How to Consume ES Workplace Enterprise Services in Visual Composer:

Applies to:

ES Workplace ECC 600 of mySAP 2005 Business Suite with ESA Fast Track Add-On SP2.

SAP NetWeaver 04s Java SP8 including the Portal installation.

Summary

With this paper I would like to show you how to consume Enterprise Services exposed through the ES Workplace landscape within Visual Composer. SAP provides and maintains this landscape for educational purposes to demonstrate enterprise Services-Oriented Architecture (SOA). Even though the paper explains the steps necessary to connect to the publicly available systems, the approach also applies to any other ECC 600 system of the mySAP 2005 business suite which has the ESA Fast Track Add-On installed.

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Author Bio

Ingo Sauerzapf is a member of Market Development Engineering working as Solution Architect. He is responsible for communication and solution provisioning to ISVs and transferring their needs back to SAP development. Before joining SAP Labs he was cofounder of quipus AG and worked for e-SAP.de and SAP SI as a consultant.

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Read Me First!

The word of Enterprise Services has been spread by SAP for some time. Nevertheless, it is still hard to get your feet wet if you do not have an ECC 6.0 system with the ESA Fast Track Add-On installed. As SAP is now providing a landscape which is available on the Internet for those registered for the ES Workplace, I would like to show you in a few easy steps on how to consume the Enterprise Services in the ES Workplace using Visual Composer. All of this is done in the fashion of Visual Composer which means it will be completely code free.

For ease of use, I have split this How-To Guide into 2 parts.

Part 1 deals with setting up a connection between your J2EE engine and the ES Workplace so you are able to see the Enterprise Services in your Visual Composer.

Part 2 then goes into Visual Composer and creates a simple demo application which consumes the ES Workplace Enterprise Services.

Both parts are also available as SAP Tutor sessions on SDN.

In this tutorial, I assume that you have a NetWeaver04s SP8 or higher running and that you are familiar with what is needed to make the Visual Composer modeling environment run on your machine. If you are not familiar with this, there are a few at the end of the document in the "Related Content" section to point you in the right direction for installing the J2EE and setting up VC.

What you need in order to recreate the scenario in this How-To:

1) A copy of NetWeaver 04s Java SP8 with the Portal and VC installed.

2) A registered user on the ES Workplace who can consume the Enterprise Services.

## Preliminary actions if your J2EE engine is sitting behind a Proxy Server.

If your J2EE engine is sitting behind a firewall you have to configure two proxy settings to make the Visual Composer connection work together with ES Workplace. How to make these settings can be read in a blog done by Carsten Boennen. I have added the link in the Related Content section at the end of this document.

## Part 1: Connecting your J2EE engine and the Visual Composer to the ES Workplace

Before you connect to the ES Workplace with your J2EE engine, I quickly want to explain the reason for this connection. SAP provides the capability to expose all web services on ABAP and also on the Java side of SAP NetWeaver through the Web Service Inspection Language (WSIL). WSIL is an XML document format used to facilitate the discovery and aggregation of Web Service descriptions in a simple and extendable fashion.

In order to connect your J2EE and your Visual Composer to the ES Workplace, you need to configure two connections within the Visual Administrator of the J2EE engine. Start out by connecting to Visual Administrator with an administrative user. To keep everything very simple, I have used the user "Administrator" for this demonstration.

Navigate to the "Web Services Security" service under the Server node and then open up "Web Service Clients" -> "sap.com" and highlight "DynamicWSProxies" in the tree which appears in the middle of the Visual Administrator. Use the create button on the bottom of Visual Administrator to create a new entry under DynamicWSProxies.
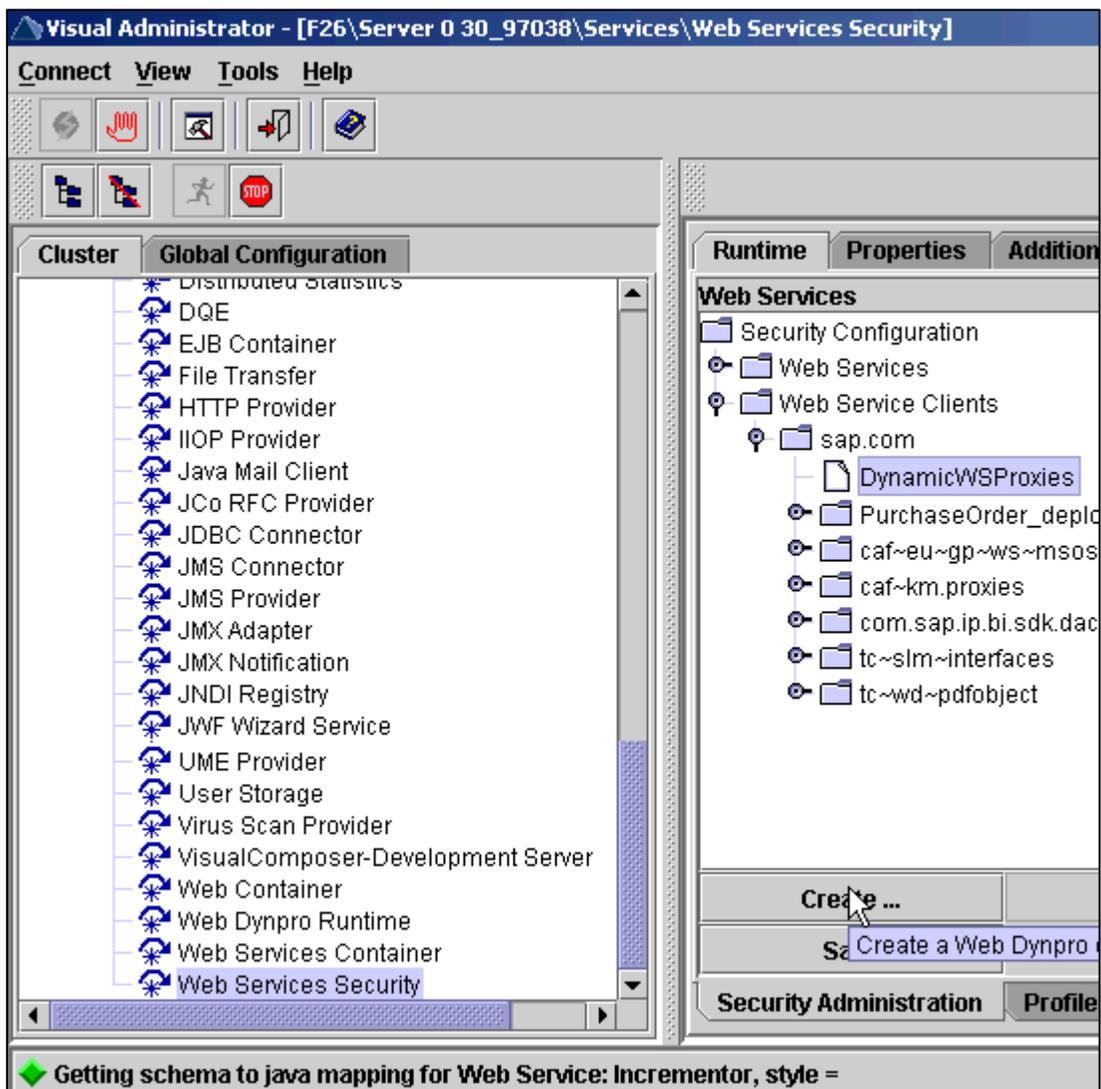
In the popup that appears after you click the "Create" button, specify the name of you system. In the example, the Schema <SID>_<Client> is used for this connection, but you can use any name. Click the OK button to create the first connection.
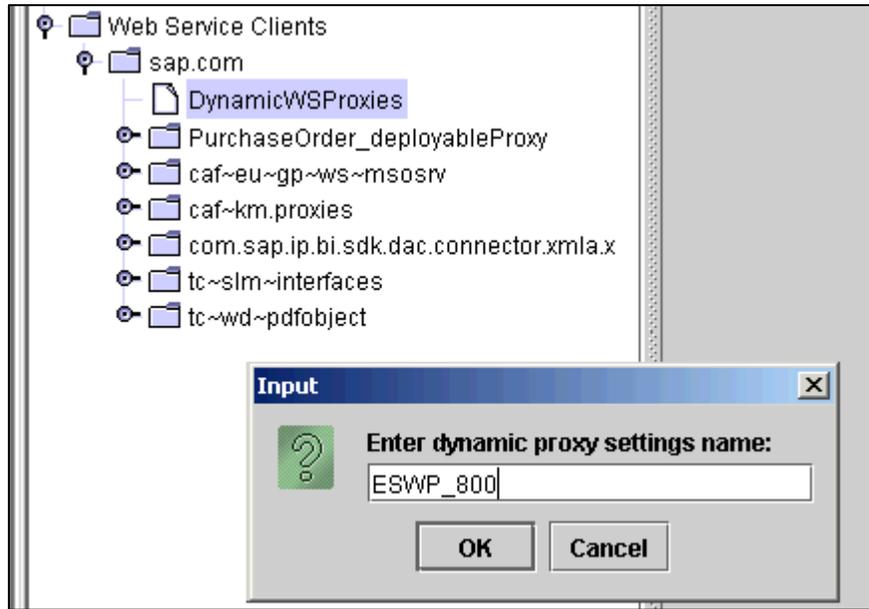
After the connection shows up in the tree under DynamicWSProxies, click on the newly created Connection and fill the connection parameters as follows. The URL to the public ES Workplace ECC system is:

http://erp.esworkplace.sap.com

The System ID is "HU2", the Client is "800" and the Language is "EN".

In Logon Data, select "BASIC" in Authentication Method, as the ES Workplace is configured to accept basic authentication. Enter the Username and the Password you have on the ES Workplace in the appropriate fields under Logon Data. A user for the ES Workplace can be requested at the URL found in the "Related Content" section of this document.

Leave the rest of the settings as they are and save by clicking the save button next to the "Create" button.

Click again on the DynamicWSProxies entry in the tree in Visual Admin to create the second connection. This connection will point to the metadata information of the available Enterprise Services on the system. Click button "Create".

In the popup, use the exact same name you used for the first connection, followed by "_METADATA". In the example, the connection is named ESWP_800_METADATA.
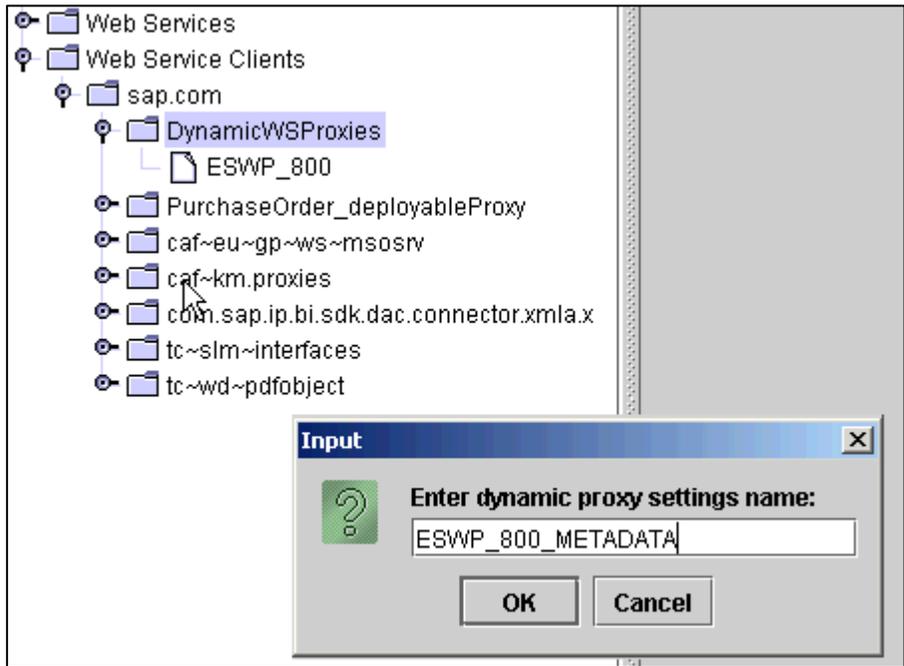
Click on the newly created connection to open up the parameters on the right hand side. The URL to the Metadata information of the ES Workplace is: http://erp.esworkplace.sap.com/sap/bc/srt/wsil. (Market Service Place registration is required)
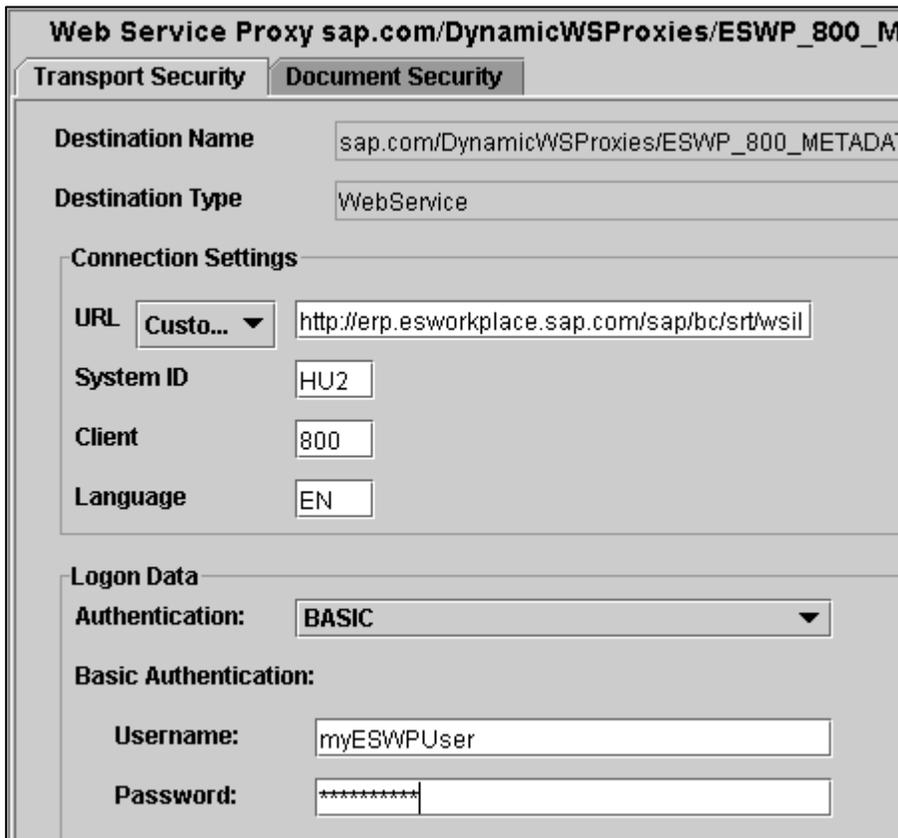
For System ID use "HU2", for the Client "800", and for Language "EN".

In Logon Data, open the drop-down box for Authentication and select "BASIC" as the authentication method. Specify your username and password once BASIC is selected as the authentication method. As explained before, a new user can be requested through the link in the "Related Content" section of this document.

