SeeBeyond ICAN Suite

JDBC/ODBC eWay Intelligent Adapter User's Guide

Release 5.0

Version 20040315112354.

Contents

Chapter 6

Chapter 1

Introduction

This document describes how to install and configure the JDBC/ODBC eWay Intelligent Adapter.

This introduction includes the following:

1.1 eWay Overview

The JDBC/ODBC eWay enables the eGate system to exchange data with external databases. This document describes how to install and configure the JDBC/ODBC eWay.

1.1.1 Operational Overview

The JDBC/ODBC eWay uses Java Collaborations to interact with one or more external databases. By using a Java Collaboration Service it is possible for eGate components such as eWay Intelligent Adapters to connect to external databases and execute business rules.

1.1.2 Supported Operating Systems

The JDBC/ODBC eWay is available on the following operating systems:

- Windows 2003, Windows XP and Windows 2000
- Solaris 8 and 9
- HP Tru64 5.1A
- HP-UX 11.0 and 11i
- HPUX 11i V2 (11.23)
- IBM AIX 5.1L and 5.2
- Red Hat Enterprise Linux AS 2.1 (Intel)
- Red Hat Linux 8 (Intel)

Although the JDBC eWay, Repository, and Logical Hosts run on the platforms listed above, the Enterprise Designer requires the Windows operating system. Enterprise Manager can run on any platform that supports Internet Explorer.

Note: *XA is currently not supported when using this eWay.*

1.1.3 System Requirements

The performance and functionality of the JDBC/ODBC eWay depends on the driver(s) selected. Certain drivers may not support all JDBC features. Consult the documentation for your respective driver(s) for more information.

To use the JDBC/ODBC eWay, you need the following:

- An eGate Participating Host
- A TCP/IP network connection.

Host Requirements

The appropriate driver type for your database.

A list of drivers from third party vendors is available at:

http://industry.java.sun.com/products/jdbc/drivers

Chapter 2

Installation

This chapter describes how to install the JDBC/ODBC eWay. It includes the following information:

3.1 Installing the JDBC eWay

During the eGate Integrator installation process, the Enterprise Manager, a web-based application, is used to select and upload eWays (eWay.sar files) from the eGate installation CD-ROM to the Repository.

The installation process includes installing the following components:

- Installing the Repository
- Uploading products to the Repository
- Downloading components (such as Enterprise Designer and Logical Host)
- Viewing product information home pages

Follow the instructions for installing the eGate Integrator in the SeeBeyond *ICAN Suite Installation Guide*, and include the following steps:

- On the Enterprise Manager, select the **JDBCeWay.sar** (to install the eWay) file to upload.
- On the Enterprise Manager, select the **FileeWay.sar** (to install the File eWay, used in the sample Project) file to upload.
- On the Enterprise Manager, install the **JDBCeWayDocs.sar** (to install the documentation, and the sample) file to upload.
- On the Enterprise Manager click on the Documentation tab. Click the document link, or the sample file link. For the sample project, it is recommended that you extract the file to another file location prior to importing it using the Enterprise Explorer's Import Project tool.

For additional information on how to use eGate, please see the *eGate Integrator Tutorial*.

Continue installing the eGate Enterprise Designer as instructed.

3.2 After Installation

Once the eWay is installed and configured it must then be incorporated into a Project before it can perform its intended functions. See the *eGate Integrator User's Guide* for more information on incorporating the eWay into an eGate Project.

Chapter 4

Properties of the JDBC/ODBC eWay

This chapter describes how to set the properties of the JDBC/ODBC eWay.

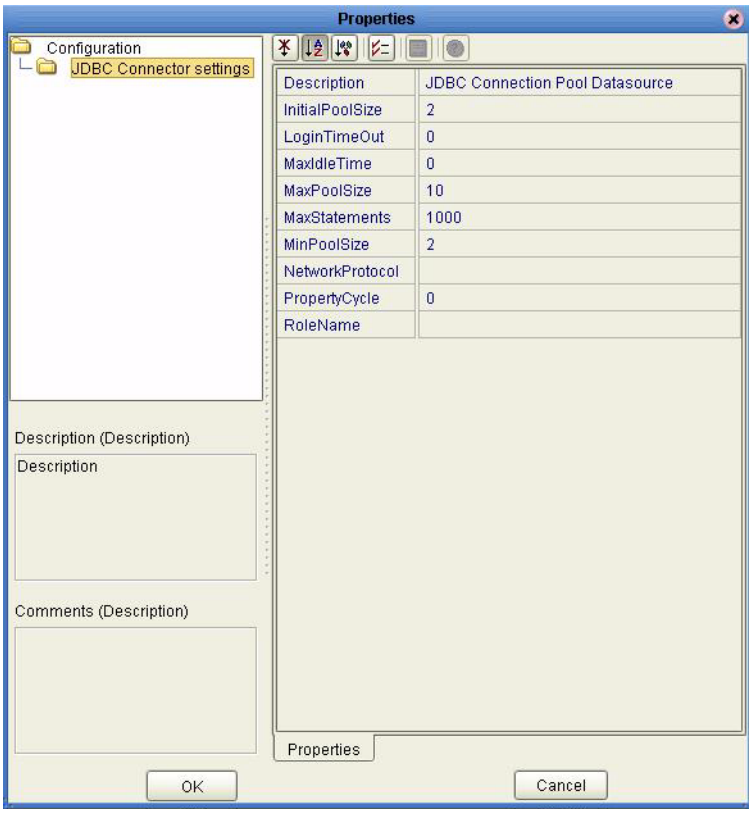
4.1 Working with eWay Property Sheets

On the Properties sheet window and using the descriptions below, enter the information necessary for the eWay to establish a connection to the external application.

4.1.1. Setting the Properties in the Outbound eWay

The DataSource settings define the properties used to interact with the external database.

Figure 1 The Outbound eWay Properties



Description

Description

Specifies the Java class in the JDBC driver that is used to implement the ConnectionPoolDataSource interface.

Required Values

A valid class name.

InitialPoolSize

Description

Enter a number for the physical connections the pool should contain when it is created.

Required Value

A valid numeric value.

LoginTimeOut

Description

The number of seconds driver will wait before attempting to log in to the database before timing out.

Required Value

A valid numeric value.

MaxIdleTime

Description

The maximum number of seconds that a physical connection may remain unused before it is closed. 0 (zero) indicates that there is no limit.

Required Value

A valid numeric value.

MaxPoolSize

Description

The maximum number of physical connections the pool should keep available at all times. 0 (zero) indicates that there is no maximum.

Required Value

A valid numeric value.

MaxStatements

Description

The maximum total number of statements that the pool should keep open. 0 (zero) indicates that the caching of statements is disabled.

Required Value

A valid numeric value.

MinPoolSize

The minimum number of physical connections the pool should keep available at all times. 0 (zero) indicates that there should be no physical connections in the pool and the new connections should be created as needed.

Required Value

A valid numeric value.

NetworkProtocol

Description

The network protocol used to communicate with the server.

Required Values

Any valid string.

PropertyCycle

Description

The interval, in seconds, that the pool should wait before enforcing the current policy defined by the values of the other connection pool properties in this deployment descriptor.

Required Values

A valid numeric value.

RoleName

Description

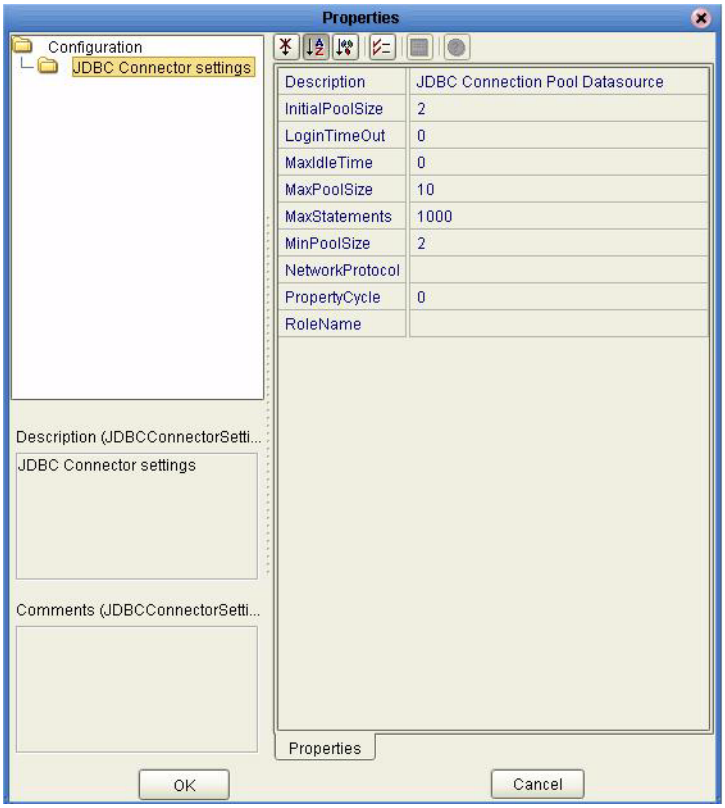
An initial SQL role name.

Required Values

Any valid string.

4.1.2 Setting the Properties in the Outbound Non-Transactional eWay

Figure 2 Properties of the Outbound Non-Transactional eWay



Description

Description

Specifies the Java class in the JDBC driver that is used to implement the ConnectionPoolDataSource interface.

Required Values

A valid class name.

InitialPoolSize

Description

Enter a number for the physical connections the pool should contain when it is created.

Required Value

A valid numeric value.

LoginTimeOut

Description

The number of seconds driver will wait before attempting to log in to the database before timing out.

Required Value

A valid numeric value.

MaxIdleTime

Description

The maximum number of seconds that a physical connection may remain unused before it is closed. 0 (zero) indicates that there is no limit.

Required Value

A valid numeric value.

MaxPoolSize

Description

The maximum number of physical connections the pool should keep available at all times. 0 (zero) indicates that there is no maximum.

Required Value

A valid numeric value.

MaxStatements

Description

The maximum total number of statements that the pool should keep open. 0 (zero) indicates that the caching of statements is disabled.

Required Value

A valid numeric value.

MinPoolSize

The minimum number of physical connections the pool should keep available at all times. 0 (zero) indicates that there should be no physical connections in the pool and the new connections should be created as needed.

Required Value

A valid numeric value.

NetworkProtocol

Description

The network protocol used to communicate with the server.

Required Values

Any valid string.

PropertyCycle

Description

The interval, in seconds, that the pool should wait before enforcing the current policy defined by the values of the other connection pool properties in this deployment descriptor.

Required Values

A valid numeric value.

RoleName

Description

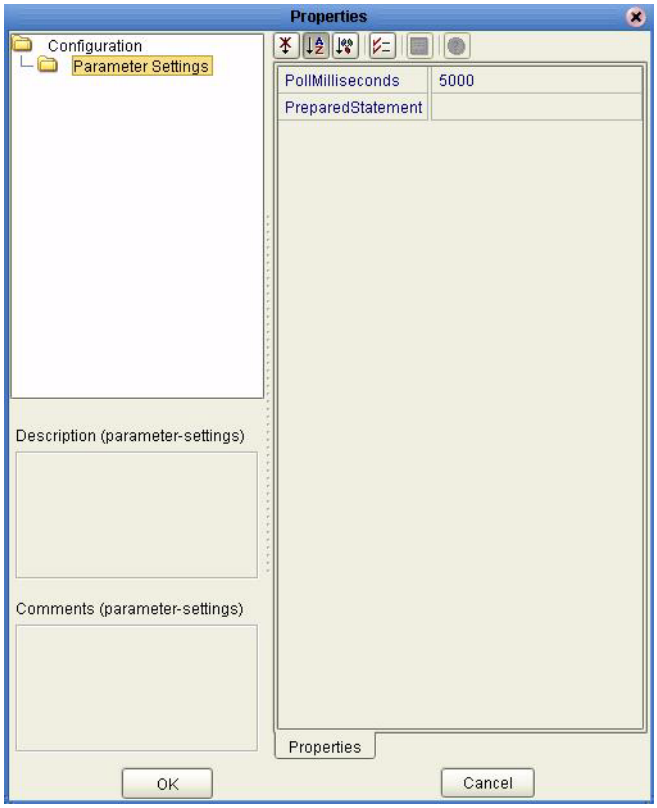
An initial SQL role name.

Required Values

Any valid string.

4.1.3. Setting the Properties in the Inbound eWay

Figure 3 Properties of the Inbound eWay



Pollmilliseconds

Description

Polling interval in milliseconds.

Required Value

A valid numeric value. The default is 5000.

PreparedStatement

Description

Prepared Statement used for polling against the database.

