+EX.NO : 4	CREATING A CUBE IN SQL SERVER 2012
DATE :	

AIM:

To create a OLAP cube with data warehouse fact tables and dimensions in SQL Server Management Studio.

PROCEDURE:

Creating Data Warehouse:

Let us execute our T-SQL Script to create data warehouse with fact tables, dimensions and populate them with appropriate test values.

Download T-SQL script attached with this article for creation of Sales Data Warehouse or download from this article "Create First Data Warehouse" and run it in your SQL Server.

Follow the given steps to run the query in SSMS (SQL Server Management Studio).

1. Open SQL Server Management Studio 2008
2. Connect Database Engine
3. Open New Query editor
4. Copy paste Scripts given below in various steps in new query editor window one by one
5. To run the given SQL Script, press F5
6. It will create and populate "Sales_DW" database on your SQL Server

Developing an OLAP Cube:

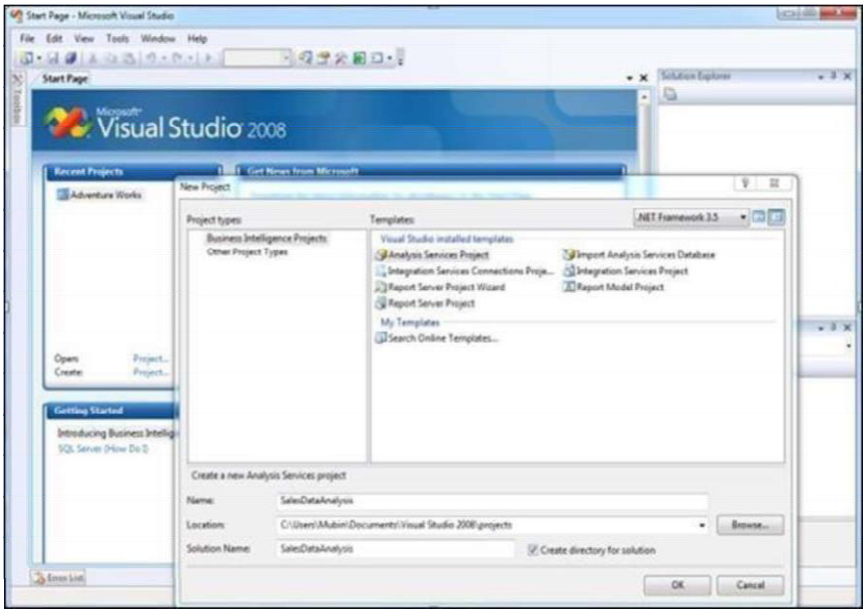
For creation of OLAP Cube in Microsoft BIDS Environment, follow the 10 easy steps given below.

Step 1: Start BIDS Environment

Click on Start Menu -> Microsoft SQL Server 2008 R2 -> Click SQL Server Business Intelligence Development Studio.

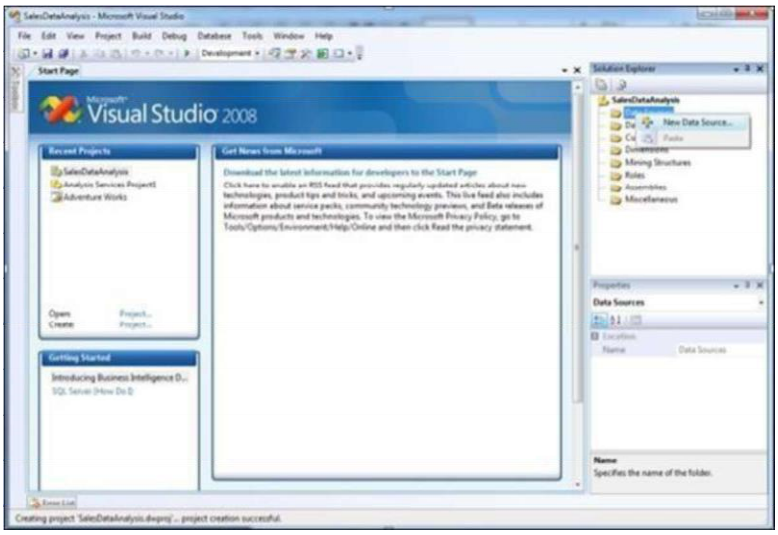
Step 2: Start Analysis Services Project

Click File -> New -> Project ->Business Intelligence Projects ->select Analysis Services Project-> Assign Project Name -> Click OK



