SAP and BusinessObjects Integration (Xcelsius – SAP NetWeaver BI Connection)

Applies to:

SAP Business Objects – Xcelsius, SAP NW - BI.

For more information, visit the Business Intelligence homepage or the Business Objects homepage.

Summary

This document explains the process of integrating SAP data (BI) based on the BI query with BO-Xcelsius using the SAP NetWeaver BI Connection connectivity present within Xcelsius. Based on the integration, the BI dashboards are presented and the reports are defined based on the user's requirement. BI data targets are acting as the source for BI query.

I express my heartfelt thanks to my colleague Mr.Sankar Kumar, SAP BI Consultant to help me on BI side and also SAP Mentor Ingo Hilgefort for presenting his webminar on July 27, 2009 which gave an idea to consume BI data directly without any interface. In a previous article I have used SAP BSP as web 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 2+ years 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

For a longtime (since July 2009) we have been awaiting for a connection which can consume BI query directly by the Xcelsius. Now we have gone through the process and we have started to use the same using the Xcelsius 2008 SP2.

This document is intended to give a technical knowledge (stepwise process) for presenting the dashboard using SAP BO-Xcelsius and BI as the data source. The BI query will be acting as the data source in which the BI Query will consume data from any of the BI data targets (DSO, Infocube, Extractor, Infoset, etc).

System Requirements

Instead of consuming BI data as web service, XML, etc the BI query developed using the data targets will be directly used by the Xcelsius using SAP BI Query SAP NW BI Connection. So that the objects present within the query will be highly focused. For using this concept following are the prerequisites on the system side.

- Dashboard:
  - BI 7.X Add-On SP901 or higher
  - Xcelsius Designer 2008 SP2
  - SAP GUI 7.10
- Dashboard Consumers:
  - Flash Player 9 or higher
- Server side NetWeaver Platform:
  - SAP EHP1 for SAP NetWeaver 7.0 SP5 Java and ABAP

Technical Description

The below bulleted points are explained in order to accumulate the above mentioned concept.

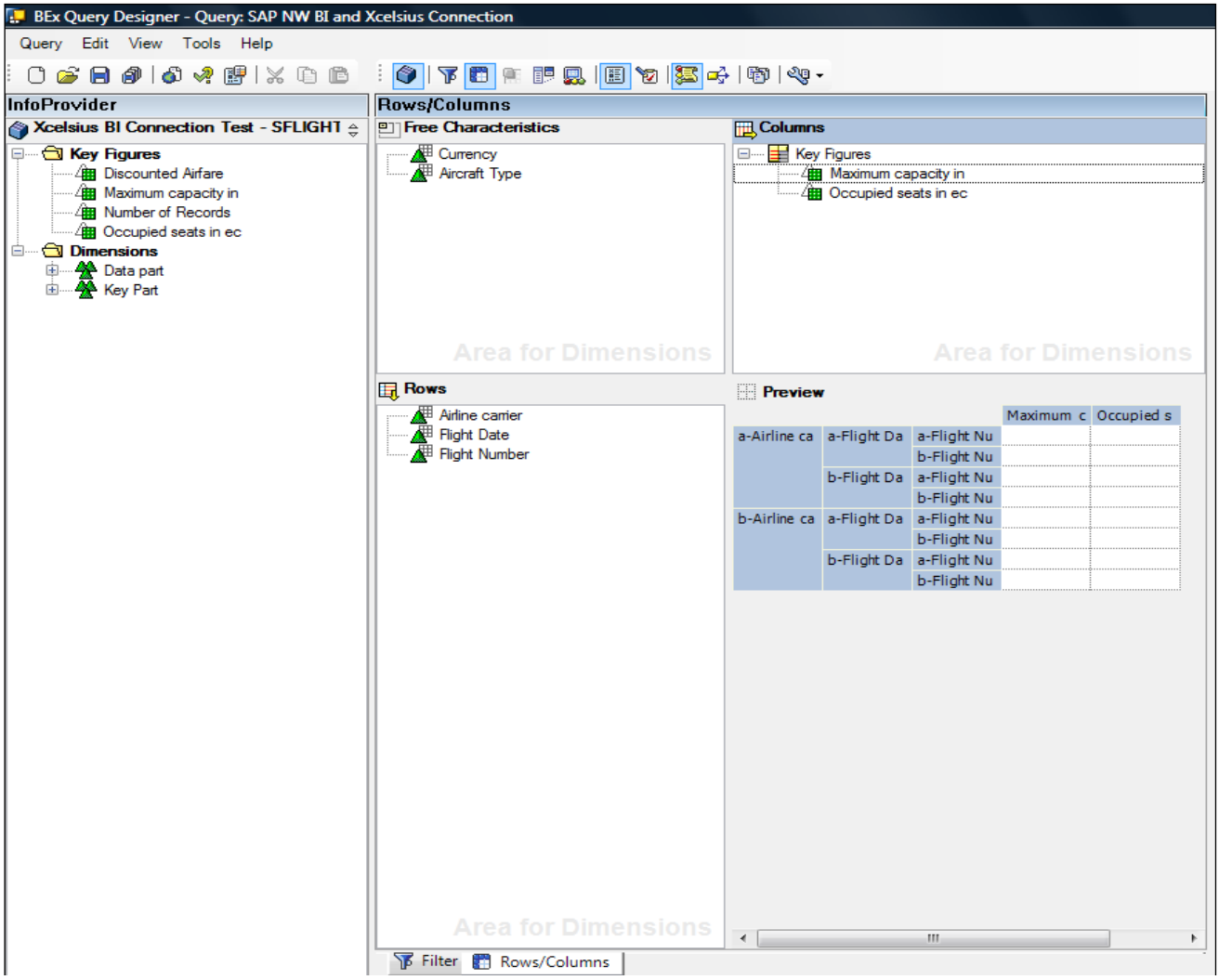
- Designing the BI Query
- Configurations on the Xcelsius Connectivity
- Designing the Xcelsius Canvas and Mapping process for the Components
- Presenting as Dashboard

