



SAP BEX

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About the Tutorial

SAP Business Explorer (BEx) provides you the set of tools to perform reporting, query analysis and to support strategic decisions. It is a complete product which provides different reporting procedures and an analysis tool to run queries and reports with SAP NetWeaver BI System. You can also use Business Explorer to broadcast the objects created under Business Explorer.

SAP Business Explorer is a front-end tool to run different types of reports, analyze data and perform business planning on top of OLAP cubes which are stored in SAP Business Warehouse System.

Audience

This tutorial is prepared for those readers who wish to learn the essentials as well as the enhancements of SAP BW and various options for querying, reporting, broadcasting and integration for the objects created in SAP Business Explorer.

This tutorial is intended to make you comfortable in getting started with SAP BEx Query Designer, Analyzer, WAD and Broadcaster along with integration options with SAP Business Objects.

Prerequisites

This is a simple tutorial and the concepts explained here can be easily understood. The readers should have a good understanding of SAP BW concepts. In addition, it will certainly help if you have ample business knowledge on various application areas and a little experience regarding the use of Queries, Reporting and Business Objects Reporting and Dashboard Tools.

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1. SAP BEx – Overview

SAP Business Explorer (SAP BEx) provides you the set of tools to perform reporting, query analysis to support strategic decision. This tool provides a lot of queries and report designing functions. You can also develop Web applications on top of the SAP BI content using **BEx Web Application Designer** (WAD). Using the BEx Broadcast option, you can also broadcast the objects that are created using Business Explorer in email or in the form of a URL. This can also be published under the Knowledge Management Content on the NetWeaver portal.

The BI content is available in SAP NetWeaver BI system and the data is analyzed by defining the queries in **BEx Query Designer**. The BEx WAD can be used to develop Web Application based on the BI content available in the SAP BW system. The **BEx Report Designer** tool can be used to create formatted reports for printing and presentation.

The following tools are available under SAP Business Explorer:

- Analyzer
- Query Designer
- Report Designer
- Web Application Designer

Let us now understand in detail about the above given tools.

Analyzer

The Analyzer under Business Explorer is a **reporting and designing tool**, which provides integration with Microsoft Excel. You can use this tool to analyze data in an Info Provider under SAP BW. This can be used for planning by writing queries in a BEx Query Designer.

Query Designer

The BEx Query Designer can be used to **analyze the data in InfoProviders** under the SAP BW System. You can define the characteristics and the key figures in a Query Designer to analyze the data in any InfoProvider.

Report Designer

A Report Designer can be used to **create formatted reports** by using extensive formatting options and these reports can be used for printing and can be generated in different formats such as – PDF.

For example:

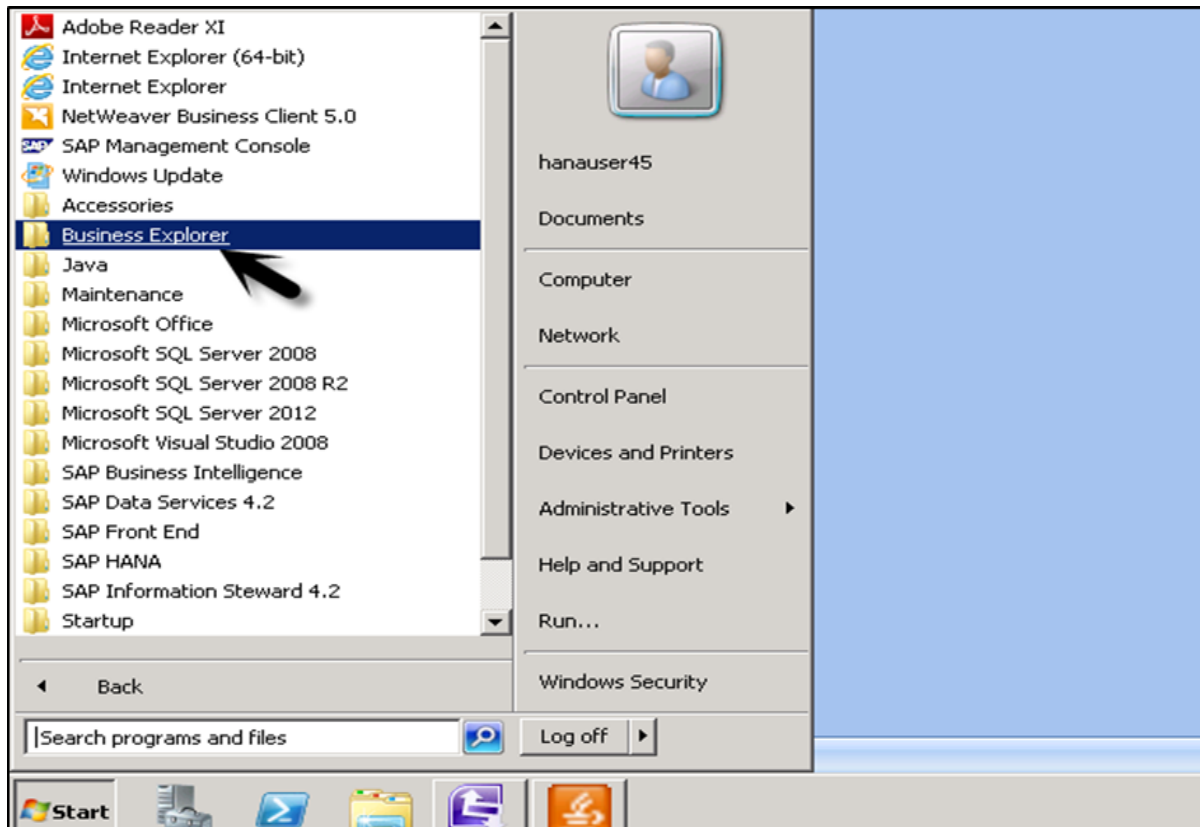
- Invoice
- Balance Sheets

- Sales Report, etc.