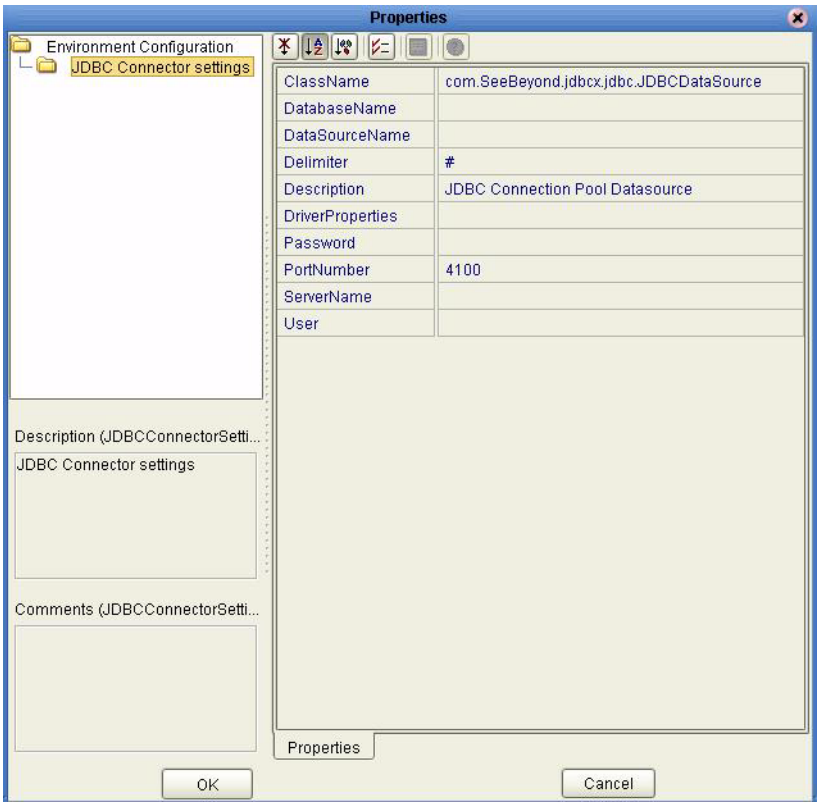
Required Value

The Prepared Statement must be the same Prepared Statement you created using the Database OTD Wizard. Only SELECT Statement is allowed. Additionally, no place holders should be specified. There should not be any "?" in the Prepared Query.

4.1.4. Setting the Properties in the Outbound eWay Environment

Before deploying your eWay, you will need to set the properties of the eWay environment using the following descriptions.

Figure 4 Outbound eWay Environment Configuration



ClassName

Description

Specifies the name of the Java class in the JDBC driver that is used to implement the ConnectionPoolDataSource interface. Change this setting as needed for your driver.

Required Values

The default is com.SeeBeyond.jdbcx.jdbc.JDBCDataSource.

DatabaseName

Description

Specifies the name of the database instance.

Required Values

Any valid string.

DataSourceName

Description

Provide the name of the ConnectionPoolDataSource object that the DataSource object delegates behind the scenes when connection pooling or distributed transaction management is being done.

Required Value

Optional. In most cases, leave this box empty.

Delimiter

Description

This is the delimiter character to be used in the DriverProperties prompt.

Required Value

The default is #

Description

Description

Enter a description for the database.

Required Value

A valid string.

DriverProperties

Description

If you choose to not use the JDBC driver that is shipped with this eWay, you will need to add the drivers properties to the eWay. Often times the DataSource implementation will need to execute additional properties to assure a connection. The additional methods will need to be identified in the Driver Properties.

Required Value

Any valid delimiter.

Possible delimiters are: "<method-name-1>#<param-1>#<param-2>##.....<param-n>##<method-name-2>#<param-1>#<param-2>#.....<param-n>##.....##".

For example: to execute the method setURL, give the method a String for the URL "setURL#<url>##".

Password

Description

Specifies the password used to access the database.

Required Values

Any valid string.

PortNumber

Description

Specifies the I/O port number on which the server is listening for connection requests.

Required Values

A valid port number. The default is 4100.

ServerName

Description

Specifies the host name of the external database server.

Required Values

Any valid string.

User

Description

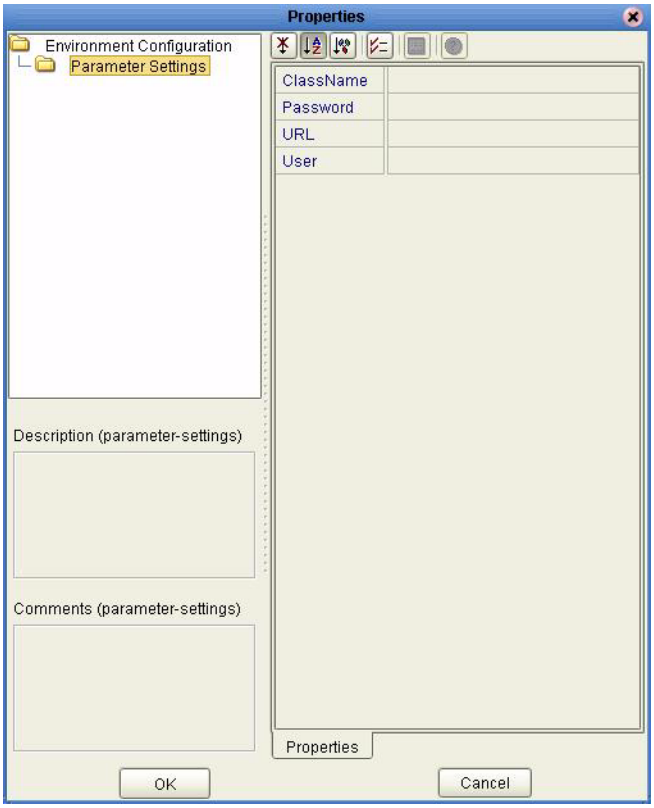
Specifies the user name the eWay uses to connect to the database.

Required Values

Any valid string.

4.1.5. Setting the Properties in the Inbound eWay Environment

Figure 5 Inbound eWay Environment



ClassName

Description

Specifies the Java class in the JDBC driver that is used to implement the ConnectionPoolDataSource interface. Change this as needed for your driver.

Required Values

A valid class name.

Password

Description

Specifies the password used to access the database.

Required Values

Any valid string.

URL

Description

This is the JDBC URL necessary to gain access to the database. The URL usually starts with jdbc; followed by <subprotocol> and ends with information for identifying the data source. The information that identifies the rest of the data source is usually:

For additional information on this, please consult the documentation of your specific driver. For example:

```
jdbc:<driver>:<data-source-name>[;<attribute-name>=<attribute-value>]
```

If you do not select URL in the **connection method** this parameter is ignored.

Required Values

Any valid URL.

User

Description

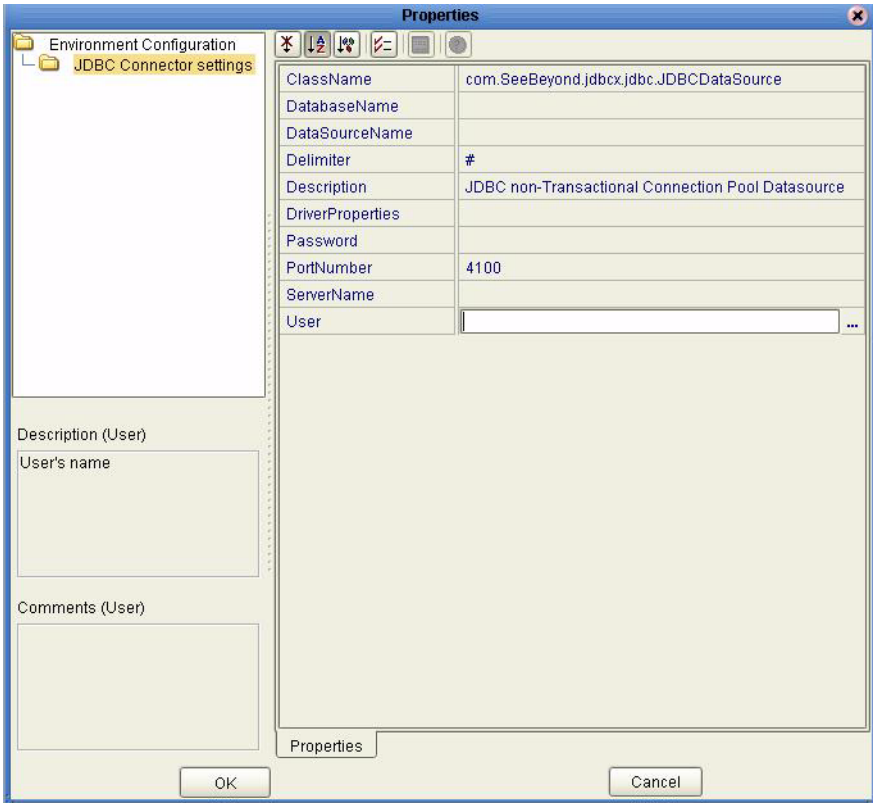
Specifies the user name this eWay uses to connect to the database.

Required Values

Any valid string.

4.1.6 Setting the Properties in the Outbound Non-Transactional eWay Environment

Figure 6 Outbound Non-Transactional eWay Environment Properties



ClassName

Description

Specifies the Java class in the JDBC driver that is used to implement the ConnectionPoolDataSource interface. Change as needed for your driver.

Required Values

A valid class name. The default is **com.SeeBeyond.jdbcx.jdbc.JDBCDataSource**.

DatabaseName

Description

Specifies the name of the database instance.

Required Values

Any valid string.

DataSourceName

Description

Provide the name of the ConnectionPoolDataSource object that the DataSource object delegates behind the scenes when connection pooling or distributed transaction management is being done.

Required Value

Optional. In most cases, leave this box empty.

Delimiter

Description

This is the delimiter character to be used in the DriverProperties prompt.

Required Value

The default is #

Description

Description

Enter a description for the database.

Required Value

A valid string.

DriverProperties

Description

If you choose to not use the JDBC driver that is shipped with this eWay, you will need to add the drivers properties to the eWay. Often times the DataSource implementation will need to execute additional properties to assure a connection. The additional methods will need to be identified in the Driver Properties.

Required Value

Any valid delimiter.

Possible delimiters are: "<method-name-1>#<param-1>#<param-2>##.....<param-n>##<method-name-2>#<param-1>#<param-2>#.....<param-n>##.....##".

For example: to execute the method setURL, give the method a String for the URL "setURL#<url>##".

Password

Description

Specifies the password used to access the database.

Required Values

Any valid string.

PortNumber

Description

Specifies the I/O port number on which the server is listening for connection requests.

Required Values

A valid port number. The default is 4100.

ServerName

Description

Specifies the host name of the external database server.

Required Values

Any valid string.

User

Description

Specifies the user name the eWay uses to connect to the database.

Required Values

Any valid string.

Chapter 5

Using the JDBC eWay Database Wizard

This chapter describes how to use the JDBC eWay Database Wizard to build OTDs.

5.1 Using the Database OTD Wizard

The Database OTD Wizard generates OTDs by connecting to external data sources and creating corresponding Object Type Definitions. The OTD Wizard can create OTDs based on any combination of Tables and Stored Procedures or Prepared SQL Statements.

Field nodes are added to the OTD based on the Tables in the external data source. Java method and parameter nodes are added to provide the appropriate JDBC functionality. For more information about the Java methods, refer to your JDBC developer's reference.

Note: *Database OTDs are not messagable. For more information on messagable OTDs, see the eGate Integrator User's Guide.*

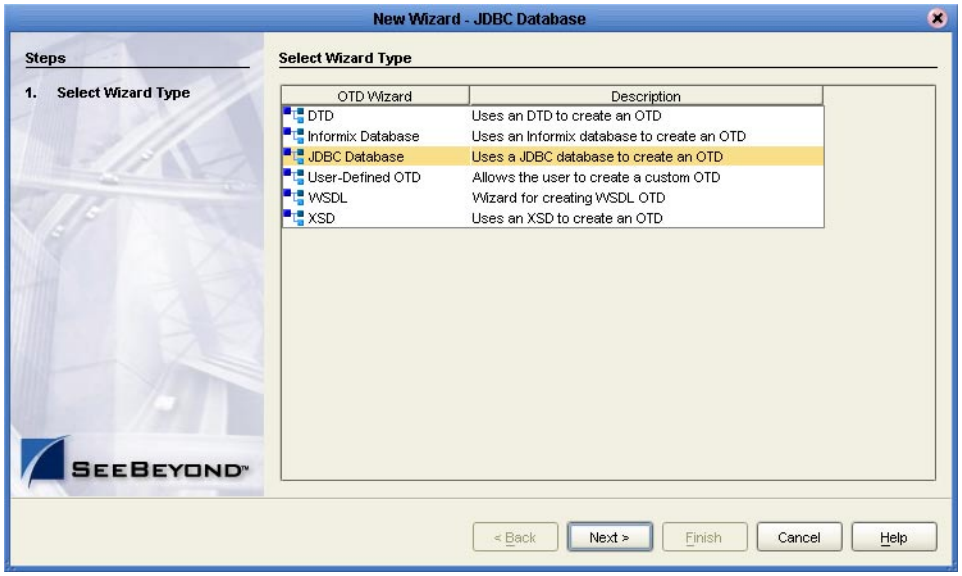
Steps Required to Create an OTD Include:

Select Wizard Type

1 On the Enterprise Explorer, right click on the project and select **New > Create an Object Type Definition** from the shortcut menu.

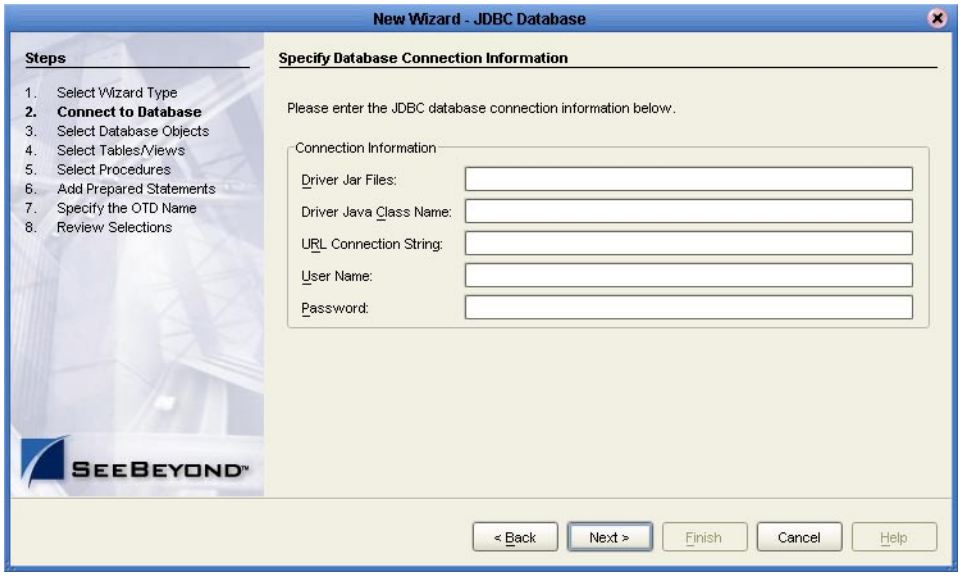
2 The **Select Wizard Type** window appears, displaying the available **OTD** wizards.

