Student Lab BOOK - Tableau Desktop – What’s New? – 2 day class

\*This lab manual exists to smooth or correct labs in book. In addition, we have included “Added Value Labs” which are not in the book, to enhance the student experience.

**\*\*\*CHAPTER INFORMATION**

* **Chapter 2 has no hands-on labs**
* **Chapters 8 and 12 are about Tableau Server and outside the scope of this class and will be skipped (self-study)**
* **Chapter 13 is a REFERENCE chapter, but there is also a list of references used in class at the end of this document**

**SECTION 1 – An Introduction to Tableau**

**Chapter 1 – Catching up with Tableau 2019/2020**

**CHAPTER 1 Datasets**

**Flights.xlsx**

**Sample-Superstore.xlsx (use the one in the Chapter 1 directory)**

LAB “POINTS”: Pages 5-6

Follow Book: Works as written. 5-10 Min

LAB “CHANGE PARAMETER”: Pages 9-10: Please Note: This lab will be performed again in Chapter 7, but will make more sense at that time, because it will be more complete, in conjunction with other sheets on a Dashboard. For this lab, just complete as the book says, understanding a quick overview.

LAB: Added Value “CHANGE PARAMETER”: Immediately after Pages 9-10 LAB

Follow directions below – 30-45 Minutes

**\*\*\*ADDED VALUE LAB (after page 10 lab) – Using the new “Add Action/Change Parameter” option for Tableau Dashboards:**

**Part 1 - Add three views as follows: (uses the Sample-Superstore.xlsx file)**

**View 1: Use Sheet - Sales Profit Map**

1. Change the Marks shelf to “Map”
2. Double-Click the State dimension – see how the State field went into the detail card – drag that from detail into color
3. Drag the Profit measure into detail

**View 2: Use Sheet – Sales Cat Bar Chart**

1. Create a Hierarchy out of Category and Sub-Category
   1. Right-Click the Category Dimension, go to Create, Hierarchy – name it Category\_SubCat
   2. Click ok and see the new Hierarchy in the dimension area, with its first member called “Category”
   3. Drag the Sub-Category dimension underneath the Category member
2. Drag the new Hierarchy to the Rows shelf and click the plus sign to show both Category and Sub-Category
3. Drag the Profit dimension to the Columns shelf
4. Drag another copy of Profit to the Color Card in the Marks shelf

**View 3: Use Sheet – Sales Scatter**

1. Drag Sales measure to the Columns shelf
2. Drag Profit measure to the Rows shelf
3. Click on the Analysis menu and remove the check box for “Aggregate Measures”

**Part 2 – Create a new parameter:**

1. Right click the blank, white area under Measures and choose “Create Parameter”
2. Name the parameter “Choose Chart”
3. Fill out the form as follows:
   1. Data type: String
   2. Allowable Values: List. Then fill in with these items:

|  |  |
| --- | --- |
| Value: Map | Display As: Map |
| Value: Bar Chart | Display As: Bar Chart |
| Value: Scatter Plot | Display As: Scatter Plot |

1. Click Ok

**Part 3 – Create a new Dimension Calculated Field**

1. Right-Click the blank, white space underneath the dimensions area and choose “Create Calculated Field” – name it “Chart Selected”
2. Drag the new parameter you previously made called “Choose Chart” into the calculation area
3. Click OK

**Part 4 – Edit each of the three views: (do each page, one at a time)**

1. Remove any legends by hiding their cards
2. Show the parameter control called Choose Chart
3. On each sheet, from the parameter control, choose the type that sheet is:
   1. Map for Sales Profit Map
   2. Bar Chart for Sales Cat Bar Chart
   3. Scatter Plot for Sales Scatter
4. Drag the new “Chart Selected” calculated field to the Filters Shelf and click the check box in front of the chart type that pertains to that sheet (again, see steps 3a, 3b, 3c above)

