**1. Introduction**

Welcome to this introductory course on Tableau. My name is Hadrien, I'm a Content Developer here at DataCamp, and I will be your instructor for this first chapter.

**2. What is Tableau**

Tableau is a powerful and fast-growing data visualization tool. It seamlessly creates background SQL queries called “VizQL” as you intuitively click, drag, and drop data elements to explore and interrogate your data. It makes it easy to build beautiful, interactive visualizations from raw data.

**3. Why use Tableau**

Let's use an analogy to really understand the value of Tableau. Remember Traditional photography? Taking pictures with film has a cost. The cost of the film, the development process, and the storage of physical images. This affected the way we took photos. We had to carefully plan our photos and could be disappointed after collecting them, having waited a week for them to be created by a specialist. And what of the world of digital photography? We don’t have to worry about storage much, there is little risk associated with taking photos that don’t turn out to be any good. It's nearly cost-free and we can improve the quality of our output by trying the same thing many times. Tableau is the data analysis equivalent of digital photography.

**4. Why use Tableau**

While Tableau is designed to be used by a range of business users and non-technical audiences, it also provides access to a deep computational ability for advanced data analytics. It's flexible because you can easily work with a lot of different data sources. Tableau is quite intuitive: visual cues and icons make the interface easier to navigate. Also, the drag and drop/interface makes prototyping very fast: you can build dashboards in hours or days instead of weeks. Visual cues and drag and drop will be the topic of the next lesson. Overall, Tableau is great because you can frame the business question you want to answer; import and clean data, analyze and visualize data; make business decisions; and finally, present insights all within one tool!

**5. Why use Tableau - Monitoring performance**

For example, you can build a dashboard to monitor your sales performance over time and locations.

1. 1 Author: Pradeep Kumar G. Originally published on: Tableau Public

**6. Why use Tableau - Competitive analysis**

Tableau is also a fantastic tool to present the results of your competitive analysis.

1. 1 Author: Daniel Ling. Originally published on: Tableau Public.

**7. Why use Tableau - Tracking outbreaks**

Tableau can also be used to track outbreaks and epidemics progression, like the corona virus. Factual data is convincing, and visualization is an incredibly efficient way to get your point across - so Tableau can be an appropriate tool in a wide variety of circumstances.

1. 1 Author: Thi Ho. Originally published on: Tableau Public

**8. Who uses Tableau**

Tableau enables anyone to ask questions about their data. If you search for "Tableau" on job boards, the most common job titles you'll see are variants of data analyst, business analyst, and quantitative analyst. Basically anyone who wants to visualize data on a daily basis can benefit from using Tableau.

**9. Who uses Tableau**

Organizations across the world and in various industries are using visualization and reporting through Tableau. On the slide you can see some companies that use the software. Tableau alone has a market share of about 14-point-2% in the Business Intelligence category, making it the most popular BI tool among the others.

1. 1 https://enlyft.com/tech/products/tableau

**10. Tableau versions**

Tableau Public is essentially a free version of Tableau. It has most of the software features; you can create visualizations and connect to CSV, Excel and text files. However, you can't save your workbook locally and can't load more than 15 million rows. Your worksheets are stored publicly on Tableau's gallery, so using Tableau public with sensitive data is definitely not recommended. The professional version of requires a license, you can create visualizations, connect to all data sources, save your work locally, and add an unlimited amount of data. In this course we will be using Tableau Public.

**11. Let's practice!**

Got it? Let's see how well you know Tableau.

