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## POWER BI LAB DOCUMENT

### DAY 2- LAB 1

Version	Author	Comment	Reviewed By	Date
V 1.0	I&D Microsoft	Initial draft	Moupiya Das	

## Pre-requisites

Installed and working Power BI Desktop setup.

## Environment Setup

To install Power BI Desktop to your machine or to sign up for Power BI Service, Refer to [Power BI Lab Exercise Day 1](#).

## Lab Overview

This lab comprises of four tasks:

1. In the first task, you import the data from an excel sheet, data base, online services & azure services.
2. In the second task, you will edit queries using query editor.
3. In the third task, you will perform various transformations.

## Case Scenario

The AdventureWorks Database is a sample database file which supports a fictitious, multinational manufacturing company called Adventure Works Cycles. The AdventureWorksdatabase excel sheet has 27 different sheets in total.

We will be importing 3 sheets to perform the various tasks in the Lab. We would be performing various data transformations on different types of data.

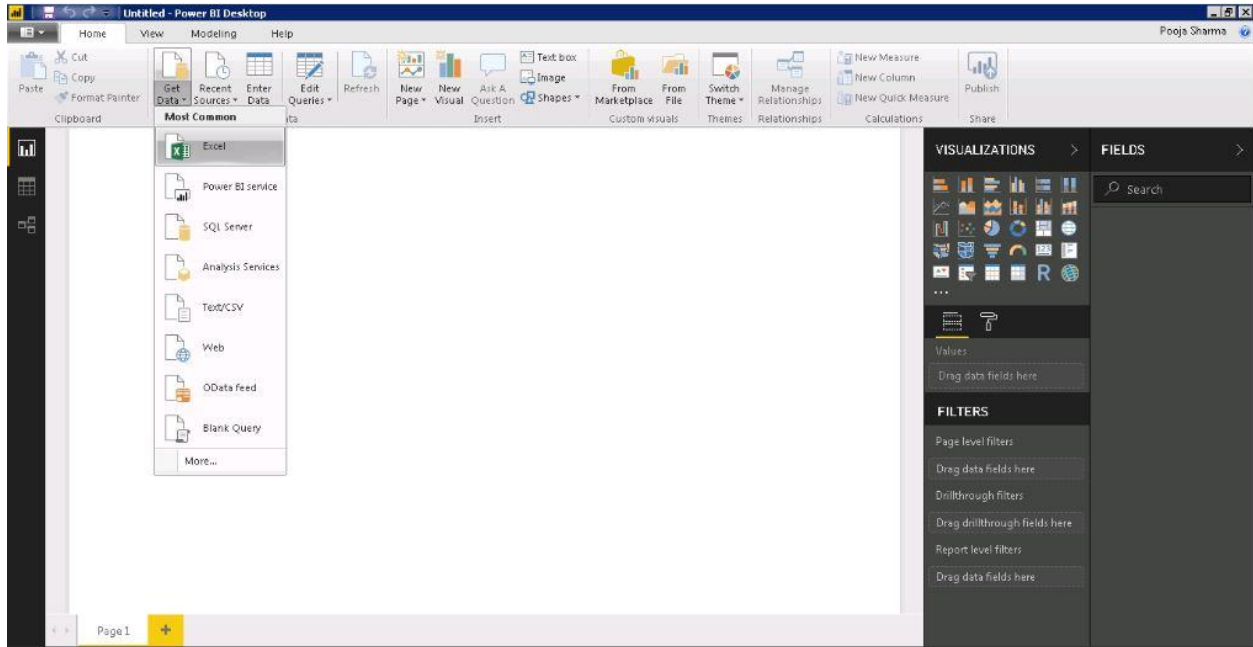
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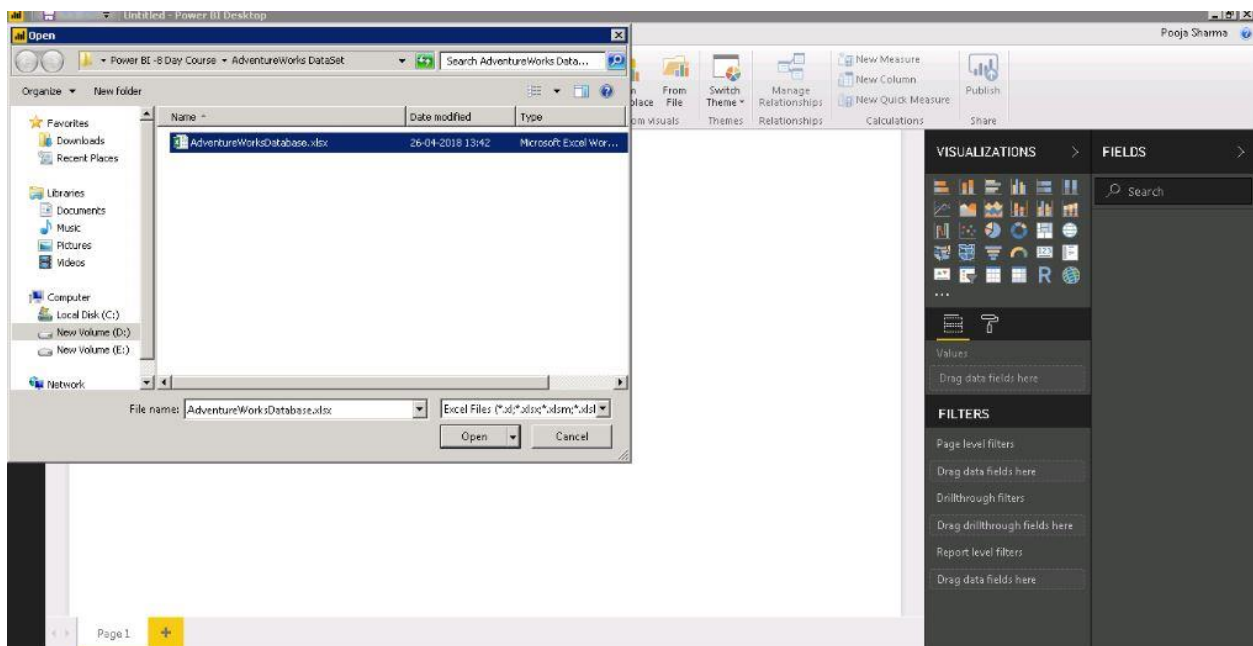
## 1. Import Data into Power BI

### 1. Excel Source:

- Start with a blank Power BI Desktop file.
- Click on Get Data option in the 'Home' tab and choose Excel.



2. Select AdventureWorksDatabase, from the browse menu and click Open.



It would take a little time to connect to your database.

Select **DimEmployee** sheet to load data.

Navigator

DimEmployee

Display Options

- ☐ DimAccount
- ☐ DimCurrency
- ☐ DimCustomer
- ☐ DimDate
- ☐ DimDepartmentGroup
- ☒ DimEmployee
- ☐ DimGeography
- ☐ DimOrganization
- ☐ DimProduct
- ☐ DimProductCategory
- ☐ DimProductSubCategory
- ☐ DimPromotion
- ☐ DimReseller
- ☐ DimSalesReason
- ☐ DimSalesTerritory
- ☐ DimScenario
- ☐ FactCallCenter
- ☐ FactCurrencyRate
- ☐ FactFinance
- ☐ FactInternetSales

BaseRate	BirthDate	CurrentFlag	DepartmentName	EmailAddress
125.5	1959-03-02	TRUE	Executive	ken0@adver
84.1346	1973-02-07	TRUE	Production	james1@adv
72.1154	1967-07-08	TRUE	Sales	brian3@adv
63.4615	1961-09-01	TRUE	Engineering	terri0@adv
60.0962	1966-02-06	TRUE	Executive	laura1@adv
60.0962	1966-02-06	TRUE	Executive	laura1@adv
50.4808	1966-01-13	TRUE	Information Services	jean0@adv
50.4808	1977-03-27	TRUE	Research and Development	dylan0@adv
48.101	1947-10-22	TRUE	Sales	amy0@adv
48.101	1941-11-17	TRUE	Sales	stephen0@e
48.101	1965-02-11	TRUE	Sales	syed0@adv
43.2692	1964-12-13	TRUE	Engineering	robert00@a
43.2692	1974-11-12	TRUE	Finance	wendy0@ad
42.4808	1975-01-01	TRUE	Research and Development	michael6@a
40.8654	1976-07-06	TRUE	Research and Development	diane1@adv
40.8654	1969-02-21	TRUE	Research and Development	gigi0@adver

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

Load Edit Cancel

Untitled - Power BI Desktop

Home View Modeling Help

Clipboard: Paste, Cut, Copy, Format Painter

External data: Get Data, Recent Sources, Enter Data, Edit Queries, Refresh

Insert: New Page, New Visual, Ask A Question, Image, Shapes

Custom Visuals: From Marketplace, From File

Themes: Switch Theme

Relationships: Manage Relationships

Calculations: New Measure, New Column, New Quick Measure

Share: Publish

Connecting

Please wait while we establish a connection to AdventureWorksDatabase.xlsx.

Cancel

Page 1

VISUALIZATIONS

FIELDS

Search

Drag data fields here

FILTERS

Page level filters

Drag data fields here

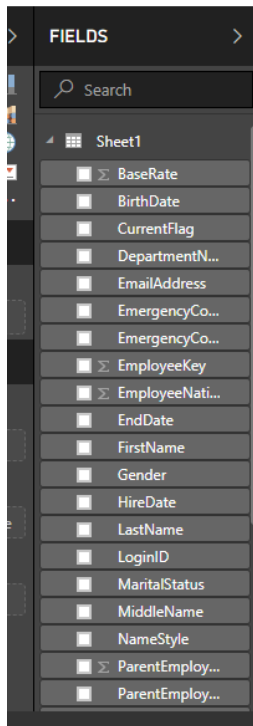
Drillthrough filters

Drag drillthrough fields here

Report level filters

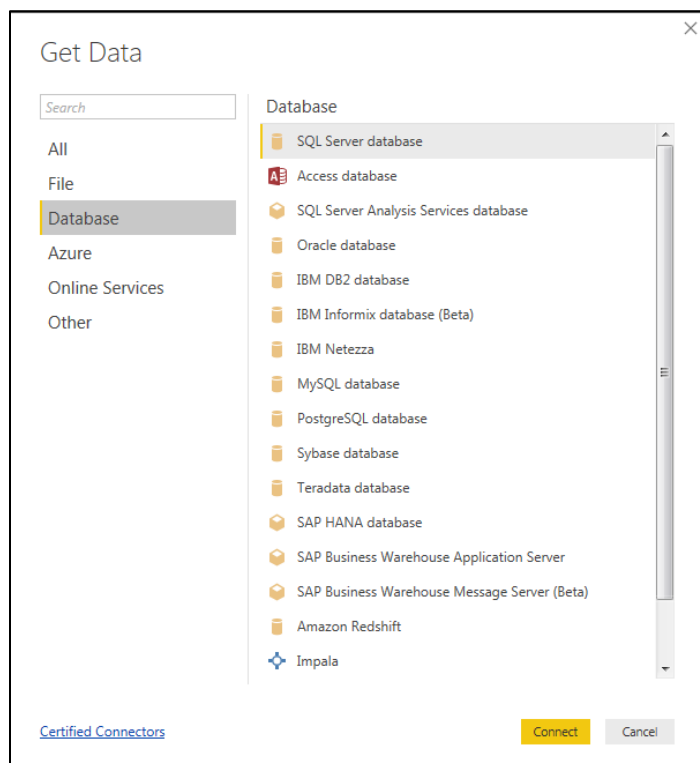
Drag data fields here

Data Set will be created as below:



## 2.Database:

- Select Get Data and select DataBase as your source:

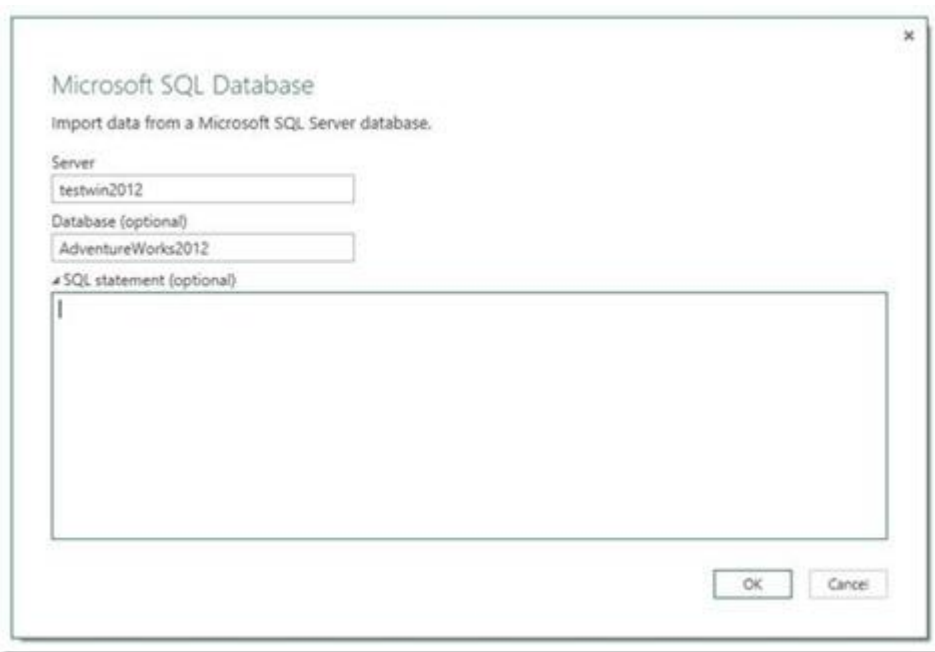


If you are on the list of all Data Sources, we want to select **SQL Server Database** and then click **Connect**.

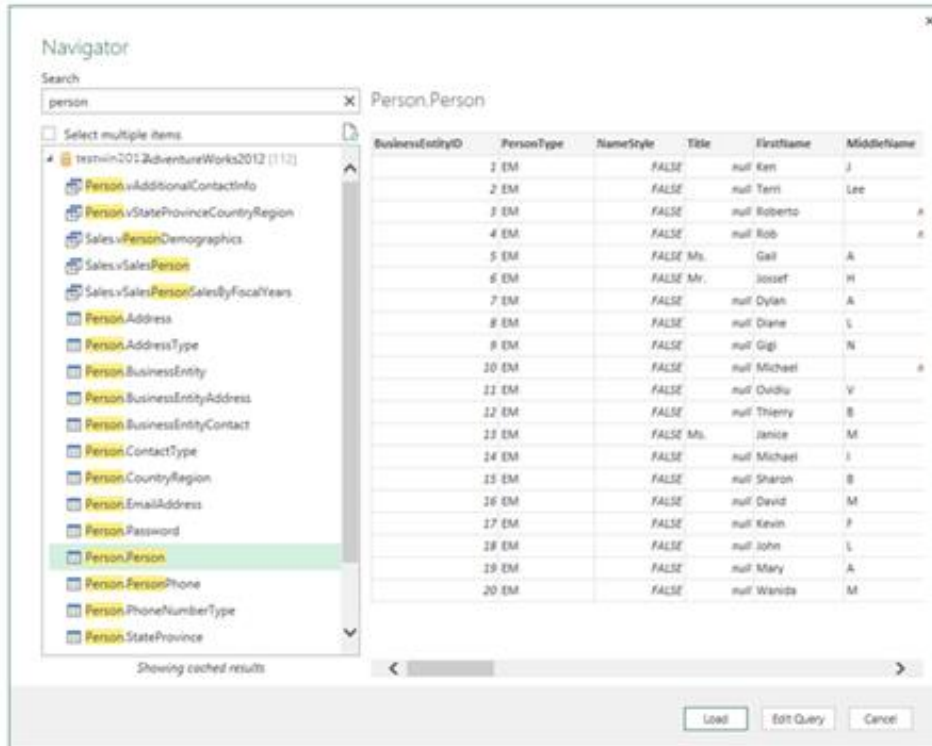
You will then see a screen to enter the SQL Server name and the Database name. This would be where the data is going to come from.



