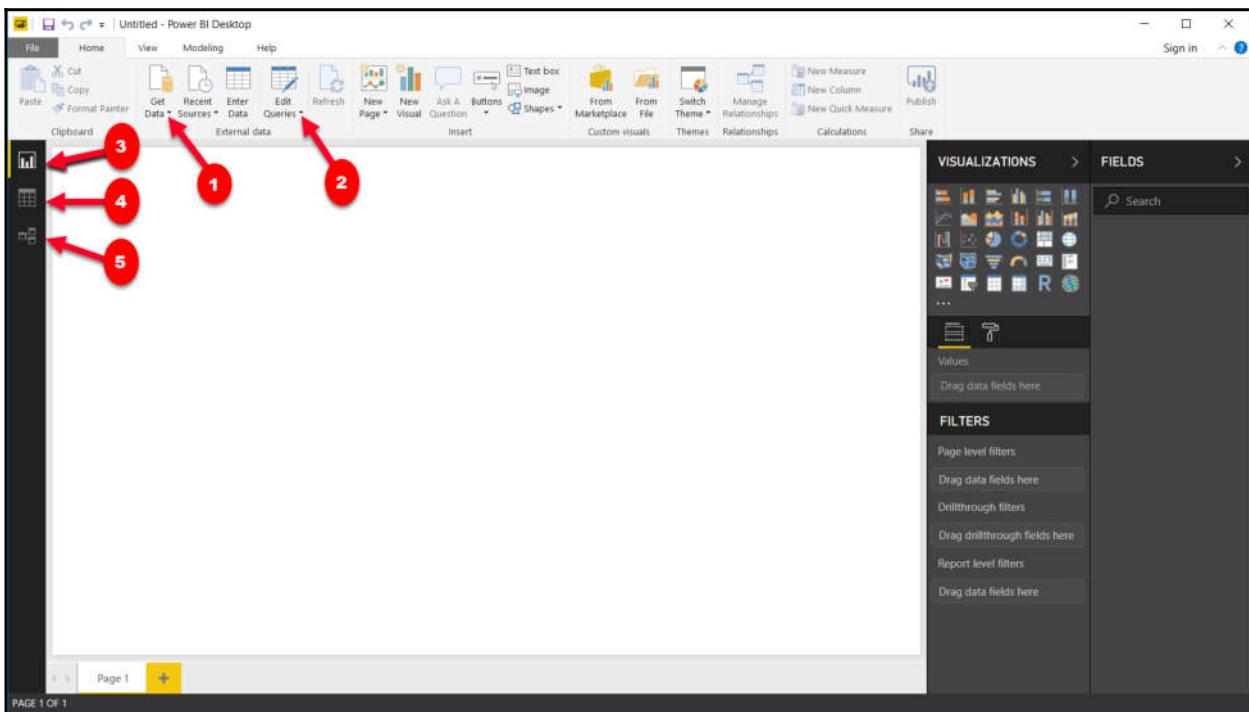


Chapter 1:

Getting Started with Importing Data Options



Navigator

Display Options 

AdventureWorksDW.XLSX [6]

- DimCustomer
- DimDate
- DimGeography
- DimProduct
- DimSalesTerritory
- FactInternetSales

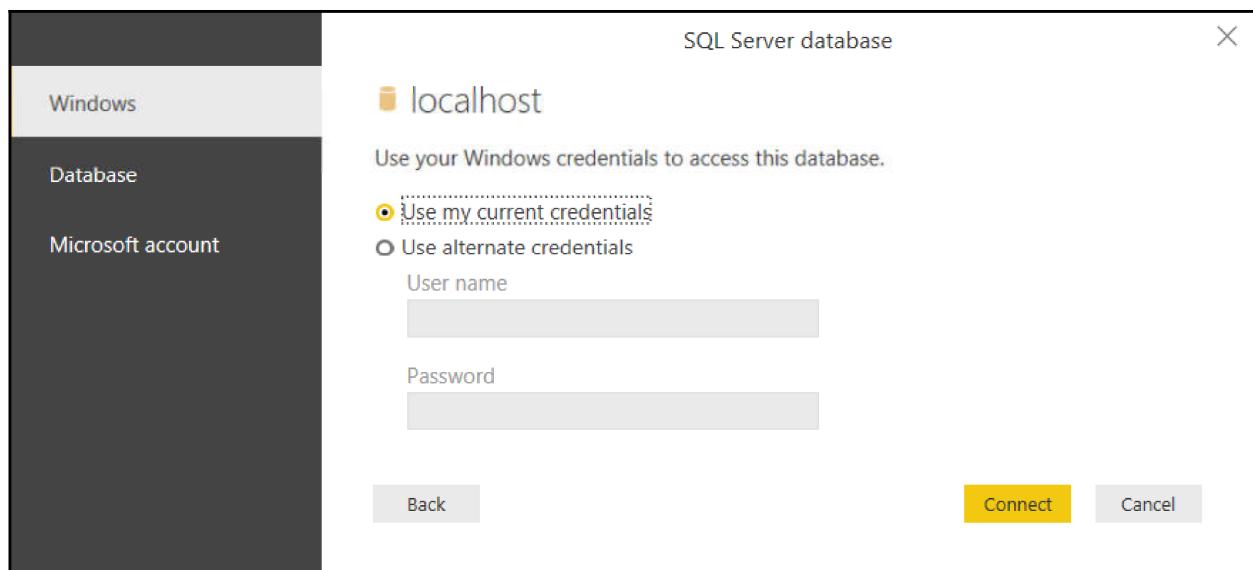
DimCustomer

CustomerKey	GeographyKey	CustomerAlternateKey	Title	FirstName
11000	26	AW000011000		Jon
11001	37	AW000011001		Eugene
11002	31	AW000011002		Ruben
11003	11	AW000011003		Christy
11004	19	AW000011004		Elizabeth
11005	22	AW000011005		Julio
11006	8	AW000011006		Janet
11007	40	AW000011007		Marco
11008	32	AW000011008		Rob
11009	25	AW000011009		Shannon
11010	22	AW000011010		Jacquelyn
11011	22	AW000011011		Curtis
11012	611	AW000011012		Lauren
11013	543	AW000011013		Ian
11014	634	AW000011014		Sydney
11015	301	AW000011015		Chloe
11016	329	AW000011016		Wyatt

The data in the preview has been truncated due to size limits.

Load Edit Cancel





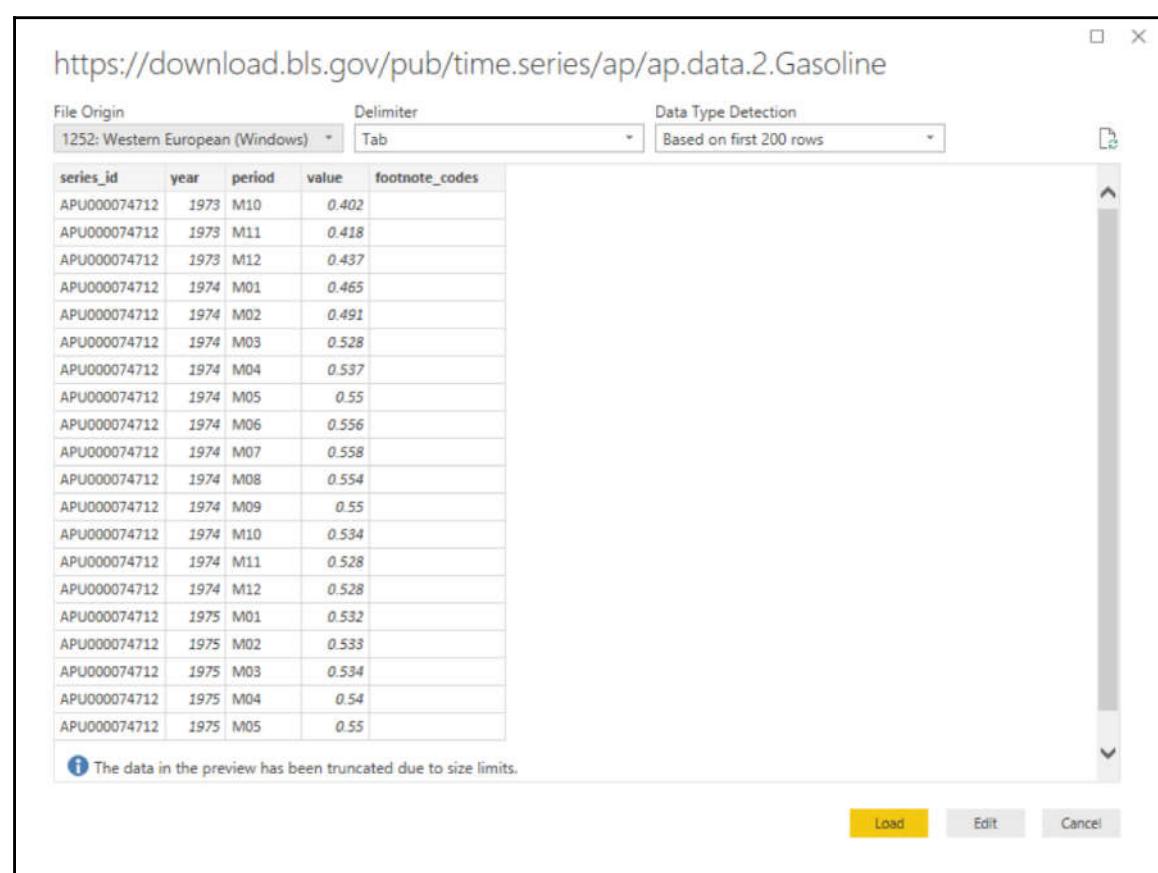
https://download.bls.gov/pub/time.series/ap/ap.data.2.Gasoline

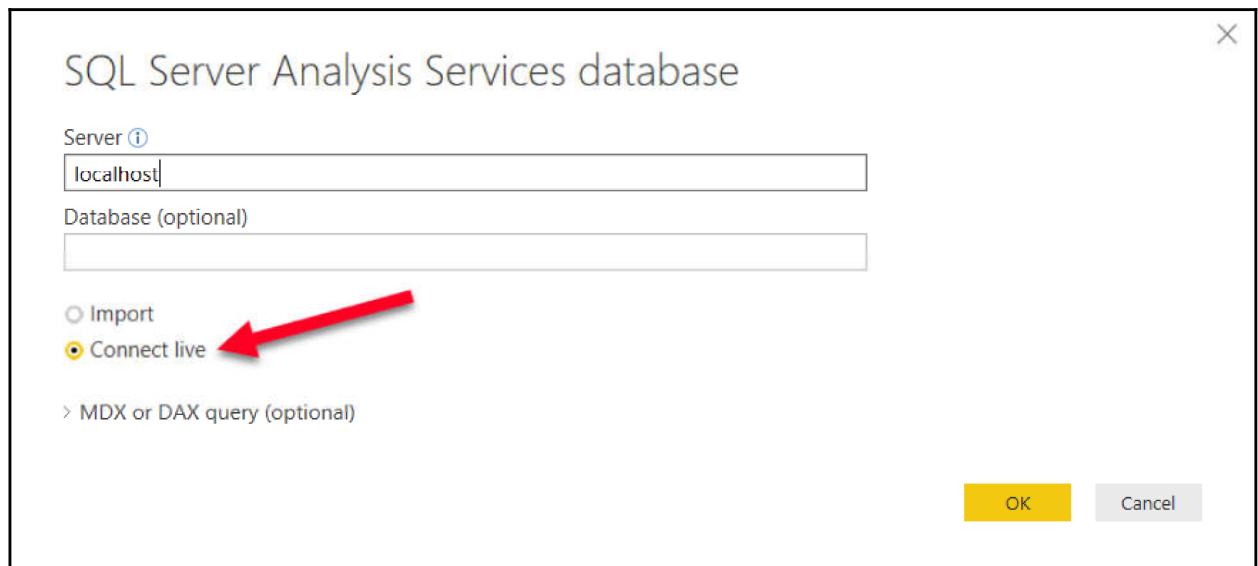
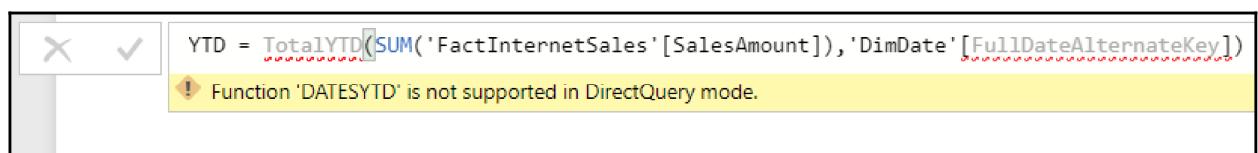
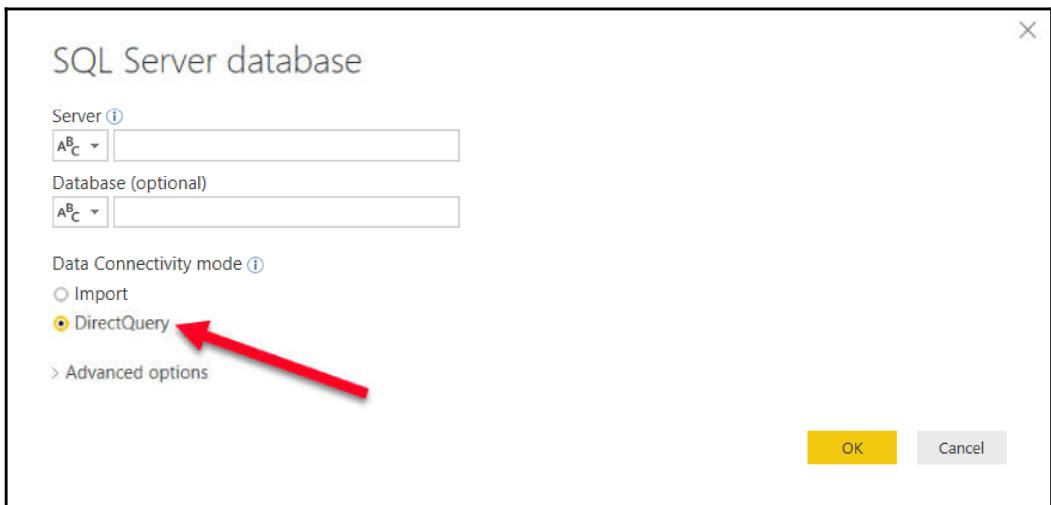
File Origin: 1252: Western European (Windows) Delimiter: Tab Data Type Detection: Based on first 200 rows

series_id	year	period	value	footnote_codes
APU000074712	1973	M10	0.402	
APU000074712	1973	M11	0.418	
APU000074712	1973	M12	0.437	
APU000074712	1974	M01	0.465	
APU000074712	1974	M02	0.491	
APU000074712	1974	M03	0.528	
APU000074712	1974	M04	0.537	
APU000074712	1974	M05	0.55	
APU000074712	1974	M06	0.556	
APU000074712	1974	M07	0.558	
APU000074712	1974	M08	0.554	
APU000074712	1974	M09	0.55	
APU000074712	1974	M10	0.534	
APU000074712	1974	M11	0.528	
APU000074712	1974	M12	0.528	
APU000074712	1975	M01	0.532	
APU000074712	1975	M02	0.533	
APU000074712	1975	M03	0.534	
APU000074712	1975	M04	0.54	
APU000074712	1975	M05	0.55	

The data in the preview has been truncated due to size limits.

Load Edit Cancel





Chapter 2: Data Transformation Strategies



The screenshot shows the Power Query Editor interface. A red circle labeled '1' points to the 'New' button in the top-left toolbar. Another red circle labeled '2' points to the 'Failed Banks' query in the 'Queries [2]' list. A red circle labeled '3' points to the 'Properties' section in the 'QUERY SETTINGS' pane, specifically the 'Name' field set to 'Historical Gas Prices'. A red circle labeled '4' points to the 'Remove Columns' button in the top ribbon. A red circle labeled '5' points to the 'Enter Data' button in the top-left toolbar.

The screenshot shows the Power Query Editor interface. A red arrow points from the 'Use First Row as Headers' button in the top ribbon to the 'Data' query in the 'QUERY SETTINGS' pane. The 'Data' query has its 'Source' set to 'Navigation' and 'Changed Type' applied.

Screenshot of the Power Query Editor showing the 'Transform' ribbon tab selected. A red arrow points to the 'Remove Columns' option in the 'Manage Columns' dropdown menu.

QUERY SETTINGS

- PROPERTIES**
 - Name: Data
 - All Properties
- APPLIED STEPS**
 - Source
 - Navigation
 - Changed Type
 - Promoted Headers
 - Changed Type1

Bank Name	City	ST	CERT	Acquiring Institution	Closing Date
Washington Federal Bank for Savings	Chicago	IL			12/15/2017
The Farmers and Merchants State Bank of Argonia	Argonia	KS			10/13/2017
Fayette County Bank	Saint Elmo	IL			5/26/2017
Guaranty Bank, (d/b/a BestBank in Georgia & Michigan)	Milwaukee	WI		Trust Company	5/5/2017
First NBC Bank	New Orleans				4/28/2017
Proficio Bank	Cottonwood Heights	UT			3/1/2017
Seaway Bank and Trust Company	Chicago	IL		Trust Company	1/27/2017
Harvest Community Bank	Pennsville	NJ			1/11/2017
Allied Bank	Mulberry	AR			9/23/2016
The Woodbury Banking Company	Woodbury	GA			8/19/2016
First CornerStone Bank	King of Prussia	PA		Trust Company	5/6/2016
Trust Company Bank	Memphis	TN		County	4/29/2016
North Milwaukee State Bank	Milwaukee	WI		Trust Company	3/11/2016
Hometown National Bank	Longview	WA			10/2/2015
The Bank of Georgia	Peachtree City	GA		Unpivot Other Columns	10/2/2015
Premier Bank	Denver	CO		Unpivot Only Selected Columns	7/10/2015
Edgebrook Bank	Chicago	IL		Move	5/8/2015

Screenshot of the Power Query Editor showing the 'Transform' ribbon tab selected. A red arrow points to the 'Data Type' dropdown menu for the 'Closing Date' column, which is currently set to 'Date'.

