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Introduction to Data Visualization using Power Bi

September 2021

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Introduction to Power BI

What is Power BI?

- Power BI is a cloud-based business analysis and intelligence service by Microsoft. It is a collection of business intelligence and data visualization tools such as software services, apps and data connectors.

Microsoft offers three types of Power BI platforms:

- Power BI Desktop (A desktop application)
- Power BI Service (SaaS i.e., Software as a Service)
- Power BI Mobile (For iOS and Android devices)

Introduction to Power Bi

History of Power BI

- Power BI is a Microsoft's product initially released on 11th July 2011. It was originally designed and created by Ron George in 2010, who released it with the name "Project Crescent". Later in September of 2013, Microsoft changed the name to Power BI and launched it for the public.
- Power BI's first general public release was on July 24th, 2015. As of 2019, Power BI has been officially declared as one of the leading BI tools by 2019 *Gartner Magic Quadrant for Analytics and Business Intelligence Platform*.

Connecting to a Data Source

Connecting to Data Sources

Data Sources

Power BI can already connect to over 110 different data sources and connection types, with more being added. As well as connecting to Text/CSV files.

Commonly used Power BI data sources include:

- File (Excel, Text/CSV, XML, JSON, PDF).
- Database (SQL Server, Oracle, IBM DB2, MySQL, PostgreSQL, Snowflake, etc).
- Power Platform (Power BI datasets, Power BI Dataflows, Common Data Services)
- Azure (SQL Database, Synapse Server, Analysis Services, Blob Storage, Data Lake, Cosmos DB, etc).

Connecting Modes

Some data sources allow you to choose the Data Connectivity mode (i.e. connecting directly to data). There are four options available:

- Import
- DirectQuery
- Mixed Mode
- Connect Live

Sample Dashboard

LOANS DASHBOARD

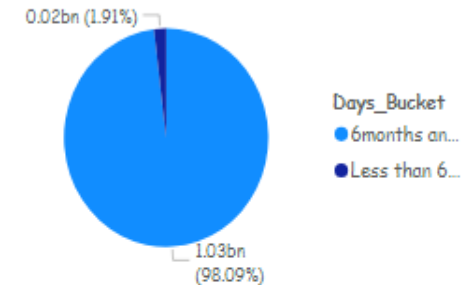
Total Amount Disbursed

1.05bn

AMOUNT DISBURSED by Customer

Valerie Gates

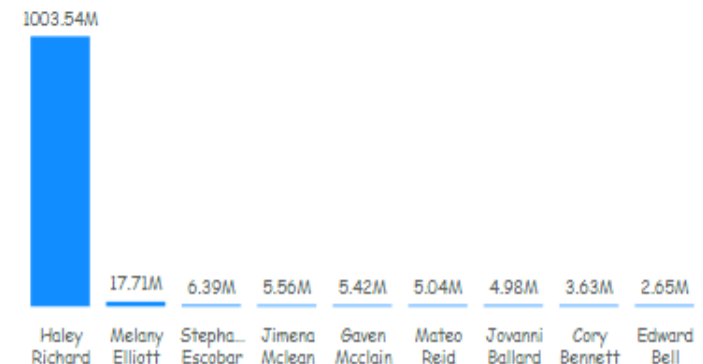
AMOUNT DISBURSED by Days_Bucl ...



AMOUNT DISBURSED by PRODUCT



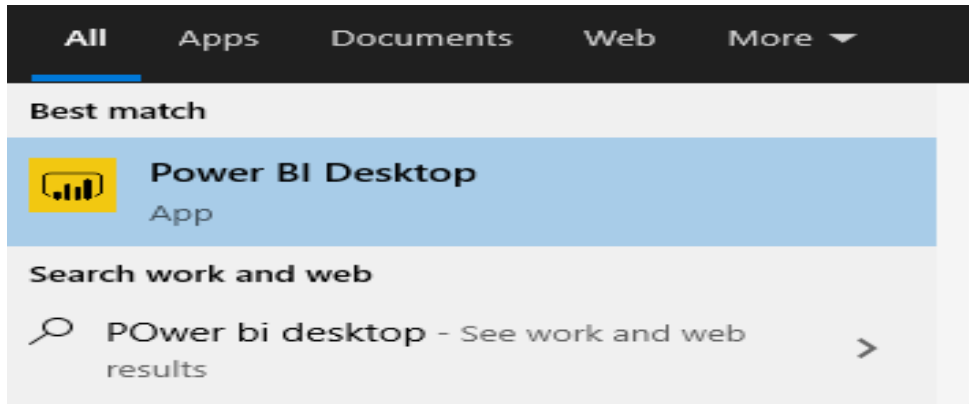
Total Amount by RELATIONSHIP_MANAGER



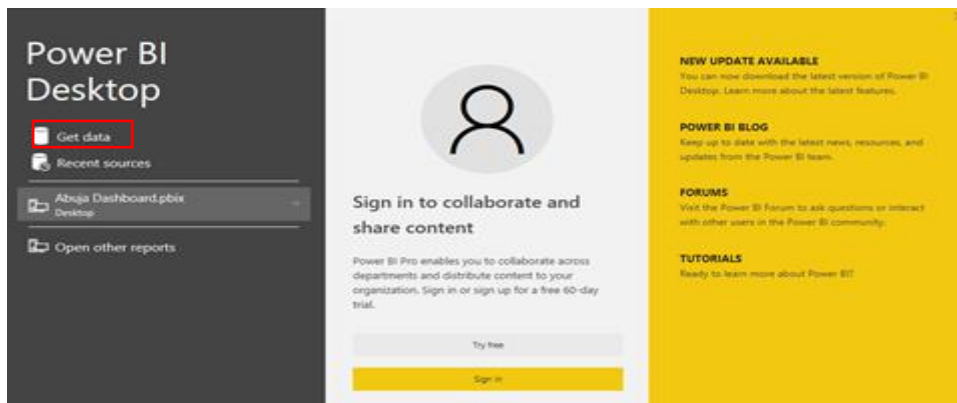
Importing Data

Importing Data

- Open **Power BI Desktop** as shown in the Figure below.



- When you launch Power BI Desktop, a welcome splash screen is displayed
- To connect to the sample data for this exercise, select **Get data**

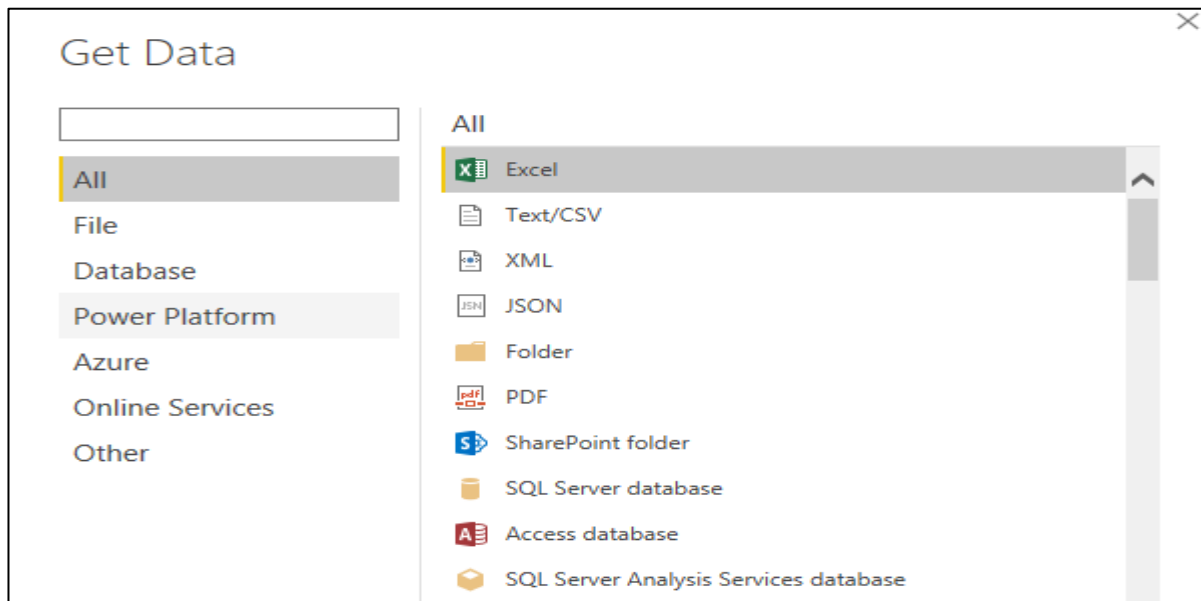


Importing Data

- Alternatively, click the Get data button from the Home tab on the ribbon bar

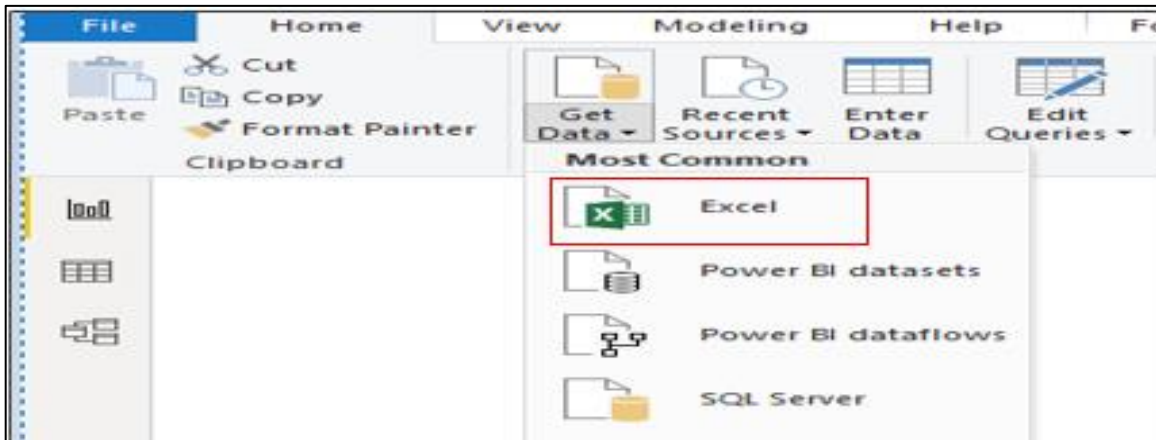


- Selecting the down arrow on the Get data button shows the most common data sources menu. Click on get more to see the list..

