

Step by Step Guide to Deploy Crystal Reports on Top of SAP BW InfoCubes



Applies to:

SAP Netweaver 7.x, BOBJ crystal reports 2008. For more information, visit the [Business Objects homepage](#).

Summary

This white paper is meant for SAP BW/BusinessObjects developers who are working on Crystal Reports using SAP InfoCubes and BEx. This will help the readers to understand the implementation of Crystal Reports using SAP InfoCubes. Also, this white paper will cover the pros and cons of using SAP InfoCubes in Crystal Reports.

Author: Sumit Dubey and Sohil Shah

Company: Deloitte Consulting India Pvt. Ltd.

Created on: 30 March 2011

Author Bio



Sumit Dubey works as a Business Technology Analyst in Deloitte Consulting India Pvt. Ltd. He has over three years of experience in BusinessObjects.



Sohil Shah works as an SAP NetWeaver BW consultant at Deloitte Consulting India Pvt. Ltd. He has over six years of experience in the field of SAP. He is the technical reviewer of an SAP Press book "A Practical Guide to SAP NetWeaver Business Warehouse 7.0"

Table of Contents

Introduction	3
System Requirements	3
Step-by-Step Process to Create a Crystal Report using SAP InfoCubes	3
Step 1:	3
Step 2:	4
Step 3:	4
Step 4:	4
Step 5:	5
Step 6:	7
Step 7:	7
Adding Formula to the Report.....	8
Adding Prompts to the Report	9
Prompt Properties	10
Advantages of InfoCubes over BEX Queries	11
Limitations of InfoCubes over BEX Queries	11
Related Content.....	12
Disclaimer and Liability Notice.....	13

Introduction

This white paper is meant for SAP BW Business Objects developers who are working on Crystal Reports using SAP InfoCubes and BEx. This article will help the readers understand the implementation of Crystal Reports using SAP InfoCubes. Also, this white paper will cover the pros and cons of using SAP InfoCubes in Crystal Reports.

System Requirements

- Windows XP, Vista, 7
- Minimum 2 GB RAM
- SAP GUI
- Business Objects Enterprise XI 3.1 Client Tools for Windows
- Business Objects Crystal Reports 2008
- Business Objects Enterprise XI 3.1 Integration Kit Windows

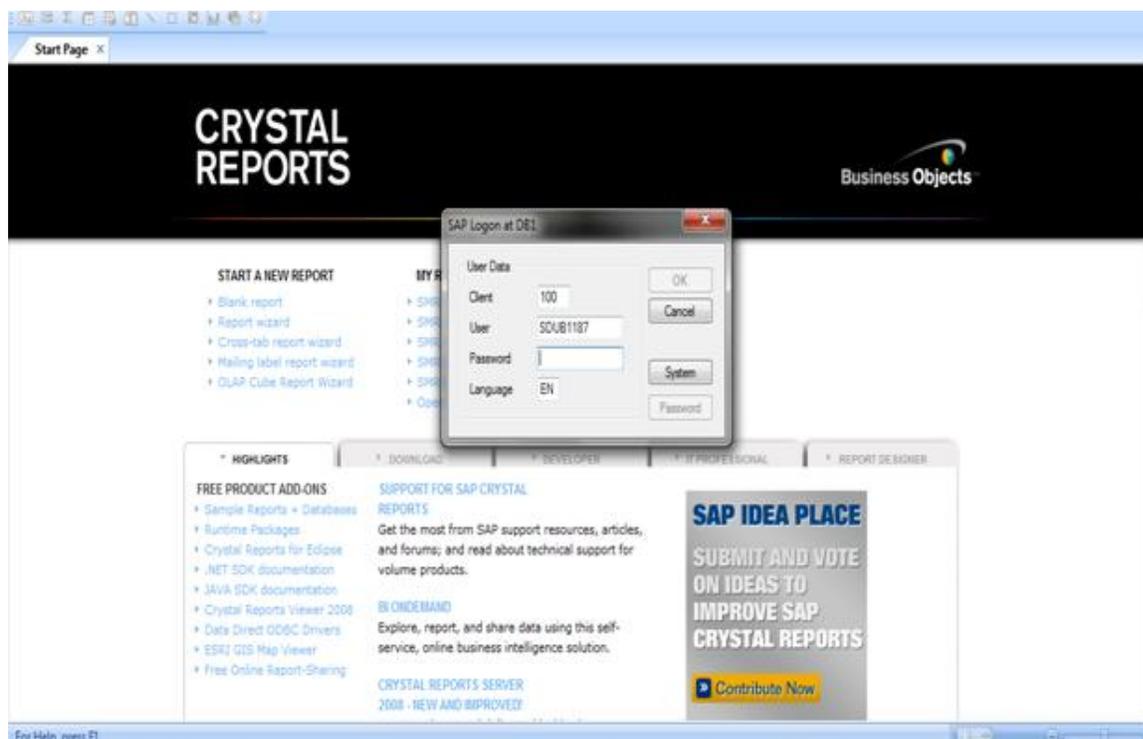
Step-by-Step Process to Create a Crystal Report using SAP InfoCubes