**Part 5 – Add a new data source**

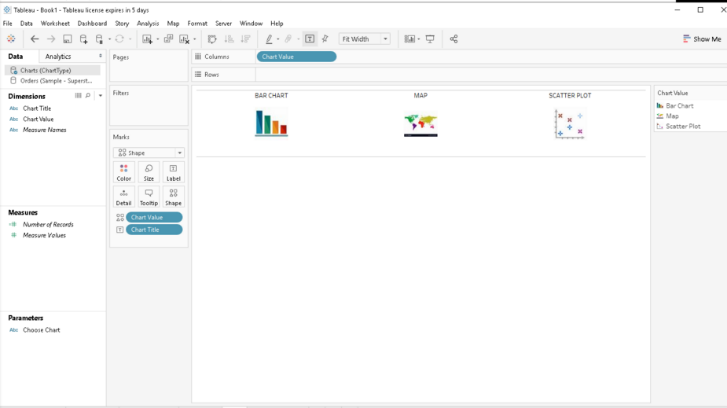
1. Go to the Chapter 1 Lab folder and find the file called “ChartType.xlsx” and double-click it. Notice its simplicity with only two columns of data, one a Chart Value column and one a Chart Type column (with capital letters). Close the file.
2. From your Tableau starter project, add the new data source to the workbook

**Part 6 – Add custom shapes to the Tableau Repository**

1. Go to the Chapter 1 Lab folder and find the folder called “Chart Icons” and double-click it. Notice the three shapes (one for each chart type you have created).
2. Copy the “Chart Icons” Folder from Chapter 1 to : Documents, My Tableau Repository, Shapes (now they will be available in all Tableau workbooks)

**Part 7 – Create a new view with the new custom icons:**

1. Go the “Charts” sheet
2. Using the new data source (Charts(ChartType)) – drag the Chart Value field to Columns shelf
3. Change the Marks shelf to type “Shape”
4. Drag another Chart Value to the Shape Card
5. Click on the Shape Card
6. In the “Edit Shape” pop up, on the right, in the “Select Shape Palette”, use the dropdown to find your “Chart Icons” folder. If it doesn’t appear, click the “Reload Shapes” button. If it still doesn’t appear, SAVE your TABLEAU workbook, close it, re-open and come back to this step.
7. Once you see the chart icons on the right side, click on each item and associate it with its chart type”
8. Click OK
9. Drag the Chart Title into the Label/Text card
10. This is going to be a view, so adjust a few things
    1. Click on the label/text card and align the capital titles you dragged on with horizontal in the middle(middle icon) and vertical on top(third icon)
    2. Remove all headers, titles, and the legend Be sure that your custom Titles are the only ones that show
    3. Set the View to “Fit Width”
    4. Your finished view should look like the picture below:



**Part 8 – Use the “Sales with Dropdown Params” sheet**

1. Double-Click the “Vertical” Object option (it’s a container)
2. Double-Click each sheet in order:
   1. Sales Profit Map
   2. Sales Cat Bar Chart
   3. Sales Scatter
3. See the parameter on the side. Choose each chart type and be sure it changes the chart
4. Right-Click each title and hide

\*\*Bravo – your first dashboard is working with parameters

**Part 8 – Create a Visual Dashboard with the new Action/Create Parameter**

1. Right-Click the “Sales With Dropdown Params” dashboard, duplicate it and name it “Sales With Icons”
2. Drag in your Charts view (inside the Vertical container but directly on top)
3. Create a new Dashboard Action:
   1. Go the Dashboard menu
   2. Click on Actions
   3. Add Action, Type: Change Parameter
   4. --Set the following values:

Name: Chart Types

Source Sheets: Charts

Target Parameter: Choose Chart

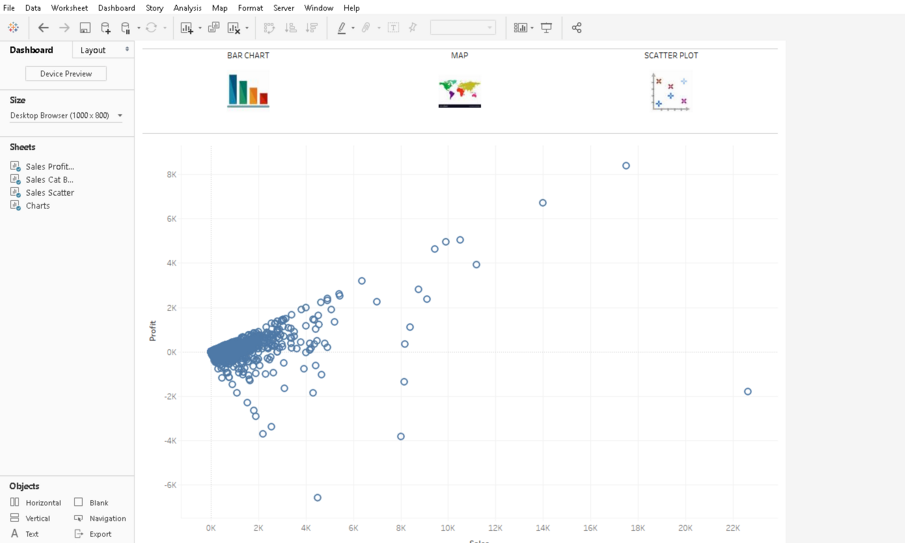
Field: Chart Value (Charts(Chart Type))

Run Action On: Hover

* 1. Hide title, and remove the dropdown parameter option

\*\*Test by hovering on each icon and watch the chart change.

