

Preparing the Data for an Excel Pivot Table

If you are like most office workers, you probably have tons of data coming from all directions that you somehow must summarize and make it all make sense. Maybe it is endless lists of sales, bills, invoices, customers, vendors, employees, benefits, payments, orders, products, inventory, collections, books, charges, or countless other possible lists. Additionally, it seems that the lists of information come from all different sources, and it never ends.

When I started in IT a long time ago, it was pretty much up to the IT team to gather all the data and then make reports and charts from the data. At the time, programming languages such as COBOL, Fortran, Basic, Pascal, ColdFusion, VBA, dBase, FoxPro, and others were used to write long, complex programs that would open the data file, go through the file record by record, clean up the data if necessary, accumulate totals, and then finally generate the reports or charts that were asked for. It was a time-consuming process that was prone to errors and many other challenges.

For most companies, those days are long gone. Now it is up to you, the individual, or the people you work with to gather all the data from different sources and make some kind of sense out of it. Somehow you are expected to know how to sort, filter, summarize, chart, and report on the data for the next staff meeting to show something meaningful from the data. Oh, and, by the way, the meeting is this afternoon! No pressure. It's only your job, your career, your life!

What are you going to do?

Relax, it's going to be OK. This whole book is designed to help you make sense of all that data, and you don't even have to be a programmer to get great results from your data. This book will show how to create and manage a pivot table, which is a powerful reporting tool built into Excel. A pivot table can take in huge amounts of data, and it allows you to summarize your data just about any way you want, all without you having to be on the IT team. By using the steps in this book, you really should be able to get great results from your data by using pivot tables.



NOTE This chapter will present a number of examples. To get the most from these examples, you can download sample files from www.wiley.com/go/GGRXL_PivotTables. The examples throughout the chapter will note which book file is being used.

What Is Data?

For the purposes of this book, *data* can be defined as a list of rows of information or transactions that have a common theme. The data itself could represent any number of lists of information. It could be names of customers, employees, teachers, students, grades, bills, invoices, inventory, sales, credits, debits, investments, addresses, cities, countries, and so on and so on. The data could be any list of items that people keep track of. It could be a short list with just a few rows, or it could be a long list with hundreds of thousands of rows. Microsoft Excel spreadsheets can hold more than 1,048,000 rows down and more than 16,000 columns across. Larger databases, going into the hundreds of millions of rows, can be managed in Power Pivot, which is discussed in Chapter 8, “Improving Your Pivot Table with Power Pivot.” Each row in the list within the Excel worksheet list is a separate transaction or record. Each column is a different field of information.

What the Data Should Look Like

For the data to be used in a pivot table, the data has to be set up in a certain way so it will be optimized for the pivot table. If necessary, Power Query, which is discussed later in this chapter, along with other traditional Excel techniques, can be used to clean the data. Figure 1.1 shows an example of “good” data, and Figure 1.2 shows an example of “bad” data. The following is a list of ways the data should be structured so it is ready to be made into a pivot table:

- It is important that the column headings or field names appear on the top row of the data. The row that contains the field names is also called the *header row*.
- There should be only one row for the column headings. Excel will use the top row of the list as the headers.
- If the data you want to use does not have a header row, then you should take the time to manually insert a row at the top of the data and give each column a meaningful name.
- The header row does not necessarily have to be row 1 of the Excel spreadsheet, but it does have to be the first row of the list of data. Similarly, the first column of information does not have to be in column A of the Excel spreadsheet; it just has to be the first column of the list.
- If there is anything above the header row, then there has to be at least one completely blank row before the header row, and if there is anything before the first column of data in the list, there has to be at least one blank column before the first column of data in the list.
- After the header row, there should be no entirely blank rows until the bottom of the data, and there should be no entirely blank columns until the right side of the list. The reason for this is when the pivot table is first made, Excel will automatically select a range of data, and it will stop at the next completely blank row it finds above the current cell and also below the current cell, and the next completely blank column it finds to the left of the current cell and to the right of the current cell.
- There can be blank cells here and there, but an entire row or column should not be blank within the list of data.
- Each separate transaction should take up only one row of the Excel spreadsheet.
- Each column should have just one piece of information, and it should be consistent all the way up and down the column. A column called Country, for example, should contain only names of countries.

- The column should have the same data type, for example being all text, numbers, or dates within the same column.
- The list of data should not contain any merged cells. A merged cell is when more than one cell is combined into one big cell. These merged cells really get in the way of a successful pivot table.

EmployeeID	FirstName	LastName	JobTitle	BirthDate	HireDate	Region
1	Michael	Henderson	Sales Representative	1/2/1989	1/2/2017	East
2	Pam	Scott	Vice President, Sales	2/4/1993	2/3/2018	North
3	Jim	Flanders	Internet Bot	3/5/1998	3/4/2019	South
4	Andy	Peterson	Sales Representative	5/2/1987	4/5/2020	West
5	Dwight	Costanza	Sales Manager	9/2/2003	6/7/2023	Central
6	Angela	Brady	Sales Representative	8/5/2001	7/8/2023	East
7	Toby	Kramer	Sales Representative	12/15/1999	5/6/2010	North
8	Ryan	Pierce	Sales Coordinator	8/1/2000	7/20/2020	South
9	David	Honeycut	Sales Representative	9/1/2001	7/20/2022	West
10	Oscar	Burns	Sales Manager	6/4/1998	5/3/2012	Central

Figure 1.1: An example of good data

A	B	C	D	E	F	G	H	I	J
1	Michael	Henderson	Sales Representative	1/2/1989		1/2/2017	East		
2	Pam	Scott	Vice President, Sales	2/4/1993		2/3/2018	North		
3	Jim	Flanders	Internet Bot	3/5/1998		3/4/2019	South		
4	Andy	Peterson	Sales Representative	5/2/1987					
5	Dwight	Costanza	Sales Manager	9/2/2003					
6									
7	Angela	Brady	Sales Representative	8/5/2001		7/8/2023	East		
8	Toby								
9	Ryan								
10	David	Kramer							
11	Oscar	Burns	Sales Manager			5/3/2012	Central		

Figure 1.2: An example of bad data

NOTE Checking for Merged Cells



The following is a quick way to see if your list of data has any merged cells:

1. Click one of the cells within the data range.
2. Use the Ctrl+A keyboard shortcut to select the entire range of data.
3. Click the Home tab.

4. Click the Find icon, as shown in Figure 1.3.

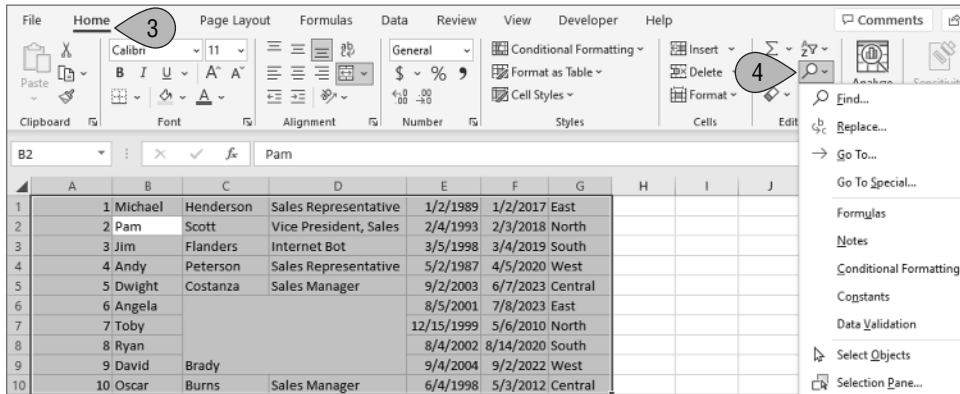


Figure 1.3: Selecting the Find icon

5. In the Find And Replace dialog box, click Options. This will show a list of options, as shown in Figure 1.4.

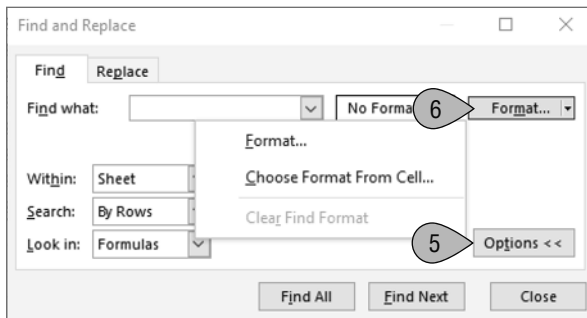


Figure 1.4: Clicking Options

6. Click Format. This will display the Find Format dialog box, as shown in Figure 1.5.

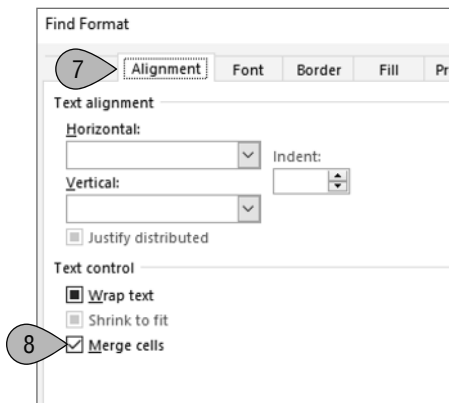


Figure 1.5: The Alignment tab in the Find Format dialog box

7. Click the Alignment tab.
8. Select the Merge Cells option so that it is checked.
9. Click OK.
10. Click Find All. This will highlight any merged cells within the list.
11. Close the Find And Replace dialog box.
12. If any merged cells were found within the list of the data, then highlight the list of data, right-click the range, and then use the Format Cells option to unmerge the cells within the list.

Types of Data That Can Be Used in Excel Pivot Tables

The data for a pivot table can potentially come from many sources. The data can already be in Excel, or it can come from external sources. Data external to Excel would eventually have to be imported into an Excel worksheet. If there are more than 1,048,000 rows in the table, however, it would have to be imported into Power Pivot instead, which will be discussed in Chapter 8, “Improving Your Pivot Table with Power Pivot”. The following are the most popular data sources that can be imported into Excel and then made into a pivot table:

- An Excel workbook
- A text or CSV file
- An XML dataset
- A JSON dataset
- A PDF file (not preferable, but it could possibly work if it is the only thing available)
- A SQL Server database
- An Access database
- An Oracle database
- An IBM DB2 database
- A MySQL database
- A PostgreSQL database
- A Sybase database
- A Teradata database
- A SAP HANA database
- Data from Azure
- Data from PowerBI
- Data from Dataverse

- Data from Dataflows
- A SharePoint list
- Microsoft Exchange
- Microsoft Dynamics 365
- Salesforce
- A website that has a table of data
- An OData feed
- A Hadoop file
- An ODBC data source
- An OLEDB data source

There are other possible data sources, but these are the main ones that are being used. Additionally, most of the widely used databases are ODBC compliant, OLE compliant, or both, so that almost every popular database can be a source of data that can be imported into Excel and then used as the main data for a pivot table. If the database you are using is not listed here and it is not ODBC compliant or OLE compliant, there's a pretty good chance that the database program you are using has a way to export the data either into a text/CSV file or even an Excel spreadsheet, so there should still be a way to get that data into Excel so that you can use it for your pivot tables. By using the newly improved Power Query, you can import data directly from all of the previous data sources into Excel. Power Query is an excellent tool that is built into Excel that allows you to import data from other sources, clean the data, and also enhance the data in many ways, some of which will be demonstrated in this chapter.

Using Excel Data

It is likely that you already have data in your existing Excel workbooks that is ready to be made into a pivot table. That's a great start! The data can be just plain, unformatted data, also called *raw data*, or it can be a formatted table, also called a table in Excel. Figure 1.6 shows an example of plain, unformatted data. Figure 1.7 shows an example of a formatted table in Excel.

Either one will be a great source for your pivot table, although there are advantages to using a formatted table as the source for your pivot table such as the following:

- A formatted table automatically expands to include the new columns or rows when they are added. These new columns and rows would then carry over to the pivot table as well. On the other hand, if more rows or columns were added to a list of data that is not a formatted table, the data range that the pivot table uses may have to be manually expanded.

