

Cleo Integration Cloud™ | Clarify

Chapter | **Web Services Consumer SOAP**

Overview | This topic demonstrates how to create a Web Service Consumer and related Clarify objects that requests/processes information made available by the Web Service Provider, as detailed in the *Web Services Provider SOAP* demo.

In that demo, the Web Service Provider generated a WSDL file that identifies the server hosting the Web Service, lists the operations that can be executed, and provides XML Schemas so consumers know how to properly format the request message and understand the response message.

In this demo, the Web Service Consumer reads that WSDL file to determine the operations available for that service, uses SOAP to perform the desired operation, and employs a few Clarify objects to process the response message.

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Scenario

In the Provider's database, the *HEADER* table is populated as here.

| PO_NUMBER | DATE | CONTACTNAME | PHONE | EMAIL | LINES | QUANTITY | COST | PROCESSED | DATEPROCESSED |
|---------------|----------|---------------|----------------|-------------------|-------|----------|--------|-----------|---------------|
| BestValue_22 | 1/1/2013 | BOB SMITH | (555) 555-5555 | BSMITH@BVGS.COM | 2 | 1100 | 3875 U | | (null) |
| GoodStuff_303 | 1/2/2013 | SUSAN JOHNSON | (555) 555-6666 | SJOHNSON@BVGS.COM | 3 | 190 | 2380 U | | (null) |
| FV-2013_0047 | 1/3/2013 | BOB SMITH | (555) 555-5555 | BSMITH@BVGS.COM | 1 | 1 | 375 U | | (null) |

This demo shows how to request information about the *BestValue_22* purchase order. That information is returned in an XML file.

Resources

The resources needed to accomplish this transformation are meant to provide a basic understanding of how Clarify objects work together. All resources are created and defined on the *Clarify Workbench* perspective's *Project Explorer* view.

- Project [**com.training.demo07.soapconsumer**] – A Project is a directory within the Workspace.
 - Package [**com.training.demo07.soapconsumer**] – A Package is a directory within a Project.
 - File Adapter [**WriteXmlFA**] – This File Adapter sends the target data out of Clarify.
 - Web Service Consumer [**PurchaseOrdersWSC**] – This Web Service Consumer object requests information made available by the provider object. When this object is initially saved, Clarify generates two Schemas – one to describe the request message and the other to describe the response message. No changes are required to either.
 - Business Process [**PurchaseOrdersResponseBPS**] – This Business Process assembles the request message, connects to the Web Service Provider, and writes the response message to a file on the local file system.
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Project: **com.training.demo07.soapconsumer**

Select *File* | *New* | *Clarify Project*.

Type **com.training.demo07.soapconsumer** in the *Project name* field.

Click **Finish**.

When Clarify creates a Project, it automatically creates a Package named the same as the Project.

File Adapter: WriteXmlFA

Select the Package.

Select *File* | *New* | *File Adapter*.

Choose *Write* and click **Next**.

Type **WriteXmlFA** in the *Name* field.

Click **Finish**. The object is created, and its editor appears.

Click in the *File Path* field. Click the **Browse For Folder** button, locate/select the *C:\Clarify_demos\demo07\out* folder, and click **OK**.

Type **PurchaseOrdersResponse.xml** in the *File name* field.

Select *Generate Unique Name* from the *Collision Action* field's dropdown.

Save the object and close the editor.

Web Service Consumer: PurchaseOrdersWSC

Select the Package.

Select *File | New | Web Service Consumer*.

Choose *SOAP/WSDL* and click **Next**.

To indicate the WSDL location, choose *Filesystem*, click the **Browse filesystem** button, locate/select the *PurchaseOrdersWsdL.wsdL* file in the *C:\Clarify_demos\demo07* folder, and click **Open**.

Click **Validate WSDL Location**.

Choose *Save WSDL and XSDs to workspace*, click the **Select Folder** button, select the *com.training.demo07.soapconsumer* Project, click **New Folder**, type **samples** in the *Folder name* field, click **OK**, and click **OK** again.

Click **Next**.

Ensure that the *execute* operation is selected. Click **Next**.

Type **PurchaseOrdersWSC** in the *Name* field.

Click **Finish**. The object is created, and its editor appears.

This object is created in a new *com.training.demo07.soapconsumer.purchaseorderswsc* Package.

Also, two other Packages are created. Each houses the XML Schemas contained in the imported WSDL file.

Furthermore, the *xsd*s subfolder of the *samples* folder houses the *PurchaseOrdersWSC.wsdL* file and its related XSDs.

Close the editor.

Business Process: PurchaseOrdersResponseBPS

Select the *com.training.demo07.soapconsumer* Package.