After this is done, save your settings by clicking the "save" button in the middle of Visual Administrator under the "Create" button.

After all this is done, the first task is finished. Close your Visual Administrator.

Part 2: Creating a VC model which consumes Enterprise Services

Now that you have connected to the ES Workplace with your J2EE engine and through it, Visual Composer, I will walk you through the steps to make one of the Enterprise Services work in Visual Composer.

Please keep in mind that I have not added the steps you need to take in order to make Visual Composer run at all. You can find a link in the "Related Content" section of this Guide which points to the Installation Guide and requirements for Visual Composer.

Open up your browser and point it to the URL with which you can call your J2EE engine's Visual Composer. The URL should look like **http://<servername.domain.top>:<port>/VC/default.jsp**. Replace<servername.domain.top> with your actual server name and <port> with the port your J2EE uses. Please note the case sensitivity of the URL. A lower case VC will not work.
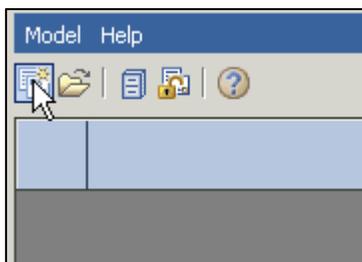
Once you are logged on to VC, use the first icon in the menu to create a new Model. If you mouse over the icon, the tool tip will say "New Model".

In the pop-up window that appears, specify a name and click the "OK" button to create a new model.
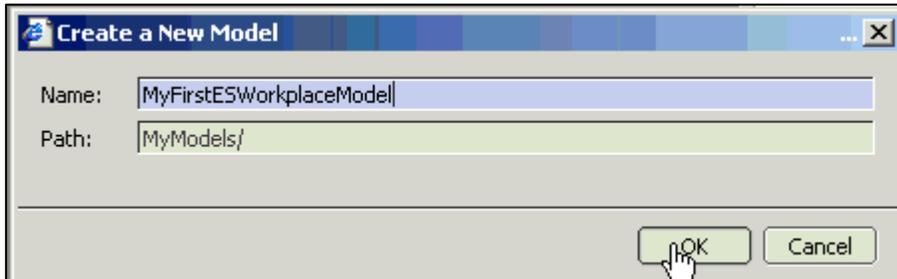
After this is done, Visual Composer will present you with a new drawing canvas where you can start to model you new Application.

Before you can start dragging and dropping elements on to the canvas, you have to first click once inside the canvas.
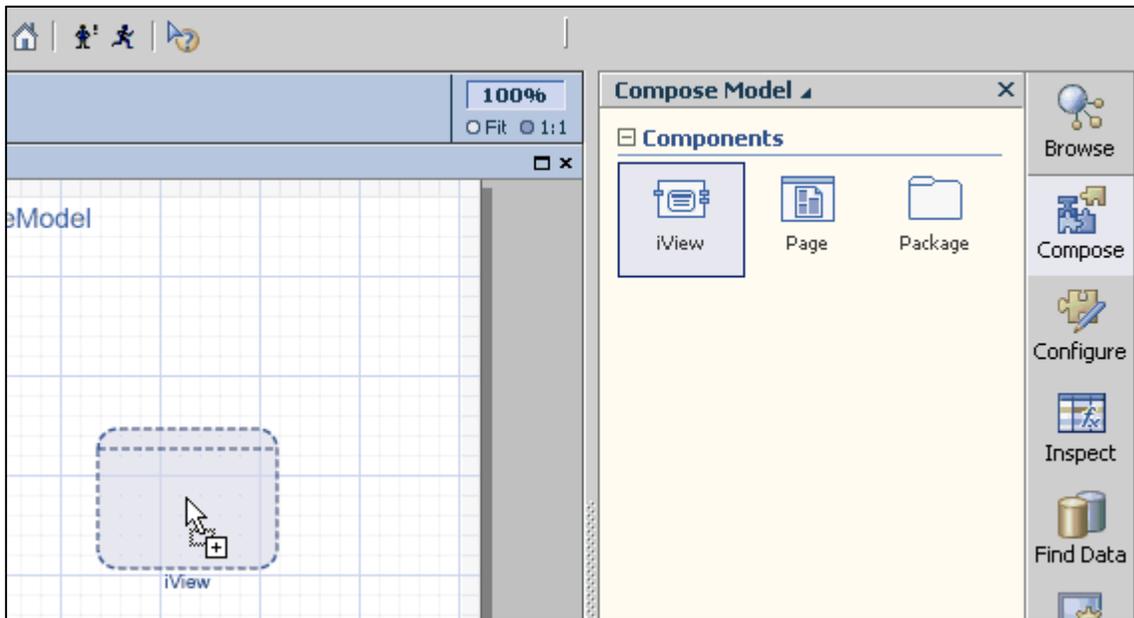
If you are not able to see a composer menu showing the various elements to drag and drop onto the canvas, click on the "Compose" icon on the right side of your VC. This brings up the Compose Model view, and you should be able to see the elements shown on the screenshot above.

Now start by dragging and dropping an iView to the canvas. Once you drop the iView onto the canvas, the Name property of the iView will ask you to enter a name for the newly created iView. Name the iView "List of Customers". This is what you are actually going to retrieve from the ES Workplace.
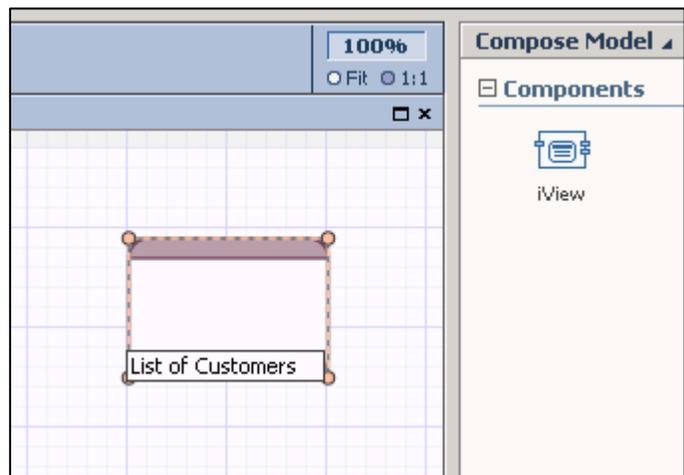
The next step is to navigate into the iView by double clicking the iViews icon on the canvas. This will cause the canvas to become empty again. Please note that the header of the canvas displays not only the models but also the iView's name.

Now you need to add the Enterprise Service to the iView so you cancan call it from within the iView. Do this by clicking on the icon "Find Data" on the right hand side of your VC fist. This will change the area where the various elements were shown before into the "Find Data Services" screen.