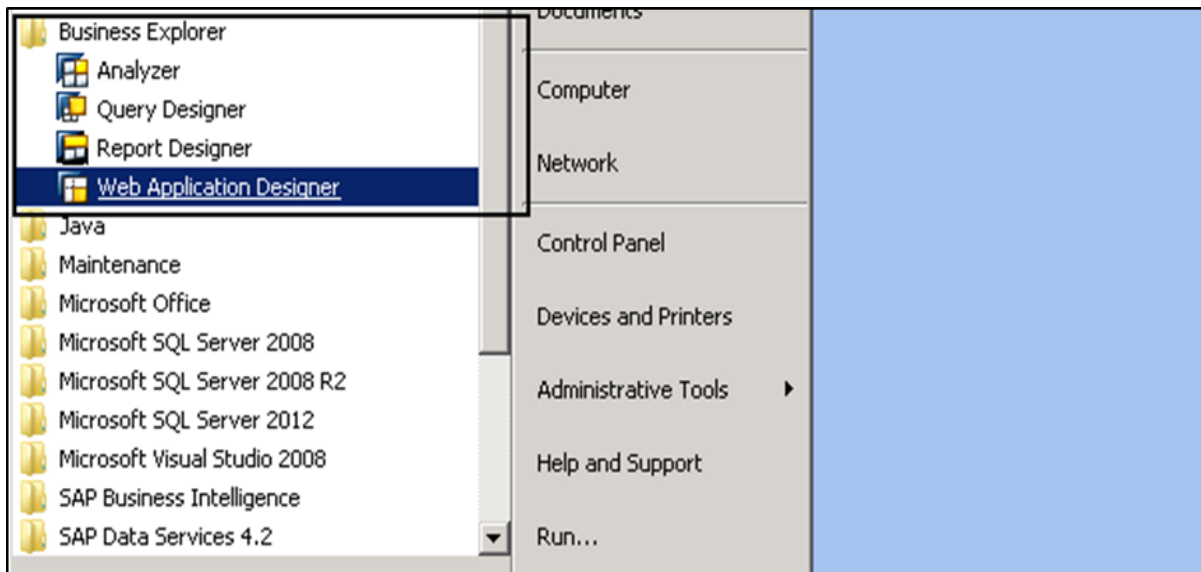
Web Application Designer

The Web Application Designer can be used to create web based applications using BI Content. These applications contain HTML pages which can be accessed via Web Browsers in the client machines or can also be published on the NetWeaver Portal under the Knowledge Management Content.

To see the list of tools under Business Explorer, navigate to Program Files in your SAP system → Business Explorer.



Once you expand this folder, you can see the full set of Business Explorer tools as mentioned in the previous topics.



Business Explorer – Features

SAP Business Explorer is a frontend tool to design Data visualization on Business Intelligence information in SAP Business Warehouse system. It is a popular product that provides extensive report formatting and designing features along with Web Application Development and broadcasting of objects developed in Business Explorer.

The following is the list of features that are provided by SAP Business Explorer BEx Suite:

BEx Query Designer Key Features

- You can use queries in the BEx Query Designer for OLAP reporting and for enterprise reporting.
- Queries can contain different parameters like variables for characteristic values, hierarchies, formulas, text, etc.
- In the Query Designer, you can apply a filter to restrict the whole query. While defining the filter, you can add characteristic values from one or more characteristics or also key figures in the filter. All the InfoProvider data is aggregated using the filter selection of the query.
- You can also use user-defined characteristics and determine the content of the rows and columns of the query. This is used to specify the data areas of the InfoProvider through which you want to navigate.
- You have an option of navigating through the query that allows you to generate different views of the InfoProvider data. This can be achieved by dragging any of the user defined characteristics into the rows or columns of the query.

BEx Analyzer Key Features

BEx Analyzer is divided into two modes for different purposes –

- **Analysis mode** – It is used for executing OLAP analyses on queries.

- **Design mode** – It is used for designing the interface for query applications.

Analysis Mode: You can perform the following tasks in the Analysis mode:

- You can access the BEx Query Designer to define queries.
- You can analyze the InfoProvider data by navigating in the queries.
- You can use different functions like sorting, filtering, drilling, etc., which are common in OLAP.
- Distribution of workbooks with BEx Broadcaster.
- For advanced programming, you can embed your own customized VBA programs.
- You can save workbooks on the server/locally on your computer or into favorites.

Design Mode: You can perform the following tasks in the design mode:

- It can be used to design the query and you can embed different query design items like dropdown box, radio button groups, grid and buttons into your Microsoft Excel workbook.
- You can also customize your workbook with Excel's formatting and chart functionality.

BEx Report Designer Key Features

You can perform the following tasks with the report designer:

- You can use formatting options to create report for printing and presentation.
- Different Layout functions that can be used to design corporate reports to meet business requirements.
- You can print web applications and reports in various formats.

BEx Web Application Designer (WAD) Key Features

You can perform the following tasks with the web application designer:

- You can use BEx WAD to generate HTML pages which contain BI specific contents such as, Tables, Maps and different Chart types.
- Web Applications can be published on the portal and can be accessed via a web browser.
- Use of standard markup languages and Web Design API.
- You can create and design web templates that can be saved and used in Web applications.

Business Explorer – Product Suite

By using SAP BEx frontend tools, you can leverage various reporting and analysis capabilities on the BI information in SAP Business Warehouse. This allows you to write

queries, format and design report for printing and presentation, develop web applications and broadcast these objects. The SAP BEx frontend tools can be installed with or without SAP GUI tools.

