Service-enable Siebel CRM with Oracle SOA Suite BPEL Process Manager

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1 Lab Overview

This lab demonstrates native web services integration to Siebel using Oracle BPEL Process Manager. Siebel has increased support for native web services, and exposes a number of functions as Application Service Interfaces (ASIs). There is also tooling support in Thin Client (browser) and Siebel Tools to generate and consume WSDLs. In this tutorial you will Query a Siebel Account.

For more hands-on tutorials, check out the Oracle By Example Tutorials on the Siebel and Fusion Middleware Best Practice Center on Oracle Technology Network:

http://www.oracle.com/technology/tech/fmw4apps/siebel

In this Lab:

- You will generate a WSDL in Siebel for the Siebel Account Business Service*
- Consume the WSDL in BPEL as a Partnerlink
- Invoke the QueryByID() operation within the WSDL
- Setup a BPEL transformation via the XSLT mapper
- Submit a customer ID to verify if the response is as expected

We have completed step (a) for you, and the generated WSDL is located in your C:\FMW4Apps → LabFiles → Siebel folder. This was done primarily to ensure we finish the lab in the short duration. For those of you who complete the lab and still have time remaining, follow instructions at the end of this document on steps to generate the WSDL.

Software Used:

- Siebel 8.0 Call Center
- Oracle SOA Suite version 11gR1 (available for download from OTN)
- Oracle JDeveloper version 11gR1 (available for download from OTN)
- All lab content and software are also available from FMW Best Practice Center for Siebel
  - http://www.oracle.com/technology/tech/fmw4apps/siebel
- Also check out FMW Best Practice Centers for E-Business Suite, Siebel and PeopleSoft
  - Web Search => Best Practice Center Siebel PeopleSoft E-Business Suite JD Edwards

The Siebel server is connected to the local lab environment.

Questions:

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2 Getting Started

2.1 Starting Oracle SOA Suite and JDeveloper

This guide assumes that you have access to the 11gR1 versions of the Oracle SOA Suite and JDeveloper.

The guide also assumes that the WSDL (SeblAccount.wsdl) and the schema (SiebelAcct.xsd) files are located at C:\FMW4Apps\LabFiles\Siebel. If these files are located elsewhere on your setup, make the appropriate modifications.

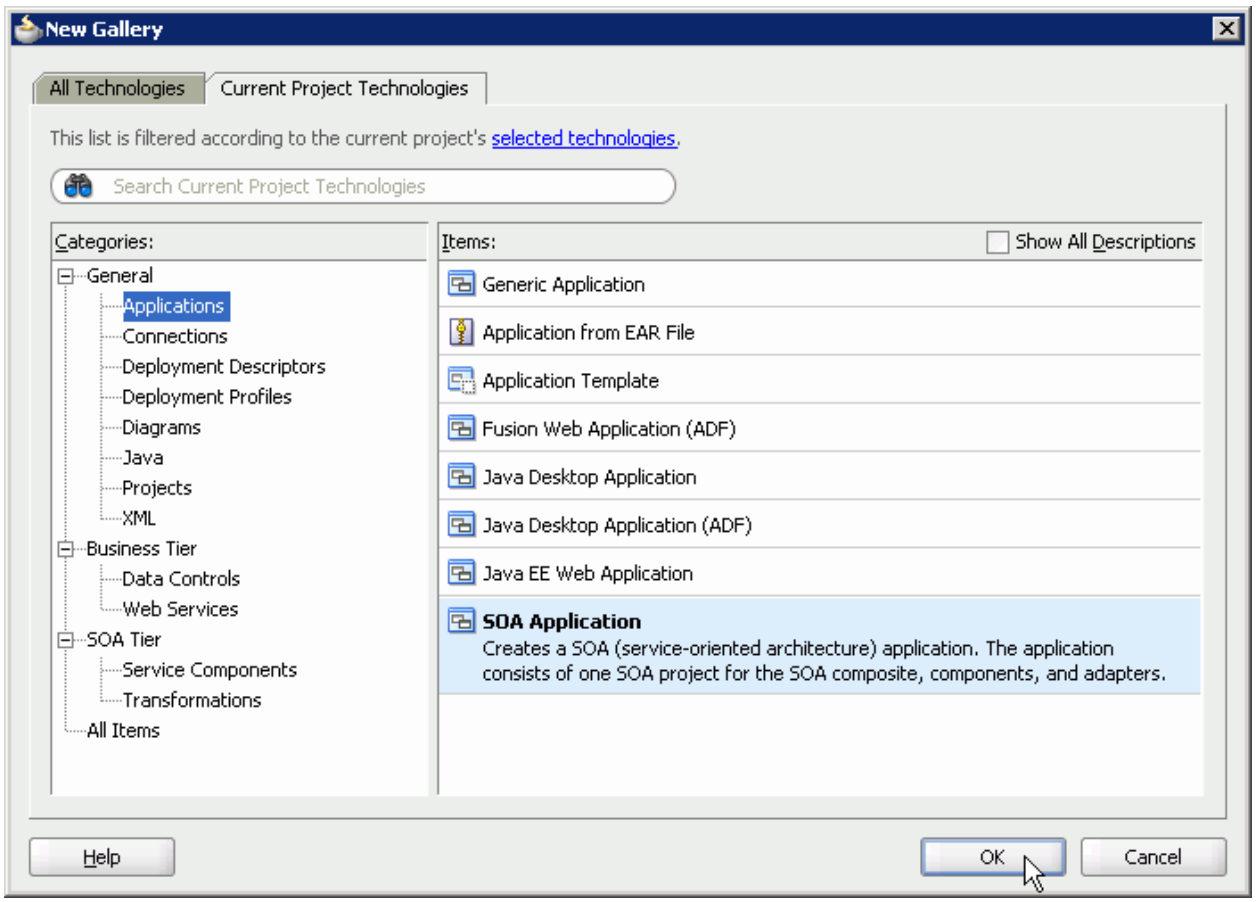
Ensure that the Oracle SOA Suite is running and start JDeveloper.

3 Create the BPEL Process

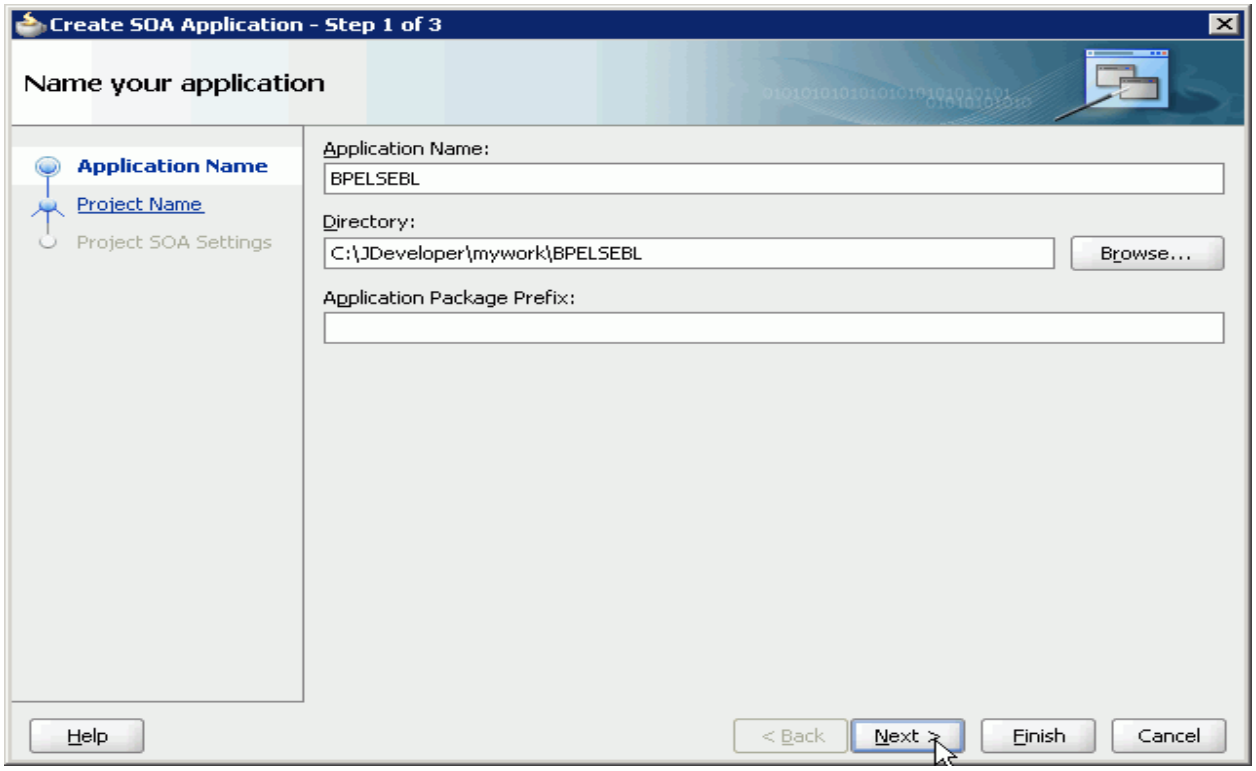
3.1 Create the BPEL Workspace and Project

1. Select File > New

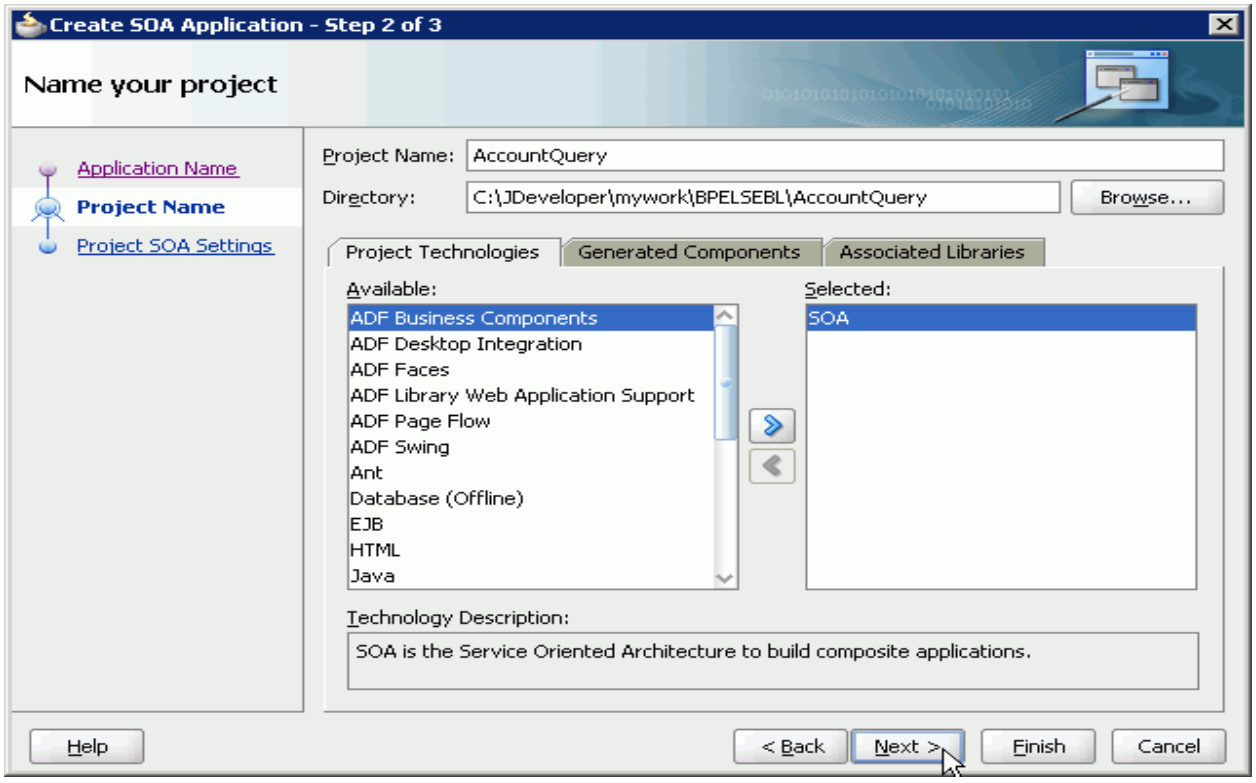
2. Select **Applications** in the Categories tree and **SOA Application** from the Items list. Click OK to continue.