Editor

Transform

Bank Name	City	ST	Closing Date
1 Washington Federal Bank for Savings	Chicago	IL	12/15/2017
2 The Farmers and Merchants State Bank of Argonia	Argonia	KS	10/13/2017
3 Fayette County Bank	Saint Elmo	IL	5/26/2017
4 Guaranty Bank, (d/b/a BestBank in Georgia & Michigan)	Milwaukee	WI	5/5/2017
5 First NBC Bank	New Orleans	LA	4/28/2017
6 Proficio Bank	Cottonwood Heights	UT	3/1/2017
7 Seaway Bank and Trust Company	Chicago	IL	1/27/2017
8 Harvest Community Bank	Pennsville	NJ	1/11/2017
9 Allied Bank	Mulberry	AR	9/23/2016
10 The Woodbury Banking Company	Woodbury	GA	8/19/2016
11 First CornerStone Bank	King of Prussia	PA	5/6/2016
12 Trust Company Bank	Memphis	TN	4/29/2016
13 North Milwaukee State Bank	Milwaukee	WI	3/11/2016
14 Hometown National Bank	Longview	WA	10/2/2015
15 The Bank of Georgia	Peachtree City	GA	10/2/2015
16 Premier Bank	Denver	CO	7/10/2015

DATA TYPE

- 1.2 Decimal Number
- \$ Fixed decimal number
- 12 Whole Number
- % Percentage
- Date/Time
- Date
- Time
- Date/Time/Timezone
- Duration
- Text
- True/False
- Binary
- Using Locale...

7/10/2015

Untitled - Power Query Editor

Add Column

Enter sample values to create a new column (Ctrl+Enter to apply).

Transform: `Text.Combine({[City], ", ", [ST]})`

	Bank Name	City	ST	Closing Date	Merged
1	Washington Federal Bank for Savings	Chicago	IL	12/15/2017	Chicago, IL
2	The Farmers and Merchants State Bank of Argonia	Argonia	KS	10/13/2017	Argonia, KS
3	Fayette County Bank	Saint Elmo	IL	5/26/2017	Saint Elmo, IL
4	Guaranty Bank, (d/b/a BestBank in Georgia & Michigan)	Milwaukee	WI	5/5/2017	Milwaukee, WI
5	First NBC Bank	New Orleans	LA	4/28/2017	New Orleans, LA
6	Proficio Bank	Cottonwood Heights	UT	3/3/2017	Cottonwood Heights, UT
7	Seaway Bank and Trust Company	Chicago	IL	1/27/2017	Chicago, IL
8	Harvest Community Bank	Pennsville	NJ	1/13/2017	Pennsville, NJ
9	Allied Bank	Mulberry	AR	9/23/2016	Mulberry, AR
10	The Woodbury Banking Company	Woodbury	GA	8/19/2016	Woodbury, GA
11	First CornerStone Bank	King of Prussia	PA	5/6/2016	King of Prussia, PA

OK Cancel

Split Column by Delimiter

Specify the delimiter used to split the text column.

Select or enter delimiter

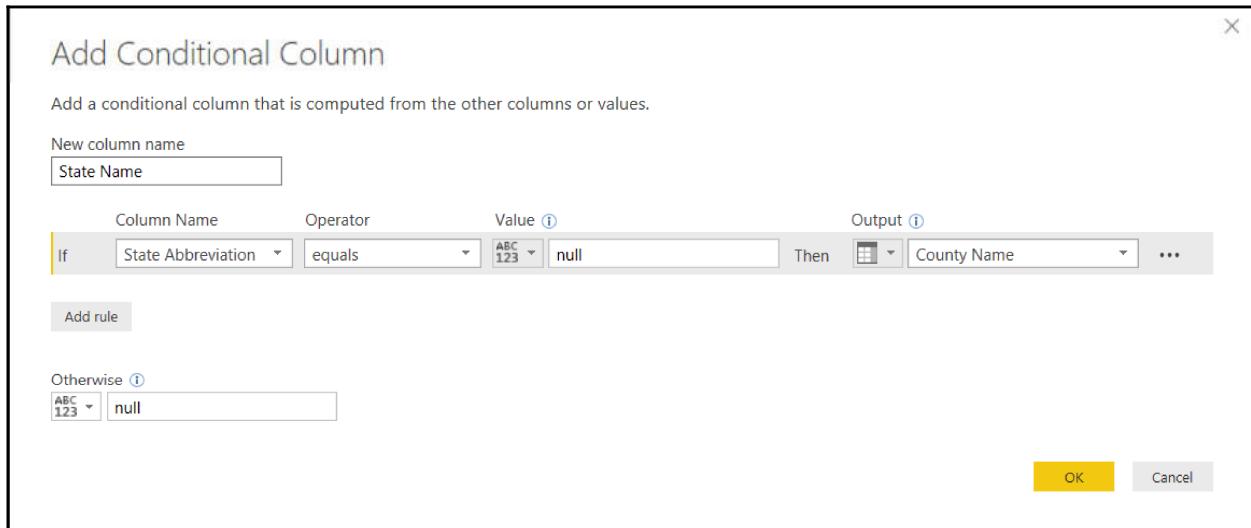
--Custom--
,

Split at

Left-most delimiter
 Right-most delimiter
 Each occurrence of the delimiter

> Advanced options

OK Cancel



Queries [1]

FIPS_CountyName

	A ^B _C County Code	A ^B _C County Name	A ^B _C State Abbreviation	A ^B _C State Name
1	01000	ALABAMA		null ALABAMA
2	01001	Autauga County	AL	null
3	01003	Baldwin County	AL	null
4	01005	Barbour County	AL	null
5	01007	Bibb County	AL	null
6	01009	Blount County	AL	null
7	01011	Bullock County	AL	null
8	01013	Butler County	AL	null
9	01015	Calhoun County	AL	null
10	01017	Chambers County	AL	null
11	01019	Cherokee County	AL	null
12	01021	Chilton County	AL	null
13	01023	Choctaw County	AL	null
14	01025	Clarke County	AL	null
15	01027	Clay County	AL	null
16	01029	Cleburne County	AL	null
17	01031	Coffee County	AL	null
18	01033	Colbert County	AL	null

QUERY SETTINGS

Properties

Name: FIPS_CountyName

Applied Steps

- Source
- Changed Type
- Filtered Rows
- Split Column by Delimiter
- Changed Type1
- Renamed Columns
- Added Conditional Column

Queries [1]

FIPS_CountyName

	A _c County Code	A _c County Name	A _c State Abbreviation	A _c State Name
1	01001	Autauga County	AL	Alabama
2	01003	Baldwin County	AL	Alabama
3	01005	Barbour County	AL	Alabama
4	01007	Bibb County	AL	Alabama
5	01009	Blount County	AL	Alabama
6	01011	Bullock County	AL	Alabama
7	01013	Butler County	AL	Alabama
8	01015	Calhoun County	AL	Alabama
9	01017	Chambers County	AL	Alabama
10	01019	Cherokee County	AL	Alabama
11	01021	Chilton County	AL	Alabama
12	01023	Choctaw County	AL	Alabama
13	01025	Clarke County	AL	Alabama
14	01027	Clay County	AL	Alabama
15	01029	Cleburne County	AL	Alabama
16	01031	Coffee County	AL	Alabama
17	01033	Colbert County	AL	Alabama
18	01035	Conecuh County	AL	Alabama

QUERY SETTINGS

PROPERTIES

Name: FIPS_CountyName

APPLIED STEPS

- Source
- Changed Type
- Filtered Rows
- Split Column by Delimiter
- Changed Type1
- Renamed Columns
- Added Conditional Column
- Capitalized Each Word
- Filled Down
- Filtered Rows1

1 ² 3 Year	1 ² 3 Florida	1 ² 3 Pennsylvania	1 ² 3 New York	1 ² 3 California	1 ² 3 Texas
2018	21312211	12823989	19862512	39776830	28704330
2017	20984400	12805537	19849399	39536653	28304596
2016	20656589	12787085	19836286	39296476	27904862

1 ² 3 Year	A _c State	1.2 Population
2018	Florida	21312211
2018	Pennsylvania	12823989
2018	New York	19862512
2018	California	39776830
2018	Texas	28704330
2017	Florida	20984400
2017	Pennsylvania	12805537
2017	New York	19849399
2017	California	39536653
2017	Texas	28304596
2016	Florida	20656589
2016	Pennsylvania	12787085
2016	New York	19836286
2016	California	39296476
2016	Texas	27904862

Queries [1]

- Income

	Country	Year	Income
1	Afghanistan	1800	472.0534996
2	Afghanistan	1820	472.0534996
3	Afghanistan	1913	638.3786419
4	Afghanistan	1950	757.3187954
5	Afghanistan	1951	766.7521974
6	Afghanistan	1952	779.4453145
7	Afghanistan	1953	812.8562795
8	Afghanistan	1954	815.3595213
9	Afghanistan	1955	816.414838
10	Afghanistan	1956	837.0669354
11	Afghanistan	1957	820.8530296
12	Afghanistan	1958	849.7400695
13	Afghanistan	1959	856.2288434
14	Afghanistan	1960	868.4982226
15	Afghanistan	1961	857.3586549
16	Afghanistan	1962	853.10071
17	Afghanistan	1963	849.4447177

QUERY SETTINGS

PROPERTIES

Name: Income

APPLIED STEPS

- Source
- Navigation
- Changed Type
- Promoted Headers
- Changed Type1
- Renamed Columns
- Unpivoted Other Columns
- Renamed Columns1

	2012	2013	2050	2100
1	null	null	null	
2	33397058	34499915	76249991	110
3	null	null	null	
4	3227373	3238316	2989747	
5	36485828	36983924	46521560	39
6	70680	71834	120458	
7	87518	88909	136617	
8	20162517	20714494	42334143	56
9	15911	16158	18300	
10	90510	91404	111577	
11	41118986	41473982	50559806	45
12	3108972	3117722	2930743	2
13	108587	108883	103749	
14	22918688	23213944	31385363	35
15	8428915	8441263	8427060	
16	9421233	9533445	11578484	1
17	351275	355233	445096	
18	1359485	1377273	1801018	
19				

Copy

Remove Columns

Remove Other Columns

Add Column From Examples...

Remove Duplicates

Remove Errors

Replace Values...

Fill

Change Type

Transform

Merge Columns

Sum

Product

Group By...

Unpivot Columns

Unpivot Other Columns

Unpivot Only Selected Columns

Move

Merge

Select tables and matching columns to create a merged table.

Population



Country	1	Year	2	Population
Afghanistan		1800		3280000
Afghanistan		1820		3280000
Afghanistan		1870		4207000
Afghanistan		1913		5730000
Afghanistan		1950		8151455

Income



Country	1	Year	2	Income
Afghanistan		1800		472.0534996
Afghanistan		1820		472.0534996
Afghanistan		1913		638.3786419
Afghanistan		1950		757.3187954
Afghanistan		1951		766.7521974

Join Kind

Inner (only matching rows)

The selection has matched 17221 out of the first 22127 rows.

OK

Cancel

Queries [3]

- Income
- Population**
- Country Stats

	Country	Year
1	Afghanistan	1800
2	Afghanistan	1820
2	Afghanistan	1870
		1913
		1950
		1951
		1952
		1953
		1954
		1955
		1956
		1957
		1958
		1959
		1960
		1961
		1962
		1963
		1964

Enable load

Include in report refresh

Copy

Paste

Delete

Rename

Duplicate

Reference

Move To Group

Move Up

Move Down

Create Function...

Convert To Parameter

Advanced Editor

Properties...

Enable load

Include in report refresh

Options

GLOBAL

- Data Load
- Power Query Editor
- DirectQuery
- R scripting
- Security
- Privacy
- Updates
- Usage Data
- Diagnostics
- Preview features
- Auto recovery

CURRENT FILE

- Data Load
- Regional Settings
- Privacy
- Auto recovery
- Query reduction
- Report settings

R script options

Select which home directory Power BI Desktop should use. Either select a detected R installation from the list, or specify a different R home directory by browsing to its location.

Detected R home directories:

C:\Program Files\Microsoft\R Open\R-3.4.4\

[How to install R](#)

Select which R IDE Power BI Desktop should launch. Either select a detected IDE from the list, or specify a different IDE by browsing to its location.

Detected R IDEs:

R Studio

[Learn more about R IDEs](#)

[Change temporary storage location](#)

Note: R custom visuals may require automatic installation of additional packages, which require that all characters in the full folder path are in English (non-Unicode characters).

OK

Cancel

Advanced Editor

```

let
    Source = Excel.Workbook(File.Contents("C:\Packt\Power BI Quick Start Guide\Data Sources\Failed Bank Li
    Data_Table = Source{Item:"Data", Kind:"Table"}[Data],
    = Table.TransformColumnTypes
    = Table.PromoteHeaders
    = Table.TransformColumnTypes
    = Table.SelectColumns
    = Table.AddColumn
in
    #"Inserted Merged Column"

```

1 Data
2 Source
3 Data_Table
4 Table.AddColumn
5 No syntax errors have been detected.

Done Cancel

#shared

- List.RemoveItems Function
- List.ReplaceValue Function
- List.FindText Function
- List.RemoveLastN Function
- List.RemoveFirstN Function
- Table.ColumnCount Function
- Table.AlternateRows Function
- Table.InsertRows Function
- Table.LastN Function
- Table.Last Function
- Table.MatchesAllRows Function
- Table.MatchesAnyRows Function
- Table.Partition Function

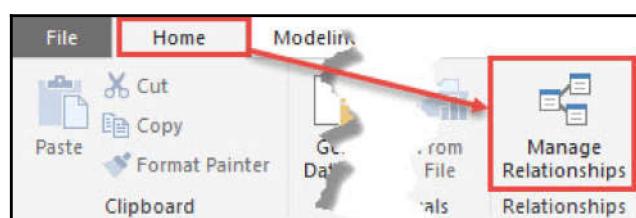
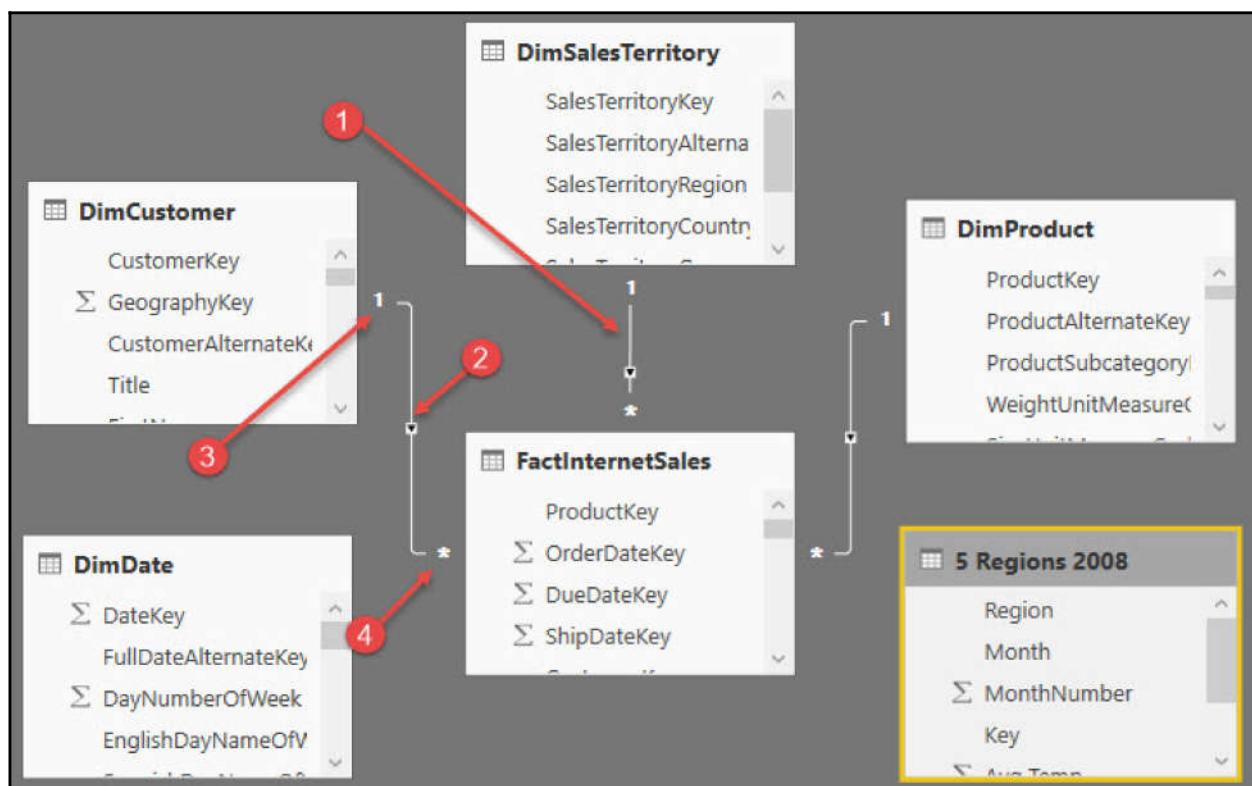
```

function (table as table, column as text, groups as number, hash as function) as list
    Partitions the table into a list of groups number of tables based on the value of the column and a hash function. The hash function is applied to the value of the column row to obtain a hash value for the row. The hash value modulo groups determines which of the returned tables the row will be placed.
    table: The table to partition.
    column: The column to hash to determine which returned table the row is in.
    groups: The number of tables the input table will be partitioned into.
    hash: The function applied to obtain a hash value.

Example: Partition the table ({{a = 2, b = 4}, {a = 6, b = 8}, {a = 2, b = 4}, {a = 1, b = 4}}) into 2 tables on column [a], using the value of the columns as the hash function.
Usage:
Table.Partition(Table.FromRecords({{a = 2, b = 4}, {a = 1, b = 4}, {a = 2, b = 4}, {a = 1, b = 4}}), "a", 2, each _)