Designing BI query

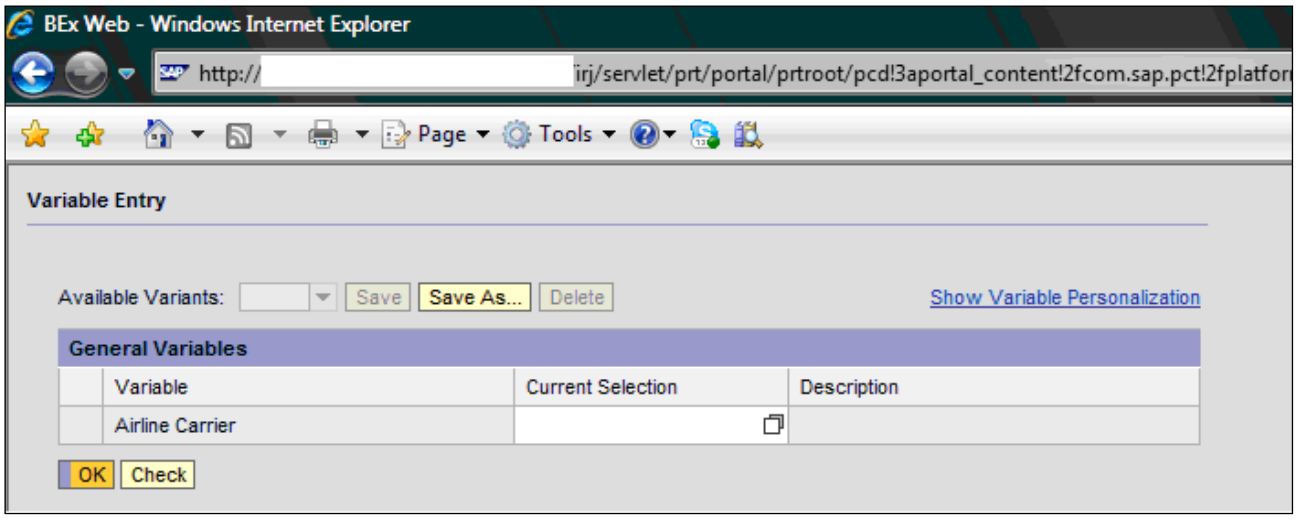
As a standard example we will be using SFLIGHT table and our aim is to display the Maximum and Occupied Seats of a particular Flight of an Airline for the date ‘08/01/2007’.

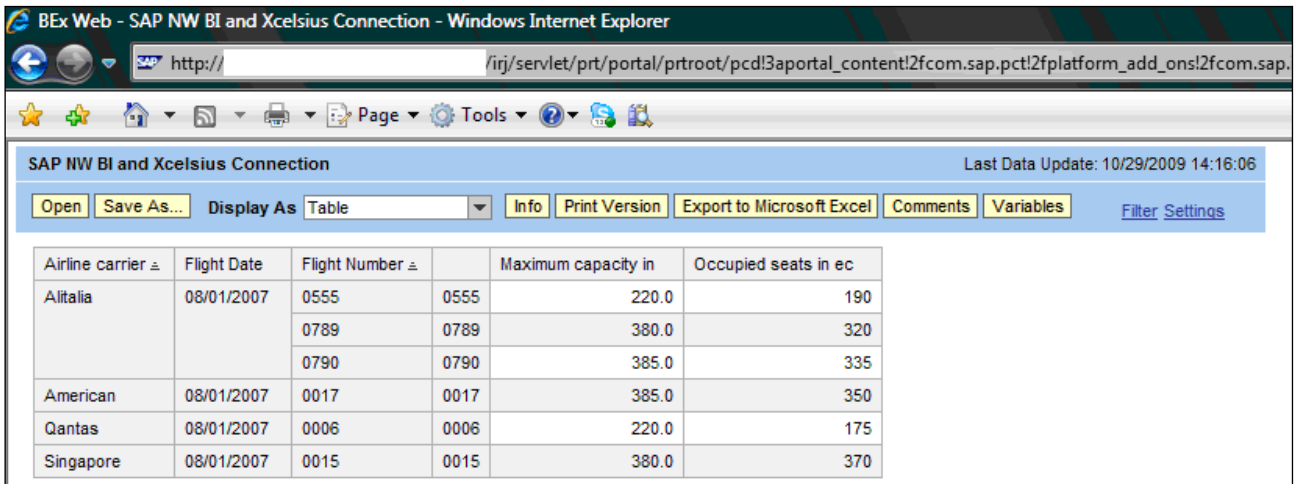
SFLIGHT table will be acting as the source for the DSO and based on the DSO, the query will be designed by representing the Airlines (CARRID) as a filter variable. The DSO will be loaded with the latest data and will be ready for designing the query and for its execution. Based on the selection of the Airline, all the flights will be displayed for that airline with the maximum and allocated seats on the selected flight.

The screen below explains the design of the query and in the preview you can visualize the data which will be displayed through BI query.



Characteristic and Key figures will be designed in the above manner. The following screens will describe the execution of BI query based on the filtes for Airline and Date (08/01/2007) which is hardcoded directly within the query design itself.





