

# F. Handling Business Events using EDN

## F.1. Introduction

Note: The solution for this chapter can be found in <c:\po\solutions\apF-EDN>

To run this solution, you must have completed labs through chapter 9. Alternatively you can run the setup in Chapter 1 and use the solution from Chapter 9 located at <c:\po\solutions\ch9>.

This lab exercise will give you a brief introduction to using Event Driven Network (EDN) in a SOA Composite for creating event-based activation.

EDN provides functionality for producing and consuming high-level business events without having to configure and manage any messaging services like JMS or Oracle AQ.

To illustrate the usage of events you will modify the existing **POProcessing** composite to accept new orders from a second source: an event published by another application indicating a new order.

## F.2. Modifying the composite to consume events

In this step you will modify the POProcessing composite to use EDN. You will add a new mediator component called **receiveNewPO** that will subscribe to an event called NewPO and send the received PO to the **routePO** service.

### F.2.1. Defining the event

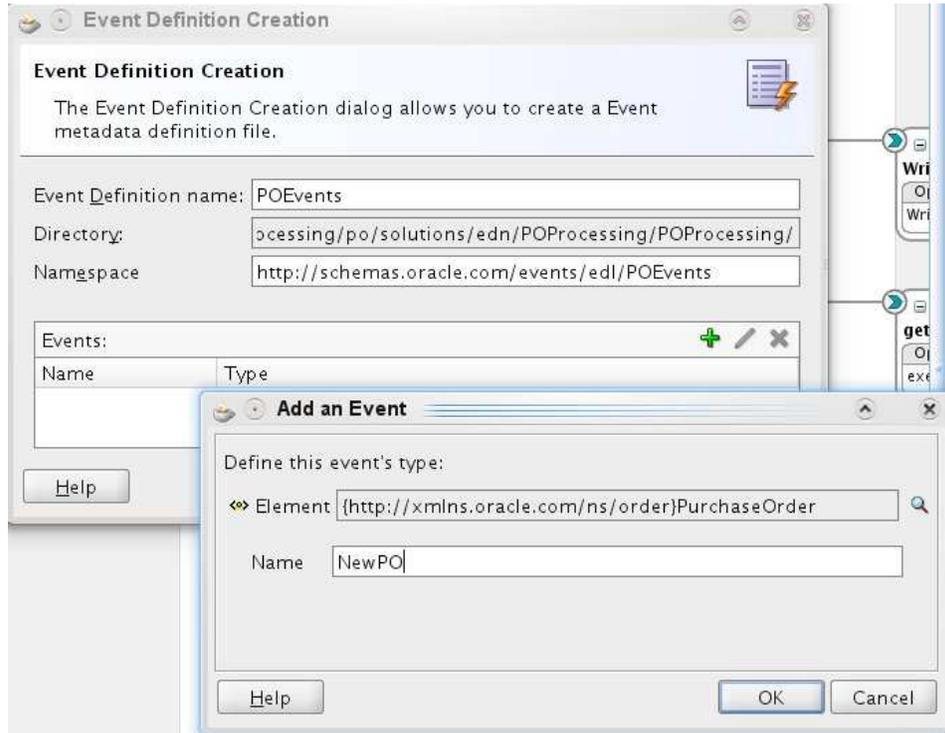
1. Open the POProcessing application in JDeveloper or use the completed solution from Chapter 9 from <c:\po\solutions\ch9>.

2. Open the composite.xml and click on the **Event Definition Creation** icon



3. In the **Event Definition Creation** window, enter **POEvents** as the name of the event definition. Accept the namespace value generated.
4. Add a new event by clicking on the + icon.
5. Select the **PurchaseOrder** element from the **po.xsd** file using the chooser.