```

Chapter 3: Building the Data Model



Manage relationships

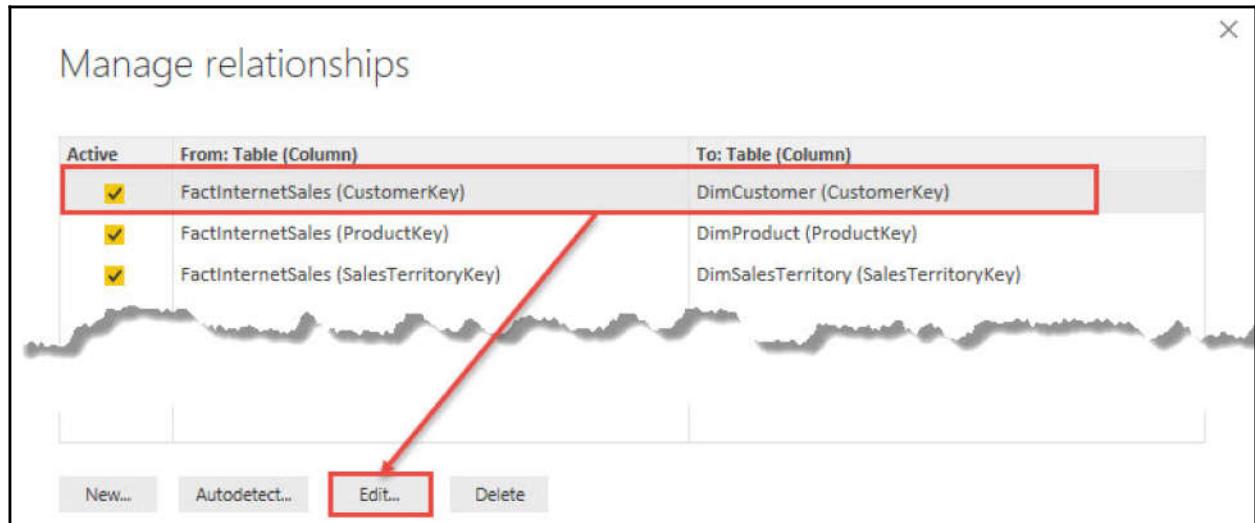
Active	From: Table (Column)	To: Table (Column)
<input checked="" type="checkbox"/>	FactInternetSales (CustomerKey)	DimCustomer (CustomerKey)
<input checked="" type="checkbox"/>	FactInternetSales (ProductKey)	DimProduct (ProductKey)
<input checked="" type="checkbox"/>	FactInternetSales (SalesTerritoryKey)	DimSalesTerritory (SalesTerritoryKey)

1
2
3
4

New... Autodetect... Edit... Delete Close

Manage relationships

Active	From: Table (Column)	To: Table (Column)
<input checked="" type="checkbox"/>	FactInternetSales (CustomerKey)	DimCustomer (CustomerKey)
<input checked="" type="checkbox"/>	FactInternetSales (ProductKey)	DimProduct (ProductKey)
<input checked="" type="checkbox"/>	FactInternetSales (SalesTerritoryKey)	DimSalesTerritory (SalesTerritoryKey)



Edit relationship

Select tables and columns that are related.

FactInternetSales								
ProductKey	OrderDateKey	DueDateKey	ShipDateKey	CustomerKey	PromotionKey	CurrencyKey	\$	UnitCost
528	20071229	20080110	20080105	11024	1	100		100
528	20070910	20070922	20070917	11049	1	100		100
528	20080623	20080705	20080630	11086	1	100		100

DimCustomer								
CustomerKey	GeographyKey	CustomerAlternateKey	Title	FirstName	MiddleName	LastName	Name	Address
11602	135	AW00011602		Larry		Gill		
11603	244	AW00011603		Geoffrey		Gonzalez		
11610	269	AW00011610		Blake		Collins		

Cardinality

Many to one (*:1)

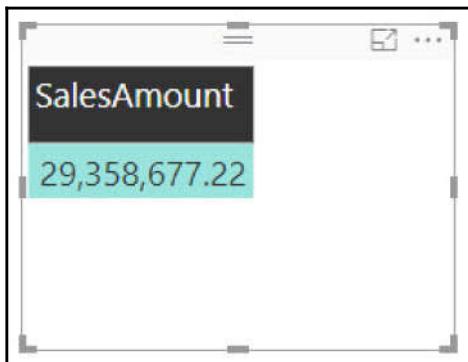
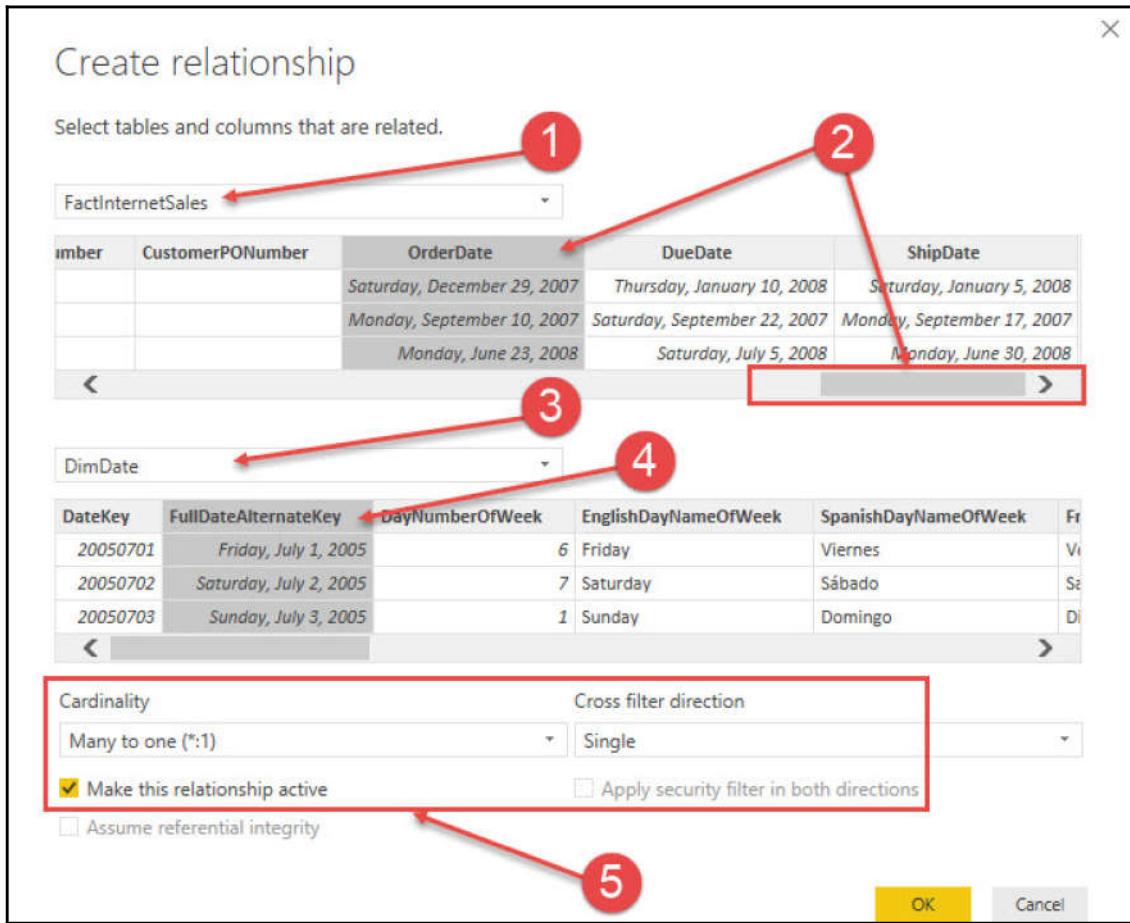
Make this relationship active

Assume referential integrity

Cross filter direction

Single

Apply security filter in both directions

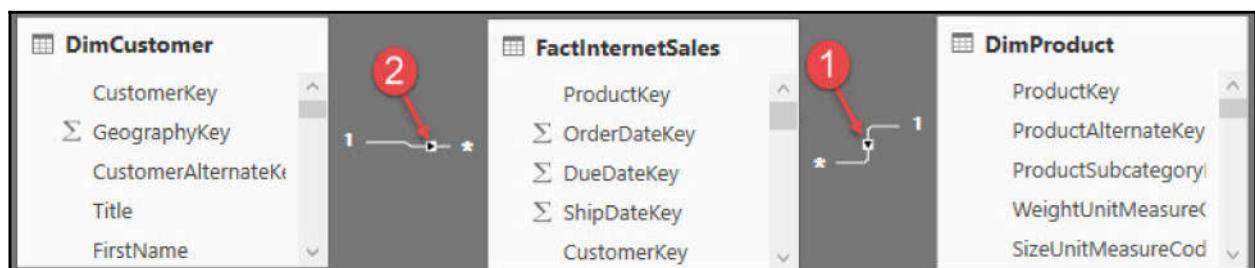


SalesTerritoryCountry	SalesAmount
Australia	9,061,000.58
Canada	1,977,844.86
France	2,644,017.71
Germany	2,894,312.34
United Kingdom	3,391,712.21
United States	9,389,789.51
Total	29,358,677.22

Temperature Range	SalesAmount
Cold	29,358,677.22
Cool	29,358,677.22
Hot	29,358,677.22
Warm	29,358,677.22
Total	29,358,677.22



1 EnglishProductName	2 Total Sales	3 Total Transactions	4 Customer Count
Adjustable Race			18484
All-Purpose Bike Stand	\$39,591	249	18484
AWC Logo Cap	\$19,688	2190	18484
BB Ball Bearing			18484
Bearing Ball			18484
Bike Wash - Dissolver	\$7,219	908	18484
Blade			18484
Cable Lock			18484
Chain			18484
Chain Stays			18484



EnglishProductName	Total Sales	Total Transactions	Customer Count
All-Purpose Bike Stand	\$39,591	249	243
AWC Logo Cap	\$19,688	2190	2132
Bike Wash - Dissolver	\$7,219	908	875
Classic Vest, L	\$12,383	195	195
Classic Vest, M	\$12,637	199	199
Classic Vest, S	\$10,668	168	168
Fender Set - Mountain	\$46,620	2121	2110
Half-Finger Gloves, L	\$10,849	443	437

CalendarYear	Total Sales	Total Transactions
2005	\$3,266,374	1013
2006	\$6,530,344	2677
2007	\$9,791,060	24443
2008	\$9,770,900	32265
Total	\$29,358,677	60398

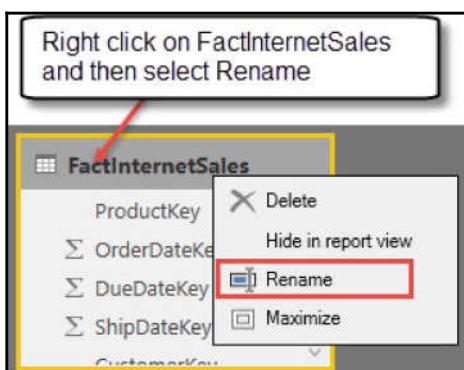
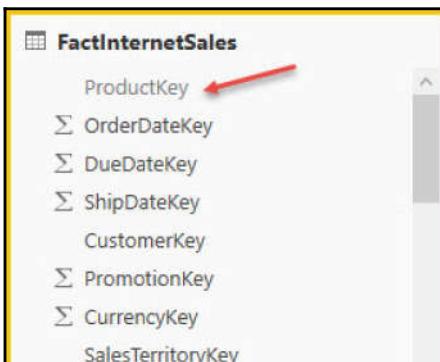
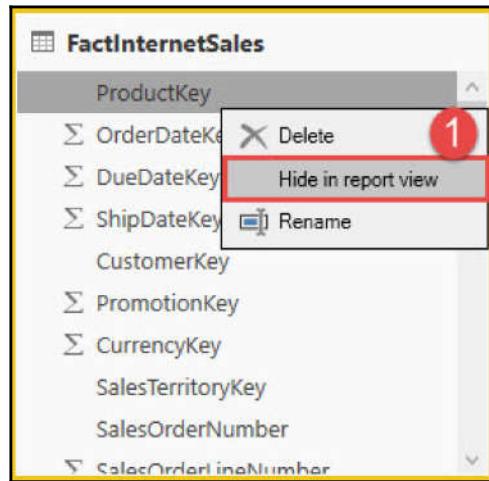
AdventureWorksDW.XLSX [6]

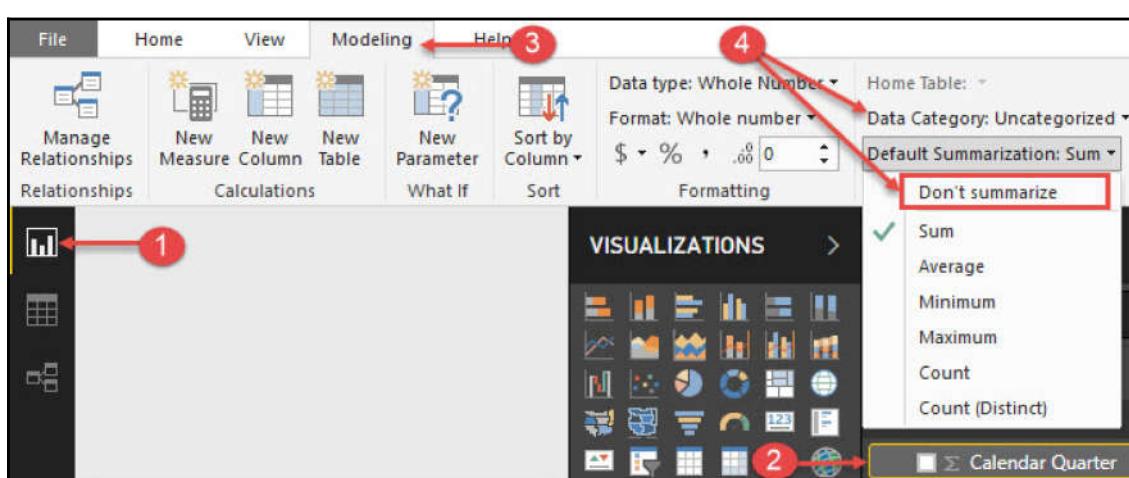
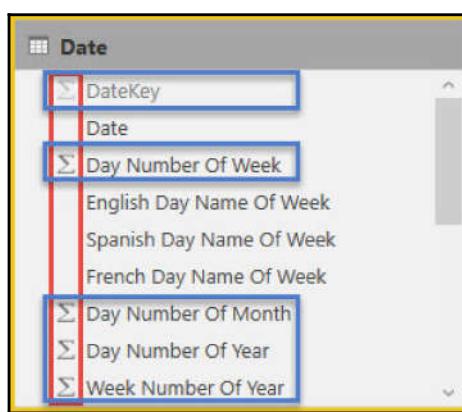
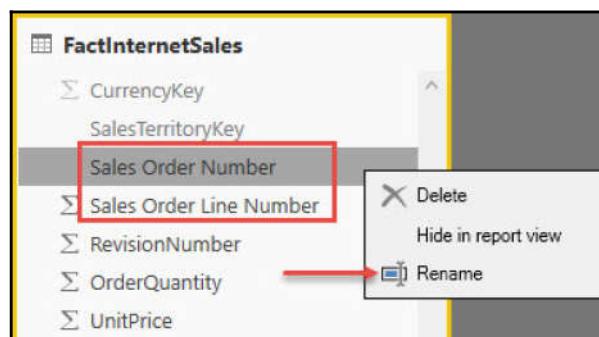
- DimCustomer
- DimDate
- DimGeography
- DimProduct
- DimSalesTerritory
- FactInternetSales

DateKey	FullDateAlternateKey	DayNumberOfWeek
20050101	1/1/2005	7
20050102	1/2/2005	1
20050103	1/3/2005	2
20050104	1/4/2005	3
20050105	1/5/2005	4
20050106	1/6/2005	5
20050107	1/7/2005	6
20050108	1/8/2005	7
20050109	1/9/2005	1

Load

Total Sales and Transactions by Order Year			Total Sales and Transactions by Ship Year		
Year (Order)	Total Sales	Total Transactions	Year (Ship)	Total Sales	Total Transactions
2005	\$3,266,374	1013	2005	\$3,105,587	962
2006	\$6,530,344	2677	2006	\$6,576,979	2665
2007	\$9,791,060	24443	2007	\$9,517,549	23313
2008	\$9,770,900	32265	2008	\$10,158,562	33458
Total	\$29,358,677	60398	Total	\$29,358,677	60398





English Month Name
April
August
December
February
January
July
June
March
May
November
October
September

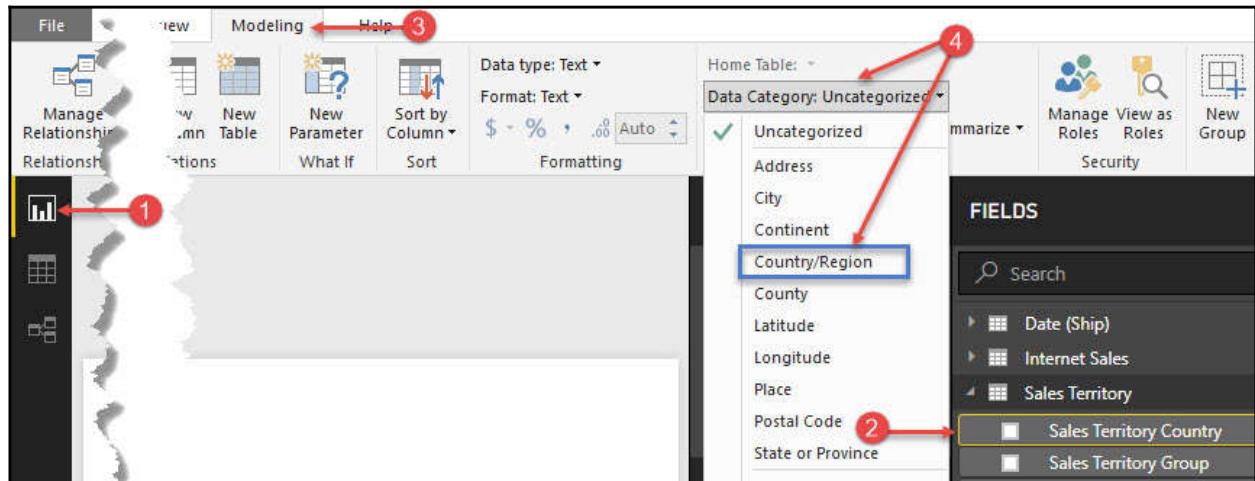
1. Click the 'New Table' icon in the ribbon.