From the drop-down menu, select the previously created system "ESWP_800" or "ESWP_800_METADATA". Which you choose does not matter, both produce the same results.
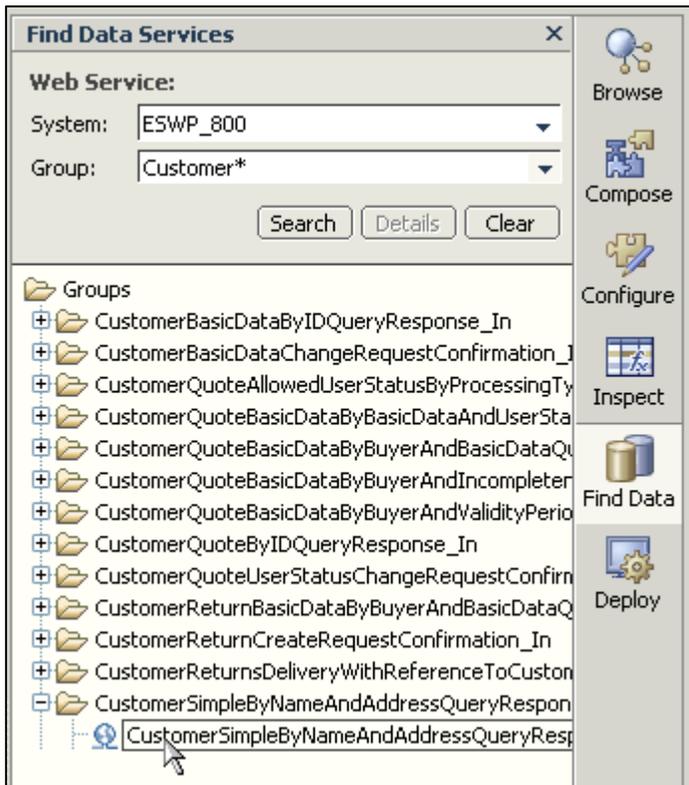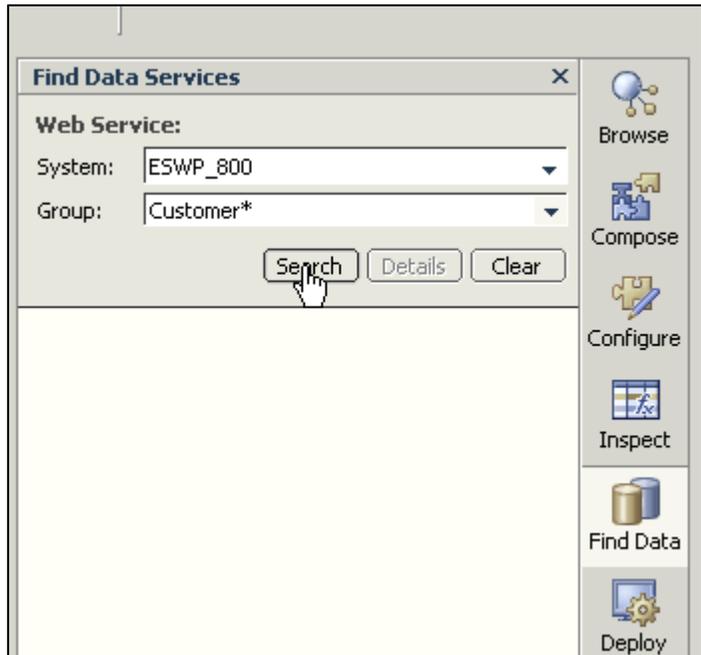
To limit the selection and find something in the result set, write "Customer*" in the input field "Group". Leaving the field empty or just using an asterisk (*) as a placeholder works too, but results in a long response time and produces an overly large result set.

Once the result set is shown like in the screenshot, click on the Enterprise Service "CustomerSimpleByNameAndAddressQueryRe sponse". After a short wait, you will see the operations of the Enterprise Service. As Enterprise Services only have one operation per definition, you will only see one operation under the Enterprise Service.

Next, click on the operation under the Enterprise Service and drag it onto the canvas. Make sure you have not accidentally switched to the Model inside the canvas.
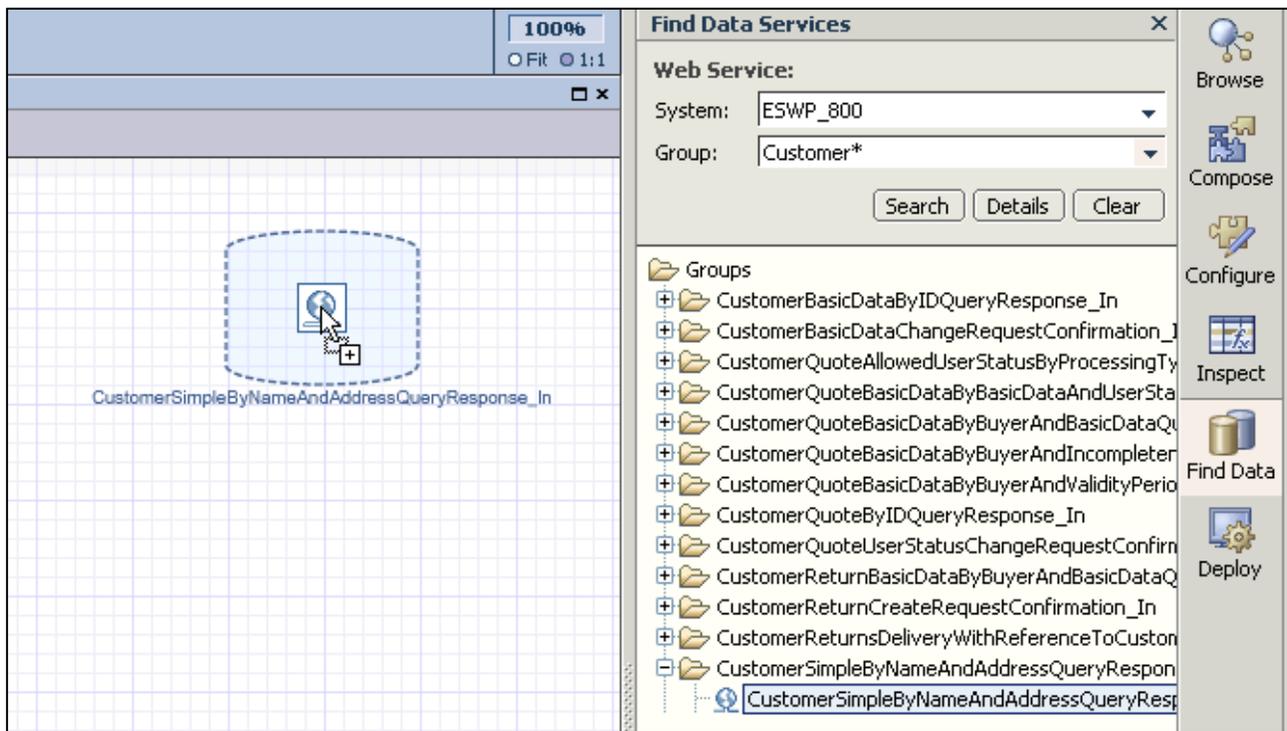
Once you drop the Enterprise Service onto the canvas, Visual Composer will retrieve the interface of the Enterprise Service from the ES Workplace and present you with a pop-up which lets you select the input and output fields you want to use inside your iView.

