

Extracting Data from SharePoint Online using Query Functions

Lab Time: 40 minutes

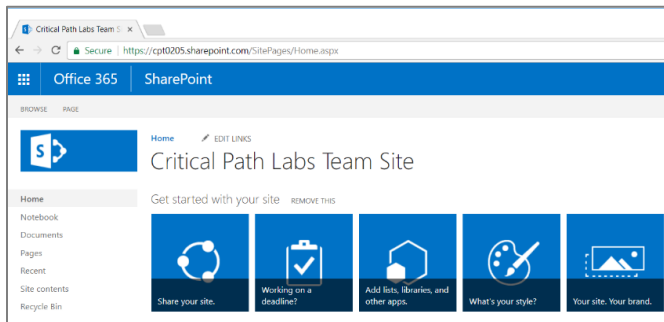
Lab Folder: C:\Student\Modules\02_Queries\Lab\

Lab Overview: In this lab you will begin.

Exercise 1: Designing Advanced Queries for SharePoint Online using Query Functions

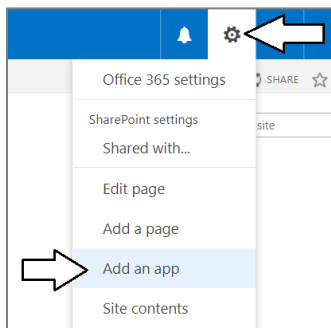
In the following exercise, you will use the **Query Editor** window to design an advanced query using a query function.

1. Navigate to the SharePoint team site at the root of your SharePoint tenancy.
 - a) The SharePoint site should have a URL in the form of **https://[Your tenant name].sharepoint.com**.

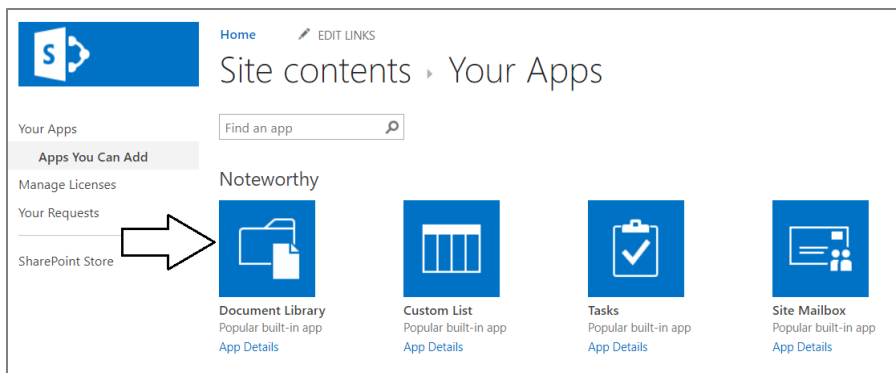


You can use any SharePoint Online team site as long as you have permissions to create a list.

2. Create a new document library named Data to store the files with expense data.
 - a) Drop down the Site Actions menu and select **Add an app**.



- b) Select **Document Library** as the type of list to create.

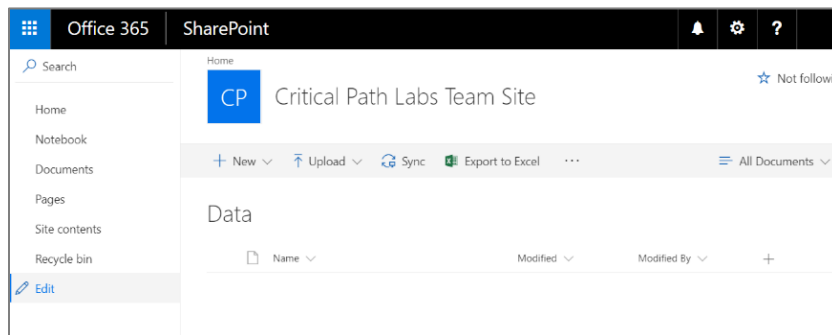


- c) In the **Adding Document Library** dialog, add a name of Data and click **Create**.

- d) Once the **Data** document library has been created, navigate to its default view.

	Name	Type	Items	Modified
	Data	Document library	0	2/3/2018 8:02 AM
	Documents	Document library	2	2/3/2018 7:54 AM
	Form Templates	Document library	0	2/3/2018 5:15 AM

- e) You should now be at the default view for the Data document library.



3. Update data files to the Data document library.

- a) Using Windows Explorer, examine the data files into the follow folder.

C:\Student\Modules\02_Queries\Lab\Data

- b) You should see the following four files as shown in the following screenshot.

Name	Date modified	Type
Expenses-2017-Q1.txt	2/3/2018 9:54 AM	Text Document
Expenses-2017-Q2.txt	2/3/2018 9:53 AM	Text Document
Expenses-2017-Q3.txt	2/3/2018 9:56 AM	Text Document
Expenses-2017-Q4.txt	2/3/2018 9:55 AM	Text Document

- c) Double-click on the file named **Expenses-2017-Q1.txt**. to open it in Notepad and inspect its contents.

Wingtip Expenses from General Ledger for 2017 Q1 Generated April 1, 2017			
Expenses for January 2017			
2017-01-01	\$923.00	Operations	Verizon - Telephone and Internet
2017-01-04	\$338.00	Operations	Electricity Bill
2017-01-10	\$1200.00	Operations	Cleaning Service
2017-01-10	\$300.00	Marketing	TV Advertisements - West Coast
2017-01-15	\$126.00	Operations	Water and City Utilities
2017-01-15	\$428.32	Marketing	Google Ad Words
2017-01-15	\$68.45	Office Supplies	Pencils & Paper clips
2017-01-15	\$420.00	Research & Development	Azure HDInsight Subscription
2017-01-21	\$400.00	Marketing	TV Advertisements - East Coast

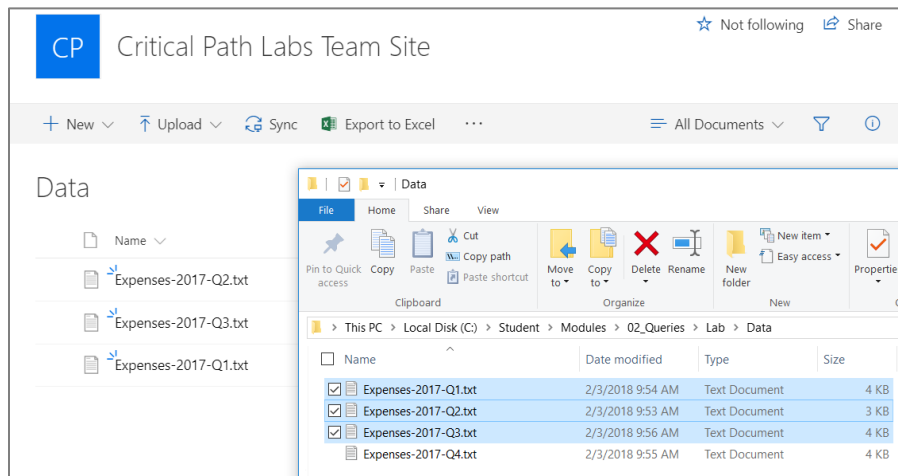
As you can see, this file is an unstructured text files with fixed-width lines which contain expense data. The other three files in the Data folder have expenses for different time periods, but the format of their contents is the same.

- d) Upload the following three files to the **Data** document library.

- i) **Expenses-2017-Q1.txt**
- ii) **Expenses-2017-Q2.txt**
- iii) **Expenses-2017-Q3.txt**

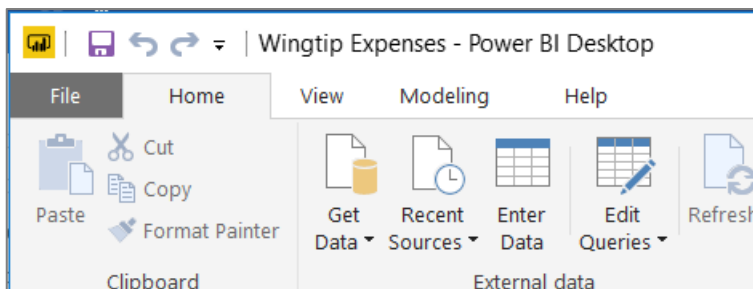
Note that you should NOT upload the fourth file named **Expenses-2017-Q4.txt**. You will upload the last file later in this lab.

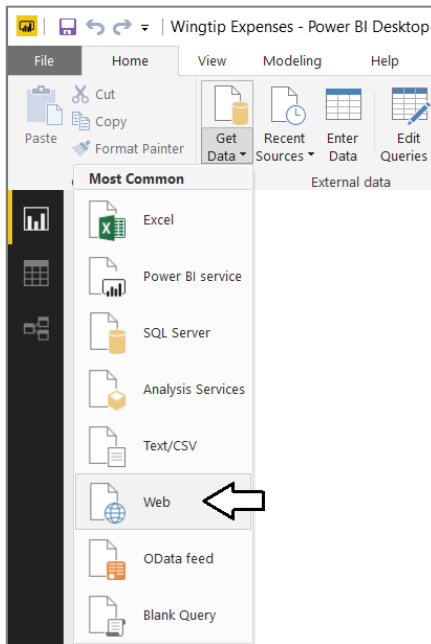
- e) You should be able to verify that those three files have been upload to the **Data** document library.