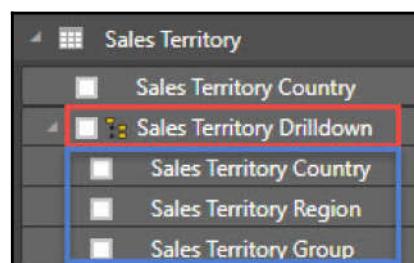
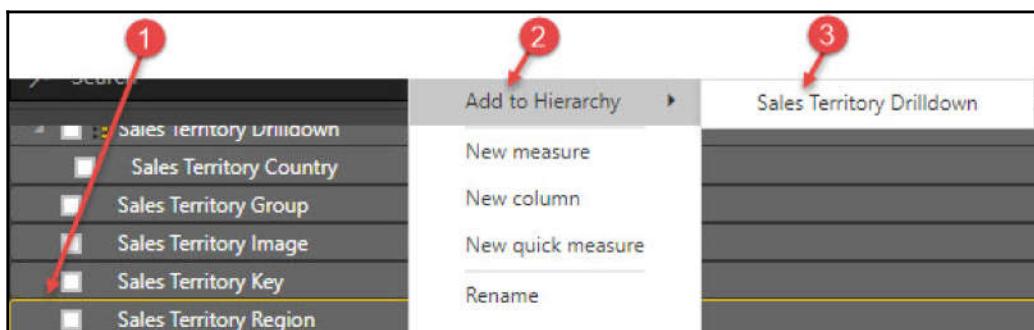
2. In the 'FIELDS' list, select 'English Month Name'.

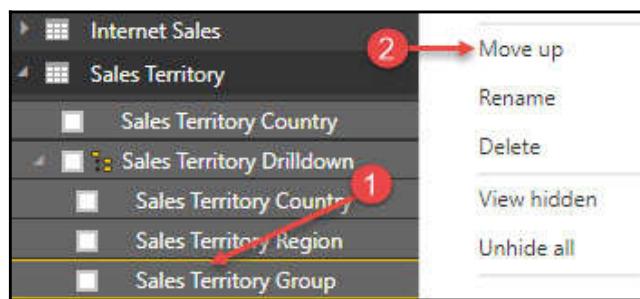
3. Click the 'Modeling' tab in the ribbon.

4. In the 'Sort by Column' dropdown, click 'Auto'.

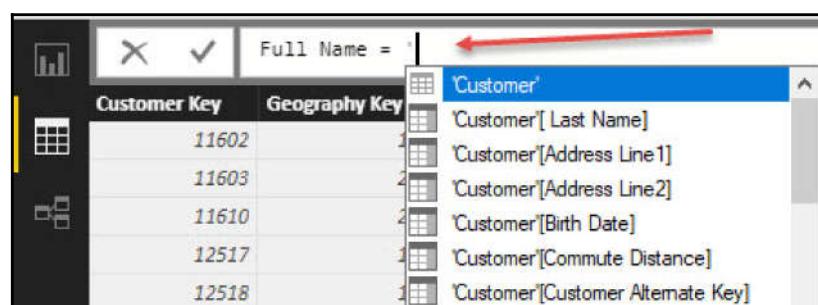
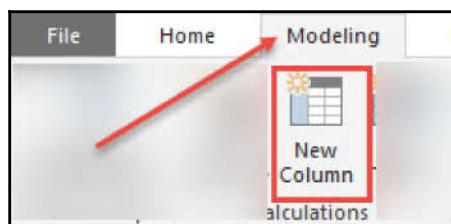
The screenshot shows the Power BI Data Model interface. The ribbon tabs are File, Home, View, Modeling (selected), and Help. The 'Modeling' tab has a red arrow pointing to it. The 'Sort by Column' dropdown in the ribbon has a red arrow pointing to its 'Auto' option. The 'FIELDS' list on the right contains various date-related fields, with 'English Month Name' highlighted. A red box highlights the 'Month Number Of Year' field at the bottom of the list.







Chapter 4: Leveraging DAX



Month Year
09
09
09
09
09
011
011
011
011

```
Customer Age =
IF(
    FORMAT('Customer'[Birth Date], "MMDD") <= FORMAT(TODAY(), "MMDD"), //Logical Test
    DATEDIFF('Customer'[Birth Date], TODAY(), YEAR), //Result If True
    DATEDIFF('Customer'[Birth Date], TODAY(), YEAR) -1) //Result If False
```

```

Age Breakdown =
SWITCH(TRUE(),
    'Customer'[Customer Age] >= 55, "55 +", //If 55 or older then 55 +
    'Customer'[Customer Age] >= 45, "45-54", //If 45-54 then 45-54
    'Customer'[Customer Age] >= 35, "35-44", //If 35-44 then 35-44
    "18-34")

```

Region	Month	MonthNumber	Key	Avg Temp	Temperature Range
Northeast	Jan	1	Northeast1	26.3	Cold
Northeast	Feb	2	Northeast2	25.4	Cold
Northeast	Mar	3	Northeast3	31.4	Cold
Northeast	Apr	4	Northeast4	48.1	Cool

```

Temperature Key =
'Sales T'

```

```

Temperature Key =
RELATED('Sales T')
    'Sales Territory'
    'Sales Territory'[Sales Territory Country]
    'Sales Territory'[Sales Territory Group]
    'Sales Territory'[Sales Territory Image]
    'Sales Territory'[Sales Territory Key]
    'Sales Territory'[Sales Territory Region]
    'Sales Territory'[Sales Territory AlternateKey]

```

```

Temperature Key =
RELATED('Sales Territory'[Sales Territory Region]) & //Return the region from Sales Territory table
RELATED('Date (Order)'[Month Number Of Year])      //Return the Month number of year from the Date table

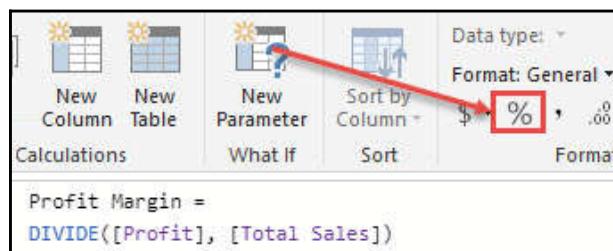
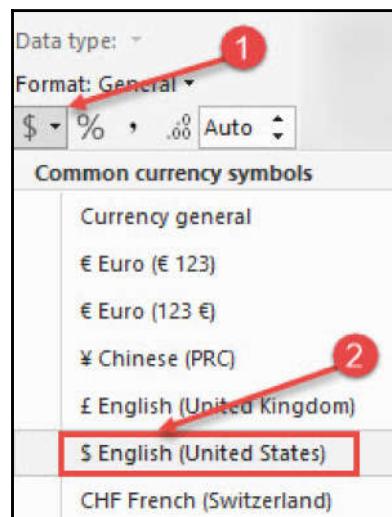
```

Internet Sales

Number	Order Date	DueDate	ShipDate	Temperature Key
	Saturday, December 29, 2007	Thursday, January 10, 2008	Saturday, January 5, 2008	Southwest12
	Monday, September 10, 2007	Saturday, September 22, 2007	Monday, September 17, 2007	Southwest9
	Monday, June 23, 2008	Saturday, July 5, 2008	Monday, June 30, 2008	Southwest6

Temperature

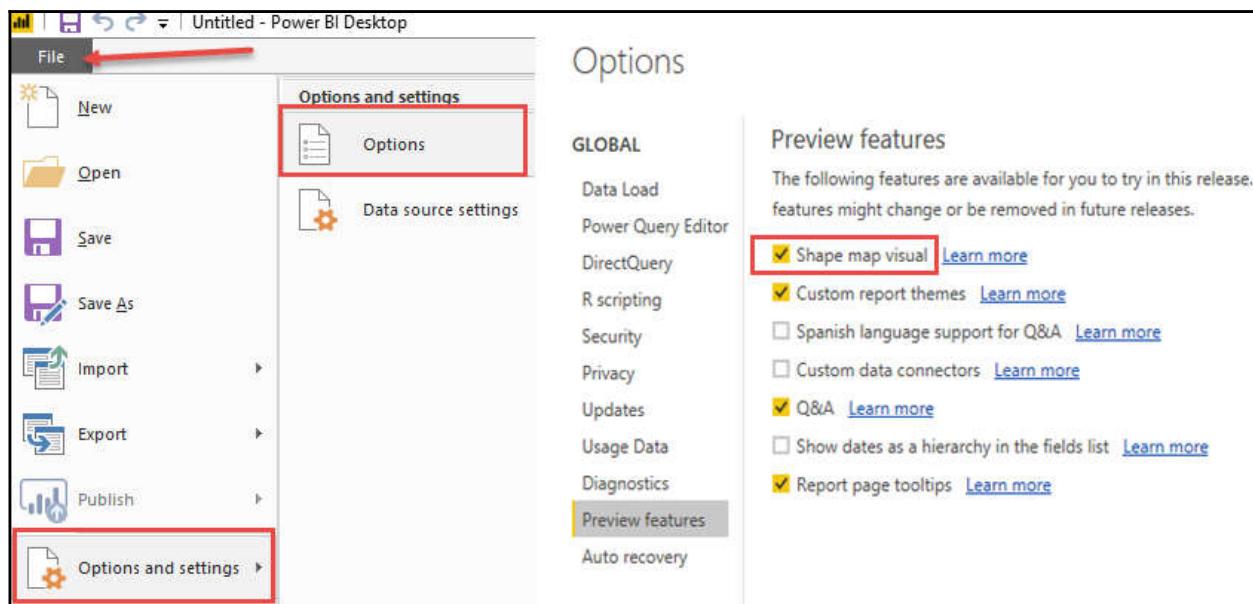
Region	Month	MonthNumber	Key	Avg Temp	Temperature Range
Northeast	Jan	1	Northeast1	26.3	Cold
Northeast	Feb	2	Northeast2	25.4	Cold
Northeast	Mar	3	Northeast3	31.4	Cold

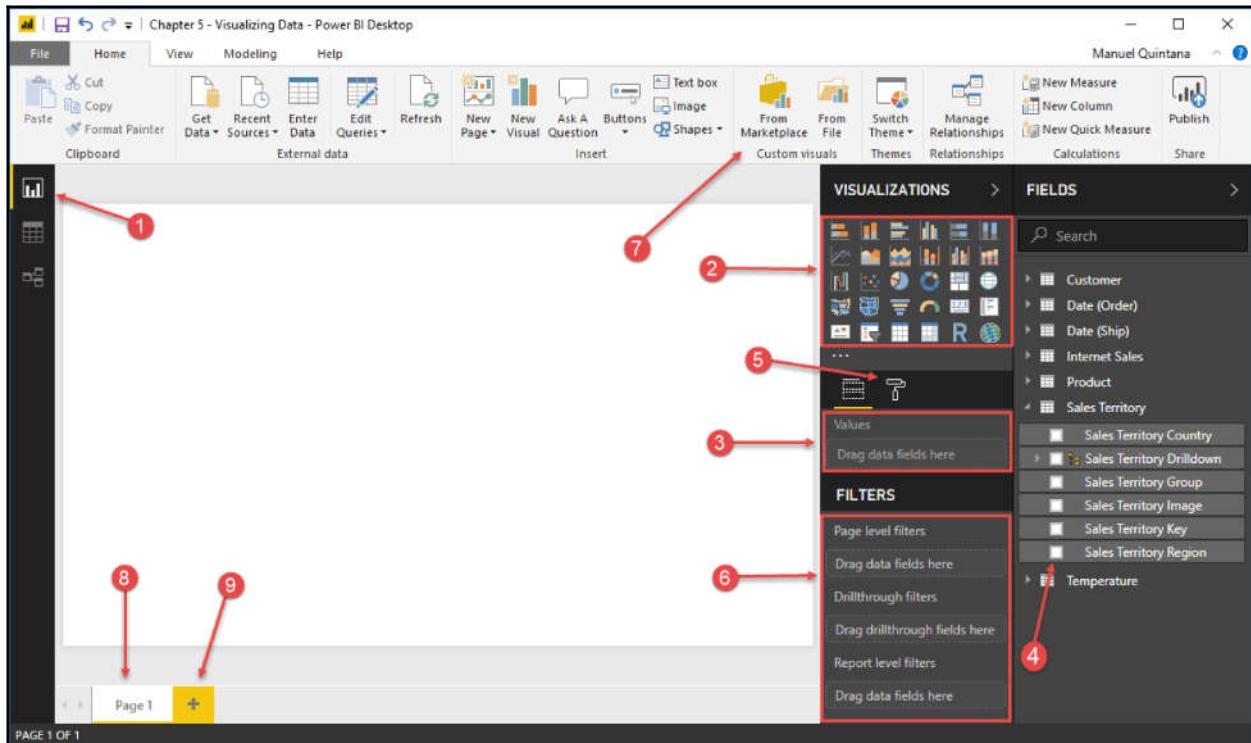


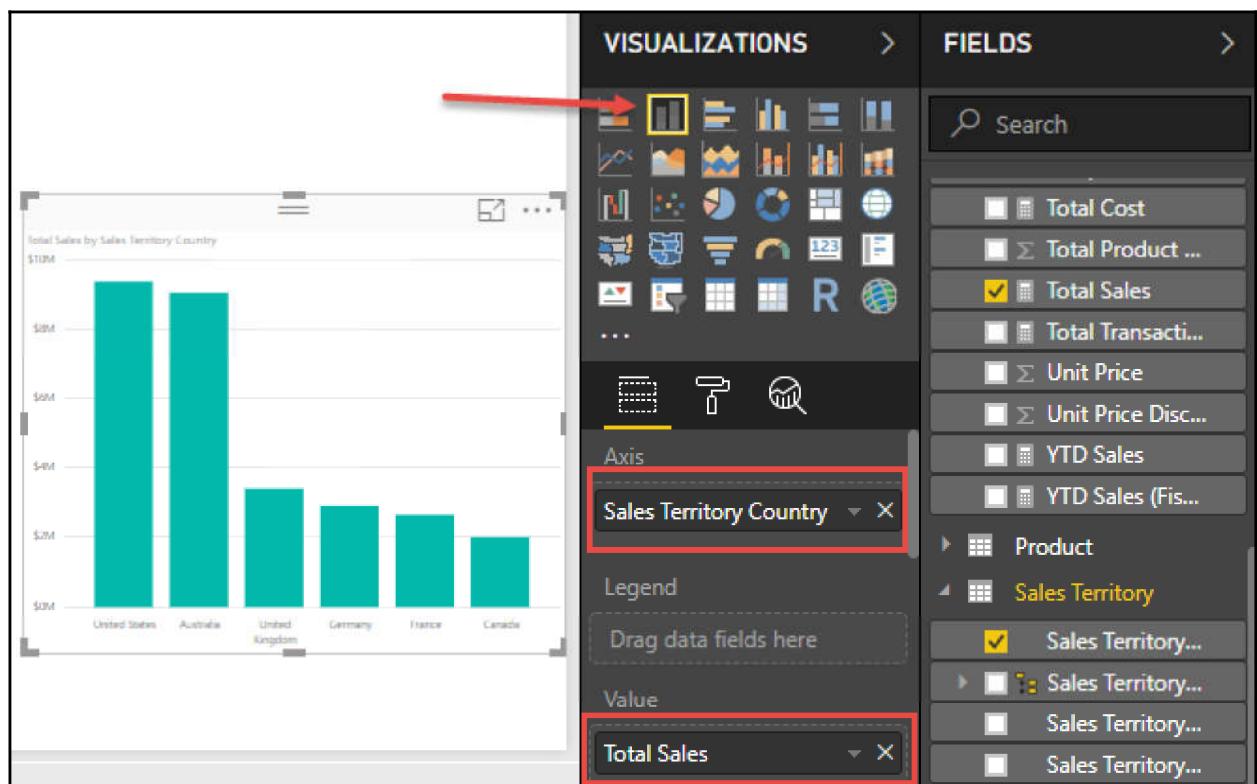
```
Profit Margin =  
DIVIDE([Profit], [Total Sales],  
DIVIDE(Numerator, Denominator, [AlternateResult])  
Safe Divide function with ability to handle divide by zero case.
```

