

Supported Version: Oracle BAM 10.1.3

Objectives:

This document describes the steps to define the Enterprise Message Source for receiving data from a JMS bus.

Prerequisites:

1. Basic knowledge of BAM and installed BAM software.
2. OC4J container is downloaded and installed in default directory.
<http://www.oracle.com/technology/software/products/ias/htdocs/utlsoft.html>
3. Unzip the above file in C:\OracleBAM\OC4J

Objectives:

1. Configure the BAM Enterprise Message Source Type for correct class path.
2. Configure the BAM Enterprise Message Receiver for correct connection.
3. Provide correct configuration details for incoming message bus.
4. Define a plan using DesignStudio, and collect data from a message source.
5. Send data on JMS Bus using simulation program and collect data in BAM.

Other Details:

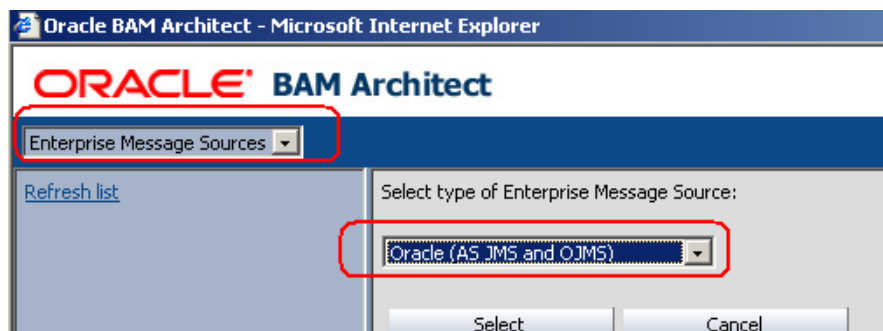
1. The OC4J class paths have to be defined in the Enterprise Message Source Type definitions. Details are given in Tech Note for BAM Configuring of OC4J.
2. Details of designing BPEL process sensors, BAM ADC data objects, pushing “actual” BPEL events from OrderBooking BPEL process is given in other tech notes and tutorial documents.
3. In this tech note, we use the sample java program provided with SimulateJMSEvents and push data on the jms bus. This java program pushes data “exactly” as intended by the OrderBooking process.

Defining Message Source

Open Oracle BAM Architect.

Select “**Enterprise Message Source**” from the drop down list.

Click on **Create**, and select the “**Oracle (AS JMS and OJMS)**” type.



Tutorial: Oracle BAM Plans to collect data from JMS bus (Tutorial_5_BAM_CollectingDatafromJMS.doc)

Enter the JMS topic parameters as below.

Important Note: All these values are **case-sensitive** so makes sure to enter the correct values.

Name: *BPELJMSDataSource*
InitialContextFactory: *oracle.j2ee.rmi.RMIInitialContextFactory*
JNDI Service Provider: *ormi://localhost*
Topic Connection Factory Name: *jms/TopicConnectionFactory*
Topic Name: *jms/demoTopic*
JMS Message Type: *TextMessage*
Durable Subscriber Name (required): *OracleBAM*
Client ID (required): *ClientID*

ORACLE[®] BAM Architect

Enterprise Message Sources ▾

[Refresh list](#)

Name:

Type: Oracle (AS JMS and OJMS)

Initial Context Factory:

JNDI Service Provider URL:

TopicConnectionFactory Name:

Topic Name:

JMS Message Type:

Durable Subscriber Name (Optional):

Message Selector (Optional):

Client ID (Optional):

Note: For initial testing, it is recommended that you have all the data collected into a string variable “rawData”, so that you can do initial testing of connecting to the data source, collect the data and store it “raw”.

Click on the Add Link (Name → Dataflow name → Add) and enter the following values.

Name	Dataflow name	Type	Max size	Formatting	
<input type="text" value="rawData"/>	<input type="text" value="rawData"/>	<input type="text" value="String"/>	<input type="text" value="4000"/>	<input type="text" value="No formatting"/>	Add
					Remove

Verify and make sure that the entries in the screen match the ones shown below:

Click “Save” to save the message source settings. Click on “Continue”.