Your final dashboard should look like this:



BRAVO! You now have a visual dashboard, using the new dashboard action Create Parameter

LAB “Add Show/Hide Button”: Pages 12-13

Follow the book. Works as written. – 3-5 Minutes \*Option: Go to the option button and see that you can make a text or image button. – Keep this dashboard open for the next lab

LAB ADDED VALUE “Replace Sheets”: Page 13 (3 min)

Using the “Toggle Button Start” Workbook, perform the following actions:

1. Right click the “Sales and Profit Analysis” Dashboard tab and UNHIDE all sheets
2. In the Dashboard (the visual area, not the sheets area), remove the “Profit Evolution” sheet from the view
3. Select the “Sales and Profit by Sub-Categories” Sheet in the visual view
4. On the left, where the sheets are listed, hover over the “Profit Evolution” sheet and see the “swap sheets” button. Click it and the “Sales and Profit by Sub-Categories” will be replaced by the “Profit Evolution” sheet.

LAB “Other Improvements”: Page 14 – (10 min) – Use the “ToggleButtonStart” Workbook

-Export to Power Point – Works as written

-Name Zone – Works as written

**Chapter 2 – Tableau Core**

**No hands on labs**

**Chapter 3 – Getting Started with Tableau Desktop**

**Chapter 3 Data Sources:**

**Sample-Superstore.xlsx – use the one in the Chapter 3 Files**

LAB “Visuals, Dashboard, Instant Action”: Pages 30-40 (25 min)

-Create a new Workbook – Name it “WhatsNew\_Chapter3\_Starter.twbx”

-Use the sample-superstore excel file in the Chapter 3 folder

STOP after page 40. Your instructor will talk a bit about Filters in Dashboards here

LAB: “Tableau for data exploration”: Pages 41-43 (5 min)

-Creates a Scatter Plot

**\*\*\*ADDED VALUE LAB (after page 43 lab) 5 Minutes – Adding the new Scatter plot to the existing dashboard and using it as a filter**

1. Move to your Sales and Profit Analysis Dashboard
2. Double-click the new Profitable or Unprofitable Scatter Plot sheet, so that it comes onto the dashboard.
3. Using the funnel filter, repeat the action from a previous lab, so you can see the filter work with your dashboard
4. Visit the Actions for the dashboard to see and optionally edit the Actions for the new filter (you could change to hover, for example)

**\*\*\*ADDED VALUE LAB– Sets – 45-60 Minutes**

CREATE VIEW OF CUSTOMER SALES

1. Create View:
   1. Drag State field to Text Card
   2. Drag Customer ID field to Text Card – Click the arrow pointing down and change the measure to COUNT
   3. Drag two more measures to Text Card (Sales, Profit)
2. Go to the Show Me and change the chart type to Text Table (Row 1, Column 1)
3. Change the field order in the Measure Values Card, by dragging(Sales, Profit, Count(CustomerID)
4. On the VIEW, Right-Click the Customer Field and edit the alias to read “Customer Count”
5. Name the Sheet “Sales Analysis Data by State”

DUPLICATE AND CHANGE THE SHEET TO TOP 10 SALES with a SET

1. Right-Click the “Sales Analysis Data by State” sheet and duplicate
2. Name the duplicate ““Sales Analysis Top 10 States
3. Create a Set for Top 10:
   1. Right-Click the Sales Dimension
   2. Create, Set – fill in as follows:
      1. Name: Top 10 States
      2. By Field: Top 10 by Sales Sum
      3. Click OK
4. Drag the new Set into the Filter field. See your Top 10 Customers by State

CREATE ANOTHER SET FOR STATES YOU WILL WANT TO DYNAMICALLY ADD

1. Right-Click the Sales Dimension again
2. Create, Set – fill in as follows:
   1. Name: States to Add Dynamically
   2. Be sure that “Select from list” is selected and that NO states are selected
   3. Click OK

