



BEA WebLogic Workshop™ Help

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Samples

This guide provides information and instructions for the WebLogic Integration samples.

WebLogic Integration provides the following tutorials and samples:

- Tutorial: Building Your First Business Process
- Tutorial: Building Your First Data Transformation
- Tutorial: Building a Worklist Application
- Tutorial: Tutorials for Trading Partner Integration
- Example: ebXML Security Configuration
- Example: RosettaNet Security Configuration

Topics Included in This Section

In addition to the tutorials and samples listed above, WebLogic Integration provides the following samples:

Non-XML Data Mapping Sample

Provides information about a purchase order sample designed to illustrate the basic techniques of creating and testing message format definitions for non-XML data using Format Builder.

Using the Suppressible Attribute for a Static Subscription

Provides an example of how to use the suppressible attribute for a static synchronous subscription to a Message Broker channel. The example describes how to design the routing of messages that have the same group ID to the same business process.



Non-XML Data Mapping Sample

The WebLogic Integration software includes a purchase order sample designed to illustrate the basic techniques of creating and testing message format definitions for non-XML data using Format Builder. The purchase order sample consists of MFL and DATA files. This sample can be used to learn more about using non-XML data in WebLogic Integration and to test your installation of the non-XML mapping functionality of WebLogic Integration.

The following topics are discussed in this section:

- What Is Included in the Purchase Order Sample
- Prerequisite Considerations
- Performing Non-XML to XML Transformation
- Performing XML-to-Non-XML Transformation

Related Topics

To learn more about using non-XML data in WebLogic Integration and the using the Format Builder for creating and testing message format definitions, see Transforming Non-XML Data in the *Guide to Data Transformation*.

For additional information about the Format Builder, see the help included with the Format Builder executable. (To access the Format Builder help, start the Format Builder as described in Step 1. Start the Format Builder and then from the **Format Builder** menu bar, choose **Help** > **Help Topics**.)

What Is Included in the Purchase Order Sample

The following table describes the files provided with the purchase order sample application. All directory names are relative to the WebLogic Integration samples directory (*WL_HOME*\integration\samples\di) where *WL_HOME* is the top-level directory of your WebLogic Platform installation. (For example, if you installed WebLogic Platform in the c:\bea directory, the di directory is located at the following path: c:\bea\weblogic81\integration\samples\di.)

| Directory | File | Description |
|-----------|------------|---|
| po | po_01.data | Purchase order data in non-XML format. |
| | po_02.data | Additional purchase order data in non-XML format. |
| | po.mfl | Prebuilt message format description of purchase order data. |

Prerequisite Considerations

To understand how the Format Builder is used, it helps to understand the data formats used by the data integration tools provided by WebLogic Integration: non-XML data, XML, and MFL. If you have not already done so, please review *Supported Data Types* section of the Format Builder help. (To access the Format Builder help, start the Format Builder as described in Step 1. Start the Format Builder and then from the **Format Builder** menu bar, choose **Help** > **Help Topics**.)

Performing Non-XML to XML Transformation

The following sections provide information about building a sample purchase order format definition and testing the transformation of non-XML data into XML format:

- Analyzing the Data to Be Transformed
- Creating the Format Definition and Testing the Transformation

You can build format definitions that provide the information required to transform non-XML data to or from XML. Format definitions are the metadata used to parse the content of a non-XML data file.

Analyzing the Data to Be Transformed

The key to translating non-XML data to and from XML is to create an accurate description of the non-XML data. For non-XML data (data that is not self-describing), you must identify the following elements:

- Data fields
- Data field attributes, such as name, data type, length/termination, optional, repeating
- Groups of related fields
- Group attributes, such as name, optional, repeating, delimited
- Hierarchical structure (groups of fields and/or other groups)

The following listing shows sample non-XML data that is included with WebLogic Integration in the *WL_HOME*\integration\samples\di\po\po_01.data file, where *WL_HOME* is the top-level directory of your WebLogic Platform installation. (For example, if you installed WebLogic Platform in the c:\bea directory, the po directory is located at the following path: c:\bea\weblogic81\integration\samples\di\po.)

