

Integrating SAP Business Server Pages (BSP) and BusinessObjects Xcelsius Using ABAP Web Service



Applies to:

SAP BusinessObjects Xcelsius. SAP NW Application Server – Business Server Pages (BSP). For more information, visit the [Business Objects homepage](#).

Summary

This document explains the process of integrating SAP data (R/3 or BW) with BO-Xcelsius using the Web Service connectivity present within Xcelsius. The SAP R/3 or BW data is consumed as Web Service and Business Server Pages (BSP) act as the web interface. The data is refreshed based on the user action through the interface.

Author: Gokul Natarajan

Company: Kaar Technologies

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Author Bio



Gokul Natarajan is SAP Technical Consultant working on BSP, WDABAP, BI and BO-Xcelsius for Kaar Technologies. He has more than two years of experience in SAP as SAP Technical Consultant. He extensively worked in BO Xcelsius, BI, BSP and WDABAP. He has developed many dashboards based on different connections available with BO-Xcelsius using SAP R/3 and BW data.

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Introduction

This document explains the stepwise development process to display the SAP data (R/3 or BW). The following concepts are discussed:

- Creating a Function Module (FM) to operate with the SAP data (R/3 or BW).
- Creating Web Service using Created ABAP FM.
- Designing and Configuring an Xcelsius file using created Web Service as the Source.
- Designing the BSP page to consume the developed Xcelsius file (Shockwave file format or SWF).
- Testing the BSP Application and Execution through Portal as Dashboard Display.

The data will be presented as the dashboard in an effective manner based on Charts, Maps, etc., using the components of Xcelsius and displayed using BSP as the web interface in the portal.

FM to Operate with the SAP Data (R/3 or BW)

Create an RFC-enabled FM **ZSAP_XCEL** in the Function Group **ZXCELSIUS_SAP**, where the logical operation of the report has to perform. We can either use R/3 tables, Classes, Methods, etc., or BW Query as the source. Use the below source code for the FM.

```

FUNCTION ZSAP_XCEL.
*" -----
*" "Local Interface:
*" IMPORTING
*"   VALUE(CARRID) TYPE  S_CARR_ID OPTIONAL
*" EXPORTING
*"   VALUE(RETURN) TYPE  STRING
*" TABLES
*"   INT_TAB STRUCTURE  SFLIGHT OPTIONAL
*" -----

SELECT * FROM sflight INTO TABLE INT_TAB where FLDATE = '20060614'.

IF CARRID is not INITIAL.
  delete int_tab where CARRID ne CARRID.
  RETURN = 'Successfully Deleted'.
ELSE.
  RETURN = 'No Values'.
ENDIF.

```

The declarations are made as shown below.

Parameter Name	Typing	Associated Type	Default value	Opti...	Pas...	Short text
CARRID	TYPE	S_CARR_ID		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Airline Code

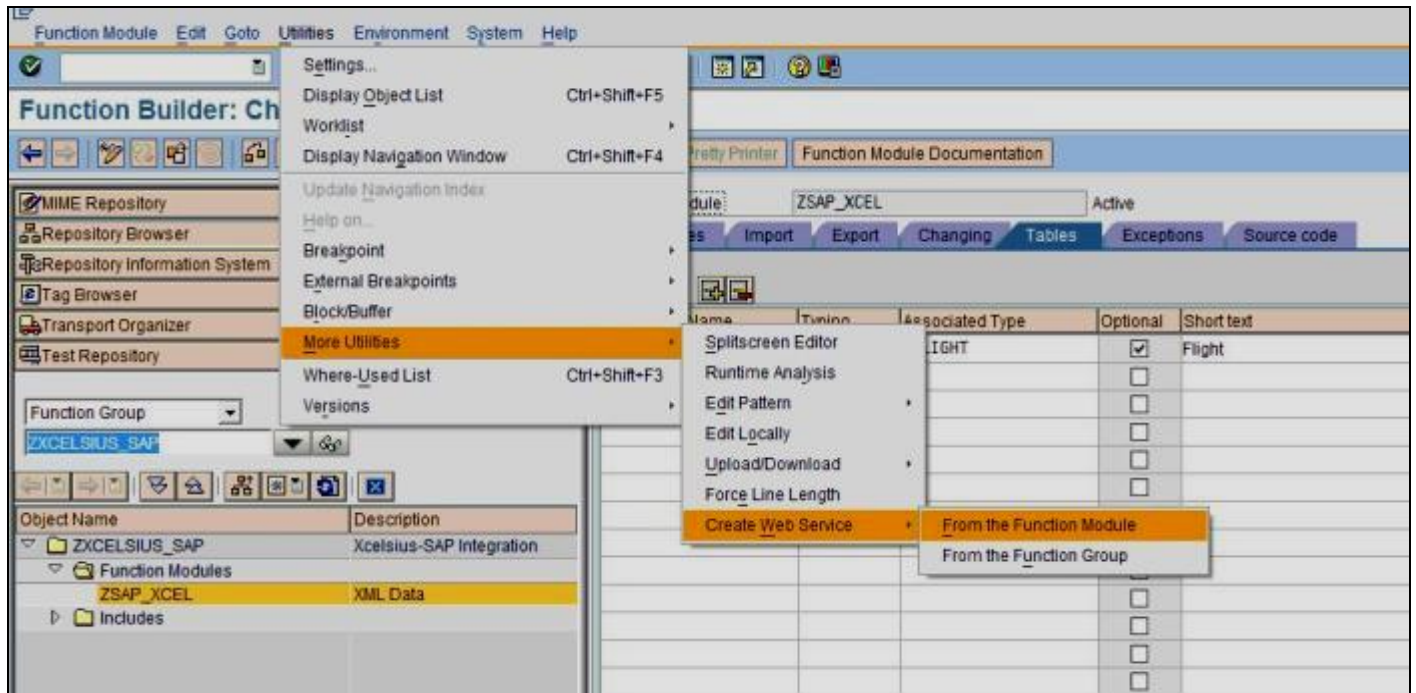
Function module: ZSAP_XCEL		Active		
<div style="display: flex; justify-content: space-between;"> Attributes Import Export Changing Tables Exceptions Source code </div>				
<div style="display: flex; justify-content: space-between;"> ✂ 📄 📄 📄 📄 </div>				
Parameter Name	Typing	Associated Type	Pass Val	Short text
RETURN	TYPE	STRING	<input checked="" type="checkbox"/>	

