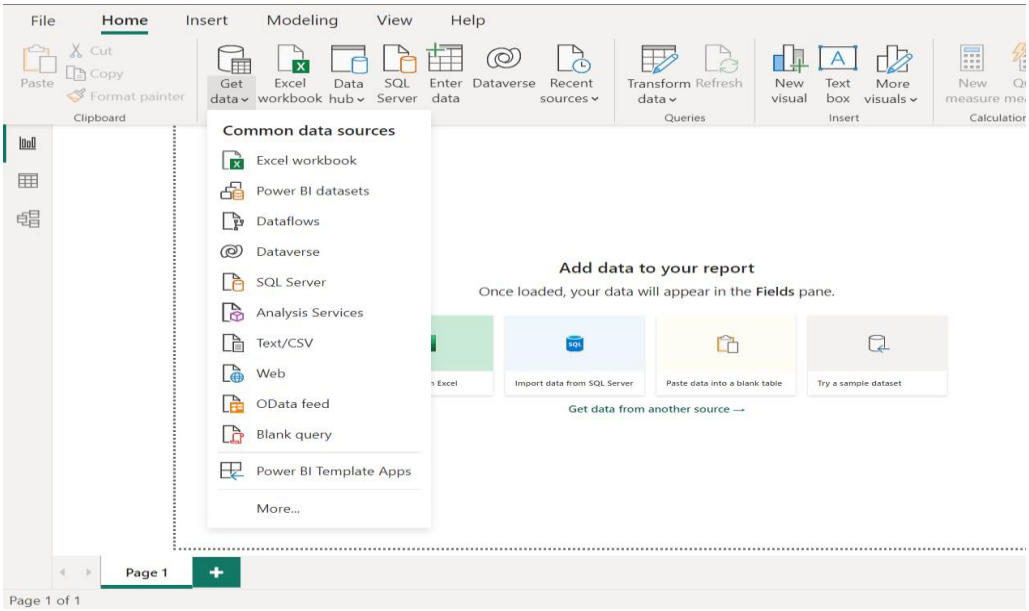
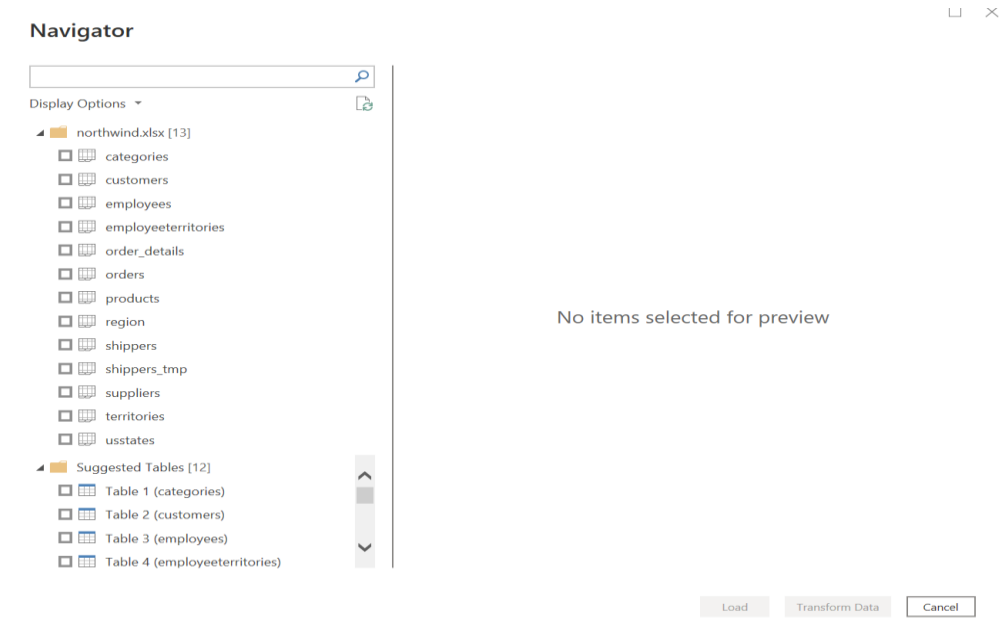
Practical 01:

Import the legacy data from different sources such as (SqlServer) and load in the target system. (sample database such as Adventureworks)

Step 1: Open Power BI & Click on Get data following list will be displayed → select Excel.



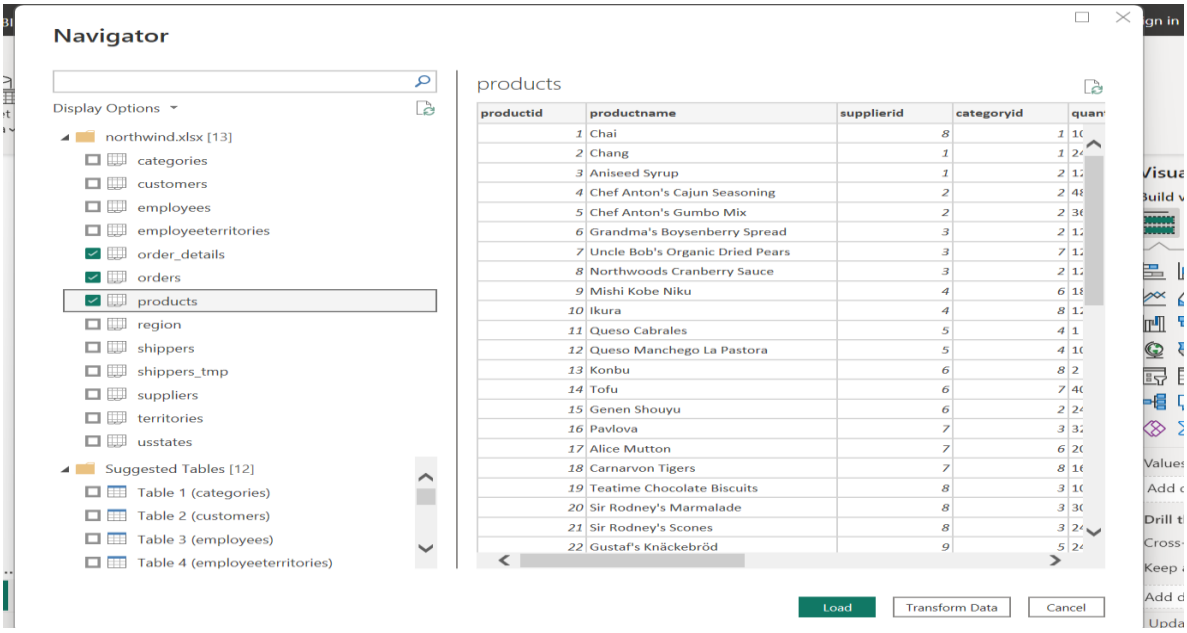
Step 2: Select required file and click on Open, Navigator screen appears, from which u can load the data.



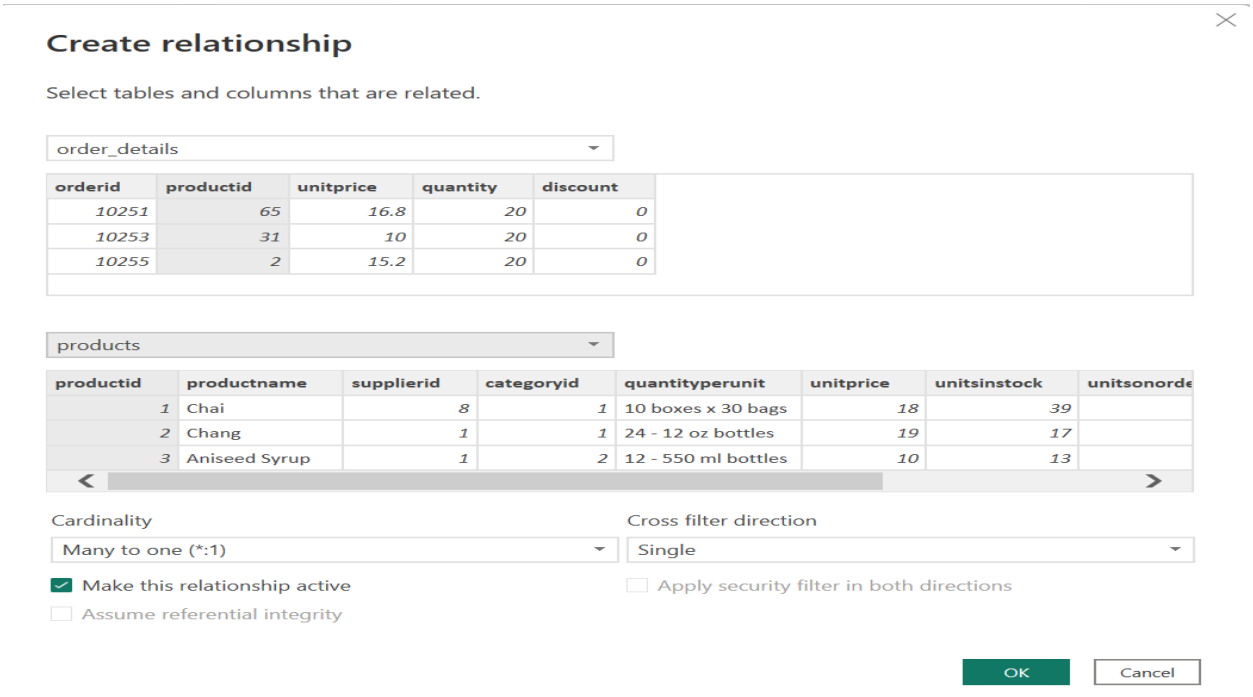
Practical 02:

A). Perform the Extraction Transformation and Loading (ETL) process to construct the database in the Power BI.

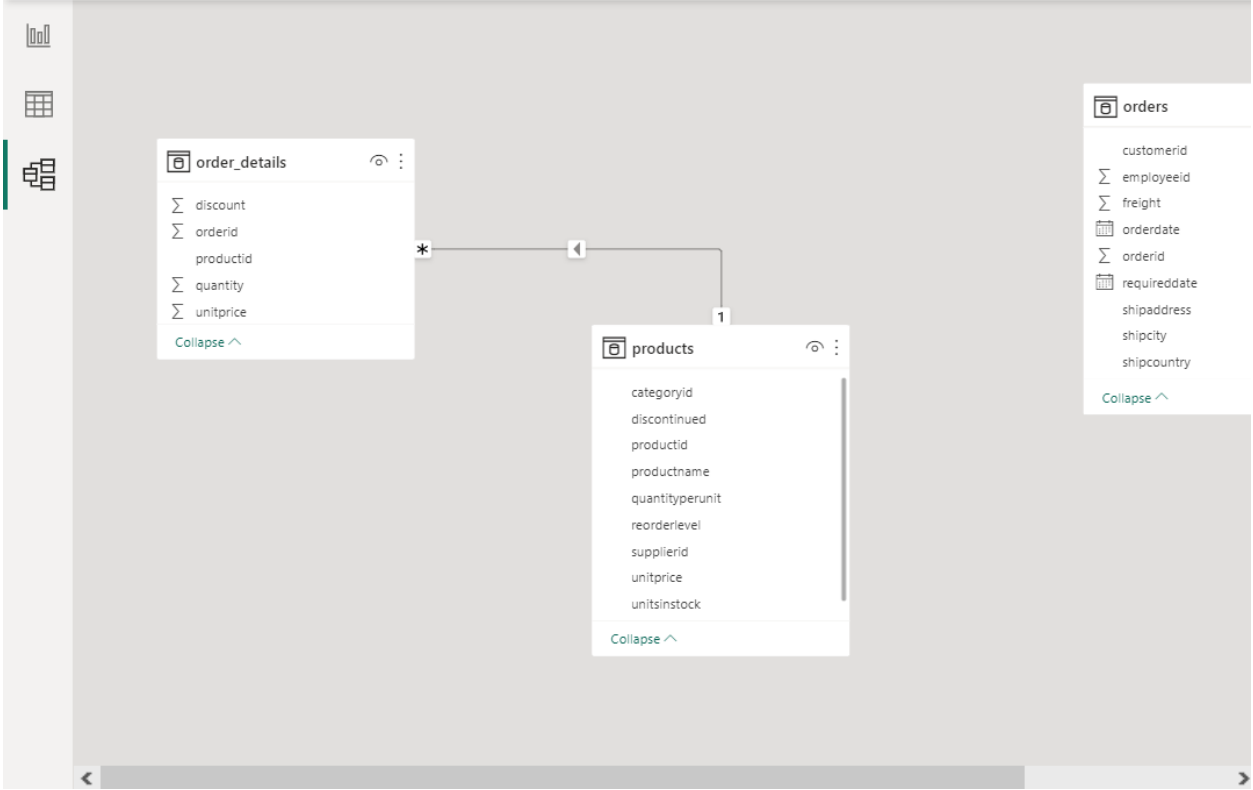
Step 1: Import the dataset and Select the necessary tables required.



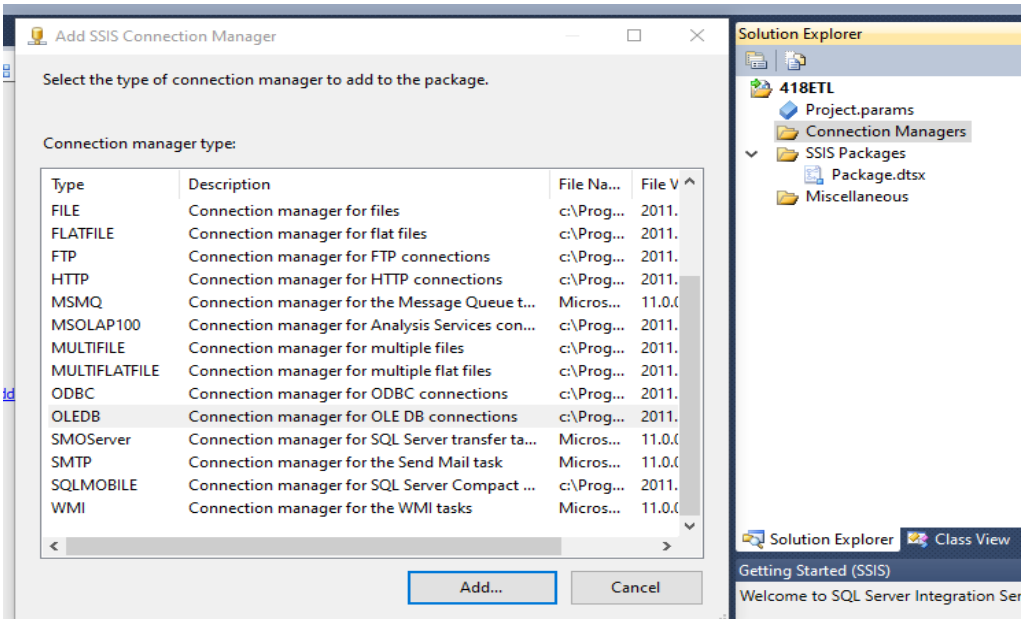
Step 2: Transform data and Managing relationship

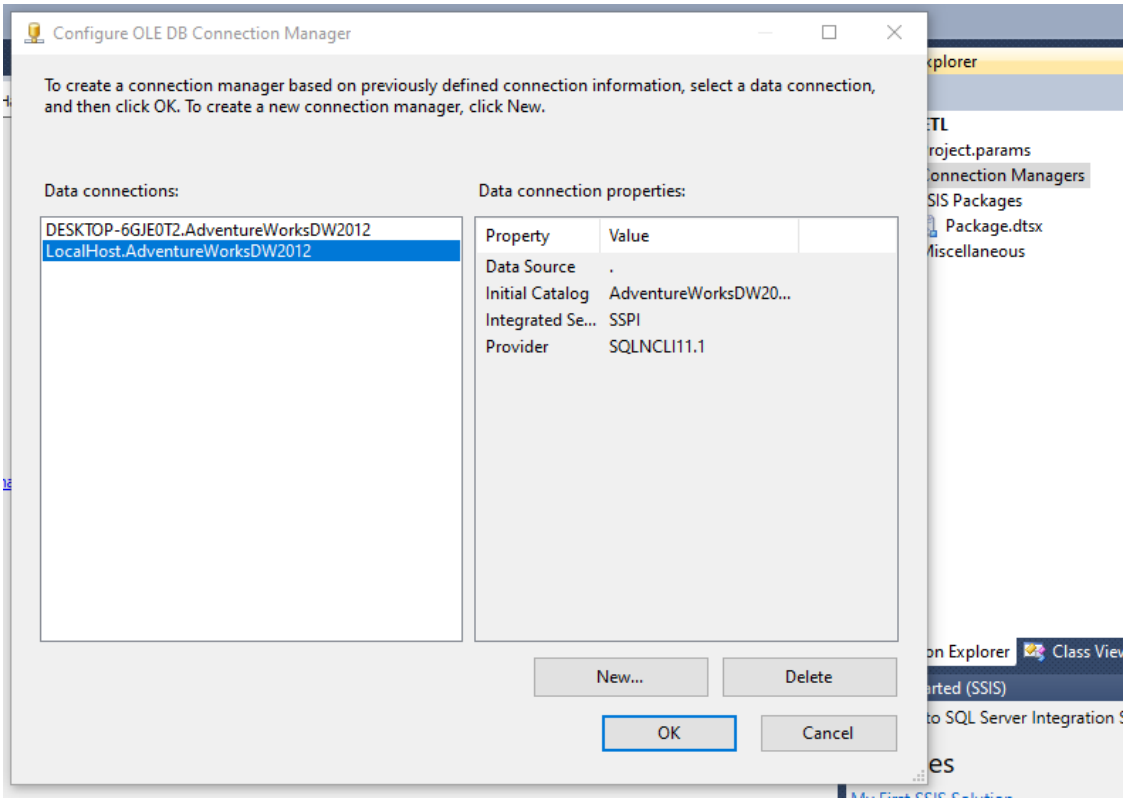


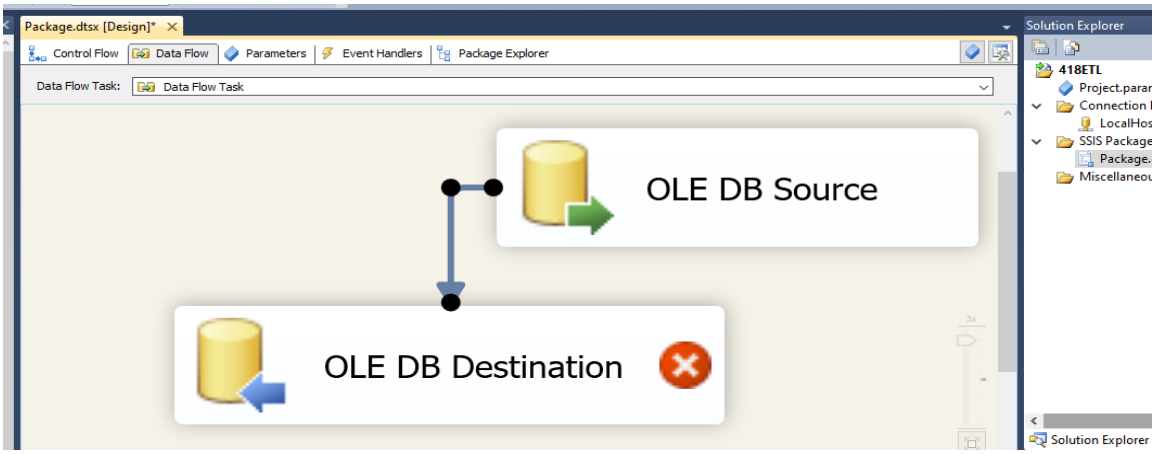
Step 4: Table representation

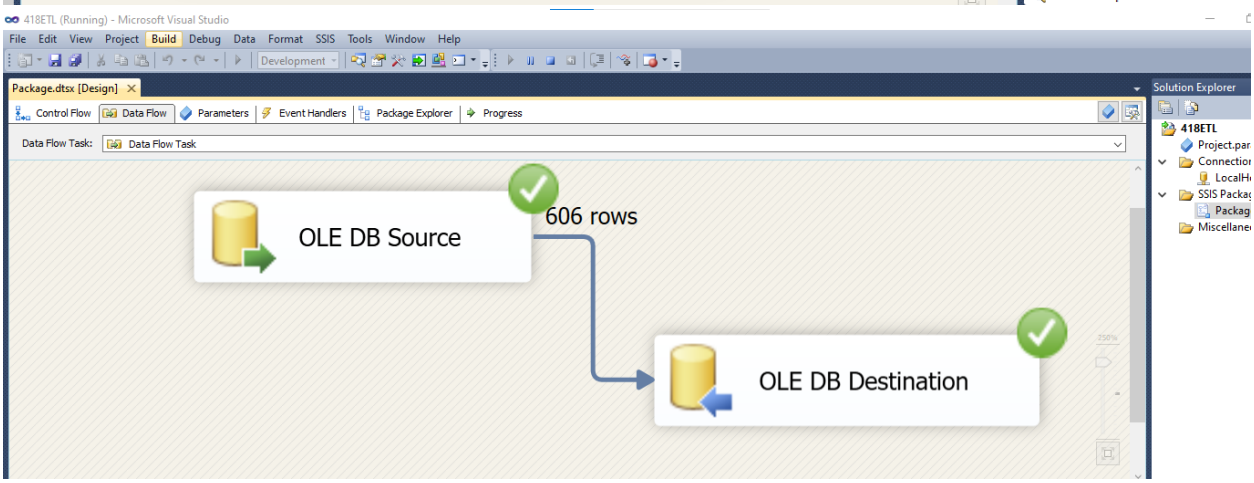


B). Perform the Extraction Transformation and Loading (ETL) process to construct the database in the SQL Server.



