Name of Student: Pushkar Sane		
Roll Number: 45	**Lab Assignment Number: 8**	
Title of Lab Assignment: To learn various Data Preprocessing activities in Power BI.		
DOP: 07-10-2024	**DOS: 07-10-2024**	
CO Mapped:	**PO Mapped:**	**Signature:**

Practical No. 8

Aim: To learn various Data Preprocessing activities in Power BI.

Theory:

Power BI: Tool Overview

Power BI is a business analytics tool by Microsoft that allows users to visualize data, create dashboards, and share insights across an organization. It helps in transforming raw data into meaningful insights using data visualization techniques.

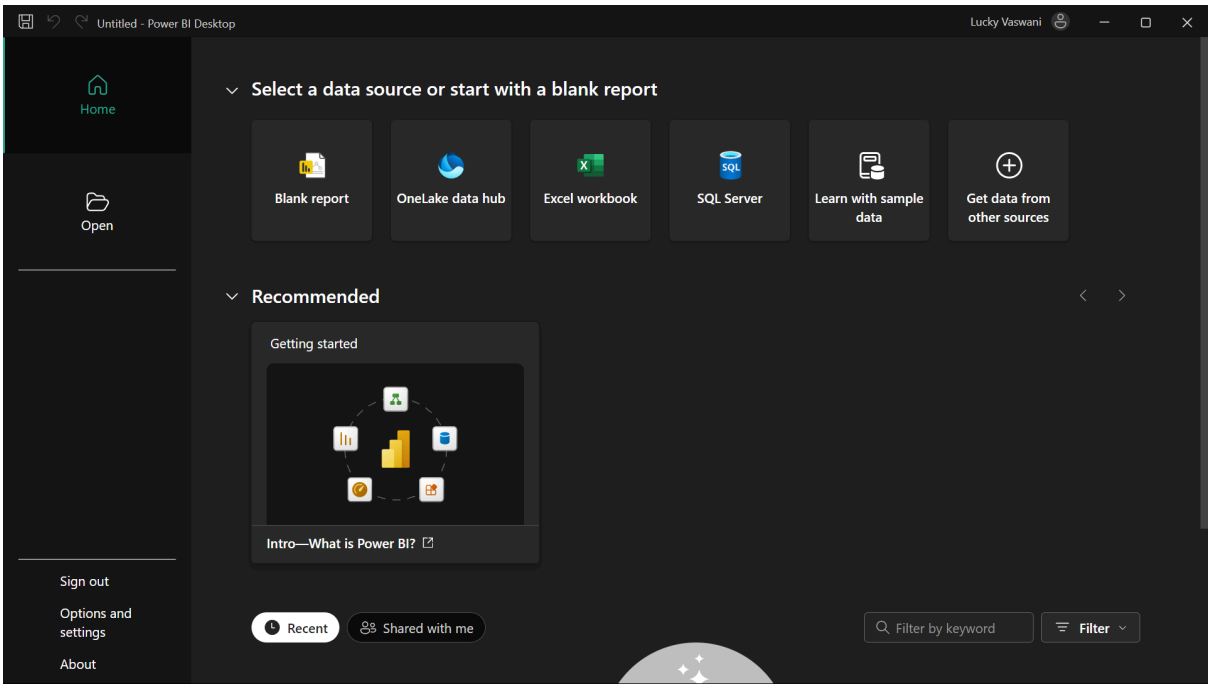
Power BI includes components like:

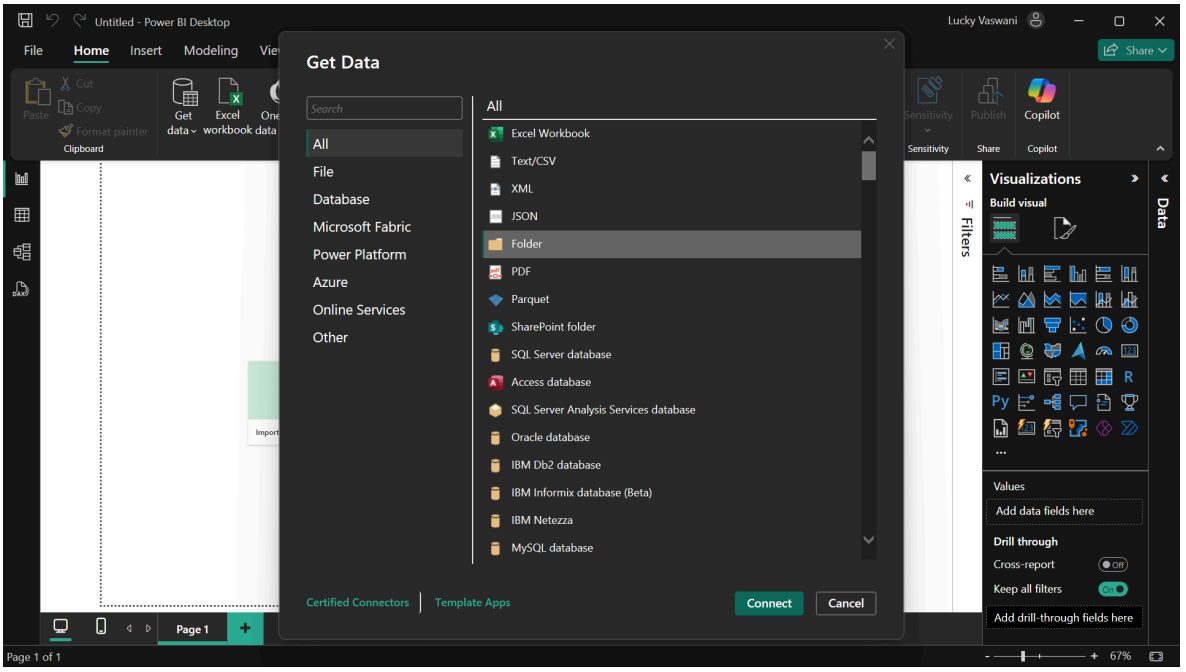
1. Power BI Desktop: For creating reports and visualizations.
2. Power BI Service: A cloud-based platform to share reports and dashboards.
3. Power BI Mobile Apps: To view reports on mobile devices.

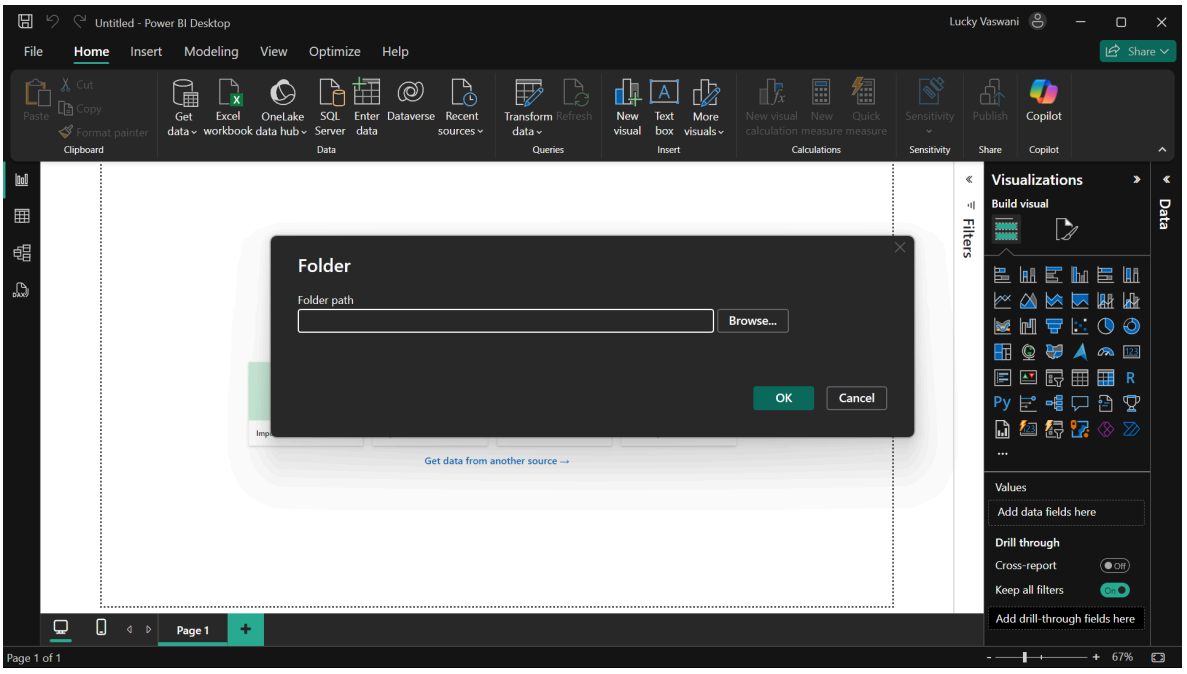
Importing Data

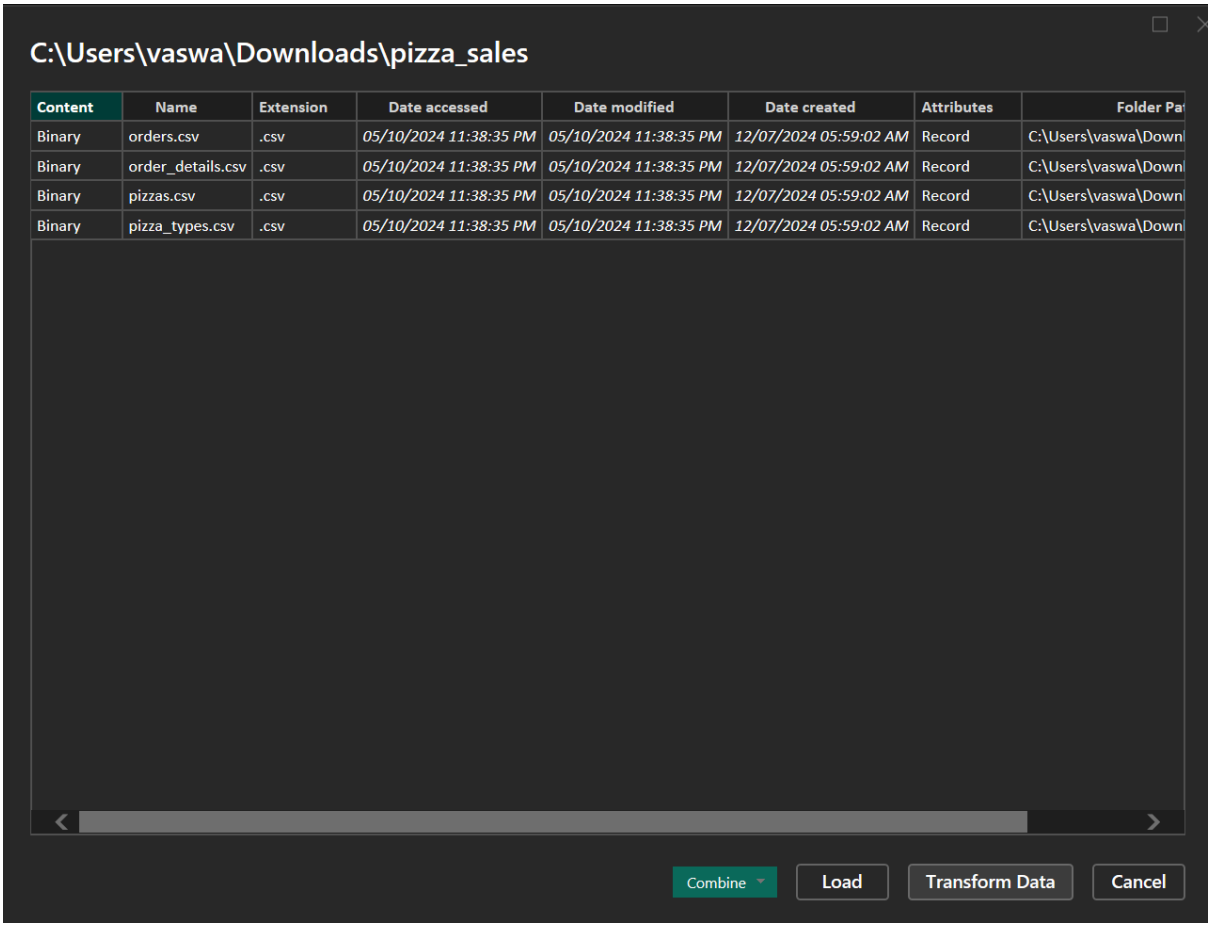
Power BI supports a wide range of data sources such as Excel, CSV files, SQL databases, Azure, and many others. The process of importing data into Power BI involves:

1. Connect: Connecting to the data source using the "Get Data" option.
2. Transform: Cleaning and transforming the data to ensure it is ready for analysis.
3. Load: Loading the transformed data into Power BI for visualization.




Untitled - Power BI Desktop
Lucky Vaswani
File
Home
Insert
Modeling
Share
Get Data
Search
All
File
Database
Microsoft Fabric
Power Platform
Azure
Online Services
Other
Excel Workbook
Text/CSV
XML
JSON
Folder
PDF
Parquet
SharePoint folder
SQL Server database
Access database
SQL Server Analysis Services database
Oracle database
IBM Db2 database
IBM Informix database (Beta)
IBM Netezza
MySQL database
Certified Connectors
Template Apps
Connect
Cancel
Visualizations
Build visual
Values
Add data fields here
Drill through
Cross-report
Keep all filters
Add drill-through fields here
Filters
Data
Page 1
Page 1 of 1
67%


Untitled - Power BI Desktop
Lucky Vaswani
File
Home
Insert
Modeling
View
Optimize
Help
Share
Folder
Folder path
Browse...
OK
Cancel
Get data from another source →
Visualizations
Build visual
Values
Add data fields here
Drill through
Cross-report
Keep all filters
Add drill-through fields here
Filters
Data
Page 1
Page 1 of 1
67%

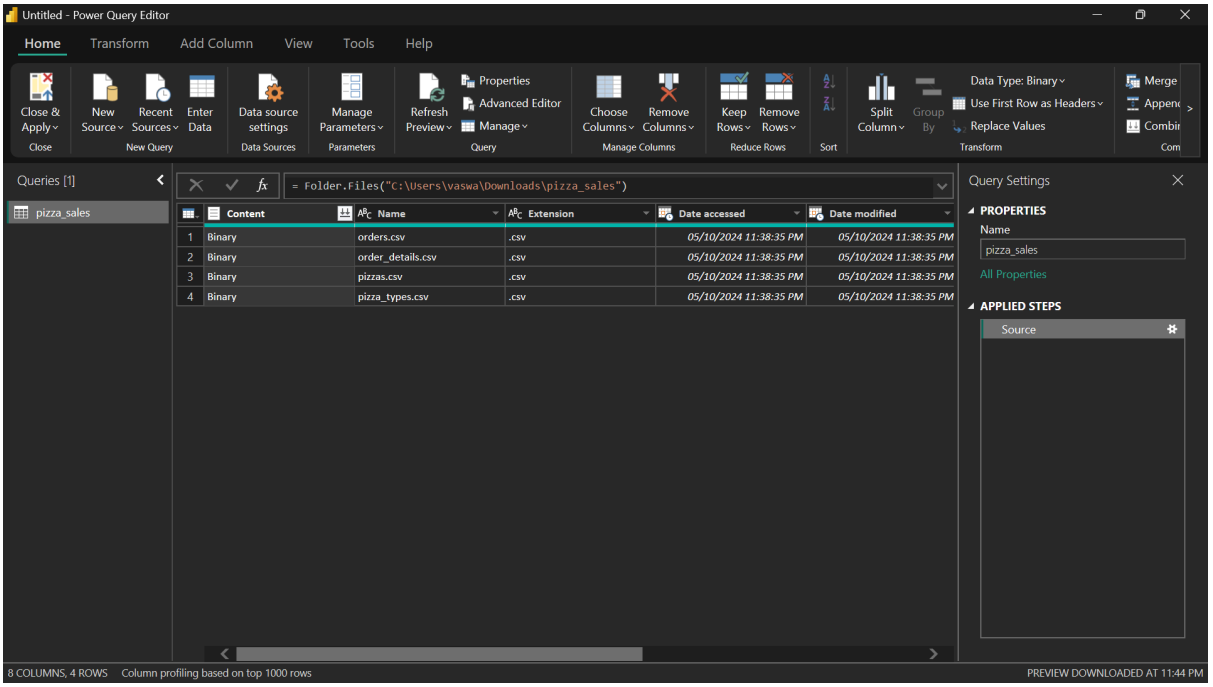


Basic Transformations

In Power BI, transforming data is essential to prepare it for analysis. The most common basic transformations include:

1. Removing Duplicates: Ensuring no redundant data.
2. Splitting Columns: Breaking a column into multiple parts (e.g., splitting full names into first and last names).
3. Renaming Columns: Renaming columns to meaningful titles.
4. Filtering Rows: Removing rows that are not needed based on specific criteria.