	A	B	C	D	E	F	G	H
1	EmployeeID	FirstName	LastName	JobTitle	BirthDate	HireDate	Region	
2	1	Michael	Henderson	Sales Representative	1/2/1989	1/2/2017	East	
3	2	Pam	Scott	Vice President, Sales	2/4/1993	2/3/2018	North	
4	3	Jim	Flanders	Internet Bot	3/5/1998	3/4/2019	South	
5	4	Andy	Peterson	Sales Representative	5/2/1987	4/5/2020	West	
6	5	Dwight	Costanza	Sales Manager	9/2/2003	6/7/2023	Central	
7	6	Angela	Brady	Sales Representative	8/5/2001	7/8/2023	East	
8	7	Toby	Kramer	Sales Representative	12/15/1999	5/6/2010	North	
9	8	Ryan	Pierce	Sales Coordinator	8/4/2002	8/14/2020	South	
10	9	David	Honeycut	Sales Representative	9/4/2004	9/2/2022	West	
11	10	Oscar	Burns	Sales Manager	6/4/1998	5/3/2012	Central	
12				Plain Unformatted data				
13								

Figure 1.6: Nonformatted data

	A	B	C	D	E	F	G	H
1	EmployeeID	FirstName	LastName	JobTitle	BirthDate	HireDate	Region	
2	1	Michael	Henderson	Sales Representative	1/2/1989	1/2/2017	East	
3	2	Pam	Scott	Vice President, Sales	2/4/1993	2/3/2018	North	
4	3	Jim	Flanders	Internet Bot	3/5/1998	3/4/2019	South	
5	4	Andy	Peterson	Sales Representative	5/2/1987	4/5/2020	West	
6	5	Dwight	Costanza	Sales Manager	9/2/2003	6/7/2023	Central	
7	6	Angela	Brady	Sales Representative	8/5/2001	7/8/2023	East	
8	7	Toby	Kramer	Sales Representative	12/15/1999	5/6/2010	North	
9	8	Ryan	Pierce	Sales Coordinator	8/4/2002	8/14/2020	South	
10	9	David	Honeycut	Sales Representative	9/4/2004	9/2/2022	West	
11	10	Oscar	Burns	Sales Manager	6/4/1998	5/3/2012	Central	
12				Formatted Table				
13								

Figure 1.7: Formatted table

- Formatted tables can be used to make a pivot table from more than one sheet by joining the tables on common fields, a technique that is covered in Chapter 7, “Creating a Pivot Table from Multiple Spreadsheets,” and in Chapter 8, “Improving Your Pivot Table with Power Pivot”.
- A formatted table is already structured to be used in a pivot table in almost all cases. A list of data that is not a formatted table may have to be cleaned up before being used in a pivot table.
- A formatted table will automatically eliminate any merged cells that were previously within the data and will not allow any new merged cells to be placed within the table.
- Sort and filter are facilitated in formatted tables by having a drop-down list on the top of each column.
- The headers on the formatted table will stay on the top of each column as you scroll down. This does not happen in unformatted lists unless you

use Excel's Freeze Panes command, which can be found on the View tab within Excel.

- A formatted table is ready to be used with Power Pivot.
- The formatted table will assist when you create formulas.



You can create a formatted table from unformatted data by doing the following:

1. Click a cell within your data.
2. Click the Home tab.
3. Click the Format as Table icon on the ribbon. This will display a gallery of table styles, as shown in Figure 1.8.

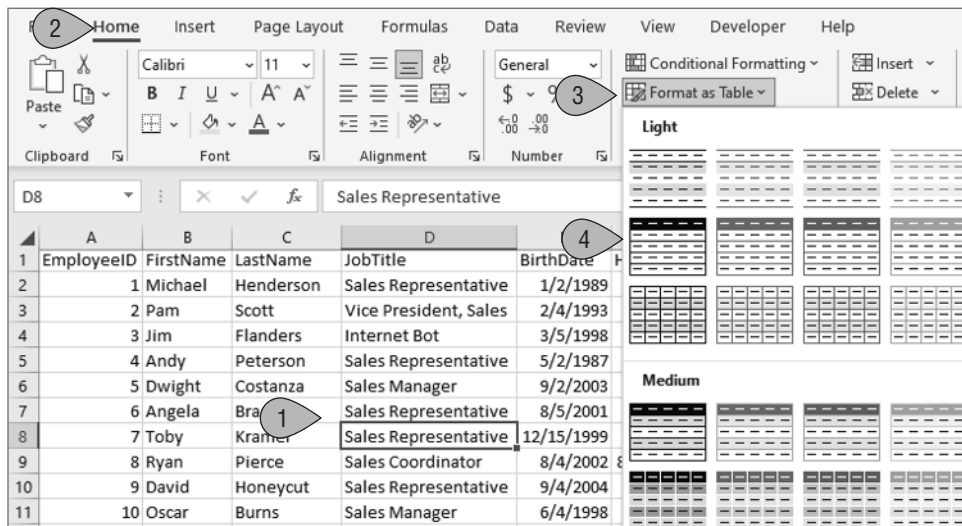


Figure 1.8: Formatting data as a table

4. Choose one of the styles. A Create Table dialog box will be displayed.
5. Make sure the My table has headers check box is selected.
6. Click OK.

Your list is now a formatted table.

Importing Data from External Data Sources into Excel

It is also possible that you will have to import data from other external data sources into Excel. Power Query is set up to import data from many different file types and database formats. The good news is that when the data is imported, it automatically creates a refreshable formatted table from that data, which then

can be easily made into a pivot table. In the following section, we will walk through the steps to import data from the most popular data sources. Other data sources that are not specifically shown here will work similarly.

NOTE You may need the help of your IT team to provide access to an external data source. Please follow your company's procedures when trying to get access to data sources that are external to the Excel workbook.

Importing Data from a Text/CSV File

A text/CSV file is just a plain, unformatted text file. It is considered to be almost a universal data source, because almost all database and spreadsheet programs can either import from or export to a text/CSV file. A CSV file is a specific type of text file. CSV stands for comma-separated values, which means each field is separated by a comma. Although CSV files are the most popular type of text files, other text files could also be used as a good data source for pivot tables.

While it is important that the field names or column headers are included in the first line of the actual text file, it is not necessary. The field names can always be added manually once the data has been successfully imported into Excel. It is also important that the text file has some kind of recognizable structure. The data fields should be delimited, or separated, by some character, usually one of the following: a space, a comma, a semicolon, a colon, or a tab, among others. On the other hand, a text file containing free-form text, like text from a book or a magazine article, would probably not be a good candidate for reliable data that could be used in a pivot table.



NOTE You can download sample files for this book from www.wiley.com/go/GGRXL_PivotTables. For the following example, you can use the file *ProductDescriptions.csv* included with the sample files.



The following are the steps for importing data from a text/CSV file:

1. Open a new, blank workbook and click the Data tab.

2. Select Get Data ⇨ From File ⇨ From Text/CSV from the menu, as shown in Figure 1.9. This will display the Import Data dialog box.

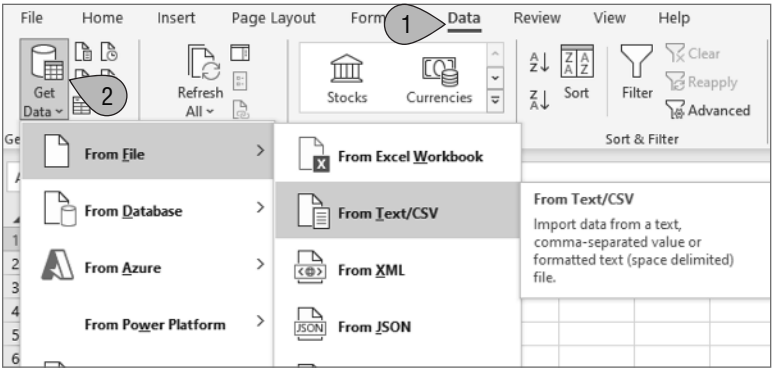


Figure 1.9: Importing data

3. Browse to the folder where your text/CSV file is located and click the filename.
4. Click Import. A new screen will display the data from the file you selected, as shown in Figure 1.10.

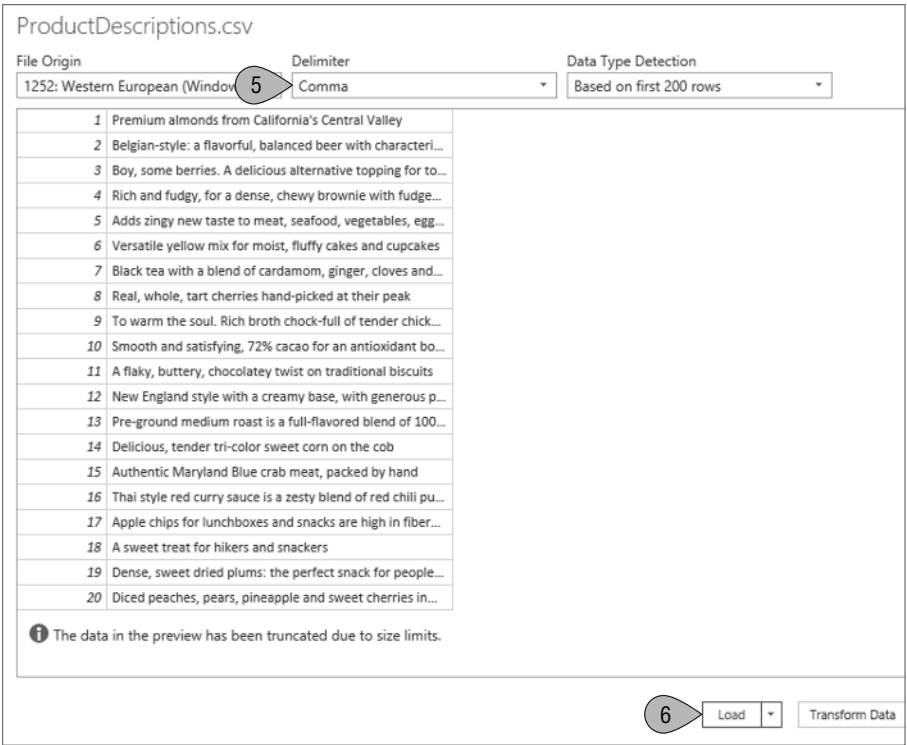


Figure 1.10: The data being imported

5. You may have to change the delimiter, but usually Excel guesses that for you properly. If you have to change the delimiter, try each one on the list of delimiters until the data looks like usable columns of data. A CSV file will always have a comma as the delimiter.
6. Click Load.

The data should be imported into its own sheet as a formatted table. You will see the table listed in the Queries & Connections window on the right, which could be used to clean up or to enhance the data table using Power Query.

Sometimes when importing data from a text file, Excel does not recognize the first row of data from the text file as headers. If you see the field headers on the first row of data, you can use the following steps to create headers from that data. Alternatively, you might notice that the first row of the sheet that was imported has column headings like “Column 1” and “Column 2,” while the real field names are on the next row, or even several rows down. If this is the case and you see the field headers a few rows down, you may have to first delete the rows above the row containing the column headers. You can then make that row the header row for the imported data by using the following steps.

NOTE If you have trouble getting the column names on the first row, you can refer to the section “Removing Columns and Rows” later in this chapter.



To make the first row of data become the actual field names, do the following:

1. Right-click the table in the Queries & Connections window and click Edit from the menu. This will display the Power Query Editor window, as shown in Figure 1.11.

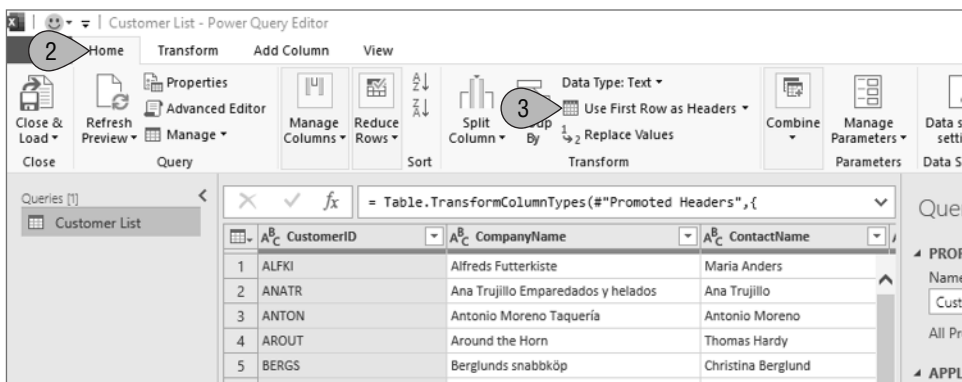


Figure 1.11: Using the first row as headers

2. In the Power Query Editor window, click the Home tab.
3. Click the Use First Row As Headers icon. You now see the much better field names.
4. Close the Power Query Editor window and keep your changes.

Importing Data from an Access Database

Microsoft Access has been Microsoft's standard database on the PC for many years. It is part of the Microsoft 365 suite. Many people still use Access databases to track all kinds of information. An Access database is an outstanding source of data that could be used in pivot tables. An Access database file will contain the tables and the queries/views for that database, among other database objects. Both the tables and the queries can be imported into Excel. Any Access database files created from Access 2000 or later should work just fine. Access databases created on older versions of Access might not work, but you should be able to use Access itself to convert these into the newer file format.

NOTE There is an Access database called *States.accdb* that is included in the sample files for this book that you can use for this example.