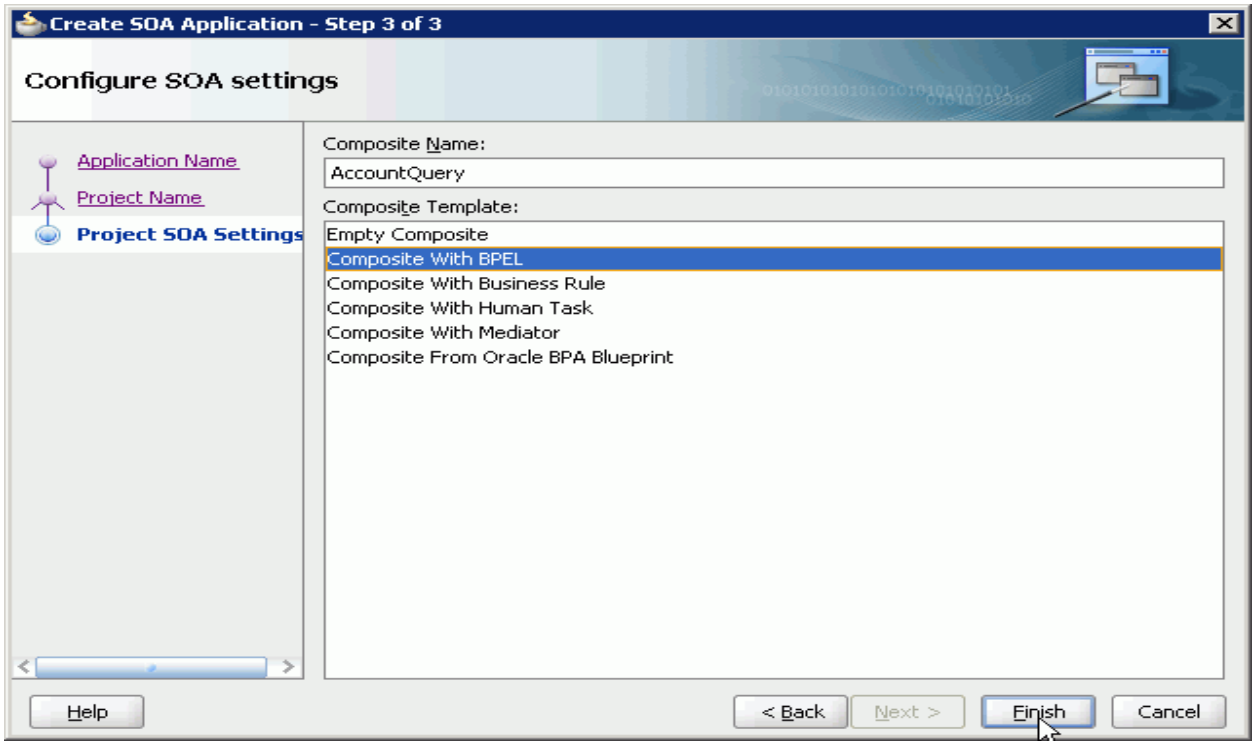
3. Name the Application as **BPELSEBL**. Click **Next.**



4. Enter **AccountQuery** as the Project Name. Click **Next**.

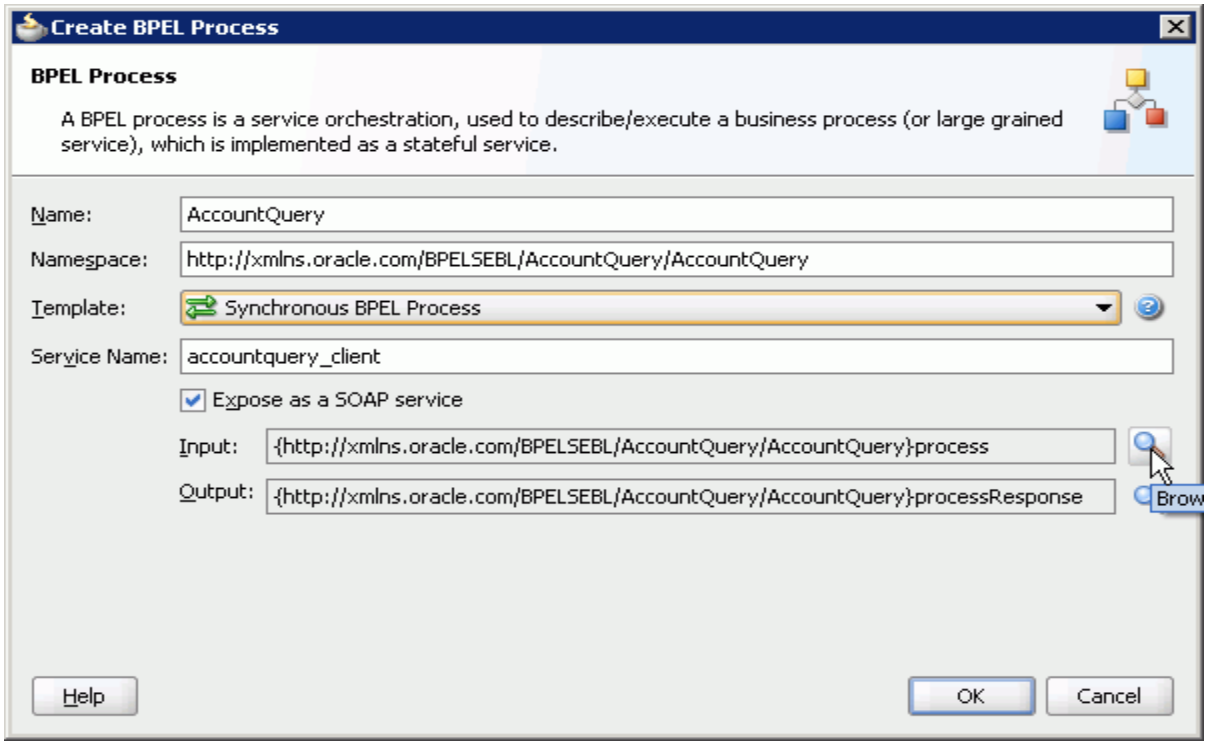


5. Select the **Composite with BPEL** template. Click **Finish**.



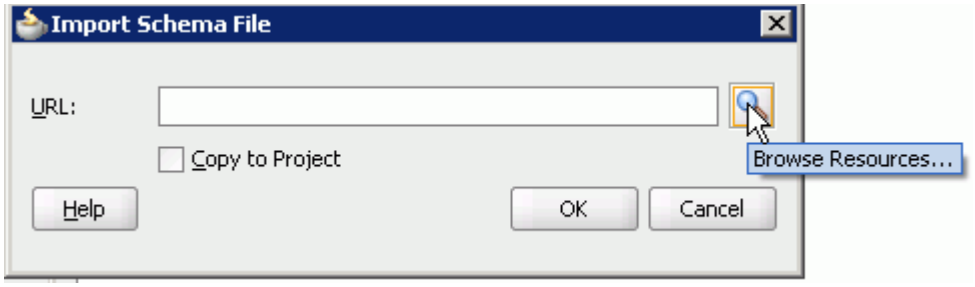
6. Set the Process Name to **AccountQuery** and select the **Synchronous BPEL Process** template as shown.

7. Click on the icon next to the **Input** field to browse the input elements.

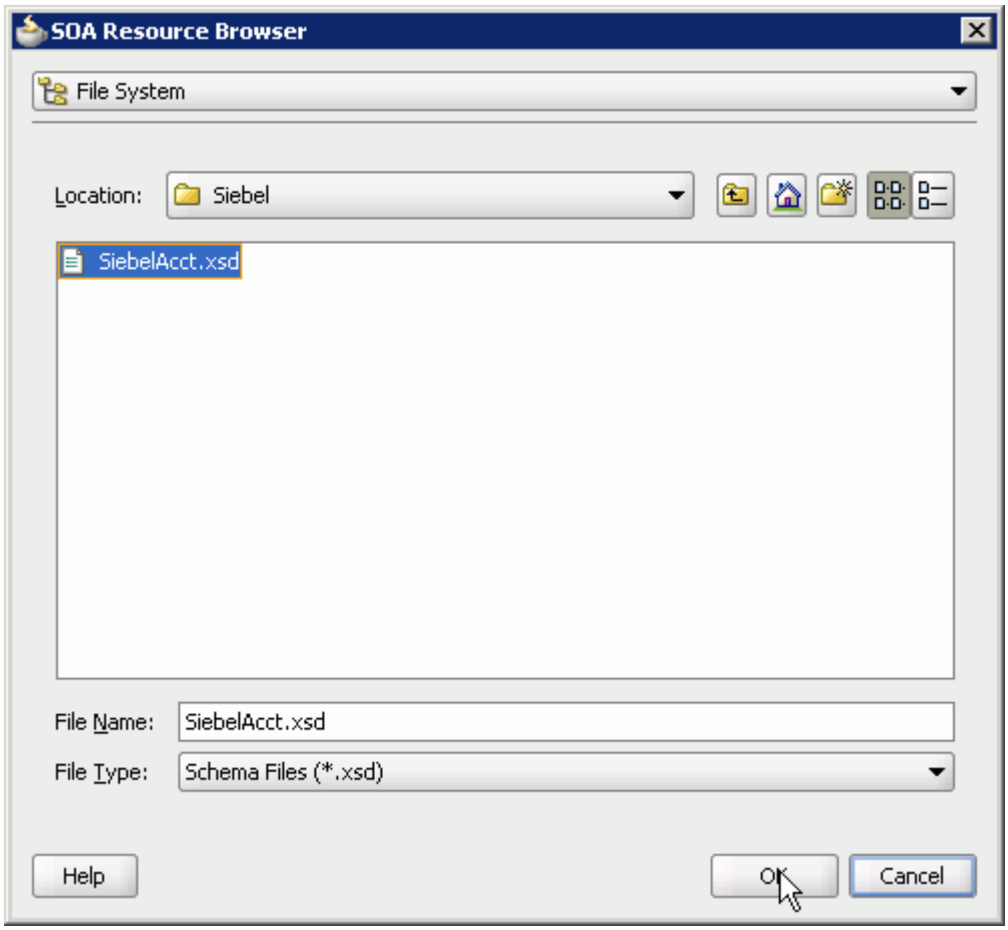


8. Click on the Import Schema File icon.

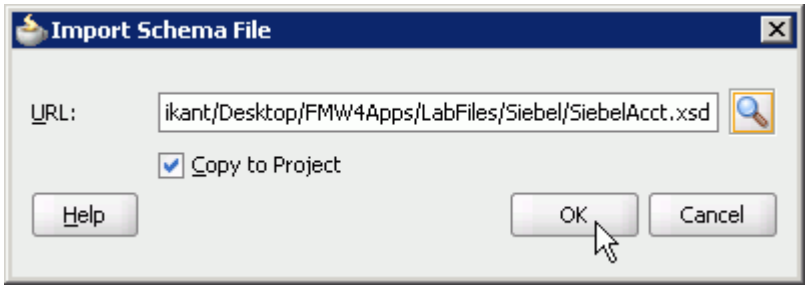
9. Click on the Browse Resources icon.