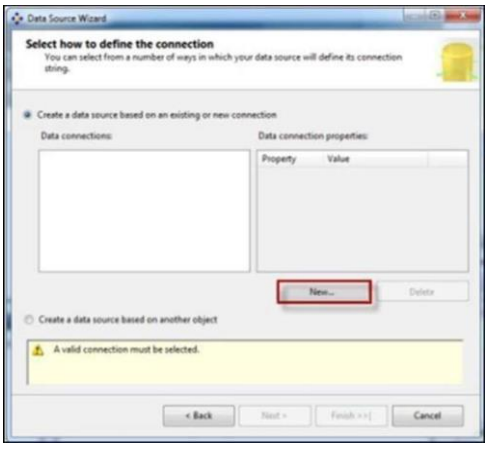
Step 3: Creating New Data Source

- In Solution Explorer, Right click on Data Source -> Click New Data Source



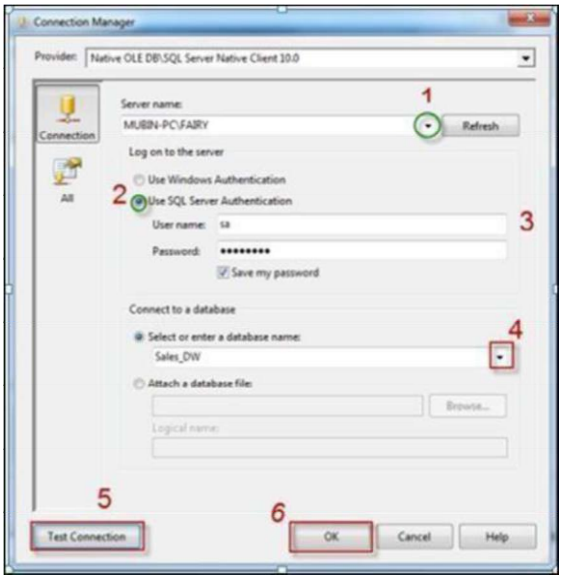
- Click on Next

- Click on New Button

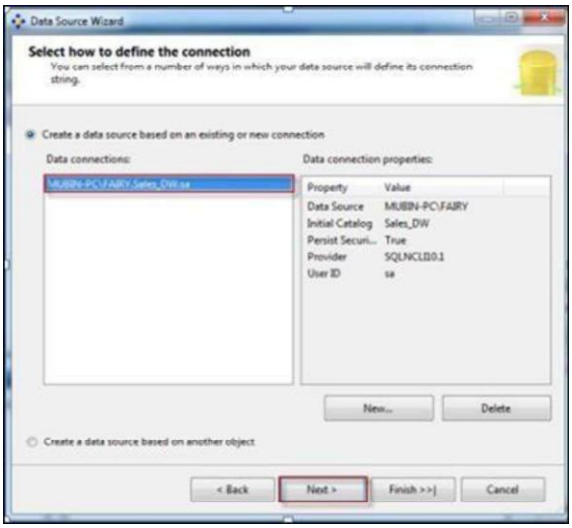


- Creating New connection

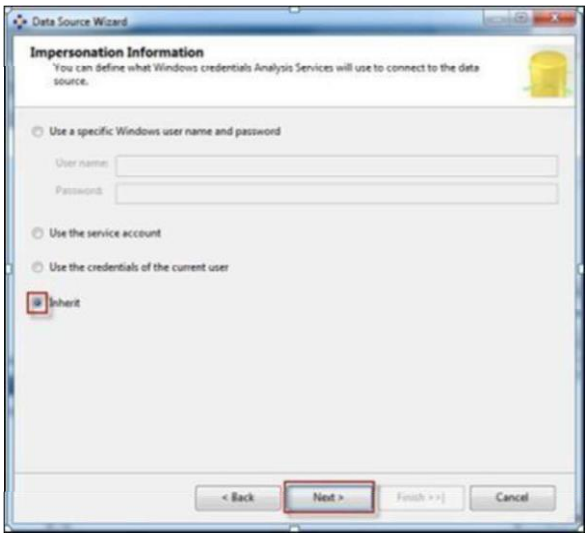
1. Specify Your SQL Server Name where your Data Warehouse was created
2. Select Radio Button according to your SQL Server Authentication mode
3. Specify your Credentials using which you can connect to your SQL Server
4. Select database Sales_DW.
5. Click on Test Connection and verify for its success click OK.



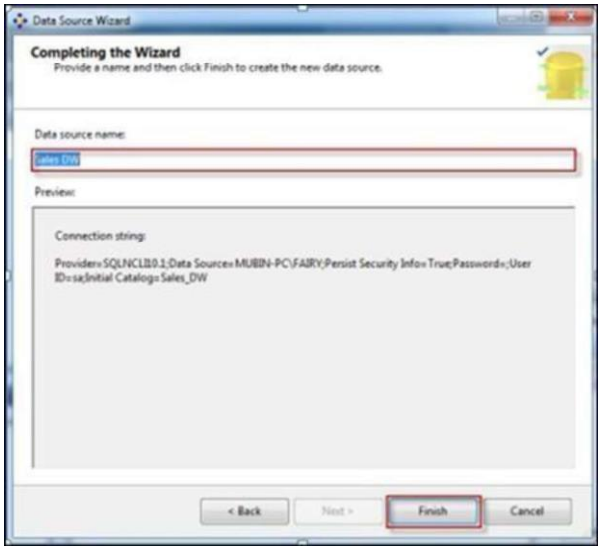
- Select Connection created in Data Connections-> Click Next

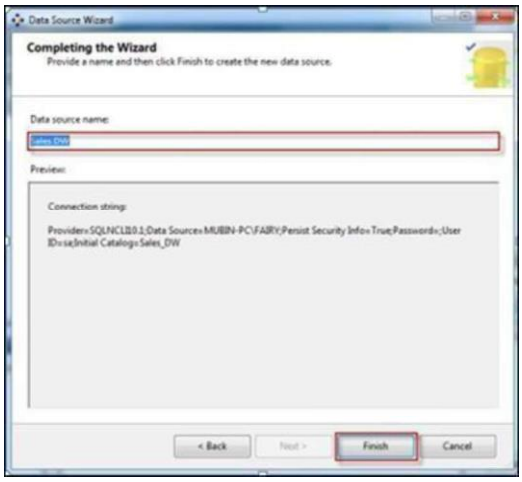


- Select Option Inherit



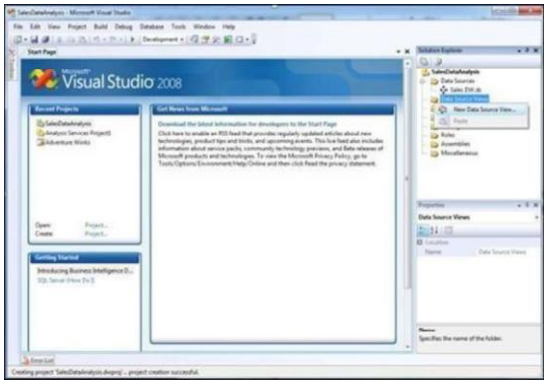
- Assign Data Source Name -> Click Finish