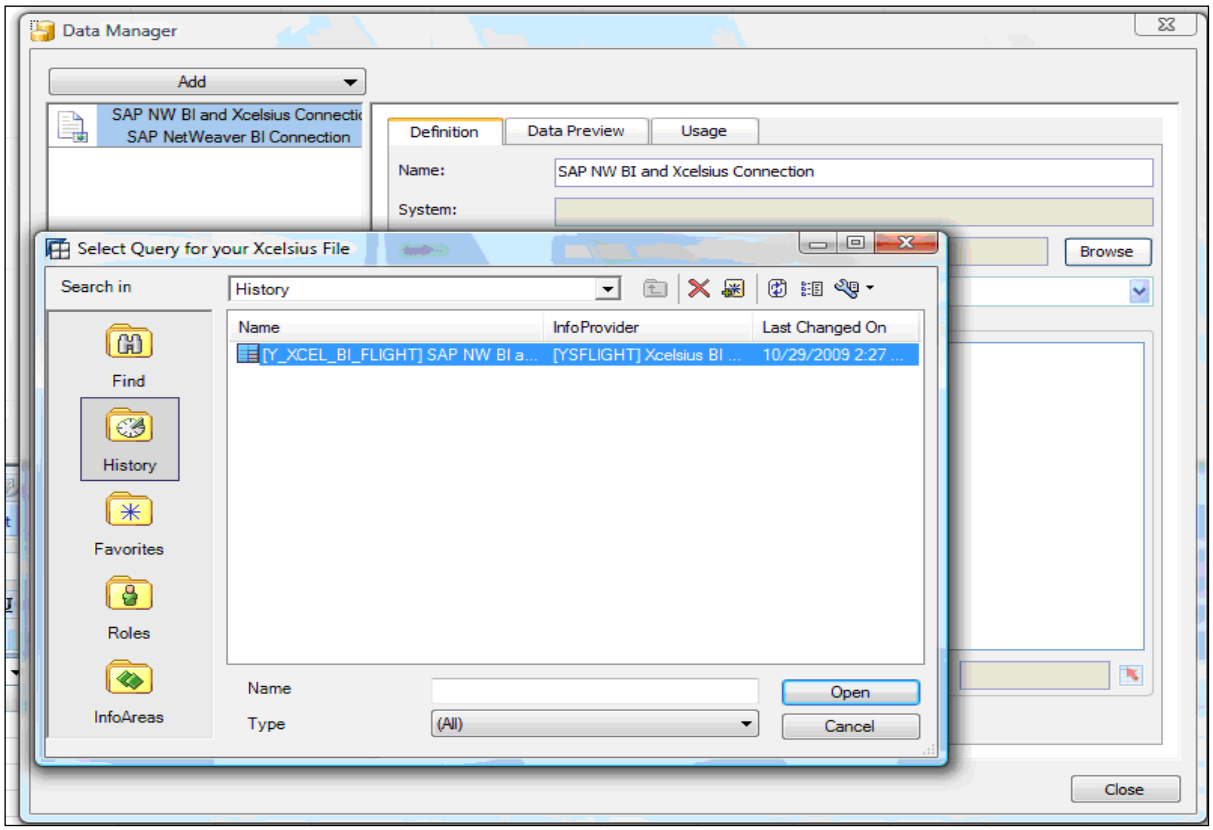
Airline carrier	Flight Date	Flight Number		Maximum capacity in	Occupied seats in ec
Alitalia	08/01/2007	0555	0555	220.0	190
		0789	0789	380.0	320
		0790	0790	385.0	335
American	08/01/2007	0017	0017	385.0	350
Qantas	08/01/2007	0006	0006	220.0	175
Singapore	08/01/2007	0015	0015	380.0	370

The above structure Airline, Flight Date, Flight Number, Maximum and Occupied seats objects will be used within Xcelsius and for its connectivity.

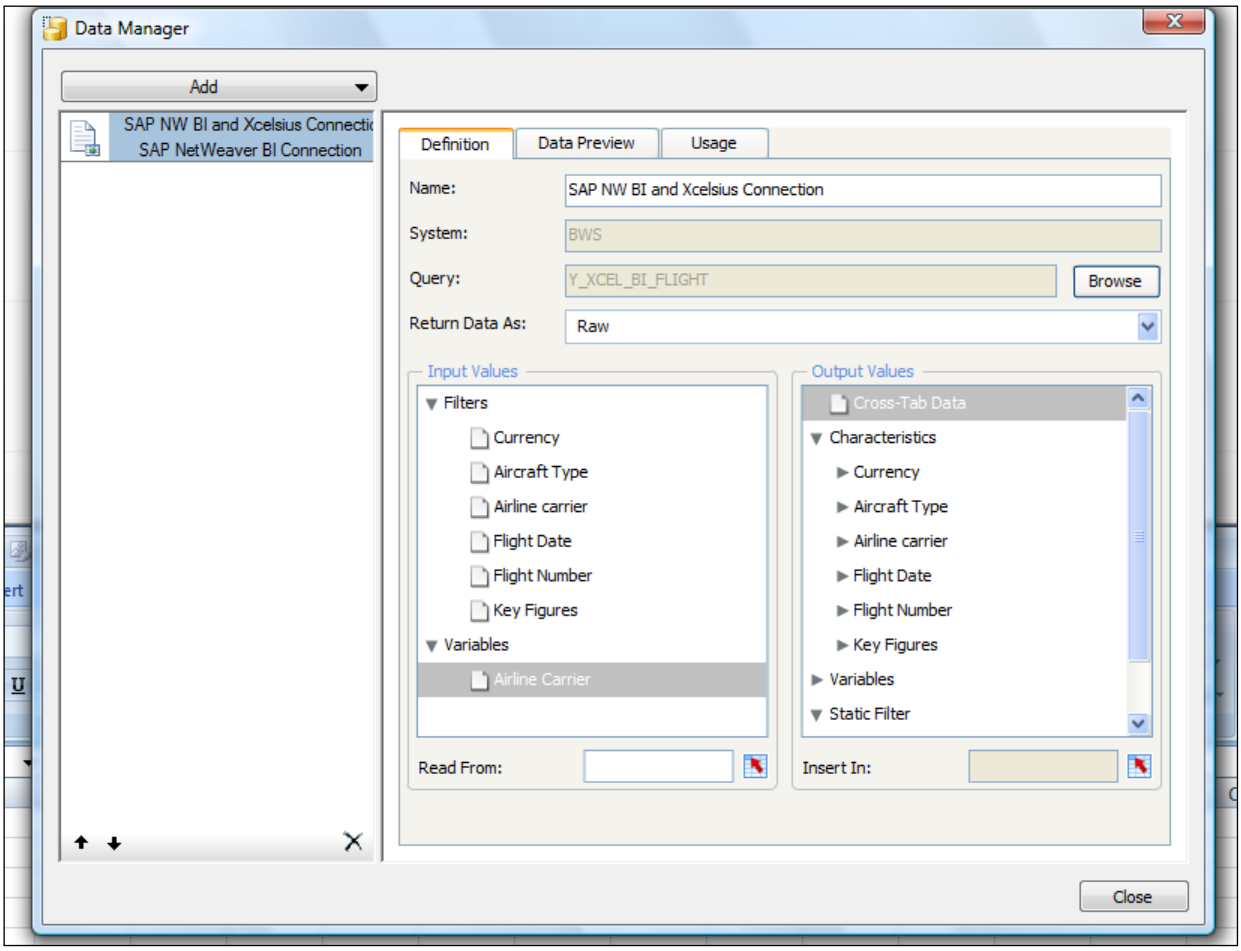
Configurations on the Xcelsius Connectivity

Based on the above BI query pattern, we now design and configure the Xcelsius dashboard with the available components. The configurations are mainly done on the data connectivity side where the SAP NW BI Connection will be consumed.