To import data from an Access database, you can use the following steps:

1. Click the Data tab.
2. On the left side of the ribbon, select Get Data ⇄ From Database ⇄ From Microsoft Access Database. This will display the Import Data dialog box.
3. Browse to the folder where your Access database file is and click the file you want to import.
4. Click Import. As shown in Figure 1.12, you will see the Navigator window that will display the tables and queries in that database.
5. Click the table or query that you would like to import and then click Load.

The data should be imported into its own sheet, and it will be a formatted table. You will see the table listed in the Queries & Connections window on the right, which could be used to clean up or to enhance the data table using Power Query.

Importing Data from a Web Page

In today's world, there are many websites that have vast amounts of data that can be successfully imported into Excel and then made into a pivot table. The amount of available data on the Internet grows by leaps and bounds every day.

Maybe it is sales data, online catalogs, financial data, sports statistics, or any number of possible lists. Not every website is going to work, of course. The website has to have a table of data that Excel will actually recognize as a table of data.

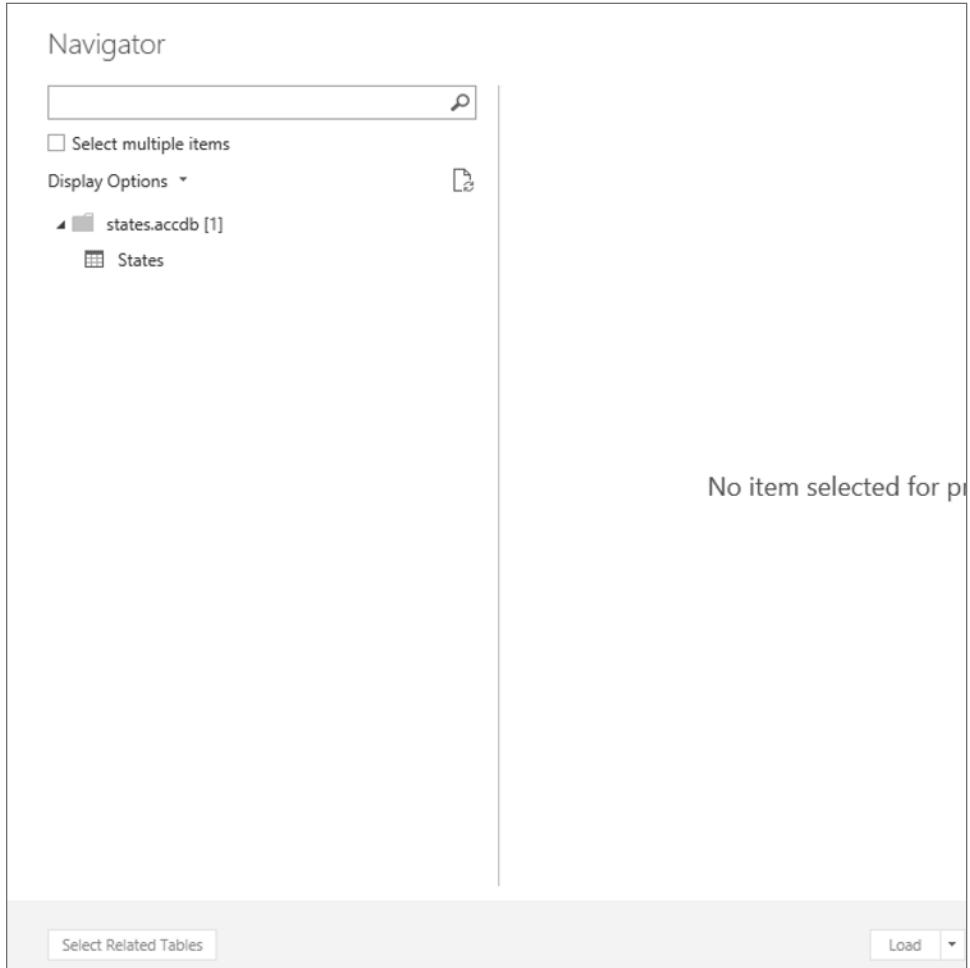


Figure 1.12: The Navigator window when importing data from an Access database

Maybe you have tried to copy and paste the data from a website into Excel in the past. I know I have. The results are usually disastrous, and even if it does work, a lot of time can be spent trying to reformat the data into something that is usable.



Here's a better way to import that data from a web page:

1. Open a web browser, like Google Chrome, Edge, Safari, or whichever you choose, and open the website you want to get the data from. For this example, I will use <https://finance.yahoo.com/gainers>.
2. Highlight the website name (the URL) and copy it.
3. Open either an existing or a new Excel workbook.
4. Click the Data tab.
5. On the left side of the ribbon, select Get Data ⇨ From Other Sources ⇨ From Web. This will display the dialog box for importing data, as shown in Figure 1.13.



Figure 1.13: Importing data from a web page

6. Paste or enter the website URL from step 2 and click OK. If you do not paste it, you will have to enter the website name exactly right. I prefer to paste it. Microsoft Excel will now try to connect to the website and the tables of data on that website, if there are any.
7. If you get an Access Web Content window, just click Connect. You will see the Navigator window, which will show the tables it found, if any.

8. Select the tables on the left side of the Navigator window until you find the one you want to use, and then click Load.

The data should be imported into its own sheet, and it will be a formatted table. You will see the table listed in the Queries & Connections window on the right, which could be used to clean up or to enhance the data table using Power Query.

Connecting to an ODBC Database

Most popular databases are ODBC compliant. ODBC means Open Data Base Connectivity. It is a protocol that is used so that different database management systems can share data with each other. Some examples of ODBC-compliant databases are SQL Server, Oracle, MYSQL, dBase, Paradox, IBM DB2, and Sybase.

In my experience, most IT teams will not grant you direct access to the company's database. Understandably, the IT team is going to be very protective of the important company data. There's a much better chance of getting them to give you access through the ODBC connection because it allows your IT team the flexibility to provide the exact access the end user needs to the data, while at the same time keeping everything secure. You will have to get your IT team to set up an ODBC driver on the computer where you are using Excel. Tell your IT team what you need, and make sure you use the phrase "Read Only" when you make the request. Your company may have specific procedures that you need to follow for such requests, and I strongly recommend that you follow your company's procedures when trying to access the company's data.



Once you have this access from your IT team, you can import data from the ODBC Database by doing the following:

1. From the left side of the Data tab, select Get Data ⇄ From Other Sources ⇄ From ODBC. This will display the From ODBC dialog box, as shown in Figure 1.14.

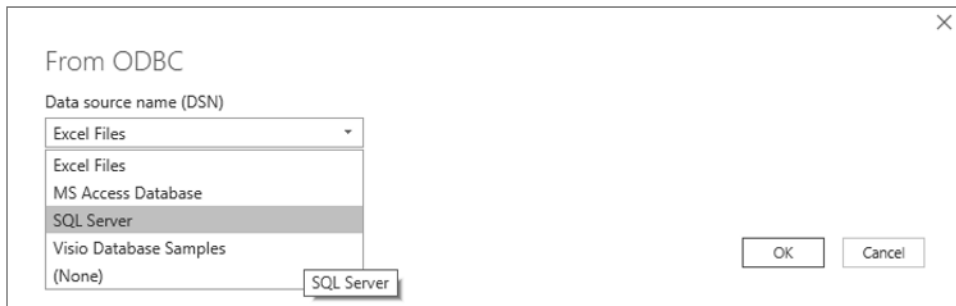


Figure 1.14: Importing data from an ODBC data source

2. Click the drop-down list that displays the data source names. Select the one that your IT team has set up for you and then click OK. Microsoft Excel will now try to connect to the server.
3. Fill in the ODBC Driver info, and then click Connect. Excel will then attempt to connect to your data source. Once connected, you will see the Navigator window, which will show the databases and tables on the server. Check with your IT team, and they will tell you which databases, tables, and views are necessary for your needs.
4. Select the table or view you want to import and click Load.

The data should be imported into its own sheet, and it will be a formatted table. You will see the table listed in the Queries & Connections window on the right, which could be used to clean up or to enhance the data table using Power Query.

Importing Data from a Different Excel Workbook

It is definitely possible to import data from one Excel workbook to another. There are multiple reasons why you would want to do this. For example, sometimes you want to pull all of your data into one workbook.

This is especially important if you plan to link the sheets together on common fields. Each data table that you want to import into the new Excel workbook should be on its own separate sheet. The field names should be on row 1 of that sheet unless the data is a formatted table. The data should also follow the rules for acceptable data listed at the beginning of this chapter.

NOTE There is an Excel workbook included in the sample files that comes with the book called *Pivot Table Book sample data.xlsx* that you can use for this example.



To import one sheet from an existing Excel workbook, follow these steps:

1. From the left side of the Data tab, select Get Data ⇄ From File ⇄ From Excel Workbook. This will display the Import Data dialog box for you to select a file from.
2. Browse to the folder where your Excel workbook is, select the file, and then click Import. You will see the Navigator window that will display the sheets from that workbook. It will show the sheets that are formatted tables at the top, and then the sheets that are not formatted tables below them.
3. Select the sheet you would like to import and click Load.

The data should be imported into its own sheet, and it will be a formatted table. You will see the table listed in the Queries & Connections window on

the right, which could be used to clean up or to enhance the data table using Power Query.

Sometimes when importing data from an Excel sheet that was not a formatted table in the original workbook, Excel does not recognize the first row of data from the Excel sheet file as headers. You might notice that the first row of the sheet that was imported from the Excel file has column headings like “Column 1,” “Column 2,” and so on. Then you might see the real field names on the next row. Refer to the earlier “Importing Data from a Text/CSV File” section to help rectify this issue, if necessary.

If you want to import more than one sheet from the other workbook, there are some important additional steps. Let’s look at an example. There is an Excel workbook included with the files that come with the book called *Pivot Table Book sample data.xlsx* that you can use for this example. You can import multiple sheets from an existing Excel workbook by doing the following:



1. Click the Data tab.
2. Select Get Data ⇨ From File ⇨ From Excel Workbook on the left side of the ribbon.
3. Browse to the folder where your Excel workbook is located.
4. Click the file.
5. Click Import. This will open the Navigator window that will display the sheets from that workbook. It will show the sheets that are formatted tables at the top and then the sheets that are not formatted tables below them.
6. Check the Select multiple Items check box on the top of the window, as shown in Figure 1.15.
7. Check all of the sheets you would like to import.
8. Click the drop-down to the right of the word Load.
9. Click Load To.
10. In the Import Data dialog box, make sure Table is selected.
11. Make sure New Worksheet is also selected.
12. Click OK.

Each sheet you selected should be imported as a separate sheet, and they will all be formatted tables. They will be listed in the Queries & Connections window on the right, which could be used to further manage the data using Power Query.

Refreshing the Data

Typically, people want to make sure they are looking at the most recent data. In many cases, the data is being updated every minute or maybe even every

second of the day. The tables from any of the data sources can be refreshed so that you are always looking at the most recent data. The data can be refreshed manually, or it can be automated.

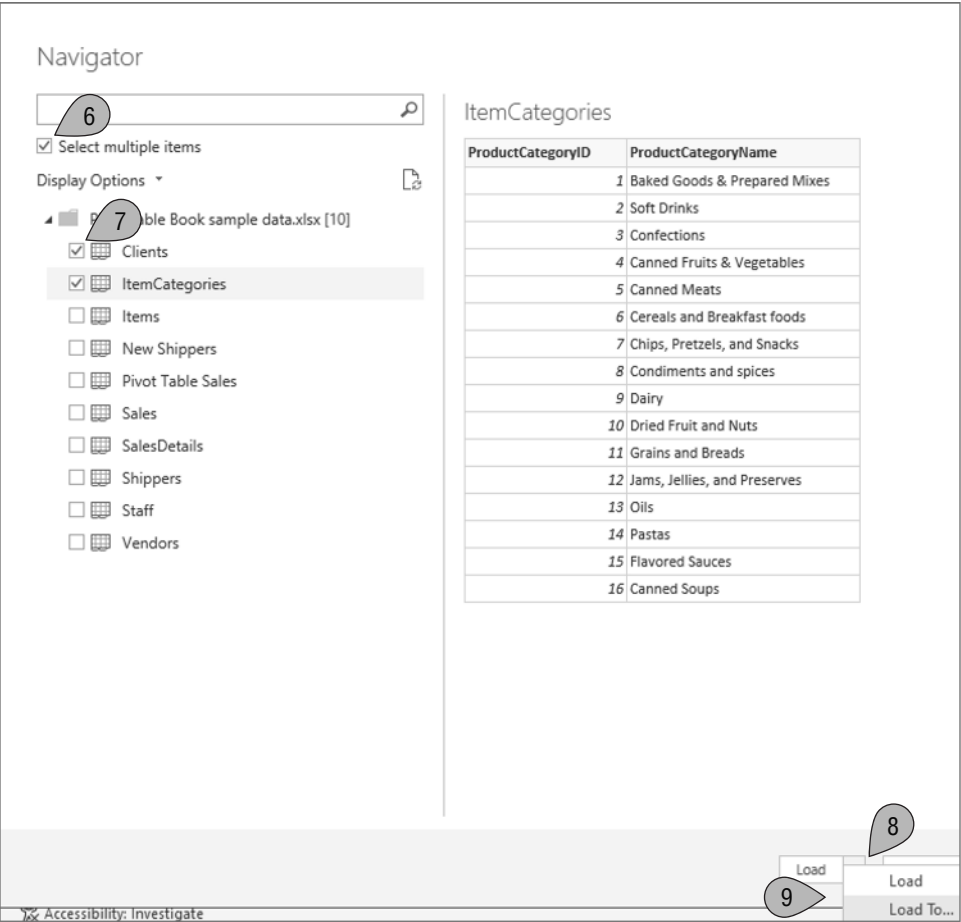


Figure 1.15: Importing multiple sheets from a different Excel workbook



To refresh a table manually, first click a cell within the table that you want to refresh. You can then click the Refresh All icon on the Data tab, or you can right-click the cell and select Refresh from the menu. If the data has changed since the last time you imported or refreshed the table, you will now see the changes.