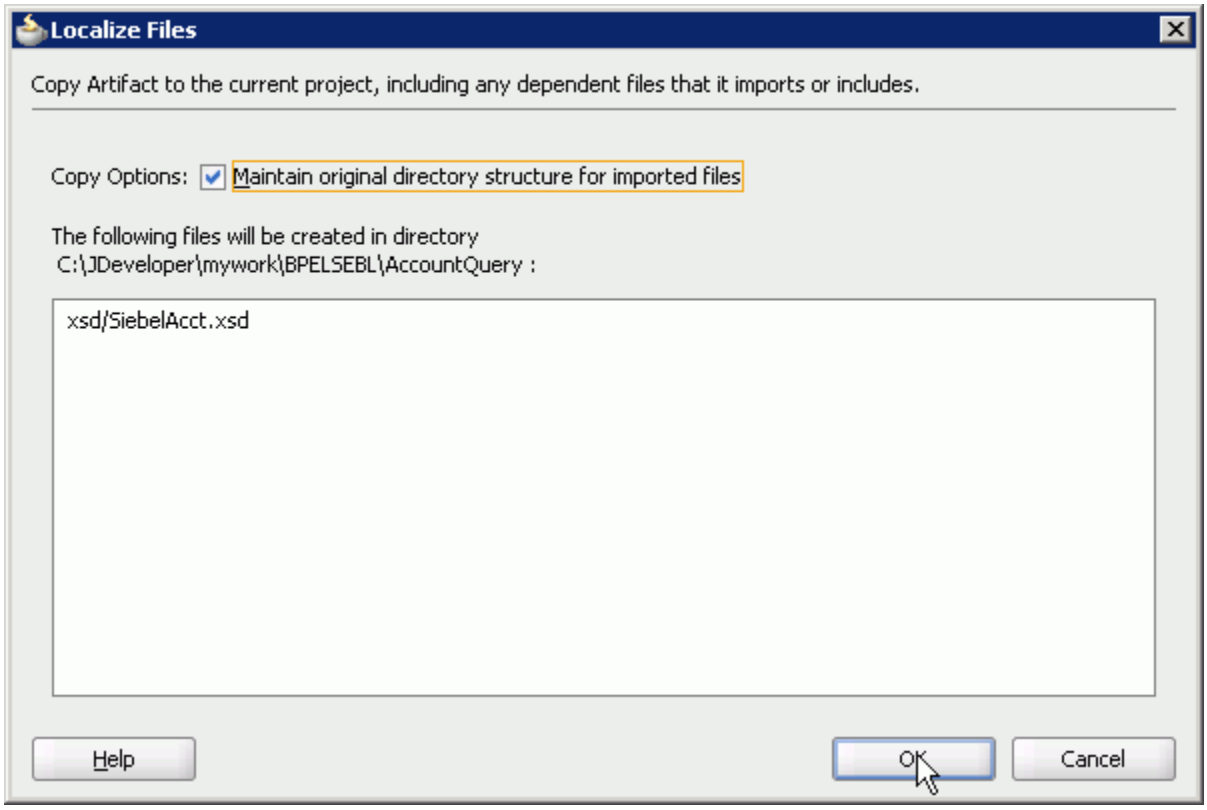


10. Locate the schema file in your folder (C:\FMW4Apps → LabFiles → Siebel) and click **OK**.

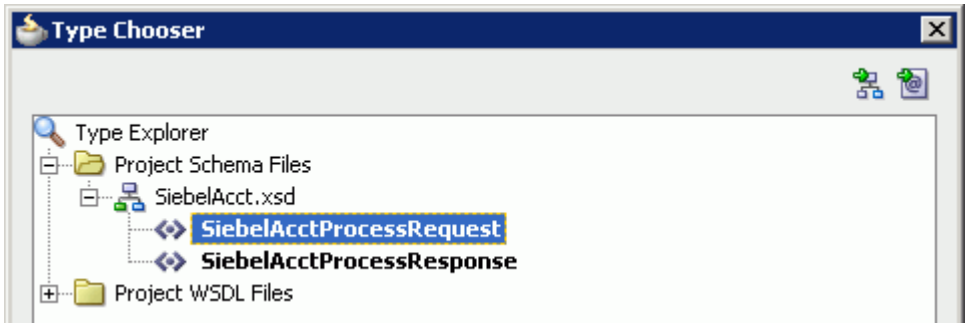


11. Accept defaults on the next two screens by clicking **OK.**

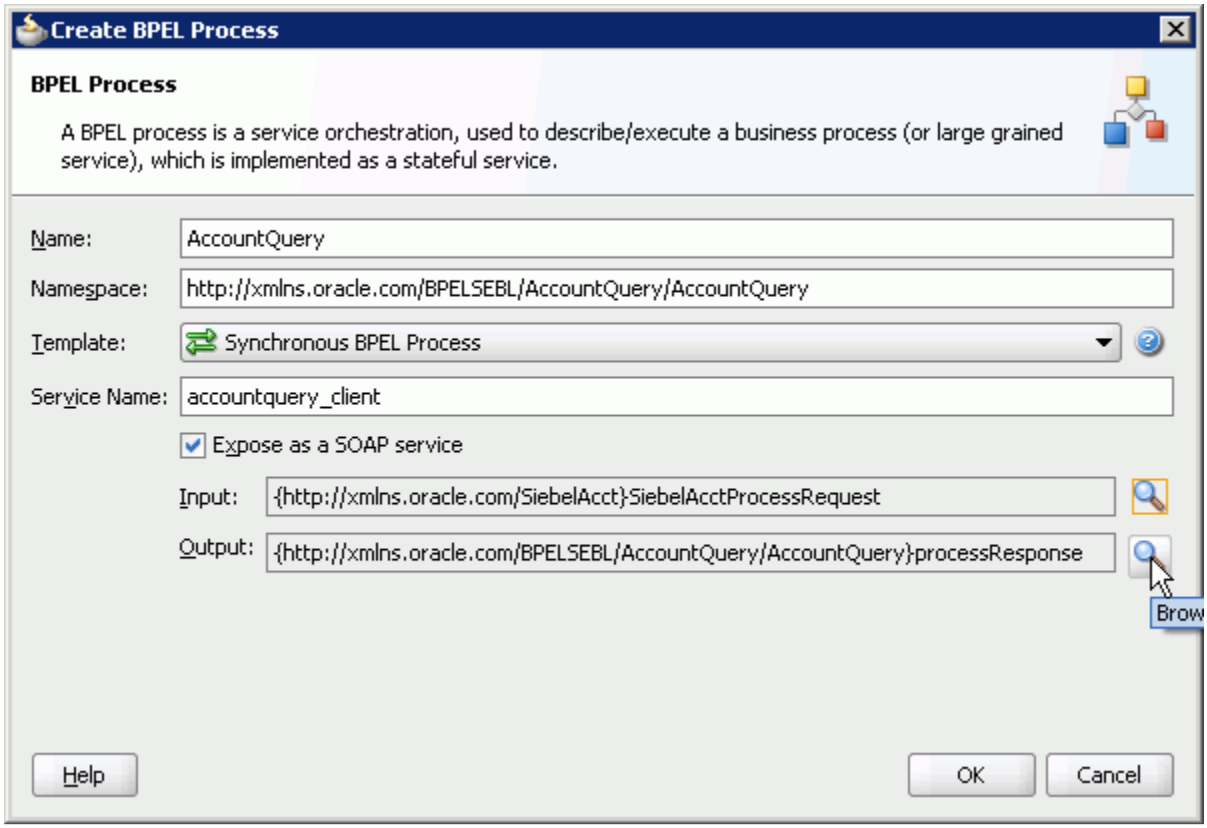




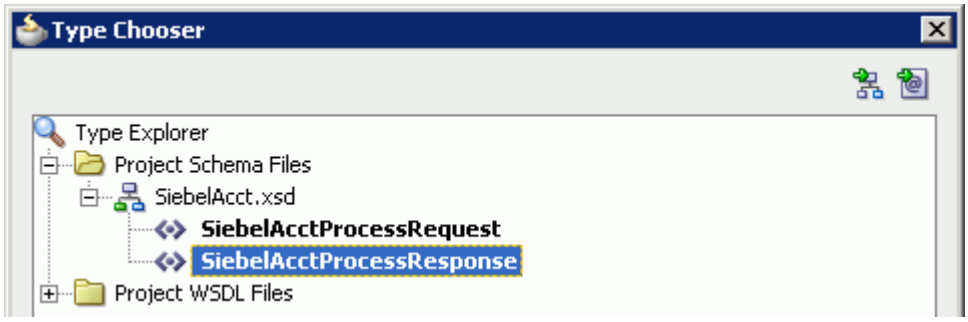
12. Select **SiebelAcctProcessRequest** and click **OK**.



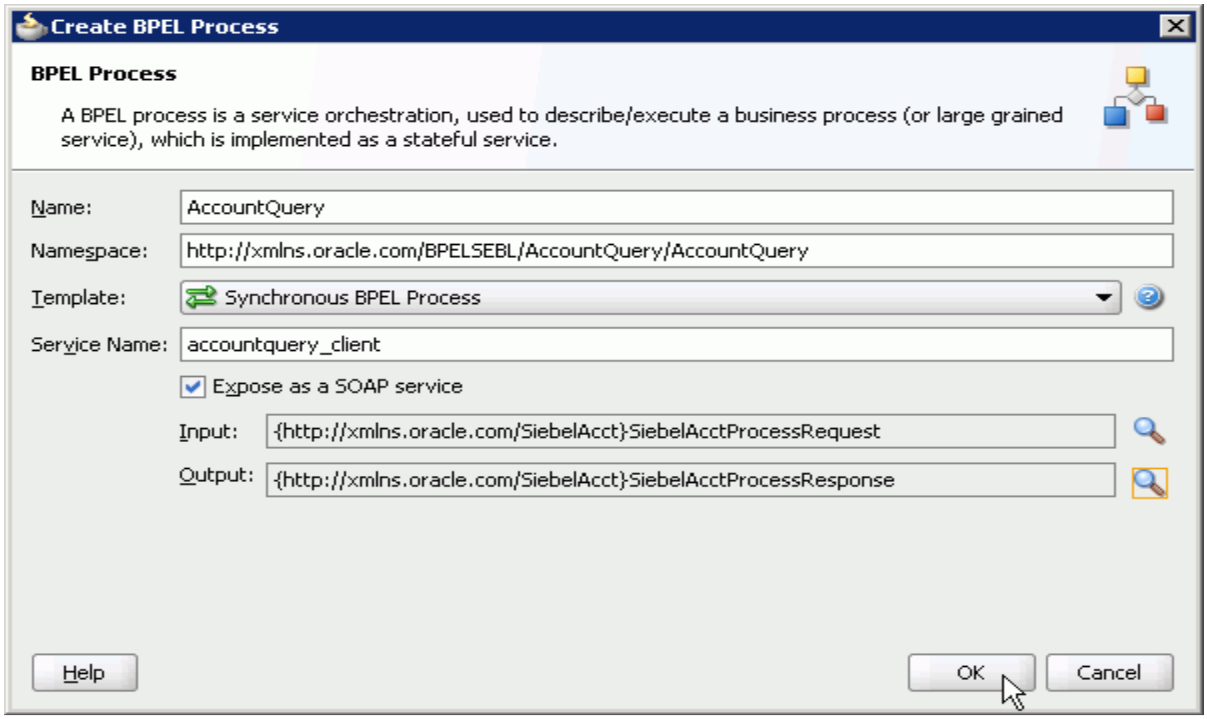
13. Click on the icon next to the **Output** field to browse the output elements.



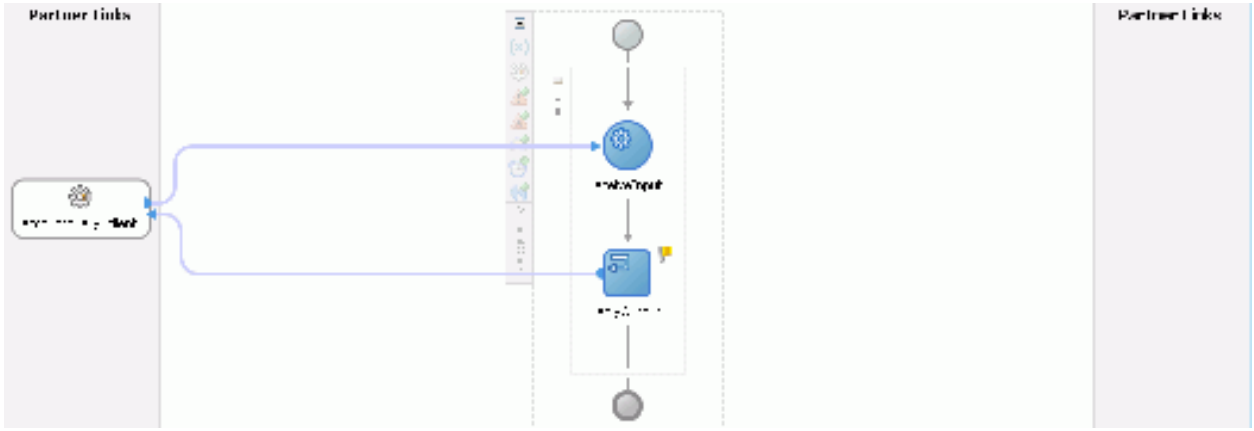
14. Select **SiebelAcctProcessResponse** and click **OK**.



15. Click **OK.**



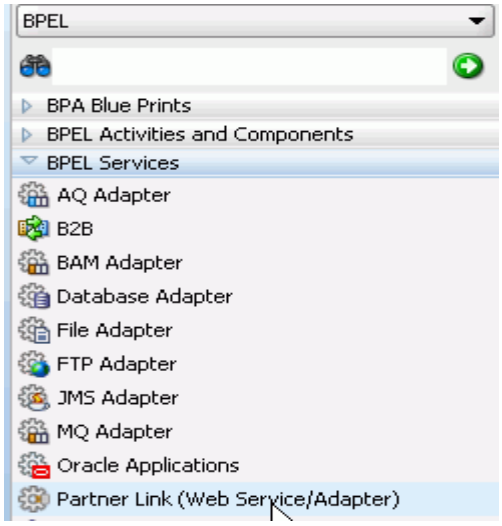
16. The BPEL process diagram should look as shown.