In this sample, the data is taken from a fictitious purchase order on a proprietary system used by the XYZ Corporation. XYZ wants to exchange information with another system that accepts XML data.

```
1234;88844321;SUP:21Sprockley's Sprockets01/15/2000123 Main St.;
Austin;TX;75222;555 State St.;Austin;TX;75222;PO12345678;
666123;150;Red Sprocket;
```

To analyze the purchase order data:

1. Generate a definition of the data. To do so, you may need to use printed specifications or internal documentation. For this sample, we have described the purchase order format in the following table.

| Category | Field Name | Data Type | Length | Description |
|----------|-------------------------|-----------|------------------------|--|
| | Purchase Request Number | Numeric | Delimited by semicolon | The Purchase Request number assigned by the Purchasing department. This number is used to track the status of an order from requisition through delivery and |

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| | | | | |
|------------------|---|--------------------|---|--|
| | | | | payment. |
| | Supplier ID | Numeric | Delimited by semicolon | The identification of the assigned supplier as defined in the corporate Supplier Data Base. Assignment of an approved supplier is made by the buyer when creating a Purchase Request from a requisition. |
| | Supplier Name | Character | Prefixed by a literal "SUP:". Following this literal is a two digit numeric length field. | The name of the assigned supplier as defined in the corporate Supplier Data Base. This field is prefixed with a literal to indicate that it is present. |
| | Requested Delivery Date | Date MM/DD/YYYY | 10 characters | The delivery date specified by the requisitioner. |
| Shipping Address | Street | Character | Delimited by semicolon | The street address to be used in shipping the requested items. |
| | City | Character | Delimited by semicolon | The city to be used in shipping the requested items. |
| | State | Character | Delimited by semicolon | The state to be used in shipping the requested items. |
| | Zip | Numeric | Delimited by semicolon | The zip code to be used in shipping the requested items. |
| Billing Address | Street | Character | Delimited by semicolon | The street address to be used for billing. |
| | City | Character | Delimited by semicolon | The city to be used for billing. |
| | State | Character | Delimited by semicolon | The state to be used for billing. |
| | Zip | Numeric | Delimited by semicolon | The zip code to be used for billing. |
| | Supported payment terms may be either Purchase Order or Company Credit Card. A literal preceding the payment information identifies the type. | | | |
| | PO Type | Character | Literal "PO" | Indicates PO payment terms. |
| | | | | |

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| | | | | |
|----------------|---|-----------|------------------------|--|
| | PO Number | Numeric | Delimited by semicolon | Purchase Order number. |
| | Credit Card Type | Character | Literal "CC" | Indicates Credit Card payment terms. |
| | Credit Card Number | Numeric | Delimited by semicolon | Credit card number. |
| | Credit Card Expiration Month | Numeric | Delimited by semicolon | Expiration month for credit card. |
| | Credit Card Expiration Year | Numeric | Delimited by semicolon | Expiration year for credit card. |
| Purchase Items | The following fields identify the items to be purchased. This information may be repeated for each item that is part of this Purchase Request. At least one item must be present. | | | |
| | Part Number | Numeric | Delimited by semicolon | The supplier's part number of the requested item. |
| | Quantity | Numeric | Delimited by semicolon | The quantity requested. Must be greater than zero. |
| | Description | Character | Delimited by semicolon | Description of the requested item. |

2. Identify fields.

A field is a sequence of bytes that is meaningful to an application. For example, in the table shown in the preceding step, Purchase Request Number, Supplier ID, Supplier Name, and so forth, are all fields.

3. Identify field attributes.

Field attributes include the name of the field, the type of data stored in the field, the length of the field, and the delimiter that indicates the end of the field. For example, the Supplier ID field is delimited by a semicolon (;) indicating the end of the field data, but the Requested Delivery Date has an implied length of 10 characters.