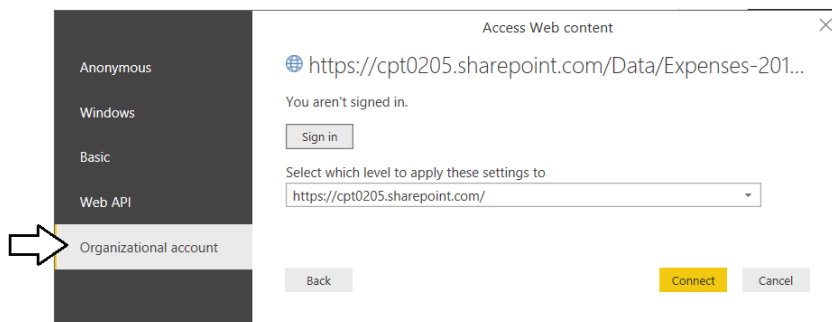
4. Create a new Power BI Desktop project named **Wingtip Expenses.pbix**.

- a) Launch Power BI Desktop.
- b) Begin by saving the new project and give it a name of





<https://cpt0205.sharepoint.com/Data/Expenses-2017-Q1.txt>



Access Web content

Anonymous

Windows

Basic

Web API

Organizational account

https://cpt0205.sharepoint.com/Data/Expenses-201...

You are currently signed in.

Sign in as different user

Select which level to apply these settings to

https://cpt0205.sharepoint.com/

Back Connect Cancel

https://cpt0205.sharepoint.com/Data/Expenses-2017-Q1.txt

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

Column1	Column2
Wingtip Expenses from General Ledger for 2017 Q1	null
Generated April 1	2017
Expenses for January 2017	null
-----	null
2017-01-01 \$923.00 Operations Verizon - Telephone an...	null

File Origin: 1252: Western European (Windows) Delimiter: --Fixed Width-- Data Type D: fi

https://cpt0205.sharepoint.com/Data/Expenses-2017-Q1.txt

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

0,12,24,48

File Origin: 1252: Western European (Windows) Delimiter: --Fixed Width--

0,12,24,48

Column1	Column2	Column3	Column4
	Wingtip	Expenses from General L	edger for 2017 Q1
		Generated April 1, 201	7
Expenses for	January 201	7	
-----	-----	-----	-----
2017-01-01	\$923.00	Operations	Verizon - Telephone and Internet
2017-01-04	\$338.00	Operations	Electricity Bill
2017-01-10	\$1200.00	Operations	Cleaning Service
2017-01-10	\$300.00	Marketing	TV Advertisements - West Coast
2017-01-15	\$126.00	Operations	Water and City Utilities

https://cpt0205.sharepoint.com/Data/Expenses-2017-Q1.txt

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

0,12,24,48

Column1	Column2	Column3	Column4
	Wingtip	Expenses from General L	edger for 2017 Q1
		Generated April 1, 201	7
Expenses for	January 201	7	
-----	-----	-----	-----
2017-01-01	\$923.00	Operations	Verizon - Telephone and Internet
2017-01-04	\$338.00	Operations	Electricity Bill
2017-01-10	\$1200.00	Operations	Cleaning Service
2017-01-10	\$300.00	Marketing	TV Advertisements - West Coast
2017-01-15	\$126.00	Operations	Water and City Utilities
2017-01-15	\$428.32	Marketing	Google Ad Words
2017-01-15	\$68.45	Office Supplies	Pencils & Paper clips

Load Edit

Wingtip Expenses - Query Editor

File Home Transform Add Column View Help

Close & Apply New Source Recent Sources Enter Data Data source settings Manage Parameters Refresh Preview Advanced Editor Choose Columns Remove Columns Reduce Rows Sort Split Column Group By Data Type: Text Use First Row as Headers Replace Values Combine

Queries [1] Expenses-2017-Q1

	Column1	Column2	Column3	Column4
1		Wingtip	Expenses from General L	edger for 2017 Q1
2			Generated April 1, 201	7
3				
4	Expenses for	January 201	7	
5	-----	-----	-----	-----
6	2017-01-01	\$923.00	Operations	Verizon - Telephone and Internet
7	2017-01-04	\$338.00	Operations	Electricity Bill
8	2017-01-10	\$1200.00	Operations	Cleaning Service
9	2017-01-10	\$300.00	Marketing	TV Advertisements - West Coast
10	2017-01-15	\$126.00	Operations	Water and City Utilities

QUERY SETTINGS

PROPERTIES

Name: Expenses-2017-Q1

APPLIED STEPS

Source

Changed Type

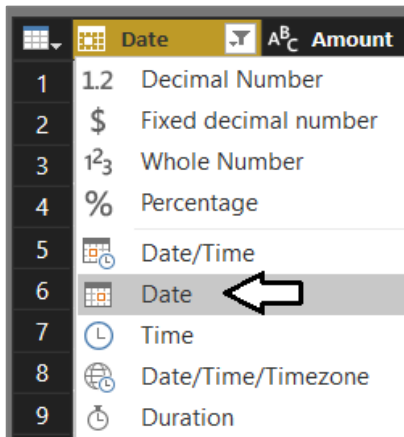
QUERY SETTINGS

PROPERTIES

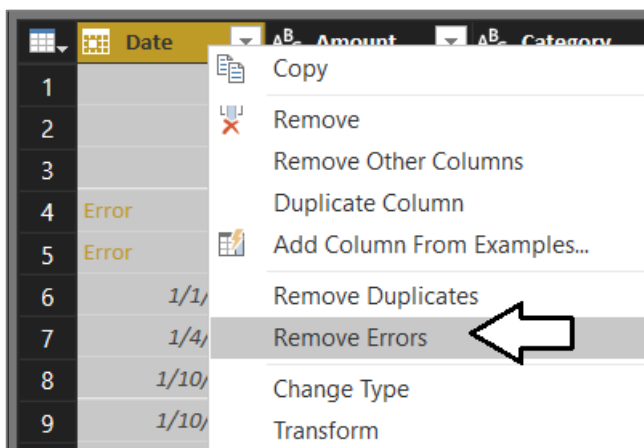
Name: Expenses

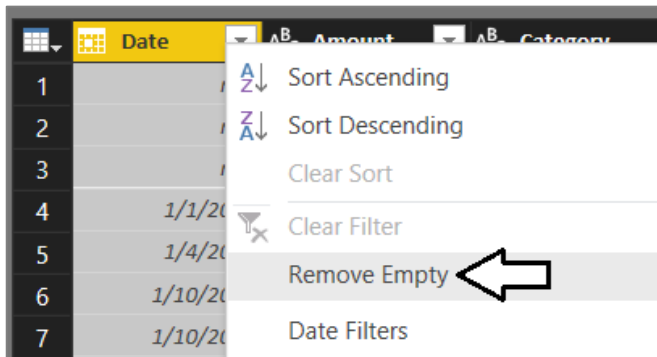
Queries [1] Expenses

	Date	Amount	Category	Description
1		Wingtip	Expenses from General L	edger for 2017 Q1
2			Generated April 1, 201	7
3				

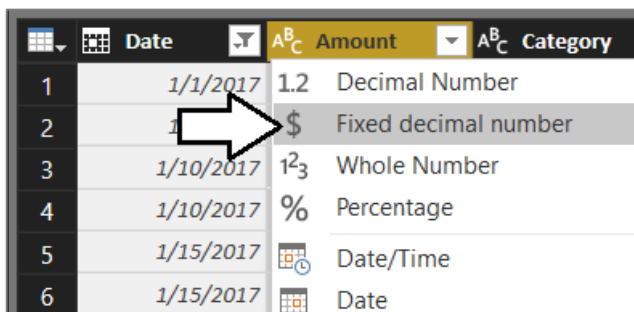


	Date	Amount	Category
1		Wingtip	Expenses from General L
2	null		Generated April 1, 201
3	null		
4	Error	January 201	7
5	Error	-----	-----
6	1/1/2017	\$923.00	Operations
7	1/4/2017	\$338.00	Operations
8	1/10/2017	\$1200.00	Operations
9	1/10/2017	\$300.00	Marketing