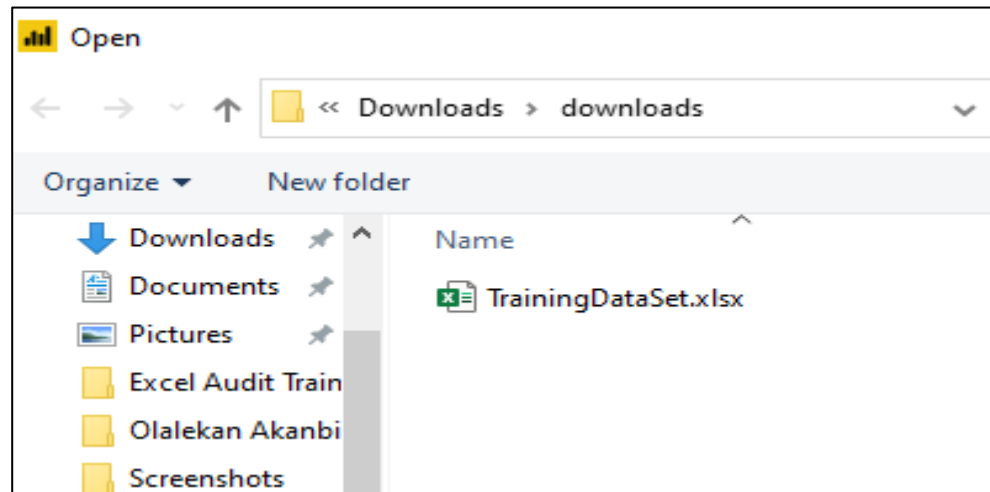


Importing Data

Select **Excel** from the list



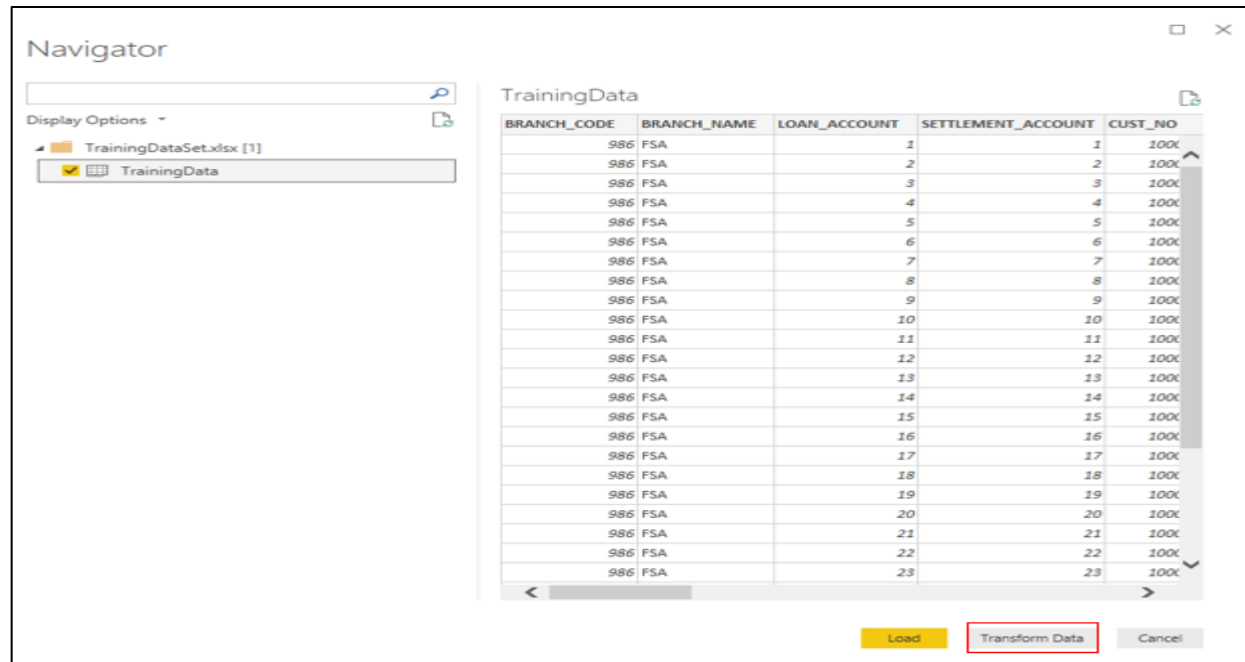
- Browse to the **download** files, select the file **TrainingDataSet.xlsx** and click **Open**.



Transforming Data

Transforming Data

- We have two options, **Load** or **Transform Data**. We want to transform our data, so we click the **Transform Data** button.



- Clicking Load will import the tables exactly as is. It is still possible to transform the data later by clicking the Transform Data button from the Home tab in Power BI Desktop.

Transforming Data



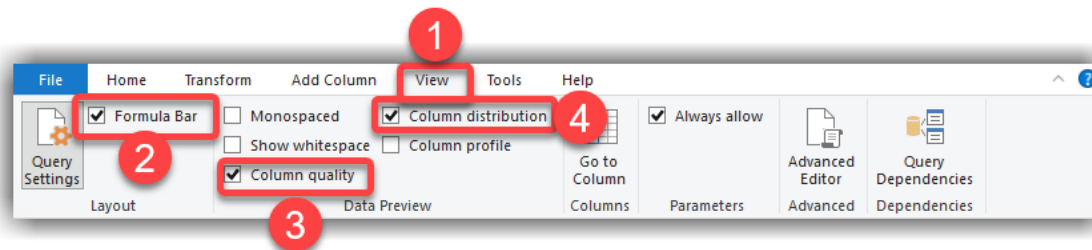
Clicking Transform Data opens a separate window - the Power Query Editor: a powerful data profiling and data preparation tool.

Let's take a moment to explore the Power Query interface.

The Application Ribbon contains all options and settings. Complete the steps:

1. Click the View tab from the ribbon. Make sure the following are ticked:
2. Formula Bar
3. Column quality
4. Column distribution

Note: If show white space is ticked, you can leave as is.



Transforming Data

The application ribbons contain all options and settings, transformations, and other settings configurations.

The Column header shows the column name and data type (Number, Date, Text, True/False etc.)

1-3	BRANCH_CODE	A-8	BRANCH_NAME	1-2	LOAN_ACCOUNT	1-2	SETTLEMENT_ACCOU...	1-2	CUST_NO	A-8	CUSTOMER
-----	-------------	-----	-------------	-----	--------------	-----	---------------------	-----	---------	-----	----------

The Column quality bar shows details on the number of valid, empty and error records in the data.

Valid	100%	Valid	100%	Valid	100%	Valid	100%	Valid	100%	Valid	100%
Error	0%	Error	0%	Error	0%	Error	0%	Error	0%	Error	0%
Empty	0%	Empty	0%	Empty	0%	Empty	0%	Empty	0%	Empty	0%

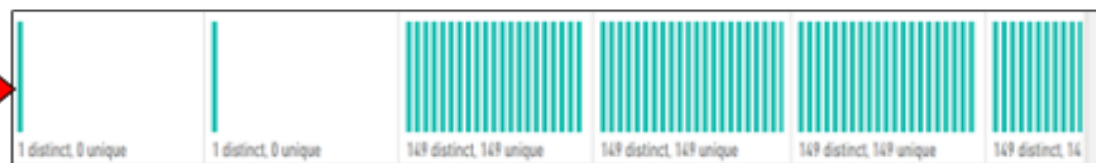
The left pane shows different Queries. These can be the tables you selected for import or custom functions

Queries [2]
Sheet1
TrainingData

APPLIED STEPS	
Source	⊞
Navigation	⊞
Promoted Headers	⊞
✕ Changed Type	

The Applied Step on the right shows a list of data transformations that have been applied to the data.

The Column distribution bar provides counts of distinct and unique values.

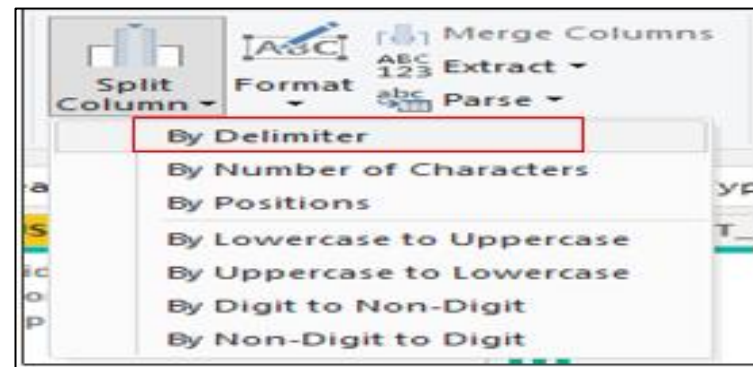
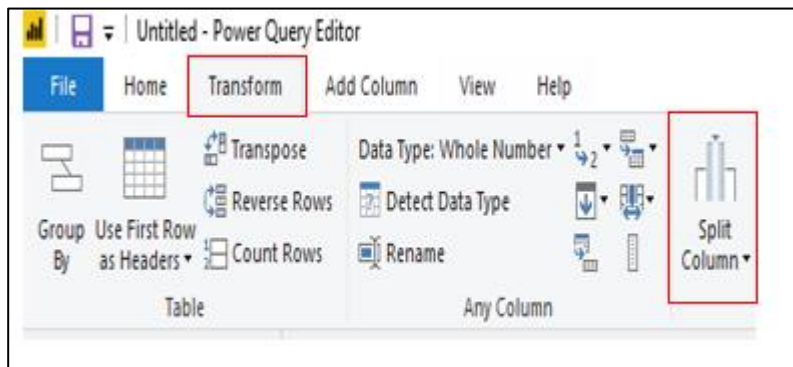


Transforming Data

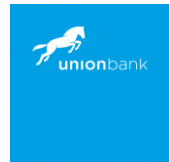
Power Query allows us to split a column into one or more other columns. There are various options available under the Split Column dropdown.

We will be using By Delimiter to split the Name into First and Last Name.

- Go to the Queries pane on the left and select TrainingData.
- Select the Customer Name column.
- From the ribbon bar, go to the Transform tab, click Split Column and select By **Delimiter**.



Transforming Data

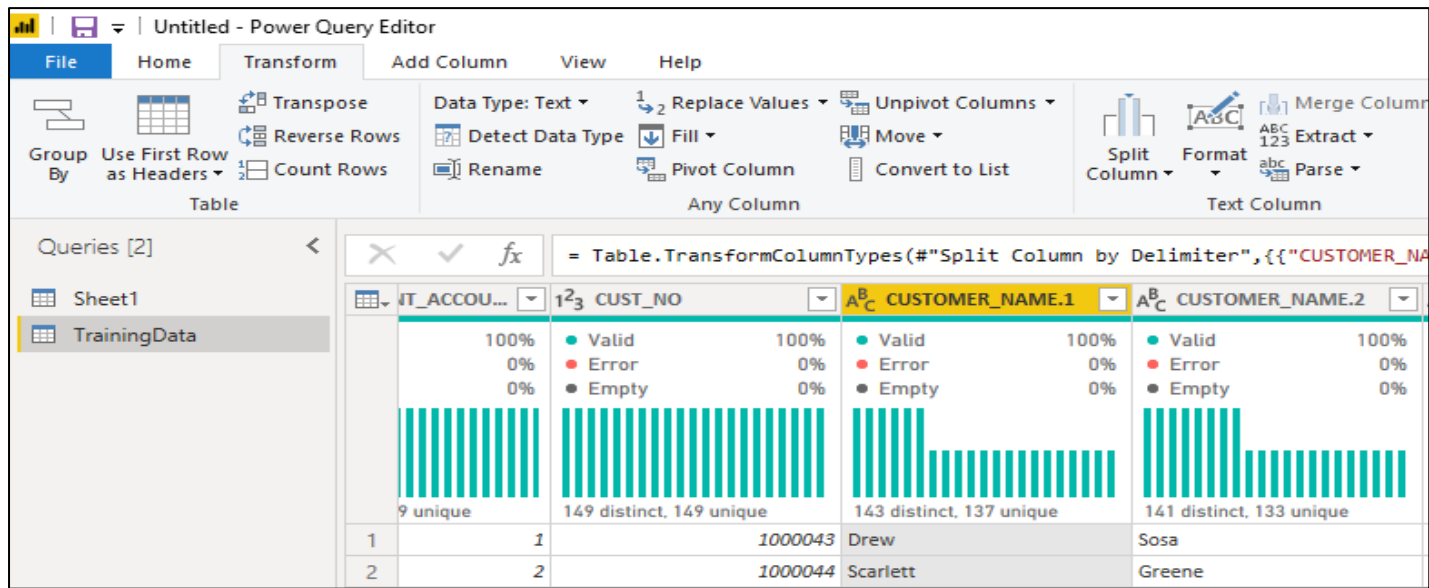


- In the dialog box, ensure **Select or enter delimiter** is set to **Space**.
- Select **Each occurrence of the delimiter** and click **OK**.

A screenshot of the "Split Column by Delimiter" dialog box. The title bar says "Split Column by Delimiter" with a close button (X) in the top right corner. Below the title, it says "Specify the delimiter used to split the text column." There is a section labeled "Select or enter delimiter" with a dropdown menu showing "Space". Below that is a section labeled "Split at" with three radio button options: "Left-most delimiter", "Right-most delimiter", and "Each occurrence of the delimiter". The "Each occurrence of the delimiter" option is selected. At the bottom left, there is a link "Advanced options" with a right-pointing triangle. At the bottom right, there are two buttons: "OK" (yellow) and "Cancel" (gray).

- The Customer_Name column is split into Customer_Name.1 that has the First Name and Customer_Name.2 that has the Last Name. The splitting column by delimiter action above creates a new applied step as shown in the next figure:

Transforming Data



Renaming Columns

We will rename the two columns created by the splitting of the Name column. There are a couple of ways to do this: either double click the Header name or right-click the header and select rename.

- Double click the Customer_Name.1 Header and rename it to FirstName.
- Right click the Customer _Name.2 Header and rename it to LastName.

Transforming Data

Untitled - Power Query Editor

File Home Transform Add Column View Help

Group By Use First Row as Headers Count Rows Table

Data Type: Text Replace Values Unpivot Columns Detect Data Type Fill Move Merge Columns Split Column Format Extract Parse Statistics Standard Scientific Number Columns

Queries [1] Sheet1

Table: Table.RenameColumns(#"Changed Type1",{{"CUSTOMER_NAME.1", "FirstName"}})

ACCOUN...	CUST_NO	FirstName	CUSTOMER...
1	1	1000043	Drew
2	2	1000044	Scarlett
3	3	1000045	Cannon
4	4	1000046	Nina
5	5	1000047	Nylah
6	6	1000048	Shayna
7	7	1000049	Aryanna
8	8	1000050	Frances
9	9	1000051	Zaid
10	10	1000052	Jimena
11	11	1000053	Rhett
12	12	1000054	Madelyn
13	13	1000055	Barbara

100% Valid 0% Error 0% Empty

149 distinct, 149 unique

143 distinct, 137 unique

141 distinct, 133

Copy Remove Remove Other Columns Duplicate Column Add Column From Examples... Remove Duplicates Remove Errors Change Type Transform Replace Values... Replace Errors... Split Column Group By... Fill Unpivot Columns Unpivot Other Columns Unpivot Only Selected Columns Rename...