The screenshot shows a dialog box titled "Microsoft SQL Database" with a close button (X) in the top right corner. Below the title is the instruction "Import data from a Microsoft SQL Server database:". There are three input fields: "Server" containing "testwin2012", "Database (optional)" containing "AdventureWorks2012", and "SQL statement (optional)" which is currently empty. At the bottom right are "OK" and "Cancel" buttons.



This screenshot shows the same "Microsoft SQL Database" dialog box, but the "SQL statement (optional)" field is now expanded into a large text area, ready for input. The "Server" and "Database" fields remain the same. The "OK" and "Cancel" buttons are still at the bottom right.



Once you have selected the item, click **Load**. This will pull the data into the Data Model.



### 3.Azure Services:

- The following image shows the **Get Data** window for **Azure**.



## Get Data

Search

All

File

Database

Azure

Online Services

Other

Azure

Azure SQL database

Azure SQL Data Warehouse

Azure Analysis Services database

Azure Blob Storage

Azure Table Storage

Azure Cosmos DB (Beta)

Azure Data Lake Store

Azure HDInsight (HDFS)

Azure HDInsight Spark (Beta)

HDInsight Interactive Query (Beta)

- You can either import data or use Direct Query to connect to azure database.

## SQL Server database

Server ⓘ

Database (optional)

Data Connectivity mode ⓘ  
☒ Import  
☐ DirectQuery

▸ Advanced options

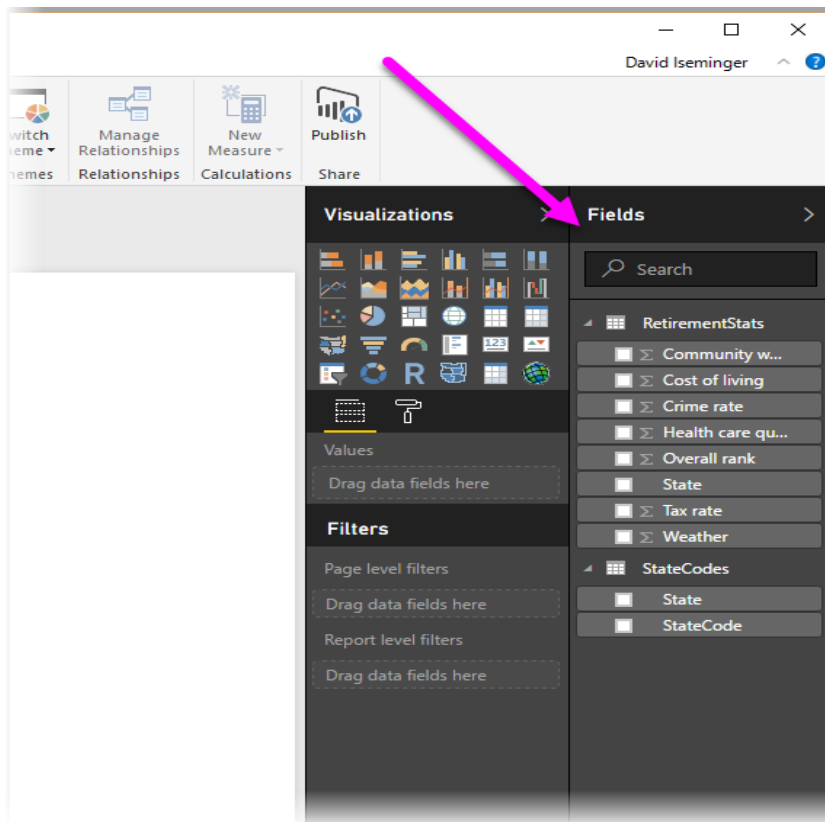
OK

Cancel

## 4. Online Services:

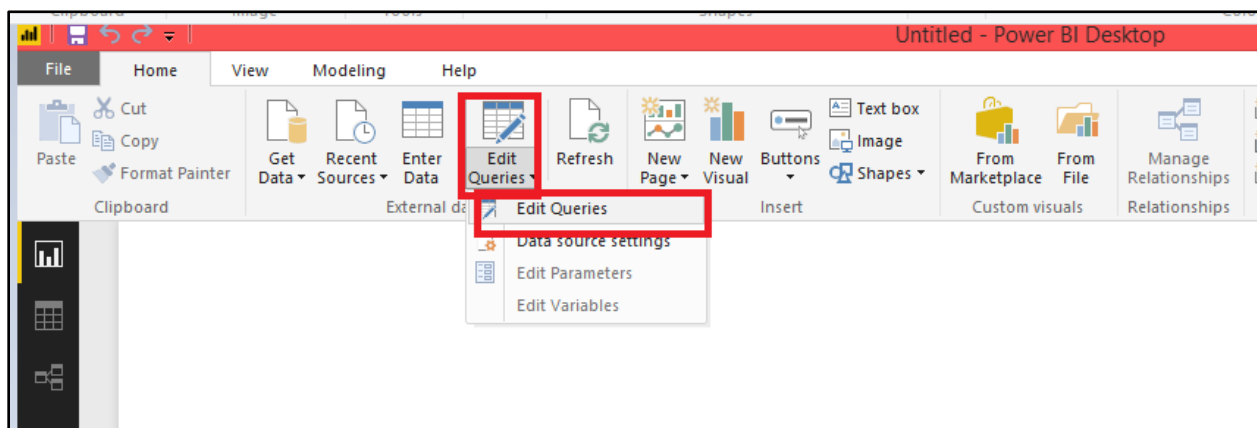
To establish a connection to the published report, and create your own report based on the published dataset, select **Get Data** from the **Home** ribbon in **Power BI Desktop**, and select **Power BI service**. You can also select it from **Get Data > Online Services > Power BI service**.





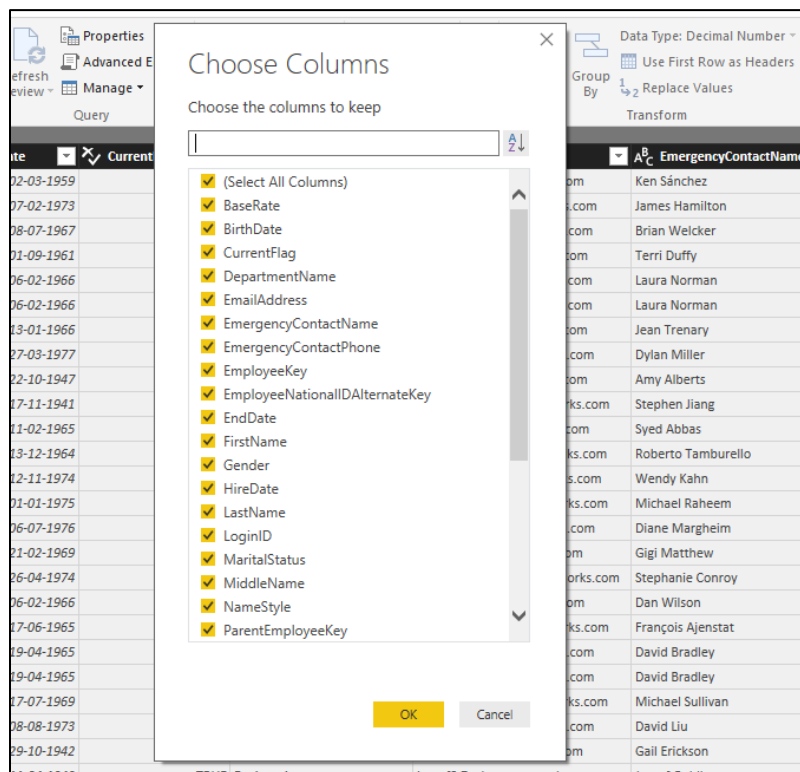
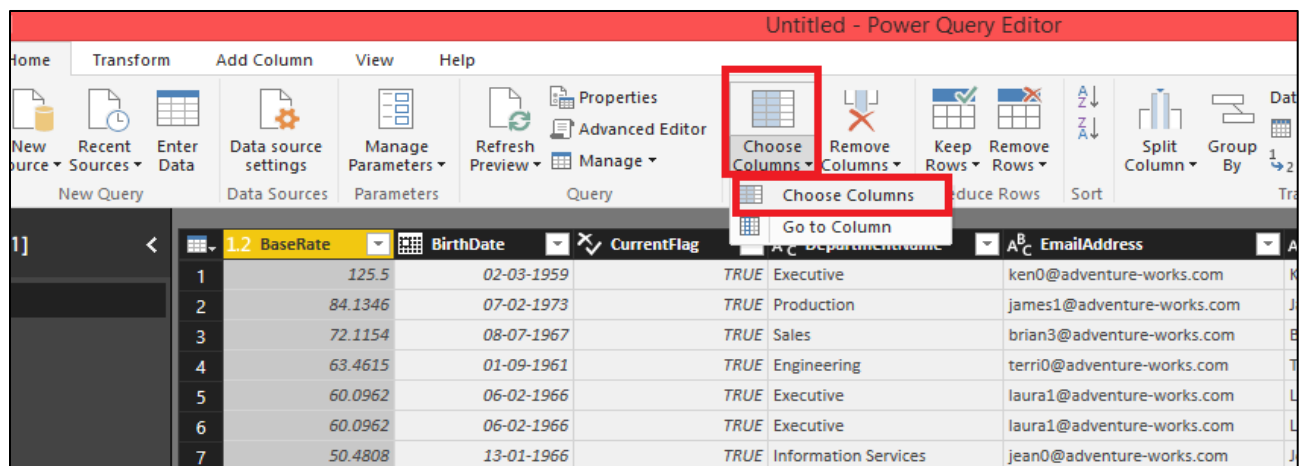
## 2.Data Transformations in Power BI:

- Import the DimEmployee, FactInternetSales, DimProductSubcategory data from the excel sheet as shown in Step 1 of Importing Data From Excel.
- Open the query editor as shown below for doing all the transformations:

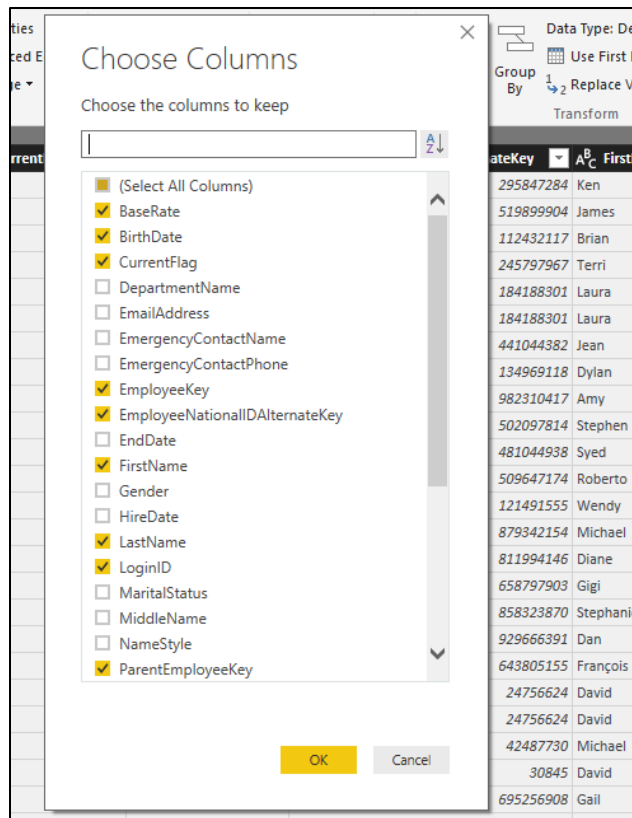


### 1. Choose Columns:

- Select Choose Column from the menu bar above :



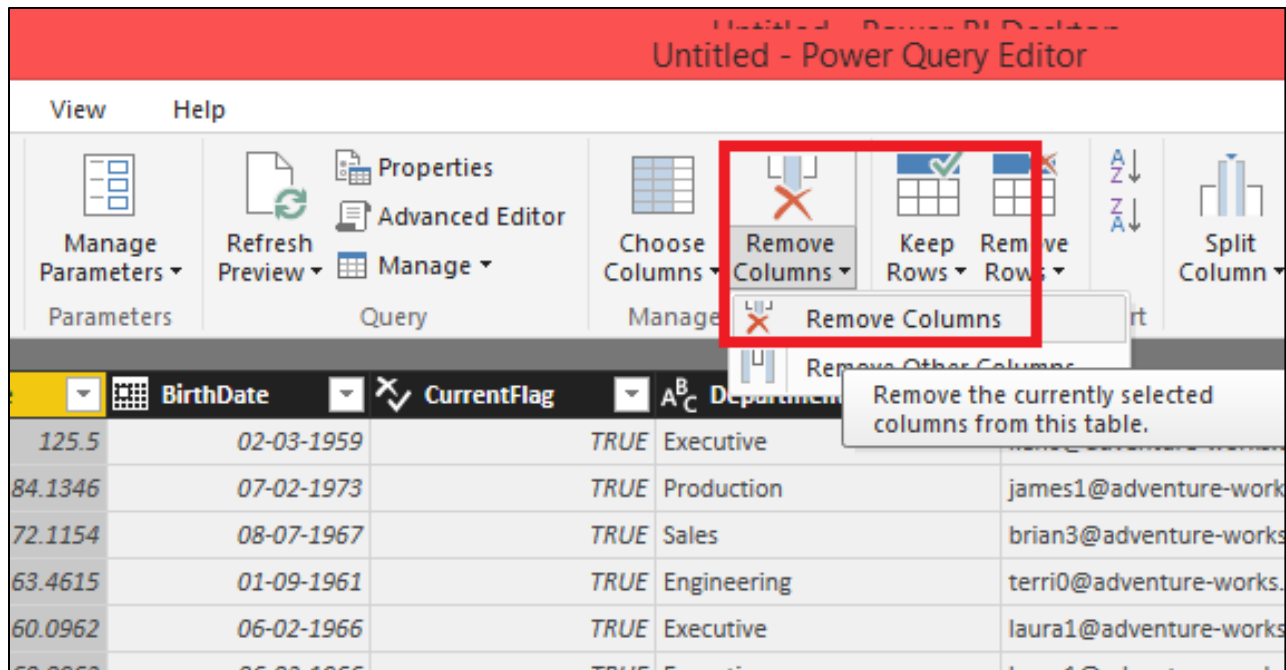
- Choose Selected Columns :



The result would be:

	1.2 BaseRate	BirthDate	CurrentFlag	1.3 EmployeeKey	1.3 EmployeeNationalIDAlternateKey	A <sup>B</sup> C <sup>C</sup> FirstName	A <sup>B</sup> C <sup>C</sup> LastName
1	125.5	02-03-1959	TRUE	112	295847284	Ken	Sánchez
2	84.1346	07-02-1973	TRUE	152	519899904	James	Hamilton
3	72.1154	08-07-1967	TRUE	277	112432117	Brian	Welcke
4	63.4615	01-09-1961	TRUE	14	245797967	Terri	Duffy
5	60.0962	06-02-1966	TRUE	143	184188301	Laura	Norma
6	60.0962	06-02-1966	TRUE	144	184188301	Laura	Norma
7	50.4808	13-01-1966	TRUE	44	441044382	Jean	Trenar
8	50.4808	27-03-1977	TRUE	162	134969118	Dylan	Miller
9	48.101	22-10-1947	TRUE	290	982310417	Amy	Alberts
10	48.101	17-11-1941	TRUE	272	502097814	Stephen	Jiang
11	48.101	11-02-1965	TRUE	294	481044938	Syed	Abbas
12	43.2692	13-12-1964	TRUE	3	509647174	Roberto	Tambu
13	43.2692	12-11-1974	TRUE	73	121491555	Wendy	Kahn
14	42.4808	01-01-1975	TRUE	221	879342154	Michael	Raheer
15	40.8654	06-07-1976	TRUE	81	811994146	Diane	Margh
16	40.8654	21-02-1969	TRUE	117	658797903	Gigi	Matthe
17	39.6635	26-04-1974	TRUE	154	858323870	Stephanie	Conroy
18	38.4615	06-02-1966	TRUE	131	929666391	Dan	Wilson
19	38.4615	17-06-1965	TRUE	120	643805155	François	Ajenst
20	37.5	19-04-1965	TRUE	7	24756624	David	Bradley
21	37.5	19-04-1965	TRUE	8	24756624	David	Bradley
22	36.0577	17-07-1969	TRUE	271	42487730	Michael	Sullivan
23	34.7356	08-08-1973	TRUE	142	30845	David	Liu
24	32.6923	29-10-1942	TRUE	11	695256908	Gail	Erickson
25	23.6938	11-04-1940	TRUE	12	002336091	David	Goldberg

## 2. Remove Columns:



- Selecting Employee Key Column to be removed:
- The column does not appear as shown below:

	1.2 BaseRate	BirthDate	CurrentFlag	EmployeeNationalIDAlternateKey	FirstName	LastName	LoginID
1	125.5	02-03-1959	TRUE	295847284	Ken	Sánchez	adventu
2	84.1346	07-02-1973	TRUE	519899904	James	Hamilton	adventu
3	72.1154	08-07-1967	TRUE	112432117	Brian	Welcker	adventu
4	63.4615	01-09-1961	TRUE	245797967	Terri	Duffy	adventu
5	60.0962	06-02-1966	TRUE	184188301	Laura	Norman	adventu
6	60.0962	06-02-1966	TRUE	184188301	Laura	Norman	adventu
7	50.4808	13-01-1966	TRUE	441044382	Jean	Trenary	adventu
8	50.4808	27-03-1977	TRUE	134969118	Dylan	Miller	adventu
9	48.101	22-10-1947	TRUE	982310417	Amy	Alberts	adventu
10	48.101	17-11-1941	TRUE	502097814	Stephen	Jiang	adventu
11	48.101	11-02-1965	TRUE	481044938	Syed	Abbas	adventu
12	43.2692	13-12-1964	TRUE	509647174	Roberto	Tamburello	adventu
13	43.2692	12-11-1974	TRUE	121491555	Wendy	Kahn	adventu
14	42.4808	01-01-1975	TRUE	879342154	Michael	Raheem	adventu
15	40.8654	06-07-1976	TRUE	811994146	Diane	Margheim	adventu
16	40.8654	21-02-1969	TRUE	658797903	Gigi	Matthew	adventu
17	39.6635	26-04-1974	TRUE	858323870	Stephanie	Conroy	adventu
18	38.4615	06-02-1966	TRUE	929666391	Dan	Wilson	adventu
19	38.4615	17-06-1965	TRUE	643805155	François	Ajenstat	adventu
20	37.5	19-04-1965	TRUE	24756624	David	Bradley	adventu
21	37.5	19-04-1965	TRUE	24756624	David	Bradley	adventu
22	36.0577	17-07-1969	TRUE	42487730	Michael	Sullivan	adventu
23	34.7356	08-08-1973	TRUE	30845	David	Liu	adventu
24	32.6923	29-10-1942	TRUE	695256908	Gail	Erickson	adventu
25	32.6923	11-04-1940	TRUE	009316093	Jeffrey	Goldberg	adventu

QUERY SETTINGS

PROPERTIES

Name

Sheet1

APPLIED STEPS

Source

Navigation

Promoted Headers

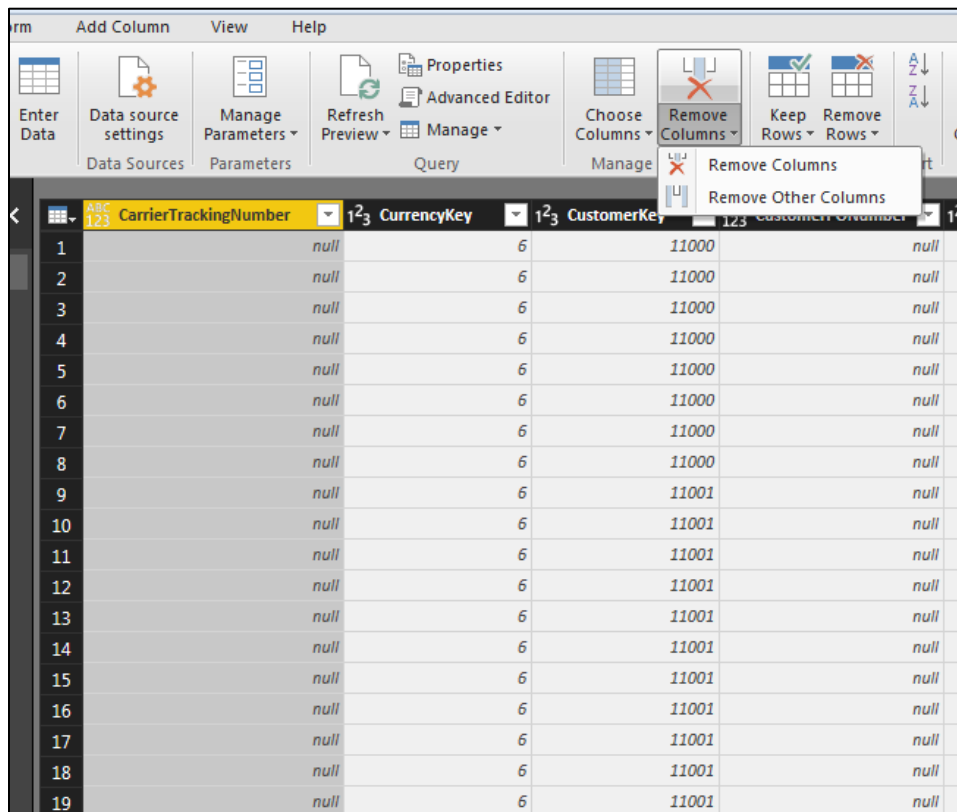
Changed Type

Removed Other Columns

Removed Columns

- Now, let's look at another example of a Fact Table:
- Take **FactInternetSales** dataset.

- Now we do not need all the columns from the fact table.
- So let's remove the columns "CarrierTrackingNumber", "PromotionKey", "RevisionNumber".
- Select the column "CarrierTrackingNumber", "PromotionKey", "RevisionNumber" and then click Remove Columns.

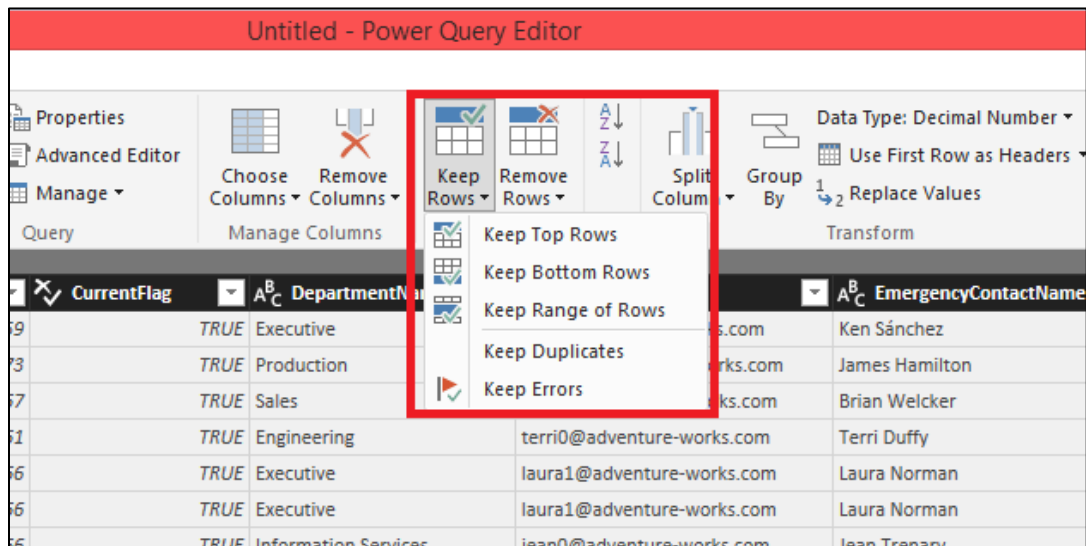


The screenshot shows the Power BI Query Editor interface. The 'Remove Columns' menu is open, showing options to 'Remove Columns' or 'Remove Other Columns'. The table below has columns: CarrierTrackingNumber, CurrencyKey, CustomerKey, and CustomerName. The 'CarrierTrackingNumber' column is highlighted in yellow.

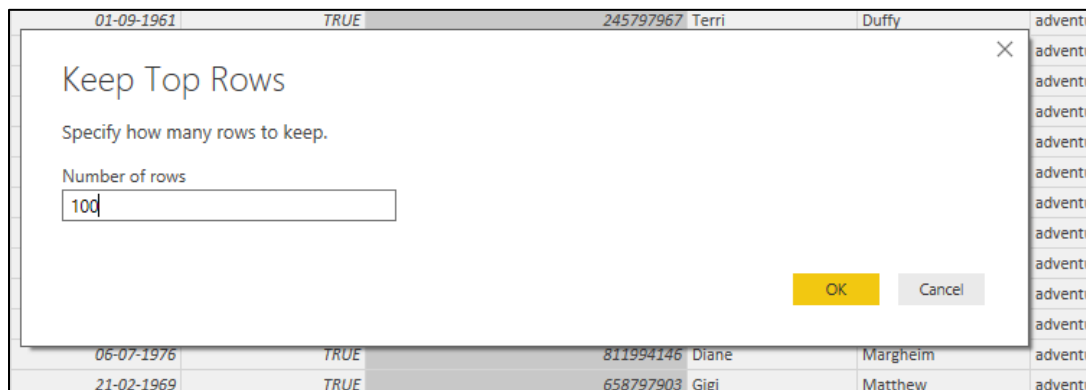
	CarrierTrackingNumber	CurrencyKey	CustomerKey	CustomerName
1	null	6	11000	null
2	null	6	11000	null
3	null	6	11000	null
4	null	6	11000	null
5	null	6	11000	null
6	null	6	11000	null
7	null	6	11000	null
8	null	6	11000	null
9	null	6	11001	null
10	null	6	11001	null
11	null	6	11001	null
12	null	6	11001	null
13	null	6	11001	null
14	null	6	11001	null
15	null	6	11001	null
16	null	6	11001	null
17	null	6	11001	null
18	null	6	11001	null
19	null	6	11001	null

- The columns are removed.

### 3. Keep Rows:



- Selecting Keep top rows, we get:



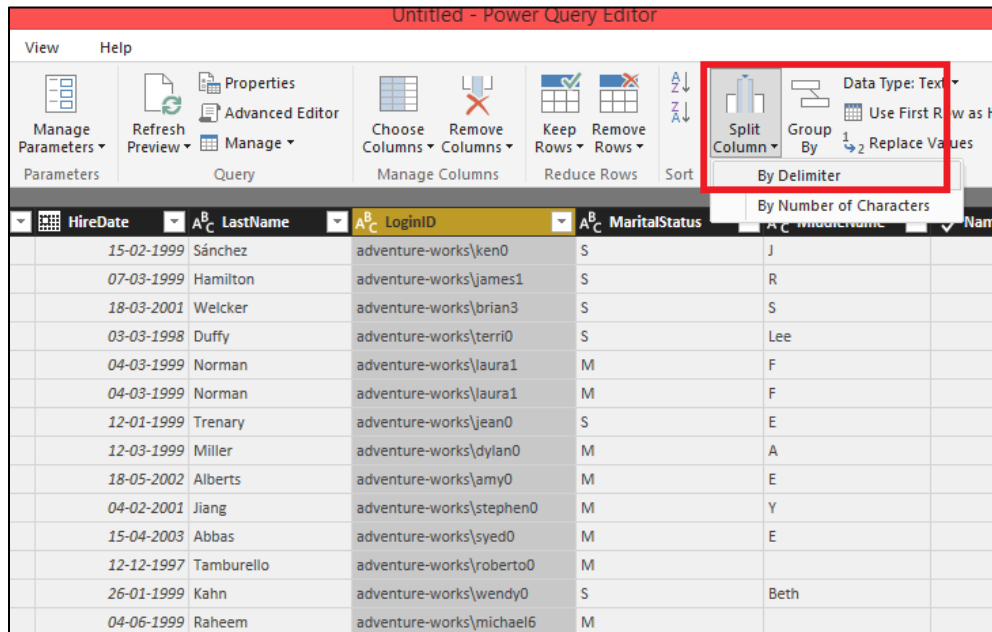
- The top 100 Rows remain.

useRate	BirthDate	CurrentFlag	EmployeeNationalIDAlternateKey	First Name	Last Name	LoginID
125.5	02-03-1959	TRUE	295847284	Ken	Sánchez	adventu
84.1346	07-02-1973	TRUE	519899904	James	Hamilton	adventu
72.1154	08-07-1967	TRUE	112432117	Brian	Welcker	adventu
63.4615	01-09-1961	TRUE	245797967	Terri	Duffy	adventu
60.0962	06-02-1966	TRUE	184188301	Laura	Norman	adventu
60.0962	06-02-1966	TRUE	184188301	Laura	Norman	adventu
50.4808	13-01-1966	TRUE	441044382	Jean	Trenary	adventu
50.4808	27-03-1977	TRUE	134969118	Dylan	Miller	adventu
48.101	22-10-1947	TRUE	982310417	Amy	Alberts	adventu
48.101	17-11-1941	TRUE	502097814	Stephen	Jiang	adventu
48.101	11-02-1965	TRUE	481044938	Syed	Abbas	adventu
43.2692	13-12-1964	TRUE	509647174	Roberto	Tamburello	adventu
43.2692	12-11-1974	TRUE	121491555	Wendy	Kahn	adventu
42.4808	01-01-1975	TRUE	879342154	Michael	Raheem	adventu
40.8654	06-07-1976	TRUE	811994146	Diane	Margheim	adventu
40.8654	21-02-1969	TRUE	658797903	Gigi	Matthew	adventu
39.6635	26-04-1974	TRUE	858323870	Stephanie	Conroy	adventu
38.4615	06-02-1966	TRUE	929666391	Dan	Wilson	adventu
38.4615	17-06-1965	TRUE	643805155	François	Ajenstat	adventu
37.5	19-04-1965	TRUE	24756624	David	Bradley	adventu
37.5	19-04-1965	TRUE	24756624	David	Bradley	adventu
36.0577	17-07-1969	TRUE	42487730	Michael	Sullivan	adventu
34.7356	08-08-1973	TRUE	30845	David	Liu	adventu