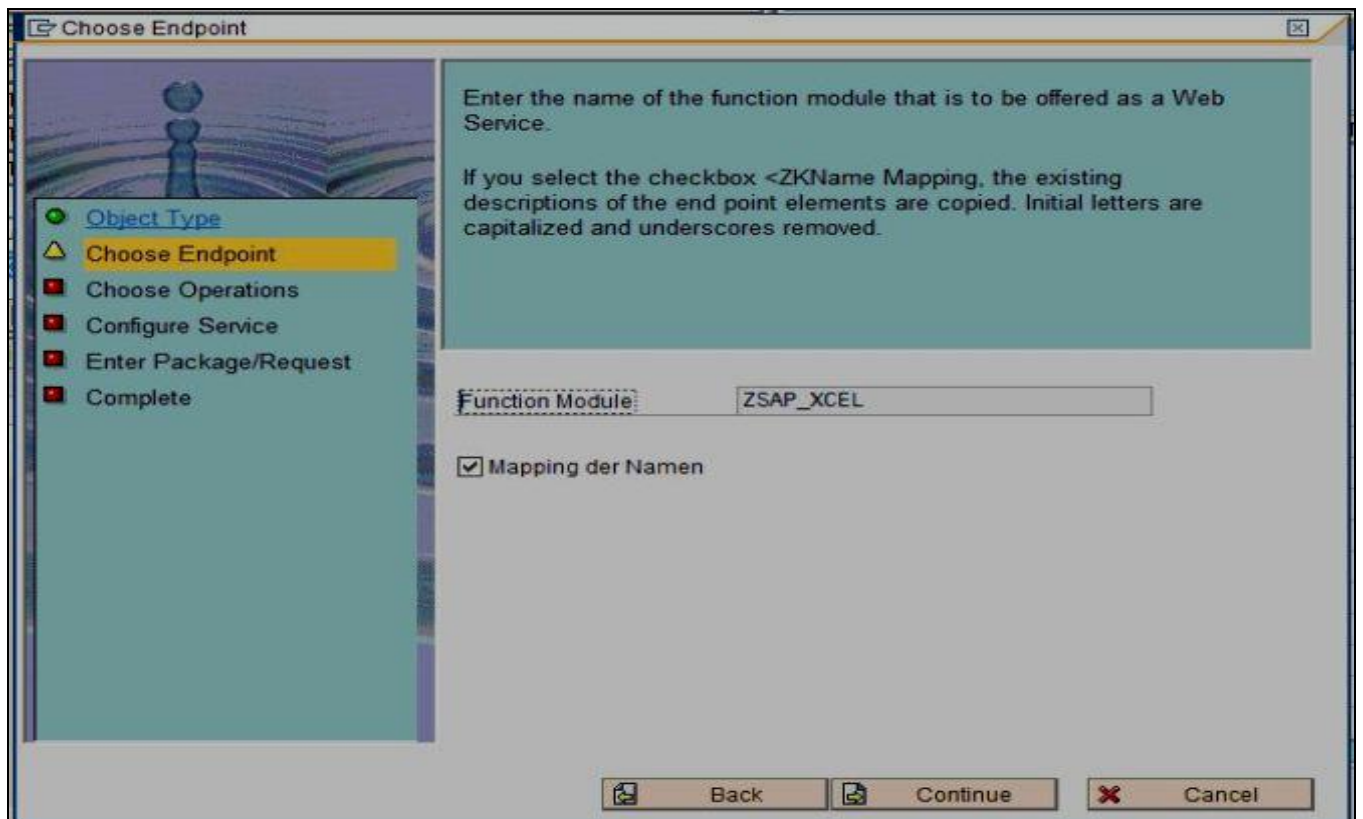
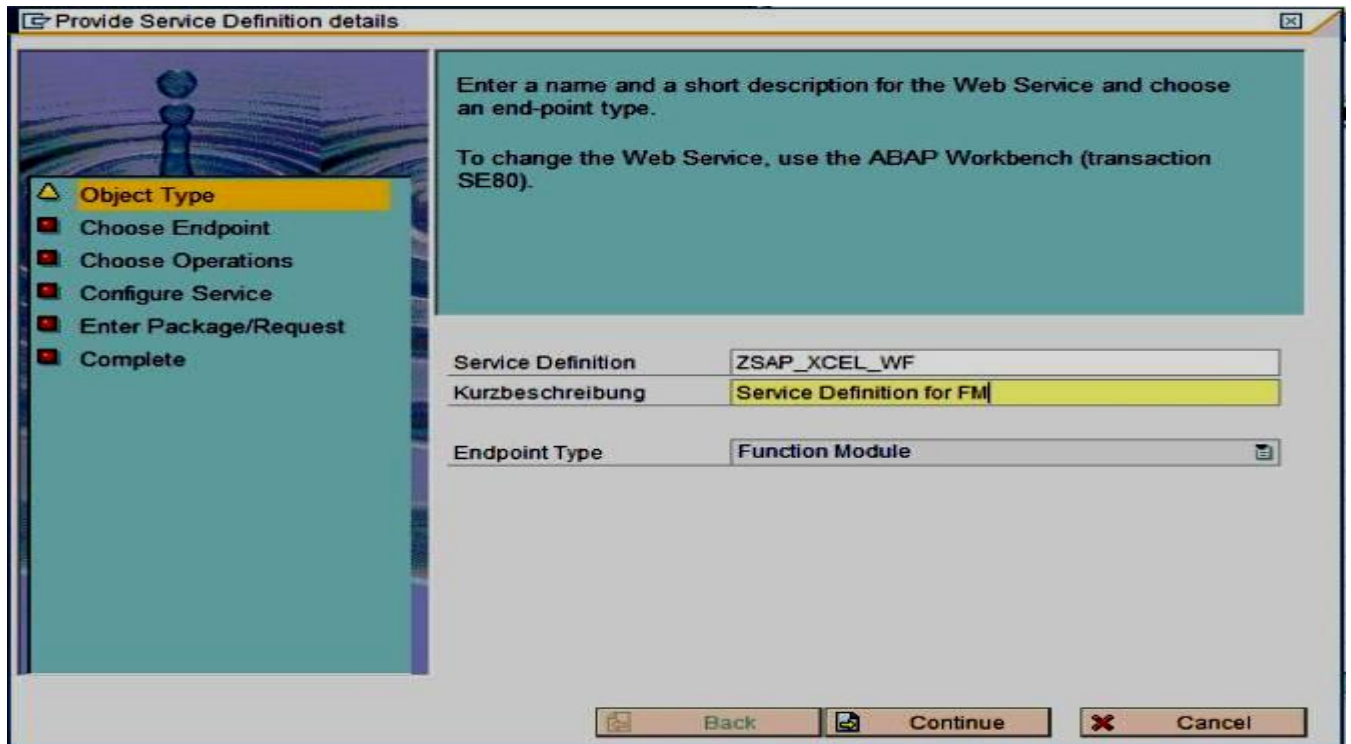
Function module: ZSAP_XCEL		Active		
<div style="display: flex; justify-content: space-between;"> Attributes Import Export Changing Tables Exceptions Source code </div>				
<div style="display: flex; justify-content: space-between;"> ✂ 📄 📄 📄 📄 </div>				
Parameter Name	Typing	Associated Type	Optional	Short text
INT_TAB	LIKE	SFLIGHT	<input checked="" type="checkbox"/>	Flight