In older versions, SAP Business Explorer was delivered with SAP GUI installer as an add-on tool. Business Explorer can be installed independently of SAP GUI for Windows 7.10 or higher or together with SAP GUI for Windows 7.10 or higher version. When the installation is done independently for BEx frontend tools, the following tools are available under BEx:

- BEx Analyzer
- BEx Query Designer
- BEx Report Designer

When the installation is done as a part of the frontend package with SAP GUI, you can also use BEx Web Application Designer (WAD). This tool is not available in Release 7.10 or higher if SAP GUI is not installed on the client machine.

Hardware and Software Requirements

Hardware Requirements: System should meet all the requirements for Microsoft Excel 2003 and Windows XP or Vista.

Software Requirements:

- Windows XP or Vista
- Microsoft .Net Framework 2.0
- Microsoft Excel 2003 or higher

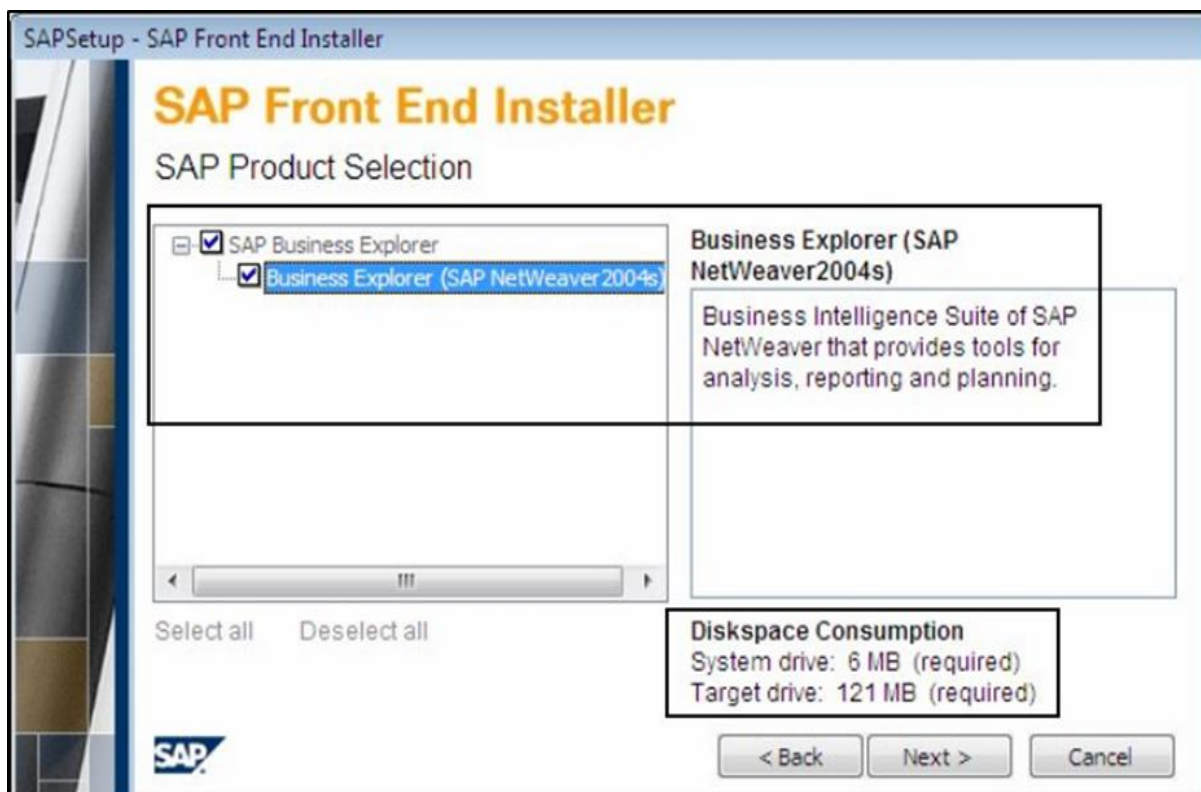
To perform the installation of the frontend tools, you need an installer or a CD which contains the setup file. The user should have an administrator privilege to run the installer file.

Start **SapBISetup.exe** by using run as administrator option if you are not logged in with an administrator user. This will open the setup wizard as shown in the following screenshot.



