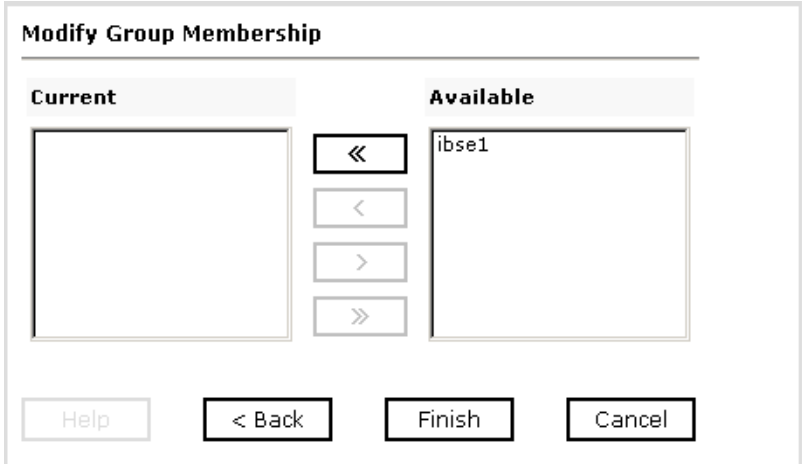
   The Add new group dialog box opens.



   a. In the Name field, type a a name for the group.
   b. In the Description field, type a description for the group (optional).

3. Click *Next*.

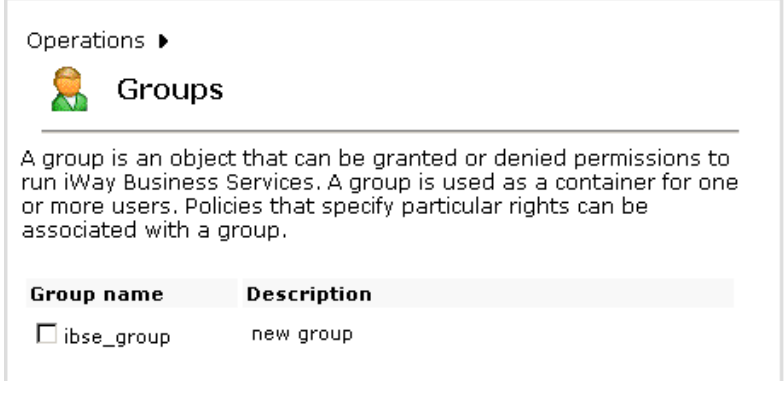
The Modify Group Membership dialog box opens.



You can either highlight a single user in the list of available users and add it 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 to the configuration.

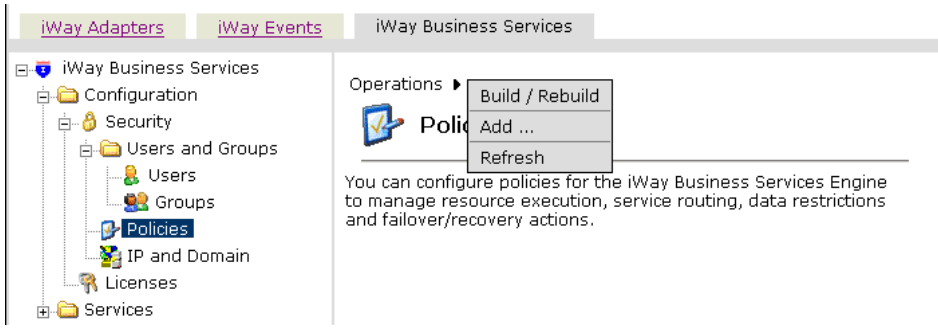


Procedure How to Create an Execution Policy

An execution policy governs who can execute the iBS to which the policy is applied.

To create a group to use with a policy:

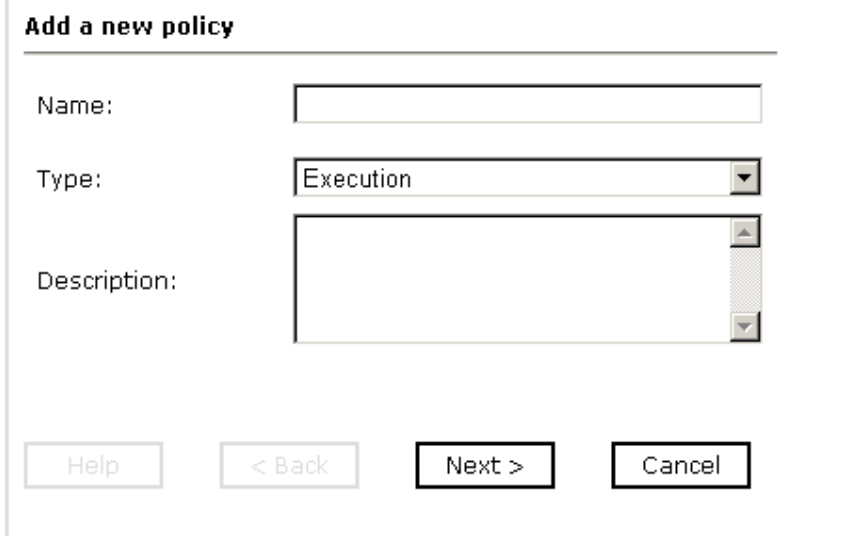
1. Open *iWay Servlet Application Explorer.*
   a. Select the *iWay Business Services* tab.
   b. Expand the *Configuration* node.



   c. Select *Policies*.

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

   The Add a new policy dialog box opens.



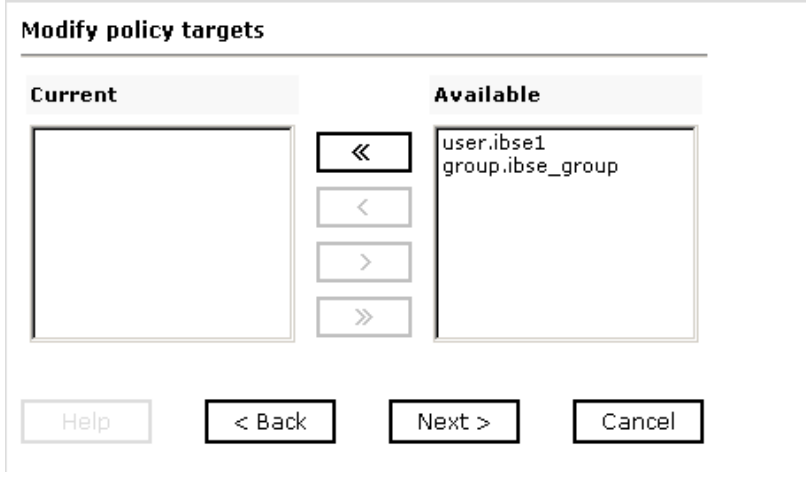
a. In the Name field, type a a name for the policy.

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 Modify policy targets dialog box opens.

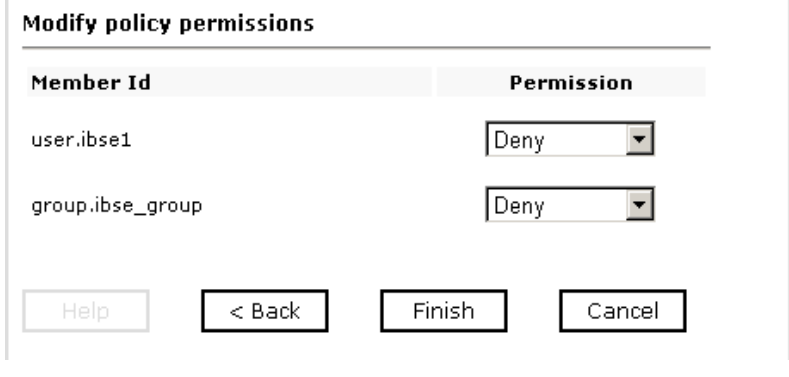


4. Select a minimum of one user or group from the Available pane.

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*.

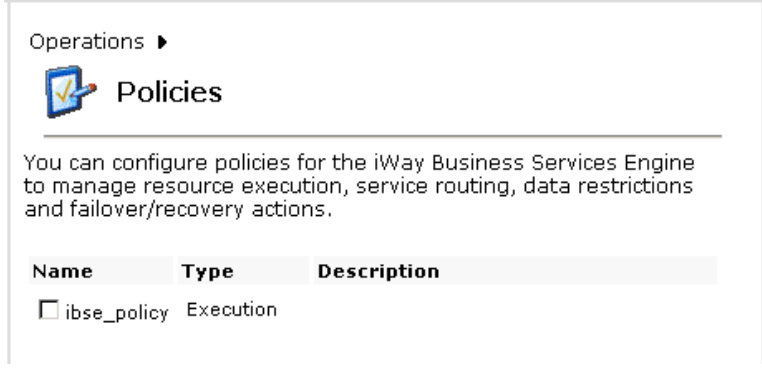
The Modify policy permissions dialog box opens.



You select whether users or groups may execute the iBS.

6. From the Permission drop-down lists, select *Grant* to permit execution or *Deny* to restrict execution.
7. Click *Finish*.

   The following pane summarizes your configuration.

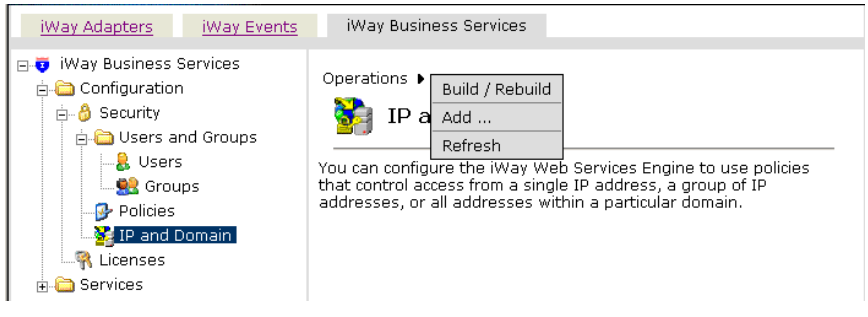


Configuring the IP and Domain Restrictions Policy Type

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 individual Web services. You need not create a policy, however, you must enable the Security Policy option in iWay Servlet Application Explorer.

Procedure How to Configure IP and Domain Restrictions

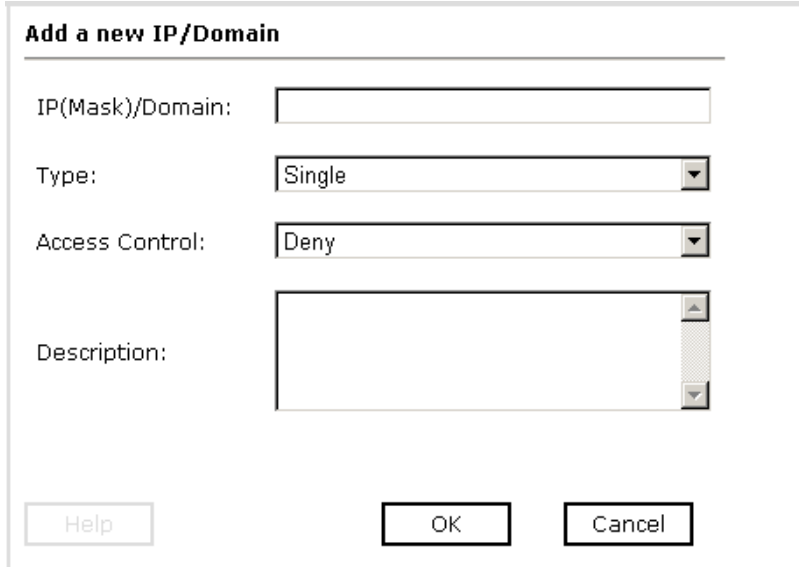
1. Open *iWay Servlet Application Explorer.*
   a. Select the *iWay Business Services* tab.
   b. Expand the *Configuration* node.
   c. Expand the *Security* node.



   d. Select *IP and Domain*.

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

The Add a new IP/Domain dialog box opens.



a. 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.

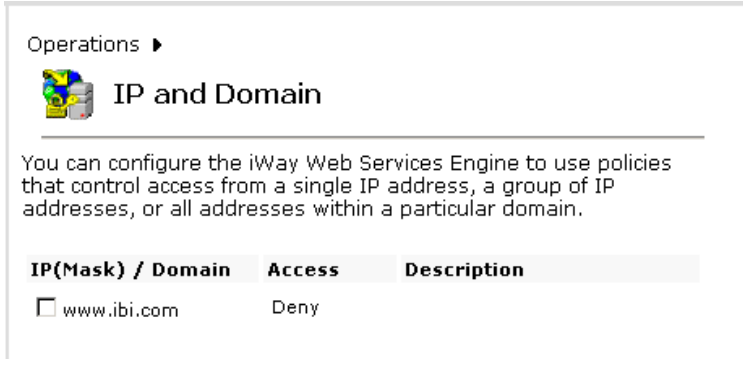
If you select Group (of Computers), you must provide the IP address and subnet mask for the computer group.

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

b. From the Type drop-down list, select the type of restriction.

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 pane summarizes your configuration.



CHAPTER 5

Management and Monitoring

Topics:

- Managing and Monitoring Services and Events Using iBSE
- Managing and Monitoring Services and Events Using iWay JCA
- Setting Engine Log Levels
- Configuring Connection Pool Sizes

Once you have created services and events using iWay Application Explorer, you can use managing and monitoring tools provided by iBSE and JCA to gauge the performance of your run-time environment. The following section describe how to configure and use these features.