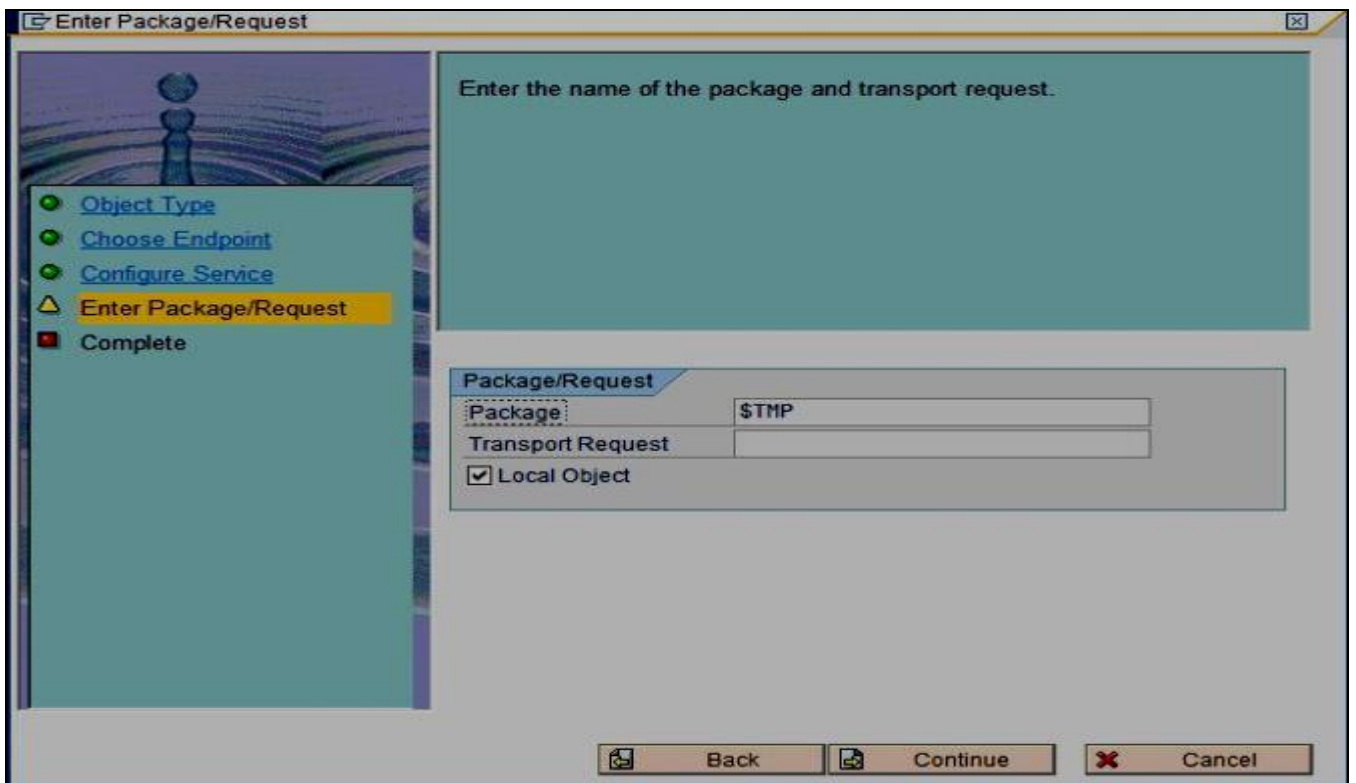
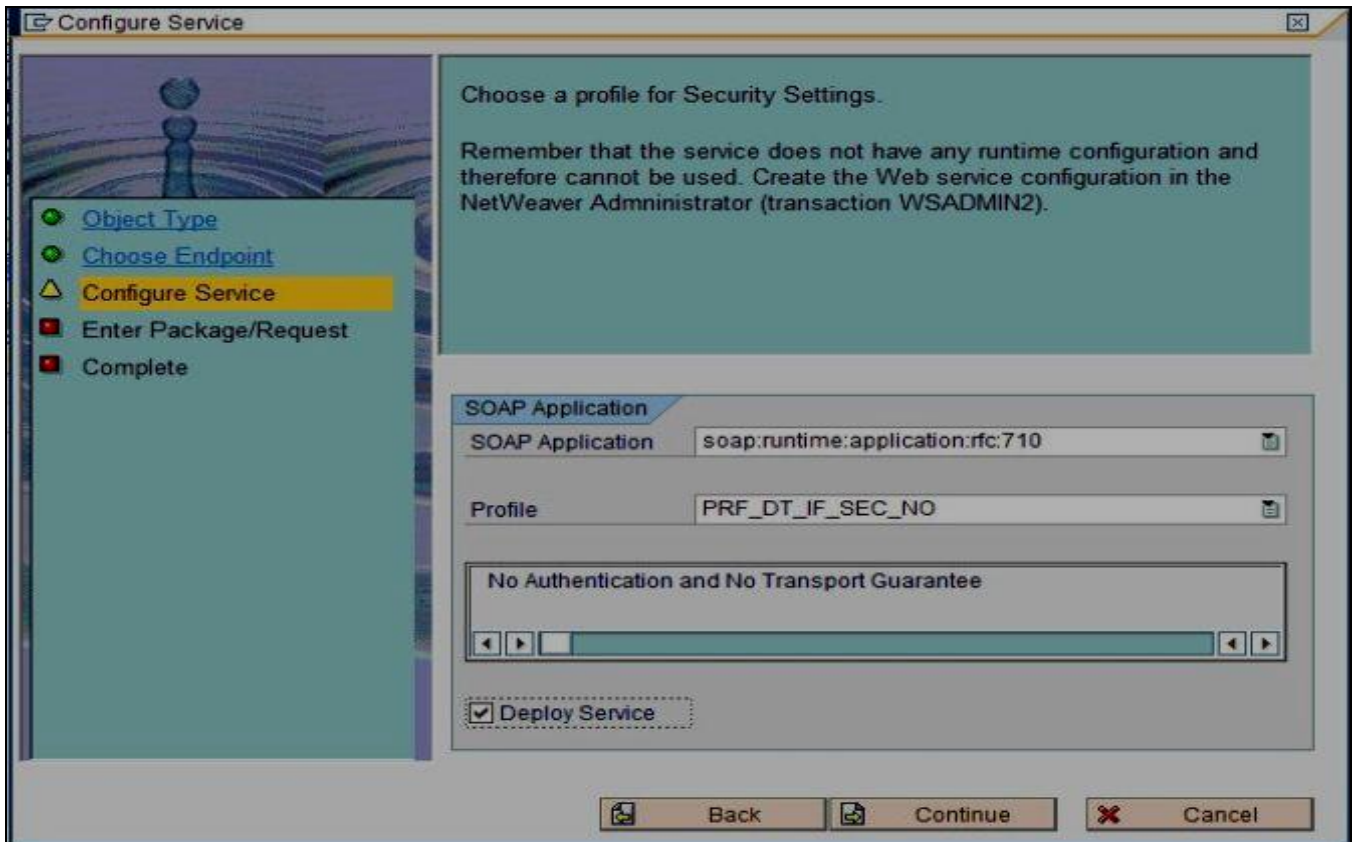
In this example, the main logic in the FM is to get the data based on the R/3 table. To get data from BW query, it operates within the FM and returns the data.