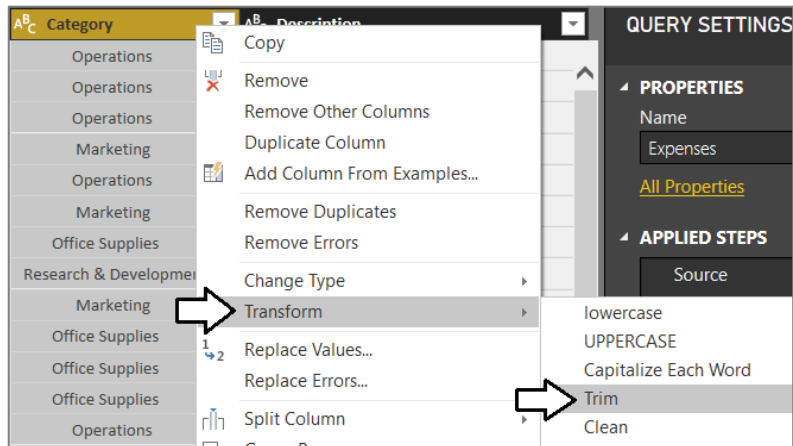




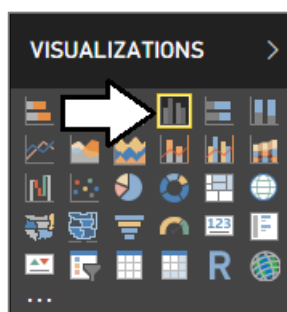
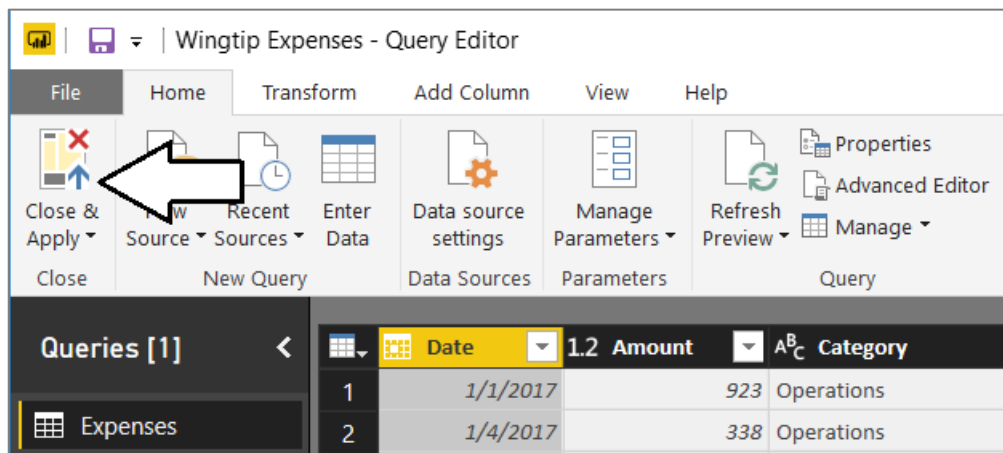
	Date	Amount	Category	Description
1	1/1/2017	\$923.00	Operations	Verizon - Telephone and Internet
2	1/4/2017	\$338.00	Operations	Electricity Bill
3	1/10/2017	\$1200.00	Operations	Cleaning Service
4	1/10/2017	\$300.00	Marketing	TV Advertisements - West Coast
5	1/15/2017	\$126.00	Operations	Water and City Utilities
6	1/15/2017	\$428.32	Marketing	Google Ad Words
7	1/15/2017	\$68.45	Office Supplies	Pencils & Paper clips
8	1/15/2017	\$420.00	Research & Development	Azure HDInsight Subscription
9	1/21/2017	\$400.00	Marketing	TV Advertisements - East Coast

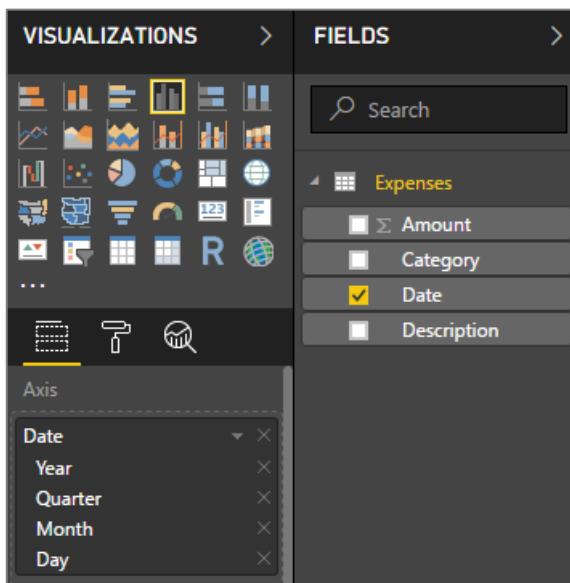
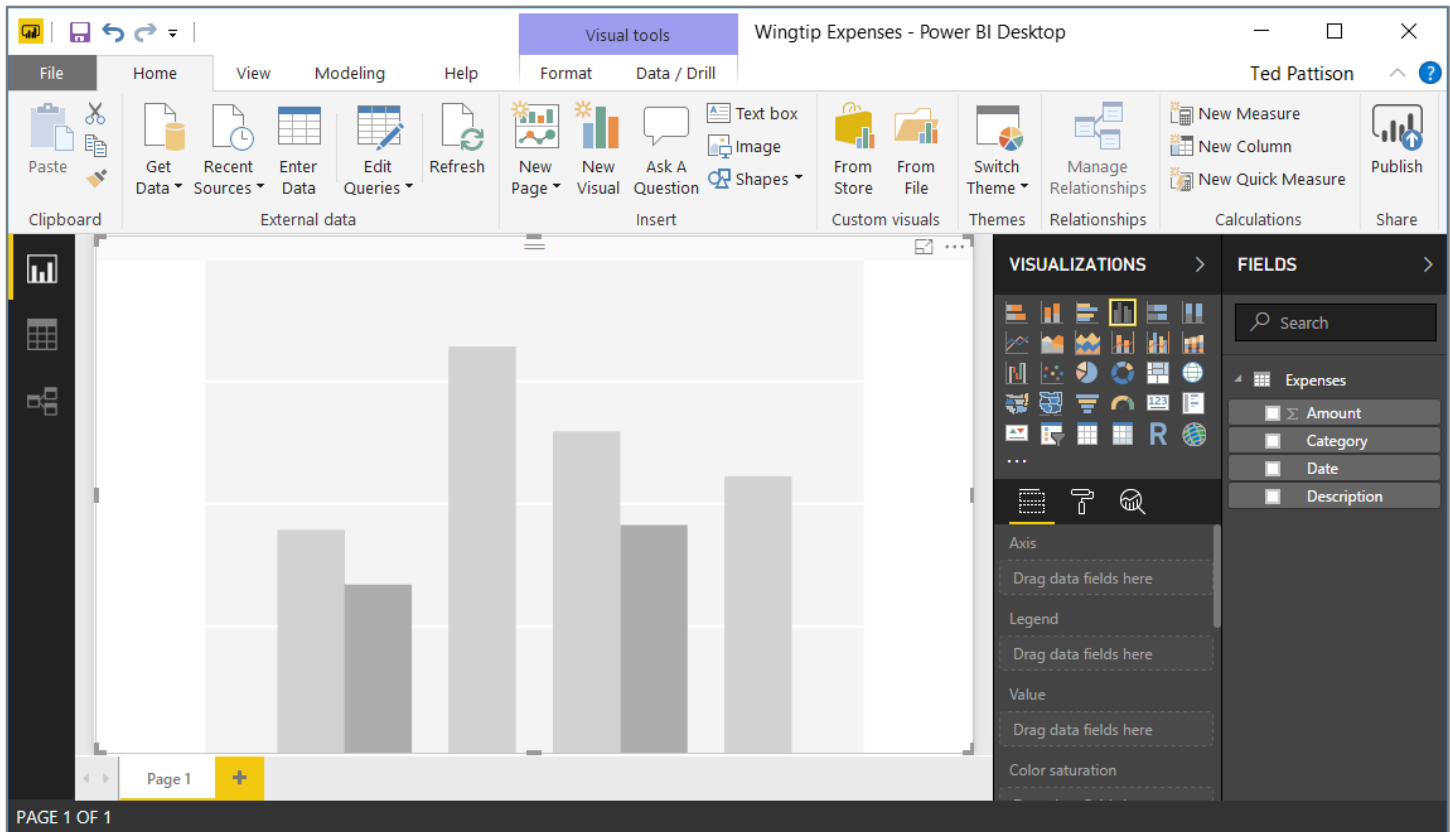


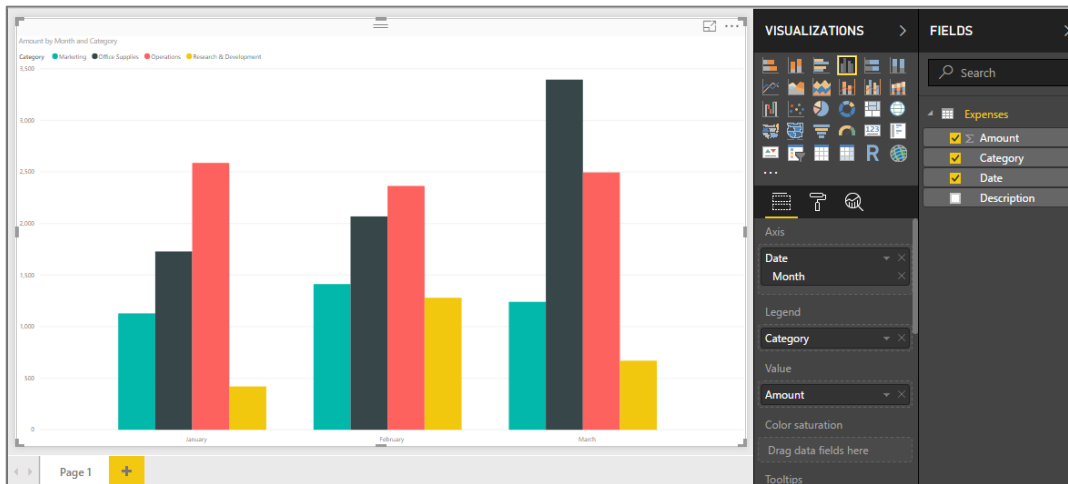
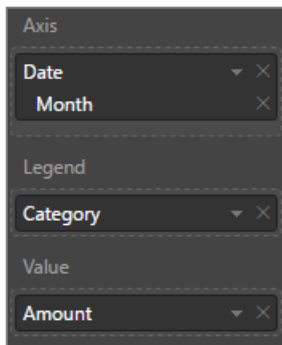
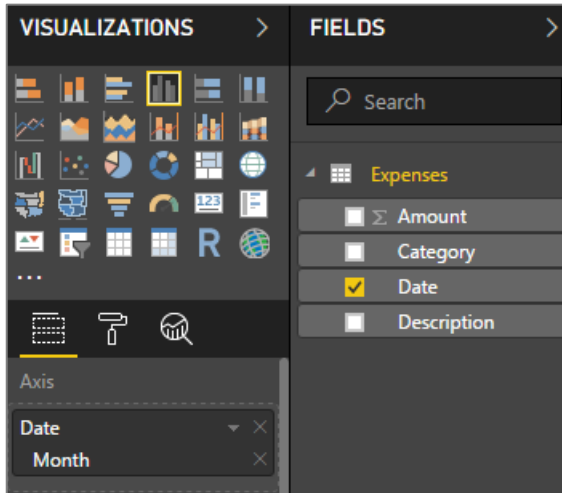
	Date	Amount	Category	Description
1	1/1/2017	923	Operations	Verizon - Telephone and Internet
2	1/4/2017	338	Operations	Electricity Bill
3	1/10/2017	1200	Operations	Cleaning Service
4	1/10/2017	300	Marketing	TV Advertisements - West Coast
5	1/15/2017	126	Operations	Water and City Utilities
6	1/15/2017	428.32	Marketing	Google Ad Words