Managing and Monitoring Services and Events Using iBSE

iBSE provides a console to manage and monitor services and events currently in use and 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 Access the Monitoring Console

To access the monitoring console:

1. Ensure that BEA WebLogic Server is started.
2. Enter the following URL in your Web browser:

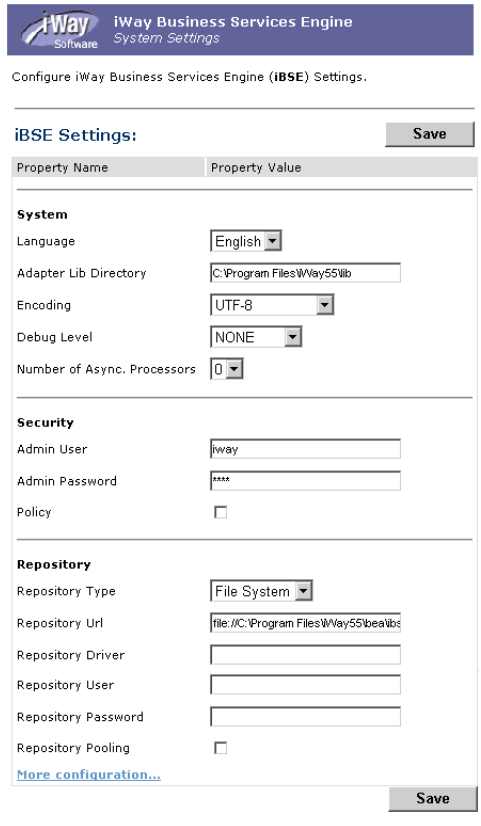
   `http://localhost:7001/ibse/IBSEConfig`

   where:

   localhost

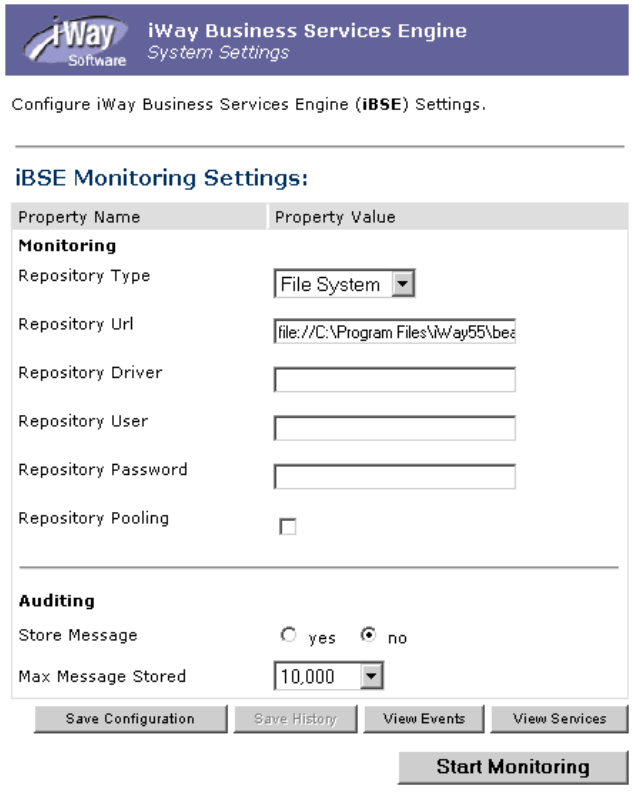
   Is where your application server is running.

The iBSE Settings page opens:



3. Scroll to the bottom of the page and click *More configuration*.

The iBSE Monitoring Settings page opens:



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

`http://localhost:7001/ibse/IBSEStatus`

where:

localhost

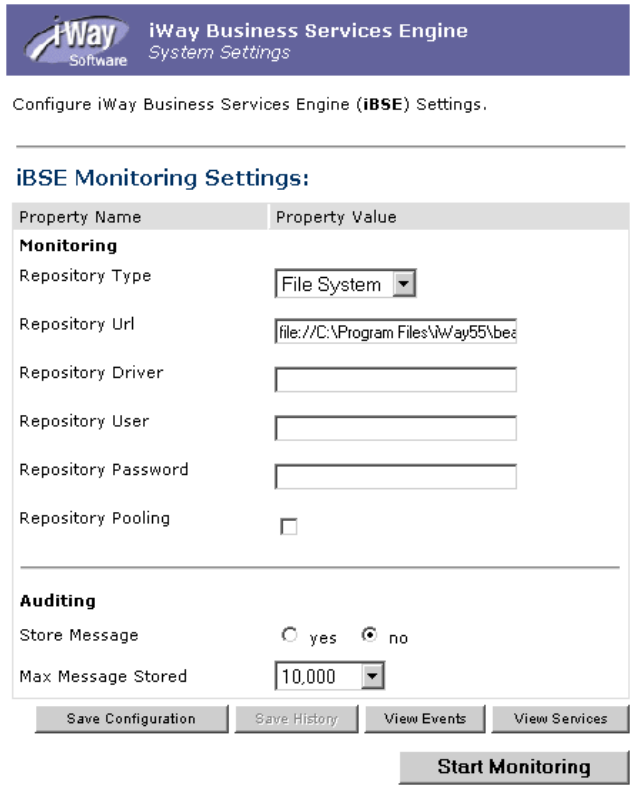
Is where your application server is running.

Procedure How to Configure Monitoring Settings

To configure monitoring settings:

1. Ensure that BEA WebLogic Server is started.
2. Access the monitoring console.

The iBSE Monitoring Settings page opens:



3. Perform the following steps in the Monitoring section:

   a. Select the type of repository you are using from the Repository Type drop-down list.

   b. Enter a JDBC URL to connect to the database in the Repository URL field.

   c. Enter a JDBC Class to connect to the database in the Repository Driver field.

   d. Enter a user ID and password to access the monitoring repository database.

   e. Click the *Repository pooling* check box if you want to enable pooling.

4. Perform the following steps in the Auditing section:

   a. 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.

   b. 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's resources, consult your system administrator.

5. Click *Save Configuration*.
6. Click *Start Monitoring*.

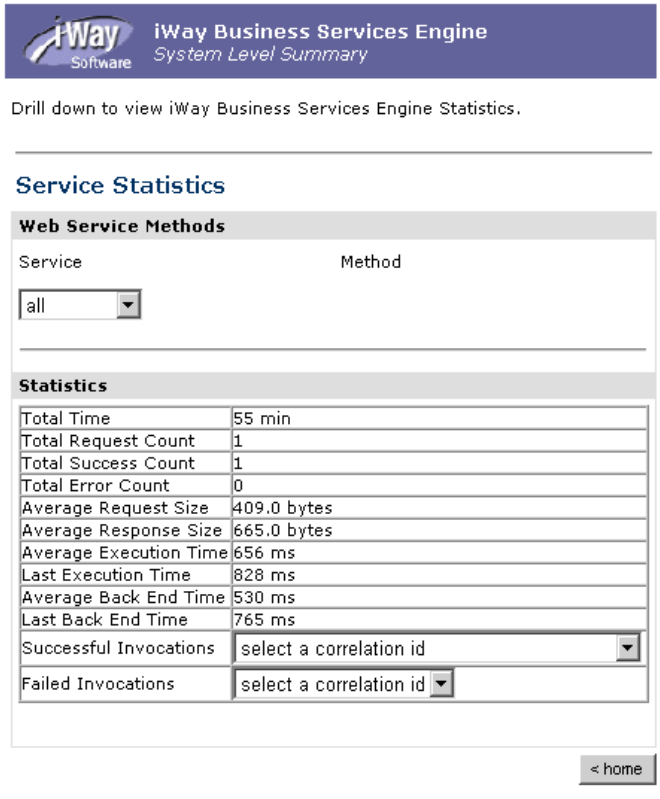
iBSE begins to monitor all services and events currently in use and store messages, if you selected this option. If you want to stop monitoring, click *Stop Monitoring*.

Procedure **How to Monitor Services**

To monitor services:

1. Ensure that BEA WebLogic Server is started.
2. Click *Start Monitoring* from the iBSE Monitoring Settings page.
3. Click *View Services*.

The System Level Summary page opens.



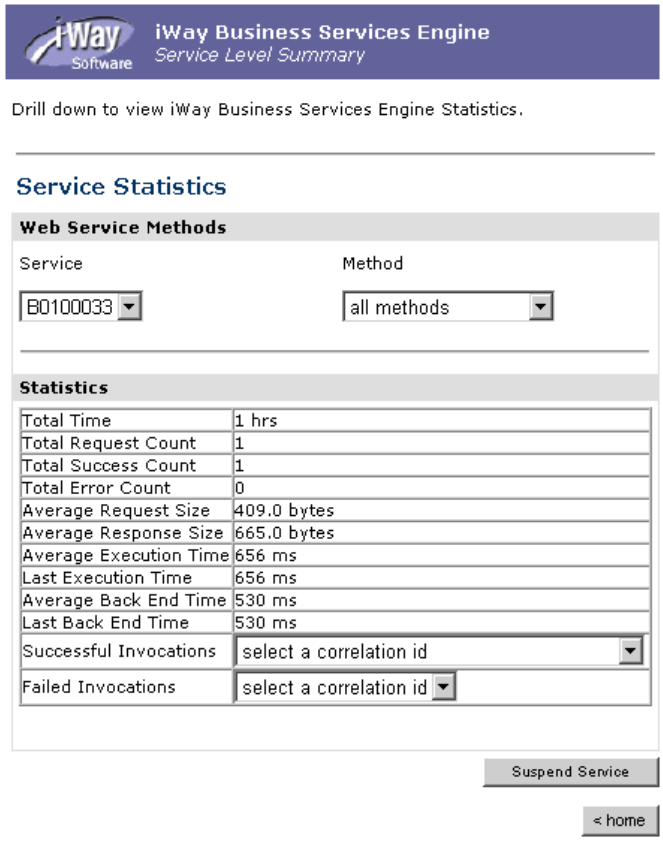
The system level summary provides services statistics at a system level. The following table provides a description of each statistic.

Statistic	Description
Total Time	The total amount of time iBSE is monitoring services. This time starts when you click *Start Monitoring* from the iBSE Monitoring Settings page.
Total Request Count	The total number of services requests that were made during this monitoring session.
Total Success Count	The total number of successful service executions.

Statistic	Description
Total Error Count	The total number of errors that were encountered.
Average Request Size	The average size of a service request that is available.
Average Response Size	The average size of a service response size that is available.
Average Execution Time	The average execution time for a service.
Last Execution Time	The last execution time for a service.
Average Back End Time	The average back end time.
Last Back End Time	The last back end time.
Successful Invocations	A list of successful services listed by correlation ID. Select a service from the drop-down list to retrieve more information for that service.
Failed Invocations	A list of failed services listed by correlation ID. Select a service from the drop-down list to retrieve more information for that service.

4. Select a service from the drop-down list.

The Service Level Summary page opens.



A list of available methods for that service appears in the Method drop-down list.

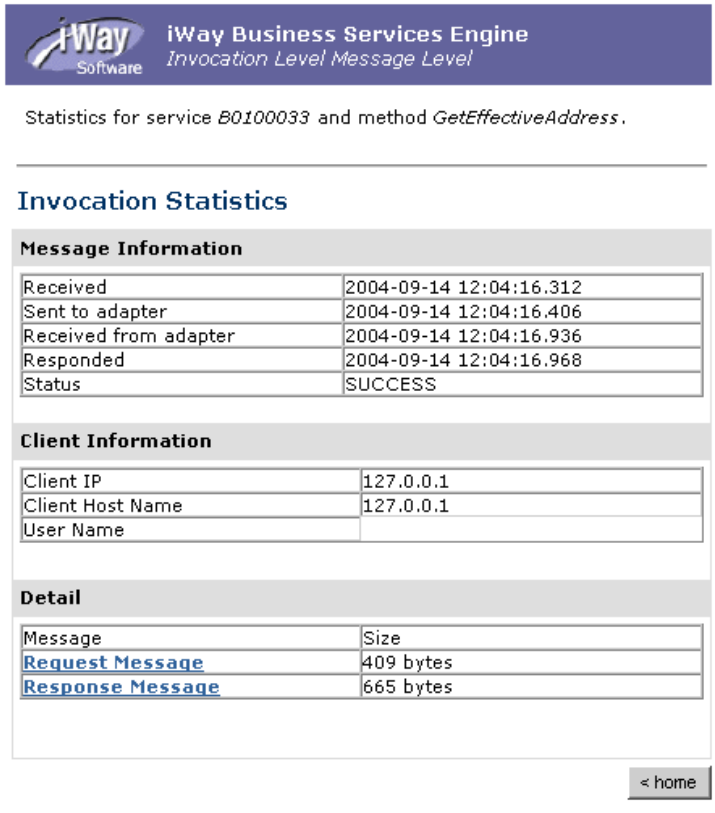
To stop a service at any time, click *Suspend Service*. To start the service, click *Resume Service*.

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

The Method Level Summary page opens.

6. For additional information about a service and its method that is successful, select a service based on its correlation ID from the Successful Invocation drop-down list.

The Invocation Level Statistics page opens.



Information pertaining to the message and client is provided.

7. Click the *Request Message* link to view the XML request document in your Web browser.

   You can also view the XML response document for the service.

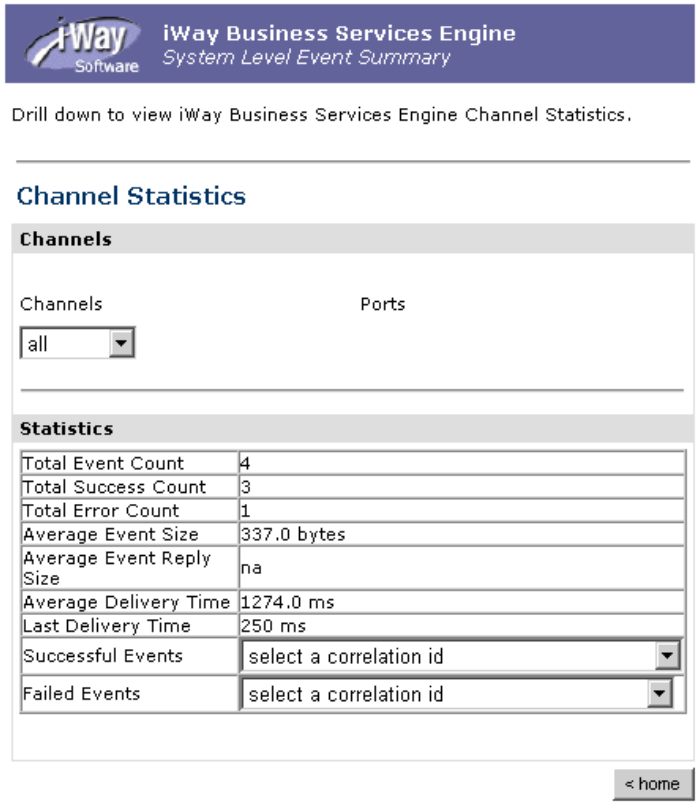
8. Click *home* to return to the iBSE Monitoring Settings page.