Transforming Data

Adding Columns

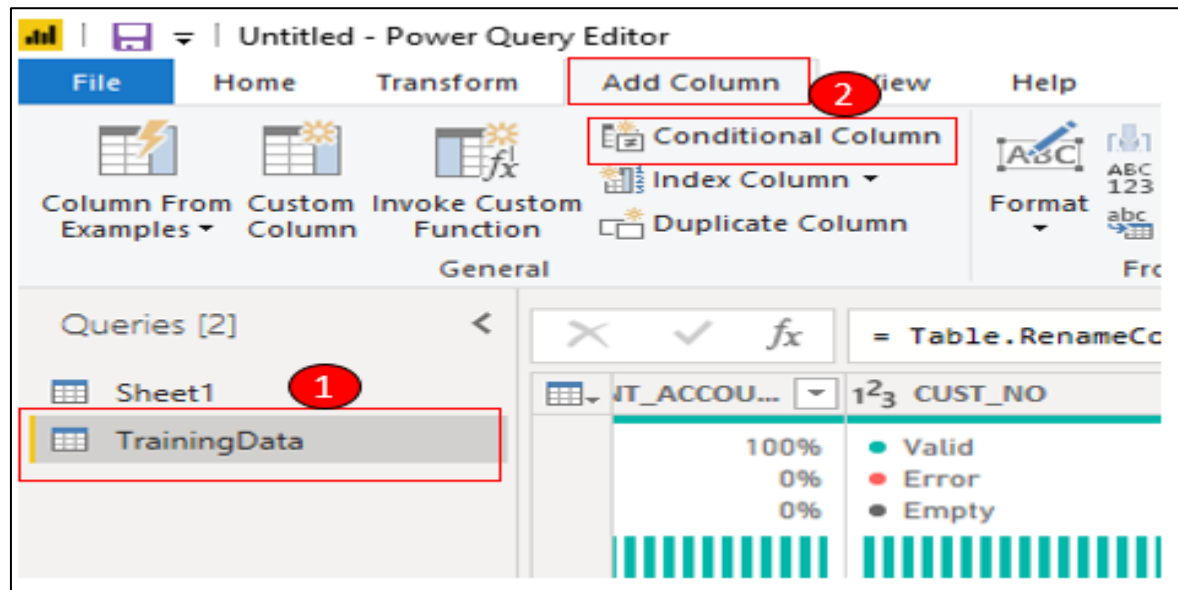
There is a dedicated tab in the Ribbon bar for adding columns. In the next few steps, we use a Conditional Column and a Column from Example to add new columns.

In the steps below, we will add a new conditional column DaysBucket.

1. Go to the Queries pane, select the TrainingData query.

2. Go to the Ribbon bar, select Add Column, select Conditional

Column.



Transforming Data

3. In the dialog box, change column name from Custom to DaysBucket.
4. Modify the If statement to read: If Days_to_Maturity less than 180 then less than 6months.
5. Click Add Clause.

×

Add Conditional Column

Add a conditional column that is computed from the other columns or values.

New column name

DaysBucket

3

	Column Name	Operator	Value ①		Output ①
If	DAYS_TO_MATUR...	is less than	ABC 123 180	Then	ABC 123 Less than 6months
Else If			ABC 123	Then	ABC 123

Add Clause

5

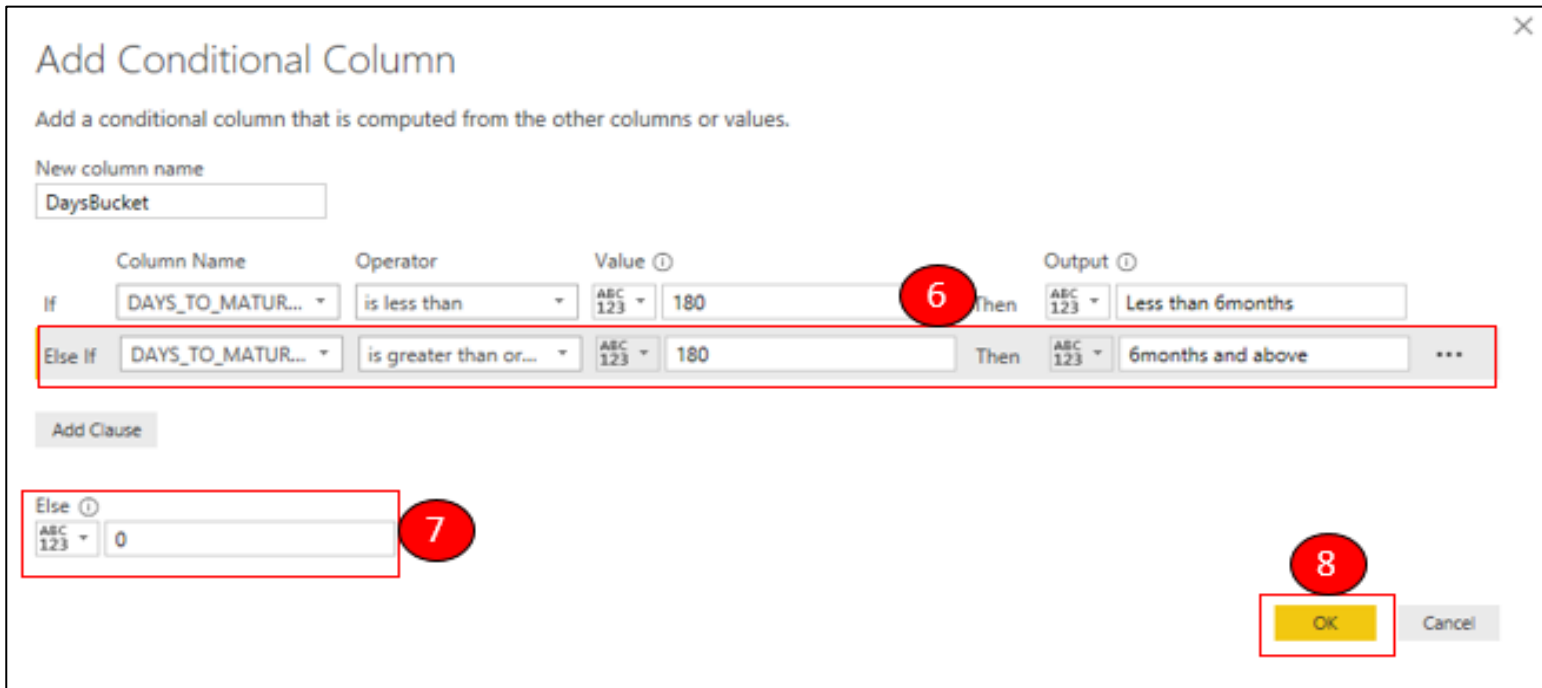
Transforming Data

6. Add the additional 'if' clauses for the remaining values.

7. Enter 0 for Else, this will assign 0 to any remaining records including those with the value 'None'.

8. Click OK and our new column will be added.

***Important: Note that Power Query is CAsE sEnSiTive.**



Add Conditional Column

Add a conditional column that is computed from the other columns or values.

New column name
DaysBucket

	Column Name	Operator	Value		Output
If	DAYS_TO_MATUR...	is less than	180	Then	Less than 6months
Else If	DAYS_TO_MATUR...	is greater than or...	180	Then	6months and above

Add Clause

Else
0

OK Cancel

Transforming Data

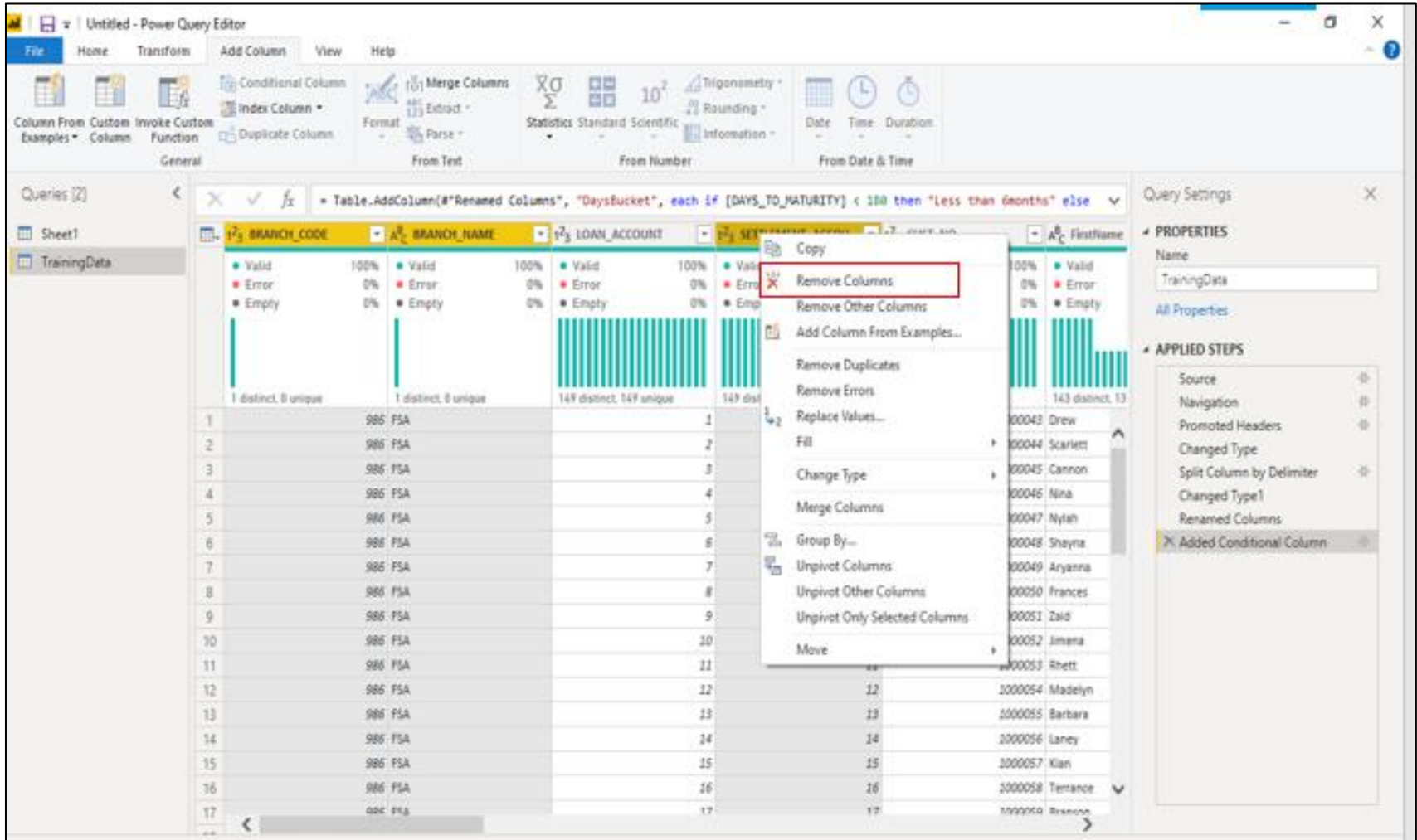
Removing Columns

We can remove columns that we no longer need e.g. duplicate columns. You can remove a column that has previously been used to create a new column, It does not impact on the data in the new column.

- Select the TrainingData query from the Queries panel.
- Hold Ctrl and click the column headers for Rm_code, start_date, Product_code, settlement_account, cust_no, branch_code and Branch_name.
- Right click in any of the selected column headers and click Remove Columns.

Transforming Data

Removing Columns



The screenshot displays the Microsoft Power Query Editor interface. The main area shows a data table with columns: BRANCH_CODE, BRANCH_NAME, LOAN_ACCOUNT, and Firstname. A context menu is open over the 'Firstname' column, with the 'Remove Columns' option highlighted. The 'Query Settings' pane on the right shows the 'TrainingData' query with a list of applied steps, including 'Added Conditional Column'.