If an Enterprise Service has nested tables, a pop-will explain that nested Tables are not yet supported by Visual Composer and that the nested tables will be suppressed by the input and output selection.
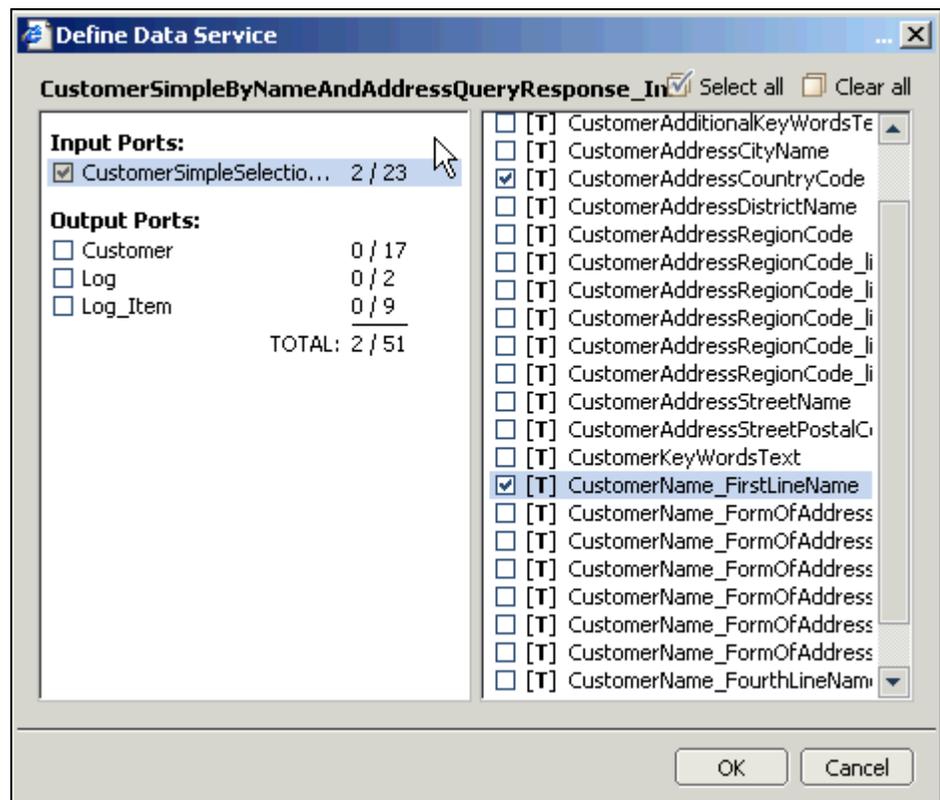
Select "CustomerAdressCountryCode" and CustomerName_FirstLineName" from the available Input Ports. Then,, switch to the "Output Ports" and select "BasicData_Common_Name_FirstLineName", "BasicData_Common_NaturalPersonIndicator" and "ID". Click on the "OK" button to finish the input and output selection.
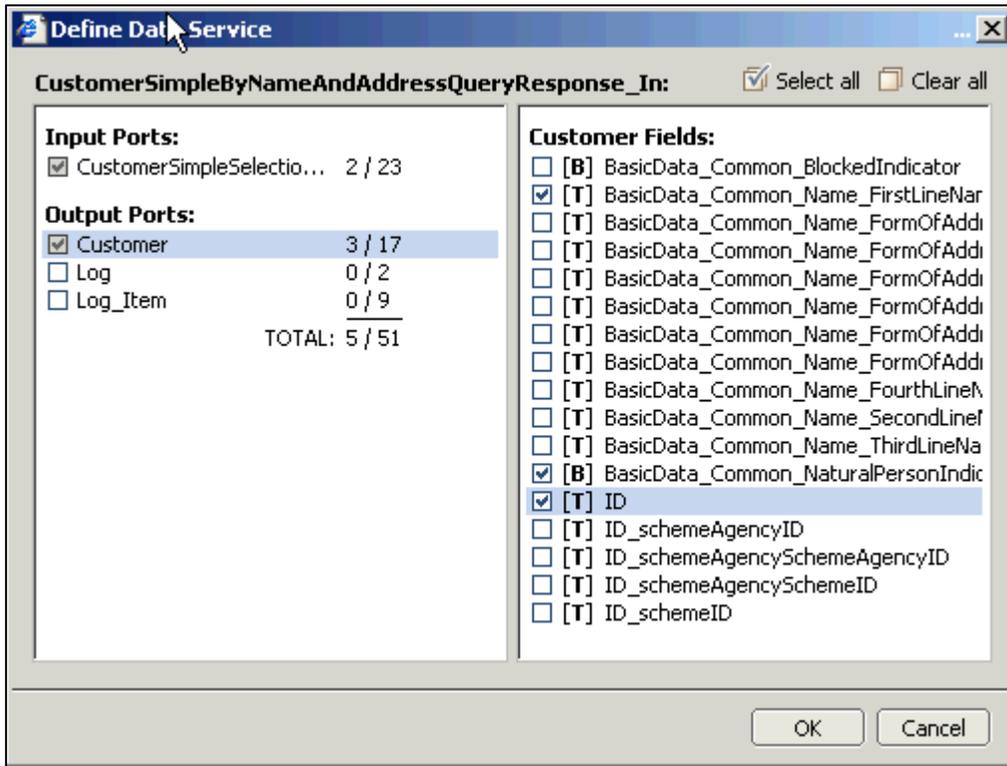
Visual Composer has now inserted the Enterprise Service into the iView. Now you can test to see whether the Enterprise Service works within Visual Composer or not. Right click on the Enterprise Service icon on your canvas and select "Test Data Service".
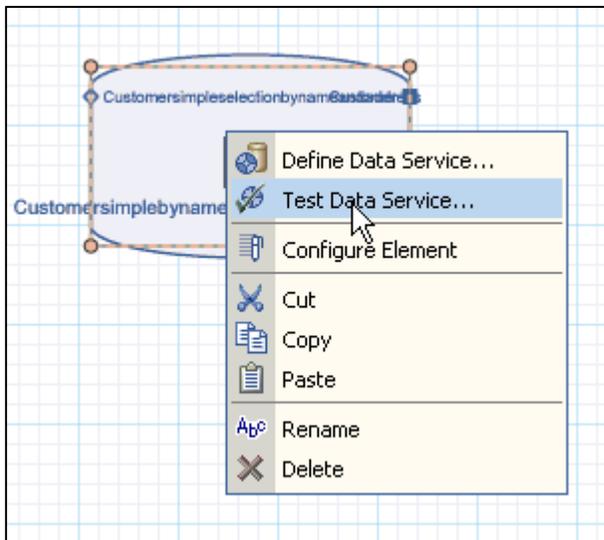
When testing the Service, please keep in mind that the ES Workplace is a full-fledged SAP IDES system with all the data that an IDES system provides. Try to keep the selection you do to a reasonable amount of data, or else the response time of the Enterprise Service you are testing will be very long.

Fill the input fields of the Test popup with "Wa*" for FirstLineName" and "DE" for country code. You can use other combinations. You can also select US as a country.