Here are the steps:

Step 1:

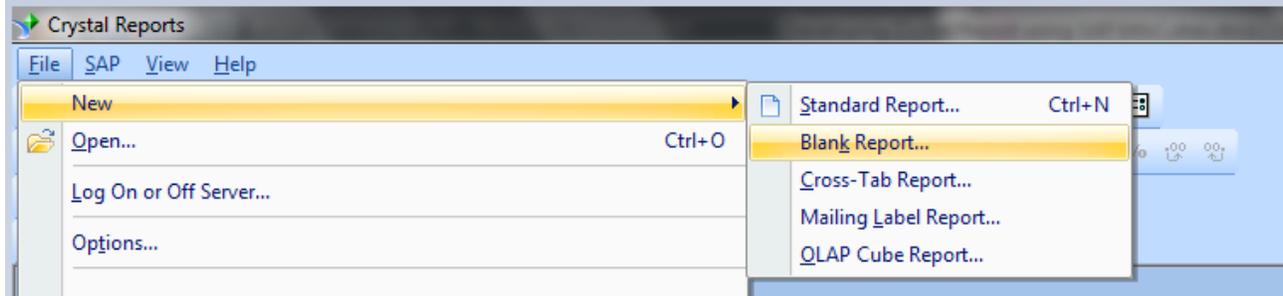
Open Crystal Reports.

To connect the crystal reports to the SAP BW, click the tab **Open Report from BW**. Log in using SAP logon credentials.



Step 2:

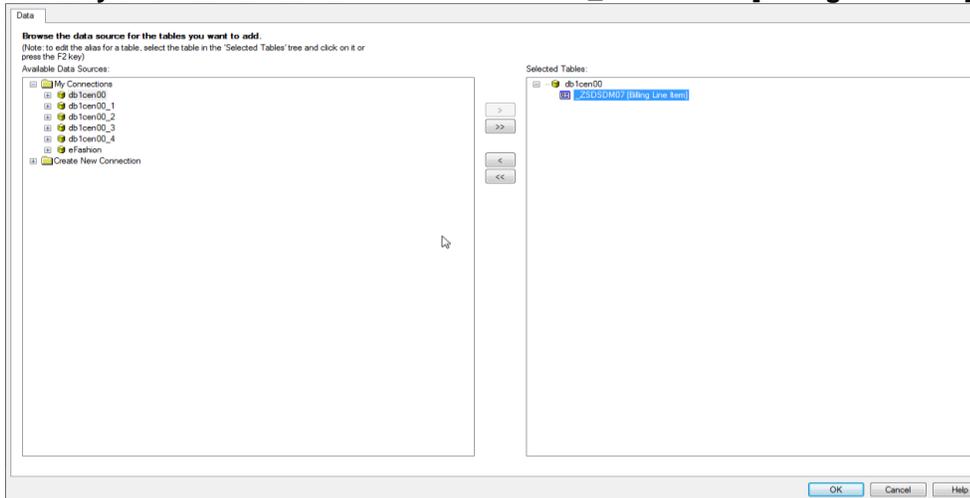
Click **File > New > Blank Report**.

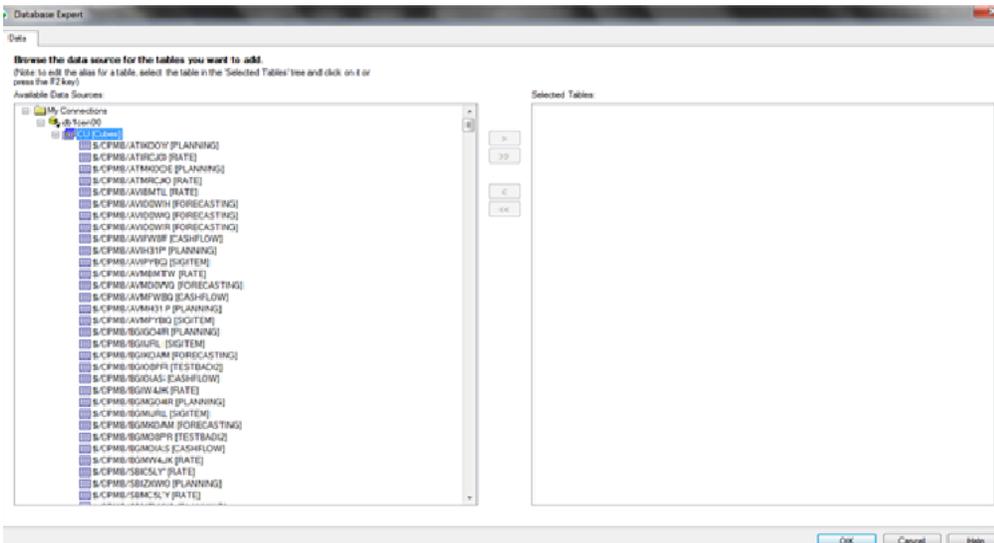
**Step 3:**

Expand **My Connections**.

