13

DISTRIBUTION OF DASHBOARDS

OVERVIEW

This chapter will introduce you to the different ways to save and share the dashboards you create, both locally and online. You will first save data sources you have created, then save local and online copies of your workbooks, with the option of using Tableau Server or Tableau Public. By the end of this chapter, you will be able to share your creations with the world and also generate a copy for safekeeping, should you need it.

INTRODUCTION

In the previous chapters, you learned to prepare your data and analyze it in order to create visualizations and dashboards. However, dashboards are rarely designed just for the one-time use of their maker. You want to be able to save this analysis so that you can recover it later, as well as share those insights either locally with your stakeholders or publicly to show off your skills. In this chapter, you will explore different ways to save and publish your work (specifically, your data sources, workbooks, and dashboards).

SAVING AND SHARING YOUR DATA SOURCES

It can sometimes prove a tedious exercise to create data sources from scratch. You need to connect to your data, define joins between the different datasets, create calculated fields that are not already predefined in the data, and so on. To reuse this in a different setting, you want to avoid going through this whole process so that you can save execution time, as well as ensuring consistency. You might also want to keep a simple data source as a favorite to have handy when needed. Tableau offers the possibility of saving data sources locally or online so that you can reuse them with a click when you need them again. The following sections will show you how.

SAVING OPTIONS – SAVING DATA SOURCES LOCALLY

There are two main options for doing this: save it as a **`.tds`** data source or save it as a **`.tdsx`** packaged data source. The first of these covered will be simple data sources, followed by packaged data sources and the differences between the two.

SAVING AS A .TDS DATA SOURCE

The first way to save a data source locally is to store it as a simple data source. This will save all the connections to the different data sources, the way they are joined, and the newly defined fields, but not the underlying source data. Using this kind of saved data source makes sense if you want to reuse it later and still have access to the same resources, but you would want to have the latest information available when using the data. This can be achieved through two methods. You can either right-click any data source in the top part of the **`Data`** pane and use the **`Add to Saved Data Sources`**... option; or you can go to the **`Data`** menu, choose the relevant data source (for instance, **`Sample – Superstore`**), and click **`Add to Saved Data Sources...`**.

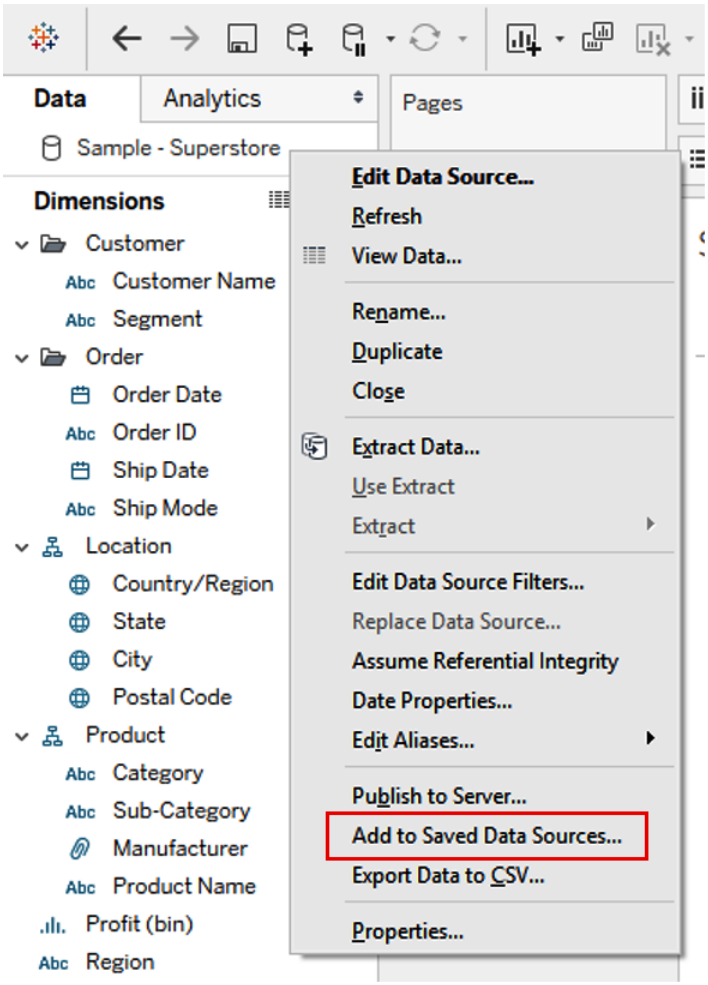


Figure 13.01: Add to Saved Data Sources...

Either way, you then simply need to navigate to the folder where you want to store your data source and give it a name to save it. It will then be possible to use this data source again when creating a new Tableau workbook by navigating to the **`Connect to Data`** | **`To a File`** | **`More...`** option and browsing to the saved **`.tds`** file.

> **NOTE**
>
> If you save your data source in the **`Datasources`** folder of the Tableau repository location (as can be found in **`File`** | **`Repository Location...`**), it will automatically appear under **`Saved Data Sources`** in the **`Connect`** menu.

SAVING AS A .TDSX PACKAGED DATA SOURCE

In a **`.tds`** file, you save all the connections to data sources, the way they are joined, and the newly defined fields. However, this requires having access and permissions to the same sources (for instance, credentials for a direct connection to a database). If you want to share the definitions with a colleague who does not possess these, you also have the option of including the source data that was generated as part of the file, making it a *packaged* data source (with a **`.tdsx`** extension). This will avoid permission and credential issues, as the source data is already included in the file.

The steps to create a packaged data source are the same as for saving a data source, but you will need to change the 'Save as type' from **`Tableau Data Source (*.tds)`** to **`Tableau Packaged Data Source (*.tdsx)`** when saving the file.

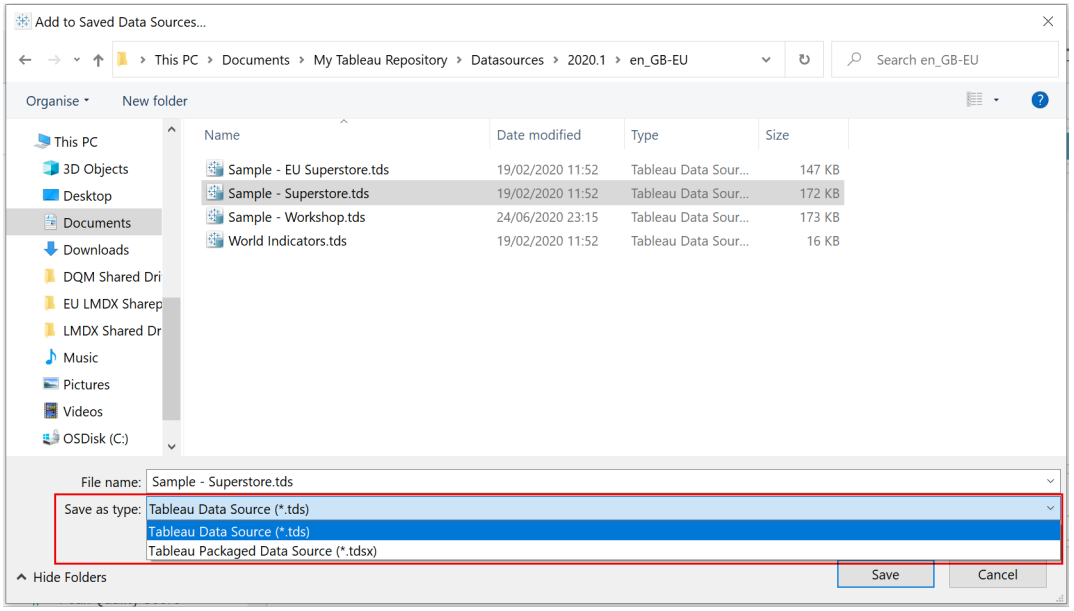


Figure 13.02: Save as types

This section taught you how to save data sources locally, which enables you to reuse the definition of a data source in a different workbook. In the next section, you will see how to go a step further and share data sources online.

SHARING OPTIONS – PUBLISHING TO A SERVER

If your organization offers access to Tableau Server or Tableau Online, you might also be interested in saving your data source definition online so that it can be discovered and use by others.

As you have just seen when adding to saved data sources in the previous section, you can also find the **`Publish to Server`**... option both in the **`Data`** pane by right-clicking the relevant data source or from the **`Data`** menu, choosing the expanding menu relating to your data source.

Let's walk through an exercise to better understand the process.

EXERCISE 13.01: PUBLISHING YOUR DATA SOURCE TO TABLEAU SERVER

In this exercise, you will publish the **`US breweries`** dataset to Tableau Server. This requires access to a Tableau Server instance.

The following are the steps to complete this exercise:

1. Download the US breweries dataset, which you can find at the following url: https://packt.link/DFldm.
2. Use the **`Data`** | **`New Data Source`** | **`To a File`** | **`Text file`** option to select the **Comma-Separated Values (CSV)** file you have just downloaded.
3. Go back to the worksheet view by clicking on the **`Sheet 1`** tab at the bottom of the screen.