To refresh a table automatically, follow these steps:

1. Click a cell within the table you want to refresh.
2. Click the Data tab.
3. Click the down arrow on the Refresh All icon.

4. Select Connection Properties. This will open the Query Properties dialog box, as shown in Figure 1.16.

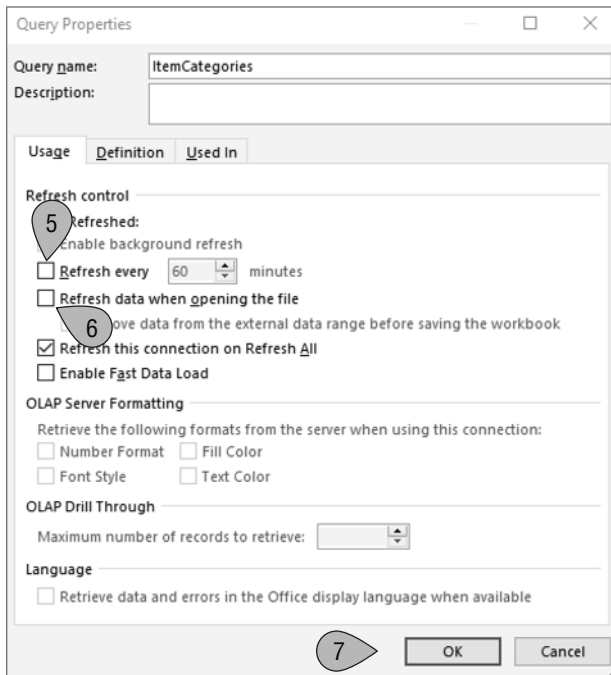


Figure 1.16: Refreshing the table automatically

5. Check the box to the left of Refresh Every. Then you can set the number of minutes between refreshes.
6. You can also check the Refresh Data When Opening The File box.
7. Click OK.

The table will now automatically update either every so many minutes or whenever you open the Excel workbook, or both.

Using Power Query to Clean the Data

Now you have data in your Excel workbook that you want to use in your pivot table. It could have been already in Excel, or maybe you just imported the data from other sources, as described earlier. You still may have to do some things to the data to make it ready to be made into a pivot table. This is where Power Query can help. The following are just some of the ways that Power Query can help you clean up your data:

- Analyzing your data for errors and blanks

- Splitting columns
- Merging columns
- Changing data types
- Replacing data
- Removing rows and columns
- Sorting
- Filtering
- Calculating the age based on a date field
- Parsing dates and times
- Creating standard calculations
- Trimming spaces from the beginning or end of a column
- Creating conditional columns, similar to an IF function in Excel
- Combining tables
- Generating subtotals
- Reformatting a column

Even though many of these tasks can also be done in Excel without using Power Query, Power Query can do a lot more than standard Excel tasks, and many of these tasks are done quicker and easier in Power Query than by just using Excel itself.

Using the Queries & Connections Window



To use Power Query, you will want to open a window called Queries & Connections. The Queries & Connections window allows you to access the Power Query Editor and other features of Power Query. If it is not already opened on the right side of your Excel window, then click the Queries & Connections icon near the left side of the Data tab, as shown in Figure 1.17.

Once the Queries & Connections window is open on the right side of the Excel screen, you should see your tables from the workbook listed there.

NOTE The Power Query examples presented in the next few sections will use the data file called *Pivot Table Book sample data-formatted tables.xlsx* that can be downloaded from the Wiley site as mentioned earlier in this chapter. Of course, these steps will work with your data as well. When you open the sample file or your own Excel workbook, you might need to display the Queries & Connections window if you do not see it on the right side of the screen.

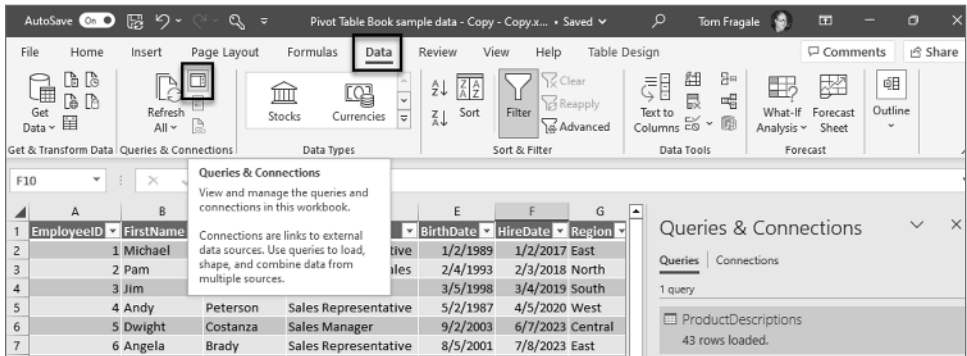


Figure 1.17: Displaying the Queries & Connections window



If the table that you want to use does not appear in the Queries & Connections window, then follow these steps:

1. Right-click a cell within the list you want to use and select Click Get Data From Table/Range.
2. If you see the Create Table dialog box and your data has a header row, select the My Data Has Headers check box.
3. Click OK.
4. This will take you to the Power Query Editor window, as shown in Figure 1.18.

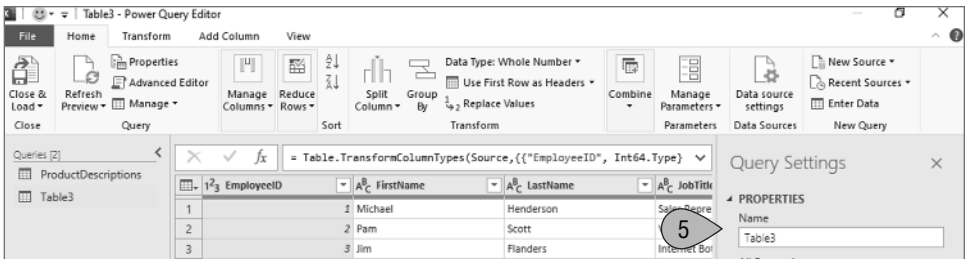


Figure 1.18: Allowing Power Query to see normal Excel data

5. In the Query Settings window on the right side of the window, give the table a better name.
6. Close the Power Query Editor window.
7. Click Keep to save your changes.
8. You will see the new table on its own sheet, and it will now appear in the Queries & Connection window.

Analyzing the Table

Power Query can help you analyze your table. It can show how many cells in a column are valid, how many are in error, how many are empty, and other relevant information about your table.



To analyze your data, follow these steps:

1. Right-click a table in the Queries & Connections window.
2. Click Edit. This will open the Power Query Editor window.
3. Click the View tab.
4. Check the Column Quality, Column Distribution, and Column Profile boxes. This will show information about each column in the table, as shown in Figure 1.19.

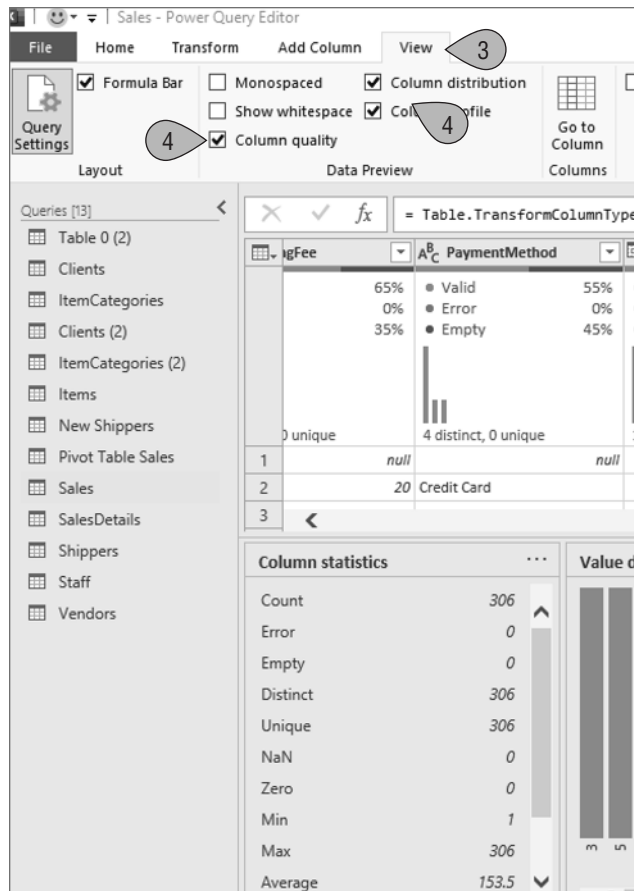


Figure 1.19: Analyzing the data using Power Query

5. Uncheck the Column Quality, Column Distribution, and Column Profile boxes.
6. Close the Power Query Editor window and keep your changes.

Splitting a Column

There will be times when you have to split a column. An example would be if the first name and the last name are in the same column. You would want to split that column so that you would be able to sort on either column. There are many other reasons to split a column. This would be similar to using the Text to Columns feature in Excel. Power Query has an easy and flexible way to split columns.

NOTE You can try this example with the Contact Name column in the Vendors table from the Excel workbook called *Pivot Table Book sample data-formatted tables.xlsx* that is included with the sample files that come with this book.



To split columns, do the following:

1. Right-click the table in the Queries & Connections window that has the field you want to split.
2. Click Edit. This will open the Power Query Editor window.
3. Click the column heading of the column you want to split.
4. On the Home tab, click Split Column, as shown in Figure 1.20.

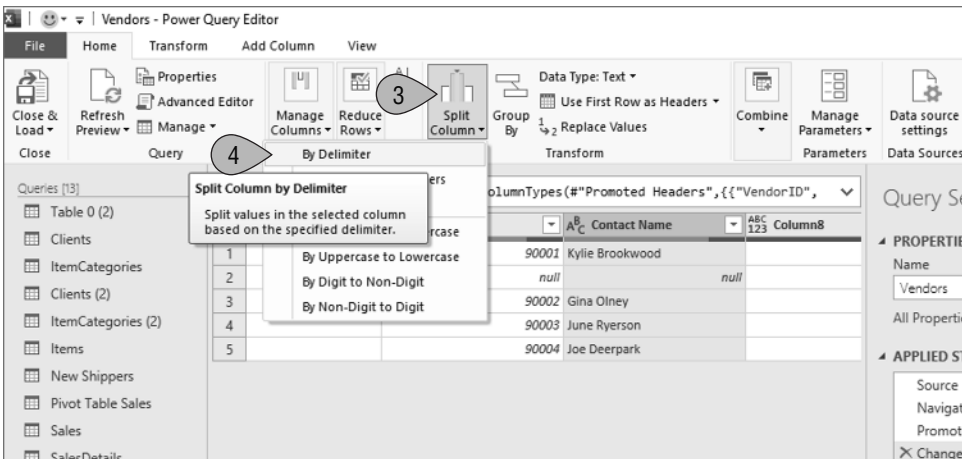


Figure 1.20: Splitting a column

5. Click By Delimiter. This will open a window called Split Column by Delimiter.

6. Usually, it will guess the correct delimiter, but if it does not, click the drop-down list for the delimiter and select the proper one.
7. Click OK.
8. The column is now split.
9. Close the Power Query Editor window and keep your changes.

Merging Columns

Sometimes you might want to put fields back together again rather than split them. Maybe you want to put the first name and the last name back together into a full name column, for example. In Excel, you would use a function called Concatenate. Power Query can easily merge the columns.