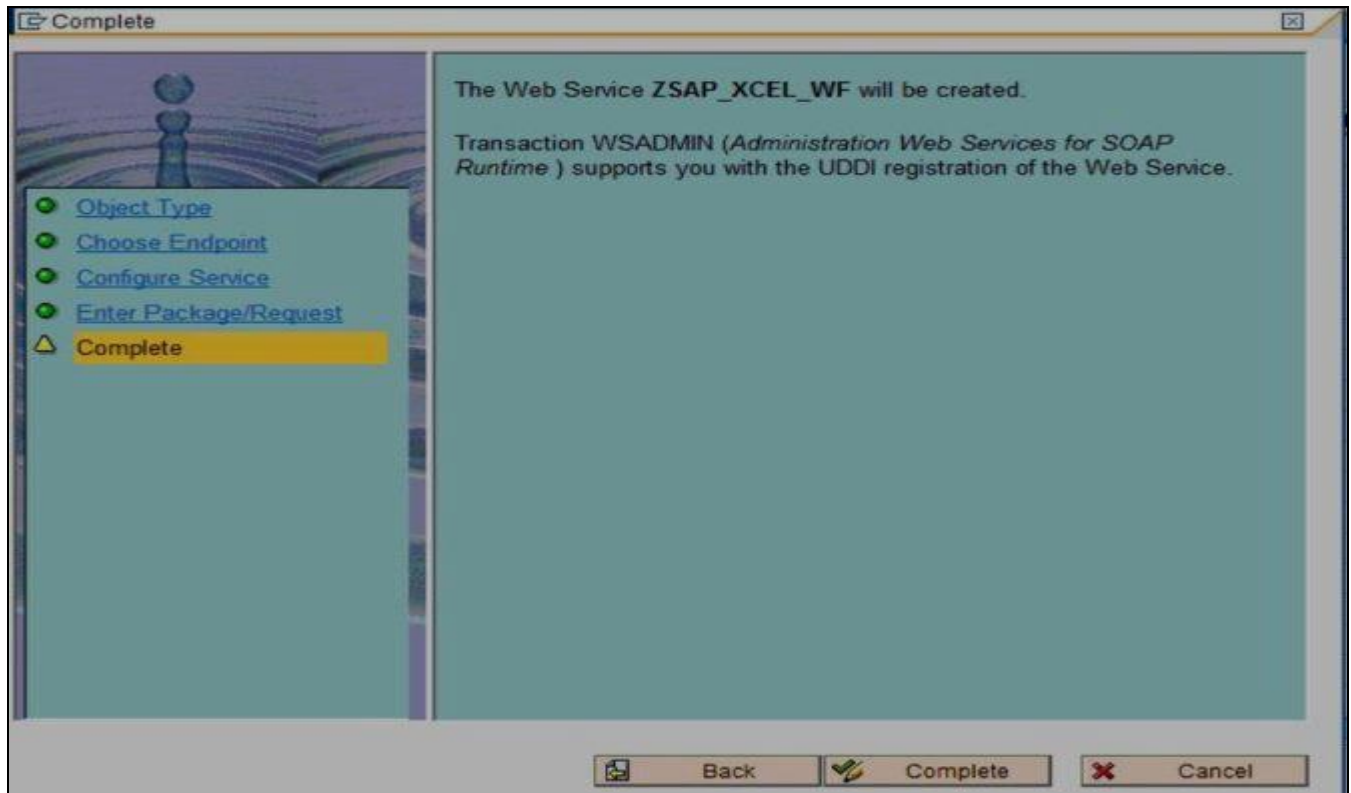
Web Service Using Created ABAP FM

Once the FM is activated, the next process is to consume the FM as Web Service in order to utilize the ABAP Web Service as the source for the Xcelsius file (SWF). Follow the screens below to create the Web Service.