COMBINE THE TWO SETS

1. CTRL Click both new sets
2. Right-Click one of them and choose “Create Combined Set”
3. Fill in the fields as follows:
   1. Name: Combined State Sets
   2. Be sure that States to Add Dynamically is on left, Top 10 States is on right
   3. Be sure that “All members in both sets” is selected
   4. Click OK

DUPLICATE AND CHANGE SHEET TO USE COMBINED VIEW

1. Duplicate the “Sales Analysis Top 10 Sales” Sheet
2. Name the new sheet “Sales Analysis States to View”
3. Remove the “Top 10 States” Filter and replace it with your new “Combined State Sets” Set

CREATE A NEW SHEET/VIEW

1. Create a new sheet and call it “States to Add”
2. Drag the State Dimension into the Rows Shelf
3. Change the Marks card type to “Shapes”
4. Drag the “States to Add Dynamically” Set into the Shapes card
5. Leave this alone (we will come back to it)

CREATE A NEW DYNAMIC DASHBOARD

1. Create a new Dashboard and name it “Dynamic Sales Analysis by State”
2. Double-Click the “Sales Analysis States to View” sheet to add it to the dashboard
3. Double-Click the “States to Add” sheet to add it to the right of the dashboard

ADD A NEW “SET” ACTION TO THE DASHBOARD

1. Click on the Dashboard, Actions menu
2. Click on “Add Action” and choose “Change Set Values”
3. Fill out the form as follows:
   1. Name: Add States Dynamically
   2. Change the Source to “States to Add”
   3. Be sure the Target Set Datasource lists the Orders Sampe-Superstore
   4. Click the field under the Datasource and change the entry to read “States to Add Dynamically”
   5. Under “Clearing the selection will:” – choose “Remove All Values from set”
   6. Click OK TWICE

CHANGE THE SHAPES

1. While still in the DASHBOARD, using the CTRL-Click method, choose a couple of states. It does not matter which you choose, just note that they turn into “squares”
2. While these fields are still selected, navigate to your sheet called “States to Add”
3. Click on the SHAPES Card and in the Shape Palette, use the KPI palette
4. Associate the IN value with the green check mark
5. Associate the OUT value with the red x
6. Click OK

TEST YOUR WORK

1. Go to the new “Dynamic Sales Analysis by State” Dashboard
2. In the States to Add section, click into the white area to clear any states selected
3. Notice that your States to View only include your Top 10
4. When you click any of the States to Add, the list will dynamically add the selection, no matter how many or few states you select!

Congrats! You have reached the end of this ADDED VALUE LAB!

**Chapter 3 AND Section 1 END HERE**

**SECTION 2 – Connecting, Building and Sharing**

**Chapter 4 – Connecting to Data and Simple Transformations**

**CHAPTER 4 Datasets**

**Adventure Works Azure SQL Database**

**Union-Example.xlsx**

**Data-Duplication-Example.xlsx**

**Dataset-to-clean.xlsx**

**Sample-Superstore.xlsx – Use the one in the Chapter 4 Files**

**\*\*\*\*There is no STARTER file for Chapter 4 because the Student will create it**

**ADD VALUE LAB: Page 49 – 20-30 Minutes**

1. Start a new Tableau Workbook. Save it to the Chapter4\_WhatsNew files. Call it WhatsNew\_Chapter5\_Starter.twbx
2. Within the “Connect” area, Select “More” under “To a Server”
3. Check out all the SERVER connection types. This number grows each year.
4. Choose “Microsoft SQL Server” (this is a SQL SERVER Database located in Microsoft’s Cloud, called Azure)
5. Fill out the Pop-Up form as follows:
   1. Server: onlcdb.database.windows.net
   2. Database: AdventureWorks
   3. Username: Student
   4. Password: Pa55w.rd
   5. Click “Sign In”
6. Once you are connected, you will see all the tables from SQL SERVER on the left. We are going to connect to a table, have a look at the data, then we are going to delete that table and write a custom SQL statement instead:
   1. Double-Click the table called StateProvince(Person.StateProvince) to open it – and if necessary, click the “Update Now” button.
   2. Notice the CountryRegionCode column. It contains data from various countries. We could accept all this data and then filter later in Tableau. But if we had millions of rows in a real world database, it would be better to perform a query and bring less data into Tableau in the first place. Tableau can perform better with less data.
   3. Go to the top where you see the “StateProvince” button (under the Custom SQL Query(Adventure Works) title. – Click the button, click the arrow pointing down and choose “Remove”
   4. Next, on the left (where the tables are), double-click the option for “New Custom SQL”
   5. In the “Edit Custom SQL” pop-up, type in the following query: (capital letters are used for the built in SQL statements, for Best Practice)