NOTE You can try this example with the Manager First Name and Manager Last Name columns in the Vendors table from the Excel workbook called *Pivot Table Book sample data-formatted tables.xlsx* that is included with the sample files that come with this book.



To merge columns, do the following:

1. Right-click the table in the Queries & Connections window that has the fields you want to merge.
2. Click Edit. This will open the Power Query Editor window.
3. Click the first column you want to merge, hold down the Shift key, and click the column headings of the additional columns you want to merge.
4. Click the Add Column tab.
5. Click Merge Columns. This will open a new window called Merge Columns, as shown in Figure 1.21.

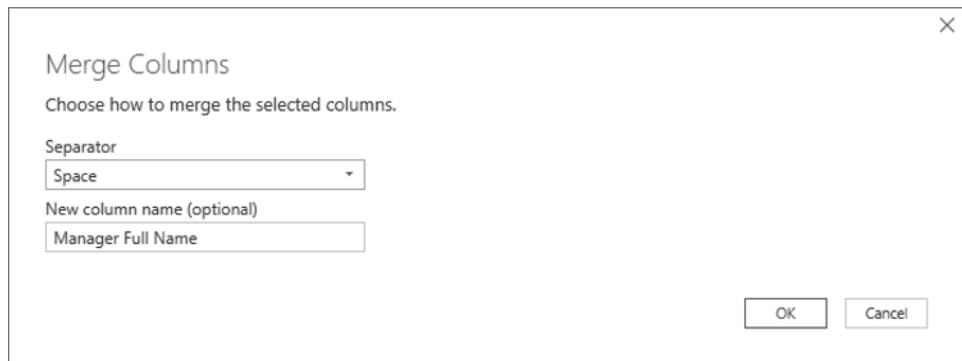


Figure 1.21: Merging columns

6. Click the Separator drop-down list and choose the separator you want to use between each field.
7. Give the new column a good name.
8. Click OK.
9. Scroll all the way to the right to see the new column.
10. Close the Power Query Editor window and keep your changes.

Changing Data Types

There will be times when you will need to change the data type of a column, maybe from a text field to a number or a text field to a date or vice versa. This process will be especially important if you plan to use a field in number or date calculations. Power Query makes it easy to change the data type of a column.

NOTE You can try this example with the Vendor Since Date column in the Vendors table from the Excel workbook called *Pivot Table Book sample data-formatted tables.xlsx* that is included with the sample files that come with this book. Right now, it is a text data type. Change it to a date data type.



To change data types, you do the following:

1. Right-click the table in the Queries & Connections window that has the fields you want to change.
2. Click Edit. This will open the Power Query Editor window.
3. Observe the column headings of each field. Notice the little icon to the left of the column name.
4. Click the icon to the left of the column you want to change, as shown in Figure 1.22.
5. Click the data type you want to use.
6. Close the Power Query Editor window and keep your changes.

Removing Columns and Rows

There may be columns and rows that need to be removed because they are extraneous, they are blank, or there might be other reasons to omit them. Remember, extraneous blank rows and blank columns may get in the way of creating a pivot table. Removing rows and columns is easily accomplished in Power Query.

NOTE You can try this example with the blank column that appears to the right of the Contact Name column in the Vendors table from the Excel workbook called *Pivot Table Book sample data-formatted tables.xlsx* that is included with the sample files that come with this book.

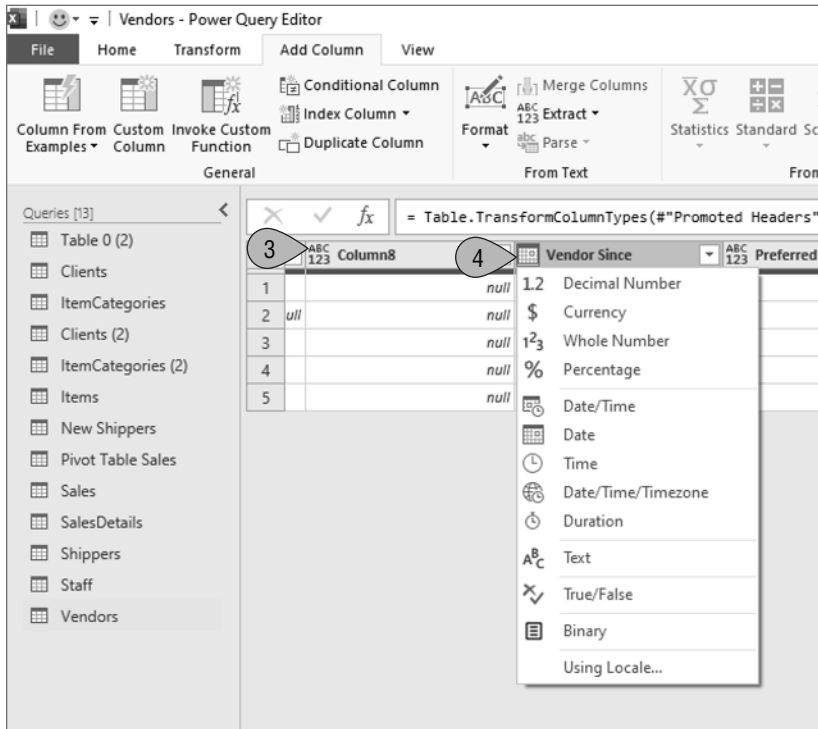


Figure 1.22: Changing data types



To remove columns, do the following:

1. Right-click the table in the Queries & Connections window that has the columns you want to remove.
2. Click Edit. This will open the Power Query Editor window.
3. Right-click the column you want to delete.
4. Click Remove.
5. Close the Power Query Editor window and keep your changes.

NOTE You can try this example with the blank row that appears in the Vendors table from the Excel workbook called *Pivot Table Book sample data-formatted tables.xlsx* that is included with the sample files that come with this book.



To remove blank rows, do the following:

1. Right-click the table in the Queries & Connections window that has the rows you want to remove.
2. Click Edit. This will open the Power Query Editor window.

3. Click the Home tab.
4. Click Remove Rows, as shown in Figure 1.23.

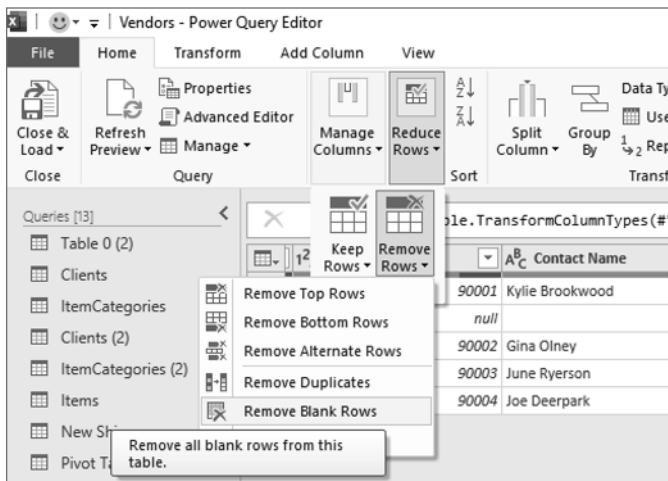


Figure 1.23: Removing blank rows

5. Click Remove Blank Rows.
6. Close the Power Query Editor window and keep your changes.

Undoing Steps in Power Query

It is inevitable that all of us are going to want to undo something in the Power Query Editor window. However, when you go through the tabs of the Power Query Editor, you will not find an Undo icon on any of the ribbons. Nonetheless, there is a way to undo steps in Power Query.

A powerful feature of Power Query is that it maintains the entire history of all the steps that have been done to the table within the Applied Steps window, which can be found on the right side of the Power Query Editor window. These steps can be changed and deleted.

WARNING If steps are deleted from the Applied Steps, it could cause other steps further down in the list to no longer work. You may have to also delete these steps and then redo the steps. Also, once you keep the changes in the Power Query Editor window, the deleted steps cannot be retrieved.



To undo steps in the Power Query Editor window, do the following:

1. Right-click the table in the Queries & Connections window that has the steps you want to undo.

2. Click Edit. This will open the Power Query Editor window.
3. The applied steps on the right side of the window accumulate for the history of the table, as shown in Figure 1.24.

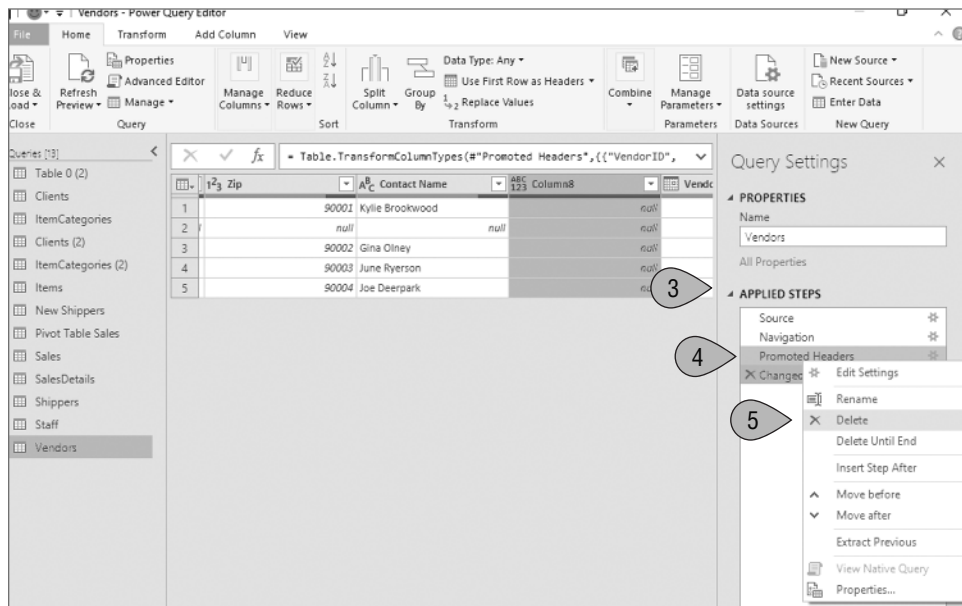


Figure 1.24: Undoing steps in Power Query

4. Right-click the step you want to delete.
5. Click Delete. If you click Delete Until End, then all of the steps after the step you are on will also be deleted. Click Delete again to confirm the deletion.
6. That will take that step away, which will undo that step, and then you can take it from there.
7. Close the Power Query Editor window and keep your changes.

Replacing Values

There will be times when values in a field have to be replaced with other values. Power Query makes this task easy.

To replace values, follow these steps:

1. Right-click the table in the Queries & Connections window that has the fields you want to replace.
2. Click Edit. This will open the Power Query Editor window.



3. Click the column header of the column where you want to replace the data.
4. Click the Home tab of the Power Query Editor.
5. Click Replace Values. This will open a new window, as shown in Figure 1.25.

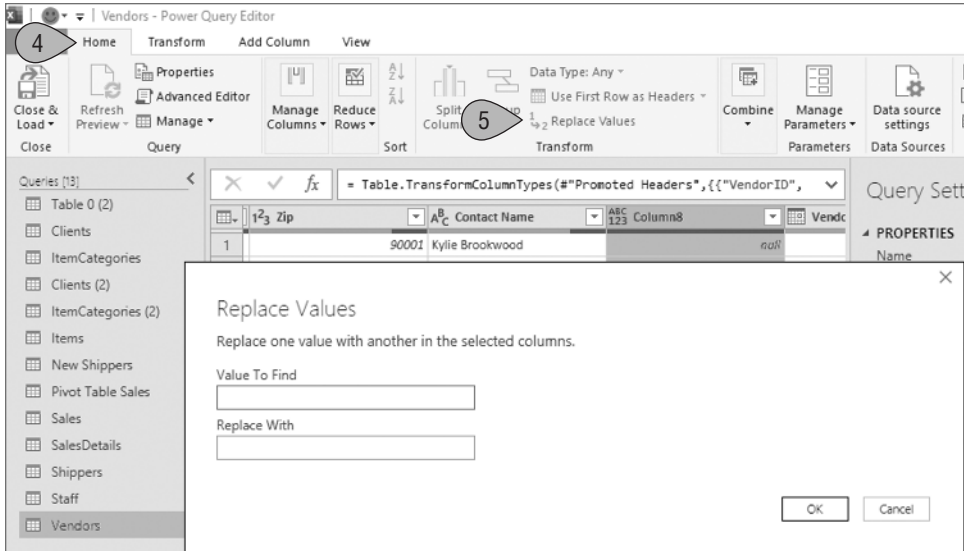


Figure 1.25: Replacing values using Power Query

6. Type in the text you want to replace in the Value To Find text box.
7. Type in the text you want to replace it with in the Replace With text box.
8. Click OK.
9. Close the Power Query Editor window and keep your changes.