Figure 7 OTD Wizard Selection



3 From the list, select the JDBC Database OTD and click **Next**. The **Specify Database Connection Information** window appears.

Figure 8 Database Connection Information



Connect To Database

1 On the Specify Database Connection Information window, enter the following:

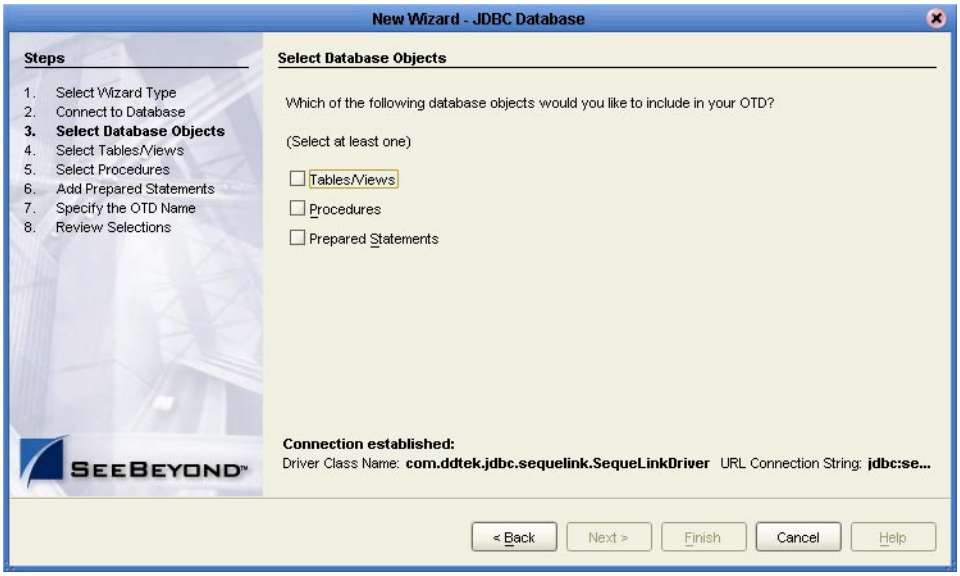
- **Driver Jar Files** – the complete path to driver Jar files, separated by semicolons.
- **Driver Java Class Name** – the driver class name.
- **URL Connection String** – the URL connection string.
- **User Name** – the user name required to log into the database.
- **Password** – the password required to log into the database.

2 Click **Next**. The Select Database Objects window appears.

Select Database Objects

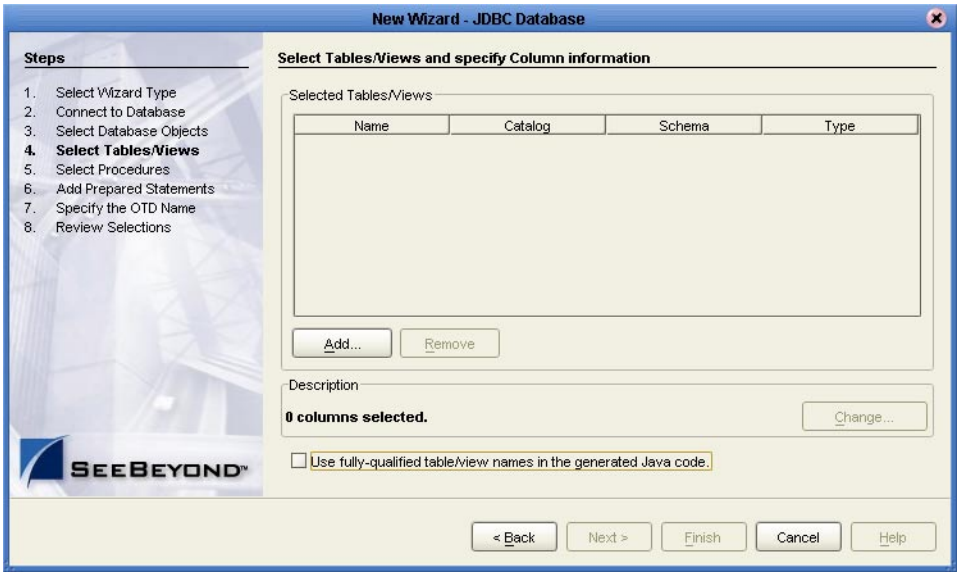
1 On the Select Database Objects window, select **Tables/Views**, **Procedures**, and **Prepared Statements** check boxes.

Figure 9 Select Database Objects



2 Click **Next**. The **Select Tables/Views** window appears. See **Figure 10 on page 29**.

Figure 10 Select Tables/Views



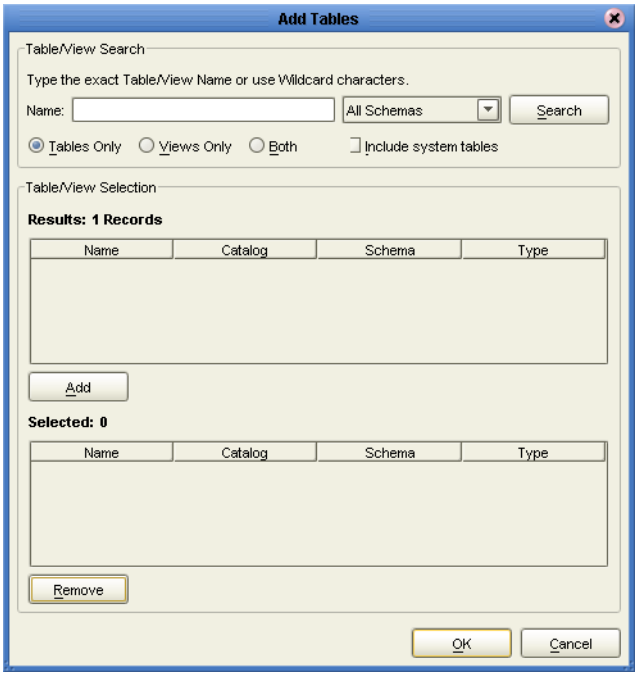
Note: *Views are read-only and are for informational purposes only.*

Note: *Not all drivers provide metadata information such as column names and data types. If your table does not have column names and data types, add them before saving the OTD.*

Select Table/Views

1 On the Select Tables/Views window, click the **Add** button. The **Add Tables** window appears.

Figure 11 Add Tables Window

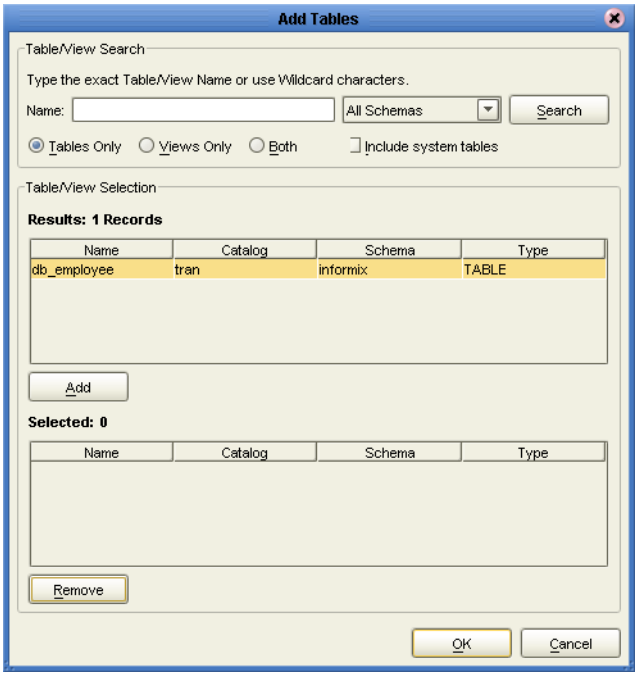


2 In the **Add Tables** window, select if your selection criteria will include table data, view only data, both, and/or system tables.

3 From the **Table/View Name** drop down list, select the location of your database table and click **Search**.

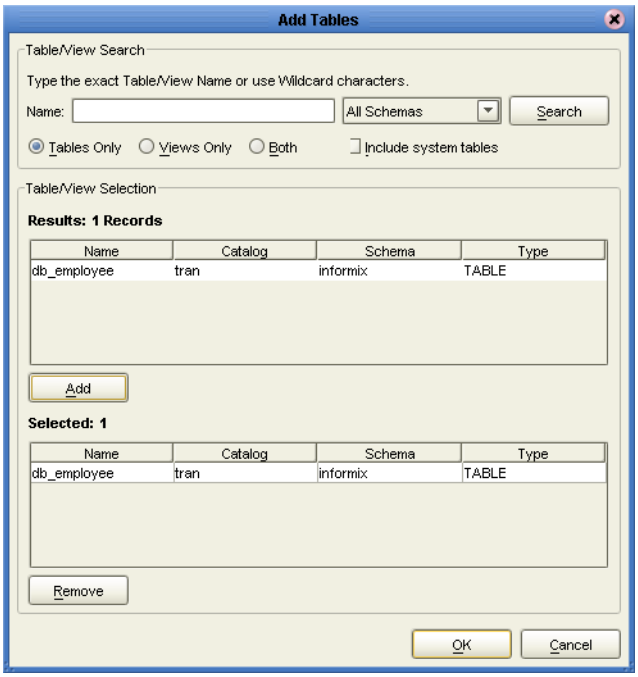
Note: *Click Search to find the desired table or tables. You can also use wildcard characters to search for a table or view. Available wildcard characters include the "?", "_", and "*". For example, you can use "AB?CD", "AB_CD", or "AB*CD". However, do not use "%". Using this character results in nothing being returned.*

Figure 12 Database Wizard - All Schemes



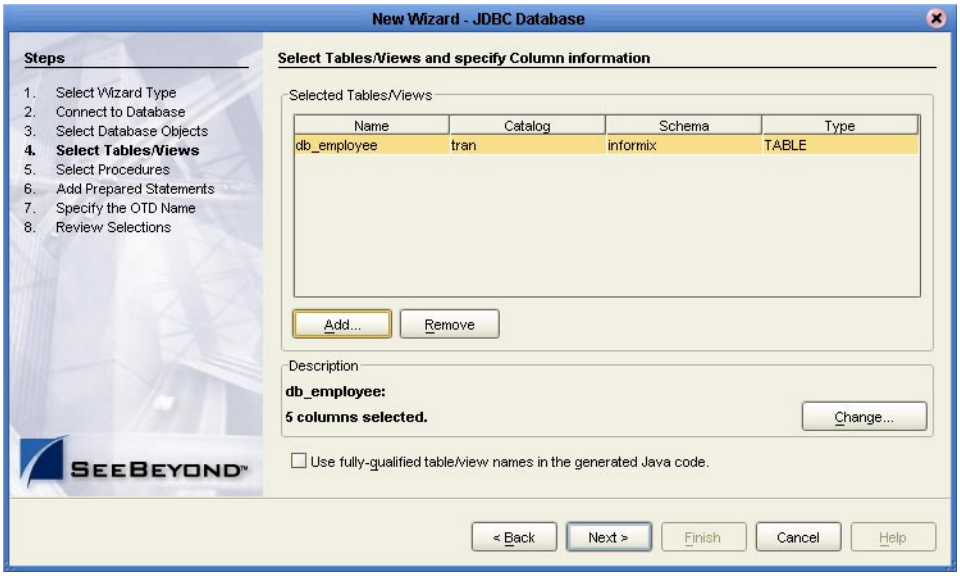
4 Select a table and click **OK**. The selected table is added to the **Selected Tables/ Views** window. See **Figure 13**.

Figure 13 Selected Tables/Views window with a table selected



5 On the Selected Tables/Views window, review your selected tables. To make changes to the selected Table or view, click **Change**, or click **Next** if no additional changes are required.

Figure 14 Selected table and column window

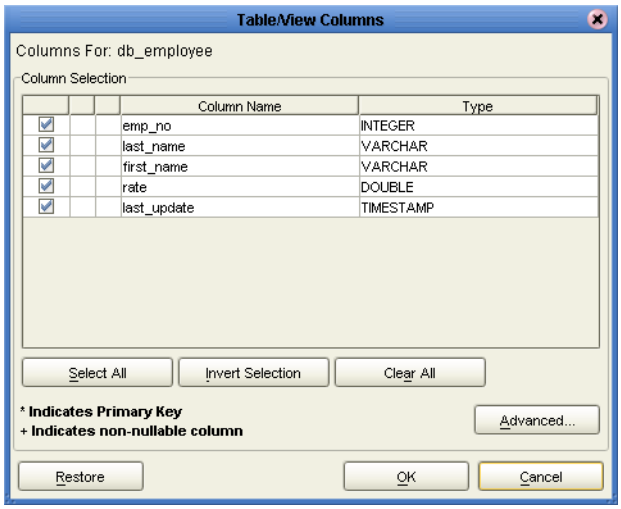


6 If you click **Change**, the Table/View Columns window appears, allowing you to select or deselect any table columns. You can also change the data type for each table by highlighting the data type and selecting a different data type from the drop-down list. Double check the datatypes the driver is returning. If they are not correct, change them to the appropriate types.