   Example: Splitting a "Full Name" column into "First Name" and "Last Name."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Home
Transform
Add Column
View
Tools
Help
Close & Apply
New Source
Recent Sources
Enter Data
Data source settings
Manage Parameters
Refresh Preview
Properties
Advanced Editor
Manage
Choose Columns
Remove Columns
Keep Rows
Remove Rows
Split Column
Group By
Data Type: Binary
Use First Row as Headers
Replace Values
Merge
Queries [1]
pizza_sales
= Folder.Files("C:\Users\vaswa\Downloads\pizza_sales")
Content
Name
Extension
Date accessed
Date modified
1 Binary orders.csv .csv 05/10/2024 11:38:35 PM 05/10/2024 11:38:35 PM
2 Binary order_details.csv .csv 05/10/2024 11:38:35 PM 05/10/2024 11:38:35 PM
3 Binary pizzas.csv .csv 05/10/2024 11:38:35 PM 05/10/2024 11:38:35 PM
4 Binary pizza_types.csv .csv 05/10/2024 11:38:35 PM 05/10/2024 11:38:35 PM
Query Settings
PROPERTIES
Name
pizza_sales
All Properties
APPLIED STEPS
Source
8 COLUMNS, 4 ROWS
Column profiling based on top 1000 rows
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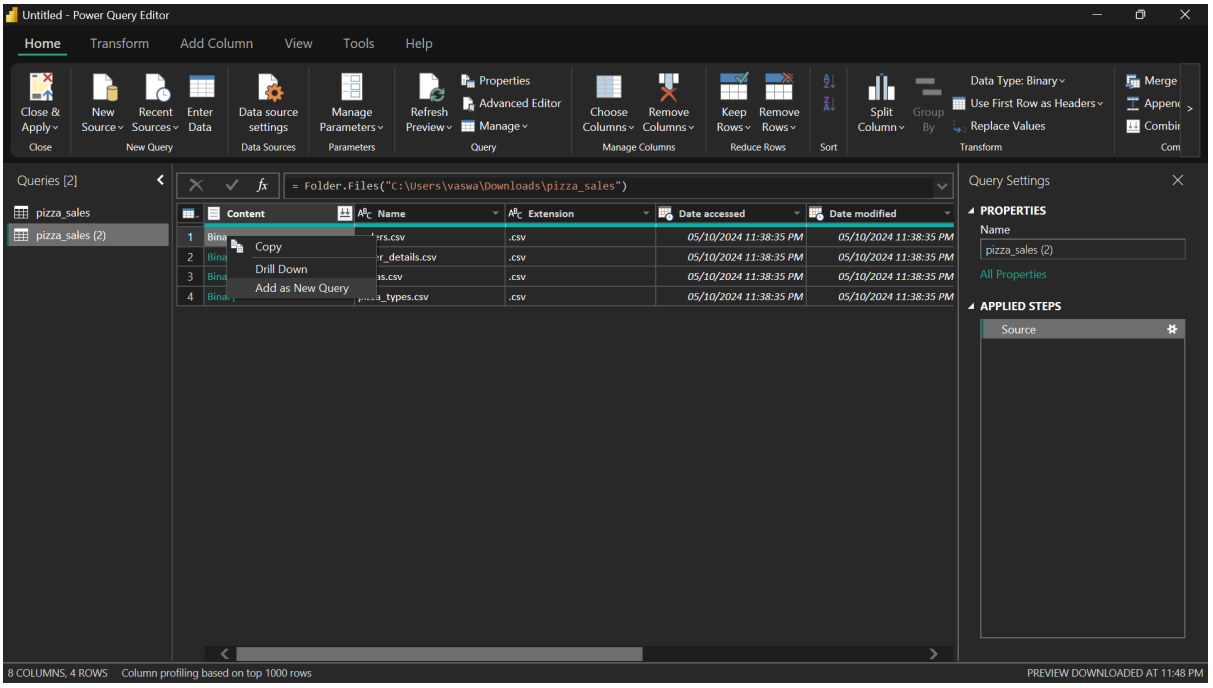
Untitled - Power Query Editor
Home
Transform
Add Column
View
Tools
Help
Queries [2]
pizza_sales
pizza_sales (2)
= Folder.Files("C:\Users\vaswa\Downloads\pizza_sales")
Content
Name
Extension
Date accessed
Date modified
Copy
Drill Down
Add as New Query
Query Settings
PROPERTIES
Name
pizza_sales (2)
All Properties
APPLIED STEPS
Source
8 COLUMNS, 4 ROWS
Column profiling based on top 1000 rows
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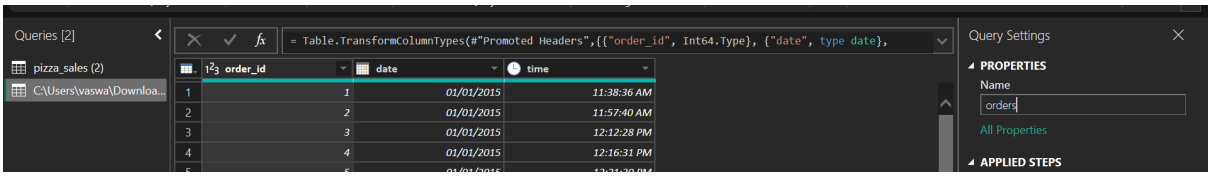
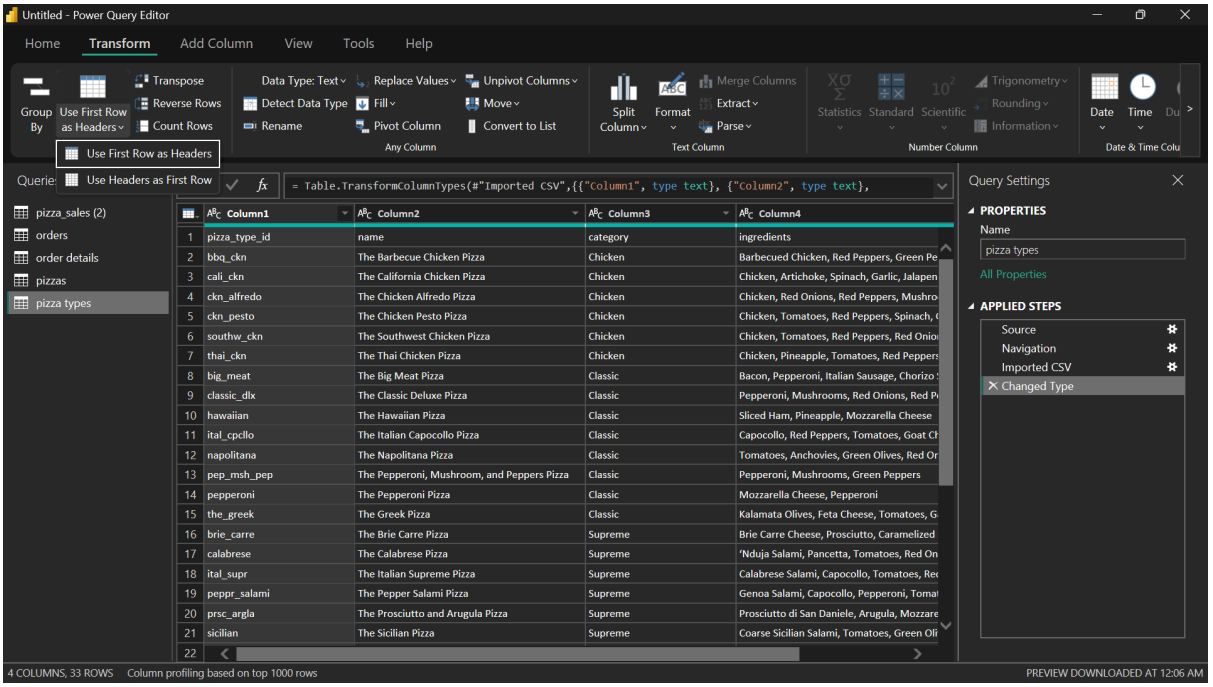
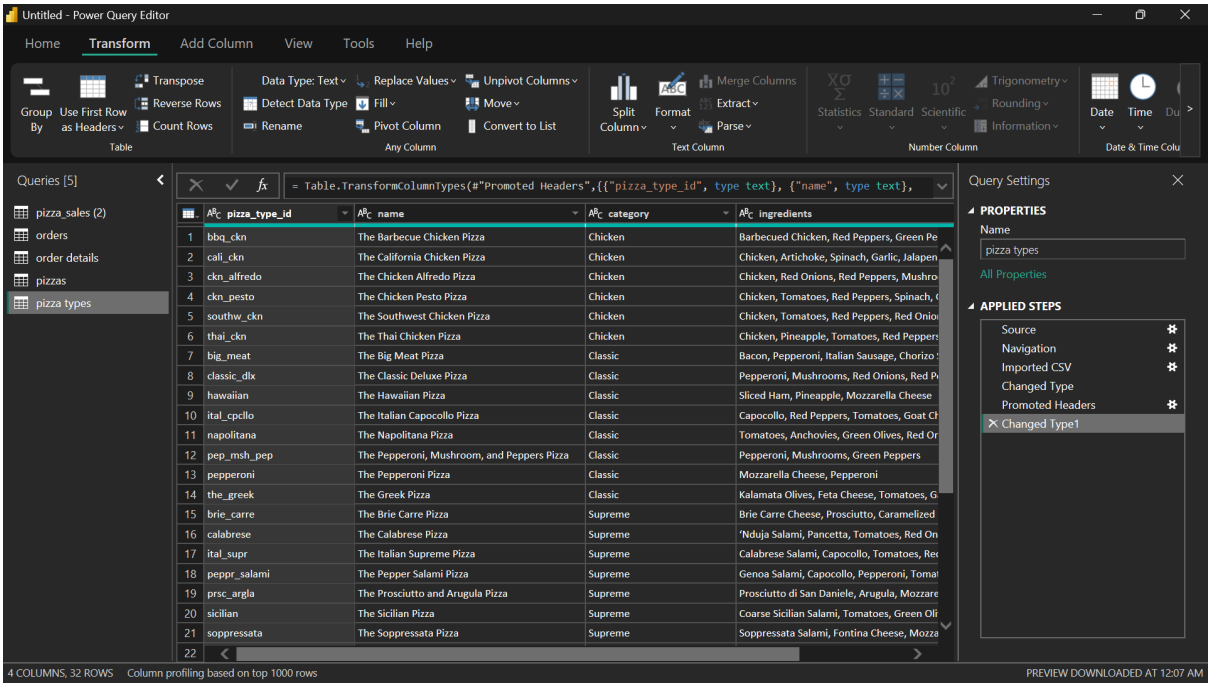

Queries [2]
pizza_sales (2)
C:\Users\vaswa\Downloa...
= Table.TransformColumnTypes(#"Promoted Headers",{{"order_id", Int64.Type}, {"date", type date},
order_id
date
time
1 1 01/01/2015 11:38:36 AM
2 2 01/01/2015 11:57:40 AM
3 3 01/01/2015 12:12:28 PM
4 4 01/01/2015 12:16:31 PM
Query Settings
PROPERTIES
Name
orders
All Properties
APPLIED STEPS


Untitled - Power Query Editor
Home
Transform
Add Column
View
Tools
Help
Use First Row as Headers
Use Headers as First Row
= Table.TransformColumnTypes(#"Imported CSV",{{"Column1", type text}, {"Column2", type text},
Queries
pizza_sales (2)
orders
order details
pizzas
pizza types
Column1
Column2
Column3
Column4
1 pizza_type_id name category ingredients
2 bbq_ckn The Barbecue Chicken Pizza Chicken Barbecued Chicken, Red Peppers, Green Pe
3 cali_ckn The California Chicken Pizza Chicken Chicken, Artichoke, Spinach, Garlic, Jalapen
4 ckn_alfredo The Chicken Alfredo Pizza Chicken Chicken, Red Onions, Red Peppers, Mushro
5 ckn_pesto The Chicken Pesto Pizza Chicken Chicken, Tomatoes, Red Peppers, Spinach,
6 southw_ckn The Southwest Chicken Pizza Chicken Chicken, Tomatoes, Red Peppers, Red Onio
7 thai_ckn The Thai Chicken Pizza Chicken Chicken, Pineapple, Tomatoes, Red Peppers
8 big_meat The Big Meat Pizza Classic Bacon, Pepperoni, Italian Sausage, Chorizo
9 classic_dlx The Classic Deluxe Pizza Classic Pepperoni, Mushrooms, Red Onions, Red P
10 hawaiian The Hawaiian Pizza Classic Sliced Ham, Pineapple, Mozzarella Cheese
11 ital_cpcllo The Italian Capocollo Pizza Classic Capocollo, Red Peppers, Tomatoes, Goat Ch
12 napolitana The Napolitana Pizza Classic Tomatoes, Anchovies, Green Olives, Red Or
13 pep_msh_pep The Pepperoni, Mushroom, and Peppers Pizza Classic Pepperoni, Mushrooms, Green Peppers
14 pepperoni The Pepperoni Pizza Classic Mozzarella Cheese, Pepperoni
15 the_greek The Greek Pizza Classic Kalamata Olives, Feta Cheese, Tomatoes, G
16 brie_carre The Brie Carre Pizza Supreme Brie Carre Cheese, Prosciutto, Caramelized
17 calabrese The Calabrese Pizza Supreme 'Nduja Salami, Pancetta, Tomatoes, Red On
18 ital_supr The Italian Supreme Pizza Supreme Calabrese Salami, Capocollo, Tomatoes, Re
19 peppr_salami The Pepper Salami Pizza Supreme Genoa Salami, Capocollo, Pepperoni, Tomat
20 prsc_argla The Prosciutto and Arugula Pizza Supreme Prosciutto di San Daniele, Arugula, Mozzare
21 sicilian The Sicilian Pizza Supreme Coarse Sicilian Salami, Tomatoes, Green Oli
22
Query Settings
PROPERTIES
Name
pizza types
All Properties
APPLIED STEPS
Source
Navigation
Imported CSV
Changed Type
4 COLUMNS, 33 ROWS
Column profiling based on top 1000 rows
PREVIEW DOWNLOADED AT 12:06 AM


Untitled - Power Query Editor
Home
Transform
Add Column
View
Tools
Help
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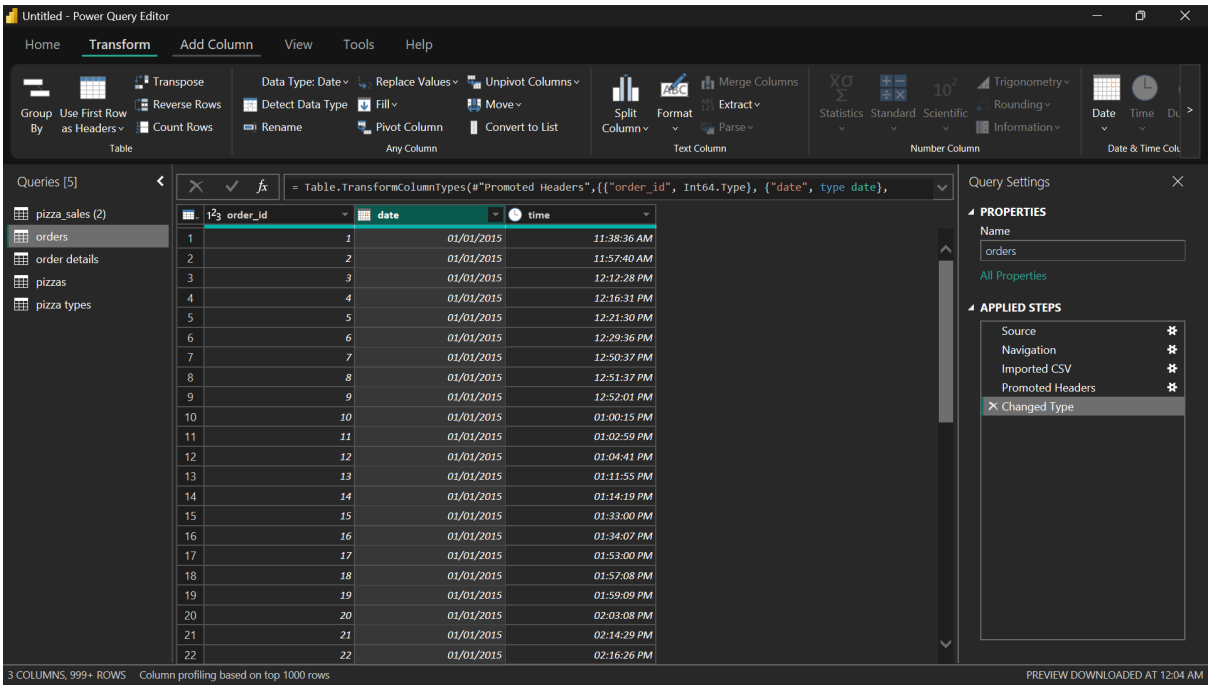
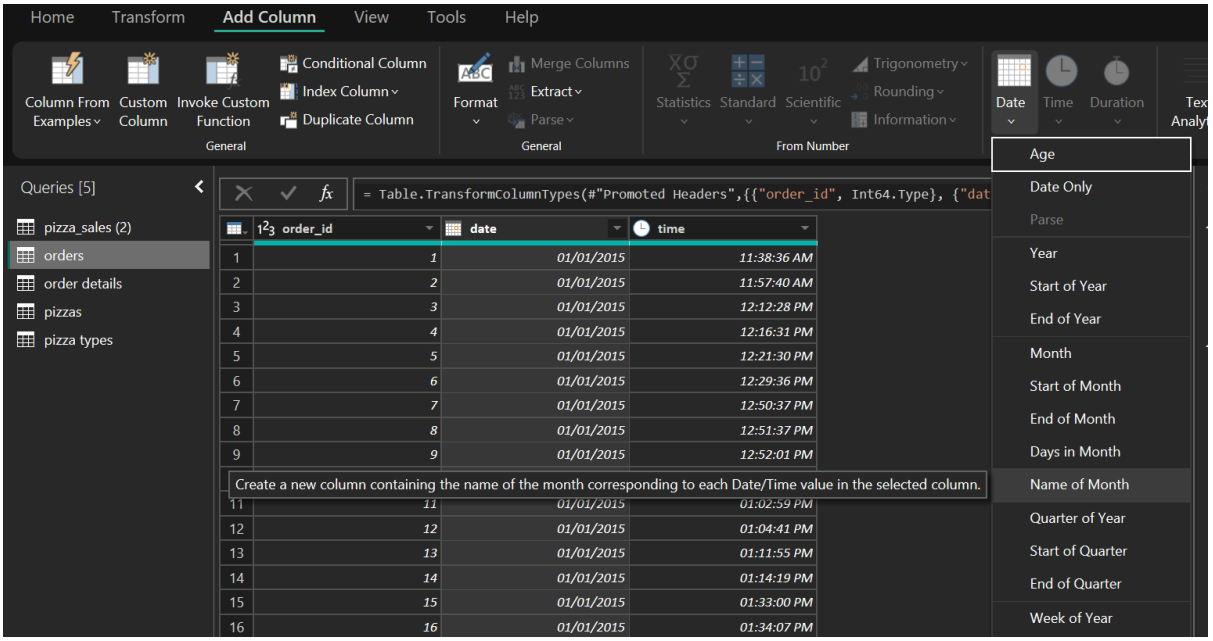
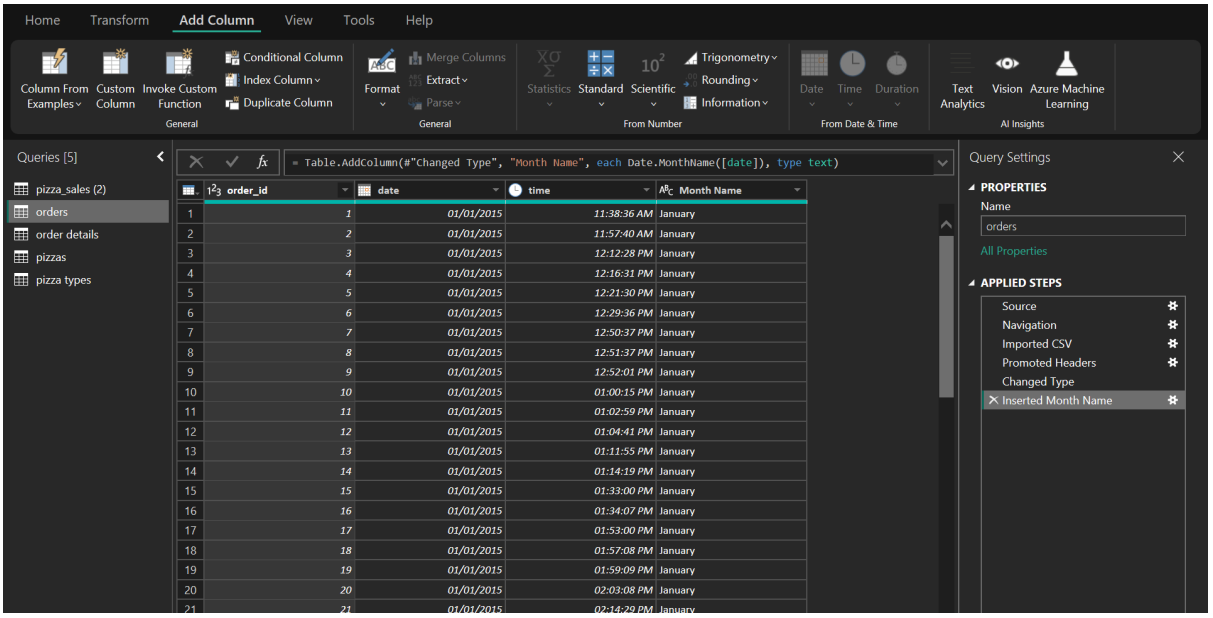
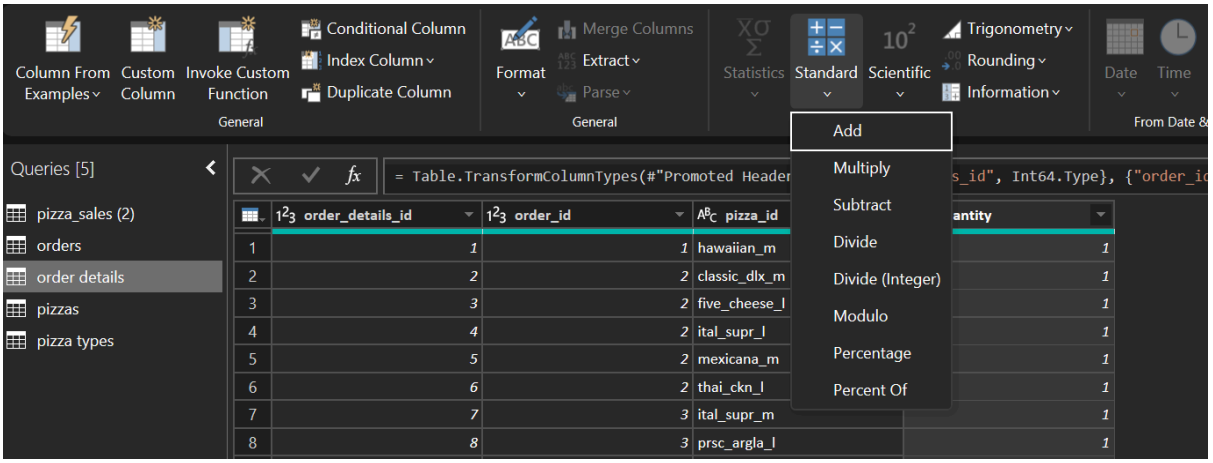
Queries [5]
pizza_sales (2)
orders
order details
pizzas
pizza types
pizza_type_id
name
category
ingredients
1 bbq_ckn The Barbecue Chicken Pizza Chicken Barbecued Chicken, Red Peppers, Green Pe
2 cali_ckn The California Chicken Pizza Chicken Chicken, Artichoke, Spinach, Garlic, Jalapen
3 ckn_alfredo The Chicken Alfredo Pizza Chicken Chicken, Red Onions, Red Peppers, Mushro
4 ckn_pesto The Chicken Pesto Pizza Chicken Chicken, Tomatoes, Red Peppers, Spinach,
5 southw_ckn The Southwest Chicken Pizza Chicken Chicken, Tomatoes, Red Peppers, Red Onio
6 thai_ckn The Thai Chicken Pizza Chicken Chicken, Pineapple, Tomatoes, Red Peppers
7 big_meat The Big Meat Pizza Classic Bacon, Pepperoni, Italian Sausage, Chorizo
8 classic_dlx The Classic Deluxe Pizza Classic Pepperoni, Mushrooms, Red Onions, Red P
9 hawaiian The Hawaiian Pizza Classic Sliced Ham, Pineapple, Mozzarella Cheese
10 ital_cpcllo The Italian Capocollo Pizza Classic Capocollo, Red Peppers, Tomatoes, Goat Ch
11 napolitana The Napolitana Pizza Classic Tomatoes, Anchovies, Green Olives, Red Or
12 pep_msh_pep The Pepperoni, Mushroom, and Peppers Pizza Classic Pepperoni, Mushrooms, Green Peppers
13 pepperoni The Pepperoni Pizza Classic Mozzarella Cheese, Pepperoni
14 the_greek The Greek Pizza Classic Kalamata Olives, Feta Cheese, Tomatoes, G
15 brie_carre The Brie Carre Pizza Supreme Brie Carre Cheese, Prosciutto, Caramelized
16 calabrese The Calabrese Pizza Supreme 'Nduja Salami, Pancetta, Tomatoes, Red On
17 ital_supr The Italian Supreme Pizza Supreme Calabrese Salami, Capocollo, Tomatoes, Re
18 peppr_salami The Pepper Salami Pizza Supreme Genoa Salami, Capocollo, Pepperoni, Tomat
19 prsc_argla The Prosciutto and Arugula Pizza Supreme Prosciutto di San Daniele, Arugula, Mozzare
20 sicilian The Sicilian Pizza Supreme Coarse Sicilian Salami, Tomatoes, Green Oli
21 soppressata The Soppressata Pizza Supreme Soppressata Salami, Fontina Cheese, Mozza
22
Query Settings
PROPERTIES
Name
pizza types
All Properties
APPLIED STEPS
Source
Navigation
Imported CSV
Changed Type
Promoted Headers
Changed Type1
4 COLUMNS, 32 ROWS
Column profiling based on top 1000 rows
PREVIEW DOWNLOADED AT 12:07 AM