**Step 4:**

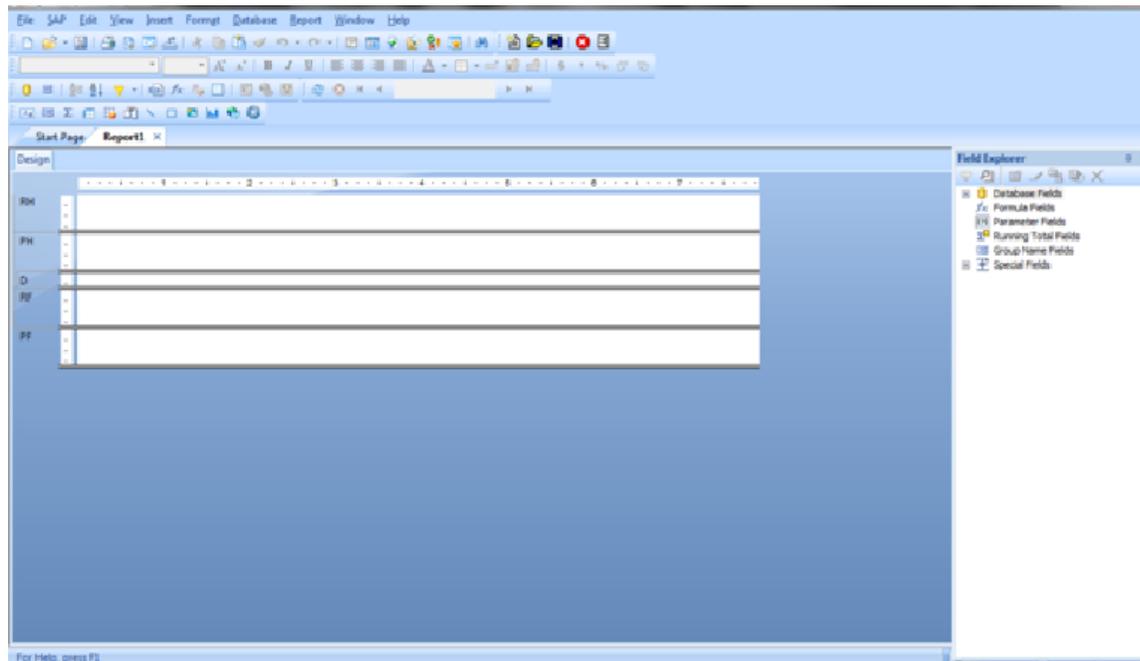
Go to **My Connections > db 1cen00 > Cubes > _ZSDSDM07 [Billing Line Item]**.





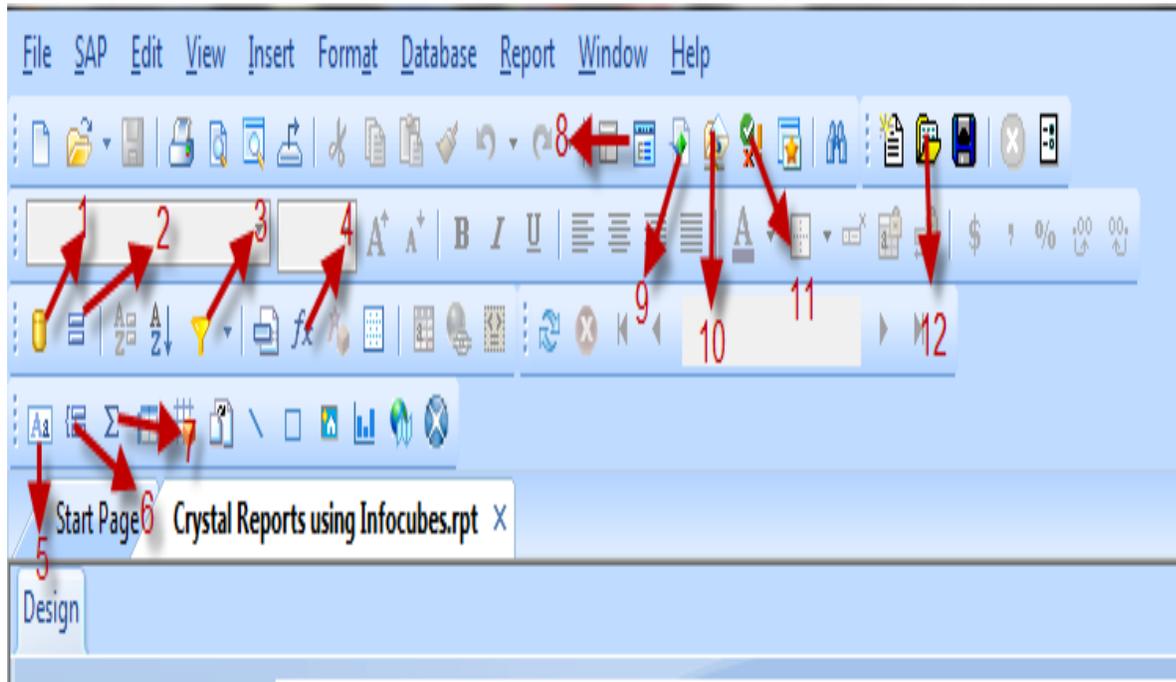
Step 5:

Click **OK**.