### 4. Split Column:

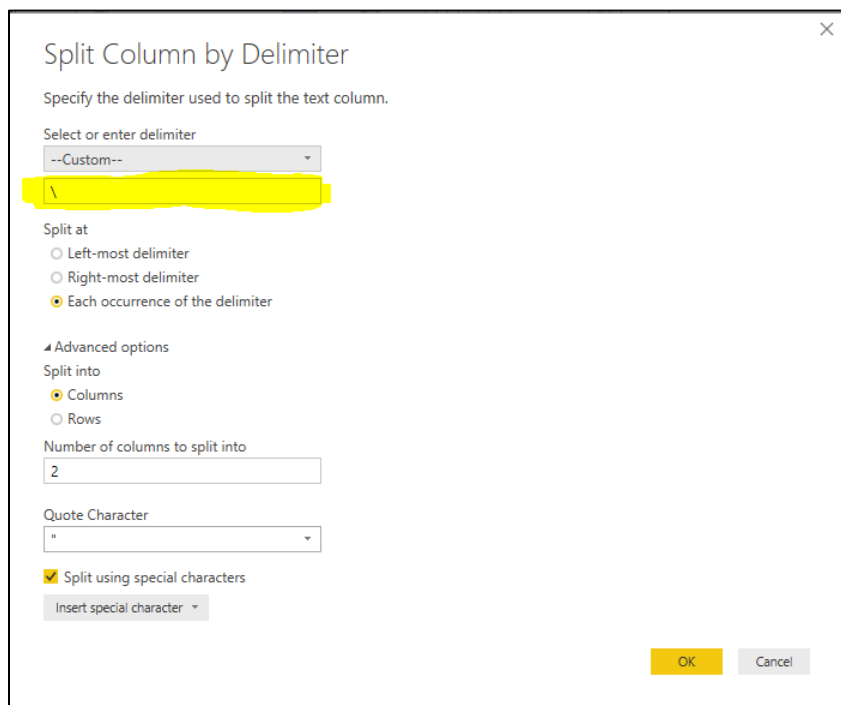


- If we need to split the login ID column into to domain name and user id, follow the below steps:
  - Select the column to be split and choose Split Column by Delimiter:



- The following dialogue box appears.

Enter the Delimiter '\'



- Now as we can see the **LoginID** column has been split into 2 different columns

AB LoginID.1	AB LoginID.2
adventure-works	ken0
adventure-works	james1
adventure-works	brian3
adventure-works	terri0
adventure-works	laura1
adventure-works	laura1
adventure-works	jean0
adventure-works	dylan0
adventure-works	amy0
adventure-works	stephen0
adventure-works	syed0
adventure-works	roberto0
adventure-works	wendy0
adventure-works	michael6
adventure-works	diane1
adventure-works	gigi0
adventure-works	stephanie0
adventure-works	dan1
adventure-works	francois0

## 5. Group By:

- In this we have Group by Gender:

The screenshot shows the Power BI Desktop interface with a table of data. The 'Group By' dialog box is open, and the 'Group by' dropdown is set to 'Gender'. The 'New column name' is 'Count', the 'Operation' is 'Count Rows', and the 'Column' is empty. The background table has columns: Phone, SalariedFlag, SalesPersonFlag, SalesTerritoryKey, and SickLeaveHours.

Phone	SalariedFlag	SalesPersonFlag	SalesTerritoryKey	SickLeaveHours
2 697-555-0142	TRUE	FALSE	11	69
2 870-555-0123	TRUE	FALSE	11	63
2 554-555-0110	TRUE	FALSE	11	54

The results are as below:

	A <sup>B</sup> <sub>C</sub> Gender	1.2 Count
1	M	209
2	F	87

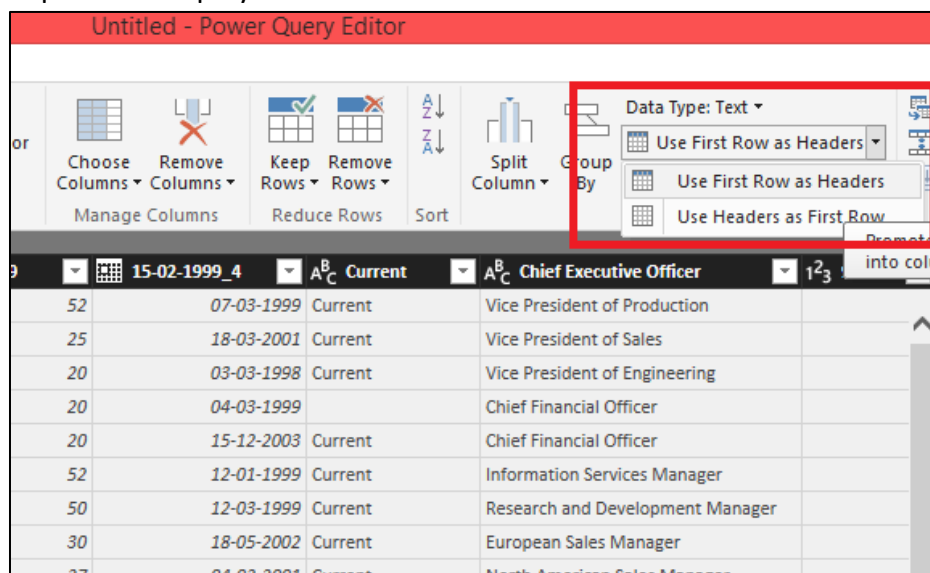
The transformations from 1-5 are attached below:



Transformation1-5.pbix

## 6. Use First Rows as Headers:

- Import DimEmployee as shown in Section 1.



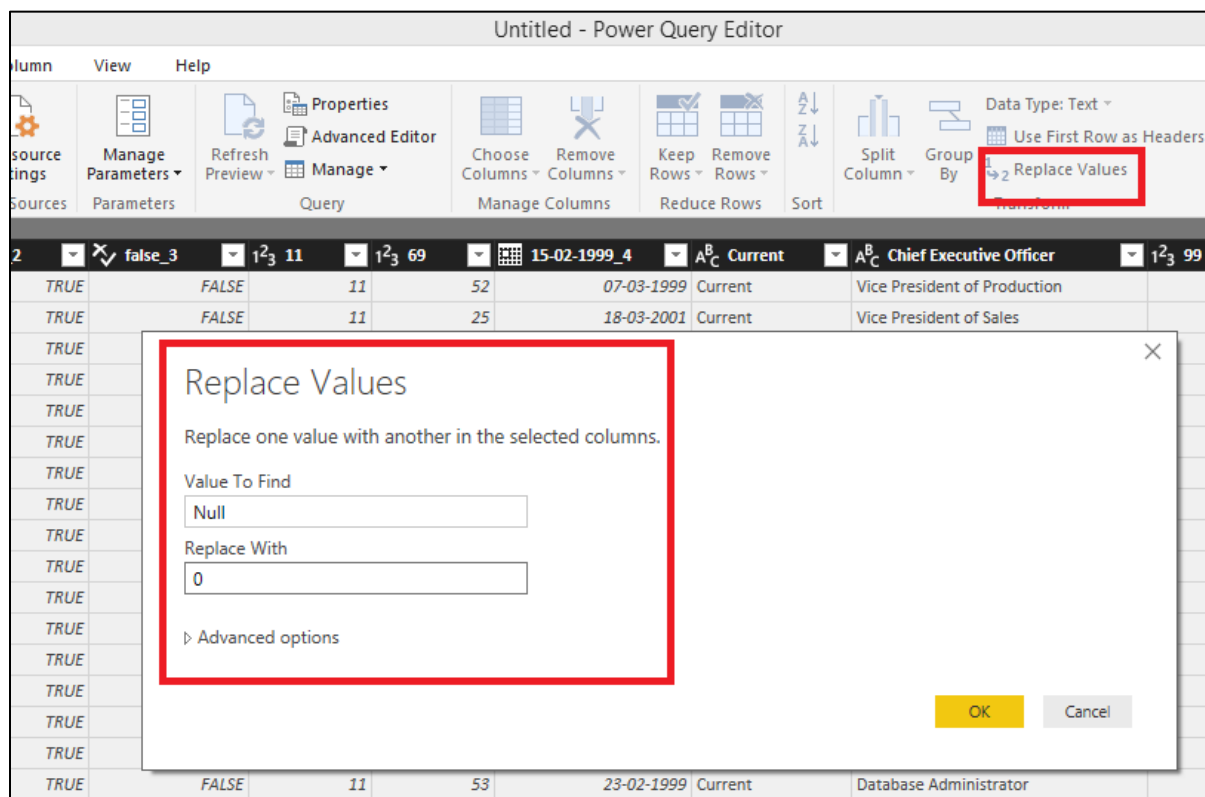
Before applying transformation the headers are as follows:

	1.2 BaseRate	BirthDate	CurrentFlag	A <sup>B</sup> <sub>C</sub> DepartmentName	A <sup>B</sup> <sub>C</sub> EmailAddress	A <sup>B</sup> <sub>C</sub> EmergencyContactName
1	125.5	02-03-1959	TRUE	Executive	ken0@adventure-works.com	Ken Sánchez
2	84.1346	07-02-1973	TRUE	Production	james1@adventure-works.com	James Hamilton
3	72.1154	08-07-1967	TRUE	Sales	brian3@adventure-works.com	Brian Welcker
4	63.4615	01-09-1961	TRUE	Engineering	terri0@adventure-works.com	Terri Duffy
5	60.0962	06-02-1966	TRUE	Executive	laura1@adventure-works.com	Laura Norman

After applying transformation, the first row becomes the header:

	1.2 125.5	02-03-1959	true	A <sup>B</sup> <sub>C</sub> Executive	A <sup>B</sup> <sub>C</sub> ken0@adventure-works.com	A <sup>B</sup> <sub>C</sub> Ken Sánchez	A <sup>B</sup> <sub>C</sub> 697-555-0142
1	84.1346	07-02-1973	TRUE	Production	james1@adventure-works.com	James Hamilton	870-555-0122
2	72.1154	08-07-1967	TRUE	Sales	brian3@adventure-works.com	Brian Welcker	716-555-0127
3	63.4615	01-09-1961	TRUE	Engineering	terri0@adventure-works.com	Terri Duffy	819-555-0175
4	60.0962	06-02-1966	TRUE	Executive	laura1@adventure-works.com	Laura Norman	615-555-0110
5	60.0962	06-02-1966	TRUE	Executive	laura1@adventure-works.com	Laura Norman	615-555-0110
6	60.0962	06-02-1966	TRUE	Executive	laura1@adventure-works.com	Laura Norman	615-555-0110
7	60.0962	06-02-1966	TRUE	Executive	laura1@adventure-works.com	Laura Norman	615-555-0110
8	50.4808	13-01-1966	TRUE	Information Services	jean0@adventure-works.com	Jean Trenary	685-555-0120
9	50.4808	13-01-1966	TRUE	Information Services	jean0@adventure-works.com	Jean Trenary	685-555-0120
10	50.4808	27-03-1977	TRUE	Research and Development	dylan0@adventure-works.com	Dylan Miller	181-555-0156
11	50.4808	27-03-1977	TRUE	Research and Development	dylan0@adventure-works.com	Dylan Miller	181-555-0156

## 7. Replace Values:



- Here we are replacing the Null values in **Department Name** column with No department:

thDate	CurrentFlag	DepartmentName	EmailAddress	EmergencyContactName
02-03-1959	TRUE	Executive	ken0@adventure-works.com	Ken Sánchez
07-02-1973	TRUE	Production	james1@adventure-works.com	James Hamilton

### Replace Values

Replace one value with another in the selected columns.

Value To Find

Replace With

Advanced options

OK Cancel

26-04-1974	TRUE	Information Services	stephanie0@adventure-works.com	Stephanie Conroy
------------	------	----------------------	--------------------------------	------------------

DepartmentName	EmailAddress	EmergencyContactName	EmergencyContactPhone
Sales	jae0@adventure-works.com	Jae Pak	1 (11) 51
Sales	jillian0@adventure-works.com	Jillian Carson	517-555
Sales	josé1@adventure-works.com	José Saraiva	185-555
Sales	linda3@adventure-works.com	Linda Mitchell	883-555
Sales	lynn0@adventure-works.com	Lynn Tsoflias	1 (11) 51
Sales	michael9@adventure-works.com	Michael Blythe	257-555
Sales	pamela0@adventure-works.com	Pamela Ansman-Wolfe	340-555
Sales	rachel0@adventure-works.com	Rachel Valdez	1 (11) 51
Sales	ranjit0@adventure-works.com	Ranjit Varkey Chudukatil	1 (11) 51
Sales	shu0@adventure-works.com	Shu Ito	330-555
Sales	tete0@adventure-works.com	Tete Mensa-Annan	615-555
Sales	tsvi0@adventure-works.com	Tsvi Reiter	664-555
Quality Assurance	peng0@adventure-works.com	Peng Wu	164-555
Facilities and Maintenance	christian0@adventure-works.com	Christian Kleinerman	846-555
Shipping and Receiving	pilar0@adventure-works.com	Pilar Ackerman	577-555
Finance	bryan1@adventure-works.com	Bryan Walton	935-555
Finance	candy0@adventure-works.com	Candy Spoon	920-555
Finance	deborah0@adventure-works.com	Deborah Poe	602-555

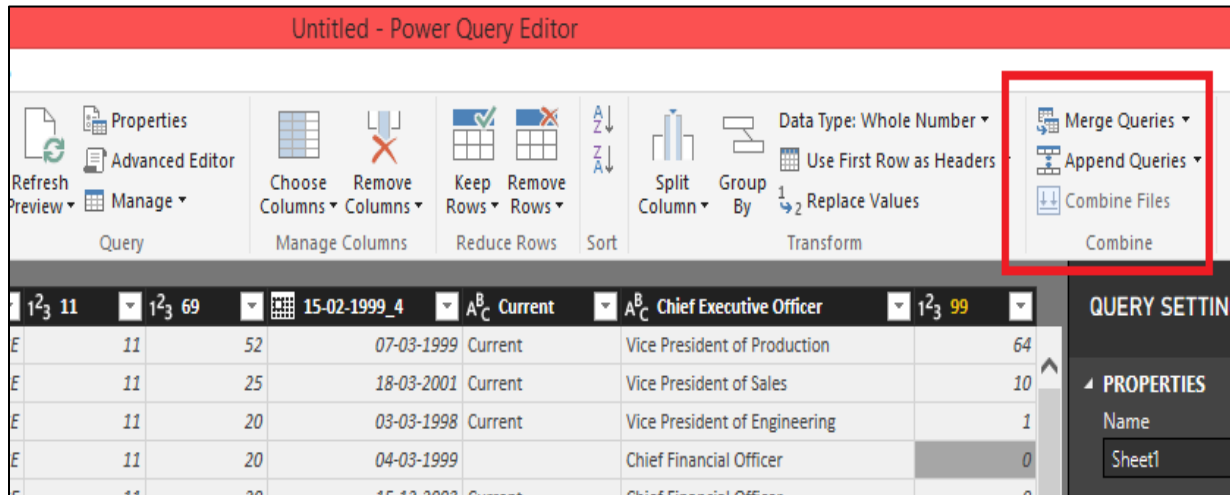
### QUERY SETTINGS

**PROPERTIES**
Name
[All Properties](#)

**APPLIED STEPS**

Source
Navigation
Promoted Headers
Changed Type
Replaced Value

## 8. Combine:



Now apply merge transformation:

### Merge

Select a table and matching columns to create a merged table.

