

Excel 2016 Get and Transform

Learn more about Excel:

Lynda.com – go to <https://skokielibrary.info/resources/online-training-tutorials/> and click on Lynda.com. Create a free account with your library card number and a password of your choosing. Enter a search term in the search bar and find an interesting class.

Goodwill Free Learning – go to <https://www.gcflearnfree.org/topics/office2016/> and scroll to Excel 2016. Basic to intermediate level lessons, especially Pivot Tables

Books

Walkenbach, J. (2018). *Excel 2016 Bible*. Hoboken, NJ: John Wiley & Sons.

What Get & Transform can do :

Get data : from txt / xlsx / csv files. Tables. Web scraping, including Facebook. SQL and other databases.

Clean up data: rename columns, delete columns, split columns into multiple smaller ones, remove null rows, calculate new rows.

Transform data: create pivot tables, unpivot data, de-duplicate data. Merge Queries can joint two or more files, similar to a VLOOKUP.

Caution: Each version of Get & Transform looks very different in each version of Excel. What we cover today works at the Library – Excel 2016. Many more features are available when you add in Power Query and Power Pivot. The most powerful of all is Power BI, which works closely with Office 365. When you get help on the internet, make sure you get release-specific information.

Note: Power Query is known as **Get & Transform** in Excel 2016. Information provided here applies to both. To learn more, see [Get & Transform in Excel 2016](#).



EXERCISE 1 – COPY DATA FROM A WEBSITE, CREATE A .TXT FILE AND TRANSFORM IT INTO AN EXCEL TABLE

1. Open up the Notepad application.
2. Open the Excel file called “GandT 01.xlsx”, and click on the first “Start Here” tab.
3. Click on the hyper link to <https://abbreviations.yourdictionary.com/articles/state-abbrev.html>
4. Scroll down to “Alabama – AL”, and left-click before that state’s name.
5. Hold down the shift key and scroll down to the end of the WY in Wyoming, Left-click again to select all the states. <Ctrl c> to copy the data to the PC's clipboard.
6. Click in Notepad, <Ctrl v> to paste the data. Each state will get its own cell, such as “Alabama – AL”. Save the file (as .txt)
7. In Excel, create a new workbook.
8. Click on the Data tab > New Query > From File > From Text