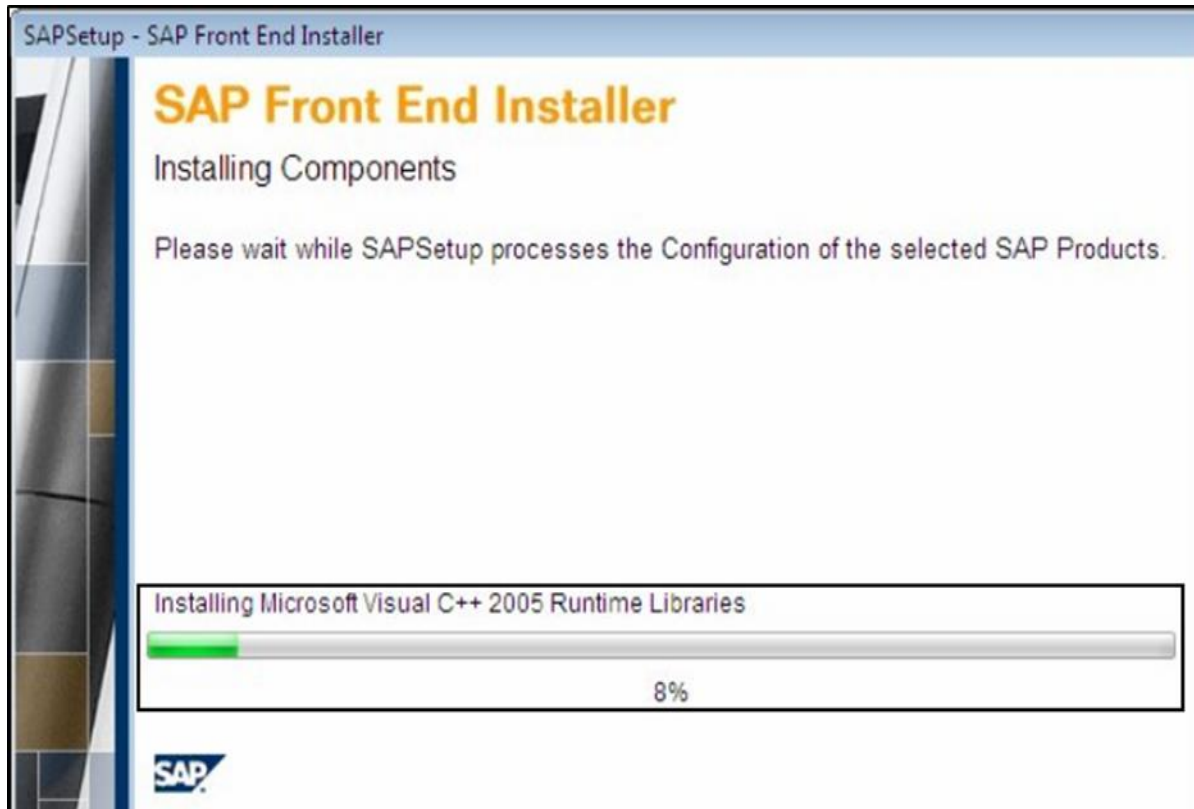
When you click on Next, you need to select the frontend tools that you want to install. Under the Product Selection, you should select SAP Business Explorer.

It also shows you the required disk space requirement.

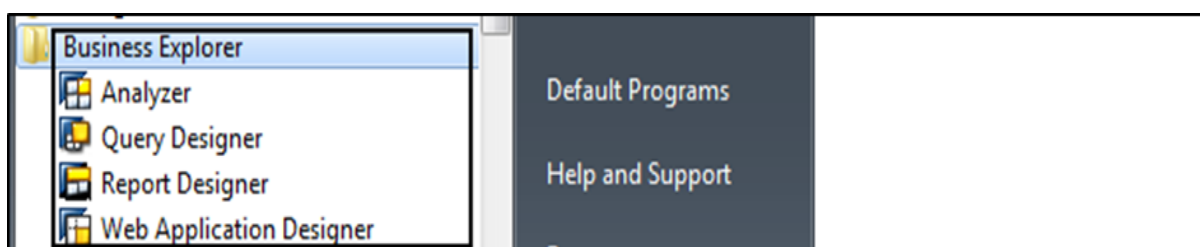


Make the selection of frontend tools, click on Next. You need to select the target drive where you want the installation to be done. Once you select the target drive, click on Next and it will start the setup installation.

You can see the status in the Progress bar, and once it is 100% done, installation is completed for the frontend tools.



Your Business Explorer is now successfully configured and ready to use. You can navigate to Business Explorer folder under Program Files and verify the installation by checking following tools shown in the screenshot given below.



2. SAP BEx – Architecture

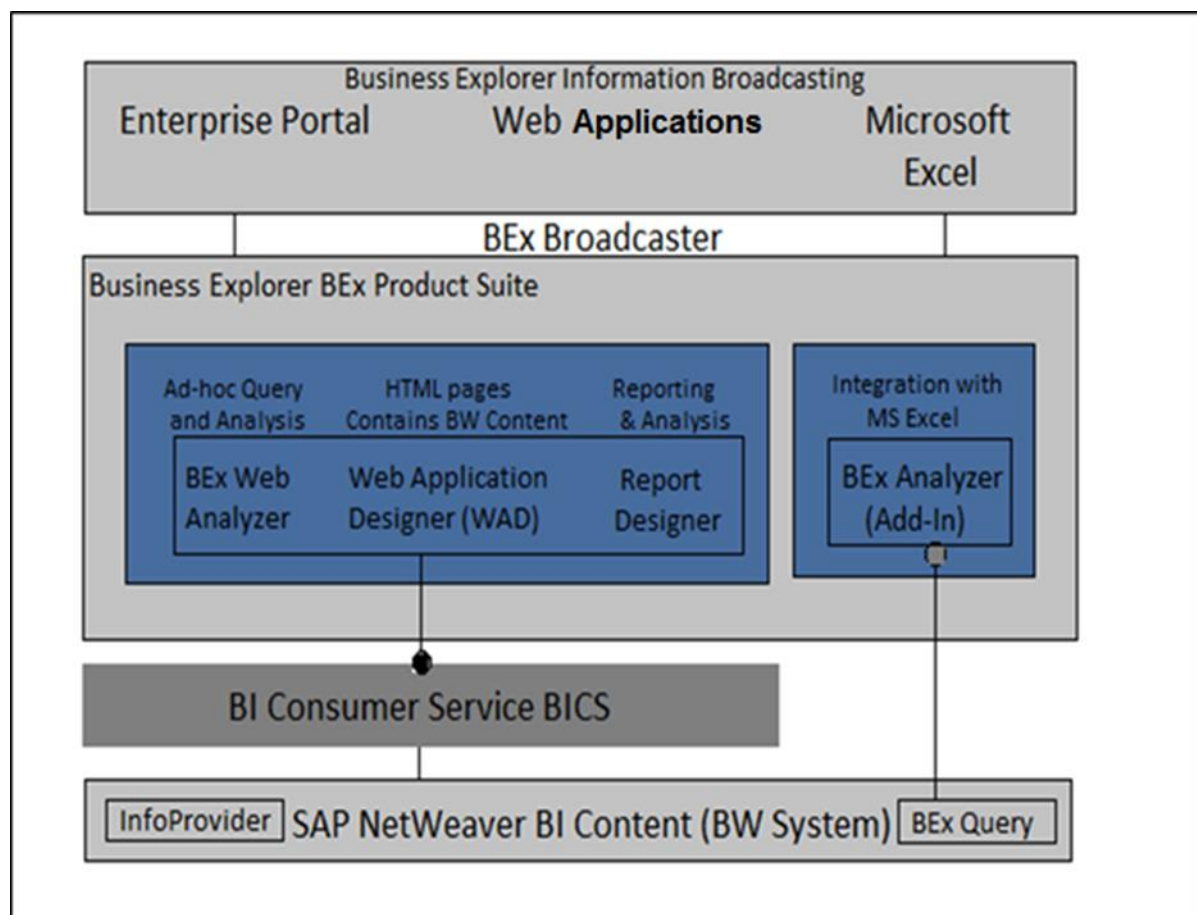
In this chapter, we will discuss in detail about the architecture of SAP Business Explorer and how it can be integrated with SAP BusinessObjects.