Procedure How to Monitor Events

To monitor events:

1. Ensure that BEA WebLogic Server is started.
2. Click *Start Monitoring* from the iBSE Monitoring Settings page.
3. Click *View Events.*

   The System Level Summary page opens.



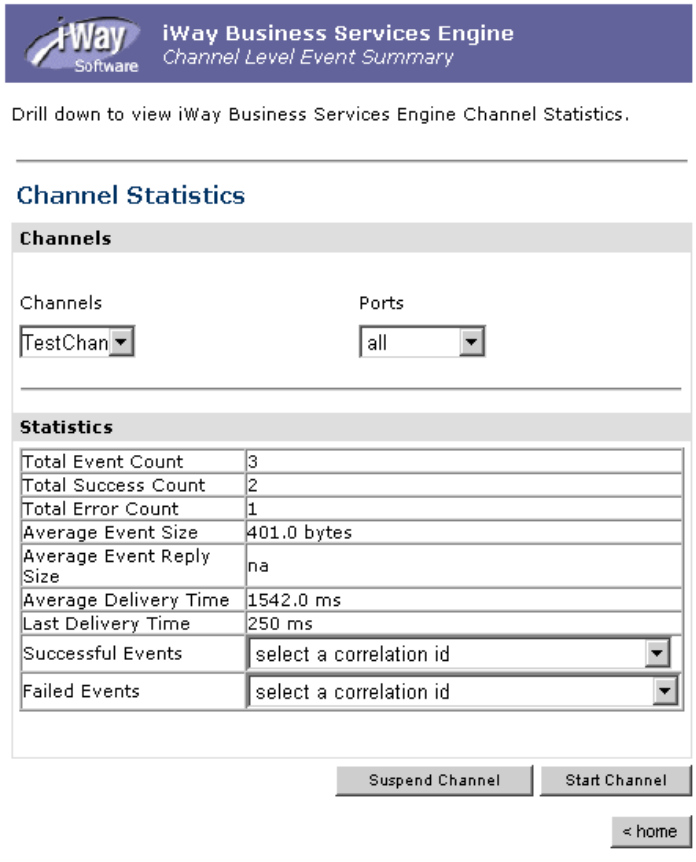
The system level summary provides event statistics at a system level. The following table provides a description of each statistic.

Statistic	Description
Total Event Count	The total number of events.
Total Success Count	The total number of successful event executions.
Total Error Count	The total number of errors that were encountered.
Average Event Size	The average size of an event request that is available.
Average Event Reply Size	The average size of an event response that is available.

Statistic	Description
Average Delivery Time	The average delivery time for an event.
Last Execution Time	The last execution time for an event.
Last Delivery Time	The last delivery time.
Successful Events	A list of successful events listed by correlation ID. Select an event from the drop-down list to retrieve more information for that event.
Failed Events	A list of failed events listed by correlation ID. Select an event from the drop-down list to retrieve more information for that event.

4. Select a channel from the drop-down list.

The Channel Level Event Summary page opens.

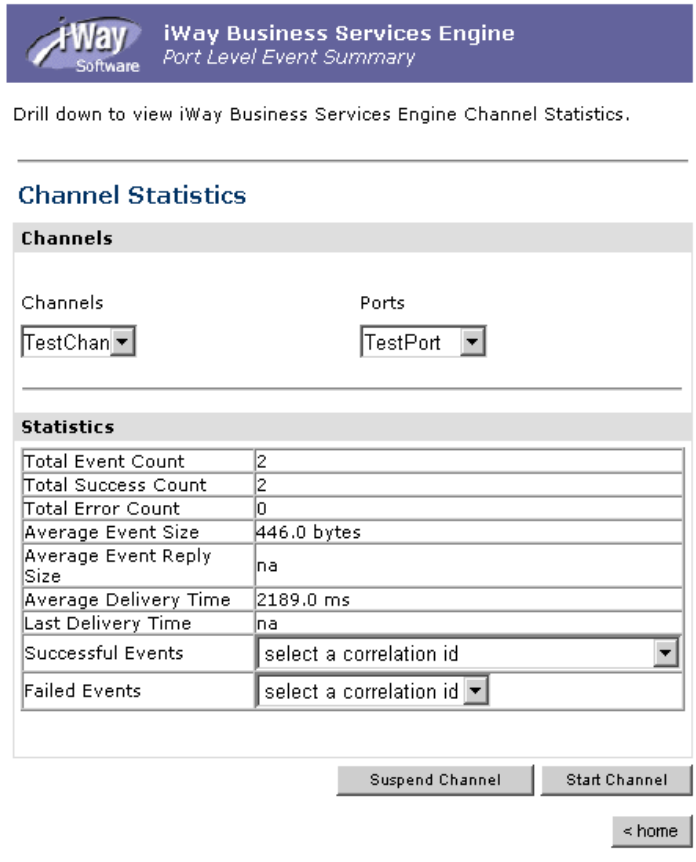


A list of available ports for that channel appears in the Ports drop-down list.

To stop a channel at any time, click *Suspend Channel*. To start the service, click *Start Channel*.

5. Select a port for the channel from the Ports drop-down list.

The Port Level Event Summary page opens.



6. For additional information about an event and its port that is successful, select an event based on its correlation ID from the Successful Events drop-down list.

The Event Level Statistics page for the channel and port you selected opens.

Information pertaining to the event message is provided.

7. Click the *Event Message* link to view the XML event document in your Web browser.
8. Click *home* to return to the iBSE Monitoring Settings page.

Managing and Monitoring Services and Events Using iWay JCA

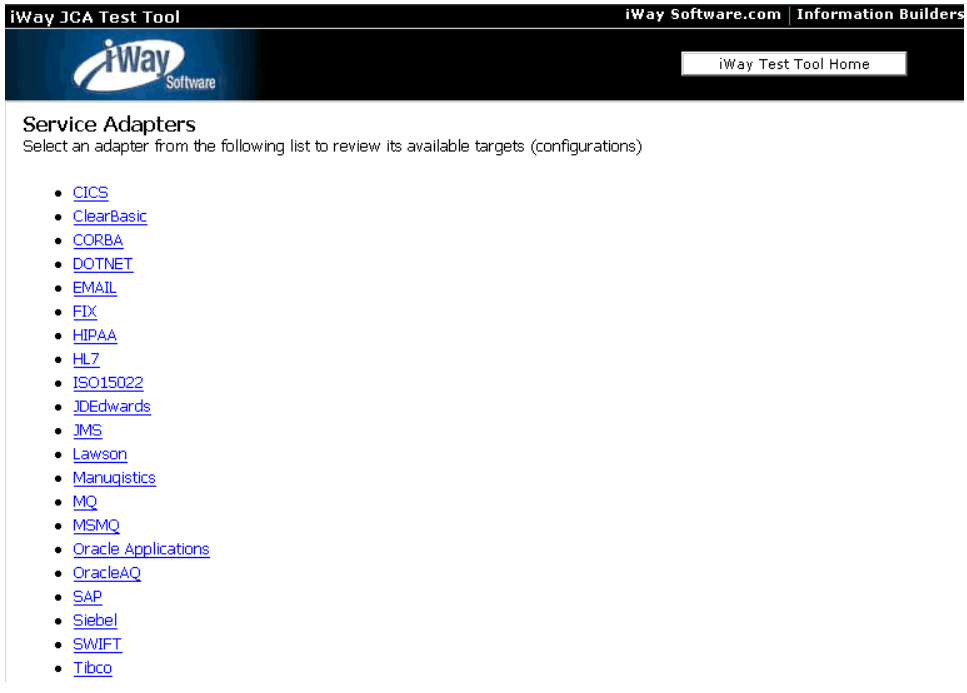
The following topics describe how to test service and event adapters using the iWay JCA Installation Verification Program (IVP).

Procedure How to Test the iWay Service Adapters

To test the iWay service adapters using the IVP:

1. To ensure that the targets you configured in iWay Application Explorer appear in the IVP, click *Refresh Manage Connection Factory.*
2. To display the available adapters, click the *Service adapters* link.

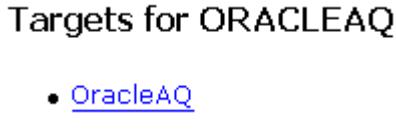
The following window, showing the list of deployed service adapters, opens.



3. Select the adapter that you want to test.

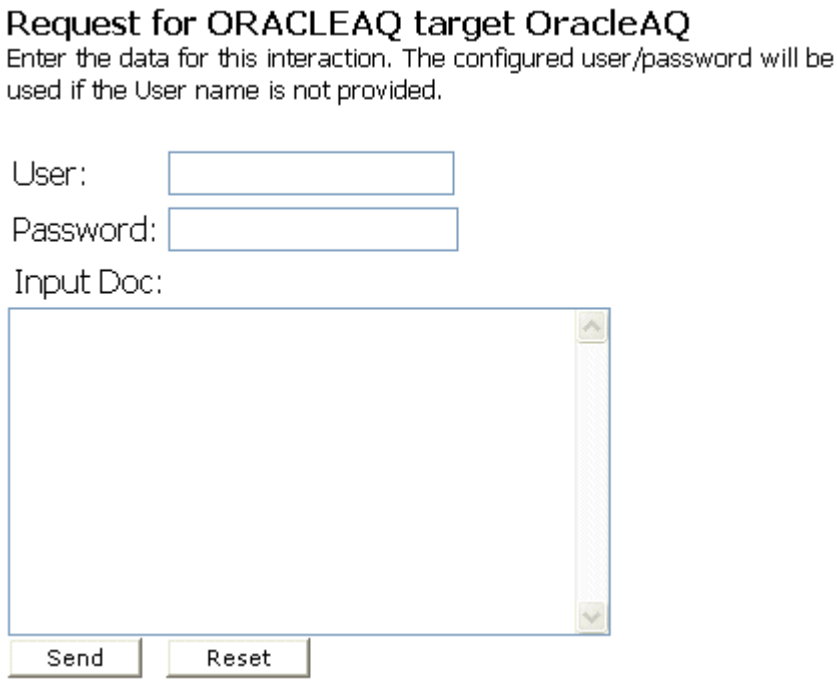
The adapter displays all of the targets currently configured in the iWay repository for that adapter.

The following window shows that there is one target, OracleAQ, configured for the iWay Adapter for Oracle AQ.



4. Click the desired target, for example, *OracleAQ*.

   The following pane, showing an input area in which you can provide XML code with which to test the adapter, opens.



5. Enter a username and password to connect to Oracle AQ.
6. In the input area, enter a request document built from the iWay request schema.
7. Click *Send*.

   A response is returned from Oracle AQ.

Testing the iWay Event Adapters Using the IVP

The iWay JCA Installation Verification Program (IVP) enables you to start and stop iWay event channels.

The tool also enables you to monitor events and provides statistics on channels.

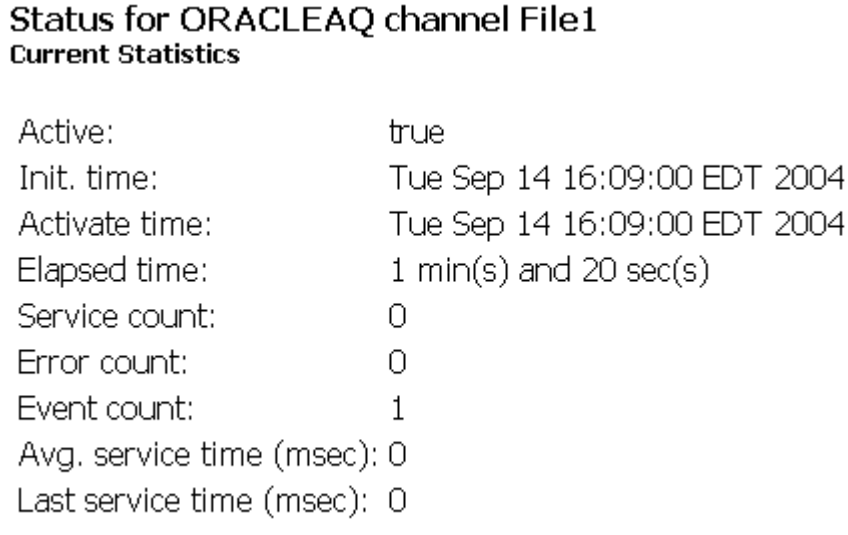
Procedure How to Test the iWay Event Adapters

To test the iWay event adapters using the IVP:

1. Click *Refresh Manage Connection Factory.*
2. To display the available adapters, click the *Events adapter* link.
3. Select the adapter that you want to monitor, for example, OracleAQ.

   The tool displays the channels that you already configured.

4. Click the *start* hyperlink to start the channel.



   Statistics for the event channel are returned, including:

   - The status of the channel.
   - The time the channel was initialized.
   - The number of events.
   - The event response time.

5. To stop the channel, click the *stop* hyperlink.

Monitoring Services

The following section describes how to use the iWay JCA Installation Verification Program (IVP) in Managed mode and monitor services in BEA WebLogic.

Procedure How to Use iWay JCA IVP in Managed Mode.

To use iWay JCA IVP in managed mode:

1. Open the *web.xml* file in a text editor.

   It is located in the following directory:

   ```
   <installDir>\bea\iwjcaivp\WEB-INF\web.xml
   ```

   where:

   ```
   <installDir>
   ```

   Is the location of your iWay 5.5 installation.