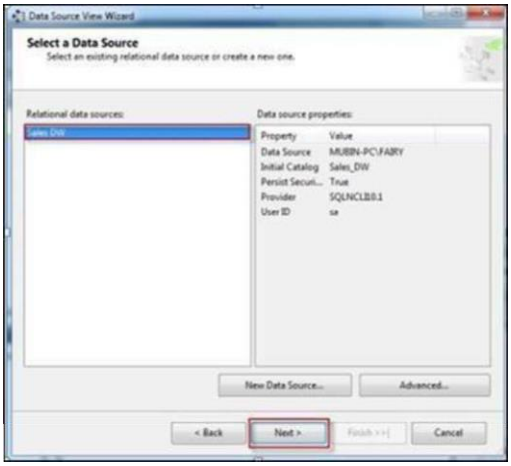
Step 4: Creating New Data Source View

- In the Solution Explorer, Right Click on Data Source View -> Click on New Data Source View

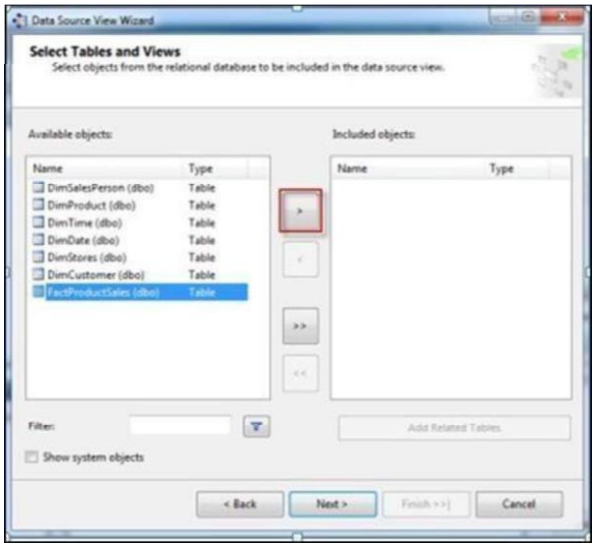


- Click Next

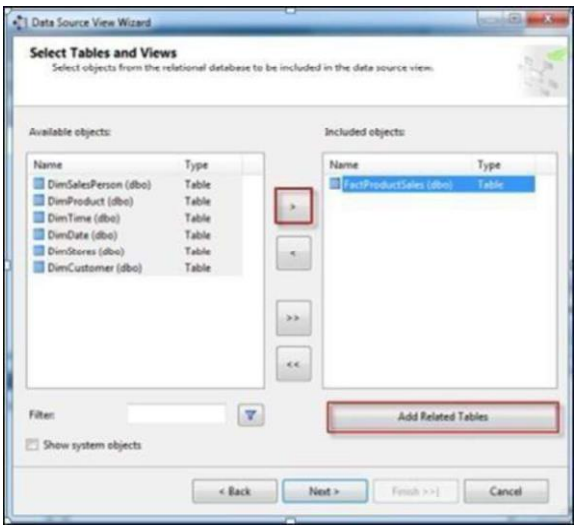
- Select Relational Data Source we have created previously (Sales_DW)-> Click Next



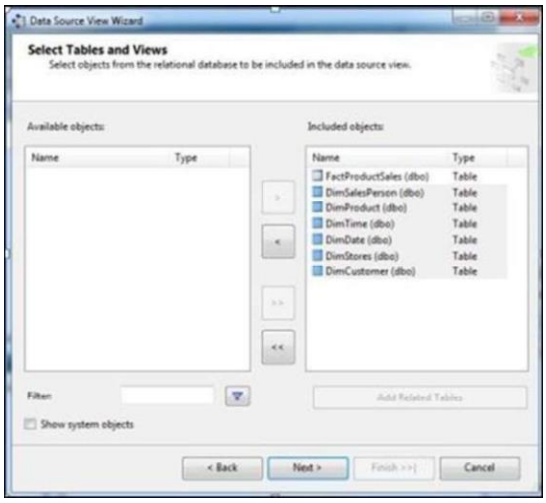
- First move your Fact Table to the right side to include in object list.



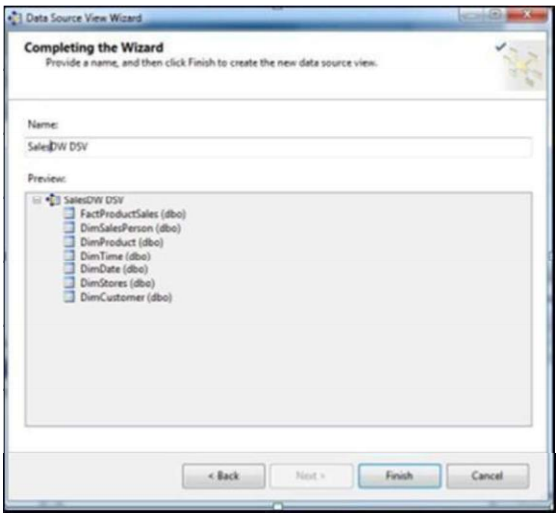
- Select FactProductSales Table -> Click on Arrow Button to move the selected object to Right Pane.
- Now to add dimensions which are related to your Fact Table, follow the given steps:
  Select Fact Table in Right Pane (Fact product Sales) -> Click On Add Related Tables



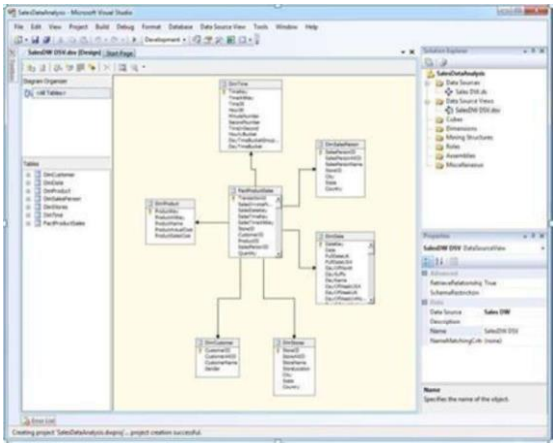
- It will add all associated dimensions to your Fact table as per relationship specified in your SQL DW (Sales_DW).
- Click Next.