Business Explorer – Architecture

SAP Business Explorer consists of multiple tools that can be used to design queries and to perform report analysis, create web applications. The BEx Web Analyzer, Report Designer and Query Designer uses BI content in SAP NetWeaver BW system and communication happens using BI Consumer Service also called as BICS.

The content developed using Business Explorer can be published in the **NetWeaver Portal** or can also be used in Composite Applications.

The following image shows the functional area/ basic architecture of SAP Business Explorer suite:



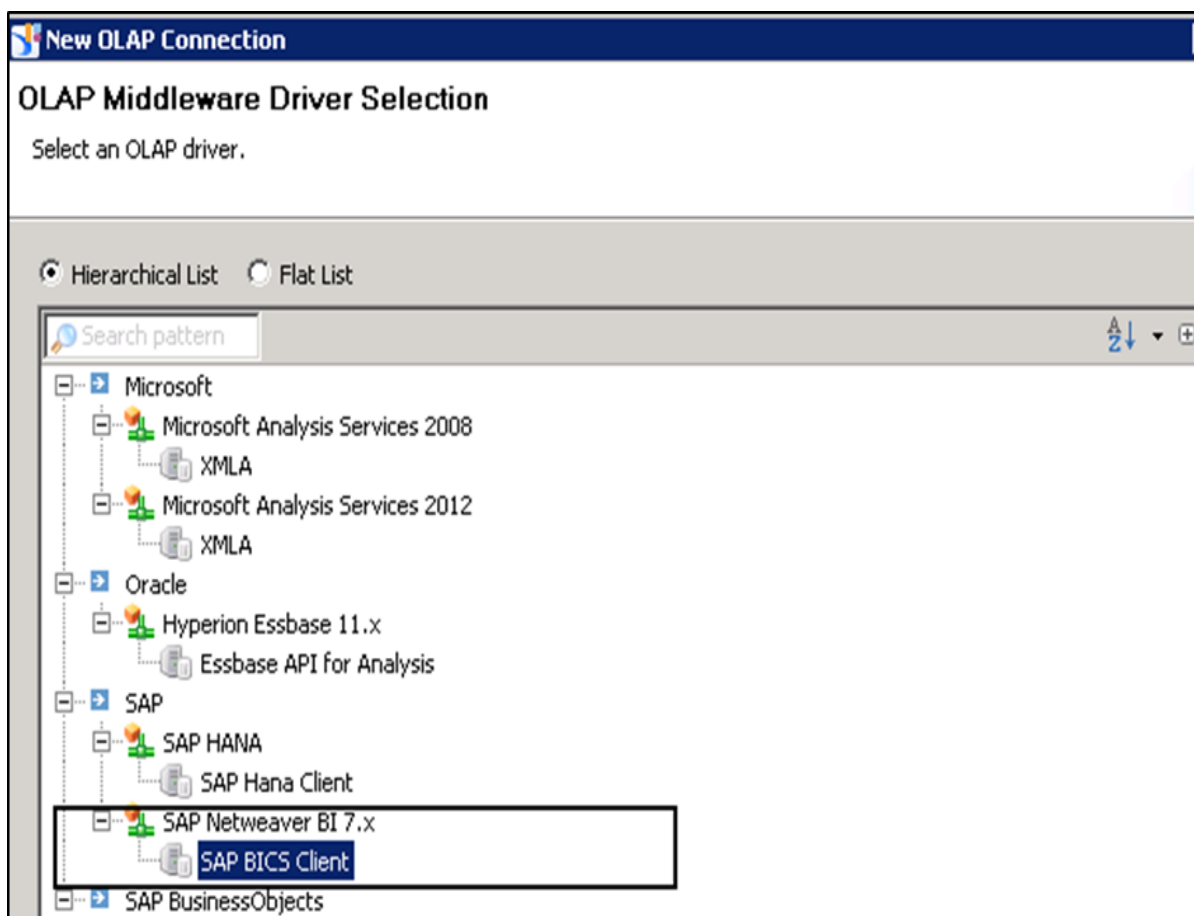
Components in SAP BEx Architecture

At the bottom, you have SAP NetWeaver BI content in the BW system. The BI Content is managed in the form of OLAP Cubes from InfoProviders. An InfoCube is defined as a multidimensional dataset which is used for analysis in a BEx query. An InfoCube consists of a set of relational tables which are logically joined to implement the star schema.