Trimming Spaces from the Beginning and End of the Data in a Column

Sometimes, especially when data is imported from other sources, there can be spaces before the first main character of the field, spaces after the last main character of the field, and sometimes both. These are called *leading* and *trailing spaces*, which can both cause issues with other Excel functions and formulas. Power Query has an easy way to remove the leading and trailing spaces from your data.



To trim leading and trailing spaces in a column, do the following:

1. Right-click the table in the Queries & Connections window that has the fields you want to trim.

2. Click Edit. This will open the Power Query Editor window.
3. Click the column header of the column that you want to trim.
4. Click the Transform tab of the Power Query Editor.
5. Click the Format icon, as shown in Figure 1.26.

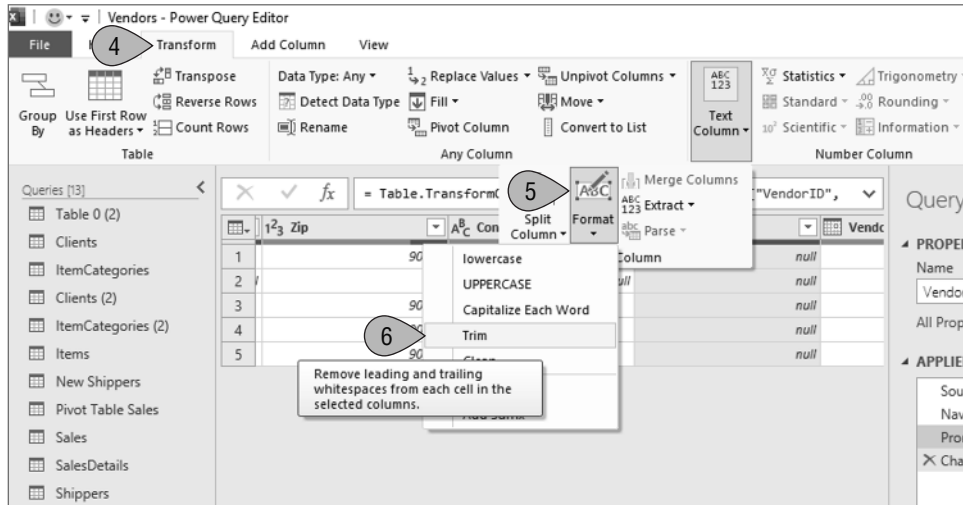


Figure 1.26: Trimming leading and trailing spaces

6. Click Trim.
7. Close the Power Query Editor window and keep your changes.

Combining Tables Using the Append Query

Let's say you have a main list of data, maybe customers, transactions, or whatever information that table contains. This main list is also called the *master list*. Many times, new data will come in from various sources that have the same structure as the main list. These new records need to be added or appended to the master list. Perhaps, like me, you have used Copy and Paste to accomplish this task. If you have ever tried that method, you know it can be time-consuming, prone to errors, cumbersome, and not always reliable. Power Query has a more efficient way to add the records from the new list into the master list that is called the Append Query.

NOTE You can use the New Shippers and Shippers tables in the sample Excel file called *Pivot Table Book sample data-formatted tables.xlsx* that is included with the files that come with this book for this example. Shippers is the main list, and New Shippers is the list to be appended. These steps would also work with your own tables, of course.



To combine tables using the Append Query, do the following:

1. Right-click the table in the Queries & Connections window that contains your current records. If you are using the sample data, this would be the Shippers table.
2. Click Edit. This will open the Power Query Editor window.
3. Notice the number of records that are currently in the table. The Shippers table in the sample data has two records.
4. On the Power Query Editor window, click the Home tab.
5. Click Append Queries. This will open a new window called Append, as shown in Figure 1.27.

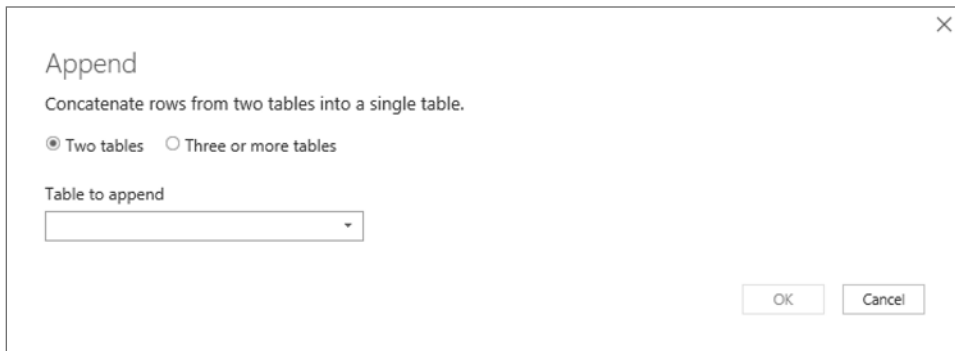


Figure 1.27: Using the Append Query

6. Click Two Tables.
7. Click the drop-down list and click the table with the new records. In the sample data, this would be the New Shippers table.
8. Click OK.
9. Notice there are now additional records.
10. Close the Power Query Editor window and keep your changes.

Combining Tables Using the Merge Query

There are many times when one table needs to look up information in another table. Maybe a table containing the orders for a company has only the customer number for each customer but needs to retrieve the other information about the customer from a different table and then include the field from the other table into the original table. In Excel, maybe you would use formulas containing the XLOOKUP, VLOOKUP, HLOOKUP, MATCH, or INDEX functions, or different combinations of these functions. Each column that you would want to retrieve

from the other table would need to have its own formula. These formulas can be cumbersome and confusing. Power Query can actually retrieve all of the fields from the second table into the first table in one step using the Merge Query.

NOTE You can use the Vendors and Items tables in the sample Excel file called *Pivot Table Book sample data-formatted tables.xlsx* that is included with the files that come with this book for this example. Items is the main list, and Vendors is the list to be merged. The common field is VendorID. These steps would also work with your own tables, of course.



To combine tables using the Merge Query, do the following:

1. Right-click the table in the Queries & Connections window that you want to merge with another table. If you are using the sample data, this would be the Items table.
2. Click Edit. This will open the Power Query Editor window.
3. On the Power Query Editor window, click the Home tab.
4. Click Merge Queries. This will open a new window called Merge as shown in Figure 1.28.
5. Click the drop-down list in the middle of the window.
6. Choose the table you would like to merge with. In the sample data, this would be the Vendors table.
7. Choose the common field from the top table. In the sample data, this would be the VendorID.
8. Click the common field on the table in the middle of the screen. On the sample data, this is also called VendorID. When you do this with your data, it is not necessary that the two fields have the same field name. It is more important that they both have the same type of data.
9. Click OK.
10. Click the icon to the right of the Vendors field in the second table, as shown in Figure 1.29.
11. Choose the fields you want to merge. Choose all of the fields if you are using the sample data.
12. Click OK.
13. All the columns from the second table are now on the right side of the fields from the first table. Excel knows which records from the second table go with which records from the first table because of the common field you chose on the previous window.
14. Close the Power Query Editor window and keep your changes.

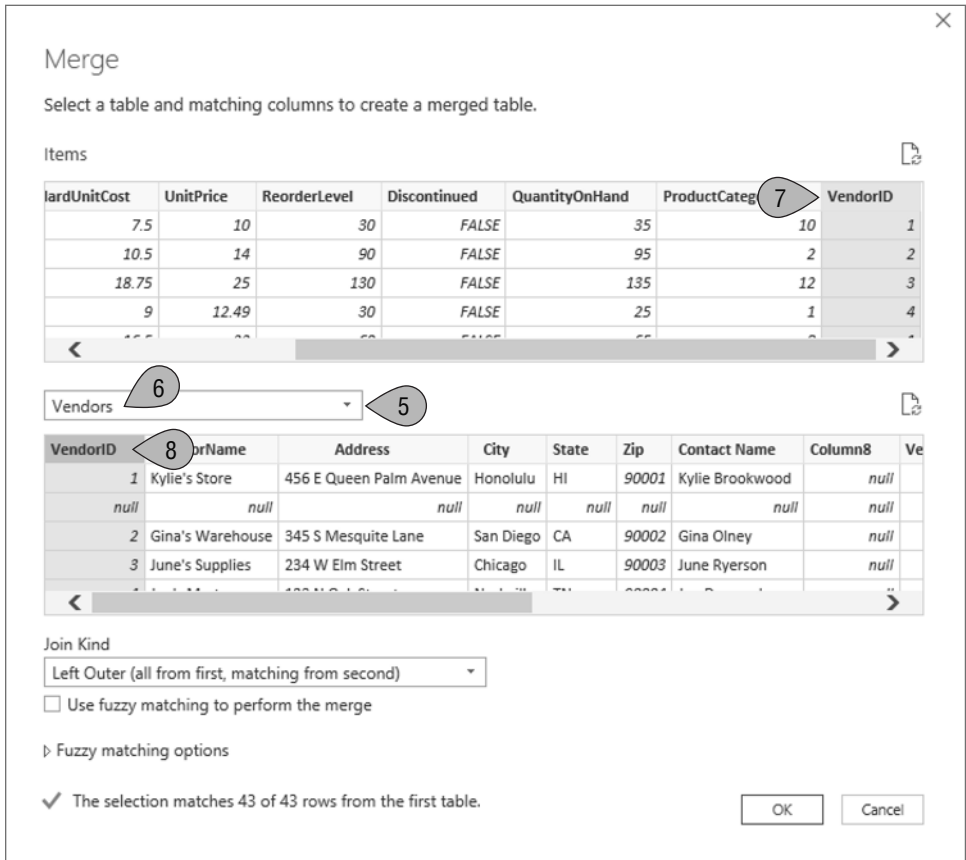


Figure 1.28: Using the Merge Query

Creating Subtotals in Your Data Using the GroupBy Query

I think it is fair to say that if you are reading this book, you probably have tons and tons of data to deal with. I know you are anxious to learn how to summarize that data with the pivot table, which is coming up in Chapter 2, “Summarizing and Presenting Data with a Pivot Table.” Power Query has a great way to give you subtotals from your tables, even before we make the pivot table. You can generate subtotals from your data in Power Query using a GroupBy Query.

NOTE You can use the pivot table Sales table in the sample Excel file called *Pivot Table Book sample data-formatted tables.xlsx* that is included with the files that come with this book for this example. These steps would also work with your own tables, of course.

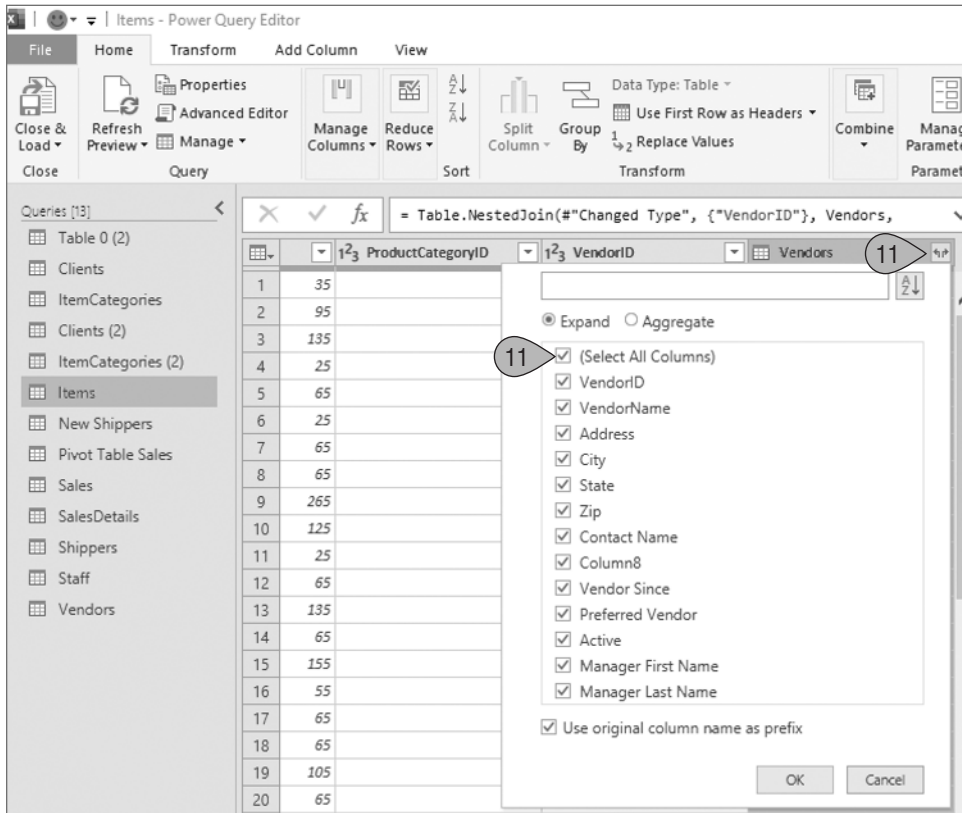


Figure 1.29: Completing the Merge Query



To create subtotals in your data using the GroupBy query, do the following:

1. Right-click the table in the Queries & Connections window that has the fields you want to subtotal. In the sample data, this would be the Pivot Table Sales table.
2. Click the word Duplicate. This will display the Power Query Editor window.
3. Notice the number of rows on the bottom-left corner of the window. The sample table has 306 rows, for example.
4. Click the Home tab.
5. Click the GroupBy icon. This will open a new window called Group By, as shown in Figure 1.30.
6. Click the first drop-down list and click the field that you want to subtotal on. In the sample data, this would be the Customer Name field so that it will produce a subtotal for each different customer name.