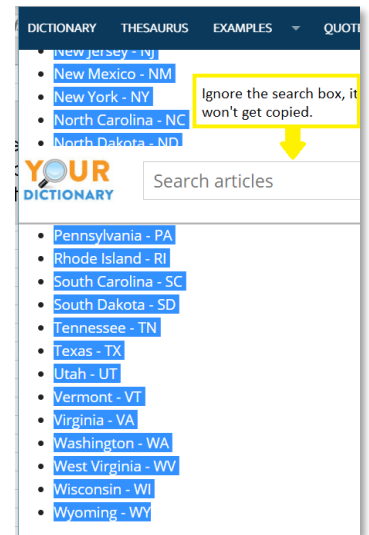


Figure 1 copy the data

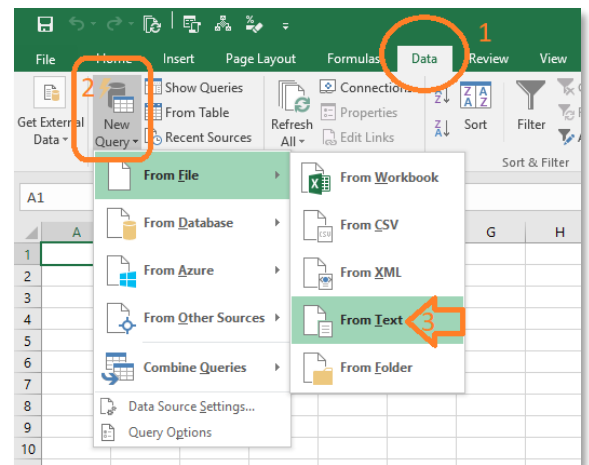


Figure 2 Get the data from a .txt file

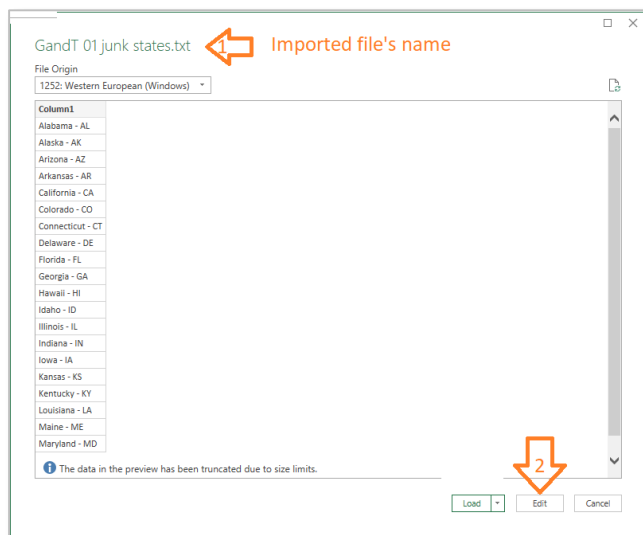
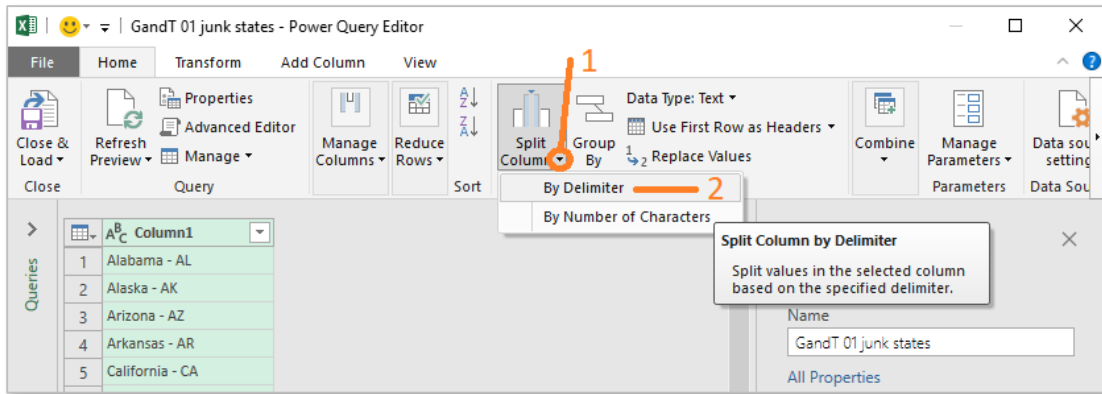


Figure 3 Import Data window

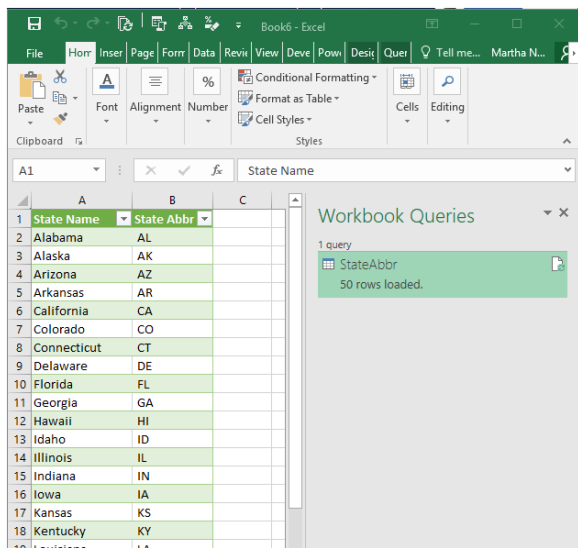
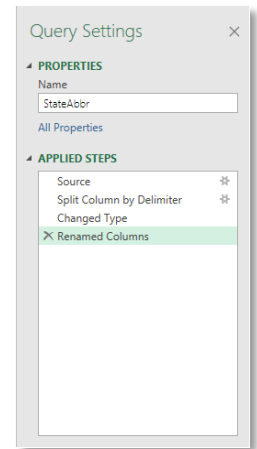
9. In the Import Data window, select StateAbbr.txt (the same file we just pasted the data into). Click the Edit button.



10. Welcome to the Power Query Editor! This is where we Transform the data, in this case we want to split the one column into two. Click on Split Column (by the 1), and By Delimiter. Click OK.



11. Notice the Applied Steps is updated with what you've done. If you made a mistake, just click on the X before the step. You can also rearrange the order of steps.
12. Rename the columns by double clicking the header. Use "State Name" and "State Abbr".
13. Click Close & Load (upper left corner) to get back to the Excel spreadsheet version of the data. How many rows did you get?