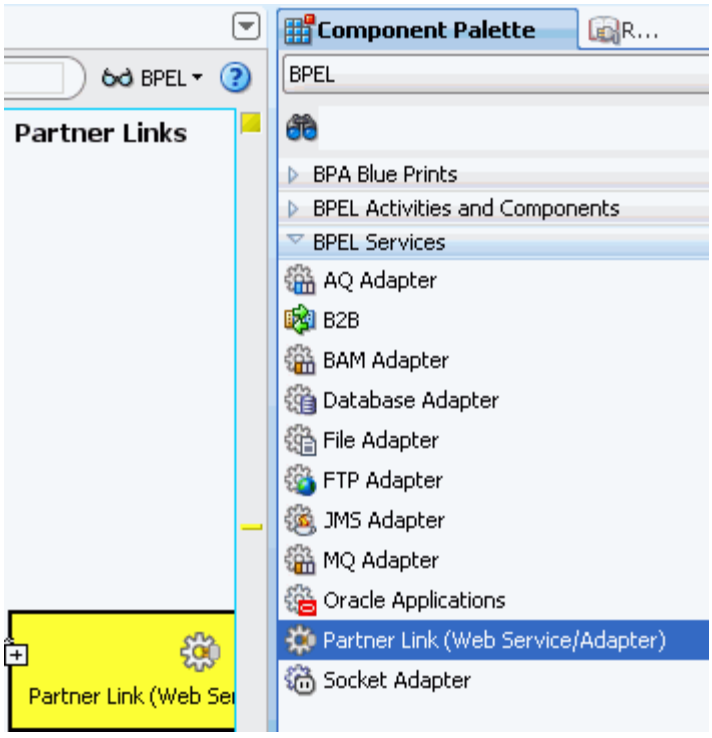


17. Select **File > Save All** to save your work.

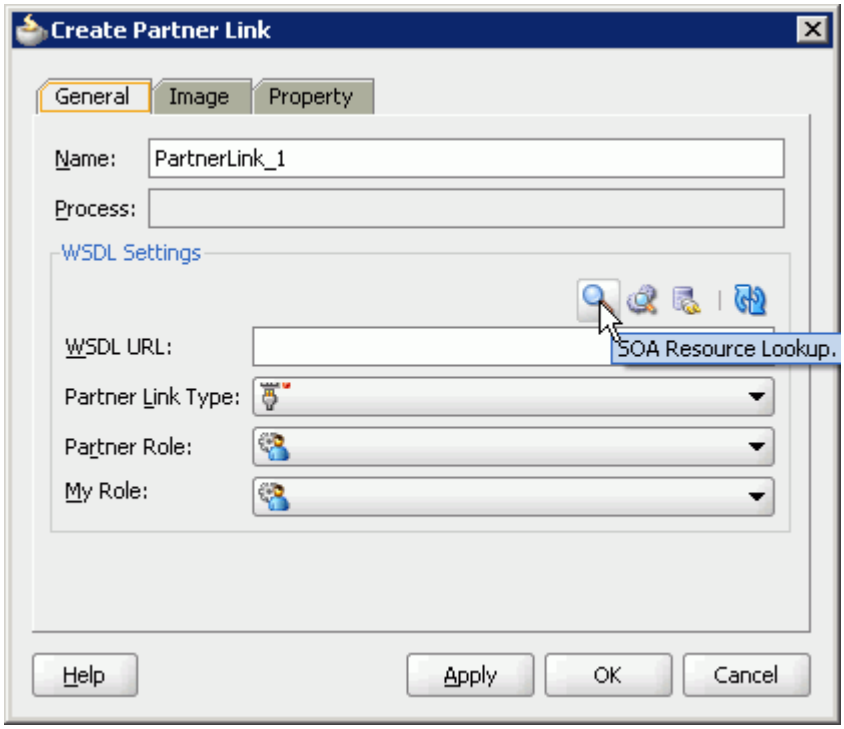
3.2 Create the Siebel Partner Link

1. Drag and drop a **PartnerLink** activity from the BPEL Services drop down list to the designer window as shown.

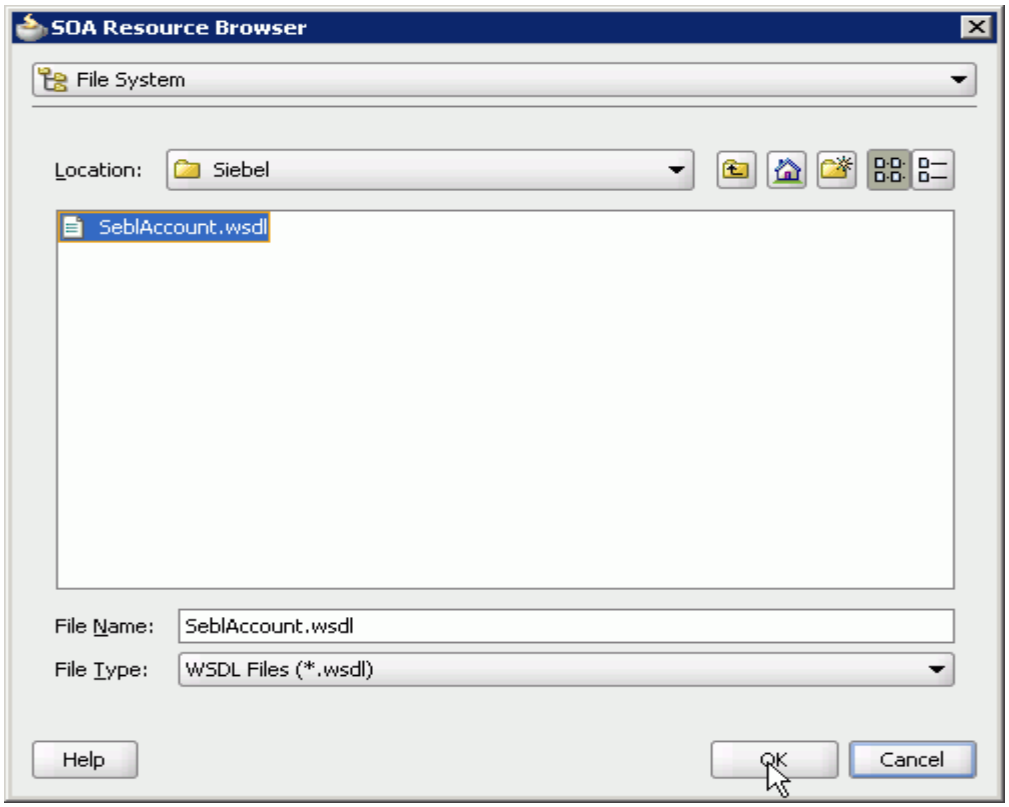




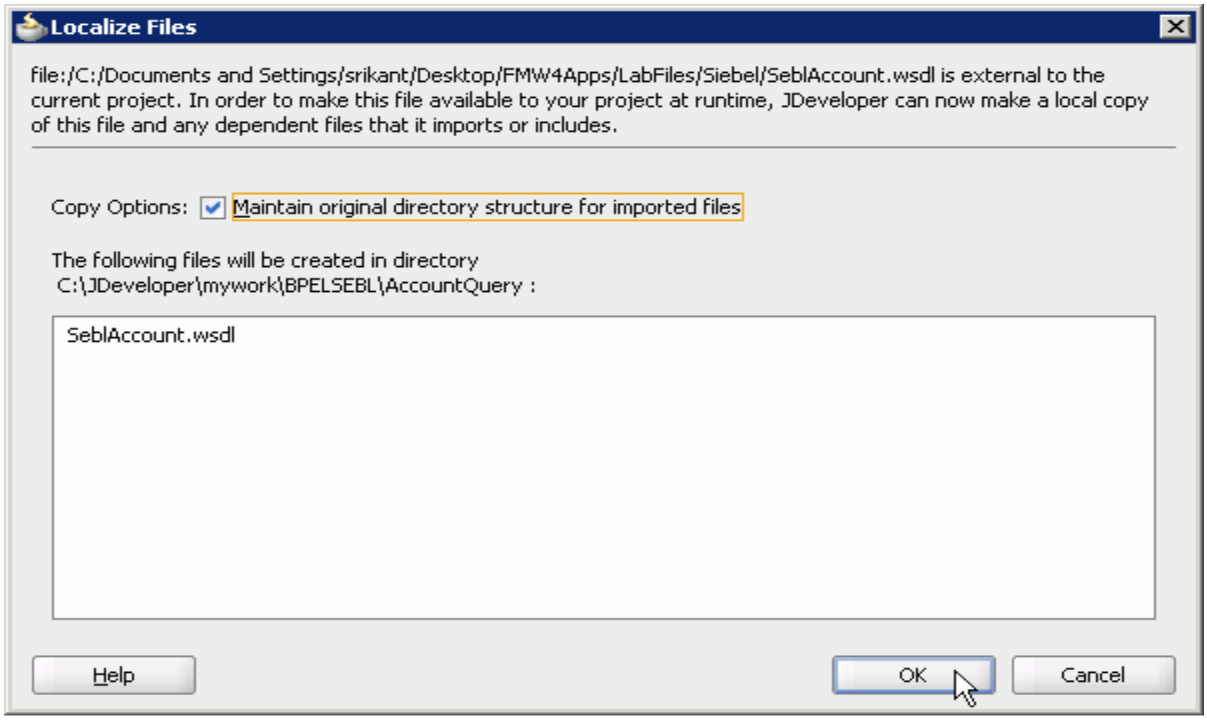
2. In the Create Partner Link window, click on the **SOA Resource Lookup** icon.



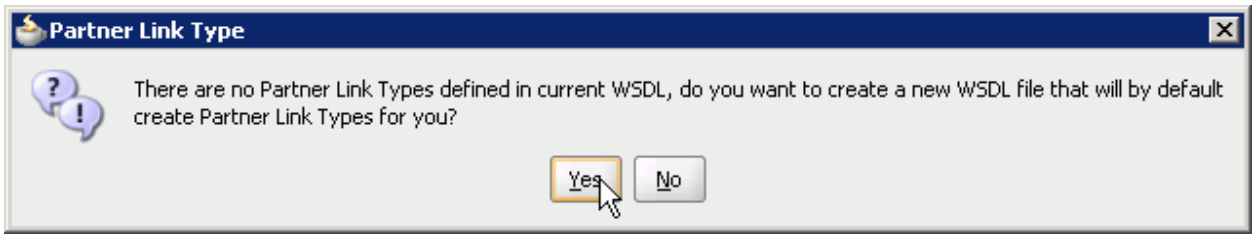
3. Navigate to the location of the Siebel WSDL file (C:\FMW4Apps\LabFiles\Siebel) and click **OK**.



4. Accept defaults and click **OK.**



5. Select **Yes.**



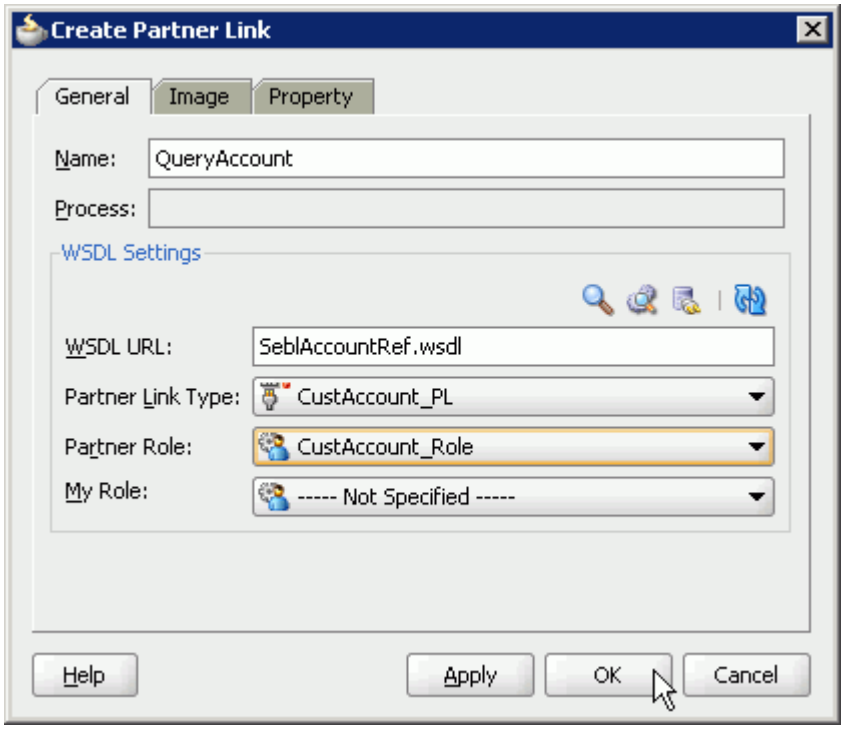
6. Enter the following values to create the partner link:

   Name: **QueryAccount**

   Choose Partner Role: **CustAccount_Role**

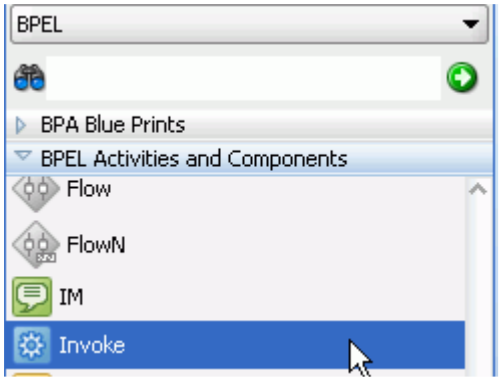
   (Partner Link Type is automatically populated).