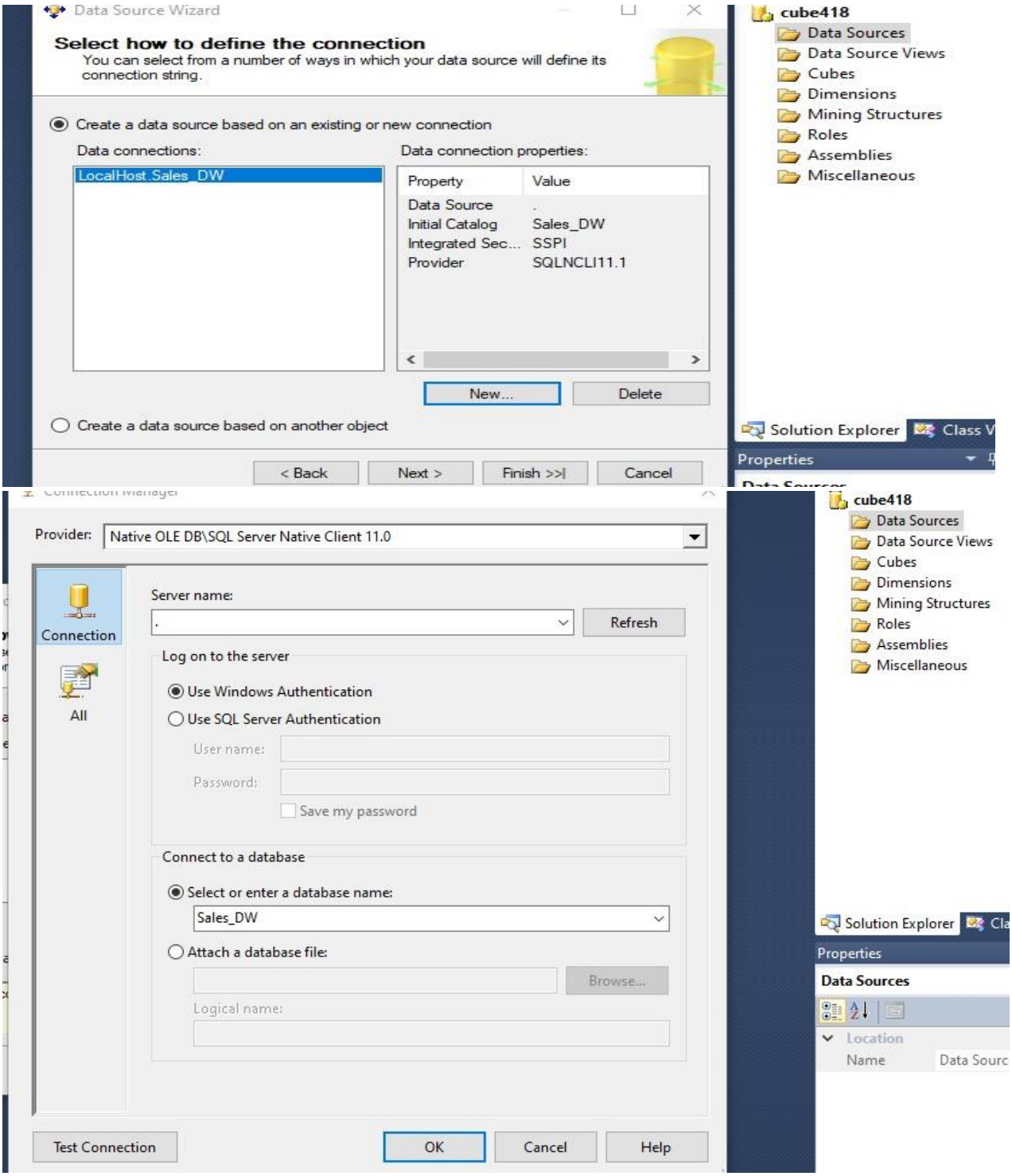

Configure OLE DB Connection Manager
To create a connection manager based on previously defined connection information, select a data connection, and then click OK. To create a new connection manager, click New.
Data connections:
DESKTOP-6GJE0T2.AdventureWorksDW2012
LocalHost.AdventureWorksDW2012
Data connection properties:
Property
Value
Data Source
.
Initial Catalog
AdventureWorksDW20...
Integrated Se...
SSPI
Provider
SQLNCLI11.1
New...
Delete
OK
Cancel

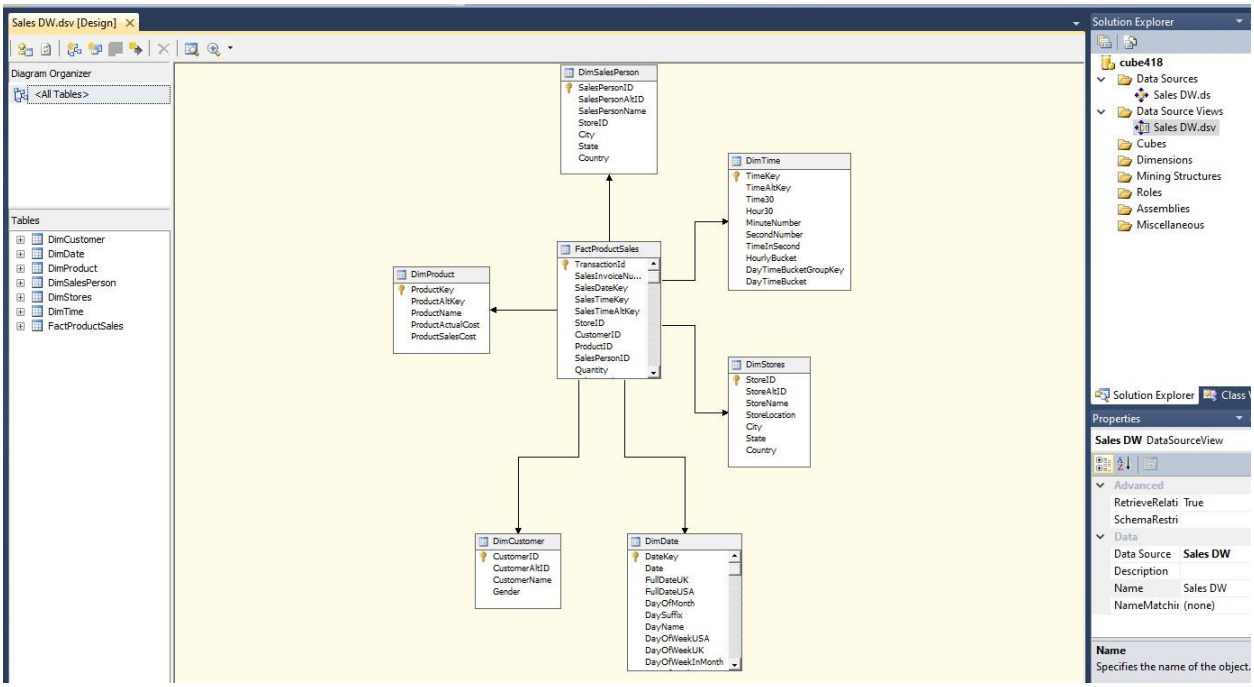

Package.dtsx [Design]*
Control Flow
Data Flow
Parameters
Event Handlers
Package Explorer
Data Flow Task:
Data Flow Task
OLE DB Source
OLE DB Destination
Solution Explorer

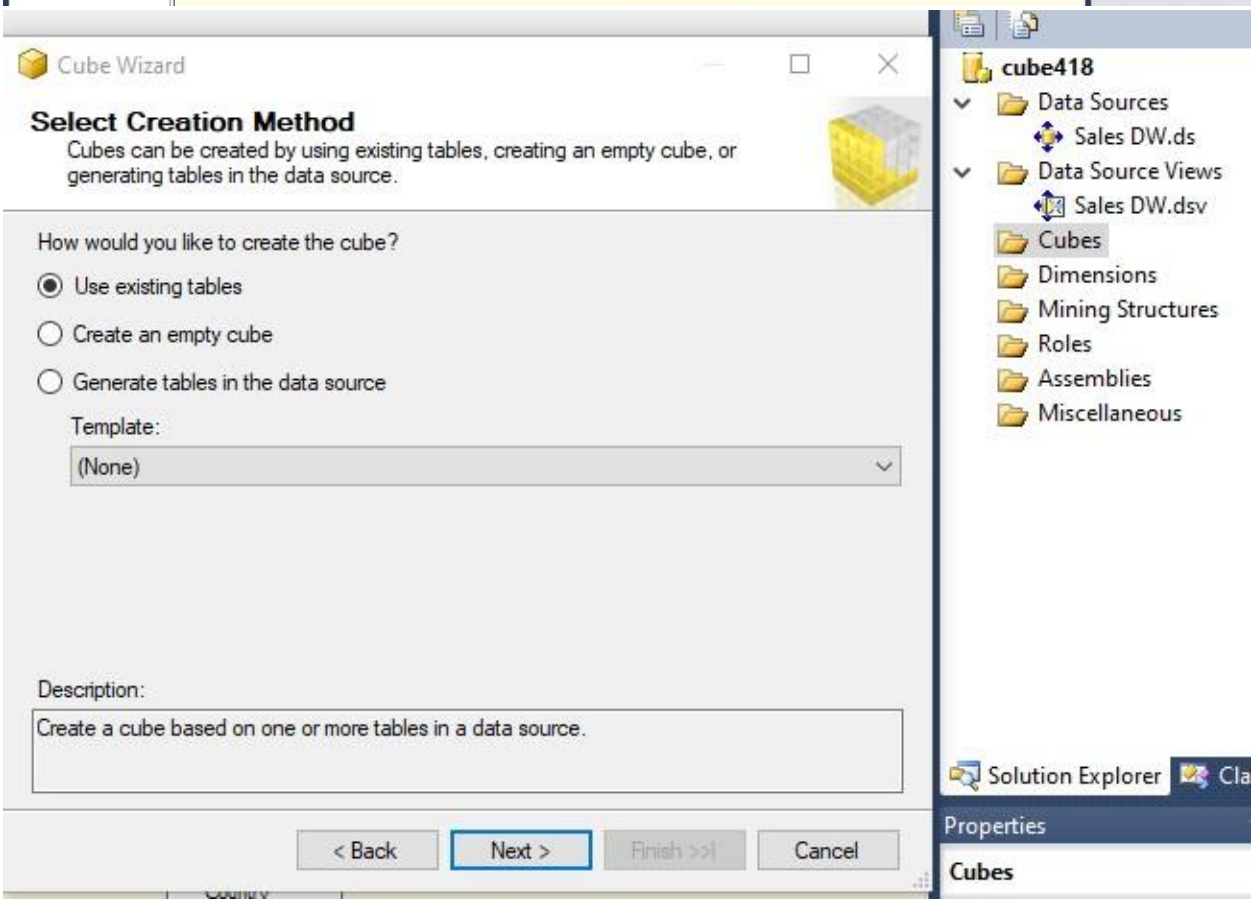

418ETL (Running) - Microsoft Visual Studio
Package.dtsx [Design]
Control Flow
Data Flow
Parameters
Event Handlers
Package Explorer
Progress
Data Flow Task:
Data Flow Task
OLE DB Source
606 rows
OLE DB Destination
Solution Explorer

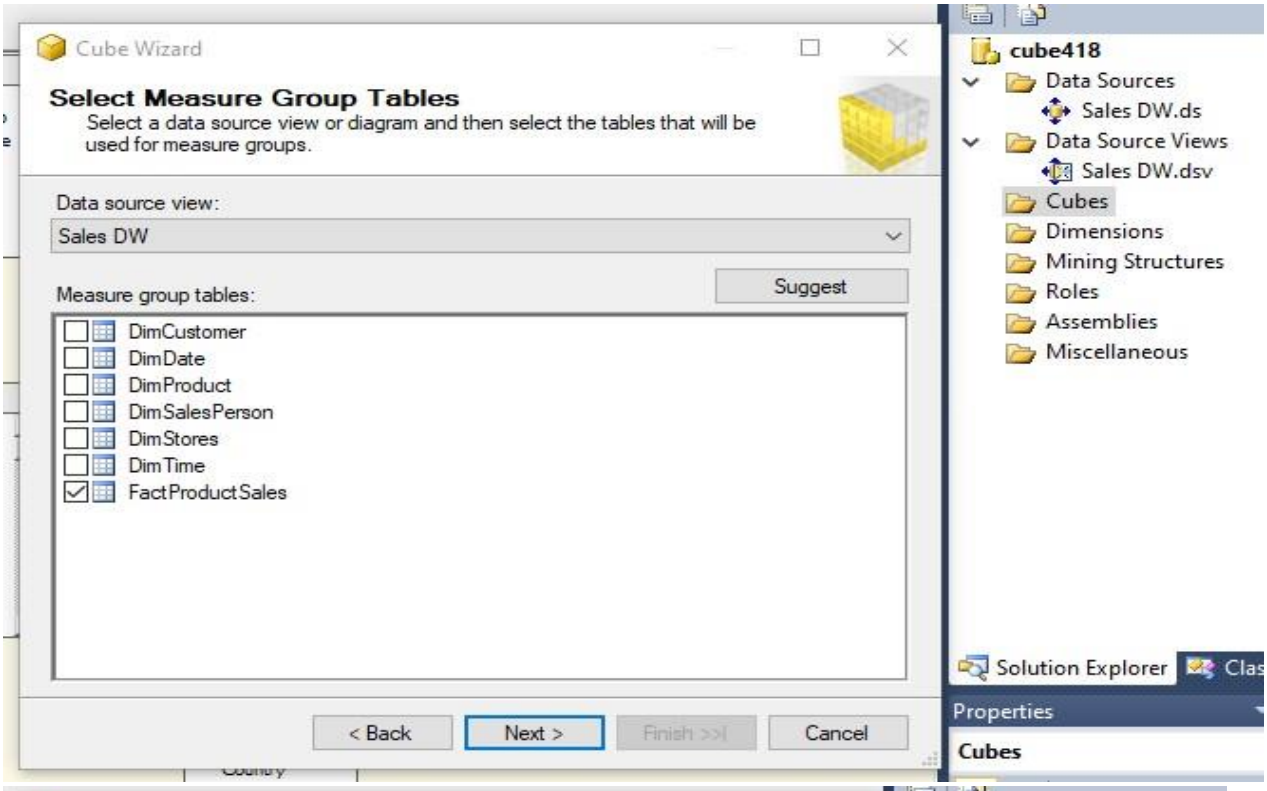
Practical 03:

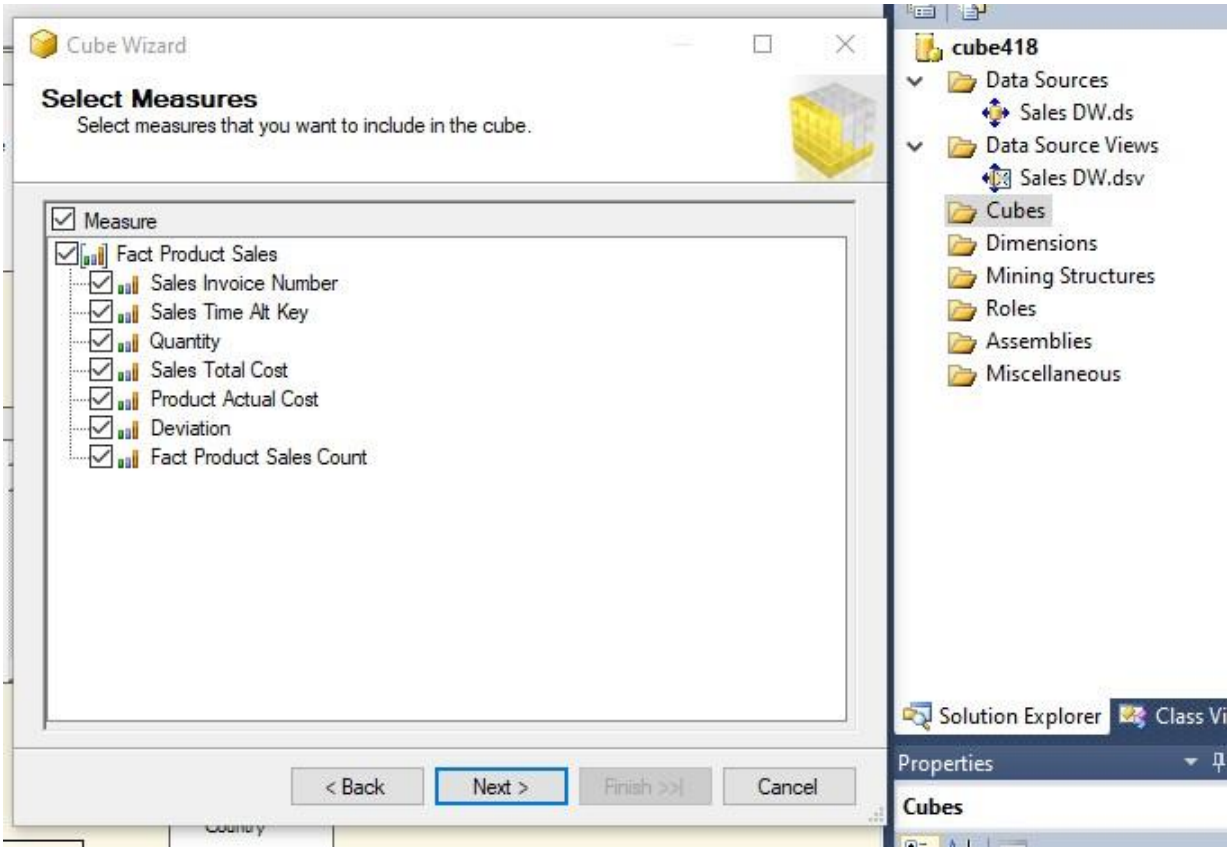
Create the cube with suitable dimension and fact tables based on OLAP.

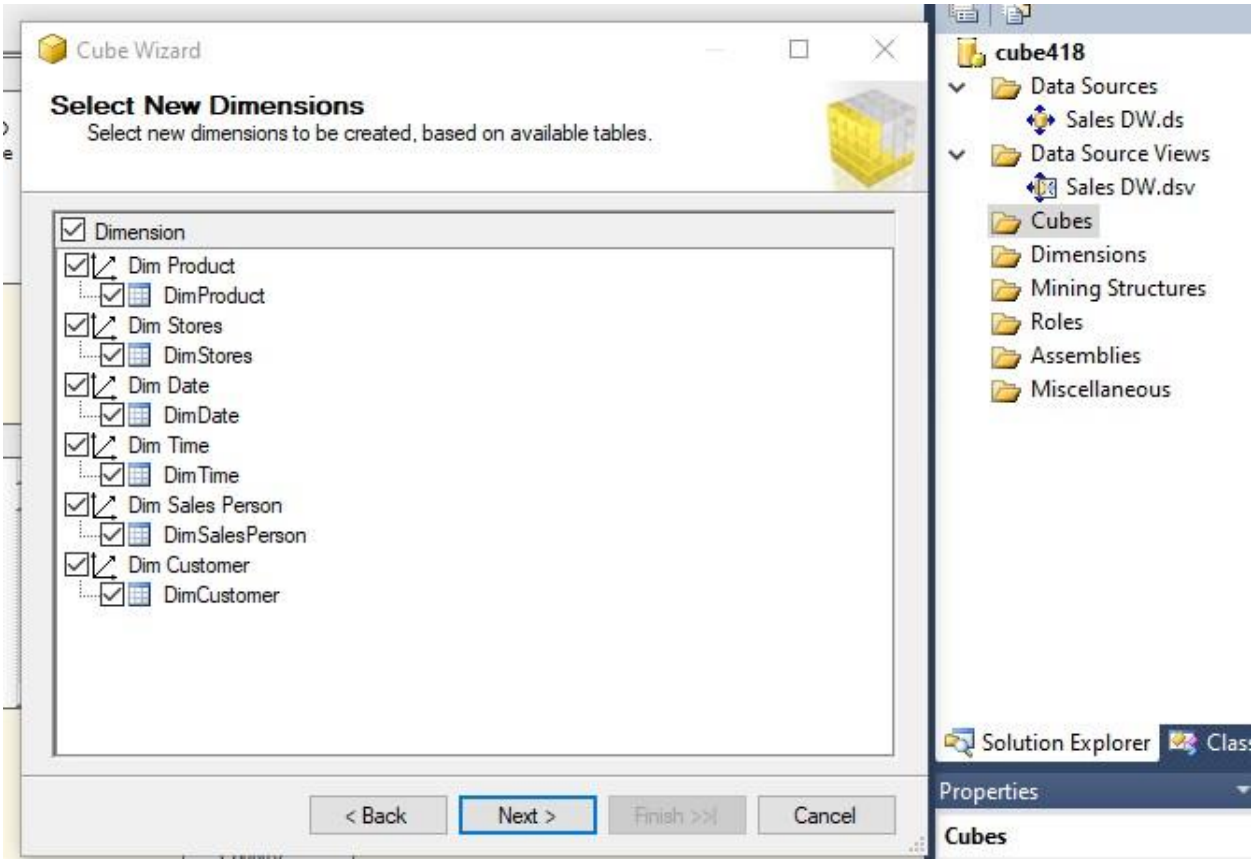


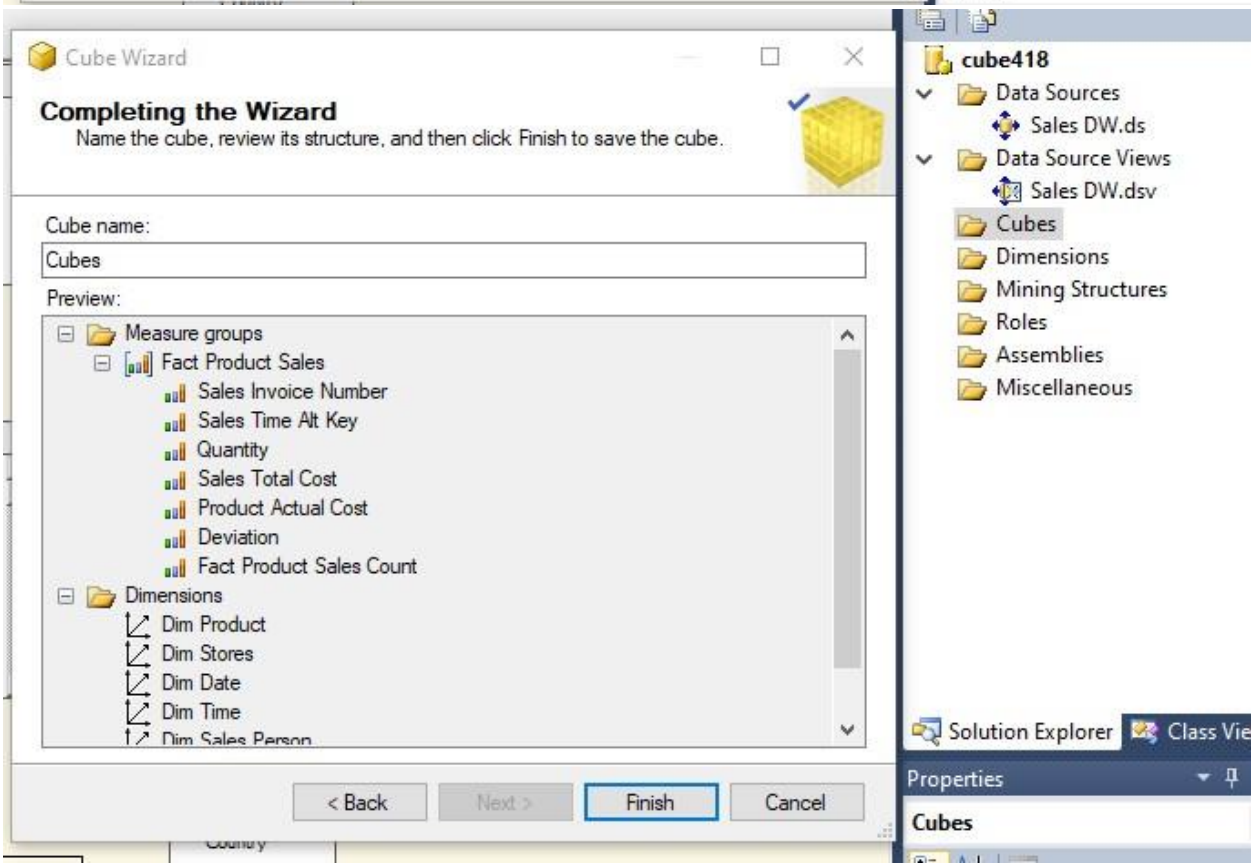

Sales DW.dsv [Design]
Diagram Organizer
<All Tables>
Tables
DimCustomer
DimDate
DimProduct
DimSalesPerson
DimStores
DimTime
FactProductSales
DimSalesPerson
SalesPersonID
SalesPersonAltID
SalesPersonName
StoreID
City
State
Country
DimTime
TimeKey
TimeAltKey
Time30
Hour30
MinuteNumber
SecondNumber
TimeInSecond
HourlyBucket
DayTimeBucketGroupKey
DayTimeBucket
FactProductSales
TransactionId
SalesInvoiceNu...
SalesDateKey
SalesTimeKey
SalesTimeAltKey
StoreID
CustomerID
ProductID
SalesPersonID
Quantity
DimProduct
ProductKey
ProductAltKey
ProductName
ProductActualCost
ProductSalesCost
DimStores
StoreID
StoreAltID
StoreName
StoreLocation
City
State
Country
DimCustomer
CustomerID
CustomerAltID
CustomerName
Gender
DimDate
DateKey
Date
FullDateUK
FullDateUSA
DayOfMonth
DaySuffix
DayName
DayOfWeekUSA
DayOfWeekUK
DayOfWeekInMonth
Solution Explorer
cube418
Data Sources
Sales DW.ds
Data Source Views
Sales DW.dsv
Cubes
Dimensions
Mining Structures
Roles
Assemblies
Miscellaneous
Properties
Sales DW DataSourceView
Advanced
RetrieveRelati True
SchemaRestri
Data
Data Source Sales DW
Description
Name Sales DW
NameMatchir (none)
Name
Specifies the name of the object.