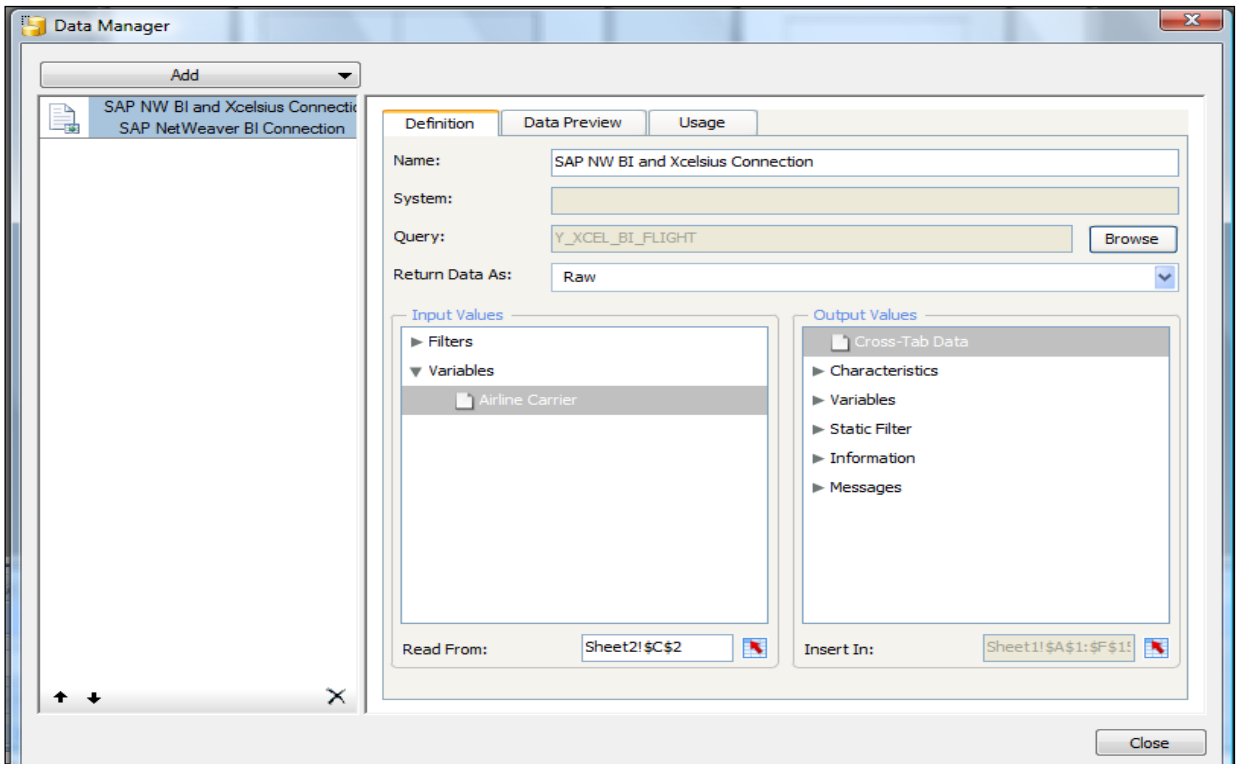
The data manager of Xcelsius will be accumulated with SAP NW BI connection and the query will be opened as described in the below screen. The “Browse” button on the connectivity is clicked so that the Query can be selected.



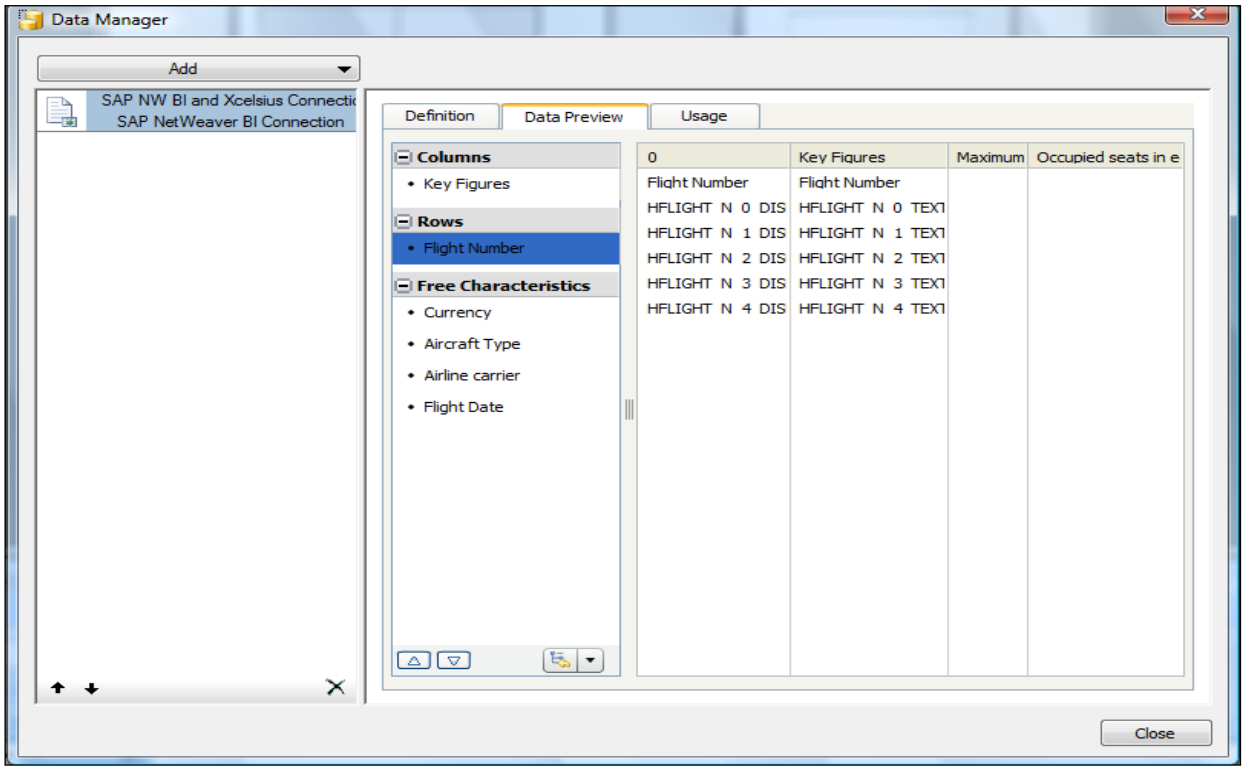
Once the query is embedded within the connection, the below properties with its filters, Characteristics, Key Figures, etc will be displayed within the definition tab of the connection. Input Values container will be mapped in order to present values to a particular field (Airline). Based on the input value Output Values container fields will be holding the corresponding records.