- Assign Name (SalesDW DSV)-> Click Finish

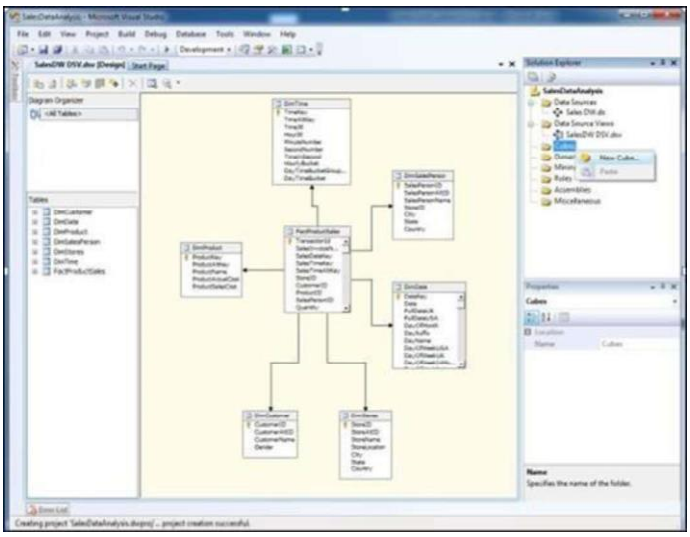


- Now Data Source View is ready to use.



Step 5: Creating New Cube

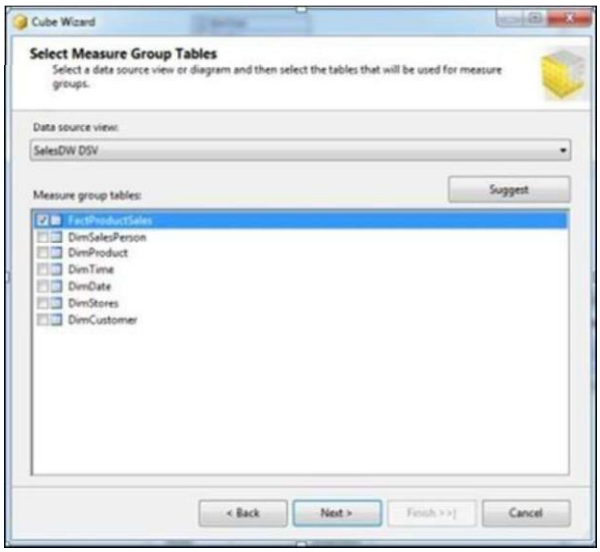
- In Solution Explorer -> Right Click on Cube-> Click New Cube



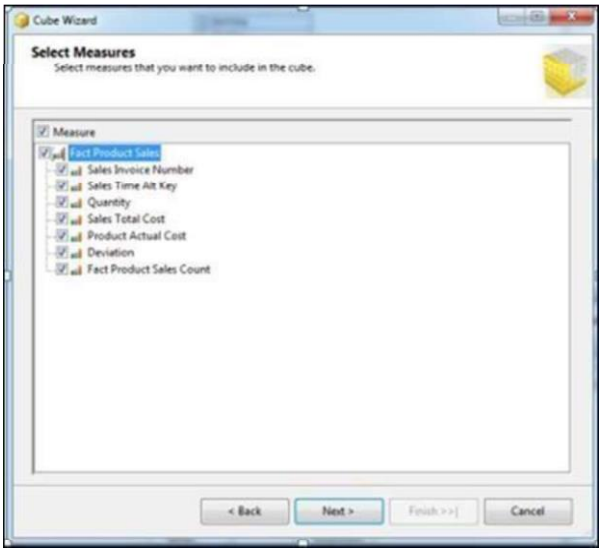
- Click Next

- Select Option Use existing Tables -> Click Next

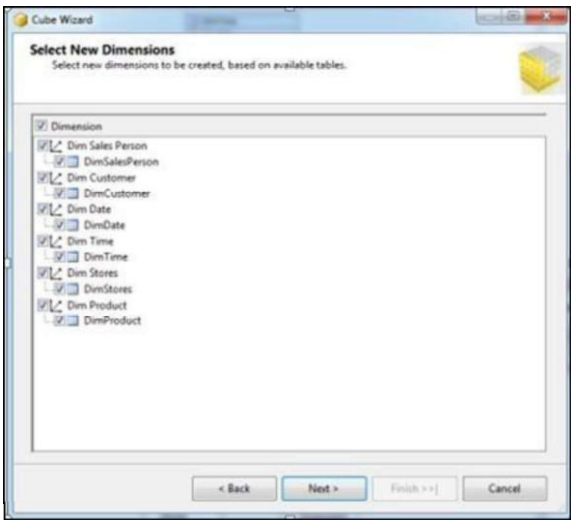
- Select Fact Table Name from Measure Group Tables (FactProductSales) -> Click Next



- Choose Measures from the List which you want to place in your Cube --> Click Next

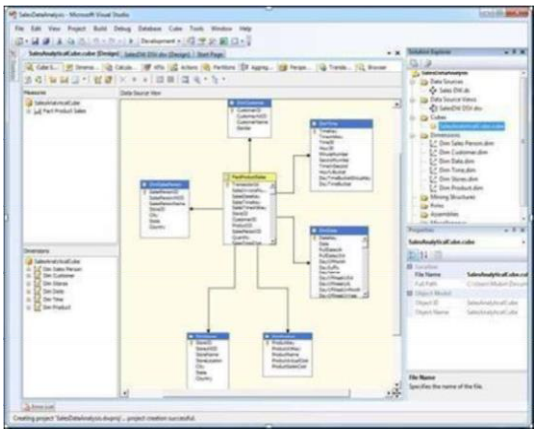


- Select All Dimensions here which are associated with your Fact Table-> Click Next