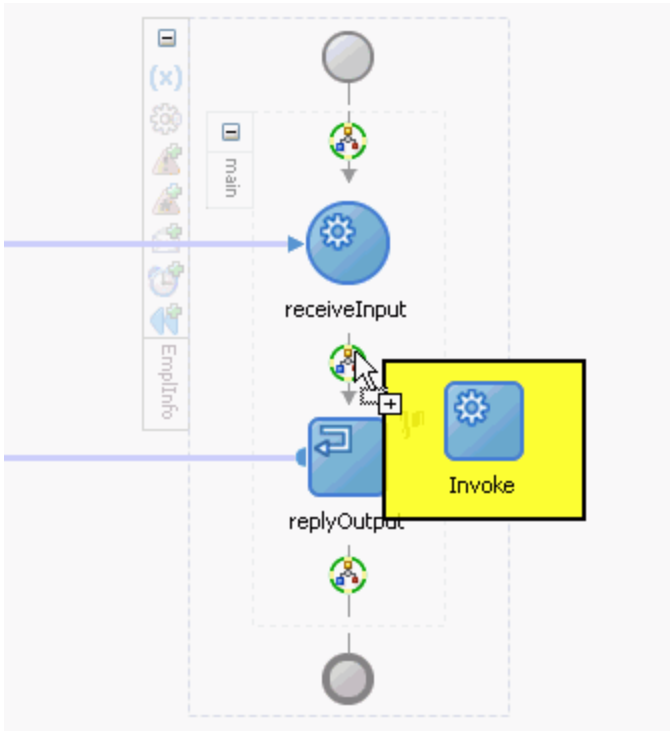
   Click **OK.**



3.3 Create an Invoke activity

1. Drag and drop an **Invoke** from the BPEL Activities and Components drop down list to the designer window (after the **receiveInput** activity) as shown.





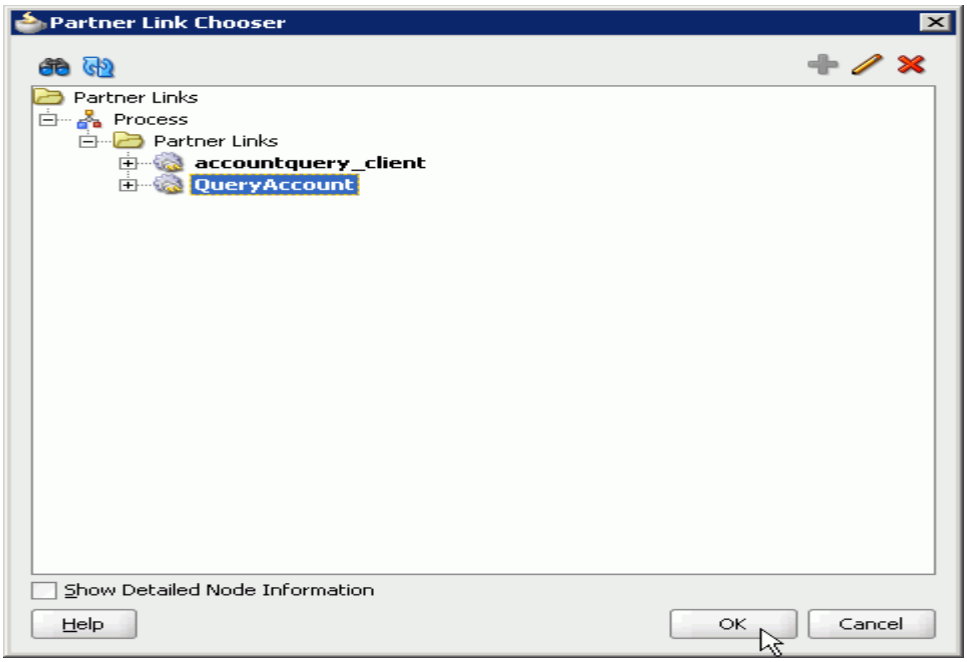
2. Double-click the **Invoke** icon to open the Invoke window.

3. In the Invoke window:

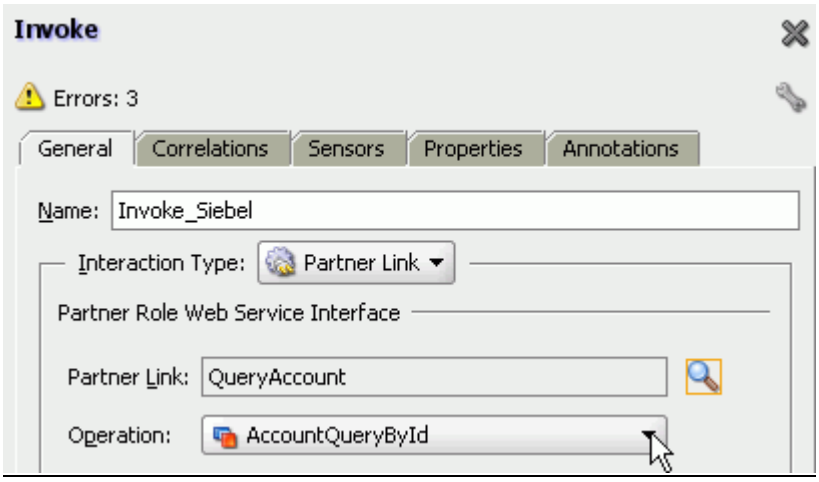
a. Set Invoke Name to **Invoke_Siebel**

b. Click on icon next to the Partner Link field and select **QueryAccount**

c. Click **OK**



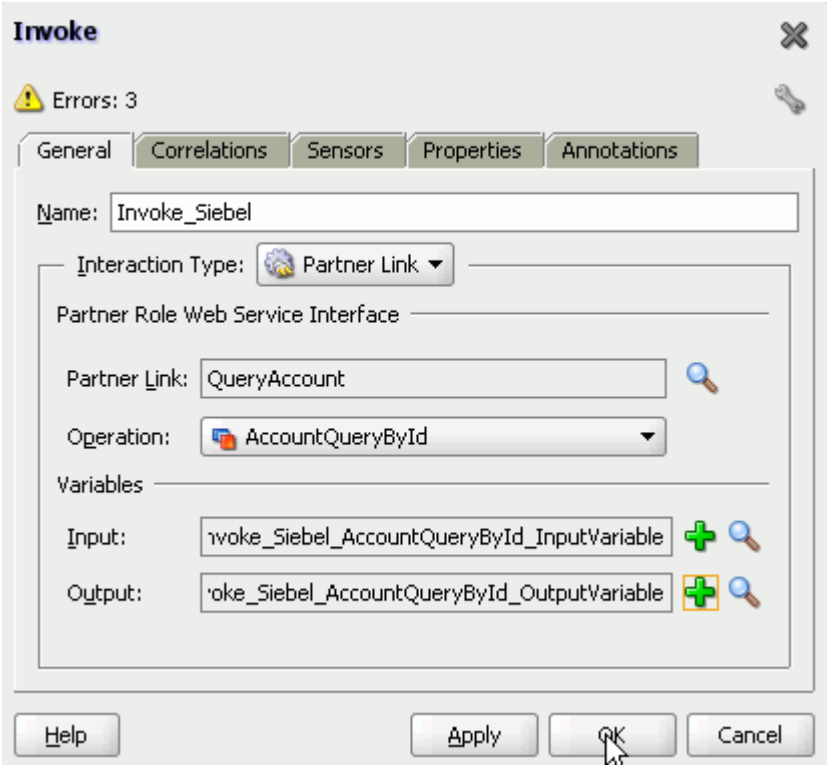
d. Set Operation to **AccountQueryById.**



e. Click on the icon next to the **Input Variable** text field to create a global variable for this activity. Accept defaults. Click **Apply** and then **OK**.

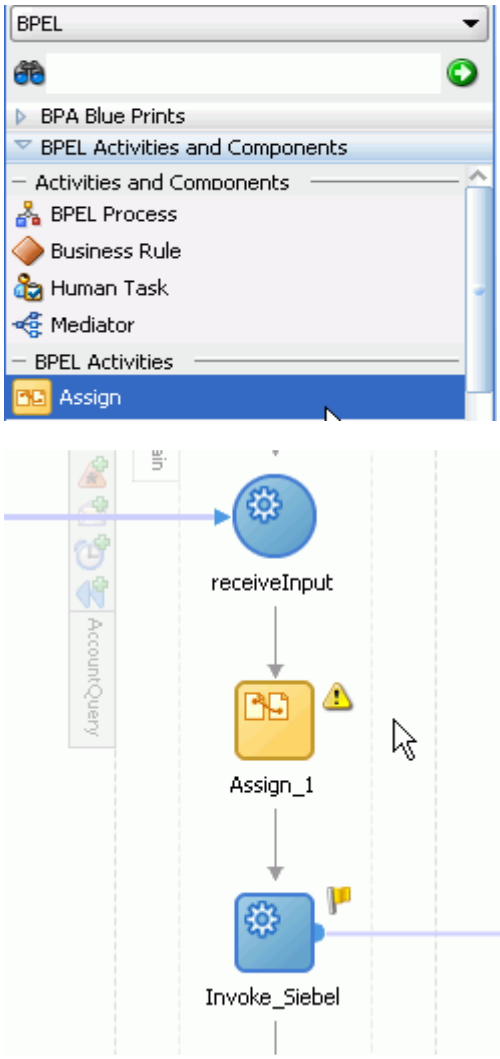
f. Click on icon next to the **Output Variable** text field to create a global variable for this activity. Accept defaults. Click **Apply**, followed by **OK**.

g. Ensure your invoke window looks as shown. Click **OK.**



3.4 Create an Assign activity

1. Drag and drop an **Assign** activity from BPEL Activities and Components drop down list to between the **receiveInput** and **Invoke_Siebel** activities as shown.



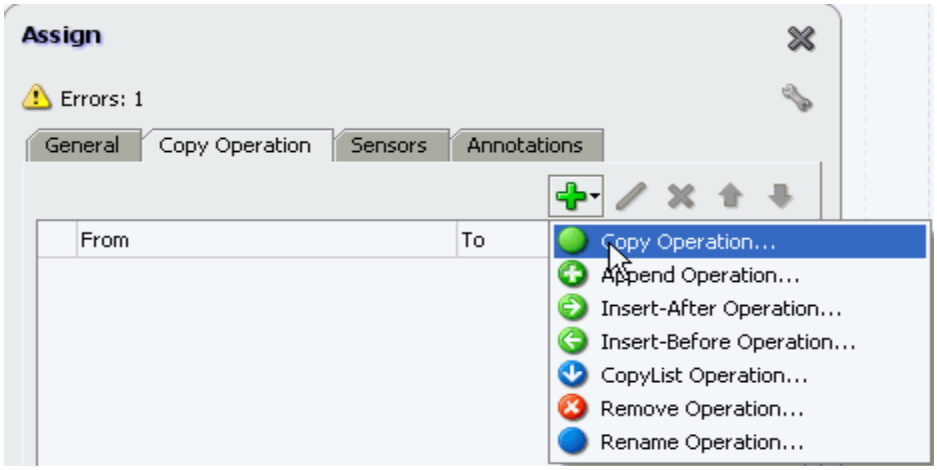
2. Double click on the recently added **Assign** icon.