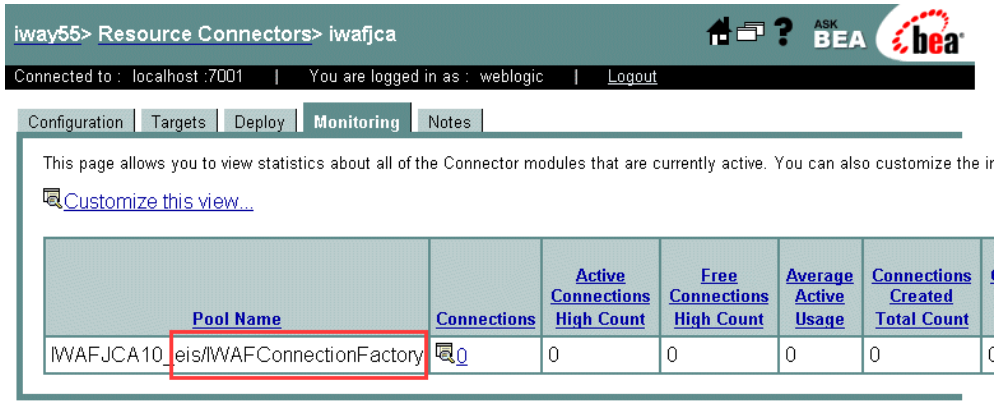
2. Locate the following lines:

   ```
   <context-param><param-name>iway.jndi</param-name><param-value></param-value><description>JNDI name for the IWAF JCA Resource Adapter. If not provided, the application will create a new one based on iway.home, iway.config and iway.loglevel.</description></context-param>
   ```

3. Enter the path to the JCA module for the iway.jndi parameter, for example:

   ```
   <param-value>eis/IWAFConnectionFactory</param-value>
   ```

   You can find this value by browsing to the Resource Connectors section in BEA WebLogic and checking the Pool Name for the JCA connector module. For example:



4. Restart WebLogic Server or redeploy the JCA connector module.

5. Open a browser to:

`http://hostname:port/iwjcaivp`

where:

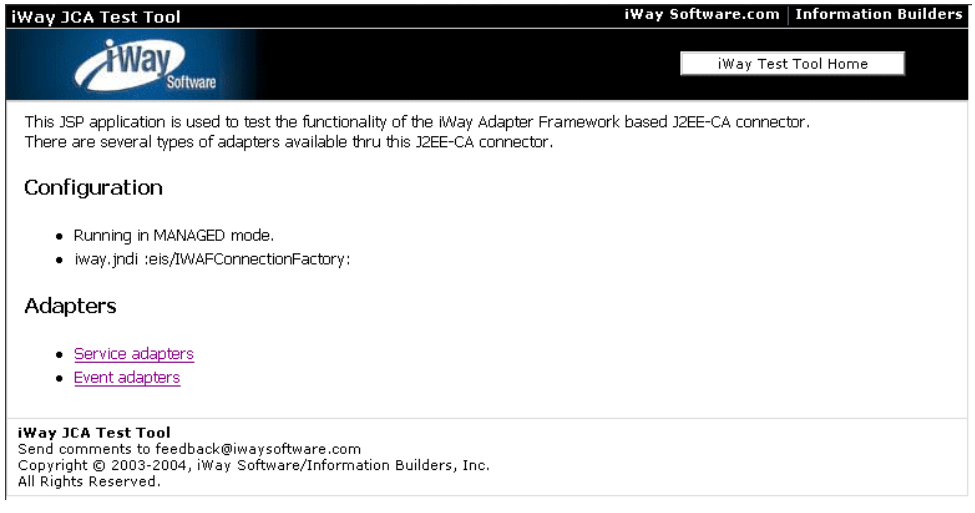
hostname

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

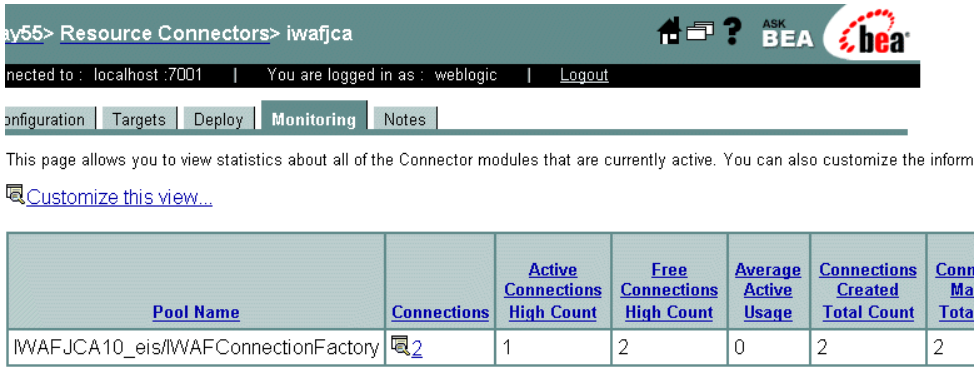
port

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

The iWay JCA Test Tool window opens and provides links for viewing iWay Service or Event adapters. Notice that it is now running in managed mode.



6. Test a service you have created for an iWay Adapter using Application Explorer.
7. Return to the Resource Connectors section in BEA WebLogic.



Monitoring statistics pertaining to the services you have executed are now available.

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:

   `http://hostname:port/ibse/IBSEConfig`

   where:

   hostname

   Is the hostname of the application server machine.

   port

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

   For example:

   `http://localhost:7001/ibse/IBSEConfig`

2. In the top *System* area, specify the level of tracing from the *Debug* drop-down list.
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 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></config-property-value>
</config-property>
```

For example:

```
<config-property-value>DEBUG</config-property-value>
```

A directory in the configuration directory contains the logs. Also, be sure to review logs generated by your application server.

Leave the remainder of this file unchanged.

3. Save the file and exit the editor.
4. Redeploy the connector.

Configuring Connection Pool Sizes

The following section describes how to configure connection pool sizes using JCA.

Procedure How to Configure Connection Pool Sizes

To configure connection pool sizes:

1. Open the extracted weblogic-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 version="1.0" encoding="UTF-8" ?>
<!DOCTYPE weblogic-connection-factory-dd (View Source for full
doctype...)>
- <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.

APPENDIX A

Using Application Explorer in BEA WebLogic Workshop

Topics:

- Starting iWay Application Explorer in BEA WebLogic Workshop
- Creating and Managing a Connection
- Creating Schemas for Services
- Understanding iWay Business Services
- Understanding iWay Event Functionality
- Creating, Editing, or Deleting an Event Port
- Creating, Editing, or Deleting an Event Channel
- Deploying iWay Components in a Clustered BEA WebLogic Environment
- Adding a Control for an iWay Resource in BEA WebLogic Workshop
- Extensible CCI Control

This section describes how to use the Java Swing implementation of iWay Application Explorer as deployed in BEA WebLogic Workshop. Application Explorer deployed in WebLogic Workshop is functionally similar to the Servlet iWay Application Explorer.

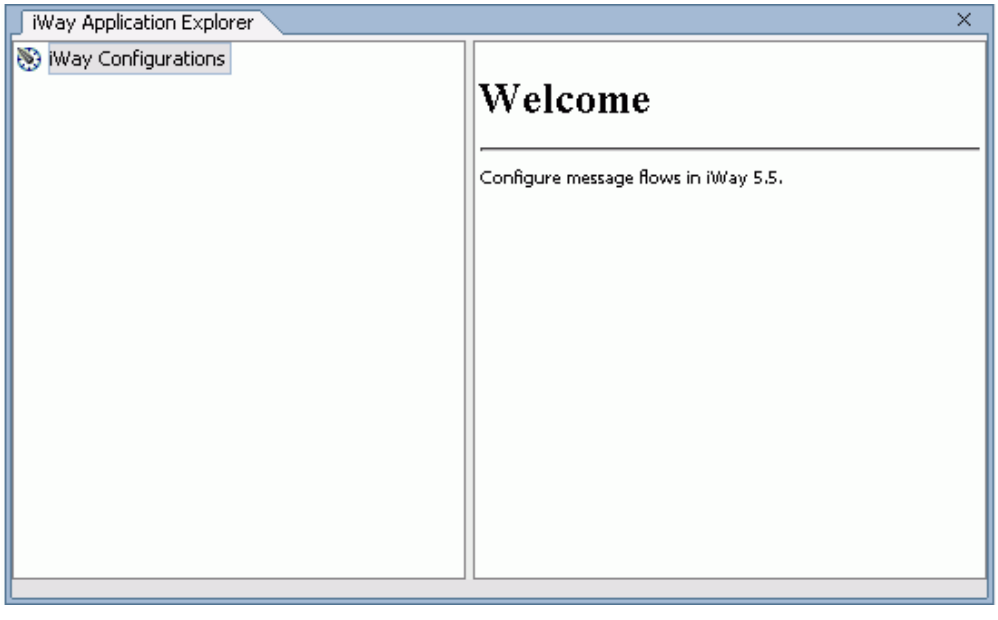
Starting iWay Application Explorer in BEA WebLogic Workshop

You can use iWay Application Explorer with an iBSE or a JCA configuration. Before you can use Application Explorer, you must start BEA WebLogic Server.

Procedure How to Start Application Explorer in BEA 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.

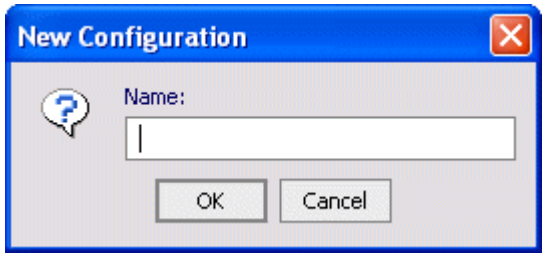


Procedure How to Define a New Configuration

Before you can start using Application Explorer, you must define a new configuration by performing the following steps:

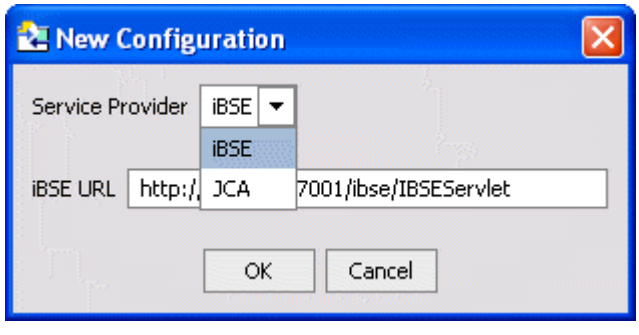
1. Right-click *iWay Configurations* and select *New*.

   The New Configuration dialog box opens:



2. Enter a name for the new configuration (for example, OracleAQ) and click *OK*.

   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,

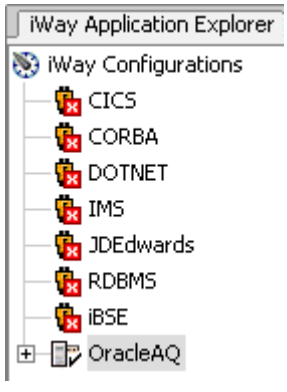
```
C:\Program Files\iWay55
```

where:

iWay55

Is the full path to your iWay installation.

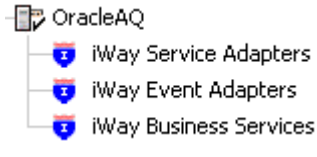
A node representing the new configuration appears under the iWay Configurations node. The right pane provides details of the configuration you created.



Procedure How to Connect to a New Configuration

Right-click the configuration to which you want to connect (for example, OracleAQ), and select *Connect*.

Nodes are displayed for iWay Service Adapters, iWay Event Adapters, and iWay Business Services (also known as Web services).



You are now ready to define a new target to OracleAQ.

Creating and Managing a Connection

To access an adapter, you must define a target that connects to the adapter. After the defined target is created, it automatically is saved. You must establish a connection to the defined target every time you start Application Explorer or after disconnecting.

Procedure **How to Define a New Target**

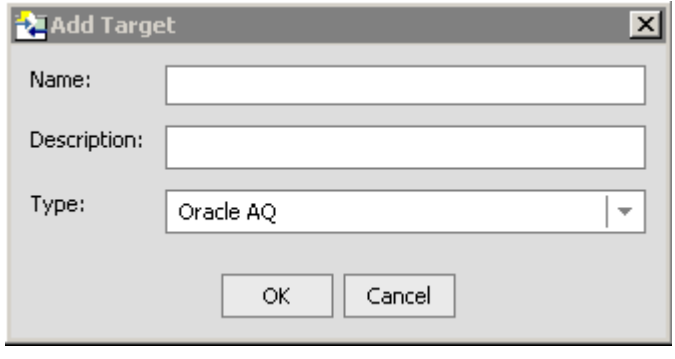
1. Expand the *iWay Service Adapters* node.

   An expandable list of adapter nodes (based on the iWay adapters installed) appears in the left pane. The right pane provides the details of the selected adapter, and is the work area where you will define and modify adapter functions and services.

2. Expand the *OracleAQ* node.

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

   The Add Target dialog box opens containing the Name, Description, and Type fields.



   a. In the Name field, type a descriptive name for the target, for example, OracleAQ.

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

   c. In the Type field, type the type of database to which you are connecting.

4. Click *OK*. The OracleAQ connection parameters dialog box opens:

a. Specify the connection parameters.

The following table lists and describes the parameters for connecting to your Oracle AQ target.

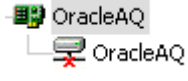
Parameter	Description
Host	Name of the server on which the Oracle database instance resides.
Port	Port number on which the database is listening.
SID	Unique name of the database service, chosen by the database administrator or the person who installed Oracle.
User	Oracle database user ID to access the Oracle database underlying the Oracle AQ system. The user ID must have database access to the interface tables being accessed.
Password	Password associated with the specified user ID.
AQName	Queue that enables asynchronous communication between your application and the Oracle database.
AQTable	Table in the Queue being queried.

5. Click *OK*.

   The target name appears under the node where you created the new connection. For information on connecting to the node, see *How to Connect to a Defined Target*.

Procedure How to Connect to a Defined Target

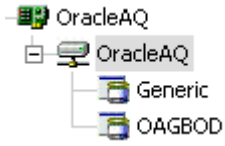
1. Expand the *iWay Service Adapters* node.
2. Expand the *OracleAQ* node.
3. Click the target name (for example, *OracleAQ*) under the OracleAQ node.



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

4. Verify your connection parameters.
5. Right-click the target name and select *Connect*.

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



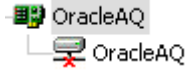
Disconnecting From a Defined Target

Although you can maintain multiple open connections, iWay Software recommends disconnecting from targets that are not in use.

Procedure How to Disconnect From a Defined Target

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

   Disconnecting from *OracleAQ* drops the connection with OracleAQ, but the node remains.
4. The x icon appears, indicating that the node is disconnected.



Editing a Defined Target

After you create a defined target using Application Explorer, you can edit any information that you provided during the creation process.

Procedure How to Edit a Defined Target

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

   The OracleAQ connection parameters dialog box opens.
4. Edit the information as needed and then click *OK*.

Deleting a Defined Target

You can delete a target, rather than just disconnecting and closing it. When you delete the target, the node disappears from the list of OracleAQ targets in the left pane of the explorer.

Procedure **How to Delete a Defined Target**

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

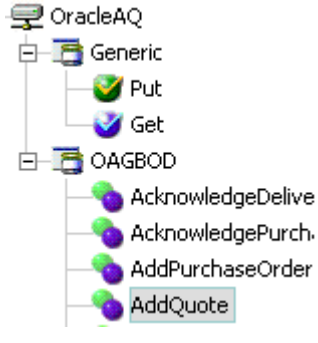
   The node disappears from the list of available connections.

Creating Schemas for Services

Application Explorer creates schemas for services that interact directly with your target Oracle AQ system. Each service the adapter uses must be defined by an XML schema. In order to use services, you must generate XML schemas for service requests and service responses. These schemas are dependent upon the application listening for the document being posted by the service.

Procedure **How to Create Schemas for Services**

1. If you are not connected to a OracleAQ target, connect to one, as described in *How to Connect to a Defined Target* on page A-7.
2. Click the service for which you want to generate the schemas (for example, AddQuote). Note that the adapter supplies a generic queue where you can put services, and a predefined queue (OAGBOD).



   The schemas are automatically created when you select the node. A screen appears in the right pane containing Request Schema and Response Schema tabs.

3. Click the *Request Schema* tab to view the request schema information.
4. Click the *Response Schema* tab to view the response schema information.

Reference Schema Location

Application Explorer stores the schemas it creates in subdirectories under the iWay home directory of the machine where it is installed. The exact location of the schemas differs depending on whether you deploy Application Explorer with an iBSE or a JCA configuration.

- When using the adapter with an iBSE configuration, the schemas are stored under a \schemas subdirectory of the iWay home directory, for example,