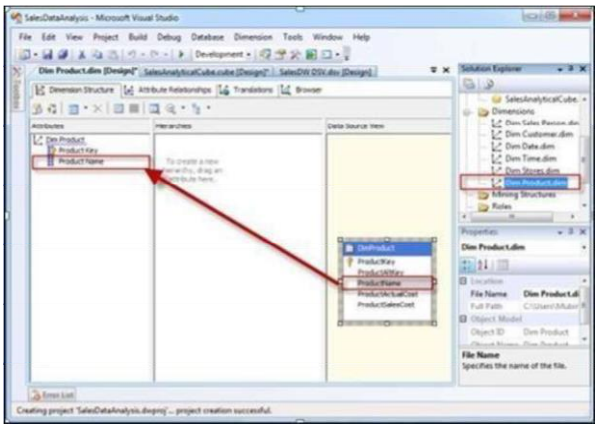
- Assign Cube Name (SalesAnalyticalCube) -> Click Finish

- Now your Cube is ready, you can see the newly created cube and dimensions added in your solution explorer.



Step 6: Dimension Modification

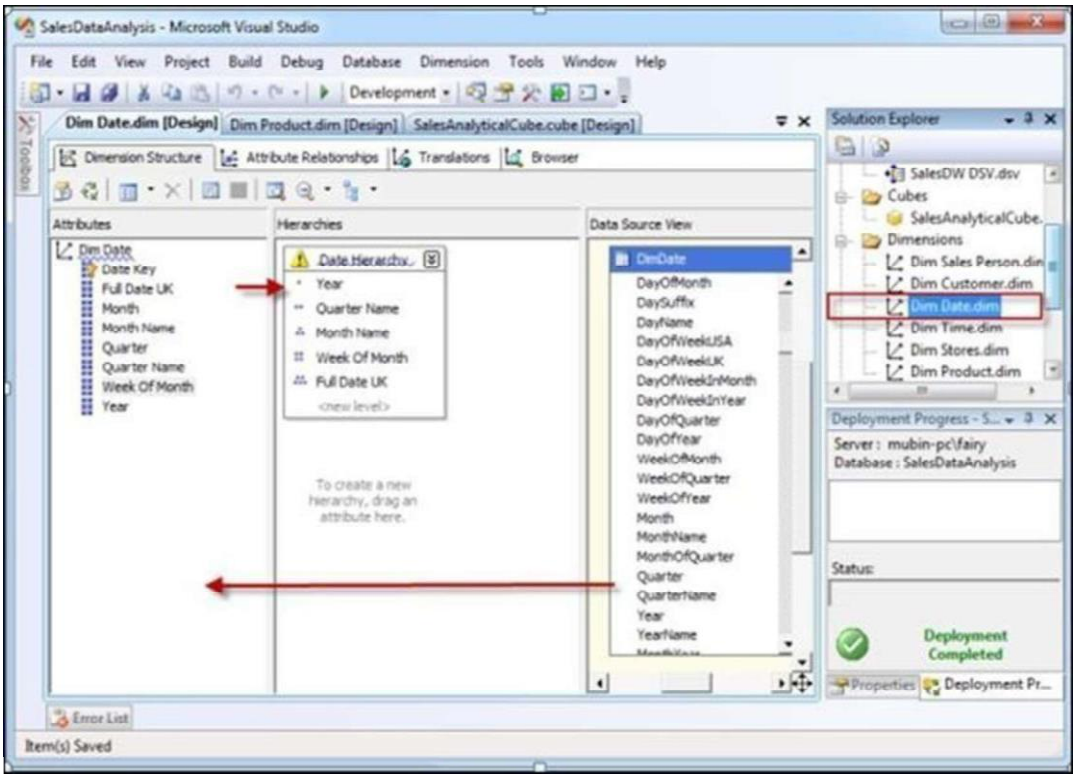
In Solution Explorer, double click on dimension Dim Product -> Drag and Drop Product Name from Table in Data Source View and Add in Attribute Pane at left side.



Step 7: Creating Attribute Hierarchy in Date Dimension

- Double click On Dim Date dimension -> Drag and Drop Fields from Table shown in Data Source View to Attributes-> Drag and Drop attributes from leftmost pane of attributes to middle pane of Hierarchy.

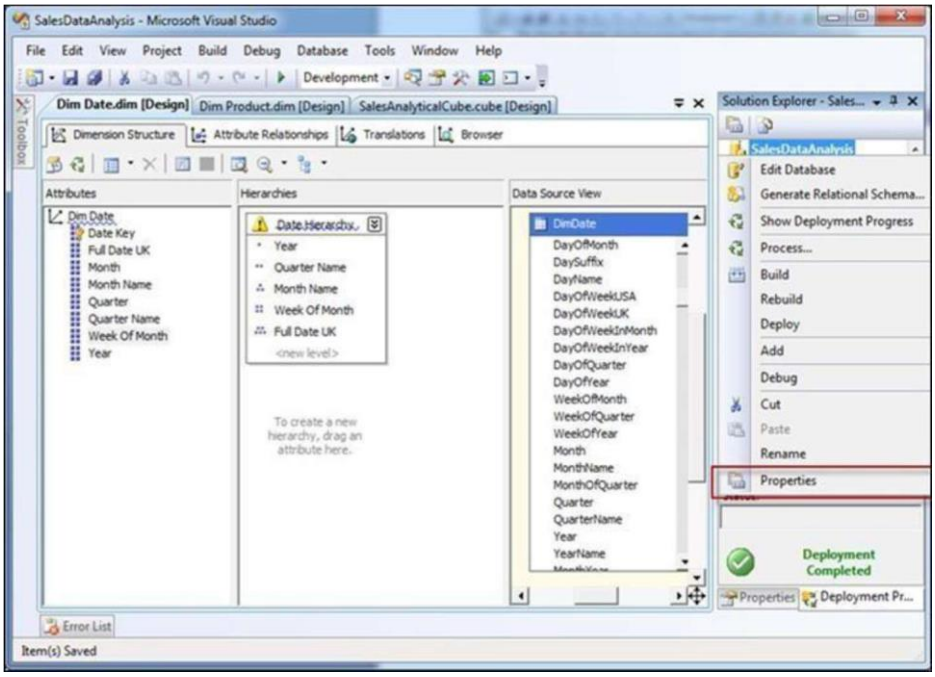
- Drag fields in sequence from Attributes to Hierarchy window (Year, Quarter Name, Month