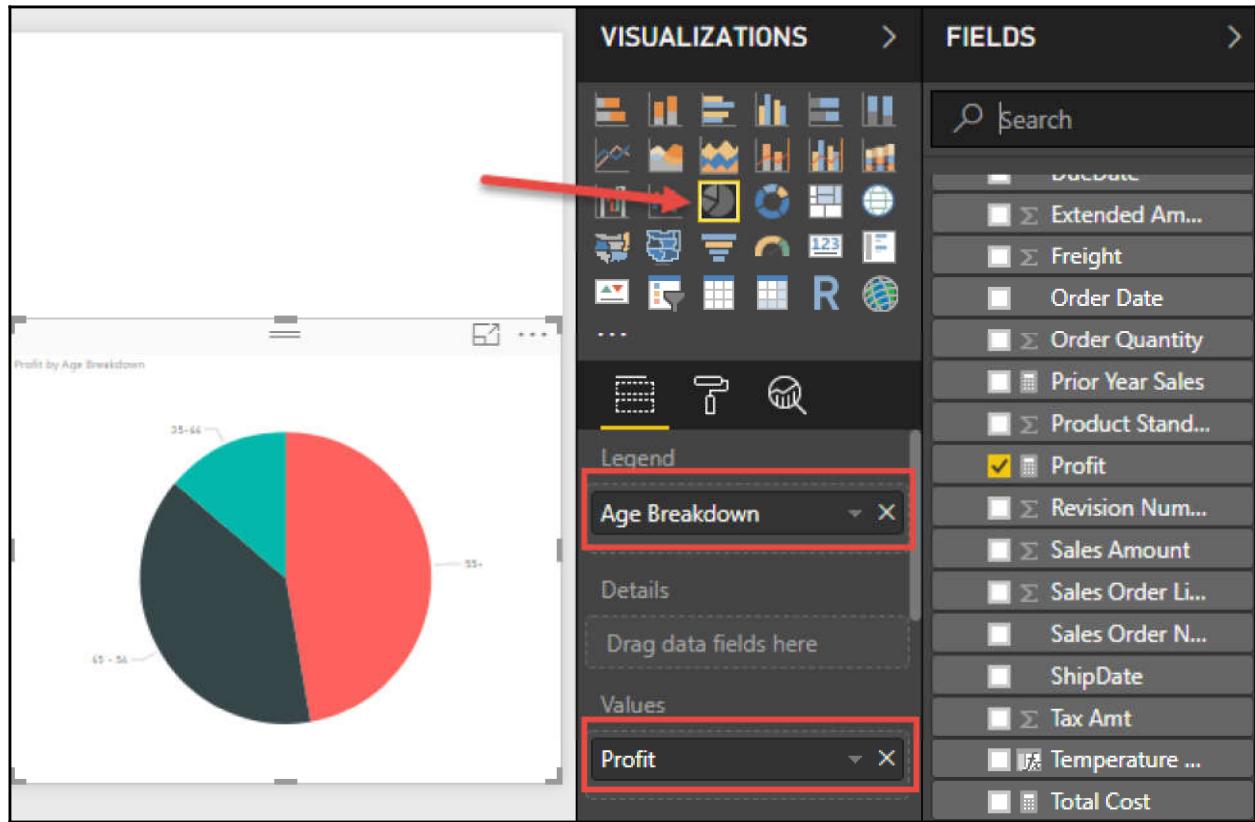
Sales Territory Country	Total Sales	Total Sales all Countries
Australia	9,061,000.58	29,358,677
Canada	1,977,844.86	29,358,677
France	2,644,017.71	29,358,677
Germany	2,894,312.34	29,358,677
United Kingdom	3,391,712.21	29,358,677
United States	9,389,789.51	29,358,677
Total	29,358,677.22	

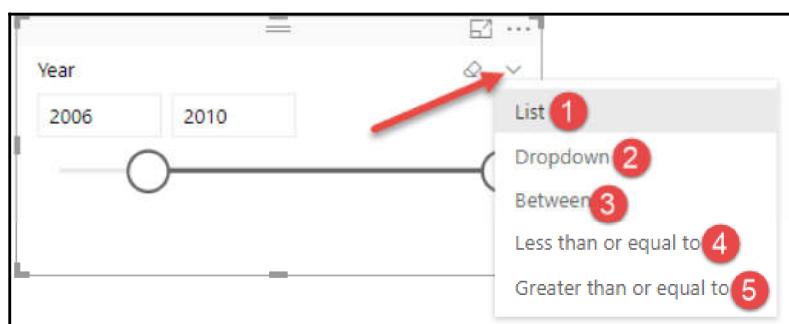
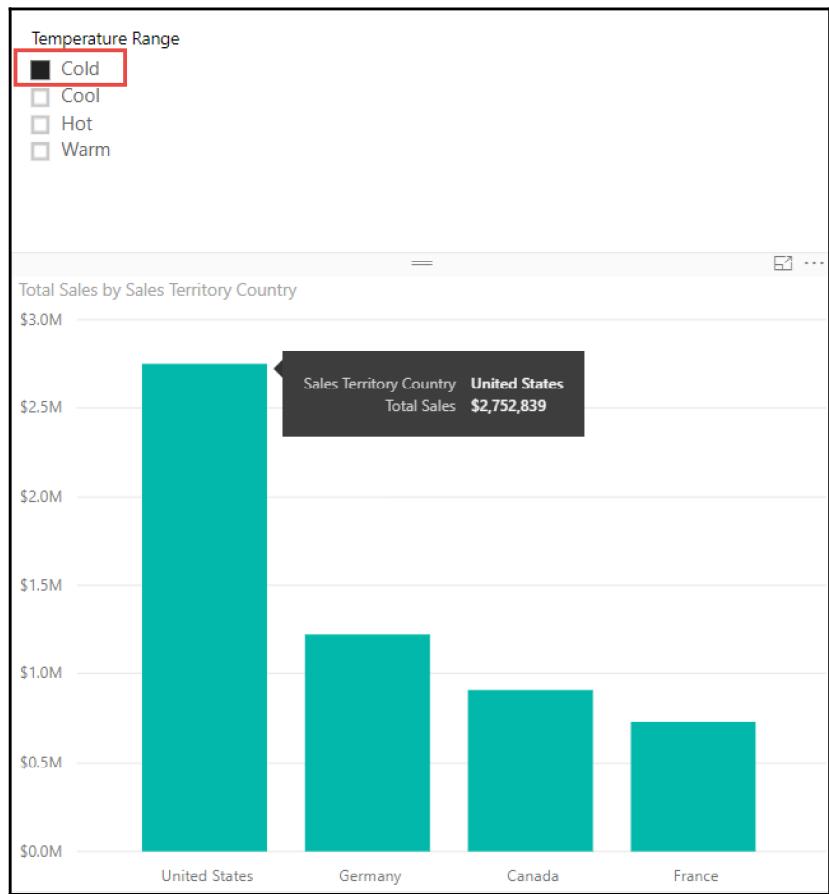
Chapter 5: Visualizing Data









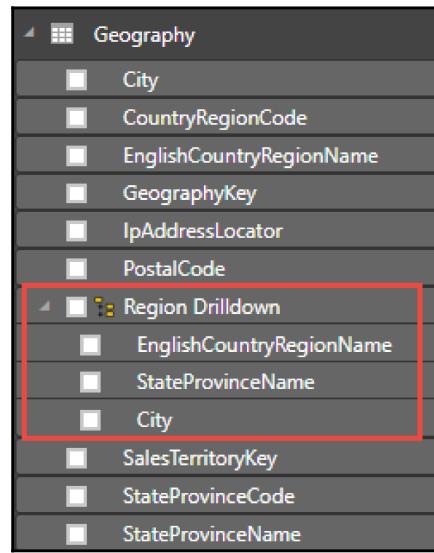
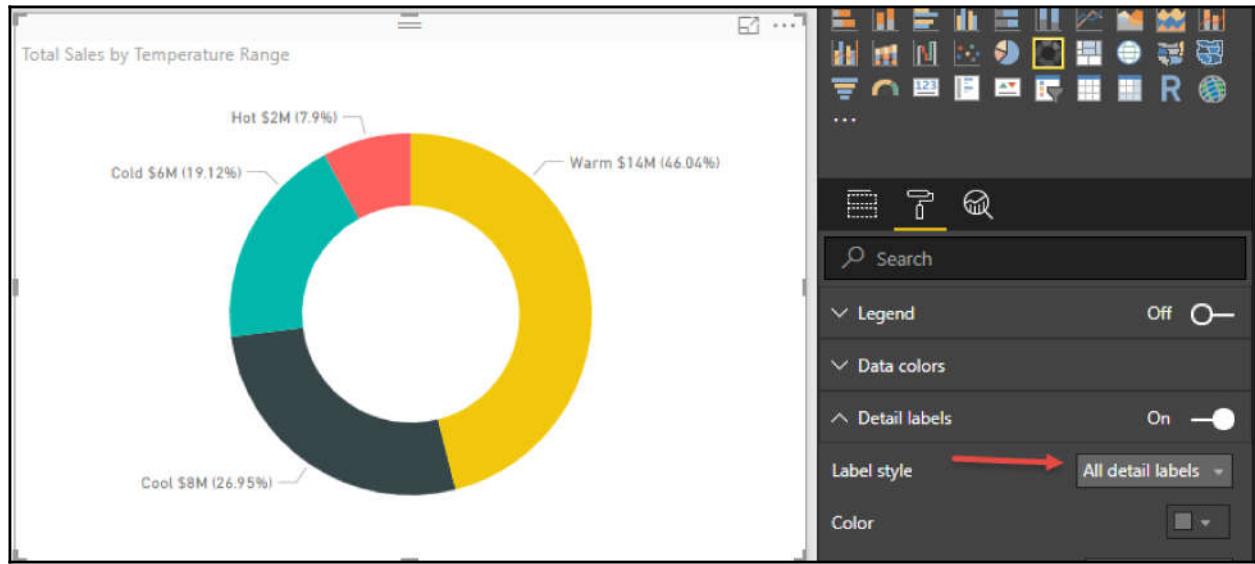


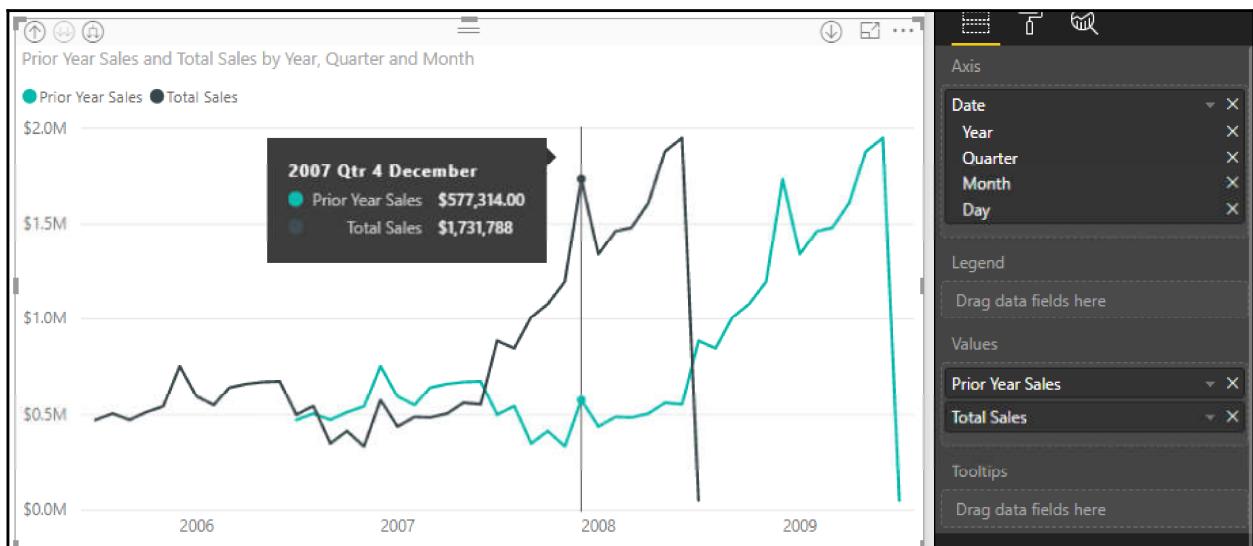
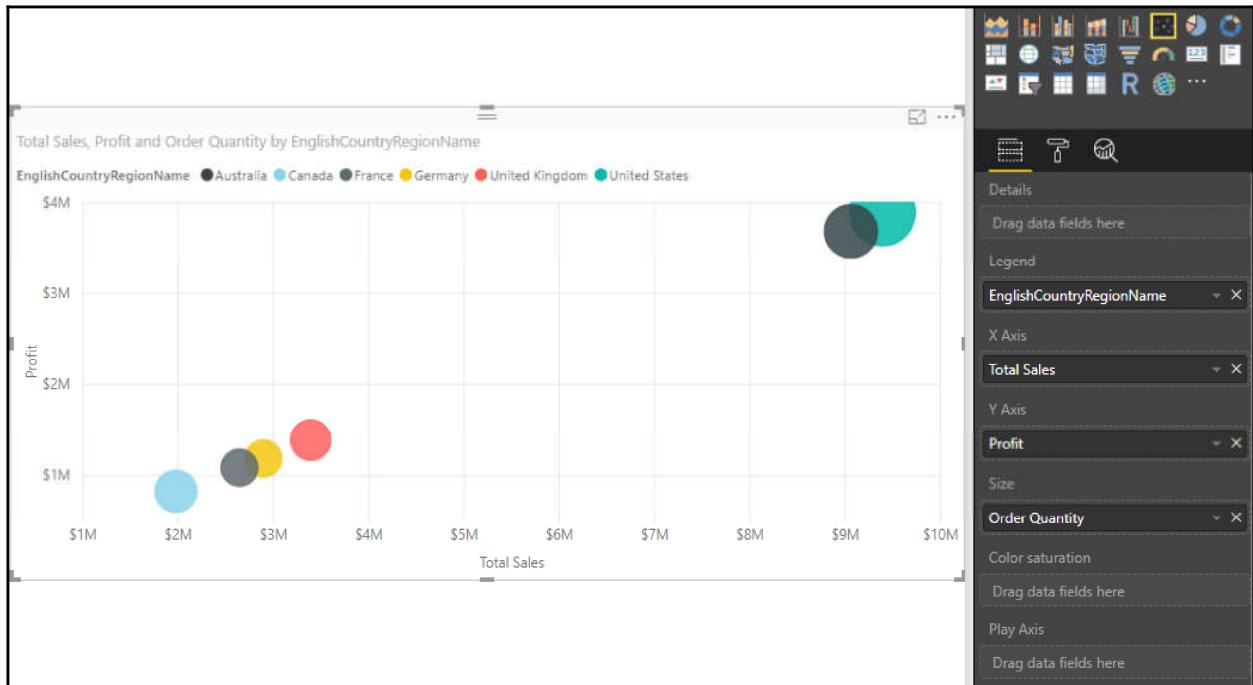
A screenshot of the Microsoft Power BI desktop application. On the left, there is a table visualization with columns: Sales Territory Region, Total Sales, Profit, Total Cost, and Total Transactions. The data includes various regions like Australia, Canada, Central, France, Germany, Northeast, Northwest, Southeast, Southwest, and United Kingdom, along with their respective financial metrics. On the right, the ribbon interface is visible, showing the 'Values' tab selected. Below the ribbon, a list of fields is shown under the 'Values' section: Sales Territory Region, Total Sales, Profit, Total Cost, and Total Transactions. At the bottom, there is a 'FILTERS' section.

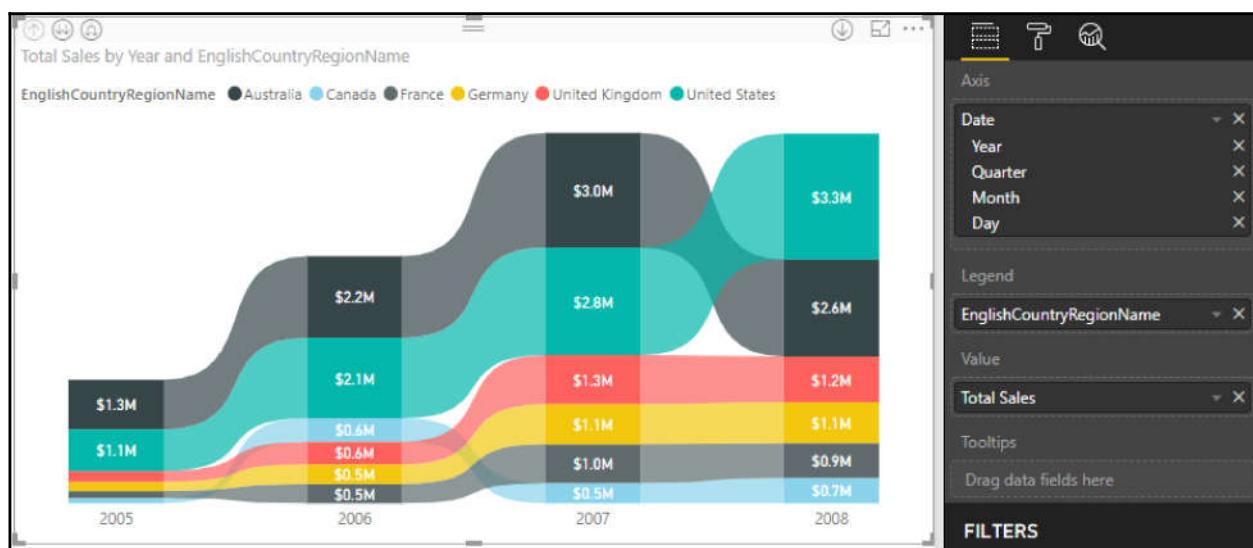
A screenshot of the Microsoft Power BI desktop application focusing on the 'Background color scales' dialog box. This dialog box allows users to format cells based on their value. It includes sections for 'Base value' (set to 'Total Sales'), 'Format blank values' (set to 'As zero'), and 'Color scales' configuration for 'Minimum', 'Center', and 'Maximum'. A 'Diverging' checkbox is checked. To the right of the dialog box, a context menu is open over the 'Total Sales' field in the table. The menu items include 'Remove field', 'Rename', 'Conditional formatting' (which is highlighted with a red box), 'Remove conditional formatting', 'Show value as', 'New quick measure', and a list of related fields: Profit (All), Sales Territory Region (All), Total Cost (All), Total Sales (All), and Total Transactions (All). The background shows the same table visualization as the previous screenshot.