  ```
  C:\Program Files\iway55\bea\ibse\wsdl\schemas\service\OracleAQ\OracleAQ
  ```

  where:

  OracleAQ

  Is the name of the connection to the OracleAQ system as defined in Application Explorer. Under this directory, Application Explorer creates subdirectories containing schemas.

- When using the adapter with a JCA configuration, the schemas are stored under a \schemas subdirectory of the iWay home directory, for example,

  ```
  C:\Program Files\iWay55\config\base\schemas\OracleAQ\OracleAQ
  ```

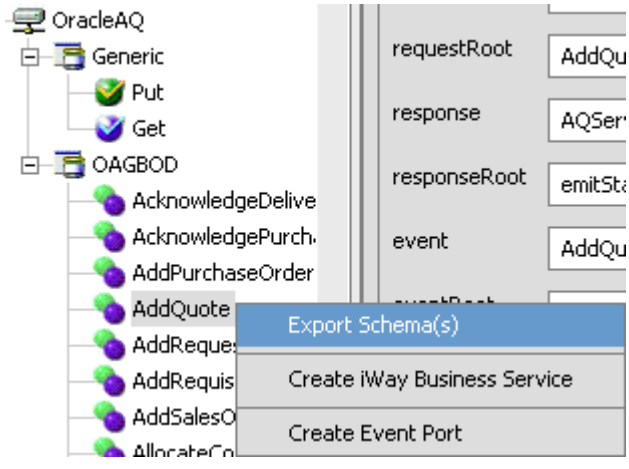
  where:

  OracleAQ

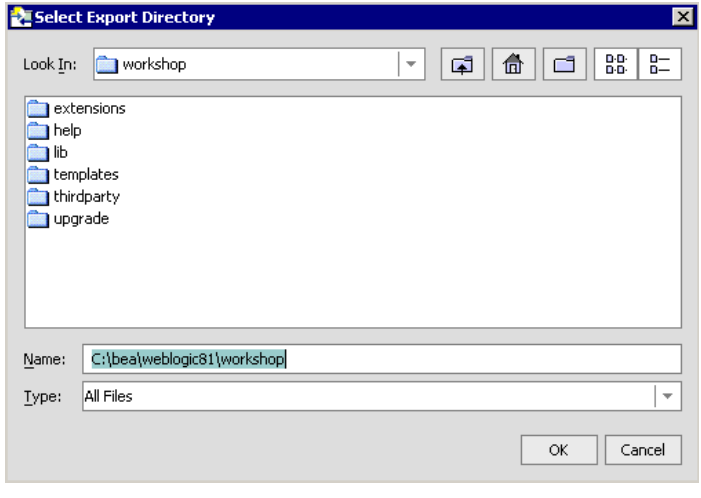
  Is the name of the connection to the OracleAQ system as defined in Application Explorer. Application Explorer stores the schemas in this directory.

Procedure How to Export a Schema

1. If you have not already done so, connect to the target from which you want to export a schema (for example, *OracleAQ*).
2. Right-click the service from which you want to export a schema (for example, AddQuote), and select *Export Schema(s)*.



3. The Select Export Directory dialog box opens:



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

Understanding iWay Business Services

Application Explorer provides Web developers with a simple, consistent mechanism for extending the capabilities of the adapter. The iWay Business Services Engine exposes functionality as Web services. It serves as a gateway to heterogeneous back-end applications and databases.

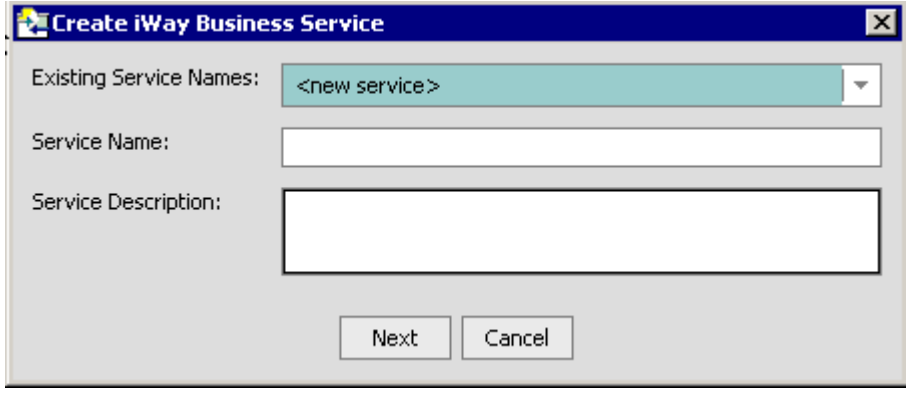
A Web service is a self-contained, modularized function that can be published and accessed across a network using open standards. It is the implementation of an interface by a component and is an executable entity. For the caller or sender, a Web service can be considered as a "black box" that may require input and delivers a result. A Web service integrates within an enterprise as well as across enterprises on any communication technology stack, whether asynchronous or synchronous, in any format.

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 Generate a Business Service

1. If you are not connected to a defined target, connect to one, as described in *How to Connect to a Defined Target* on page A-7.
2. Right-click the node containing the service for which you want to create a business service, and select *Create iWay Business Service*.

   The Create iWay Business Service dialog box opens:



3. Choose whether to create a new service or use an existing service.

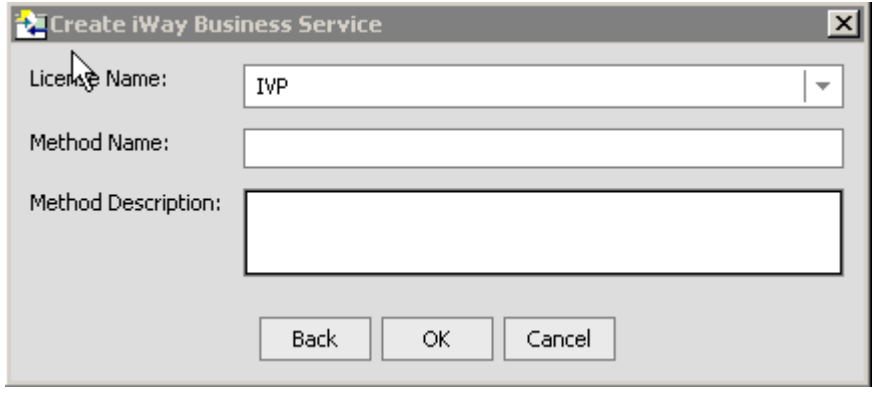
   a. Select either a new service or an existing service from the Existing Service Names drop-down box.

   b. Specify 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. Provide a description for the service.

4. Click *Next*.

   The license and method dialog box opens:



   a. In the License Name 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 Method Description field, provide a brief description for the method.

5. Click *OK*.

   Application Explorer expands the iWay Business Services node in the left pane to show the new Web service and presents a test input area in the right pane.

Testing a Business Service

After a business service is created, 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. Expand the *iWay Business Services* node.
2. Expand the *Services* node.
3. Select the name of the business service you want to test.

   The business service name appears as a link in the right pane.
4. In the right pane, click the named business services link.

   The test option appears in the right pane. This pane provides a text field in which to paste the XML input or browse to a file that can be uploaded. Below the text field is the browse field and the Invoke button.
5. Provide the appropriate XML input.
6. Click *Invoke*.

   The result appears 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 service for which you want to generate WSDL.
3. Right-click the service and select *Export WSDL*.

   The Save dialog box opens.
4. Choose a location for the file and specify .wsdl for the extension.

   Note: The file extension must be .wsdl.
5. Click *Save*.

Credential Mapping

For each SOAP request that is received, iBSE checks to see if a user name and password is included in the SOAP header. If a user name and password is available, iBSE acquires this information and replaces the values retrieved from the repository when pushing the request to the iWay Adapter.

Understanding iWay Event Functionality

Events are generated as a result of a document arriving on an Oracle AQ queue. For example, an update to an application (for example, Oracle applications) results in a document being posted to an Oracle AQ queue. If your integration application must perform an act upon this event, your integration application is the consumer of the 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 an adapter with a particular disposition. A disposition defines the protocol and resulting location of the event data. The port defines the end point of the event consumption. For more information, see *Creating, Editing, or Deleting an Event Port* on page A-15.

- Channel

  A channel represents configured connections to particular instances of back-end or other types of systems. A channel binds one or more event ports to a particular listener managed by an adapter. For more information, see *Creating, Editing, or Deleting an Event Channel* on page A-29.

Creating, Editing, or Deleting an Event Port

Application Explorer enables you to create event ports from the iWay Service Adapters tab or from the iWay Events Adapters tab. You also can edit 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
- MQSeries
- MAIL

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

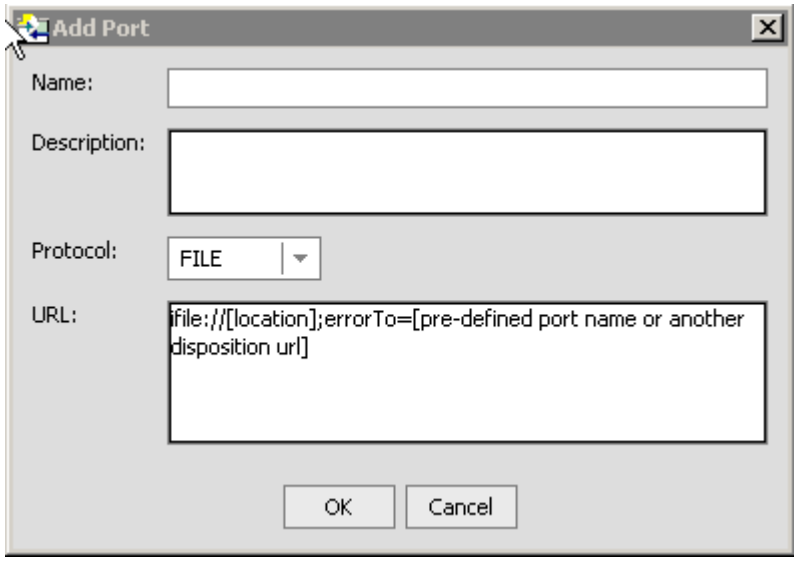
The following dispositions are available when using Application Explorer in conjunction with a JCA connector deployment.

- File
- JMSQ
- HTTP
- MQSeries

Procedure How to Create an Event Port for File

1. Expand the *iWay Event Adapters* node.
2. Expand the *OracleAQ* node.
3. Right-click the *Ports* node and select *Add Port*.

   The Add Port dialog box opens containing fields to enter a name, description, protocol, and URL:



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

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

   c. In the URL 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]
      ```

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

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

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

4. Click *OK*.

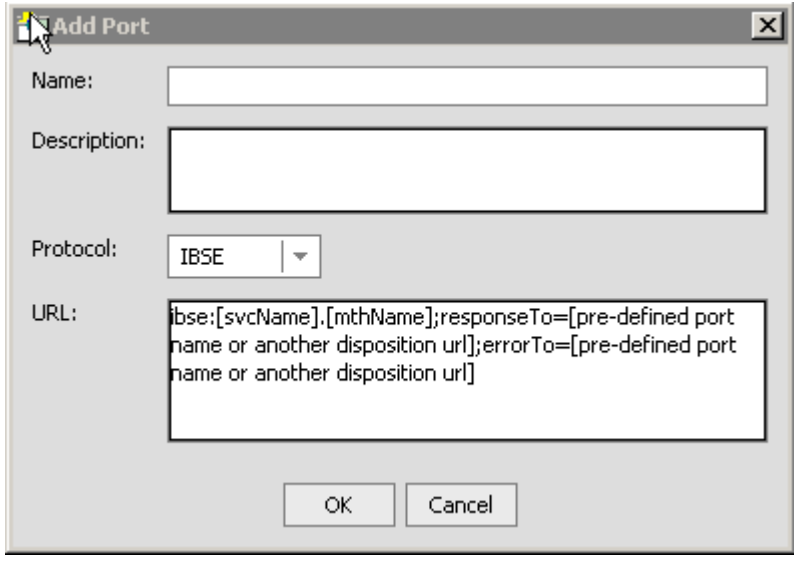
   The port appears under the ports node in the left pane. To review the port settings, select the port name. A table summarizing the port settings appears in the right pane.

   You are ready to associate the event port with a channel. For more information, see *Creating, Editing, or Deleting an Event Channel* on page A-29.

Procedure How to Create an Event Port for iBSE

1. Expand the *iWay Event Adapters* node.
2. Expand the *OracleAQ* node.
3. Right-click the *Ports* node and select *Add Port*.

   The Add Port dialog box opens containing fields to enter a name, description, protocol, and URL:



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

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

c. In the URL field, enter an iBSE destination in 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 defines the parameters for the iBSE disposition:

Parameter	Description
svcName	Name of the service created with iBSE.
mthName	Name of the method created for the Web service.
responseTo	Location where responses to the Web service are posted. A predefined port name or another full URL. Optional.
errorTo	Predefined port name or another disposition URL to which error logs are sent. Optional.

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, or Deleting an Event Channel* on page A-29.

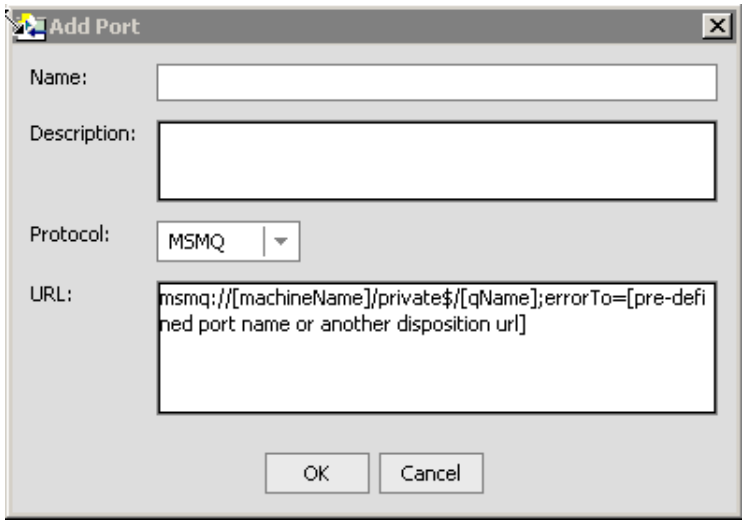
Procedure **How to Create an Event Port for MSMQ**

1. Expand the *iWay Event Adapters* node.

2. Expand the *OracleAQ* node.

3. Right-click the *Ports* node and select *Add Port*.

The Add Port dialog box opens containing fields to enter a name, description, protocol, and URL:



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

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

c. In the URL field, enter an MSMQ destination in 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 lists and defines the parameters for the MSMQ disposition:

Parameter	Description
machineName	Machine name where the Microsoft Queuing system is running.
qName	Name of the private queue where messages are placed.
errorTo	Predefined port name or another disposition URL to which error logs are sent. Optional.

4. Click *OK*.

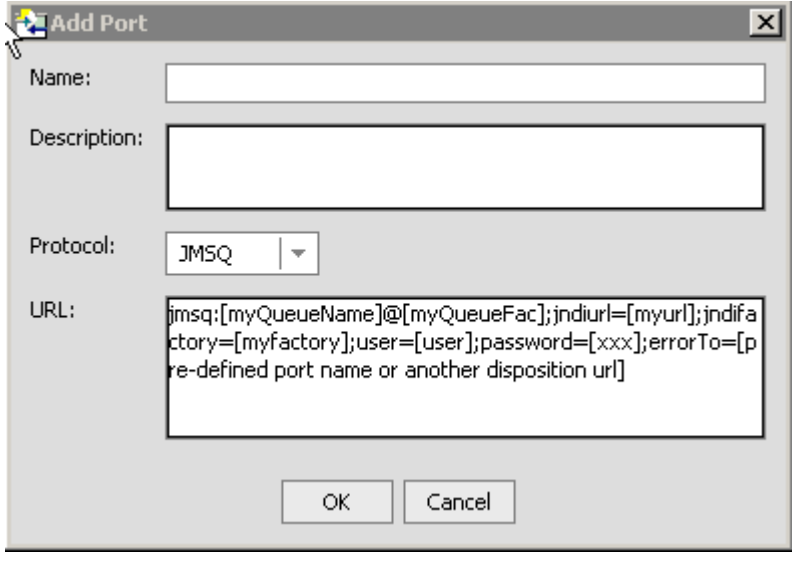
The port appears under the ports node in the left pane. To review the port settings, select the port name. A table summarizing the port settings appears in the right pane.

You are ready to associate the event port with a channel. For more information, see *Creating, Editing, or Deleting an Event Channel* on page A-29.

Procedure How to Create an Event Port for JMSQ

1. Expand the *iWay Event Adapters* node.
2. Expand the *OracleAQ* node.
3. Right-click the *Ports* node and select *Add Port*.

   The Add Port dialog box opens containing fields to enter a name, description, protocol, and URL:



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

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

   c. In the URL field, enter a JMS destination.

      When pointing Application Explorer to an **iBSE** deployment, use the following format:

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

When pointing Application Explorer to a **JCA** deployment, use the following format:

```
jms:jmsqueue@jmsfactory;jndiurl=;jndifactory=;
```

The following table lists and defines the parameters for the JMSQ disposition:

Parameter	Description
myQueueName	JNDI name of a queue to which events are emitted.
myQueueFac	Resource that contains information about the JMS Server. The WebLogic connection factory is: `javax.jms.QueueConnectionFactory`

jndiurl	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.

4. Click *OK*.

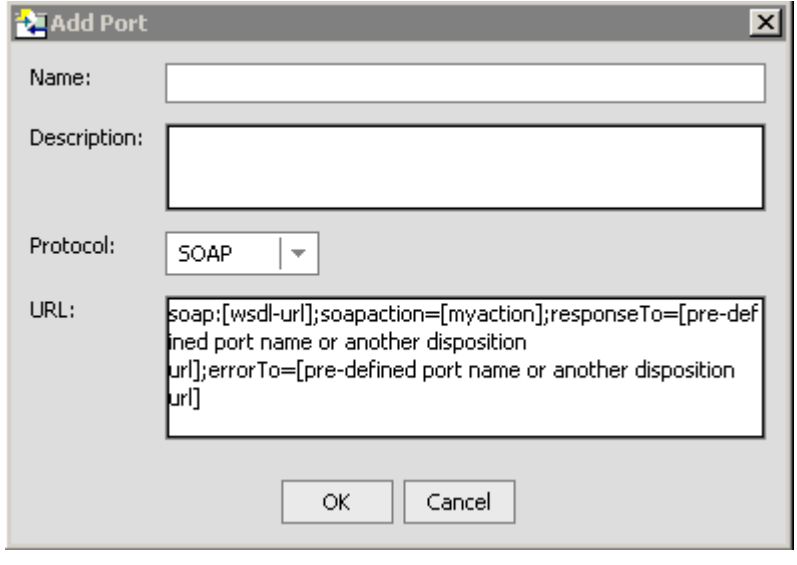
The port appears under the ports node in the left pane. To review the port settings, select the port name. A table summarizing the port settings appears in the right pane.

You are ready to associate the event port with a channel. For more information, see *Creating, Editing, or Deleting an Event Channel* on page A-29.

Procedure How to Create an Event Port for SOAP

1. Expand the *iWay Event Adapters* node.
2. Expand the *OracleAQ* node.
3. Right-click the *Ports* node and select *Add Port*.

   The Add Port dialog box opens containing fields to enter a name, description, protocol, and URL:



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

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

   c. In the URL field, enter a SOAP destination in the following format:

```
soap:[wsdl-url];soapaction=[myaction];responseTo=[pre-defined port
name or another disposition url];errorTo=[pre-defined port name or
another disposition url]
```

The following table lists and defines the parameters for the SOAP disposition:

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.

soapaction	The method that will be called by the disposition. For example:
	`ORACLEAQ.mt200Request@test@@`
	where
	`ORACLEAQ`
	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.

responseTo	Predefined port name or another disposition URL to which response documents are sent. Optional.
errorTo	Predefined port name or another disposition URL to which error logs are sent. Optional.

4. Click *OK*.

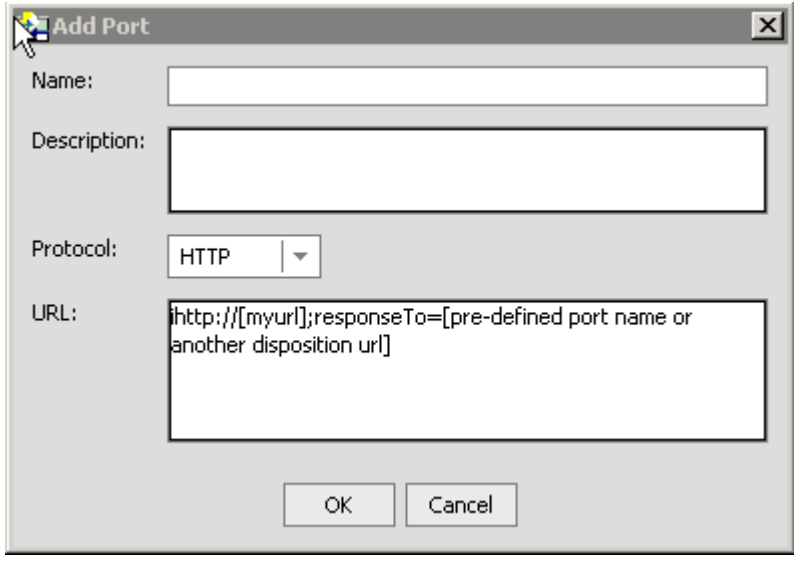
The port appears under the ports node in the left pane. To review the port settings, select the port name. A table summarizing the port settings appears in the right pane.

You are ready to associate the event port with a channel. For more information, see *Creating, Editing, or Deleting an Event Channel* on page A-29.

Procedure How to Create an Event Port for HTTP

1. Expand the *iWay Event Adapters* node.
2. Expand the *OracleAQ* node.
3. Right-click the *Ports* node and select *Add Port*.

   The Add Port dialog box opens containing fields to enter a name, description, protocol, and URL:



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

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

   c. In the URL field, enter an HTTP destination.

      When pointing Application Explorer to an **iBSE** deployment, use the following format:

      ```
      ihttp://[myurl];responseTo=[pre-defined port name or another
      disposition url];
      ```

      When pointing Application Explorer to a **JCA** deployment, use the following format:

      ```
      http://host:port/uri
      ```

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

Parameter	Description
myurl	URL target for the post operation, for example, `http://myhost:1234/docroot`
responseTo	Predefined port name or another disposition URL to which response documents are sent. Optional.

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

Parameter	Description
host:port	Combination of the name of the host on which the Web server resides and the port on which the server is listening for the post operation.
uri	Universal resource identifier that completes the URL specification.

4. Click *OK*.

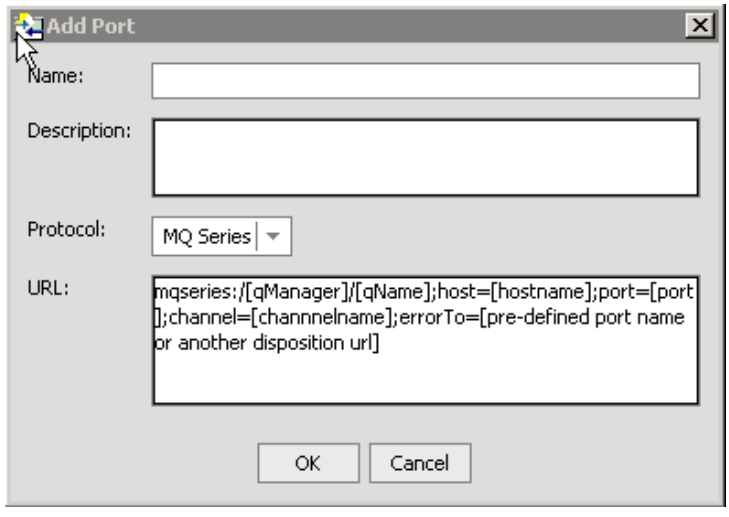
   The port appears under the ports node in the left pane. To review the port settings, select the port name. A table summarizing the port settings appears in the right pane.

   You are ready to associate the event port with a channel. For more information, see *Creating, Editing, or Deleting an Event Channel* on page A-29.

Procedure How to Create an Event Port for MQSeries

1. Expand the *iWay Event Adapters* node.
2. Expand the *OracleAQ* node.
3. Right-click the *Ports* node and select *Add Port*.

The Add Port dialog box opens containing fields to enter a name, description, protocol, and URL:



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

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

c. In the URL field, enter an MQSeries destination.

When pointing Application Explorer to an **iBSE** deployment, use the following format:

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

When pointing Application Explorer to a **JCA** deployment, use the following format:

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

The following table lists and defines the parameters for the MQSeries disposition:

:

Parameter	Description
qManager	Name of the queue manager to which the server must connect.
qName	Name of the queue where messages are placed.
host	Host on which the MQ Server is located (for the MQ Client only).

Parameter	Description
port	Port number to connect to an MQ Server queue manager (for the MQ client only).
channel	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.
errorTo	Predefined port name or another disposition URL to which error logs are sent. Optional.

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, or Deleting an Event Channel* on page A-29.

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 *OracleAQ* node.
3. Right-click the event port you want to edit and select *Edit*.

   The Edit Port window opens.
4. Make the necessary changes and click *OK*.

Procedure How to Delete an Event Port

1. Expand the *iWay Event Adapters* node.
2. Expand the *OracleAQ* 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.

Creating, Editing, or Deleting an Event Channel

The following topics describe how to create, edit, or delete a channel for your iWay Event. All defined event ports must be associated with a channel.

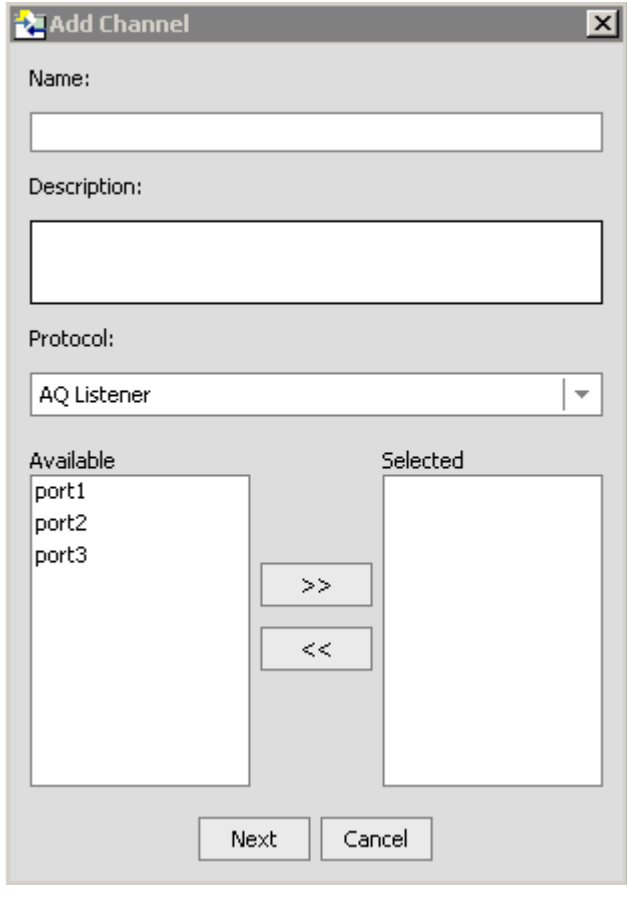
Creating a Channel

The following procedure describes how to create a channel.

Procedure How to Create a Channel

1. Expand the *iWay Event Adapters* node.
2. Expand the *OracleAQ* node.
3. Right-click the *Channels* node and select *Add Channel*.

The Add Channel dialog box opens containing fields to enter a name, description, and protocol, as well as lists for available and selected ports and buttons to enable you to move ports from one list to the other:



4. Specify information for the channel you are creating.

   a. Type a name for the channel (for example, Channel1) and provide a brief description.

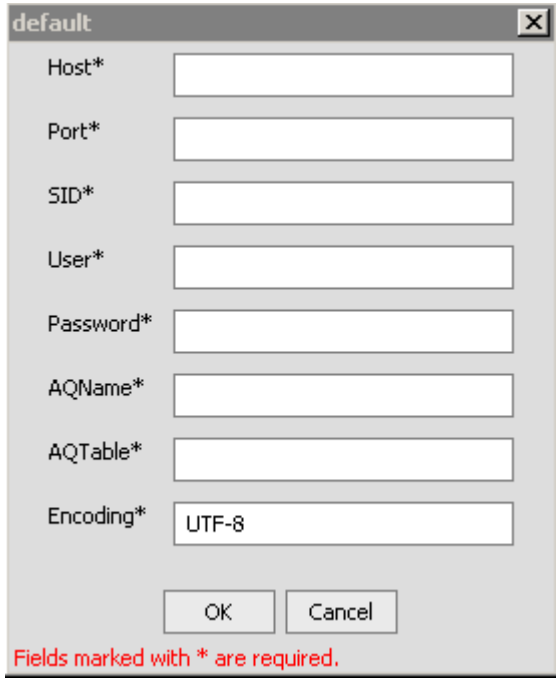
   b. From the *Protocol* drop-down list, select AQ Listener.

   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 default dialog box opens:



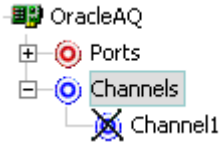
a. Specify the OracleAQ event parameters in the default dialog box.

The following table lists and describes the parameters for creating an OracleAQ event.

Parameter	Description
Host	Name of the server on which the Oracle database instance resides.
Port	Port number on which the database is listening.
SID	Unique name of the database service, chosen by the database administrator or the person who installed Oracle.
User	Oracle database user ID to access the Oracle database underlying the Oracle AQ system. The user ID must have database access to the interface tables being accessed.
Password	Password associated with the specified user ID.
AQName	Queue that enables asynchronous communication between your application and the Oracle database.
AQTable	Table in the Queue being queried.
Encoding	Code representing data (for example, UTF-8).

6. Click *OK*.

The channel appears under the channels node in the left pane.



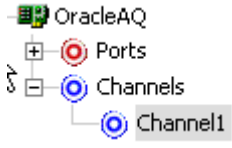
An X over the icon indicates that the channel is currently disconnected. You must start the channel to activate your event configuration.

To review the settings for the channel, select the channel. The right pane contains tabs that summarize the channel settings.

Procedure How to Start and Stop a Channel

1. Expand the *iWay Event Adapters* node.
2. Expand the *OracleAQ* 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 *OracleAQ* node.
3. Right-click the channel you want to edit and select *Edit*.

   The Edit Channel dialog box appears.
4. Make the necessary changes to the channel configuration.
5. Click *OK*.

Procedure How to Delete a Channel

1. Expand the *iWay Event Adapters* node.
2. Expand the *OracleAQ* node.
3. Right-click the channel you want to delete and select *Delete*.

The channel disappears from the list in the left pane.

Deploying iWay Components in a Clustered BEA WebLogic Environment

iWay events can be configured in a clustered BEA WebLogic 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.
   d. If you configure the HTTP router within WebLogic, start it by entering the following command:

   ```
   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.