The buttons in this window include:

- **Select All** – allows you to select all columns.
- **Invert Selection** – allows you to invert the order of the selected columns.
- **Clear All** – allows you to deselect all columns.
- **Advanced** – allows you to perform advanced operations with the columns. See the *eGate Integrator User's Guide* for details.
- **Restore Metadata** – allow you to restore the data to its original state before you made any changes via the wizard; returns you to the **Specify Database Connection** window.

Figure 15 Table/View Columns window



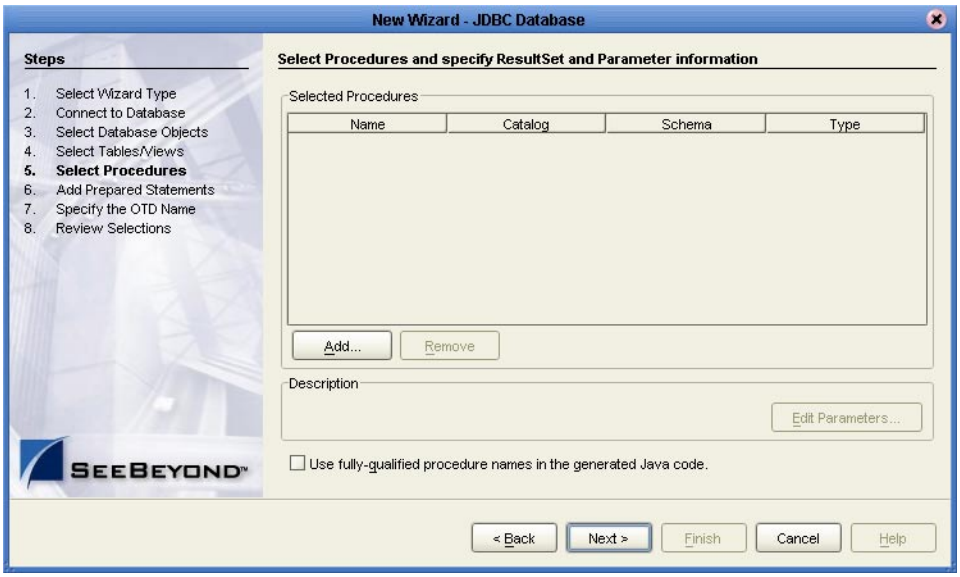
7 When you are finished using this window, click **OK** to save your changes and return to the **Select Tables/Views** window.

Note: *When using Prepared Statement packages, select* ***Use fully qualified table/view names in the generated code****. See* **Figure 14***.*

Select Procedures

1 On the **Select Procedures and specify Resultset and Parameter Information** window, click **Add**.

Figure 16 Select Procedures window

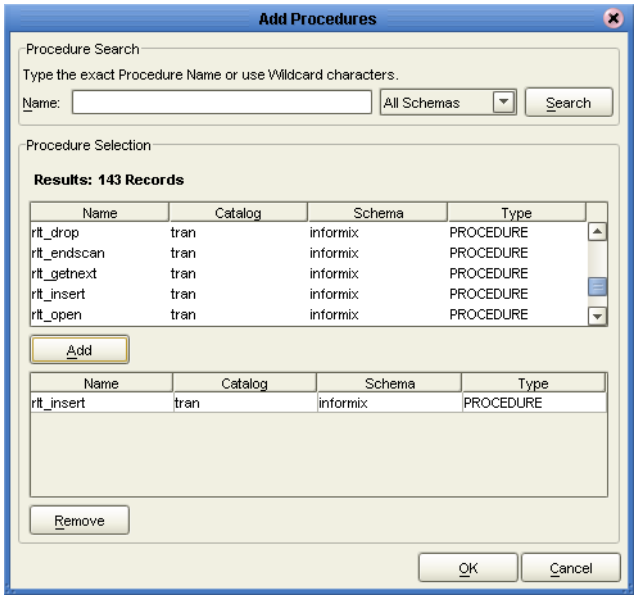


2 On the **Select Procedures** window, enter the name of a Procedure or select a table from the drop down list. Click **Search**. Wildcard characters can also be used.

Note: *On some connected databases, you must use lower case schema names when calling stored procedures.*

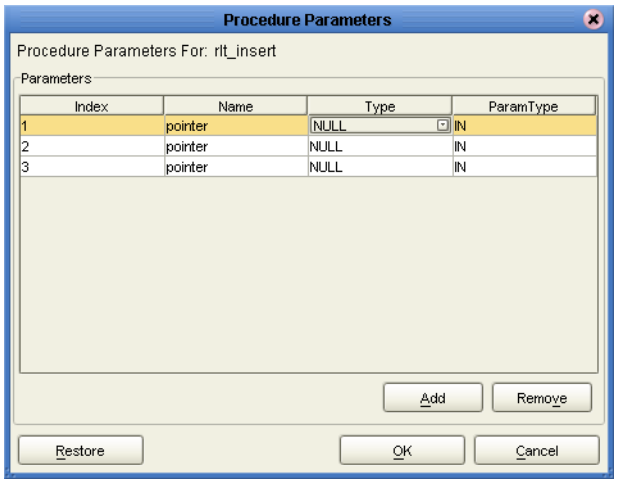
3 In the resulting **Procedure Selection** list box, select a Procedure. Click **OK**.

Figure 17 Add Procedures



4 On the **Select Procedures and specify Resultset and Parameter Information** window click **Edit Parameters** to make any changes to the selected Procedure.

Figure 18 Procedure Parameters



5 To restore the data type, click **Restore**. When finished, click **OK**.

6 On the **Select Procedures and specify Resultset and Parameter Information** window click **Next** to continue.

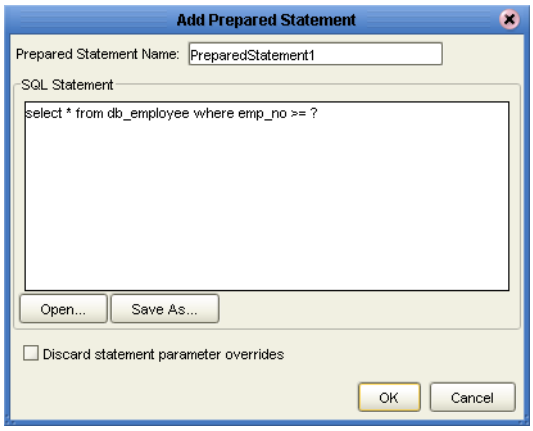
Note: *At this time, Resultset is not supported.*

Add Prepared Statements

1 On the **Add Prepared Statements** window, click **Add**. The **Add Prepared Statement** window appears.

2 Enter the name of a Prepared Statement and create a SQL statement using the SQL Statement window.

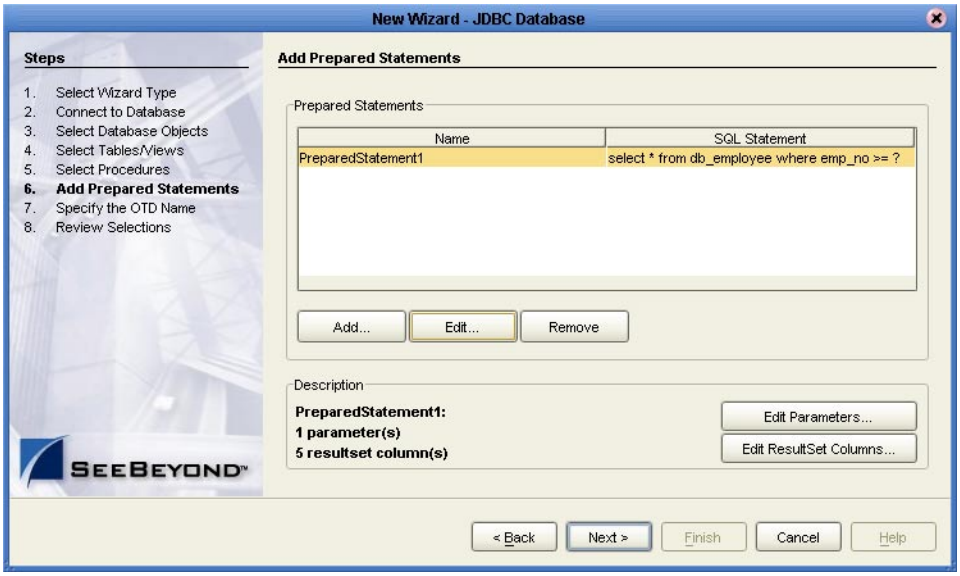
Figure 19 Prepared SQL Statement



3 Click **Save As** to save the statement a name, or click the **OK** button to exit the window.

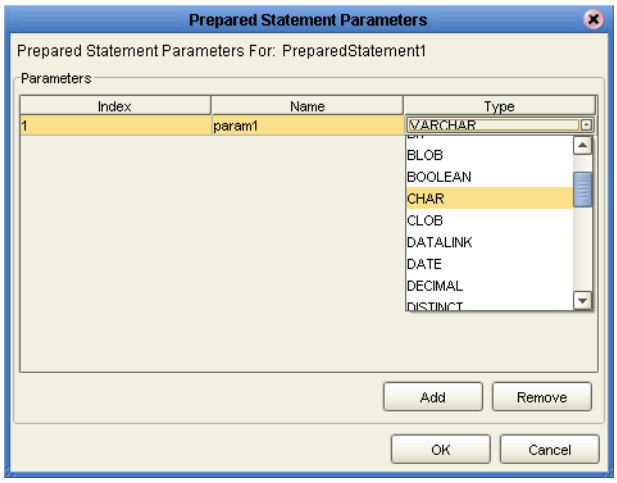
On the **Add Prepared Statement** window, the name you assigned to the Prepared Statement appears.

Figure 20 Add Prepared Statement window



4 To edit the parameters, click **Edit Parameters**. You can change the datatype by clicking in the **Type** field and selecting a different type from the list.

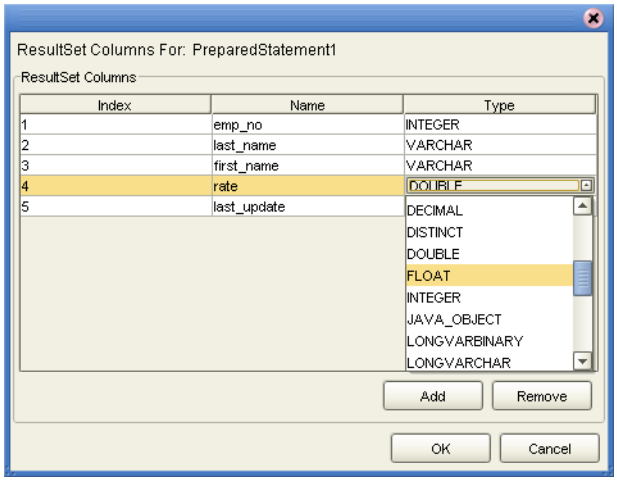
Figure 21 Edit the Prepared Statement Parameters



5 Click **Add** if you want to add additional parameters to the Statement or highlight a row and click **Remove** to remove it. Click **OK** to save your changes and exit the window. Double check the datatypes the driver is returning. If they are not correct, change them to the appropriate types.

6 To edit the Resultset Columns, click **Edit Resultset Columns**. Both the Name and Type are editable. Click **OK** to save your changes and exit the window.

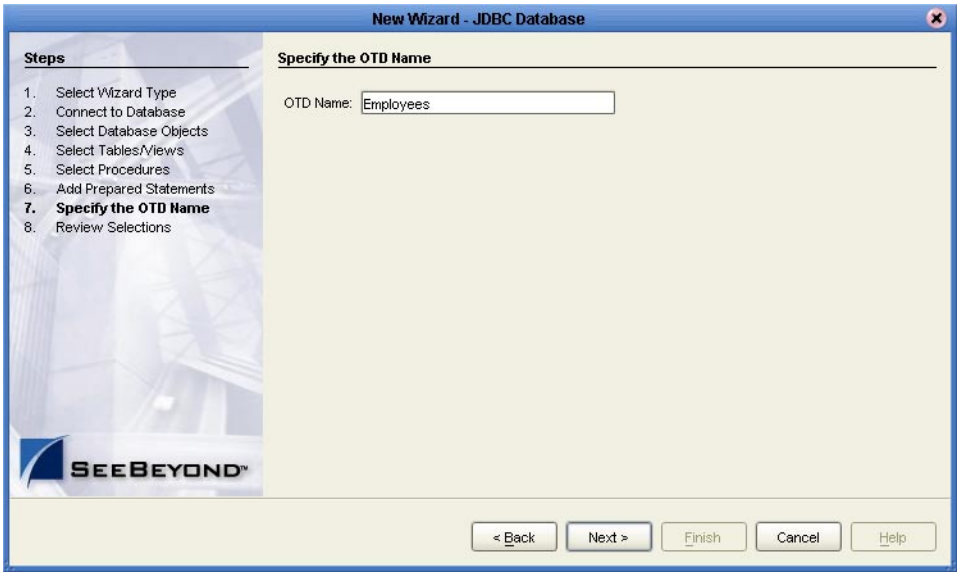
Figure 22 ResultSet Columns



Specify the OTD Name

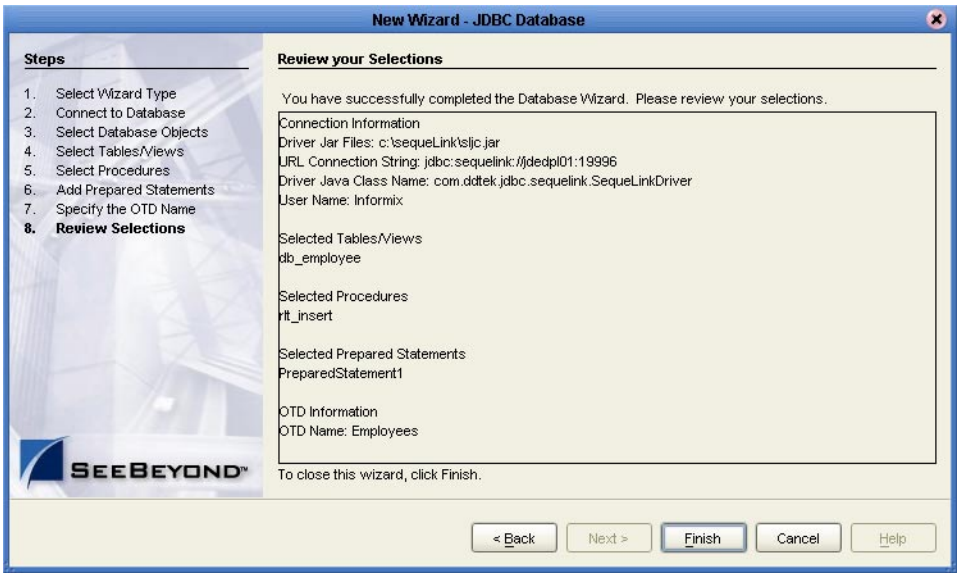
1 On the **Specify the OTD Name** window, enter a name for the OTD. The OTD contains the selected tables and the package name of the generated classes. See **Figure 23**.