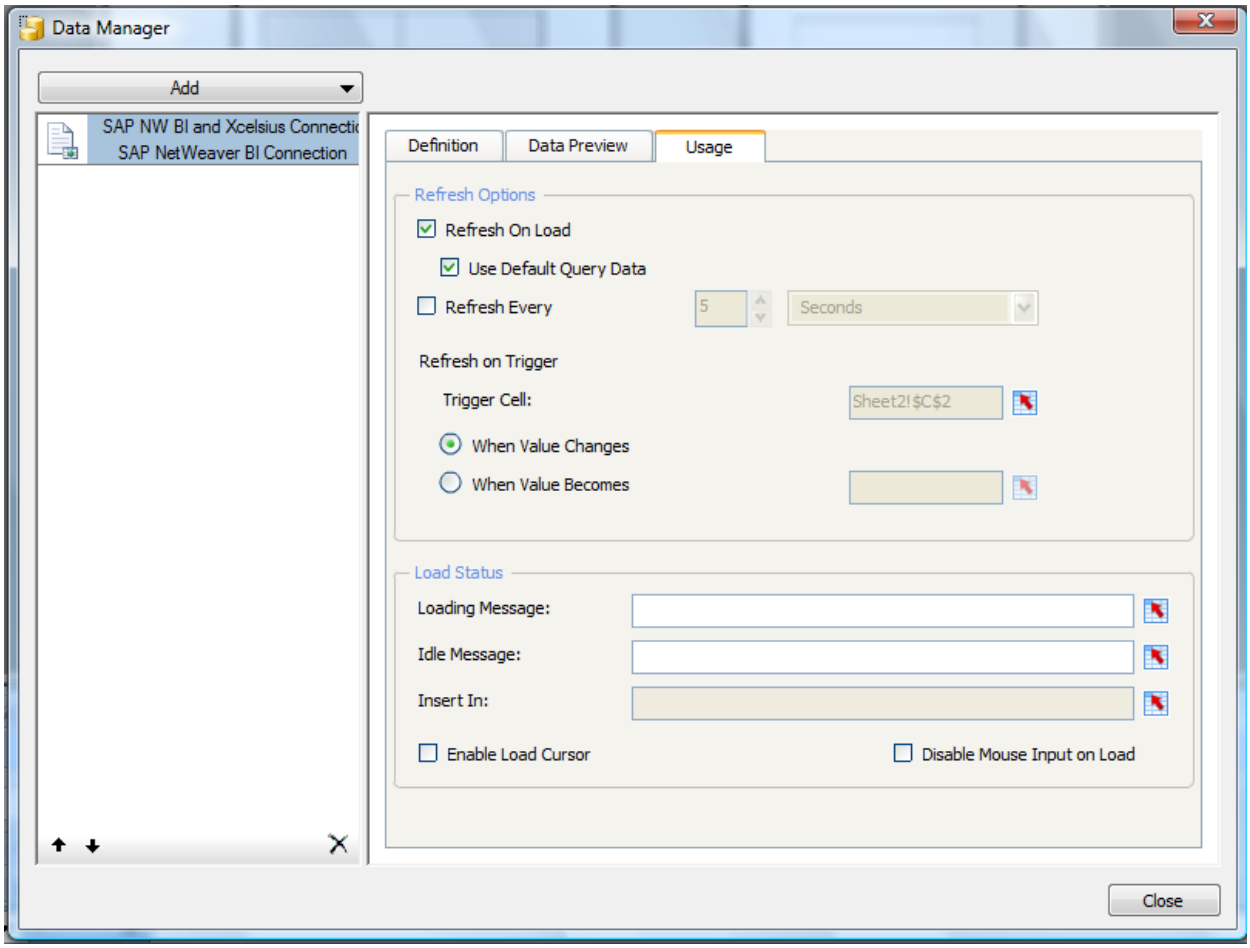
In our example, Airline (Carrid) is used as input value. Hence the Variables field – Airline Carrier is mapped with the cell present within spreadsheet of Xcelsius (Sheet2 – C2). Based on the input value the Cross-Tab Data will be holding the output structure which has to be mapped on the respective cells (Sheet 1 – A1 to F200 (max)). The cross tab structure will be the same as we defined during the BI DSO design (Transformation). The screen below describes the mapping of input and output values in the definition tab of the connection.



Once the mapping has done, goto the data preview tab where we can preview and finalize our output data. By clicking on the Refresh button, Columns, Rows, Free Characteristics will be displayed where we can configure ourselves to which fields has to be displayed. Here the Rows and Key figures will be displayed in the preview. The screen below describes the process.