4. Go to **`Data`** | **`breweries_us`** | **`Publish to Server...`**:

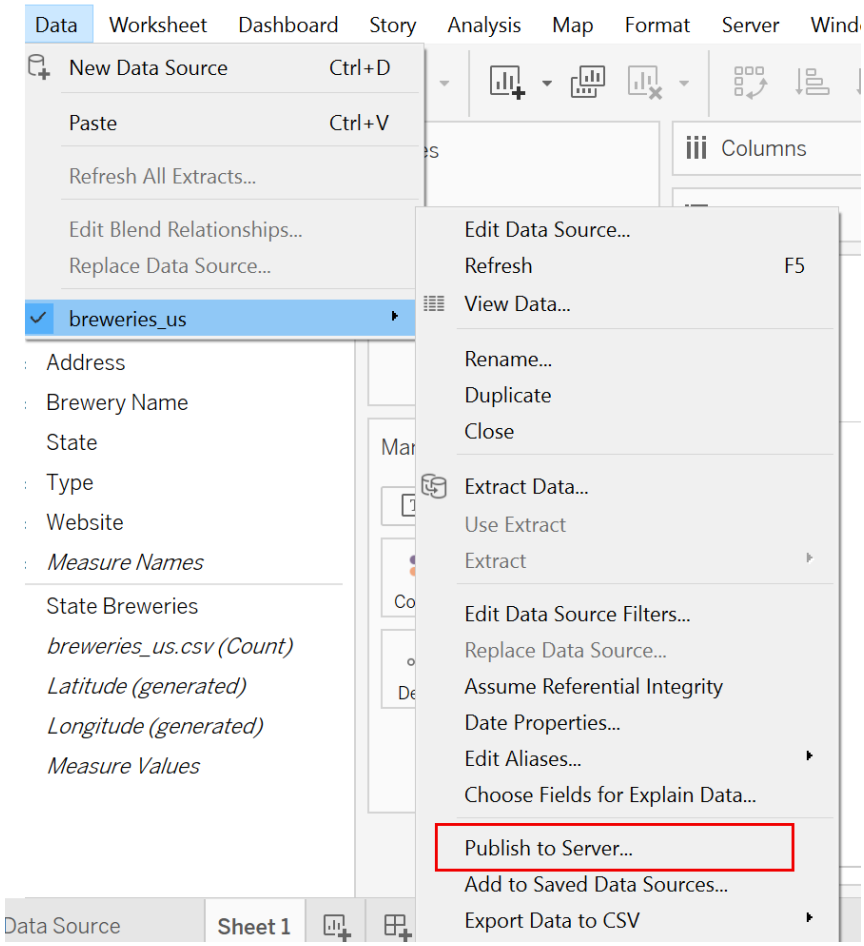


Figure 13.03: Publish to Server... in the menu

5. If you are not already signed in to a Tableau Server or Tableau Online instance, enter the address for the server and follow the prompts to sign in.

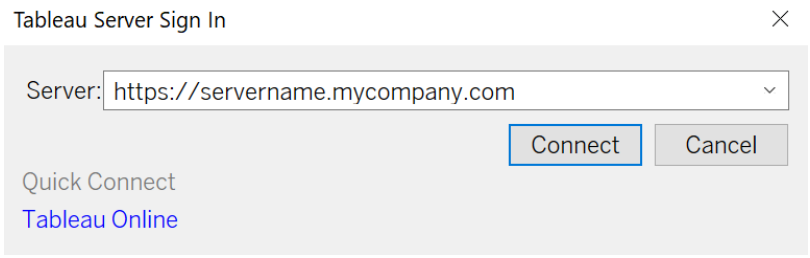


Figure 13.04: Tableau Server sign-in prompt

6. Once signed in, the **`Publish Data Source to Tableau Server`** prompt will appear. Save this data source under the name **`Sample – Superstore`** in any folder on the server. It is also possible to add tags or descriptions, although that is not required. If needed, override the permissions that are inherited from the folder in which you publish as well (including read and edit permissions for the dashboard).

7. Finally, take the **`Include external files`** option (similar to the **`packaged`** option. This will not only include the data source definition but also the data it generated) and the option to replace the source of the current workbook with the newly published data source.

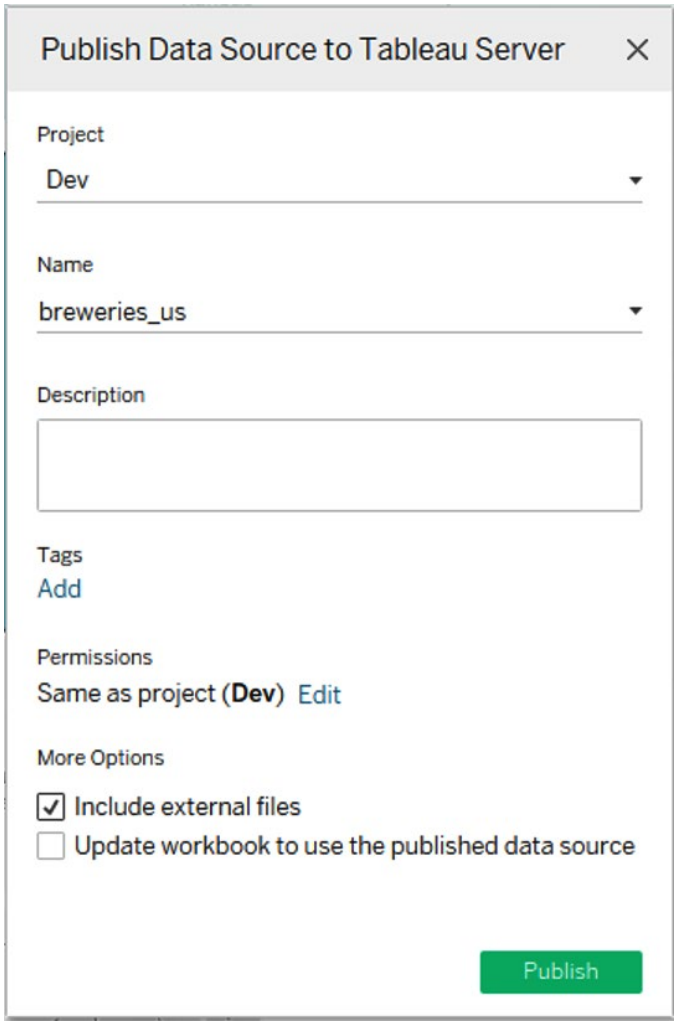


Figure 13.05: Publish Data Source to Tableau Server dialog

A new tab will be opened in your default browser, pointing to the published data sources to confirm this was complete.

Now that you have covered the different ways of saving and sharing your data sources, let's see how you can do the same for your analyses and dashboards.

SAVING AND SHARING YOUR WORKBOOKS AND DASHBOARDS

Having spent the better part of this book designing new calculations and visualizations, it would be a shame to let all this work go to waste. For instance, you might want to share a new visualization with a coworker to make a data-driven decision or show off your dashboard creation skills to a friend on the other side of the globe.

In a similar fashion to what was achieved in the previous section, you can either save workbooks locally or share them online, and you also have the option of exporting individual visualizations under different formats, whether worksheets or dashboards. Let's examine the different options.

SAVING WORKBOOKS

SAVING AS A .TWB WORKBOOK

The first option is to save the entire workbook locally. This works like you would expect having used other programs, and the shortcuts to perform this action are *Ctrl* + *S* on Windows and *Command* + *S* on Mac. This allows you to save the data source definitions, the calculated fields, and the visualizations, but does not include the underlying data. If you try to open this file from a different computer, you might run into issues if that machine does not have access to the same resources (for example, folders local to your original computer or shared locations the second computer doesn't have access to), although this can be resolved by saving it as a packaged workbook, as you will see in the next section.

> **NOTE**
>
> Whereas the *F12* function key is generally used across a variety of programs for **`Save As`**, Tableau uses it as a shortcut to revert to the last saved version. To access **`Save As`** in Tableau, be sure to use the **`File`** | **`Save As...`** option.

If this is the first time you are saving the file, the **`Save As`** dialog will appear so that you can choose where to save your workbook locally.

SAVING AS A .TWBX PACKAGED WORKBOOK

Similar to what you saw in the section about saving packaged data sources, you also have the option to save workbooks as packaged workbooks, which will include the source data as well as what is saved in a regular **`.twb`** workbook.

This option will use more space on your hard disk drive, but will allow you to share the complete workbook with other users, even if they don't have direct access to the data sources.

To use this option, you can either change the file type in the **`Save As`** dialog or use the **`File`** | **`Export Packaged Workbook...`** menu. The following exercise will walk you through how to use the first method with an example.

> **NOTE**
>
> Saving and exporting options are the same in Tableau. However, including the underlying data is not considered as a default setting; hence, it is referred to as exporting.

EXERCISE 13.02: SAVING A WORKBOOK AS A PACKAGED .TWBX FILE

In this exercise, you will save a brand-new dashboard together with its underlying data, in case the end user does not have access to it. This will include a visualization of number of breweries by US state, using a publicly available dataset.

The following are the steps to complete this exercise:

1. Start by creating a blank workbook using the **`File`** | **`New...`** option.
2. Download the **`US breweries`** dataset from https://packt.link/DFldm.
3. Use the **`Data`** | **`New Data Source`** | **`To a File`** | **`Text`** file option to select the CSV file you have just downloaded.
4. Once connected, open a new worksheet and create a visualization of the number of breweries by state.

To do so, drag the **State** dimension pill to the **Detail** box in the **Marks** pane, and drop the **Number of Records** measure pill on the **Colour** box to show different shades of color by state, based on the value of **SUM(Number of Records)**. Rename the sheet **Breweries by State**.

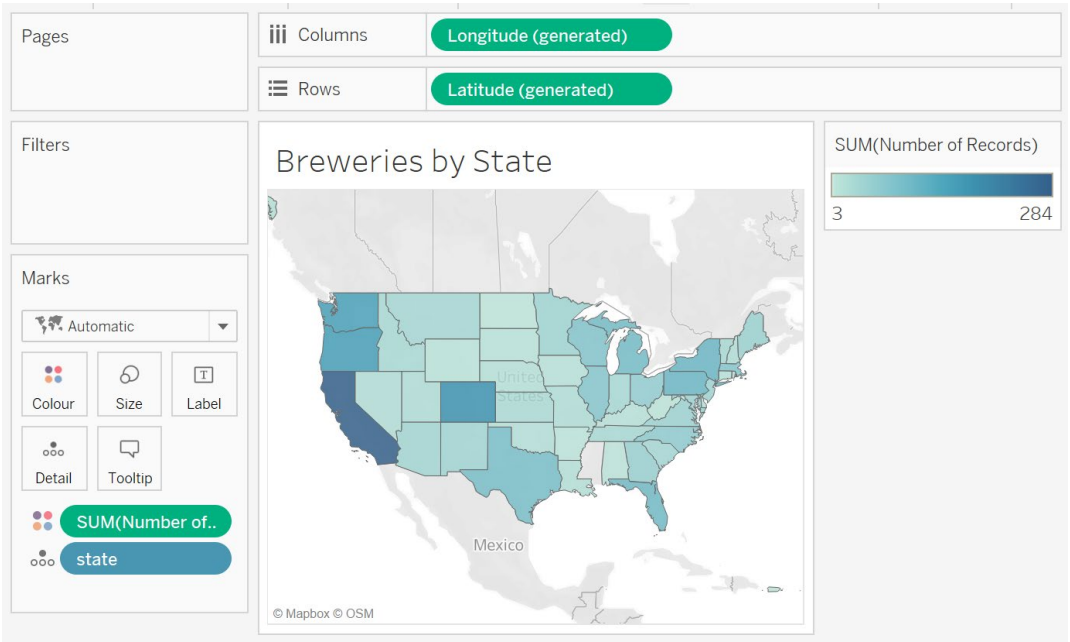


Figure 13.06: Breweries by State worksheet

> **NOTE**
>
> If the locations are not recognized and the data does not appear, you can use **Map** | **Edit Locations**... to select **USA** as the country.