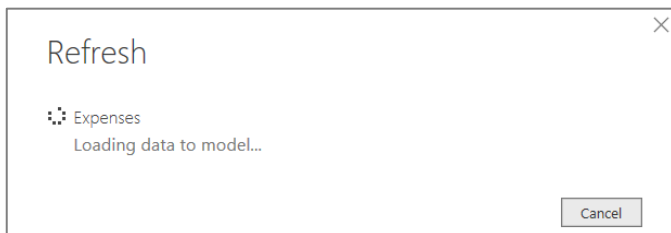
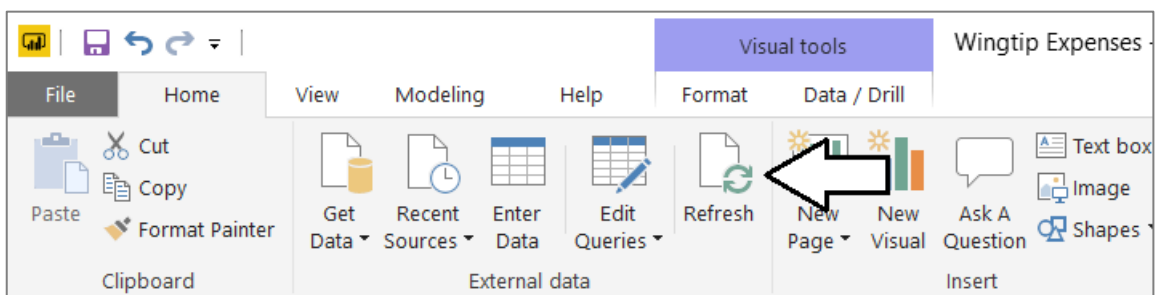
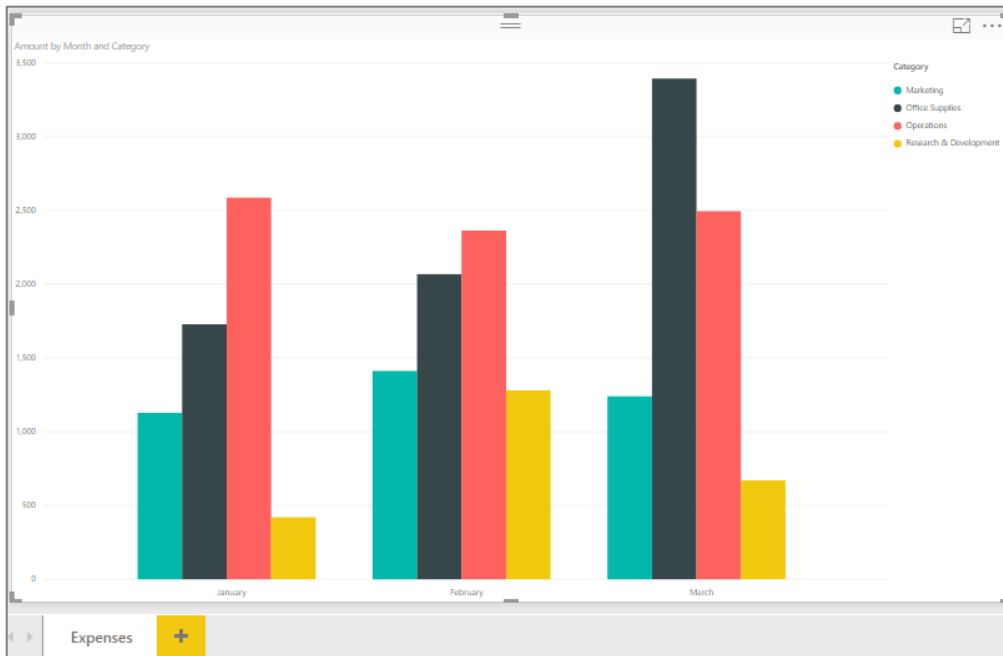
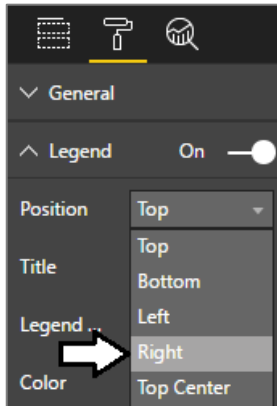


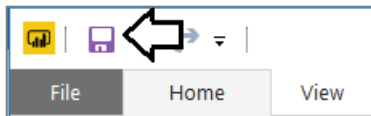
	Date	\$ Amount	ABC Category	ABC Description
1	1/1/2017	923	Operations	Verizon - Telephone and Internet
2	1/4/2017	338	Operations	Electricity Bill
3	1/10/2017	1200	Operations	Cleaning Service
4	1/10/2017	300	Marketing	TV Advertisements - West Coast
5	1/15/2017	126	Operations	Water and City Utilities
6	1/15/2017	428.32	Marketing	Google Ad Words



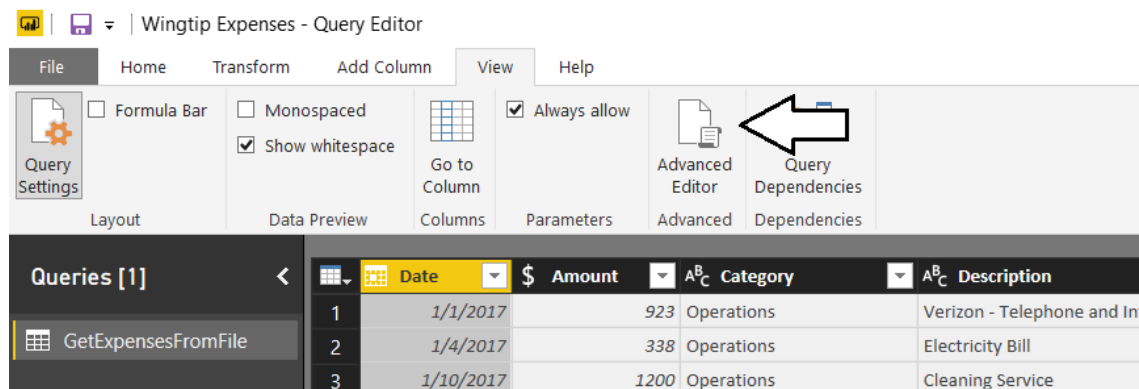
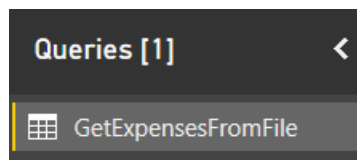
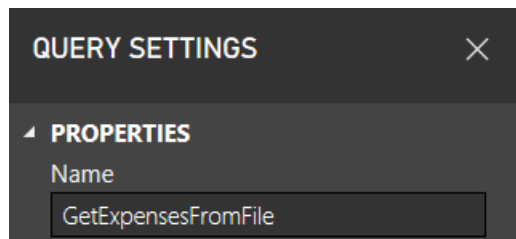
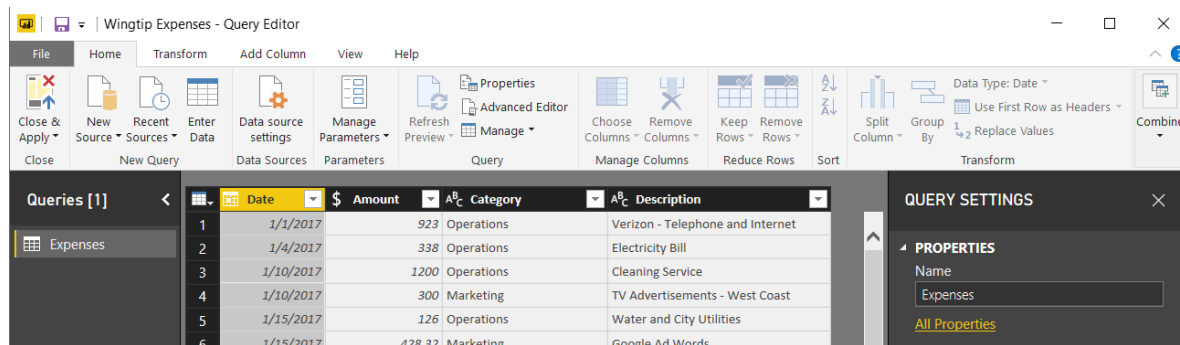
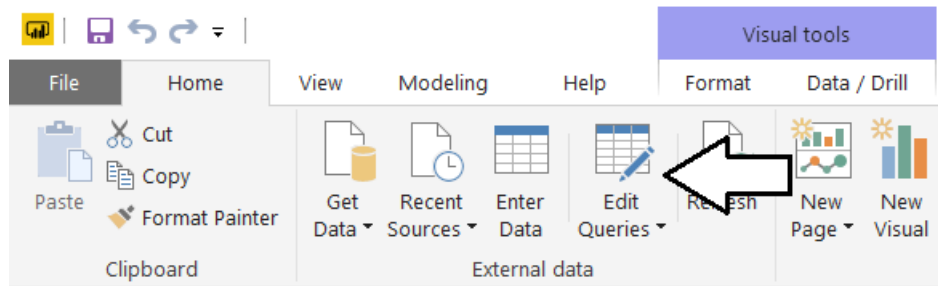