Adding column





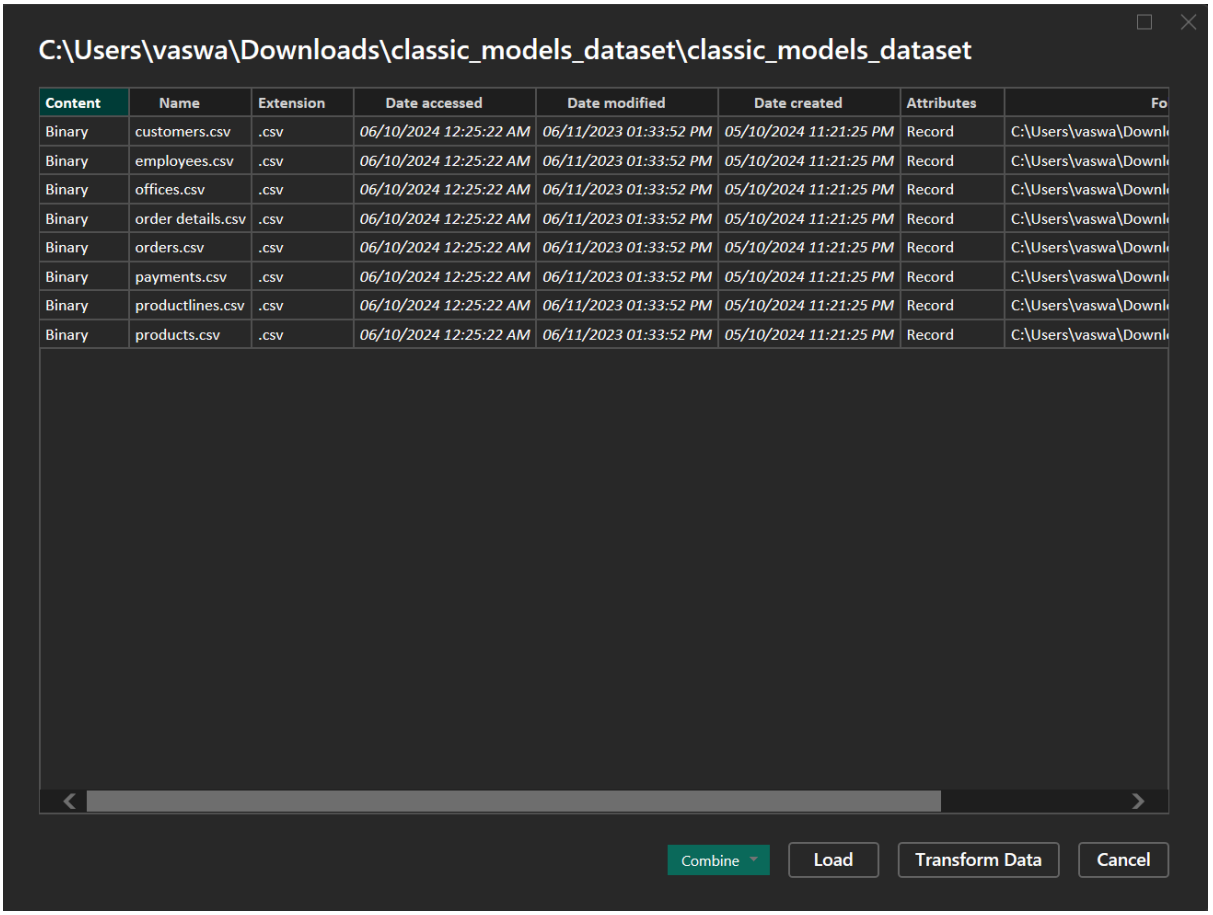




Dealing With Text Tools

Power BI offers several tools to manipulate text data:

1. Merging Columns: Concatenating two or more columns into one.
2. Trim: Removing leading and trailing spaces from text.
3. Split: Splitting text into multiple columns based on delimiters like commas or spaces.
4. Extract (Email): Extracting specific parts of text such as usernames from email addresses.



Content	Name	Extension	Date accessed	Date modified	Date created	Attributes	Fo
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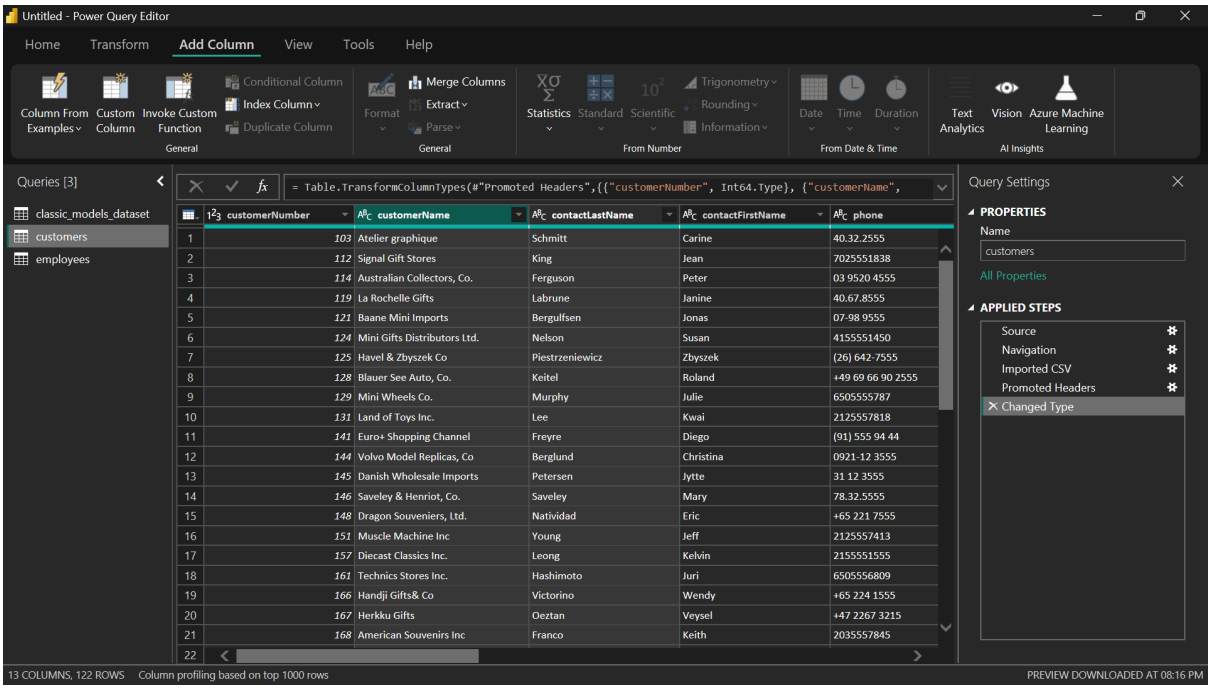
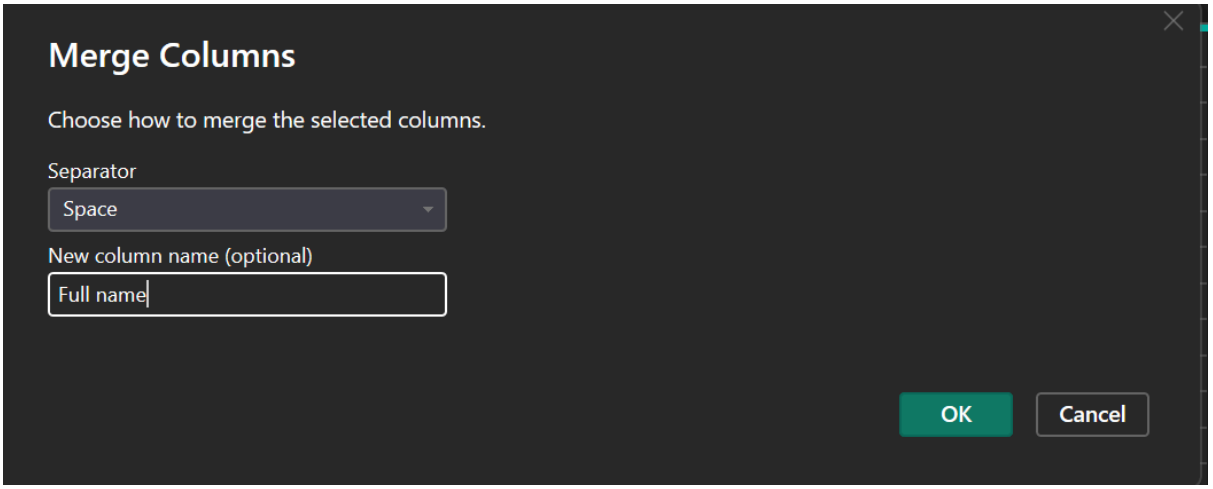
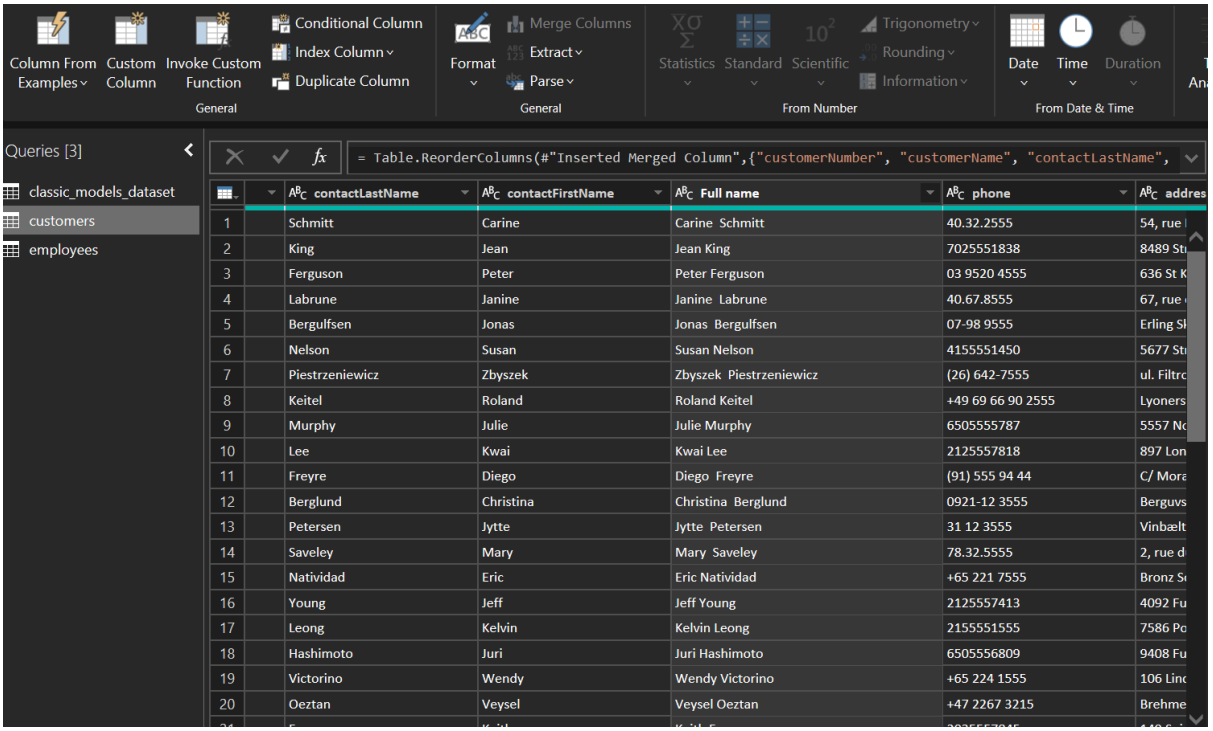
Binary	employees.csv	.csv	06/10/2024 12:25:22 AM	06/11/2023 01:33:52 PM	05/10/2024 11:21:25 PM	Record	C:\Users\vaswa\Downl
Binary	offices.csv	.csv	06/10/2024 12:25:22 AM	06/11/2023 01:33:52 PM	05/10/2024 11:21:25 PM	Record	C:\Users\vaswa\Downl
Binary	order details.csv	.csv	06/10/2024 12:25:22 AM	06/11/2023 01:33:52 PM	05/10/2024 11:21:25 PM	Record	C:\Users\vaswa\Downl
Binary	orders.csv	.csv	06/10/2024 12:25:22 AM	06/11/2023 01:33:52 PM	05/10/2024 11:21:25 PM	Record	C:\Users\vaswa\Downl
Binary	payments.csv	.csv	06/10/2024 12:25:22 AM	06/11/2023 01:33:52 PM	05/10/2024 11:21:25 PM	Record	C:\Users\vaswa\Downl
Binary	productlines.csv	.csv	06/10/2024 12:25:22 AM	06/11/2023 01:33:52 PM	05/10/2024 11:21:25 PM	Record	C:\Users\vaswa\Downl
Binary	products.csv	.csv	06/10/2024 12:25:22 AM	06/11/2023 01:33:52 PM	05/10/2024 11:21:25 PM	Record	C:\Users\vaswa\Downl