5. As this is a brand-new workbook, you can use either the **`File`** | **`Save`** menu, the **`File`** | **`Save As...`** option, or the *Ctrl* + *S* or *Command* + *S* shortcut to open the **`Save As`** dialog.

6. Choose a filename (for example, **`Breweries by State.twbx`**), change **`Save as type`** to **`Tableau Packaged Workbook (*.twbx)`**, and then click **`Save`**.

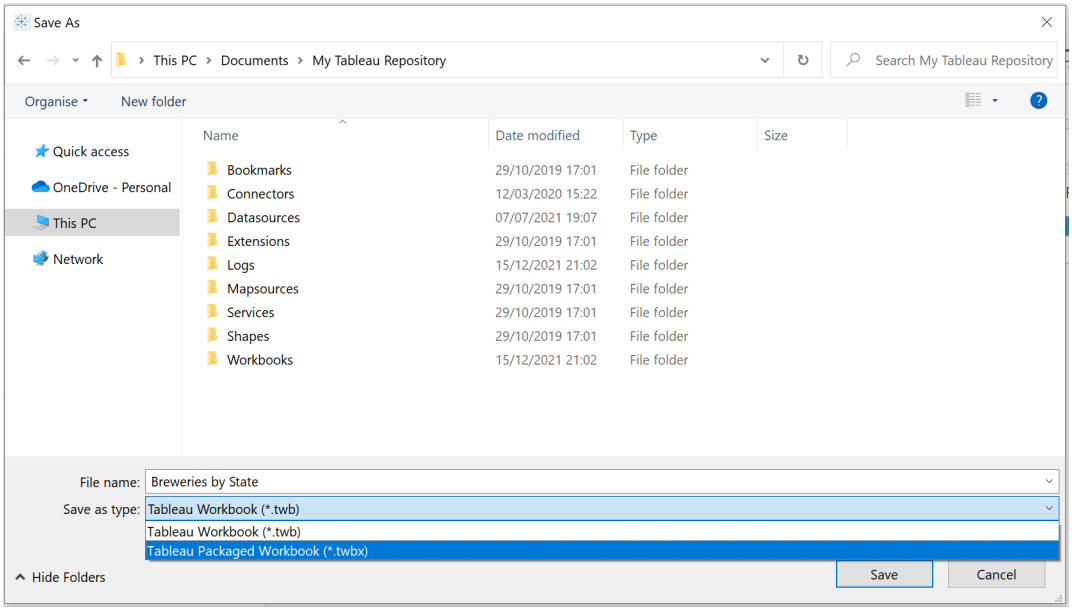


Figure 13.07: Save As dialog

The file will then be saved as a single packaged file, including data and views. With this, the end user can then open this particular file from any computer, and the source data will be embedded and ready to use regardless of that user's access to the original data sources. You can simply use the **`File`** | **`Open`**... menu to later access this packaged workbook from any computer.

EXPORT AS VERSION

As a final note on saving workbooks, for both the **`.twb`** and **`.twbx`** file formats, you also have the option of saving the file as an earlier version of Tableau using the **`File | Export as Version...`** menu. This allows for sharing with users who are using an earlier version of the Tableau software, as some features are not retro-compatible.

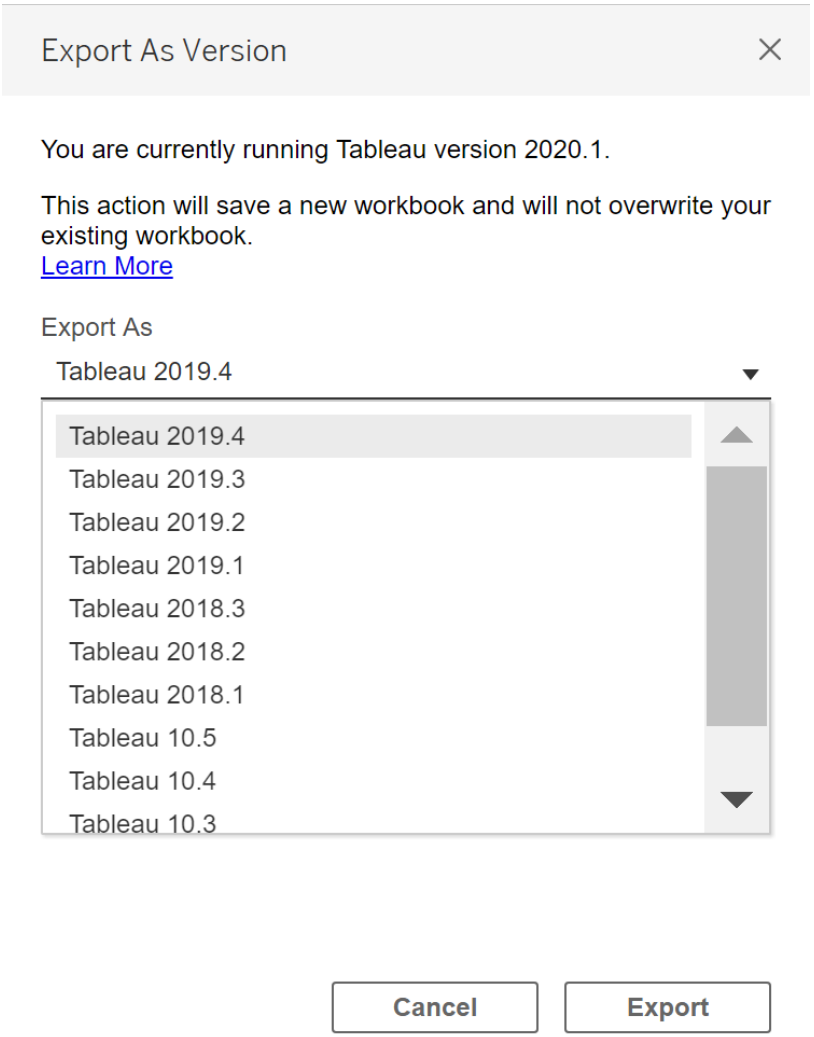


Figure 13.08: Export As Version dialog

Now that you have seen how to save entire workbooks for use in Tableau, the next sections will focus on different options to export the whole workbook or parts of it for use in other applications.

EXPORTING INDIVIDUAL OR MULTIPLE VIEWS

When you create more complex workbooks that include more views, you might want to extract some of these visualizations and use them in other settings—for instance, in a PowerPoint presentation for a client meeting or as images to be included in a white paper document. Tableau's options for this will be detailed in the following sections.

EXPORTING AS A POWERPOINT

You can export the entire workbook or selected views (including worksheets, dashboards, and stories) as a **`.pptx`** file for use in Microsoft PowerPoint, to either use as is or copy and paste into other documents.

The resulting document will include a cover page with the name of the original workbook (regardless of how you name the new **`.pptx`** file) and the local time of creation.

This can be achieved using the **`File`** | **`Export As PowerPoint...`** menu. The popup will show two to three of the following options depending on the nature of the tab you are viewing when exporting:

- **`This View`**/**`This Story`** (with the first option shown for worksheets and dashboards and the second for stories): This will allow you to export only the view that you are currently looking at.
- **`Specific sheets from this dashboard`** (if the selected view is a dashboard): This will enable you to select individual sheets in a dashboard, which will work similarly to exporting said sheets with the next option.
- **`Specific sheets from this workbook`** (in all cases): This final option will allow you to select individual views of all types or even to select all in the workbook to export.

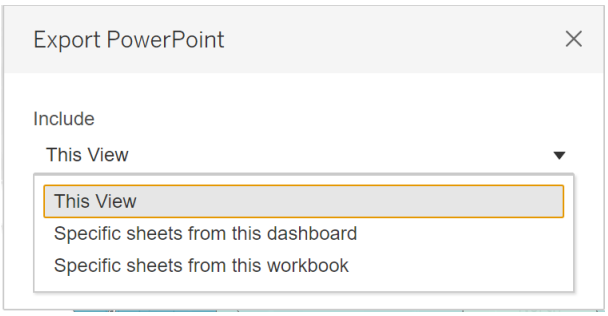


Figure 13.09: Export PowerPoint options

For both the second and third options, a carousel appears allowing you to select and unselect views for exporting by simply clicking on the thumbnails shown, as well as the **`Select All`** and **`Clear All`** options to make your selection.

Clicking the **`Export`** button will open a classic browse window for you to choose the final location of the exported file. The file will not open automatically (as of Tableau 2020.1), so you will need to navigate to the specific location using **`File Explorer`** or **`Finder`**.

> **NOTE**
>
> When exporting a story to PowerPoint, story points will create one slide each.

EXPORTING AS A PDF

Tableau also supports exporting both the entirety of the workbook or parts of it to PDF format. Although the concept is similar to the **`Export to PowerPoint`** option, its implementation in Tableau Desktop is slightly different.