Sheet1

BaseRate	BirthDate	CurrentFlag	DepartmentName	EmailAddress	EmergencyContactName
125.5	02-03-1959	TRUE	Executive	ken0@adventure-works.com	Ken Sánchez
84.1346	07-02-1973	TRUE	Production	james1@adventure-works.com	James Hamilton
72.1154	08-07-1967	TRUE	Sales	brian3@adventure-works.com	Brian Welcker
63.4615	01-09-1961	TRUE	Engineering	terri0@adventure-works.com	Terri Duffy
60.0962	06-02-1966	TRUE	Executive	laura1@adventure-works.com	Laura Norman

Table18

BaseRate	BirthDate	CurrentFlag	DepartmentName	EmailAddress	EmergencyContactName
125.5	02-03-1959	TRUE	Executive	ken0@adventure-works.com	Ken Sánchez
84.1346	07-02-1973	TRUE	Production	james1@adventure-works.com	James Hamilton
72.1154	08-07-1967	TRUE	Sales	brian3@adventure-works.com	Brian Welcker
63.4615	01-09-1961	TRUE	Engineering	terri0@adventure-works.com	Terri Duffy
60.0962	06-02-1966	TRUE	Executive	laura1@adventure-works.com	Laura Norman

Join Kind

Left Outer (all from first, matching from second)

✓ The selection has matched 296 out of the first 296 rows.

OK

Cancel

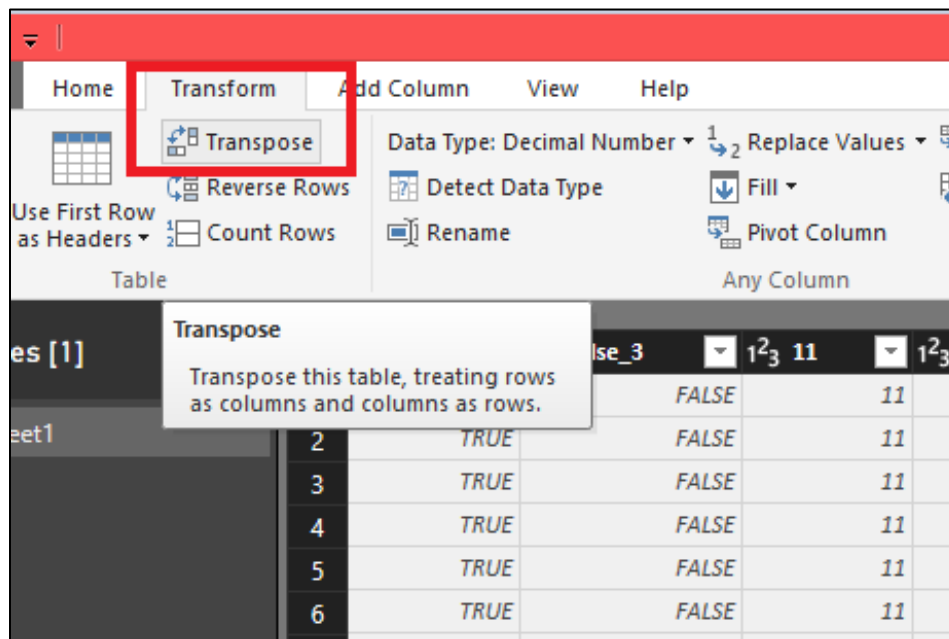
Now as you can see the column base rate has been added:

The screenshot shows a data table with two columns: 'VacationHours' and 'Table18.BaseRate'. The 'VacationHours' column contains values ranging from 0 to 99, and the 'Table18.BaseRate' column contains values ranging from 43.2692 to 125.5. To the right, the 'QUERY SETTINGS' pane is visible, showing the 'APPLIED STEPS' list with 'Expanded Table18' selected.

VacationHours	Table18.BaseRate
99	125.5
64	84.1346
10	72.1154
1	63.4615
0	60.0962
0	60.0962
0	60.0962
0	60.0962
65	50.4808
65	50.4808
61	50.4808
61	50.4808
21	48.101
21	48.101
21	48.101
14	48.101
14	48.101
14	48.101
20	48.101
20	48.101
20	48.101
2	43.2692
2	43.2692
55	43.2692
55	43.2692

## 9. Transpose:

- Go in Transform tab up in the menu bar. Select Transpose.



Before applying transpose:

2 125.5	02-03-1959	true	Executive	ken0@adventure-works.com	Ken Sánchez	6
84.1346	07-02-1973	TRUE	Production	james1@adventure-works.com	James Hamilton	870-5
72.1154	08-07-1967	TRUE	Sales	brian3@adventure-works.com	Brian Welcker	716-5
63.4615	01-09-1961	TRUE	Engineering	terri0@adventure-works.com	Terri Duffy	819-5
60.0962	06-02-1966	TRUE	Executive	laura1@adventure-works.com	Laura Norman	615-5
60.0962	06-02-1966	TRUE	Executive	laura1@adventure-works.com	Laura Norman	615-5
60.0962	06-02-1966	TRUE	Executive	laura1@adventure-works.com	Laura Norman	615-5
60.0962	06-02-1966	TRUE	Executive	laura1@adventure-works.com	Laura Norman	615-5
50.4808	13-01-1966	TRUE	Information Services	jean0@adventure-works.com	Jean Trenary	685-5
50.4808	13-01-1966	TRUE	Information Services	jean0@adventure-works.com	Jean Trenary	685-5
50.4808	27-03-1977	TRUE	Research and Development	dylan0@adventure-works.com	Dylan Miller	181-5
50.4808	27-03-1977	TRUE	Research and Development	dylan0@adventure-works.com	Dylan Miller	181-5
48.101	22-10-1947	TRUE	Sales	amy0@adventure-works.com	Amy Alberts	775-5
48.101	22-10-1947	TRUE	Sales	amy0@adventure-works.com	Amy Alberts	775-5
48.101	22-10-1947	TRUE	Sales	amy0@adventure-works.com	Amy Alberts	775-5
48.101	17-11-1941	TRUE	Sales	stephen0@adventure-works.com	Stephen Jiang	238-5
48.101	17-11-1941	TRUE	Sales	stephen0@adventure-works.com	Stephen Jiang	238-5
48.101	17-11-1941	TRUE	Sales	stephen0@adventure-works.com	Stephen Jiang	238-5
48.101	11-02-1965	TRUE	Sales	syed0@adventure-works.com	Syed Abbas	926-5
48.101	11-02-1965	TRUE	Sales	syed0@adventure-works.com	Syed Abbas	926-5
48.101	11-02-1965	TRUE	Sales	syed0@adventure-works.com	Syed Abbas	926-5
43.2692	13-12-1964	TRUE	Engineering	roberto0@adventure-works.com	Roberto Tamburello	212-5
43.2692	13-12-1964	TRUE	Engineering	roberto0@adventure-works.com	Roberto Tamburello	212-5

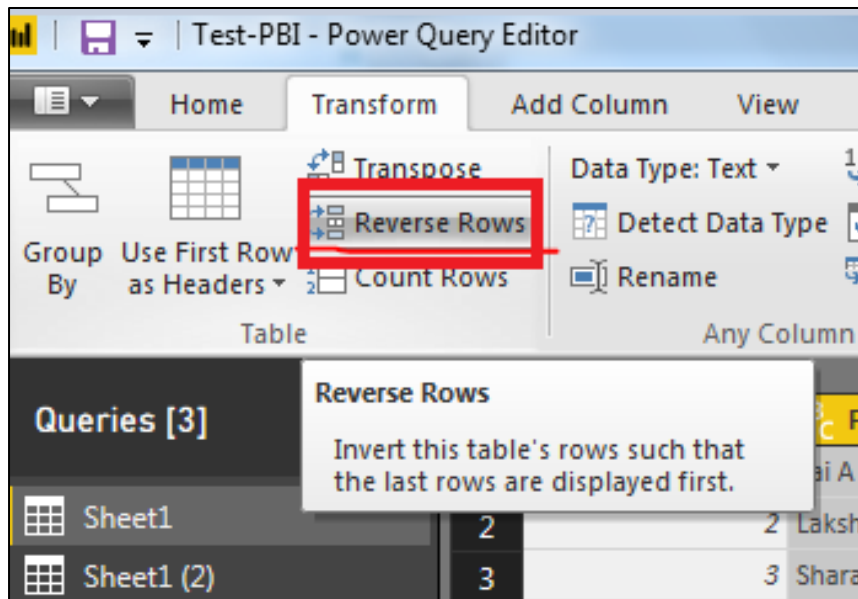
After applying:

Column1	Column2	Column3	Column4	Column5	
84.1346	72.1154	63.4615	60.0962	60.0962	
07-02-1973	08-07-1967	01-09-1961	06-02-1966	06-02-1966	
TRUE	TRUE	TRUE	TRUE	TRUE	
Production	Sales	Engineering	Executive	Executive	Ex
james1@adventure-works.com	brian3@adventure-works.com	terri0@adventure-works.com	laura1@adventure-works.com	laura1@adventure-works.com	laur
James Hamilton	Brian Welcker	Terri Duffy	Laura Norman	Laura Norman	Laur
870-555-0122	716-555-0127	819-555-0175	615-555-0110	615-555-0110	61
152	277	14	143	143	
519899904	112432117	245797967	184188301	184188301	
null	null	null	15-12-2003	15-12-2003	
James	Brian	Terri	Laura	Laura	Laur
M	M	F	F	F	F
07-03-1999	18-03-2001	03-03-1998	04-03-1999	04-03-1999	
Hamilton	Welcker	Duffy	Norman	Norman	Nc
adventure-works\james1	adventure-works\brian3	adventure-works\terri0	adventure-works\laura1	adventure-works\laura1	ad
S	S	S	M	M	M
R	S	Lee	F	F	F
FALSE	FALSE	FALSE	FALSE	FALSE	
112	112	112	112	112	
null	null	null	null	null	
2	2	2	2	2	
870-555-0122	716-555-0127	819-555-0175	615-555-0110	615-555-0110	61
TRUE	TRUE	TRUE	TRUE	TRUE	
FALSE	FALSE	FALSE	FALSE	FALSE	

## 10. Reverse Rows:

- Select Reverse Rows from Transform tab.





After transpose and applying reverse:

ABC 123 Column1	ABC 123 Column2	ABC 123 Column3	ABC 123 Column4	ABC 123 Column5	ABC 123
64	10	1	0	0	
Vice President of Production	Vice President of Sales	Vice President of Engineering	Chief Financial Officer	Chief Financial Officer	Ch
Current	Current	Current		Current	
07-03-1999	18-03-2001	03-03-1998	04-03-1999	15-12-2003	
52	25	20	20	20	
11	11	11	11	11	
FALSE	FALSE	FALSE	FALSE	FALSE	
TRUE	TRUE	TRUE	TRUE	TRUE	
870-555-0122	716-555-0127	819-555-0175	615-555-0110	615-555-0110	61
2	2	2	2	2	2
null	null	null	null	null	null
112	112	112	112	112	112
FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
R	S	Lee	F	F	F
S	S	S	M	M	M
adventure-works\james1	adventure-works\brian3	adventure-works\terri0	adventure-works\laura1	adventure-works\laura1	ad
Hamilton	Welcker	Duffy	Norman	Norman	Nc
07-03-1999	18-03-2001	03-03-1998	04-03-1999	04-03-1999	
M	M	F	F	F	F
James	Brian	Terri	Laura	Laura	La
null	null	null	15-12-2003	15-12-2003	null
519899904	112432117	245797967	184188301	184188301	
152	277	14	143	144	
870-555-0122	716-555-0127	819-555-0175	615-555-0110	615-555-0110	61
James Hamilton	Brian Welcker	Terri Duffy	Laura Norman	Laura Norman	La

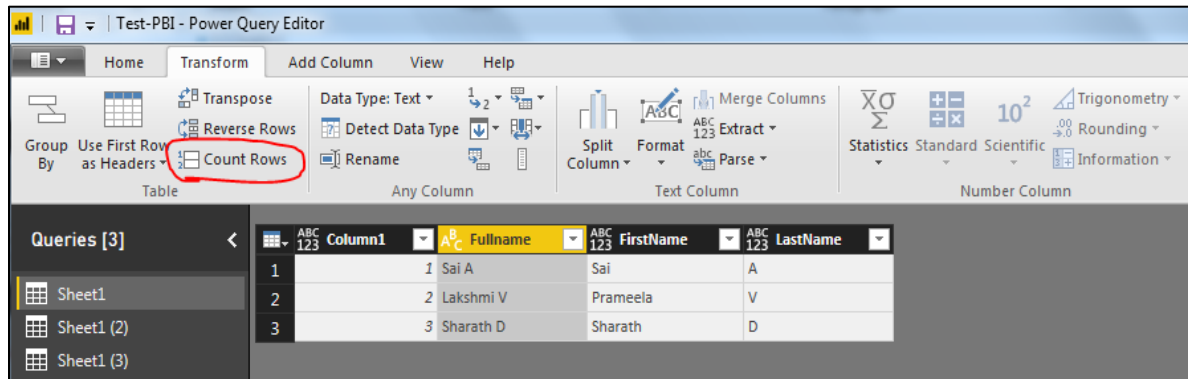
Transformation 6-10:



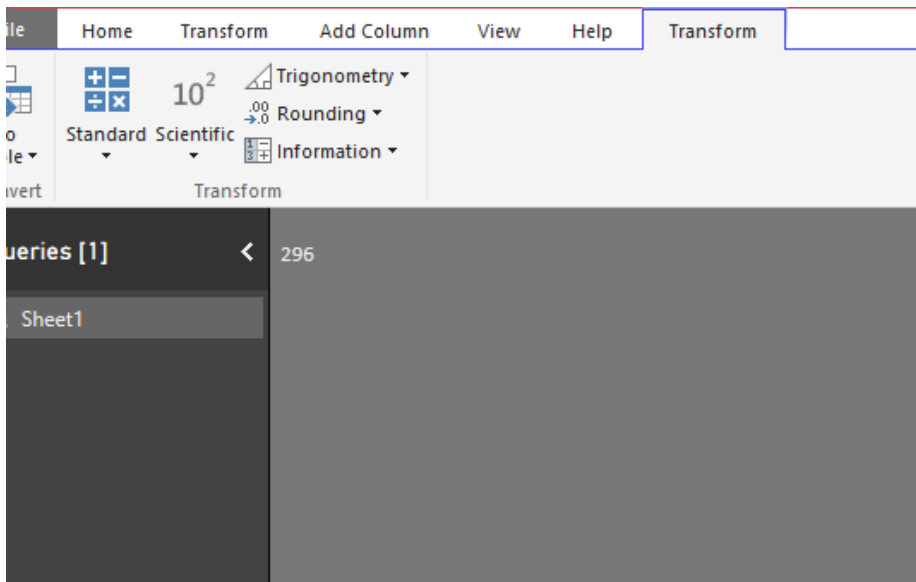
Transformation6-10.pbix

## 11. Count Rows:

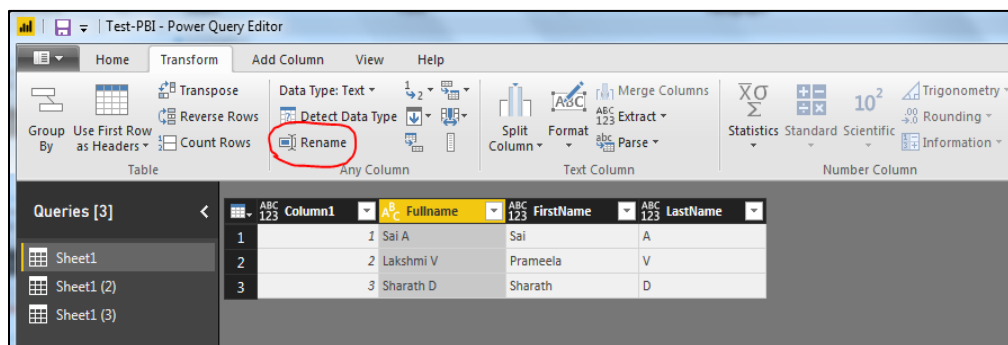
- Import **DimEmployee** as shown in Section 1.