5. Xxxx



Advanced Editor

GetExpensesFromFile

```
let
    Source = Csv.Document(Web.Contents("https://cpt0205.sharepoint.com/Data/Expenses-2017-Q1.txt"),
        #"Changed Type" = Table.TransformColumnTypes(Source,{{"Column1", type text}, {"Column2", type text}},
        #"Renamed Columns" = Table.RenameColumns(#"Changed Type",{{"Column1", "Date"}, {"Column2", "Amount"}},
        #"Changed Type1" = Table.TransformColumnTypes(#"Renamed Columns",{{"Date", type date}},
        #"Removed Errors" = Table.RemoveRowsWithErrors(#"Changed Type1", {"Date"}),
        #"Filtered Rows" = Table.SelectRows(#"Removed Errors", each [Date] <> null and [Date] <> ""),
        #"Changed Type2" = Table.TransformColumnTypes(#"Filtered Rows",{{"Amount", Currency.Type}},
        #"Trimmed Text" = Table.TransformColumns(#"Changed Type2",{{"Category", Text.Trim, type text}},
in
    #"Trimmed Text"
```

GetExpensesFromFile

```
let
    Source = Csv.Document(Web.Contents("https://cpt0205.sharepoint.com/Data/Expenses-2017-Q1.txt"),
        #"Changed Type" = Table.TransformColumnTypes(Source,{{"Column1", type text}, {"Column2", type text}},
        #"Renamed Columns" = Table.RenameColumns(#"Changed Type",{{"Column1", "Date"}, {"Column2", "Amount"}},
        #"Changed Type1" = Table.TransformColumnTypes(#"Renamed Columns",{{"Date", type date}},
        #"Removed Errors" = Table.RemoveRowsWithErrors(#"Changed Type1", {"Date"}),
        #"Filtered Rows" = Table.SelectRows(#"Removed Errors", each [Date] <> null and [Date] <> ""),
        #"Changed Type2" = Table.TransformColumnTypes(#"Filtered Rows",{{"Amount", Currency.Type}},
        #"Trimmed Text" = Table.TransformColumns(#"Changed Type2",{{"Category", Text.Trim, type text}},
in
    #"Trimmed Text"
```

(FilePath as text) =>

GetExpensesFromF

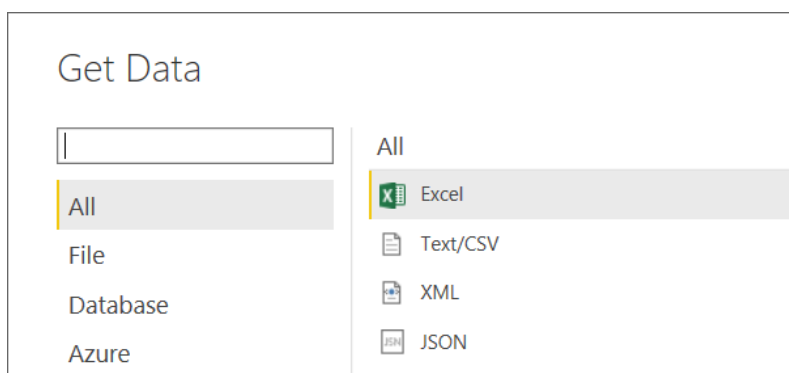
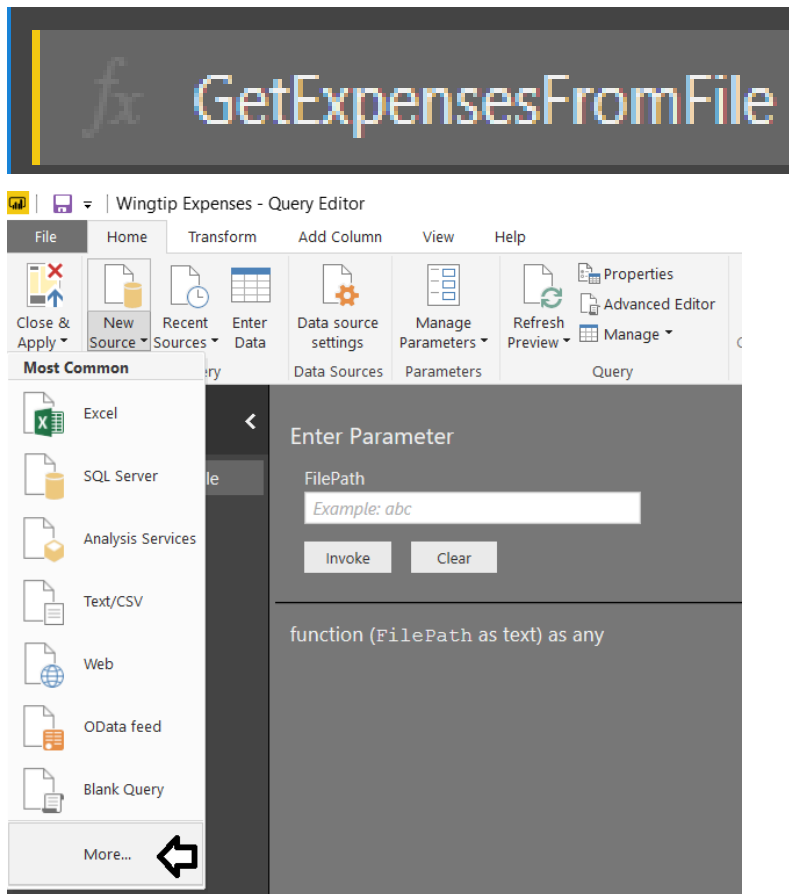
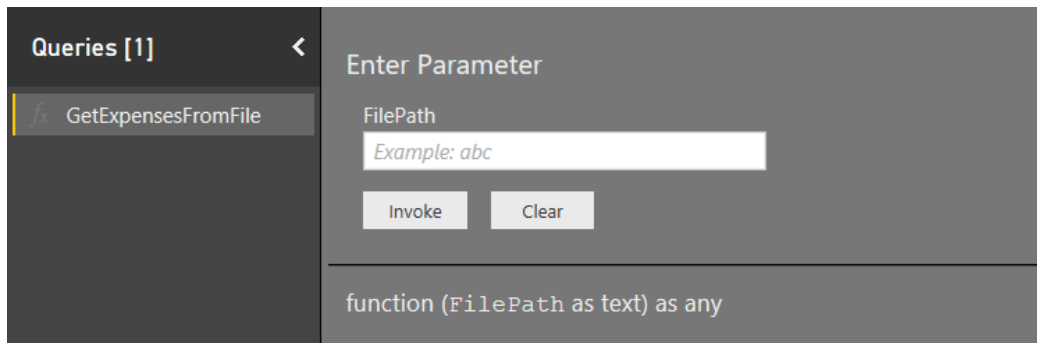
```
(FilePath as text) =>
let
    Source = Csv.Document(Web.Content
    #"Changed Type" = Table.Transform
    #"Renamed Columns" = Table.Rename
```

Source = Csv.Document(Web.Contents(FilePath),4,{0,12,24,48},null,1252),

GetExpensesFromFile

```
(FilePath as text) =>
let
    Source = Csv.Document(Web.Contents(FilePath),4,{0,12,24,48},null,1252),
    #"Changed Type" = Table.TransformColumnTypes(Source,{{"Column1", type text}, {"Column2", type text}},
```

- a) Click Done to close the Advanced Editor window.



Get Data

All

File

Online Services

Other

All

SharePoint folder

SharePoint Online List

SharePoint list

Click the Connect button.

SharePoint folder

Site URL

AB C

OK

Cancel

https://cpt0205.sharepoint.com

Content	Name	Extension	Date accessed	Date modified	Date created	Attributes	Folder Path
Binary	Expenses-2017-Q2.txt	.txt	null	2/3/2018 8:09 AM	2/3/2018 8:09 AM	Record	https://cpt0205.sharepoint.com/Data/
Binary	Expenses-2017-Q1.txt	.txt	null	2/3/2018 8:09 AM	2/3/2018 8:09 AM	Record	https://cpt0205.sharepoint.com/Data/
Binary	Expenses-2017-Q3.txt	.txt	null	2/3/2018 8:09 AM	2/3/2018 8:09 AM	Record	https://cpt0205.sharepoint.com/Data/
Binary	LibertyPowerBISetup.docx	.docx	null	2/3/2018 7:54 AM	2/3/2018 7:54 AM	Record	https://cpt0205.sharepoint.com/Shared Documents/
Binary	RealtimeDashboards.pptx	.pptx	null	2/3/2018 7:54 AM	2/3/2018 7:54 AM	Record	https://cpt0205.sharepoint.com/Shared Documents/

Combine & Edit

Edit

Cancel

Combine &

Edit

Cancel

Queries [2]

GetExpensesFromFile

Query1

	Content	AB C	Name	AB C	Extension	Date accessed	Date modified
1	Binary		Expenses-2017-Q2.txt		.txt	null	2/3/2018 8:09 AM
2	Binary		Expenses-2017-Q1.txt		.txt	null	2/3/2018 8:09 AM
3	Binary		Expenses-2017-Q3.txt		.txt	null	2/3/2018 8:09 AM
4	Binary		LibertyPowerBISetup.docx		.docx	null	2/3/2018 7:54 AM
5	Binary		RealtimeDashboards.pptx		.pptx	null	2/3/2018 7:54 AM

QUERY SETTINGS

PROPERTIES

Name

Query1

All Properties

APPLIED STEPS

Source

The screenshot shows the Power BI Query Editor interface. On the left, the 'Queries [2]' pane lists 'GetExpensesFromFile' and 'Expenses'. The main area displays a table with columns: 'Content', 'Name', 'Extension', 'Date accessed', and 'Date modified'. The table contains five rows of file information. On the right, the 'QUERY SETTINGS' pane is open, showing the 'PROPERTIES' section with a 'Name' property set to 'Expenses'. An arrow points to this property.