You can add data from one or more InfoSource or InfoProviders to an InfoCube. They are available as InfoProviders for analysis and reporting purposes.

BI Consumer Service (BICS)

BICS is used to connect the Business Explorer queries to SAP NetWeaver BW system. While creating an OLAP connection in IDT, you can use BICS connectivity to connect to the SAP BW system.



The next in line is SAP Business Explorer Suite that contains multiple tools to perform query analysis and design and for Report formatting. The Web Application Development (WAD) can be used for application development and content can be published on to the portal or composite applications using Broadcasting Information.

The BEx Analyzer provides an option for excel integration and you can analyze selected InfoProvider data and use it for planning by navigating in queries created in a BEx Query Designer.

At the top, you have the presentation layer that is used to publish the objects that are created using SAP Business Explorer. The NetWeaver Portal can be used for publishing the

project or you can also use them in composite applications or analyze further using Microsoft Excel.

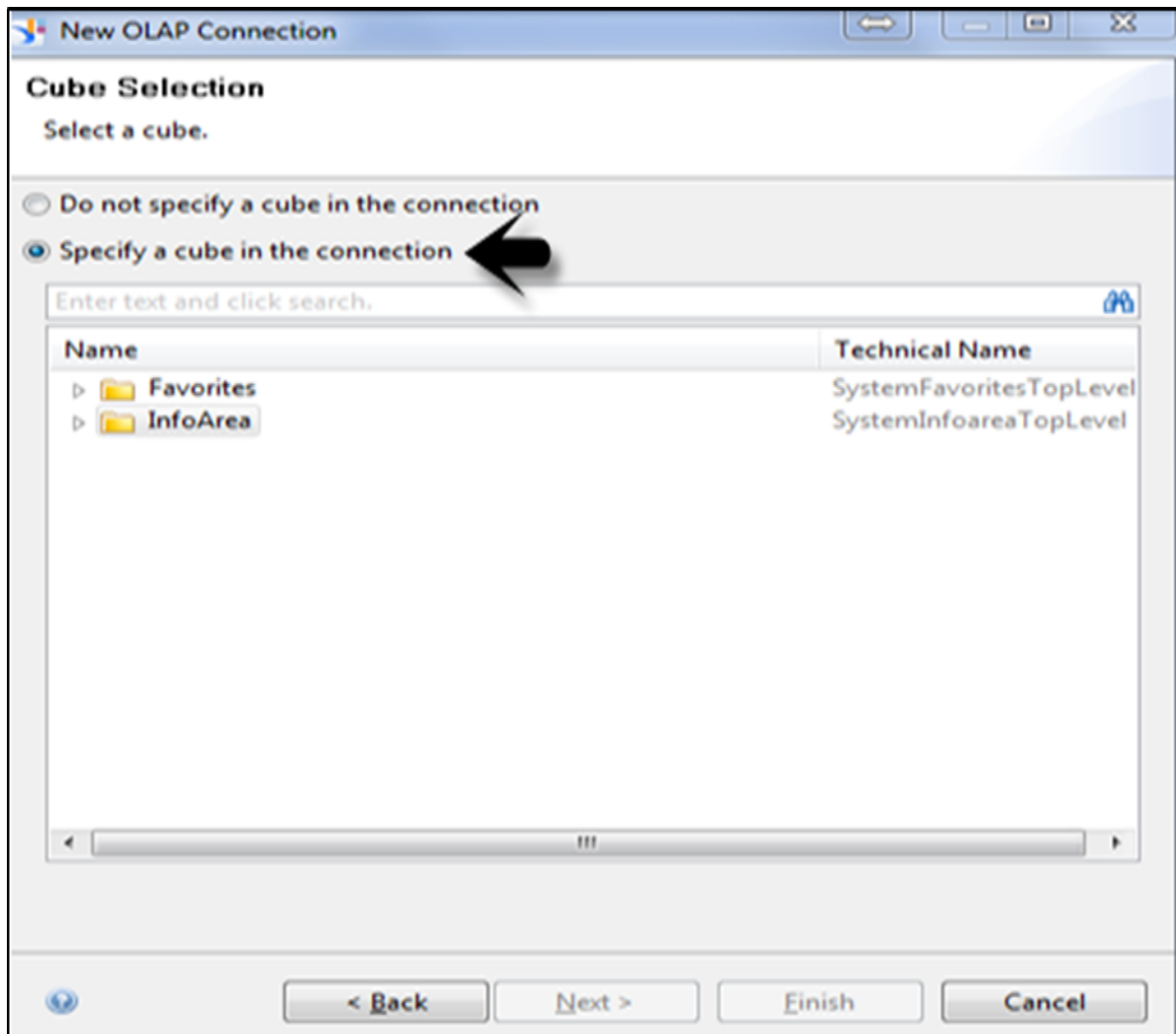
Business Explorer – Integration with BO

You can integrate SAP Business Warehouse system with SAP BusinessObjects, then the use of Business Explorer increases in terms of reporting and querying options. SAP BusinessObjects provide a complete set of Analytical reporting, Dashboard and Data Visualization tools.

The following integrations can be performed:

- You can integrate SAP BusinessObjects Dashboard (Xcelsius) tool to create an interactive dashboard on top of the BI Content in the SAP BW server.
- It is also possible to integrate a Crystal Report with BW that can be used to generate form based data on top of the BW content which can be used for printing purposes.
- It is also possible to call Web Applications created using BEx Web Application Designer in SAP BusinessObjects BI Launchpad and to store and publish them into a BO repository server.

To integrate a SAP BW system to BusinessObjects tools, you can create a BICS connection to the BEx query. You can select a Cube while creating an OLAP connection using the BICS connection.