Figure 23 Naming an OTD



2 View the summary of the OTD. To return to the previous screen, click **Back.** If you are satisfied with the OTD information, click **Finish** to begin generating the OTD. The resulting **OTD** appears on the Enterprise Designer's canvas. See **Figure 24**.

Figure 24 Database Wizard - Summary



Chapter 6

Working with the Sample Projects

This chapter describes how to build an JDBC eWay project in a production environment.

This Chapter Includes:

Note: *While several steps are required to create, activate, and deploy a Project, only the steps containing information relevant to the JDBC eWay are included in this chapter. For more detailed information on how to complete a sample Project, see the eGate Integrator Tutorial.*

6.1 Sample Projects Overview

Sample Projects are designed to provide an overview of the basic functionality of the JDBC/ODBC eWay by identifying how information is passed between eGate and supported external databases.

Sample Projects Include:

JDBC_JCE_Sample – demonstrates how to use the insert, update, delete, and select employee records from the db_employee table using eGate Integrator.

JDBC_BPEL_Sample – demonstrates how to insert, update, delete, and select employee records from the db_employee table using eInsight's BPEL business process.

Sample Data Used:

Data used for the sample Projects are contained within a table called **db_employee**. The table has the following columns:

Table 1 Sample Project data – db_employee table

Column Name	Data Type	Data Length
emp_no	INTEGER	10
last_name	STRING	30
first_name	STRING	30
rate	FLOAT	15
last_update	DATE	19

6.2 Locating and Importing the Sample Projects

The eWay sample Projects are included in the **JDBCeWayDocs.sar**. This file is uploaded separately from the JDBC eWay SAR file during installation.

Upload the JDBCeWayDocs.sar file to the Repository and begin downloading the sample Projects using the **DOCUMENTATION** tab in the Enterprise Manager to a folder of your choosing.

To use the sample Project, first import it into the SeeBeyond Enterprise Designer using the Enterprise Designer Project Import utility.

To Import the Sample Project:

1. From the Enterprise Designer's Project Explorer pane, right-click the Repository and select **Import**.
2. In the **Import Manager** window, browse to the directory that contains the sample Project zip file.
3. Select the sample file and then click **Open**.
4. Click the **Import** button. If the import was successful, then click the **OK** button on the **Import Status** window.

6.3 Running the Sample Projects

Steps required to run a sample Project include:

- Setting the Properties
- Creating the external Environment
- Deploying the Project
- Running the Sample

6.3.1 Setting the Properties

The sample uses both inbound and outbound File eWays, as well as an outbound JDBC eWay. Use the following information to configure the sample Project eWays. For additional information on the eWay properties, see **Configuring the eWay Connectivity Map Properties** on page 10.

To Configure File eWays:

1. On the Connectivity Map canvas double-click the **Inbound File eWay**. The **Properties** window for the Inbound File eWay opens.
2. Modify the parameter settings for your system. Change the Directory and Input file name to match the location and name of the sample data file.
3. Click **OK** to close the **Properties** window.
4. On the Connectivity Map, double-click the Outbound File eWay. The **Properties** window for the Outbound File eWay opens.
5. Modify the required parameter settings for your system, including the target Directory and Output file name. For the included samples, change the Directory field to **<valid path to the directory where the output file will be stored>**. The Output File Name to **Output1.dat**. For the remaining parameters, use the default settings.
6. Click **OK** to close the Properties window.

To Configure the Outbound JDBC eWay:

1. On the Connectivity Map, double-click the JDBC eWay.
2. The **Properties** window for the JDBC eWay opens. Modify the parameter settings for your system. Click **OK** to close the Properties window.

6.3.2. Creating the External Environment

To review the components of the Sample project, there is an Inbound and an Outbound File eWay, an eWay, and a Collaboration.

To create the external environment for the Sample project:

1. On the Environment Explorer, highlight and right-click the JDBC profile.

2 Select **Properties** and enter the configuration information required for your Outbound JDBCeWay. See **Working with eWay Property Sheets** on page 10.

6.3.3 Deploying a Project

For instruction on deploying a sample Project, see the *eGate Integrators User's Guide*.

6.3.4. Running the Sample

For instruction on how to run a Sample project, see the *eGate Integrator Tutorial*.

Once the process has completed, the Output file in the target directory configured in the Outbound File eWay will contain all records retrieved from the database in a text format.

6.4 A Word about Drivers

Drivers are uniquely different in what they do and the type of functions they support. The JDBC/ODBC eWay allows you to pick and choose which driver is best suited for your application environment.

There are, or can be, significant differences and limitations between drivers. The performance and functionality of the JDBC/ODBC eWay depends on the selected driver(s). Certain drivers may not support all JDBC features. Consult the documentation for your respective drivers) for more information.

6.4.1 Drivers Used to Create Sample Projects

Sample Projects included with this eWay use the DataDirect Technology SequeLink **sljc.jar** driver. When using any driver to build OTDs, be sure to include the absolute path in the Database Connection Information window. See **Figure 8 on page 27**. Alternately, you can also copy the jar file to:

`ican50\logicalhost\stcis\lib`.

To set up a spylog, insert the following string in the JDBC eWay Environment Properties window.

```
setSpyAttributes#log=(file)c:/temp/spy.log;logTName=yes##
```

You must also copy the **spy.jar** driver to:

`ican50\logicalhost\stcis\lib`.

6.4.2 Troubleshooting Your Drivers

Refer to the following when troubleshooting Driver issues.

- The ReceiveOne operation in BPEL is not supported when using inbound functions with some drivers.

- Some drivers do not support Updatable Resultsets. If you find this to be the case, use a Prepared Statement to Update, Insert, and Delete data.
- Not all drivers provide metadata information such as column names and data types. If your table does not have column names and data types, add them before saving the OTD.

6.5 Using the Sample Project in eInsight

To begin using the sample eInsight Business Process project, you must first import the project and view it from within the Enterprise Designer using the Enterprise Designer Project Import utility. Import the **JDBC_BPEL_Sample** file contained in the eWay sample folder on the installation CD-ROM.

Note: *eInsight is a Business Process modeling tool. If you have not purchased eInsight, contact your sales representative for information on how to do so.*

Before recreating the sample Business Process, review the *eInsight Business Process Manager User's Guide* and the *eGate Integrator Tutorial*.

6.5.1 eInsight Engine and eGate Components

You can deploy an eGate component as an Activity in an eInsight Business Process. Once you have associated the desired component with an Activity, the eInsight engine can invoke it using a Web Services interface. Examples of eGate components that can interface with eInsight in this way are:

- Java Messaging Service (JMS)
- Object Type Definitions (OTDs)
- An eWay
- Collaborations

Using the eGate Enterprise Designer and eInsight, you can add an Activity to a Business Process, then associate that Activity with an eGate component, for example, an eWay. When eInsight runs the Business Process, it automatically invokes that component via its Web Services interface.

6.6 Working with Business Process Activities

You can associate an eInsight Business Process Activity with the eWay, both during the system design phase and during run time. To make this association, select the desired operation, found under the Project OTD in Enterprise Explorer and drag it onto the eInsight Business Process canvas.

The following operations are available:

- SelectAll
- SelectMultiple
- SelectOne
- Insert
- Update
- Delete

The operation automatically changes to an Activity with an icon identifying the component that is the basis for the Activity.

At run time, the eInsight engine invokes each step in the order that you defined in the Business Process. Using the engine's Web Services interface, the Activity in turn invokes the eWay. You can open a file specified in the eWay and view its contents before and after the Business Process is executed.

Note: *For information on how to create a database OTD, refer to* **Creating the OTD** *on page 33.*

The table below shows the inputs and outputs to each of these eInsight operations:

eInsight Operation	Input	Output
SelectAll	where() clause (optional)	Returns all rows that fit the condition of the where() clause
SelectMultiple	number of rows where() clause (optional)	Returns the number of rows specified that fit the condition of the where() clause
SelectOne	where() clause (optional)	Returns the first row that fits the condition of the where() clause
Insert	definition of new item to be inserted	Returns status.
Update	where() clause, and definition of new item to be inserted	Returns status.
Delete	where() clause	Returns status.

6.7 Working with the JDBC_BPEL_Sample Sample Project

The **JDBC_BPEL_Sample** sample Project uses four business processes to demonstrate database operations.

Operations used in the sample Project include:

- Select One
- Update
- Insert
- Delete

Using the where() Clause

A BPEL where() clause statement is used throughout the samples. It can be joined by AND/OR with conditions of "=", "!=", "<>", "<", ">", "<=", ">=".

For example: where() Clause such as where column2=2 AND column1=1 OR column3=3 is valid

Note: *Refer to the eInsight Business Process Manager User's Guide for specific information on creating and using a Business Process in eInsight*

Using Triggers

Sample Projects in this chapter use triggers to initiate the business process. You can find triggers for each of the operations in the sample Project folder.

6.7.1 SelectOne

The Select One database operation describes how to retrieve the last name of an employee in the database. In this sample, SelectOne operation uses a where() clause to define the criteria for selecting, and returning the first row in the database that meets required conditions.

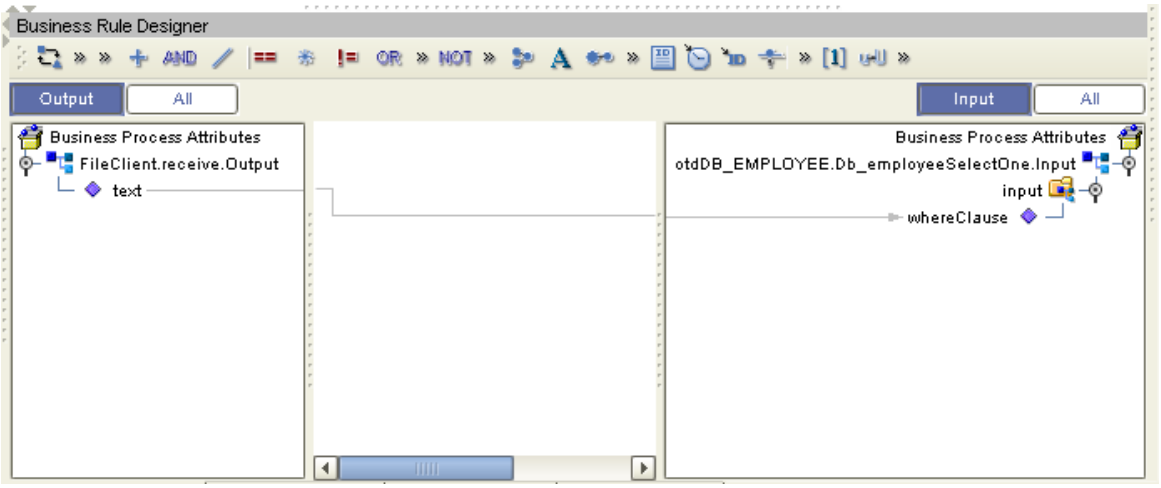
This business process describes the account retrieval process seen in **Figure 25**.

Figure 25 Employee Name Retrieval

Business Process:

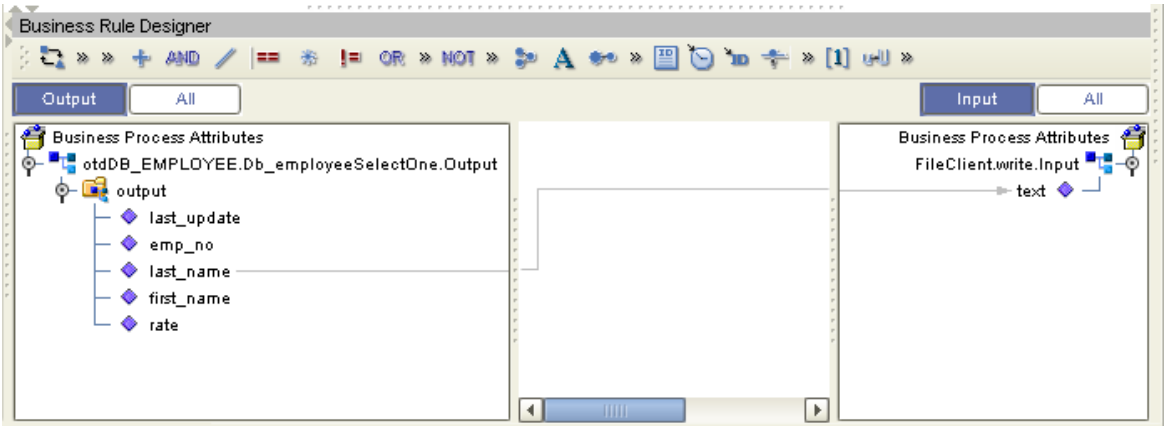
1. The File eWay subscribes to an external directory and activates a trigger (emp_no > 0) to query the database.
2. A where() clause loops through the database and queries the first record matching the criteria.