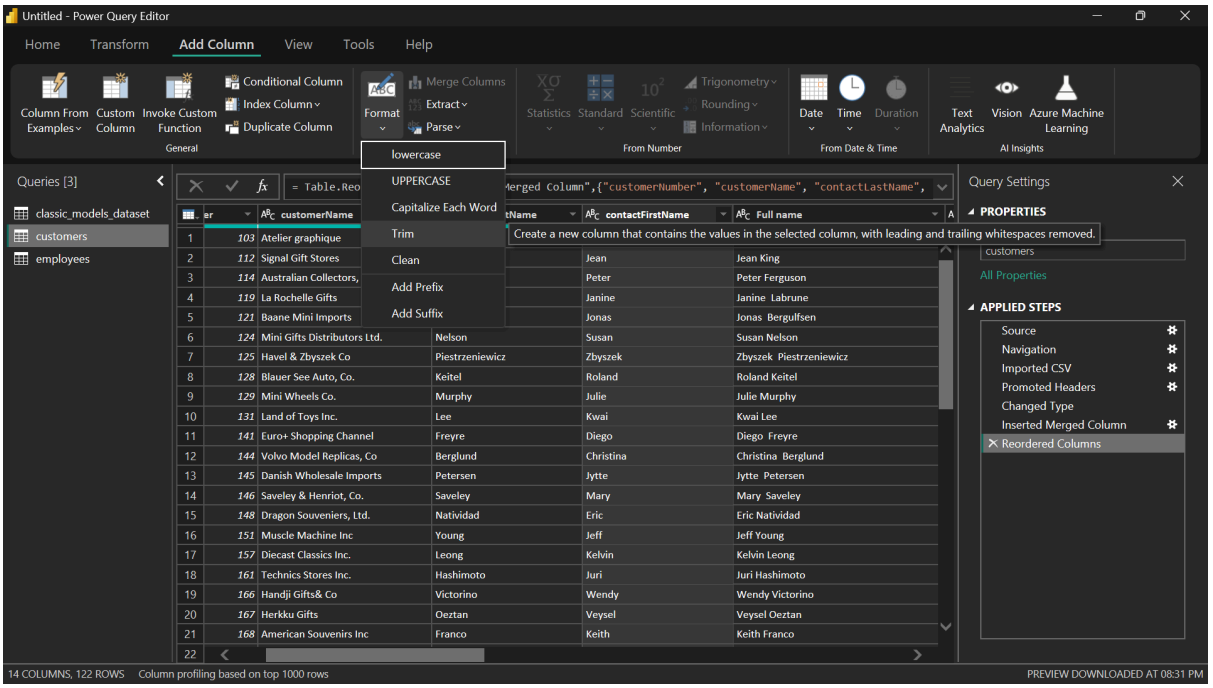
Merging Columns

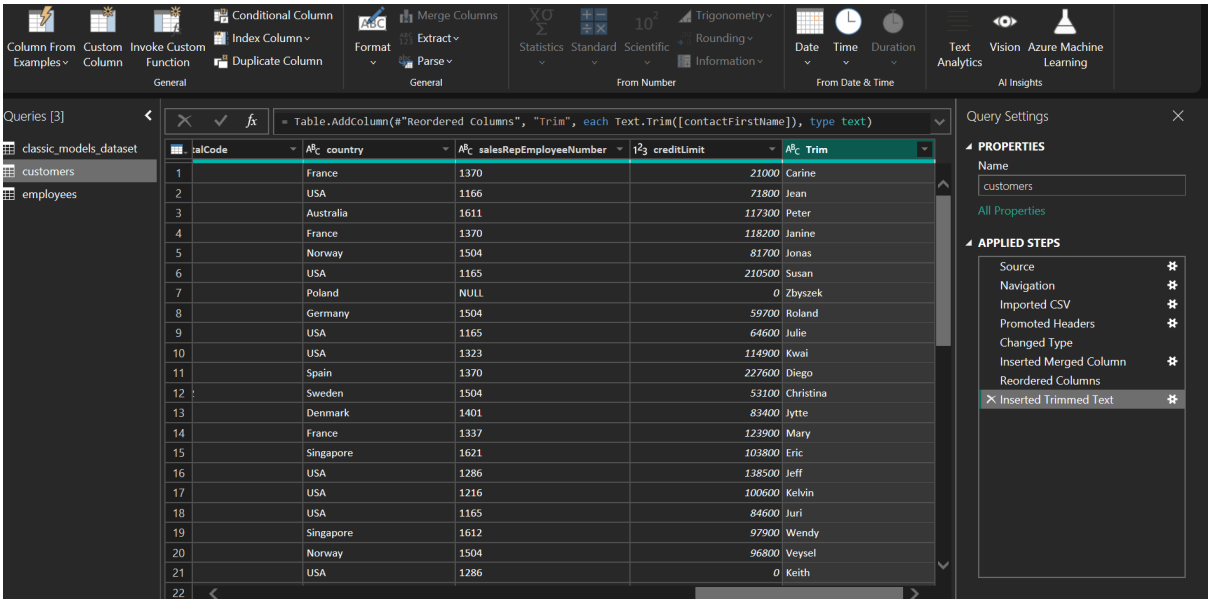




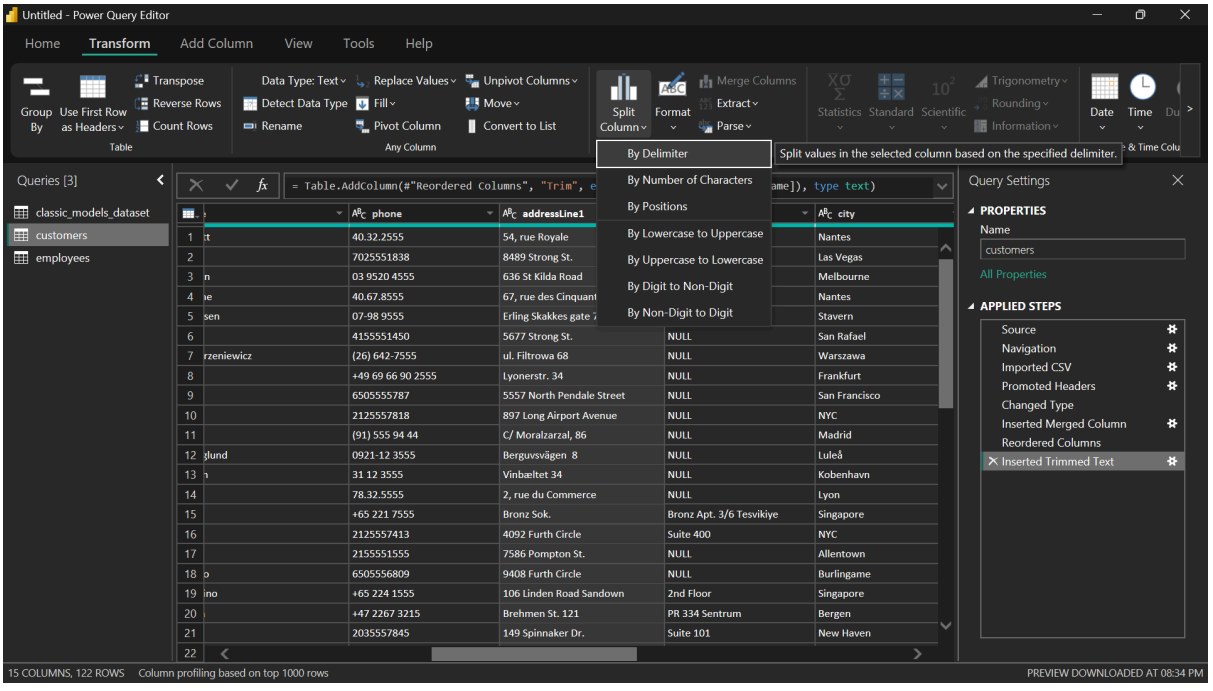

Column From Examples
Custom Column
Invoke Custom Function
Conditional Column
Index Column
Duplicate Column
General
Format
Merge Columns
Extract
Parse
General
Statistics
Standard
Scientific
Trigonometry
Rounding
Information
From Number
Date
Time
Duration
From Date & Time
Queries [3]
classic_models_dataset
customers
employees
= Table.ReorderColumns(#"Inserted Merged Column",{"customerNumber", "customerName", "contactLastName",
contactLastName
contactFirstName
Full name
phone
1 Schmitt Carine Carine Schmitt 40.32.2555
2 King Jean Jean King 7025551838
3 Ferguson Peter Peter Ferguson 03 9520 4555
4 Labrune Janine Janine Labrune 40.67.8555
5 Bergulfsen Jonas Jonas Bergulfsen 07-98 9555
6 Nelson Susan Susan Nelson 4155551450
7 Piestrzeniewicz Zbyszek Zbyszek Piestrzeniewicz (26) 642-7555
8 Keitel Roland Roland Keitel +49 69 66 90 2555
9 Murphy Julie Julie Murphy 6505555787
10 Lee Kwai Kwai Lee 2125557818
11 Freyre Diego Diego Freyre (91) 555 94 44
12 Berglund Christina Christina Berglund 0921-12 3555
13 Petersen Jytte Jytte Petersen 31 12 3555
14 Saveley Mary Mary Saveley 78.32.5555
15 Natividad Eric Eric Natividad +65 221 7555
16 Young Jeff Jeff Young 2125557413
17 Leong Kelvin Kelvin Leong 2155551555
18 Hashimoto Juri Juri Hashimoto 6505556809
19 Victorino Wendy Wendy Victorino +65 224 1555
20 Oeztan Veysel Veysel Oeztan +47 2267 3215

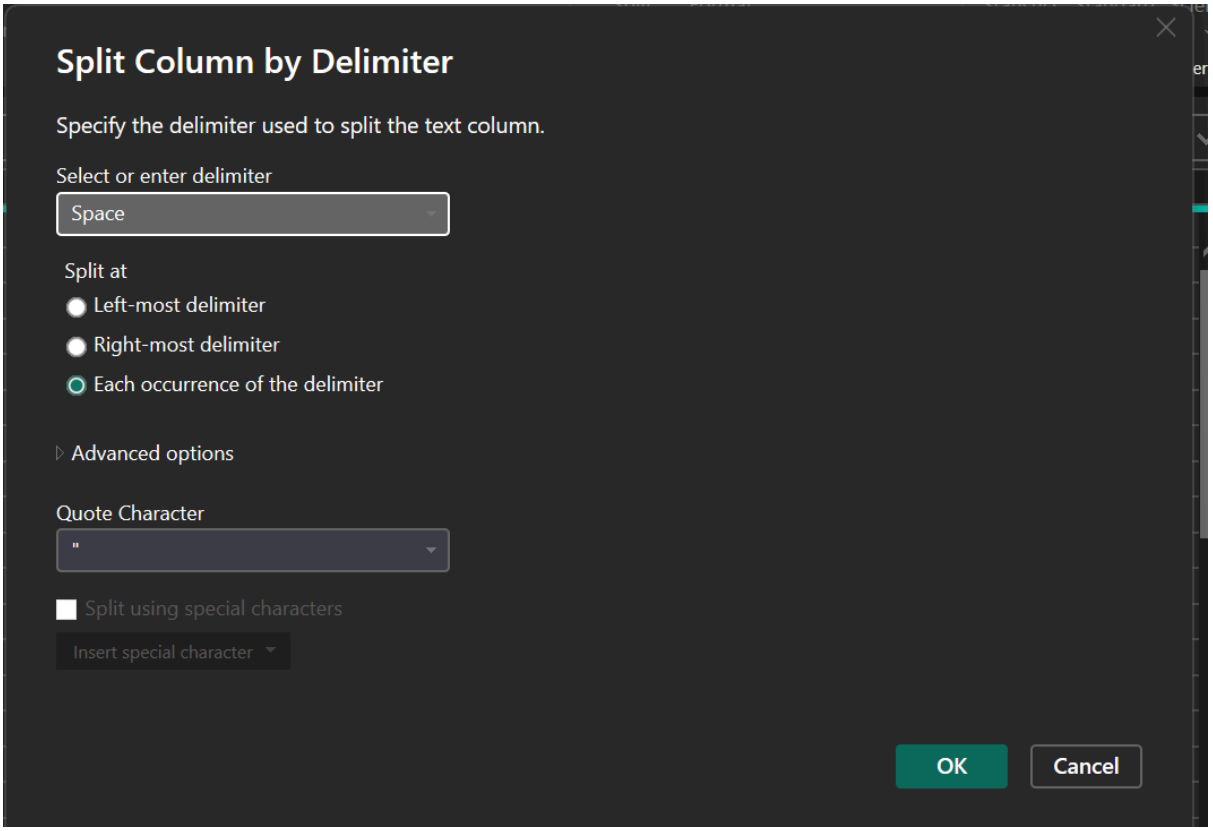
Trim

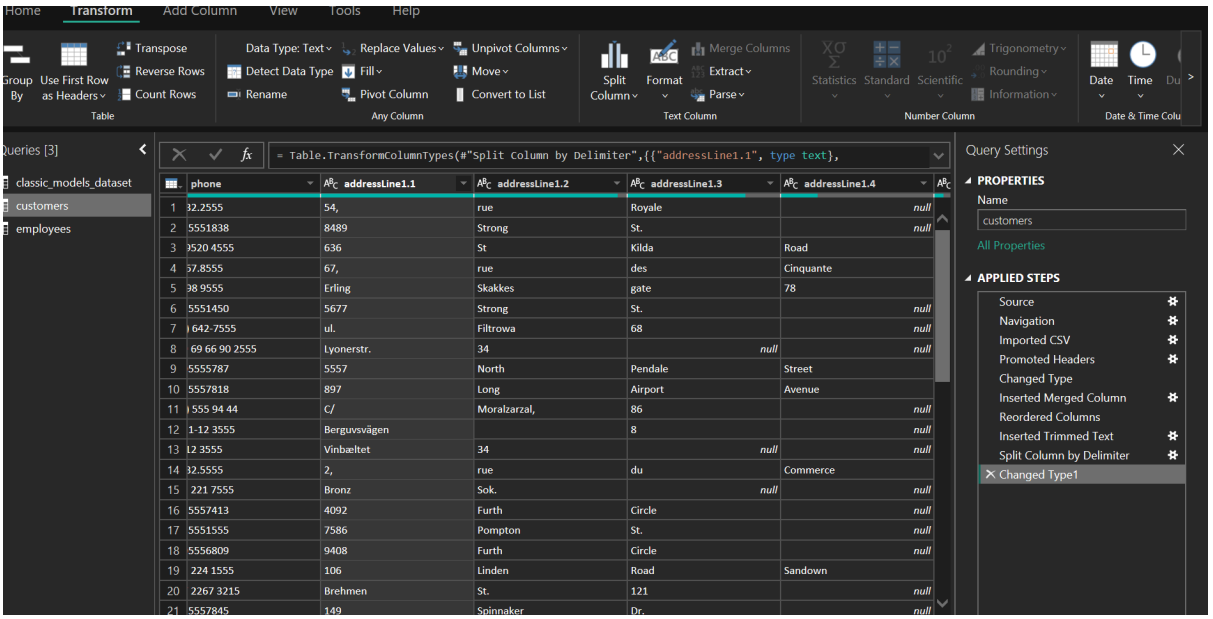

Untitled - Power Query Editor
Home
Transform
Add Column
View
Tools
Help
Column From Examples
Custom Column
Invoke Custom Function
Conditional Column
Index Column
Duplicate Column
General
Format
Merge Columns
Extract
Parse
lowercase
UPPERCASE
Capitalize Each Word
Trim
Clean
Add Prefix
Add Suffix
Statistics
Standard
Scientific
Trigonometry
Rounding
Information
From Number
Date
Time
Duration
From Date & Time
Text Analytics
Vision
Azure Machine Learning
AI Insights
Create a new column that contains the values in the selected column, with leading and trailing whitespaces removed.
Queries [3]
classic_models_dataset
customers
employees
customerName
contactFirstName
Full name
1 103 Atelier graphique Jean King
2 112 Signal Gift Stores Peter Ferguson
3 114 Australian Collectors, Janine Labrune
4 119 La Rochelle Gifts Jonas Bergulfsen
5 121 Baane Mini Imports Susan Nelson
6 124 Mini Gifts Distributors Ltd. Nelson Zbyszek Piestrzeniewicz
7 125 Havel & Zbyszek Co Piestrzeniewicz Roland Keitel
8 128 Blauer See Auto, Co. Keitel Julie Murphy
9 129 Mini Wheels Co. Murphy Kwai Lee
10 131 Land of Toys Inc. Lee Diego Freyre
11 141 Euro+ Shopping Channel Freyre Christina Berglund
12 144 Volvo Model Replicas, Co Berglund Jytte Petersen
13 145 Danish Wholesale Imports Petersen Mary Saveley
14 146 Saveley & Henriot, Co. Saveley Eric Natividad
15 148 Dragon Souveniers, Ltd. Natividad Jeff Young
16 151 Muscle Machine Inc Young Kelvin Leong
17 157 Diecast Classics Inc. Leong Juri Hashimoto
18 161 Technics Stores Inc. Hashimoto Wendy Victorino
19 166 Handji Gifts& Co Victorino Veysel Oeztan
20 167 Herkku Gifts Oeztan Keith Franco
21 168 American Souvenirs Inc Franco
Query Settings
PROPERTIES
customers
All Properties
APPLIED STEPS
Source
Navigation
Imported CSV
Promoted Headers
Changed Type
Inserted Merged Column
Reordered Columns
14 COLUMNS, 122 ROWS
Column profiling based on top 1000 rows
PREVIEW DOWNLOADED AT 08:31 PM


Column From Examples
Custom Column
Invoke Custom Function
Conditional Column
Index Column
Duplicate Column
General
Format
Merge Columns
Extract
Parse
General
Statistics
Standard
Scientific
Trigonometry
Rounding
Information
From Number
Date
Time
Duration
From Date & Time
Text Analytics
Vision
Azure Machine Learning
AI Insights
Queries [3]
classic_models_dataset
customers
employees
= Table.AddColumn(#"Reordered Columns", "Trim", each Text.Trim([contactFirstName]), type text)
country
salesRepEmployeeNumber
creditLimit
Trim
1 France 1370 21000 Carine
2 USA 1166 71800 Jean
3 Australia 1611 117300 Peter
4 France 1370 118200 Janine
5 Norway 1504 81700 Jonas
6 USA 1165 210500 Susan
7 Poland NULL 0 Zbyszek
8 Germany 1504 59700 Roland
9 USA 1165 64600 Julie
10 USA 1323 114900 Kwai
11 Spain 1370 227600 Diego
12 Sweden 1504 53100 Christina
13 Denmark 1401 83400 Iytte
14 France 1337 123900 Mary
15 Singapore 1621 103800 Eric
16 USA 1286 138500 Jeff
17 USA 1216 100600 Kelvin
18 USA 1165 84600 Juri
19 Singapore 1612 97900 Wendy
20 Norway 1504 96800 Veysel
21 USA 1286 0 Keith
Query Settings
PROPERTIES
Name
customers
All Properties
APPLIED STEPS
Source
Navigation
Imported CSV
Promoted Headers
Changed Type
Inserted Merged Column
Reordered Columns
Inserted Trimmed Text