Select *File | New | Business Process*.

Choose *No Template* and click **Next**.

Type **PurchaseOrdersResponseBPS** in the *Name* field.

Click **Finish**. The object is created, and its editor appears.

This Business Process requires three tasks to assemble the request message, connect to the Web Service Provider, and write the response message.

Task 1: Assemble the request message

The purchase order number for which information is requested must be specified.

To create this task, click the **Add** button in the *Script* section. Click that step's *Click to select task* entry. In the list of available tasks, type **assem** in the *Filter* field to restrict the display to tasks containing that text. Double-click *BodySchemaTwoOrderNumber - Assemble* to select that object-specific task.

To define this task, click the *Properties* view tab.

This task has three parameters; all are mandatory.

Click in the *targetXml* parameter's field. This parameter represents the content of the request message. In the list of available parameters and variables, click **New Variable**. *newVariable* appears in the *Properties* view and in the *Variables* section, with its name pre-selected, ready for a name change. Type **requestMessage** and press **Enter** to rename this variable. This new name is reflected in the *Properties* view.

Click in the *useXSITypes* parameter's field. This parameter indicates if the request message should include XSI type information. In the list of available parameters and variables, click the *Boolean Literal* tab and double-click *false*.

Click in the *po_number* parameter's field. This parameter represents the purchase order number for which information is requested. In the list of available parameters and variables, click the *String Literal* tab. type **BestValue_22**, and press **Enter**.

Task 2: Connect to the Web Service Provider

Clarify needs to connect to the Web Service Provider.

To create this task, click the **Add** button in the *Script* section. Click that step's *Click to select task* entry. In the list of available tasks, type **wsc** in the *Filter* field to restrict the display to tasks containing that text. Double-click *PurchaseOrdersWSC – PurchaseOrdersWSPWsdI - MyPort - execute - Connect* to select that object-specific task.

To define this task, click the *Properties* view tab.

This task has several parameters, but only two must be defined here.

Click in the *Request Body* parameter's field. This parameter represents the *StorageNode* (the data in the request message). In the list of available parameters and variables, double-click the previously-defined *requestMessage* variable.

Click in the *Response Body* parameter's field. This parameter represents the *StorageNode* (the data in the response message). In the list of available parameters and variables, click **New Variable**. *newVariable* appears in the *Properties* view and in the *Variables* section, with its name pre-selected, ready for a name change. Type **responseMessage** and press **Enter** to rename this variable. This new name is reflected in the *Properties* view.

Task 3: Write the response message

Clarify outputs the response message to the local file system.

To create this task, click the **Add** button in the *Script* section. Click that step's *Click to select task* entry. In the list of available tasks, type **write** in the *Filter* field to restrict the display to tasks containing that text. Double-click *WriteXmlIFA* to select that user-defined object.

To define this task, click the *Properties* view tab.

This task has one parameter.

Click in the *storageNodes* parameter's field. This parameter represents the *AdapterPayload* (the data to be written to the target file). In the list of available parameters and variables, double-click the previously-defined *responseMessage* variable, as the data processed by the second task is the data to be written.

Save the object and close the editor.

Deploy/Launch

The Web Service Consumer can perform properly only if its Business Process is deployed and then launched.

Deploy

Access *Admin Console | Projects*.

In the *Workspace* section, expand the *com.training.demo07.soapconsumer* Project, and then expand its Package node. Drag the *PurchaseOrdersResponseBPS* object to the *Selected Scenarios* section.

Start the *Local Test* server by ensuring that it is displayed in the *Server Environment* dropdown and then click the **Start** button.

When fully-expanded, the *Server Projects* section shows all installed objects.

Launch

A Web Service Consumer can only connect to active Provider services. As this demo consumes the service provided by the Web Service Provider as detailed in the *Web Services Provider SOAP* demo, ensure that that service is deployed and active.

Access *Admin Console | Business Process*.

Select *PurchaseOrdersResponseBPS* and click the **Launch** button.

The response message for the *BestValue_22* purchase order is written to a file in the *C:\Clarify_demos\demo07\out* folder. That file's contents appear as below.

```
<?xml version="1.0" encoding="UTF-8"?>
- <po:order_info xmlns:po="http://www.extol.com">
  <po_number>BestValue_22</po_number>
  <date>1/1/2013</date>
  <contact_name>BOB SMITH</contact_name>
  <phone>(555) 555-5555</phone>
  <email>BSMITH@BVGS.COM</email>
  <lines>2</lines>
  <quantity>1100</quantity>
  <cost>3875</cost>
  <processed>U</processed>
</po:order_info>
```