To export a workbook to a PDF, you have to use the **`File`** | **`Print to PDF`** menu option. Doing so will reveal the following popup with a few settings:

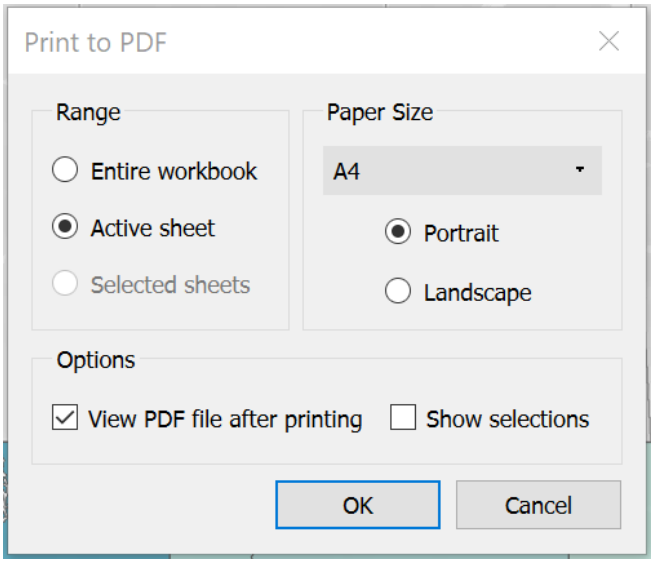


Figure 13.10: Print to PDF popup

First, you have to choose the range of sheets to be included in the export, which can be either the entire workbook, the active sheet (that is, the one you were looking at when you clicked the menu option), or a range of selected sheets. If only one sheet is selected, the last option will be grayed out (as in the preceding screenshot) as the result would be the same as using the second option. You will learn how to use this option in detail in *Exercise 13.03*, *Saving Selected Sheets as a PDF and Other PDF Functions*.

The second set of settings covers the paper size and layout. You can choose the paper size as one of the options in the dropdown, which includes the most common ISO and North American sizes.

> **NOTE**
>
> The print scaling will be defined as per the **`Print Scaling`** tab of the **`File`** | **`Page Setup`** menu, with the exception of the **`Unspecified`** paper size, which will fit each view to a single page.

The orientation will be the one chosen with the radio button for either **`Portrait`** or **`Landscape`**.

The final two settings allow you to see the file in your usual PDF viewer straight after exporting (**`View PDF file after printing`**), and to choose whether the selections in your worksheet should be published as is or cleared before exporting (**`Show selections`**).

Once again, clicking the **`Export`** button will open a browse window for you to choose the final location of the exported file. PDF files generated in this fashion do not include a cover page.

Let's conclude this section with an exercise to cover selecting sheets, print scaling, and showing selections.

EXERCISE 13.03: SAVING SELECTED SHEETS AS A PDF AND OTHER PDF FUNCTIONS

In this exercise, you will use the workbook created in *Exercise 13.02*, *Saving a Workbook as a Packaged .twbx File*, and modify it to showcase some of the functions that the **`Print to PDF`** option offers.

The following are the steps to complete this exercise:

1. Start by creating the Breweries by State worksheet, as described in *Step 1* to *Step 4* of *Exercise 13.02, Saving a Workbook as a Packaged .twbx File*, or just open the **`.twbx`** file that was generated then.
2. Right-click (or *Command*-click on Mac) on the **`Breweries by State`** tab at the bottom of your screen and click on the **`Duplicate`** option. Repeat this step one more time to get three sheets in total.

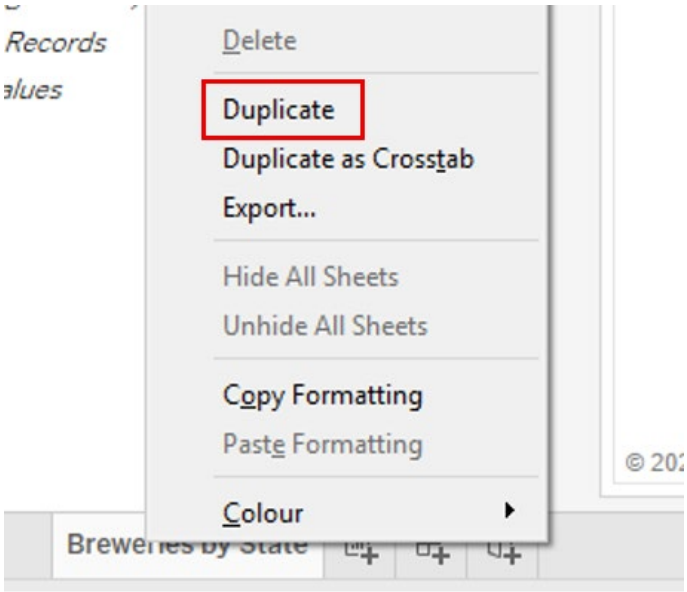


Figure 13.11: Duplicating a sheet

3. On the second sheet (which should be named **`Breweries by State (2)`**), select the state of California by simply clicking on its shape. It should show a darker color, while other states fade to much lighter colors.

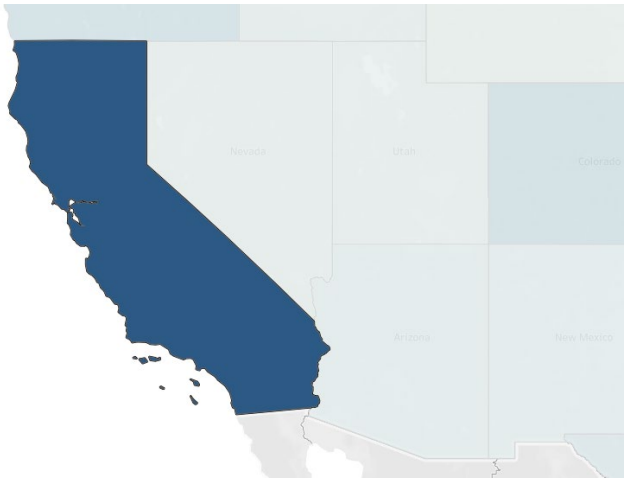


Figure 13.12: California selected

4. On the third sheet (**`Breweries by State (3)`**), select the state of Texas.
5. Go to the **`File`** | **`Page Setup`**... menu, and navigate to the **`Print Scaling`** tab. There, set the **`Scale`** option as **`25% of the normal size`**. Click **`OK`** to save.

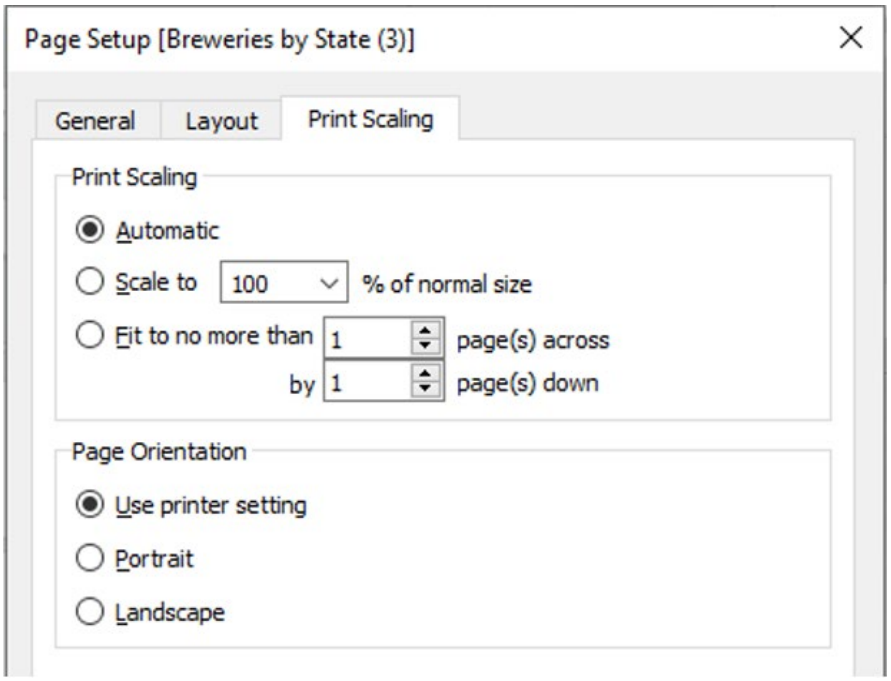


Figure 13.13: The Page Setup screen

6. While looking at the **`Breweries by State (3)`** sheet, hold the *Ctrl* button (*Command* button on Mac) and select the **`Breweries by State (2)`** worksheet by clicking on the tab. The initial sheet title should stay in bold, but the background of the tab for the other sheet will now be white (instead of its usual gray) to indicate it is selected together with the initial one.

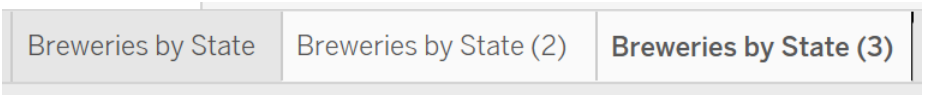


Figure 13.14: Multiple sheets selected

7. Now, select the **`File`** | **`Print to PDF`**... option. You will notice that the **`Selected sheets`** option is no longer grayed out (because there are multiple sheets selected). Click to select it. Choose **`A4`** as your page size and keep the other two options ticked before clicking OK.

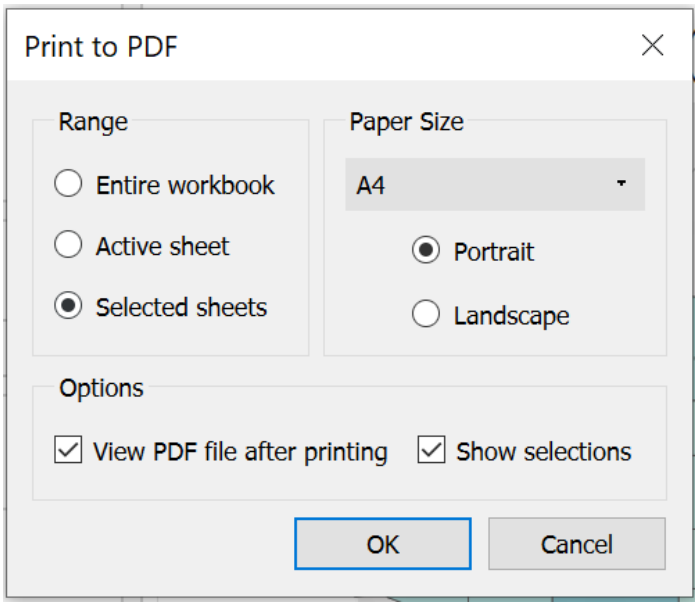


Figure 13.15: Print to PDF dialog when selecting multiple sheets

8. Save your file in a location of your choice and click **`OK`**. The created file will open in your default PDF viewer (if you have selected the **`View PDF file after printing`** option).