4. Identify hierarchical groups.

Groups are collections of fields, comments, and other groups or references that are related in some way. In the table shown in step 1. in "Analyzing the Data to Be Transformed", notice that the sample data defines a number of distinct groups: Shipping Address, Billing Address, Payment Terms, and Purchase Items.

5. Identify group attributes.

You must define the attributes of the hierarchical groups. Group attributes include the name of the group, whether the group is optional, repeating, or delimited, or whether it is defined as a reference to another group. For example, because the same fields are required to define both a Shipping Address and a Billing Address (Street, City, State, Zip), you can define an Address group within the

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Shipping_Address group and set up a reference to it from within the Billing_Address group.

After you complete the preceding procedure, you may want to put the data into a spreadsheet, as shown in the example in Figure: Analysis of Purchase Order Data. This spreadsheet can then serve as a guide when you create your purchase order message definition.

Figure : Analysis of Purchase Order Data

| 1 | Description | Group | Field | Reference | Optional | Name / Refers To | Data Type | Occurrence | Delimited by |
|----|--------------------------|-------|-------|-----------|----------|-------------------------|-----------------|------------|---|
| 2 | Purchase Request Number | X | | | | PR_Number | Numeric | 1 | Semicolon |
| 3 | Supplier ID | X | | | | Supplier_ID | Numeric | 1 | Semicolon |
| 4 | Supplier Name | X | | X | | Supplier_Name | String | 1 | Numeric field length 2 |
| 5 | Requested Delivery Date | X | | | | Requested_Delivery_Date | Date MM/DD/YYYY | 1 | Semicolon |
| 6 | Shipping Address | X | | | | Shipping_Address | | 1 | |
| 7 | Address | X | | | | Address | | 1 | |
| 8 | Street | X | | | | Street | String | 1 | Semicolon |
| 9 | City | X | | | | City | String | 1 | Semicolon |
| 10 | State | X | | | | State | String | 1 | Semicolon |
| 11 | Zip | X | | | | Zip | Numeric | 1 | Semicolon |
| 12 | Billing Address | X | | | | Billing_Address | | 1 | |
| 13 | Address | | | X | | Address | | 1 | |
| 14 | Street | | | X | | Street | String | 1 | Semicolon |
| 15 | City | | | X | | City | String | 1 | Semicolon |
| 16 | State | | | X | | State | String | 1 | Semicolon |
| 17 | Zip | | | X | | Zip | Numeric | 1 | Semicolon |
| 18 | Payment Terms | X | | | | Payment Terms | | 1* | Payment Terms Can either be a Purchase Order or Credit Card. |
| 19 | Purchase Order | X | | | | | | 1 | |
| 20 | Purchase Order Tag | | X | | | Payment_Type_PO | Literal "PO" | 1 | |
| 21 | Purchase Order Number | X | | | | PO_Number | Numeric | 1 | Semicolon |
| 22 | Credit Card | X | | | | | | 1 | |
| 23 | Payment Type | X | | | | Payment_Type_CC | Literal "CC" | 1 | |
| 24 | Credit Card Number | X | | | | CC_Number | Numeric | 1 | Semicolon |
| 25 | Credit Card Expire Month | X | | | | CC_Expire_Month | Numeric | 1 | Semicolon |
| 26 | Credit Card Expire Year | X | | | | CC_Expire_Year | Numeric | 1 | Semicolon |
| 27 | Purchase Items | X | | | | Purchase_Items | | 1 | |
| 28 | Item | X | | | | Item | | 1- n | |
| 29 | Part Number | | X | | | Part_Number | Numeric | 1 | Semicolon |
| 30 | Quantity | | X | | | Quantity | Numeric | 1 | Semicolon |
| 31 | Description | | X | | | Description | String | 1 | Semicolon |
| 32 | Carriage Return | | X | | X | Lit_CR | Literal "\r" | 1 | |
| 33 | Line Feed | | X | | X | Lit_LF | Literal "\n" | 1 | |

