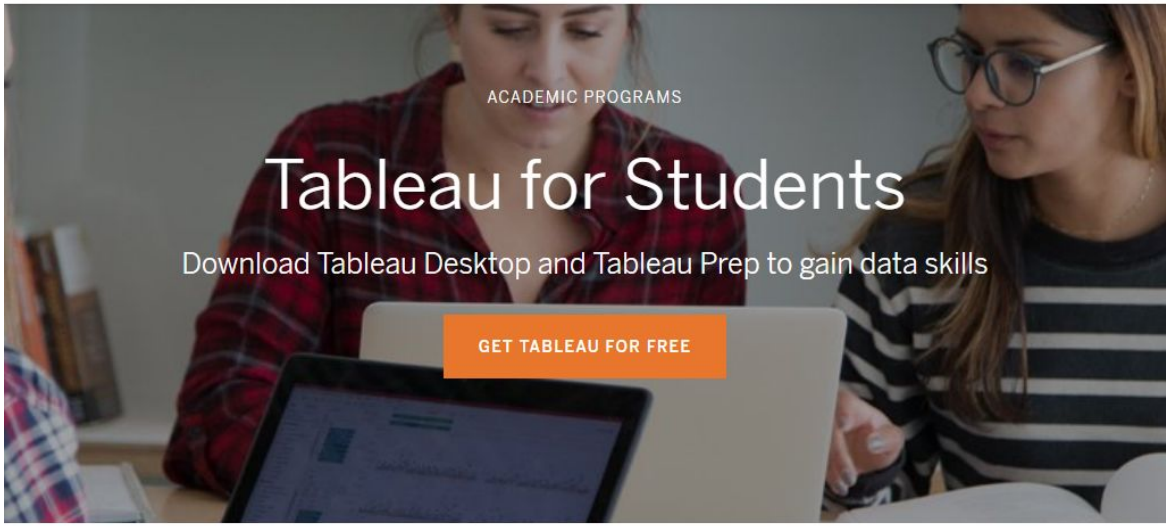
Tableau Tutorials -- Getting Started

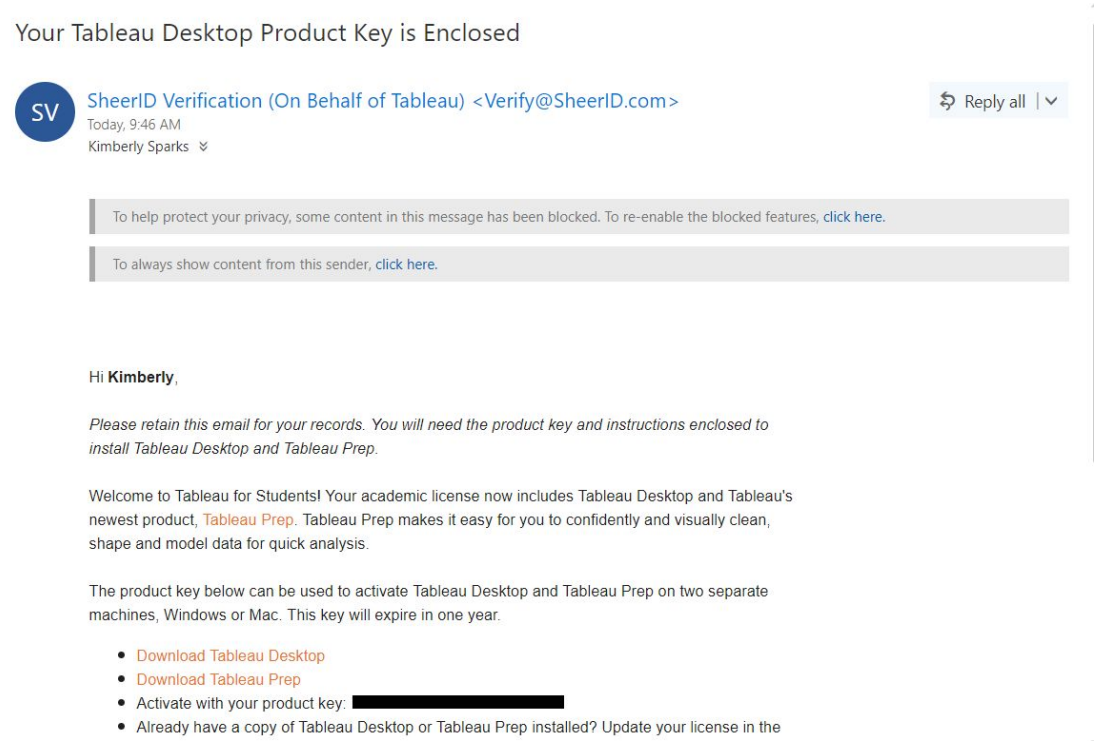
Installing Tableau

Start by going to this site, this installs a full free version for students : https://www.tableau.com/academic/students and click on “Get Tableau For Free”.



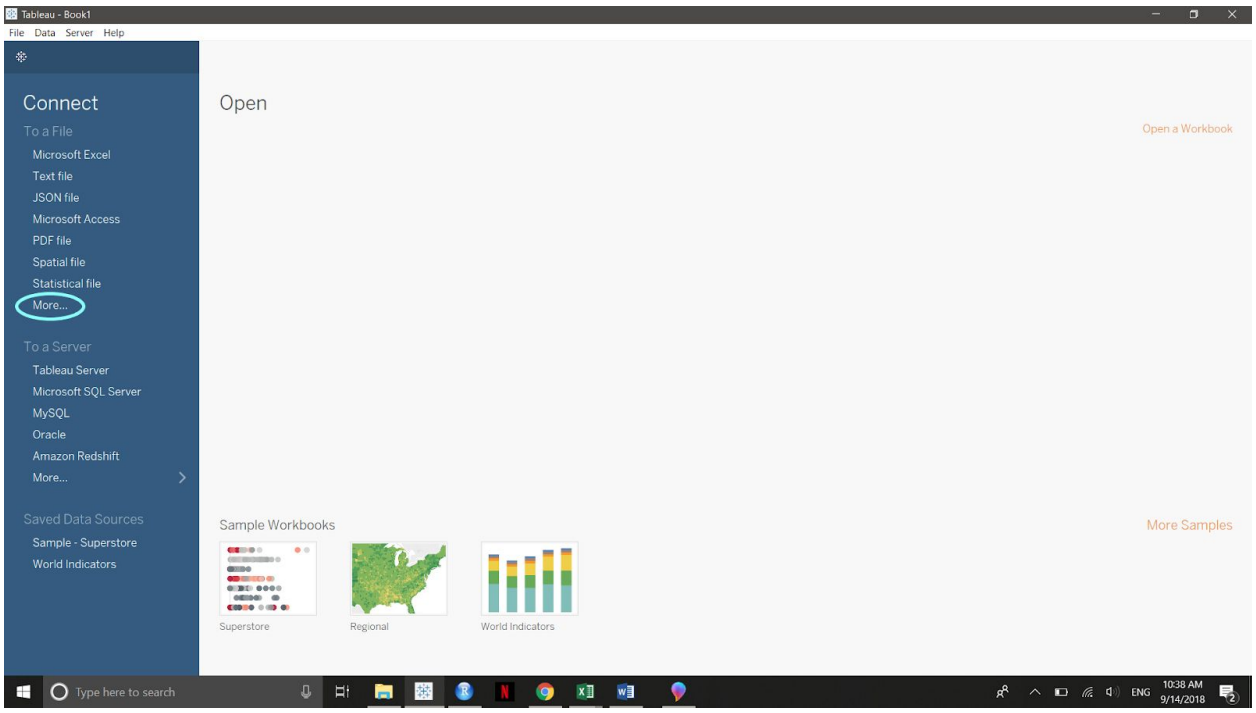
You will then be asked to submit some information, I recommend using your NKU email for this process so the system has no trouble authenticating your request.

If successfully completed you will get a message asking you to check your email. Your email should look something like this :



Click “Download Tableau Desktop” in orange and it should begin downloading the Tableau installer. Go through the steps with the installer and use the product key to get Tableau on your computer.

