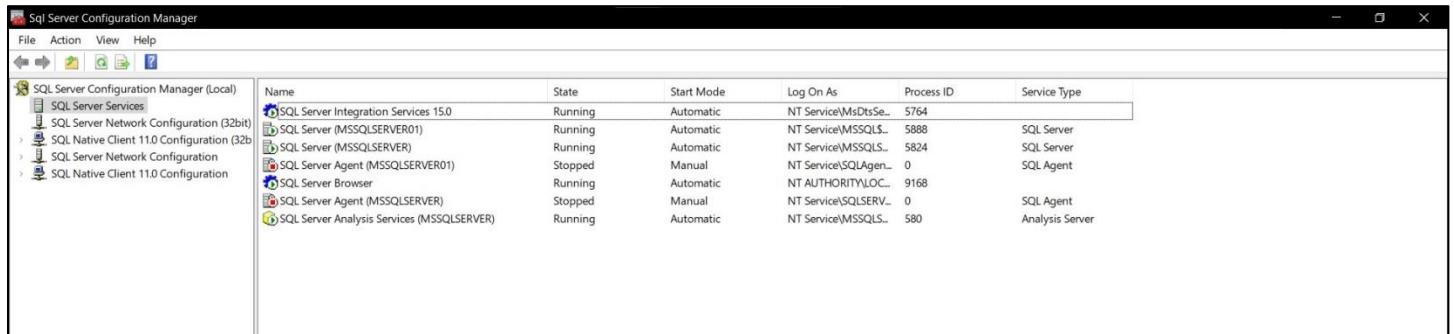


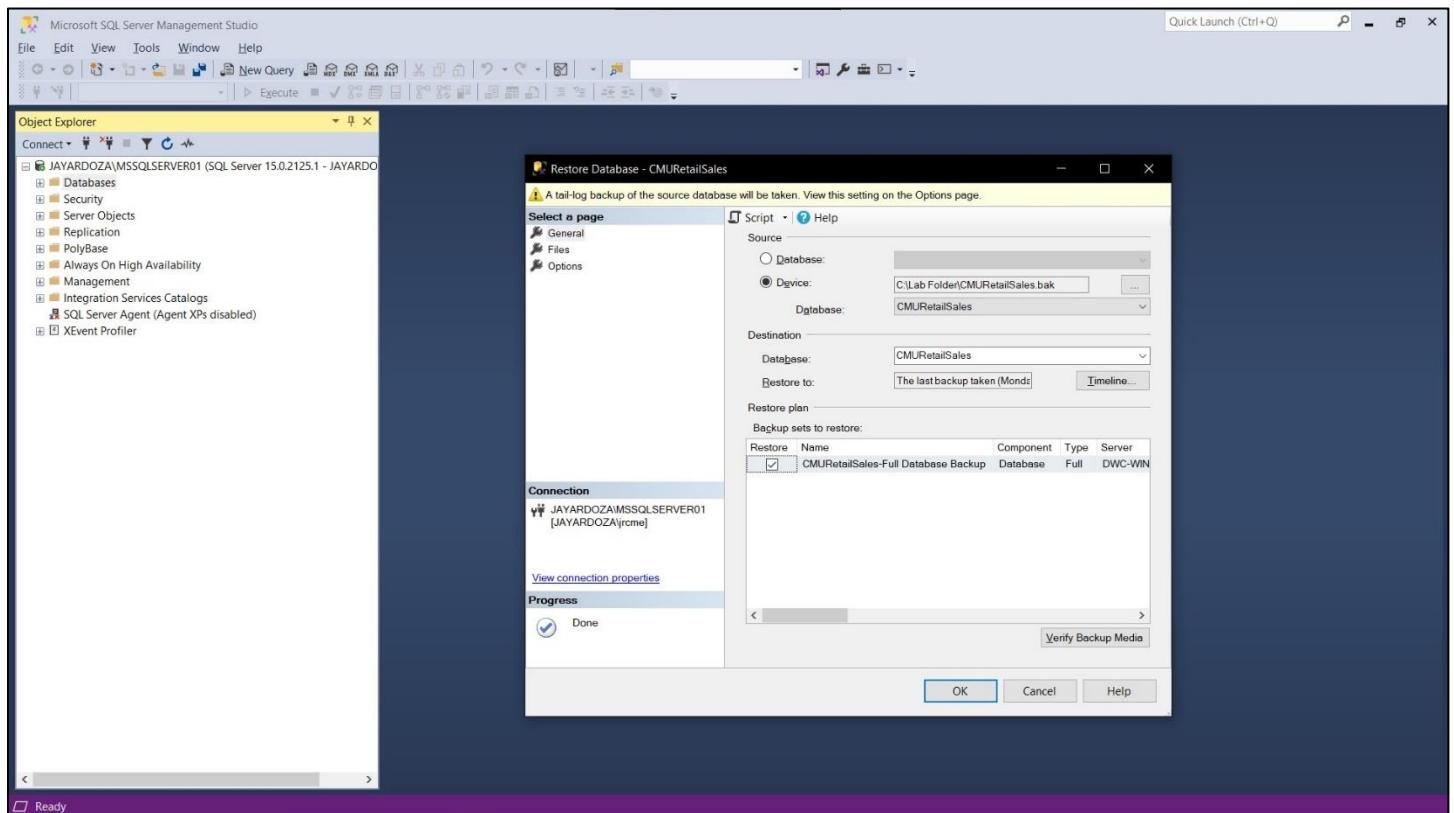
Data Mining Lab Exercise #2



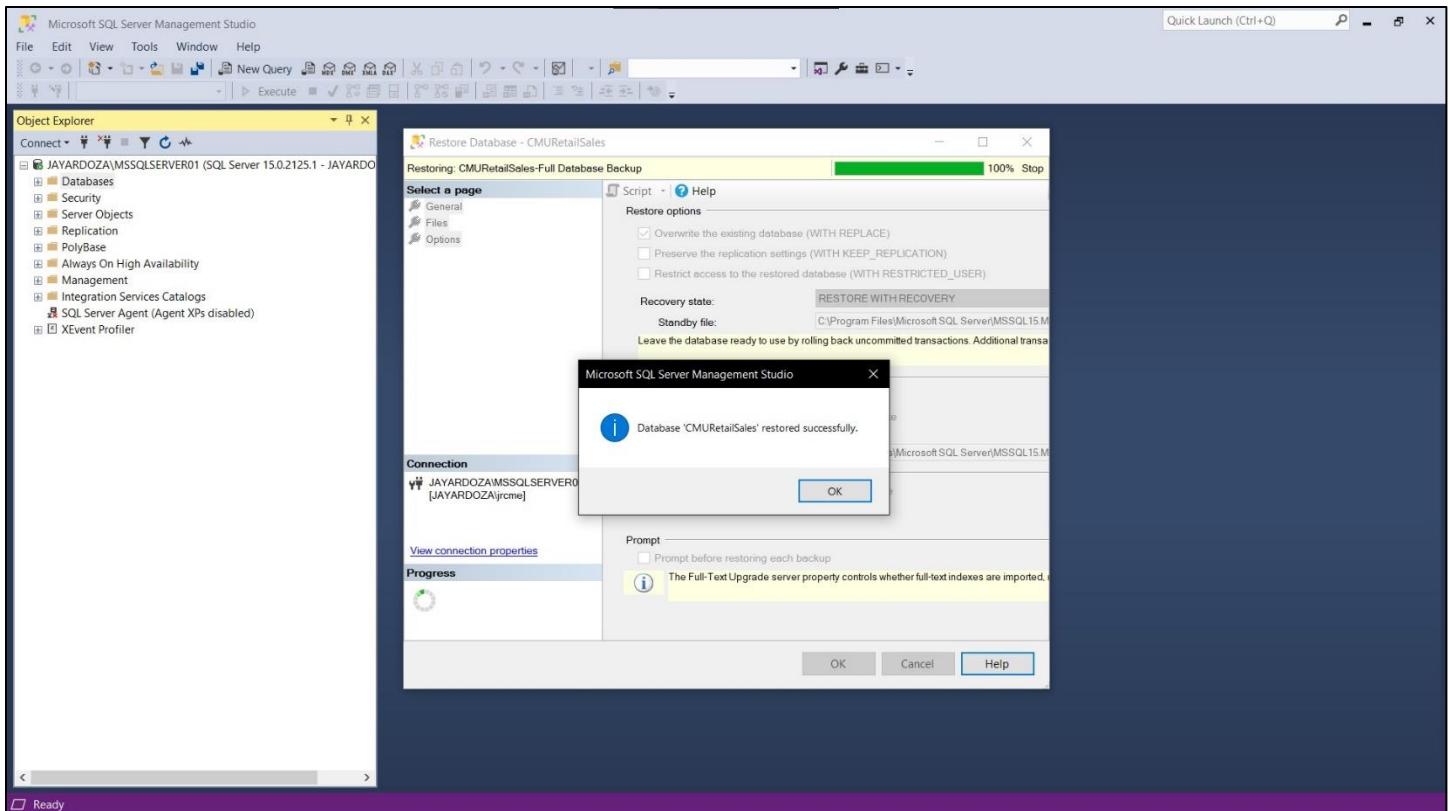
The screenshot shows the SQL Server Configuration Manager window. On the left is a tree view with nodes like 'SQL Server Configuration Manager (Local)', 'SQL Server Services', 'SQL Native Client 11.0 Configuration (32bit)', 'SQL Server Network Configuration', and 'SQL Native Client 11.0 Configuration'. The main pane displays a table of services:

Name	State	Start Mode	Log On As	Process ID	Service Type
SQL Server Integration Services 15.0	Running	Automatic	NT Service\MsDtsSe...	5764	
SQL Server (MSSQLSERVER01)	Running	Automatic	NT Service\MSSQLS...	5888	SQL Server
SQL Server (MSSQLSERVER)	Running	Automatic	NT Service\MSSQLS...	5824	SQL Server
SQL Server Agent (MSSQLSERVER01)	Stopped	Manual	NT Service\SQLAgent_...	0	SQL Agent
SQL Server Browser	Running	Automatic	NT AUTHORITY\LOC...	9168	
SQL Server Agent (MSSQLSERVER)	Stopped	Manual	NT Service\SOLSERV...	0	SQL Agent
SQL Server Analysis Services (MSSQLSERVER)	Running	Automatic	NT Service\MSSQLS...	580	Analysis Server

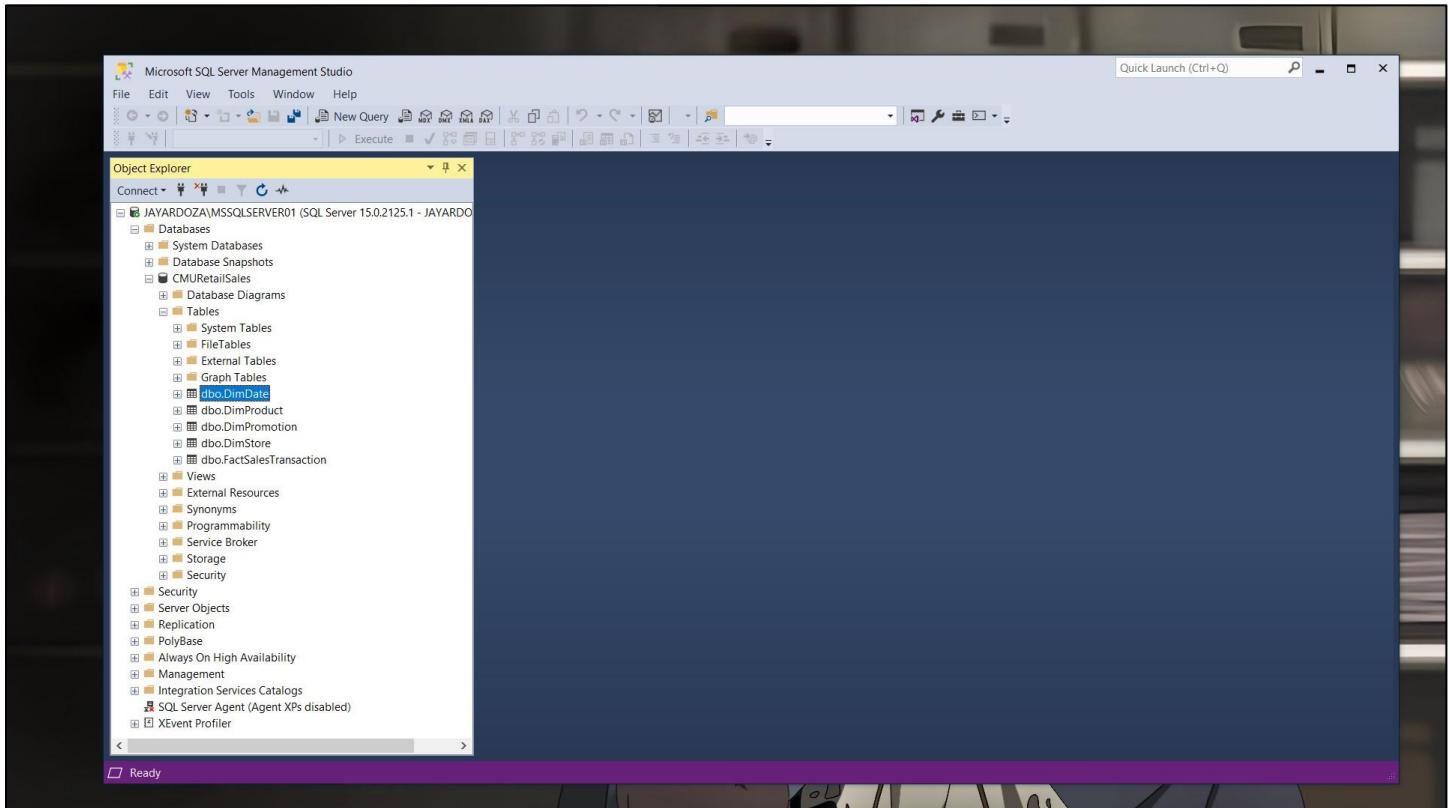
SQL Server Browser and Analysis Services Running