   The resulting file should include two pages with your views on it, and the selection of the states you have performed in *Step 3* and *Step 4* will be surfaced in the PDF.

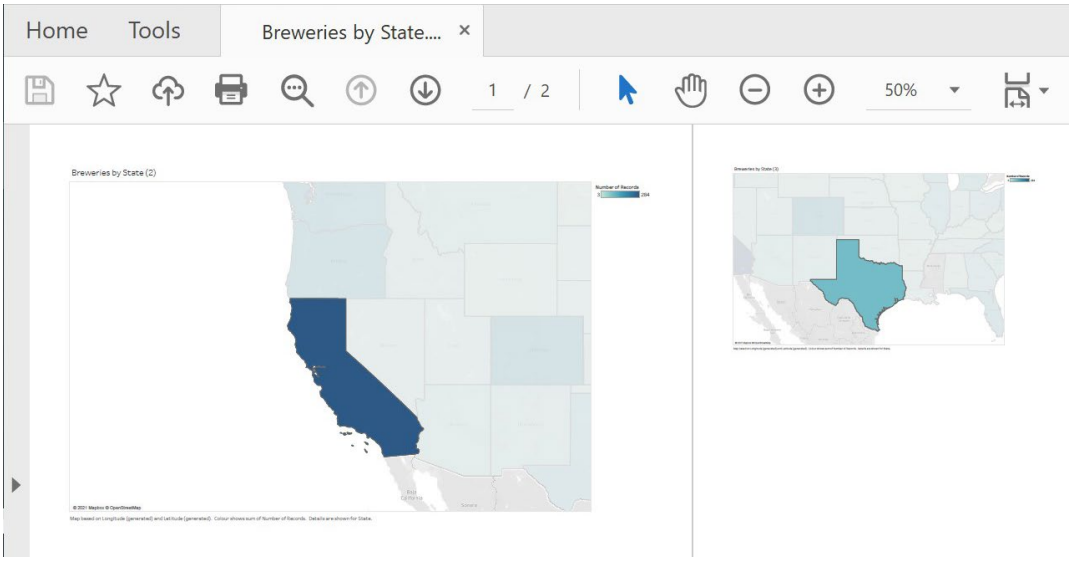


Figure 13.16: Screenshot of the two generated PDF pages side by side, with selections shown

> **NOTE**
>
> **`Page Setup`** configurations usually apply to a given worksheet only, which is why the first page did not scale and was just fitted to the entire width of the page.

9. You can go back and use the **`File`** | **`Print to PDF...`** option again, deselecting **`Show selections`** to see the difference, as it will publish the view with all states unselected.

In this exercise, you have therefore seen how to make use of the print scaling functions, as well as the option to print selected pages to a PDF. You'll learn how to export the pages as images in the next section.

EXPORTING AS AN IMAGE

If you want to use a view that you have created in a different program (for instance, in word processing software or an email), it is often useful to export the view as an image.

The final exporting option you have to use will depend on the type of view you are trying to export.

For a worksheet, go to the **Worksheet** | **Export** | **Image...** menu (after having inserted at least one field in the view; otherwise, the option will be grayed out). This will open a dialog box asking whether you want to include the title, the view, the caption (usually a description of the contents of the view), or different legends in your final file (the key to **Colour**, **Shape**, **Size**, or **Map**). You can also choose the location and layout of the legends, as the title will always stay at the top and the caption at the bottom.

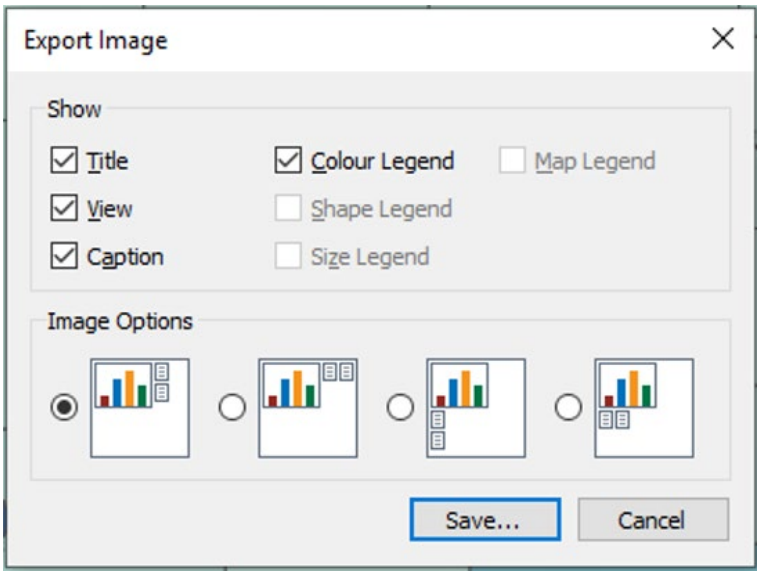


Figure 13.17: Export Image dialog for a worksheet

For a dashboard, use the **Dashboard** | **Export Image...** option, which will simply open a browse dialog to select the location where you want to export your file and its format, with no further options.

Finally, for a story, use the **Story** | **Export Image...** option after having made at least one change to the story. This will export the current story point as an image.

> **NOTE**
>
> Should you just wish to copy and paste the image without going through the trouble of saving a file, you can use the relevant **Copy Image** options instead: **Worksheet** | **Copy** | **Image...**, **Dashboard** | **Copy Image**, and **Story** | **Copy Image**, which will save the image to your clipboard for use in a different program. You cannot use the *Ctrl* + *C* or *Command*+*C* shortcut keys as they are assigned to a different copy function.

This section covered the main ways to export visualizations as they were created by Tableau, but you might be interested in exporting raw data out of Tableau, which will be covered in the next section.

EXPORTING UNDERLYING DATA

While you have an option to save the data source connections and the relevant settings in a local file as described in the previous sections of this chapter, it is also possible to export only the underlying data in a sheet to either copy or use in a different program.

EXERCISE 13.04: EXPORTING AS COLUMNAR DATA

Exporting as columnar data will be especially useful when you are using a workbook created by someone else, but you are only interested in the detail data. Perform the following steps to see the different ways to perform this action in practice:

1. Open the **`Breweries by State`** worksheet as realized in *Exercise 13.02, Saving a Workbook as a Packaged .twbx File*.
2. Select and hover over one of the states (for example, Idaho). The tooltip with the **`View Data`** option (marked below) appears.

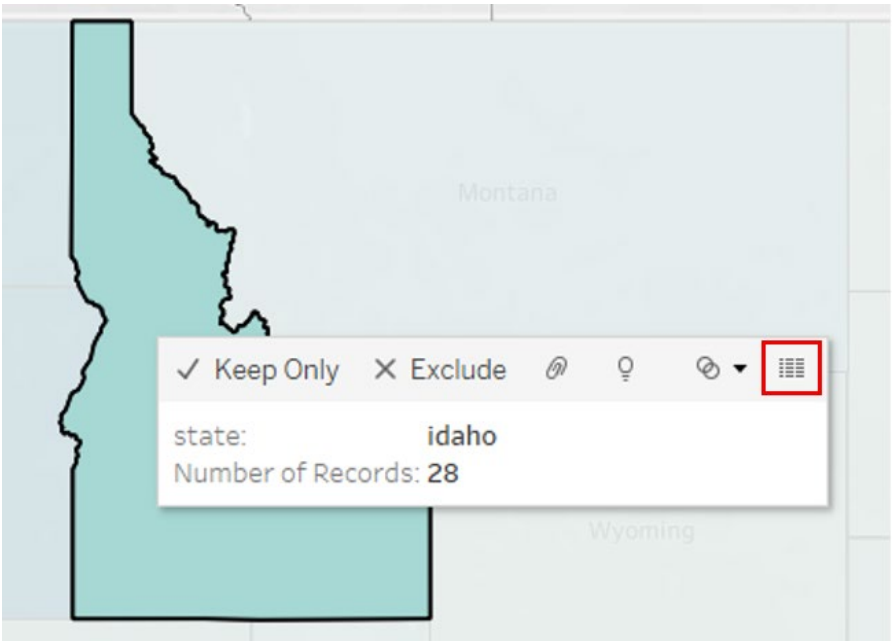


Figure 13.18: View Data option in the tooltip

3. Click on the icon highlighted in *Figure 13.18*. It will open the **`View Data`** dialog, which shows the aggregated data as displayed in the view. In this case, because you are presenting the data at the state level and have made a selection, this just represents the metrics regarding the state you have selected.

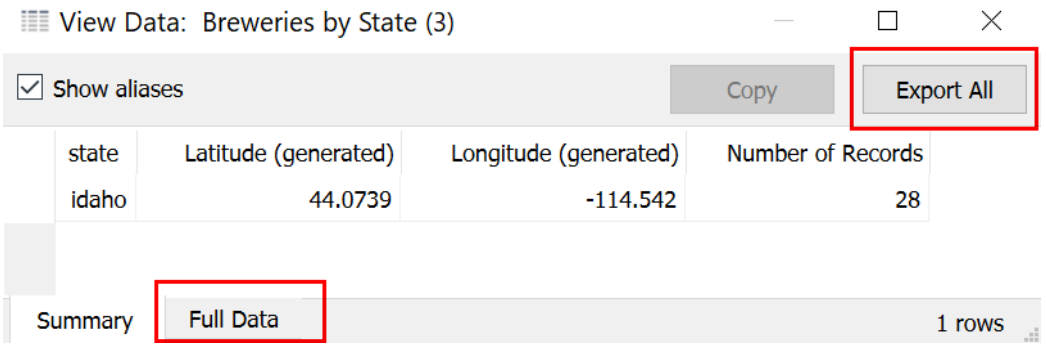


Figure 13.19: View Data dialog, the Summary tab

4. Click on the **`Full Data`** tab. You will see all of the *individual records* that contributed to this top-level number, at the granularity of the data source. In this particular case, you have duplicates for **`Country`** and **`State`** with different **`Sales`** numbers because there were different orders all going to Idaho. This **`Full Data`** tab usually only shows the relevant fields used in the view, but you can also use the **`Show all fields`** checkbox to show all the columns present in the data source.