This is the basic layout of the blank report using InfoCube. Add fields in the given layout to create a simple report.

Before starting the development activity, it's good to have some familiarity with the some functional tabs that may be used in the report development. Please check the numbers assigned to each tab and refer to the functionality stated in **Crystal Report tabs and their functionalities**.



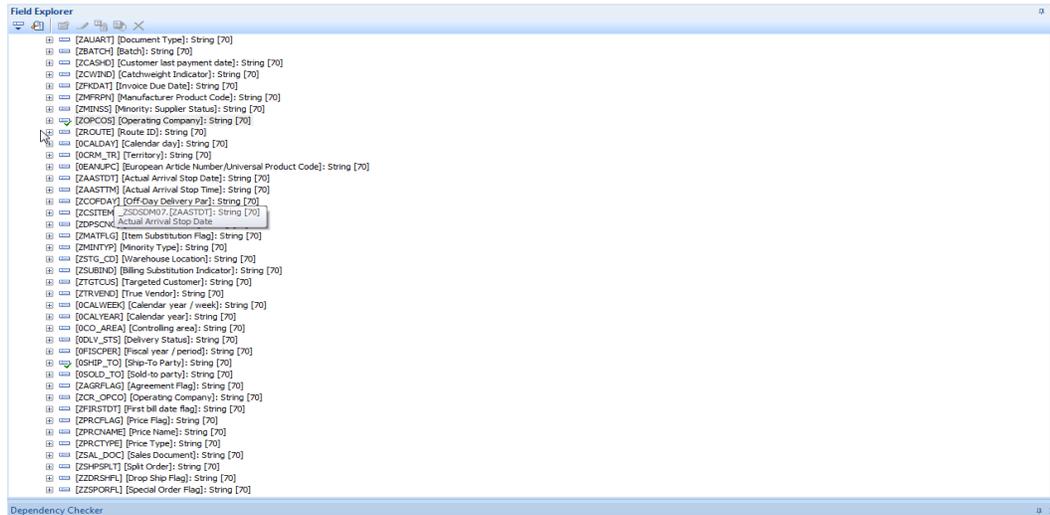
Crystal Report tabs and their functionalities

Tab No.	Name of the tab	Functionality
1	Database Expert	The Database Expert provides an integrated tree view of all data sources you can use with Crystal Reports.
2	Group Expert	Use the Group Expert to specify how fields will be grouped on your report.
3	Select Expert	This option is used to apply a where clause in the report.
4	Formula Workshop	This option is used to create formulae at the report level. All the operators and functions are available within this tab.
5	Insert Text Object	This is used to insert text in the report.
6	Insert Group	This is used to insert a Group By clause in the report. All the fields are available in this tab on which Group by can be implemented.
7	Insert Summary	This option is used to summarize the data in a field in the report.
8	Field Explorer	The Field Explorer is used to insert, modify or delete fields on the Design and Preview tabs of Crystal Reports
9	Report Explorer	The content of the Report Explorer represents the content of the report in a tree view. We can modify report fields and objects by selecting them in the Report Explorer.

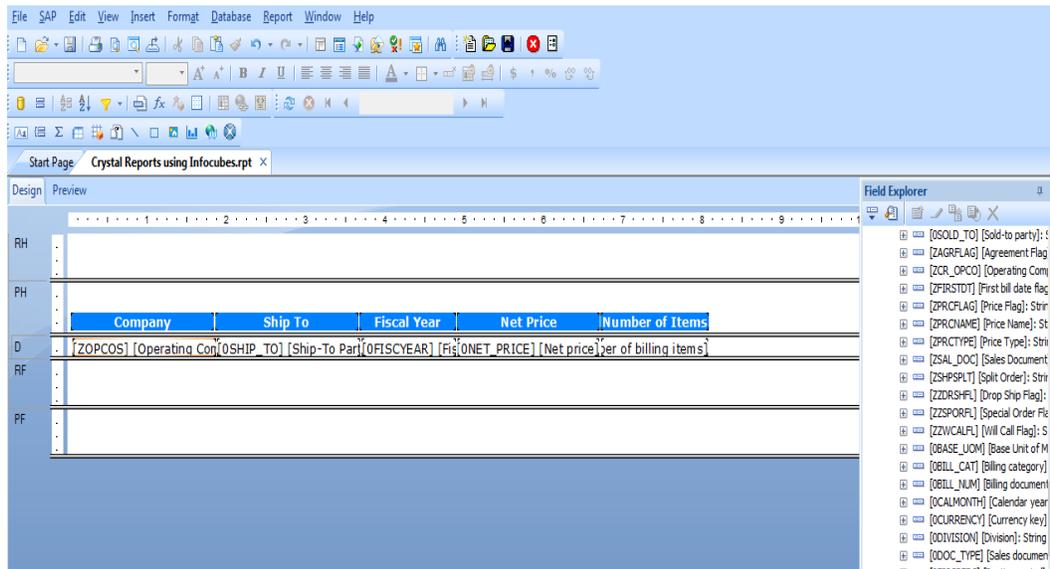
10	Repository Explorer	This tab is used to view many types of objects commonly used in Crystal Reports like Text Objects, Bitmaps, SQL Commands, etc.
11	Dependency Checker	This option is used to set conditions you want to verify when you check for errors in the Workbench.
12	Open Report from BW	This tab is used to open reports lying in the BW Folder.