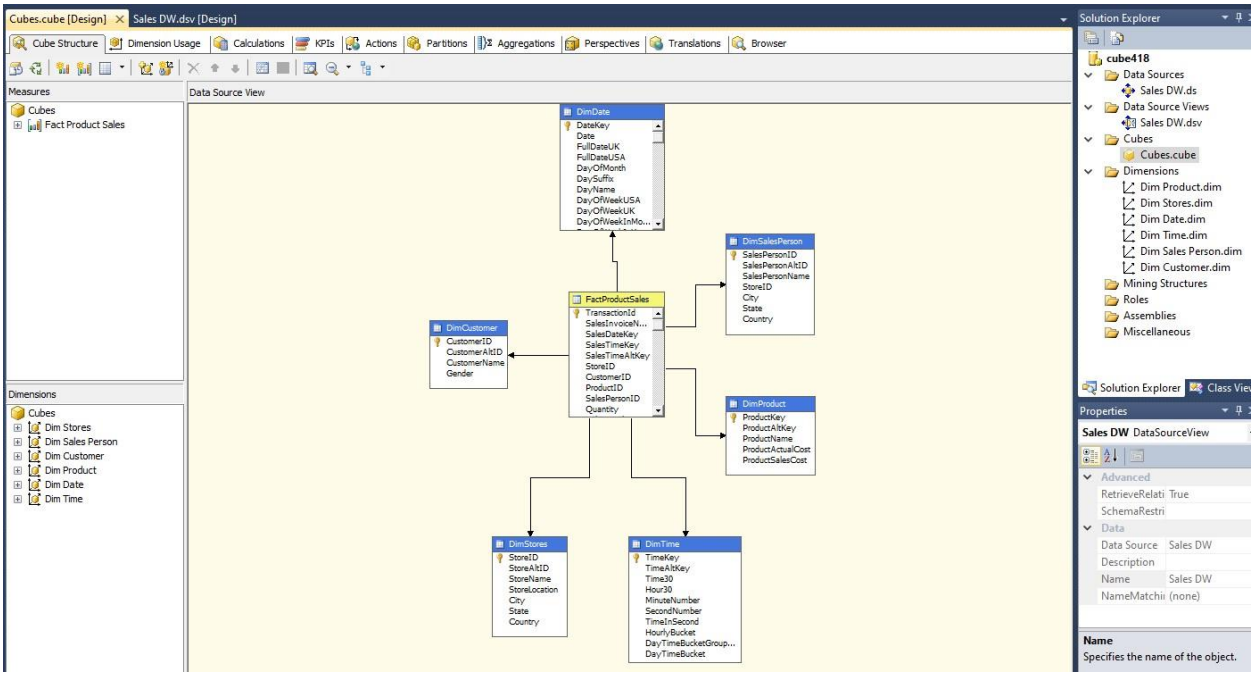

Cube Wizard
Select Creation Method
Cubes can be created by using existing tables, creating an empty cube, or generating tables in the data source.
How would you like to create the cube?
Use existing tables
Create an empty cube
Generate tables in the data source
Template:
(None)
Description:
Create a cube based on one or more tables in a data source.
< Back
Next >
Finish >>|
Cancel
cube418
Data Sources
Sales DW.ds
Data Source Views
Sales DW.dsv
Cubes
Dimensions
Mining Structures
Roles
Assemblies
Miscellaneous
Solution Explorer
Properties
Cubes

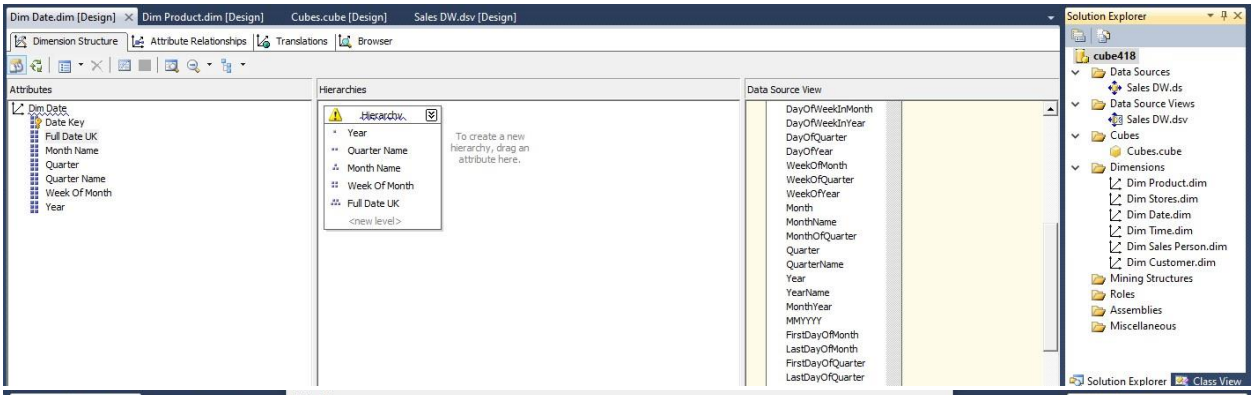

Cube Wizard
Select Measure Group Tables
Select a data source view or diagram and then select the tables that will be used for measure groups.
Data source view:
Sales DW
Measure group tables:
Suggest
DimCustomer
DimDate
DimProduct
DimSalesPerson
DimStores
DimTime
FactProductSales
< Back
Next >
Finish >>|
Cancel
cube418
Data Sources
Sales DW.ds
Data Source Views
Sales DW.dsv
Cubes
Dimensions
Mining Structures
Roles
Assemblies
Miscellaneous
Solution Explorer
Properties
Cubes

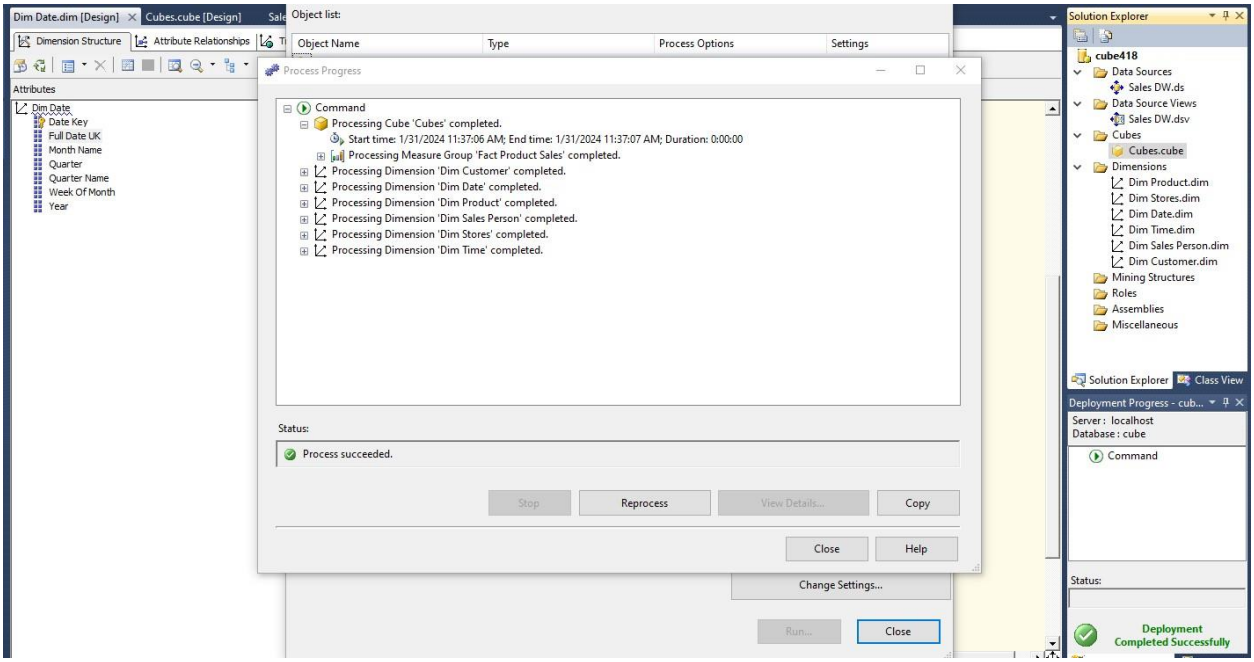

Cube Wizard
Select Measures
Select measures that you want to include in the cube.
Measure
Fact Product Sales
Sales Invoice Number
Sales Time Alt Key
Quantity
Sales Total Cost
Product Actual Cost
Deviation
Fact Product Sales Count
< Back
Next >
Finish >>|
Cancel
cube418
Data Sources
Sales DW.ds
Data Source Views
Sales DW.dsv
Cubes
Dimensions
Mining Structures
Roles
Assemblies
Miscellaneous
Solution Explorer
Properties
Cubes


Cube Wizard
Select New Dimensions
Select new dimensions to be created, based on available tables.
Dimension
Dim Product
DimProduct
Dim Stores
DimStores
Dim Date
DimDate
Dim Time
DimTime
Dim Sales Person
DimSalesPerson
Dim Customer
DimCustomer
< Back
Next >
Finish >>|
Cancel
cube418
Data Sources
Sales DW.ds
Data Source Views
Sales DW.dsv
Cubes
Dimensions
Mining Structures
Roles
Assemblies
Miscellaneous
Solution Explorer
Properties
Cubes


Cube Wizard
Completing the Wizard
Name the cube, review its structure, and then click Finish to save the cube.
Cube name:
Cubes
Preview:
Measure groups
Fact Product Sales
Sales Invoice Number
Sales Time Alt Key
Quantity
Sales Total Cost
Product Actual Cost
Deviation
Fact Product Sales Count
Dimensions
Dim Product
Dim Stores
Dim Date
Dim Time
< Back
Next >
Finish
Cancel
cube418
Data Sources
Sales DW.ds
Data Source Views
Sales DW.dsv
Cubes
Dimensions
Mining Structures
Roles
Assemblies
Miscellaneous
Solution Explorer
Properties
Cubes

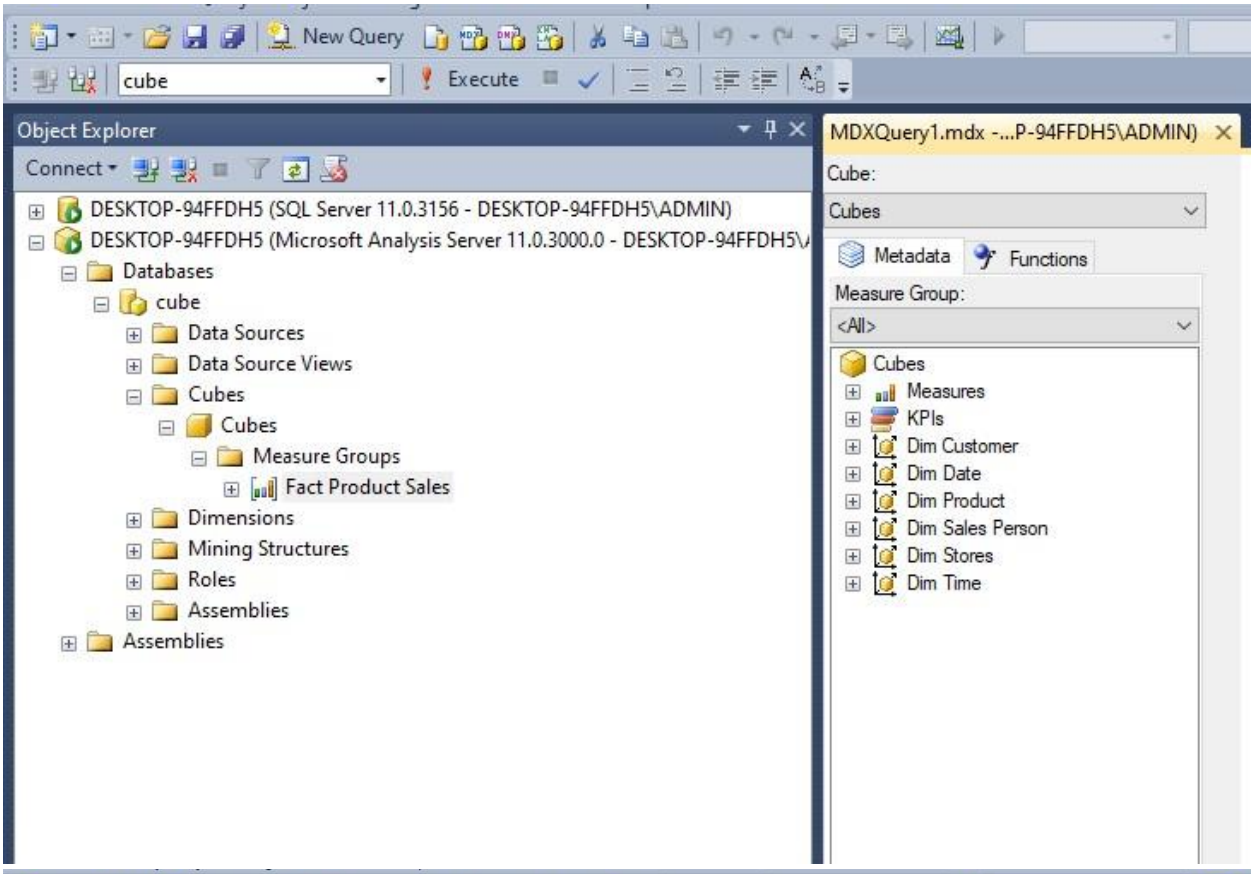

Cubes.cube [Design]
Sales DW.dsv [Design]
Cube Structure
Dimension Usage
Calculations
KPIs
Actions
Partitions
Aggregations
Perspectives
Translations
Browser
Measures
Cubes
Fact Product Sales
Dimensions
Dim Stores
Dim Sales Person
Dim Customer
Dim Product
Dim Date
Dim Time
Data Source View
DimDate
DateKey
Date
FullDateUK
FullDateUSA
DayOfMonth
DaySuffix
DayName
DayOfWeekUSA
DayOfWeekUK
DimSalesPerson
SalesPersonID
SalesPersonAltID
SalesPersonName
StoreID
City
State
Country
FactProductSales
TransactionId
SalesInvoiceN...
SalesDateKey
SalesTimeKey
SalesTimeAltKey
StoreID
CustomerID
ProductID
SalesPersonID
Quantity
DimCustomer
CustomerID
CustomerAltID
CustomerName
Gender
DimProduct
ProductKey
ProductAltKey
ProductName
ProductActualCost
ProductSalesCost
DimStores
StoreID
StoreAltID
StoreName
StoreLocation
City
State
Country
DimTime
TimeKey
TimeAltKey
Time30
Hour30
MinuteNumber
SecondNumber
TimeInSecond
HourlyBucket
DayTimeBucketGroup...
DayTimeBucket
Solution Explorer
cube418
Data Sources
Sales DW.ds
Data Source Views
Sales DW.dsv
Cubes
Cubes.cube
Dimensions
Dim Product.dim
Dim Stores.dim
Dim Date.dim
Dim Time.dim
Dim Sales Person.dim
Dim Customer.dim
Mining Structures
Roles
Assemblies
Miscellaneous
Properties
Sales DW DataSourceView
Name
Specifies the name of the object.

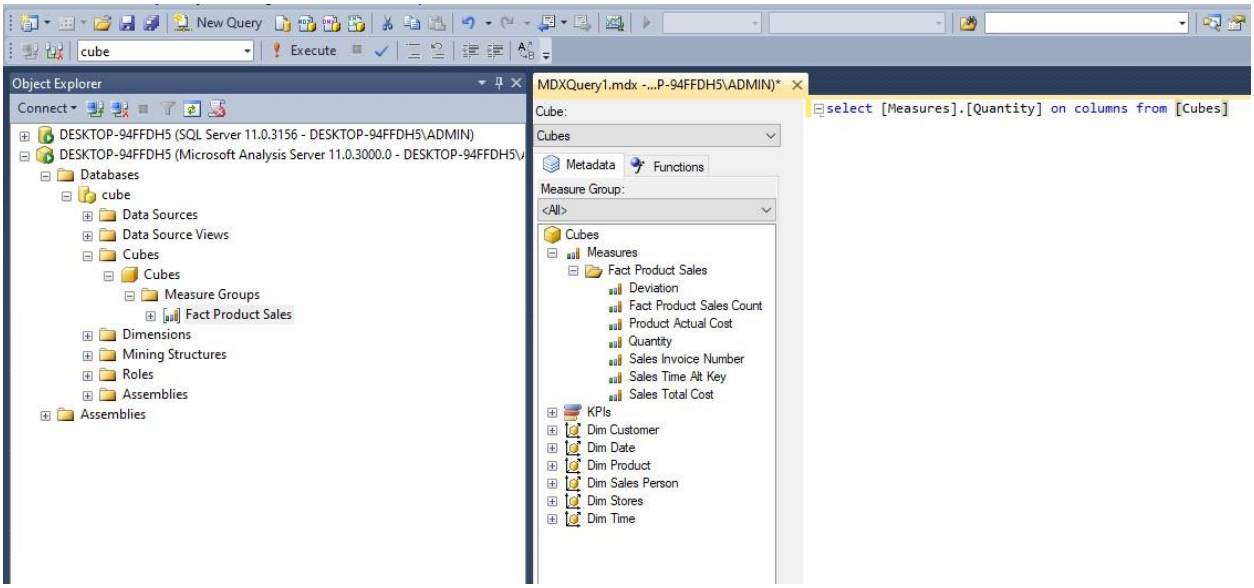

Dim Date.dim [Design]
Dim Product.dim [Design]
Cubes.cube [Design]
Sales DW.dsv [Design]
Dimension Structure
Attribute Relationships
Translations
Browser
Attributes
Dim Date
Date Key
Full Date UK
Month Name
Quarter
Quarter Name
Week Of Month
Year
Hierarchies
Hierarchy
Year
Quarter Name
Month Name
Week Of Month
Full Date UK
<new level>
To create a new hierarchy, drag an attribute here.
Data Source View
DayOfWeekInMonth
DayOfWeekInYear
DayOfQuarter
DayOfYear
WeekOfMonth
WeekOfQuarter
WeekOfYear
Month
MonthName
MonthOfQuarter
Quarter
QuarterName
Year
YearName
MonthYear
MMYYYY
FirstDayOfMonth
LastDayOfMonth
FirstDayOfQuarter
LastDayOfQuarter
Solution Explorer
Class View

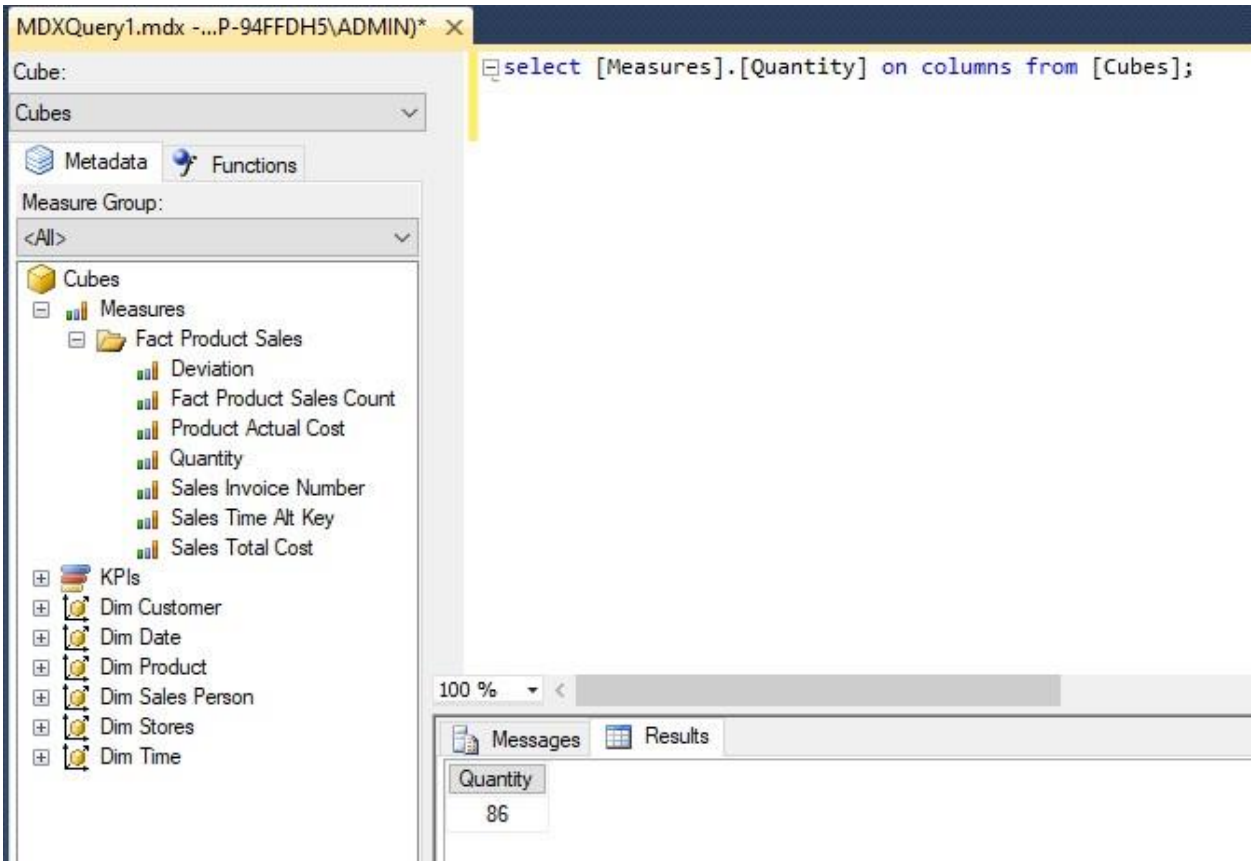

Dim Date.dim [Design]
Cubes.cube [Design]
Object list:
Object Name
Type
Process Options
Settings
Process Progress
Command
Processing Cube 'Cubes' completed.
Start time: 1/31/2024 11:37:06 AM; End time: 1/31/2024 11:37:07 AM; Duration: 0:00:00
Processing Measure Group 'Fact Product Sales' completed.
Processing Dimension 'Dim Customer' completed.
Processing Dimension 'Dim Date' completed.
Processing Dimension 'Dim Product' completed.
Processing Dimension 'Dim Sales Person' completed.
Processing Dimension 'Dim Stores' completed.
Processing Dimension 'Dim Time' completed.
Status:
Process succeeded.
Stop
Reprocess
View Details...
Copy
Close
Help
Change Settings...
Run...
Close
Deployment Progress - cub...
Server : localhost
Database : cube
Command
Status:
Deployment Completed Successfully

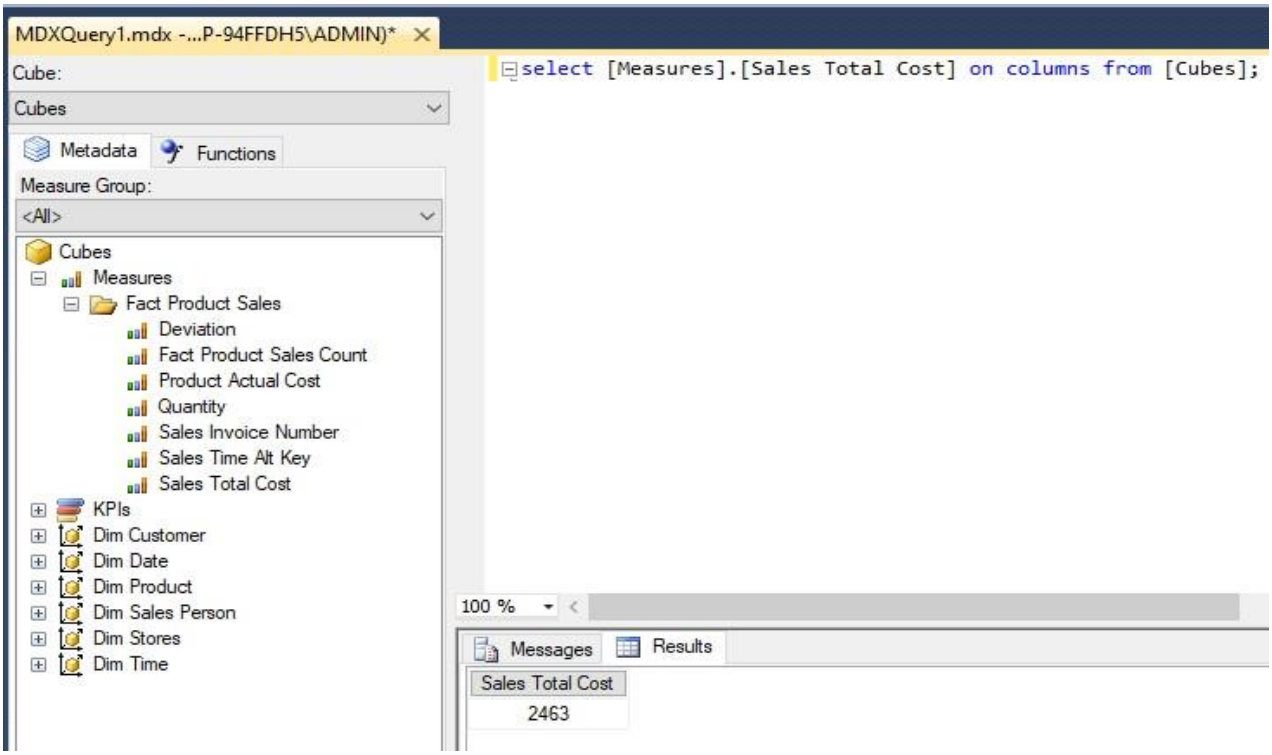
Practical 04:

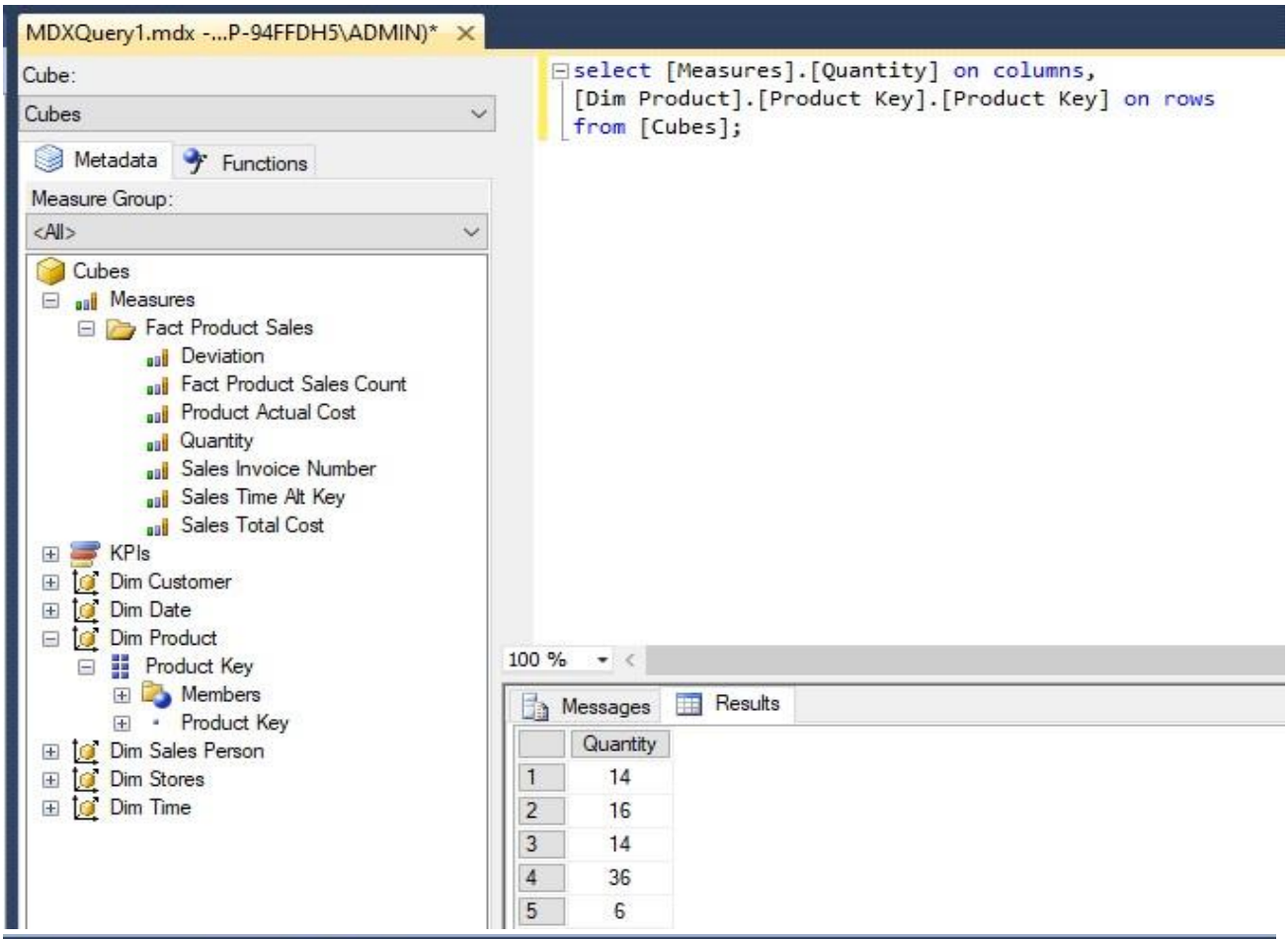
Execute the MDX queries to extract the data from the data warehouse.