SELECT \* FROM Person.StateProvince WHERE CountryRegionCode LIKE ‘US’, then click on “Update Now”

You will see the data from SQL Server that contains ALL the records from the StateProvince Table. This is not what we want, but this gives us an opportunity to edit that query:

* 1. Go to the top and click the arrow pointing down next to the Custom SQL Query button and choose “Edit Custom SQL Query” – When the Pop-Up box opens, click on “Preview Results”. There are 181 rows of data. Close the preview pop-up.
  2. Back in the “Edit Custom SQL” pop-up, change the query by adding the following to the end:

WHERE CountryRegionCode LIKE ‘US’

Then click “Preview Results” again. See that now, you only have 53 rows. – Close the Preview Pop-Up and click “OK”

* 1. Click the “Update Now” box, then double-click on Sheet1. Name Sheet1 “US Only”
  2. Drag the CountryRegionCode field to the Text Card, Drag the StateProvinceCode to the Text Card
  3. Click the “Show Me” Wizard and choose the Text Table option (first column, first row)
  4. Notice that you have only the US and the states within it.

WANT MORE? Take a few moments to check out the information below:

\*\*For more help on Custom SQL statements, visit <https://www.w3schools.com> (this is also included in the reference section at the end of this book) – See the hub on the left and use the “Learn SQL” area. This reference allows “Try it Yourself” options, so you can practice

**ADD VALUE LAB: Pages 53-54 – 15 Minutes (replaces lab in book) – Various Data Cleaning Techniques**

1. Continue to use the same Tableau workbook.
2. Click on the “Data Source” tab at the bottom left of your Tableau workbook
3. Click on the “Data” top menu and choose “New Data Source”
4. Navigate to the Chapter 4 files and choose the Sample-Superstore.xlsx file
5. On the left, Double-Click the Orders table, THEN also double-click the People table. Notice the new “Edit Relationship” pop-up. Peruse the options (such as adding more fields, cardinality and referential integrity) and then click the X to close the pop-up.
6. Click on the Orders button above to see the data from the Orders Table
7. Click on the People button above to see the data from the People Table
8. Click on Sheet2 and change the name to “Orders and People”
9. Explore this data a bit:
   1. Double-click the “Region People” field from the People Table
   2. Double-click the “Region” field from the Orders Table

\*side by side they have the same data

c. Double-click the Person field from the People table

d. Double-click the Orders Count measure from the Orders table

POINT: If the data is good and has relatable fields, then the data source is simple to work with and you can use it like any other data source

LAB: Page 55 – 10 Minutes

\*\*Hints

1. Create a new datasource using the data duplication excel file in the Chapter 4 files
2. Join the Product and Sales tables
3. Create a new sheet and name it “Data Dup”
4. Use Page 55 to see which fields to drag on and to see the issue
5. Read the possible solutions at the bottom of page 55

LAB Page 56-58 (top of page) – 10 Minutes

\*\*Hints

1. Create a new datasource using the union excel file in the Chapter 4 files
2. Perform the actions on page 57, to see the two ways to Union from the datasource tab (use the undo key in between)
3. Notice the fields called “Sheet” and “Table Name” that were brought together into one table
4. Create a new sheet called “Union Data”
5. Drag the following fields to the Text Card: Table Name, Country, Value
6. Use the “Show Me” wizard to get a Text Table, so you can see the fields which are a result of the UNION

LAB Page 59 – 10 Minutes

\*\*Hints

1. Follow instructions on the page to use the Data Interpreter
2. Create a new sheet called “Data Interpreter”
3. Drag the following fields to the Text Card: Country and City, Year 2015, 2016, 2017, 2018
4. Use the Show Me wizard to get a Text Table

LAB Page 60 (top) – 10 Minutes

\*\*Hints

1. Follow instructions on the page to use the SPLIT function in the Data Source Tab
2. Create a new sheet called “Split”
3. Drag the following fields to the Text Card: Country and City, Country, City
4. Use the Show Me wizard to get a Text Table