Split

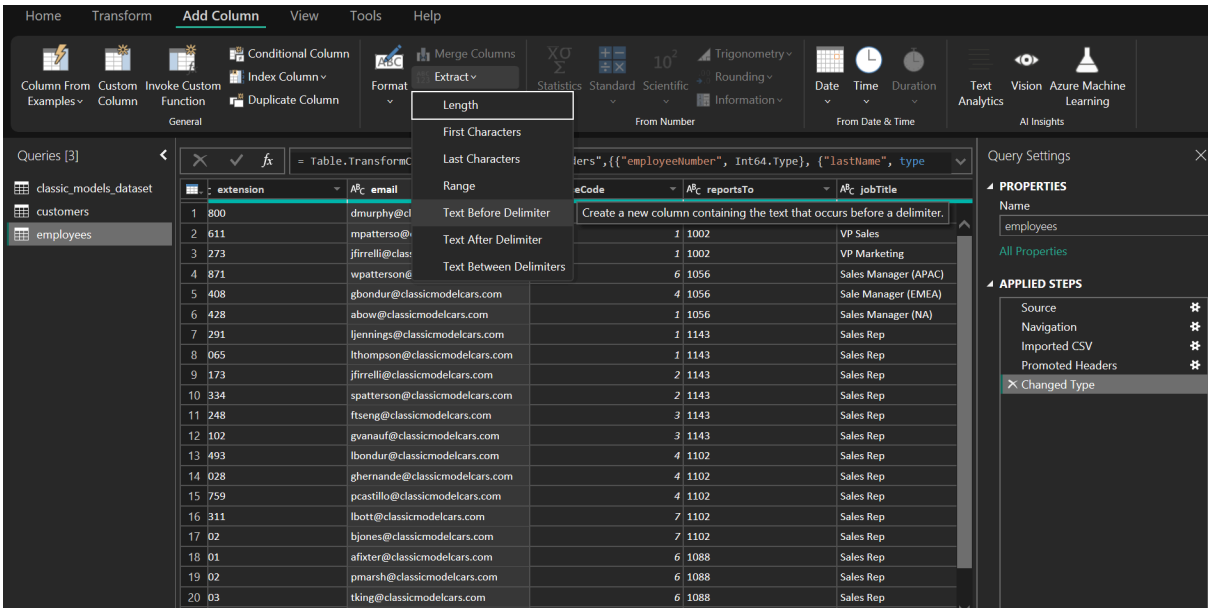

Untitled - Power Query Editor
Home
Transform
Add Column
View
Tools
Help
Group By
Use First Row as Headers
Transpose
Reverse Rows
Count Rows
Table
Data Type: Text
Detect Data Type
Rename
Replace Values
Fill
Pivot Column
Unpivot Columns
Move
Convert to List
Any Column
Split Column
By Delimiter
By Number of Characters
By Positions
By Lowercase to Uppercase
By Uppercase to Lowercase
By Digit to Non-Digit
By Non-Digit to Digit
Split values in the selected column based on the specified delimiter.
Format
Merge Columns
Extract
Parse
Statistics
Standard
Scientific
Trigonometry
Rounding
Information
Date
Time
Queries [3]
classic_models_dataset
customers
employees
phone
addressLine1
city
1 40.32.2555 54, rue Royale Nantes
2 7025551838 8489 Strong St. Las Vegas
3 03 9520 4555 636 St Kilda Road Melbourne
4 40.67.8555 67, rue des Cinquant Nantes
5 07-98 9555 Erling Skakkes gate 7 Stavern
6 4155551450 5677 Strong St. NULL San Rafael
7 (26) 642-7555 ul. Filtrowa 68 NULL Warszawa
8 +49 69 66 90 2555 Lyonerstr. 34 NULL Frankfurt
9 6505555787 5557 North Pendale Street NULL San Francisco
10 2125557818 897 Long Airport Avenue NULL NYC
11 (91) 555 94 44 C/ Moralzarzal, 86 NULL Madrid
12 0921-12 3555 Berguvsvägen 8 NULL Luleå
13 31 12 3555 Vinbæltet 34 NULL Kobenhavn
14 78.32.5555 2, rue du Commerce NULL Lyon
15 +65 221 7555 Bronz Sok. Bronz Apt. 3/6 Tesvikiye Singapore
16 2125557413 4092 Furth Circle Suite 400 NYC
17 2155551555 7586 Pompton St. NULL Allentown
18 6505556809 9408 Furth Circle NULL Burlingame
19 +65 224 1555 106 Linden Road Sandown 2nd Floor Singapore
20 +47 2267 3215 Brehmen St. 121 PR 334 Sentrum Bergen
21 2035557845 149 Spinnaker Dr. Suite 101 New Haven
Query Settings
PROPERTIES
Name
customers
All Properties
APPLIED STEPS
Source
Navigation
Imported CSV
Promoted Headers
Changed Type
Inserted Merged Column
Reordered Columns
Inserted Trimmed Text
15 COLUMNS, 122 ROWS
Column profiling based on top 1000 rows
PREVIEW DOWNLOADED AT 08:34 PM

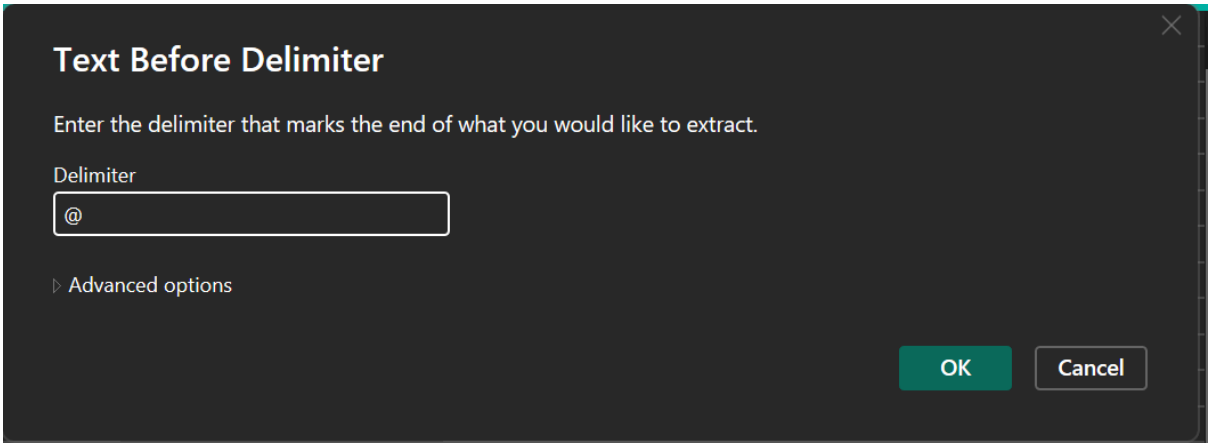


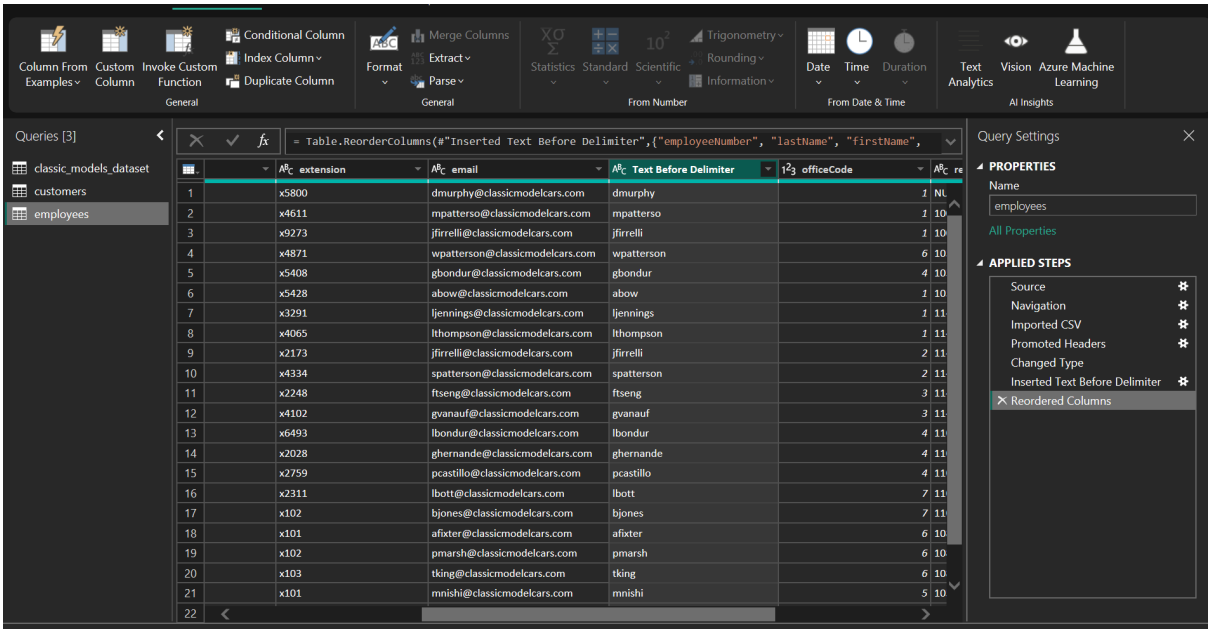


	phone	addressLine1.1	addressLine1.2	addressLine1.3	addressLine1.4
1	32.2555	54,	rue	Royale	null
2	5551838	8489	Strong	St.	null
3	9520 4555	636	St	Kilda	Road
4	57.8555	67,	rue	des	Cinquante
5	98 9555	Erling	Skakkes	gate	78
6	5551450	5677	Strong	St.	null
7	642-7555	ul.	Filtrowa	68	null
8	69 66 90 2555	Lyonerstr.	34	null	null
9	5555787	5557	North	Pendale	Street
10	5557818	897	Long	Airport	Avenue
11	555 94 44	C/	Moralzarzal,	86	null
12	1-12 3555	Berguvsvägen		8	null
13	12 3555	Vinbæltet	34	null	null
14	32.5555	2,	rue	du	Commerce
15	221 7555	Bronz	Sok.	null	null
16	5557413	4092	Furth	Circle	null
17	5551555	7586	Pompton	St.	null
18	5556809	9408	Furth	Circle	null
19	224 1555	106	Linden	Road	Sandown
20	2267 3215	Brehmen	St.	121	null
21	5557845	149	Spinnaker	Dr.	null

Extract (Email)



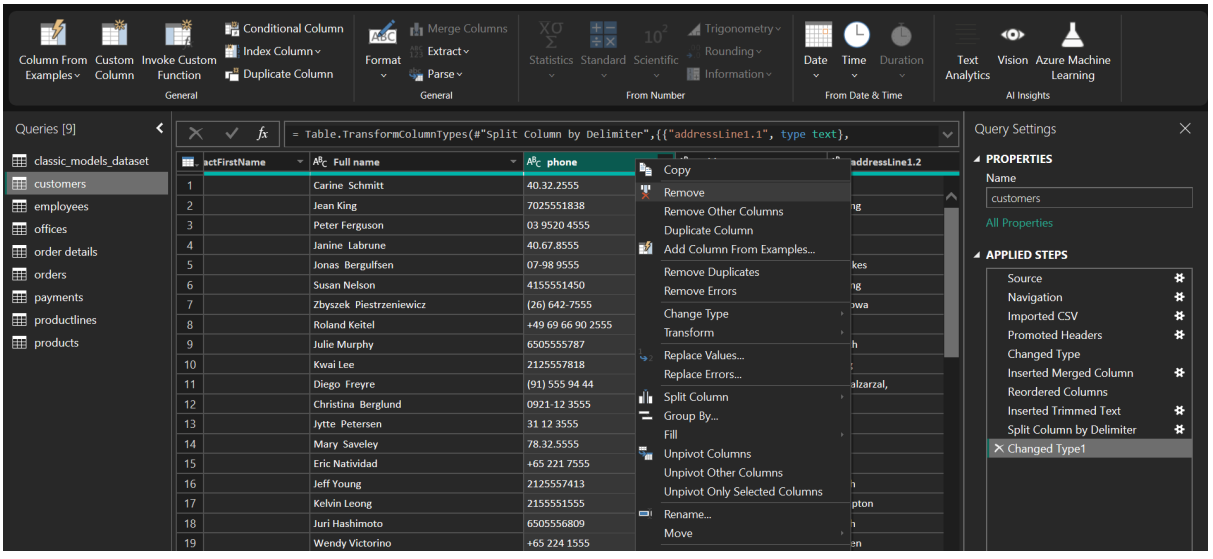




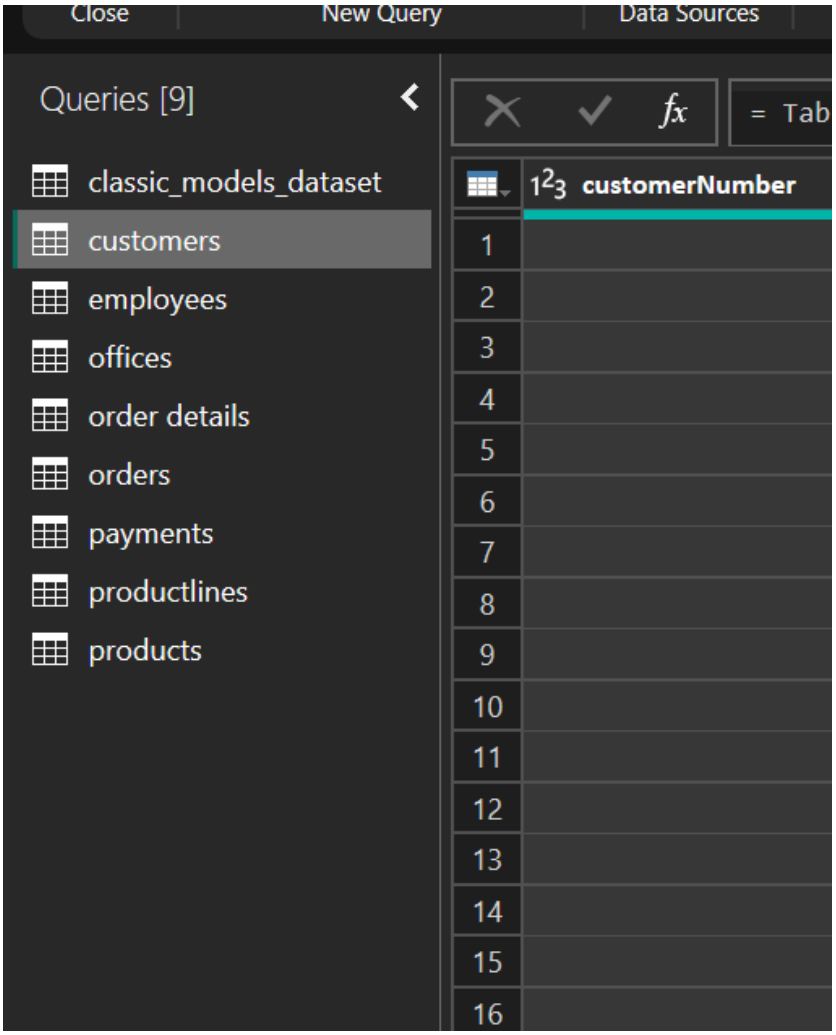
Dealing with Unwanted Columns and Null Values

1. Delete columns: Removing irrelevant or redundant columns.
2. Remove duplicates: Deleting rows that have duplicate values.
3. Remove Null values: Removing rows or columns containing null (missing) data.
4. Fill values: Filling in missing data with specific values or the last non-null value.
5. Change Data type: Changing column data types to appropriate formats (e.g., text to number, date to string).