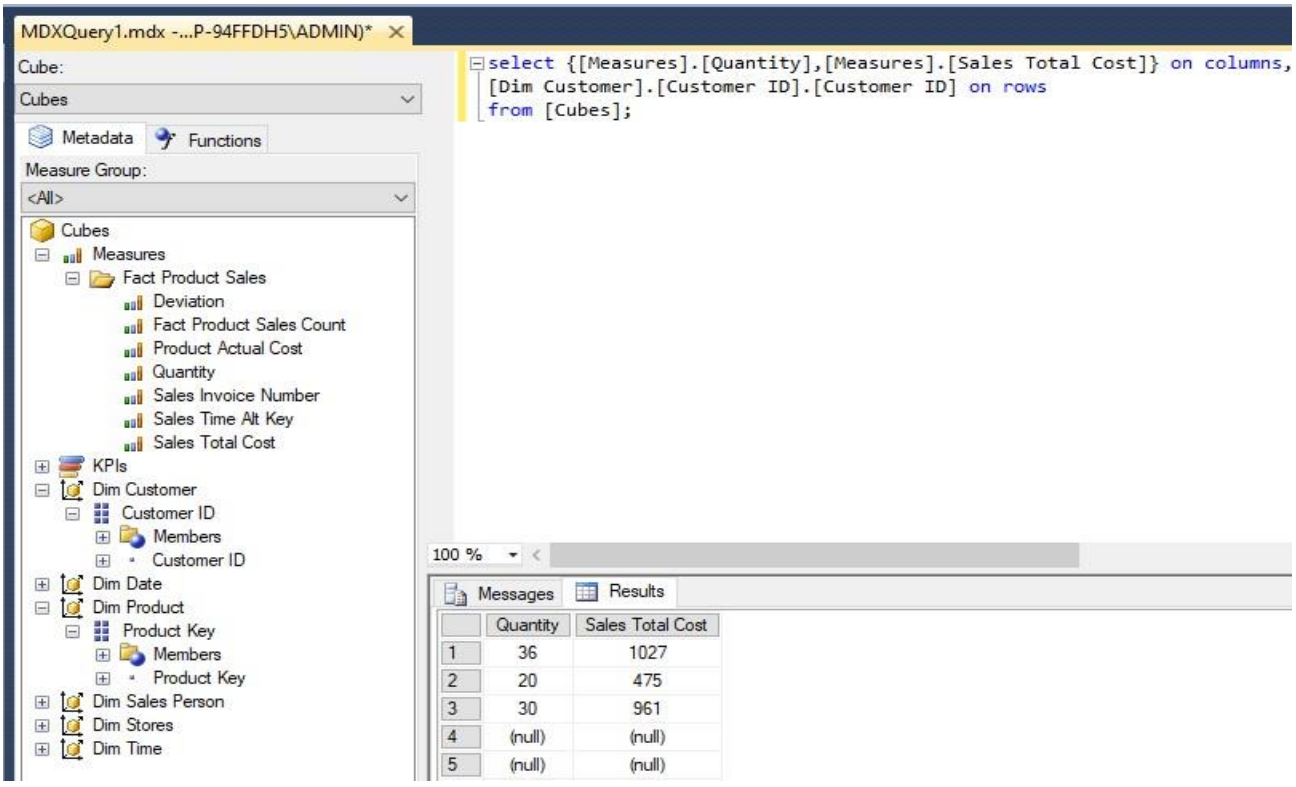





MDXQuery1.mdx -...P-94FFDH5\ADMIN)*
Cube:
Cubes
Metadata
Functions
Measure Group:
<All>
Cubes
Measures
Fact Product Sales
Deviation
Fact Product Sales Count
Product Actual Cost
Quantity
Sales Invoice Number
Sales Time Alt Key
Sales Total Cost
KPIs
Dim Customer
Dim Date
Dim Product
Dim Sales Person
Dim Stores
Dim Time
select [Measures].[Quantity] on columns from [Cubes];
100 %
Messages
Results
Quantity
86


MDXQuery1.mdx -...P-94FFDH5\ADMIN)*
Cube:
Cubes
Metadata
Functions
Measure Group:
<All>
Cubes
Measures
Fact Product Sales
Deviation
Fact Product Sales Count
Product Actual Cost
Quantity
Sales Invoice Number
Sales Time Alt Key
Sales Total Cost
KPIs
Dim Customer
Dim Date
Dim Product
Dim Sales Person
Dim Stores
Dim Time
select [Measures].[Sales Total Cost] on columns from [Cubes];
100 %
Messages
Results
Sales Total Cost
2463

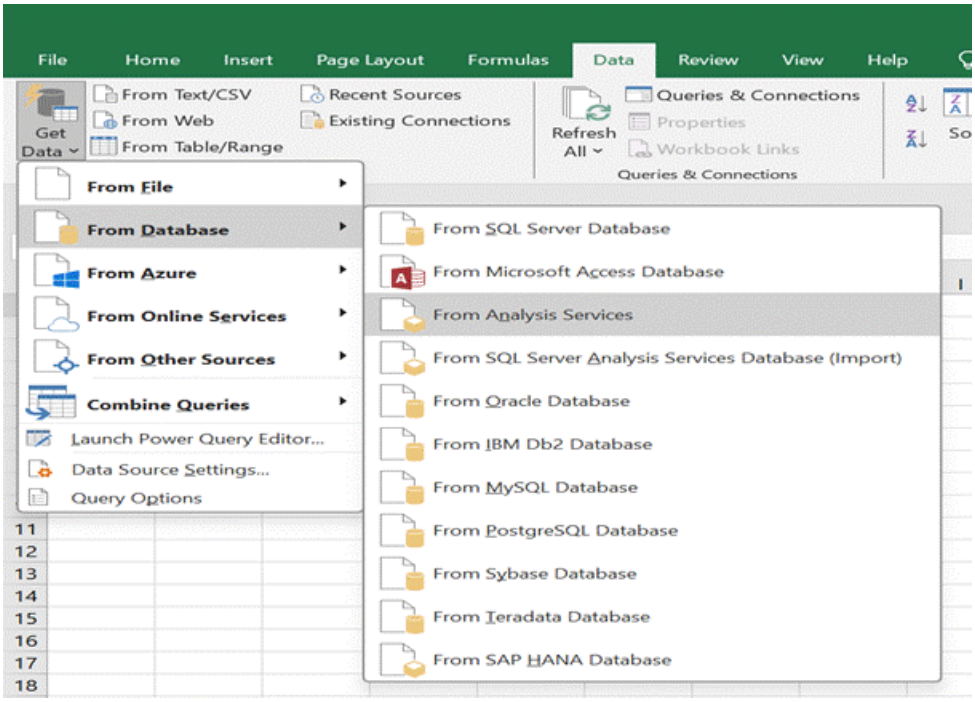

MDXQuery1.mdx -...P-94FFDH5\ADMIN)*
Cube:
Cubes
Metadata
Functions
Measure Group:
<All>
Cubes
Measures
Fact Product Sales
Deviation
Fact Product Sales Count
Product Actual Cost
Quantity
Sales Invoice Number
Sales Time Alt Key
Sales Total Cost
KPIs
Dim Customer
Dim Date
Dim Product
Product Key
Members
Product Key
Dim Sales Person
Dim Stores
Dim Time
select [Measures].[Quantity] on columns,
[Dim Product].[Product Key].[Product Key] on rows
from [Cubes];
100 %
Messages
Results
Quantity
1 14
2 16
3 14
4 36
5 6


MDXQuery1.mdx -...P-94FFDH5\ADMIN)*
Cube:
Cubes
Metadata
Functions
Measure Group:
<All>
Cubes
Measures
Fact Product Sales
Deviation
Fact Product Sales Count
Product Actual Cost
Quantity
Sales Invoice Number
Sales Time Alt Key
Sales Total Cost
KPIs
Dim Customer
Customer ID
Members
Customer ID
Dim Date
Dim Product
Product Key
Members
Product Key
Dim Sales Person
Dim Stores
Dim Time
select {[Measures].[Quantity],[Measures].[Sales Total Cost]} on columns,
[Dim Customer].[Customer ID].[Customer ID] on rows
from [Cubes];
100 %
Messages
Results
Quantity Sales Total Cost
1 36 1027
2 20 475
3 30 961
4 (null) (null)
5 (null) (null)

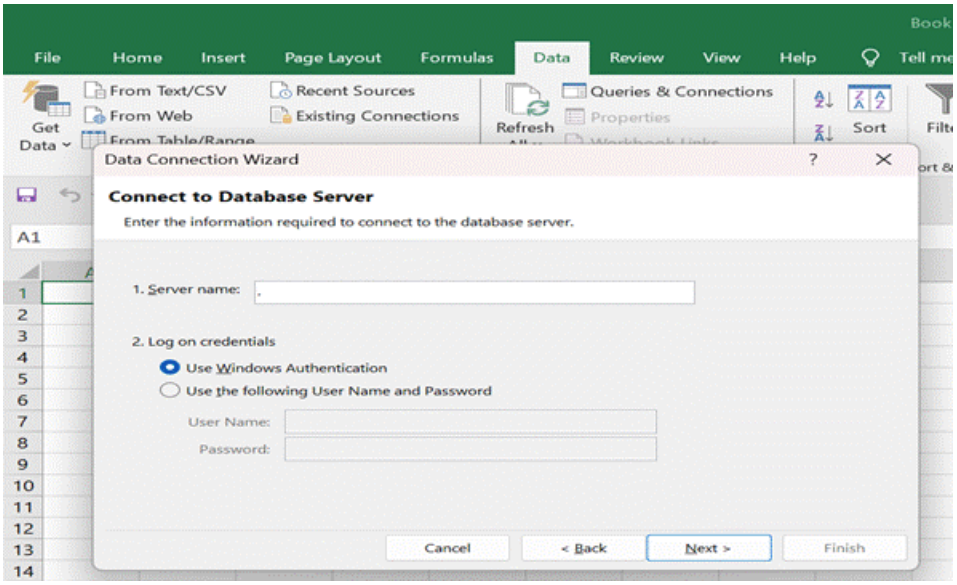
Practical 05:

Import the cube in Microsoft Excel and create the Pivot table and Pivot Chart to perform data analysis.

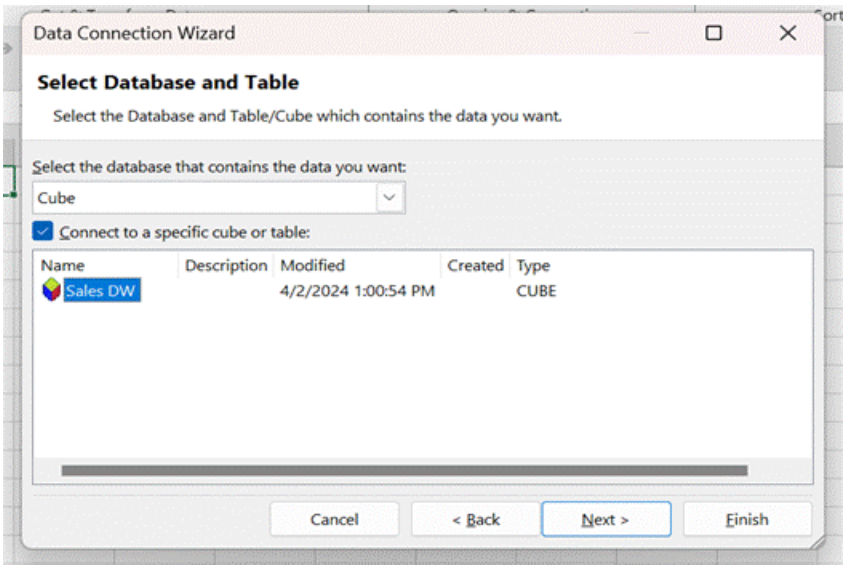
Step 1: Import the Cube from Data Analysis Services.



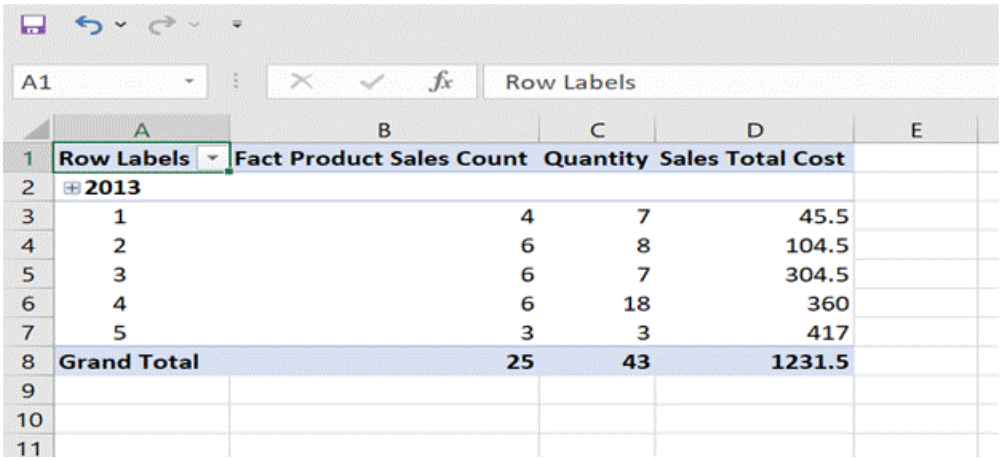
Step 2: Connect to the database server



Step 3: Select the Cube created before



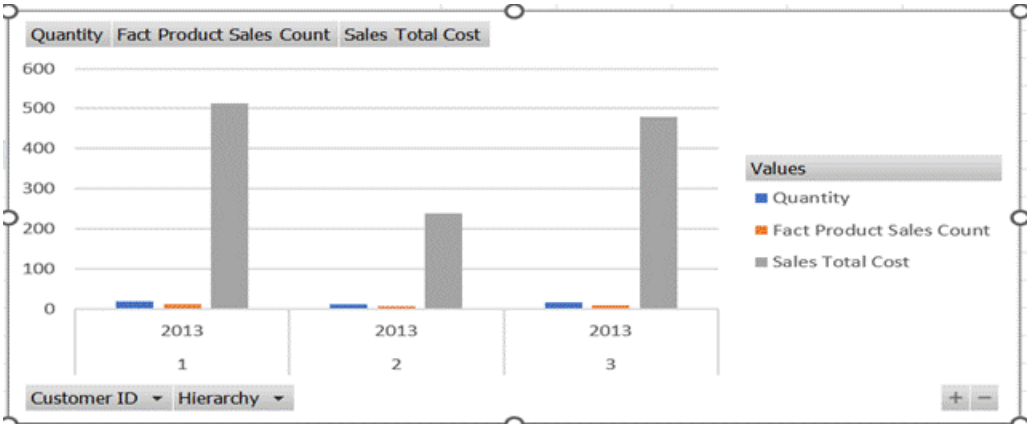
Step 4: Pivot Table report



A1 | Row Labels

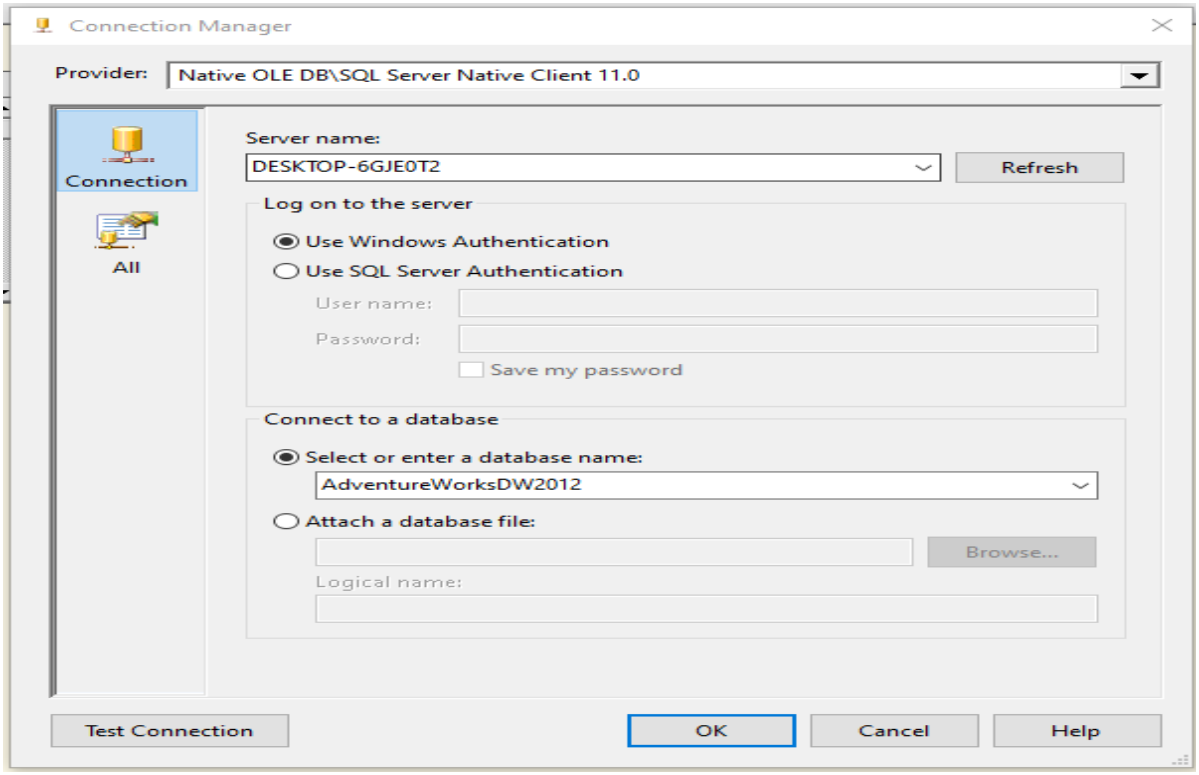
	A	B	C	D	E
1	Row Labels	Fact Product Sales Count	Quantity	Sales Total Cost	
2	2013				
3	1	4	7	45.5	
4	2	6	8	104.5	
5	3	6	7	304.5	
6	4	6	18	360	
7	5	3	3	417	
8	Grand Total	25	43	1231.5	
9					
10					
11					

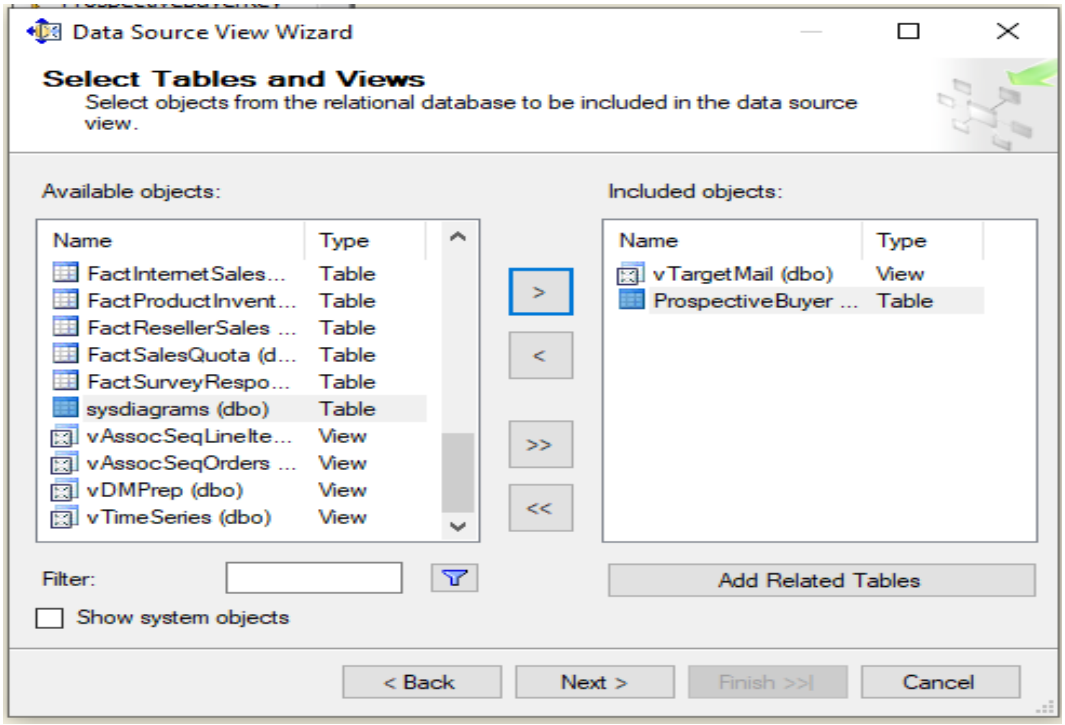
Step 5: Pivot Chart Report

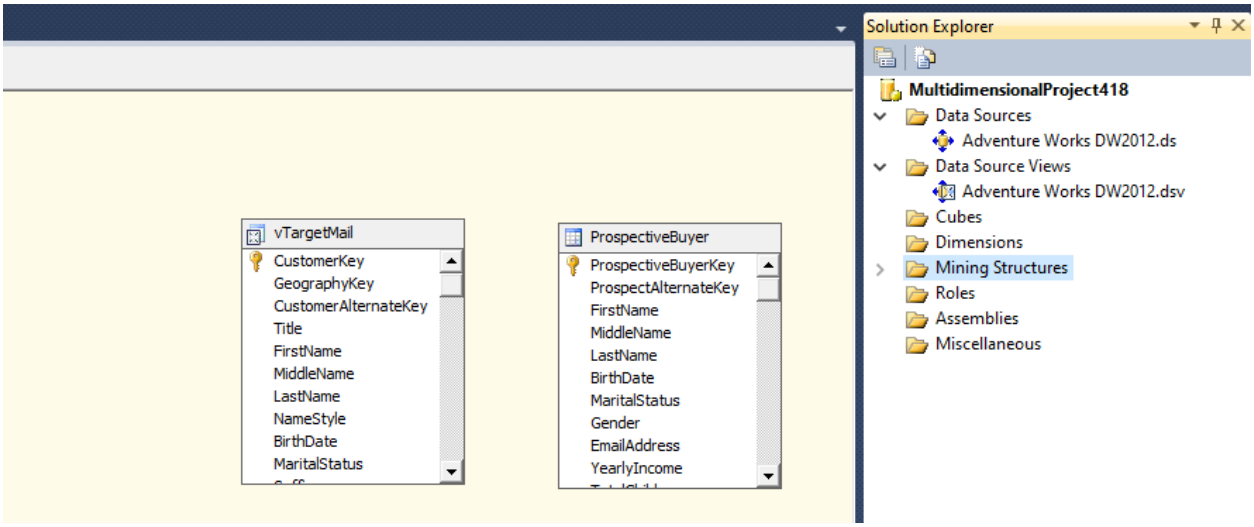


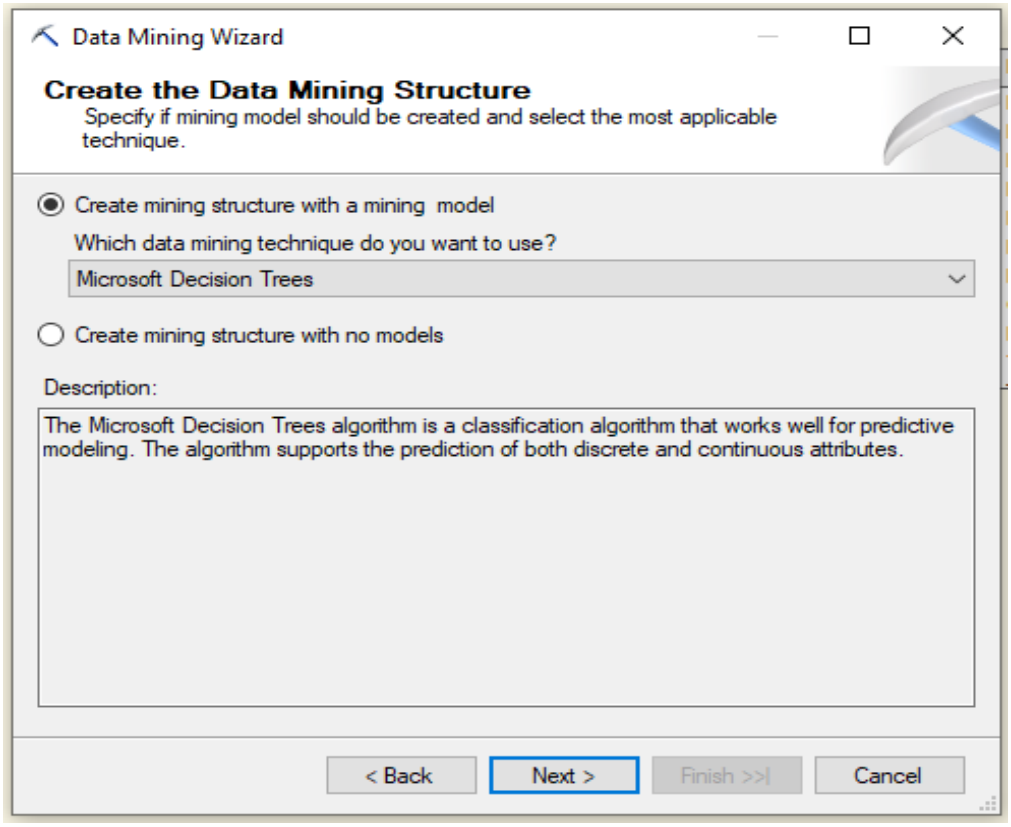
Practical 07:

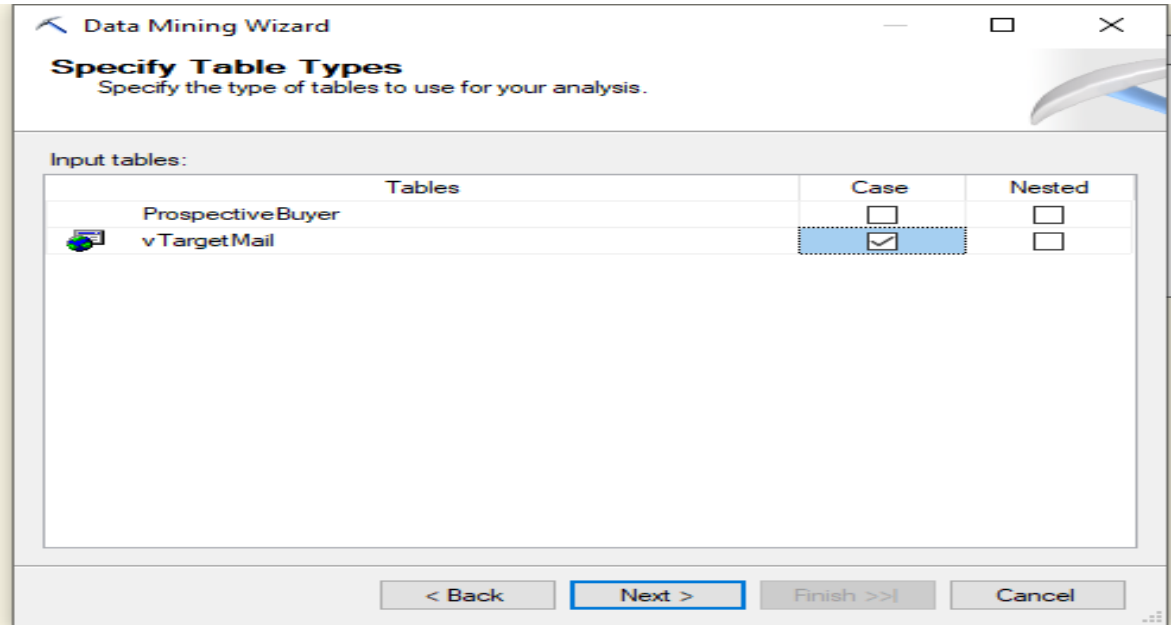
Perform the data classification using classification algorithm.

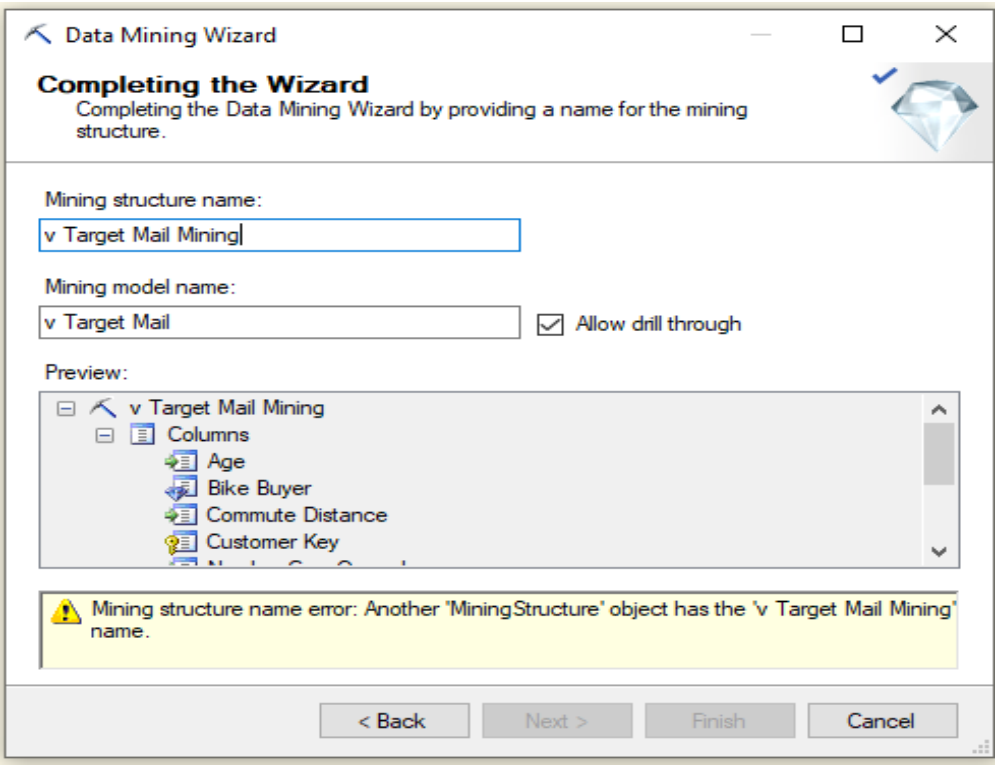


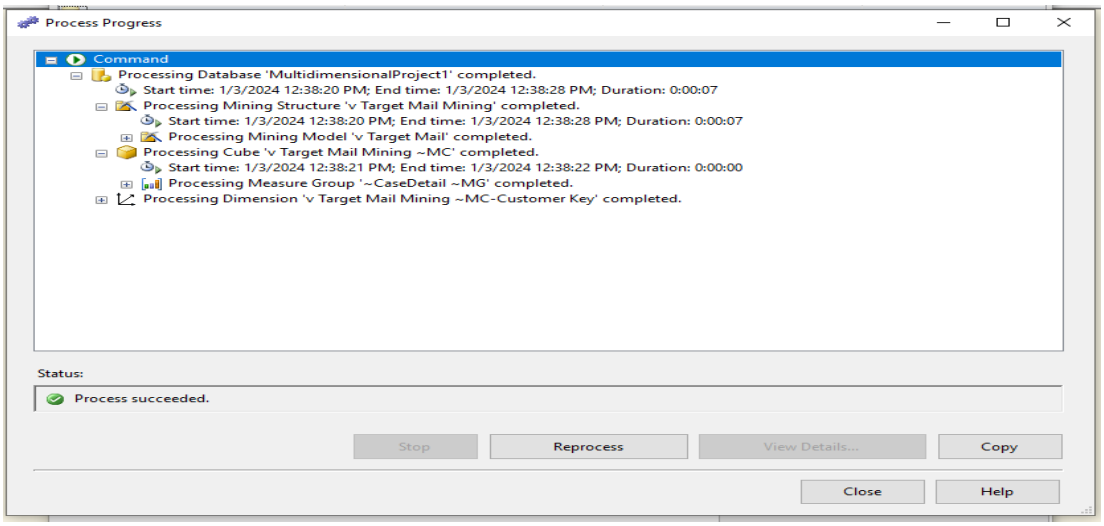


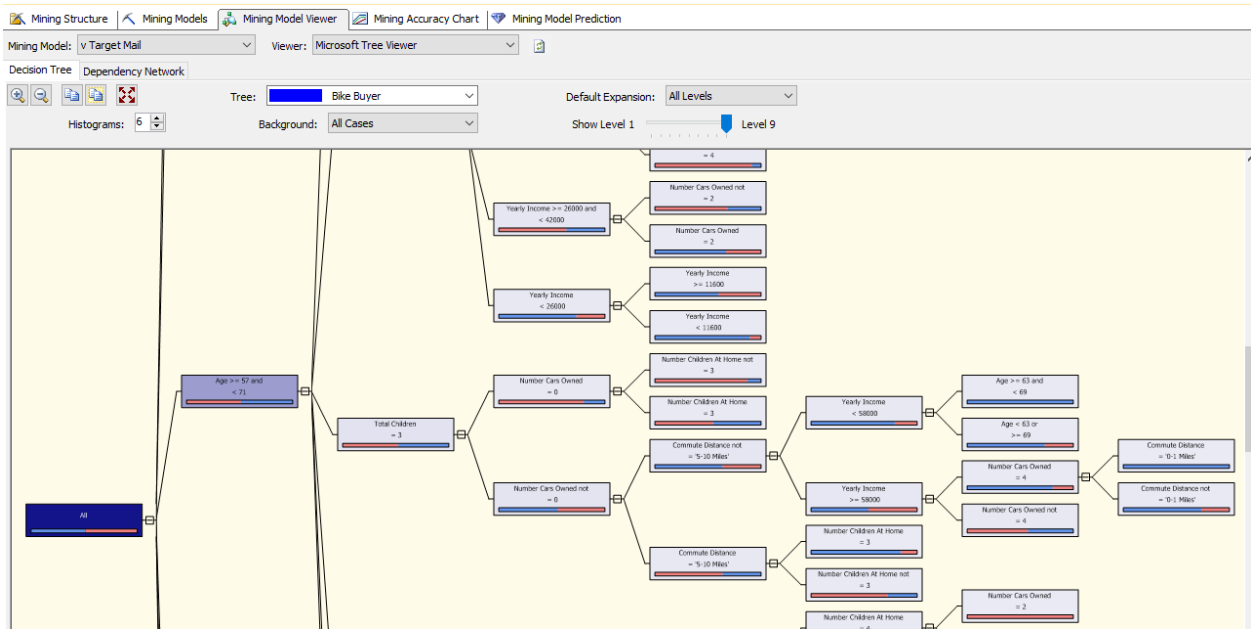

Solution Explorer
MultidimensionalProject418
Data Sources
Adventure Works DW2012.ds
Data Source Views
Adventure Works DW2012.dsv
Cubes
Dimensions
Mining Structures
Roles
Assemblies
Miscellaneous
vTargetMail
CustomerKey
GeographyKey
CustomerAlternateKey
Title
FirstName
MiddleName
LastName
NameStyle
BirthDate
MaritalStatus
ProspectiveBuyer
ProspectiveBuyerKey
ProspectAlternateKey
FirstName
MiddleName
LastName
BirthDate
MaritalStatus
Gender
EmailAddress
YearlyIncome

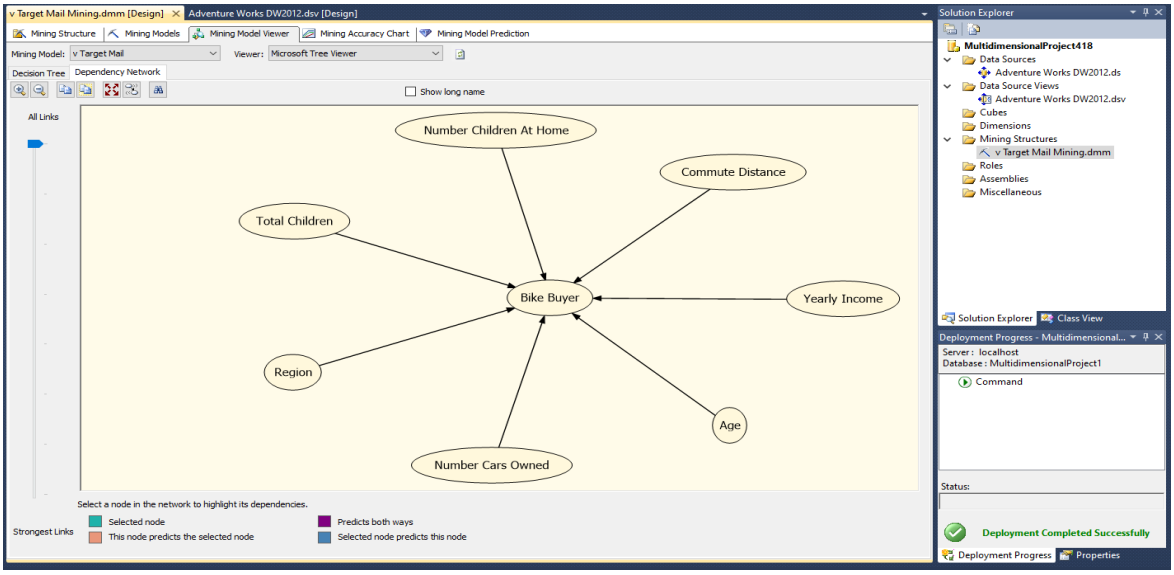

Data Mining Wizard
Create the Data Mining Structure
Specify if mining model should be created and select the most applicable technique.
Create mining structure with a mining model
Which data mining technique do you want to use?
Microsoft Decision Trees
Create mining structure with no models
Description:
The Microsoft Decision Trees algorithm is a classification algorithm that works well for predictive modeling. The algorithm supports the prediction of both discrete and continuous attributes.
< Back
Next >
Finish >>|
Cancel


Data Mining Wizard
Specify Table Types
Specify the type of tables to use for your analysis.
Input tables:
Tables
Case
Nested
ProspectiveBuyer
vTargetMail
< Back
Next >
Finish >>|
Cancel


Data Mining Wizard
Completing the Wizard
Completing the Data Mining Wizard by providing a name for the mining structure.
Mining structure name:
v Target Mail Mining
Mining model name:
v Target Mail
Allow drill through
Preview:
v Target Mail Mining
Columns
Age
Bike Buyer
Commute Distance
Customer Key
Mining structure name error: Another 'MiningStructure' object has the 'v Target Mail Mining' name.
< Back
Next >
Finish
Cancel

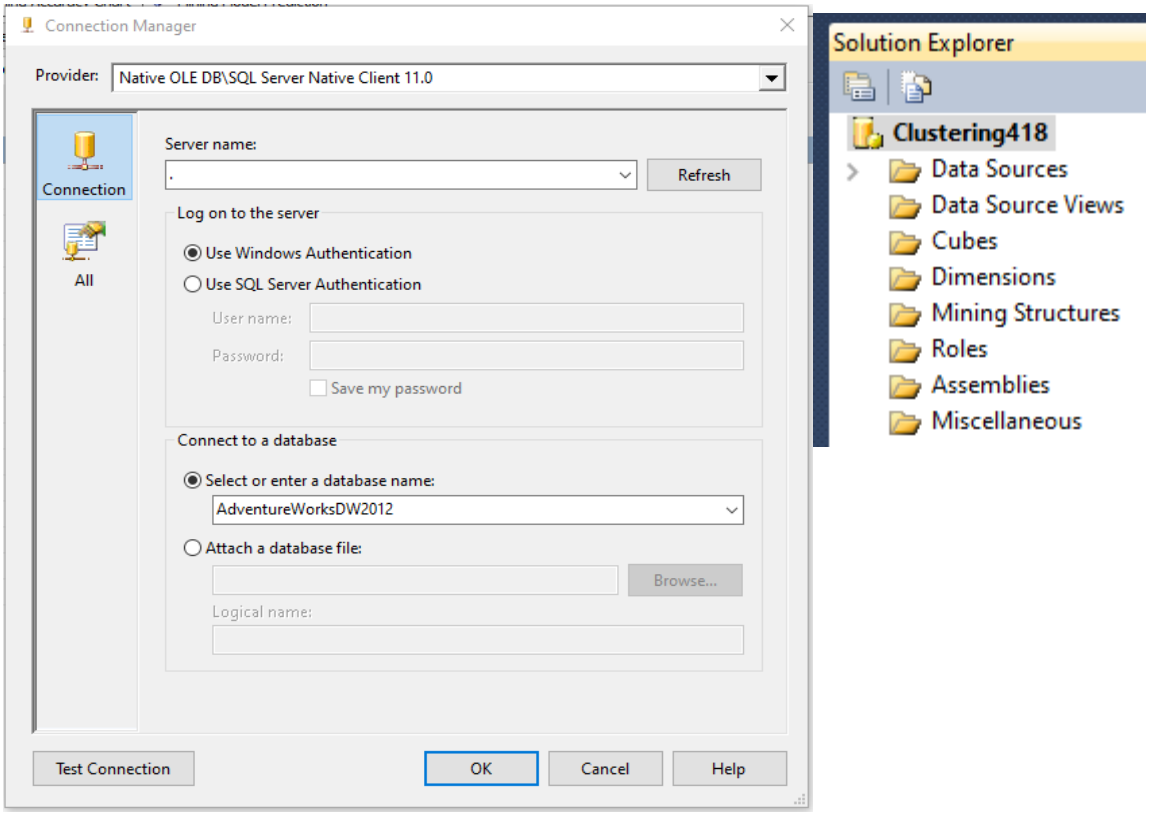

Process Progress
Command
Processing Database 'MultidimensionalProject1' completed.
Start time: 1/3/2024 12:38:20 PM; End time: 1/3/2024 12:38:28 PM; Duration: 0:00:07
Processing Mining Structure 'v Target Mail Mining' completed.
Start time: 1/3/2024 12:38:20 PM; End time: 1/3/2024 12:38:28 PM; Duration: 0:00:07
Processing Mining Model 'v Target Mail' completed.
Processing Cube 'v Target Mail Mining ~MC' completed.
Start time: 1/3/2024 12:38:21 PM; End time: 1/3/2024 12:38:22 PM; Duration: 0:00:00
Processing Measure Group '~CaseDetail ~MG' completed.
Processing Dimension 'v Target Mail Mining ~MC-Customer Key' completed.
Status:
Process succeeded.
Stop
Reprocess
View Details...
Copy
Close
Help

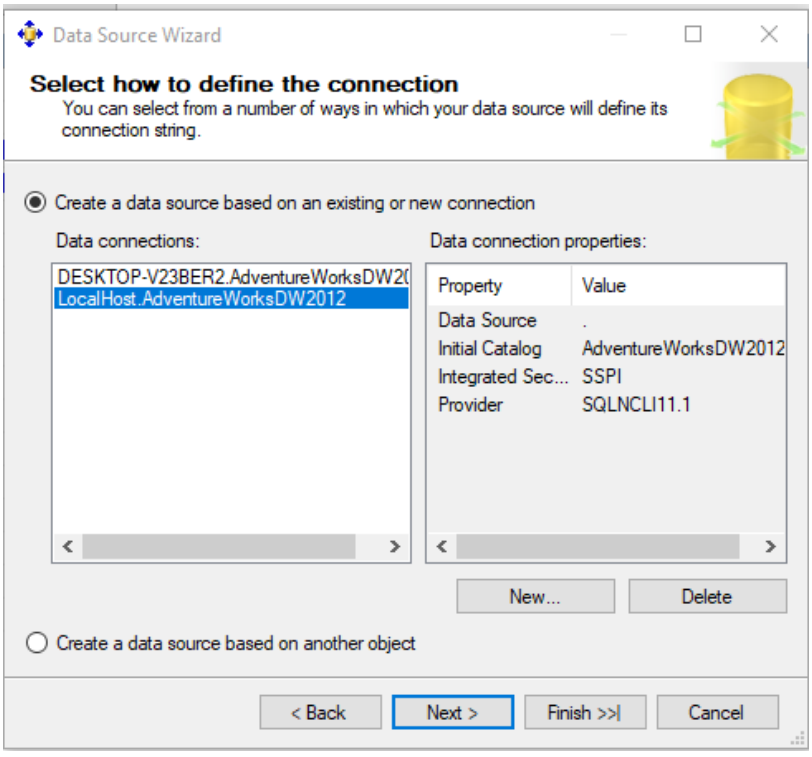

Mining Structure
Mining Models
Mining Model Viewer
Mining Accuracy Chart
Mining Model Prediction
Mining Model: v Target Mail
Viewer: Microsoft Tree Viewer
Decision Tree
Dependency Network
Tree: Bike Buyer
Default Expansion: All Levels
Histograms: 6
Background: All Cases
Show Level 1
Level 9
All
Age >= 57 and < 71
Total Children = 3
Number Cars Owned = 0
Number Cars Owned not = 0
Yearly Income >= 26000 and < 42000
Yearly Income < 26000
Number Children At Home not = 3
Number Children At Home = 3
Commute Distance not = '5-10 Miles'
Commute Distance = '5-10 Miles'
Number Cars Owned not = 2
Number Cars Owned = 2
Yearly Income >= 11600
Yearly Income < 11600
Yearly Income < 58000
Yearly Income >= 58000
Age >= 63 and < 69
Age < 63 or >= 69
Number Cars Owned = 4
Number Cars Owned not = 4
Commute Distance = '0-1 Miles'
Commute Distance not = '0-1 Miles'
Number Children At Home = 3
Number Children At Home not = 3
Number Cars Owned = 2

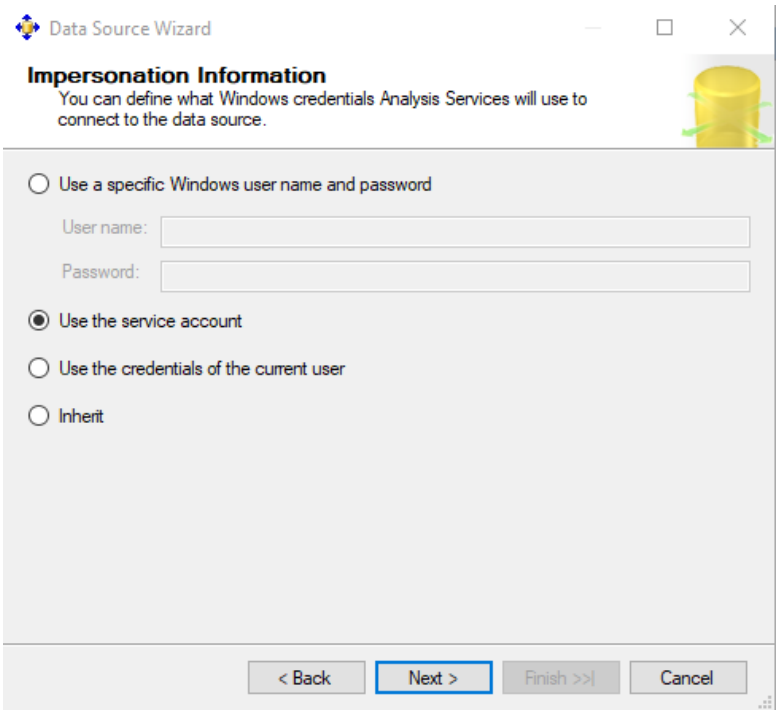

v Target Mail Mining.dmm [Design]
Adventure Works DW2012.dsv [Design]
Mining Structure
Mining Models
Mining Model Viewer
Mining Accuracy Chart
Mining Model Prediction
Mining Model: v Target Mail
Viewer: Microsoft Tree Viewer
Decision Tree
Dependency Network
Show long name
All Links
Number Children At Home
Commute Distance
Total Children
Bike Buyer
Yearly Income
Region
Age
Number Cars Owned
Select a node in the network to highlight its dependencies.
Strongest Links
Selected node
This node predicts the selected node
Predicts both ways
Selected node predicts this node
Solution Explorer
MultidimensionalProject418
Data Sources
Adventure Works DW2012.ds
Data Source Views
Adventure Works DW2012.dsv
Cubes
Dimensions
Mining Structures
v Target Mail Mining.dmm
Roles
Assemblies
Miscellaneous
Solution Explorer
Class View
Deployment Progress - Multidimensional...
Server : localhost
Database : MultidimensionalProject1
Command
Status:
Deployment Completed Successfully
Deployment Progress
Properties