	Content	Name	Extension	Date accessed	Date modified
1	Binary	Expenses-2017-Q2.txt	.txt	null	2/3/2018 8:09
2	Binary	Expenses-2017-Q1.txt	.txt	null	2/3/2018 8:09
3	Binary	Expenses-2017-Q3.txt	.txt	null	2/3/2018 8:09
4	Binary	LibertyPowerBISetup.docx	.docx	null	2/3/2018
5	Binary	RealtimeDashboards.pptx	.pptx	null	2/3/2018 7:54

The screenshot shows the Power BI Query Editor ribbon with the 'Transform' tab selected. The ribbon includes buttons for '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', and 'Remove Rows'. An arrow points to the 'Choose Columns' button.

The screenshot shows the 'Choose Columns' dialog box. It prompts the user to 'Choose the columns to keep'. A search bar is present. Below it, a list of columns is shown with checkboxes: '(Select All Columns)', 'Content', 'Name' (checked), 'Extension', 'Date accessed', 'Date modified', 'Date created', 'Attributes', and 'Folder Path' (checked). 'OK' and 'Cancel' buttons are at the bottom.

	AB C Name	AB C Folder Path
1	Expenses-2017-Q2.txt	https://cpt0205.sharepoint.com/Data/
2	Expenses-2017-Q1.txt	https://cpt0205.sharepoint.com/Data/
3	Expenses-2017-Q3.txt	https://cpt0205.sharepoint.com/Data/
4	LibertyPowerBISetup.docx	https://cpt0205.sharepoint.com/Shared Documents/
5	RealtimeDashboards.pptx	https://cpt0205.sharepoint.com/Shared Documents/

	A ^B C Name	A ^B C Folder Path
1	Expenses-2017-Q2.txt	https://cpt0205.sharepoint.com/Data/
2	Expenses-2017-Q1.txt	https://cpt0205.sharepoint.com/Data/
3	Expenses-2017-Q3.txt	https://cpt0205.sharepoint.com/Data/
4	LibertyPowerBISetup.docx	https://cpt0205.sharepoint.com/Shared Documents/
5	RealtimeDashboards.pptx	https://cpt0205.sharepoint.com/Shared Documents/

Sort Ascending

Sort Descending

Clear Sort

Clear Filter

Remove Empty

Text Filters

Search

☐ (Select All)

☒ https://cpt0205.sharepoint.com/Data/

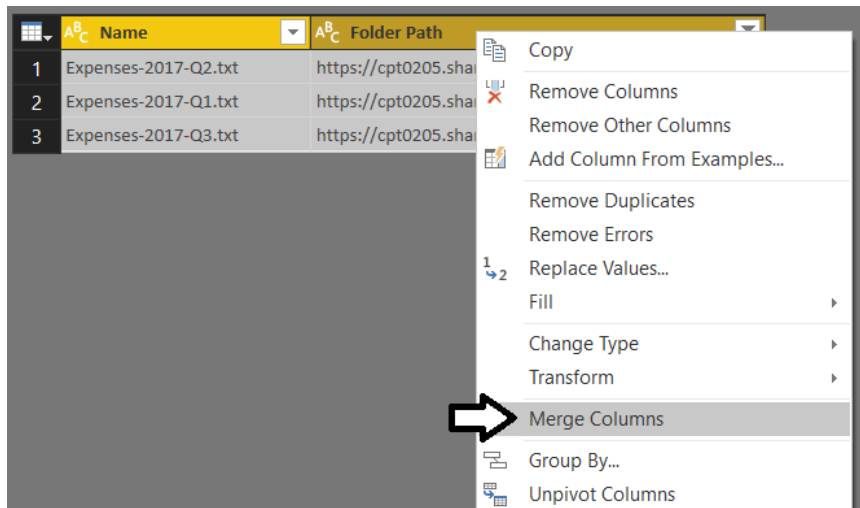
☐ https://cpt0205.sharepoint.com/Shared Documents/

OK Cancel

	A ^B C Name	A ^B C Folder Path
1	Expenses-2017-Q2.txt	https://cpt0205.sharepoint.com/Data/
2	Expenses-2017-Q1.txt	https://cpt0205.sharepoint.com/Data/
3	Expenses-2017-Q3.txt	https://cpt0205.sharepoint.com/Data/

	A ^B C Name	A ^B C Folder Path
1	Expenses-2017-Q2.txt	https://cpt0205.sharepoint.com/Data/
2	Expenses-2017-Q1.txt	https://cpt0205.sharepoint.com/Data/
3	Expenses-2017-Q3.txt	https://cpt0205.sharepoint.com/Data/

	A ^B C Name	A ^B C Folder Path
1	Expenses-2017-Q2.txt	https://cpt0205.sharepoint.com/Data/
2	Expenses-2017-Q1.txt	https://cpt0205.sharepoint.com/Data/
3	Expenses-2017-Q3.txt	https://cpt0205.sharepoint.com/Data/



Merge Columns

Choose how to merge the selected columns.

Separator
--None--

New column name (optional)
FilePath

OK Cancel

	FilePath
1	https://cpt0205.sharepoint.com/Data/Expenses-2017-Q2.txt
2	https://cpt0205.sharepoint.com/Data/Expenses-2017-Q1.txt
3	https://cpt0205.sharepoint.com/Data/Expenses-2017-Q3.txt

Wingtip Expenses - Query Editor

File Home Transform Add Column View Help

Column From Custom Invoke Custom Examples Column Function

General

Conditional Column Index Column Duplicate Column

From Text

From Number

Queries [2]

GetExpensesFromFile

Expenses

	FilePath
1	https://cpt0205.sharepoint.com/Data/Expenses-2017-Q2.txt
2	https://cpt0205.sharepoint.com/Data/Expenses-2017-Q1.txt
3	https://cpt0205.sharepoint.com/Data/Expenses-2017-Q3.txt

Invoke Custom Function

Invoke a custom function defined in this file for each row.

New column name

Expenses

Function query

GetExpensesFromFile

FilePath

FilePath

OK

Cancel

	AB _C FilePath	ABC ₁₂₃ Expenses
1	https://cpt0205.sharepoint.com/Data/Expenses-2017-Q2.txt	Table
2	https://cpt0205.sharepoint.com/Data/Expenses-2017-Q1.txt	Table
3	https://cpt0205.sharepoint.com/Data/Expenses-2017-Q3.txt	Table

Wingtip Expenses - Query Editor

File Home Transform Add Column View Help

Column From Examples Custom Column Invoke Custom Function

Conditional Column Index Column Duplicate Column

Merge Columns Extract Parse

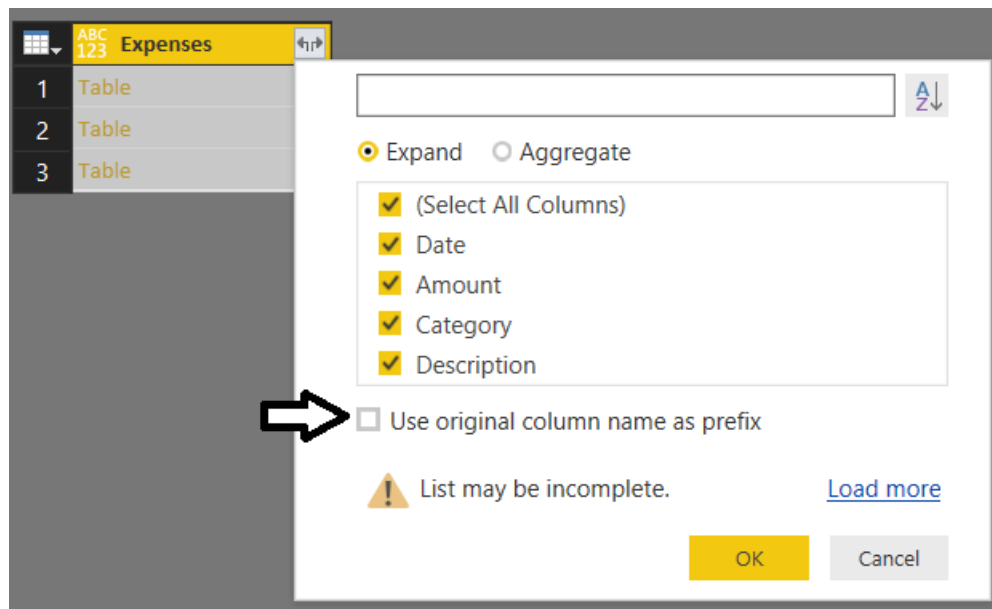
Queries [2]

GetExpensesFromFile

Expenses

ABC ₁₂₃ Expenses
1 Table
2 Table
3 Table

ABC ₁₂₃ Expenses
1 Table
2 Table
3 Table



	ABC 123	Date	ABC 123	Amount	ABC 123	Category	ABC 123	Description
1		4/2/2017		925		Operations		Verizon - Telephone and Internet
2		4/3/2017		142		Office Supplies		Postage Stamps
3		4/5/2017		294		Operations		Electricity Bill
4		4/5/2017		120.25		Office Supplies		Coffee Supplies
5		4/13/2017		1200		Operations		Cleaning Service
6		4/15/2017		126		Operations		Water and City Utilities
7		4/15/2017		560.22		Marketing		Google Ad Words

	ABC 123	Date	ABC 123	Amount	ABC 123	Category	ABC 123	Description
1		4/2/2017		925		Operations		Verizon - Telephone and Internet
2		4/3/2017		142		Office Supplies		Postage Stamps
3		4/5/2017		294		Operations		Electricity Bill
4		4/5/2017		120.25		Office Supplies		Coffee Supplies
5		4/13/2017		1200		Operations		Cleaning Service
6		4/15/2017		126		Operations		Water and City Utilities

		Date	\$	Amount	ABC	Category	ABC	Description
1		4/2/2017		925		Operations		Verizon - Telephone and Internet
2		4/3/2017		142		Office Supplies		Postage Stamps
3		4/5/2017		294		Operations		Electricity Bill
4		4/5/2017		120.25		Office Supplies		Coffee Supplies
5		4/13/2017		1200		Operations		Cleaning Service
6		4/15/2017		126		Operations		Water and City Utilities