Name, Week of the Month, Full Date UK)

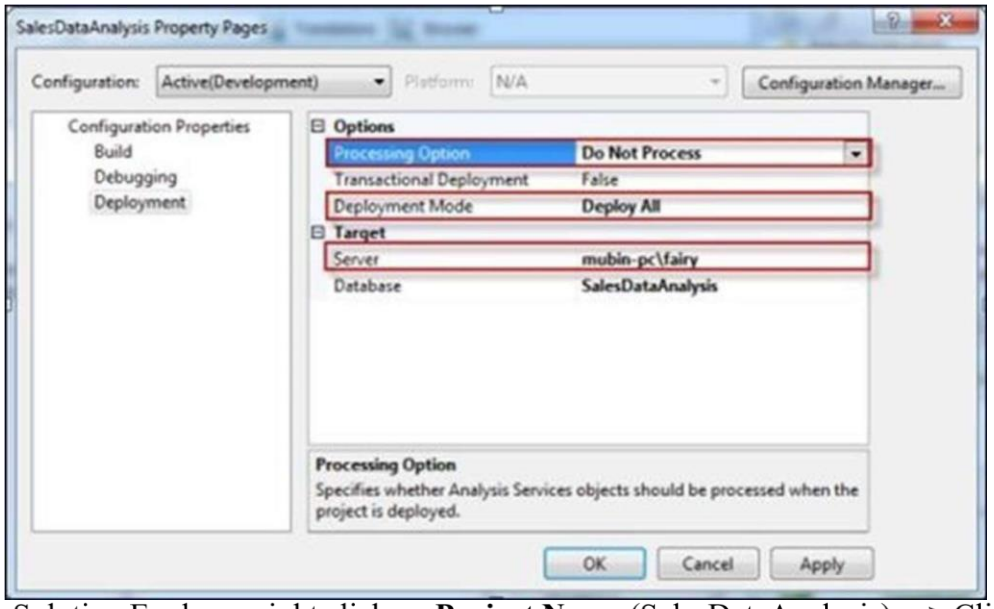
Step 8: Deploy the Cube

- In Solution Explorer, right click on Project Name (SalesDataAnalysis) -- > Click Properties

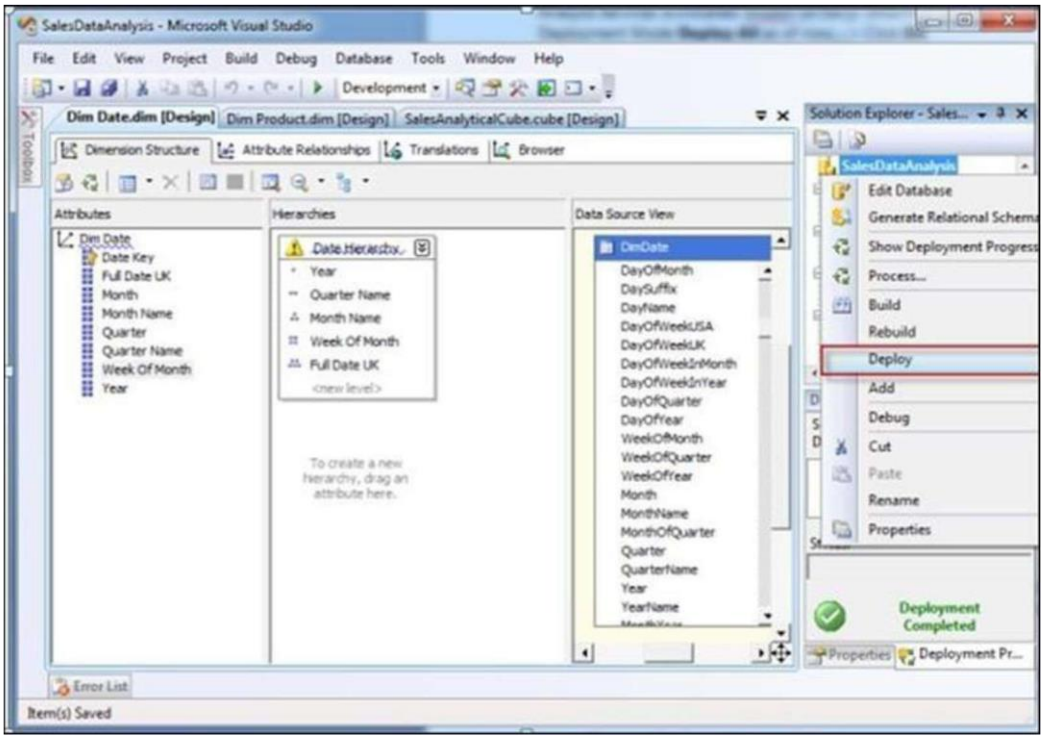


- Set Deployment Properties First
- In Configuration Properties, Select Deployment-> Assign Your SQL Server Instance Name