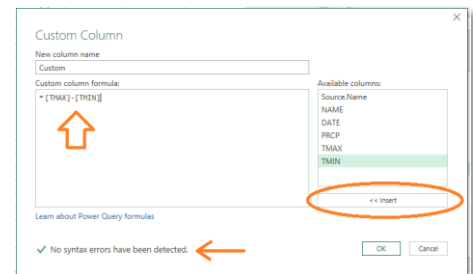
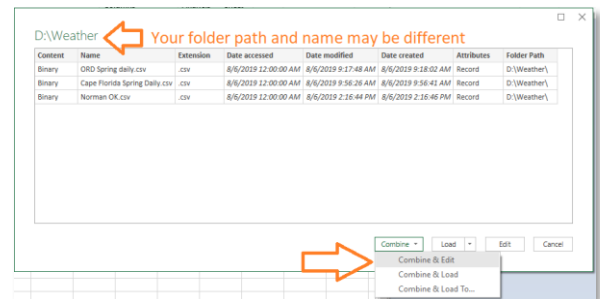
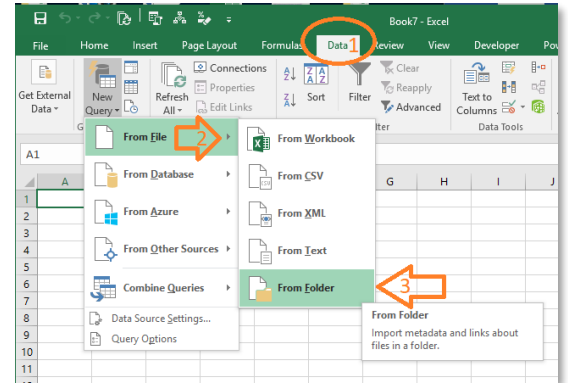


“Get & Transform uses queries as its source. Therefore, to use Get & Transform, we need to create a query. As you move forward and get to know Get & Transform more and more, the typical way that you'll start a query is from a table or a range.” Oz du Soleil Lynda.com

EXERCISE 2A – GET & TRANSFORM A FOLDER OF FILES

In the GandT 01.xlsx file, the Start Here tab, you'll find the directions how to get weather information for a city. To save class time, I put three files in the Weather folder.

1. Create a new Excel file.
2. Data > From Query > From file > From folder. Click the “Browse” button and navigate to the **Weather** folder. This window will display the files in the Weather folder. Click “Combine & Edit”. Click OK.
3. In the Power Query Editor:
 - a. **Remove** the Station Column (right click the Station header, and press the delete key or click on Remove).
 - b. Click on the **Add** Column tab > Custom Column. In the right column, click on TMAX, then Insert. Type in a “-” in the formula. Next click on TMIN and then Insert. If there are no errors, click OK.
 - c. **Rename** the “Custom” header to “Difference”.
 - d. Click on Name. Transform > **Split Column** > by delimiter > Comma > left-most delimiter, OK
4. Home > **Close & load**.



Create a custom formula column

I have 365 rows of a header and data. You?



EXERCISE 2B – ADD MORE FILES TO THE FOLDER

BUT WAIT – THERE'S MORE! This is where Get & Transform shows its strength: teach it to clean up one file and automatically apply the logic to many similar files.

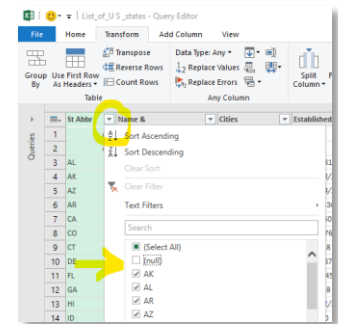
1. Select the three folders in the **Weather Extra** folder, <Ctrl C>(copy).
2. Open the **Weather** folder and <Ctrl V> (paste) the files. Close the folder.
3. Click on the Excel file's Query Tab > Edit.
4. Click the Refresh > Refresh All once, or twice (depending on the version of Excel)
5. Click on Close & Load.
6. Now how many rows do you have?

EXERCISE 3 – MERGE QUERIES

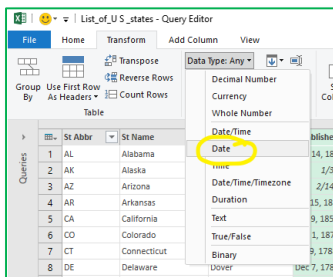
Merging two queries is similar to doing a VLOOKUP – two tables match up by a unique element and the result is that we can use the data from both tables. In this exercise, we'll get population by State in one table, and the state's bird by State. We'll join the two tables by State, and make one big table.

Note: both tables' data were pulled from <https://simple.wikipedia.org>

1. Open file: Wiki 50 states population birds.xlsx There are two tabs.
2. Click on a cell in the "state info" tab.
3. Data > From Table, which brings up the Query Editor.
4. Transform > Use First Row as Headers
5. Delete columns, keeping only the first three (abbreviation, state name, capital city) and Established and Population. Rename the headers as you choose.
6. In "St Abbr" (first column), filter out null fields. Click OK.
7. Select the State Name column (second column).
Transform > Format > Trim to remove leading spaces.