## Result:



## 12. Rename:



se Rows    Detect Data type    Ar

t Rows    Rename

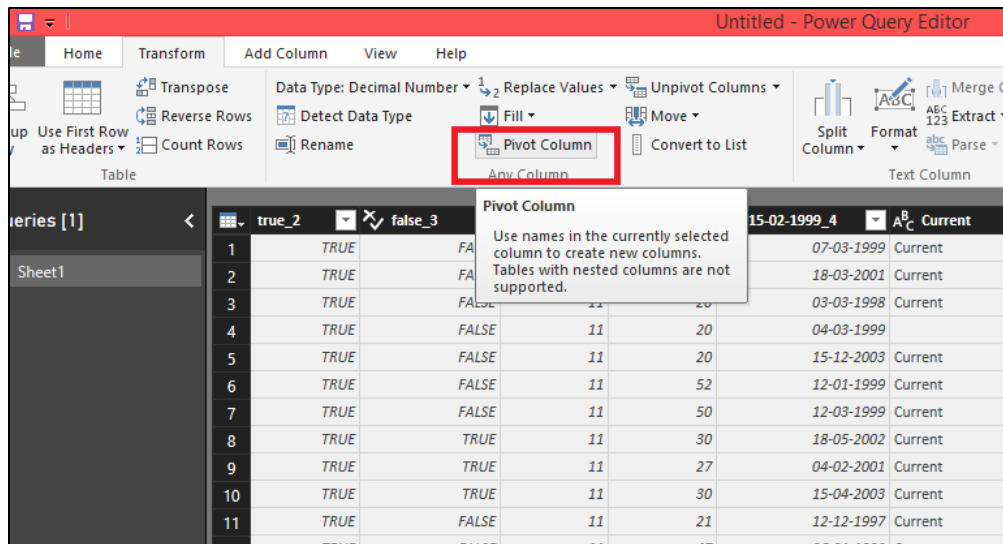
	1.2 BaseRate	BirthDate
1	125.5	02-0
2	84.1346	07-0
3	72.1154	08-0
4	63.4615	01-0
5	60.0962	06-0
6	60.0962	06-0
7	50.4808	13-0
8	50.4808	27-0
9	48.101	22-1

After Renaming the **BaseRate** column:

	1.2 BasicRateOfProd
1	125.5
2	84.1346
3	72.1154
4	63.4615
5	60.0962
6	60.0962
7	50.4808
8	50.4808

- Now, let's take **DimProductSubcategory** data set as another example of renaming columns
- Let's rename the column **EnglishProductSubcategoryName** to **ProductSubcategory**:





**Before:**

1.2 BasicRateOfProd	BirthDate	CurrentFlag	DepartmentName	EmailAddress	EmergencyContact
125.5	02-03-1959	TRUE	Executive	ken0@adventure-works.com	Ken Sánchez
84.1346	07-02-1973	TRUE	Production	james1@adventure-works.com	James Hamilton
72.1154	08-07-1967	TRUE	Sales	brian3@adventure-works.com	Brian Welcker
63.4615	01-09-1961	TRUE	Engineering	terri0@adventure-works.com	Terri Duffy
60.0962	06-02-1966	TRUE	Executive	laura1@adventure-works.com	Laura Norman
60.0962	06-02-1966	TRUE	Executive	laura1@adventure-works.com	Laura Norman
50.4808	13-01-1966	TRUE	Information Services	jean0@adventure-works.com	Jean Trenary
50.4808	27-03-1977	TRUE	Research and Development	dylan0@adventure-works.com	Dylan Miller
48.101	22-10-1947	TRUE	Sales	amy0@adventure-works.com	Amy Alberts
48.101	17-11-1941	TRUE	Sales	stephen0@adventure-works.com	Stephen Jiang
48.101	11-02-1965	TRUE	Sales	syed0@adventure-works.com	Syed Abbas
43.2692	13-12-1964	TRUE	Engineering	roberto0@adventure-works.com	Roberto Tamburelli
43.2692	12-11-1974	TRUE	Finance	wendy0@adventure-works.com	Wendy Kahn
42.4808	01-01-1975	TRUE	Research and Development	michael6@adventure-works.com	Michael Raheem
40.8654	06-07-1976	TRUE	Research and Development	diane1@adventure-works.com	Diane Margheim
40.8654	21-02-1969	TRUE	Research and Development	gigi0@adventure-works.com	Gigi Matthew
39.6635	26-04-1974	TRUE	Information Services	stephanie0@adventure-works.com	Stephanie Conroy
38.4615	06-02-1966	TRUE	Information Services	dan1@adventure-works.com	Dan Wilson
38.4615	17-06-1965	TRUE	Information Services	françois0@adventure-works.com	François Ajenstat
37.5	19-04-1965	TRUE	Marketing	david0@adventure-works.com	David Bradley
37.5	19-04-1965	TRUE	Marketing	david0@adventure-works.com	David Bradley

## Pivot Column

Use the names in column "BasicRateOfProd" to create new columns.

Values Column ⓘ

BirthDate

Advanced options

[Learn more about Pivot Column](#)

OK

Cancel

**After:**

CurrentFlag	DepartmentName	EmailAddress	EmergencyContactName	EmergencyContactPhone	Employee
TRUE	Document Control	chris1@adventure-works.com	Chris Norred	575-555-0126	
TRUE	Document Control	karen0@adventure-works.com	Karen Berge	746-555-0164	
TRUE	Document Control	sean1@adventure-works.com	Sean Chai	205-555-0132	
TRUE	Document Control	tengiz0@adventure-works.com	Tengiz Kharatishvili	910-555-0116	
TRUE	Document Control	zainal0@adventure-works.com	Zainal Ariffin	204-555-0115	
TRUE	Engineering	gail0@adventure-works.com	Gail Erickson	849-555-0139	
TRUE	Engineering	josef0@adventure-works.com	Jossef Goldberg	122-555-0189	
TRUE	Engineering	michael8@adventure-works.com	Michael Sullivan	465-555-0156	
TRUE	Engineering	roberto0@adventure-works.com	Roberto Tamburello	212-555-0187	
TRUE	Engineering	sharon0@adventure-works.com	Sharon Salavaria	970-555-0138	
TRUE	Engineering	terri0@adventure-works.com	Terri Duffy	819-555-0175	
TRUE	Executive	ken0@adventure-works.com	Ken Sánchez	697-555-0142	
TRUE	Executive	laura1@adventure-works.com	Laura Norman	615-555-0110	
TRUE	Executive	laura1@adventure-works.com	Laura Norman	615-555-0110	
TRUE	Facilities and Maintenance	christian0@adventure-works.com	Christian Kleiner	846-555-0157	
TRUE	Facilities and Maintenance	gary1@adventure-works.com	Gary Altman	110-555-0112	
TRUE	Facilities and Maintenance	jo1@adventure-works.com	Jo Berry	228-555-0159	
TRUE	Facilities and Maintenance	lori1@adventure-works.com	Lori Penor	295-555-0161	
TRUE	Facilities and Maintenance	magnus0@adventure-works.com	Magnus Hedlund	583-555-0182	
TRUE	Facilities and Maintenance	pat0@adventure-works.com	Pat Coleman	720-555-0158	
TRUE	Facilities and Maintenance	stuart1@adventure-works.com	Stuart Macrae	539-555-0149	
TRUE	Finance	barbara1@adventure-works.com	Barbara Moreland	822-555-0145	
TRUE	Finance	bryan1@adventure-works.com	Bryan Walton	935-555-0199	
TRUE	Finance	candy0@adventure-works.com	Candy Spoon	920-555-0177	

#### QUERY SETTINGS

##### PROPERTIES

Name

Sheet1

All Properties

##### APPLIED STEPS

Source

Navigation

Promoted Headers

Changed Type

Renamed Columns

X Pivoted Column

## 14. Unpivot Columns:

- Unpivoting the previously pivoted columns.

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HomeTransformAdd ColumnViewHelp

Table

Use First Row as Headers

Transpose

Reverse Rows

Count Rows

Data Type: Decimal Number

Detect Data Type

Rename

Replace Values

Fill

Pivot Column

Any Column

Unpivot Columns

Unpivot Columns

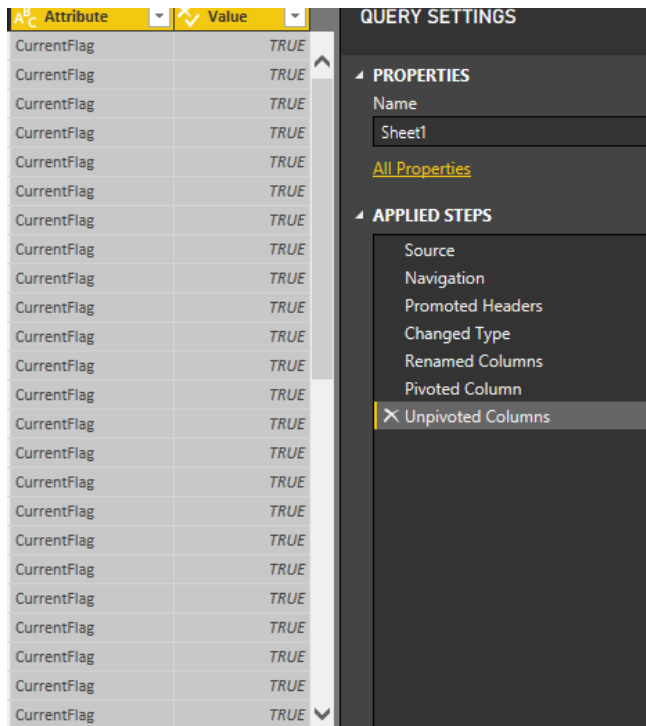
Unpivot Other Columns

Unpivot Only Selected Columns

es [1]

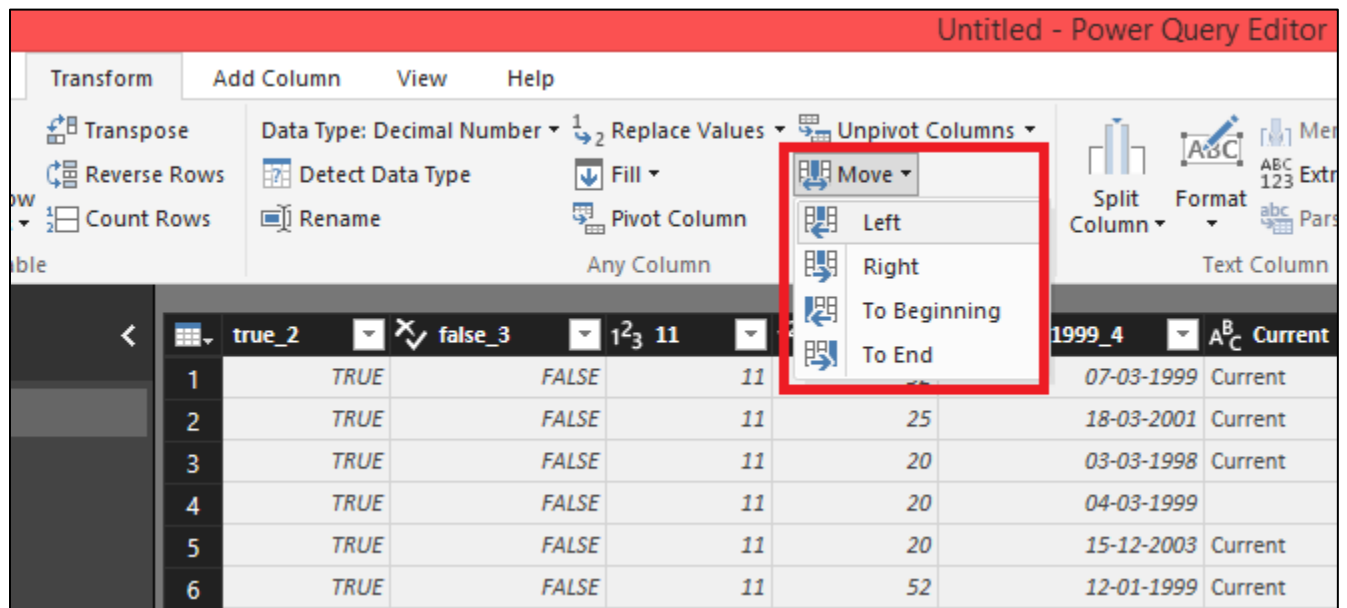
et1

	true_2	false_3	12_3 11	12_3 69	15-02-1999_4	A <sup>B</sup> C Current
1	TRUE	FALSE	11	52	07-03-1999	Current
2	TRUE	FALSE	11	25	18-03-2001	Current
3	TRUE	FALSE	11	20	03-03-1998	Current
4	TRUE	FALSE	11	20	04-03-1999	
5	TRUE	FALSE	11	20	15-12-2003	Current
6	TRUE	FALSE	11	52	12-01-1999	Current



## 15. Move:

- Select a column and then Click Move and now you can move that column to any given position as shown below:



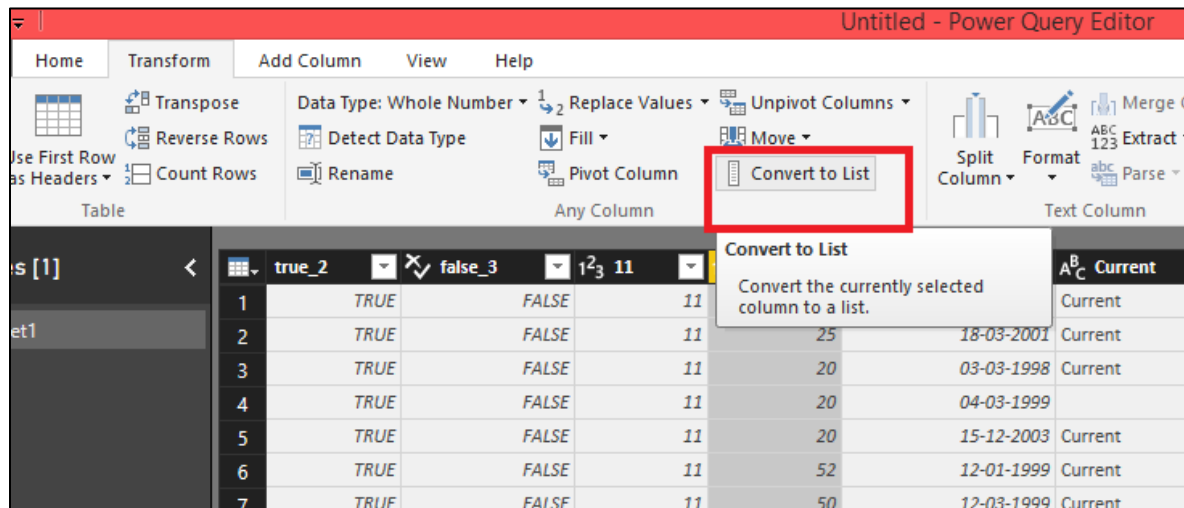
Attribute	Value	QUERY SETTINGS	
CurrentFlag	TRUE	<b>PROPERTIES</b> Name Sheet1 <a href="#">All Properties</a>	
CurrentFlag	TRUE	<b>APPLIED STEPS</b> Source Navigation Promoted Headers Changed Type Renamed Columns Pivoted Column X Unpivoted Columns	
CurrentFlag	TRUE		
CurrentFlag	TRUE		
CurrentFlag	TRUE		
CurrentFlag	TRUE		
CurrentFlag	TRUE		
CurrentFlag	TRUE		
CurrentFlag	TRUE		
CurrentFlag	TRUE		
CurrentFlag	TRUE		
CurrentFlag	TRUE		
CurrentFlag	TRUE		
CurrentFlag	TRUE		
CurrentFlag	TRUE		
CurrentFlag	TRUE		
CurrentFlag	TRUE		
CurrentFlag	TRUE		
CurrentFlag	TRUE		
CurrentFlag	TRUE		
CurrentFlag	TRUE		
CurrentFlag	TRUE		
CurrentFlag	TRUE		

After applying move to beginning for Attribute and value:

Attribute	Value	DepartmentName	EmailAddress	
CurrentFlag	TRUE	Document Control	chris1@adventure-works.com	Chris
CurrentFlag	TRUE	Document Control	karen0@adventure-works.com	Karen
CurrentFlag	TRUE	Document Control	sean1@adventure-works.com	Sean
CurrentFlag	TRUE	Document Control	tengiz0@adventure-works.com	Tengiz
CurrentFlag	TRUE	Document Control	zainal0@adventure-works.com	Zainal
CurrentFlag	TRUE	Engineering	gail0@adventure-works.com	Gail E
CurrentFlag	TRUE	Engineering	josef0@adventure-works.com	Josse
CurrentFlag	TRUE	Engineering	michael8@adventure-works.com	Micha
CurrentFlag	TRUE	Engineering	roberto0@adventure-works.com	Robe
CurrentFlag	TRUE	Engineering	sharon0@adventure-works.com	Shar
CurrentFlag	TRUE	Engineering	terri0@adventure-works.com	Terri
CurrentFlag	TRUE	Executive	ken0@adventure-works.com	Ken S
CurrentFlag	TRUE	Executive	laura1@adventure-works.com	Laura
CurrentFlag	TRUE	Executive	laura1@adventure-works.com	Laura
CurrentFlag	TRUE	Facilities and Maintenance	christian0@adventure-works.com	Chris
CurrentFlag	TRUE	Facilities and Maintenance	gary1@adventure-works.com	Gary
CurrentFlag	TRUE	Facilities and Maintenance	jo1@adventure-works.com	Jo Be
CurrentFlag	TRUE	Facilities and Maintenance	lori1@adventure-works.com	Lori P
CurrentFlag	TRUE	Facilities and Maintenance	magnus0@adventure-works.com	Magr
CurrentFlag	TRUE	Facilities and Maintenance	...	...



## 16. Convert to List:



After applying Convert to list to Attribute Column:

	List
1	CurrentFlag
2	CurrentFlag
3	CurrentFlag
4	CurrentFlag
5	CurrentFlag
6	CurrentFlag
7	CurrentFlag
8	CurrentFlag
9	CurrentFlag
10	CurrentFlag
11	CurrentFlag
12	CurrentFlag
13	CurrentFlag
14	CurrentFlag
15	CurrentFlag
16	CurrentFlag
17	CurrentFlag
18	CurrentFlag
19	CurrentFlag
20	CurrentFlag
21	CurrentFlag
22	CurrentFlag
23	CurrentFlag
24	CurrentFlag

## Transformations from 11-16:



Transformation11-16.pbix

### 17. Fill:

- Import DimEmployee as shown in Section 1.
- Select the column in which you have to fill the values.

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	true_2	false_3	1 <sup>2</sup> 11	1 <sup>2</sup> 69	15-02-1999_4	A <sup>B</sup> C <sup>C</sup> Current
1	TRUE	FALSE	11	52	07-03-1999	Current
2	TRUE	FALSE	11	25	18-03-2001	Current
3	TRUE	FALSE	11	20	03-03-1998	Current
4	TRUE	FALSE	11	20	04-03-1999	
5	TRUE	FALSE	11	20	15-12-2003	Current
6	TRUE	FALSE	11	52	12-01-1999	Current
7	TRUE	FALSE	11	50	12-03-1999	Current
8	TRUE	TRUE	11	30	18-05-2002	Current
9	TRUE	TRUE	11	27	04-02-2001	Current
10	TRUE	TRUE	11	30	15-04-2003	Current

EndDate	A <sup>B</sup> C <sup>C</sup>
null	Ken
null	Jam
null	Bria
null	Terr
15-12-2003	Laur
null	Laur
null	Jear
null	Dyla
null	Amy
null	Step
null	Sye
null	Rob
null	Wer
null	Mic
null	Diar
null	Gigi
null	Step
null	Dan
null	Fran
15-08-1999	Davi
null	Davi
null	Mic

After selecting Fill Down:

EndDate	ABC
15-12-2003	Lat
15-12-2003	Lat
15-12-2003	Jea
15-12-2003	Dyl
15-12-2003	Arr
15-12-2003	Ste
15-12-2003	Sye
15-12-2003	Roi
15-12-2003	We
15-12-2003	Mi
15-12-2003	Dia
15-12-2003	Gig
15-12-2003	Ste
15-12-2003	Da
15-12-2003	Fra
15-08-1999	Da
15-08-1999	Da
15-08-1999	Mi
15-08-1999	Da
15-08-1999	Ga
15-08-1999	Jos
15-08-1999	Shi
15-08-1999	A-i

## 18. Format:

Untitled - Power Query Editor

Replace Values ▾ Unpivot Columns ▾  
 Fill ▾ Move ▾  
 Pivot Column Convert to List  
 Any Column

Split Column ▾

Format ▾

- lowercase
- UPPERCASE
- Capitalize Each Word
- Trim
- Clean
- Add Prefix
- Add Suffix

Merge Columns  
 Extract ▾  
 Parse ▾

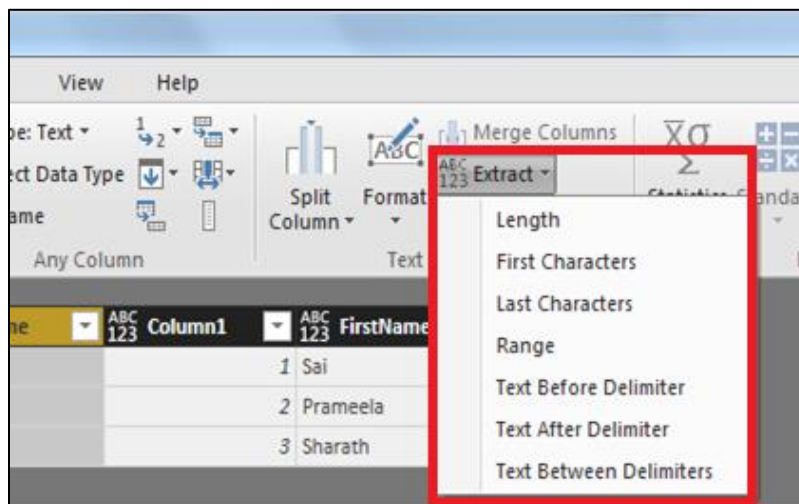
1	2	3	11	69	15-02-1999_4
FALSE		11		52	07-03-1999
FALSE		11		25	18-03-1999
FALSE		11		20	03-03-1999
FALSE		11		20	04-03-1999
FALSE		11		20	15-12-1999
FALSE		11		52	12-01-1999
FALSE		11		50	12-03-1999
TRUE		11		30	18-05-2002
TRUE		11		27	04-02-2001
TRUE		11		30	15-04-2003
FALSE		11		21	12-12-1997
FALSE		11		47	26-01-1999

ABC FirstName	ABC
Ken	M
James	M
Brian	M
Terri	F
Laura	F
Laura	F
Jean	F
Dylan	M
Amy	F
Stephen	M

After Applying Uppercase Formatting:

ABC FirstName	ABC Gender
// KEN	M
// JAMES	M
// BRIAN	M
// TERRI	F
3 LAURA	F
3 LAURA	F
3 JEAN	F
3 DYLAN	M
3 AMY	F
3 STEPHEN	M
3 SYED	M

## 19. Extract:



Extracting Length Of First Name:

FirstName	A <sup>B</sup> <sub>C</sub>	Gender
3		M
5		M
5		M
5		F
5		F
5		F
4		F
5		M
3		F
7		M
4		M
7		M
5		F
7		M
5		F

## 20. Statistics:

- Perform statistical operations like Sum, Minimum, Maximum, etc. as shown below:

The screenshot shows the Power Query Editor interface. The ribbon at the top includes the 'Statistics' group, which is highlighted with a red box. The 'Statistics' dropdown menu is open, showing options: Sum, Minimum, Maximum, Median, Average, Standard Deviation, Count Values, and Count Distinct Values. The background shows a table with columns for ID, Age, Date, Current, and Name.

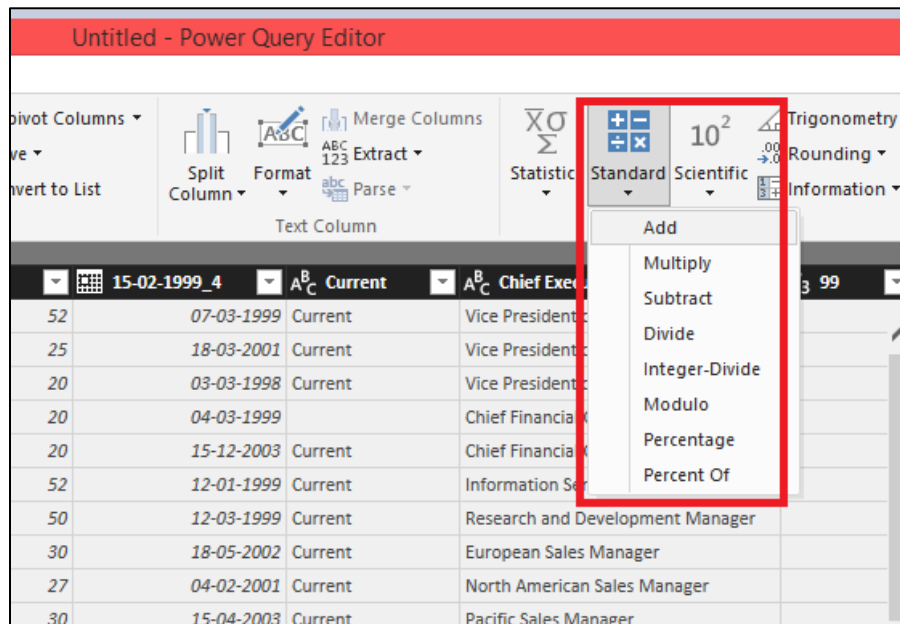
ID	Age	Date	Current	Name
11	52	07-03-1999	Current	Vice
11	25	18-03-2001	Current	Vice
11	20	03-03-1998	Current	Vice
11	20	04-03-1999		Chief
11	20	15-12-2003	Current	Chief
11	52	12-01-1999	Current	Inform
11	50	12-03-1999	Current	Research and Development Manager
11	30	18-05-2002	Current	European Sales Manager
11	27	04-02-2001	Current	North American Sales Manager
11	30	15-04-2003	Current	Pacific Sales Manager
11	21	12-12-1997	Current	Engineering Manager
11	47	26-01-1999	Current	Finance Manager
11	64	04-06-1999	Current	Research and Development Manager

Calculating Minimum Of BaseRate:



## 21. Standard:

- Perform basic math operations.



Dividing Base Rate column by 100:

### Divide

Enter a number by which to divide each value in the column.

Value

OK

Cancel

## Result:

1.2 BaseRate
1.255
0.841346
0.721154
0.634615
0.600962
0.600962
0.504808
0.504808
0.48101
0.48101
0.48101
0.432692
0.432692
0.424808
0.408654
0.408654
0.396635
0.384615

## 22. Scientific:

Untitled - Power Query Editor

Columns ▾  
List

Split Column ▾  
Text Column

Format ▾  
ABC 123 Extract ▾  
Parse ▾

Merge Columns

Statistics ▾  
Standard

Scientific ▾  
10<sup>2</sup>  
Absolute Value  
Power  
Square Root  
Exponent  
Logarithm  
Factorial

Trigonometric  
Rounding ▾  
Information

15-02-1999\_4 ▾  
A<sup>B</sup> C<sup>B</sup> Current ▾  
A<sup>B</sup> C<sup>B</sup> Chief Executive Officer ▾

07-03-1999	Current	Vice President of Product
18-03-2001	Current	Vice President of Sales
03-03-1998	Current	Vice President of Engineer
04-03-1999		Chief Financial Officer
15-12-2003	Current	Chief Financial Officer
12-01-1999	Current	Information Services Manager
12-03-1999	Current	Research and Development Manager
18-05-2002	Current	European Sales Manager
04-02-2001	Current	North American Sales Manager
15-04-2003	Current	Pacific Sales Manager
12-12-1997	Current	Engineering Manager
26-01-1999	Current	Finance Manager
04-06-1999	Current	Research and Development Manager
30-01-1999	Current	Research and Development Engineer

## Calculating Exponent of Base Rate Column:

1.2 BaseRate	BirthDate
3.507838374	02-03-
2.319486906	07-02-
2.056805395	08-07-
1.886295778	01-09-
1.823872522	06-02-
1.823872522	06-02-
1.65666741	13-01-
1.65666741	27-03-
1.617707462	22-10-
1.617707462	17-11-
1.617707462	11-02-
1.541401396	13-12-
1.541401396	12-11-
1.529296766	01-01-
1.504790973	06-07-
1.504790973	21-02-
1.486813144	26-04-
1.469048629	06-02-
1.469048629	17-06-
1.454991415	19-04-
1.454991415	19-04-

## Transformation 17-22:



Transformation17-22.pbix

## 23. Rounding:

- Import DimEmployee as shown in Section 1.