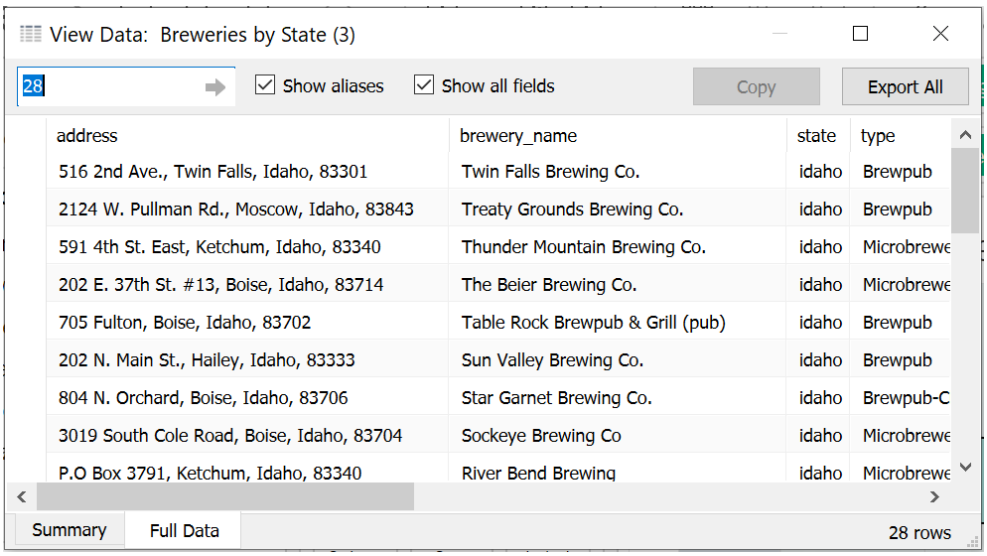


Figure 13.20: View Data dialog, the Full Data tab

5. From both of these dialogs, it is possible to extract the resulting records to a CSV file using the **`Export All`** button located at the top right of the window. Do this now to open a classic **`Browse`** window from which you will then select the location where you want to save the output. The resulting records will be exported, as expected, at either the aggregated level for the **`Summary`** tab or the detail level for the **`Full Data`** tab.

6. Similarly, use the **`Worksheet`** | **`Copy`** | **`Data...`** menu to copy the *aggregated data* to the clipboard and paste in a different tool. This is the default effect when you use the *Ctrl* + *C* or *Command* + *C* shortcut.

7. Finally, use the **`Worksheet`** | **`Export`** | **`Data...`** menu to achieve a similar result by exporting the aggregated version of this data into a *Microsoft Access database* file (**`.mdb`**). After the usual **`Browse...`** dialog to choose the location of the **`.mdb`** file, choose the table name under which this dataset will be stored; whether you want to connect after export, whether you want to add this new file as a new data source in your file; and finally, whether to export the entire view or just the current selection (this last option will be grayed out except if a selection was made in the view).

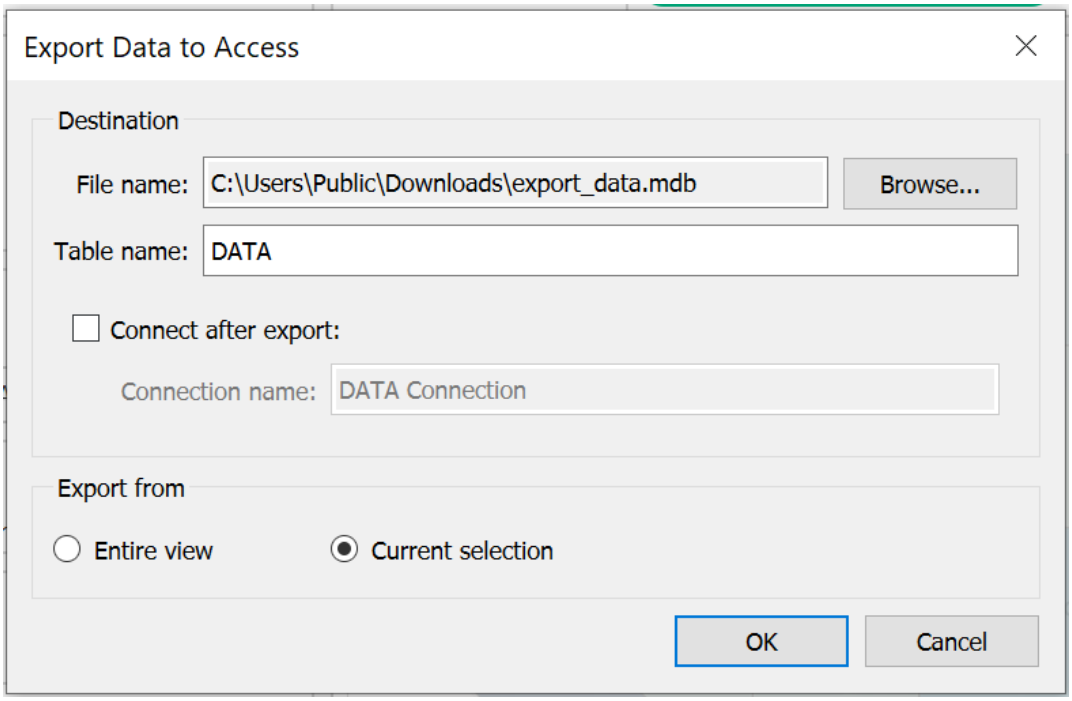


Figure 13.21: Export Data to Access dialog

In this exercise, you extracted the underlying data in different formats, but all of them are columnar data, with one field per column. In the next section, you will discover the crosstab option, which allows different field values to be exported as columns.

EXPORTING AS CROSSTAB TO EXCEL

When you have a view that includes fields in the **`Columns`** section, you are effectively creating a double-entry table or a double-entry matrix. This is what would be called a pivot table in Excel. If you want to export this particular view, rather than strictly columnar data, you will find the crosstab options to be more to your liking.

For instance, if you are still using the **`Sample – Superstore`** dataset, and you create a view including **`SUM(Sales)`** in **`Measures`**, **`State`** in **`Rows`**, and **`Category`** in **`Columns`**, you get a view as shown in *Figure 13.23*. Using the **`Worksheet`** | **`Export`** | **`Crosstab to Excel`** option, you can get a very similar view in Excel:

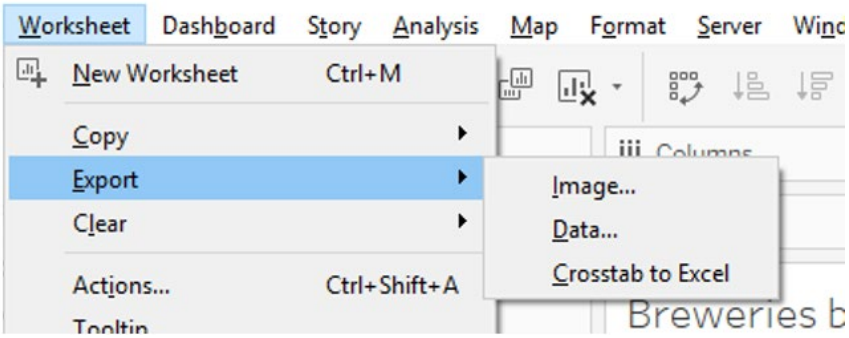
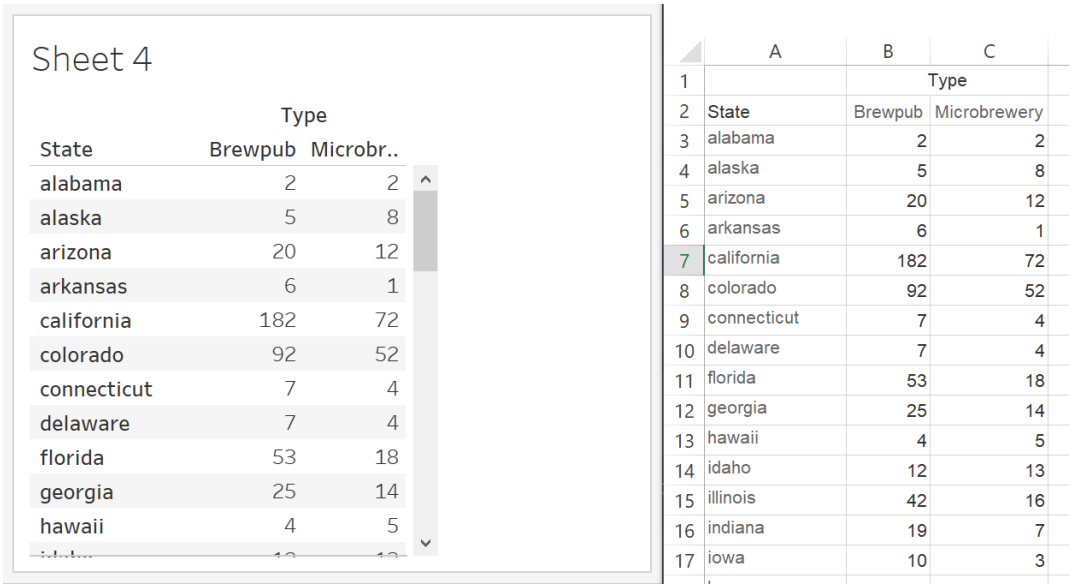


Figure 13.22: Exporting data as a crosstab to Excel

A new Excel workbook will be created and it will open straight away with the data populated. That is especially handy when trying to create specific formatting, as Tableau cannot handle certain formats (for example, having one line in bold).



Sheet 4

State	Type: Brewpub	Type: Microbr..
alabama	2	2
alaska	5	8
arizona	20	12
arkansas	6	1
california	182	72
colorado	92	52
connecticut	7	4
delaware	7	4
florida	53	18
georgia	25	14
hawaii	4	5

	A	B	C
1		Type	
2	State	Brewpub	Microbrewery
3	alabama	2	2
4	alaska	5	8
5	arizona	20	12
6	arkansas	6	1
7	california	182	72
8	colorado	92	52
9	connecticut	7	4
10	delaware	7	4
11	florida	53	18
12	georgia	25	14
13	hawaii	4	5
14	idaho	12	13
15	illinois	42	16
16	indiana	19	7
17	iowa	10	3

Figure 13.23: Side-by-side comparison of crosstabs in Tableau (left) and Excel (right)

As in the previous sections, you can get a comparable result using the **`Worksheet`** | **`Copy`** | **`Crosstab`** menu (although this option just copies the crosstab to your clipboard rather than opening a new Excel workbook).

