

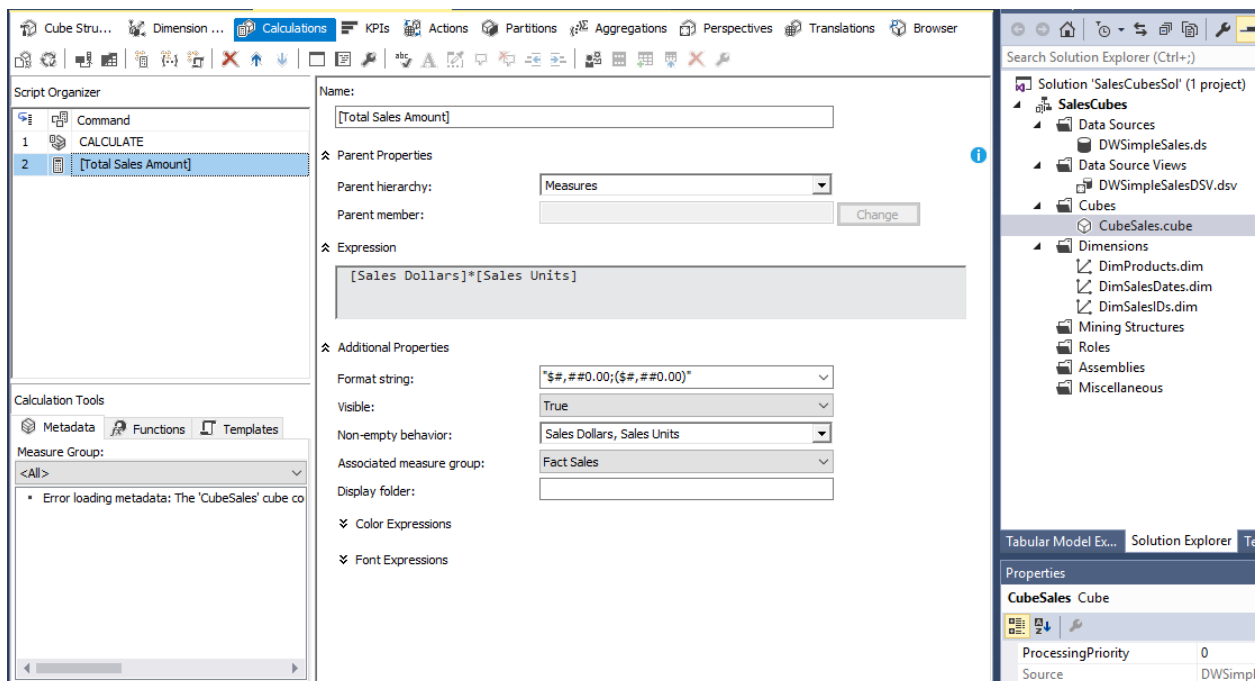
Name: Chris Singleton

Derived Measure Vs Calculated Measure

10) Create a Word document that outlines how to create a Derived Measure and a Calculated Measure, and then describes the difference between the two. Include screen shots of your project, please. To help you understand what this would look like. I have included an example from a previous student (with most of the text removed of course!)

Calculated Measure: A calculated measure is part of a measure group like any other measure group but instead of coming from the underlying data source, the calculated measure uses an expression. The calculated measure is being calculated during runtime. Calculated measures are managed on the calculation tab of the cube designer, not in the data source view.

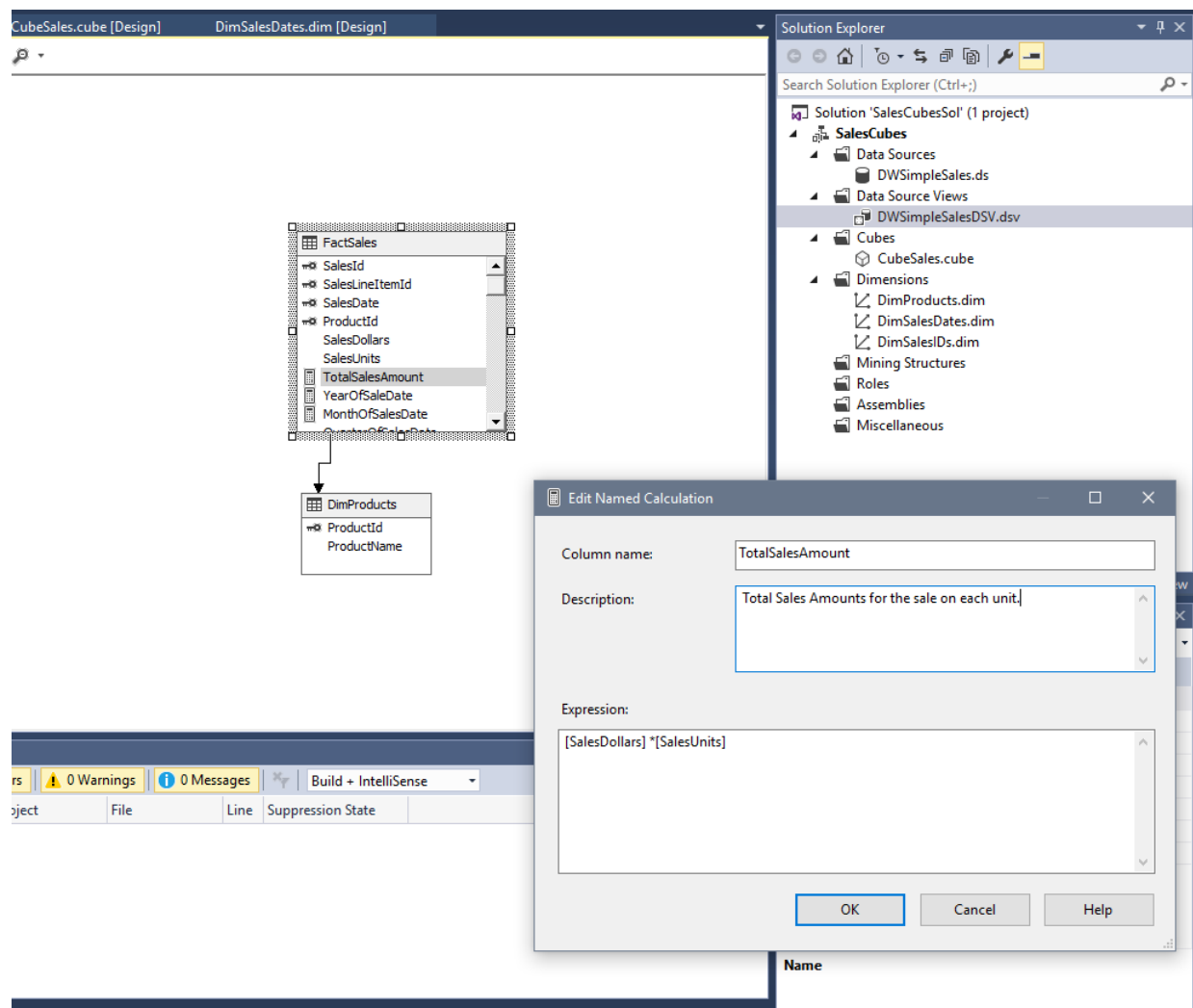
Calculated Measure (Below):