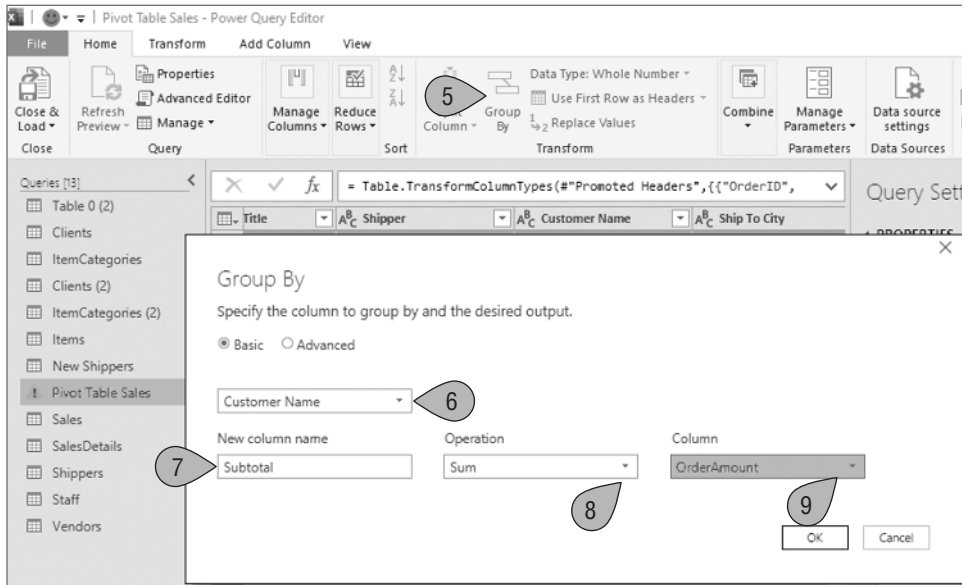


Figure 1.30: Using the GroupBy Query to create subtotals

7. Type in **Subtotal** for the new column name.
8. Click the Operation drop-down list to the right of the new column name and click Sum, or the one you want to use.
9. Click the next drop-down list and choose the field you actually want to summarize. For the sample data, this would be the OrderAmount field.
10. Click OK.
11. Notice the new number of rows on the bottom left. The sample table would now have eight rows, which is one row for each customer, and there is a subtotal for each customer.
12. Close the Power Query Editor window and keep your changes.
13. You may want to rename the new table in the Queries & Connections window.

Using Power Query to Create Calculations

Another great feature of Power Query is the ability to add your own calculations to your data directly in the Power Query Editor window. Power Query formulas use the M language. You can build simple formulas or complicated formulas using the M language. There are even built-in functions in the M language, which can even go further than Excel functions. The examples in the following sections will show you how to build a formula and demonstrate some popular formulas.

To use the Age and the other date and time functions in the following examples, the column must be seen by Power Query as a Date or a Date/Time data type. For calculations involving number fields, the field must be one of the number data types. If necessary, see the earlier “Changing Data Types” section that shows you how to convert the data type in a column to make sure it is the appropriate data type.



NOTE You can find a complete reference of the M language at learn.microsoft.com/en-us/PowerQuery-m.

Calculating Age/Years of Service

It is likely that at least one of your tables has a date field of some kind. Maybe it is a birth date, a hire date, or an order date. There may be times you want to be able to calculate the age based on this date. In Excel, you would have to build a formula to calculate the age. In Power Query, the age is built right in.

NOTE To calculate age or years of service, we'll use the Staff table from the Excel workbook called *Pivot Table Book sample data-formatted tables.xlsx* that is included with the downloadable sample files. The Staff table has a field called BirthDate and another field called HireDate.



To calculate age or years of service, do the following:

1. Right-click the table in the Queries & Connections window that has a date field. In the sample data, it would be the Staff table.
2. Click Edit. This will open the Power Query Editor window.
3. Click the column heading of the date column you want to use.
4. Click the Add Column tab.
5. Click the Date icon on the right side of the ribbon, as shown in Figure 1.31.

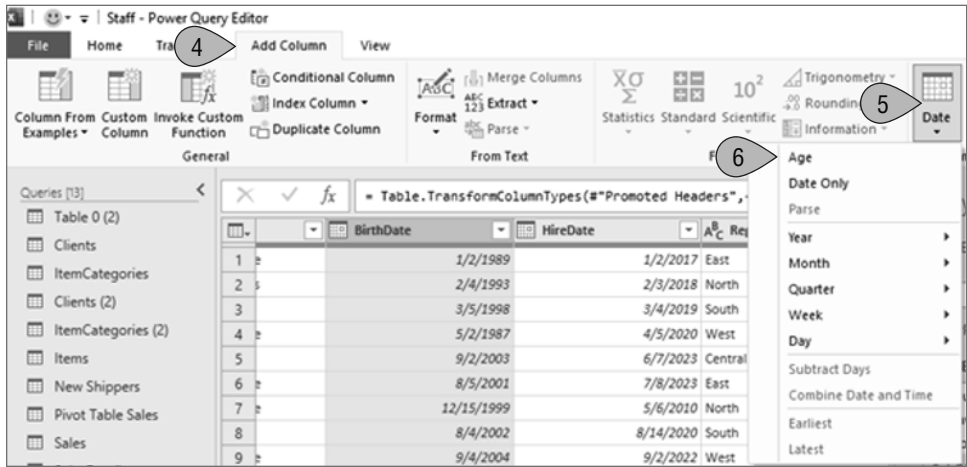


Figure 1.31: Calculating age using Power Query

6. Choose Age from the list. This will create a new column called Age on the right side of the table. Right now, the age is showing the number of days.
7. Right-click the Age column.
8. Click Transform and then Total Years. The age is now in years, but you may want to round it down.
9. Right-click the Age column.
10. Click Transform and then Round and then Round Down.
11. Close the Power Query Editor window and keep your changes.

Using the Built-in Date Functions

When you calculated the age from the date field in the previous section, you may have noticed that there were many more ways to break down a date field. Power Query can quickly and easily separate parts of the data and provide other meaningful results from a date column. You can break down a date field into year, quarter, month, week, and day. These options can be found when you click the Date icon of the Add Column tab in the Power Query Editor window, similar to the steps used in calculating the age in the previous section. Table 1.1 shows all the ways you can break down a date. The examples use the date 11/24/2025.

Table 1.1: Ways to break down a date field

DATE ELEMENT	BREAKOUT	EXAMPLE
Year	Year	2025
	Start of Year	1/1/2025 12:00:00 AM
	End of Year	1/1/2026 12:00:00 AM

DATE ELEMENT	BREAKOUT	EXAMPLE
Month	Month	11
	Start of Month	11/01/2025
	End of Month	11/30/2025
	Days in Month	30
	Name of Month	November
Quarter	Quarter of Year	4
	Start of Quarter	10/01/2025
	End of Quarter	12/31/2025
Week	Week of Year	48
	Week of Month	5
	Start of Week	11/23/2025
	End of Week	11/30/2025
Day	Day	24
	Day of Week	2
	Day of Year	329
	Start of Day	11/24/2025 12:00:00 AM
	End of Day	11/25/2025 12:00:00 AM
	Name of Day	Tuesday

Using the Built-In Time Functions

Similar to breaking down a date field, Power Query can also quickly and easily separate parts of a time field and provide other meaningful results from a time column. You can break down a time field into hour, minute, and second. To get to these time functions, use the same first few steps from calculating an age in the previous section, but click Time on the Add Column tab of the Power Query Editor window, instead of Date. Table 1.2 shows all the ways you break down a time field using the Power Query Editor. This table shows the results for 2:35 p.m.

Table 1.2: Ways to break down a time field

TIME ELEMENT	BREAKOUT	EXAMPLE
Hour	Hour	14
	Start of Hour	2:00:00 PM
	End of Hour	3:00:00 PM
Minute	Minute	35
Second	Second	0

Using a Custom Column for Other Calculations

Power Query can be used to create many other calculations as well. As mentioned earlier, the M language is robust and can be used for simple formulas or for more complex formulas, including functions.

Examples of some of the other calculations you can do using M include doing line totals, calculating days to ship, and creating a new total. Let's look at each of these.

Calculating a Line Total

NOTE You can use the SalesDetails table that is in the Excel workbook called *Pivot Table Book sample data-formatted tables.xlsx* that is included with the book's sample files for this example.



To calculate a line total, do the following:

1. Right-click the table in the Queries & Connections window where you want to create a new calculation. In the sample data, this would be the SalesDetails table.
2. Click Edit. This will open the Power Query Editor window.
3. Click the Add Column tab.
4. Click the Custom Column icon on the left side of the ribbon. This will open a new window called Custom Column, as shown in Figure 1.32.

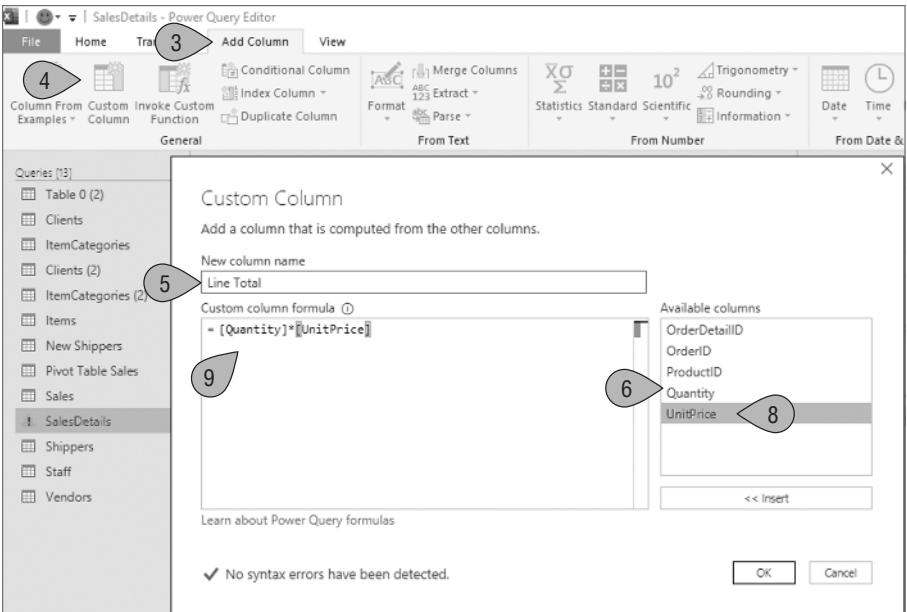


Figure 1.32: Line total calculation

5. For the column name, type Line Total.
6. Double-click the Quantity field on the right side of the window. This will add the Quantity field to the formula.
7. Type * for multiplication.
8. Double-click the UnitPrice field on the right side of the window. This will add the UnitPrice field to the formula.
9. The formula will now display = [Quantity] * [UnitPrice].
10. Click OK. The Line Total column should be on the right side of the table.
11. Close the Power Query Editor window and keep your changes.

Calculating the Days to Ship

NOTE You can use the Sales table that is in the Excel workbook called *Pivot Table Book sample data-formatted tables.xlsx* that is included in the sample files that come with this book for the next two examples.



To calculate the days to ship, do the following:

1. Right-click the Sales table in the Queries & Connections window.
2. Click Edit. This will open the Power Query Editor window.
3. In the Power Query Editor window, click the Add Column tab.
4. Click the Custom Column icon on the left side of the ribbon. This will open a new window called Custom Column, as shown in Figure 1.33.
5. For the new column name, type **Days to Ship**.
6. Double-click the ShippedDate field on the right side of the window.
7. Type the – for subtraction.
8. Double-click the OrderDate field on the right side of the window.
9. The formula should now say = [ShippedDate] – [OrderDate].
10. Click OK. You should now see the ShippedDate column on the right side of the table.
11. Close the Power Query Editor window and keep your changes.

Calculating the New Total



To calculate the new total, do the following:

1. Right-click the Sales table in the Queries & Connections window.
2. Click Edit. This will open the Power Query Editor window.