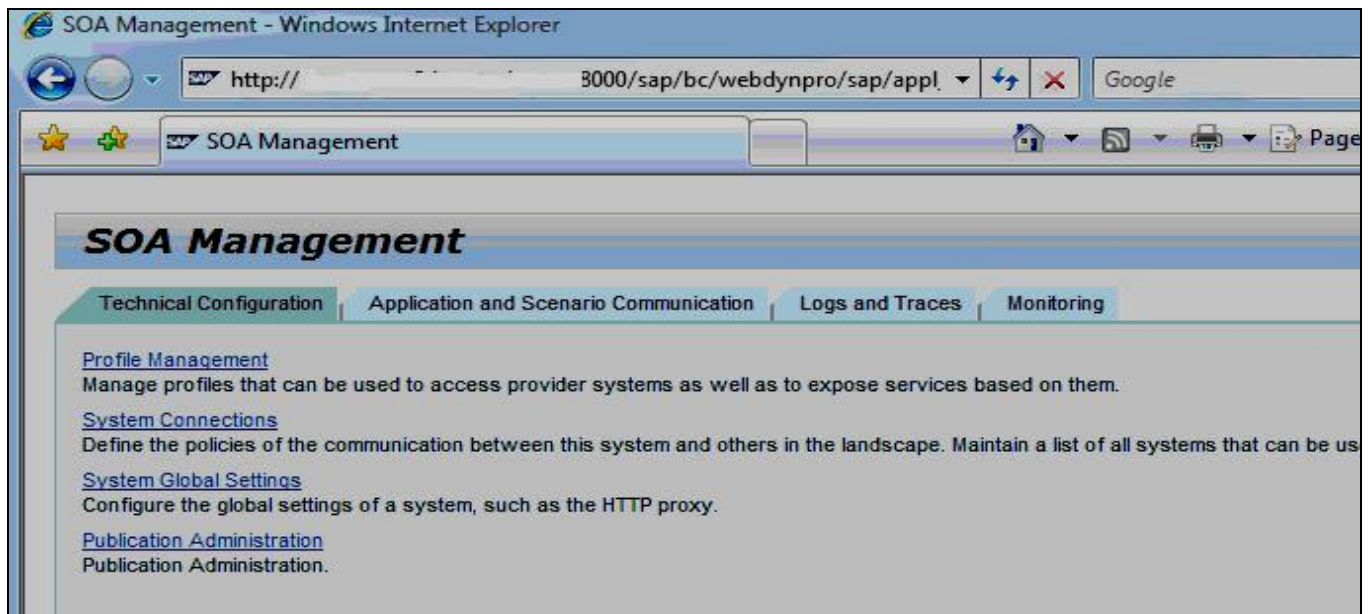


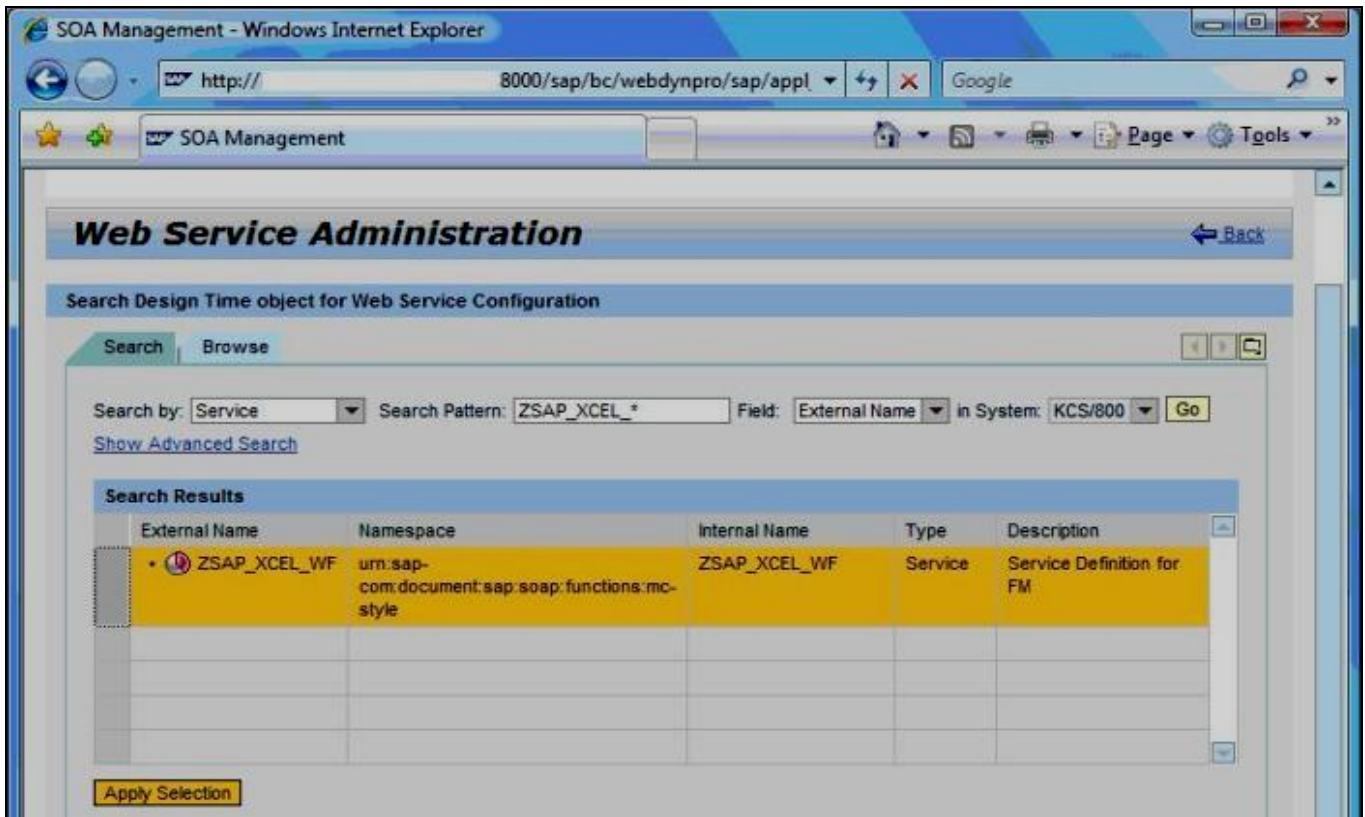
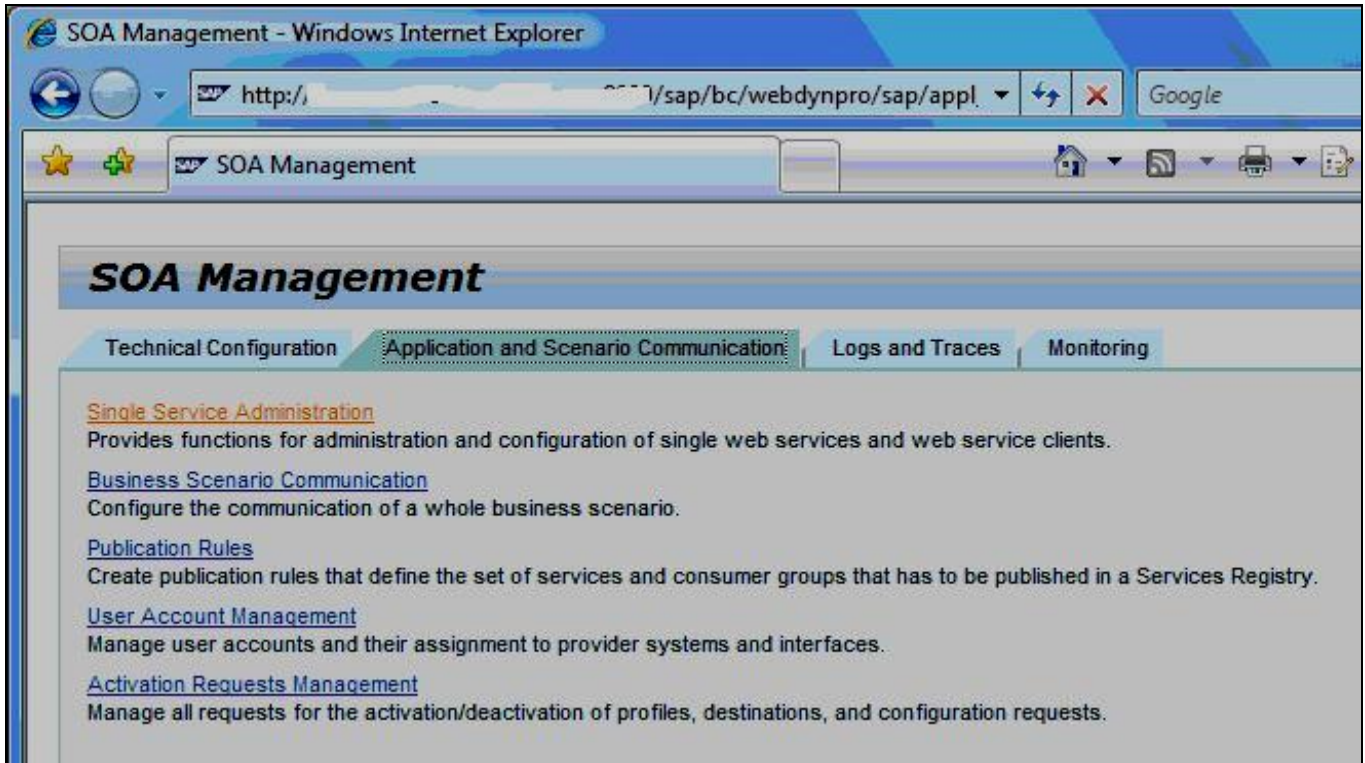


Once this is done, the Web Service has to be published using the SOA Management.

SOA Management

Open SOA Management through SOAMANAGER transaction. Follow the screens below to publish the FM as Web Service. The WSDL (Web Services Description Language) document of the Web Service can be viewed through SOA Management.





Details of Service Definition: ZSAP_XCEL_WF

[Back to search](#)

Overview | Configurations | Classifications | Details

Object Status: Services: 1 / Endpoints: 1
 Porttype Namespace: urn:sap-com:document:sap:soap:functions:mc-style
 Porttype Name: ZSAP_XCEL_WF
 Internal Name: ZSAP_XCEL_WF
 SOAP Application: URN:SAP-COM:SOAP.RUNTIME.APPLICATION.RFC:710
 Package Name: \$TMP

[Open porttype WSDL document](#)
[Open WSDL document for selected binding](#)
[Open Web Service navigator for selected binding](#)
[Display selected Binding's WSDL URL](#) ZSAP_XCEL_WF::ZSAP_XCEL_WF

WSDL URL for Binding:
 `http://
 :
 8000/sap/bc/srt/wsd/bndg_DE97BA8328C16BF1B424000E0C3CB04A/wsd/1/allin
 ne/ws_policy/document?sap-client=800`