Invoke the test by clicking the "Execute" button in the lower left corner of the popup.
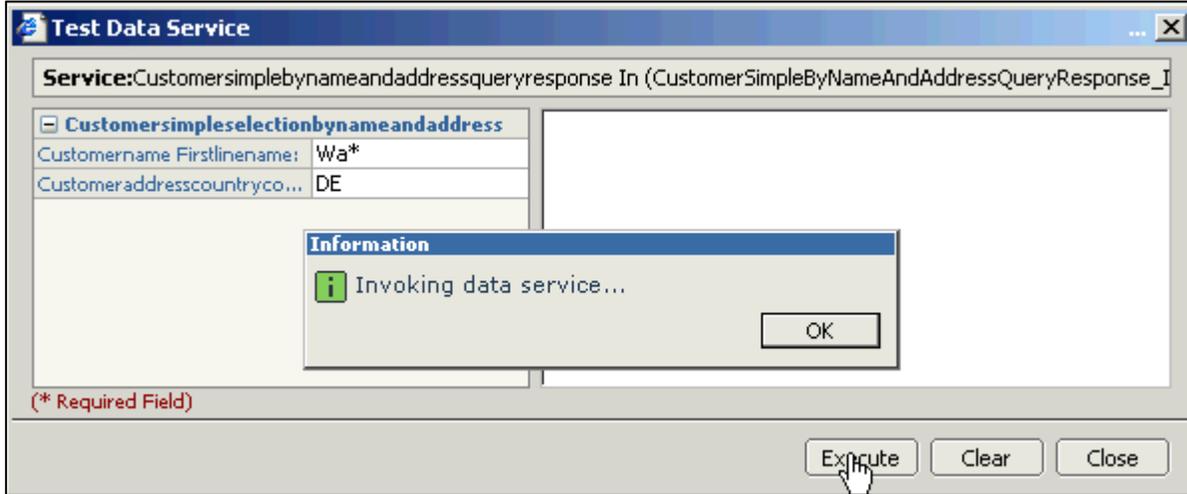
After the Invocation is complete and the Enterprise Services has returned data for the selection criteria, you will be able to see the results in the right-hand side of the Test Data Service pop-up. Close the pop-up by clicking on the "Close" button.
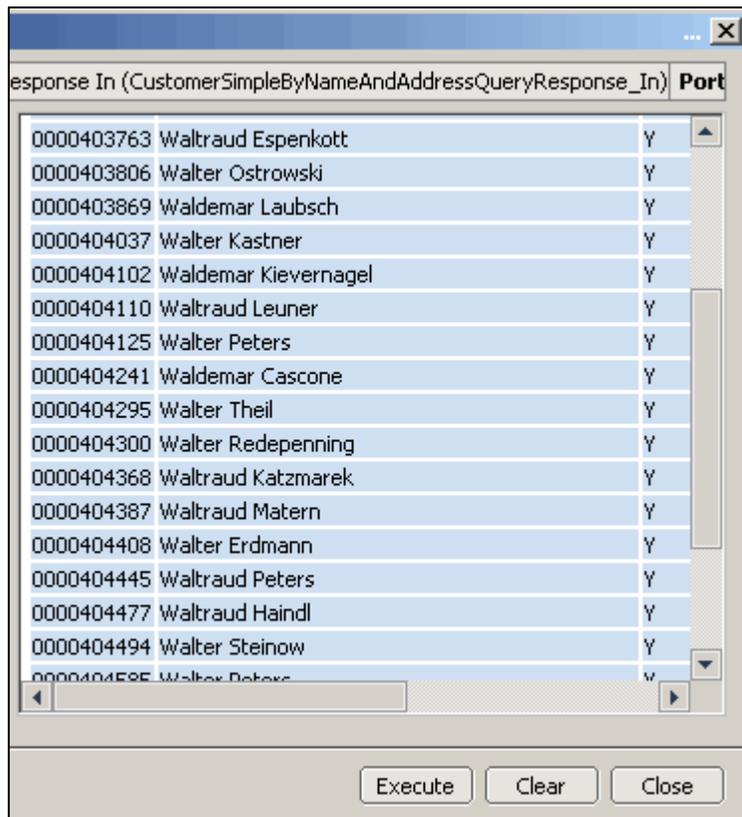
Now all that is left is to create an input and an output form for the Enterprise Service. Start by creating the output.

To do that, right click on the small button on the icon, which is highlighted in green in the screenshot. Keep the mouse button pressed down and drag away from it. This will produce the context menu.

Select "Add Input Form" on the Context menu to create the input form by right clicking the entry in it.

This will draw an input form on the canvas. Give the input form the name "Search". This input form will automatically have all the input fields the Enterprise Service offers. All you need to do is to make them more attractive. We will get to that point a little later on.
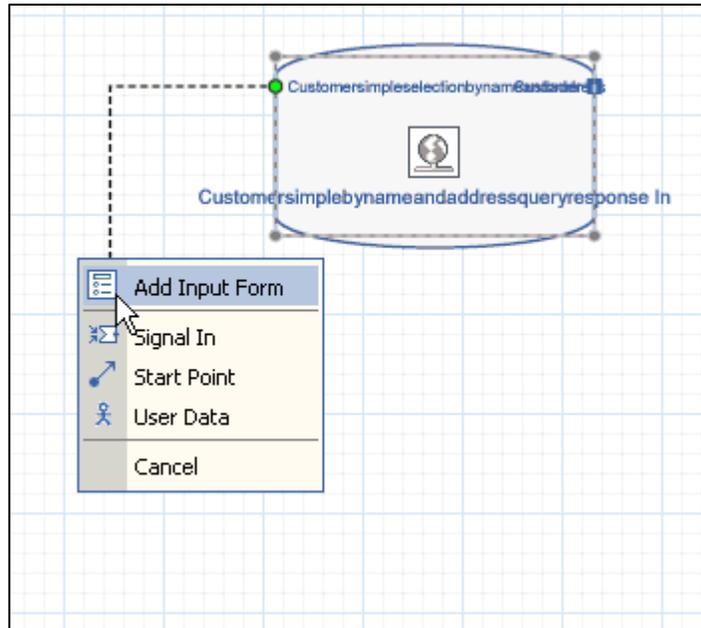
Now do the same thing with the output of the Enterprise Service. Select the output button (shown in green on the screenshot below) and drag away from it. This time, you will have two options. Since you want to display a list of results, you want to go with the Table output. Select "Add Table View" from the context menu. After the output form is created name it "List of Customers".
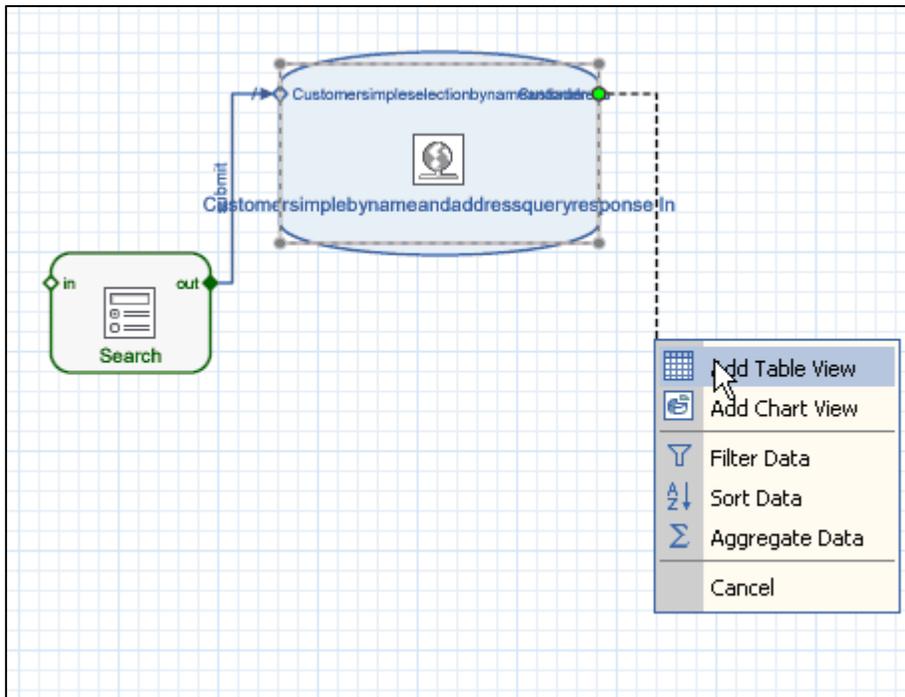
At this point, you are actually done with the iView. You can compile, deploy and run it on your J2EE engine. However, from this point on, I want to encourage you continue with the tutorial in order to explore the various beautification steps I have taken to make the iView attractive and easy to use.