Step 6:

Drag all the required fields from Field Explorer.



After dragging the required objects in the detail section of the report, the report will look as follows.



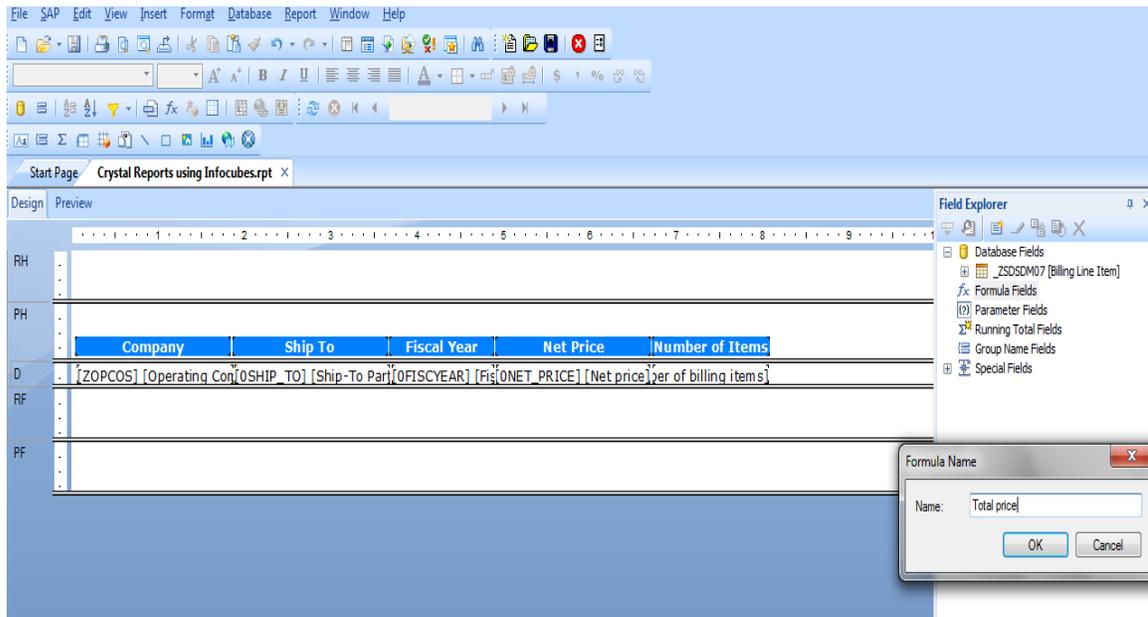
Step 7:

Save the Report with the name “Crystal Report using InfoCubes”.