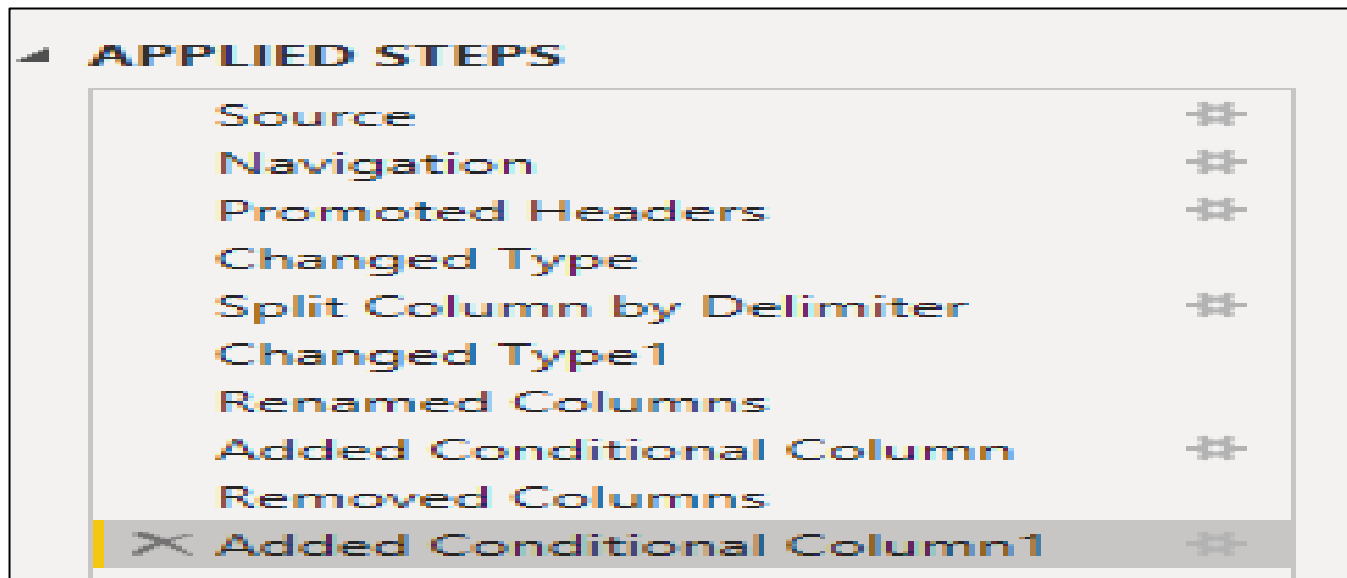
Table Data (Visible Rows):

Index	BRANCH_CODE	BRANCH_NAME	LOAN_ACCOUNT	Firstname
1	986	FSA	1	000043 Drew
2	986	FSA	2	000044 Scarlett
3	986	FSA	3	000045 Cannon
4	986	FSA	4	000046 Nina
5	986	FSA	5	000047 Nyiah
6	986	FSA	6	000048 Shayna
7	986	FSA	7	000049 Aryanna
8	986	FSA	8	000050 Frances
9	986	FSA	9	000051 Zaid
10	986	FSA	10	000052 Jisena
11	986	FSA	11	000053 Rhett
12	986	FSA	12	000054 Madelyn
13	986	FSA	13	000055 Barbara
14	986	FSA	14	000056 Laney
15	986	FSA	15	000057 Kian
16	986	FSA	16	000058 Terrance
17	986	FSA	17	000059 Brennan

Transforming Data

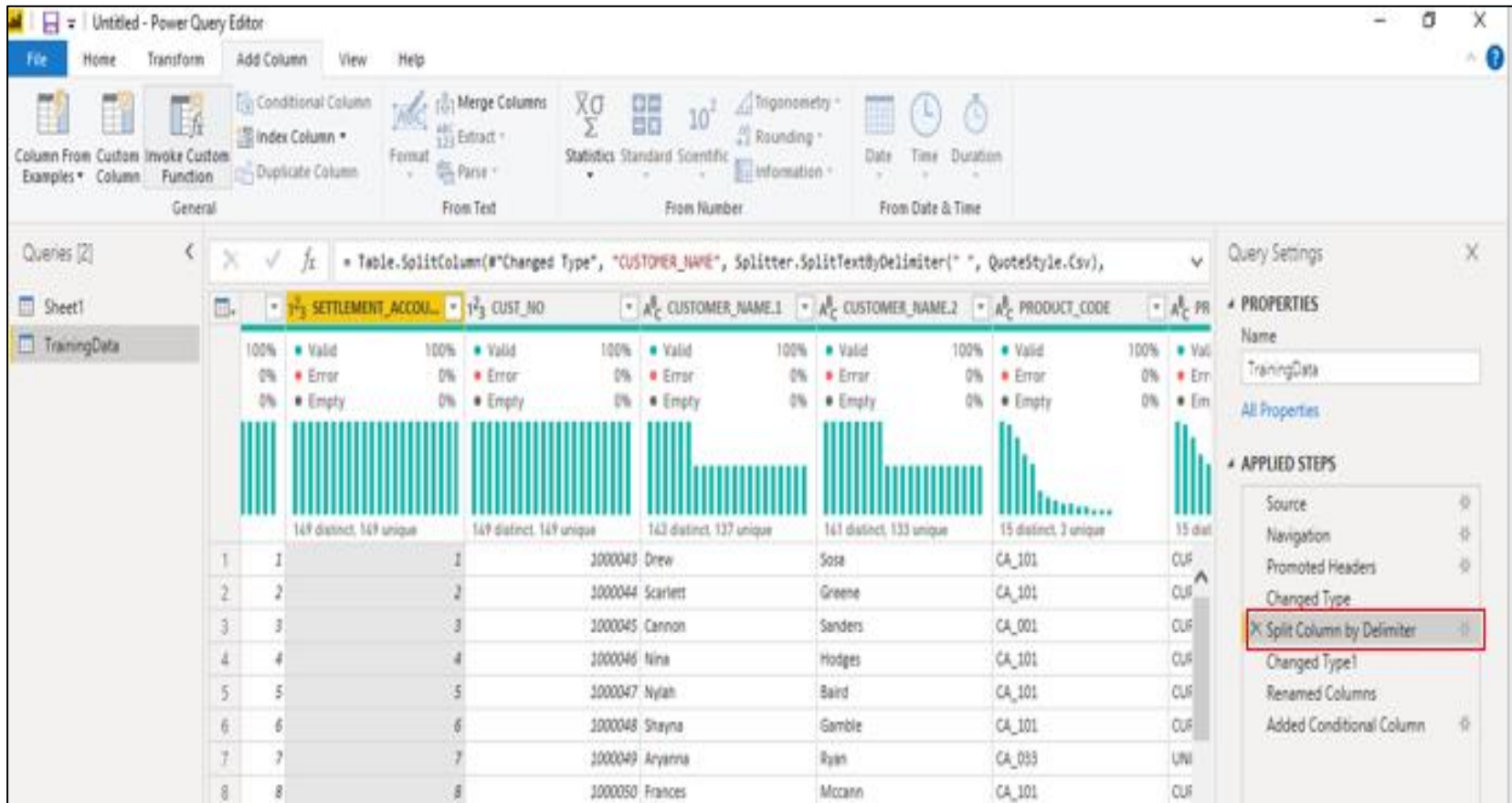
Transformation Steps

All transformations are applied as a series of steps shown in the **Query Settings** pane as shown in this Figure.



Transforming Data

It's possible to see the resulting data of each step by clicking on a desired step from the **Query Settings** pane as shown in Figure below. This makes it easy to visually inspect the data after applying each transformation step.



The screenshot displays the Power Query Editor interface. The main area shows a table with columns: SETTLEMENT_ACCOUNT_NO, CUST_NO, CUSTOMER_NAME.1, CUSTOMER_NAME.2, PRODUCT_CODE, and PR. The 'Query Settings' pane on the right is open, showing the 'APPLIED STEPS' list. The step 'Split Column by Delimiter' is selected and highlighted with a red box. The 'PROPERTIES' section shows the name 'TrainingData'.

SETTLEMENT_ACCOUNT_NO	CUST_NO	CUSTOMER_NAME.1	CUSTOMER_NAME.2	PRODUCT_CODE	PR
1	1	1000043	Drew	Sosa	CA_101
2	2	1000044	Scarlett	Greene	CA_101
3	3	1000045	Cannon	Sanders	CA_001
4	4	1000046	Nina	Hodges	CA_101
5	5	1000047	Nylah	Baird	CA_101
6	6	1000048	Shayna	Gamble	CA_101
7	7	1000049	Aryanna	Ryan	CA_033
8	8	1000050	Frances	Mccann	CA_101

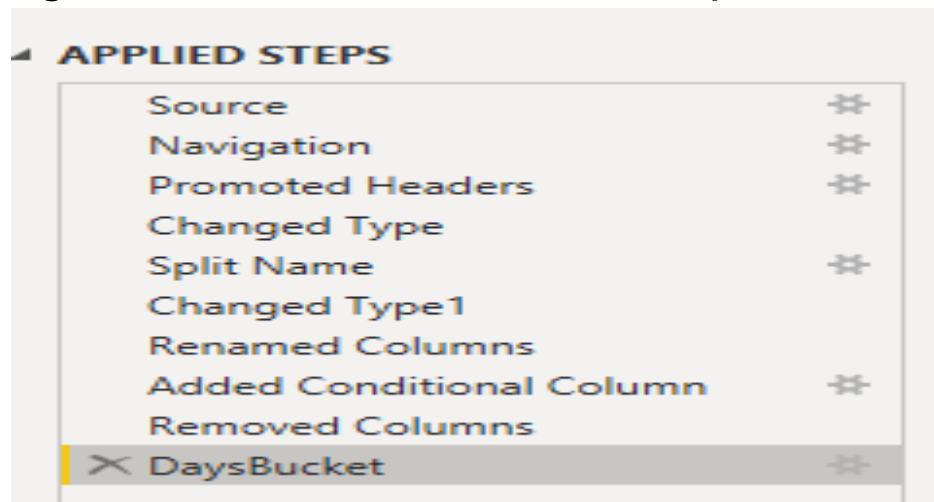
Transforming Data

Renaming an applied step

The existing steps can be renamed within the Power Query Editor. This shows what the step did and makes future modification easier.

- Select the TrainingData query in the Queries panel.
- Right click the Split Column by Delimiter step.
- Click Rename from the context menu and change to Split Name.
- Right click the Added Conditional Column step.
- Click Rename and change to Add DaysBucket.

The next Figure shows the renamed steps.



Transforming Data



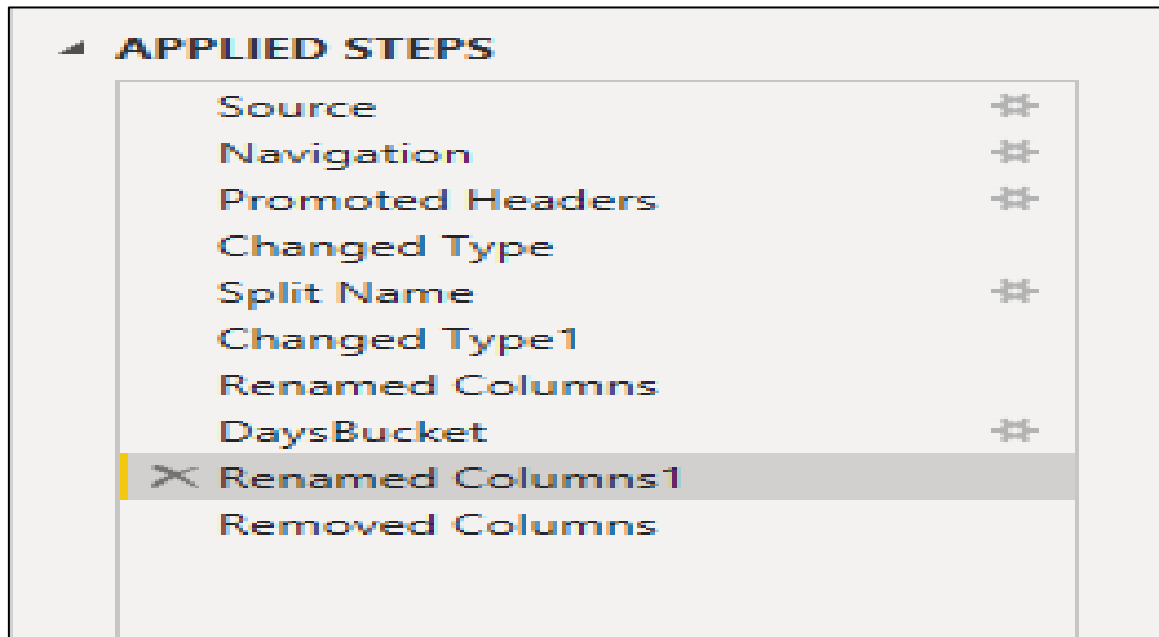
Adding a step between an applied step

The results of the last step contain the data that will be imported into the data model and available for visualisation. Let's add a step that renames DaysBucket to Days_Bucket, but we'll add it after the DaysBucket column was added.