If everything has been installed and completed correctly, you should be able to open Tableau to this initial page :



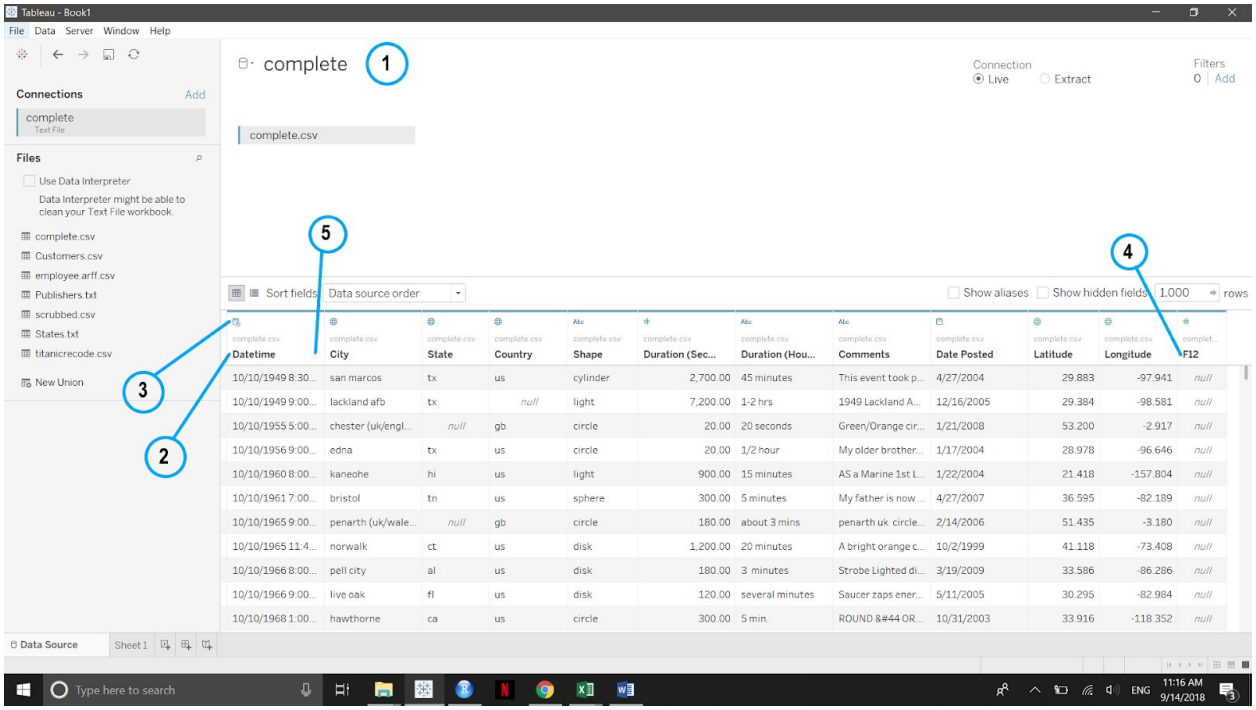
Congratulations! You have successfully installed Tableau. Now let’s talk about what we’re looking at here.

Importing Data

The main option you will use from this screen is “More...” to select your dataset from your computer. The nice part about selecting “More...” is that the data can be any format to be selected.

For this tutorial I will be using a UFO sightings dataset I found off of Kaggle. You can download it here : https://www.kaggle.com/NUFORC/ufo-sightings#complete.csv or find it on the GitHub.

Once you load in the dataset you will be taken to the Data Source tab, which will look like this :