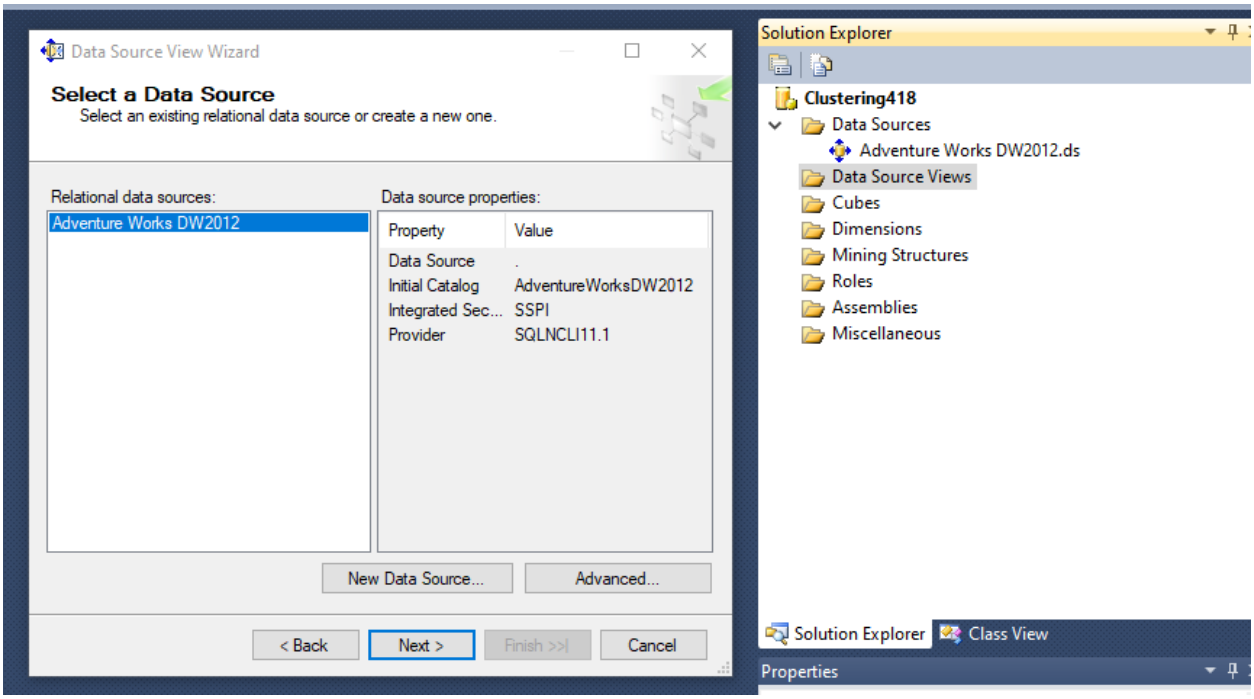
Practical 08:

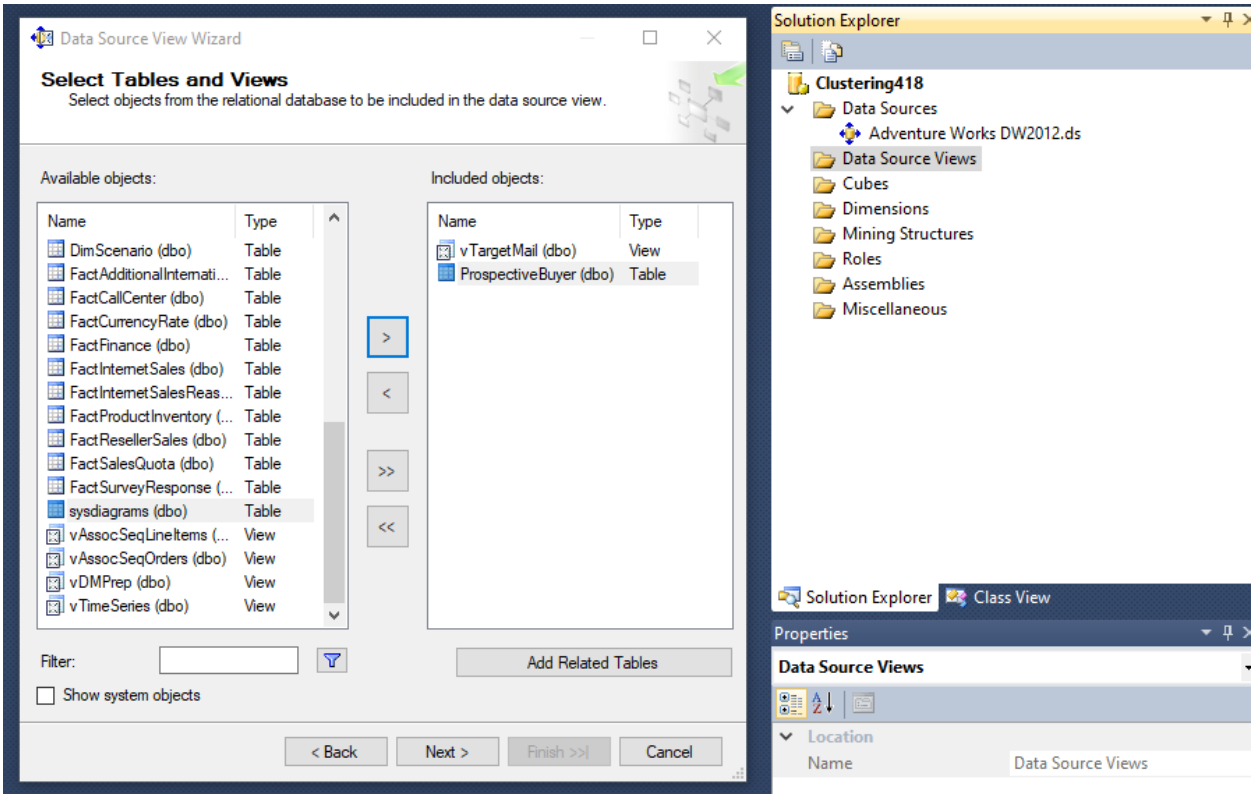
Perform the data clustering using clustering algorithm.

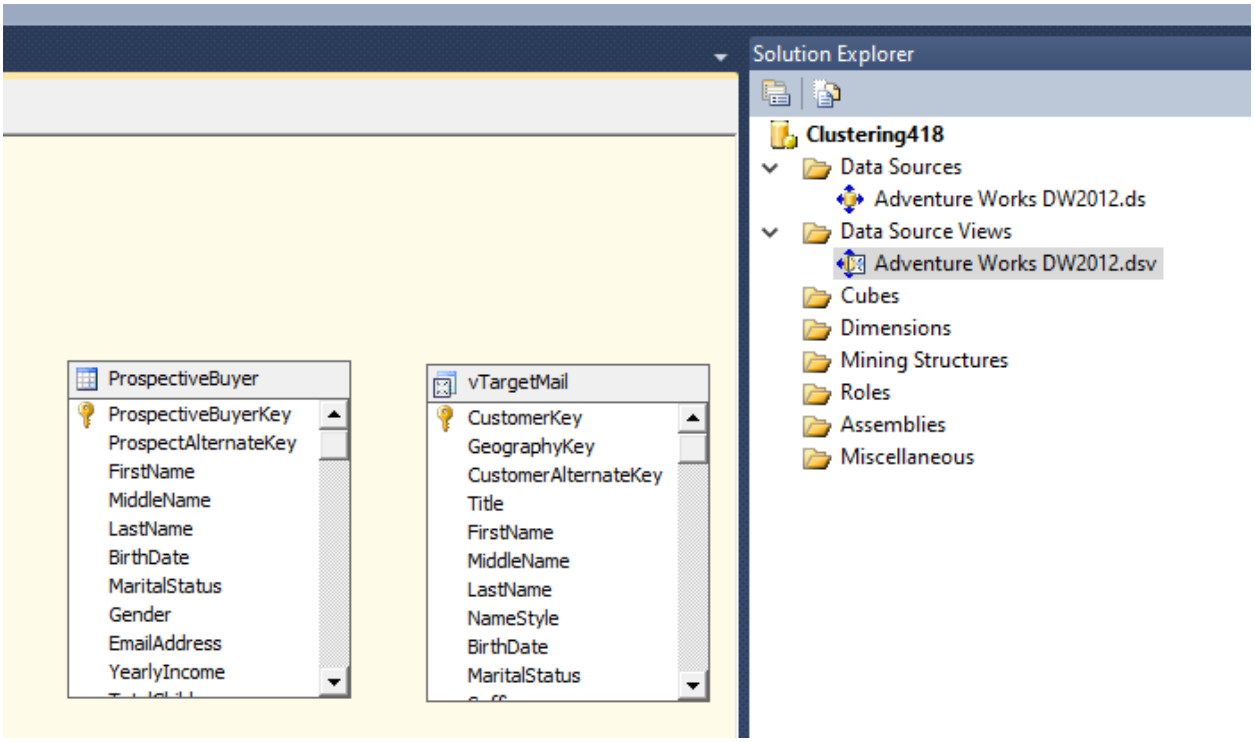


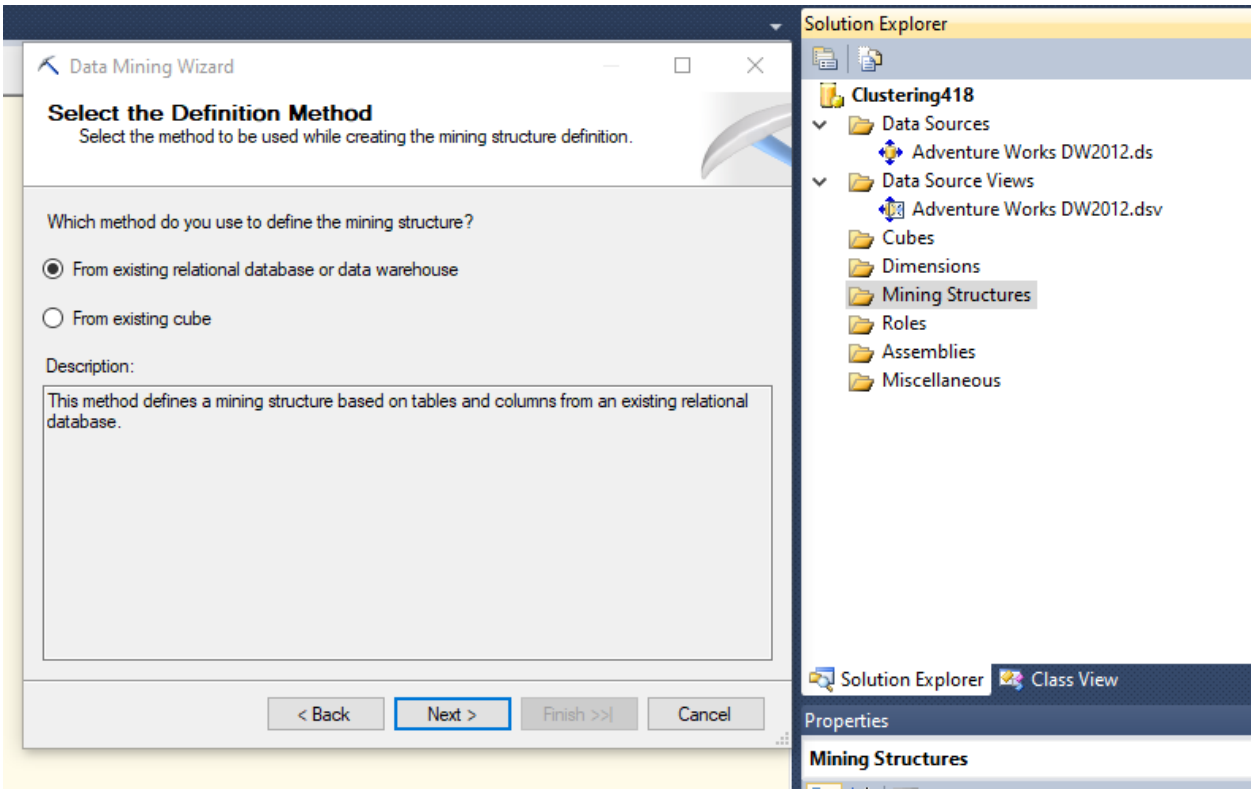


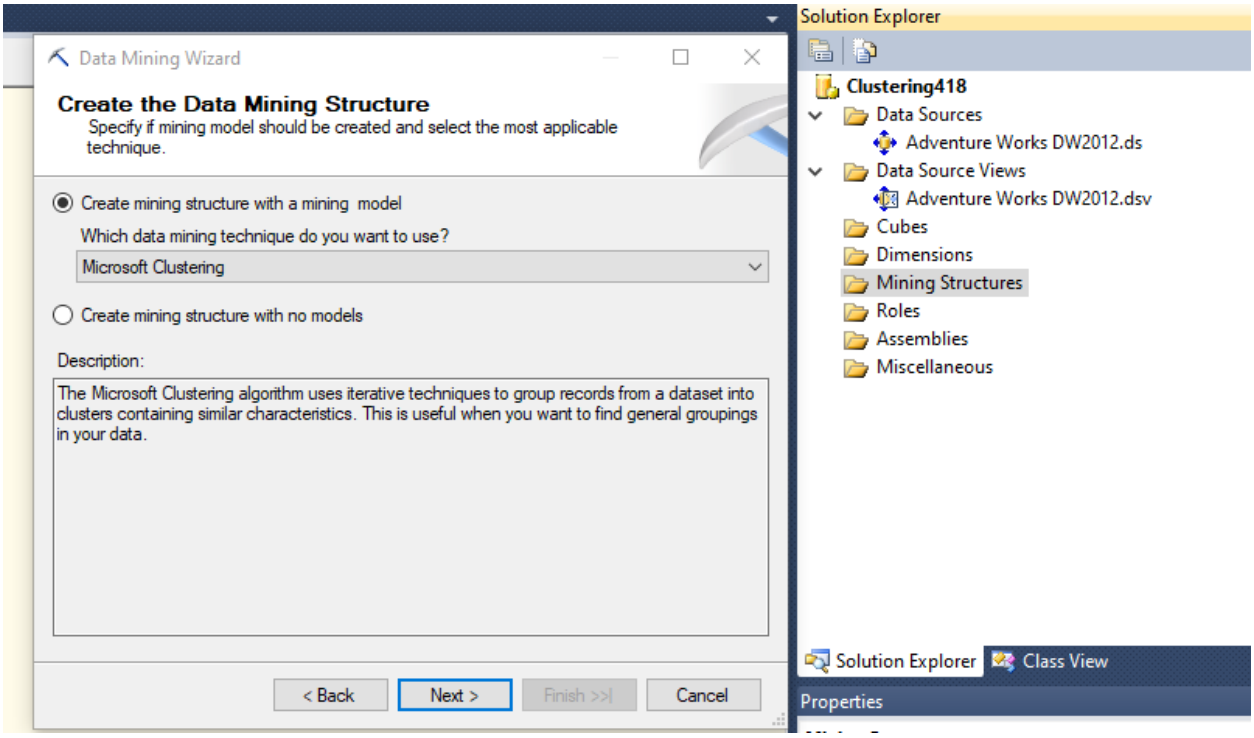

Data Source Wizard
Impersonation Information
You can define what Windows credentials Analysis Services will use to connect to the data source.
Use a specific Windows user name and password
User name:
Password:
Use the service account
Use the credentials of the current user
Inherit
< Back
Next >
Finish >>|
Cancel

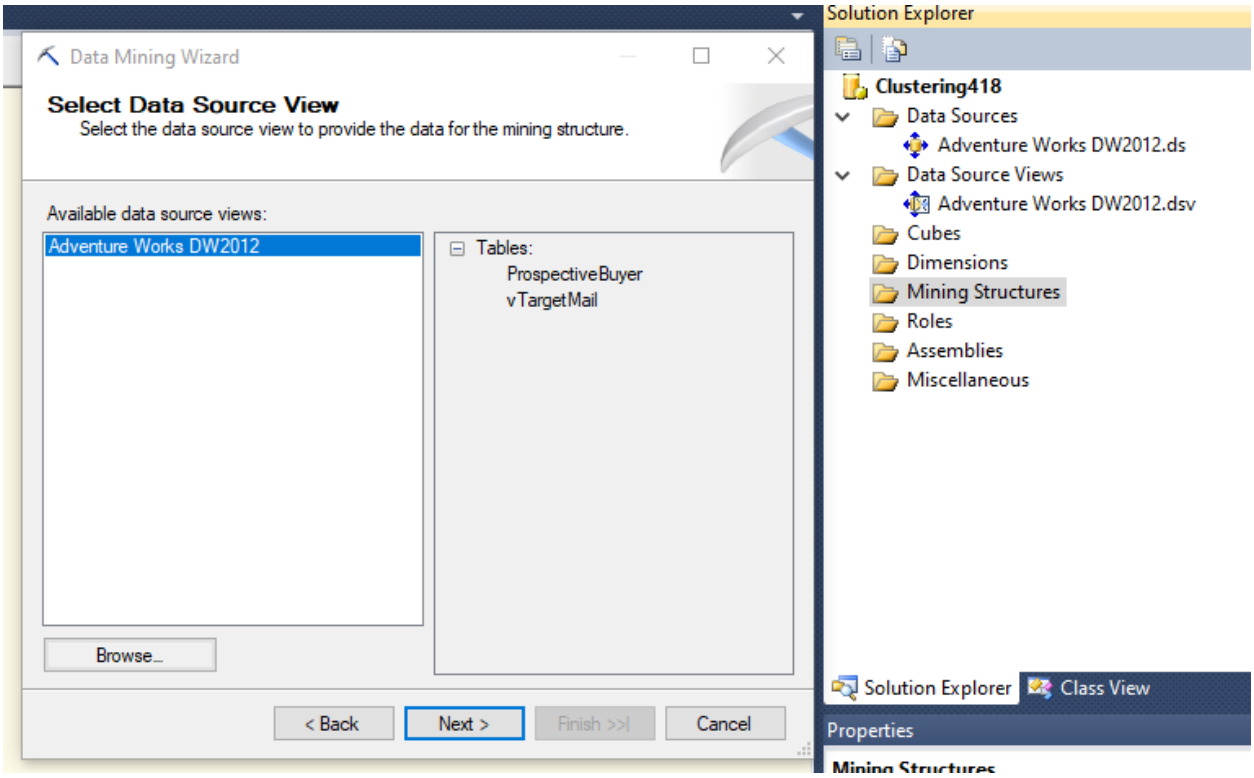

Data Source View Wizard
Select a Data Source
Select an existing relational data source or create a new one.
Relational data sources:
Adventure Works DW2012
Data source properties:
Property
Value
Data Source .
Initial Catalog AdventureWorksDW2012
Integrated Sec... SSPI
Provider SQLNCLI11.1
New Data Source...
Advanced...
< Back
Next >
Finish >>|
Cancel
Solution Explorer
Clustering418
Data Sources
Adventure Works DW2012.ds
Data Source Views
Cubes
Dimensions
Mining Structures
Roles
Assemblies
Miscellaneous
Solution Explorer
Class View
Properties

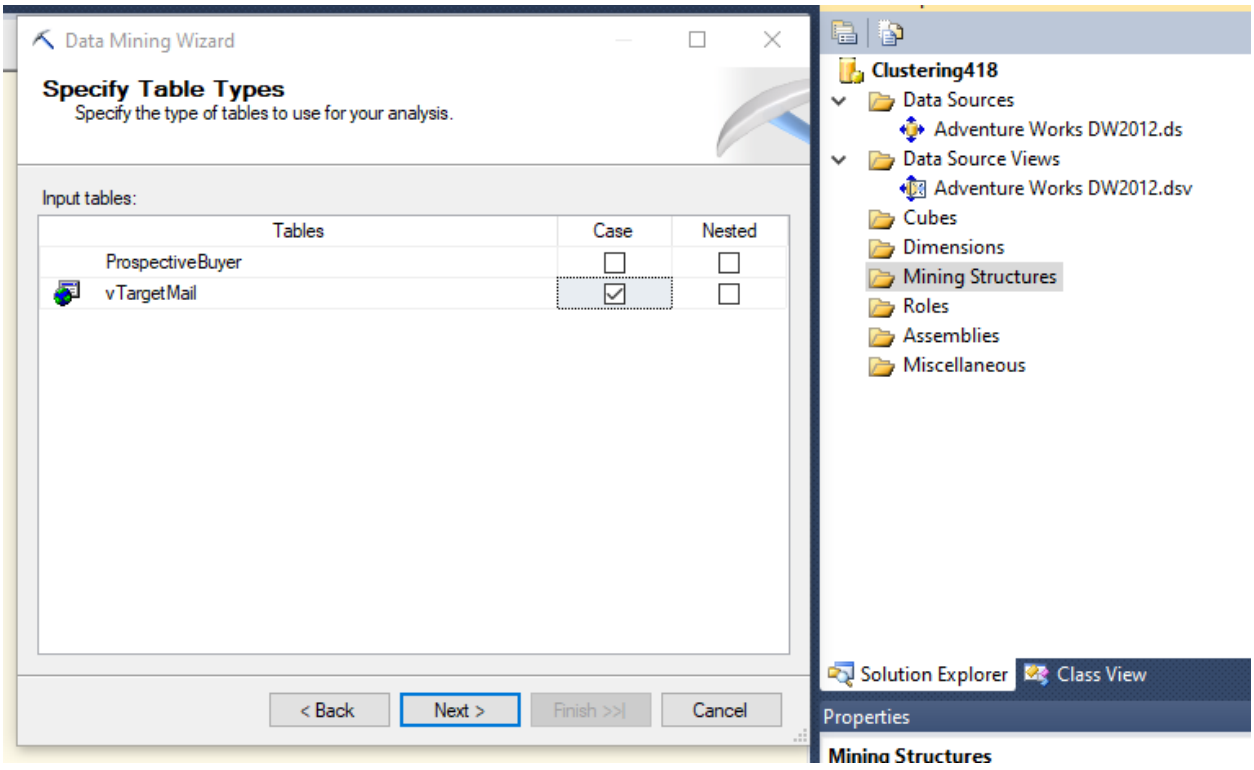

Data Source View Wizard
Select Tables and Views
Select objects from the relational database to be included in the data source view.
Available objects:
Included objects:
Name
Type
DimScenario (dbo) Table
FactAdditionalInternati... Table
FactCallCenter (dbo) Table
FactCurrencyRate (dbo) Table
FactFinance (dbo) Table
FactInternetSales (dbo) Table
FactInternetSalesReas... Table
FactProductInventory (... Table
FactResellerSales (dbo) Table
FactSalesQuota (dbo) Table
FactSurveyResponse (... Table
sysdiagrams (dbo) Table
vAssocSeqLineItems (... View
vAssocSeqOrders (dbo) View
vDMPrep (dbo) View
vTimeSeries (dbo) View
vTargetMail (dbo) View
ProspectiveBuyer (dbo) Table
Filter:
Add Related Tables
Show system objects
< Back
Next >
Finish >>|
Cancel
Solution Explorer
Clustering418
Data Sources
Adventure Works DW2012.ds
Data Source Views
Cubes
Dimensions
Mining Structures
Roles
Assemblies
Miscellaneous
Solution Explorer
Class View
Properties
Data Source Views
Location
Name
Data Source Views

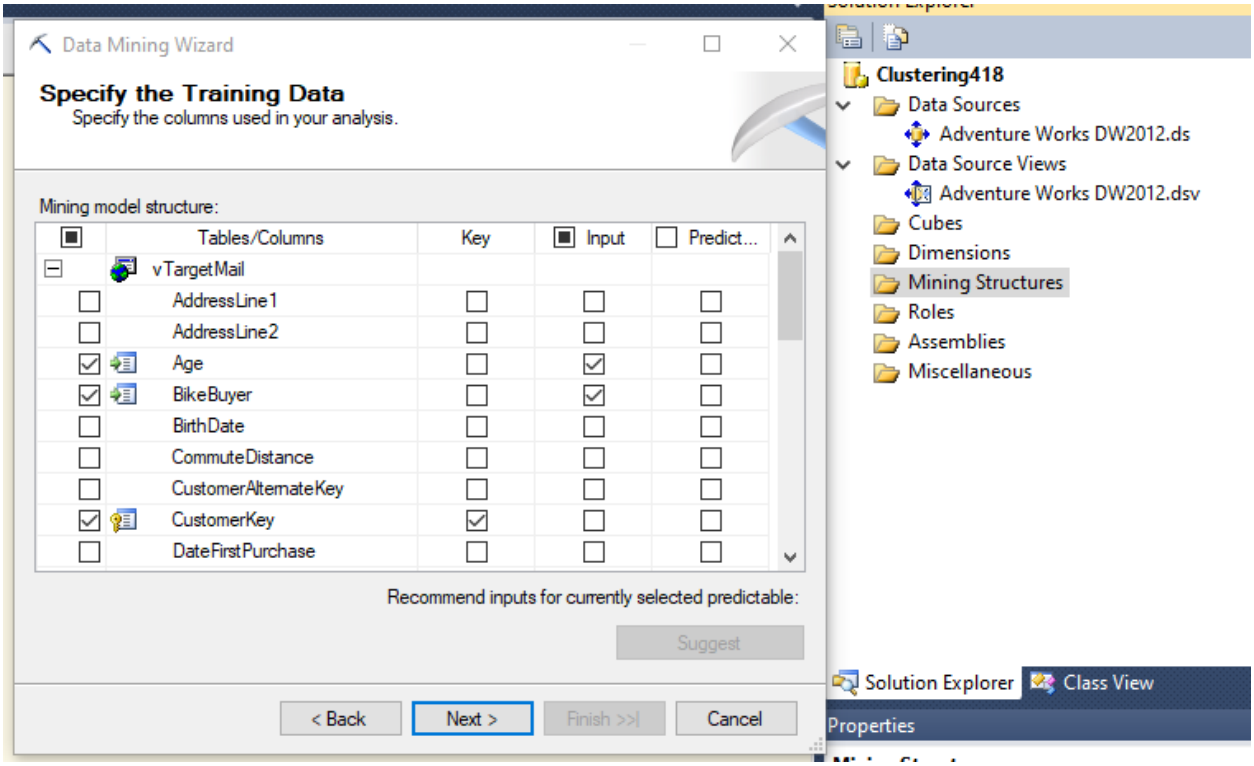

Solution Explorer
Clustering418
Data Sources
Adventure Works DW2012.ds
Data Source Views
Adventure Works DW2012.dsv
Cubes
Dimensions
Mining Structures
Roles
Assemblies
Miscellaneous
ProspectiveBuyer
ProspectiveBuyerKey
ProspectAlternateKey
FirstName
MiddleName
LastName
BirthDate
MaritalStatus
Gender
EmailAddress
YearlyIncome
vTargetMail
CustomerKey
GeographyKey
CustomerAlternateKey
Title
FirstName
MiddleName
LastName
NameStyle
BirthDate
MaritalStatus