1. Select the TrainingData query in the Queries pane.
2. Go to the Applied Steps pane and click Add DaysBucket.
3. Right click DaysBucket column
4. Select Rename
5. Type Days_Bucket and press enter
6. A popup will ask if you are sure you want to insert the step. Click Insert.

You should see a step called Renamed Columns1 is added between Removed Columns and Add DaysBucket.

Transforming Data

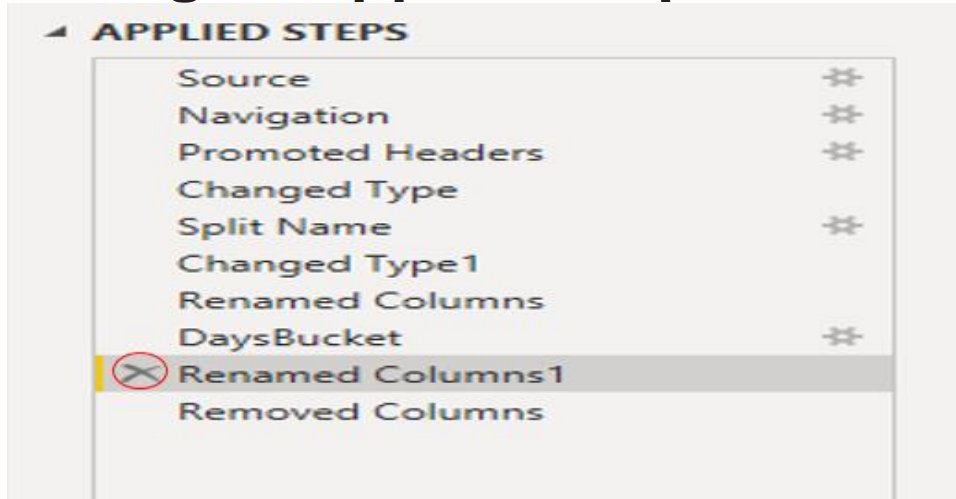


Deleting an applied step

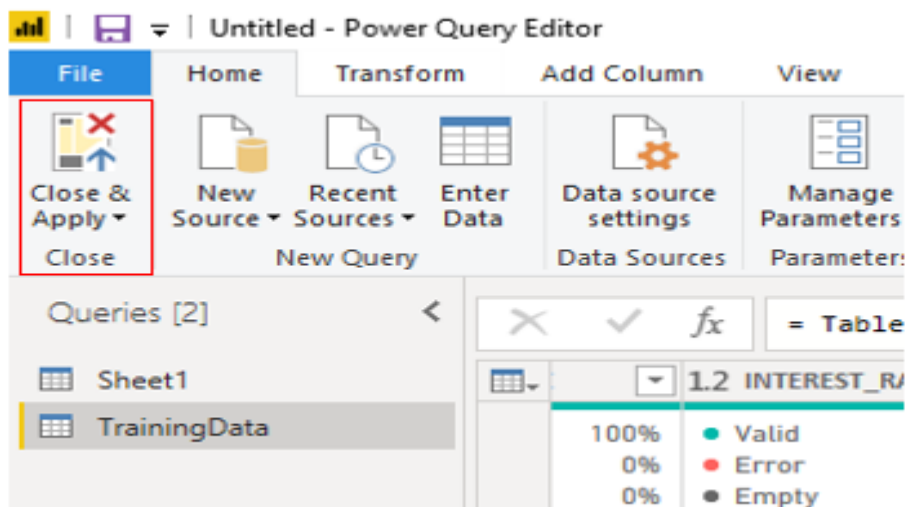
All steps can be deleted except the source steps. You can either delete just the selected step or all steps from that one until the end.

Transforming Data

Deleting an applied step



- Click on close & apply.



Modelling the Data

Modelling the Data



Data modelling is one of the most important aspects of data analysis, regardless of the tools we use, and Power BI is not an exception. After we import data into the data model, we need to create analytical calculations and implement the business logics available for data visualization.

Creating Calculated Columns and Measures with DAX

A data model consists of Tables and their Relationships. There are also other elements included in the data modelling:

1. Calculated Tables
2. Calculated Columns
3. Measures

All these can be created programmatically using DAX.

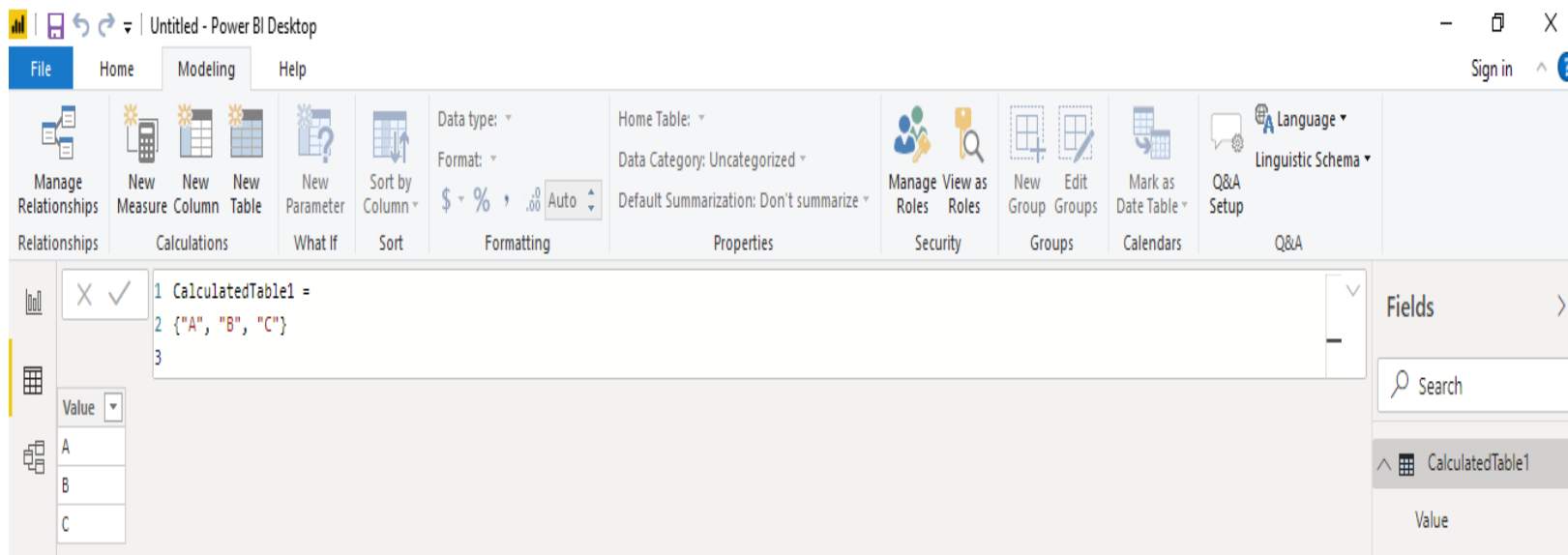
Modelling the Data

Calculated Tables

On some occasions, you need to add new tables based on data you've already loaded into the model. These tables can be created using DAX.

You can also use table constructor in DAX to create a calculated table. Table constructor isn't a function; it's a set of characters that allow you to create a table in DAX. For example, the following DAX expression creates a table with one column.

```
CalculatedTable1 =  
{ "A", "B", "C" }
```



The screenshot shows the Power BI Desktop interface. The top ribbon includes tabs for File, Home, Modeling, and Help. The Modeling tab is active, showing various tools for managing relationships, calculations, and properties. The DAX formula bar is open, displaying the following expression:

```
1 CalculatedTable1 =  
2 { "A", "B", "C" }  
3
```

The Fields pane on the right shows the calculated table 'CalculatedTable1' with a single column named 'Value'. The 'Value' column contains the data points 'A', 'B', and 'C'.

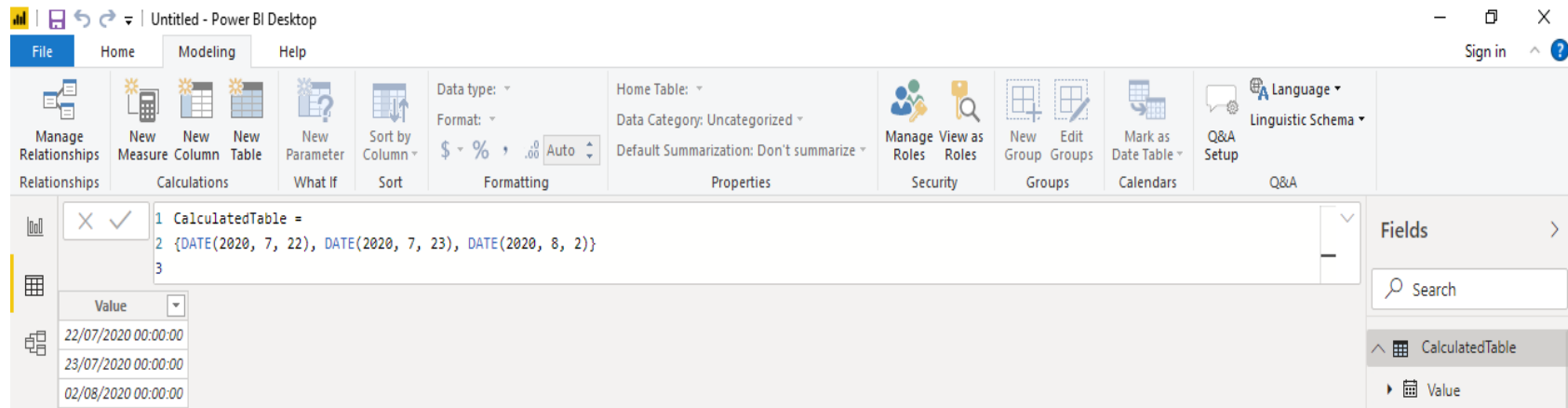
Modelling the Data

You can use curly brackets {} to construct a table. This is a simple form of using table constructor in DAX.

- Start of table construct - open curly bracket {
- “A”, “B” and “C” are the values of a single column
- End of table construct - close curly bracket }

You can use any scalar DAX expressions in the values. The example below creates another calculated table using the table constructor and the DATE() function:

```
CalculatedTable=  
{DATE(2020, 7, 22), DATE(2020, 7, 23), DATE(2020, 8, 2)}
```



The screenshot shows the Power BI Desktop interface. The top ribbon includes tabs for File, Home, Modeling, and Help. The Modeling tab is active, showing options like Manage Relationships, New Measure, New Column, New Table, New Parameter, Sort by Column, Data type, Format, Home Table, Data Category, Default Summarization, Manage Roles, View as Roles, New Group, Edit Groups, Mark as Date Table, Q&A Setup, Language, and Linguistic Schema. The DAX formula bar shows the following code:

```
1 CalculatedTable =  
2 {DATE(2020, 7, 22), DATE(2020, 7, 23), DATE(2020, 8, 2)}  
3
```

Below the formula bar, a preview of the calculated table is shown with the following data:

Value
22/07/2020 00:00:00
23/07/2020 00:00:00
02/08/2020 00:00:00

On the right side, the Fields pane shows the calculated table 'CalculatedTable' with a column 'Value'.

Modelling the Data



Calculated columns

Calculated columns are the new columns created in the data model using DAX. There are many scenarios when you want to create a calculated column; the general rule of thumb is that you only create a new calculated column if:

- There's a complex scenario and you want to create calculated columns to use them in other calculations like measures.
- You need to create a new calculated column to be used in a slicer or as a filter on a report element.

Other than that, you should avoid creating new calculated columns as there's risk of performance degradation.