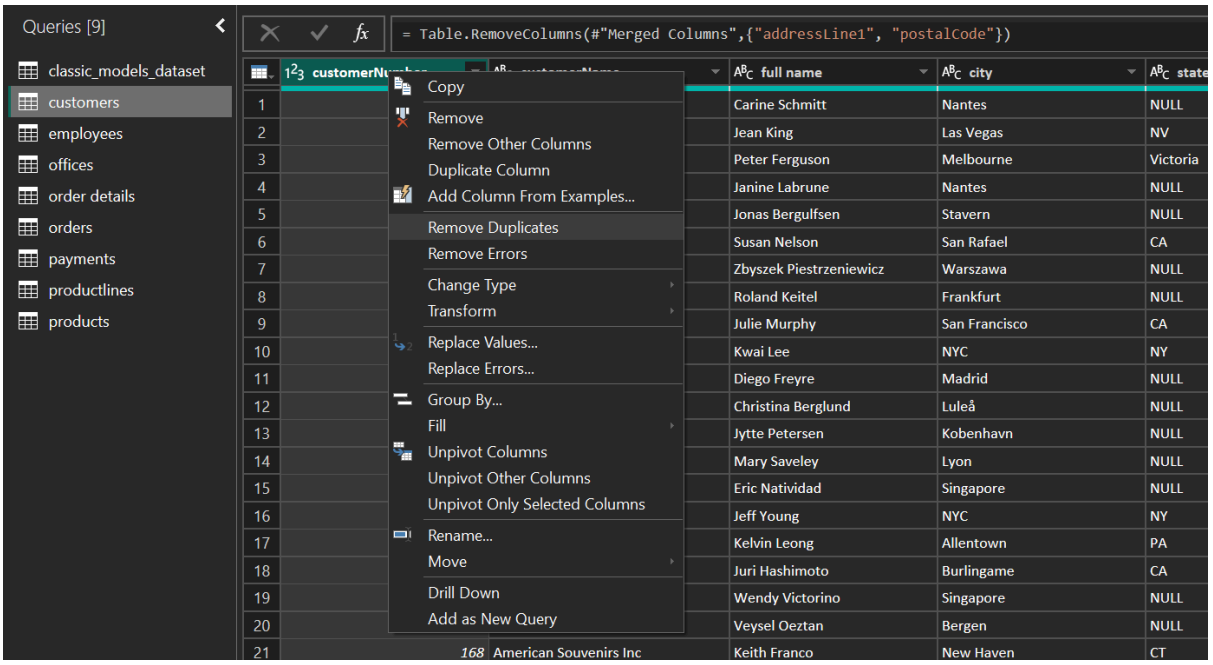
Delete columns



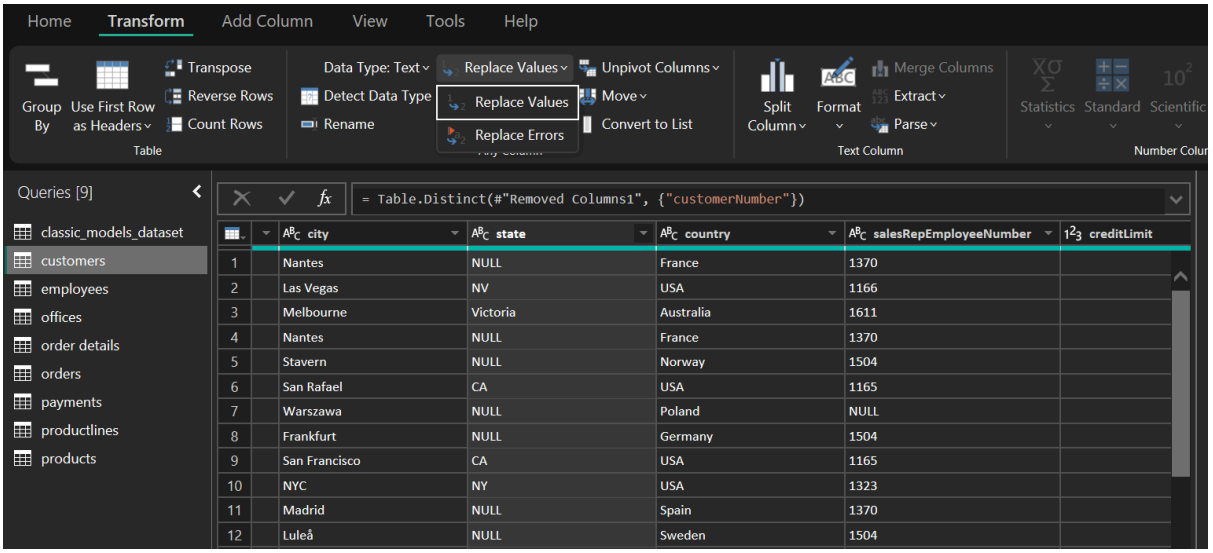
Remove, Merge with all the tables

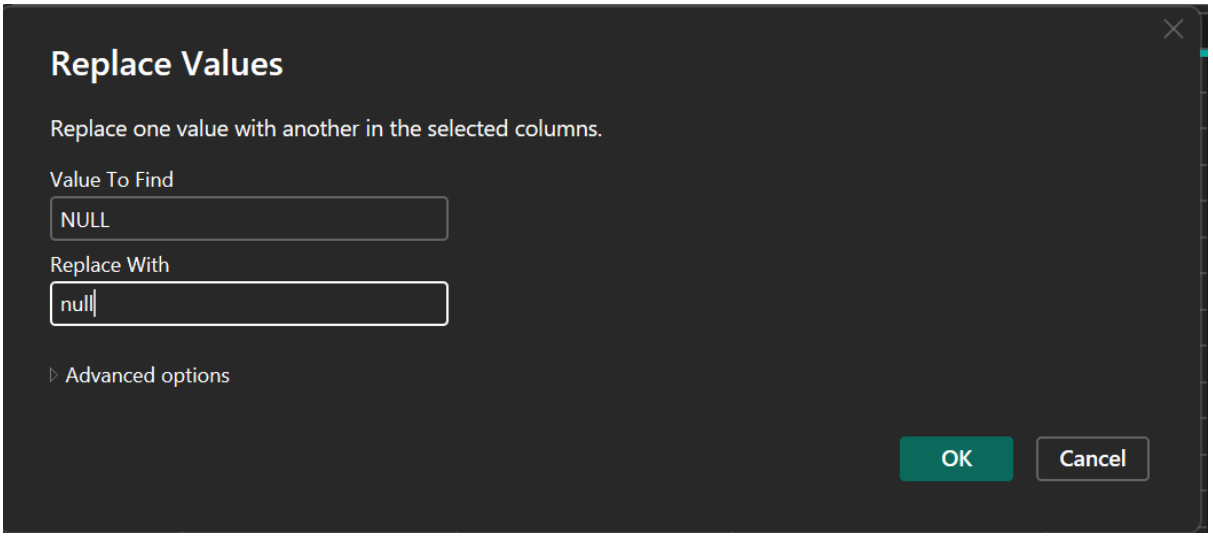


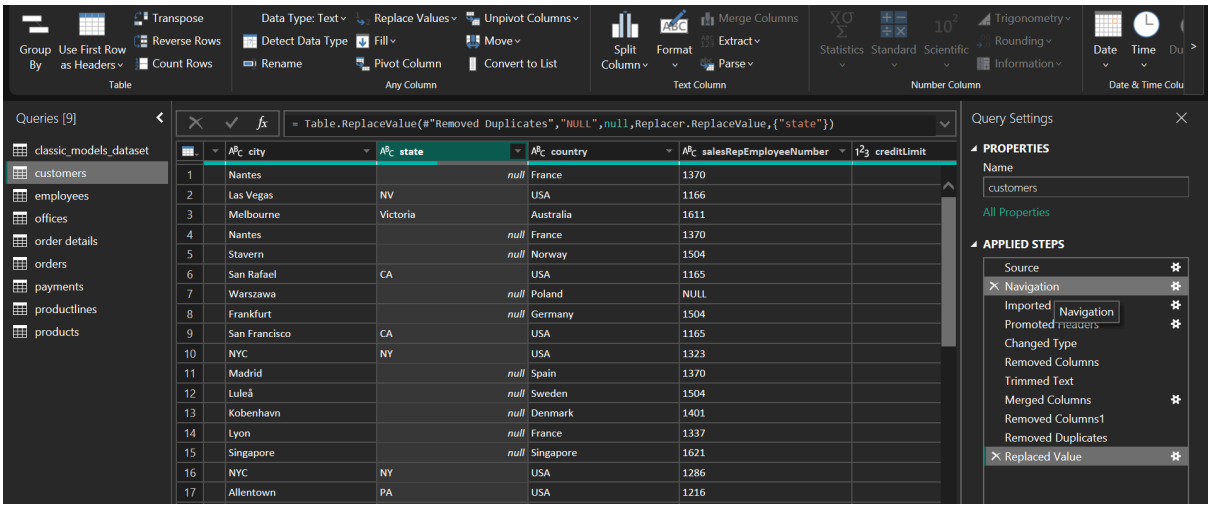
Remove duplicates



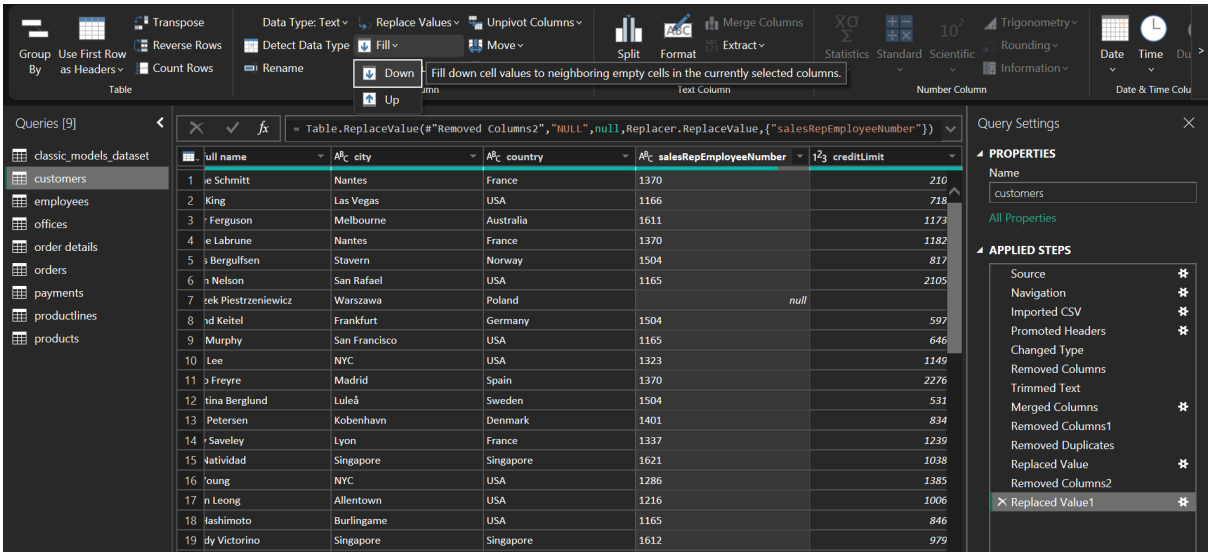
Remove Null values




Replace Values
Replace one value with another in the selected columns.
Value To Find
NULL
Replace With
null
Advanced options
OK
Cancel


Queries [9]
classic_models_dataset
customers
employees
offices
order details
orders
payments
productlines
products
= Table.ReplaceValue(#"Removed Duplicates","NULL",null,Replacer.ReplaceValue,{"state"})
Query Settings
PROPERTIES
Name
customers
All Properties
APPLIED STEPS
Source
Navigation
Imported CSV
Promoted Headers
Changed Type
Removed Columns
Trimmed Text
Merged Columns
Removed Columns1
Removed Duplicates
Replaced Value

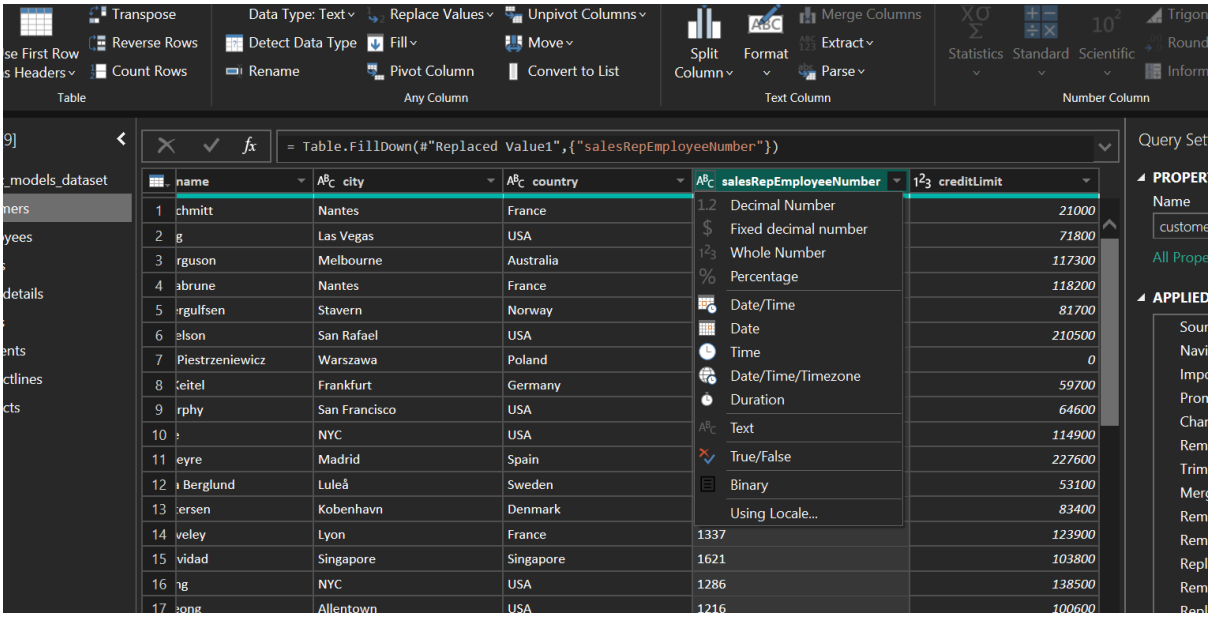
Fill value


Down
Up
Fill down cell values to neighboring empty cells in the currently selected columns.
Queries [9]
= Table.ReplaceValue(#"Removed Columns2","NULL",null,Replacer.ReplaceValue,{"salesRepEmployeeNumber"})
Query Settings
PROPERTIES
Name
customers
All Properties
APPLIED STEPS
Source
Navigation
Imported CSV
Promoted Headers
Changed Type
Removed Columns
Trimmed Text
Merged Columns
Removed Columns1
Removed Duplicates
Replaced Value
Removed Columns2
Replaced Value1

Filled

6	n Nelson	San Rafael	USA	1165
7	zek Piestrzeniewicz	Warszawa	Poland	1165

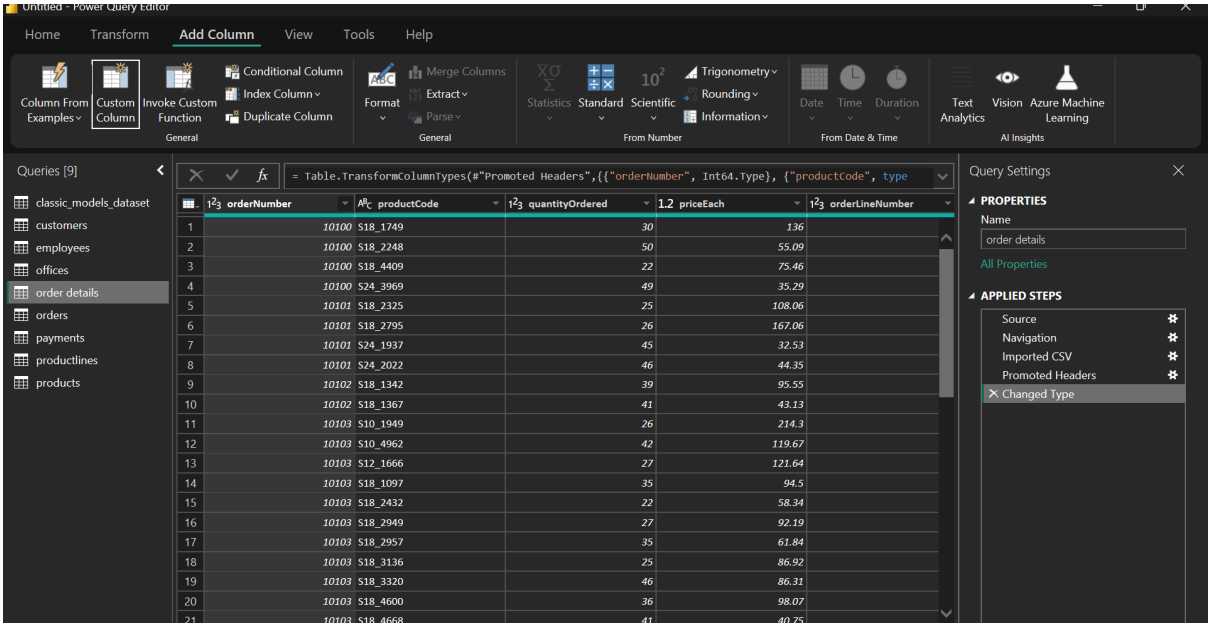
Changed Data Type

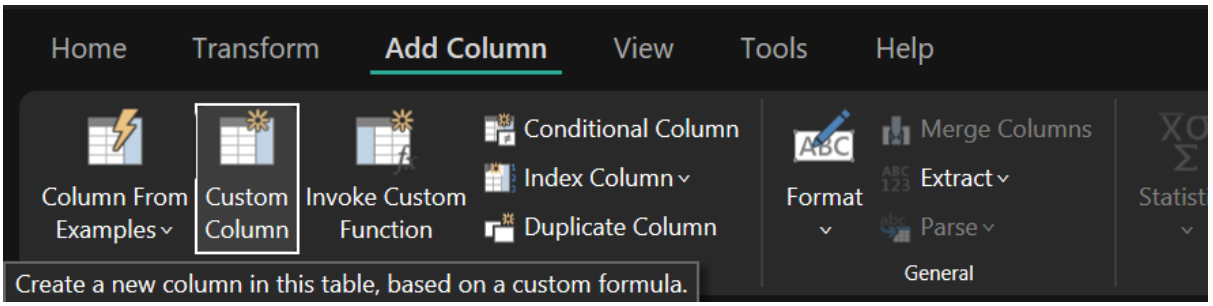


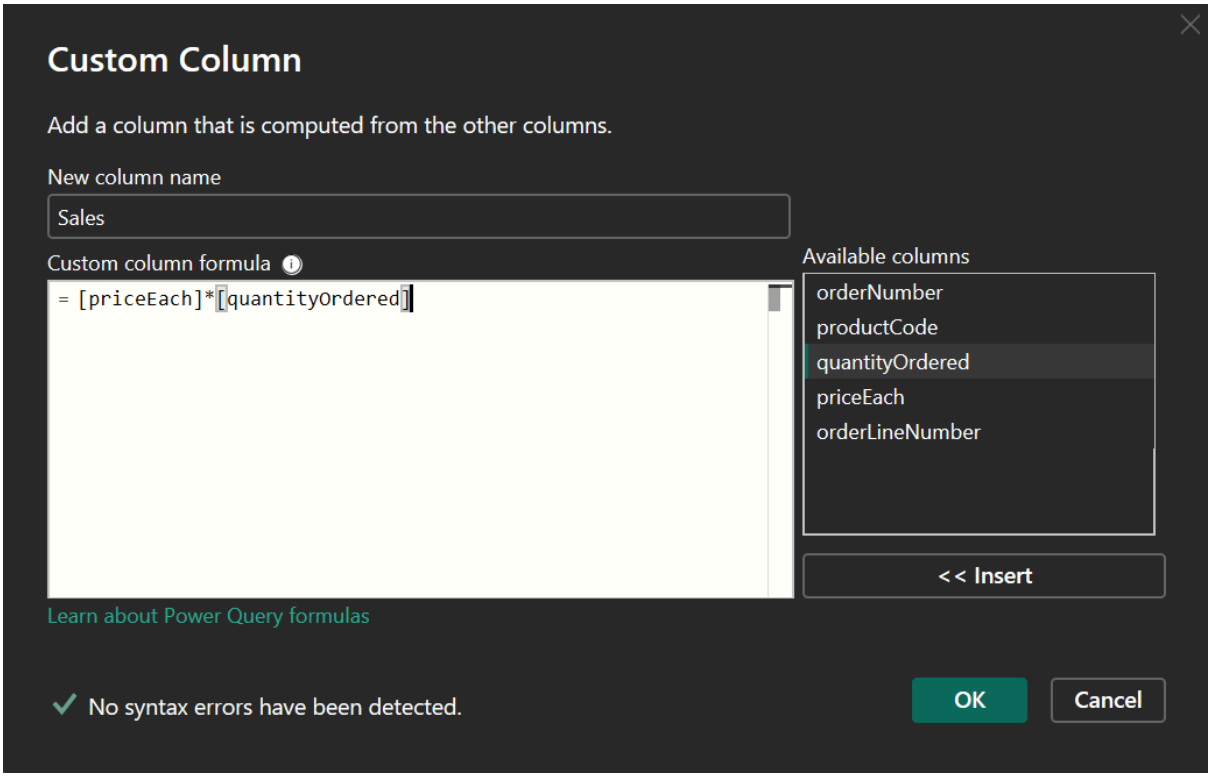
Dealing with Numerical tools

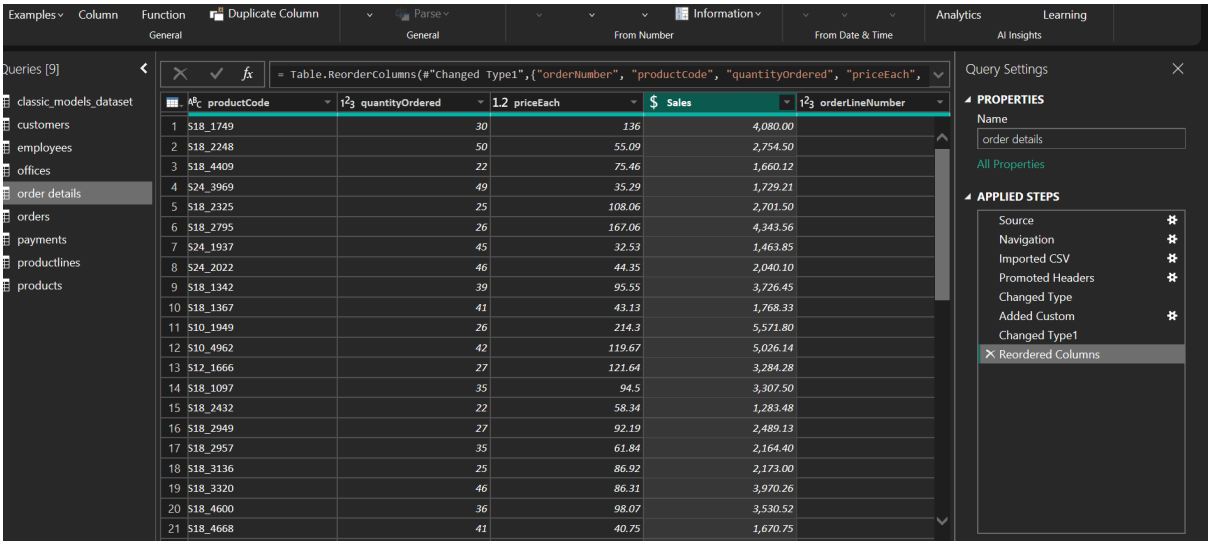
Power BI provides several tools to manipulate numerical data:

- Statistics: Generating basic statistical summaries such as averages and sums.
- Rounding Up and Down: Rounding off values to specific decimal places.
- Standard and Scientific Formats: Representing numbers in different formats based on the nature of the data.