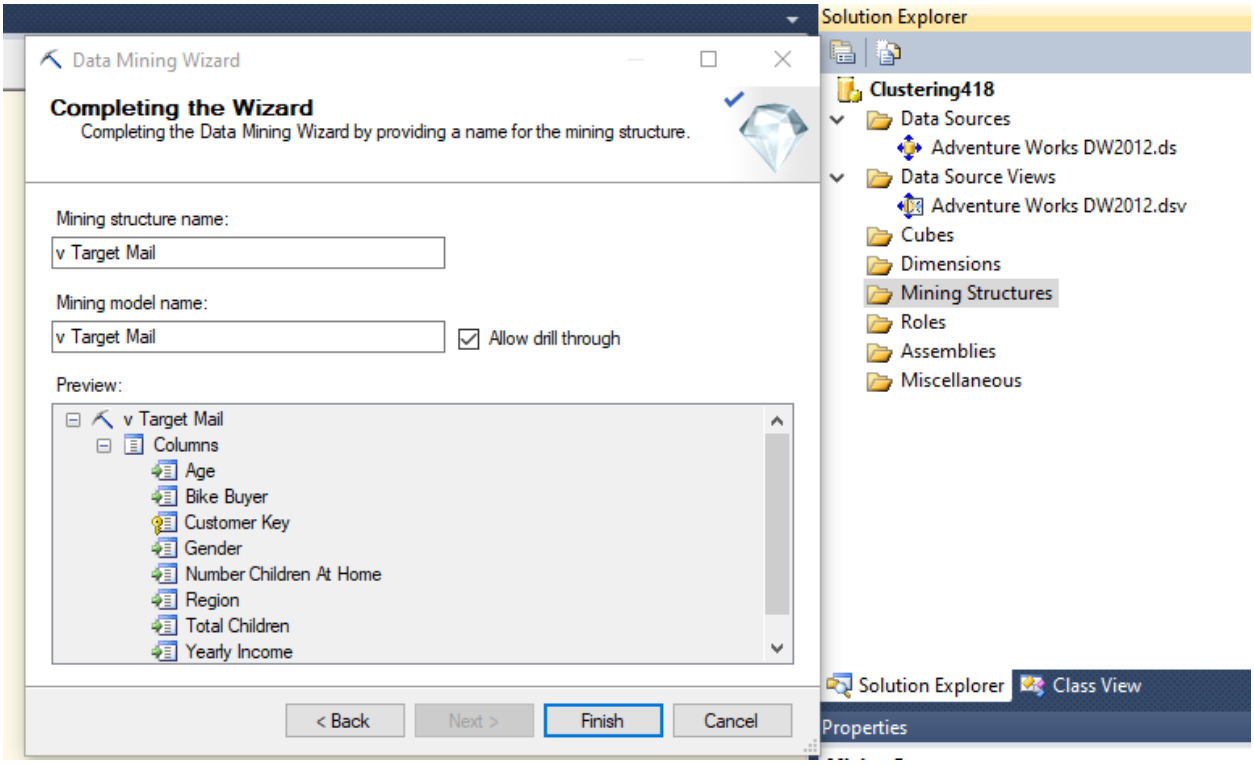

Data Mining Wizard
Select the Definition Method
Select the method to be used while creating the mining structure definition.
Which method do you use to define the mining structure?
From existing relational database or data warehouse
From existing cube
Description:
This method defines a mining structure based on tables and columns from an existing relational database.
< Back
Next >
Finish >>|
Cancel
Solution Explorer
Clustering418
Data Sources
Adventure Works DW2012.ds
Data Source Views
Adventure Works DW2012.dsv
Cubes
Dimensions
Mining Structures
Roles
Assemblies
Miscellaneous
Solution Explorer
Class View
Properties
Mining Structures

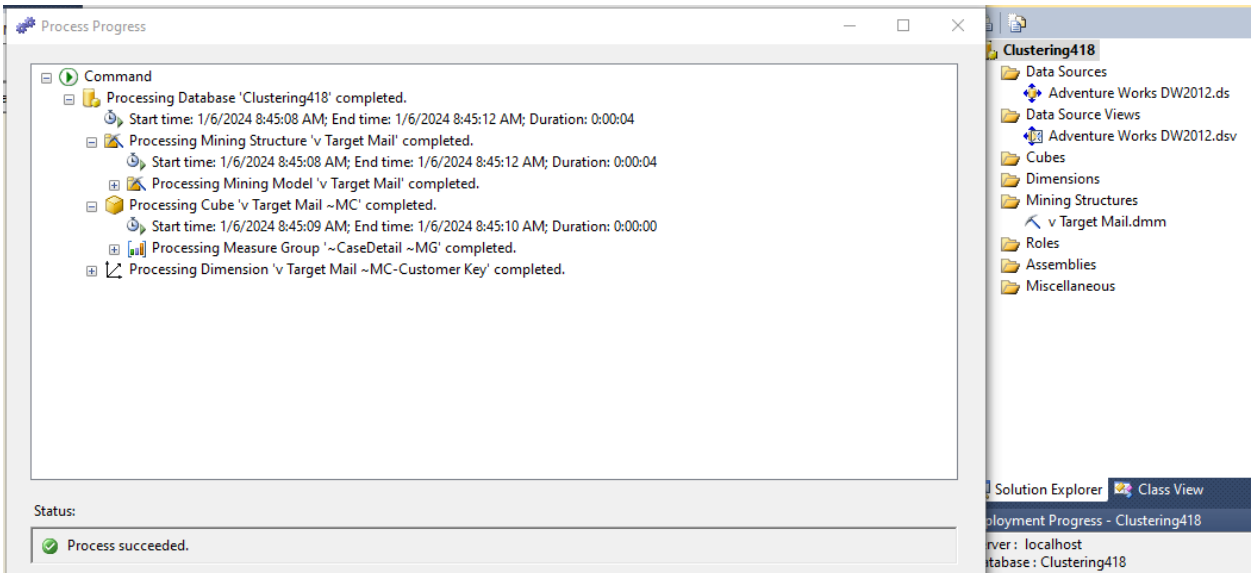

Data Mining Wizard
Create the Data Mining Structure
Specify if mining model should be created and select the most applicable technique.
Create mining structure with a mining model
Which data mining technique do you want to use?
Microsoft Clustering
Create mining structure with no models
Description:
The Microsoft Clustering algorithm uses iterative techniques to group records from a dataset into clusters containing similar characteristics. This is useful when you want to find general groupings in your data.
< Back
Next >
Finish >>|
Cancel
Solution Explorer
Clustering418
Data Sources
Adventure Works DW2012.ds
Data Source Views
Adventure Works DW2012.dsv
Cubes
Dimensions
Mining Structures
Roles
Assemblies
Miscellaneous
Solution Explorer
Class View
Properties

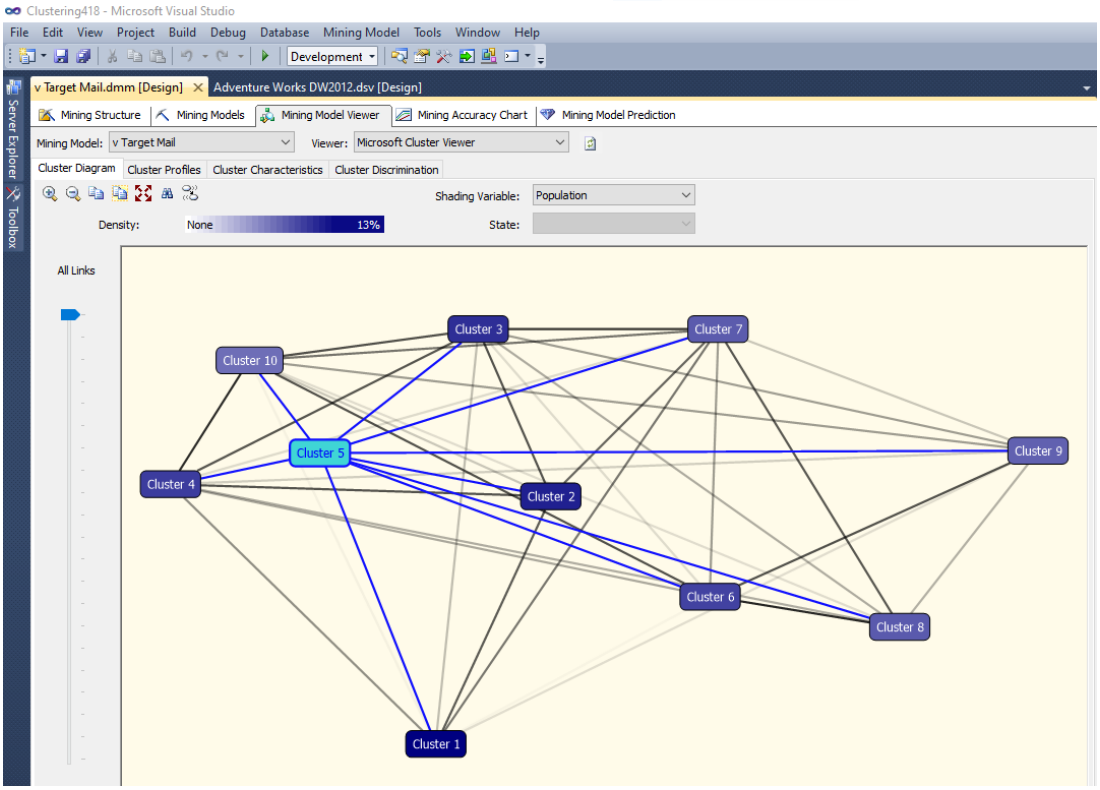

Data Mining Wizard
Select Data Source View
Select the data source view to provide the data for the mining structure.
Available data source views:
Adventure Works DW2012
Tables:
ProspectiveBuyer
vTargetMail
Browse...
< Back
Next >
Finish >>|
Cancel
Solution Explorer
Clustering418
Data Sources
Adventure Works DW2012.ds
Data Source Views
Adventure Works DW2012.dsv
Cubes
Dimensions
Mining Structures
Roles
Assemblies
Miscellaneous
Solution Explorer
Class View
Properties
Mining Structures

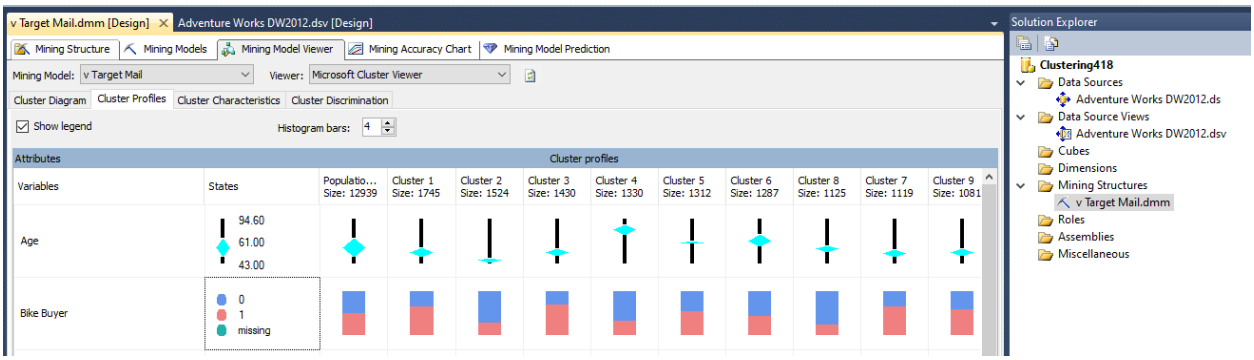

Data Mining Wizard
Specify Table Types
Specify the type of tables to use for your analysis.
Input tables:
Tables
Case
Nested
ProspectiveBuyer
vTargetMail
< Back
Next >
Finish >>|
Cancel
Solution Explorer
Clustering418
Data Sources
Adventure Works DW2012.ds
Data Source Views
Adventure Works DW2012.dsv
Cubes
Dimensions
Mining Structures
Roles
Assemblies
Miscellaneous
Solution Explorer
Class View
Properties
Mining Structures

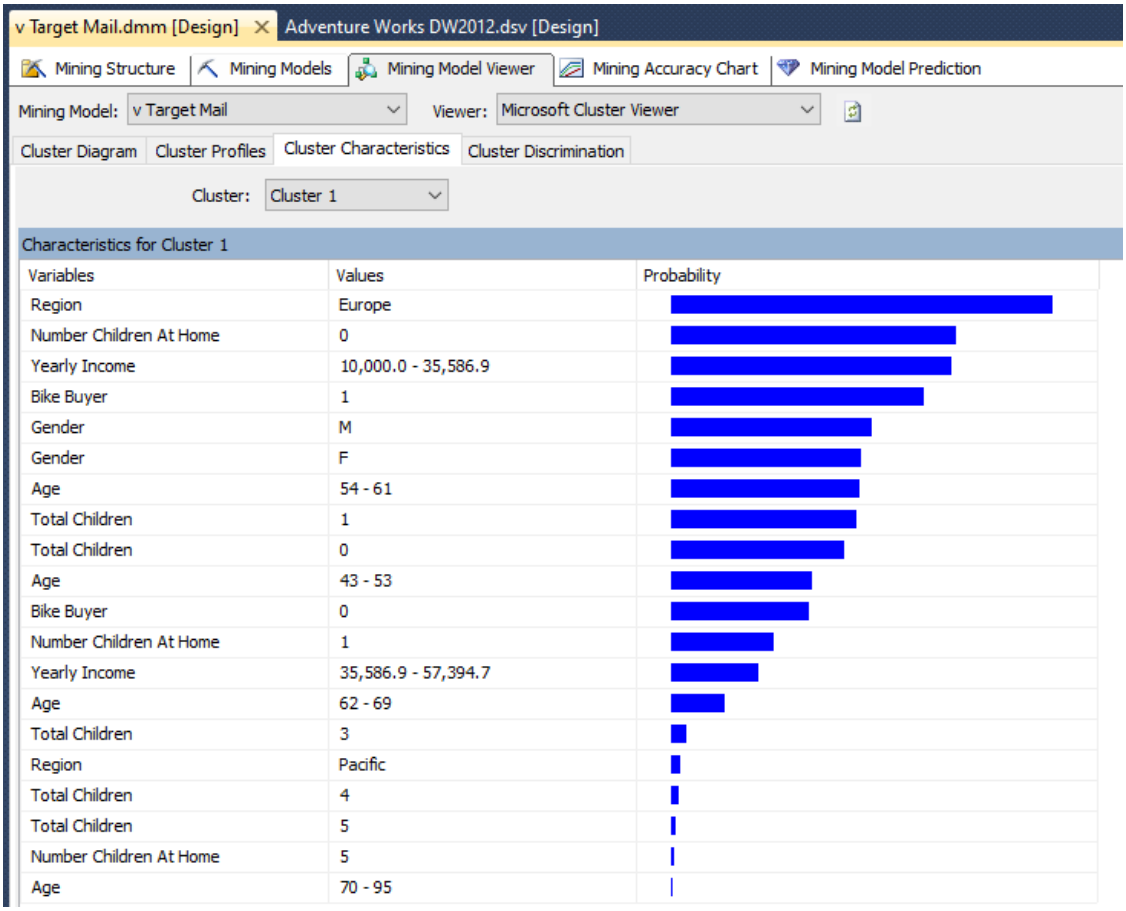

Data Mining Wizard
Specify the Training Data
Specify the columns used in your analysis.
Mining model structure:
Tables/Columns
Key
Input
Predict...
vTargetMail
AddressLine1
AddressLine2
Age
BikeBuyer
BirthDate
CommuteDistance
CustomerAlternateKey
CustomerKey
DateFirstPurchase
Recommend inputs for currently selected predictable:
Suggest
< Back
Next >
Finish >>|
Cancel
Clustering418
Data Sources
Adventure Works DW2012.ds
Data Source Views
Adventure Works DW2012.dsv
Cubes
Dimensions
Mining Structures
Roles
Assemblies
Miscellaneous
Solution Explorer
Class View
Properties

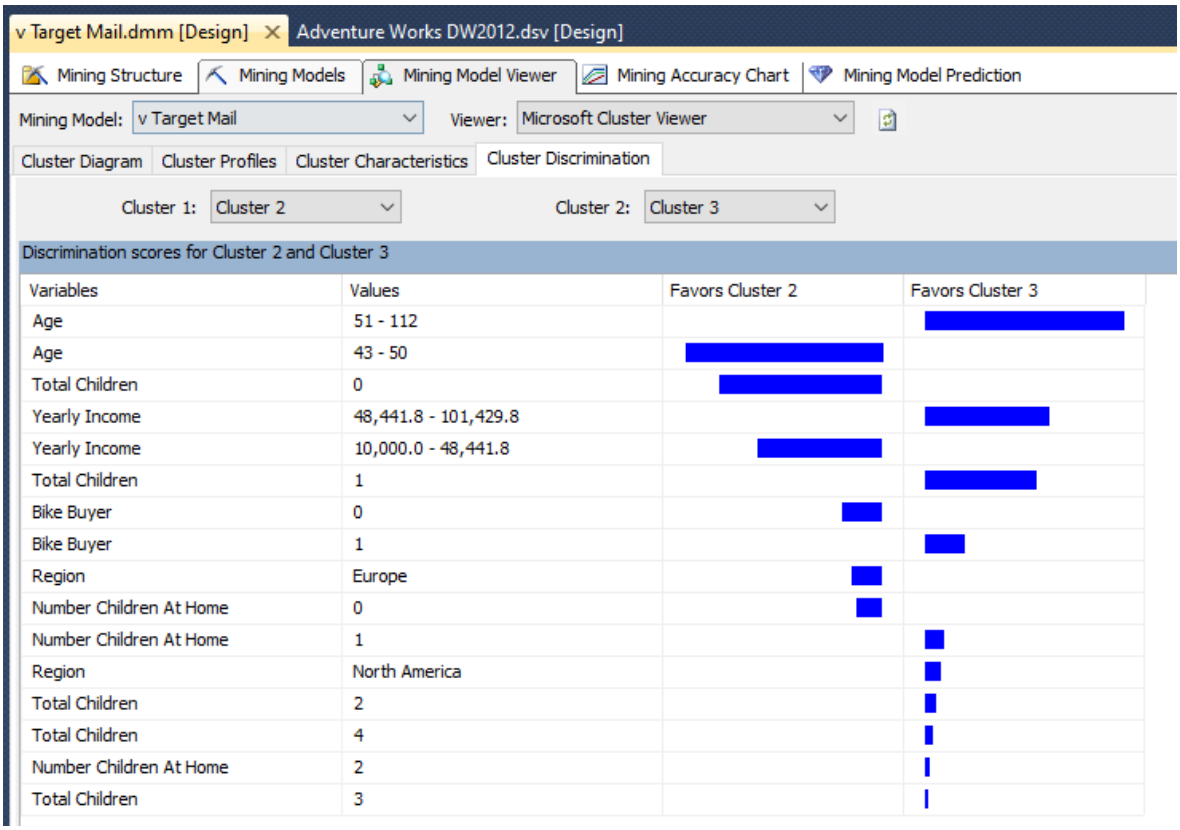

Data Mining Wizard
Completing the Wizard
Completing the Data Mining Wizard by providing a name for the mining structure.
Mining structure name:
v Target Mail
Mining model name:
v Target Mail
Allow drill through
Preview:
v Target Mail
Columns
Age
Bike Buyer
Customer Key
Gender
Number Children At Home
Region
Total Children
Yearly Income
< Back
Next >
Finish
Cancel
Solution Explorer
Clustering418
Data Sources
Adventure Works DW2012.ds
Data Source Views
Adventure Works DW2012.dsv
Cubes
Dimensions
Mining Structures
Roles
Assemblies
Miscellaneous
Solution Explorer
Class View
Properties


Process Progress
Command
Processing Database 'Clustering418' completed.
Start time: 1/6/2024 8:45:08 AM; End time: 1/6/2024 8:45:12 AM; Duration: 0:00:04
Processing Mining Structure 'v Target Mail' completed.
Start time: 1/6/2024 8:45:08 AM; End time: 1/6/2024 8:45:12 AM; Duration: 0:00:04
Processing Mining Model 'v Target Mail' completed.
Processing Cube 'v Target Mail ~MC' completed.
Start time: 1/6/2024 8:45:09 AM; End time: 1/6/2024 8:45:10 AM; Duration: 0:00:00
Processing Measure Group '~CaseDetail ~MG' completed.
Processing Dimension 'v Target Mail ~MC-Customer Key' completed.
Status:
Process succeeded.
Clustering418
Data Sources
Adventure Works DW2012.ds
Data Source Views
Adventure Works DW2012.dsv
Cubes
Dimensions
Mining Structures
v Target Mail.dmm
Roles
Assemblies
Miscellaneous
Solution Explorer
Class View


Clustering418 - Microsoft Visual Studio
File Edit View Project Build Debug Database Mining Model Tools Window Help
Development
v Target Mail.dmm [Design]
Adventure Works DW2012.dsv [Design]
Mining Structure
Mining Models
Mining Model Viewer
Mining Accuracy Chart
Mining Model Prediction
Mining Model: v Target Mail
Viewer: Microsoft Cluster Viewer
Cluster Diagram
Cluster Profiles
Cluster Characteristics
Cluster Discrimination
Shading Variable: Population
Density: None 13%
State:
All Links
Cluster 1
Cluster 2
Cluster 3
Cluster 4
Cluster 5
Cluster 6
Cluster 7
Cluster 8
Cluster 9
Cluster 10