3. SAP BEx – BEx Query Designer

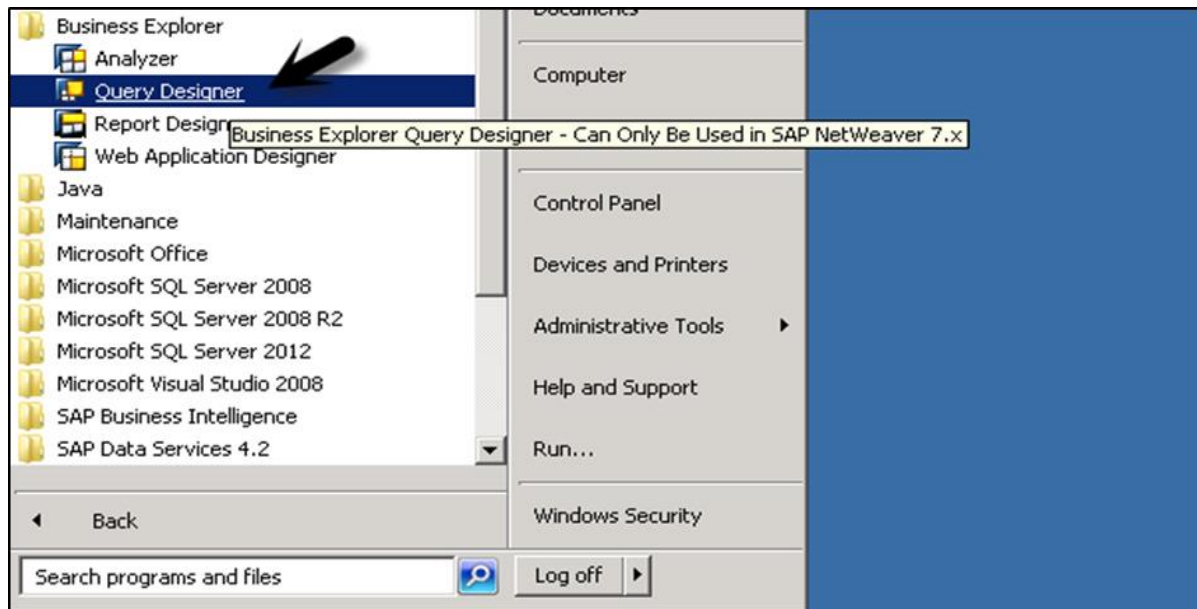
In this chapter, we will discuss what a Query Designer is and understand its functions. We will also learn how to create new queries.

Business Explorer – BEx Query Designer Overview

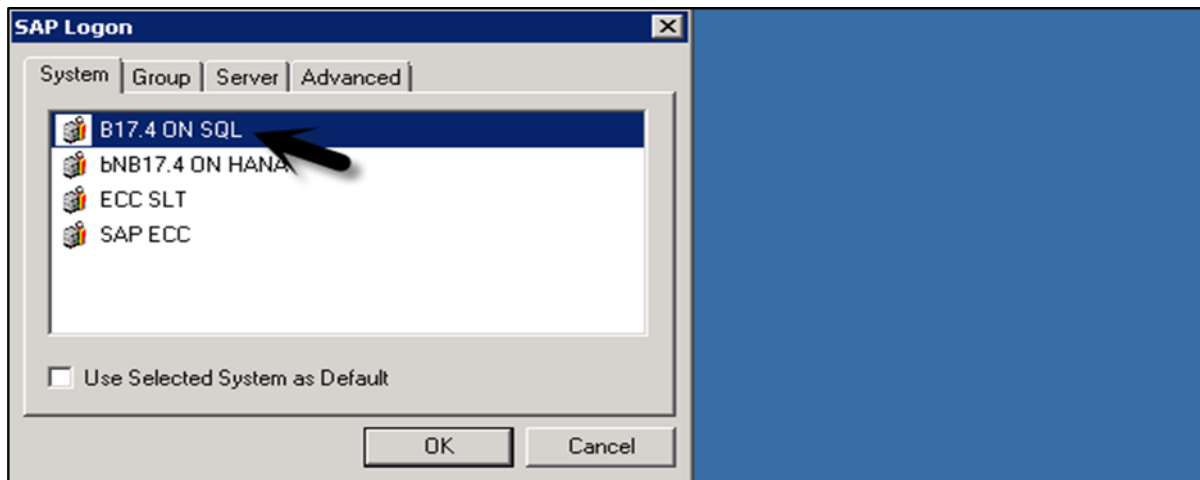
With the BEx Query Designer you can analyze the BI Content by combining characteristics and key figures along with other query elements. You can pass different parameters-hierarchies, variables, text and formulas in the query.

Filters can be applied in the query to restrict the data returned for the query. You can also insert query in workbook and that has been shown in the BEx Analyzer.

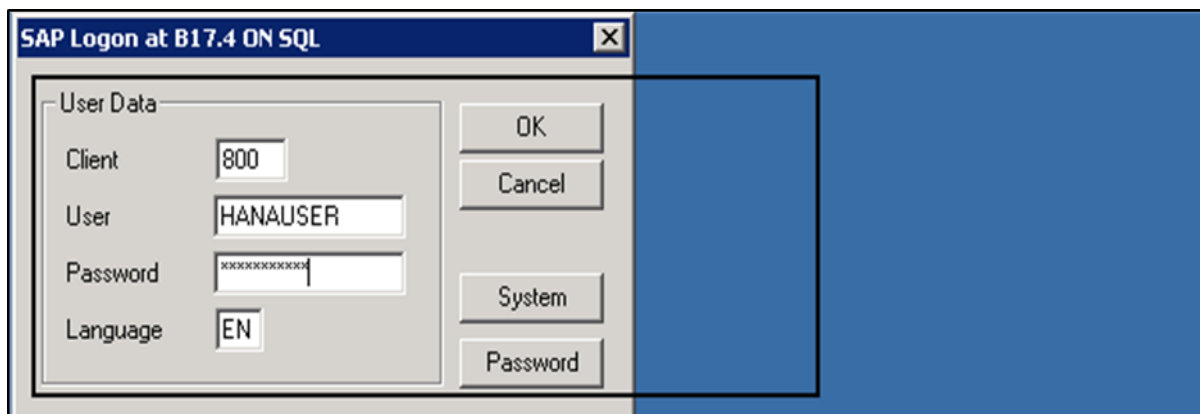
To open the BEx Query Designer, navigate to the Business Explorer → Query Designer → Run.