Close the BAM Architect Window.

The OC4J container (to push data into BAM):

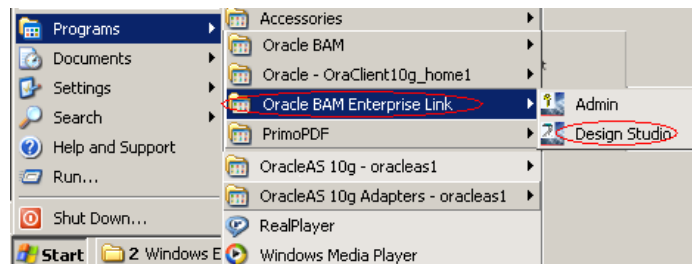
Change directory to the OC4J container (either downloaded or with Oracle Appl Server).
Set %ORACLE_HOME% and %JAVA_HOME% environment variables. (JDK 1.5)
Start the OC4J server only if you do not have a running Oracle Appl Server instance.

cd c:\oraclebam\oc4j\bin
oc4j.cmd -start (give default password as ‘welcome1’, do not close this window).
OR you can use the 1.StartOC4J.bat file in SimulateJMSEvents example directory.

Collecting RAW Data in BAM:

Start the BAM services using the “Start Oracle BAM” programs menu.

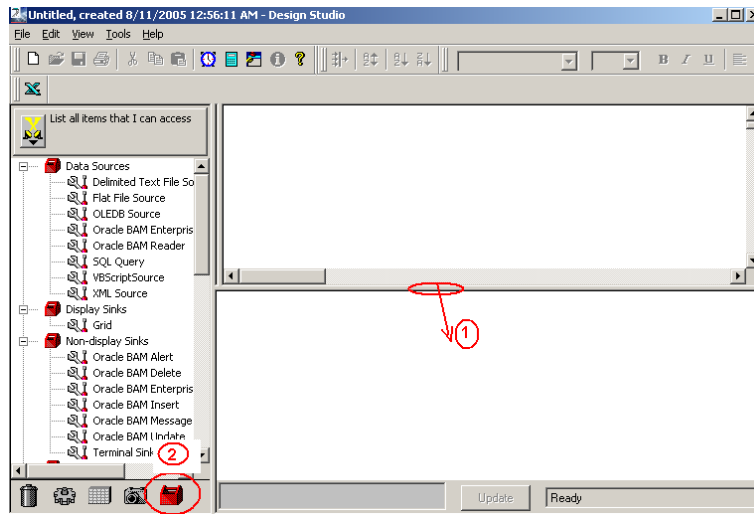
Note: The thick client DesignStudio design tool will be used to define/design a plan.
Select the Design Studio Tool, from the windows start menu- program settings as shown.



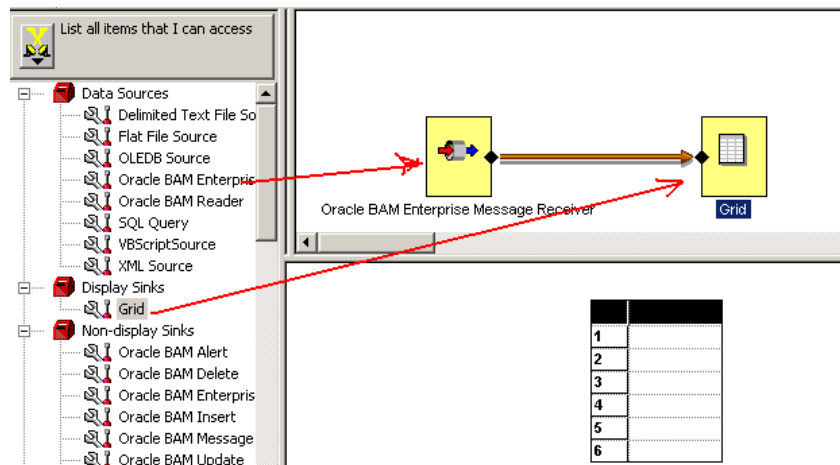
Log In as default (BAM) with no password. Open a new plan for editing. (See picture below with step numbers).