Creating the Format Definition and Testing the Transformation

This section walks you through the process of creating a message format for translating the non-XML data to XML. To make sure you create your purchase order message format correctly, you can compare the file you create with the `WL_HOME\integration\samples\di\po\po.mfl` file included with WebLogic Integration, where `WL_HOME` is the top-level directory of your WebLogic Platform installation. (For example, if you installed WebLogic Platform in the `c:\bea` directory, the `po` directory is located at the following path: `c:\bea\weblogic81\integration\samples\di\po.`)

Step 1. Start the Format Builder

You can launch Format Builder using one of the following options:

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- To Start Format Builder From WebLogic Workshop
- To Start Format Builder on Windows Without Launching WebLogic Workshop
- To Start Format Builder on Linux Without Launching WebLogic Workshop

To Start Format Builder From WebLogic Workshop

1. Start WebLogic Workshop: choose **Start > Programs > BEA WebLogic Platform 8.1 > WebLogic Workshop 8.1**.
2. The main **WebLogic Workshop** window is displayed.
3. From the WebLogic Workshop menu bar, choose **Tools > WebLogic Integration > Format Builder**.

The Format Builder main window is displayed.

To Start Format Builder on Windows Without Launching WebLogic Workshop

Choose **Start > Programs > BEA WebLogic Platform 8.1 > Other Development Tools > Format Builder**.

The Format Builder main window is displayed.

To Start Format Builder on Linux Without Launching WebLogic Workshop

1. In command line shell, go to the WebLogic Integration bin directory. For example, if WebLogic Platform is installed in the /home/bea directory, go to the /home/bea/weblogic81/integration/bin directory as shown here:

```
cd /home/bea/weblogic81/integration/bin
```

2. Run the **Format Builder** start script, as shown here:

```
./fb.sh
```

The Format Builder main window is displayed.

Step 2. Create a Message Format

1. From the Format Builder main window, choose **File > New**.

A new message format root node is created and displayed in the navigation tree.

2. Enter PurchaseRequest in the **Name/XML Root** field.
3. Click **Apply**.

The name of the message format root node is updated.

Step 3. Create the Basic Information Fields

To create the fields required to capture the basic identifying information for the purchase order:

1. To create the PR_Number field, choose **Insert > Field > As Child**.

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A new field is added to the navigation tree (left pane). The default field properties are displayed in the detail window (right pane).

2. Define the properties for the field as described in the following table.

| In this section . . . | Do the following . . . |
|--------------------------------------|---|
| Field Description | Enter PR_Number in the Name field. |
| | Select Numeric from the Type drop down list. |
| Field Occurrence | Verify that the Once option is selected. |
| Field Attributes: Termination | Select the Delimiter option |
| | Note: You must select the Delimiter option and not the Delimiter Field option. |
| | Enter a semi-colon (;) in the Value field on the Delimiter tab. |
| Field Attributes: Code Page | Select the desired code page from the Code Page drop down list. A code page specifies the character encoding of the non-XML data in the field. |
| | For this sample, select the setting: windows-1252 – Windows Latin-1 |

Note: To learn more about the options, check-boxes, and fields in the detail window (right pane), select the F1 key. A browser is displayed with a description of the options, checkboxes, and fields.

Note: These values are determined by the analysis of the raw purchase order data shown in Figure: Analysis of Purchase Order Data.

3. Click **Apply**.

The properties of the field are updated.

Note: Because the only difference between the PR_Number field and the Supplier_ID field is the name you can use the Format Builder Duplicate feature to create the Supplier_ID field.

4. In the navigation tree (left pane), right-click the PR_Number field and select **Duplicate** from the drop-down menu.

A duplicate field (NewPR_Number) is added as a sibling and becomes the current selection in the navigation tree.

5. Enter Supplier_ID in the **Name** field and click **Apply** to update.
6. To save your changes to the message format document:
 - a. Choose **File** > **Save As**.

The **Save As** dialog box is displayed.