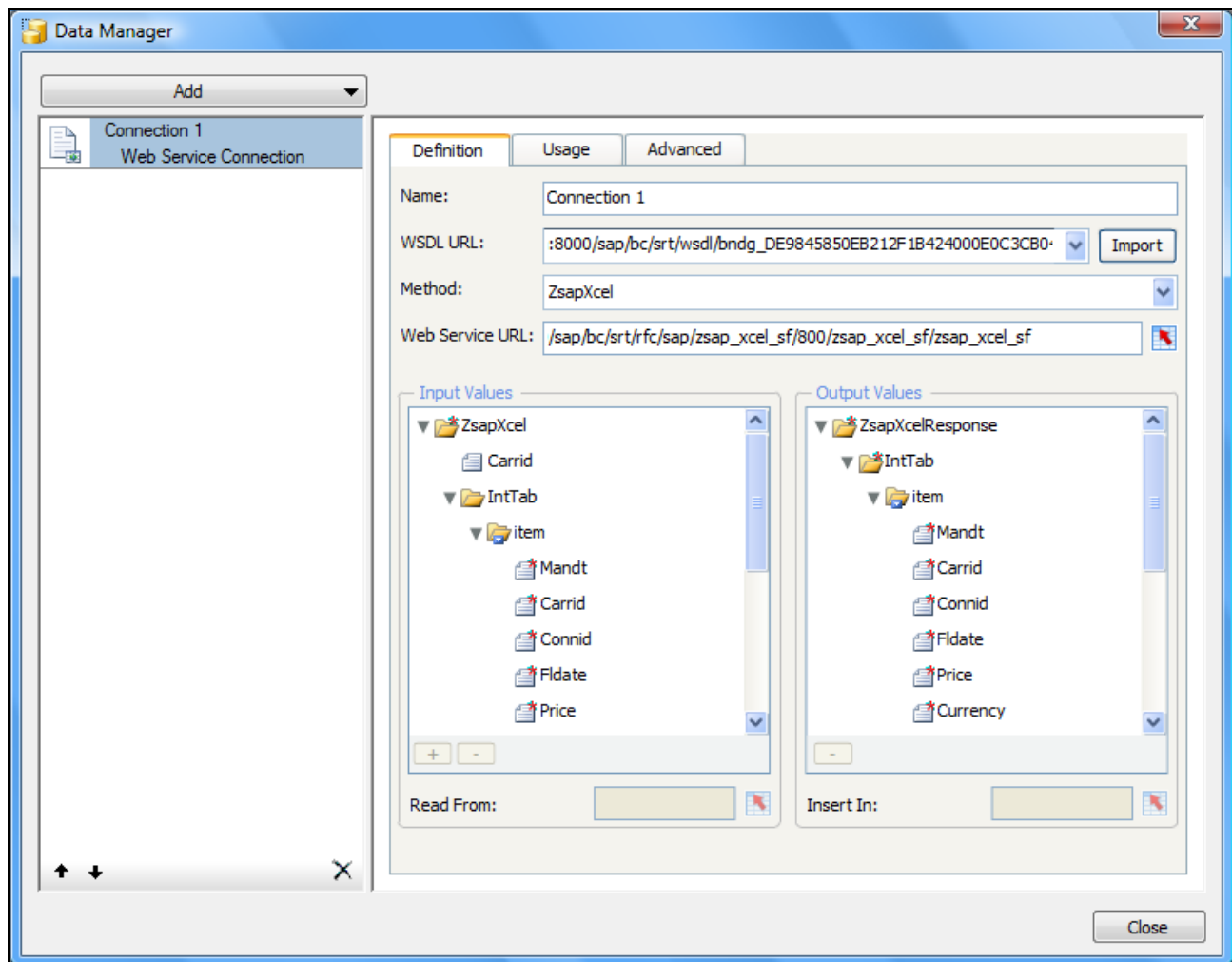
Test the data of the FM as an XML file through the Web Service URL by copying the link (highlighted above) and placing it in Internet Explorer.

Internet Explorer browser window showing the WSDL XML content:

```
</xsd:restriction>
</xsd:simpleType>
- <xsd:simpleType name="numeric4">
- <xsd:restriction base="xsd:string">
  <xsd:maxLength value="4" />
  <xsd:pattern value="\d*" />
</xsd:restriction>
</xsd:simpleType>
</xsd:schema>
- <xsd:schema attributeFormDefault="qualified"
targetNamespace="urn:sap-
com:document:sap:soap:functions:mc-style"
xmlns:n0="urn:sap-com:document:sap:rfc:functions">
<xsd:import namespace="urn:sap-
com:document:sap:rfc:functions" />
- <xsd:complexType name="Sflight">
- <xsd:sequence>
  <xsd:element name="Mandt" type="n0:clnt3" />
  <xsd:element name="Carrid" type="n0:char3" />
  <xsd:element name="Connid"
type="n0:numeric4" />
  <xsd:element name="Fidate" type="n0:date" />
```

Designing and Configuring Xcelsius file Using Created Web Service as the Source

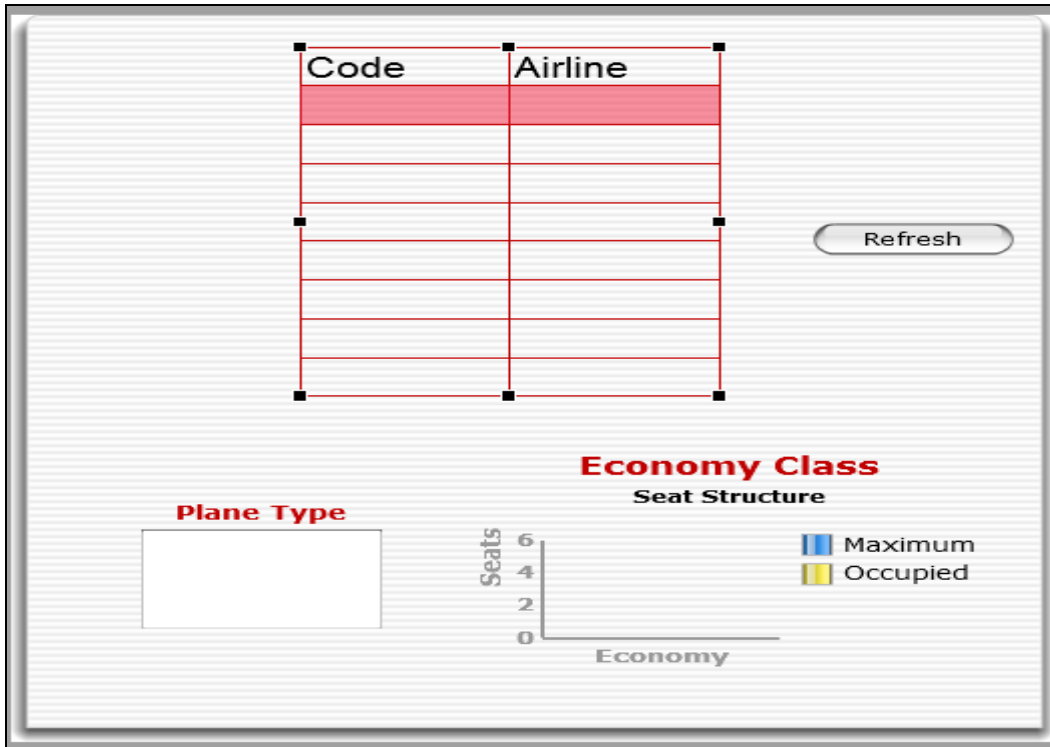
Now the report has to be designed in BO-Xcelsius 2008 based on the data from web service which is accessed as the WSDL URL. For Data Connectivity, open Manage Connections of the Xcelsius file. Add the Web Service Connection. In the definition tab, paste the WSDL URL derived from the previous screen. Click **Import**.