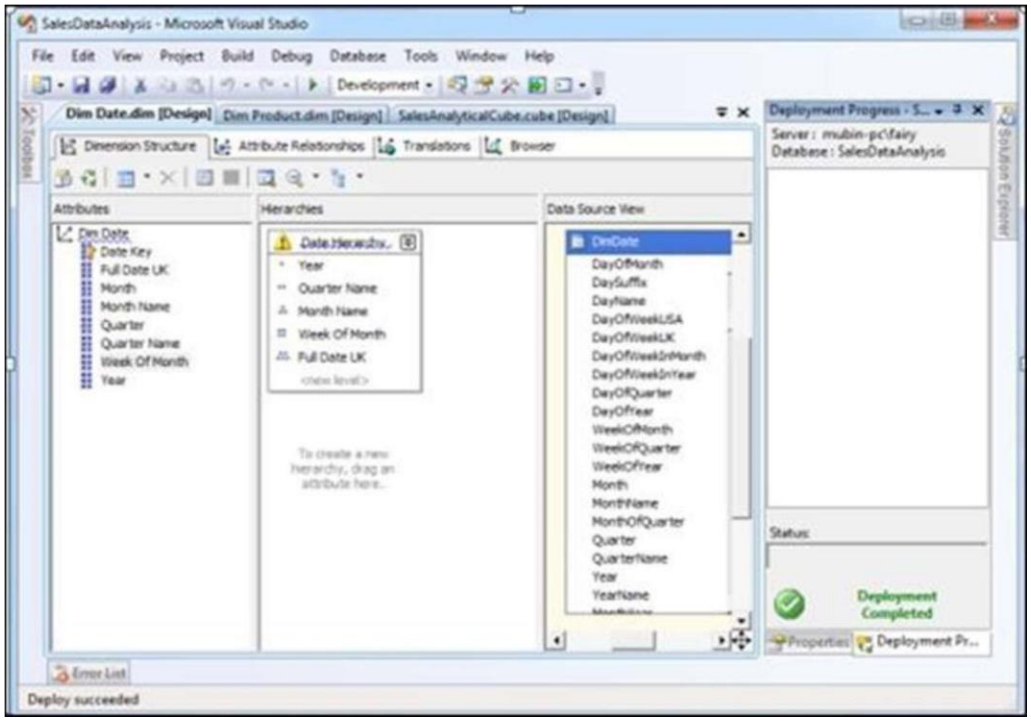
  Where Analysis Services Is Installed (mubin-pc\fairy) (Machine Name\Instance Name) -> Choose Deployment Mode Deploy All as of now ->Select Processing Option Do Not Process -> Click OK



- In Solution Explorer, right click on **Project Name** (SalesDataAnalysis) -- > Click **Deploy**

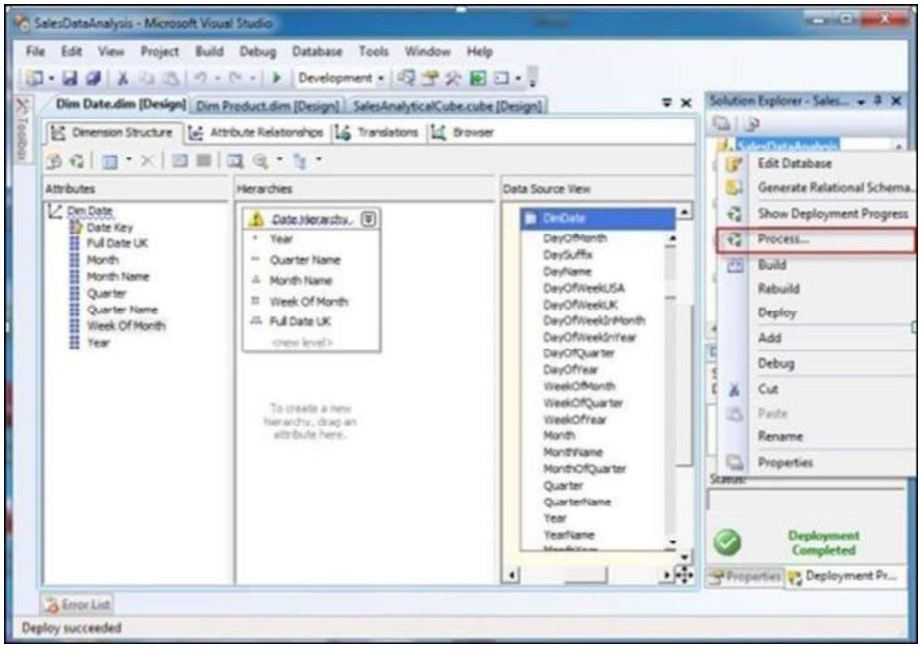


- Once Deployment will finish, you can see the message **Deployment Completed** in deployment Properties.