- b. Navigate to the *WL_HOME*\integration\samples\di\po directory, where *WL_HOME* is the top-level directory of your WebLogic Platform installation. (For example, if you installed

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WebLogic Platform in the c:\bea directory, the po directory is located at the following path:
c:\bea\weblogic81\integration\samples\di\po.)

c. Enter the desired filename, for example, enter: my_po.mfl.

Note: The Format Builder automatically assigns the .mfl extension to message format files if no extension is specified.

d. Click **Save As**.

7. To add a the Supplier_Name field, choose **Insert > Field > As Sibling**.

A new field is added to the navigation tree (left pane). The default field properties are displayed in the detail window.

8. Define the properties for the Supplier_Name field as described in the following table.

| In this section . . . | Do the following . . . |
|--|---|
| Field Description | Enter Supplier_Name in the Name field. |
| | Select the Optional checkbox. |
| | In the Type drop-down menu, select String. |
| Field Occurrence | Verify that the Once option is selected. |
| Field Attributes | Select the Field is Tagged check-box. |
| | Enter the following in the Field is Tagged field: SUP: |
| | Select the Imbedded Length option. |
| Field Attributes: Termination | Select Numeric from the Type drop-down menu on the Description tab. |
| | Verify that the Length option is selected, and then enter 2 in the Length text box. |

Note: To learn more about the check-boxes, options, and fields in the detail window (right pane), select the F1 key. A browser is displayed with a description of the check-boxes, options, and fields.

9. Click **Apply**.

The properties of the field are updated.

Note: The dotted-line box around the field icon in the navigation tree indicates that this field is optional.

10. To add the Requested_Delivery_Date field, choose **Insert > Field > As Sibling**.

A new field is added to the navigation tree. The default field properties are displayed in the detail window.

11. Define the properties for the Requested_Delivery_Date field as described in the following table.

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| In this section . . . | Do the following . . . |
|--------------------------|---|
| Field Description | Enter Requested_Delivery_Date in the Name field. |
| | In the Type drop-down menu select Date: MM/DD/YYYY . |
| Field Occurrence | Verify that the Once check-box is selected. |
| Field Attributes | In the Data Base Type drop-down menu, verify that String is selected. |

Note: The contents of the detail window for a field is determined by the Type setting. When you select a date type from the drop down list, the length is implicitly determined. Therefore, the **Field Attributes: Termination** properties are no longer displayed.

Note: To learn more about the check-boxes and fields in the detail window (right pane), select the F1 key. A browser is displayed with a description of the check-boxes and fields.

12. Click **Apply**.

The properties of the field are updated.

13. Choose **File > Save** to save your changes.

Step 4. Create the Shipping Address and Billing Address Groups

To create the shipping address and billing address groups:

1. Select any field in the navigation tree and choose **Insert > Group > As Sibling**.

A new group is added to the navigation tree. The default group properties are displayed in the detail window.

2. Define the properties for the Shipping_Address group as described in the following table.

| In this section . . . | Do the following . . . |
|--------------------------|---|
| Group Description | In the Name field, enter: Shipping_Address . |
| Group Occurrence | Verify that the Once option is selected. |
| Group Attributes | Verify that the None option is selected for Group Delimiter . |

Note: These values are determined by the analysis of the raw purchase order data shown in Figure: Analysis of Purchase Order Data.

Note: To learn more about the check-boxes, options, and fields in the detail window (right pane), select the F1 key. A browser is displayed with a description of the check-boxes, options, and fields.

3. Click **Apply**.

The properties of the group are updated.

Note: Because the only difference between the Shipping_Address group and the Billing_Address group is the name, you can use the Format Builder Duplicate feature to create the Billing_Address field.

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4. In the navigation tree (left pane), right-click the Shipping_Address group and select **Duplicate** from the drop-down menu.

A duplicate group (NewShipping_Address) is added as a sibling and becomes the current selection in the navigation tree.

5. In the **Name** field, enter Billing_Address and click **Apply** to update.

Because the Shipping_Address and Billing_Address groups contain the same fields with the same attributes, we can define an Address group within the Shipping_Address group and set up the Address group within the Billing_Address group as a reference.