6. Enter **NewPO** as the name of the event and click on **OK** to close the **Add an Event** window.

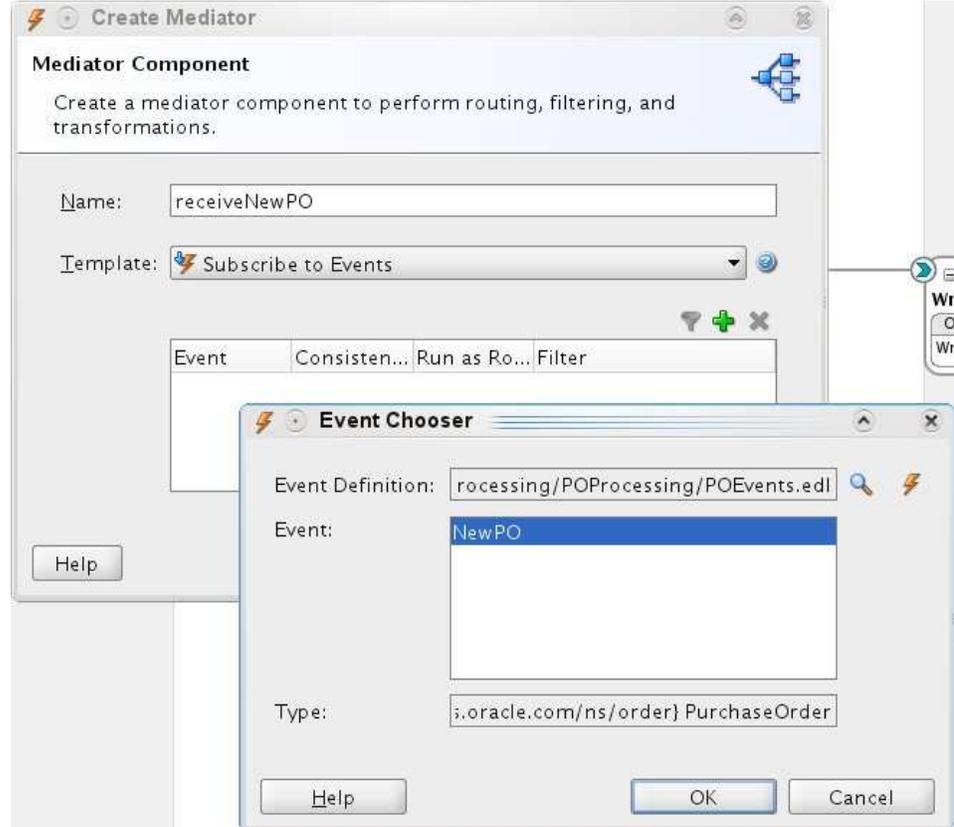


7. Click **OK** to complete the event definition.
8. Close the **POEvents.edl** panel.
9. Save all.

## F.2.2. Subscribing to the NewPO Event

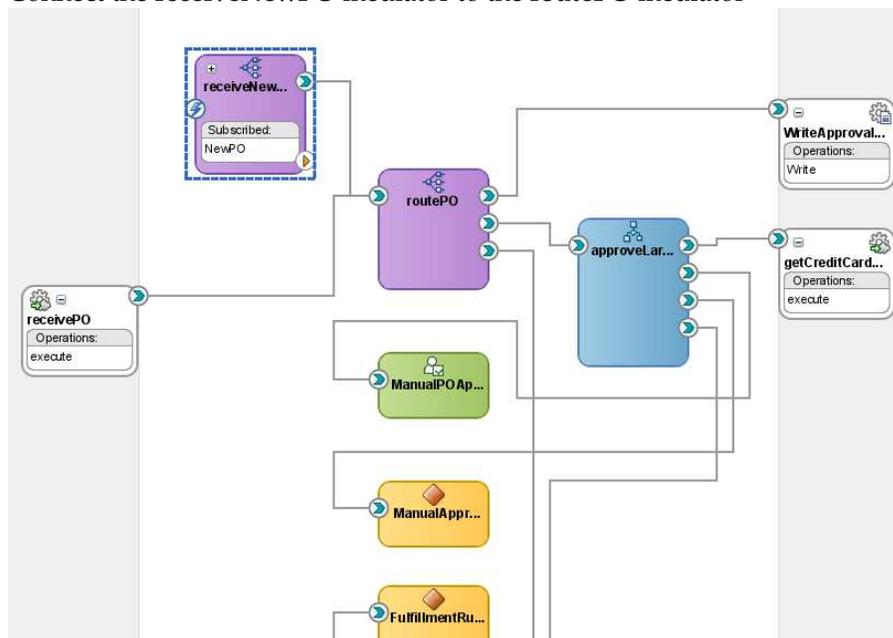
1. Drag and drop a Mediator component onto the composite.
2. Name the mediator as **receiveNewPO**
3. Select **Subscribe to Events** for the **Template**

- Click on the + to add an event. Select the **NewPO** event from the **Event Chooser** window.