How To Create Calculated Columns:

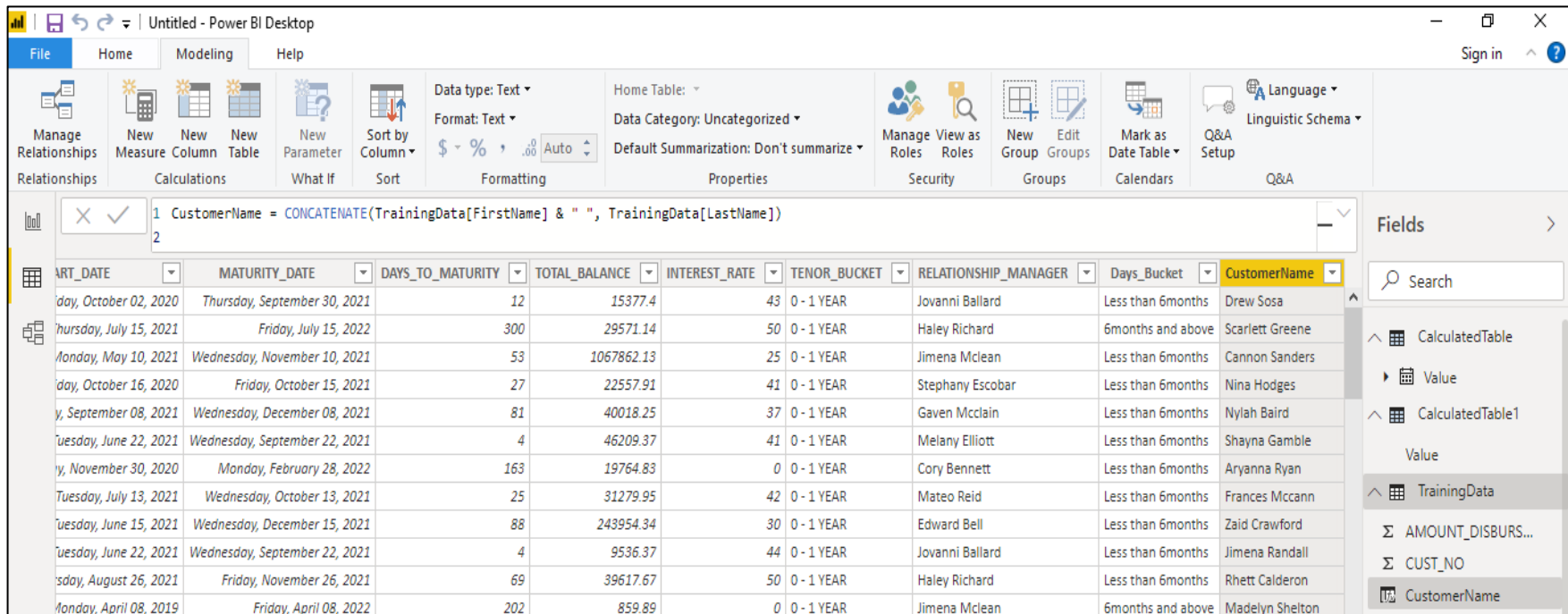
- A. Right click on a table from the Fields pane and select New Column.
- B. Select a table from the Fields pane: select New Column from the Table Tools tab.
- C. Select a table from the Fields pane: select New Column from the Modelling tab.

Modelling the Data

Let's have a look at Calculated Columns in action. Follow the steps below:

1. Click the **Data view** tab from the left pane.
2. Go to the **Fields** column on the right, select **TrainingData**.
3. Right click, go to **New column**. Type in the expression below.
4. Press enter.

```
CustomerName = CONCATENATE(TrainingData[FirstName] & " ", TrainingData[LastName])
```



The screenshot shows the Power BI Desktop interface. The 'Modeling' tab is selected in the ribbon. The formula bar contains the expression: `1 CustomerName = CONCATENATE(TrainingData[FirstName] & " ", TrainingData[LastName])`. The 'Fields' pane on the right shows the 'TrainingData' table selected. The main view displays a table with the following columns: ART_DATE, MATURITY_DATE, DAYS_TO_MATURITY, TOTAL_BALANCE, INTEREST_RATE, TENOR_BUCKET, RELATIONSHIP_MANAGER, Days_Bucket, and CustomerName. The 'CustomerName' column is highlighted in yellow.

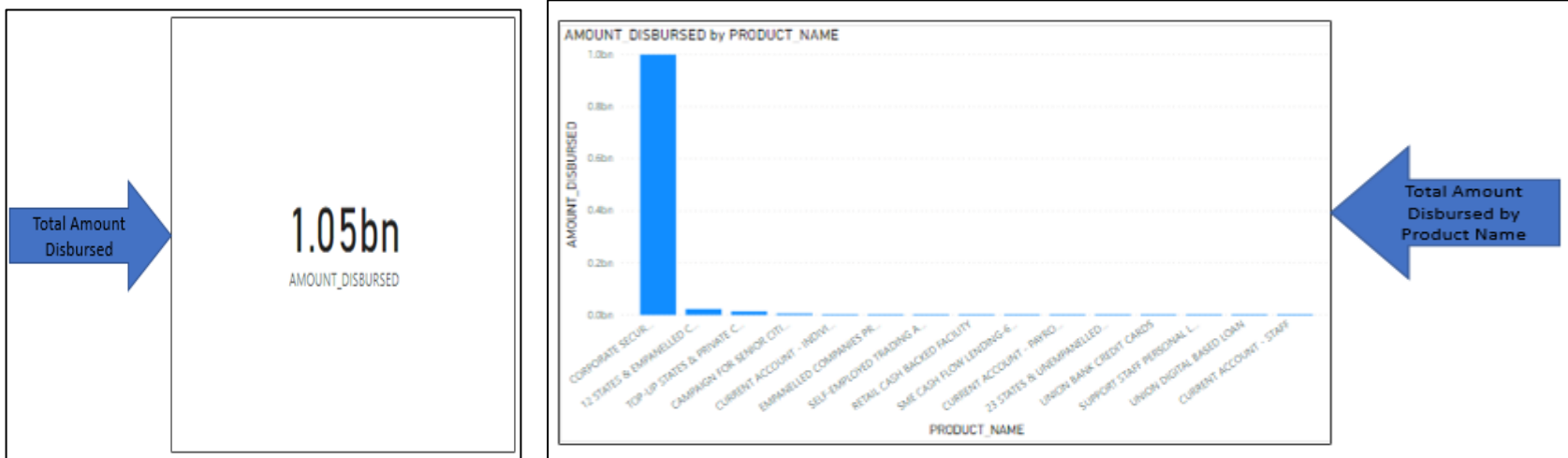
ART_DATE	MATURITY_DATE	DAYS_TO_MATURITY	TOTAL_BALANCE	INTEREST_RATE	TENOR_BUCKET	RELATIONSHIP_MANAGER	Days_Bucket	CustomerName
day, October 02, 2020	Thursday, September 30, 2021	12	15377.4	43	0 - 1 YEAR	Jovanni Ballard	Less than 6months	Drew Sosa
Thursday, July 15, 2021	Friday, July 15, 2022	300	29571.14	50	0 - 1 YEAR	Haley Richard	6months and above	Scarlett Greene
Monday, May 10, 2021	Wednesday, November 10, 2021	53	1067862.13	25	0 - 1 YEAR	Jimena Mclean	Less than 6months	Cannon Sanders
day, October 16, 2020	Friday, October 15, 2021	27	22557.91	41	0 - 1 YEAR	Stephany Escobar	Less than 6months	Nina Hodges
ay, September 08, 2021	Wednesday, December 08, 2021	81	40018.25	37	0 - 1 YEAR	Gaven McClain	Less than 6months	Nylah Baird
Tuesday, June 22, 2021	Wednesday, September 22, 2021	4	46209.37	41	0 - 1 YEAR	Melany Elliott	Less than 6months	Shayna Gamble
ay, November 30, 2020	Monday, February 28, 2022	163	19764.83	0	0 - 1 YEAR	Cory Bennett	Less than 6months	Aryanna Ryan
Tuesday, July 13, 2021	Wednesday, October 13, 2021	25	31279.95	42	0 - 1 YEAR	Mateo Reid	Less than 6months	Frances Mccann
Tuesday, June 15, 2021	Wednesday, December 15, 2021	88	243954.34	30	0 - 1 YEAR	Edward Bell	Less than 6months	Zaid Crawford
Tuesday, June 22, 2021	Wednesday, September 22, 2021	4	9536.37	44	0 - 1 YEAR	Jovanni Ballard	Less than 6months	Jimena Randall
Friday, August 26, 2021	Friday, November 26, 2021	69	39617.67	50	0 - 1 YEAR	Haley Richard	Less than 6months	Rhett Calderon
Monday, April 08, 2019	Friday, April 08, 2022	202	859.89	0	0 - 1 YEAR	Jimena Mclean	6months and above	Madelyn Shelton

Modelling the Data

Measures

Measures are normally analytical calculations: summations, calculating averages, minimum, maximum, counts and so on. You can use the measures for visuals in Power BI.

The result of the measures change depending on how we interact with them in different visuals. For instance, you create a measure to calculate Amount_disbursed. If you put the Amount_disbursed on a Card visual, it shows total Amount disbursed over the whole data. If you use the same measure in a Column Chart with Product_Name on the Axis, the measure always calculates the correct results for each category.



Modelling the Data



You can create measures in various ways, just the way you create calculated columns - either from the Report view or from the Data view.

- A. Right click on a table from the **Fields** pane and select **New measure**.
- B. Select a table from the **Fields** pane and select **New measure** from the **Table Tools** tab.
- C. Select a table from the **Fields** pane and select **New measure** from the **Modelling** tab.

Follow these steps below:

1. Click the **Report** view on the left pane.
2. Right click the **TrainingData** table in the **Fields** pane.
3. Click **New Measure**.
4. Use the DAX expression below. This creates a **TotalAmount** measure in the **TrainingData** table.

```
TotalAmount = SUM(TrainingData[AMOUNT_DISBURSED])
```


Modelling the Data

Untitled - Power BI Desktop

File Home Modeling Help

Clipboard: Paste, Cut, Copy, Format Painter

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

Insert: New Page, New Visual, Ask a Question, Buttons, Text box, Image, Shapes

Custom visuals: From Marketplace, From File

Themes: Switch Theme

Relationships: Manage Relationships

Calculations: New Measure, New Column, New Quick Measure

Share: Publish

1 TotalAmount = SUM(TrainingData[AMOUNT_DISBURSED])

2

LOAN_ACCOUNT	CUST_NO	FirstName	Lastname	PRODUCT_CODE	PRODUCT_NAME	AMOUNT_DISBURSED	START_DATE	MATURITY_DATE
1	1000043	Drew	Sosa	CA_101	CURRENT ACCOUNT - PAYROLL PLUS CURRENT	16000	Friday, October 02, 2020	Thursday, September 23, 2021
2	1000044	Scarlett	Greene	CA_101	CURRENT ACCOUNT - PAYROLL PLUS CURRENT	\$1000	Thursday, July 15, 2021	Friday, July 16, 2021
3	1000045	Cannon	Sanders	CA_001	CURRENT ACCOUNT - INDIVIDUAL	1393000	Monday, May 10, 2021	Wednesday, November 10, 2021
4	1000046	Nina	Hodges	CA_101	CURRENT ACCOUNT - PAYROLL PLUS CURRENT	25000	Friday, October 16, 2020	Friday, October 16, 2020
5	1000047	Nylah	Baird	CA_101	CURRENT ACCOUNT - PAYROLL PLUS CURRENT	40000	Wednesday, September 08, 2021	Wednesday, December 08, 2021
6	1000048	Shayna	Gamble	CA_101	CURRENT ACCOUNT - PAYROLL PLUS CURRENT	47000	Tuesday, June 22, 2021	Wednesday, September 22, 2021
7	1000049	Aryanna	Ryan	CA_033	UNION BANK CREDIT CARDS	25000	Monday, November 30, 2020	Monday, February 29, 2021
8	1000050	Frances	Mccann	CA_101	CURRENT ACCOUNT - PAYROLL PLUS CURRENT	32000	Tuesday, July 13, 2021	Wednesday, October 13, 2021
9	1000051	Zaid	Crawford	CA_001	CURRENT ACCOUNT - INDIVIDUAL	250000	Tuesday, June 15, 2021	Wednesday, December 15, 2021
10	1000052	Ilmena	Randall	CA_101	CURRENT ACCOUNT - PAYROLL PLUS CURRENT	10000	Tuesday, June 22, 2021	Wednesday, September 22, 2021
11	1000053	Rhett	Calderon	CA_101	CURRENT ACCOUNT - PAYROLL PLUS CURRENT	42000	Thursday, August 26, 2021	Friday, November 26, 2021
12	1000054	Madelyn	Shelton	CA_033	UNION BANK CREDIT CARDS	521400	Monday, April 08, 2019	Friday, April 08, 2021
13	1000055	Barbara	Franco	CA_100	CURRENT ACCOUNT - STAFF	49000	Tuesday, October 13, 2020	Wednesday, October 13, 2020
14	1000056	Laney	Black	CA_101	CURRENT ACCOUNT - PAYROLL PLUS CURRENT	32000	Thursday, September 02, 2021	Friday, September 02, 2021
15	1000057	Kian	Castro	CA_101	CURRENT ACCOUNT - PAYROLL PLUS CURRENT	7000	Tuesday, August 17, 2021	Wednesday, November 17, 2021
16	1000058	Terrence	Walton	CA_101	CURRENT ACCOUNT - PAYROLL PLUS CURRENT	10000	Tuesday, December 22, 2020	Friday, October 22, 2021
17	1000059	Branson	Mack	CA_101	CURRENT ACCOUNT - PAYROLL PLUS CURRENT	82700	Wednesday, April 21, 2021	Thursday, April 21, 2021
18	1000060	Zion	Valenzuela	CA_101	CURRENT ACCOUNT - PAYROLL PLUS CURRENT	34000	Wednesday, February 03, 2021	Thursday, February 03, 2021
19	1000061	Kobe	Moore	CA_101	CURRENT ACCOUNT - PAYROLL PLUS CURRENT	35000	Thursday, September 02, 2021	Thursday, December 02, 2021
20	1000062	Tiffany	Smith	CA_101	CURRENT ACCOUNT - PAYROLL PLUS CURRENT	50000	Tuesday, January 05, 2021	Wednesday, January 05, 2021
21	1000063	Misael	Day	CA_101	CURRENT ACCOUNT - PAYROLL PLUS CURRENT	20000	Thursday, April 08, 2021	Friday, April 08, 2021
22	1000064	Alyson	Ponce	CA_001	CURRENT ACCOUNT - INDIVIDUAL	1790000	Wednesday, June 02, 2021	Thursday, December 02, 2021
23	1000065	Manuel	Hoffman	CA_101	CURRENT ACCOUNT - PAYROLL PLUS CURRENT	32000	Tuesday, September 07, 2021	Tuesday, December 07, 2021