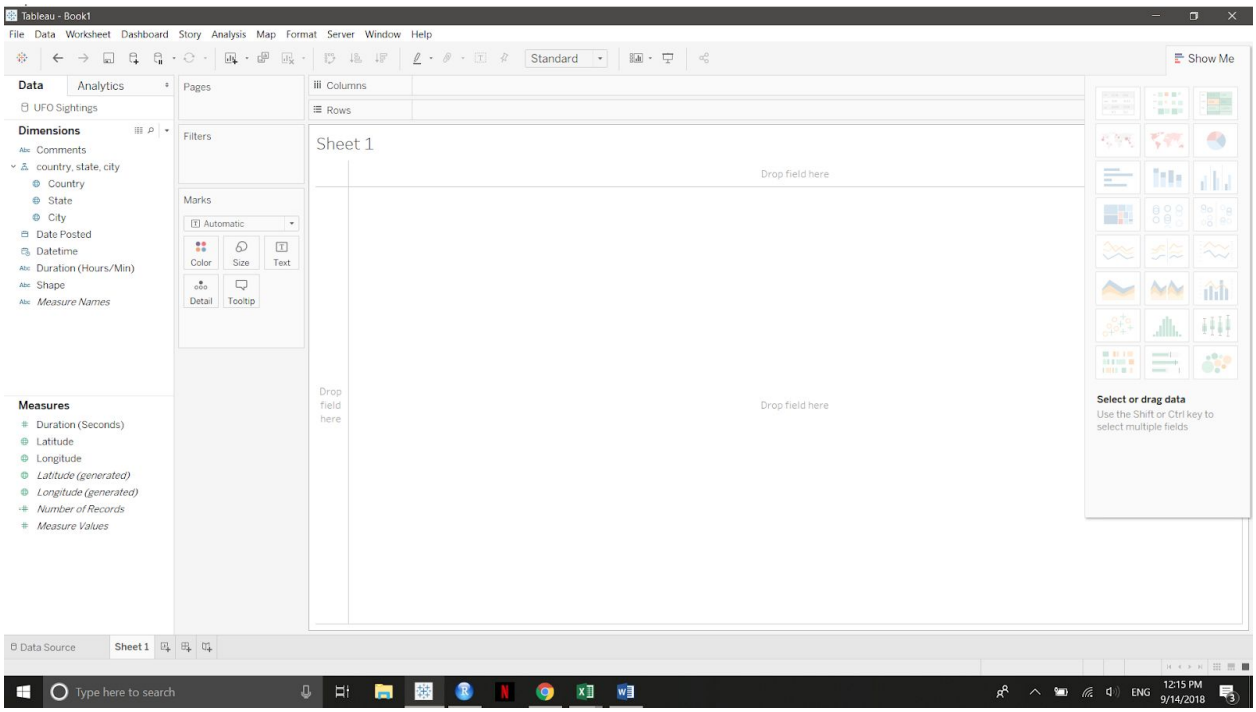
Some specific parts to look at include :

1. The title for the data source, which can be renamed if you prefer. I changed mine to “UFO Sightings”.
2. The column headers, which can be renamed by right-clicking and hitting “Rename”.
3. The data type that Tableau recognizes the field as. The calendar represents date-time, the globe represents geographical, the letters represent text, and the hashtag represents numerical data.
4. This is a column full of nulls that seems to serve no purpose. Tableau automatically put a header on the column, “F12” since it’s the 12th column. You can hide an unwanted column by right-clicking and hitting “Hide”. Don’t worry, there isn’t a way to accidentally delete a column forever, only hide it.
5. If you hover over this spot, you will see a symbol with a few little bars. This will let you filter on that column in a few different ways.

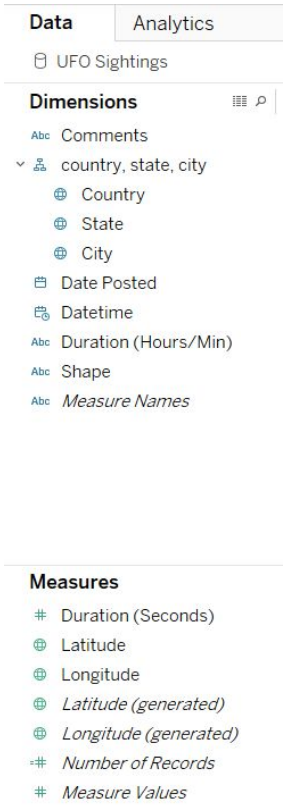
As you work with Tableau further you will find more and more uses for this page, including plugging in multiple data sources and creating unions.

Using the Workspace

Let's see what the actual workspace in Tableau looks like :



There's a lot to unpack here, let's start with the variables side menu.



There are 2 different types of variables in the side menu : dimensions and measures.

Dimensions (usually in blue) are considered discrete variables. These are more of your categorical data types like date or text fields.

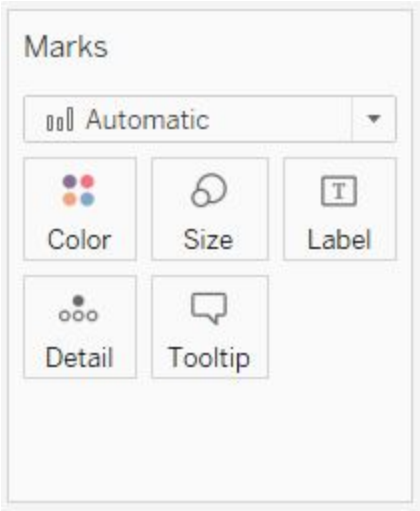
Measures (usually in green) are considered continuous variables. These are more of your numerical values, including latitude / longitude.