6. In the navigation tree (left pane), select the Shipping_Address group and choose **Insert > Group > As Child**.
7. Use the data in Figure: Analysis of Purchase Order Data to create the Address group and click **Apply** to update the group properties.
8. Follow the steps outlined in Step 3. Create the Basic Information Fields, and the data provided in Figure: Analysis of Purchase Order Data, to create the Street, City, State, and Zip fields as children of the Address group.

Note: Once the Street field is created, you can use the **Duplicate** button to create the City and State fields.

9. To create a reference to the Address group, right-click the Address group under Shipping_Address, and select **Copy** from the drop-down menu.

The Address group properties (including the child fields) are copied and placed on the clipboard.

10. Right-click the Billing_Address group and select **Paste As Reference** from the drop-down menu.

The Address reference, is pasted immediately after the Billing_Address group. The arrow in the icon identifies the group as a reference group:



11. To make the Address group reference a child of the Billing_Address group, select the reference, and then choose **Edit > Demote**.

The Address reference becomes a child of the Billing_Address group.

12. Choose **File > Save** to save your changes.

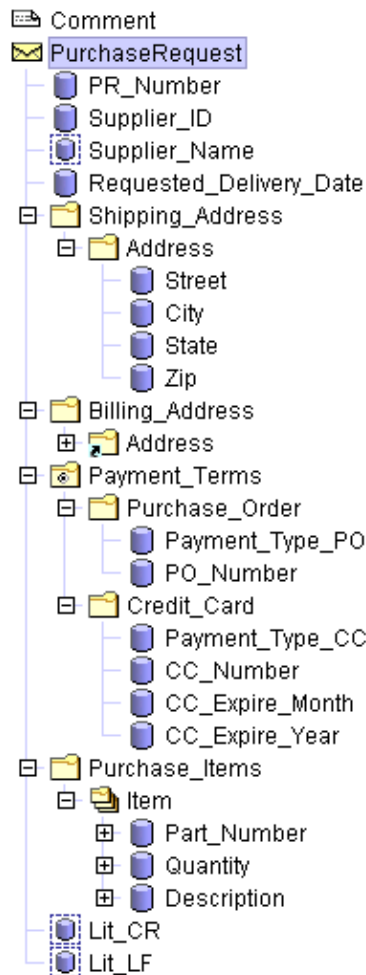
Step 5. Create the Remaining Items

Repeat the process of creating or duplicating fields and groups as required to complete the purchase order message format document. Use the analysis of the raw purchase order data presented in Figure: Analysis of Purchase Order Data to determine the values you need to enter for each item. For assistance, refer to the WL_HOME\integration\samples\di\po\po.mfl file, where WL_HOME is the top-level directory of your WebLogic Platform installation. (For example, if you installed WebLogic Platform in the c:\bea directory, the po directory is located at the following path: c:\bea\weblogic81\integration\samples\di\po.)

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When you finish entering the required items, your navigation tree (left pane) should look similar to the one shown in Figure: Completed Navigation Tree for Purchase Order Sample.

Figure : Completed Navigation Tree for Purchase Order Sample



Step 6. Save the Completed Message Format

Choose **File** > **Save** to save your completed message format.

The completed MFL document is saved.

Step 7. Test the Message Format

To test the message format to identify any errors before using it to transform data:

1. Choose **Tools** > **Test** to display the **Format Tester** dialog box.
2. Choose **File** > **Open Non-XML** to display the **Open** dialog box.
3. Navigate to the *WL_HOME*\integration\samples\di\po directory, where *WL_HOME* is the top-level directory of your WebLogic Platform installation. (For example, if you installed WebLogic Platform in the c:\bea directory, the po directory is located at the following path: c:\bea\weblogic81\integration\samples\di\po.)
4. Select the PO_01.DATA file and click **Open**.

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The non-XML data is displayed in the **Non-XML** window.