Remove null fields



8. Select the Established column (4th col) Data Type > Date
9. Data Type > Year

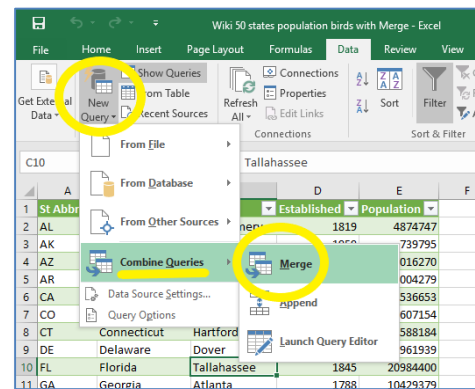
10. Home > Close & Load



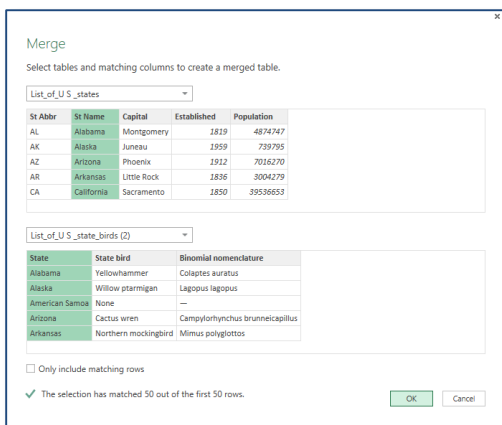
11. Click on the birds tab, and click anywhere on the data.
12. Data > From Table to get to the Query Editor.
13. Delete the Photography and Year columns.
14. Click on the State column, filter out any null fields.
15. Home > Close & Load.

If you are happy with how your “Get” updates for this exercise went, continue on with your own file. Else, open the file “[Wiki 50 states population birds with query.xlsx](#)” file to continue on to the Merge part of

16. Click on the Sheet 1 tab, then click on a cell in the table.

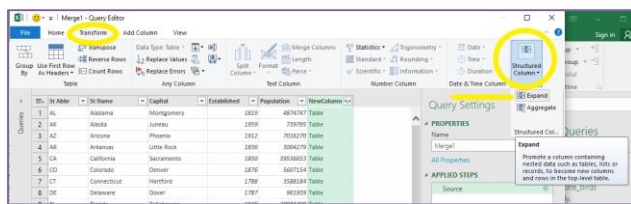


17. New Query > Combine Queries > Merge

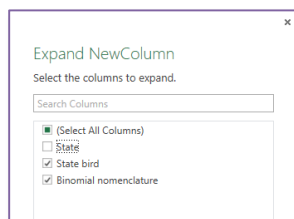


Start to Merge!

18. Here we identify which 2 tables we want to merge, and which fields will be “key”. Click OK.



19. Click on NewColumn. Transform > Structured Column > Expand.

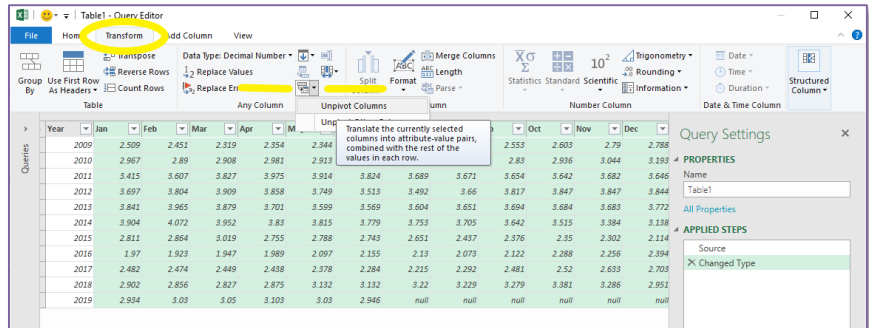


20. Deselect (uncheck) State. Click OK. Close & Load.



EXERCISE 4 – UNPIVOT TABLE

1. Open "Gas Prices from BLS.xlsx". Select all the data in your pivot table. A10:M21
2. Data > from Table.
3. Select all the month columns (don't select Year column).
4. Transform > Unpivot
5. Home > Close & Load.



mnelson@skokielibrary.info
[Linkedin.com/in/martha-nelson](https://www.linkedin.com/in/martha-nelson)



5215 Oakton Street / Skokie, IL 60077 / 847-673-7774 / www.skokielibrary.info