Name: Chris Singleton
 Course: BUSIT 205 Multi-dimensional Modeling
 Professor: Randal Root
 Date: 05/08/2017

A **Derived Measure** is being calculated when the cube is processed and is based through the data source view as a calculated field. With a derived measure the values are stored in the cube (calculated measures do not store the values, but are calculated directly using a Multi-Dimensional Modeling expression (MDX) after aggregations are created). Derived measures are calculated before the aggregation(s) are created using the data source view. Derived named calculations can also be applied directly to dimensions in the data source view.

Derived Measure “*Named Calculation*” field (Shown Below):



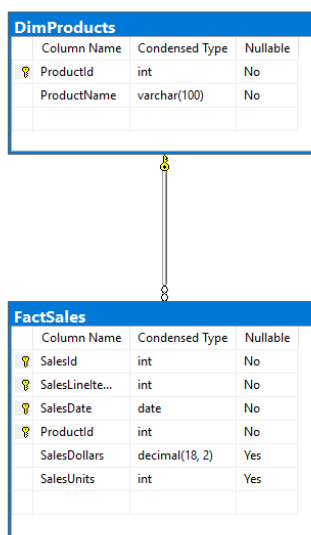
Name: Chris Singleton
 Course: BUSIT 205 Multi-dimensional Modeling
 Professor: Randal Root
 Date: 05/08/2017

Other Important Differences:

An important note to remember is that derived measures use the data source view in creating a new named calculation with measures that already exist, are typically referred to as “*named calculations*” in the data source view and only calculate during processing of the cube.

Calculated measures are created using the calculations tab in the cube designer and are calculated using an MDX expression during runtime, which means that calculated measures can directly create performance issues on the cube during analysis and reporting.

Database Diagram (Shown Below): Added foreign Key (fk_DimProducts_ProductID) In the FactSales table.



The screenshot shows the SQL Server Enterprise Manager interface. The Object Explorer on the left displays the database structure, including the DimProducts and FactSales tables. The SQL Query window on the right shows the following query:

```

1 SELECT * FROM [DwSimpleSales].dbo.DimProducts
2 SELECT * FROM [DwSimpleSales].dbo.FactSales
3
4 /*
5 ALTER TABLE FactSales
6 ADD CONSTRAINT fk_DimProducts_ProductID
7 FOREIGN KEY (ProductId)
8 REFERENCES DimProducts (ProductId)
9
10 */

```

The Results pane shows the output of the query, displaying the ProductId and ProductName for the first two rows of the FactSales table.

ProductID	ProductName
1	Prod1
2	Prod2

The Messages pane shows the results of the ALTER TABLE statement, indicating that the foreign key was successfully added.

SalesId	SalesLineItemid	SalesDate	ProductId	SalesDollars	SalesUnits
1	1	2017-01-01	1	9.95	2
2	1	2017-01-01	2	21.99	1
3	2	2017-02-01	1	9.95	3
4	3	2017-02-01	2	9.95	1

Name: Chris Singleton
 Course: BUSIT 205 Multi-dimensional Modeling
 Professor: Randal Root
 Date: 05/08/2017

Measure Calculation:

The screenshot displays the Microsoft Visual Studio interface for the SSAS project 'SalesCubesSol'. The main window shows the 'CubeSales.cube' design view. The table of calculated members is as follows:

Dimension	Hierarchy	Operator	Filter Expression	Part
Sales Dollars				51.84
Sales Units				7
Total Sales Amount				362.88

The right-hand pane shows the 'Solution Explorer' with the project structure. The 'Properties' window for the 'CubeSales' cube is also visible, showing the following properties:

- ProcessingPriority: 0
- Source: DWSimpleSalesDSV (Data source)
- Visible: True
- Basic:
 - Description: CubeSales
 - ID: CubeSales
 - Name: CubeSales
- Configurable:
 - StorageLocation:
- Misc:
 - Collation:
 - ScriptCacheProcessingMode: Regular

The 'Name' property is specified as the name of the object.