## 1. Connecting to data

When opening Tableau, you land on the Start Page. Before creating any visualization, you need to have some data available. Let’s see how to connect to data sources using Tableau. There are many data sources you can connect to with Tableau: here on the left, you can see the data sources that are available with Tableau Public. The professional version of Tableau has a lot more data sources. Throughout this course, we will use CSV files, so let’s see how to connect to those. CSV means Comma Separated Values: it’s a text file where values are separated by commas. So let’s click on Text File here. This takes you to our Data folder on the Desktop. Let’s open the Airbnb San Francisco CSV. Tableau redirects us to the Data Source page. We can now preview our data. Each row is a different Airbnb listing. We have data about neighborhoods, location, room type, price, and so on. If a column name is not ideal, we can change it by double clicking on it and editing. This will not change the column name in the original data source. So let’s change “neighbourhood” to use the US spelling. Now say we actually prefer the UK one: we can revert changes using this button, which you will probably find handy throughout the course. On top of the column names, icons indicate the data type. We have a number sign for numbers, a globe for locations, or Abc for text. Tableau is pretty good at guessing types, but it can make mistakes and it's good practice to review the types assigned. You can always change these types if you want, by clicking the down arrow that appears as you hover over a column name. From here, you can also access the worksheet, which we will talk about in the next lesson; create a new one; or create dashboards and stories, which have a different interface and will be covered in the fourth chapter. OK, so now that you know how to load datasets I'm going to show you hot to load workbooks. It's not much different than with any software, really. You load it like you would load something with Excel. I'm going to show you two ways. The first one is to do it from Tableau directly: you click File and Open. And then you should be directed directly to the Workbooks folder. If you're not, no fear: the Workbooks folder is pinned on top here, so you should have easy access to it. So you can select your workbook here, and it's gonna load into Tableau. So that's one way to access it. The other way is to actually go on your Desktop. We added a shortcut to the Workbooks folder, so you can go there directly and double-click the Workbook from there. And that's all there is to it.

## 2. Let's practice!

## 1. Navigating Tableau

Welcome back! Now that we've connected our data sources, let's get comfortable with the Tableau interface.

## 2. Tableau interface

This is the interface for Tableau sheets. You can see that there are different components that make up the interface. We'll explore them in the demo, but first there are some key Tableau jargon to get familiar with.

## 3. Data

The data pane shows the data sources you've loaded. Here we have just one, our San Francisco file. You can see there's another pane, Analytics, which you will look into in Chapter 3.

## 4. Dimensions and measures

The data pane also contains fields. First, we notice two different colors, green and blue.

## 5. Continuous

Green fields are continuous, treated as on an infinite range.

## 6. Categorical

Blue fields are discrete, treated as individually separate and distinct.

## 7. Dimensions

Dimensions contain qualitative values, such as names, dates, or geographical data. Our dimensions include Neighborhood, or Room Type.

## 8. Measures

Measures contain numeric quantitative values that you can, well, measure, and aggregate, such as distance or height. Examples of measures in this dataset include Price, Number of Reviews, Minimum Nights, etc.

## 9. Segmenting with dimensions

Dimensions and measures affect visualizations differently. Dimensions allow you to group and segment data, while measures can be aggregated and add quantitative values to dimensions. Segmenting means getting specific data for each category, for example for each neighborhood or room type.

## 10. Converting between dimensions and measures

You can convert fields between measures and dimensions,

## 11. Converting between discrete and continuous

or sometimes between discrete and continuous, but this will affect your visualization.

## 12. Dragging dimensions and measures

Dimensions and measures are the items that you drag and drop on views, shelves and cards to build visualizations.

## 13. Views

Views are where your visualizations appear.

## 14. Columns

Columns correspond to the x axis of your view,

## 15. Rows

and rows to the y axis.

## 16. Pages

The Pages shelf lets you break a view into several pages; for example, one page for each neighborhood.

## 17. Filters

The filters shelf lets you filter your data, and you will learn more about this in Chapter 2.

## 18. Marks

The marks field contains marks cards and marks types.

## 19. Marks cards

Mark cards encompass color, size, text, and detail: these let you add context and detail to your view.

## 20. Marks types

You can change the type of marks displayed in the view to fit your analysis better using the mark types.

## 21. Toolbar

Finally, the tool bar lets you quickly access useful features, such as undoing, sorting, clearing views, and so on.

## 22. Our business question

Enough of definitions - let's start playing with some data on Tableau! In this lesson, we'll look at the price of rooms in each New York neighborhood.