- Click **OK** on the Event Chooser dialog and click **OK** again to accept and create the mediator
- Save All.

7. Connect the **receiveNewPO** mediator to the **routePO** mediator



8. Double-click on the **recieveNewPO** mediator and define a new transformation map. In the transformation map the all the fields from the source to the target.
9. Save and close the mapper file and the mediator.

### F.2.3. Deploying and testing

1. Deploy the **POProcessing** composite to the server.
2. Start a command window and change directory to **c:\po\bin**.
3. Open the **publish.cmd** file in Notepad and ensure that the **DB\_USERID**, **DB\_PASSWD** and **DB\_CONN** values match with your installation. Modify them appropriately if they don't. For the managed SOA server, the userid will be *sh\_soainfra*.
4. Set the **ORACLE\_HOME** environment variable to your server directory. For e.g.

```
set
ORACLE_HOME=c:\Oracle\Middleware\home_LOAD16F\Oracle_SOA1
```

5. Make sure your Java bin directory is first on the path so you use the right version of Java

```
set path=%JAVA_HOME%\bin;%PATH%
```

6. Run the **publish.cmd** to publish a new purchase order event. The new event is defined in the file **new\_po\_event.xml** and can be found in the **c:\po\input** directory.

```
publish ..\input\new_po_event.xml
```

7. You should see the following output when you execute the command:

```

Creating datasource...
Creating BusinessEventConnectionFactory...
Creating connection...
Feb 5, 2009 6:23:04 PM oracle.integration.platform.blocks.event.jms.ContextHelper getDefaultContextProvider
INFO: Context provider properties file not found
Creating Business Event...
Sending event:
<business-event xmlns:ns="http://schemas.oracle.com/events/ed1/POEvents" xmlns="http://oracle.com/fabric/businessEvent">
  <name>ns:NewPO</name>
  <id>e4196227-806c-4680-a6b4-6f8df931b3f3</id>
  <content>
    <PurchaseOrder xmlns="http://xmlns.oracle.com/ns/order">
      <CustID>1111</CustID>
      <ID>33412</ID>
      <productName>Sony Bluray DVD Player</productName>
      <itemType>electronics</itemType>
      <price>350</price>
      <quantity>5</quantity>
      <status>initial</status>
      <ccType>Mastercard</ccType>
      <ccNumber>1234-1234-1234-1234</ccNumber>
    </PurchaseOrder>
  </content>
</business-event>
Done.

```

8. Open the EM Console in your browser by navigating to <http://localhost:7001/em>. Click on the POProcessing composite to view new instances. You should see an instance created for processing the event you just published via the command line. Click on the instance ID to view the flow trace.

#### Trace

Click a component instance to see its detailed audit trail.

Show Instance IDs

Instance	Type	State	Time	Composite Instance
receiveNewPO	Service	Completed	Feb 5, 2009 6:23:06	POProcessing of 130
receiveNewPO	Mediator Component	Completed	Feb 5, 2009 6:23:06	POProcessing of 130
routePO	Mediator Component	Completed	Feb 5, 2009 6:23:06	POProcessing of 130
WriteApprovalResults	Reference	Completed	Feb 5, 2009 6:23:06	POProcessing of 130
approveLargeOrder	BPEL Component	Completed	Feb 5, 2009 6:23:06	POProcessing of 130
getCreditCardStatus	Reference	Completed	Feb 5, 2009 6:23:06	POProcessing of 130
getStatusByCC	Service	Completed	Feb 5, 2009 6:23:06	validationForCC of 13
RouteRequest	Mediator Component	Completed	Feb 5, 2009 6:23:06	validationForCC of 13
getCreditValidation	Reference	Completed	Feb 5, 2009 6:23:06	validationForCC of 13
ManualApproval	Decision Service Com	Completed	Feb 5, 2009 6:23:06	POProcessing of 130