3. Click on the **General** tab and enter **CopyInput** in the **Name** field.

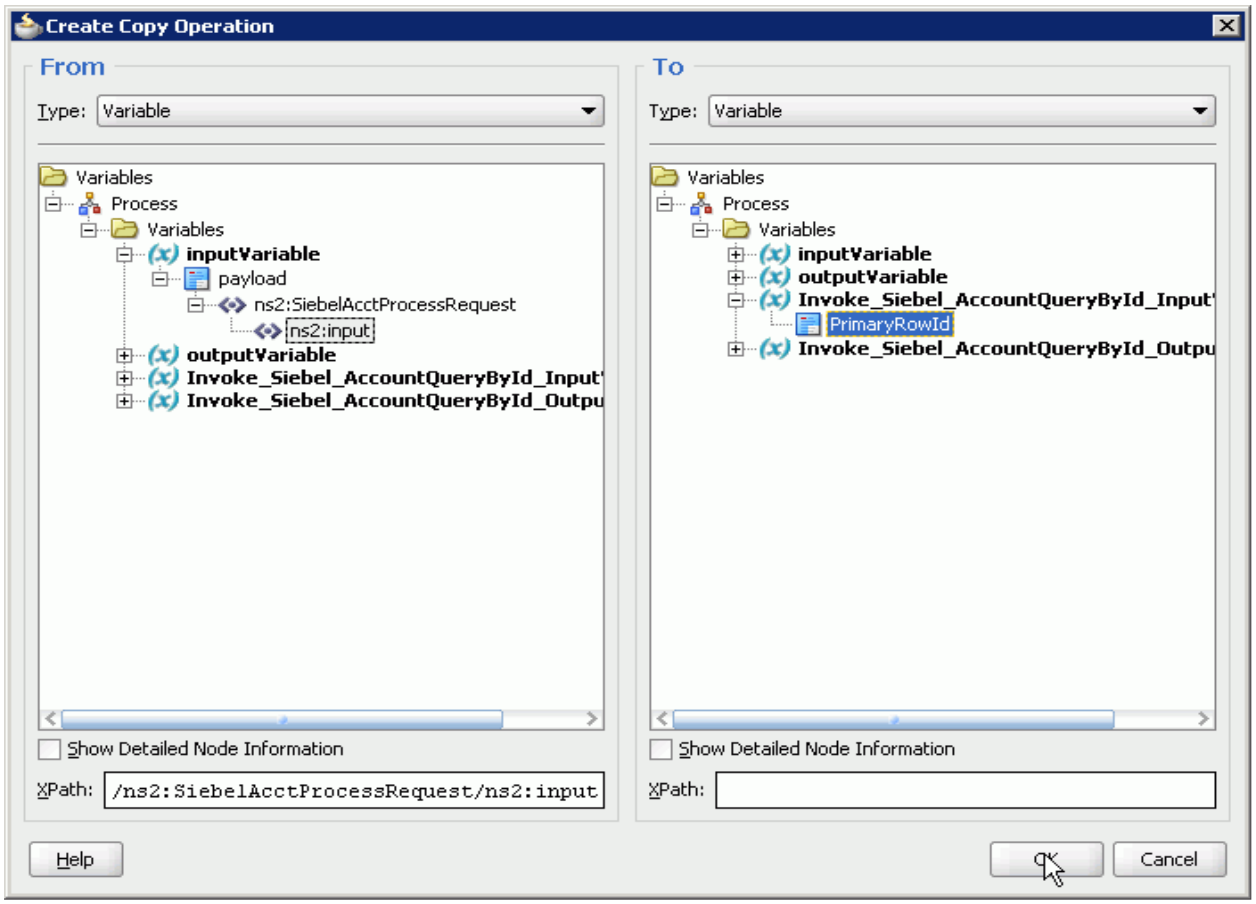
4. Click **Apply**

5. Click the **Copy Operation** tab

6. Select **Copy Operation** from the drop down list.



7. Create the Copy Operation as shown. Click **OK**.

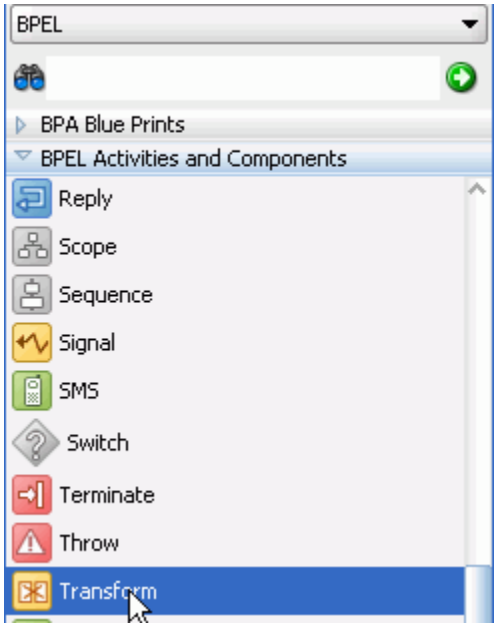


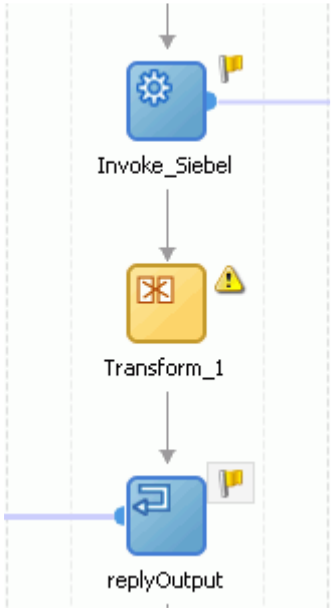
8. Click **OK** to close the Create Copy Rule window.

9. Click **OK** to close the Assign window.

3.5 Create a Transform activity

1. Drag and drop a Transform activity from the BPEL Activities and Components drop down list to between the **Invoke_Siebel** and **replyOutput** activities.

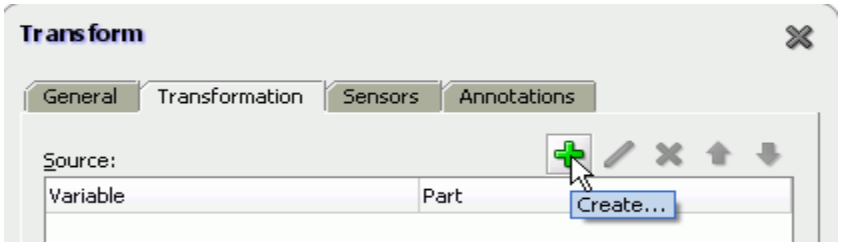




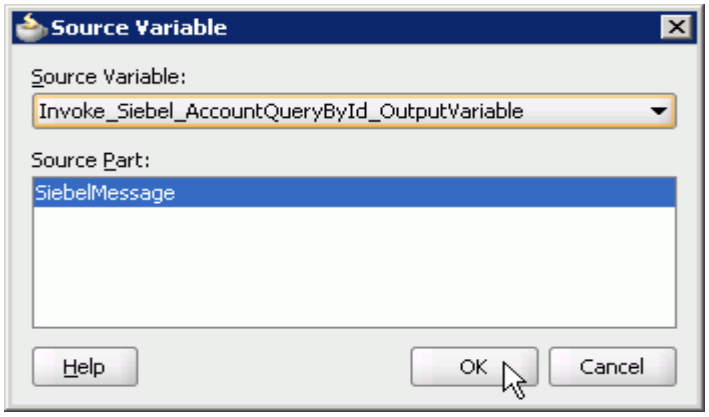
2. Double-click the recently added **Transform** icon.

3. Click the **General** tab and Enter **TransformOutput** in the **Name** field.

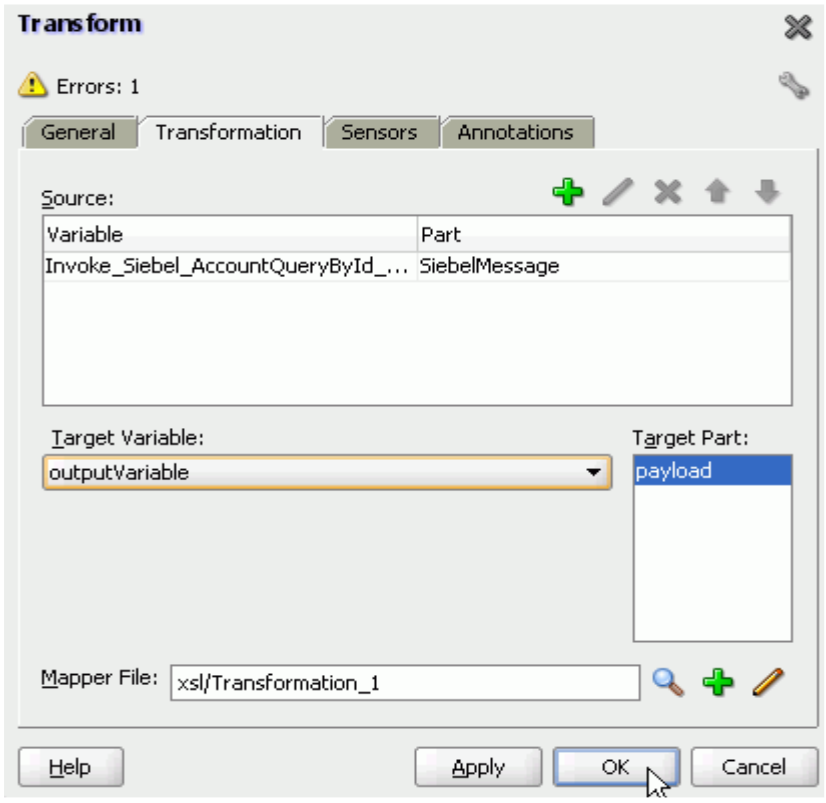
4. Click the **Transformation** tab and click on the icon to **create** a new transformation.



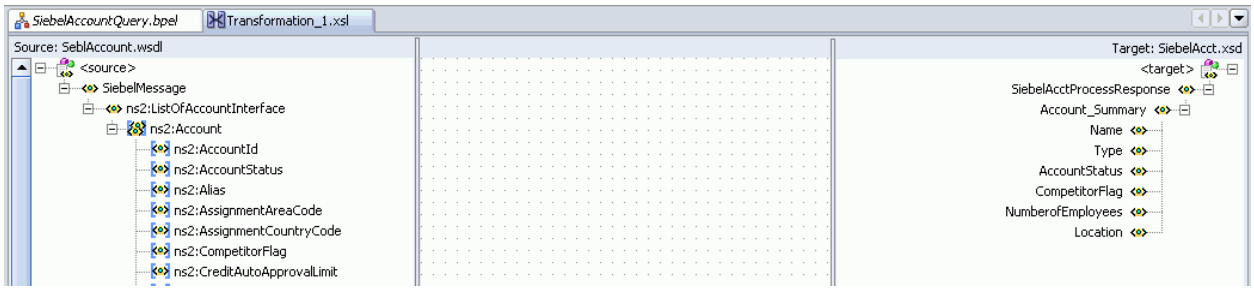
5. Select the **Source Variable** from the drop down list as shown. Click **OK**.



6. Select the **Target Variable** from the drop down list as shown. Click **OK**.

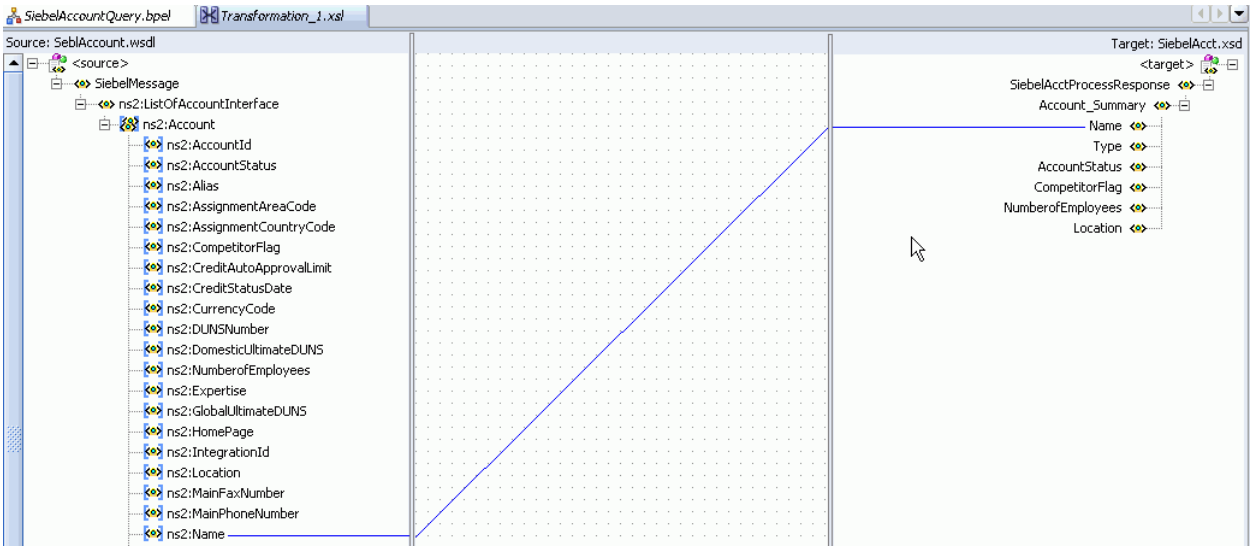


7. In the XSLT mapper, expand the parent elements by clicking on the "+" sign next to their names. Your screen should look as shown below. We can now create the mappings (transformations).