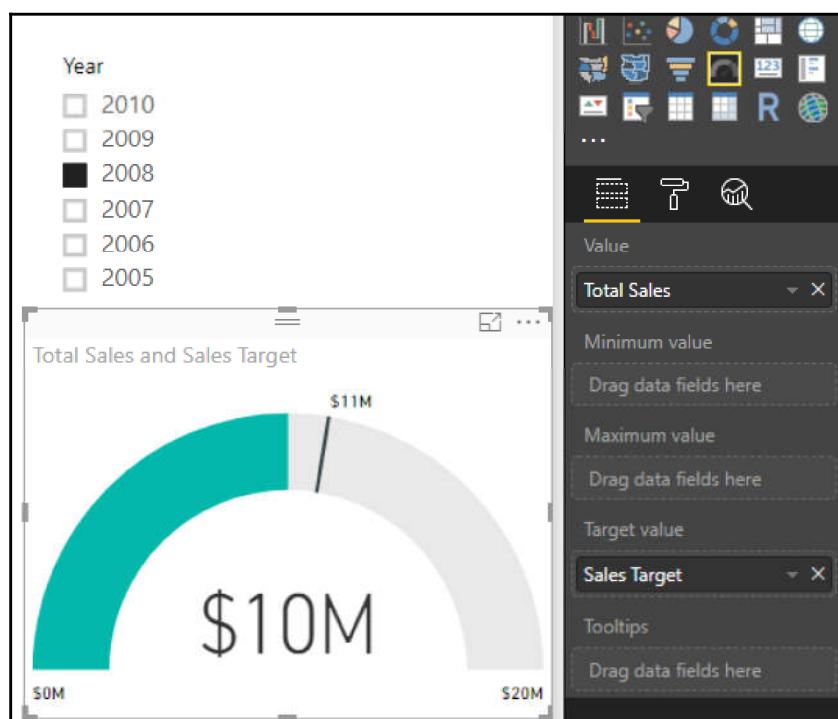
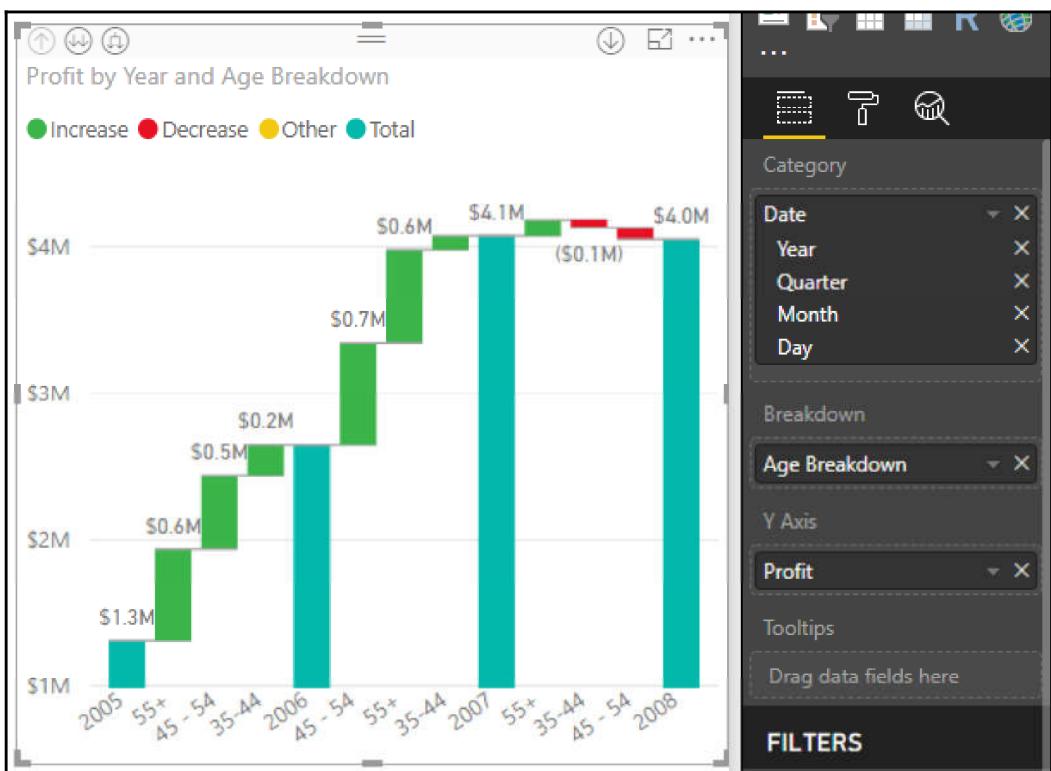
The screenshot shows the Power BI Data View interface. On the left is a table with three columns (Year, 2005, 2006, 2007) and four rows (Sales Territory Group, Europe, North America, Pacific, Total). The 'Drill on Rows' button is highlighted with a red box. The middle section shows the data for each row. On the right is the Power BI visual settings pane. Under 'Rows', 'Sales Territory Drilldown' is selected. Under 'Columns', Date, Year, Quarter, Month, and Day are listed. Under 'Values', 'Total Sales' and 'Profit' are selected. The 'Sales Territory' node in the navigation tree is expanded, showing 'Sales Territory Drilldown' and its children: Sales Territory Group, Sales Territory Country, and Sales Territory Region, all of which are checked.

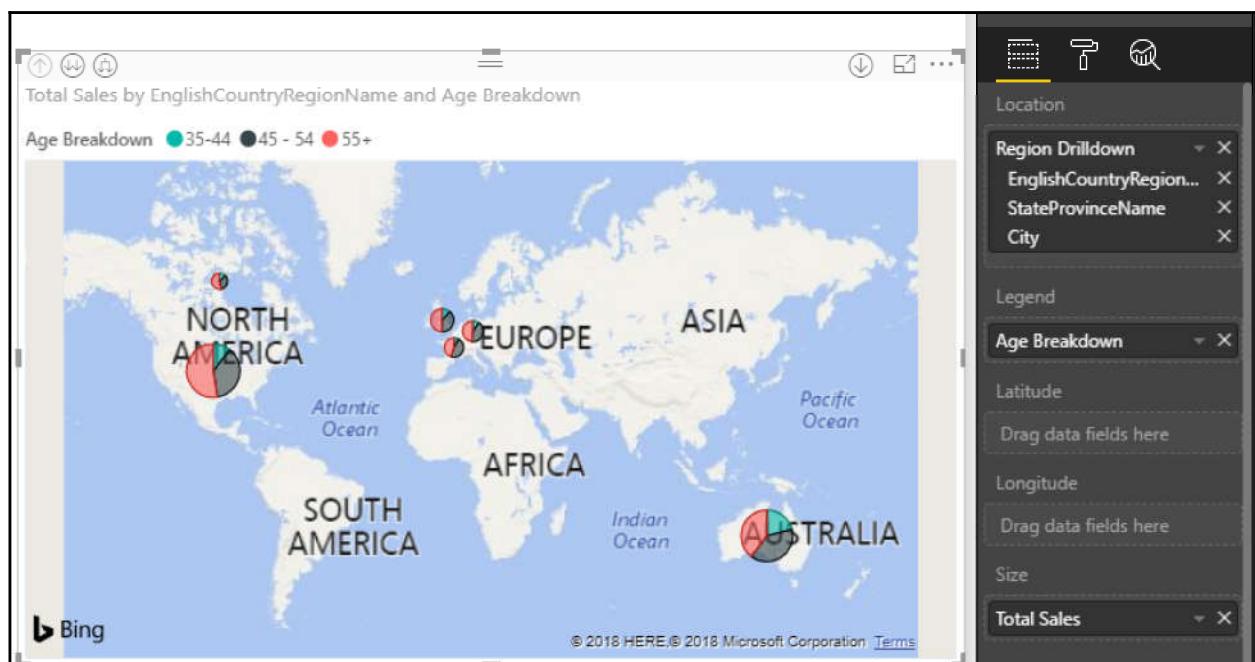
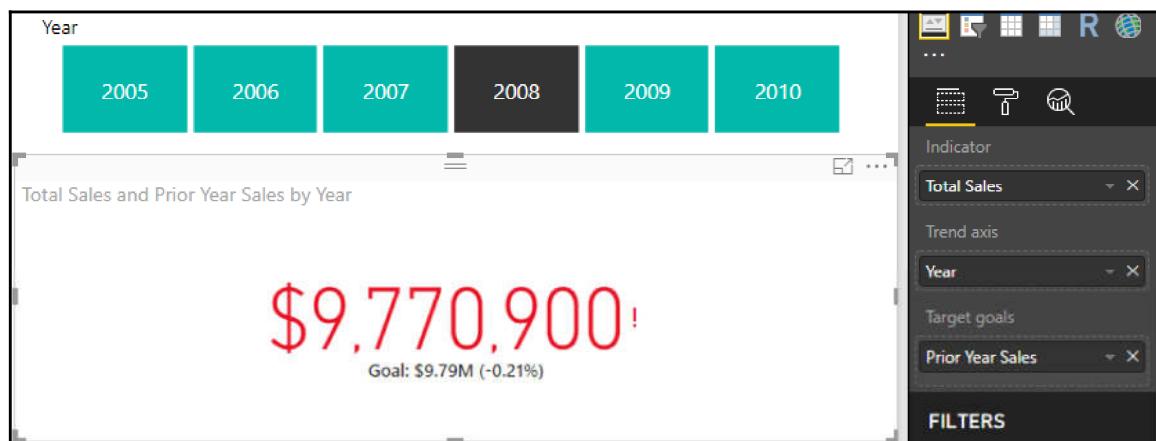