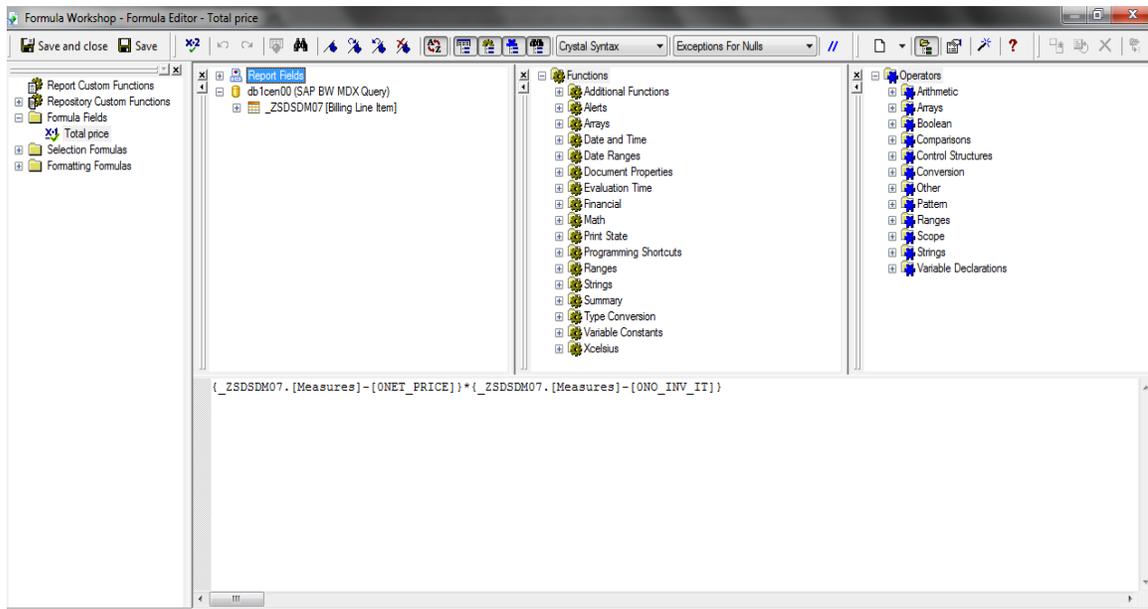
Adding Formula to the Report

To calculate the Total price of items, create a formula which will be calculated as Net price*Number of items.

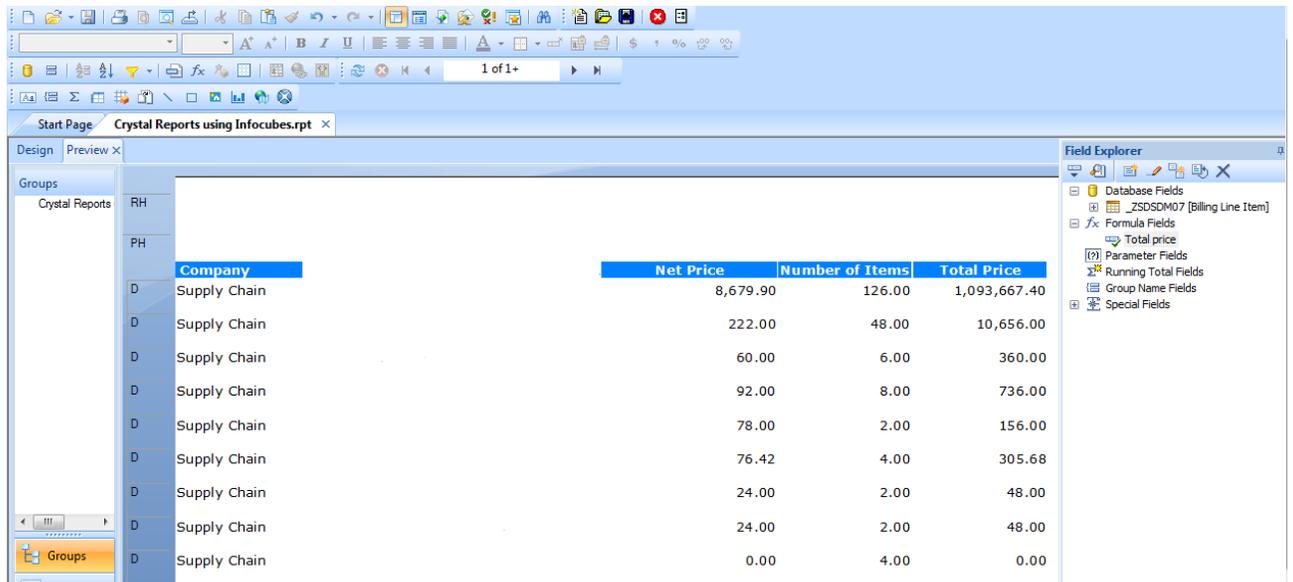
1. Right-click **Formula Fields > New**. Give the name of the formula field as **Total Price**. Click **OK**.



2. Select the fields from the **db1cen00** on which to make the calculations (for example, Net Price *Number of Items). Validate the formula using **Alt+C**. Save and close.



- Drag the formula Total price in the Details Section. Give an appropriate header (e.g. **Total Price**) to it. Then Preview it.