## 23. Let's practice!

## 1. A tour of the interface

Now that you’re familiar with the interface, let’s explore it and start playing with it. We currently have a blank sheet. In our data pane, we have our San Francisco data loaded, with its dimensions and measures. Remember blue fields are categorical, and green fields are continuous. The data type icons you saw on the Data Source page when loading the data also appear here. Notice Tableau automatically generated new fields for us, shown in italic: measure names, the number of records (given by san francisco dot csv (count)), and the measure values. We'd like to know which neighborhoods have the highest number of reviews. So let’s focus on neighborhoods first. When we start dragging a field, some places are highlighted in orange. These are all the places we can drop our field on. Let’s drag it into rows. Whether we drag it here or here has the same result. Then, we would like to find the number of reviews for each of them, so we drag the number of reviews field to the text card, and we get the number of reviews per neighborhood! Notice how by default, Tableau takes the sum of the data. If we click on the down arrow, we can change the measure: we could use the average, or the maximum. You'll see that in more details in Chapter 3. Sum makes sense in this case, so we keep it that way. We could also drag the number of reviews field to size instead, or color. Tableau automatically adds a legend. We’ll stick with text for now. In the toolbar, you have different buttons. This one lets you back to the Start Page. This one lets you undo your changes, and this one allows you to clear your sheet to make it blank again. Let’s now find out the number of reviews for listings under $200 a night. To do that, we use the Filter shelf. We will get into more details about Filters in the next chapter. For now, we just drag the price field onto the Filter shelf. The popup window offers several ways to aggregate the data. We just want to consider all values, which is selected by default, so we press next. We then input a range of values from 0 to 199. Let’s apply it: our values have changed. Bayview has 5,137 reviews for listing under $200. To remove a field, just drag it out until you see a Red Cross appearing, and release. Now imagine we would like to know the number of reviews in each neighborhood for each room type. We just need to drag the room type to rows. See how dimensions help us segment the data into groups. Now we see that Bayview has 2,807 reviews on entire homes, 3,311 private rooms, and just 1 review for shared rooms. Now if we find that overwhelming, we can drag Neighborhood to Pages. We now have a page for each neighborhood, and we can navigate through them. We can also use the drop-down menu to find a neighborhood directly.

## 2. Let's practice!

## 1. Your first visualization

All right! Now you know the basics of Tableau and our chosen dataset: the Airbnb listings data. But isn't Tableau a visualization software? So far, we've just seen a table. Let's create your first visualization.

## 2. Sheet

This is the state in which we left our sheet in the last video. Isn't there a way to visualize the count and proportion of reviews for the different types of apartments, instead of clicking or streaming through a dull table? We're talking about Tableau, of course there is!

## 3. Show me!

And it's incredibly easy. We just need to click on the Show Me button, in the top right of the interface.

## 4. Show me choices

Tableau is smart: based on the data you use to create your view, it can suggest appropriate visualization options. In our case, we could build a pie chart, a bar chart, a stacked bar chart, a boxplot, a bubble plot. Let's go with a stacked bar chart.

## 5. Stacked bar chart

Tadaaa! It's that easy to build visualizations in Tableau. Notice how our pages disappeared. Now, we have a bar for each neighborhood. The height of the bar is the total number of reviews, but we also have more granular information for each listing type. We can see that there is often the same proportion of reviews for Entire homes (in blue) and private rooms, in yellow. Shared rooms, in red, have the last number of reviews.

## 6. Stacked bar chart

However, Downtown Civic Center has a lot more reviews for private rooms than entire homes.

## 7. Stacked bar chart

And Financial District is the neighborhood with the most reviews for shared rooms.

## 8. Stacked bar chart

Mission is the neighborhood with the most reviews overall. It's much easier to read that from a stacked bar chart than from a table!

## 9. Let's practice!

Let's get to it!

