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BUSIT 205 – Final

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Final Project Completion Outline

This document is intended to give an overview of the steps taken to complete the final project for BUSIT 205. These instructions assume the reader has basic knowledge of SQL, as well as access to a SQL server and a copy of Visual Studio 2012 or higher with SSDT installed.

# Setting Up the Database

The database that will be used for this project is named DW205Final, and was restored via a backup file provided by the instructor. In order to restore the backup:

1. Save the **BUSIT205FinalDW.bak** file in the appropriate folder for database backups on your SQL server.
2. Open **SQL Server Management Studio (SSMS)**, and connect to the Database Engine on your desired server.
3. Right click the **Databases** folder in the **Object Explorer** and select **Restore Database…**
4. Under the **Source** group, select the **Device** radio button, then the **…** button to choose which file to restore.
5. Select the **Add** button to choose the backup media.
6. Select the **BUSIT205FinalDW.bak** from the file folder and press **OK**, then **OK** again, the **OK** on last time to restore the database.
   * The newly created **DW205Final** database will be displayed in the **Object Explorer** list under **Databases**.

# Designing the Cube

## Creating the Project

1. Open **SQL Server Data Tools (SSDT)** and select **File** > **New** > **Project…**
2. Under templates, select Analysis Services Multidimensional and Data Mining Project, give it an appropriate **Name**, and ensure the **Location** and **Solution Name** look correct.
3. Press **OK** to generate the solution with the new analysis services project.

## Setting Up the Data Source and Data Source View

1. Right click on the **Data Sources** folder in the **Solution Explorer**, and select **New Data Source…**
2. In the window that pops up, press the **New…** button.
3. Enter the information for your SQL server into the **server name** field, and setup your authentication information as required to logon successfully.
4. Under the **Connect to a Database** menu, choose **DW205Final** as the database name then press **OK**.
5. Press **Next >** twice, then assign a name for the data source on before pressing **Finish**.
6. Right click on the **Data Source View** folder in the **Solution Explorer**, and select **New Data Source View…**
7. Select **DW205Final** from the list of Relational Data Sources, the press **Next >**
8. Use the **>** arrow button to move all of the fact and dimension tables into the included objects field (leave sysdiagrams off the included objects), then press **Next >**.
9. Assign a name to the new data source view and select **Finish** to save and close the wizard.

## Creating Dimensions

1. Right clock on the **Dimensions** folder in the **Solution Explorer**, and select **New Dimension…**
2. Leave the **Use existing tables** radio button selected and press **Next >**
3. Leave **DW205Final** as the **data source view**, and select **DimProducts** from the **Main Table** drop down list.
4. Leave **ProductKey** as the **key column**, and select **ProductName** as the **name column**, then press **Next >**
5. Select the check boxes for **ProductId** and **ProductStandardPrice**, and set the names and Attribute types as appropriate for all attributes then press **Next >**
6. Name the dimension **DimProducts**, then press **Finish**.
7. **Repeat steps 1 – 6** for each dimension table that is to be included in the cube.

## Setting Up Hierarchies

## Open **DimDates** and the **DateName** attribute from the **Data Source View** pane to the **Attributes** pane.

## Drag the **YearName** attribute followed by the **MonthName**, then the **DateName** attribute into the **Hierarchies** pane.

## Right click on the newly created hierarchy and select **Rename** to give it a friendly name.

1. Right click on the **YearName** attribute and select **Properties**.
2. Set **YearID** as the **KeyColumn** and **YearName** as the **NameColumn**.
3. Repeat steps 4 and 5 for **MonthName** and **DateName**.
4. Deploy the dimension and select the **Browser** tab to check your work and make sure the data looks as expected.
5. Open **DimCustomers** and drag the **CustomerName** attribute from the **Data Source View pane** to the **Attributes** pane to add the **CustomerName** attribute to **DimCustomers**.
6. Drag **CustomerState**, followed by **CustomerCity**, then **CustomerName** to the **Hierarchies** pane, and give the new hierarchy a friendly name.
7. Repeat steps 4 and 5 for **CustomerName**.
8. Deploy the dimension and select the **Browser** tab to check your work and make sure the data looks as expected.
9. Open **DimEmployees** and drag the **EmployeeFullName** attribute from the Data Source View pane to the Attribute pane.
   1. The name attribute should be added to the Attribute pane for each dimension you created to help with browsing.
10. Drag **DepartmentName**, then **EmployeeFullName** from the **Attributes** pane to the Hierarchies pane, and give the new heriarchy a friendly name.
11. Press **CTRL+S** to save your work.
    1. Note: You may use the Attribute Relationships tab to manually setup the relationships between each attribute. When I attempted to setup relationships for dates and geography in this project, my solution was throwing errors.

## Creating the Cube

1. Right clock on the **Cubes** folder in the **Solution Explorer**, and select **New Cube…**
2. Leave the **Use existing tables** radio button selected and press **Next >**
3. Press the **Suggest** button to select the fact tables that you should include for measures in your cube. It may also highlight some dimensions which you may uncheck (since we just created them) then press **Next >**
4. Leave all of the measures selected for the fact tables then press **Next >**
5. Make sure the check mark is active for all dimensions you wish to include in the cube, then press **Next >**
6. Name the cube and press **Finish**.
7. Right click on the **solution name** in the **Solution Explorer** and press **Deploy** to build and deploy the cube.

# Browsing the Cube in Excel

1. Open the newly created cube and select the **Browser** tab.
2. Press the **menu icon** for **Browse in Excel** to open a new document in Excel with a connection to the cube.
3. Drag measures and attributes as desired to explore the data and create PivotTables.
4. Filter data using attributes or expressions.

# Designing a Report in SSRS

1. Start a new project in SSDT, this time choosing a **Reporting Services** template.
2. Right click **Shared Data Sources** and follow the prompt to add the data source we created earlier to the new project then press **OK**.
3. Right click **Shared Dataset to** select the attributes and filters you’d like to use to pull data into the report, then press **OK**.
4. Right click on the **Reports** folder in **the Solution Explorer** to setup your report with the dataset you just added.
5. Use the Toolbox and properties to design your report. Minimally, a title and a table should be used.