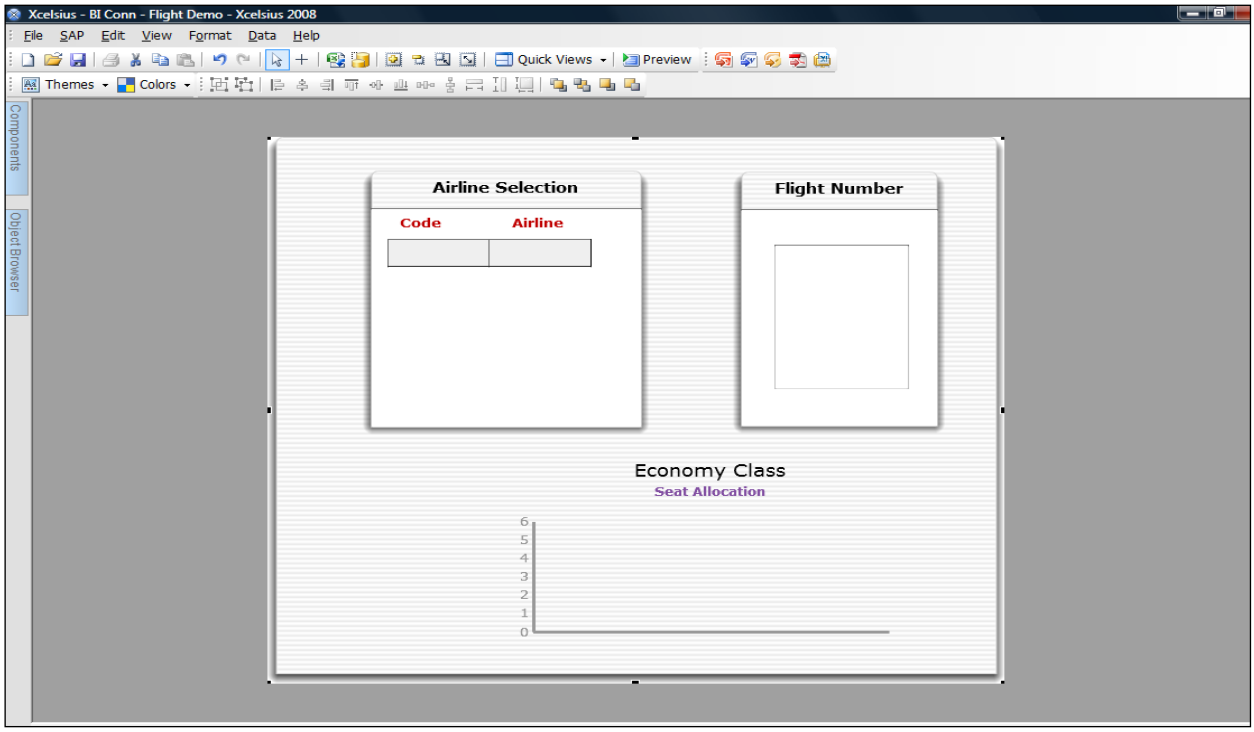
Once the data preview tab is configured, click the Usage tab. There we can configure the settings for when our data has to be triggered, Loading Message, etc. Since we have to get the list of airlines, Refresh on Load is enabled and Triggering Cell (When Value Changes) is enabled. This is in order to refresh data while selcting a particular airline. Once the configurations are done, the connection is ready for getting the input values and sending the data as output. Now the Canvas has to be designed with the components for the interactivity of the reports / dashboard. The screen below displays the same process as mentioned.



Designing the Xcelsius Canvas and Mapping Process for the Components

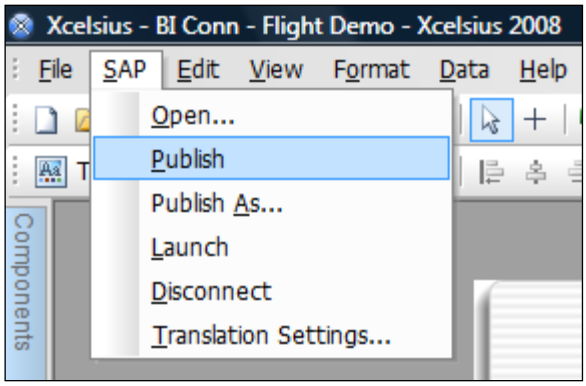
The canvas is designed with a spread sheet which holds all the Airlines with its respective Airline Code, list box which holds all the flight numbers of a particular airline which has been selected through the spreadsheet data and a column chart which displays the Maximum and Occupied seats of Economic class for a selected flight number.

The Spreadsheet will be containing the values during the loading of query for the first time itself through the Cross-Tab field available within output Values in the Definition tab. Based on the properties of the spreadsheet, the source and destination data are set and mapped for the List Box. The same process will be followed and based on the properties of List Box, the source and destination are set and mapped for the column chart. The screen below describes the model of canvas.