## 1. Building and improving visualizations

All right, you now know how to create visualizations. We just clicked Show Me and chose a stacked bar. For peace of mind, let’s look at some other options. Pie charts are not very helpful, we just get one pie chart per neighborhood. Side by side bars give us a very dense plot, and there’s too many colors, information just does not jump to our eyes. A box plot is interesting, if you know how to interpret it. Downtown Civic Center is the median for the Entire home/apartment category. In other words, if we were to take all neighborhood reviews count for each type of apartment and order them by ascending order, Downtown Civic Center, with 3009 reviews, would be right in the middle for the entire home category. You can confirm the median value by looking at the box plot metrics. Mission is considered an outlier with 15768 reviews. Notice what just happened: as you hover over elements of your view, you get more information about them. Let’s go back to our stacked bar chart, which was a good choice. If we want to know the exact number of reviews for the entire home/apartment segment in Mission, we can just hover over the blue area, and we know there are 15768, just like with our box plot. Similarly, there are 2150 reviews on shared rooms in North Beach. There are two key takeaways here. One, Tableau makes it super easy to try different visualizations. Two, Tableau shows you what you CAN build, not what you SHOULD build. It’s up to you to build a visualization that makes sense based on the question you want to answer. So we have a nice stacked bar chart. Good. But things are not over after selecting a visualization. You can still customize it to make it more insightful. For example, we may want to see the reviews count directly instead of having to hover over bars on a case by case basis. To do this, we just need to drag the number of reviews field on the labels card. Tadam! Now it's explicit that Mission has 15768 reviews for entire homes and apartments, and 17376 reviews for private rooms. The area is too small to show a number, but you can still hover over it to find out there are only 1268.

## 2. Let's practice!

## 1. Filtering and sorting

Welcome to chapter two, where we will cover the basics of building and customizing visualizations. We will start with filtering and sorting.

## 2. Filtering

Filtering is a natural step in creating visualizations and you've already done some in the first chapter. Filtering involves deciding what should be kept and excluded from a view, from filtering by category, date range, location, or a minimum value

## 3. Types of filters in Tableau

Filtering can happen at multiple points in the user flow of Tableau. So there is an order of operations to when filters are executed. Order matters, especially if you are fetching top records. The first two, extract and data source filters, occur when you are connecting and loading data sources. This usually happens before opening a worksheet. Context filters are a more advanced feature that won't be covered in this course. The last two occur in the worksheet and they will be our focus.

## 4. Dimension filters (in blue)

Remember that dimension fields are categorical data, so when you are filtering on dimension, it usually has to do with selecting which categories to keep or exclude. For example, we can do this with room type in the last chapter. There are other options such as creating a wildcard that looks for matches in characters, or setting conditions based on other fields. You can also return the top or bottom records.

## 5. Measure filters (in green)

Measures contain quantitative data, which means we're filtering numbers rather than categories. Another set of filters are applicable to measures, from specifying a range of values or selecting null or non-null values.

## 6. Sorting

Sorting is another fundamental step in creating a visualization and more straightforward compared to filtering. Tableau defaults on alphabetical sorting on dimension, which is not always ideal. An important alternative is sorting by a metric, whether it's ascending or descending value. For example, sorting products by their gross profit makes a way more interesting visual than sorting products alphabetically.

## 7. Dataset

In the next several exercises, we will be using the gapminder dataset which is publicly available and contains a variety of social, economic and environmental development indicators for countries. Specifically, we will look look at the average number of cell phones and broadband subscribers per 100 people at the country level. This metric can be used to evaluate a country’s development in communication infrastructure.

## 8. Let's practice!

Time to try out sorting and filtering on Tableau!

## 1. Filtering through the filter shelf

We now have the cellphone and broadband metric in our visualization. Let’s use the show me feature to pick a more suitable visualization like the side-by-side bar graph. Both communication metrics are in the filter card. If we select show filter for both, we can see interactive filter cards on the side. The same can be done with a dimension like country which comes in the form of a checklist. In each interactive filter, you can customize the appearance and if single or multiple values can be selected. You may notice there are null values in our graph. This is misleading because it makes it look like the values are 0 when we just don’t know the actual values of those countries. We can filter out null values by going to the special tab and selecting non-null values. Another useful filter is the TOP filters for dimensions. For example, let’s say we wanted to only show the top 5 countries with the highest cellphone metric average across all years. We go into the top tab to do this. Note that you can also choose bottom instead of top.