First drag the splitter bar half way down the screen. Next click on the “Tool Bin”.

Tutorial: Oracle BAM Plans to collect data from JMS bus (Tutorial_5_BAM_CollectingDatafromJMS.doc)



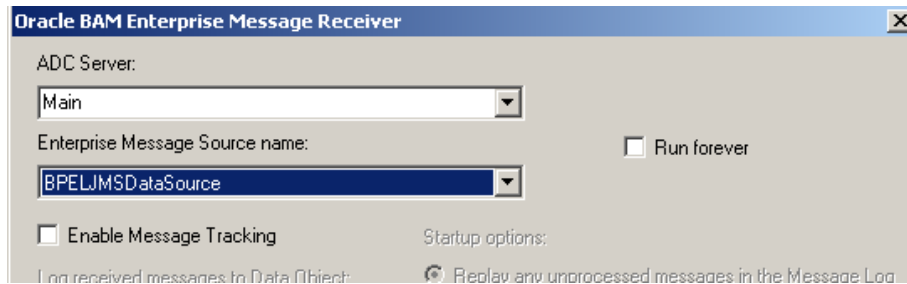
From the left hand “Tool Bin” panel, drag and drop – “Oracle BAM Enterprise Message Receiver” (Found under the Data sources branch) into the data flow panel, and then drag and drop – Grid into the data flow panel.



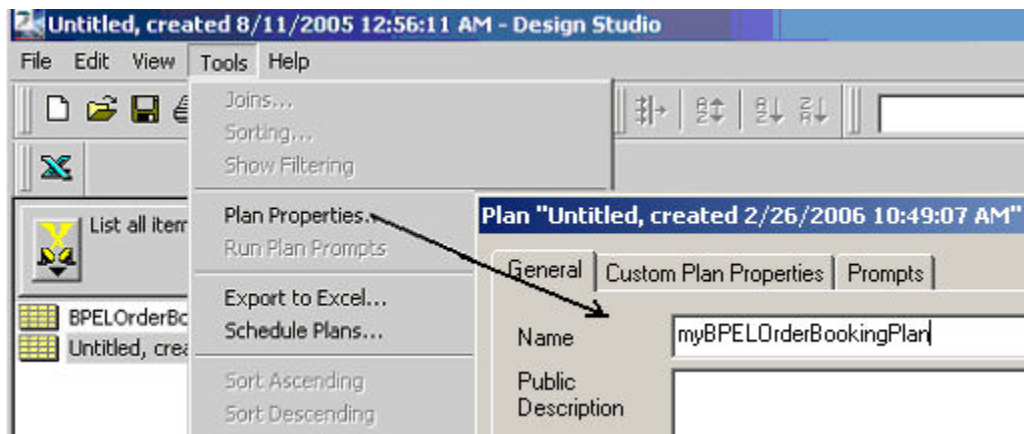
Note: Grid is used to collect the data from Receiver and display it online, while Insert block actually collects the data and puts it persistently (insert) into the data object.

Double click on the Receiver and select your Enterprise Message Source name as BPELJMSDataSource, and click OK

Tutorial: Oracle BAM Plans to collect data from JMS bus (Tutorial_5_BAM_CollectingDatafromJMS.doc)



Click on Menu Tools -Plan Properties and set plan name as “myBPELOrderBookingPlan”. Click on OK.



We will now collect data from the jms topic bus.

Start pushing data using the small java program given with the lab tutorial.

On the dos prompt, start the given java program to push data to BAM.

`cd C:\BAM\Samples\SimulateJMSEvents\`

`'2.SimulateEvents'` (Note this batch program takes command line arguments)

Use the command line arguments to push more data if required.