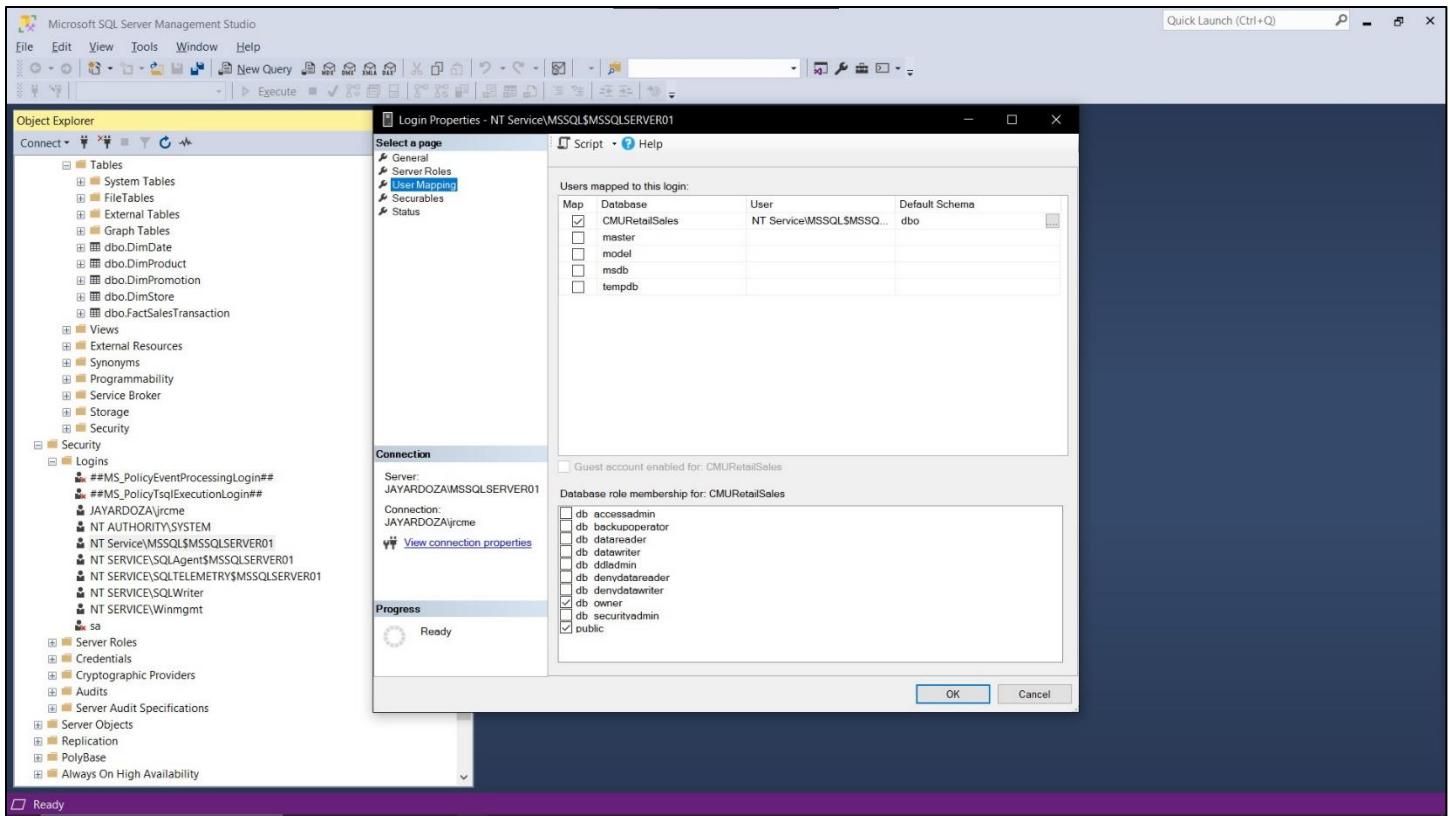
Restoring Database



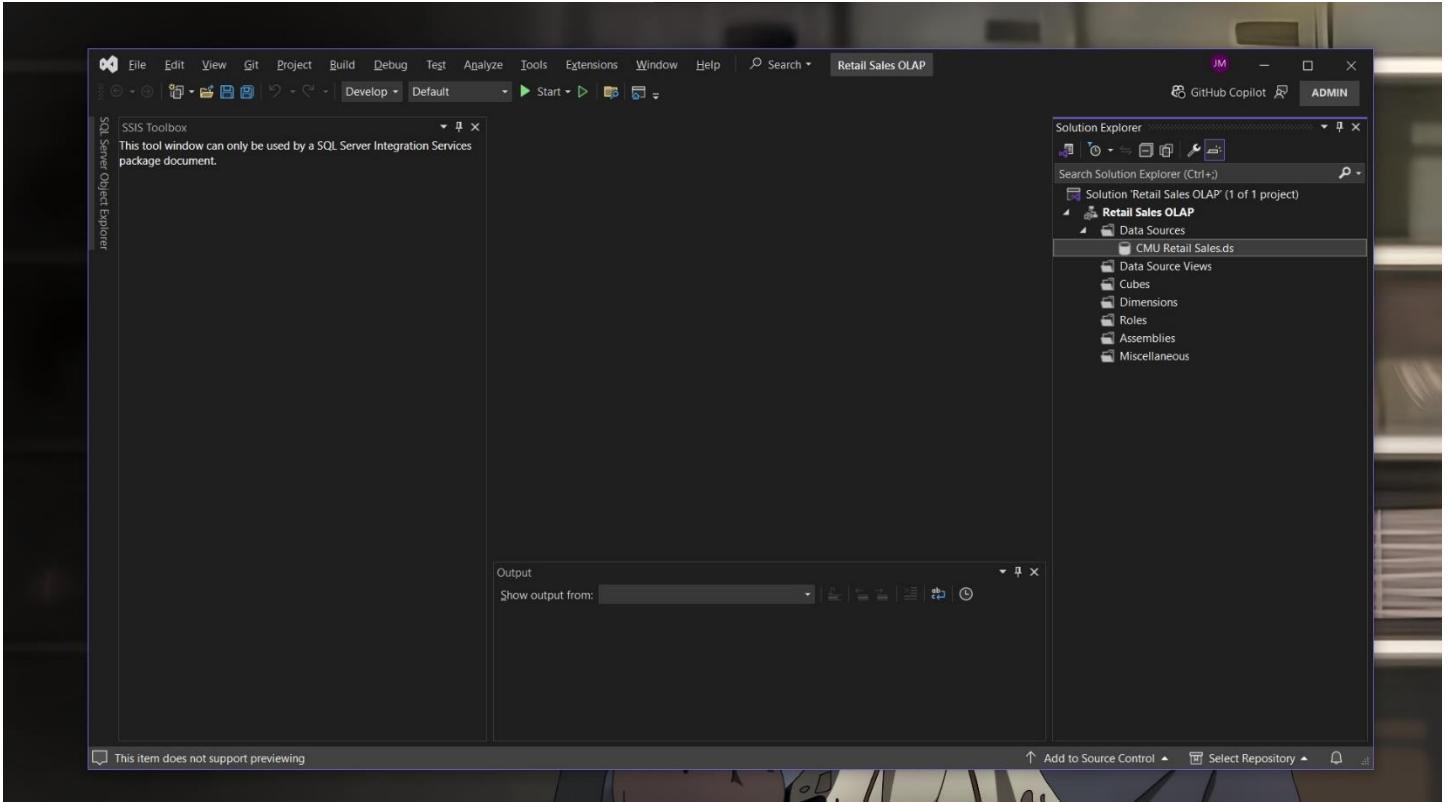
Restored Database Successfully



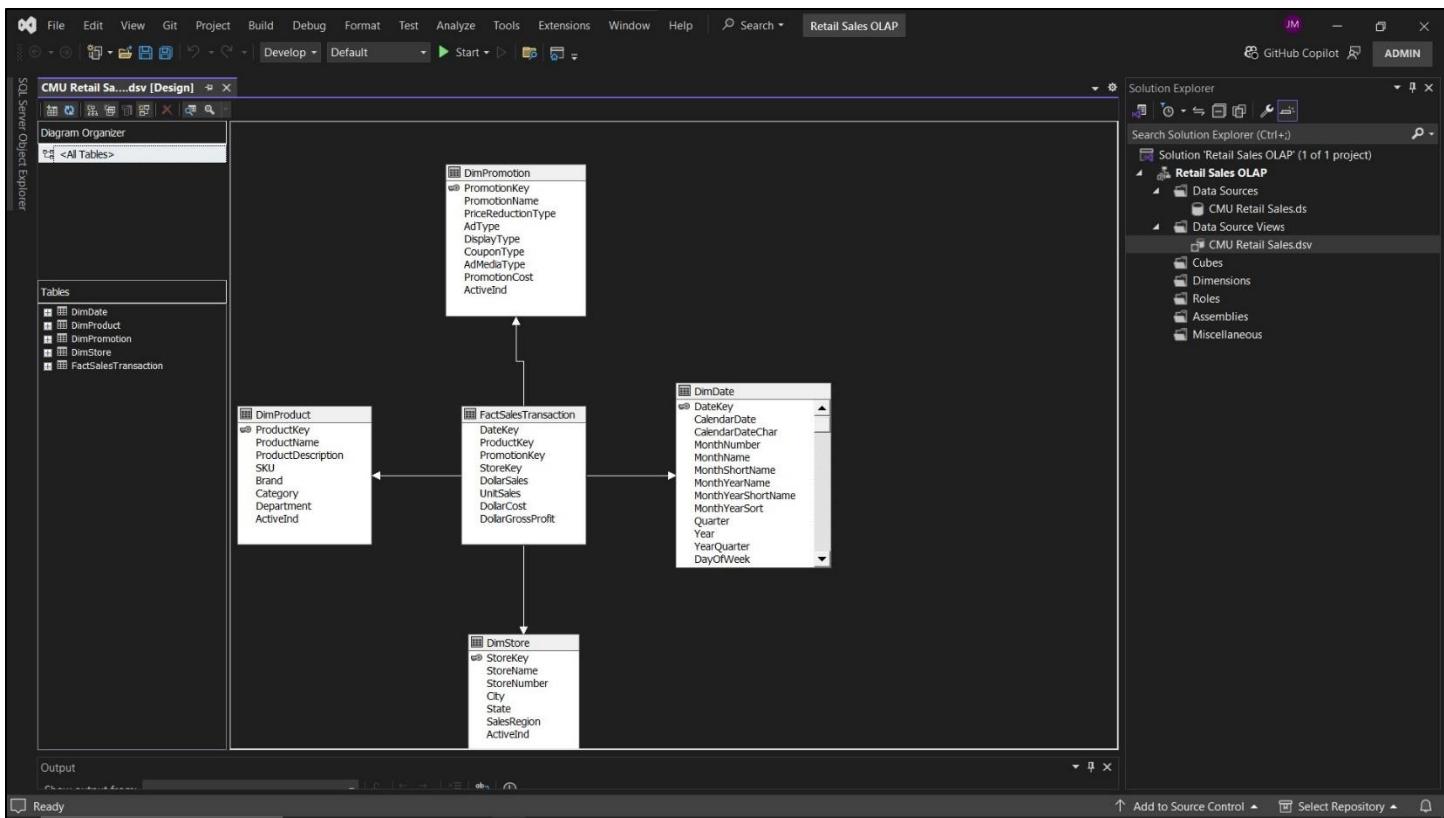
Loaded Five Tables



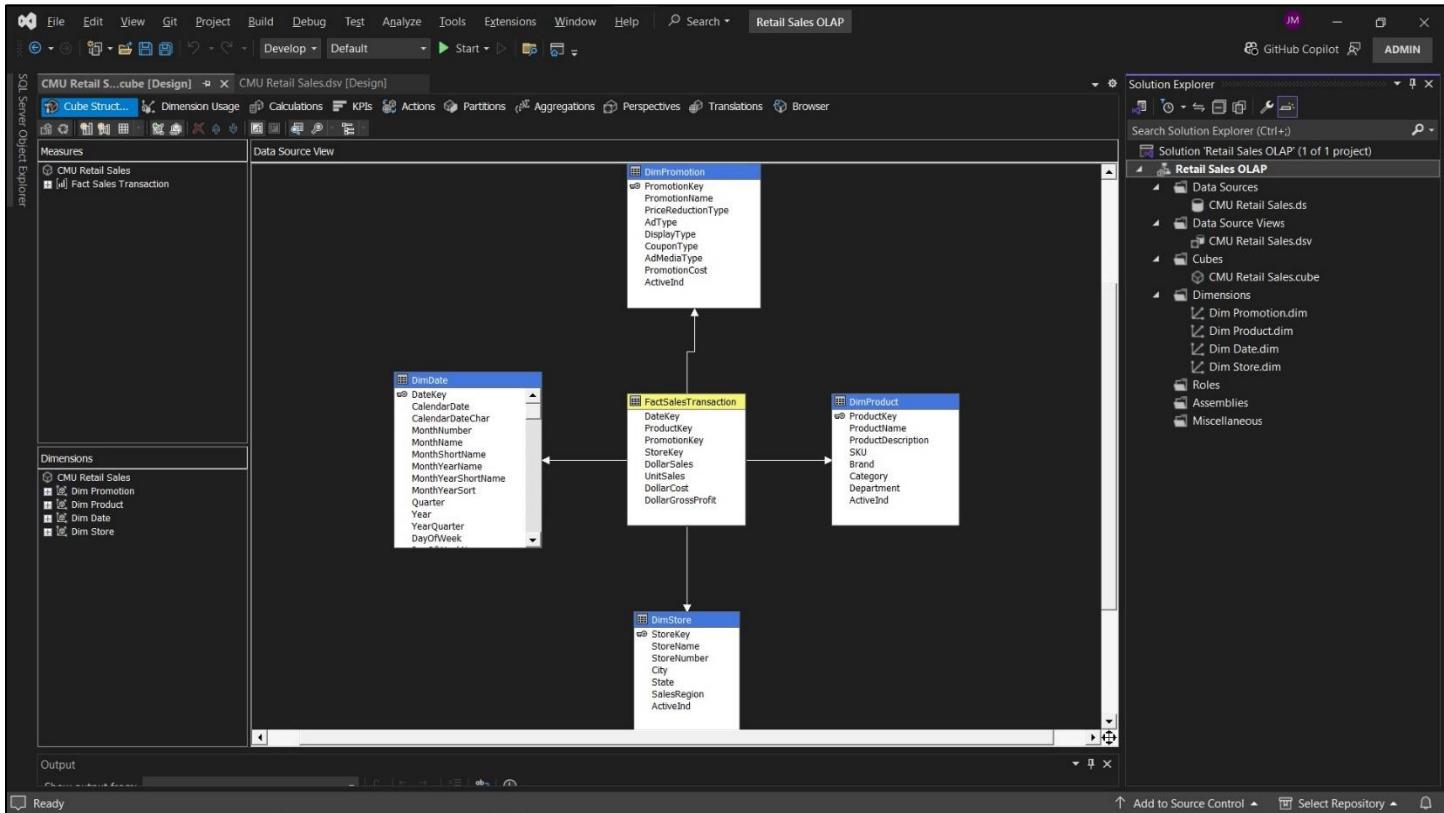
SQL Login Properties



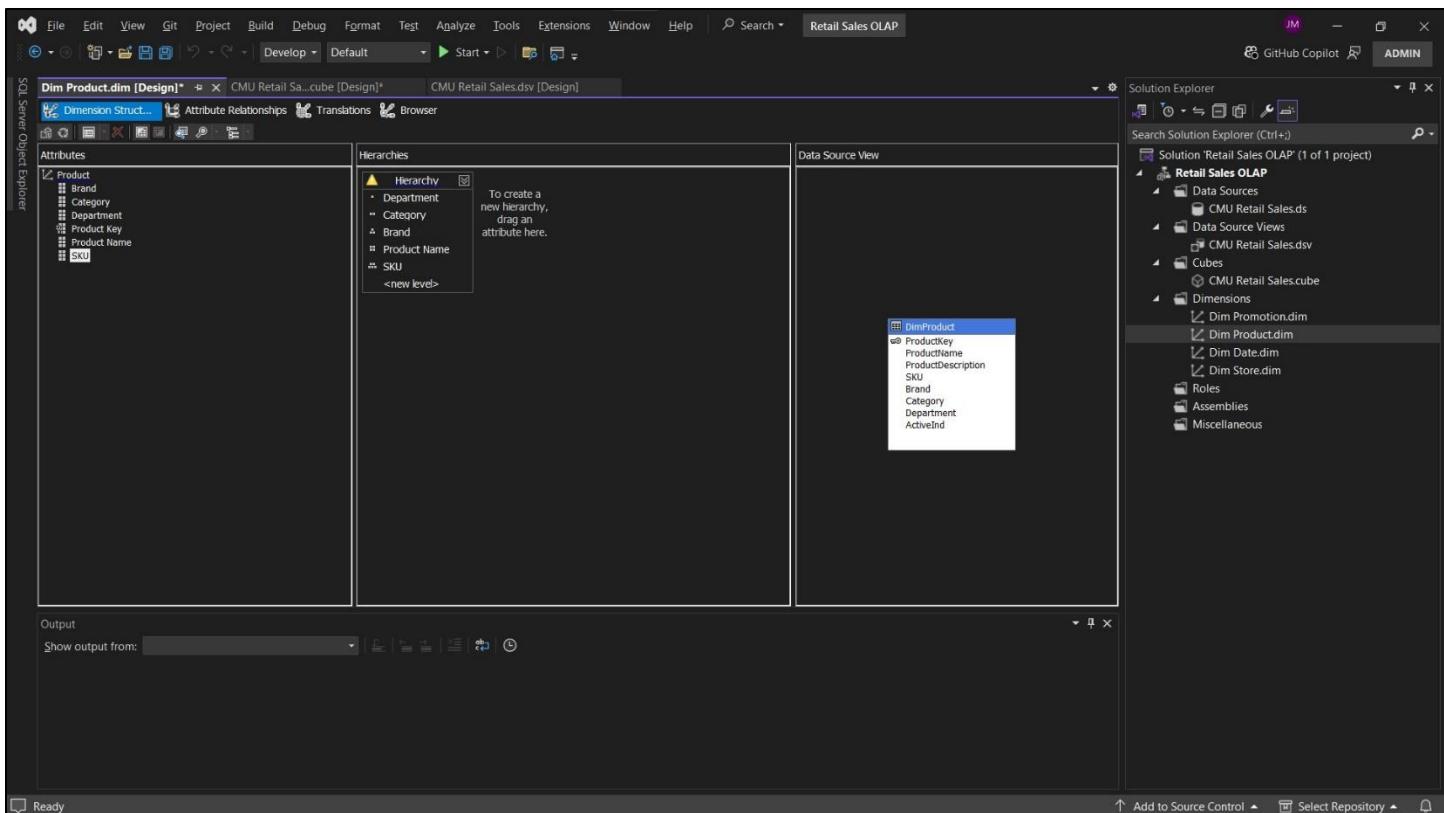
Created Data Source



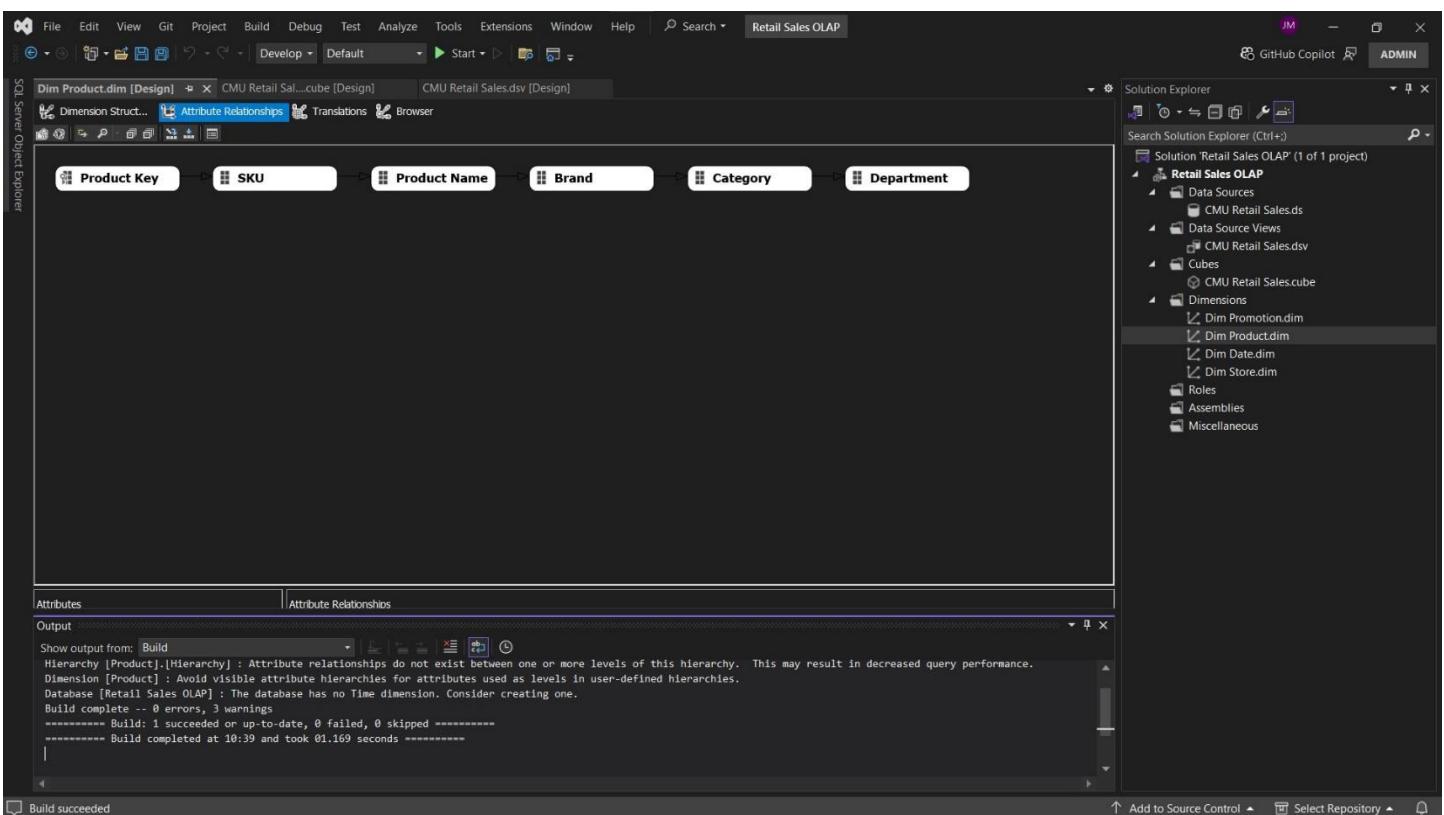
Data Source View



Cube and Dimensions



Product Dimension Basic Configuration



Product Dimension Build Retail Sales OLAP

Dim Product.dim [Design] CMU Retail Sales.cube [Design] CMU Retail Sales.dsv [Design]

Dimension Structure Attribute Relationships Translations Browser

Product Key → SKU → Product Name → Brand → Category → Department

Attributes

Brand	Category	Product Name
Category	Department	SKU
Department	Product Key	
Product Key	Product Na...	

Attribute Relationships

```

    Brand → Category
    Category → Department