8. To create a mapping from the source to the target, we simply drag and drop the element from the left column (source) to the corresponding element in the right column (target).

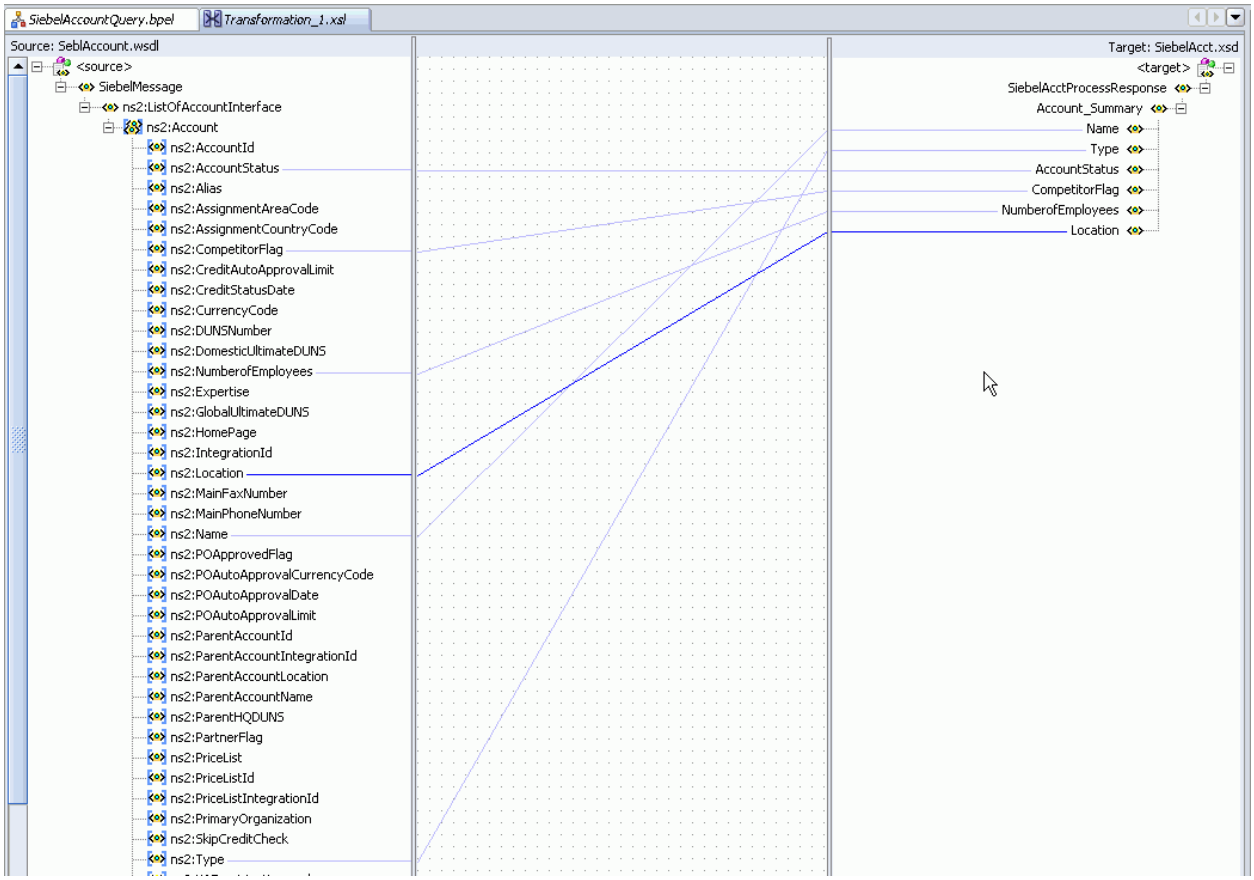
   a. Drag and drop the **Name** element from the source (on the **left)** to the **Name** element on the **right**. This will create a mapping as shown.



   b. Repeat the above mapping step for the following source elements:

      - **AccountStatus → AccountStatus**
      - **CompetitorFlag → CompetitorFlag**
      - **NumberofEmployees → NumberofEmployees**
      - **Location → Location**
      - **Type → Type**

   c. Verify that the mappings look as shown in the next figure.

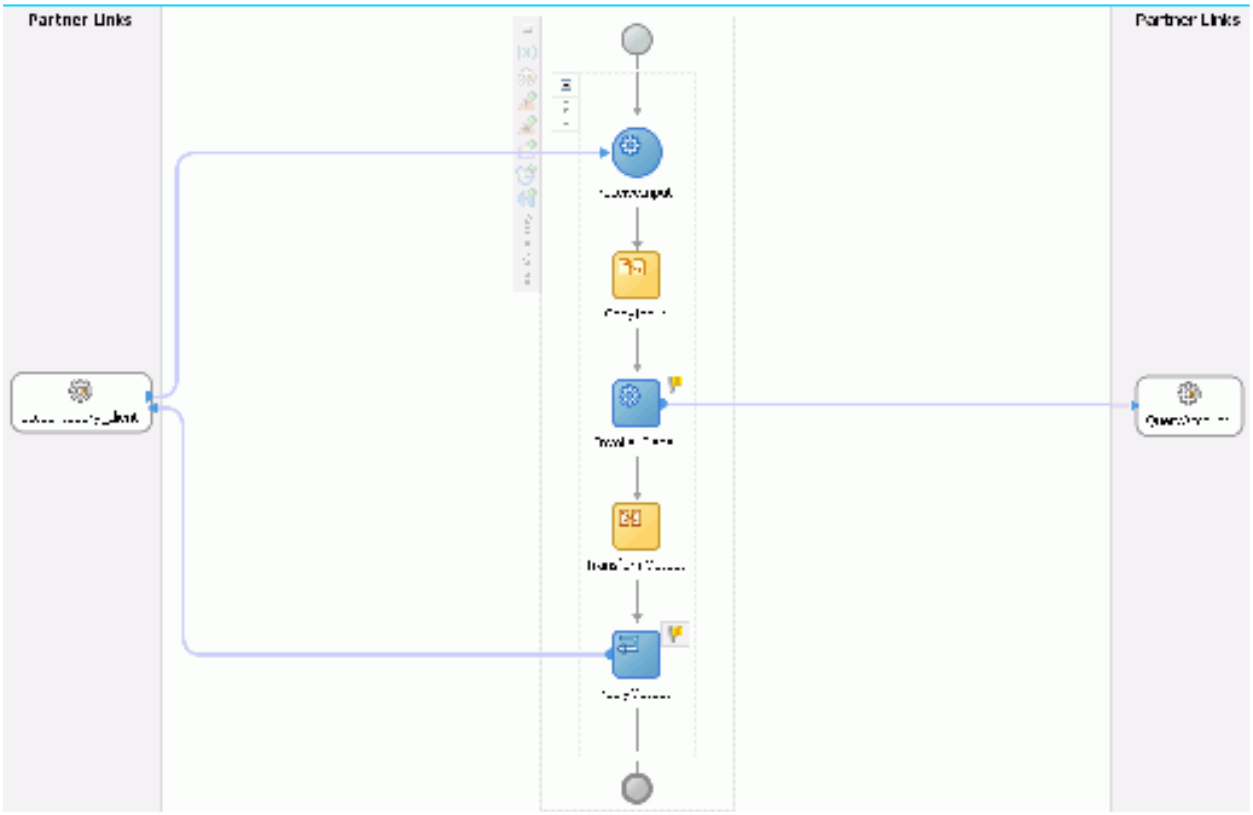


9. Go back to the BPEL Process by clicking on the AccountQuery.bpel tab

10. This completes the creation of the BPEL process.

3.6 Validating, Compiling and Deploying the BPEL Process

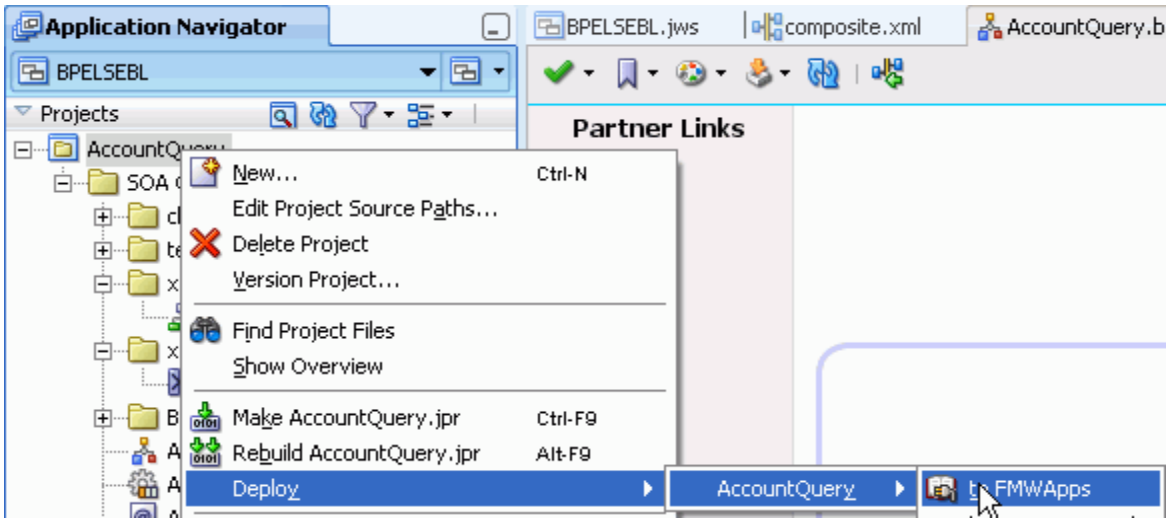
1. The completed BPEL process should resemble the following figure.



2. Select **File** > **Save All** button to save the BPEL project.

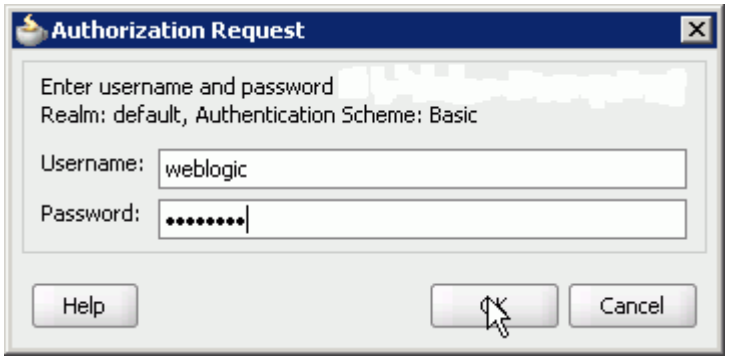
3. Right-click the **AccountQuery** BPEL Project.

4. Select **Deploy → AccountQuery → FMWApps** as shown.



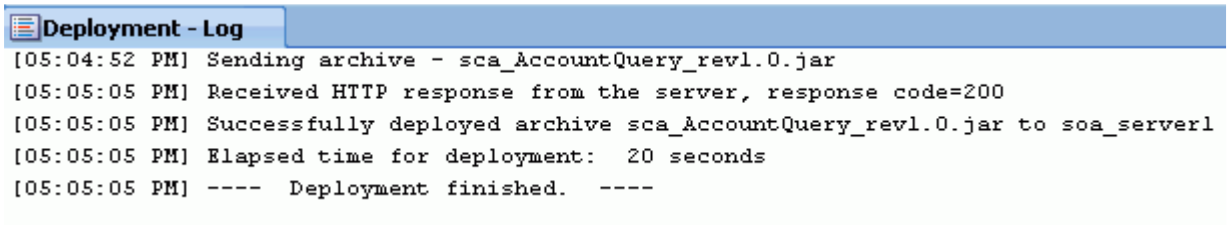
5. Click OK on the next screen (**SOA Deployment Configuration Dialog**) to accept defaults and set off the compilation process (this could take a few minutes).

6. Enter username/password (**weblogic/welcome1**).



7. This will deploy the BPEL process to the local Application Server and could take a minute or two. Click on the **Deployment** tab (at the bottom of the screen) to view the progress.