On the DesignStudio window, click on “update” button in the plan window to run the plan. do not click “Stop” This will now connect to the data source, and collect the data from JMS bus (raw data) and present it in the grid.

Observe that the raw data message is collected and displayed on the grid.

Note:

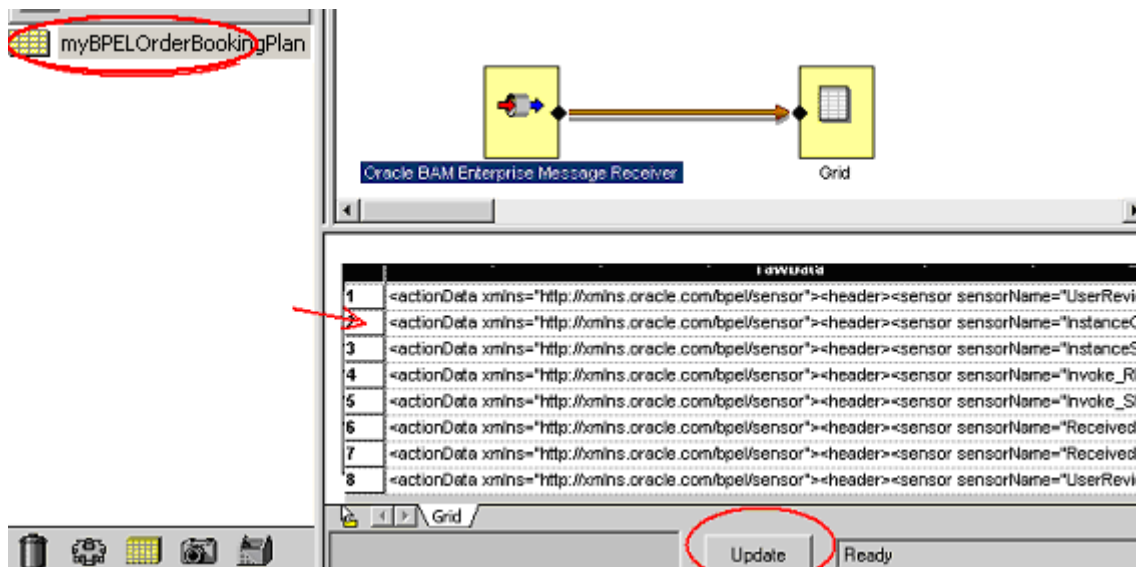
1. Do not close the DesignStudio using the default Microsoft Window Close top right icon [x] button. Always use “save” and “exit” from menu item.
2. If you see any “grids” in the bottom row, always right click and delete these grids. If any grids are visible in the bottom status row or icons seen there, the message collection will not work correctly.

Tutorial: Oracle BAM Plans to collect data from JMS bus (Tutorial_5_BAM_CollectingDatafromJMS.doc)

3. Note the behavior of jms Topic and AQ bus. Messages on the bus “after” the client connection is available for the clients. Messages on the bus “before” the client connection is not read. This is default behavior of “jms Topics”. Hence, the messages published after the DesignStudio makes connection (update button) will be collected and displayed.

This confirms that the message source and plan definition is correct, and data is collected into Oracle BAM system. (Note –data is not yet persisted into the ADC).

The system will display the grid as below, confirming that data is collected from jms bus. (Sensor data is shown as a long string, since there is no processing yet).



Click on “Save” icon and Close the Design Studio application.

To understand the incoming message, cut & paste the contents of the raw message from the DesignStudio into a notepad. Understand the format & layout of the incoming data.

Summary:

1. Configure the BAM Enterprise Message Source Type for correct class path.
2. Configure the BAM Enterprise Message Receive for correct connection.
3. Provide correct configuration details for incoming message bus.
4. Define a plan using DesignStudio, and collect data from a message source.
5. Send data on JMS Bus using simulation program and collect data in BAM.

Questions & Clarifications:

If you have any comments or need additional information, please communicate through the Oracle BAM forum at: <http://forums.oracle.com/forums/forum.jspa?forumID=252>