> **NOTE**
>
> If fields are included in either the **`Details`** or **`Tooltip`** section, they will then be included in the crosstab, creating additional columns or rows in your crosstab compared to what you see in Tableau.

While exporting your dashboards to other formats is an easy way to share your work, this method may not suit your purposes if you want to keep the interactivity and look and feel that comes with Tableau when distributing your visualizations. Fortunately, the Tableau universe provides multiple solutions to this problem, as described in the following sections.

SHARING OPTIONS

Tableau offers four main platforms other than Tableau Desktop to interact with visualizations (whether sheets, dashboards, or stories) created with this program: Tableau Public, Tableau Server, Tableau Online, and Tableau Reader. You'll see how you can use Tableau Desktop to share a visualization using each of those below.

PUBLISHING TO TABLEAU PUBLIC

Tableau Public is a free platform hosted by the Tableau company to share your insights and interact with data online, without the need for a dedicated application on your computer. Sharing your data on Tableau Public will help you distribute your data visualizations online to anyone in the world, as they will be shared with everyone who can access the internet.

The first thing you need in order to publish workbooks to Tableau Public is an account. To create your profile, go to https://public.tableau.com/ and click the **SIGN UP** button at the top right of your screen. Simply enter your name, email ID, and password in the relevant fields.

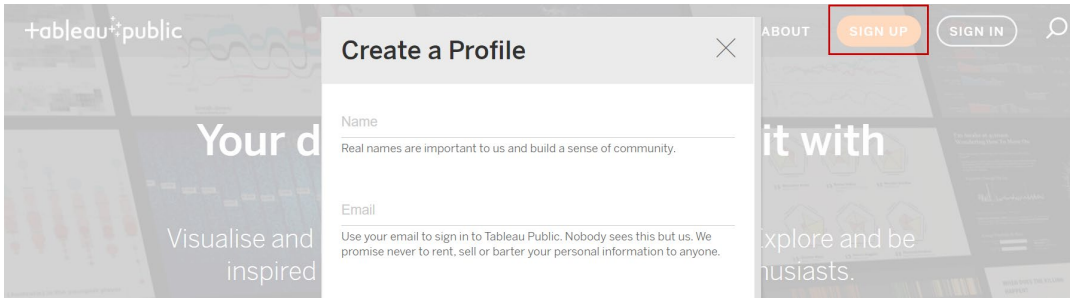


Figure 13.24: Signing up for Tableau Public

Once you have created an account, you can use the **Server** | **Tableau Public** | **Save to Tableau Public...** (*Ctrl* + *Shift* + *S* or *Command* + *Shift* + *S*) menu to start the publishing workflow. The first time you try this option, Tableau will ask you to sign in to your account.

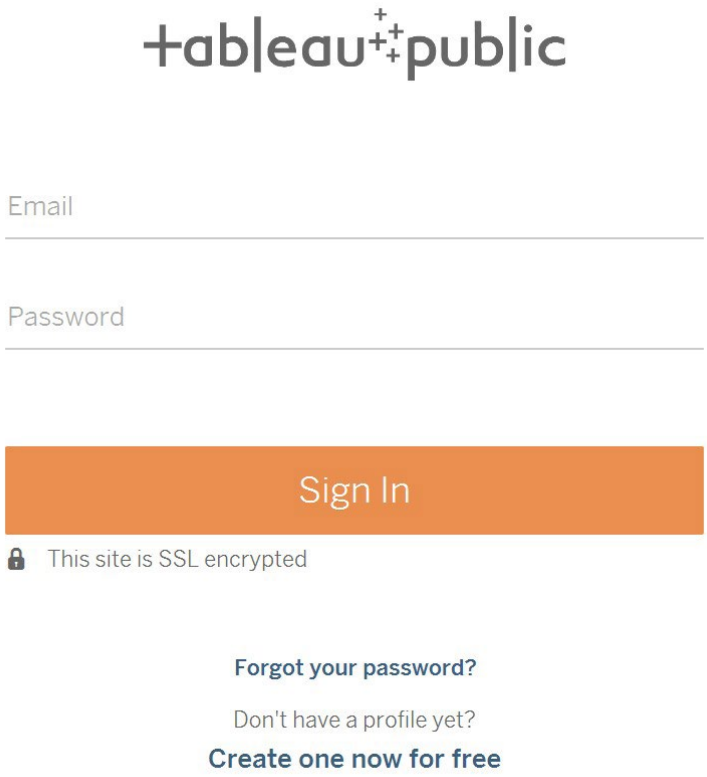


Figure 13.25: Tableau Public sign-in prompt in Tableau Desktop

> **NOTE**
>
> If you have not yet created an account at this point, you can also use the **`Create one now for free`** option.

Once logged in, Tableau will prompt you for a workbook title to save. Clicking the down arrow in the drop-down menu will show you the names of the workbooks already published under your account, which will allow you to overwrite existing dashboards.

Figure 13.26: Save Workbook to Tableau Public dialog

If you are already signed in to Tableau Public, you can also use the Share button or the **`Server`** | **`Publish workbook...`** menu.

Because this is an online version of your workbook that does not have access to your local data connections, it is important to remember that the connections that are used by your workbook will need to be extracts and not live connections. For more details on how to use extracts, please refer to *Chapter 2, Data Preparation: Using Tableau Desktop*, or check the activity at the end of this chapter.

> **NOTE**
>
> This is a final reminder that your data shared on Tableau Public is not secure, so do not share any sensitive or confidential information.

PUBLISHING TO TABLEAU SERVER/TABLEAU ONLINE

Your organization may offer an instance of Tableau Online (that is, where the hardware is maintained and the server is hosted by Tableau) or Tableau Server (that is, where it is handled by your organization directly). In most cases, these two options will be preferable to using Tableau Public, as the work you publish will only be accessible by those with access to the server. Additionally, a set of settings related to permissions allow you to target a very particular audience if needed.

To publish your dashboard online, first sign in to the server using the **`Server | Sign in...`** menu. For Tableau Online, enter https://online.tableau.com or use the Tableau Online link. For Tableau Server, enter the name of your server. A second dialog will appear, enabling you to enter your credentials.

Figure 13.27: Signing in to Tableau Online

You now need to enter your credentials and, once you're connected, click on the **`Server`** | **`Publish workbook...`** menu or the share button in the toolbar. The **`Publish Workbook to Tableau Server`** dialog will appear, with various options available.

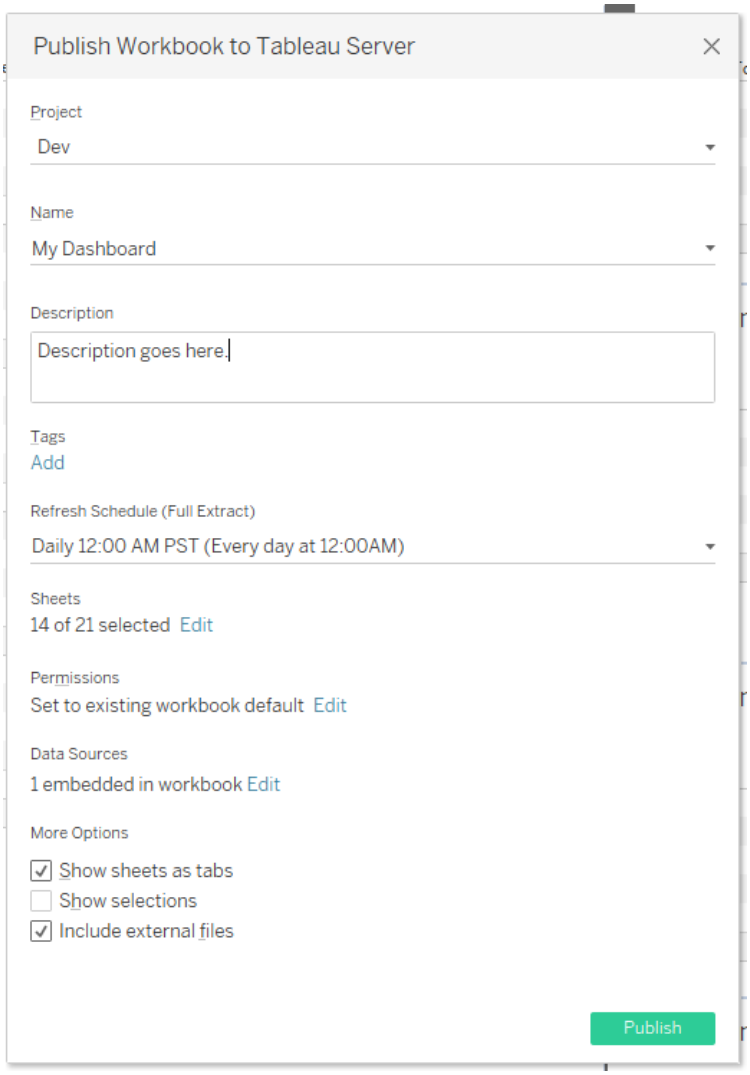


Figure 13.28: Publish Workbook to Tableau Server dialog, part 1

The following is a list of the fields you can see in this figure:

- **`Project`** will determine which *folder* your workbook will be saved under. Projects where you don't have permission to publish will be grayed out.

- The **Name** and **Description** fields will determine the name of your workbook and what description it will yield.
- **Tags** will help you locate dashboards more easily when searching online, as it will be an option to select from when filtering, allowing you to find similar workbooks.
- For extracting connections, you will be able to schedule extract refreshes according to a set of different schedules, although that is optional.