Figure 26 BP_GetEmployee Business Process - Find Name



3. The employee's last name (last_name) is written into an input file, before passing onto the Outbound File eWay.

Figure 27 BP_GetEmployee Business Process - Send Name



6.7.2 Insert

The Insert operation inserts a new row in the db_employee table. An empty trigger is used to initiate the operation. Data for the Insert is provided by using String Literal found in the business process.

Figure 28 shows a sample eInsight Business Process using the Insert operation.

Figure 28 Insert Sample Business Process

Figure 29 shows the input data used for the Insert operation.

Figure 29 Insert Input

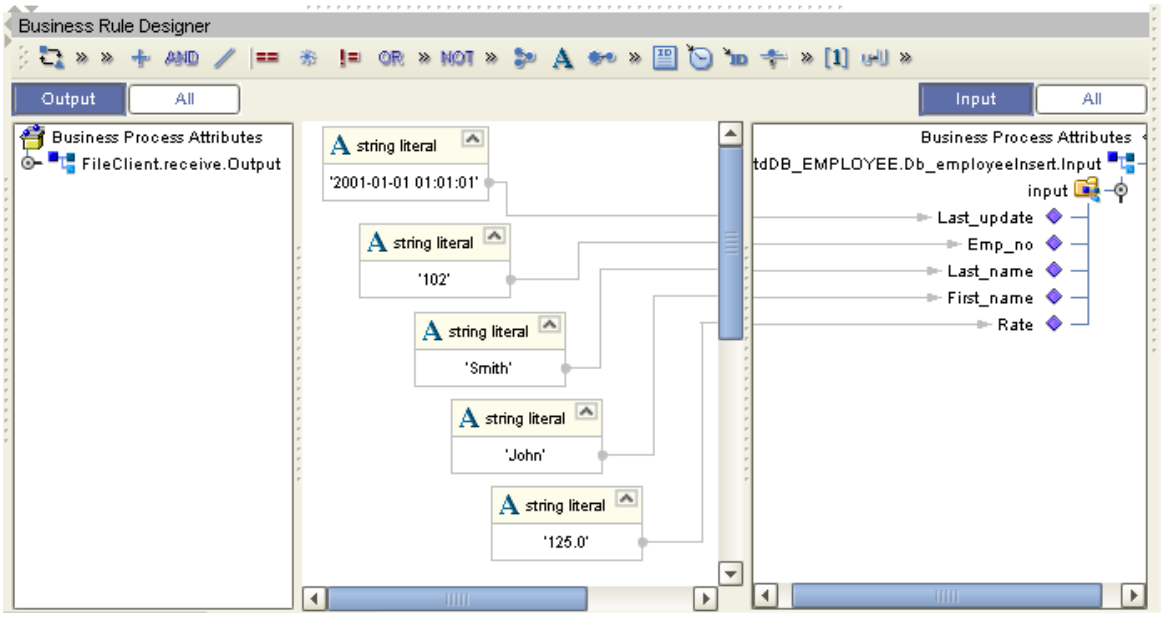
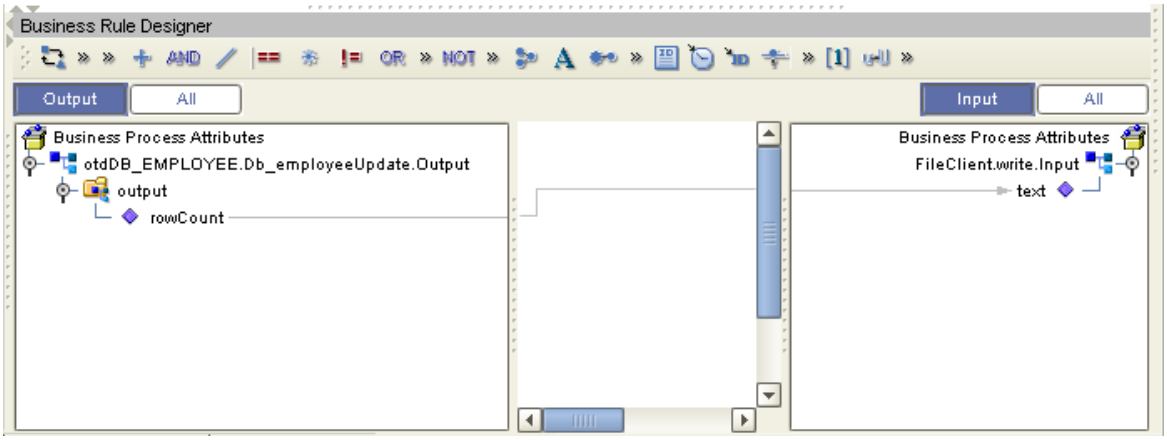


Figure 30 shows the output of the Insert operation, which is a status indicating the number of rows created.

Figure 30 Insert Output



6.7.3 Update

The Update operation updates rows that fit certain criteria defined in a where() clause. An empty trigger is used to initiate the operation.

Figure 31 shows a sample eInsight Business Process using the Update operation. In this process, the operation updates a rate for a certain employee.

Figure 31 Update Sample Business Process

Figure 32 shows the definition of the where() clause for the Update operation. In this example, employee number 115 is updated to have a new rate of 168.75.

Figure 32 Update Input

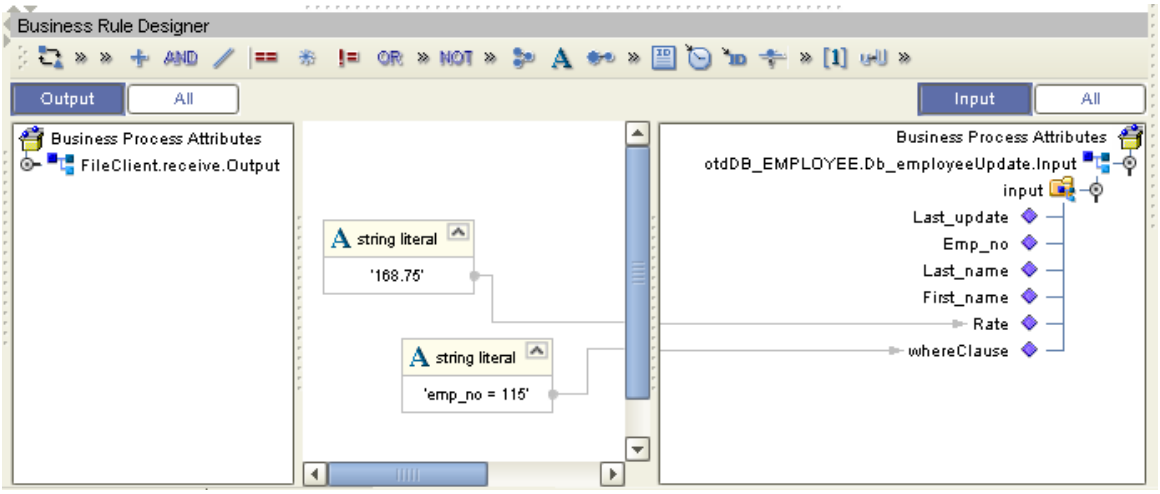
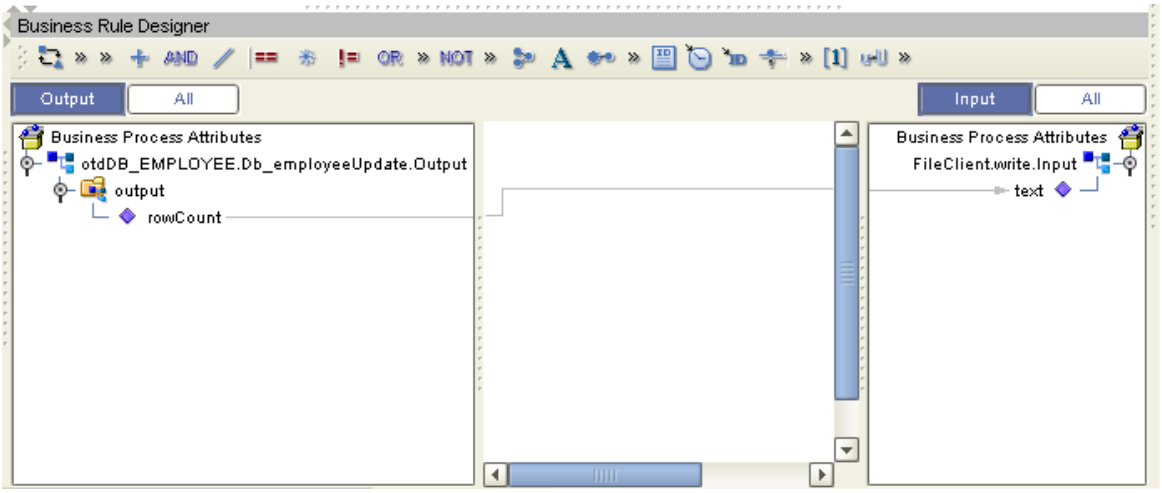


Figure 33 shows the output of the Update operation, which is a status indicating the number of rows updated.

Figure 33 Update Output



6.7.4 Delete

The Delete operation deletes rows that match the criteria defined in a where() clause. An empty trigger is used to initiate the operation. The output is a status of how many rows where deleted.

Figure 34 shows a sample eInsight Business Process using the Delete operation. In this process, the operation deletes a row that matches a certain employee number.

Figure 34 Delete Sample Business Process

Figure 35 shows the definition of the where() clause for the Delete operation. In this example, employee 115 is deleted.

Figure 35 Delete Input

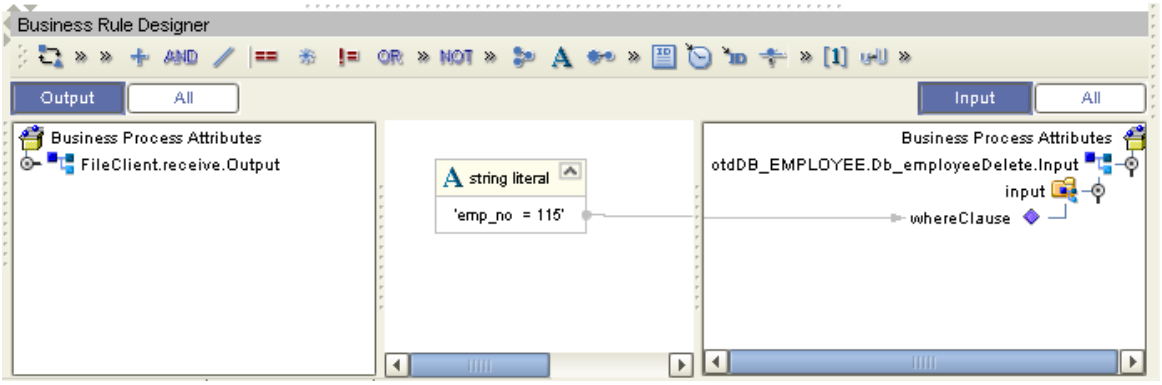
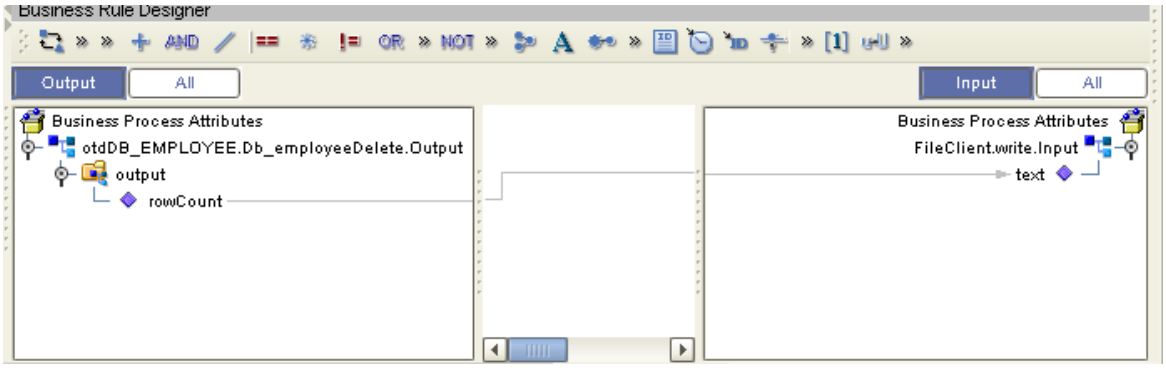


Figure 36 shows the output of the Delete operation, which is a status indicating the number of rows deleted.

Figure 36 Delete Output



6.8 Additional BPEL Operation Examples

Listed below are examples of the two additional operations—SelectAll and SelectMultiple—that are not included in the sample Project.

6.8.1 SelectAll

The input to a SelectAll operation uses a where() clause to define the criteria for selecting, and returning all rows from the database.

Figure 37 shows a sample eInsight Business Process using the SelectAll operation. In this process, the SelectAll operation returns all rows where the emp_no is >=0.

Figure 37 SelectAll Sample Business Process

Figure 38 shows the definition of the where() clause for the SelectAll operation.