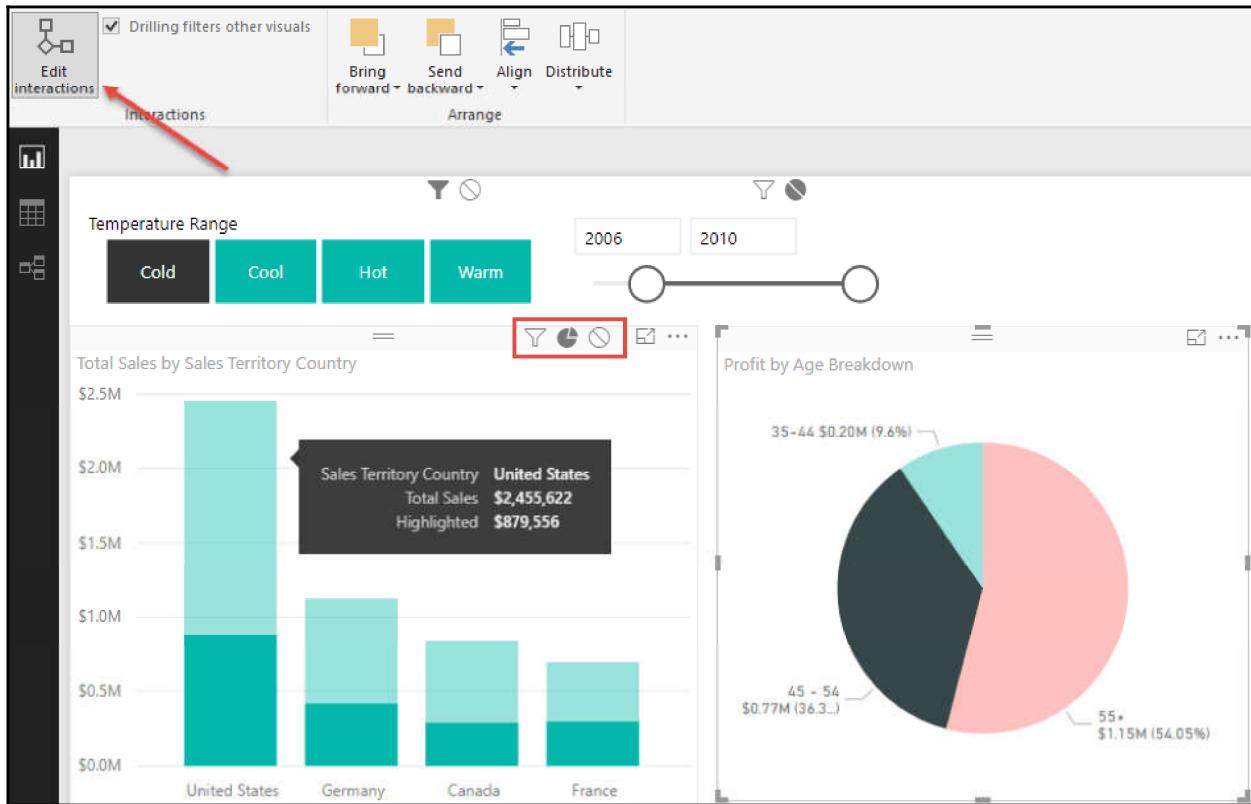


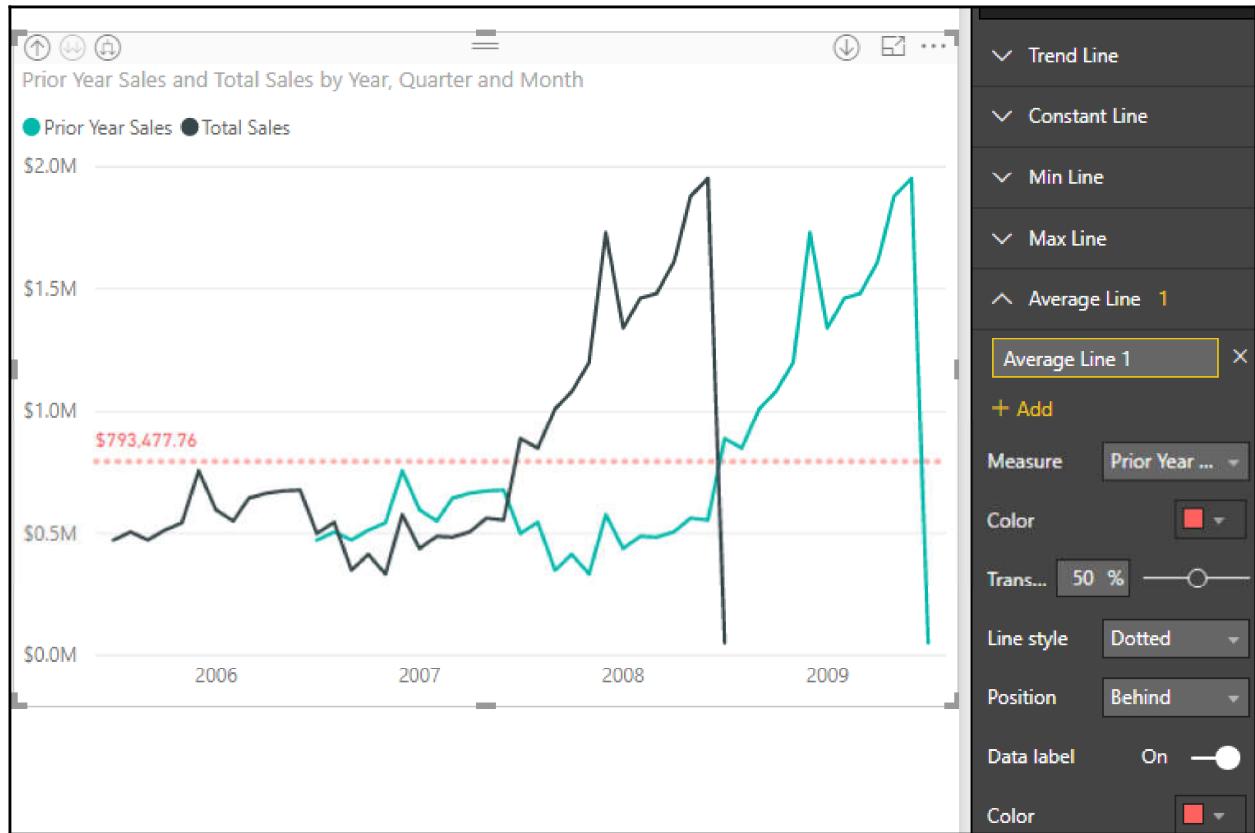


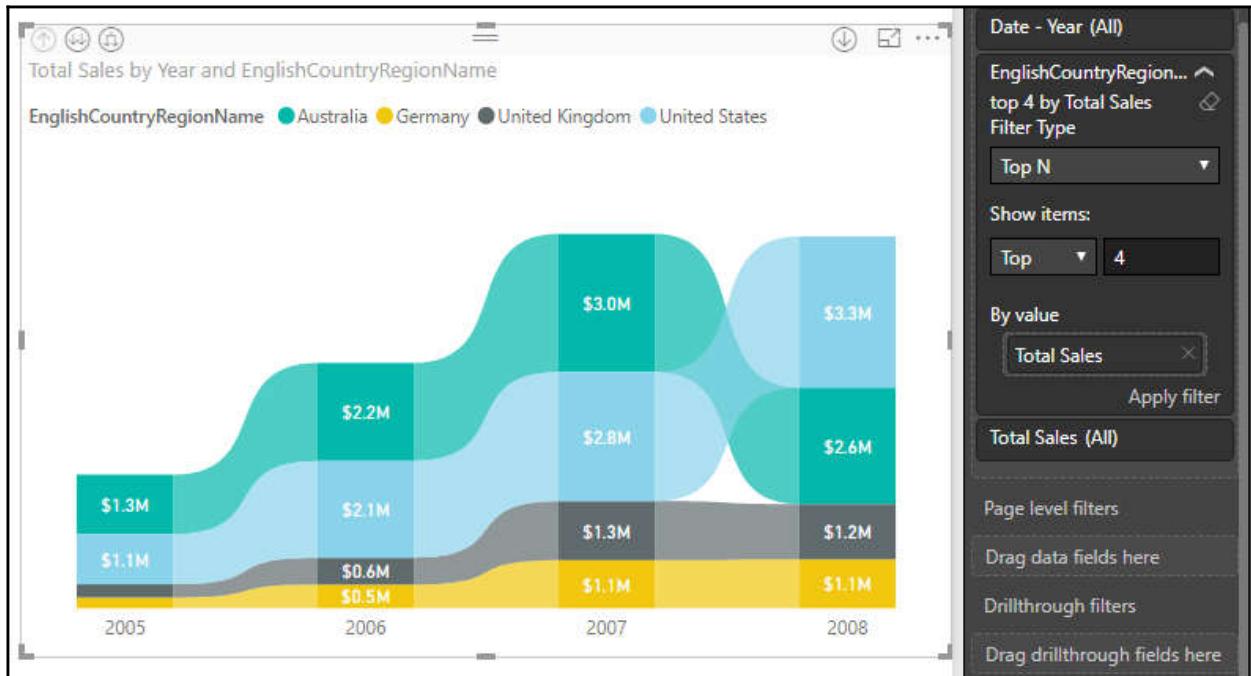












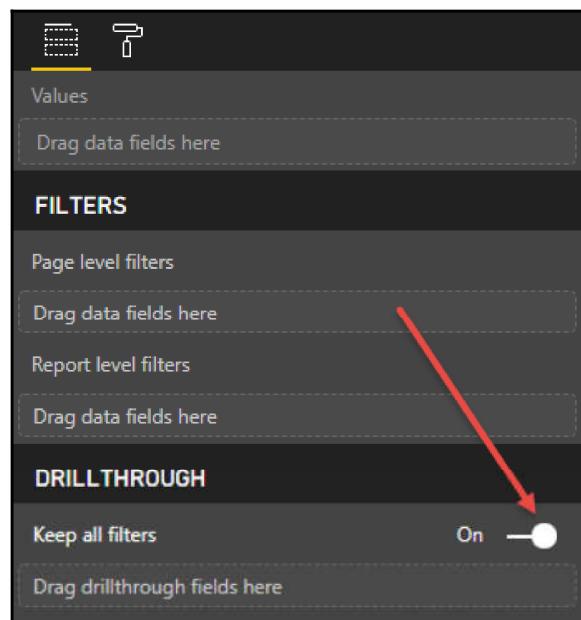
Sales Territory Region Total Sales Profit %GT Profit Total Cost Total

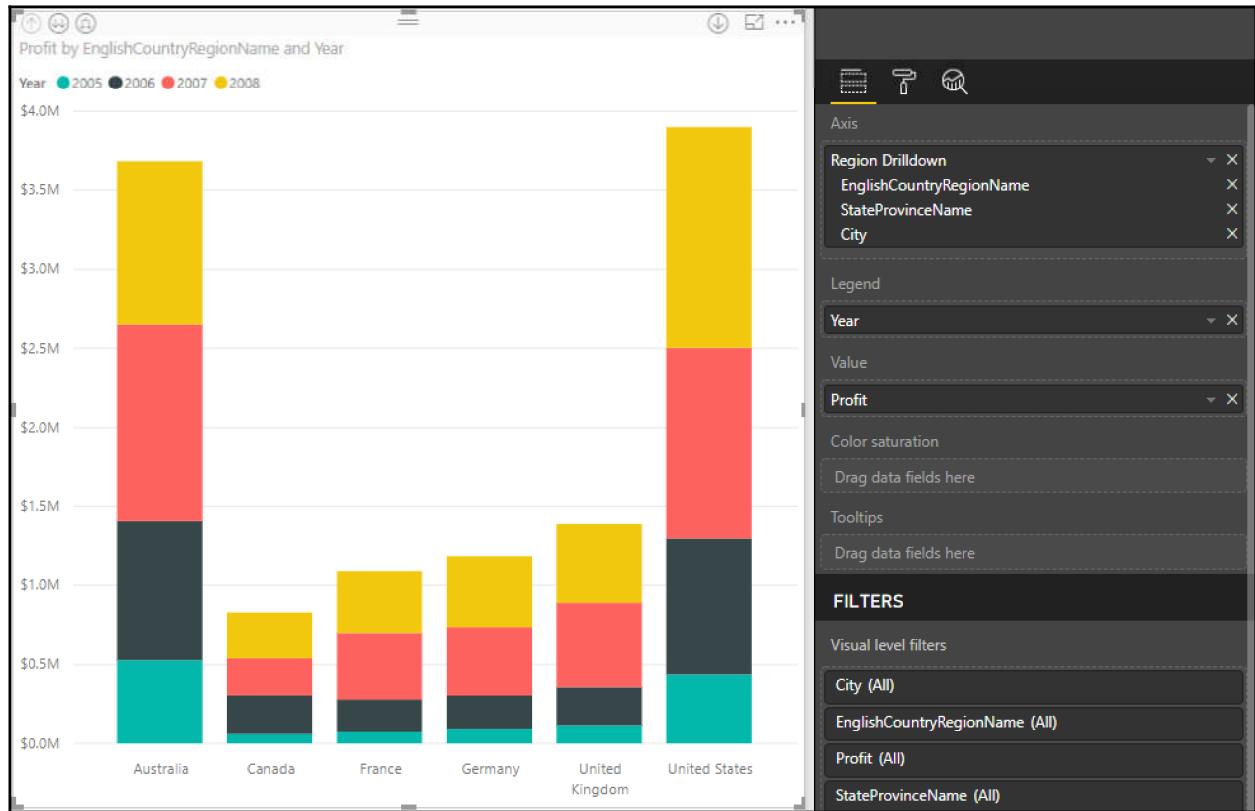
Sales Territory Region	Total Sales	Profit	%GT Profit	Total Cost	Total
Australia	\$9,061,001	\$3,685,855.08	30.51%	\$5,375,145.51	
Canada	\$1,977,845	\$829,921.50	6.87%	\$1,147,923.36	
Central	\$3,001	\$1,350.92	0.01%	\$1,649.91	
France	\$2,644,018	\$1,086,264.72	8.99%	\$1,557,752.99	
Germany	\$2,894,312	\$1,187,370.77	9.83%	\$1,706,941.57	
Northeast	\$6,532	\$2,902.76	0.02%	\$3,629.71	
Northwest	\$3,649,867	\$1,519,631.30	12.58%	\$2,130,235.25	
Southeast	\$12,239	\$5,332.43	0.04%	\$6,906.42	
Southwest	\$5,718,151	\$2,371,763.40	19.63%	\$3,346,387.41	
United Kingdom	\$3,391,712	\$1,390,490.78	11.51%	\$2,001,221.43	
Total	\$29,358,677	\$12,080,883.64	100.00%	\$17,277,793.58	

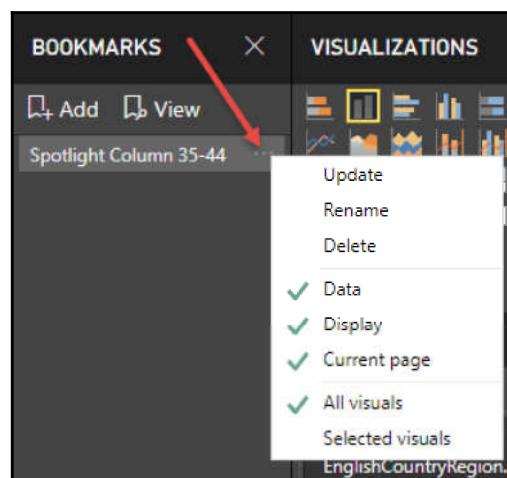
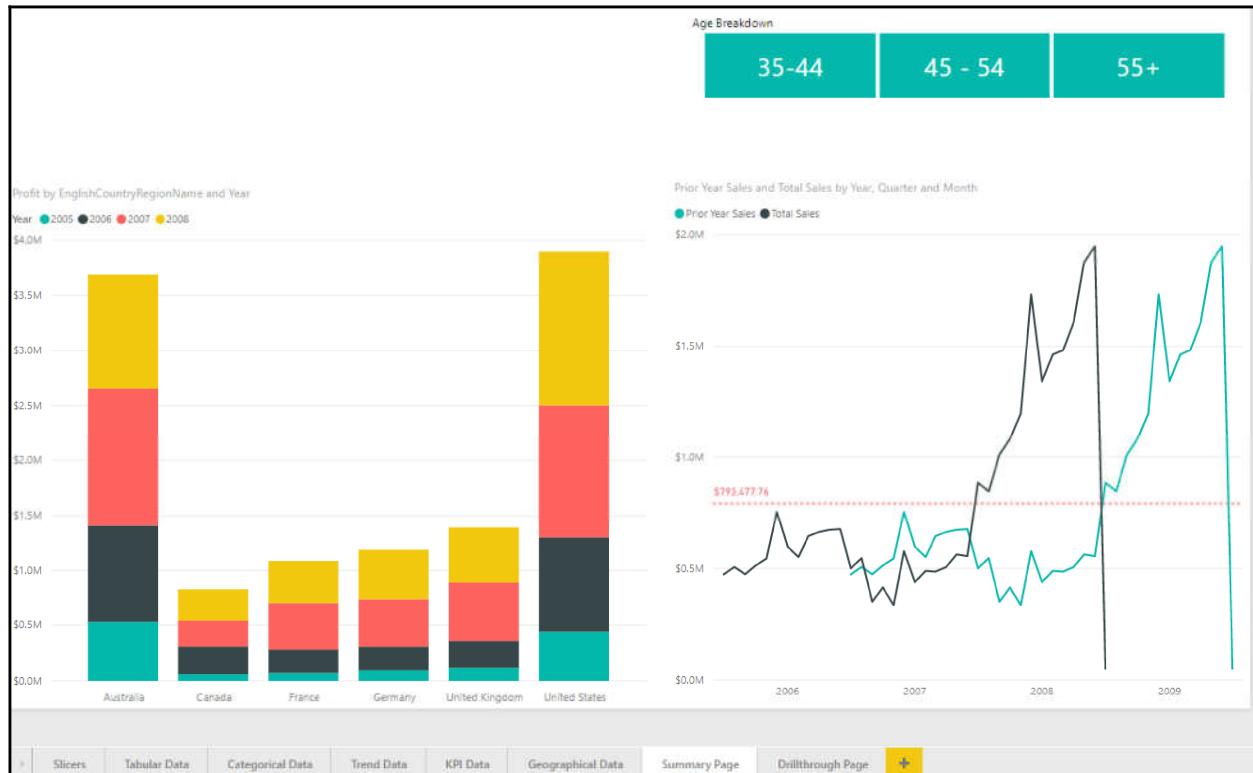
FILTERS

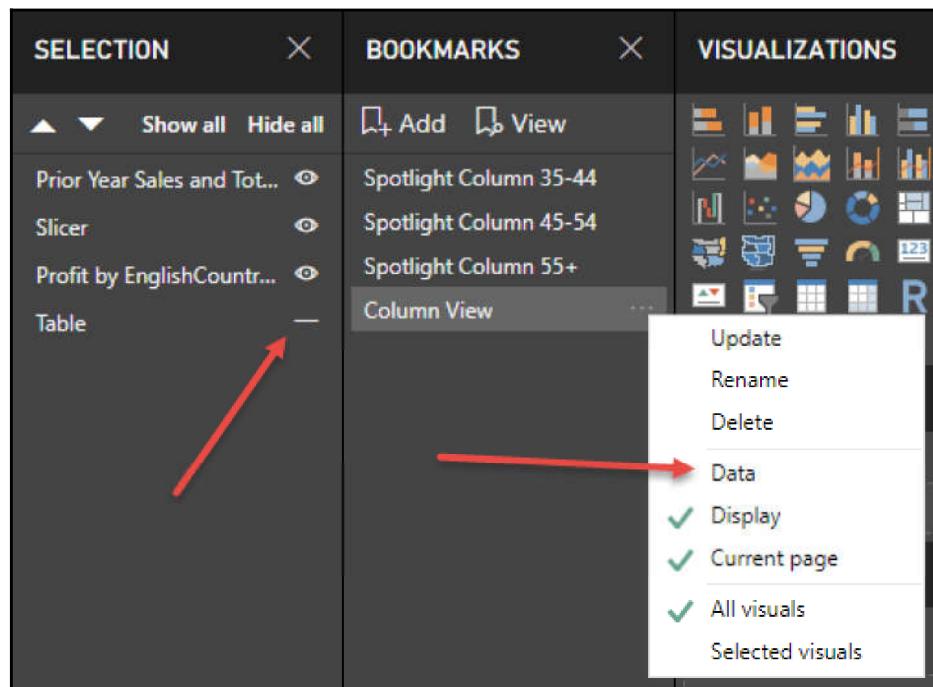
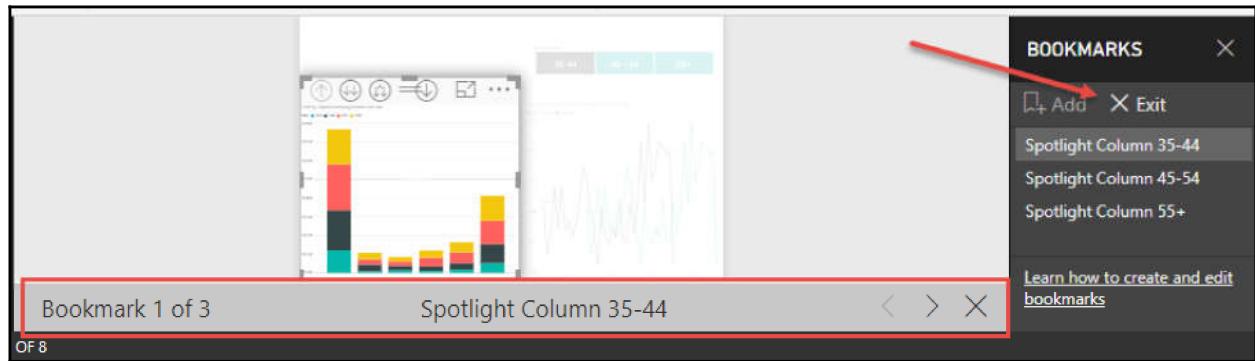
- No calculation
- Percent of grand total
- Profit (All)
- Sales Territory Region (All)
- Total Cost (All)
- Total Sales (All)
- Total Transactions (All)

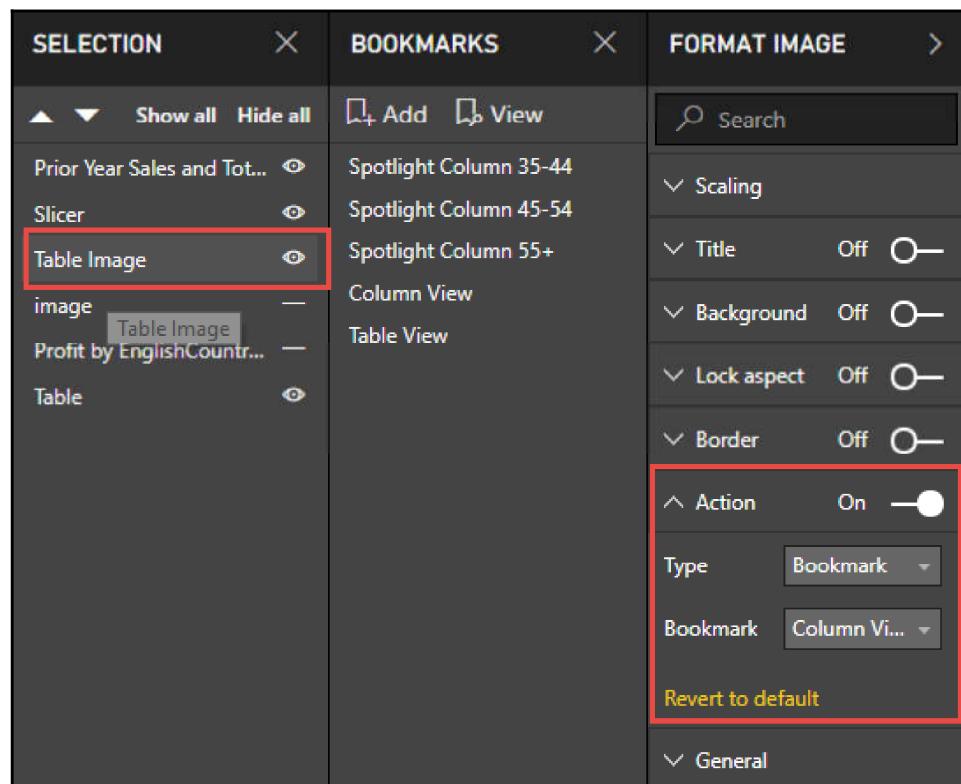
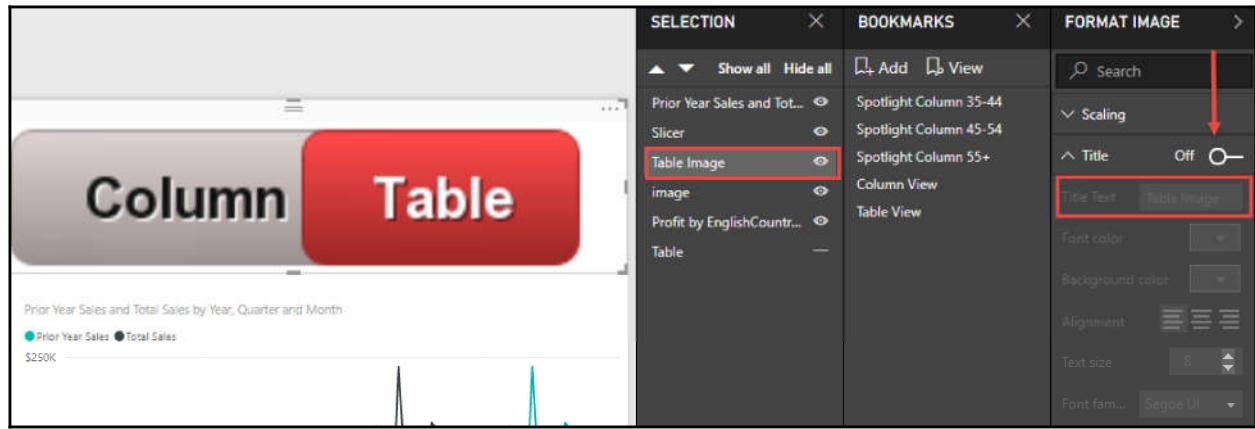
Chapter 6: Digital Storytelling with Power BI