Fields

Search

Value

TrainingData

- AMOUNT_DISBURSED
- CUST_NO
- CustomerName
- Days_Bucket
- DAYS_TO_MATURITY
- FirstName
- INTEREST_RATE
- LastName
- LOAN_ACCOUNT
- MATURITY_DATE
- PRODUCT_CODE
- PRODUCT_NAME
- RELATIONSHIP_MA...
- START_DATE
- TENOR_BUCKET
- TOTAL_BALANCE
- TotalAmount

Reporting on the Data - Visualization

Reporting on the Data – Visualizations

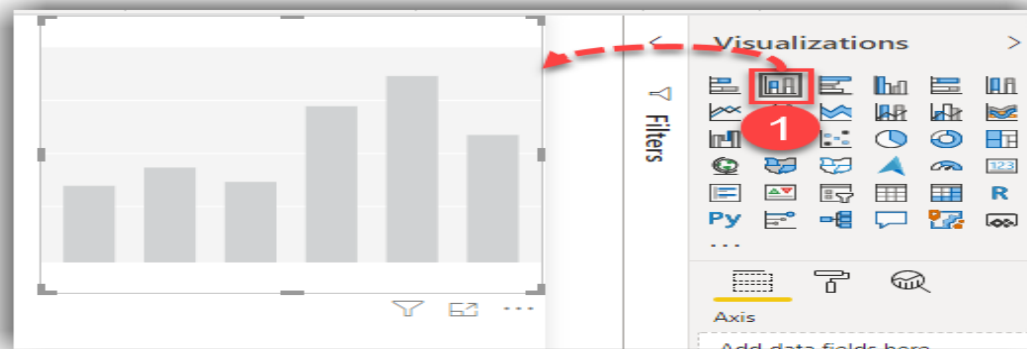
Building Basic Visualisations

Let's start with a graph to support a simple business scenario.

SCENARIO: Follow these steps:

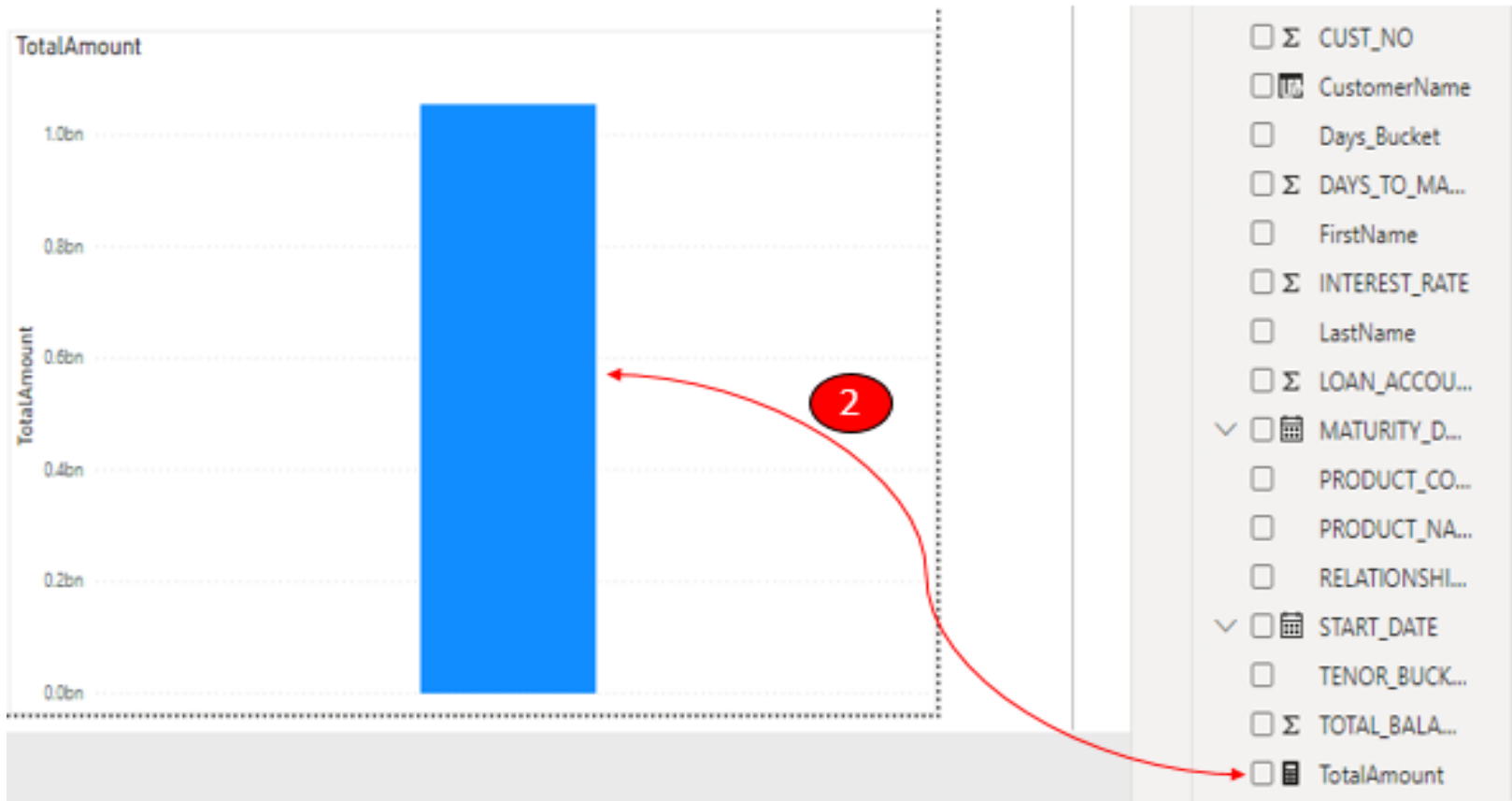
Our BSM wants to track the value of loans disbursed by each Relationship Manager.

1. From the **Report** view, select the **Stacked Column Chart** visual from the **Visualizations** pane (This will add a grey “place holder” graphic to the Report Canvas).



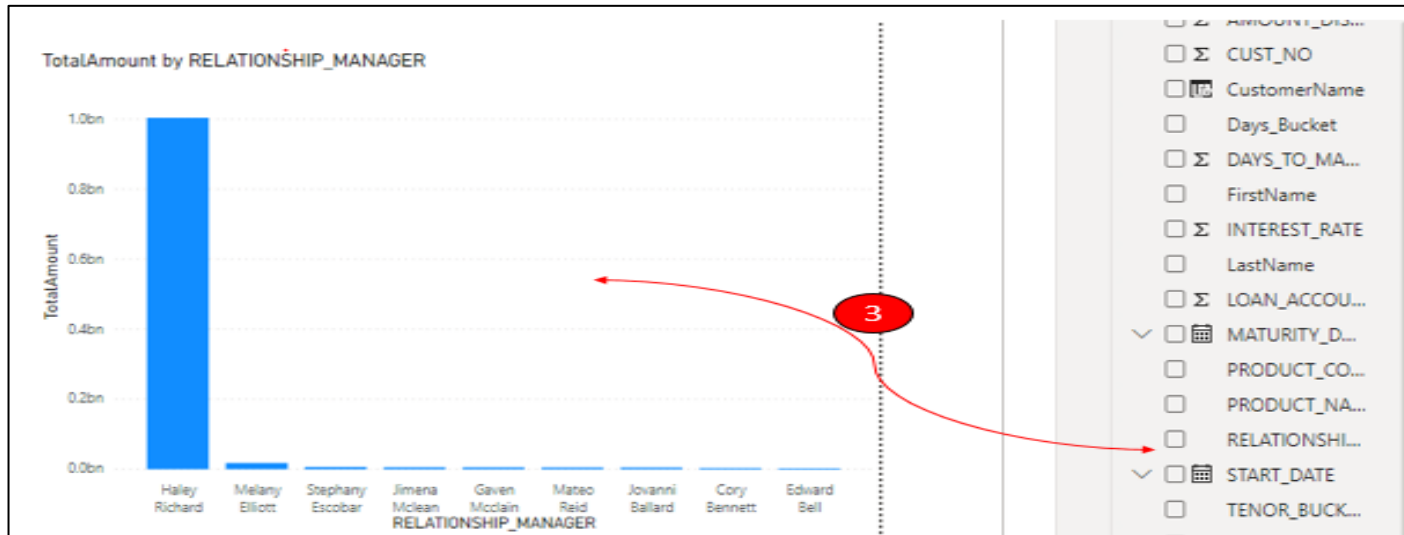
Reporting on the Data – Visualizations

2. Drag the **TotalAmount** measure, drop it on the visual place holder (this creates one column).



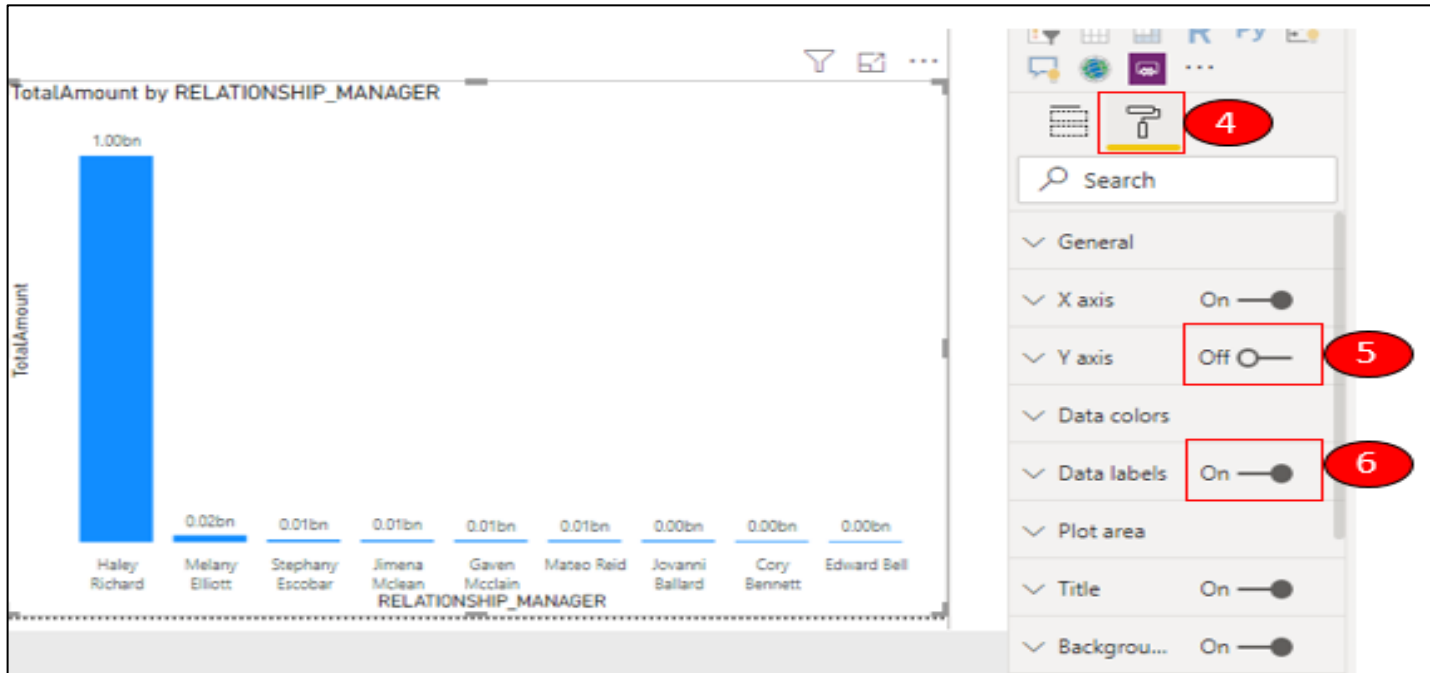
Reporting on the Data – Visualizations

3. Drag the **Relationship_Manager** column from the **TrainingData** table and drop it on the visual (this adds the RM to the visual's Axis).