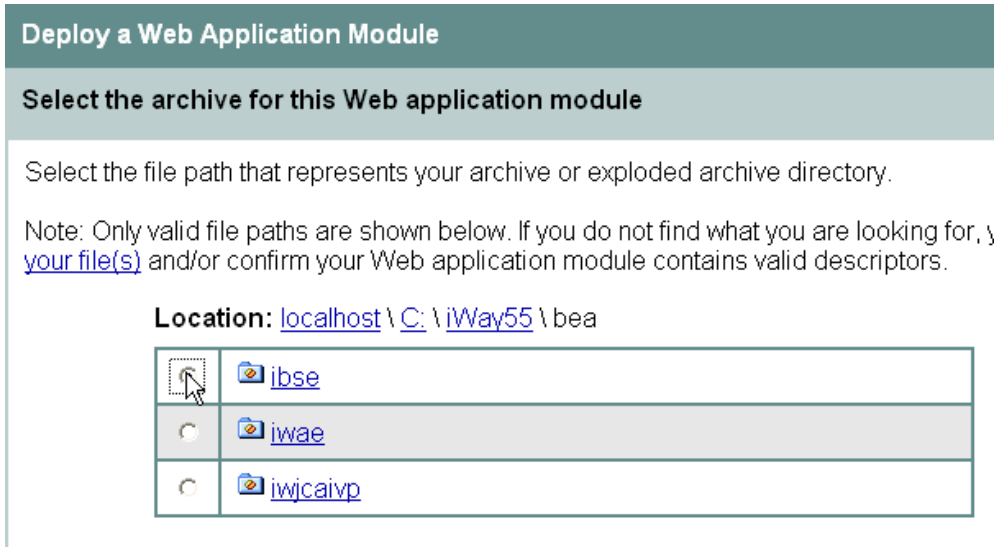
For more information on configuring WebLogic Integration for deployment in a clustered environment, see *Deploying WebLogic Integration Solutions*.

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.

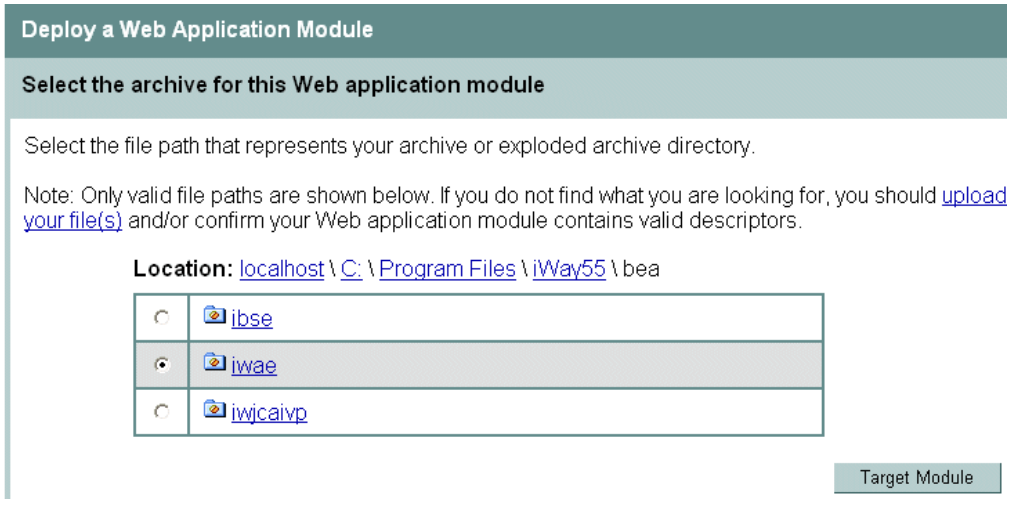
Note: You can deploy JCA to a cluster, but you can only point it to one directory, and to the machine on which it is installed.

4. To deploy iBSE, select the option button next to the ibse directory and then click *Target Module*.

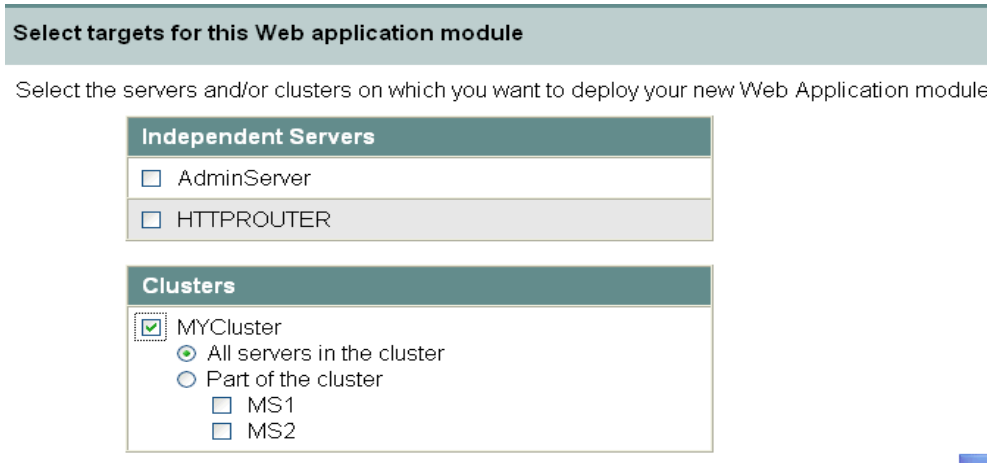


5. To deploy servlet Application Explorer, select the option button next to the iwae directory and then click *Target Module*.

   If you are using servlet Application Explorer, deploy it only on the admin server or one of the managed servers.

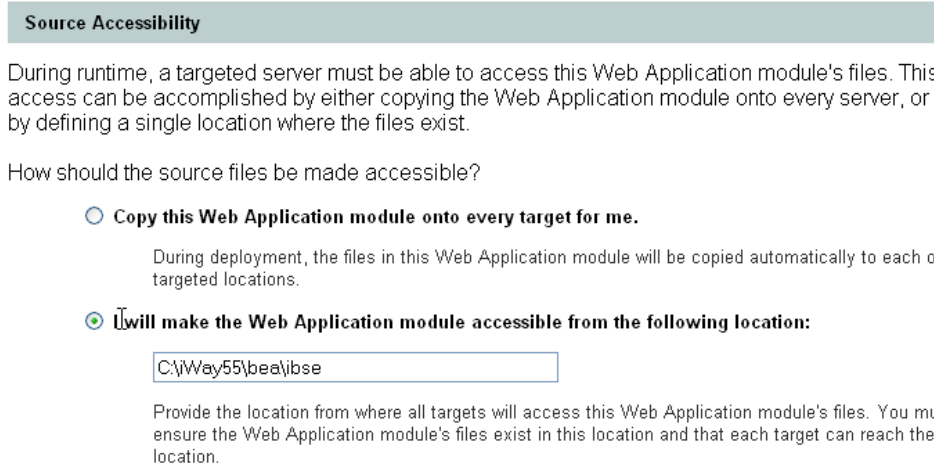


The following window opens.



6. Select the servers and/or clusters on which you want to deploy the application and click *Continue*.

The following window opens.



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.

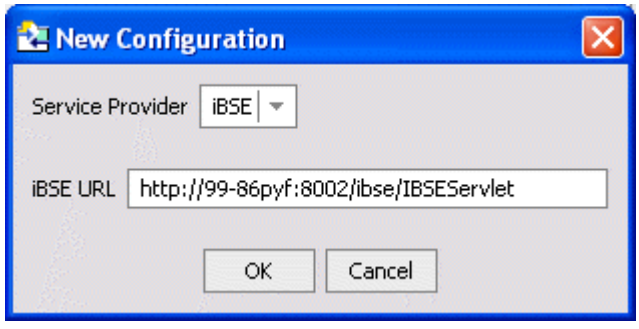
8. Click *Deploy*.