5. Click **Transform > Non-XML To XML**.

The content of the PO_01.DATA file is transformed to XML based on the active MFL document. The XML output is displayed in the XML window.

Note: To view a description of each transformation step, choose **Display > Debug** to open the **Debug** window, and then choose **Transform > Non-XML To XML**. A message is displayed for each step of the process.

6. If the transformed data appears to be correct, choose **File > Save XML**.
7. Type the name po.xml in the File name field, and then click **Save** to save the XML output.

Performing XML-to-Non-XML Transformation

You can also use the Format Builder to create message definitions and test the transformation of XML data to non-XML. The steps required to do this are essentially the same as those you follow to transform non-XML data to XML. To transform XML data to non-XML, first create an MFL description for the non-XML format. The purchase order sample files can be used to test the process as described in the following procedure.

1. Choose **File > Open** from the **Format Builder** menu.
2. Select the purchase order message format document.
3. Click **Open**.

The message format document is displayed in the navigation tree.

4. Choose **Tools > Test** to display the **Format Tester** dialog box.
5. Choose **File > Open XML** from the **Format Tester** menu.
6. Navigate to the *WL_HOME*\integration\samples\di\po directory, where *WL_HOME* is the top-level directory of your WebLogic Platform installation. (For example, if you installed WebLogic Platform in the c:\bea directory, the po directory is located at the following path:
c:\bea\weblogic81\integration\samples\di\po.)
7. Select the po.xml file and click **Open**.

The XML data is displayed in the right pane.

8. Choose **Transform > XML to Non-XML**.

The XML data is transformed, and the purchase order data is displayed, in non-XML format, in the right pane.

Note: To view a description of each transformation step, choose **Display > Debug** to open the **Debug** window, and then choose **Transform > XML to Non-XML**. A message is displayed for each step of the process.

9. If the transformed data appears to be correct, choose **File > Save Non-XML**.
10. Type the name (for example test_po.data) in the **File name** field, and then click **Save** to save the non-XML output.

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Using the Suppressible Attribute for a Static Subscription

A static subscription to a Message Broker channel can be specified as *suppressible* by setting the **suppressible** attribute for the subscription in the business process. Valid values for **suppressible** are **true** and **false** (the default). Setting **suppressible** to **true** specifies that the static subscription is suppressed in favor of dynamic subscriptions. In other words, you can prevent specific messages on a Message Broker channel from starting a new business process; instead the messages can be received, using a dynamic subscription, by a business process that is already running.

A typical use for the suppressible attribute is to design the routing of messages that have the same *group ID* to the same business process. An ideal scenario is to use a JMS property of messages handled by a JMS event generator as the group ID.

Designing such a scenario includes setting up the business process and the event generators, as described in the following sections:

- Setting up the Business Process
- Setting up the Event Generators

Setting up the Business Process

In this example, we use a JMS property of messages handled by a JMS event generator as the group ID. We design the routing of messages with the same group ID to the same business process.

The following code example shows the property in the JMS event generator:

```
<JmsEventGenerator>

    <property>

        <Name>GROUPID</Name>

        <Value>100</Value>

    </property>

    ...

</JmsEventGenerator>
```

To Create a Business Process that Receives all Messages With the Same GROUPID Property Sent on a Specific Message Broker Channel

1. Design your business process to be started when it receives a message from a Message Broker channel to which it is subscribed. To learn how, see [Subscription Start \(Synchronous\)](#).

Note: In this example, we use a channel named `/my/orders`.