4. Click the chart, go to the the Visualizations pane, click the **format** icon from the visualizations pane.
5. Disable Y Axis.
6. Enable **Data Labels** to show values on each bar. This makes the visual more readable.

Reporting on the Data – Visualizations

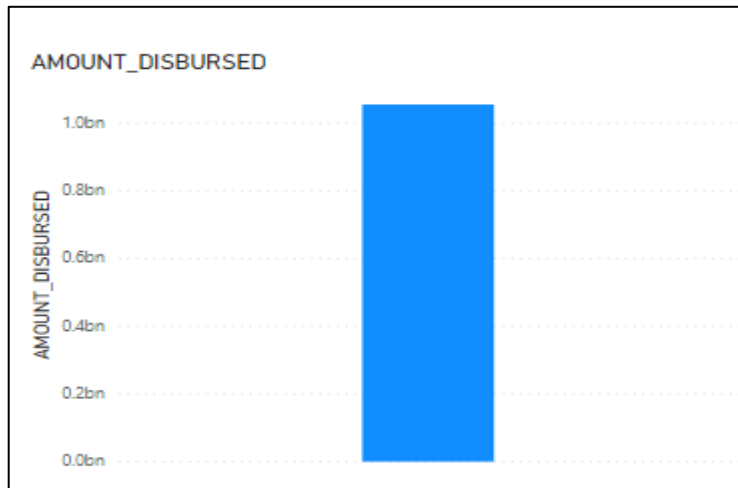


Next, our BSM would like to know how much was disbursed for the two different days_buckets.

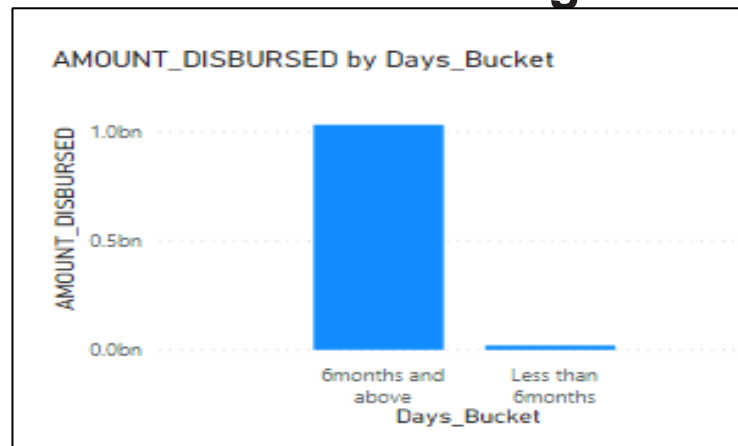
We'll follow a slightly different approach to build this visualisation:

Reporting on the Data – Visualizations

7. Drag the **Amount_disbursed** column from the **TrainingData** and drop it onto a blank space of the report canvas. This creates a new Visualization using the default Stacked Column Chart.

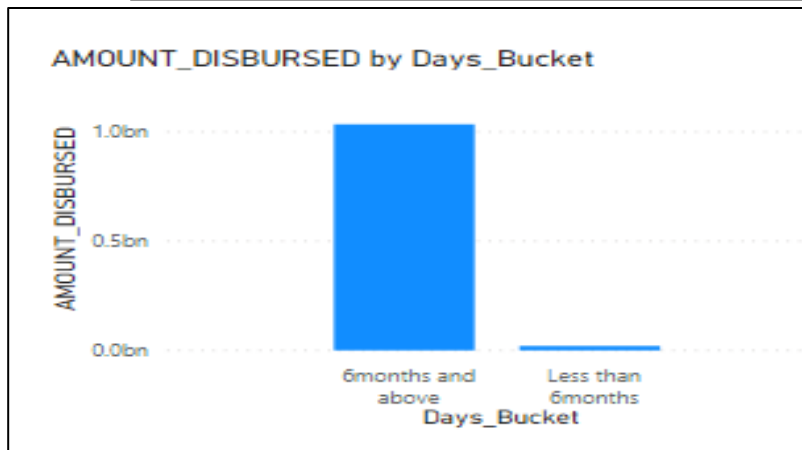
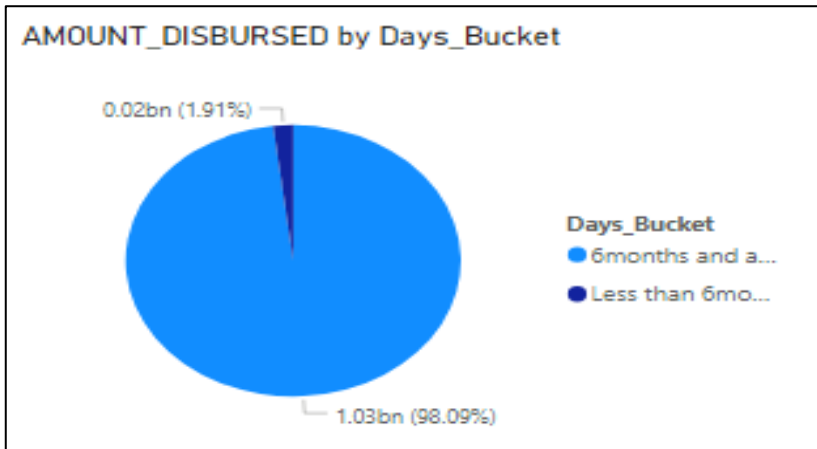


8. Drag the **Days_bucket** column from the **TrainingData** and drop it on the newly created chart.

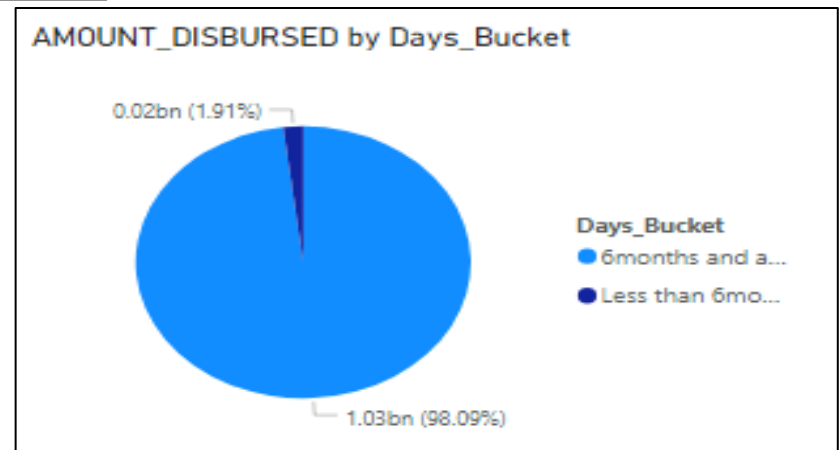


Reporting on the Data – Visualizations

9. Make sure the column chart is still on focus, then click on **Pie Chart** visual from the Visualizations pane to turn the column chart to a Pie chart.



From this



To this

Publish to Power BI Service



Publishing to Power BI Service

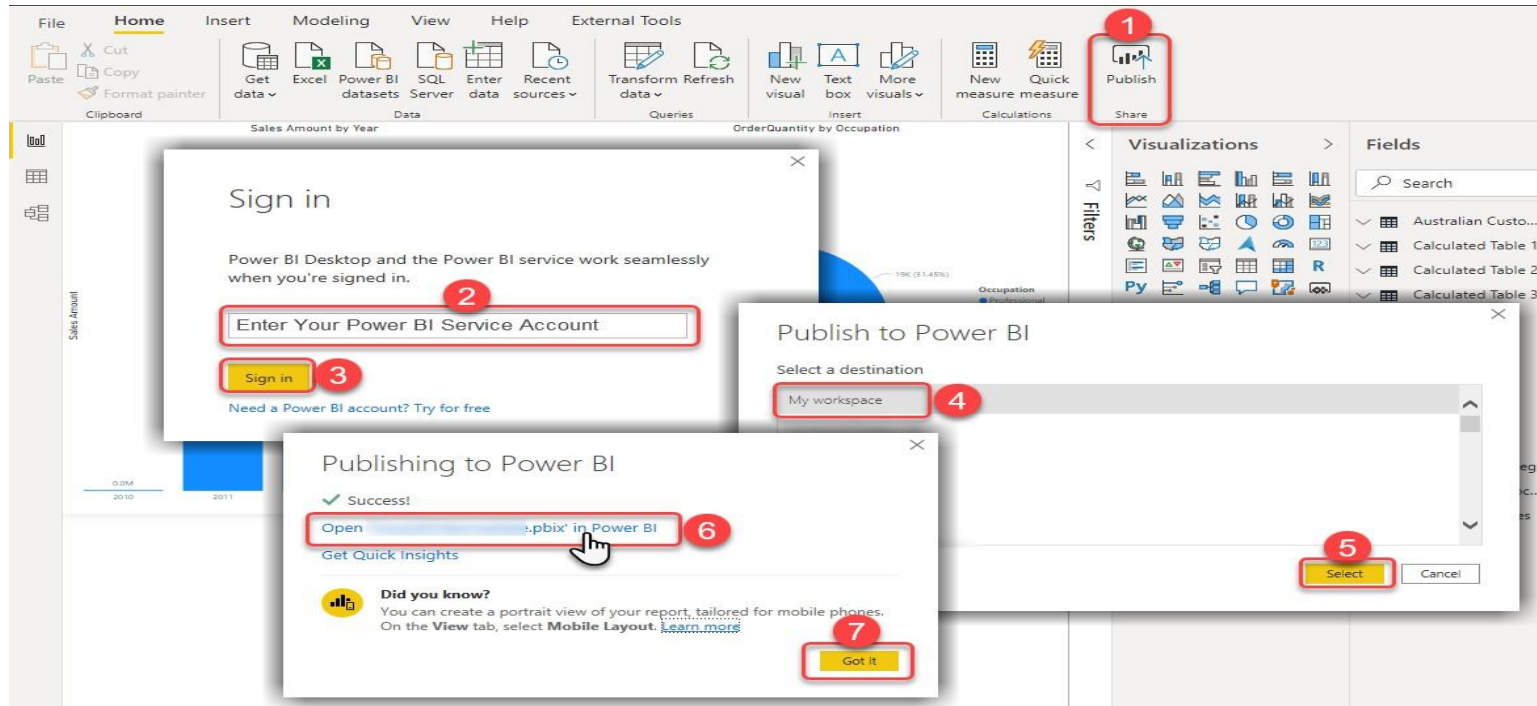
After you've finished your data visualizations in Power BI Desktop, it's time to Publish the report to Power BI Service.

If you have permission to publish reports to the service, it's easy. If you don't have access/permission, you won't be able to publish and share your reports in the cloud. You can still use your reports in Power BI Desktop or share it with others by sending them the .pbix file.

Follow the steps below to publish your report to Power BI Service

1. Click the **Publish** button from the ribbon bar.
2. Type in your Power BI Service credentials.
3. Click **Sign in**.
4. Select a workspace you want to publish your report to.
5. Click **Select**.
6. After your report is successfully published, you can click the report link on the Publishing to Power BI window.
7. Click **Got it**.

Publishing to Power BI Service



Questions



THANK YOU