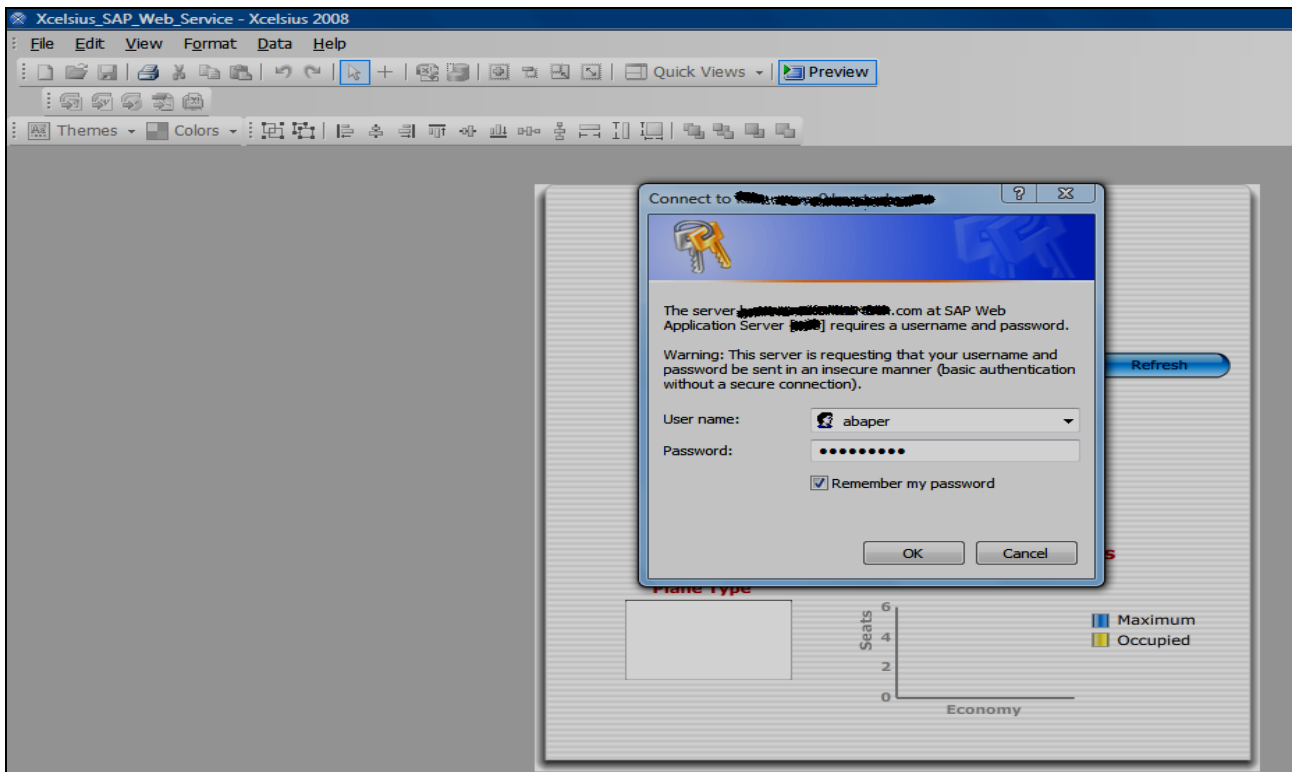
Once the WSDL URL is imported, the method, Web Service URL, Input, and Output values are defined based on how we derived the FM. In the example above, **Carrid** is derived as the input value and **Sflight** table type as the table returns value (**int_tab**).

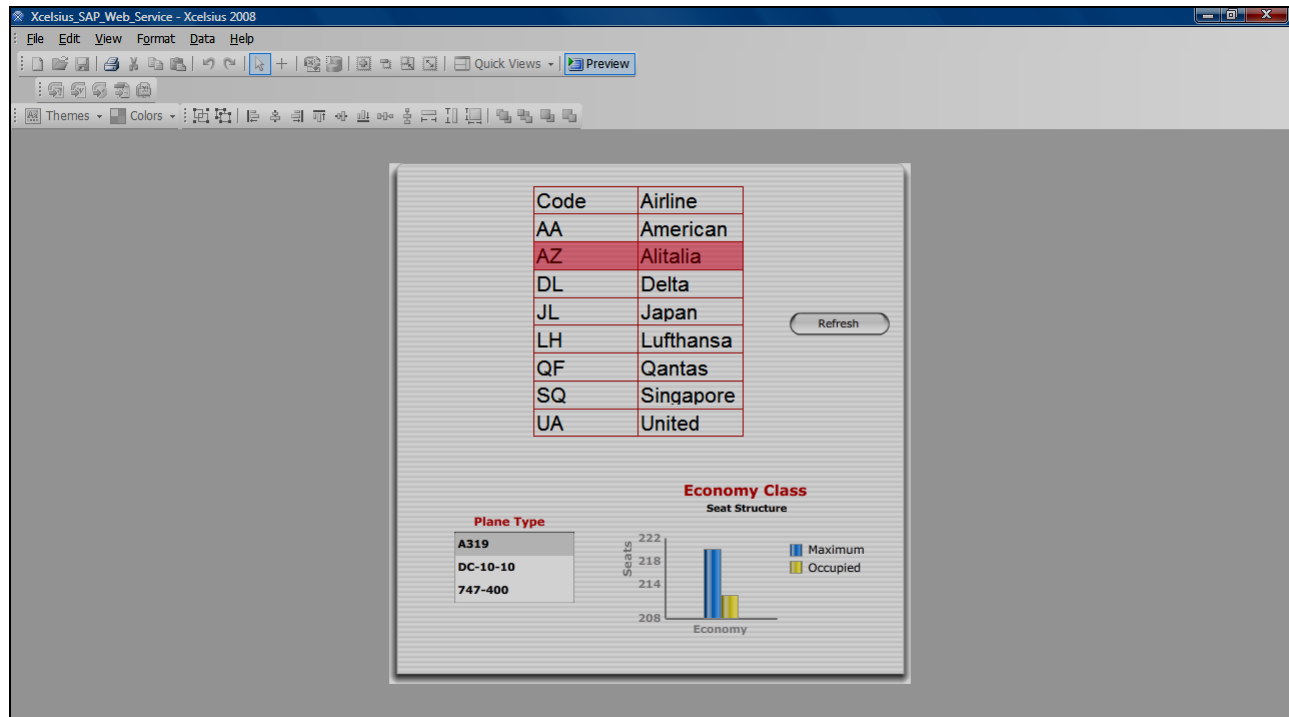
Now a Spreadsheet, List Box, Column Chart, and Refresh Button are used as components for the Xcelsius file. The actual logic of displaying the SWF file displays the Maximum and Occupied seat capacity of the selected Airline and Plane Type on "14/06/2006". Spreadsheet holds the Airline data. List Box holds the Plane Type of the Selected Airline, and Chart displays the data. The Refresh button refreshes the data and sends the selected Airline as input to the Web Service.

Map the input and output values appropriately to the cells. Configure the Chart, List Box, and Column Chart.



Once the configurations are done, save the file, and test the Xcelsius application by previewing the Xcelsius file. You will be asked for SAP Logon Credentials.





The developed Xcelsius application will be in .XLF format. This file has to be exported to SWF and will be used with web user interface.

Designing BSP Page to Consume the Developed Xcelsius file (SWF)

Now the created SWF file has to be presented to the dashboard by having BSP as the Web Interface.