To switch to the layout mode of Visual Composer, click on the "Layout" tab on the top of the canvas.
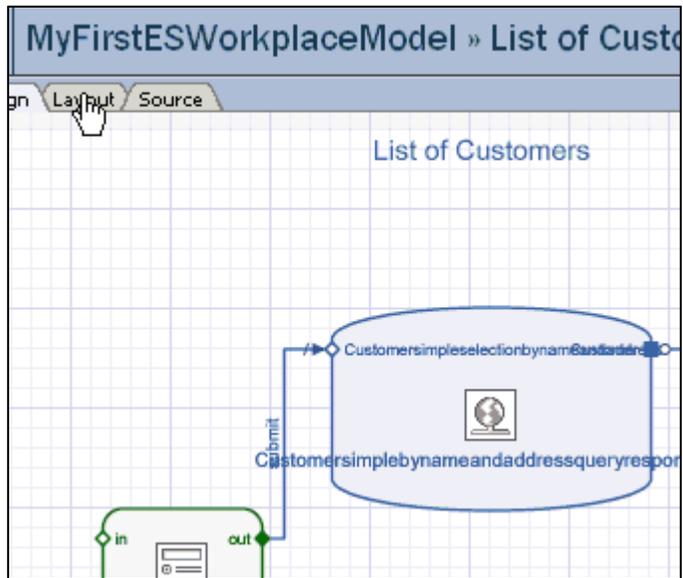
Select the input field which represents the country. As the input and output fields of Enterprise Services tend to have longer names, it is a bit harder to find out which one that is. Click the first one from the top in your "Search" input form. Right click the field and from the context menu select "Properties...". The pop-that opens will show the various properties of the input field you have selected.
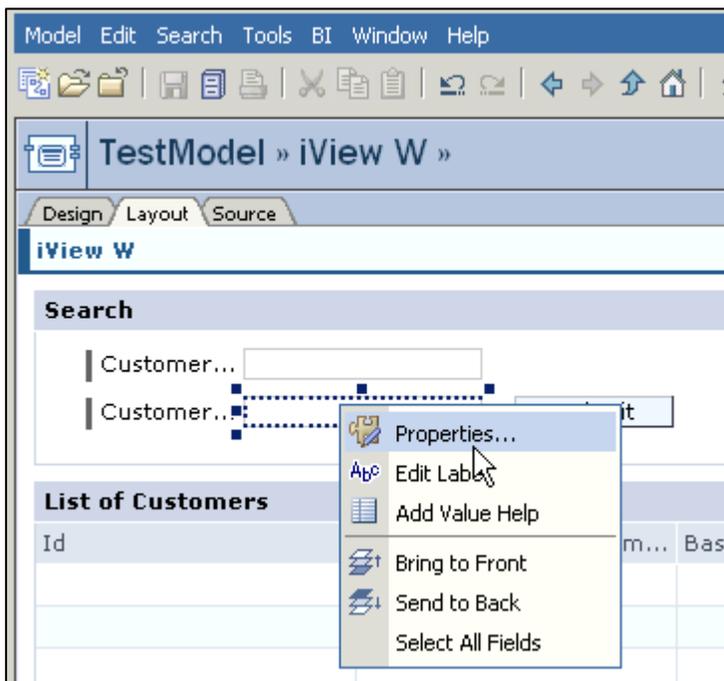
By switching to the "Display" tab on this pop-up, you can see in field "Label" if the control you have selected is indeed the one for the country. It should be named "Customeraddresscountrycode". Shorten the name to the much more manageable "Country".
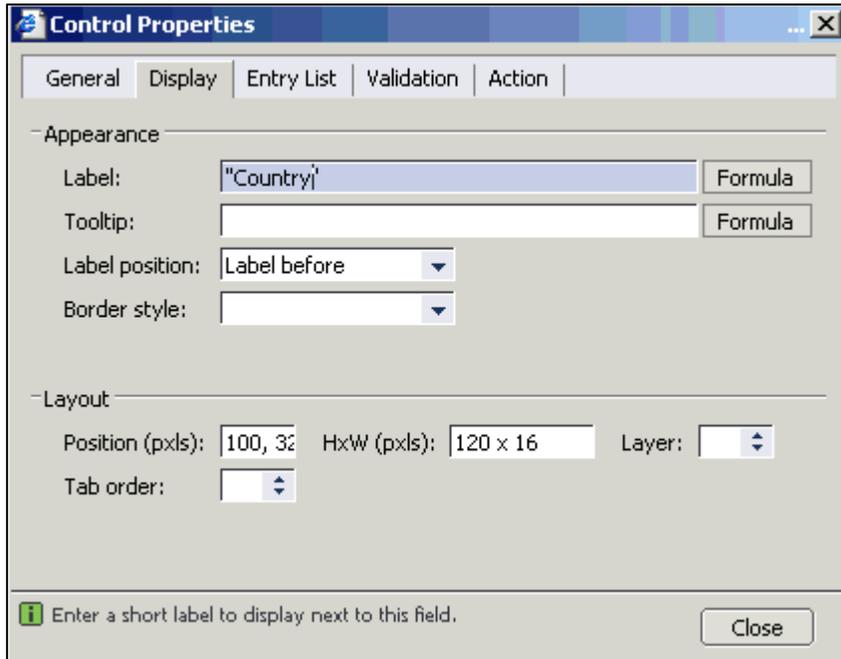
Now switch to the "General" tab to change the field to a drop-down list by selecting "Drop-down List" in the "Control type" field. Doing this will change the formatting tab to an "Entry list".
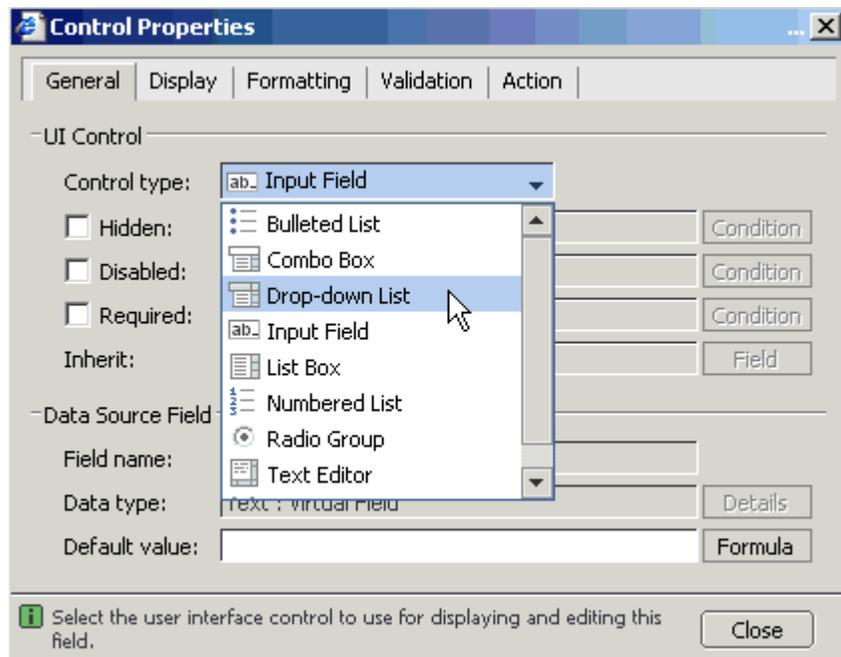
To have some default values available in the drop-down, list switch to the "Entry List" tab and start adding the values you see in the screenshot underneath. This can be done by clicking on the icon with the "plus" sign on the right hand side of the popup.
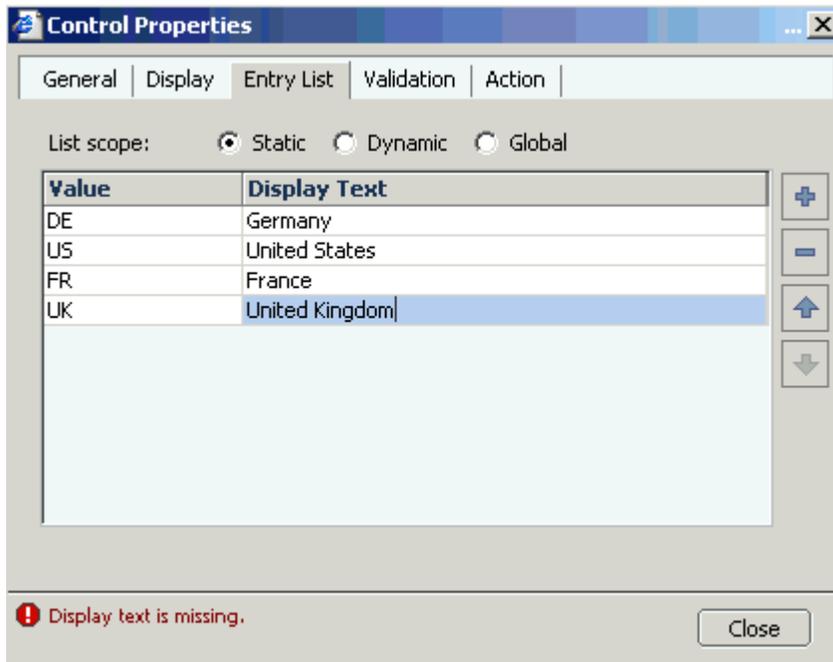
When you are finished, change the label of the field "Customername Firstlinename" to "Name" or any other meaningful expression by right clicking the field which represents the name on the "Search" form and repeating the steps for the country input field in the "Display" tab. Do not change this field to a drop-down, as you want to be able to enter text into this field.