    Product Key → SKU
    Product Na... → Brand
  
```

Output

```

Show output from: Build
----- BUILD STARTED: Project: Retail Sales OLAP, Configuration: Development -----
Started Building Analysis Services project: Incremental ...
Database [Retail Sales OLAP] : The database has no Time dimension. Consider creating one.
Build complete -- 0 errors, 1 warnings
----- Build: 1 succeeded or up-to-date, 0 failed, 0 skipped -----
----- Build completed at 10:46 and took 00.315 seconds -----
  
```

Error List Output

Build succeeded

Product Dimension Rebuild Retail Sales OLAP

Dim Date.dim [Design] Dim Product.dim [Design] CMU Retail Sales.cube [Design] CMU Retail Sales.dsv [Design]

Dimension Structure Attribute Relationships Translations Browser

Attributes

Date
Calendar Date
Calendar Date Char
Date Key
Day Of Month
Day Of Week
Day Of Week Name
Day Of Week Short Name
Day Of Year
Last Day Of Month Ind
Month Name
Month Number
Month Short Name
Month Year Name
Month Year Short Name
Month Year Sort
Quarter
Year
Year Quarter

Hierarchies

Time Hierarchy

- Year
- Month Year Name
- Calendar Date

To create a new hierarchy, drag an attribute here.

Data Source View

DimDate

MonthName
MonthYearName
MonthYearShortName
MonthYearSort
Quarter
Year
YearQuarter
DayOfWeek
DayOfWeekName
DayOfWeekShortName
DayOfMonth
LastDayOfMonthInd
DayOfYear

Solution Explorer

Retail Sales OLAP

- Data Sources
- Data Source Views
- Cubes
- Dimensions
- Roles
- Assemblies
- Miscellaneous

Properties

Date Dimension

ProcessingState: Unprocessed

Source: CMU Retail Sales (Data source)

StringStoresCompatibility: 1050

UnknownMember: None

UnknownMemberName:

WriteEnabled: False

Basic

Description: Dim Date

ID: Date

Name: Date

Type: Time

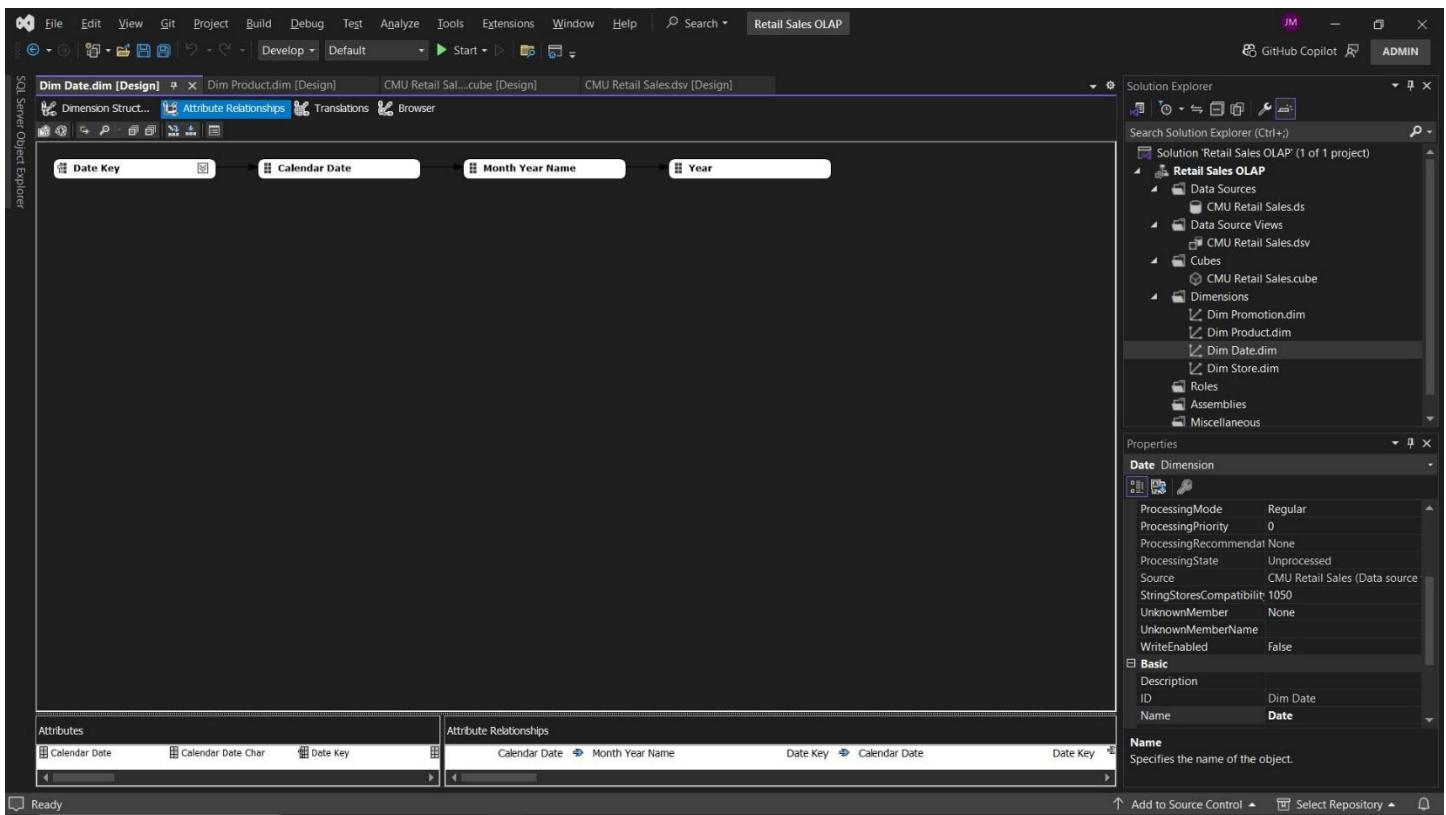
Misc

Collation:

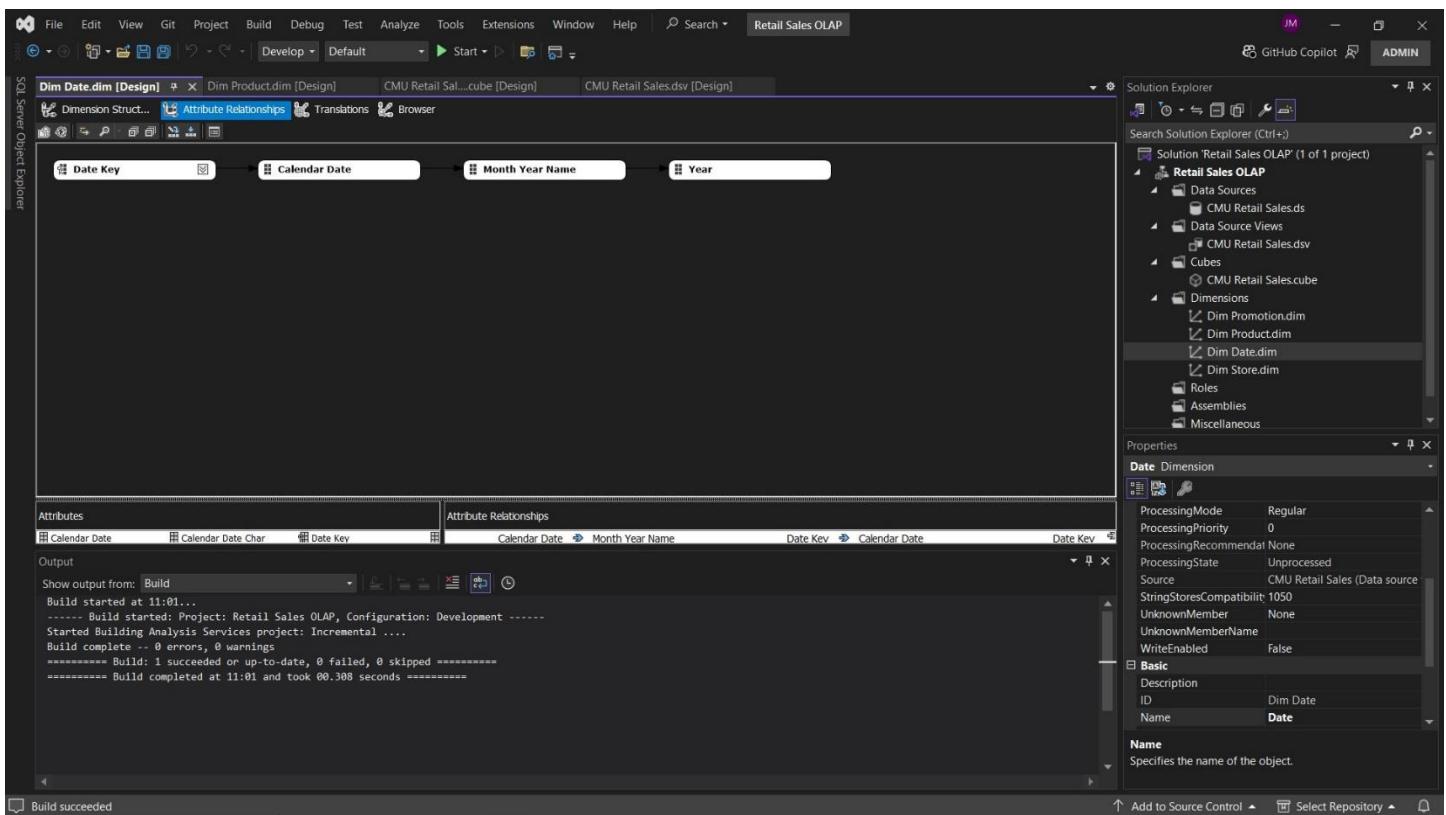
Name

Specifies the name of the object.