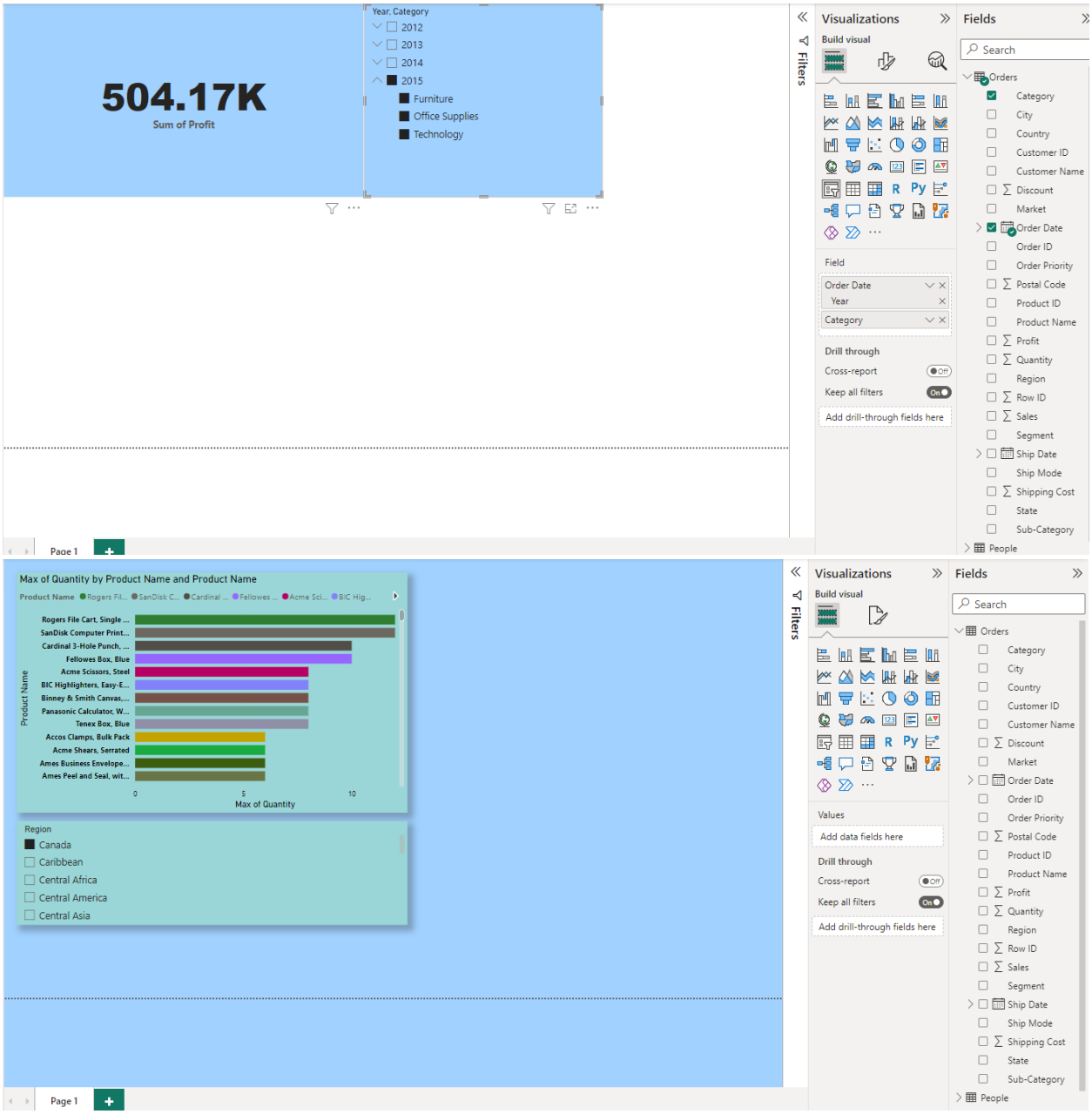

v Target Mail.dmm [Design]
Adventure Works DW2012.dsv [Design]
Mining Structure
Mining Models
Mining Model Viewer
Mining Accuracy Chart
Mining Model Prediction
Mining Model: v Target Mail
Viewer: Microsoft Cluster Viewer
Cluster Diagram
Cluster Profiles
Cluster Characteristics
Cluster Discrimination
Show legend
Histogram bars: 4
Attributes
Cluster profiles
Variables
States
Population... Size: 12939
Cluster 1 Size: 1745
Cluster 2 Size: 1524
Cluster 3 Size: 1430
Cluster 4 Size: 1330
Cluster 5 Size: 1312
Cluster 6 Size: 1287
Cluster 8 Size: 1125
Cluster 7 Size: 1119
Cluster 9 Size: 1081
Age
94.60
61.00
43.00
Bike Buyer
0
1
missing
Solution Explorer
Clustering418
Data Sources
Adventure Works DW2012.ds
Data Source Views
Adventure Works DW2012.dsv
Cubes
Dimensions
Mining Structures
v Target Mail.dmm
Roles
Assemblies
Miscellaneous


v Target Mail.dmm [Design]
Adventure Works DW2012.dsv [Design]
Mining Structure
Mining Models
Mining Model Viewer
Mining Accuracy Chart
Mining Model Prediction
Mining Model: v Target Mail
Viewer: Microsoft Cluster Viewer
Cluster Diagram
Cluster Profiles
Cluster Characteristics
Cluster Discrimination
Cluster: Cluster 1
Characteristics for Cluster 1
Variables
Values
Probability
Region Europe
Number Children At Home 0
Yearly Income 10,000.0 - 35,586.9
Bike Buyer 1
Gender M
Gender F
Age 54 - 61
Total Children 1
Total Children 0
Age 43 - 53
Bike Buyer 0
Number Children At Home 1
Yearly Income 35,586.9 - 57,394.7
Age 62 - 69
Total Children 3
Region Pacific
Total Children 4
Total Children 5
Number Children At Home 5
Age 70 - 95


v Target Mail.dmm [Design]
Adventure Works DW2012.dsv [Design]
Mining Structure
Mining Models
Mining Model Viewer
Mining Accuracy Chart
Mining Model Prediction
Mining Model: v Target Mail
Viewer: Microsoft Cluster Viewer
Cluster Diagram
Cluster Profiles
Cluster Characteristics
Cluster Discrimination
Cluster 1: Cluster 2
Cluster 2: Cluster 3
Discrimination scores for Cluster 2 and Cluster 3
Variables
Values
Favors Cluster 2
Favors Cluster 3
Age 51 - 112
Age 43 - 50
Total Children 0
Yearly Income 48,441.8 - 101,429.8
Yearly Income 10,000.0 - 48,441.8
Total Children 1
Bike Buyer 0
Bike Buyer 1
Region Europe
Number Children At Home 0
Number Children At Home 1
Region North America
Total Children 2
Total Children 4
Number Children At Home 2
Total Children 3

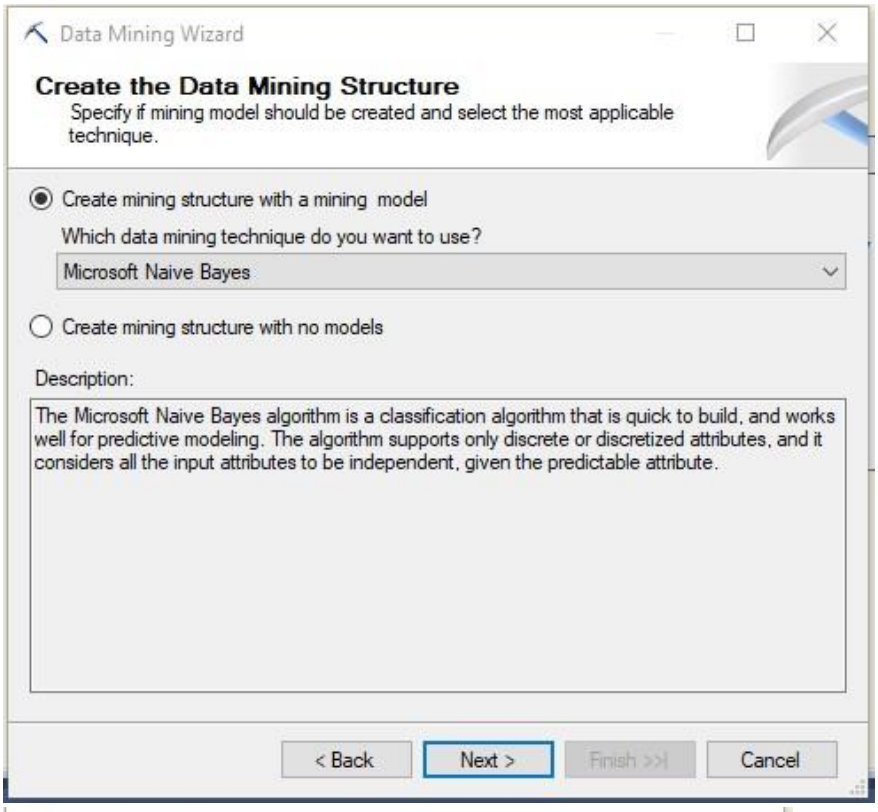
Practical 09:

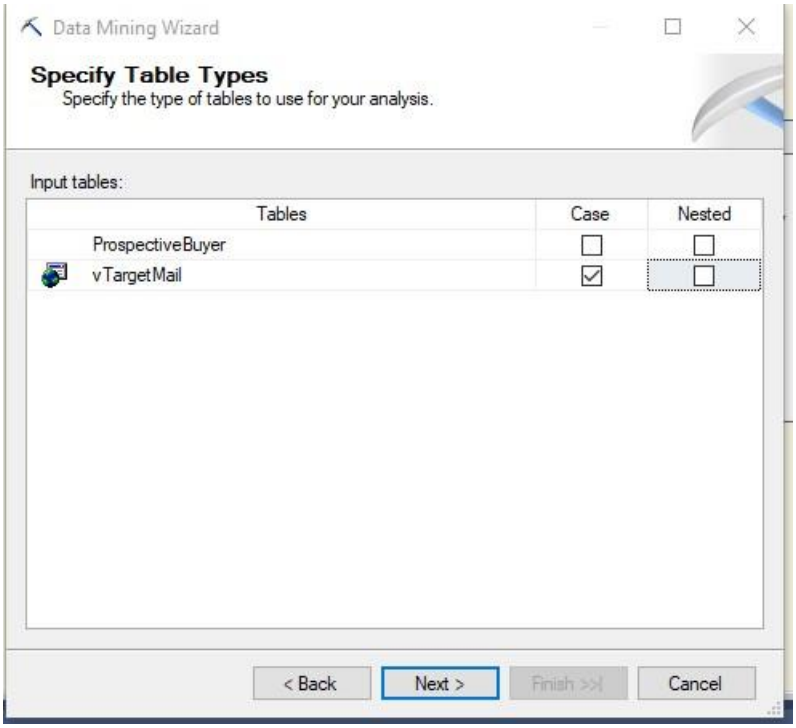
Data visualization using power BI (Use of visualization tools like Card, Donut, chart, stacked chart, tree map etc.)

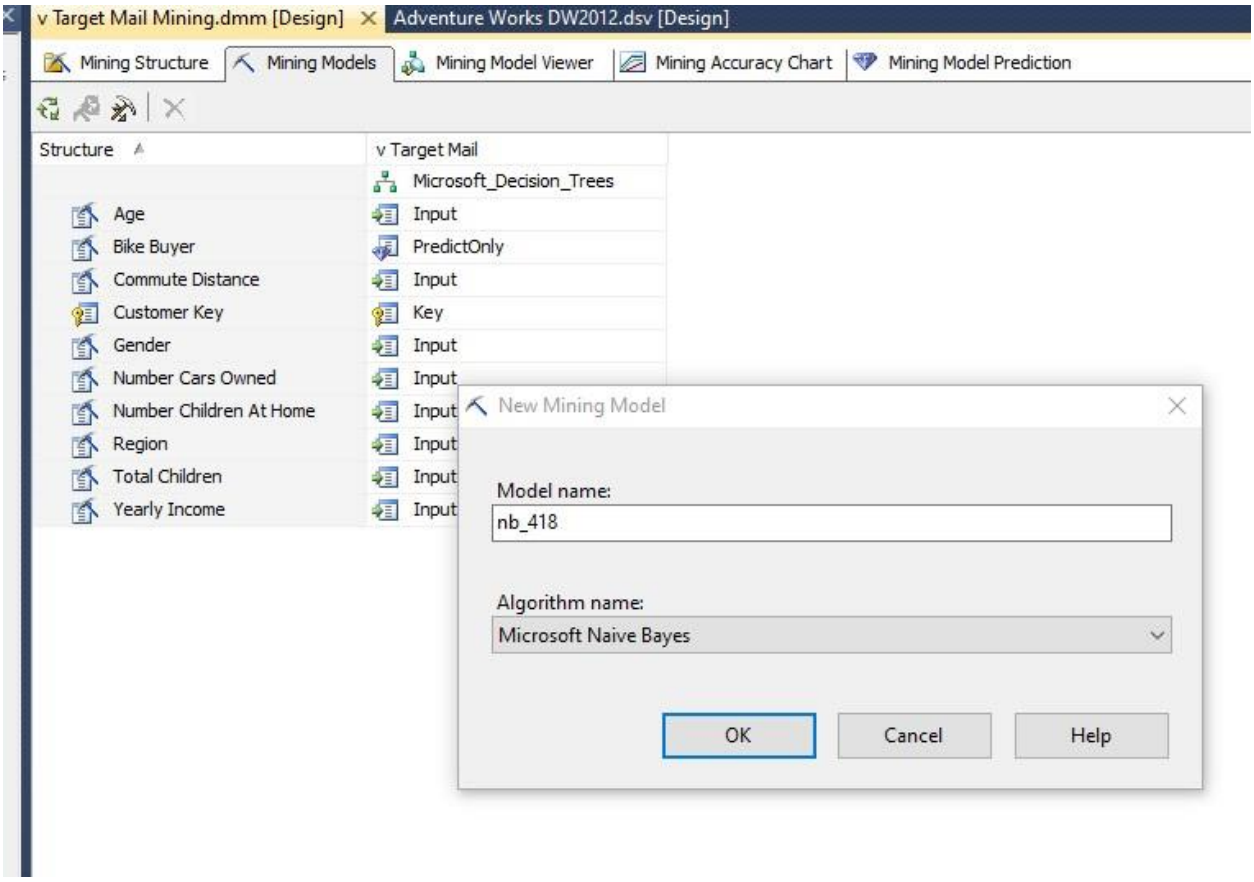


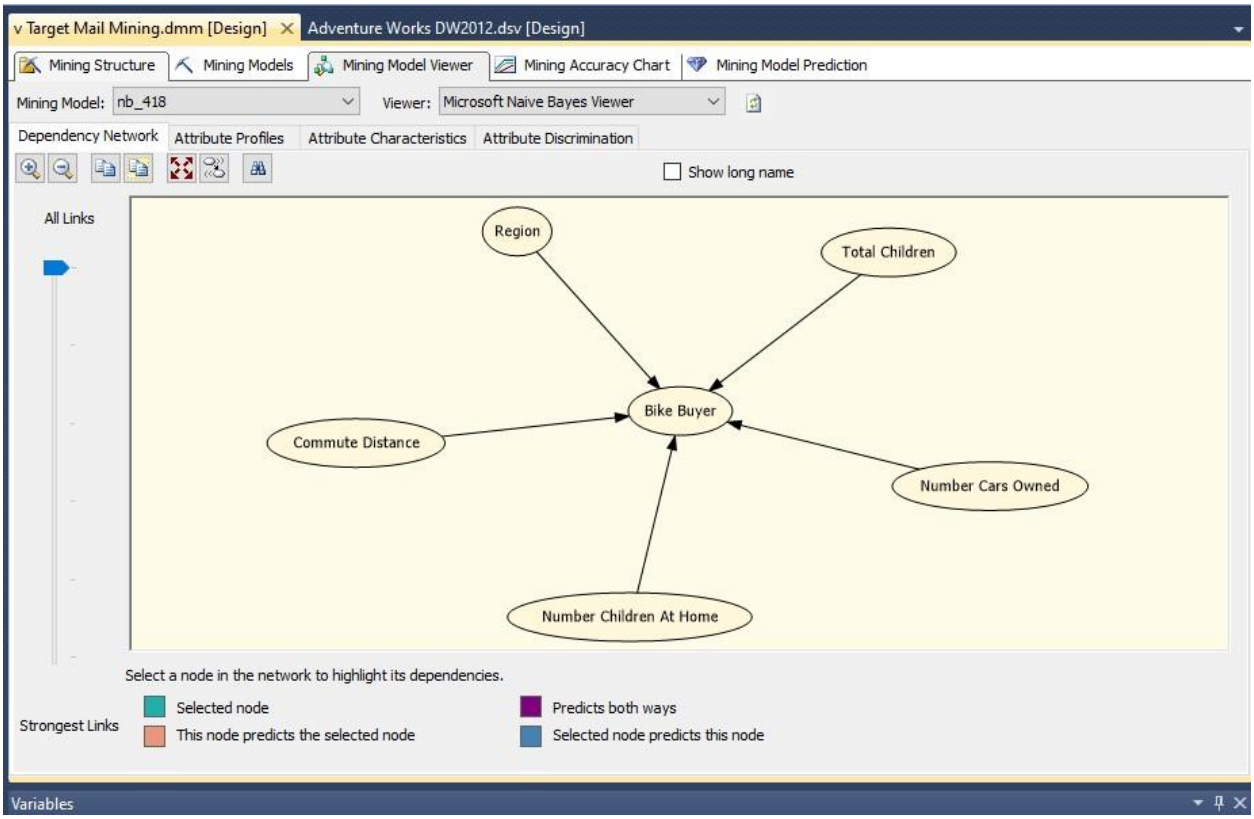
Practical 10:

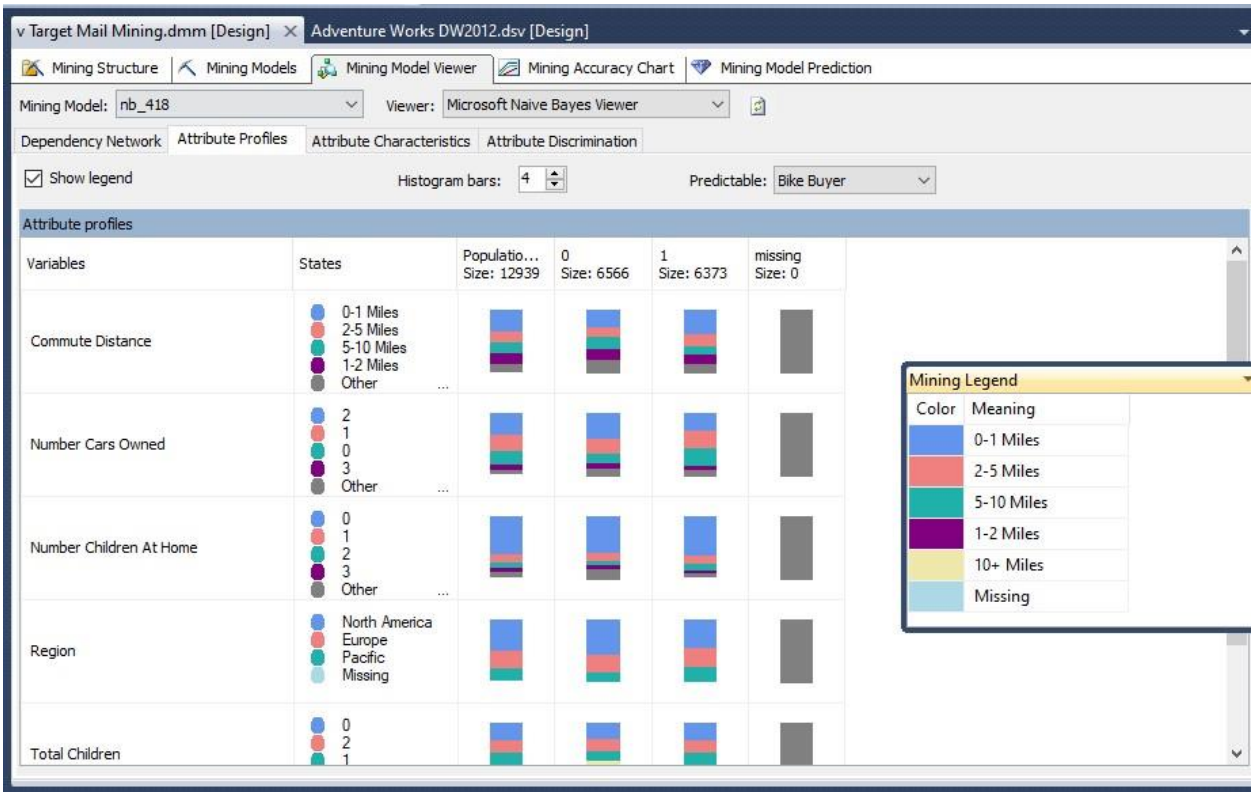
Perform the Naive Bayes Algorithm.






v Target Mail Mining.dmm [Design]
Adventure Works DW2012.dsv [Design]
Mining Structure
Mining Models
Mining Model Viewer
Mining Accuracy Chart
Mining Model Prediction
Structure
v Target Mail
Microsoft_Decision_Trees
Age
Input
Bike Buyer
PredictOnly
Commute Distance
Input
Customer Key
Key
Gender
Input
Number Cars Owned
Input
Number Children At Home
Input
Region
Input
Total Children
Input
Yearly Income
Input
New Mining Model
Model name:
nb_418
Algorithm name:
Microsoft Naive Bayes
OK
Cancel
Help


v Target Mail Mining.dmm [Design]
Adventure Works DW2012.dsv [Design]
Mining Structure
Mining Models
Mining Model Viewer
Mining Accuracy Chart
Mining Model Prediction
Mining Model:
nb_418
Viewer:
Microsoft Naive Bayes Viewer
Dependency Network
Attribute Profiles
Attribute Characteristics
Attribute Discrimination
Show long name
All Links
Region
Total Children
Bike Buyer
Commute Distance
Number Cars Owned
Number Children At Home
Select a node in the network to highlight its dependencies.
Strongest Links
Selected node
This node predicts the selected node
Predicts both ways
Selected node predicts this node
Variables


v Target Mail Mining.dmm [Design]
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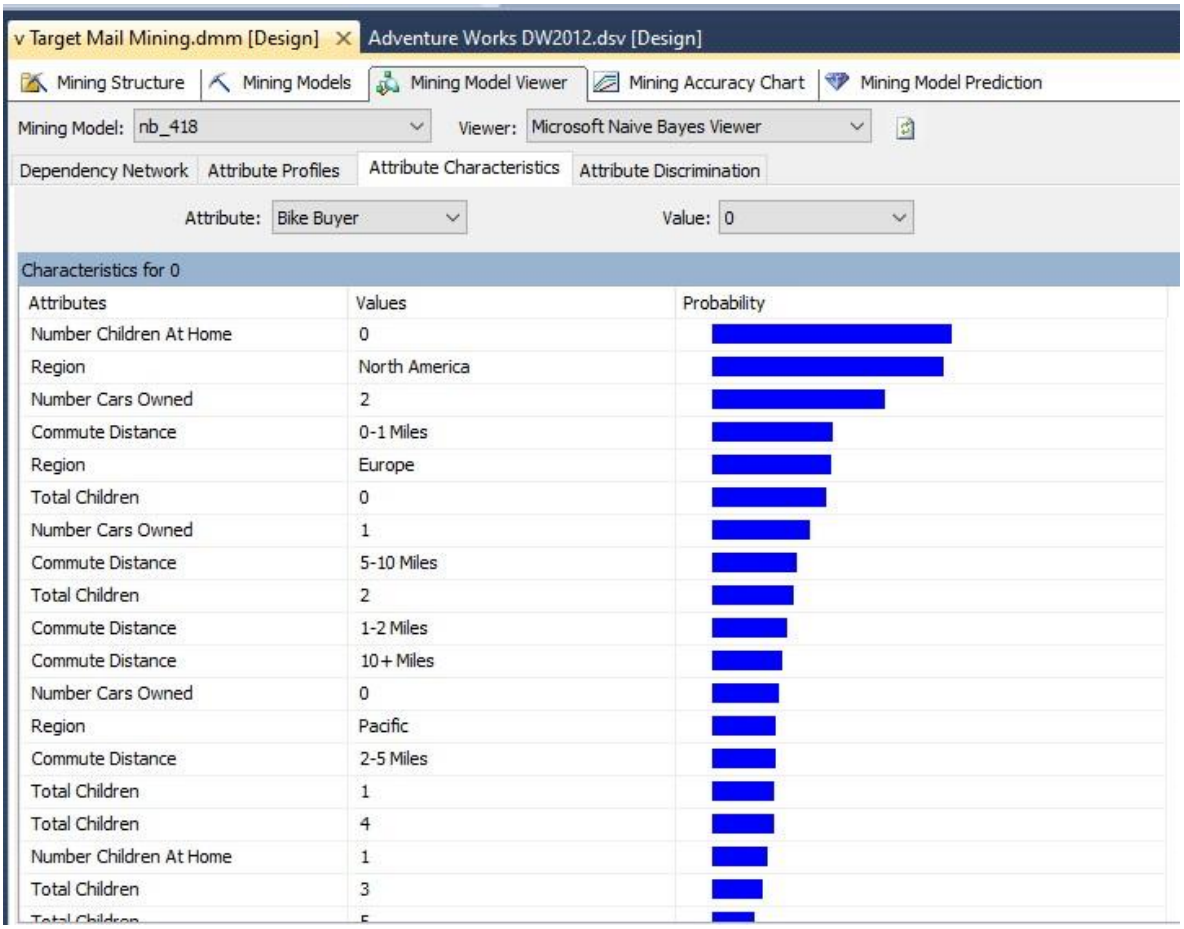
Mining Structure
Mining Models
Mining Model Viewer
Mining Accuracy Chart
Mining Model Prediction
Mining Model: nb_418
Viewer: Microsoft Naive Bayes Viewer
Dependency Network
Attribute Profiles
Attribute Characteristics
Attribute Discrimination
Show legend
Histogram bars: 4
Predictable: Bike Buyer
Attribute profiles
Variables
States
Populatio... Size: 12939
0 Size: 6566
1 Size: 6373
missing Size: 0
Commute Distance
0-1 Miles
2-5 Miles
5-10 Miles
1-2 Miles
Other
Number Cars Owned
2
1
0
3
Other
Number Children At Home
0
1
2
3
Other
Region
North America
Europe
Pacific
Missing
Total Children
0
2
1
Mining Legend
Color
Meaning
0-1 Miles
2-5 Miles
5-10 Miles
1-2 Miles
10+ Miles
Missing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Mining Structure
Mining Models
Mining Model Viewer
Mining Accuracy Chart
Mining Model Prediction
Mining Model: nb_418
Viewer: Microsoft Naive Bayes Viewer
Dependency Network
Attribute Profiles
Attribute Characteristics
Attribute Discrimination
Attribute: Bike Buyer
Value: 0
Characteristics for 0
Attributes
Values
Probability
Number Children At Home 0
Region North America
Number Cars Owned 2
Commute Distance 0-1 Miles
Region Europe
Total Children 0
Number Cars Owned 1
Commute Distance 5-10 Miles
Total Children 2
Commute Distance 1-2 Miles
Commute Distance 10+ Miles
Number Cars Owned 0
Region Pacific
Commute Distance 2-5 Miles
Total Children 1
Total Children 4
Number Children At Home 1
Total Children 3