You can change the labels and look of the output table in the same way.

Now the iView is truly finished. Click the Deploy Model icon in the menu. It resembles a running man. This will not only deploy your iView, but also compile it prior to deployment.
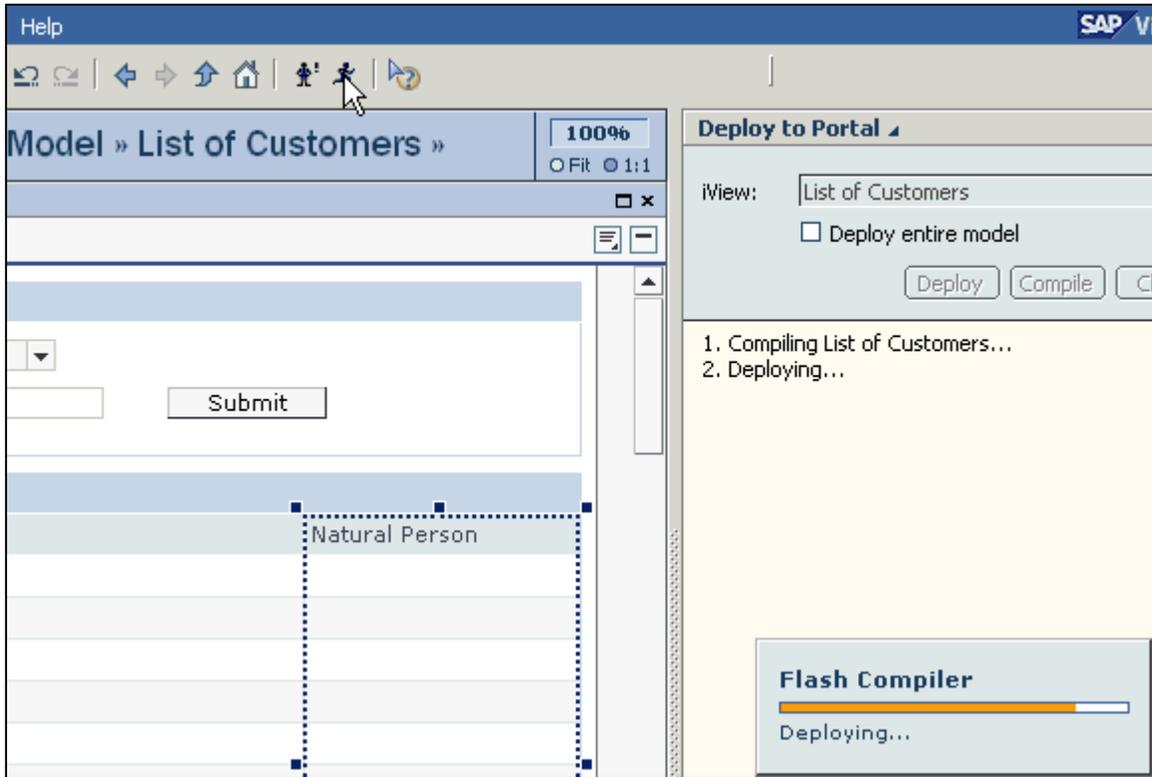
Once deployment is done, a new browser window will open up with your deployed iView in the Portal. Simply select a country to specify a name just like you did in test mode. Click the "Submit" button and the result will be displayed in the table form named "List of Customers".
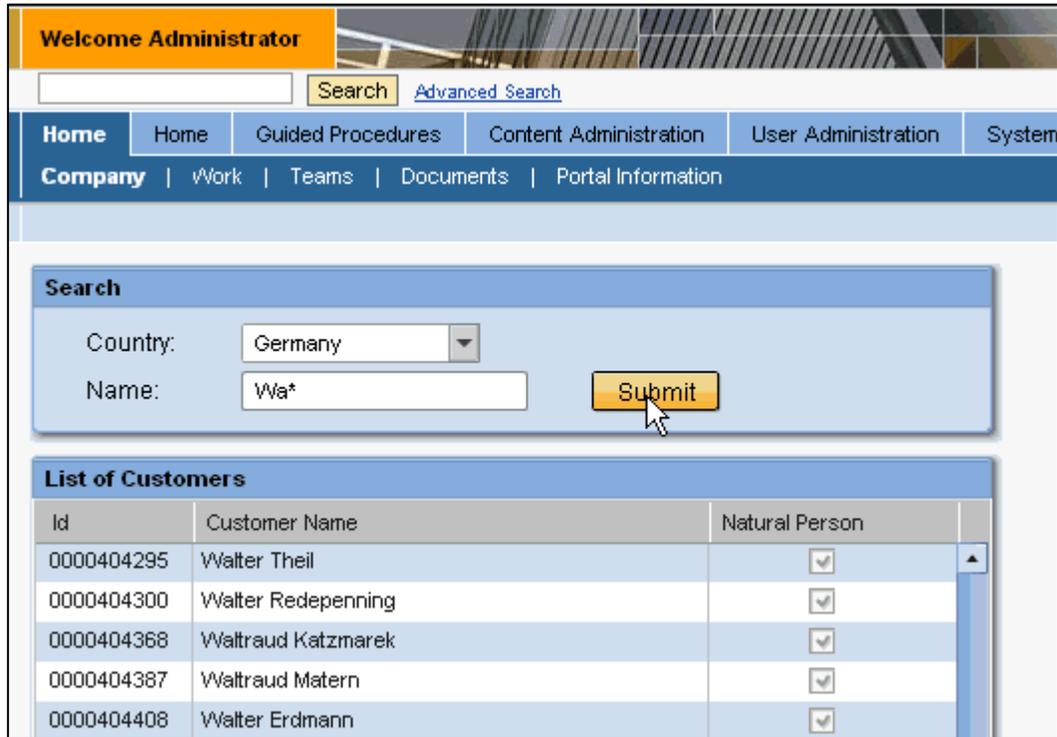
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