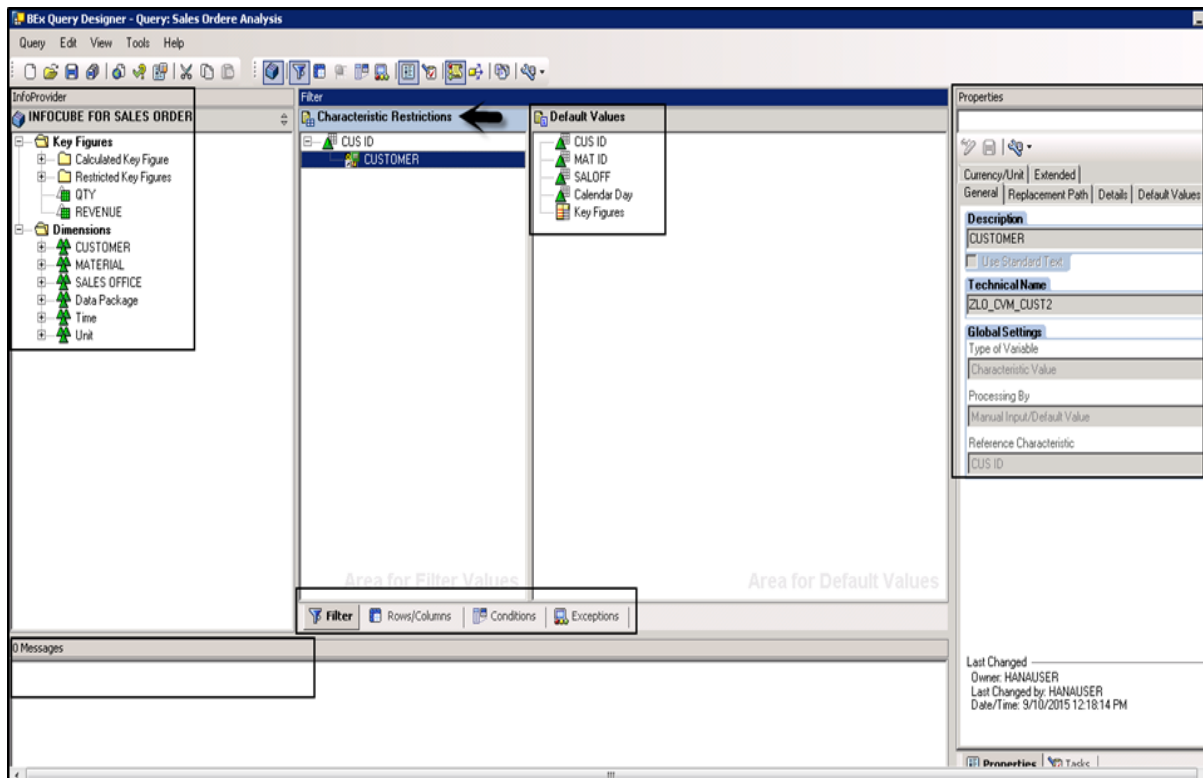
Select SAP logon screen, BW system as per your SAP GUI system.



In the next window, you need to enter your Login Credentials. Enter the Client, User, Password and the Language.



This will open the SAP Business Explorer NetWeaver Query Designer. You will not be able to see the home screen for the SAP BEx Query Designer.



Business Explorer – Functions in a Query Designer

On the left side of the home screen of the Query Designer, you have the InfoProvider pane – it has the name of the Infocube and the list of all the characteristics and key figures available under that Infocube. It also shows all the Calculated Key figures and Restricted Key figures in the Infocube.

In the middle pane, you have the **Characteristics Restrictions** – it shows all the filters that have been used in the query. You have 4 tabs under the characteristics restriction, which are –

- Filter
- Rows/Columns
- Conditions
- Exceptions

Let us now discuss each one of these in detail.

Filter: Here you can see the list of dimensions in the query on which the filter has been applied to restrict the values in the query.

Rows/Columns: In this tab, you can see the list of dimensions and key figures under rows and columns section. You can also see the free characteristics and preview under this tab.

The screenshot shows the 'Rows/Columns' configuration window in SAP Business Explorer. It is divided into several sections:

- Free Characteristics:** Contains 'SALOFF' and 'Calendar Day'. An arrow points to this section.
- Columns:** Contains 'Key Figures' with sub-items 'QTY' and 'REVENUE'. An arrow points to this section.
- Rows:** Contains 'CUS ID' and 'MAT ID'. An arrow points to this section.
- Preview:** A small table showing the data structure. It has columns 'QTY' and 'REVENUE' and rows for 'a-CUS ID' and 'b-CUS ID' with 'a-MAT ID' and 'b-MAT ID'.
- Area for Dimensions:** Labels are present in the background of the main configuration area.
- Toolbar:** Located at the bottom, it includes 'Filter', 'Rows/Columns', 'Conditions', and 'Exceptions'.

End of ebook preview

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