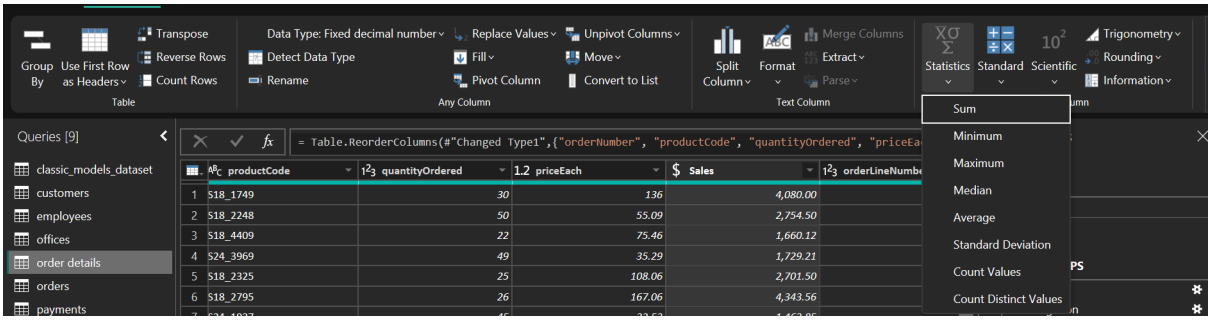

Untitled - Power Query Editor
Home
Transform
Add Column
View
Tools
Help
Column From Examples
Custom Column
Invoke Custom Function
Conditional Column
Index Column
Duplicate Column
General
Format
Merge Columns
Extract
Parse
General
Statistics
Standard
Scientific
Trigonometry
Rounding
Information
From Number
Date
Time
Duration
From Date & Time
Text Analytics
Vision
Azure Machine Learning
AI Insights
Queries [9]
classic_models_dataset
customers
employees
offices
order details
orders
payments
productlines
products
= Table.TransformColumnTypes(#"Promoted Headers",{{"orderNumber", Int64.Type}, {"productCode", type
orderNumber
productCode
quantityOrdered
priceEach
orderLineNumber
10100 S18_1749 30 136
10100 S18_2248 50 55.09
10100 S18_4409 22 75.46
10100 S24_3969 49 35.29
10101 S18_2325 25 108.06
10101 S18_2795 26 167.06
10101 S24_1937 45 32.53
10101 S24_2022 46 44.35
10102 S18_1342 39 95.55
10102 S18_1367 41 43.13
10103 S10_1949 26 214.3
10103 S10_4962 42 119.67
10103 S12_1666 27 121.64
10103 S18_1097 35 94.5
10103 S18_2432 22 58.34
10103 S18_2949 27 92.19
10103 S18_2957 35 61.84
10103 S18_3136 25 86.92
10103 S18_3320 46 86.31
10103 S18_4600 36 98.07
Query Settings
PROPERTIES
Name
order details
All Properties
APPLIED STEPS
Source
Navigation
Imported CSV
Promoted Headers
Changed Type


Home
Transform
Add Column
View
Tools
Help
Column From Examples
Custom Column
Invoke Custom Function
Conditional Column
Index Column
Duplicate Column
Format
Merge Columns
Extract
Parse
General
Create a new column in this table, based on a custom formula.

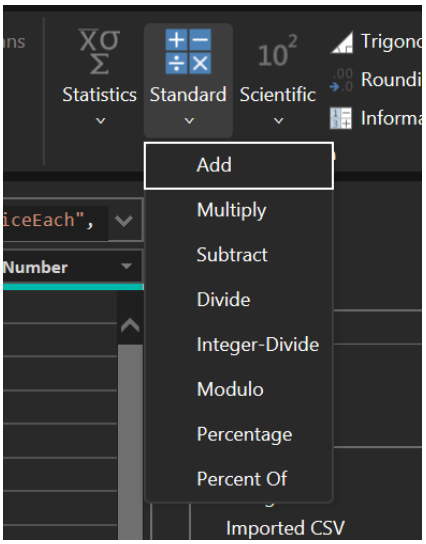

Custom Column
Add a column that is computed from the other columns.
New column name
Sales
Custom column formula
= [priceEach]*[quantityOrdered]
Available columns
orderNumber
productCode
quantityOrdered
priceEach
orderLineNumber
<< Insert
Learn about Power Query formulas
No syntax errors have been detected.
OK
Cancel


Queries [9]
classic_models_dataset
customers
employees
offices
order details
orders
payments
productlines
products
Query Settings
PROPERTIES
Name
order details
All Properties
APPLIED STEPS
Source
Navigation
Imported CSV
Promoted Headers
Changed Type
Added Custom
Changed Type1
Reordered Columns

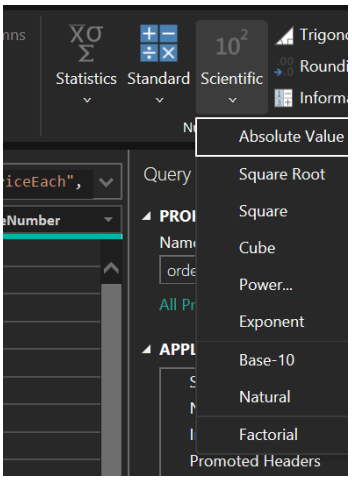
Statistics


Sum
Minimum
Maximum
Median
Average
Standard Deviation
Count Values
Count Distinct Values

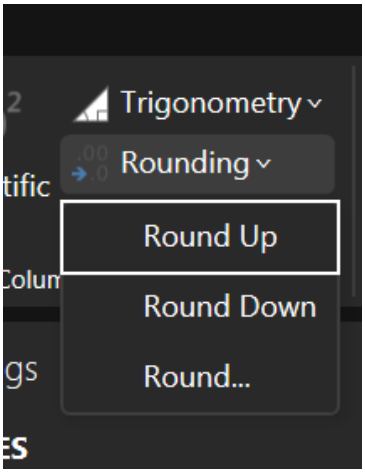
Standard



Scientific

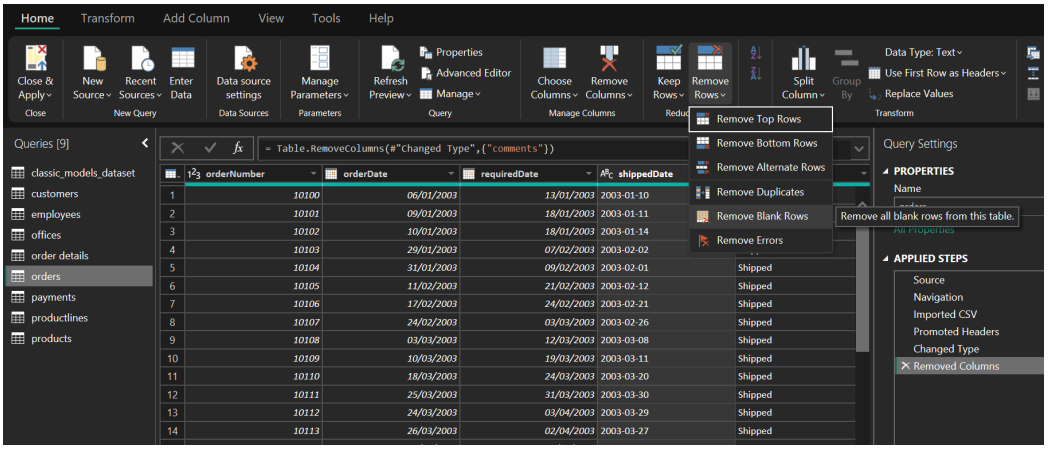


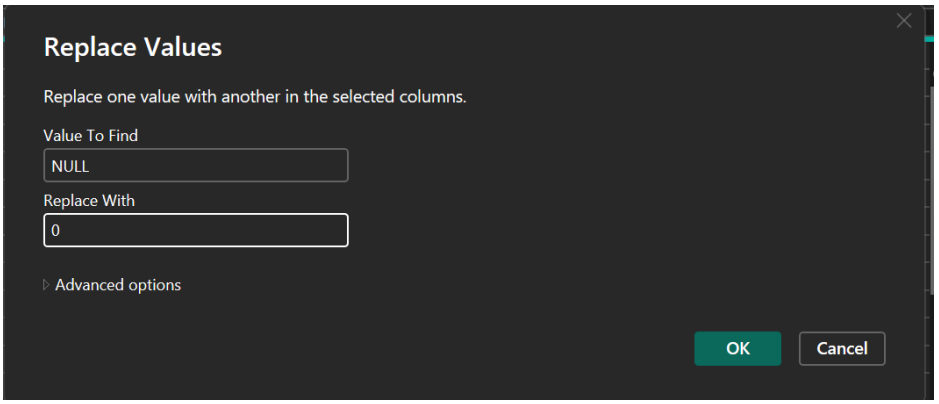
Rounding Up and Down

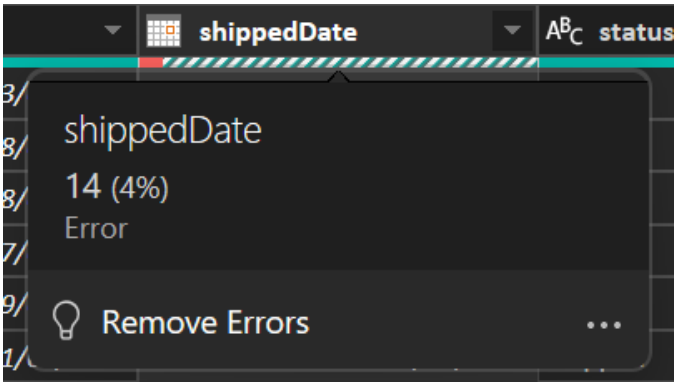


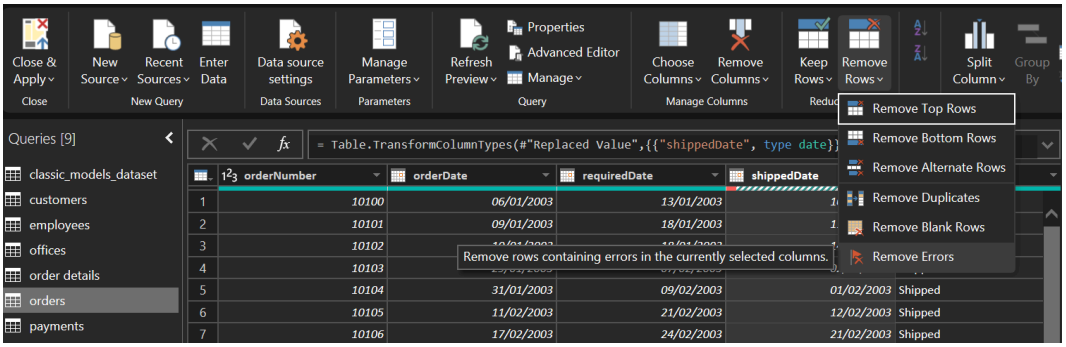
Dealing with Date and Time

1. Add year column: Extracting the year from a date field.
2. Average shipping days: Calculating the average number of days for order deliveries or shipments