Untitled - Power Query Editor

15-02-1999_4	Current	Chief Executive Officer
07-03-1999	Current	Vice President of Production
18-03-2001	Current	Vice President of Sales
03-03-1998	Current	Vice President of Engineering
04-03-1999		Chief Financial Officer
15-12-2003	Current	Chief Financial Officer
12-01-1999	Current	Information Services Manager
12-03-1999	Current	Research and Development Manager
18-05-2002	Current	European Sales Manager
04-02-2001	Current	North American Sales Manager



1.2 BaseRate	BirthD
125.5	
84.1346	
72.1154	
63.4615	
60.0962	
60.0962	
50.4808	
50.4808	
48.101	
48.101	
48.101	
43.2692	
43.2692	

1.2.3 BaseRate	BirthD
1	126
2	85
3	73
4	64
5	61
6	61
7	51
8	51
9	49
10	49
11	49
12	44
13	44
14	43
15	41

## 24. Information:

Untitled - Power Query Editor

File View Help

Table Number 1.2 Replace Values Unpivot Columns

Table Type Fill Move

Pivot Column Convert to List

Any Column

Split Column

Format

Text Column

Merge Columns

Extract

Parse

Statistics Standard Scientific

10<sup>2</sup>

Trigonometry

Rounding

Information

Is Even

Is Odd

Sign

false_3	1.2.3 11	1.2.3 69	15-02-1999_4	A <sup>B</sup> C Current	A <sup>B</sup> C Chief Executive Officer
FALSE	11	52	07-03-1999	Current	Vice President of Production
FALSE	11	25	18-03-2001	Current	Vice President of Sales
FALSE	11	20	03-03-1998	Current	Vice President of Engineering
FALSE	11	20	04-03-1999		Chief Financial Officer
FALSE	11	20	15-12-2003	Current	Chief Financial Officer
FALSE	11	52	12-01-1999	Current	Information Services Manager
FALSE	11	50	12-03-1999	Current	Research and Development Manager
TRUE	11	30	18-05-2002	Current	European Sales Manager
TRUE	11	27	04-02-2001	Current	North American Sales Manager
TRUE	11	30	15-04-2003	Current	Pacific Sales Manager

If Base Rate Information is selected to Is even:

	BaseRate
1	TRUE
2	FALSE
3	FALSE
4	TRUE
5	FALSE
6	FALSE
7	FALSE
8	FALSE
9	FALSE
10	FALSE
11	FALSE
12	TRUE
13	TRUE
14	FALSE
15	FALSE
16	FALSE
17	TRUE

## 25. Trigonometry:

Untitled - Power Query Editor

Place Values ▾ Unpivot Columns ▾  
 ▾ Move ▾  
 Column ▾ Convert to List  
 Column

Split Column ▾  
 Text Column

Format ▾  
 Text Column

Merge Columns ▾  
 Extract ▾  
 Parse ▾

Statistics ▾  
 Standard ▾  
 Scientific ▾

Trigonometry ▾  
 Sine  
 Cosine  
 Tangent  
 Arcsine  
 Arccosine  
 Arctangent

11	123 69	15-02-1999_4	A <sup>B</sup> <sub>C</sub> Current	A <sup>B</sup> <sub>C</sub> Chief Executive Officer
11	52	07-03-1999	Current	Vice President of Production
11	25	18-03-2001	Current	Vice President of Sales
11	20	03-03-1998	Current	Vice President of Engineering
11	20	04-03-1999		Chief Financial Officer
11	20	15-12-2003	Current	Chief Financial Officer
11	52	12-01-1999	Current	Information Services Manager
11	50	12-03-1999	Current	Research and Development Manager
11	30	18-05-2002	Current	European Sales Manager
11	27	04-02-2001	Current	North American Sales Manager
11	30	15-04-2003	Current	Pacific Sales Manager
11	21	12-12-1997	Current	Engineering Manager

1 <sup>2</sup> <sub>3</sub> EmployeeKey	1 <sup>2</sup> <sub>3</sub> EmployeeNational
112	
152	
277	
14	
143	
144	
44	
162	
290	
272	
294	
3	
73	
221	
81	
117	
154	
131	
130	

After Calculating Sine :

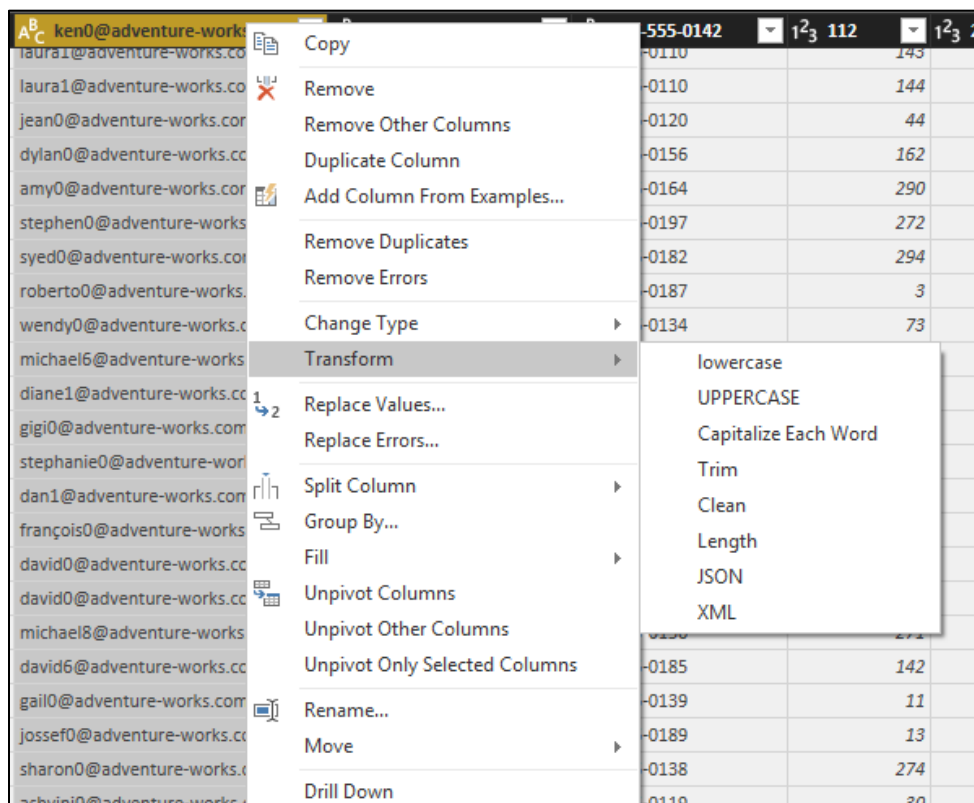
1.2 EmployeeKey	1 <sup>2</sup> <sub>3</sub> EmployeeNational
-0.889995604	
0.933320524	
0.514004314	
0.990607356	
-0.998345361	
-0.491021594	
0.017701925	
-0.978450351	
0.826845634	
0.968356938	
-0.966109989	
0.141120008	
-0.676771957	
0.885938798	
-0.629887994	
-0.689697941	
-0.061920337	
-0.811603387	

## 26. Transform:

	A <sup>B</sup> Executive	A <sup>B</sup> ken0@adventure-works.com	A <sup>B</sup> Ken Sánchez	A <sup>B</sup> 697-555-0142	1 <sup>2</sup> <sub>3</sub> 112	1 <sup>2</sup> <sub>3</sub> 295847284
4	UE Executive	laura1@adventure-works.com	Laura Norman	615-555-0110	143	184188301
5	UE Executive	laura1@adventure-works.com	Laura Norman	615-555-0110	144	184188301
6	UE Information Services	jean0@adventure-works.com	Jean Trenary	685-555-0120	44	441044382
7	UE Research and Development	dylan0@adventure-works.com	Dylan Miller	181-555-0156	162	134969118
8	UE Sales	amy0@adventure-works.com	Amy Alberts	775-555-0164	290	982310417
9	UE Sales	stephen0@adventure-works.com	Stephen Jiang	238-555-0197	272	502097814
10	UE Sales	syed0@adventure-works.com	Syed Abbas	926-555-0182	294	481044938
11	UE Engineering	roberto0@adventure-works.com	Roberto Tamburello	212-555-0187	3	509647174
12	UE Finance	wendy0@adventure-works.com	Wendy Kahn	248-555-0134	73	121491555
13	UE Research and Development	michael6@adventure-works.com	Michael Raheem	330-555-2568	221	879342154
14	UE Research and Development	diane1@adventure-works.com	Diane Margheim	815-555-0138	81	811994146
15	UE Research and Development	gigi0@adventure-works.com	Gigi Matthew	185-555-0186	117	658797903
16	UE Information Services	stephanie0@adventure-works.com	Stephanie Conroy	594-555-0110	154	8583209814
17	UE Information Services	dan1@adventure-works.com	Dan Wilson	653-555-0144	131	929666391
18	UE Information Services	françois0@adventure-works.com	François Ajenstat	785-555-0110	120	643805155
19	UE Marketing	david0@adventure-works.com	David Bradley	913-555-0172	7	24756624
20	UE Marketing	david0@adventure-works.com	David Bradley	913-555-0172	8	24756624
21	UE Engineering	michael8@adventure-works.com	Michael Sullivan	465-555-0156	271	42487730
22	UE Finance	david6@adventure-works.com	David Liu	646-555-0185	142	30845
23	UE Engineering	gail0@adventure-works.com	Gail Erickson	849-555-0139	11	695256908
24	UE Engineering	jossef0@adventure-works.com	Jossef Goldberg	122-555-0189	13	998320692
25	UE Engineering	sharon0@adventure-works.com	Sharon Salavaria	970-555-0138	274	56920285
26	UE Information Services	ashvini0@adventure-works.com	Ashvini Sharma	656-555-0119	30	749389530
27	UE Information Services	peter1@adventure-works.com	Peter Connelly	310-555-0133	192	672243793
28	UE Purchasing	sheela0@adventure-works.com	Sheela Word	210-555-0193	278	895209680

- Right Click on the column Header and a dialogue box will appear,further select transform and the transformation options will be displayed as shown below:

A. For Columns of String Data type :



▼ A <sup>B</sup> <sub>C</sub> DepartmentName	▼ A <sup>B</sup> <sub>C</sub> EmployeeName
JE Executive	ken0@
JE Production	james1
JE Sales	brian3
JE Engineering	terri0@
JE Executive	laura1
JE Executive	laura1
JE Information Services	jean0@
JE Research and Development	dylan0
JE Sales	amy0@
JE Sales	stephe
JE Sales	syed0@
JE Engineering	robert
JE Finance	wendy
JE Research and Development	michae
JE Research and Development	diane1
JE Research and Development	gigi0@
JE Information Services	stepha

After applying Uppercase transformation on Department Column:

A <sup>B</sup> <sub>C</sub> DepartmentName	▼ A <sup>B</sup> <sub>C</sub> EmployeeName
EXECUTIVE	ken0
PRODUCTION	jame
SALES	brian
ENGINEERING	terri
EXECUTIVE	laura
EXECUTIVE	laura
INFORMATION SERVICES	jean
RESEARCH AND DEVELOPM...	dylan
SALES	amy
SALES	step
SALES	syed
ENGINEERING	robe
FINANCE	wen
RESEARCH AND DEVELOPM...	mich
RESEARCH AND DEVELOPM...	dian
RESEARCH AND DEVELOPM...	gigi0
INFORMATION SERVICES	step
INFORMATION SERVICES	dan1
INFORMATION SERVICES	frank

The screenshot shows the 'Transform' ribbon in Power BI Desktop. The 'Transform' dropdown menu is open, displaying the following options:

- Copy
- Remove
- Remove Other Columns
- Duplicate Column
- Add Column From Examples...
- Remove Duplicates
- Remove Errors
- Change Type
- Transform** (highlighted)
- Replace Values... (with a 1 to 2 icon)
- Replace Errors...
- Group By...
- Fill
- Unpivot Columns
- Unpivot Other Columns
- Unpivot Only Selected Columns
- Rename...
- Move
- Drill Down

The 'Transform' option is currently selected, which has opened a secondary menu with the following options:

- Year
- Quarter
- Month
- Week
- Day
- Text Transforms

- Step 1 : same as above and then select Change Type:



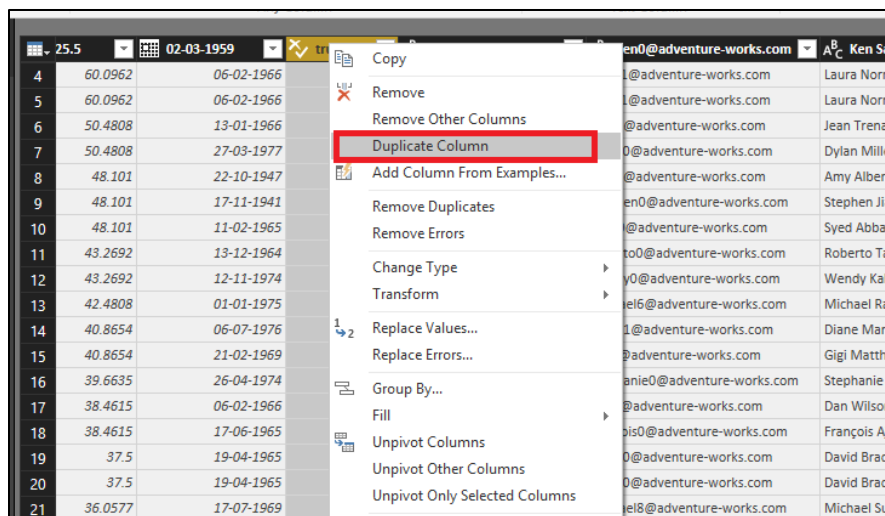
BirthDate	Curr
02-03-1959	
07-02-1973	
08-07-1967	
01-09-1961	
06-02-1966	
06-02-1966	
13-01-1966	
27-03-1977	
22-10-1947	
17-11-1941	
11-02-1965	
13-12-1964	
12-11-1974	
01-01-1975	
06-07-1976	
21-02-1969	

**After applying Date/Time Type to the Birth date column:**

BirthDate	Curr
02-03-1959 00:00:00	
07-02-1973 00:00:00	
08-07-1967 00:00:00	
01-09-1961 00:00:00	
06-02-1966 00:00:00	
06-02-1966 00:00:00	
13-01-1966 00:00:00	
27-03-1977 00:00:00	
22-10-1947 00:00:00	
17-11-1941 00:00:00	
11-02-1965 00:00:00	
13-12-1964 00:00:00	
12-11-1974 00:00:00	
01-01-1975 00:00:00	
06-07-1976 00:00:00	
21-02-1969 00:00:00	
26-04-1974 00:00:00	
06-02-1966 00:00:00	

## 28. Duplicate Column:

- Step 1 as above and then select Duplicate Column.



After applying Duplicate Column to email id:

	EmailAddress - Copy
99	ken0@adventure-works.com
64	james1@adventure-works.com
10	brian3@adventure-works.com
1	terri0@adventure-works.com
0	laura1@adventure-works.com
0	laura1@adventure-works.com
65	jean0@adventure-works.com
61	dylan0@adventure-works.com
21	amy0@adventure-works.com
14	stephen0@adventure-works.com
20	syed0@adventure-works.com
2	roberto0@adventure-works.com
55	wendy0@adventure-works.com
16	michael6@adventure-works.com
62	diane1@adventure-works.com
63	gigi0@adventure-works.com
68	stephanie0@adventure-works.com
66	dan1@adventure-works.com
67	françois0@adventure-works.com
40	david0@adventure-works.com

Transformations 23-28:



Transformation23-28.pbix



## Summary

In this Lab exercise, we have learnt:

- To import data from an Excel File, Database, Online Services, Azure Services.
- To use query editor.
- To use various data transformations.