Wingtip Expenses - Query Editor

File Home Transform Add Column View Help

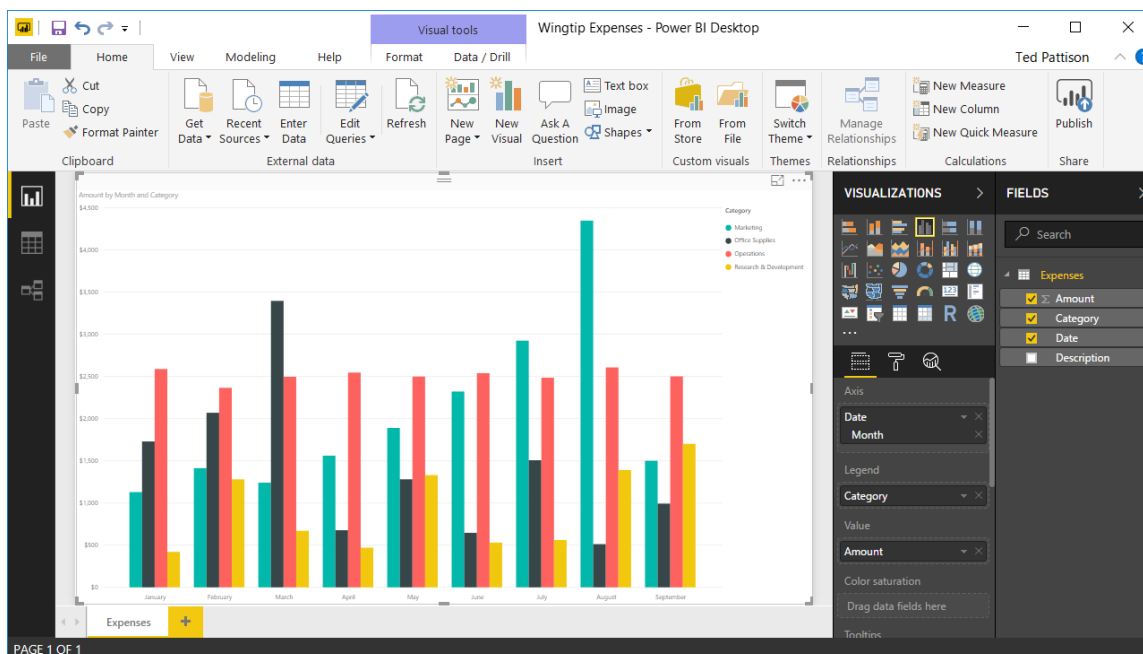
Close & Apply Recent Sources Enter Data Data source settings Manage Parameters Refresh Preview Properties Advanced Editor Manage Choose Columns Remove Columns Keep Rows Remove Rows Split Column

Queries [2]

GetExpensesFromFile

Expenses

	Date	Amount	Category	Description
1	4/2/2017	925	Operations	Verizon - Telephone and Internet
2	4/3/2017	142	Office Supplies	Postage Stamps
3	4/5/2017	294	Operations	Electricity Bill
4	4/5/2017	120.25	Office Supplies	Coffee Supplies
5	4/13/2017	1200	Operations	Cleaning Service



Office 365 SharePoint

Home

CP Critical Path Labs Team Site

Share Copy link Download Delete

Data

Name

- Expenses-2017-Q1.txt
- Expenses-2017-Q2.txt
- Expenses-2017-Q3.txt
- Expenses-2017-Q4.txt

File Home Share View

Pin to Quick access Copy Paste Copy path Paste shortcut Move to Copy to Delete Rename New folder Easy access Properties

Clipboard

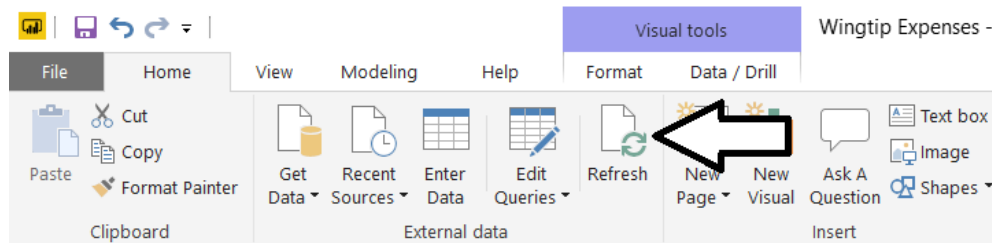
Organize

New

0

This PC > Local Disk (C:) > Student > Modules > 02_Queries > Lab > Data

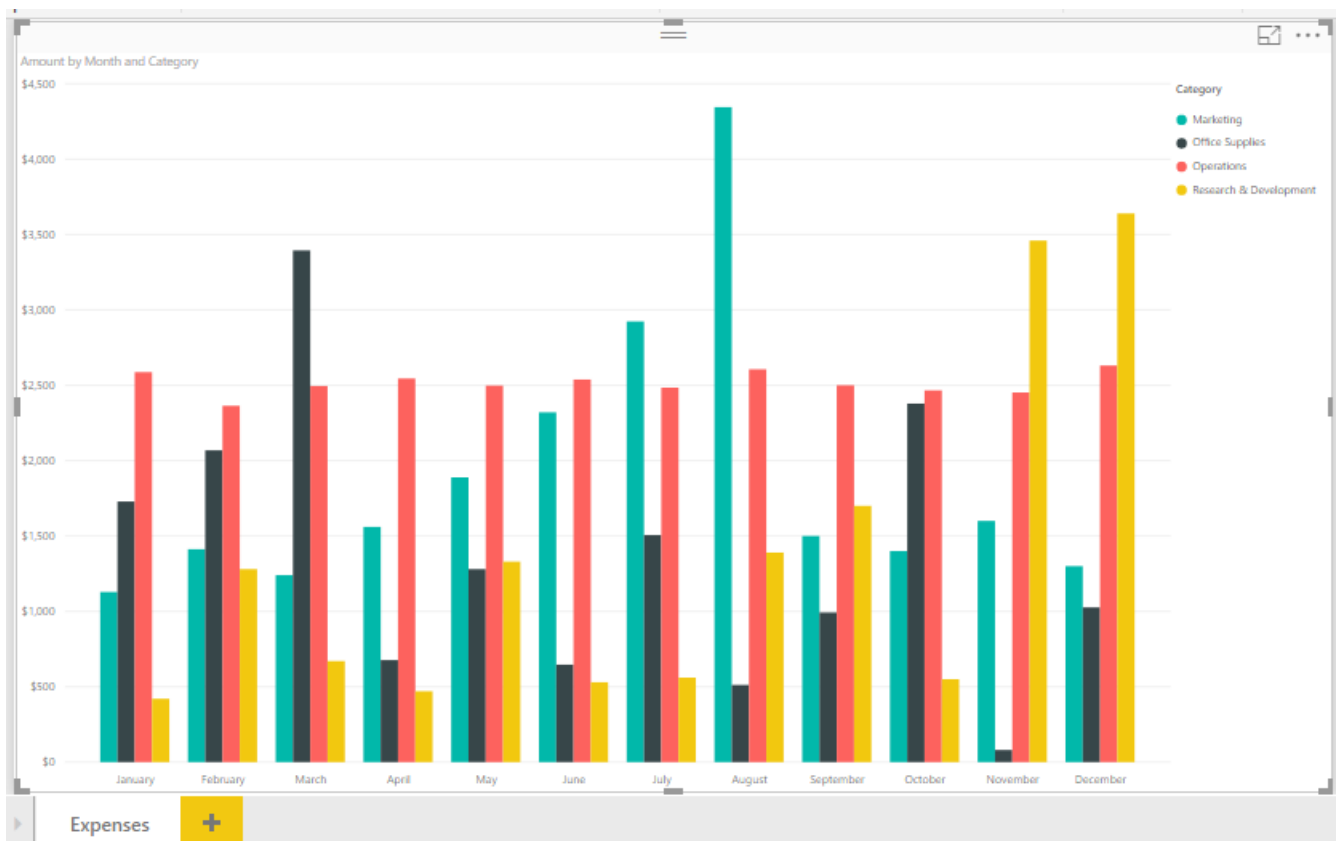
Name	Date modified	Type	Size
Expenses-2017-Q1.txt	2/3/2018 9:54 AM	Text Document	4 KB
Expenses-2017-Q2.txt	2/3/2018 9:53 AM	Text Document	3 KB
Expenses-2017-Q3.txt	2/3/2018 9:56 AM	Text Document	4 KB
Expenses-2017-Q4.txt	2/3/2018 9:55 AM	Text Document	4 KB



Refresh

- GetExpensesFromFile
Waiting for other queries...
- Expenses
Evaluating...

Cancel



Adding Document Library

Pick a name

You can add this app multiple times to your site. Give it a unique name.

Name:

ExcelData

[Advanced Options](#)

Create

Cancel

Home



Critical Path Labs Team Site

[+ New](#) [↑ Upload](#) [Sync](#) [Export to Excel](#) [Flow](#) ...