## 2. Let's practice!

## 1. Aggregation

In this video and following exercises, we will be looking at aggregation.

## 2. What is aggregation?

Aggregation means gathering and summarizing data points for analytics. This can mean different things depending on your use case. For example, it could be adding up sales, getting a user's average age, counting distinct customers, or finding the product with the maximum sales.

## 3. Aggregating measures

Most commonly, we aggregate measures and Tableau automatically does so with sum. As you have probably seen in past exercises, there are several options for aggregations from average, count, percentile, to variance.

## 4. Aggregating dimensions

Not as much of a common use-case as measures, we can also aggregate dimensions. Tableau doesn't automatically aggregate dimensions, however the platform provides four options: minimum, maximum, count, and distinct count. If you choose to aggregate on a dimension, it creates a temporary measure like this.

## 5. Dataset

In the next few exercises, we'll be using another Gapminder dataset with four metrics: Child mortality rate per 1000 births, GDP per Capita, C02 Emissions per Person in tonnes, and Life expectancy. These are popular indicators of economic development and there are often relationships between these metrics. There are also two others columns that segment Life Expectancy and GDP per Capita into categories of ranges. We will see why it is useful to have some measures in a dimension form.

## 6. Let's practice!

Now let's try it on Tableau!

**1. Calculated fields**

Now that you've mastered the basics of filtering and sorting, let's move on to calculated fields!

**2. What are calculated fields?**

According to Tableau, Calculated fields allow you to create new data from data that already exists in your data source. So what does that mean? When would you want to create new data from existing data?

1. 1 https://help.tableau.com/current/pro/desktop/en-us/calculations\_calculatedfields\_create.htm

**3. Examples of calculated fields**

Let's step back and look at some examples. Say you have a field with the sales amount your company makes each quarter. It's in US dollar, but you'd also like to have it in Euros. You can create a calculated field by multiplying the sales amount in USD by the current exchange rate - in this case zero point nine. Another example could be rounding gas prices up or creating a new field that indicates whether an email is a gmail account.

**4. Examples of calculated fields**

You could also create a field with the year from a field holding the entire date. This is nice if you are trying to segment data by year. Calculated fields can use more than one field. For example, if you wanted to calculate the price earnings ratio, you can divide both data fields. Calculated fields are simple and very powerful. These are just some examples of what you can do with them.

**5. What are calculated fields?**

Let's go back to the original definition and add a few more details. When you create a calculated field, you are creating a new column or data field - and it can be a measure or a dimension. This does not affect the underlying data, meaning you are not manipulating your data sources.

1. 1 https://help.tableau.com/current/pro/desktop/en-us/calculations\_calculatedfields\_create.htm

**6. Functions**

To create a calculated field, you use functions. You may have noticed a few of them in the examples. They have a pair of parenthesis, where arguments are held within them. There are several different types of functions. At this stage, we will only focus on number functions.

1. 1 https://help.tableau.com/current/pro/desktop/en-us/functions.htm

**7. Dataset**

In the next demos, we will be working with a new Gapminder indicator, mean years in school. This is the mean amount of years spent in school, from primary to graduate studies. This is a useful indicator of social and economic development. The indicator is split into gender and five age groups. So besides the column for country and year, there are ten columns of different demographics for this metric.

**8. Let's practice!**

Let's get to it and create some calculated fields!

**1. Mapping your data**

Welcome to Chapter 3. In this chapter we will be creating some more complex visualizations. In this lesson, we'll cover what geographic data is and how Tableau can use this data to create maps.

**2. What is geographic data?**

If you're visualizing countries globally, flight paths regionally or looking at local oil pipeline coverage, you are likely working with geographic data. Seeing that data on a map helps you make better decisions to solve the problem at hand. There are two types of maps in Tableau.

**3. Filled map**

You can create what is called a filled map. Like its name suggests a filled map is basically boundaries of a geographic region filled with color. Here the different US states are colored in.