You will notice that there are italicized fields in here that were not in your data source; these are auto-generated by Tableau to help you out. For example, you may want to use frequency on the y-axis for a histogram, try using "Number of Records". If you are trying to do a map but don't have latitude / longitude in your source, you can throw the auto-generated fields in. There are lots of times these fields come in handy, don't forget about them!

You can also create calculated fields, groups, sets, and other types of fields over here for your more specific needs.

It may help you to think of “Columns” as the x-axis and “Rows” as the y-axis. This is one way you can add in your variables, by dragging a variable from the side menu to one of these “shelves”.

You can also add variables in by dragging straight to the empty space in the middle of the screen or the axis where you want it to go.



Another way to add effects to your plot is to drag variables to the “Marks” panel, or use the “Marks” panel in other ways.

Color
You can drag a variable to “Color” and it will color-code your visualization based on that variable. So if you dragged “Shape” to “Color”, each shape would be a different color. You can also select “Color” to change your visualization from the default blue to another color of your choice.

Size
You can drag a variable to “Size” and it will manipulate the sizing in your visualization based on that variable. So if you dragged “Number of Records” to “Size”, your bars, points, or other visuals would grow bigger with a higher frequency. You can also use “Size” to change the visualization from the default sizing to something that fits your case better.

Label
You can drag a variable to “Label” and it will add text to your visualization based on that variable. So if you dragged “Datetime” to “Label”, it would add the year label to your visualization. Sometimes this mark acts weird and splits bars and variables up in unexpected ways, so it takes some getting used to. You can also select “Label” to get more options.

Detail / Tooltip
When you hover over your visualization in Tableau, you will usually get the values at that point, bar, etc. for the established variables. When you drag a variable to “Detail” or “Tooltip”, it can add more information to this hover feature. It also may break up your visualization based on the variable or not make sense to use in certain circumstances. These features can be helpful when you want to add more info but you already have a crowded visual, take the time to get to know them better!

Using the “Marks” panel can be an effective way of adding effects to your visualization

The “Filters” panel is where any excluded points or filters you’ve put on the data will be listed, so you know exactly what data is being included or excluded. This is will come in handy when handling nulls or while doing data cleaning.

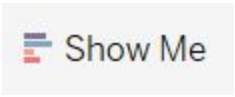
The “Pages” panel is where you can drag a variable to make a seperate visualization for each value. For example, if you wanted to make a different line graph for each year, you could drag the “Datetime” variable to “Pages”. While this tool has some valuable uses it can also create LOTS of graphs that bog down your computer, so use it wisely!

You can change the name of your visualization either where it says the default sheet name at the top, or on the tab at the bottom. Let’s look at those tabs a little :

Sheets are the individual visualizations you make, they can be added by clicking on the first one of these tabs.

Dashboards are a compilation of sheets that answer a specific question or cover a specific topic. You can fit one or many visualizations on a dashboard and manipulate them in dozens of ways to get a more professional and interactive product than just a sheet. They can be added by clicking on the second of these tabs.

Stories are a compilation of dashboards that tell a full story on a topic. Some people will have a final product of a single dashboard, while others may want to collect several related dashboards into a story. They can be added by clicking on the third of these tabs.



The last thing I want to cover is probably one of the most important elements in your workspace : the “Show Me” tab. It is located in the top-right corner and is how you select different types of visualizations. It’s pretty self-explanatory so I won’t get into it too much, but we will come back here time and time again so know where it is!

Once again I want to stress that there are so many tools and effects you can use in Tableau, make sure you play around with them, Google your questions, and think critically about what you can do to add to your graph or change it from the defaults to make it even better!

Remember to save your workbook with the save symbol at the top. As you save more workbooks in the default folder they will pop-up in the opening screen, making it easy to open. Saving often is a must, especially with big data and complicated visualizations, Tableau has been known to crash and not save your work!

Good luck with Tableau, continue through the tutorials if you want to put together a specific project and learn some more techniques!