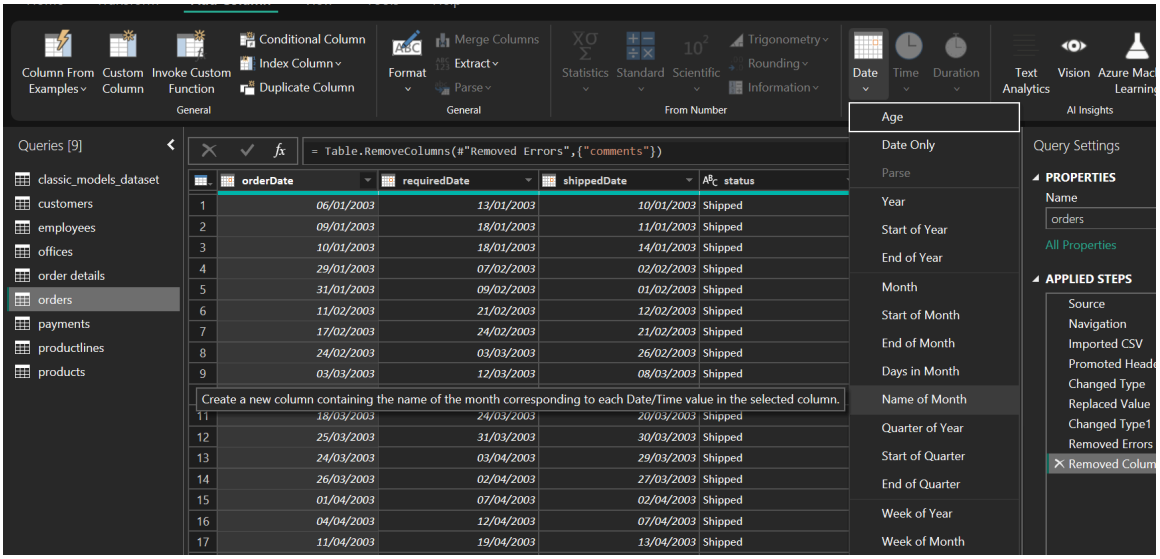




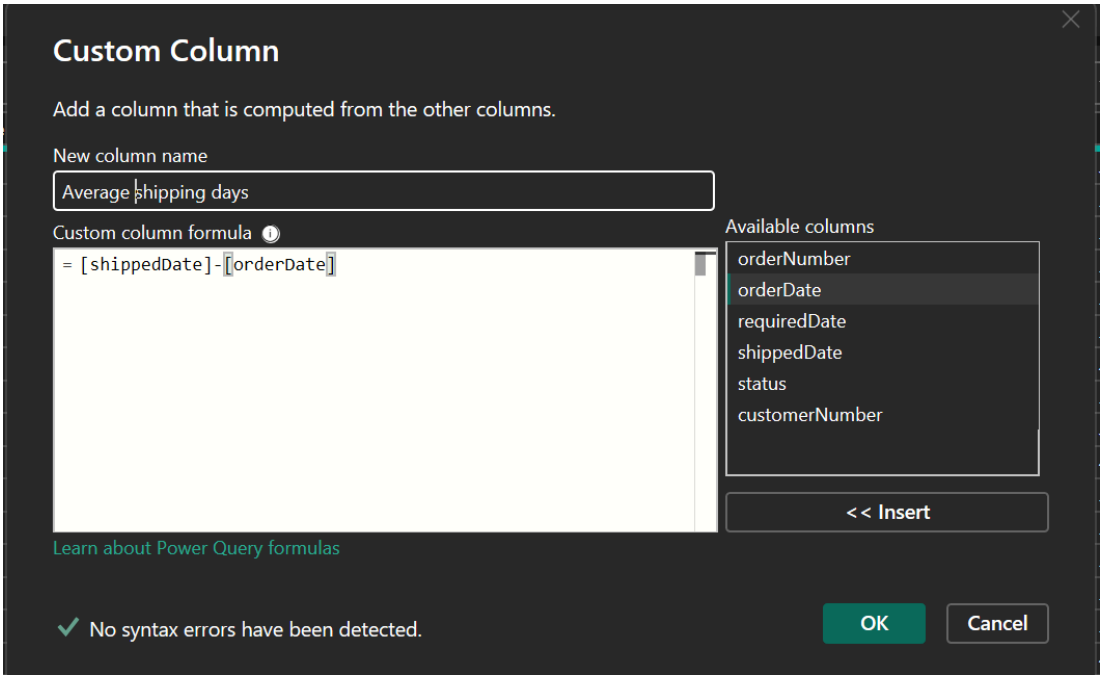


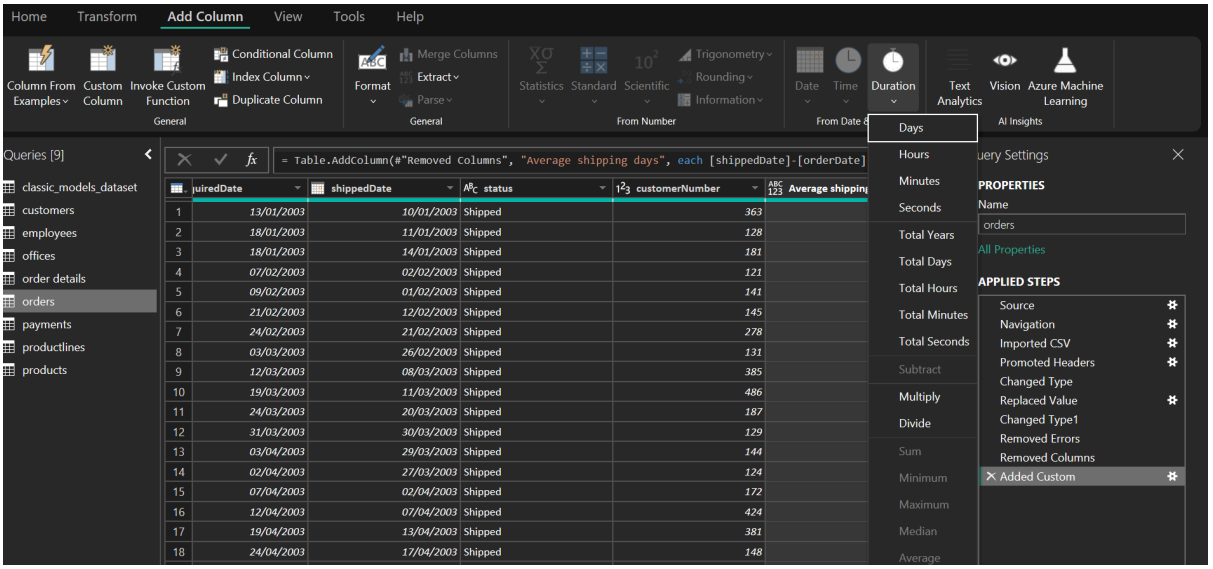


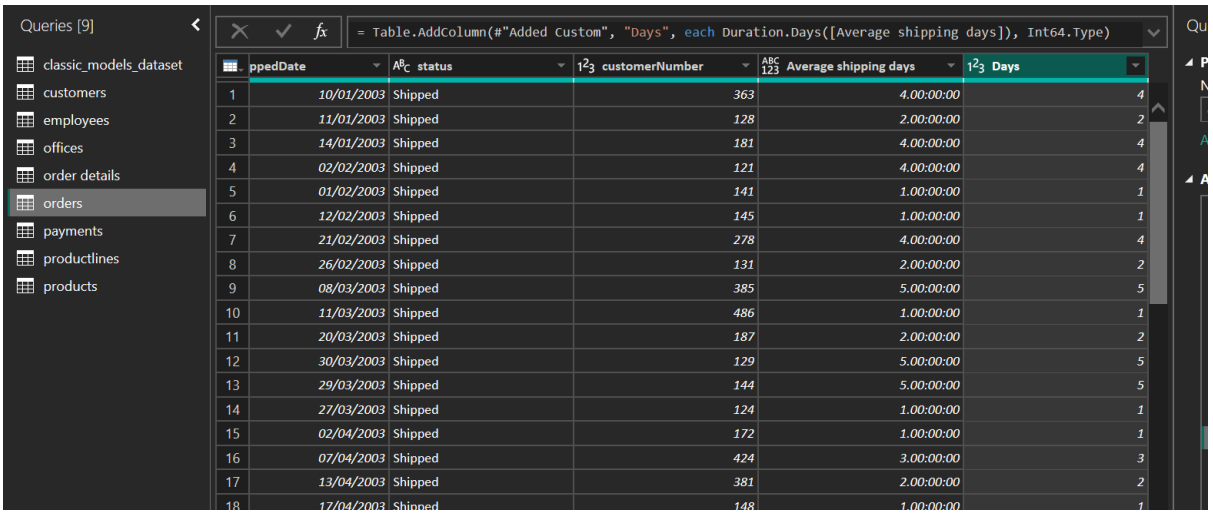
Add year column



Average shipping days



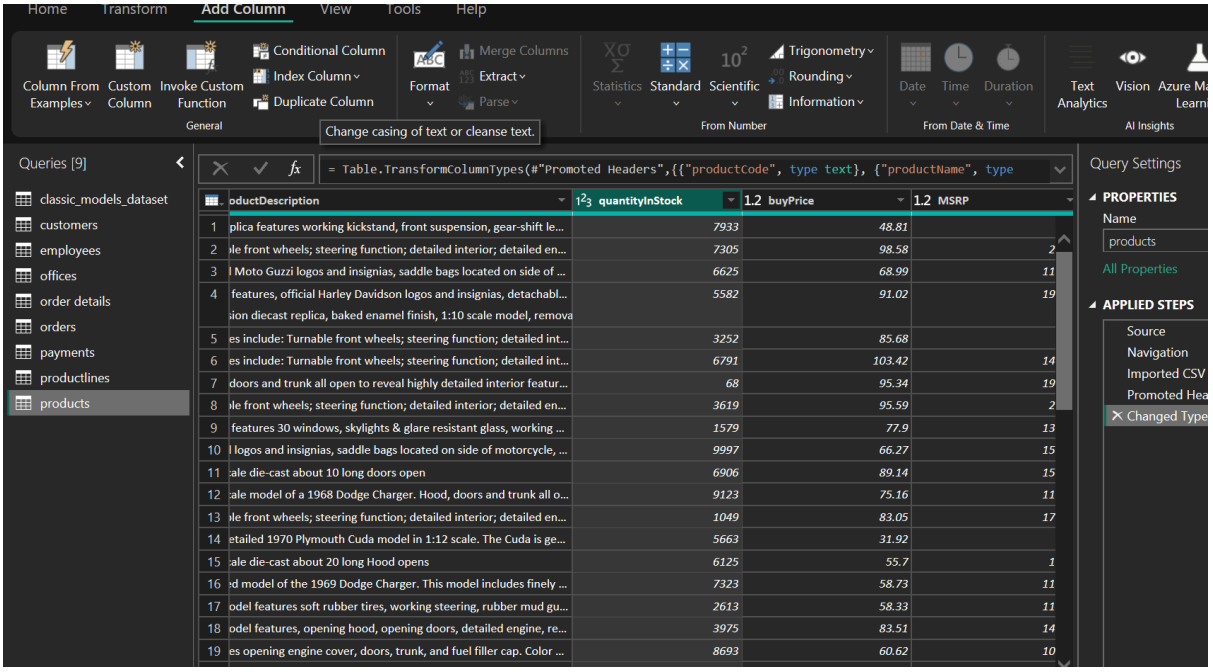


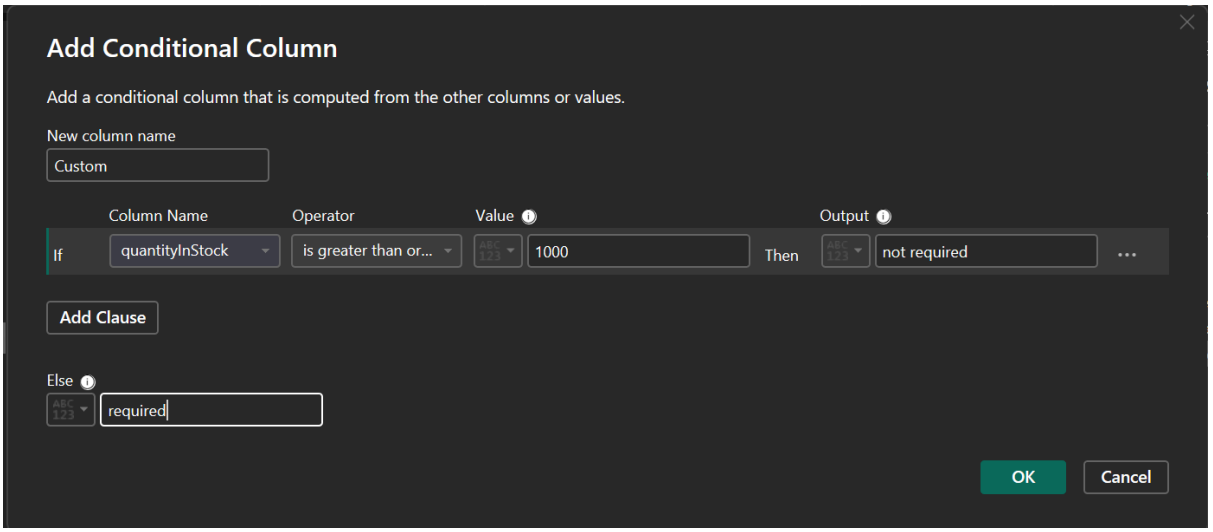


Adding Conditional Columns:

Conditional columns allow the creation of new columns based on specific conditions:

- For example, in the Orders Table, you can add an "Order Priority" column that categorizes orders based on shipment dates using if...else if logi


Home
Transform
Add Column
View
Tools
Help
Column From Examples
Custom Column
Invoke Custom Function
Conditional Column
Index Column
Duplicate Column
General
Format
Merge Columns
Extract
Parse
Change casing of text or cleanse text.
Statistics
Standard
Scientific
Trigonometry
Rounding
Information
From Number
Date
Time
Duration
From Date & Time
Text Analytics
Vision
AI Insights
Queries [9]
classic_models_dataset
customers
employees
offices
order details
orders
payments
productlines
products
= Table.TransformColumnTypes(#"Promoted Headers",{{"productCode", type text}, {"productName", type
oductDescription
quantityInStock
buyPrice
MSRP
1 plica features working kickstand, front suspension, gear-shift le... 7933 48.81
2 le front wheels; steering function; detailed interior; detailed en... 7305 98.58 2
3 l Moto Guzzi logos and insignias, saddle bags located on side of ... 6625 68.99 11
4 features, official Harley Davidson logos and insignias, detachabl... 5582 91.02 19
sion diecast replica, baked enamel finish, 1:10 scale model, remova
5 es include: Turnable front wheels; steering function; detailed int... 3252 85.68
6 es include: Turnable front wheels; steering function; detailed int... 6791 103.42 14
7 doors and trunk all open to reveal highly detailed interior featur... 68 95.34 19
8 le front wheels; steering function; detailed interior; detailed en... 3619 95.59 2
9 features 30 windows, skylights & glare resistant glass, working ... 1579 77.9 13
10 l logos and insignias, saddle bags located on side of motorcycle, ... 9997 66.27 15
11 ale die-cast about 10 long doors open 6906 89.14 15
12 ale model of a 1968 Dodge Charger. Hood, doors and trunk all o... 9123 75.16 11
13 le front wheels; steering function; detailed interior; detailed en... 1049 83.05 17
14 etailed 1970 Plymouth Cuda model in 1:12 scale. The Cuda is ge... 5663 31.92
15 ale die-cast about 20 long Hood opens 6125 55.7 1
16 d model of the 1969 Dodge Charger. This model includes finely ... 7323 58.73 11
17 odel features soft rubber tires, working steering, rubber mud gu... 2613 58.33 11
18 odel features, opening hood, opening doors, detailed engine, re... 3975 83.51 14
19 es opening engine cover, doors, trunk, and fuel filler cap. Color ... 8693 60.62 10
Query Settings
PROPERTIES
Name
products
All Properties
APPLIED STEPS
Source
Navigation
Imported CSV
Promoted Hea
Changed Type

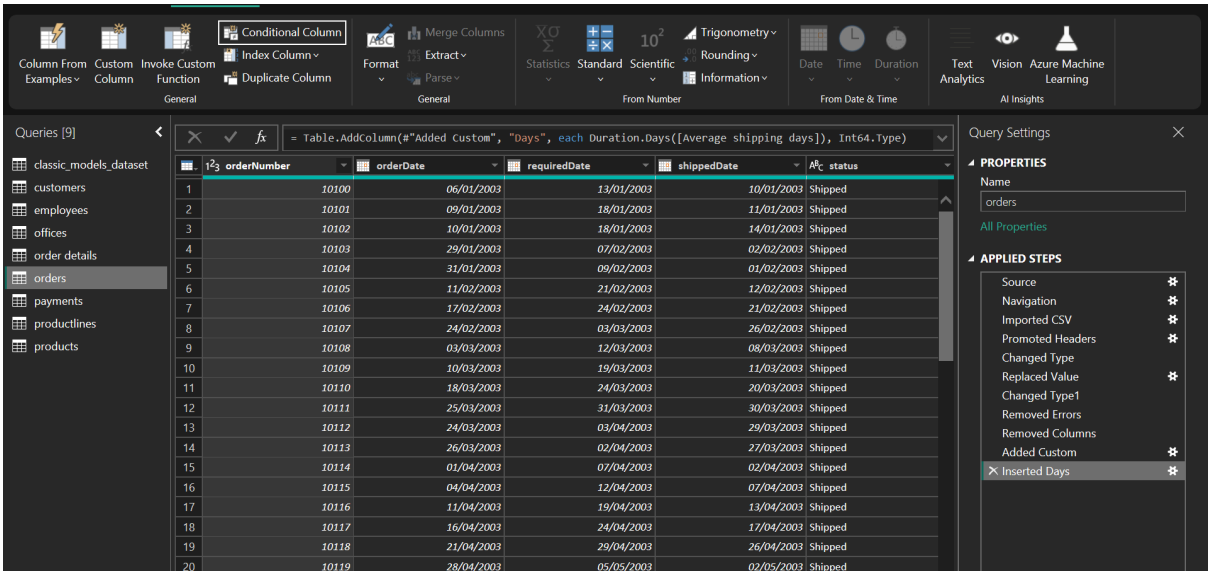

Add Conditional Column
Add a conditional column that is computed from the other columns or values.
New column name
Custom
Column Name
Operator
Value
Output
If
quantityInStock
is greater than or...
1000
Then
not required
Add Clause
Else
required
OK
Cancel

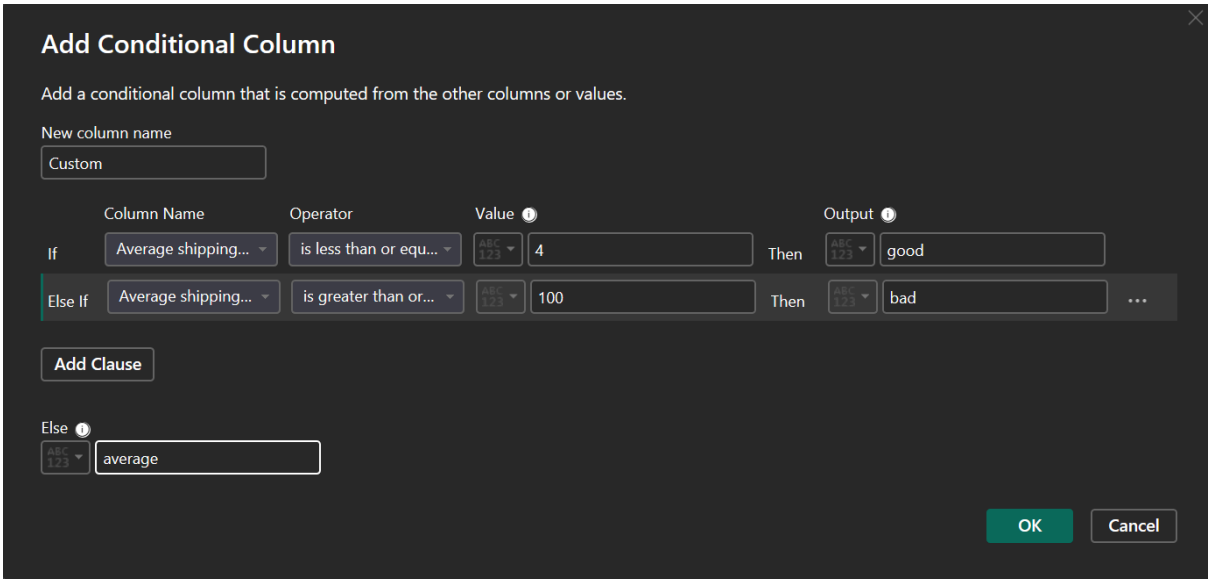
Perform basic math operations.

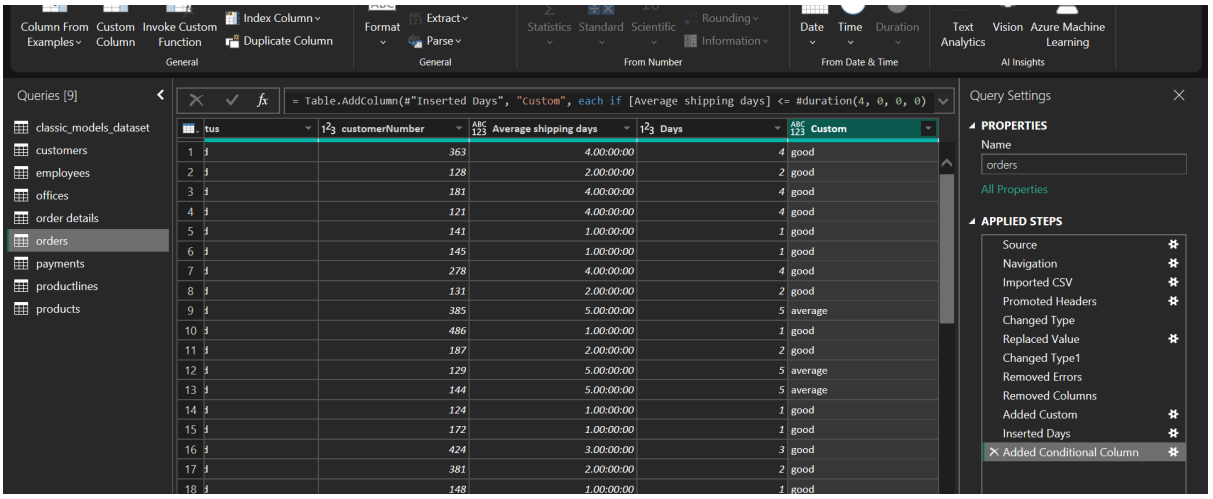
```
= Table.AddColumn(#"Changed Type", "Custom", each if [quantityInStock] >= 1000 then "not required"
```

		quantityInStock	buyPrice	MSRP	Custom
1	suspension, gear-shift le...	7933	48.81	95.7	not required
2	ailed interior; detailed en...	7305	98.58	214.3	not required
3	e bags located on side of ...	6625	68.99	118.94	not required
4	s and insignias, detachabl... sh, 1:10 scale model, remova	5582	91.02	193.66	not required
5	ering function; detailed int...	3252	85.68	136	not required
6	ering function; detailed int...	6791	103.42	147.74	not required
7	ly detailed interior featur...	68	95.34	194.57	required
8	ailed interior; detailed en...	3619	95.59	207.8	not required
9	e resistant glass, working ...	1579	77.9	136.67	not required
10	ed on side of motorcycle, ...	9997	66.27	150.62	not required
11		6906	89.14	151.08	not required
12	ood, doors and trunk all o...	9123	75.16	117.44	not required
13	ailed interior; detailed en...	1049	83.05	173.02	not required
14	1:12 scale. The Cuda is ge...	5663	31.92	79.8	not required
15	s	6125	55.7	118.5	not required
16	his model includes finely ...	7323	58.73	115.16	not required
17	g steering, rubber mud gu...	2613	58.33	116.67	not required
18	doors, detailed engine, re...	3975	83.51	141.54	not required
19	and fuel filler cap. Color ...	8693	60.62	102.74	not required
20	y die-cast metal and has a...	8635	24.26	53.91	not required

Orders table (else if clause)







Conclusion:

Power BI provides a comprehensive set of preprocessing tools to clean and structure raw data. These preprocessing steps help in ensuring data quality and accuracy before further analysis. By applying various transformations, you can prepare your data for detailed analysis, thus enhancing the insights derived from visualizations.