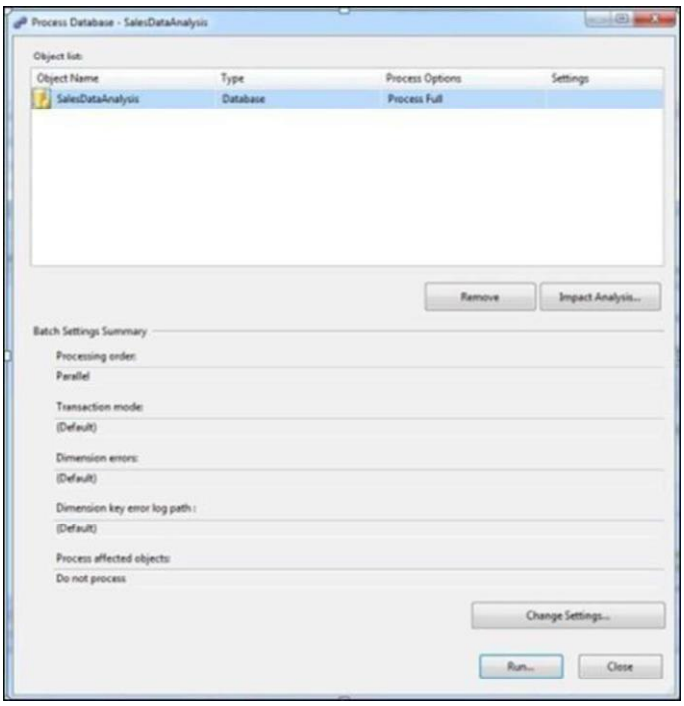


Step 9: Process the Cube

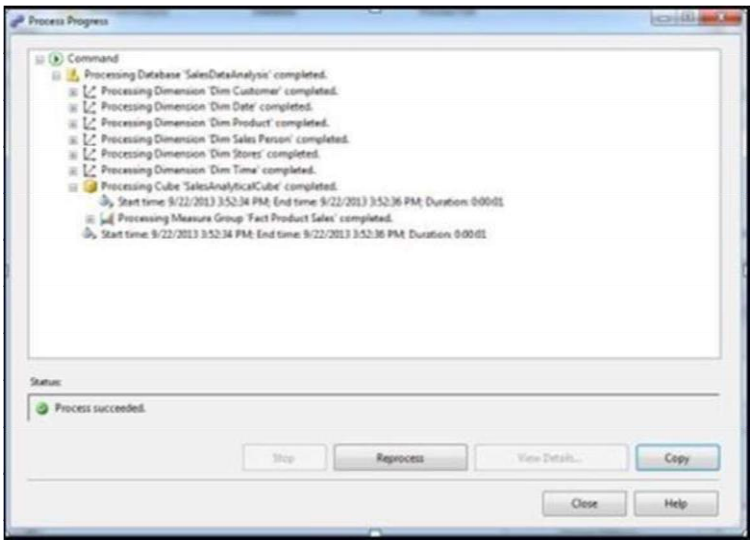
- In Solution Explorer, right click on Project Name (SalesDataAnalysis) -- > Click Process



- Click on Run button to process the Cube

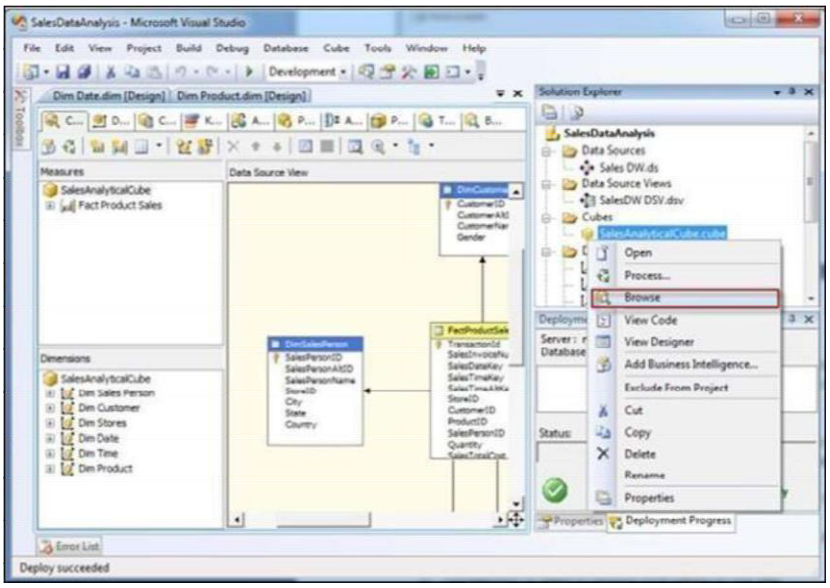


- Once processing is complete, you can see Status as Process Succeeded -->Click Close to close both the open windows for processing one after the other.



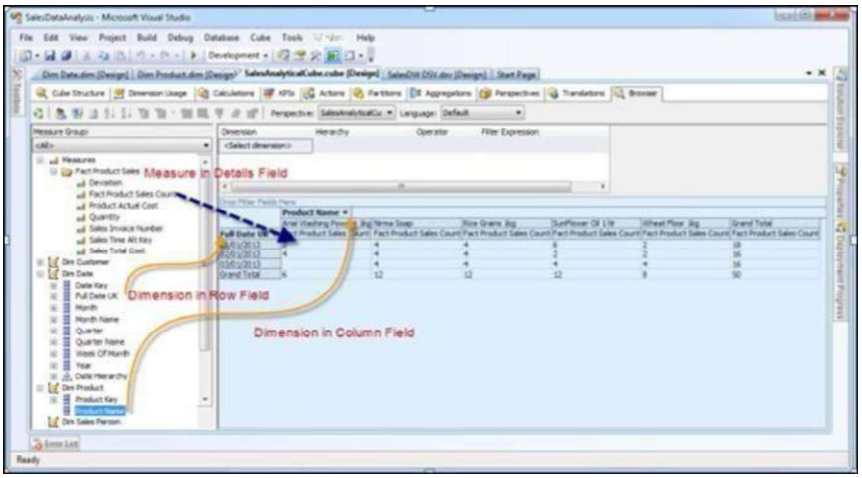
Step 10: Browse the Cube for Analysis

- In Solution Explorer, right click on Cube Name (SalesDataAnalysisCube) -- > Click Browse



- Drag and drop measures in to Detail fields, & Drag and Drop Dimension Attributes in Row Field or Column fields.
- Now to Browse Our Cube

1. Product Name Drag & Drop into Column
2. Full Date UK Drag & Drop into Row Field
3. FactProductSalesCount Drop this measure in Detail area



RESULT:

Thus the OLAP cube with data warehouse fact tables and dimensions were created, deployed and processed in SQL Server Management Studi