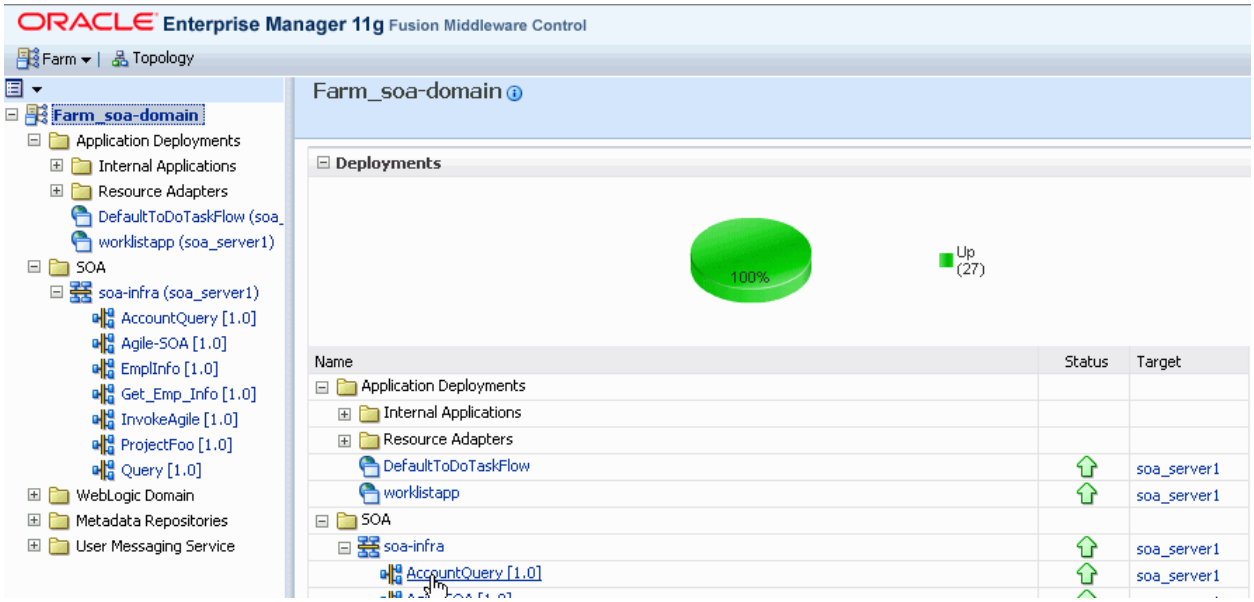
8. Deployment was successful.



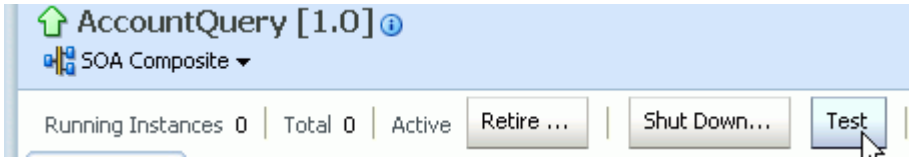
4 Testing

1. Log into the Oracle Enterprise Manager Console at: http://localhost:7001/em
2. The default Username is **weblogic** and the default Password is **welcome1**

3. Click on the **AccountQuery** process in the SOA Deployments.



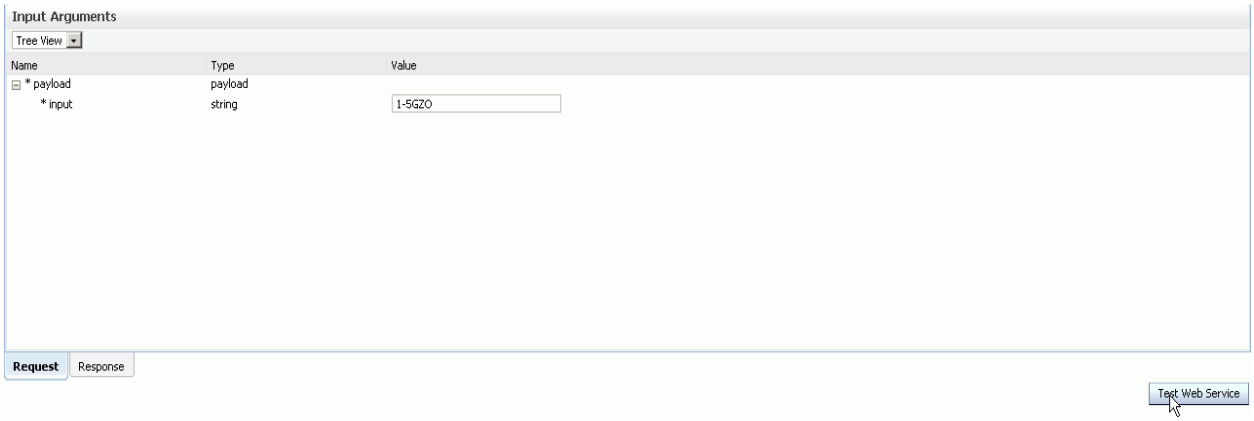
4. Click on the Test tab to initiate a test instance.



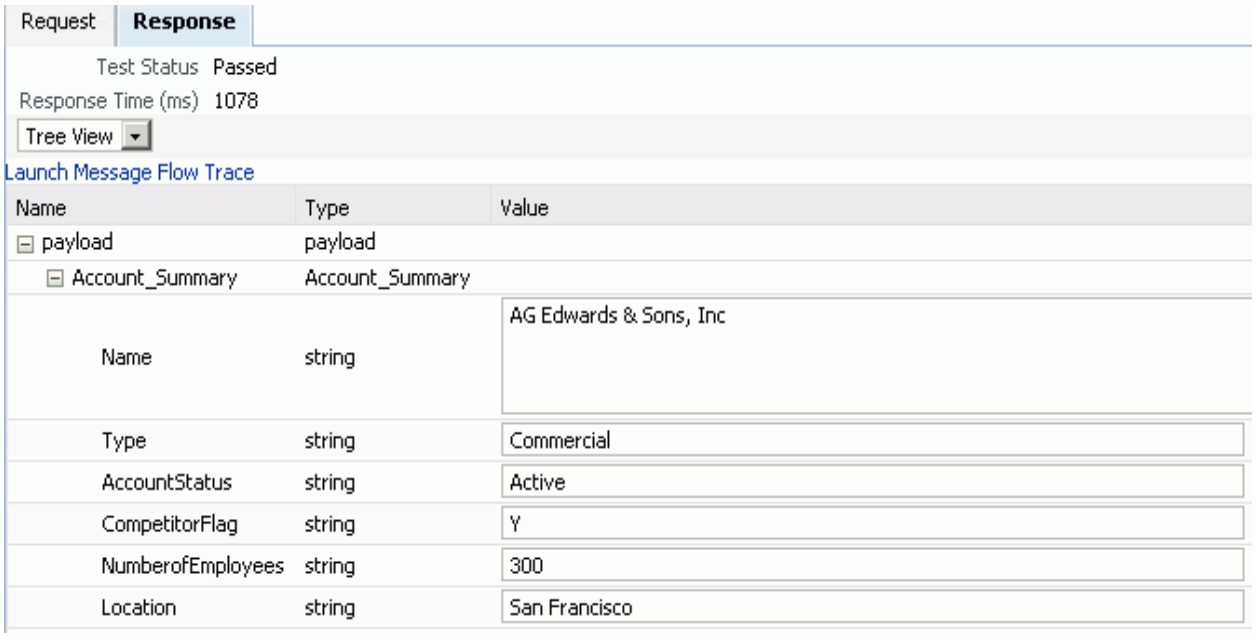
5. Enter **1-5GZO** in the input field and click on **Test Web Service**.

   Other valid inputs are:

   1SIA-7UKI
   24-28V6



6. The output is the customer account summary containing only the fields that we mapped out earlier. This marks the successful completion of the lab.



5 Additional Credit

5.1 BPEL Console

- Go back to the BPEL Dashboard and look at the completed process instances.
- Check the executed flow diagram of completed instances. Click on each step in the process to see the XML data flowing through the step.

5.2 JDeveloper

- Explore the different activities you can use in a BPEL process. Look at Process Activities and you will find an array of nodes to use. Interesting ones are Human Task flow, which can be used to include human approval steps and assign tasks to people.

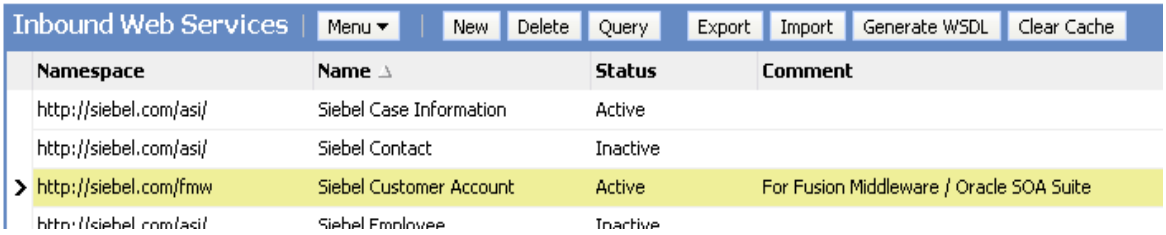
5.3 Log into Siebel and Generate the WSDL

- Login to Siebel using the shortcut in the desktop folder (FMW4Apps -> Shortcuts) with userid and password SADMIN/SADMIN

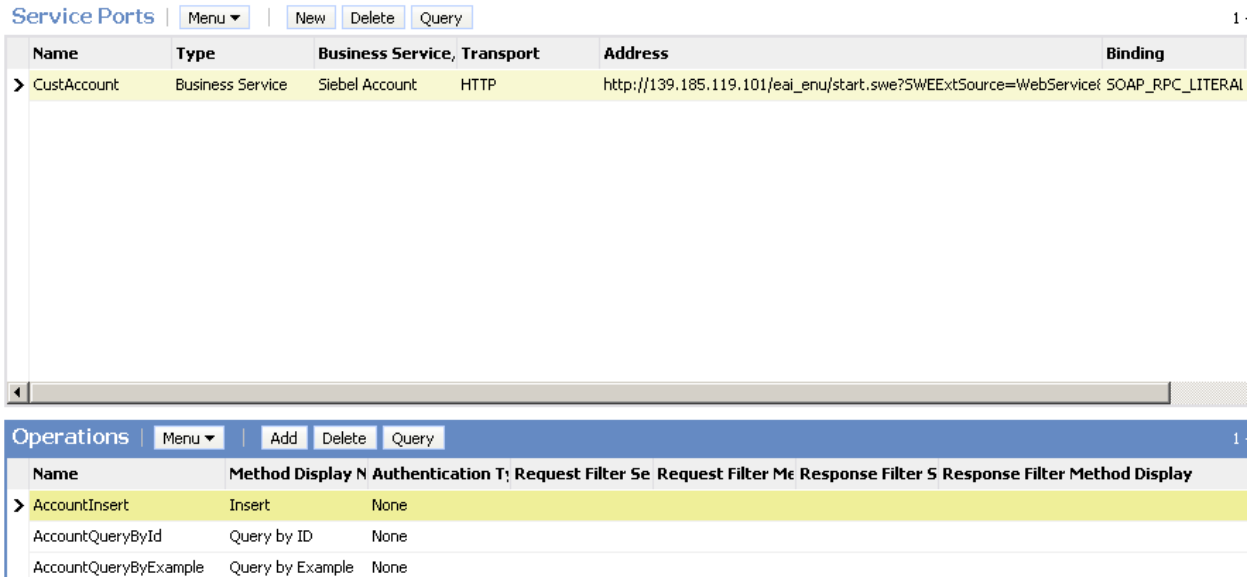
- Click on menu item Navigate → Site Map.

- Click on Administration-Web Services, followed by Inbound Web Services

- In the list of Inbound Web Services find the one we used – see below. Use the mouse to find by scrolling down (do not use query button). This is to ensure you don't change the definition of the Web service. (*Note: Siebel saves on change without prompting user.*) You can hit the generate WSDL button and you will be prompted to save. Here choose open to view the WSDL in Internet Explorer. Examine the WSDL for schema types and the server port it is binding to. **Do not save**. **Close the browser.**



- Scroll down and see the service ports and operations we have for this web service. You will find three operations (AccountQuerybyID, AccountQueryByExample and AccountInsert).



Service Ports | Menu | New | Delete | Query

Name	Type	Business Service,	Transport	Address	Binding
CustAccount	Business Service	Siebel Account	HTTP	http://139.185.119.101/eai_enu/start.swe?SWEExtSource=WebService(	SOAP_RPC_LITERAl

Operations | Menu | Add | Delete | Query

Name	Method Display N	Authentication T	Request Filter Se	Request Filter Me	Response Filter S	Response Filter Method Display
AccountInsert	Insert	None				
AccountQueryById	Query by ID	None				
AccountQueryByExample	Query by Example	None				

These are out of the box operations exposed on **any** Siebel Business Object.

Other operations found on business objects include Update, Insert, Synchronize and Delete. We have chosen not to expose them in our case. Instructions on how to make these available as operations can be found in Siebel Bookshelf or you can see a tutorial for this on FMW Best Practice Center for Siebel on OTN.

Make sure you have made no changes in the Siebel instance.

Logout from the application using File→Logout menu in Siebel browser.

Exit the browser.