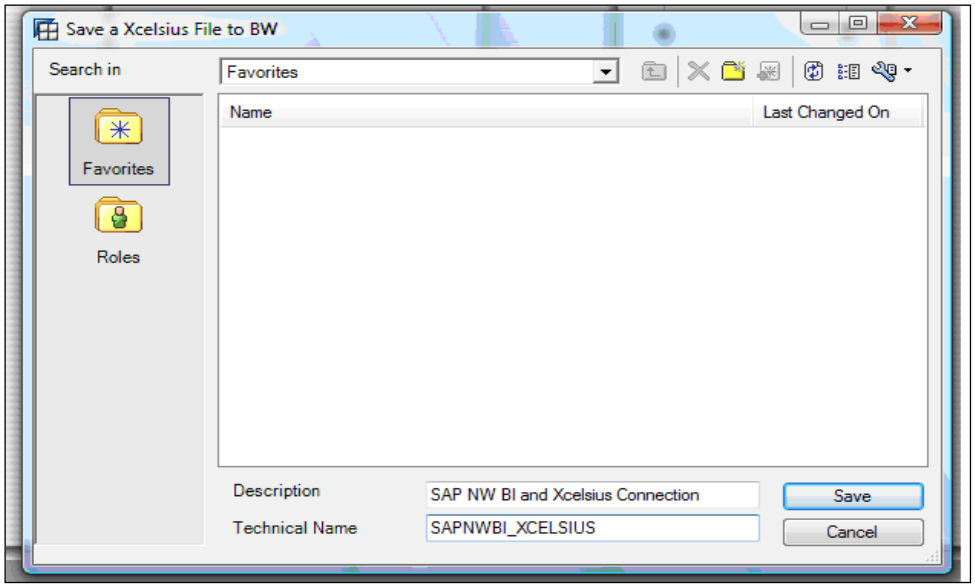


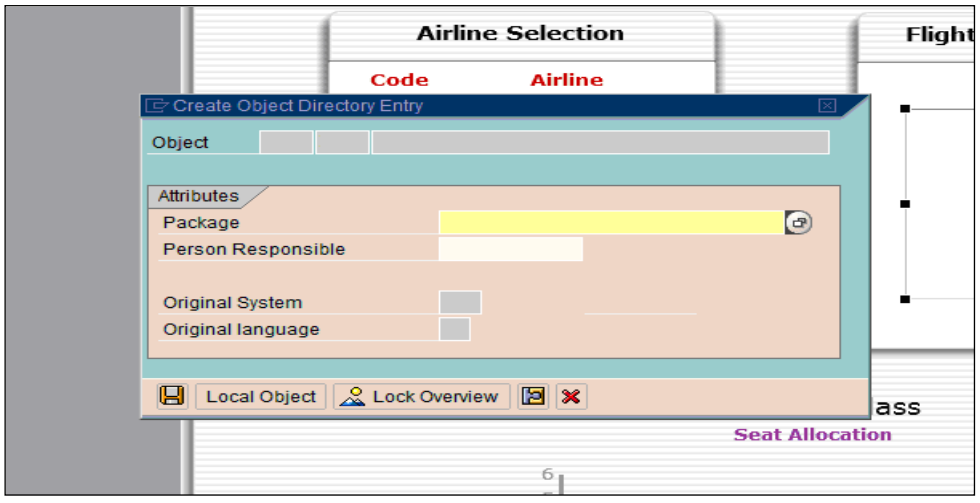
Presenting as Dashboard

The design of canvas, mapping of data to the spreadsheet cells and configurations are done. Now the Xcelsius file has to be saved and published. After saving the Xcelsius file, open the SAP menu in the menu bar and publish the Xcelsius file as shown below.

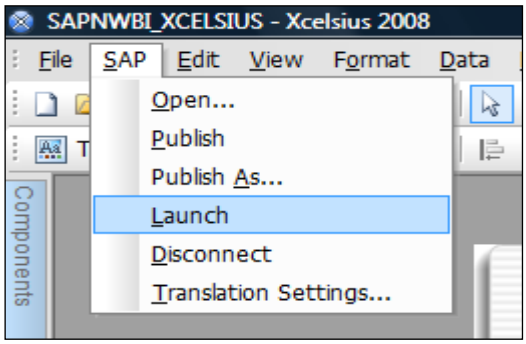


By default the file will be published in Favorites folder. Also, the SAP system will be asking for the Package and Request to be used.