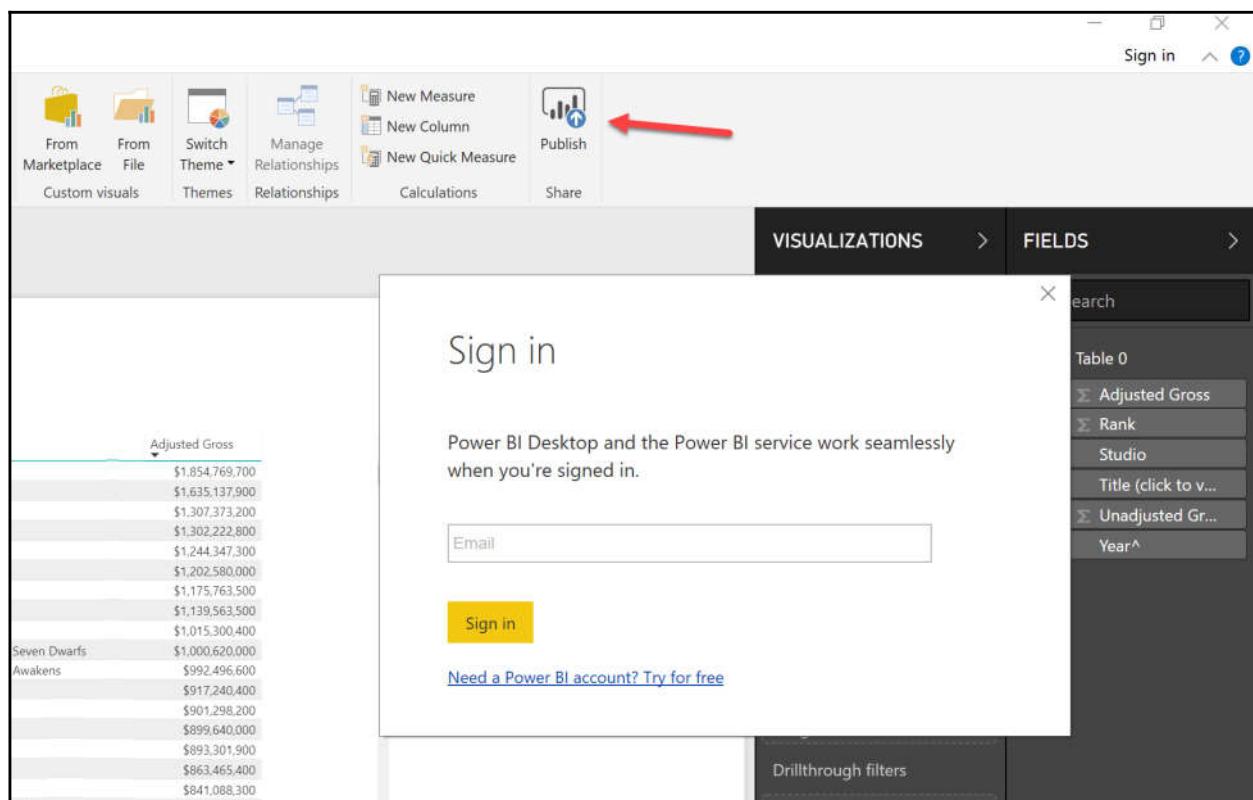






Chapter 7:

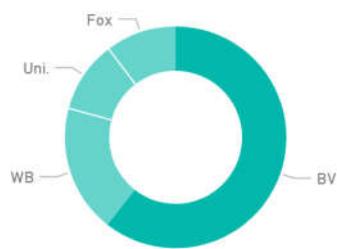
Using a Cloud Deployment with the Power BI Service



Quick Insights for BoxOfficeMojoReport

A subset of your data was analyzed and the following insights were found. [Learn more](#)

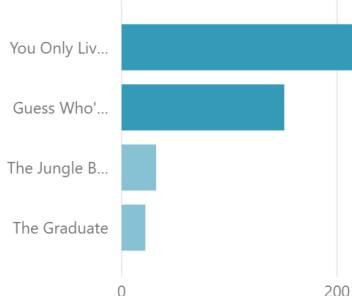
Unadjusted Gross
BY STUDIO



MAJORITY

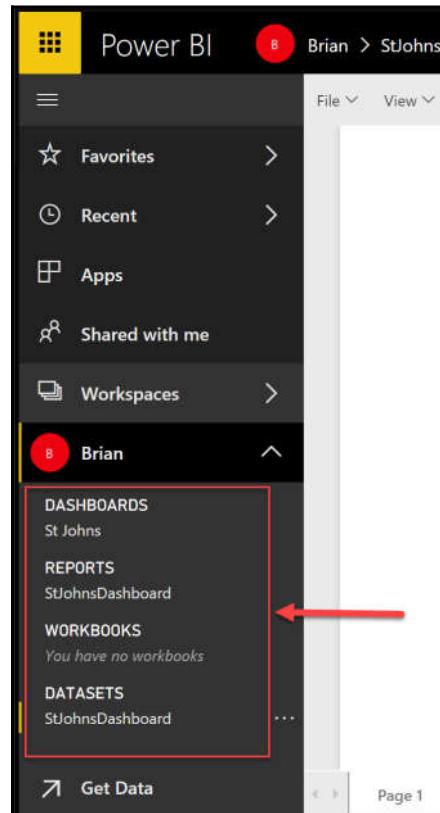
'BV' accounts for the majority of Unadjusted Gross for Year^ '2016'.

Average of Rank
BY TITLE (CLICK TO VIEW)



CATEGORY OUTLIERS

'You Only Live Twice' and 'Guess Who's Coming to Dinner' have noticeably more Rank for Year^ '1967'.



The screenshot shows a Power BI report titled 'Revenue % Variance to Budget BY MONTH, EXECUTIVE'. The report includes a chart showing revenue variance over time for two executives: Andrew Ma and Annelie Zubar. To the right of the report is a 'Pin to dashboard' dialog box. The dialog box has a title 'Pin to dashboard', a sub-instruction 'Select an existing dashboard or create a new one.', and a question 'Where would you like to pin to?'. It contains two radio button options: 'Existing dashboard' (which is selected) and 'New dashboard'. Below this is a dropdown menu set to 'Zendesk'. At the bottom are 'Pin' and 'Cancel' buttons.

Edit phone view ⓘ

Customer Profitability Sample

Gross Margin %

42.5%

Total Revenue

\$235M

Gross Margin %
BY BUSINESS UNIT, SCENARIO

Scenario ● Actual ● Budget

50%

Unpinned tiles

Target vs Actual BY EXECUTIVE

71.4M
\$20.4M
\$17.2M

Year Over Year Revenue Growth BY PRODUCT

Product	Total Revenue	LY Revenue	Y/Y Rev Growth
Oranges	\$7,362,818	\$7,498,542	-1.9%
Glaciers	\$1,049,458	\$15,227,334	386.1%
Guava	\$18,800		
Mi-Ti	\$600,530		
Pineapple	\$1,010,621	\$25,728,279	303.7%
Sugar	\$8,511,822	\$1,498,817	386.8%
Grand Total	\$196,063,385	\$49,007,572	283.8%

Carlos Gross Margin %

38.5%

General Dashboards **Datasets** Workbooks Alerts Subscriptions

Settings for Retail Analysis Sample

BoxOfficeMojoReport
Chicago3CrimesBrian
Clay DEO data
Customer Profitability Sample
Human Resources Sample
NFL Stats
pubnub-market-orders
Quickbooks - PWC
Retail Analysis Sample
Retail Analysis Sample
Sales and Marketing Sample
SEG
Zendesk

① Refresh can't be scheduled because the data set doesn't contain any data model table. To schedule refresh, the data must be loaded into the data model.

[Refresh history](#)

► Parameters

◀ Q&A and Cortana

Allow Cortana to access this dataset
Cortana will only share this information with Power BI users who have access to it.

[Apply](#) [Discard](#)

◀ Featured Q&A questions

Featured questions are shown as suggestions for this dataset in Q&A.
[Add a question](#)

[Apply](#) [Discard](#)

Create an app workspace

Name your workspace

Learn PowerBI

Workspace ID

learnpowerbi

Available

Private - Only approved members can see what's inside

Members can edit Power BI content

Add workspace members

Brian Knight Enter email addresses

Add

Advanced

Dedicated capacity

Off

Manage roles

Roles

Australia	...
US	...

Create Delete

Tables

Customer	...
Date (Order)	...
Date (Ship)	...
Geography	...
Internet Sales	...
Product	...
Sales Territory	...
Temperature	...

Table filter DAX expression

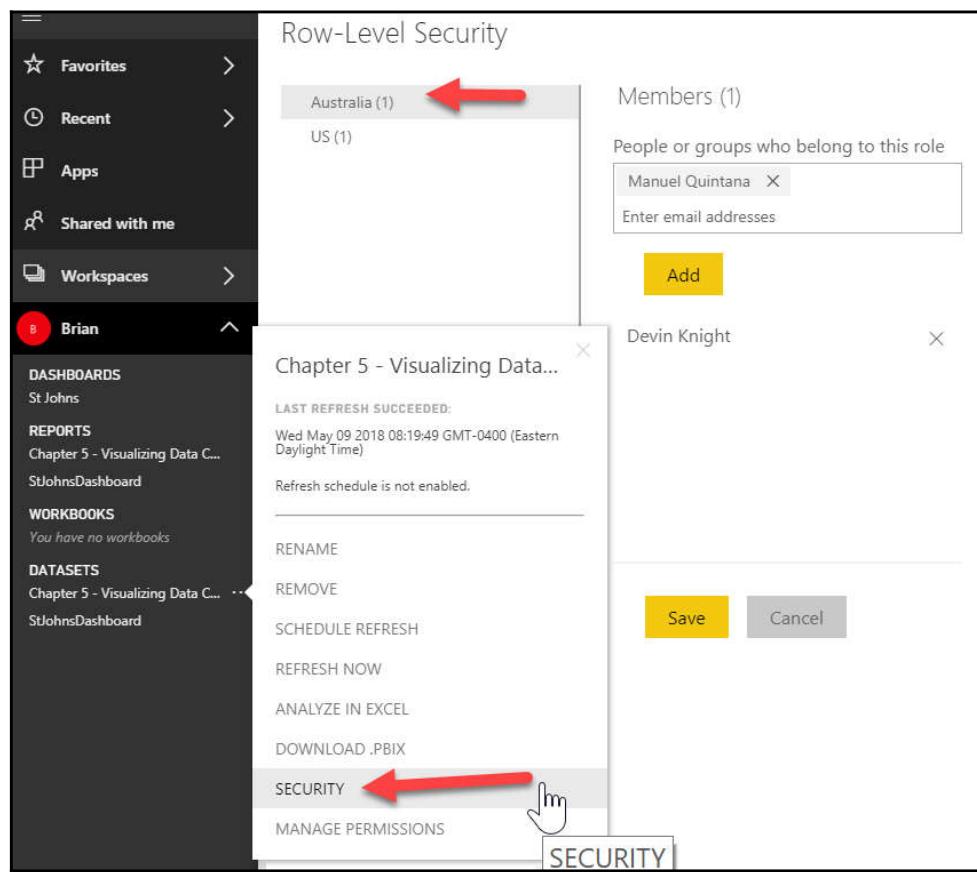
```
[Sales Territory Country] = "Australia"
```

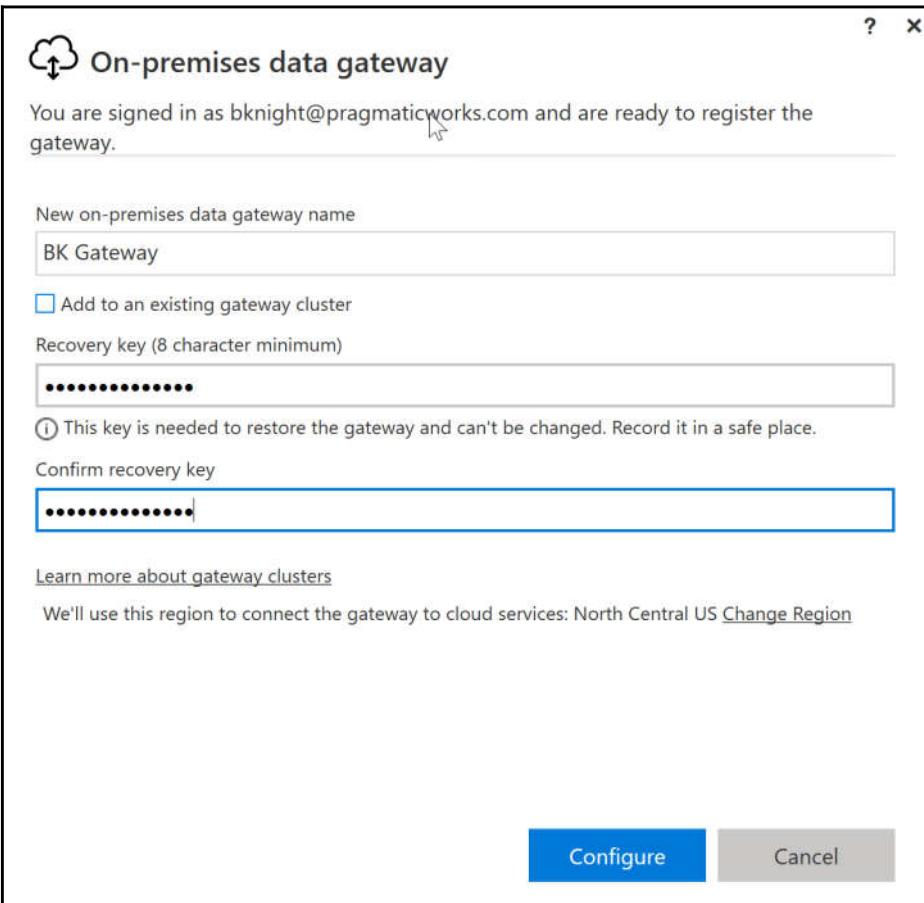
Add filter... Copy table filter from... Clear table filter

Hide all rows
[Sales Territory Key]
[SalesTerritoryAlternateKey]
[Sales Territory Region]
[Sales Territory Country]
[Sales Territory Group]
[Sales Territory Image]

Filter the data that this role can see by entering a DAX filter expression that returns a True/False value. For example: [Entity ID] = "Value"

Save Cancel





ADD DATA SOURCE

GATEWAY CLUSTERS

✓ BK Gateway

AdventureWorksDW

temp-data.xlsx

Test all connections

Data Source Settings Users

✓ Connection Successful

Data Source Name

AdventureWorksDW

Data Source Type

File

Full path

C:\Packt\Data Sources\AdventureWorksDW.xlsx

The credentials are encrypted using the key stored on-premises on the gateway server. [Learn more](#)

Windows username

.....

Windows password

.....

› Advanced settings

Apply Discard

This screenshot shows the 'Add Data Source' dialog box. On the left, under 'GATEWAY CLUSTERS', 'BK Gateway' is selected, and 'AdventureWorksDW' is chosen from the list of data sources. A button labeled 'Test all connections' is visible. The main area is titled 'Data Source Settings' and shows a green checkmark indicating 'Connection Successful'. The 'Data Source Name' is set to 'AdventureWorksDW'. The 'Data Source Type' is 'File', and the 'Full path' is 'C:\Packt\Data Sources\AdventureWorksDW.xlsx'. A note states that credentials are encrypted using a key stored on-premises. Below this are fields for 'Windows username' and 'Windows password', both represented by masked text. There is also a link to learn more about encryption. At the bottom, there are 'Apply' and 'Discard' buttons.

Chapter 8: On-Premises Solutions with Power BI Report Server