2. Set the **suppressible** attribute to **true**. To do so:

Samples

- a. With the business process opened in the WebLogic Workshop graphical design environment, click the **Source View** tab, and locate the static subscription method in the source code. It is preceded by the following JPD annotation:

```
@jpd:mb-static-subscription
```

- b. Click anywhere inside the static subscription method. The **Property Editor** displays a set of attributes (including **suppressible**) grouped under **mb-static-subscription**.

| mb-static-subscription | |
|------------------------|-------------|
| channel-name | /my/orders/ |
| xquery | |
| filter-value-match | |
| message-metadata | |
| message-body | {x0} |
| suppressible | false |

- c. In the **Property Editor**, select **true** for the **suppressible** attribute. The JPD annotation in the source code is updated to include the suppressible attribute:

```
@jpd:mb-static-subscription suppressible="true"
```

3. Design the business process to receive a message.
4. Extract \$metadata/property[name='GROUPID'] from the message into a variable (say, the myOrderNumber variable).
5. Subscribe (dynamically) to the /my/orders channel using the myOrderNumber variable as a filter value. That is, use a filter expression with the same XPath expression as you used to extract the data into the variable in the preceding step:

```
$metadata/property[name='GROUPID']
```

To learn how to design a dynamic subscription, see [Message Broker Subscription Control](#).

6. Design a loop to receive the remainder of the messages with the same GROUPID using the subscription control.

To learn how to design looping logic, see [Looping Through Items in a List](#).

Note: To avoid race conditions, steps 1–5 must be performed while in a synchronous message broker subscription. To learn about creating a synchronous subscription, see [Subscription Start \(Synchronous\)](#).

Setting up the Event Generators

For the suppressible pattern in this example to work correctly, there must be a single publisher for a given group ID. Having a single publisher for the group ID means that the publisher is *paused* when a new subscriber is subscribing dynamically (see steps 1–5 in the preceding section: [Setting up the Business Process](#)), thereby avoiding race conditions with the subscriptions. When you use JMS event generators, there are two ways to ensure that a single publisher publishes a given group ID:

- Set the JMS event generator pool size to 1. The JMS event generator is packaged as a message-driven bean pool.

Samples

You must manually edit the deployment descriptor to set the JMS event generator pool size. To do so, use the WebLogic Builder tool, which is available from the WebLogic Workshop design console menu bar:

Tools > WebLogic Server > WebLogic Builder

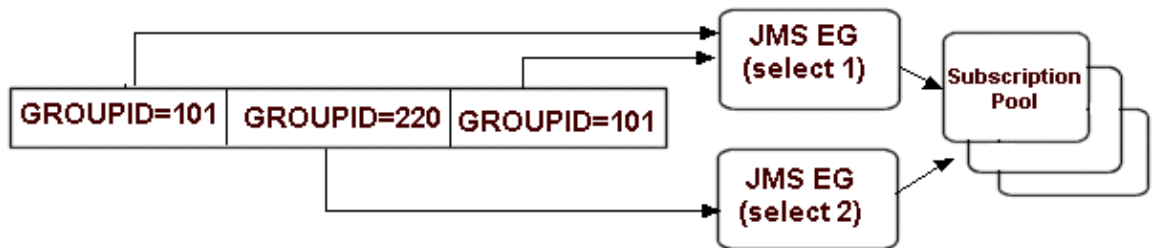
Note: You do not need to restrict the pool size of the subscribers.

- Create several JMS event generators each with a different message selector, and each with a pool size of 1. The message selector uniquely maps a group ID to a JMS event generator. In other words, one event generator is responsible for publishing all the events with a given group ID. The following figure illustrates how the GROUPID=101 messages are published by a single JMS event generator (JMS EG (select1)).

In the scenario illustrated in the following figure, a queue, which has GROUPIDs in the range 100–299, is defined. Two JMS event generators are defined, one to handle GROUPIDs in the range 100–199, and one to handle GROUPIDs in the range 200–299.

Select 1: GROUPID >= 100 and GROUPID < 200

Select 2: GROUPID >= 200



Because the static and dynamic subscriptions described in the preceding section (Setting up the Business Process) are within the Subscription Start (Synchronous) block, the JMS event generator that publishes the GROUPID=101 messages is blocked after delivery of the first message until the dynamic subscription and any other logic within the synchronous subscription block is executed. Then the next GROUPID=101 message is published. With **suppressible** set to **true** for the business process' static subscription, the second message does not start a new business process. Instead, it is received by the dynamic subscription on the business process that was started by receiving the first GROUPID=101 message.