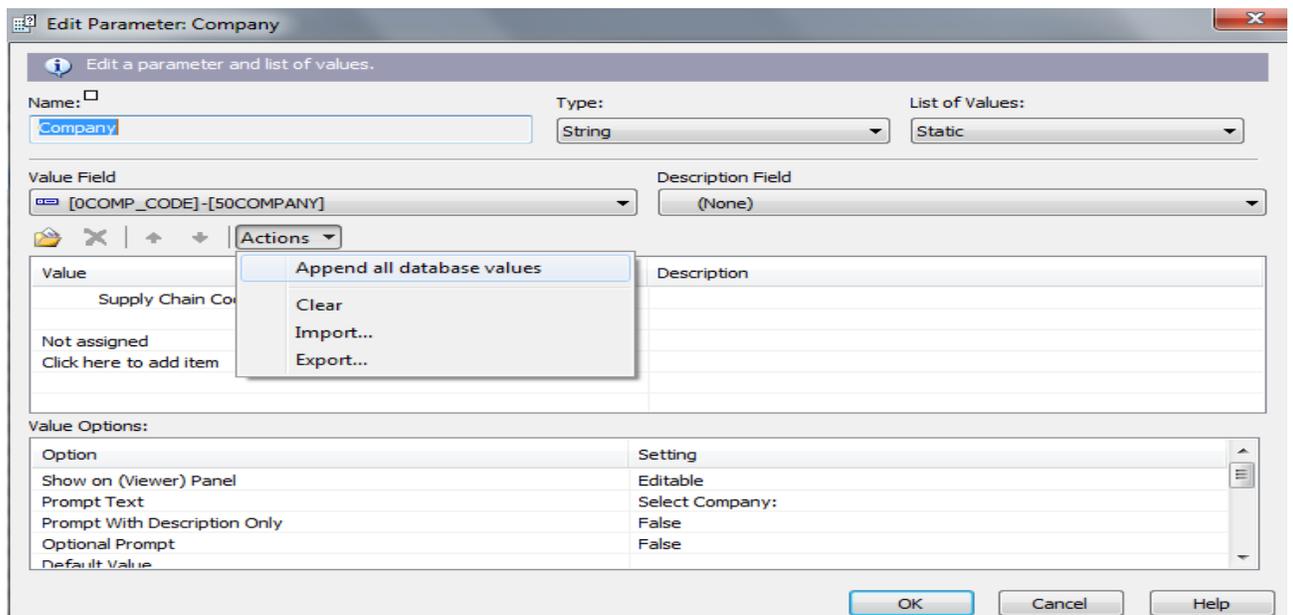


Company	Net Price	Number of Items	Total Price
Supply Chain	8,679.90	126.00	1,093,667.40
Supply Chain	222.00	48.00	10,656.00
Supply Chain	60.00	6.00	360.00
Supply Chain	92.00	8.00	736.00
Supply Chain	78.00	2.00	156.00
Supply Chain	76.42	4.00	305.68
Supply Chain	24.00	2.00	48.00
Supply Chain	24.00	2.00	48.00
Supply Chain	0.00	4.00	0.00

Adding Prompts to the Report

Note: Like BEx queries, prompts cannot be defined at the InfoCubes level. These can only be created at the Report level.

- Right-click **Parameter Fields** > click **New**. In this, give the name of the prompt, select the type of prompt (for example, static or dynamic).
- Choose the Value field from the drop down. Click **Options**.
- To append all the values for this field in the list of Values, click **Append all database values**. Click **OK**.



Edit Parameter: Company

Edit a parameter and list of values.

Name: Type: List of Values:

Value Field: Description Field:

Actions:

- Append all database values
- Clear
- Import...
- Export...

Value Options:

Option	Setting
Show on (Viewer) Panel	Editable
Prompt Text	Select Company:
Prompt With Description Only	False
Optional Prompt	False
Default Value	

OK Cancel Help

In the value option as shown above, configure the settings of the prompt based on the requirement.

Prompt Properties

- **Show on (Viewer) Panel:** Choose whether the parameter will display on the parameter panel and whether it will be editable or read-only.
- **Prompt Text:** This will allow writing the text to display while running the prompt.
- **Prompt With Description Only:** On selecting the value as 'True', this will allow to add the description of the fields concatenated with the Value in the List of Values. For this, we append the database values in the Description field also (if available).
- **Optional Prompt:** By default, the value of this is 'False'. It means, the prompt has been configured as mandatory and it is necessary to give values to the corresponding prompt in order to run the report. But on making it as 'True', the report can be run without choosing the value for this prompt. In that case, values will be returned in the report for this field which exists in the database.

Option	Setting
Show on (Viewer) Panel	Editable
Prompt Text	Select Company:
Prompt With Description Only	False
Optional Prompt	False
Default Value	True
Allow custom values	False
Allow multiple values	False
Allow discrete values	True
Allow range values	False
Min length	
Max length	
Edit mask	

- **Default Value:** This option is used to fix the prompt value to 'Default'. Like in the snapshot given below, select any default values for the field Country as given in the dropdown. On running the prompt, the default value will appear as the one selected below. Now, it will be the user choice whether it should be changed during the execution of the report prompt. Please check snapshot below.