**4. Symbol maps**

A symbol map uses symbols to represent a geographic region. It places the symbol in the center of the region. As you can see in the map on the slide, there is a circle in the center of each US state. This is what we will be doing in this lesson.

**5. Recognized geographic types**

Tableau’s robust internal database can recognize a number of different geographic information types. These include US area codes, cities worldwide, US congressional districts, worldwide countries and regions, US counties, worldwide states and provinces, and postal codes. So, Tableau can automatically assign coordinates to those places. This process is called geocoding. In Tableau all geocoded fields will have a globe icon associated with it.

1. 1 https://help.tableau.com/current/pro/desktop/en-us/maps\_geographicroles.htm

**6. Data**

In this chapter, you will be looking at worldwide health statistics from the gapminder and UN datasets. You are working for the World Health Organization and are asked to look into some historic data. Spotting patterns in the past will help make decisions on directing and coordinating international health within the United Nations system today.

**7. Business question**

The question you will be answering at the end of this lesson is: What was the population growth of the country with the highest population in 2008? Knowing this, the World Health Organization will have a better idea of where to reduce health risks due to overpopulation.

**8. Demo time!**

Let's have a look at how you can create a symbol map in Tableau.

## 1. Working with dates

In this video, we'll explore how to work with dates in Tableau.

## 2. Dates

In your analysis you will often want to understand when something happened. You'll ask questions like: when did a certain event take place, or what kind of seasonal trends do we see. Fortunately, Tableau makes this kind of visual discovery and analysis easy.

## 3. Date data

Dates are automatically placed in the Dimensions area of the Data pane and are identified by the date icon. For example, the Date dimension from the UN data source, which we will work with in the exercises, is shown on the slide.

## 4. Date hierarchy

Tableau provides a robust built-in date hierarchy for any date field. You can drill down from year, to quarter, to month, to day.

## 5. Business question

The question the World Health Organization wants to answer is the following: Is there seasonality to the number of births in Chile? If yes, during which month are the fewest babies typically born? Knowing this will help them plan how many resources should be sent over to ensure newborn care at birth throughout the year. By the end of this lesson you will be able to build a visualization that will help answer the question.

## 6. Let's practice!

Let's first look at how to do a similar analysis for Portugal before answering the business question.

## 1. Reference lines, trend lines, and forecasting

Let's end this chapter by looking at ways to take your visualization to the next level.

## 2. Enhancing your visualization

There's a couple of things you can do in Tableau to enhance your visualization. These include adding reference lines, trend lines, and forecasting. Let's take a closer look at each of these.

## 3. Reference lines

A reference line is simply a line that gets drawn on a chart representing another measure or point of reference. Reference lines can be useful in providing context. For example, a line showing the average will visually show the difference of each mark in the chart relative to the average.

## 4. Trend lines

Trend lines are used to predict the continuation of a certain trend. As you can see in the slide, adding a trendline makes it easy to see that overall this measure is decreasing. Tableau takes a time dimension and a measure field to create a trend line.

## 5. Forecasting

Forecasting is about predicting the future value of a measure. Mathematical models capture the evolving trend or seasonality of the data and extrapolate them into the future. Once again, Tableau needs a time dimension and a measure field to create a forecast.

## 6. Business question

The question you will be answering is the following: Is the forecasted number of deaths in Costa Rica during December 2019 higher than the average over the last five years. This will help the World Health Organization decide if they need to focus more humanitarian effort in the area during that time period.

## 7. Demo time!

Let's first see how to do a similar analysis for Portugal before answering the business question.

**Got It!**

**1. Make your data visually appealing**

Welcome to the final chapter of this course. My name is Carl, and I will be your instructor. You will learn how to make your graphs visually appealing and ready to show to your professor, fellow students or colleagues, boss, CEO, or even your grandma! You will learn how to create a dual axis graph, how to format your visualizations, and even create your first dashboard and story!

**2. The art of formatting**

First, let's learn how not to build a graph. This line chart has many things missing: the title is unclear, there is no legend, the font is rather small, we don't understand what the axis means, etc. Let's have a look at a better example.