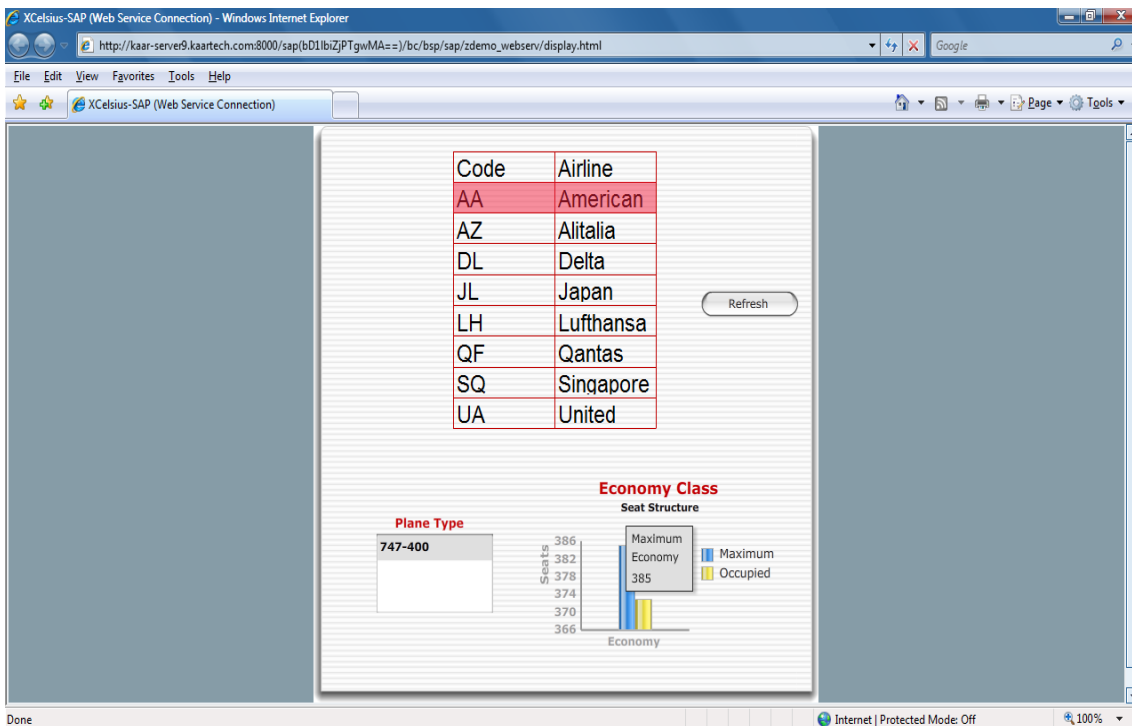
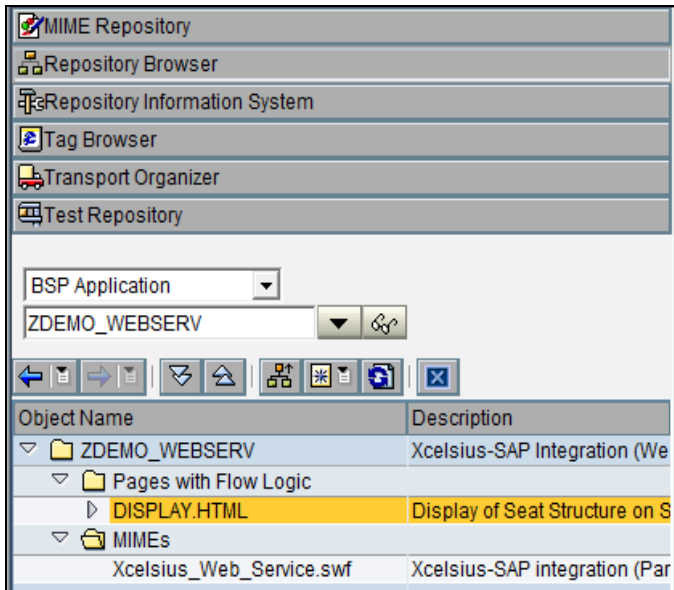
A BSP Application **ZDEMO_WEBSERV** using an HTML View **-DISPLAY.HTML** with the following code has to be created. Import the SWF file to the BSP application in the MIME folder.

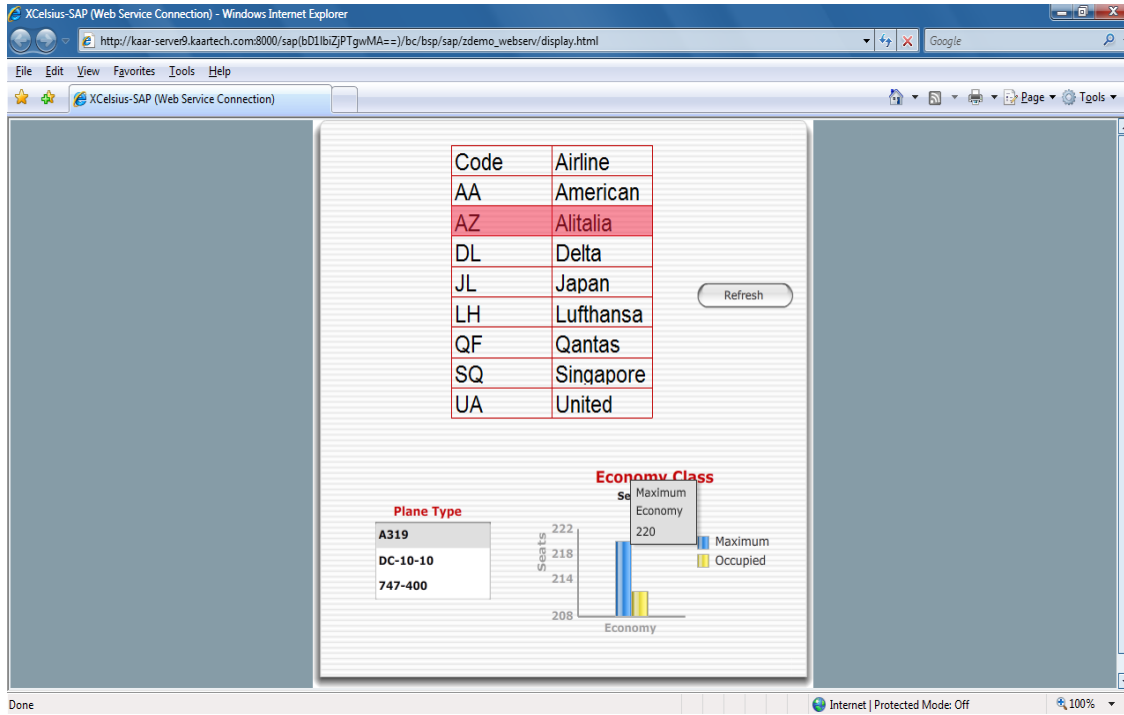
```
<%@page language="abap"%>
<%@extension name="htmlb" prefix="htmlb"%>

<htmlb:content design="design2003">
  <htmlb:page title = "XCelsius-SAP (Web Service Connection)">
    <htmlb:form>
      <object>
        <embed src="Xcelsius_Web_Service.swf" quality="high" bgcolor="#869ca7"
          width="100%" height="100%" name="test_page" align="middle" play="true"
          loop="false" quality="high" allowScriptAccess="sameDomain"
          type="application/x-shockwave-flash"
          pluginspage="http://www.adobe.com/go/getflashplayer">
        </embed>
      </object>
    </htmlb:form>
  </htmlb:page>
</htmlb:content>
```

Testing the BSP Application and Execution through Portal as Dashboard Display

The created BSP application plays the SWF file placed in the MIME repository based on the above code. By testing the BSP application, the visualization resembles the dashboard to be presented in the portal.





The same dashboard design is displayed through the Portal where end users access the dashboard reports through the intranet portal.

Related Content

The same Xcelsius can be integrated with SAP using other connections as well. Please refer to the blogs below for more information:

[Crystal Report and Crystal Xcelsius Integration](#)

[SAP BSP + Xcelsius \(Part 3 - XML Data\)](#)

For more information, visit the [Business Objects homepage](#).

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