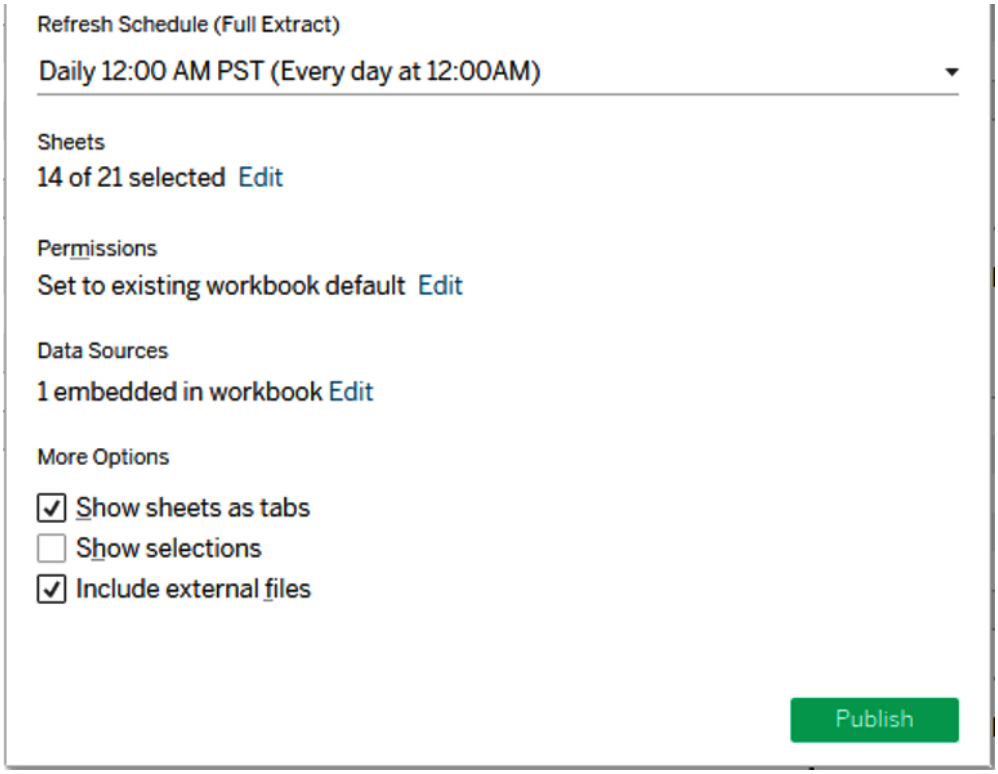


Figure 13.29: Publish Workbook to Tableau Server dialog, part 2

- You can also select to publish all sheets, all dashboards, or a selected subset of them using the **Edit** link next to **Sheets**.
- **Permissions** can be personalized, although they will usually start as inherited values from the parent folder, or the existing workbook's permissions. Using the **Edit** link, you can add, edit, or remove permissions for individual users or groups.

- You can choose to embed data source definitions in your workbook or publish the data sources separately. You can also embed credentials if required, so that the data is automatically refreshed (for example, for direct Redshift connections).
- Finally, there is a set of variable options that will be found under **`More Options`**, such as the **`Show sheets as tabs`** (otherwise, users will need to come back to the home page of the workbook to navigate to a different sheet), **`Show selections`** (if you want to draw attention to a particular subset of data), or **`Include external files`** (similar to how packaged workbooks are created, to include locally saved datasets that would not be accessible from Tableau Server) options. If your Tableau instance has access to network files, it can be a good idea to not include them, as this will keep the data fresh.

Once finished, click the **`Publish`** button. Tableau will start processing, and the resulting workbook will open in a new browser tab.

> **NOTE**
>
> Depending on the type of data connection you are using, you might only be able to use extracts in Tableau Online, as the server does not sit in your organization's network. Some sources such as Google BigQuery can be used live.

USING TABLEAU READER

If your end users like the Tableau environment but cannot use Tableau Desktop due to licensing issues and have no access to a Tableau Online or Tableau Server instance, it is also possible to use the free Tableau Reader program. Similar to using Tableau Server as an Explorer user, it allows all actions that are not considered "editing" to be performed, including toggling filters in and out, copying data and crosstabs, or exporting to a PowerPoint or PDF. However, you cannot delete, hide, or rename worksheets, nor can you create new calculated fields or change the fields that are included in the view.

You can download and install Tableau Reader from the following url: https://www.tableau.com/products/reader/download.

You'll now perform a final exercise to see some of the basic functionalities of Tableau Reader before moving on to the final activity of this chapter.

EXERCISE 13.05: OPENING A DASHBOARD IN TABLEAU READER

In this exercise, you will use the workbook created in *Exercise 13.02, Saving a Workbook as a Packaged .twbx File*, and open it in Tableau Reader to showcase some of its functions, such as filtering, exporting to a PowerPoint, and reverting to the original view.

The following are the steps to complete this exercise:

1. Download and install Tableau Reader. Open the **`Breweries by State.twbx`** file that was generated in the previous exercise by using the **`File`** | **`Open...`** menu and navigating to that file. Because you have set up no filters, there are no filters to interact with.

   However, you can use the **`Keep Only`** and **`Exclude`** functions. The **`Keep Only`** option allows us to filter the data for the selected region, while the **`Exclude`** function does the opposite. The data will not be deleted, just filtered out.

2. Select the state of Texas, and use the **`Keep Only`** option in the tooltip.

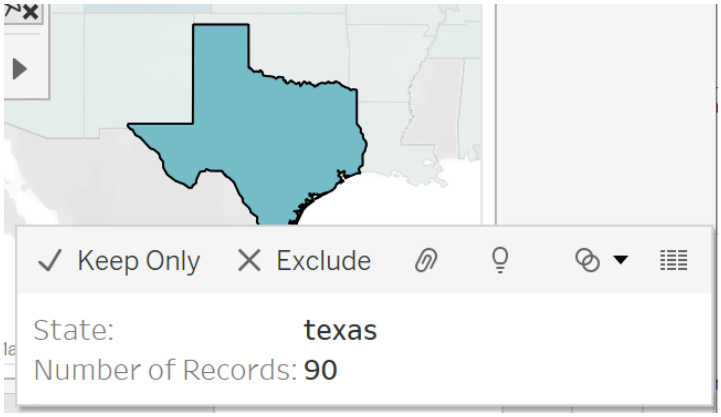


Figure 13.30: Keep Only option in Tableau Reader

3. Using **`Worksheet`** | **`Export`** | **`Crosstab to Excel`**, get the number of record metrics exported to Excel.

	A	B	C
1		Type	
2	State	Brewpub	Microbrewery
3	alabama	2	2
4	alaska	5	8
5	arizona	20	12
6	arkansas	6	1
7	california	182	72
8	colorado	92	52
9	connecticut	7	4
10	delaware	7	4
11	florida	53	18
12	georgia	25	14
13	hawaii	4	5
14	idaho	12	13

Figure 13.31: Exported view in Microsoft PowerPoint

4. Export your dashboard to PowerPoint using the **`File`** | **`Export as PowerPoint...`** menu, and select **`This View`** only. **`Save the file as Breweries by State`**.pptx on your desktop.

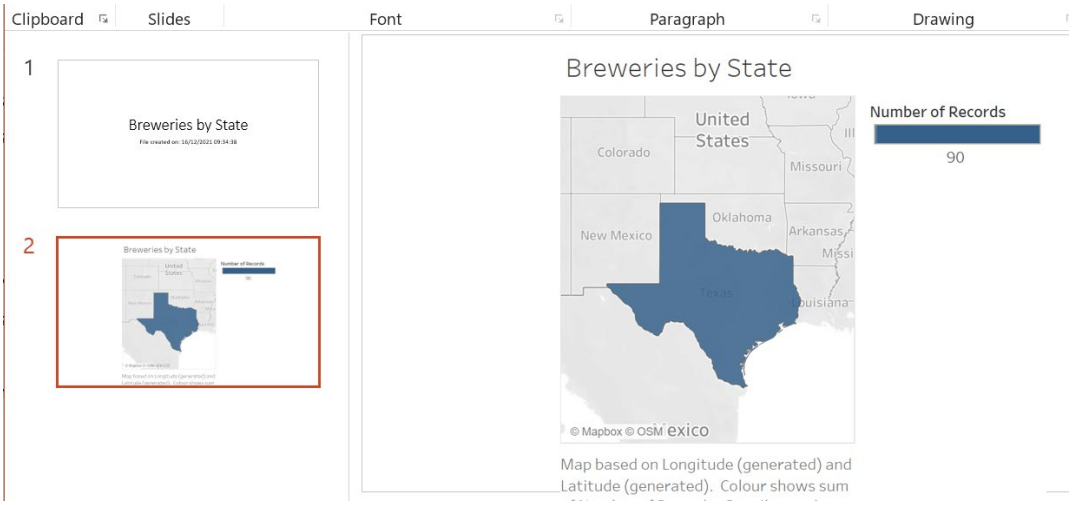


Figure 13.32: Exported view in Microsoft PowerPoint

5. Go to the **`File`** | **`Revert to Saved`** menu to revert to the original view, or use the *F12* shortcut. This will revert the only change you have made so far, which was the **`Keep Only`** action, which is not considered "editing."

This exercise concludes this section about sharing dashboards with end users in the Tableau environment. Now that you know how to export to Tableau Public, Tableau Server, and Tableau Online, or use Tableau Reader to interact, we will conclude this chapter with an activity to put all this together.

ACTIVITY 13.01: SAVING AND SHARING YOUR WORK

Suppose that you want to share (with some of your collaborators and with the world) a new visualization you have created that shows how the population evolves around the globe.

> **NOTE**
>
> The World Indicators dataset can be found at the following link: https://packt.link/DFldm.

In this activity, using the World Indicators dataset, you need to create a view showing the total population per country as of 2009. Once this is complete, save the file as a packaged workbook and publish the result to Tableau Public.

The following steps will help you to complete this activity:

1. Create a map view of the population by country in 2009, using the World Indicators data source.
2. Save the workbook on your computer as a packaged workbook.
3. Create a Tableau Public account (https://public.tableau.com/s/) if you don't already have one, or use your existing Tableau Public account.
4. Publish the dashboard created to your Tableau Public account.

> **NOTE**
>
> The solution to this activity can be found here: https://packt.link/CTCxk.

SUMMARY

In this chapter, you studied different ways to save and share your work, both for stakeholders that are familiar with Tableau and for exporting to other programs. This included not only options to save your datasets and their definitions, but also how to save entire workbooks or export parts of it to formats such as PDF or Microsoft PowerPoint. This chapter concludes the part of this book that was aimed at sharing knowledge with you. In the next chapter, you will get the opportunity to put some of the concepts you have been learning in this book to good use, and use them in a business scenario.