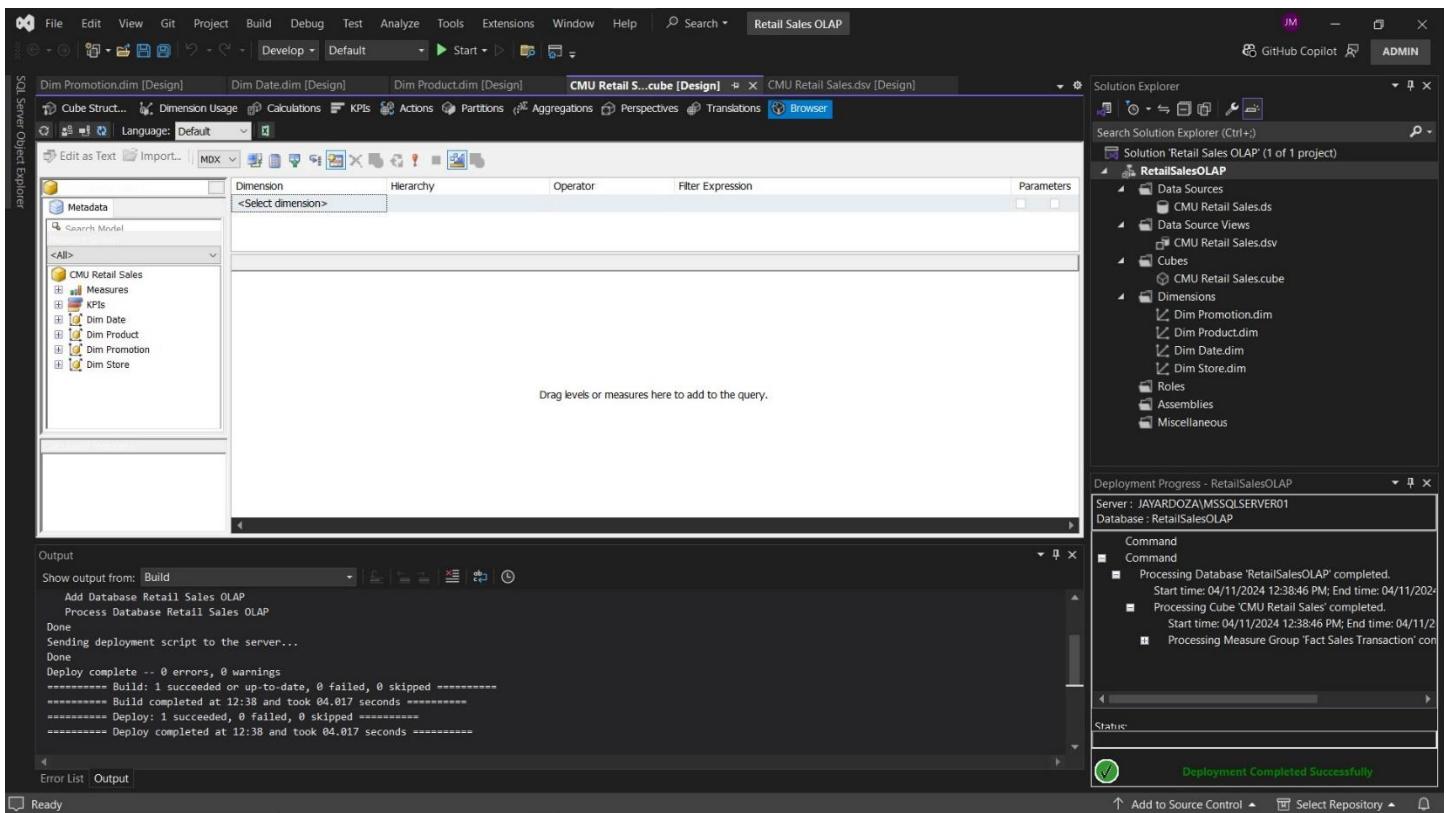
Date Dimension Basic Configuration



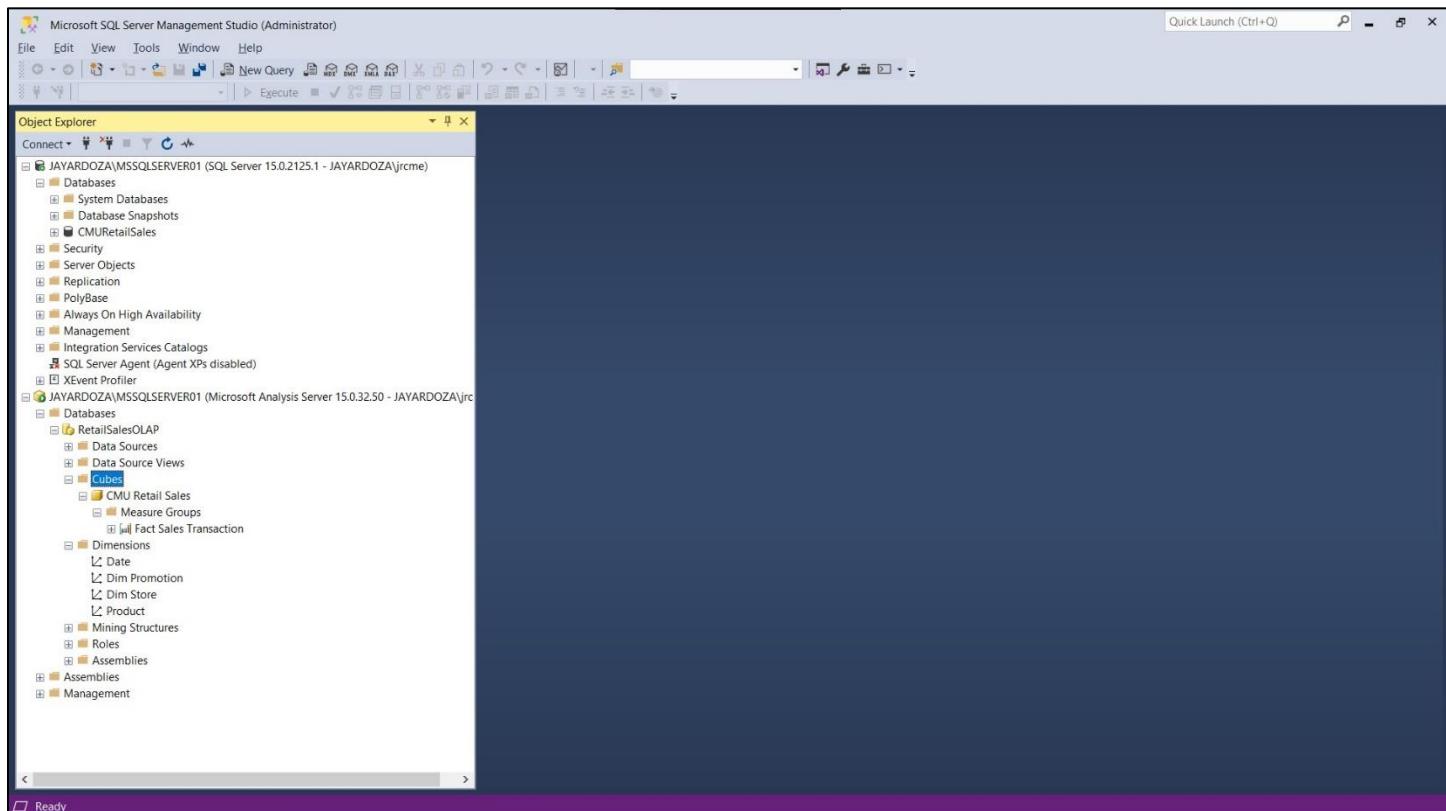
Date Dimension Attribute Relationships



Date Dimension Build Retail Sales OLAP



Cube Successful Build and Deploy



Connect Analysis Services

Book1 - Excel

PivotTable Tools Analyze

PivotTable Name: Active Field: PivotTable3

PivotTable Options Field Settings Group Selection Insert Slicer Refresh Data Source Clear Select Move PivotTable Fields, Items, & Sets Calculations Tools Field List +/-. Buttons Headers Show

A1

To build a report, choose fields from the PivotTable Field List.

To build a PivotChart, choose fields from the PivotChart Field List.

PivotTable Fields

Active All

Choose fields to add to report:

Search

FactSalesTransaction

- DateKey
- ProductKey
- PromotionKey
- StoreKey
- DollarSales
- UnitSales
- DollarCost

Drag fields between areas below:

Filters Columns

Rows Values

Defer Layout Update Update

Pivot Chart and Pivot Table Report

Book1 - Excel

PivotTable Tools Analyze

C3

MonthYearName	January 2012		
Sum of DollarGrossProfit	Column Labels	Household Grand Total	
Row Labels	Grocery		
AZ	404.39	79.43	483.82
CA	828.82	356.46	1185.28
CO			
Denver	536.15	189.34	725.49
DC	297.37	214.38	511.75
FL			
Miami	122.2	257.81	380.01
GA	604.15	128.77	732.92
IL	381.09	95.86	476.95
KY	263.66	150.86	414.52
LA	292.25	155.55	447.8
MA	161.95	236.24	398.19
MN	379.74	110.95	490.69
MO	212.94	203.08	416.02
NY	316.14	112.88	429.02
OH	240.78	138.84	379.62
PA	738.17	359.71	1097.88
TN	468.4	159.47	627.87
TX	670.96	164.64	835.6
WA	407	188.55	595.55
Grand Total	7326.16	3302.82	10628.98

PivotTable Fields

Active All

Choose fields to add to report:

Search

DimData

- DateKey
- CalendarDate
- CalendarDateChar
- MonthNumber
- MonthName
- MonthShortName
- MonthYearName

Drag fields between areas below:

Filters Columns

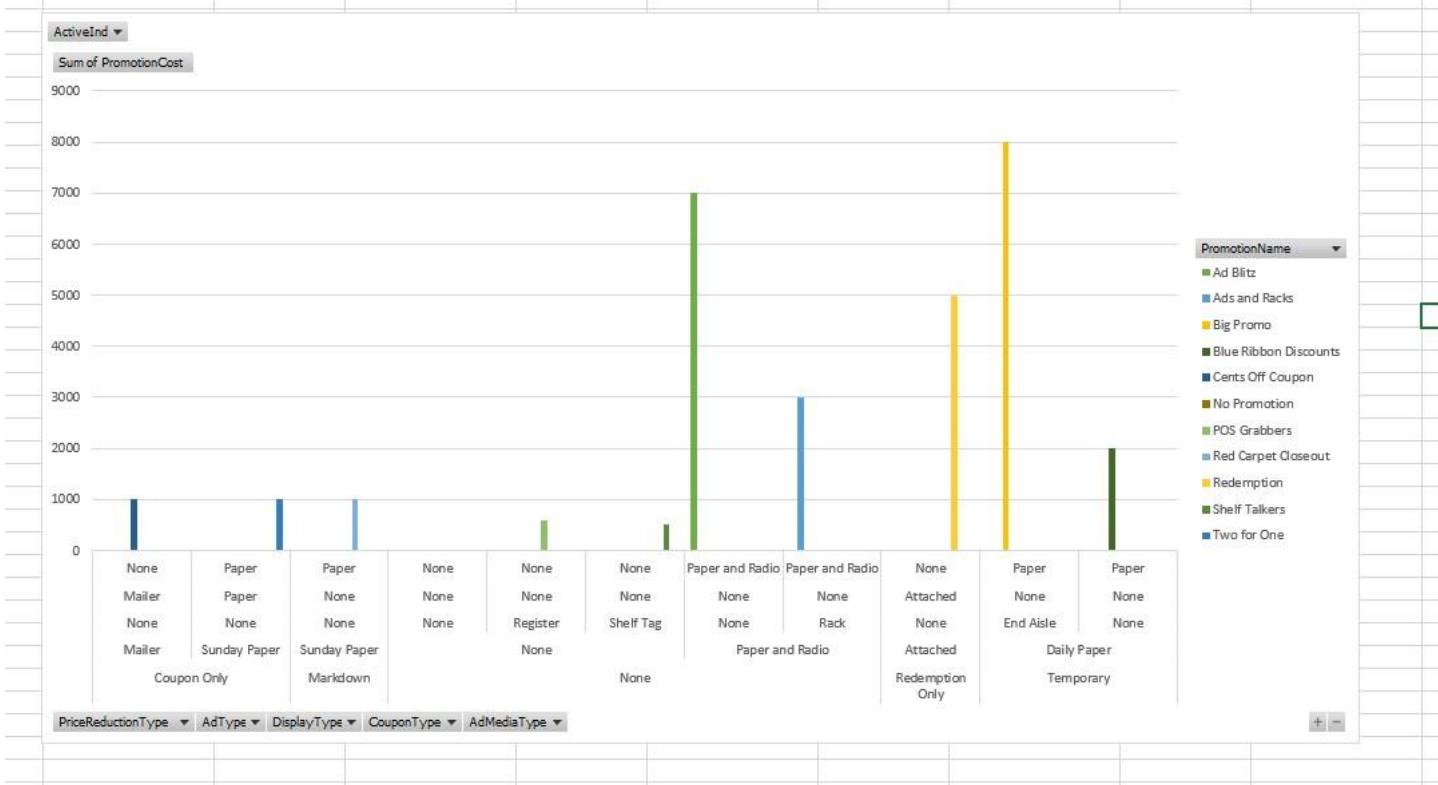
MonthYearName Department

Rows Values

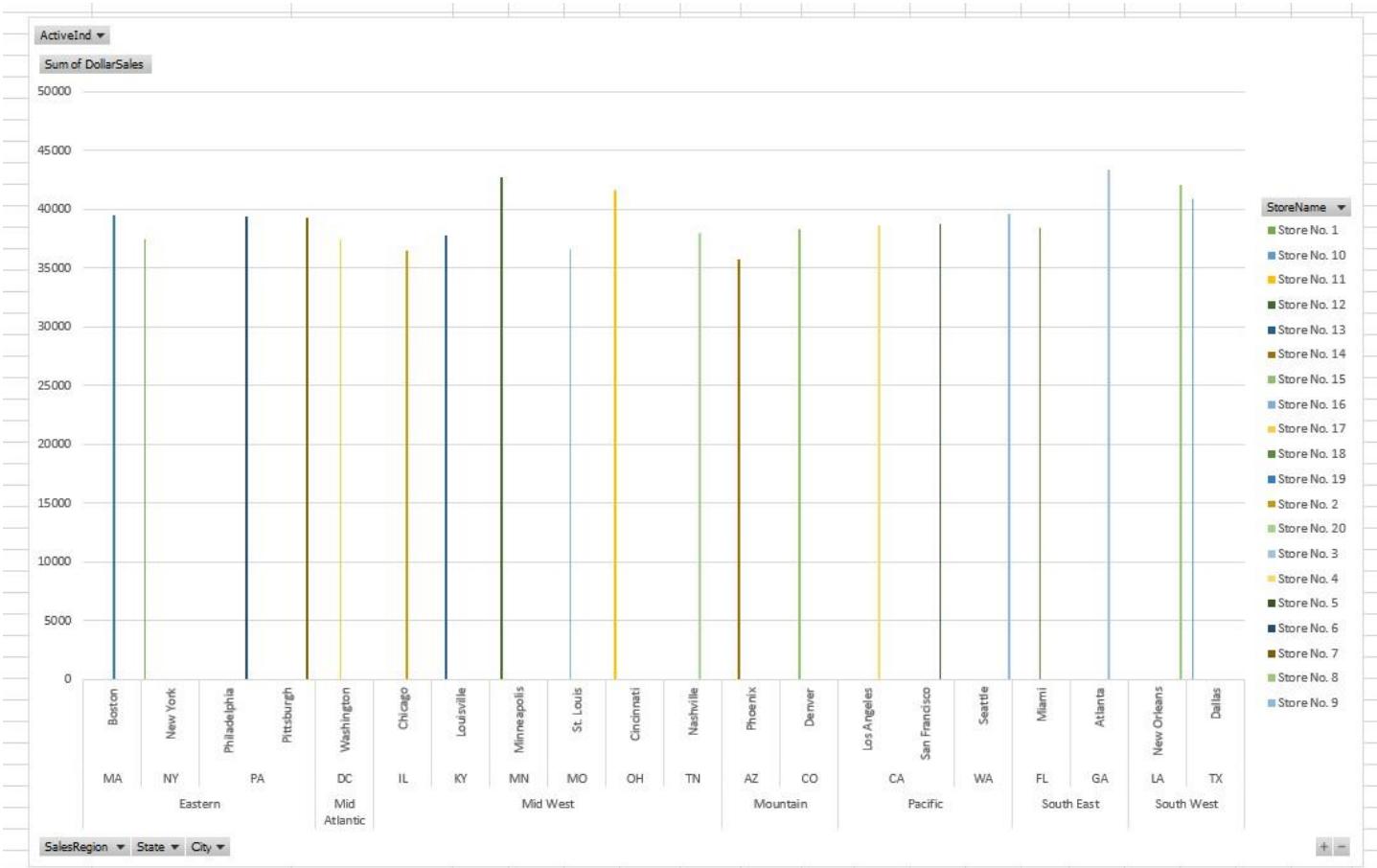
State Sum of DollarGrossPro...

Defer Layout Update Update

Sample Gross Profit by State-City for Each Department in January 2012

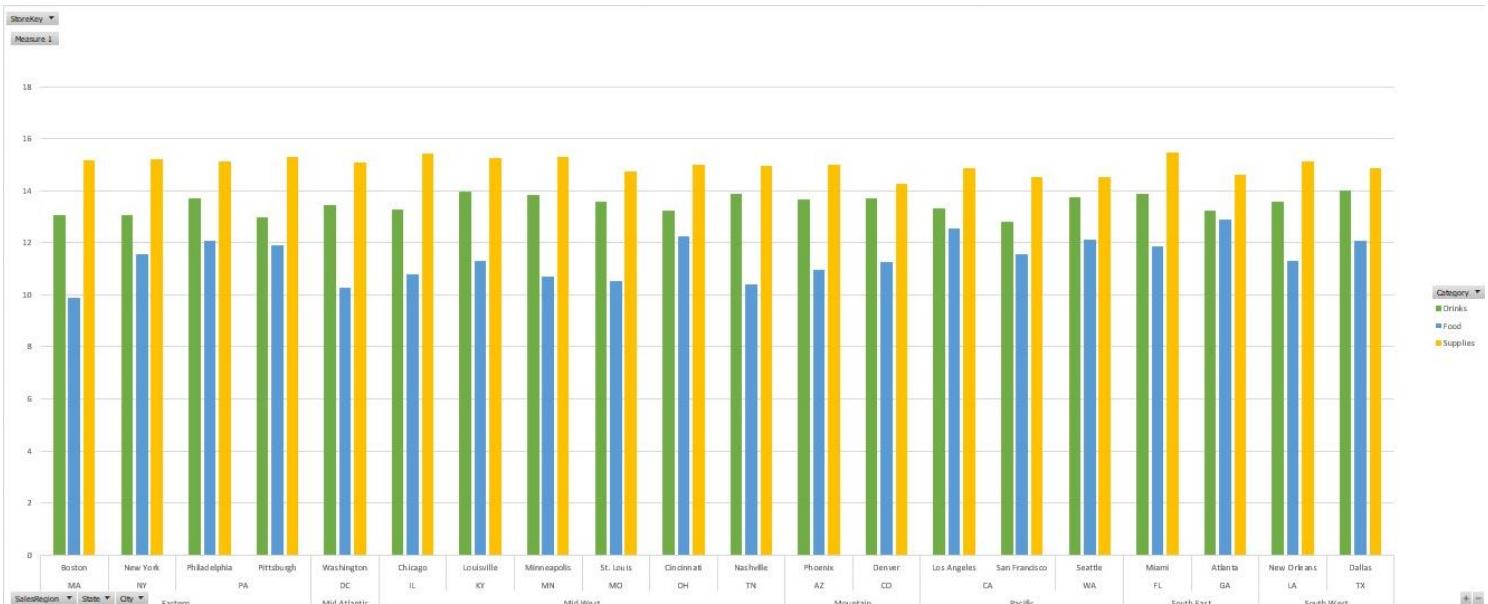


Relevant Promotion Details



Geo Attributes to Store Dimension

StoreKey	All				
Measure 1	Column Label	Drinks	Food	Supplies	Grand Total
Row Labels					
Eastern					
MA	Boston	13.05995583	9.89866344	15.1607706	11.3072243
NY	New York	13.0487963	11.5576635	15.1883274	12.3399977
PA	Philadelphia	13.72504371	12.0831432	15.134516	12.8474587
	Pittsburgh	12.97649321	11.8926668	15.2739375	12.5319767
Mid Atlantic					
DC	Washington	13.46743417	10.2809754	15.0726748	11.7847092
Mid West					
IL	Chicago	13.27869826	10.8006372	15.4275955	11.8724339
KY	Louisville	13.95107711	11.291873	15.2710961	12.3816745
MN	Minneapolis	13.82419878	10.6941892	15.291448	11.987679
MO	St. Louis	13.59068046	10.5306164	14.7180216	11.8152383
OH	Cincinnati	13.22625263	12.2272855	15.0045829	12.7958102
TN	Nashville	13.86709109	10.3869175	14.9411844	11.6951372
Mountain					
AZ	Phoenix	13.65971453	10.9572474	14.9879042	11.9843067
CO	Denver	13.71165397	11.2790045	14.2750177	12.1452939
Pacific					
CA	Los Angeles	13.33228373	12.5685872	14.8792286	13.1344443
	San Francisco	12.78523994	11.555637	14.5427533	12.2789759
WA	Seattle	13.74554335	12.111863	14.5430926	12.8043488
South East					
FL	Miami	13.87424475	11.8776617	15.4861822	12.7828413
GA	Atlanta	13.24603623	12.8925415	14.5995142	13.1959852
South West					
LA	New Orleans	13.59848236	11.320347	15.1329133	12.3394404
TX	Dallas	14.00618181	12.0798193	14.8843935	12.8179858
Grand Total		13.49185437	11.44516	14.98703	12.35396



Gross Margin Calculation