Figure 38 SelectAll Input

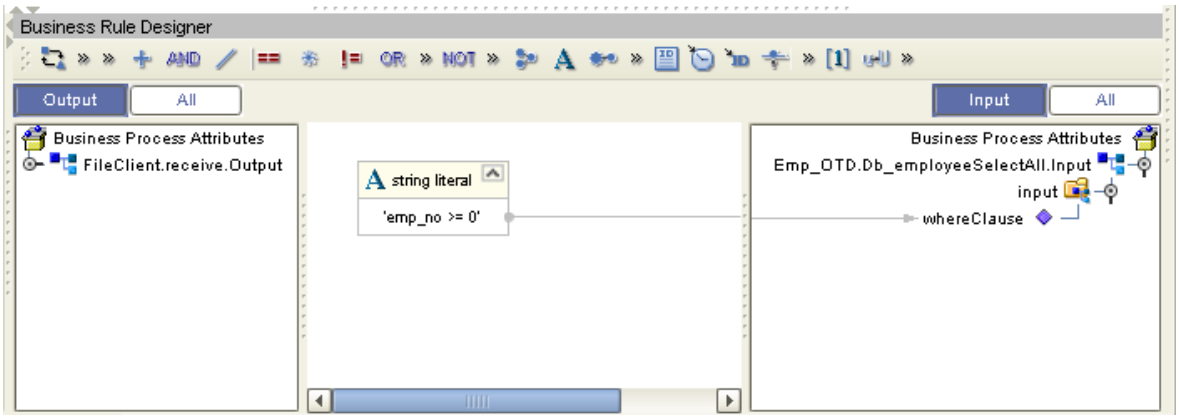
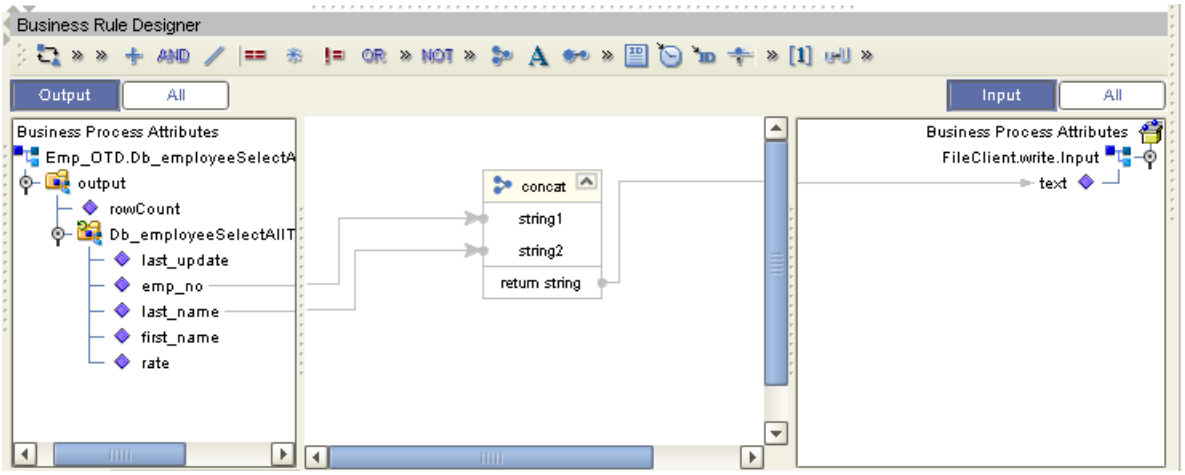


Figure 39 shows the output for the SelectAll operation. For each row selected during the operation, the employee number and last name are concatenated and passed out as text using the FileClient.write.

Figure 39 SelectAll Output



6.8.2 SelectMultiple

The input to a SelectMultiple operation uses a where() clause to define the criteria for selecting, and returning a specific number of rows from the database.

Note: *In order to return multiple rows using the SelectMultiple function, the results of the function must be marshalled into an OTD using a repeat element.*

Figure 40 shows a sample eInsight Business Process using the SelectMultiple operation. In this process, the SelectMultiple operation returns three rows specified in the where() clause.

Figure 40 SelectMultiple Sample Business Process

Figure 41 shows three rows requested using the where() clause. In this example, we are requesting everything from the table where emp_no is equal to 103, 109, and 117.

Figure 41 SelectMultiple Input

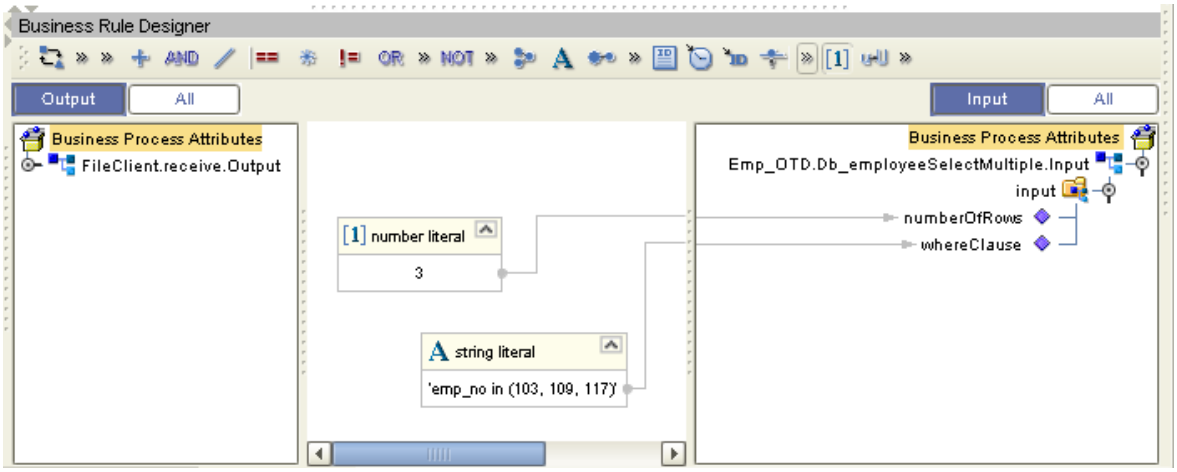
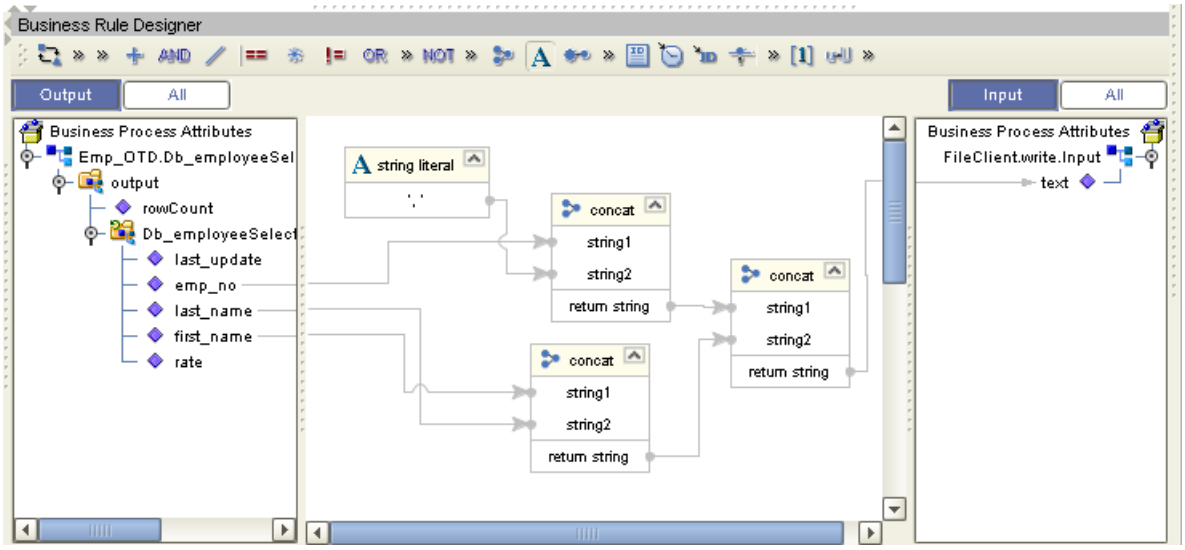


Figure 42 shows the output for the SelectMultiple operation. For each row selected during the operation, the employee number, first and last name are returned as text using the FileClient.write.

Figure 42 SelectMultiple Output



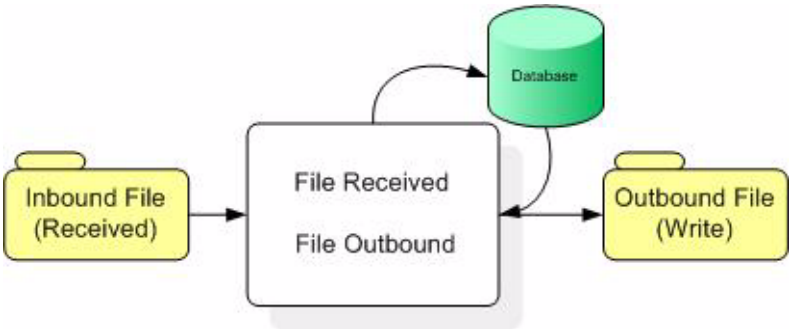
6.9 Using the Sample Projects in eGate

To import the **JDBC_JCE_Sample** eGate sample Project, follow the instructions given in **Locating and Importing the Sample Projects** on page 40.

6.9.1 Working with the Sample Projects in eGate

Input data for the sample Project first passes into a Collaboration, which then interacts with the external database to insert, update, delete, or select information in the db_employee table. Resulting data then passes to an output file for verification.

Figure 43 Database project flow



Additional instructions on working with sample Projects are provided in the *eGate Integrator Tutorial*.

Note: *Outbound database eWays are available when using a JCE Collaboration. To poll the database, you must use the Scheduler or the File eWay.*

JDBC_JCE_Sample

The **JDBC_JCE_Sample** sample Project uses input files to pass data into Collaborations. There are four Collaborations that demonstrate the Insert, Update, Delete, and Select operations, and one Collaboration to demonstrate a Prepared Statement. Results are written out to an output file and the input files are contained in the sample Project folder.

Collaborations used in the sample Project include:

jceTableInsert – inserts a new row for a "John Smith" that contains a rate of "125" and time stamp of "2004-02-06 11:50:00".

jceTableUpdate – updates any record with a last name like "Smith" to have a last name of "Doe" and a new rate of "33.88".

jceTableDelete – deletes the table db_employee.

jceTableSelect – selects all employees with an employee number greater than "100" and writes the results of the employee number and last name to a text file.

jcePreparedStatement – uses a prepared statement to select all records from the db_employee table, and write the last names to a text file.

6.10 Sample of Supported Data Types

The following is an example of some possible data types. Check your driver documentation for more information:

Table 2 Sample of Standard Data Types Supported by the eWay

Data Type	Description	Column Length
Number	Variable-length numeric data. Maximum precision p and/or scale s is 38.	Variable for each row. The maximum space required for a given column is 21 bytes per row.
VarChar2	Variable-length character data, with maximum length size bytes or characters.	Variable for each row, up to 4000 bytes per row. Consider the character set (single-byte or multibyte) before setting size. A maximum size must be specified.
Char	Fixed-length character data of length size bytes or characters.	Fixed for every row in the table (with trailing blanks); maximum size is 2000 bytes per row, default size is 1 byte per row. Consider the character set (single-byte or multibyte) before setting size.
Raw	Variable-length raw binary data.	Variable for each row in the table, up to 2000 bytes per row. A maximum size must be specified. Provided for backward compatibility.
Long	Variable-length character data.	Variable for each row in the table, up to 2^{32} - 1 bytes, or 2 gigabytes, per row. Provided for backward compatibility.
Clob		Up to 2^{32} - 1 bytes, or 64k.

Data Type	Description	Column Length
Date	Fixed-length date and time data, ranging from Jan. 1, 4712 B.C.E. to Dec. 31, 4712 C.E.	Fixed at 7 bytes for each row in the table. Default format is a string (such as `DD-MON-RR`) specified by the `NLS_DATE_FORMAT` parameter. Oracle expects a format of: "YYYY-MM-DD; hh:mm:ss.x".

6.11 Converting Sample Data Types in the eWay

When working with data in the JDBC eWay OTD's, you may need to do a data conversion. The following tables is an example of sample conversions.:

Table 3 Insert and Update Operations Sample Datatype Conversions (Text/String input data)

Data Type	OTD/Java Data Type	Java Method or New Constructor to Use (Default: Java Method)	Sample Data
Int	BigDecimal	**Call a New Constructor BigDecimal**: java.math.BigDecimal(String)	123
Smallint	BigDecimal	**Call a New Constructor BigDecimal**: java.math.BigDecimal(String)	123
Number	BigDecimal	**Call a New Constructor BigDecimal**: java.math.BigDecimal(String)	123
Decimal*	BigDecimal	**Call a New Constructor BigDecimal**: java.math.BigDecimal(String)	147.78
Real	Double	**Double**: java.lang.Double.parseDouble(String)	147.78
Float	Double	**Double**: java.lang.Double.parseDouble(String)	147.78
Double	Double	**Double**: java.lang.Double.parseDouble(String)	147.78
Date	TimeStamp	**TimeStamp**: java.sql.TimeStamp.valueOf(String)	2003-08-11 11:47:39.0
Varchar2	String	Direct Assign	Any character
Char	String	Direct Assign	Any character

Data Type	OTD/Java Data Type	Java Method or New Constructor to Use (Default: Java Method)	Sample Data
Long Char	String	Direct Assign	Any character
Raw	Byte[]	**String**: java.lang.String.getBytes()	Any character
Long Raw	Byte[]	**String**: java.lang.String.getBytes()	Any character
CLOB	Clob	See Appendix	Any character

Table 4 Sample Select Operation Datatype Conversion (Text/String output data)

Data Type	OTD/Java Data Type	Methods To Use	Sample Data
Int	BigDecimal	**BigDecimal**: java.math.toString()	123
SmallInt	BigDecimal	**BigDecimal**: java.math.toString()	123
Number	BigDecimal	**BigDecimal**: java.math.toString()	123
Decimal	BigDecimal	**BigDecimal**: java.math.toString()	123.67
Real	Double	**Double**: java.lang.Double.toString(double)	123
Float	Double	**Double**: java.lang.Double.toString(double)	123
Double	Double	**Double**: java.lang.Double.parseDouble(String)	123
Date	TimeStamp	**TimeStamp**: java.sql.TimeStamp.valueof()	2003-08-11 11:47:39.0
Varchar2	String	Direct Assign	Any characters
Char	String	Direct Assign	Any Characters
Raw	Byte[]	N/A	N/A
Long Raw	Byte[]	N/A	N/A
CLOB	Clob	N/A	N/A

6.12 Using OTDs with Tables, Views, and Stored Procedures, and Prepared Statements

Tables, Views, and Stored Procedures, and Prepared Statements are manipulated through OTDs. Common operations include insert, delete, update, and query.