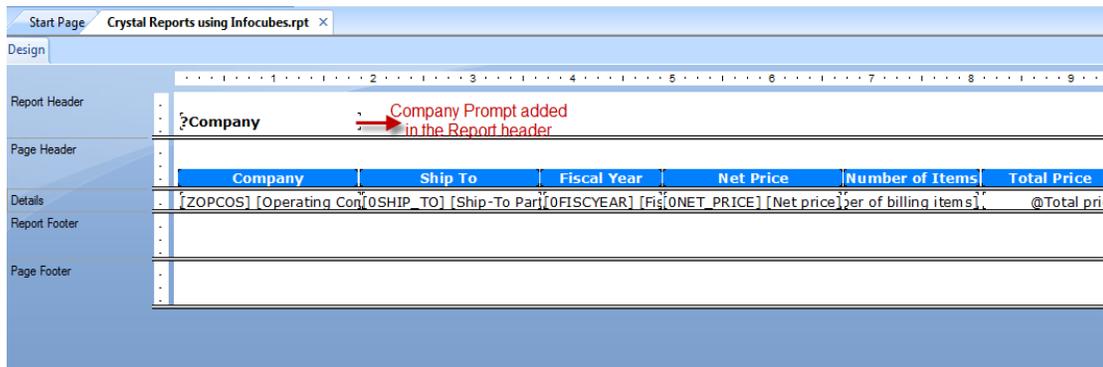
Option	Setting
Show on (Viewer) Panel	Editable
Prompt Text	Select Company:
Prompt With Description Only	False
Optional Prompt	False
Default Value	Supply Chain Cooperative
Allow custom values	Not assigned
Allow multiple values	True
Allow discrete values	False
Allow range values	False
Min length	
Max length	
Edit mask	

- **Allow custom values:** On setting this option to 'True', users can choose values that have been entered or values of their own choice. Otherwise, users can choose only values that are entered in the List of Values area
- **Allow multiple values:** On making this field to 'True', multiple values can be selected from the List of Values area while running the prompt. By default, the value is set as False.

- **Allow discrete values:** This field allows selecting only discrete, or singular, values for the parameter field. If "Allow multiple values" are selected, we can select more than one discrete value for the parameter field.
- **Allow range values:** This will allow selecting a range of values for the parameter field. While executing the report, it will ask you for the Start Range and End Range of the parameter field.

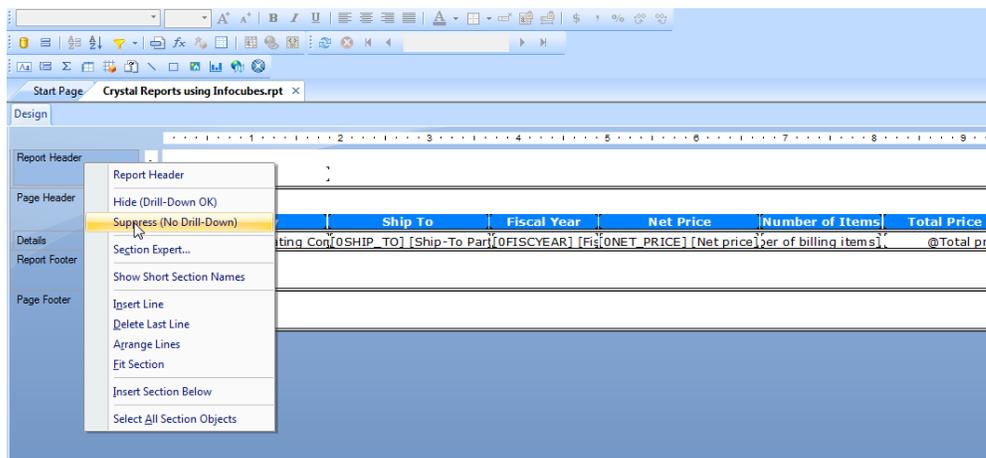
For example, choose a date range from 1-June-2010 to 30-August-2010 for the date parameter.

4. Drag the parameter field Company to the Row Header RH. For example, in the snapshot given below, the Company prompt has been added in the Report header RH.



Also, if required, this prompt value can be hidden by using Suppress (No Drill-Down).

5. Right-click **Report Header**. Click **Suppress (No Drill-Down)**.



Advantages of InfoCubes over BEX Queries

- If the reports require less or no calculations, then accessing the InfoCube directly is a better option.
- This gives a complete visibility as the entire data set is available at the time of reporting.
- All the operations that can be performed at the reporting level using BEx or any other Data source can be implemented using SAP InfoCubes also.

Limitations of InfoCubes over BEX Queries

Performing aggregations at the report affects the performance as the entire data from the InfoCube is fetched to the report.

Related Content

[Forum Topics/Crystal Reports page](#)

[SAP Crystal Reports Development Support](#)

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

Disclaimer and Liability Notice

This document may discuss sample coding or other information that does not include SAP official interfaces and therefore is not supported by SAP. Changes made based on this information are not supported and can be overwritten during an upgrade.

SAP will not be held liable for any damages caused by using or misusing the information, code or methods suggested in this document, and anyone using these methods does so at his/her own risk.

SAP offers no guarantees and assumes no responsibility or liability of any type with respect to the content of this technical article or code sample, including any liability resulting from incompatibility between the content within this document and the materials and services offered by SAP. You agree that you will not hold, or seek to hold, SAP responsible or liable with respect to the content of this document.