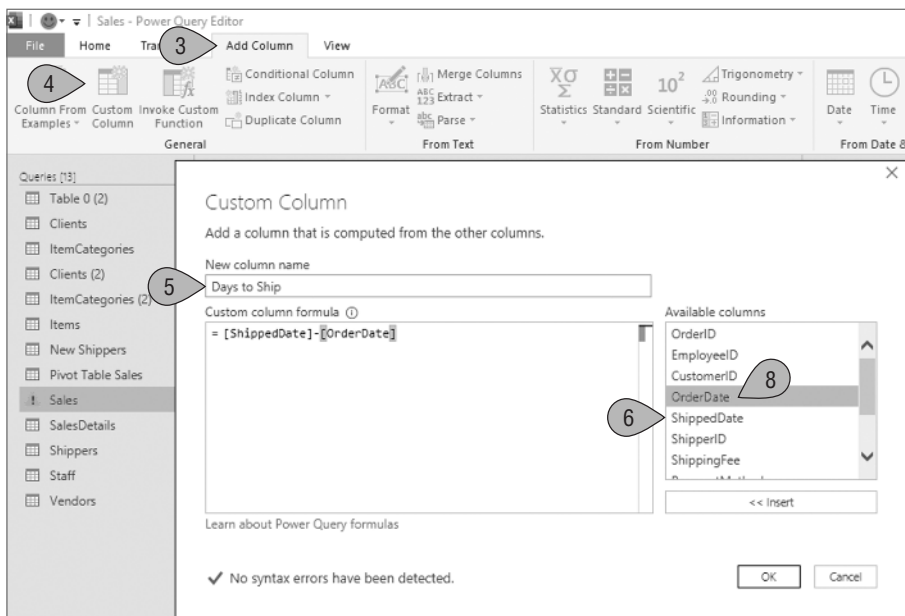


Figure 1.33: Days to Ship calculation

3. Click the Add Column tab.
4. Click the Custom Column icon on the left side of the ribbon. This will open a window called Custom Column, as shown in Figure 1.34.

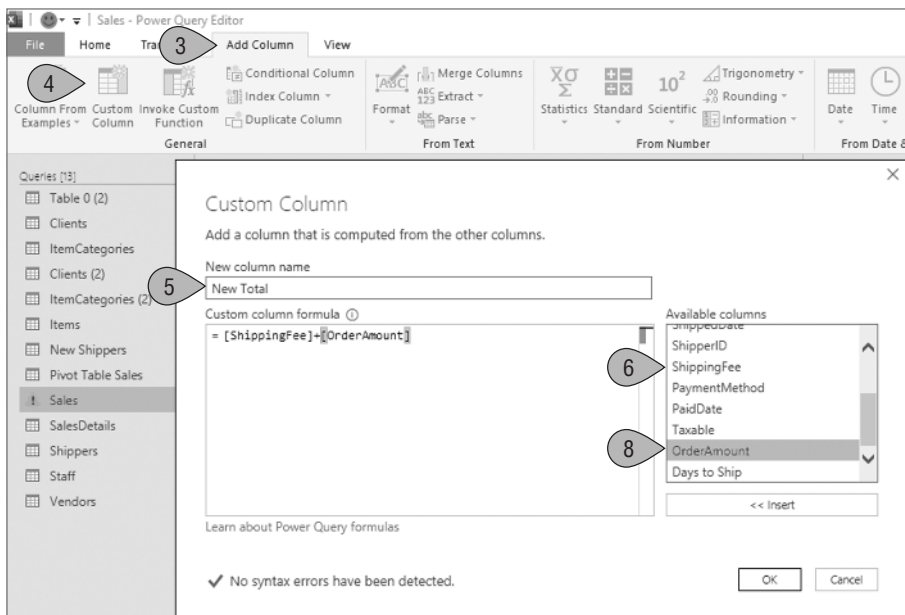


Figure 1.34: New total calculation

5. For the new column name, type **New Total**.
6. Double-click the ShippingFee field on the right side of the window.
7. Type the + for addition.
8. Double-click the OrderAmount field on the right side of the window.
9. The formula should now display `= [ShippingFee] + [OrderAmount]`.
10. Click OK.
11. You should now see the New Total column on the right side of the table.
12. Close the Power Query Editor window and keep your changes.

Changing or Viewing an Existing Custom Column



If you need to change or view a formula that was made using a custom column, you can perform these steps:

1. Right-click the table you want to change in the Queries & Connections window and click Edit. This will open the Power Query Editor window.
2. Look at the Applied Steps window on the right side of the Power Query Editor.
3. Find a step that says “Added Custom” or “Added Custom1” or something similar.
4. Move your mouse to the right of that step and click the settings wheel, as shown in Figure 1.35.

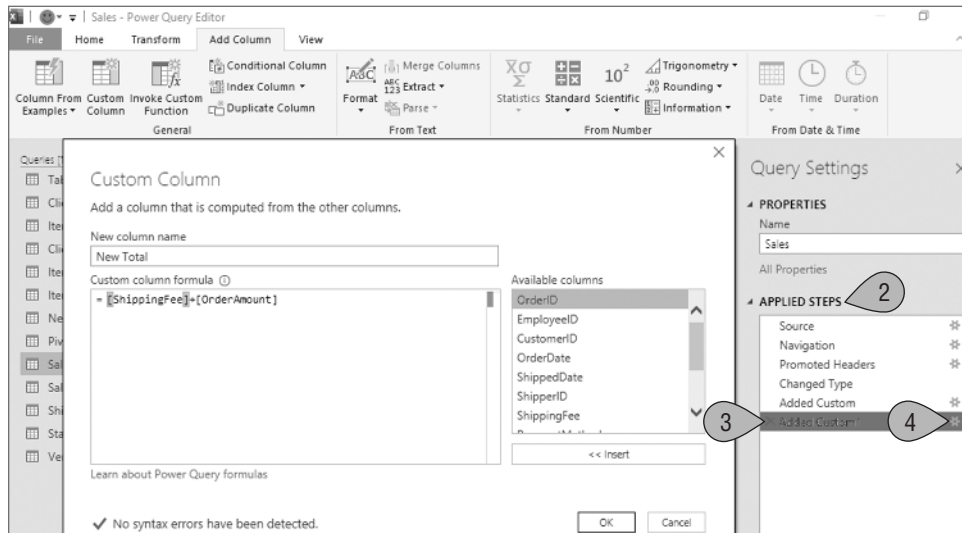


Figure 1.35: Viewing or changing a custom column

5. You can now view or change the formula for the custom column.
6. Click OK.
7. Close the Power Query Editor window and keep your changes.

Using a Conditional Column for Calculations

In Excel, a popular function is the IF function, which is used to perform one action if a condition is true and another action if the condition is not true. More conditions can be added by adding more IF statements inside the original IF formula. When this happens, it is called a *nested if*.

You can create something similar in Power Query by using a conditional column. The “nested if” can be accomplished in a conditional column by adding more clauses. This is shown in the following example, and you can have as many clauses as you need to make, using either a simple formula or a more complicated formula, similar to a “nested if.”

Calculating a Reorder

Let’s look at an example. In this case, we want to see if an item in our inventory needs to be reordered or not.

NOTE You can use the Items table that is in the Excel workbook called *Pivot Table Book sample data-formatted tables.xlsx* that is included in the sample files that come with this book for this example.



To calculate a reorder, do the following:

1. Right-click the Items table in the Queries & Connections window.
2. Click Edit. This will bring you to the Power Query Editor window.
3. Click the Add Column tab.
4. Click the Conditional Column icon on the left side of the ribbon. This will open a new window called Add Conditional Column, as shown in Figure 1.36.
5. For the New column name, type **Reorder**.
6. On the If line, click the first drop-down list and click QuantityOnHand.
7. Click the Equals drop-down list and click Is Greater Than Or Equal To.
8. Click the ABC 123 icon and click Select A Column.
9. On the next drop-down list, click ReorderLevel.
10. Click the field at the end of the row and type **No**.

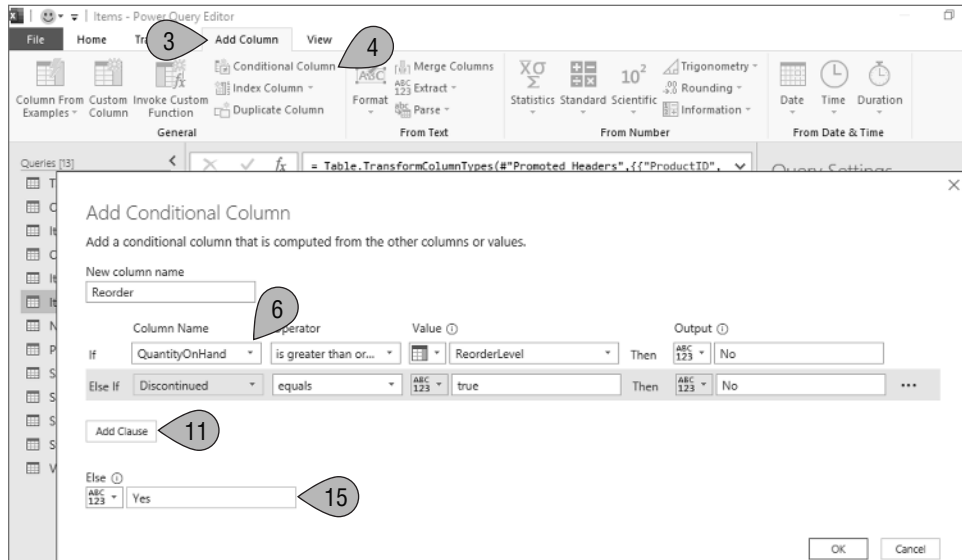


Figure 1.36: Add Conditional Column window

11. Click Add Clause.
12. On the Else If line, click the first drop-down list and click Discontinued.
13. Click the space after the ABC 123 icon and type **true**.
14. Click the space at the end of the row and type **No**.
15. Click the space below the word Else and type **Yes**.
16. Click OK. You will now see the reorder column on the right side of the table.
17. Close the Power Query Editor window and keep your changes.

Changing or Viewing an Existing Conditional Column



If you need to change or view a formula that was made using a conditional column, you can perform these steps:

1. Right-click the table you want to change in the Queries & Connections window and click Edit. This will open the Power Query Editor window.
2. Look at the Applied Steps window on the right side of the Power Query Editor.
3. Find the Added Conditional Column step (or something similar).
4. Move your mouse to the right of that step and click the settings wheel, as shown in Figure 1.37.

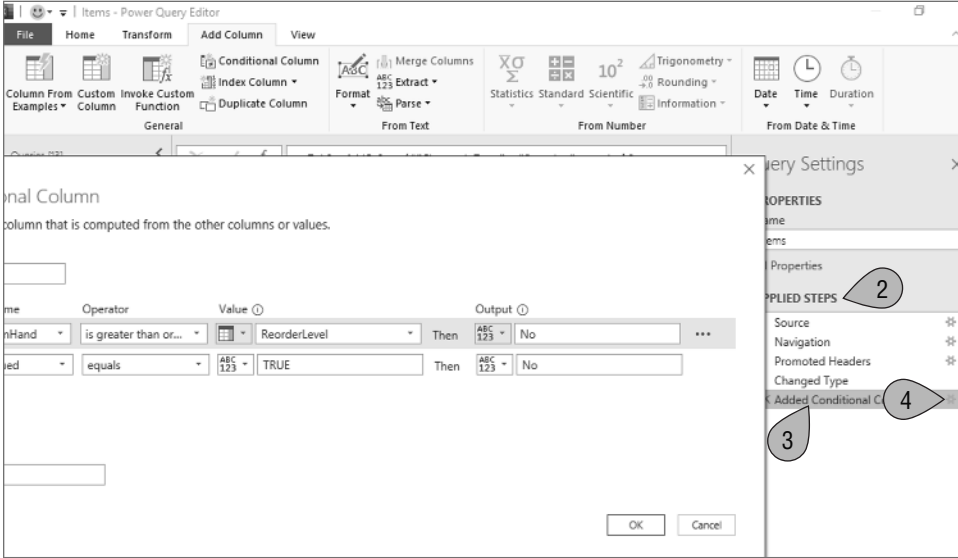


Figure 1.37: Viewing or changing a calculated column

5. You can now view or change the formula for the conditional column.
6. Click OK.
7. Close the Power Query Editor window and keep your changes.

Summary

In this chapter, you learned about what data is and how it should be structured if you want to use that data in a pivot table. You saw how to import data from other sources into Excel. Of course, you can also use the data that is already in your existing Excel spreadsheets. Then, the chapter showed many examples of using Power Query to help you analyze your data, clean your data, and even add your own calculations.

In the next chapter, we will use your data to create the pivot table, which can summarize, sort, and filter your data just about any way you want.