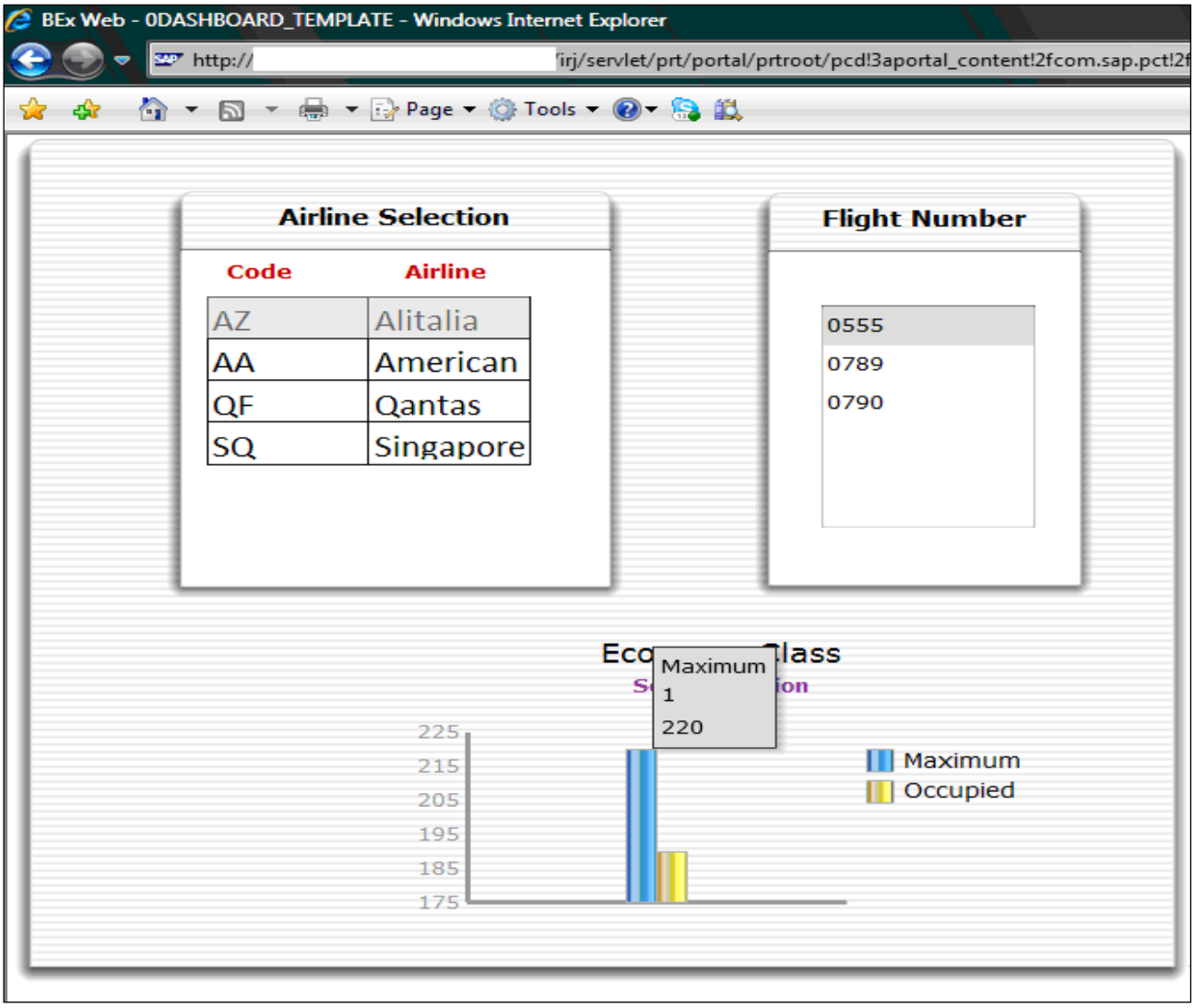




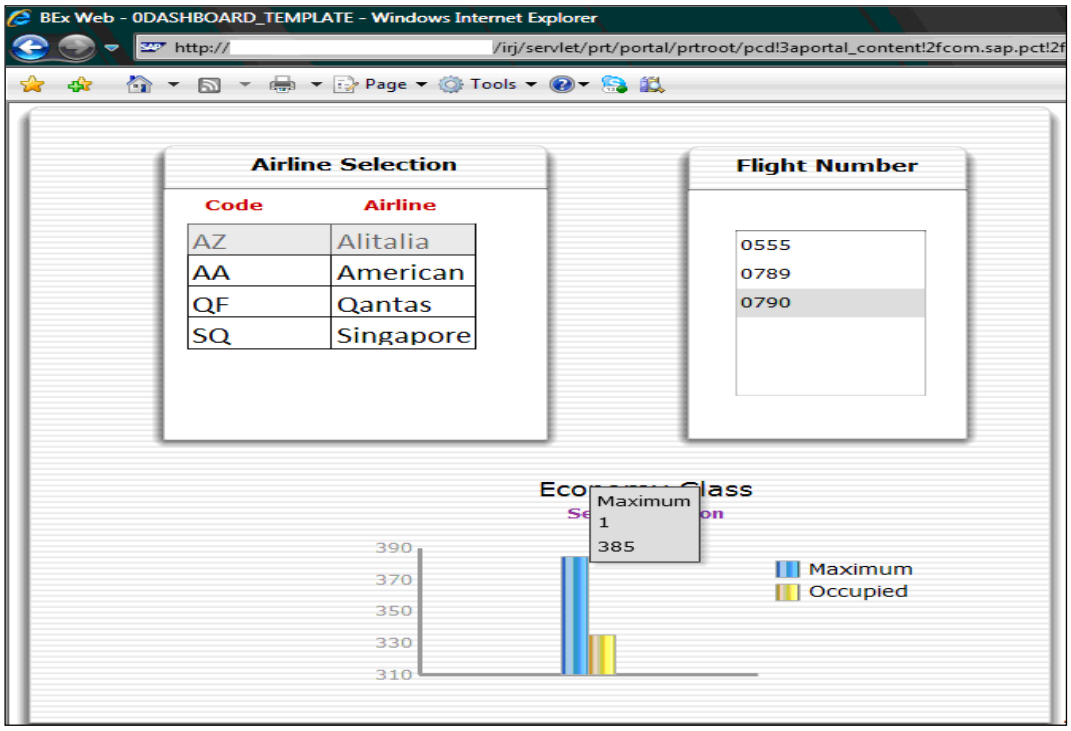
Once the above process are done, the file ready for launching and do the same as mentioned in the below screen.



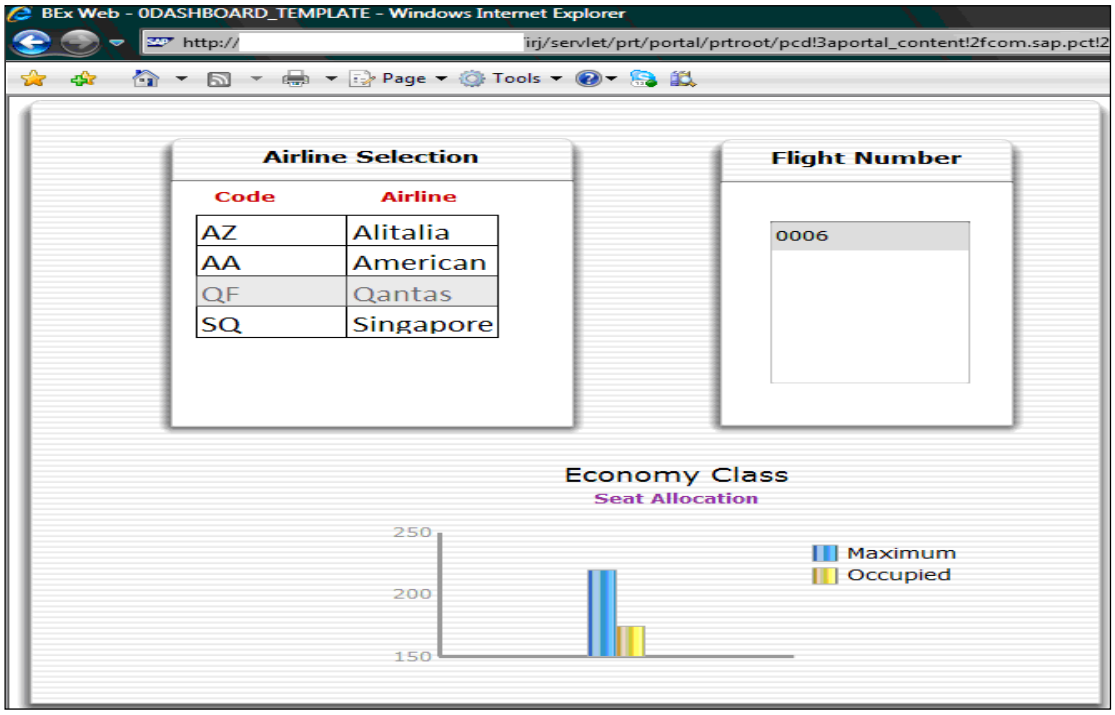
The Xcelsius file will be displayed as we published and it's shown below. The Spreadsheet will be provided with data duing the loading of Query itself. Below screen displays the data after selecting flight number 0555 of the Alitalia airlines and the seat allocation is displayed in the column chart.



Below data is displayed by selecting different flight of the same airline. This shows that data get refreshed whenever a new flight is selected.



In the below screen, List Box also gets refreshed based on the selection of the different Airline. This concept is named to be Interactivity.



Once the above process is successfully done i.e. launching the dashboard, the file is ready for presenting as a dashboard / report. The file will be present within the server itself where we have published; it will be easy for us to present the same as a dashboard through portal or as a web page.

Related Content

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

Xcelsius and SAP NetWeaver BW

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