Procedure Configuring Ports and Channels in a Clustered Environment

To configure ports and channels in a clustered environment:

1. Open Swing Application Explorer in BEA WebLogic Workshop.

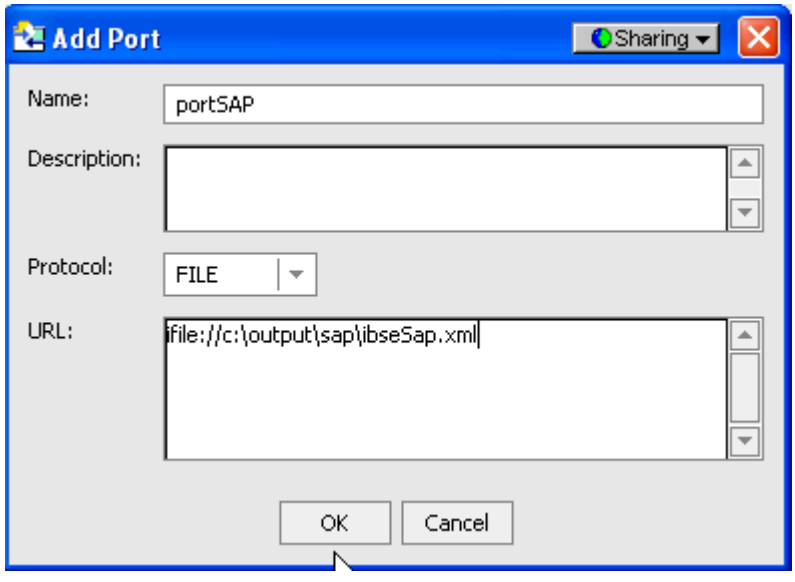
2. Create a new connection to the iBSE instance. For information on creating a new configuration, see *Creating and Managing a Connection* on page A-5.



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.

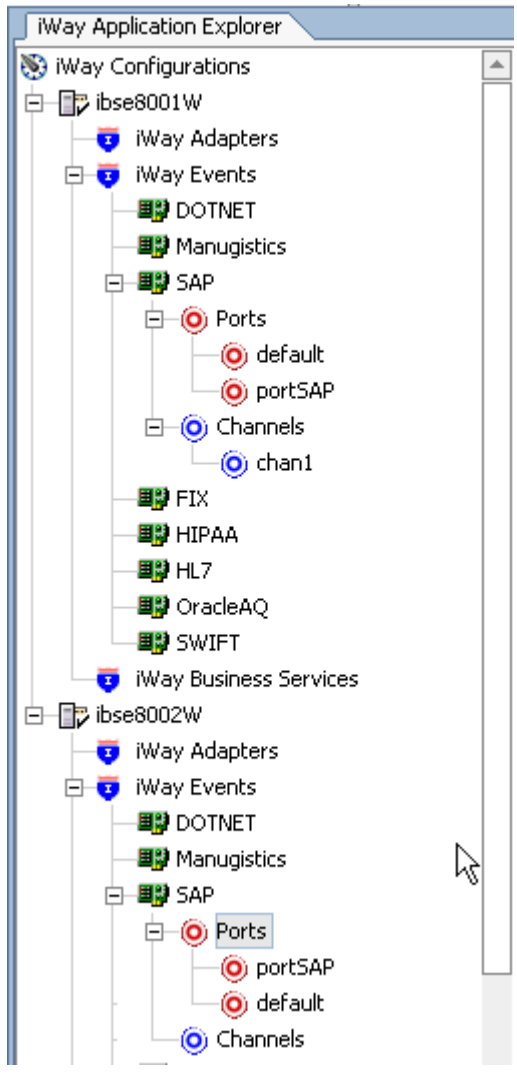
4. Select an adapter from the adapter list (in this example, SAP) and add a new port. For more information, see *Creating, Editing, or Deleting an Event Port* on page A-15.



5. Create a channel and add the port you created. For more information, see *Creating, Editing, or Deleting an Event Channel* on page A-29.
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.

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.

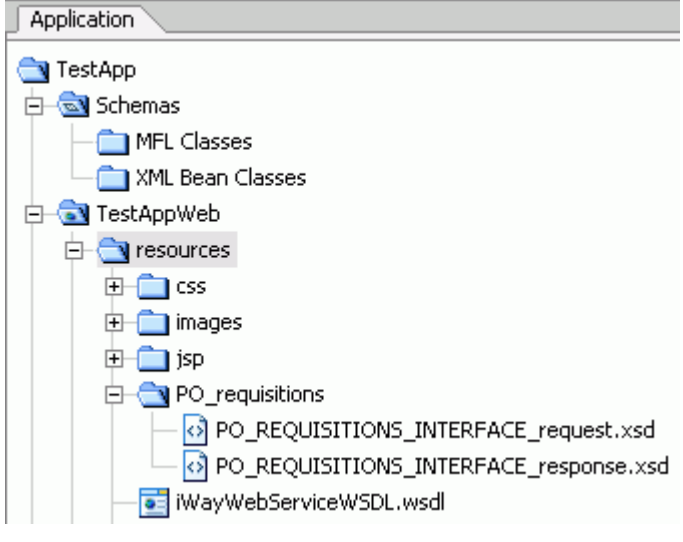
For more information on exporting a WSDL file, see *How to Generate WSDL From a Web Service* on page A-14.

Procedure How to Add a Web Service Control

To add a Web service control:

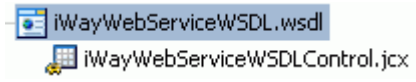
1. After exporting the WSDL file from Application Explorer, locate the file in the Application tab of your BEA WebLogic Workshop application.

   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.



Extensible CCI Control

The following section 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 offers:

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

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

```
sapComDocumentSapRfcFunctions.BAPIMATERIALGETDETAILResponseDocument
getDetail(sapComDocumentSapRfcFunctions.BAPIMATERIALGETDETAILDocument
aRequest) throws java.lang.Exception
```

In addition, the extensible CCI control now generates a JCX file to which you can add your own methods.

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 will take care of the casting for you. There is no longer a need to write custom code that does the cast or transformations that are cast between an XmlObject.

For example, instead of the generic XmlObject:

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

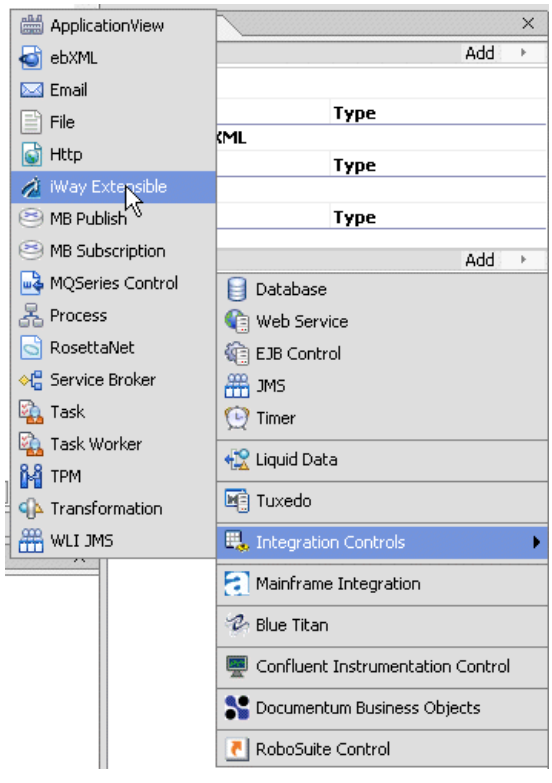
you will be calling:

```
BAPIMATERIALGETDETAILResponseDocument
getDetail(BAPIMATERIALGETDETAILDocument aRequest) throws
java.lang.Exception;
```

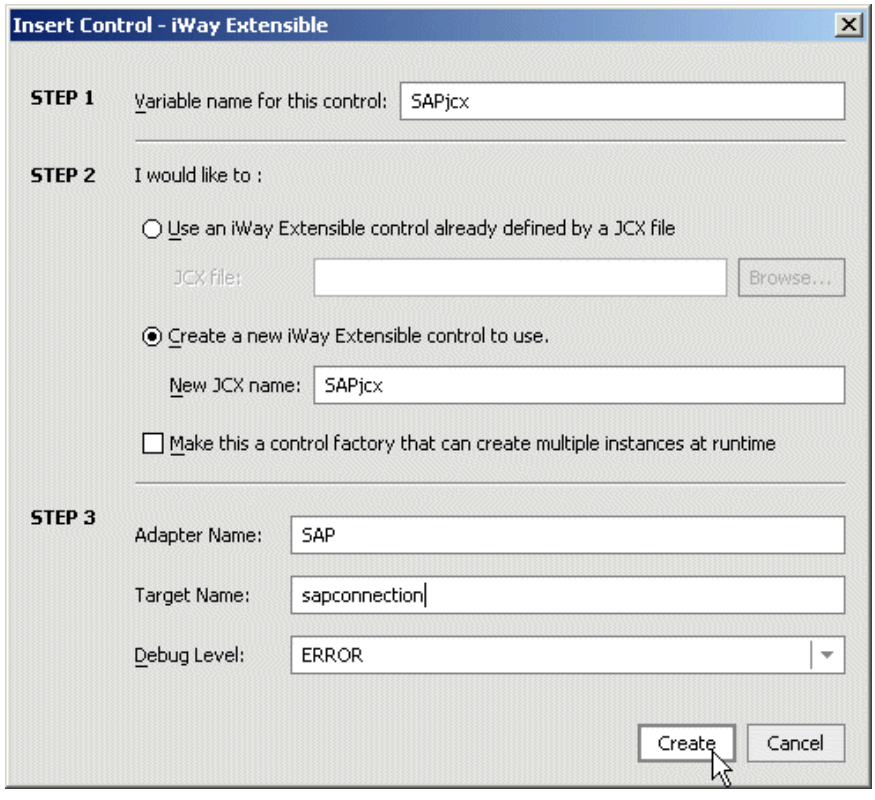
Example Defining a Control Using the Extensible CCI Control

The following sample JCX demonstrates how to define a control that uses the SAP BAPI_MATERIAL_GET_DATA using the extensible CCI control in BEA WebLogic Workshop.

1. Start BEA WebLogic Workshop and create a new project.
2. Click *Integration Controls* and select *iWay Extensible*.



The Insert Control - iWay Extensible dialog box opens.



3. Perform the following steps:

a. Provide a variable name for this control.

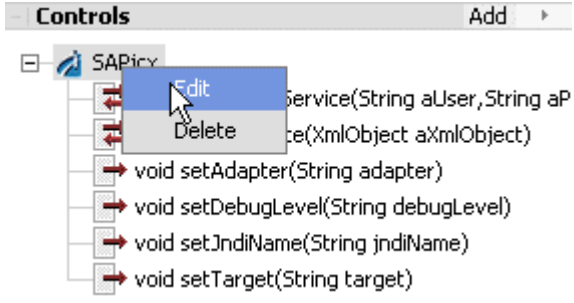
b. Click *Create a new iWay Extensible control* to use and provide a new JCX name.

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

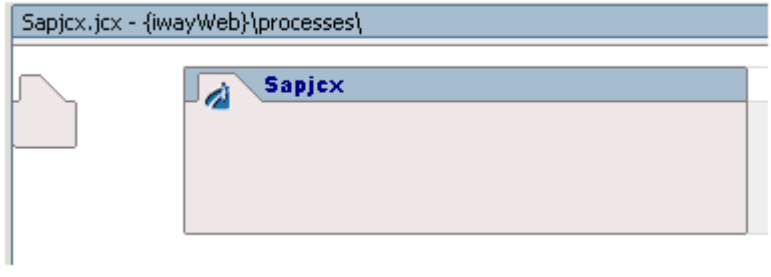
4. Click *Create*.

A new JCX file is created.

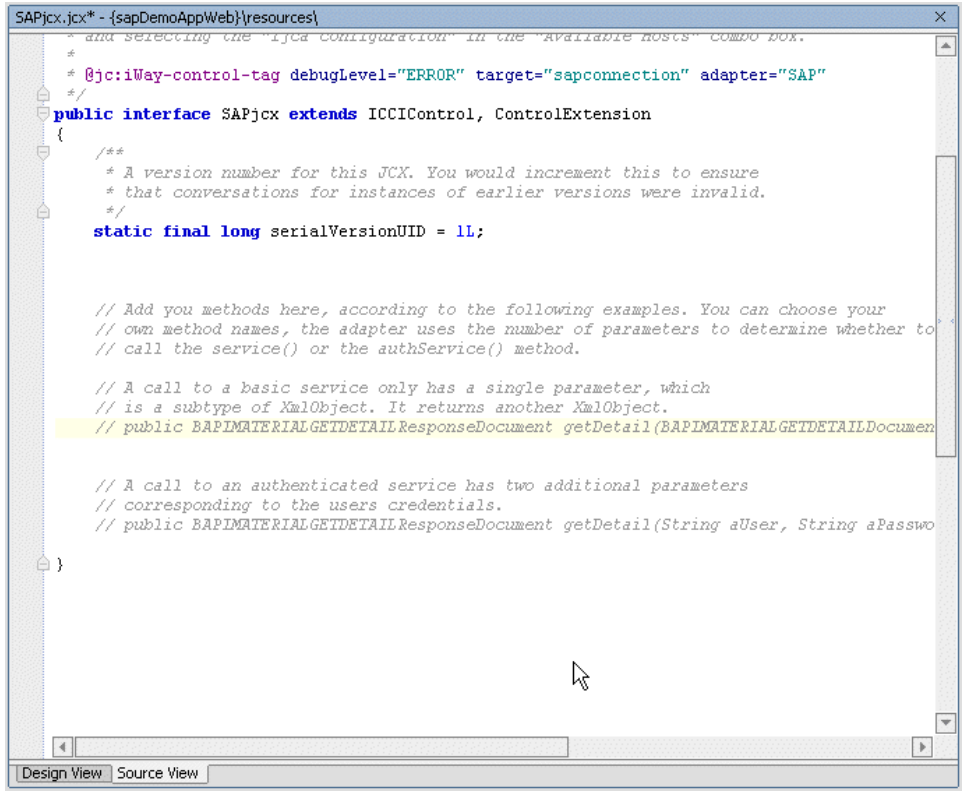
To edit an existing control, right click the control and select *Edit*.



The Design view is displayed.



5. Click *Source View*.



You can add your own methods that call the adapter's services.

Reader Comments

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