Note: *Some drivers do not support updatable ResultSets. Use a Prepared Statement instead.*

6.12.1 The Table

A table OTD represents a database table. It consists of fields and methods. Fields correspond to the columns of a table while methods are the operations that you can apply to the OTD. This allows you to perform query, update, insert, and delete SQL operations in a table.

By default, the Table OTD has UpdatableConcurrency and ScrollTypeForwardOnly. The type of result returned by the select() method can be specified using:

- SetConcurrencytoUpdatable
- SetConcurrencytoReadOnly
- SetScrollTypetoForwardOnly
- SetScrollTypetoScrollSensitive
- SetScrollTypetoInsensitive

The methods should be called before executing the select() method. For example,

```
getDBEmp().setConcurToUpdatable();
getDBEmp().setScroll_TypeToScrollInsensitive();
getDBEmp().getDB_EMPLOYEE().select("");
```

Note: *The above select() method is driver dependent and may not work with all drivers.*

The Query Operation

To perform a query operation on a table

1. Execute the **select()** method with the "**where**" clause specified if necessary.
2. Loop through the ResultSet using the **next()** method.
3. Process the return record within a **while()** loop.

For example:

```
package SelectSales;
public class Select
{

public com.stc.codegen.logger.Logger logger;
public com.stc.codegen.alerter.Alerter alerter;
public void receive(
com.stc.connector.appconn.file.FileTextMessage
```

```
input,com.stc.connector.appconn.file.FileApplication
FileClient_1,db_employee.Db_employeeOTD
db_employee_1,employeedb.Db_employee employeedb_db_employee_1 )
throws Throwable
  {
//@map:Db_employee.select(Text)
   db_employee_1.getDb_employee().select( input.getText() );
//while
  while (db_employee_1.getDb_employee().next()) {
//@map:Copy EMP_NO to Employee_no
   employeedb_db_employee_1.setEmployee_no(
java.lang.Integer.toString(
db_employee_1.getDb_employee().getEMP_NO() ) );
//@map:Copy LAST_NAME to Employee_lname
   employeedb_db_employee_1.setEmployee_lname(
db_employee_1.getDb_employee().getLAST_NAME() );
//@map:Copy FIRST_NAME to Employee_fname
   employeedb_db_employee_1.setEmployee_fname(
db_employee_1.getDb_employee().getFIRST_NAME() );
//@map:Copy RATE to Rate
   employeedb_db_employee_1.setRate( java.lang.Double.toString(
db_employee_1.getDb_employee().getRATE() ) );
//@map:Copy LAST_UPDATE to Update_date
   employeedb_db_employee_1.setUpdate_date(
db_employee_1.getDb_employee().getLAST_UPDATE().toString() );
}
//@map:Copy employeedb_db_employee_1.marshalToString to Text
   FileClient_1.setText(
   employeedb_db_employee_1.marshalToString() );
//@map:FileClient_1.write
   FileClient_1.write();
  }

}
```

The Insert Operation

To perform an insert operation on a table

1. Execute the **insert()** method. Assign a field.
2. Insert the row by calling **insertRow()**

   This example inserts an employee record.

```
//DB_EMPLOYEE.insert
    Table_OTD_1.getDB_EMPLOYEE().insert();
//Copy EMP_NO to EMP_NO
   insert_DB_1.getInsert_new_employee().setEmployee_no(
   java.lang.Integer.parseInt(
     employeedb_with_top_db_employee_1.getEmployee_no() ) );

//@map:Copy Employee_lname to Employee_Lname
   insert_DB_1.getInsert_new_employee().setEmployee_Lname(
   employeedb_with_top_db_employee_1.getEmployee_lname() );

//@map:Copy Employee_fname to Employee_Fname
   insert_DB_1.getInsert_new_employee().setEmployee_Fname(
   employeedb_with_top_db_employee_1.getEmployee_fname() );

//@map:Copy java.lang.Float.parseFloat(Rate) to Rate
   insert_DB_1.getInsert_new_employee().setRate(
   java.lang.Float.parseFloat(
   employeedb_with_top_db_employee_1.getRate() ) );
```

```
//@map:Copy java.sql.Timestamp.valueOf(Update_date) to Update_date
   insert_DB_1.getInsert_new_employee().setUpdate_date(
   java.sql.Timestamp.valueOf(
   employeedb_with_top_db_employee_1.getUpdate_date() ) );
   Table_OTD_1.getDB_EMPLOYEE().insertRow();

}
```

The Update Operation

To perform an update operation on a table

1. Execute the **update()** method.
2. Using a while loop together with **next()**, move to the row that you want to update.
3. Assign updating value(s) to the fields of the table OTD
4. Update the row by calling **updateRow()**.

```
//SalesOrders_with_top_SalesOrders_1.unmarshalFromString(Text)
  SalesOrders_with_top_SalesOrders_1.unmarshalFromString(
  input.getText() );

//SALES_ORDERS.update("SO_num =99")
  DB_sales_orders_1.getSALES_ORDERS().update( "SO_num ='01'" );

//while
  while (DB_sales_orders_1.getSALES_ORDERS().next()) {

//Copy SalesOrderNum to SO_num
  DB_sales_orders_1.getSALES_ORDERS().setSO_num(
  SalesOrders_with_top_SalesOrders_1.getSalesOrderNum() );

//Copy CustomerName to Cust_name
  DB_sales_orders_1.getSALES_ORDERS().setCust_name(
  SalesOrders_with_top_SalesOrders_1.getCustomerName() );

//Copy CustomerPhone to Cust_phone
  DB_sales_orders_1.getSALES_ORDERS().setCust_phone(
  SalesOrders_with_top_SalesOrders_1.getCustomerPhone() );

//SALES_ORDERS.updateRow
  DB_sales_orders_1.getSALES_ORDERS().updateRow();
}

//Copy "Update completed" to Text
  FileClient_1.setText( "Update completed" );

//FileClient_1.write
  FileClient_1.write();
}
```

The Delete Operation

To perform a delete operation on a table

1. Execute the **delete()** method.
2. Move to the row that you want to delete.
3. Delete the row by calling **deleteRow()**.

In this example DELETE an employee.

```
//DB_EMPLOYEE.delete("EMP_NO = '".concat(EMP_NO).concat("'"))
  Table_OTD_1.getDB_EMPLOYEE().delete( "EMP_NO = '".concat(
  employeedb_with_top_db_employee_1.getEMP_NO() ).concat( "'" ) );
}
```

6.12.2 The Stored Procedure

A Stored Procedure OTD represents a database stored procedure. Fields correspond to the arguments of a stored procedure while methods are the operations that you can apply to the OTD. These allow you to execute a stored procedure. Remember that while in the Collaboration Editor you can drag and drop nodes from the OTD into the Collaboration Editor.

Executing Stored Procedures

The OTD represents the Stored Procedure "LookUpGlobal" with two parameters, an inbound parameter (INLOCALID) and an outbound parameter (OUTGLOBALPRODUCTID). These inbound and outbound parameters are generated by the DataBase Wizard and are represented in the resulting OTD as nodes. Within the Transformation Designer, you can drag values from the input parameters, execute the call, collect data, and drag the values to the output parameters.

Below are the steps for executing the Stored Procedure:

1. Specify the input values.
2. Execute the Stored Procedure.
3. Retrieve the output parameters if any.

For example:

```
package Storedprocedure;

public class sp_jce
{

    public com.stc.codegen.logger.Logger logger;

    public com.stc.codegen.alerter.Alerter alerter;

    public void receive(
com.stc.connector.appconn.file.FileTextMessage
input,com.stc.connector.appconn.file.FileApplication
FileClient_1,employeedb.Db_employee
employeedb_with_top_db_employee_1,insert_DB.Insert_DBOTD insert_DB_1
)
    throws Throwable
    {
        //
@map:employeedb_with_top_db_employee_1.unmarshalFromString(Text)
        employeedb_with_top_db_employee_1.unmarshalFromString(
input.getText() );

        //@map:Copy java.lang.Integer.parseInt(Employee_no) to
Employee_no
```

```
        insert_DB_1.getInsert_new_employee().setEmployee_no(
java.lang.Integer.parseInt(
employeedb_with_top_db_employee_1.getEmployee_no() ) );

        //@map:Copy Employee_lname to Employee_Lname
        insert_DB_1.getInsert_new_employee().setEmployee_Lname(
employeedb_with_top_db_employee_1.getEmployee_lname() );

        //@map:Copy Employee_fname to Employee_Fname
        insert_DB_1.getInsert_new_employee().setEmployee_Fname(
employeedb_with_top_db_employee_1.getEmployee_fname() );

        //@map:Copy java.lang.Float.parseFloat(Rate) to Rate
        insert_DB_1.getInsert_new_employee().setRate(
java.lang.Float.parseFloat(
employeedb_with_top_db_employee_1.getRate() ) );

        //@map:Copy java.sql.Timestamp.valueOf(Update_date) to
Update_date
        insert_DB_1.getInsert_new_employee().setUpdate_date(
java.sql.Timestamp.valueOf(
employeedb_with_top_db_employee_1.getUpdate_date() ) );

        //@map:Insert_new_employee.execute
        insert_DB_1.getInsert_new_employee().execute();

        //@map:insert_DB_1.commit
        insert_DB_1.commit();

        //@map:Copy "procedure executed" to Text
        FileClient_1.setText( "procedure executed" );

        //@map:FileClient_1.write
        FileClient_1.write();
    }

}
```

6.12.3 Prepared Statement

A Prepared Statement OTD represents a compiled SQL statement. Fields in the OTD correspond to the input values that users need to provide.

You can use prepared statements to perform insert, update, delete and query operations. A prepared statement uses a question mark (?) as a place holder for input.

For example:

```
insert into EMP_TAB(Age, Name, Dept No) value(?, ?, ?)
```

To execute a prepared statement, set the input parameters and call **executeUpdate()** and specify the input values if any.

To Insert

```
public void receive( com.stc.connector.appconn.file.FileTextMessage
input,com.stc.connector.appconn.file.FileApplication
FileClient_1,pS_Insert.PS_InsertOTD PS_Insert_1 )
    throws Throwable
    {
        //@map:Copy Text to Param1
        PS_Insert_1.getPSInsert().setParam1( input.getText() );
```

```
            //@map:Copy "James" to Param2
            PS_Insert_1.getPSInsert().setParam2( "James" );


            //@map:Copy "M" to Param3
            PS_Insert_1.getPSInsert().setParam3( "M" );


            //@map:Copy "Smith" to Param4
            PS_Insert_1.getPSInsert().setParam4( "Smith" );


            //@map:Copy "HR" to Param5
            PS_Insert_1.getPSInsert().setParam5( "HR" );


            //@map:Copy "9995551212" to Param6
            PS_Insert_1.getPSInsert().setParam6( "9995551212" );


            //@map:PSInsert.executeUpdate
            PS_Insert_1.getPSInsert().executeUpdate();


            //@map:Copy "Record Inserted" to Text
            FileClient_1.setText( "Record Inserted" );


            //@map:FileClient_1.write
            FileClient_1.write();
        }

    }
```

To execute a prepared statement, set the input parameters and call **executeUpdate()** and specify the input values if any

To Update

```
    public void receive( com.stc.connector.appconn.file.FileTextMessage
    input,com.stc.connector.appconn.file.FileApplication
    FileClient_1,pS_Update.PS_UpdateOTD PS_Update_1 )
        throws Throwable
        {
            //@map:Copy Text to Param1
            PS_Update_1.getPSUpdate().setParam1( input.getText() );


            //@map:Copy "6265551212" to Param2
            PS_Update_1.getPSUpdate().setParam2( "6265551212" );


            //@map:PSUpdate.executeUpdate
            PS_Update_1.getPSUpdate().executeUpdate();


            //@map:Copy "Record Updated" to Text
            FileClient_1.setText( "Record Updated" );


            //@map:FileClient_1.write
            FileClient_1.write();
        }
```

```
}
```

6.12.4 Batch Operations

While the Java API used by SeeBeyond does not support traditional bulk insert or update operations, there is an equivalent feature that can achieve comparable results, with better performance. This is the "Add Batch" capability. The only modification required is to include the **addBatch()** method for each SQL operation and then the **executeBatch()** call to submit the batch to the database server. Batch operations apply only to Prepared Statements.

```
getPrepStatement().getPreparedStatementTest().setAge(23);
getPrepStatement().getPreparedStatementTest().setName("Peter Pan");
getPrepStatement().getPreparedStatementTest().setDeptNo(6);
getPrepStatement().getPreparedStatementTest().addBatch();

getPrepStatement().getPreparedStatementTest().setAge(45);
getPrepStatement().getPreparedStatementTest().setName("Harrison
Ford");
getPrepStatement().getPreparedStatementTest().setDeptNo(7);
getPrepStatement().getPreparedStatementTest().addBatch();
getPrepStatement().getPreparedStatementTest().executeBatch();
```

6.13 Alerting and Logging

eGate provides an alerting and logging feature. This allows monitoring of messages and captures any adverse messages in order of severity based on configured severity level and higher. To enable Logging, please see the ***eGate Integrator User's Guide***.

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