**3. The art of formatting**

This looks way better! First of all we notice one of the lines is changed to a bar chart. This was done to highlight this metric is slightly different. In this case it is the sum of the others. Secondly there is a title, the font size of the graph is bigger and there is a legend explaining the graph. We are looking at a graph of video game sales per region by release year, and notice 2008 was the best selling year with almost 700 million video game sales.

**4. Formatting tips**

Let's have a look at formatting tips in general. Using the following tools you can easily enhance your visualizations: write informative titles that explain the content of the graph, use a legend, adjust / synchronize axes and their titles if necessary, create tooltips so the user learns more when hovering over the graph, and use colors and fonts to increase legibility. As a data visualization tool Tableau has built-in a lot of these tools automatically, so all of these will be in a great starting spot and are fairly easy to adjust if necessary.

1. 1 More information can be found in the "Data Visualization for Everyone" course

**5. Format at the workbook and sheet level**

You can format at both the workbook and sheet level. But what exactly is the difference between the two? A workbook is what you open at the start of an exercise. The first workbook you opened in this chapter was called 1\_1\_Loading\_workbooks. It can be used to organize, save, share and publish results. It contains multiple sheets and can be compared to a whole Excel file. A sheet on the other hand can be compared to a single tab in Excel. They are displayed along the bottom of a workbook as tabs. There are three different types of sheets: worksheets, which is what you used this far to create visualizations, and dashboards and stories, but more on that later.

**6. Let's practice!**

Let's test if you understand the basics of formatting.

## 1. Applying visual best practices

Hello again! This dataset on video game sales from 1980 to 2010 will let us take a tour through gaming history! During this course you will answers questions like: - What is the most sold video game, which gaming genre was the most popular in the early 2000's? You could even filter for your old favorite video game to see how many other people enjoyed it! The data structure looks straightforward: You have the name of the game, the platform it was released on like the Wii, Gameboy, or Playstation. We have the year the game was released, the genre, the publisher and finally the sales in million by region. Note sales does not refer to the sales in Dollar or Euro, but to the amount or copies of video games sold. Before we continue let's make sure we understand the term release year correctly. Pokemon Blue/Red for example was released in 1996, meaning that all sales for Pokemon Blue/Red get attributed to the year 1996. We are interested in comparing the sales across all regions. Let's start by dragging Release year to columns and global sales to rows. We see a line chart appearing of global sales over time. We can add the other regions by creating a dual axis graph. In order to create this graph we can drag any measure such as North America sales to the right until a dotted lines appears and release. That's a great start but we see that our axes are not synchronized. We can fix this by clicking synchronize axes, and now the 700 on the right axis aligns with the 700 on the left axis. Let's make it very clear before we add the other regions that global is the sum of all these other regions, and make it into a bar chart using the marks card. The best way to add these other regions is by dragging measure values on top of North America sales. This field here measure values refers to all 6 measures or green fields, so when dragging this on top of NA sales, it gets replaced by all 6 measures. The first line you see in red is the count of video games - sales.csv, is a count of the amount of rows from the dataset and can be removed because it is irrelevant. We can remove it by dragging it out of the measure values card. Secondly we have global sales in here as well, which is already visible on the left axis using the bar chart, so we remove this one too. We can clean up the graph by firstly renaming the worksheet to All Regions - Sales. We center the title and hide the right axis as it doesn’t add any value by unticking “show header”. Finally we can rename the left axis title to Global Video Game Sales (in million). When hovering over the graph we see this little window pop up. That window is called the tooltip. We can improve this by having it automatically show the sales for all regions. Let's drag EU, Global, JP, NA and Other Sales to tooltip. There we have it - now all measures are visible! We can still clean up the tooltip to make it look nicer, but we will leave that for you to explore during the exercises.

## 2. Let's practice!

## 1. Dashboards & stories

In the final part of this course you will get an introduction to dashboards and stories. You built good-looking visualizations in the previous exercises, and as we build more of them, it will be really convenient to see them all on one page. By using a dashboard, a built-in Tableau feature, we can easily do that.