ExcelData



Name

Modified

Modified By



Budgets.xlsx

A few seconds ago

Ted Pattison



Excel Online

Critical Path Labs Team Site ▶ ExcelData

	A	B	C	D
1	Year	Quarter	Category	Budget
2	2017	Q1	Marketing	\$7,500
3	2017	Q1	Office Supplies	\$1,000
4	2017	Q1	Operations	\$7,000
5	2017	Q1	Research & Development	\$5,000
6	2017	Q2	Marketing	\$7,500
7	2017	Q2	Office Supplies	\$1,000
8	2017	Q2	Operations	\$7,000
9	2017	Q2	Research & Development	\$5,000
10	2017	Q3	Marketing	\$10,000
11	2017	Q3	Office Supplies	\$1,000
12	2017	Q3	Operations	\$7,000
13	2017	Q3	Research & Development	\$5,000
14	2017	Q4	Marketing	\$10,000
15	2017	Q4	Office Supplies	\$1,000
16	2017	Q4	Operations	\$7,000
17	2017	Q4	Research & Development	\$5,000

From Web

Basic Advanced

URL

ABC https://cpt0205.sharepoint.com/ExcelData/Budgets.xlsx

OK Cancel

Navigator

Display Options

https://cpt0205.sharepoint.com/ExcelData/Bud...

☒ Budgets

☐ Expense Budgets Data

Budgets

Year	Quarter	Category	Budget
2017	Q1	Marketing	7500
2017	Q1	Office Supplies	1000
2017	Q1	Operations	7000
2017	Q1	Research & Development	5000
2017	Q2	Marketing	7500
2017	Q2	Office Supplies	1000
2017	Q2	Operations	7000
2017	Q2	Research & Development	5000
2017	Q3	Marketing	10000
2017	Q3	Office Supplies	1000
2017	Q3	Operations	7000
2017	Q3	Research & Development	5000
2017	Q4	Marketing	10000
2017	Q4	Office Supplies	1000
2017	Q4	Operations	7000
2017	Q4	Research & Development	5000

OK Cancel

Queries [3]

GetExpensesFromFile

Expenses

Budgets

	123 Year	ABC Quarter	ABC Category	123 Budget
1	2017	Q1	Marketing	7500
2	2017	Q1	Office Supplies	1000
3	2017	Q1	Operations	7000
4	2017	Q1	Research & Development	5000
5	2017	Q2	Marketing	7500
6	2017	Q2	Office Supplies	1000

	123 Year	ABC Quarter	ABC Category	123 Budget
1	2017	Q1	Marketing	1.2 Decimal Number
2	2017	Q1	Office Supplies	\$ Fixed decimal number
3	2017	Q1	Operations	123 Whole Number
4	2017	Q1	Research & Development	% Percentage
5	2017	Q2	Marketing	Date/Time
6	2017	Q2	Office Supplies	Date

✕

Change Column Type

The selected column has an existing type conversion. Would you like to replace the existing conversion, or preserve the existing conversion and add the new conversion as a separate step?

Replace current
Add new step
Cancel

	123 Year	A ^B _C Quarter	A ^B _C Category	\$ Budget
1	2017	Q1	Marketing	7500
2	2017	Q1	Office Supplies	1000
3	2017	Q1	Operations	7000
4	2017	Q1	Research & Development	5000
5	2017	Q2	Marketing	7500

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Ted Pattison

File
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Help

Clipboard
Get Data
Recent Sources
Enter Data
Edit Queries
Refresh

New Page
New Visual
Ask A Question

From Store
From File
Custom visuals

External data
Insert

Year	Quarter	Category	Budget
2017	Q1	Marketing	\$7,500
2017	Q1	Office Supplies	\$1,000
2017	Q1	Operations	\$7,000
2017	Q1	Research & Development	\$5,000
2017	Q2	Marketing	\$7,500
2017	Q2	Office Supplies	\$1,000
2017	Q2	Operations	\$7,000
2017	Q2	Research & Development	\$5,000
2017	Q3	Marketing	\$10,000
2017	Q3	Office Supplies	\$1,000
2017	Q3	Operations	\$7,000
2017	Q3	Research & Development	\$5,000
2017	Q4	Marketing	\$10,000
2017	Q4	Office Supplies	\$1,000

×
✓

Year
Quarter
Category
Budget

2017	Q1	Marketing	\$7,500
2017	Q1	Office Supplies	\$1,000
2017	Q1	Operations	\$7,000
2017	Q1	Research & Development	\$5,000
2017	Q2	Marketing	\$7,500
2017	Q2	Office Supplies	\$1,000
2017	Q2	Operations	\$7,000
2017	Q2	Research & Development	\$5,000
2017	Q3	Marketing	\$10,000
2017	Q3	Office Supplies	\$1,000
2017	Q3	Operations	\$7,000
2017	Q3	Research & Development	\$5,000
2017	Q4	Marketing	\$10,000
2017	Q4	Office Supplies	\$1,000

×
✓

Year
Quarter
Category
Budget

2017	Q1	Marketing	\$7,500
2017	Q1	Office Supplies	\$1,000
2017	Q1	Operations	\$7,000
2017	Q1	Research & Development	\$5,000
2017	Q2	Marketing	\$7,500
2017	Q2	Office Supplies	\$1,000
2017	Q2	Operations	\$7,000
2017	Q2	Research & Development	\$5,000
2017	Q3	Marketing	\$10,000
2017	Q3	Office Supplies	\$1,000
2017	Q3	Operations	\$7,000
2017	Q3	Research & Development	\$5,000
2017	Q4	Marketing	\$10,000
2017	Q4	Office Supplies	\$1,000

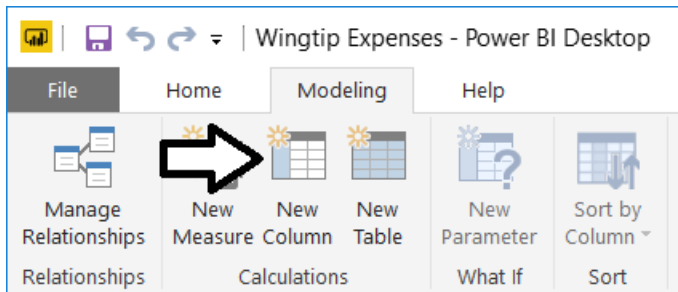
×
✓

Year
Quarter
Category
Budget

2017	Q1	Marketing	\$7,500
2017	Q1	Office Supplies	\$1,000
2017	Q1	Operations	\$7,000
2017	Q1	Research & Development	\$5,000
2017	Q2	Marketing	\$7,500
2017	Q2	Office Supplies	\$1,000
2017	Q2	Operations	\$7,000
2017	Q2	Research & Development	\$5,000
2017	Q3	Marketing	\$10,000
2017	Q3	Office Supplies	\$1,000
2017	Q3	Operations	\$7,000
2017	Q3	Research & Development	\$5,000
2017	Q4	Marketing	\$10,000
2017	Q4	Office Supplies	\$1,000

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Budget Key = [Year] & "-" & [Quarter] & "-" & [Category]

Year	Quarter	Category	Budget	Budget Key
2017	Q1	Marketing	\$7,500	2017-Q1-Marketing
2017	Q1	Office Supplies	\$1,000	2017-Q1-Office Supplies
2017	Q1	Operations	\$7,000	2017-Q1-Operations
2017	Q1	Research & Development	\$5,000	2017-Q1-Research & Development
2017	Q2	Marketing	\$7,500	2017-Q2-Marketing
2017	Q2	Office Supplies	\$1,000	2017-Q2-Office Supplies
2017	Q2	Operations	\$7,000	2017-Q2-Operations

Budget Key =
VAR BudgetYear = YEAR([Date])
VAR BudgetMonth = "Q" & FORMAT([Date], "q")
RETURN
BudgetYear & "-" & BudgetMonth & "-" & [Category]

Date	Amount	Category	Description	Budget Key
Sunday, April 2, 2017	\$925	Operations	Verizon - Telephone and Internet	2017-Q2-Operations
Monday, April 3, 2017	\$142	Office Supplies	Postage Stamps	2017-Q2-Office Supplies
Wednesday, April 5, 2017	\$294	Operations	Electricity Bill	2017-Q2-Operations
Wednesday, April 5, 2017	\$120.25	Office Supplies	Coffee Supplies	2017-Q2-Office Supplies
Thursday, April 13, 2017	\$1,200	Operations	Cleaning Service	2017-Q2-Operations
Saturday, April 15, 2017	\$126	Operations	Water and City Utilities	2017-Q2-Operations
Saturday, April 15, 2017	\$560.22	Marketing	Google Ad Words	2017-Q2-Marketing
Saturday, April 15, 2017	\$414.45	Office Supplies	Cleaning Supplies	2017-Q2-Office Supplies

Wingtip Expenses - Power BI Desktop

File Home Modeling Help

Clipboard Get Data Recent Sources Enter Data Edit Queries Refresh New Page New Visual Ask A Question From Store Custom vis

External data Insert Custom vis

Expenses

- Date
- Σ Amount
- Category
- Description
- Budget Key

Budgets

- Σ Year
- Quarter
- Category
- Σ Budget
- Budget Key

Expenses

- Date
- Σ Amount
- Category
- Description
- Budget Key

Budgets

- Year
- Quarter
- Category
- Budget
- Budget Key

1

×

Edit relationship

Select tables and columns that are related.

Expenses

Date	Amount	Category	Description	Budget Key
Sunday, April 2, 2017	\$925	Operations	Verizon - Telephone and Internet	2017-Q2-Operations
Monday, April 3, 2017	\$142	Office Supplies	Postage Stamps	2017-Q2-Office Supplies
Wednesday, April 5, 2017	\$294	Operations	Electricity Bill	2017-Q2-Operations

Budgets

Year	Quarter	Category	Budget	Budget Key
2017	Q1	Marketing	\$7,500	2017-Q1-Marketing
2017	Q1	Office Supplies	\$1,000	2017-Q1-Office Supplies
2017	Q1	Operations	\$7,000	2017-Q1-Operations

Cardinality

Many to one (*:1)

Cross filter direction

Single

☒ Make this relationship active
 ☐ Apply security filter in both directions

☐ Assume referential integrity

OK

Cancel

Actual Expenses = SUM(Expenses[Amount])

Budget Amount = Sum(Budgets[Budget])