## 2. A dashboard example

On this slide you can see a dashboard built using the Videogames dataset. It contains 4 visualizations about Playstation, and gives insights on the sales by platform, the top video games and the top genres.

## 3. A dashboard is a collection of several views

A dashboard is a collection of several views. It makes it easy to compare data and help uncover key insights. The data is automatically connected to your worksheets, so if you make a change on a worksheet it will automatically be visible on your dashboard and vice versa. Dashboards are interactive, more advanced dashboards contain filters and allow users to drill down and do their own analysis. Views be connected, allowing one view to function as an interactive filter. We will go through a live example to dig deeper in this in the next demo video.

## 4. A story example

This slide is showing an example of a story, which gives us the option to cycle between multiple dashboards. The first dashboard called "Platform Comparison" enables us to compare sales across Xbox, Playstation and Nintendo.

## 5. A story example

The second dashboard enables us to deepdive into a certain platform such as Playstation. We can then investigate sales within a platform.

## 6. A story is a sequence of visualizations

A story is a sequence of visualizations that work together to convey information. They are also very useful to tell a story or a narrative for your business case. Finally is each individual story called a story point. The story example had 2 story points, Platform comparison and platform deepdive.

## 7. So how does everything fit together?

So how does everything fit together? Let’s make an analogy using Russian dolls. A worksheet can be placed into a dashboard as we saw by looking at the Playstation example. It contained four different worksheets with information. The first story we saw contained two dashboards: one to compare platforms and one to deepdive into platforms. A worksheet can thus be put into a dashboard, and a dashboard can be put into a story. Although this does not happen frequently, just as with Russian dolls you can also fit a worksheet straight into a story.

## 8. Let's practice!

It's time to see if you understand the difference between a Worksheet, a Dashboard and a Story, good luck!

## 1. Creating dashboards and stories

In this lesson you will learn how to create your first dashboard and first story. We will do so by using 4 different visualizations (or sheets) about Nintendo. The first sheet as you can see here contains an area chart of video games sales for Nintendo by release year. The second visualization contains info on the amount of sales per platform such as the Gameboy and Gameboy Advance. The third visualization contains a treemap with information about the genre, while the last sheet ranks the top sold video games. This is a lot of information, and it would be a lot easier to see this all in one page, which is where dashboards come in! We click the new dashboard button (next to new worksheet) after which we get an empty sheet. Let's rename it to Nintendo. We have space for the actual dashboard in the middle, and a bar with different options on the left. The most important part of the sidebar is the sheets sections, which links to the 4 visualizations we just went through. We drag the first sheet to the blank space for it to appear. Consecutively we drag the second sheet to the right. We notice this gray space behind, which is where the released dashboard will appear. Let's drag the other two visualizations in so they appear below. A legend and a filter appeared when we dragged in Top video games. Let’s place the filter on top and make the legend floating to drag it next to the graph. On the right side of the legend is a more options arrow, which we can click after which a dropdown menu with different options appears. In this case we select floating, after which we move it around the whole dashboard. If we type in Pokemon in the name filter, the whole dashboard adapts. We see that the sales on the Wii dropped dramatically and that the best selling pokemon game is Pokemon Red and Blue. This interactive element is where the power of dashboards come in, and it can become even more powerful by using visualizations as filters. Let’s remove Pokemon again and navigate to the tree map and select "Use as filter". If you now click on for example the Simulation genre, we notice that Nintendogs is the most sold video game. If we click on the simulation genre again, the filter gets removed. A similar dashboard for Playstation and Xbox has already been setup, so let's combine the three to create our first story. We click the new story icon and rename the story to "Competitor Analysis 1994 - 2010". We could drag a sheet to the story, but doubleclicking will also add it to the story. Let's rename the tabs to Playstation, Xbox and Nintendo. There we have it - we just built an interactive dashboard and combined them with 2 other dashboards to create our first story! At the end of this chapter you will be able to create a very similar story. Don't worry if it looks overwhelming, you won't have to build everything from scratch and we'll guide you along the way! Have fun!

## 2. Let's practice!