LAB Page 61 – 10 Minutes

\*\*Hints

1. Follow instructions on the page to use the PIVOT function in the Data Source Tab
2. Create a new sheet called “Pivot”
3. Drag the following fields to the Text Card: Year, Value
4. Use the Show Me wizard to get a Text Table

**Chapter 5 – Building an Efficient Data Source**

**CHAPTER 5 Datasets**

**Sample-Superstore.xlsx – use the one in the Chapter 5 Files**

**\*\*\*\*There is no STARTER file for Chapter 5 because the Student will create it**

**ADD VALUE LAB: Page 68 – 15 Minutes (replaces lab in book) – Live Data Refresh**

1. Create a new Workbook Called WhatsNew\_Chapter5\_Starter
2. Use the Sample-Superstore.xlsx file for the data source and double-click the Orders Table
3. Create a new sheet called “Original Data” – Drag Region, Profit, Quantity and Sales to the view and change to Text Table
4. Save the workbook

MINIMIZE Tableau

1. Go to the Chapter 5 files and open the Sample-Superstore.xlsx file in Excel
2. Add a new column called “Fake Column”
3. Save and Close Excel

OPEN Tableau that you MINIMIZED before

1. Click on the “Data” top menu
2. Click on Orders Sample Super Store
3. Click on “Refresh” (or press F5)
4. See your new “Fake Column” appear in the data source tab under dimensions

**ADD VALUE LAB: Page 69 – 10 Minutes (replaces lab in book) – Live Data Replace**

MINIMIZE Tableau

1. Go to the Chapter 5 files and open the Sample-Superstore.xlsx file in Excel
2. Click on the “Region” field header name and go to the formula bar in Excel and add an “s” at the name of the Regions field, Press ENTER
3. Save and Close Excel

OPEN Tableau that you MINIMIZED before

1. Click on the “Data” top menu
2. Click on Orders Sample Super Store
3. Click on “Refresh” (or press F5)
4. See that the Region Pill is now RED, indicating an error, and there is a red exclamation point next to the Region field in the Dimension area
5. Right-Click the Region Field in the Dimension area and choose “Replace References”
6. In the pop-up box, choose the new name (Regions) and click ok
7. Everything has resolved in your Tableau Sheet

**ADDED VALUE LAB: Page 69 – 25 Minutes (adds new lab) – Extracts**

1. Create a new Sheet called “Extract Practice”
2. Click on the Data top menu and choose the Orders Sample Super Store data
3. Click on Extract Data
4. For the purposes of this lab, we will assume we want an extract of the “Central” Region – add the Regions field and click the check box for “Central”
5. When you click on “Extract”, you will then SAVE the extract to the Chapter 5 Files as a .hyper type. You should name this “Orders\_CentralRegion.hyper” (and ignore the .hyper file in the Chapter 5 files)
6. Drag the following fields onto the sheet: Regions, Sales, Discounts, Profit
7. Use the Show Me wizard to create a Text Table
8. Notice that ONLY the central region is on the table.

Want ALL the regions back?

1. Click on the Data top menu, choose the Orders Sample Superstore
2. Take the check OFF “use extract”. Now all the regions are back

**\*\*\*NOTE: BEFORE YOU START THE NEXT EXERCISE, PUT THE CHECK BACK SO ONLY THE CENTRAL EXTRACT IS BACK**

ONE MORE TIME….

MINIMIZE Tableau

1. Go to the Chapter 5 files and open the Sample-Superstore.xlsx file in Excel
2. Click on the “Category” field header name and go to the formula bar in Excel and change the field name to “Categories” at the name of the Categories field, Press ENTER
3. Save and Close Excel

OPEN Tableau that you MINIMIZED before

1. Click on the “Data” top menu
2. Click on Orders Sample Super Store
3. Click on “Refresh” (or press F5)
4. Drag the Category field onto the ROW next to Regions – notice that it is still called Category and there is no error/issue with it. Why? Because you have refreshed the DATA SOURCE, but not the extract.
5. Click on the “Data” top menu and navigate to the Extract, Refresh option. NOW, the Category field has an issue
6. Use the “Replace References” option that you used above. The data will now be okay

LABS Pages 72-80 – Hierarchies, Groups, Sets and Bins – 30-45 Minutes

Labs work as written in the book. Create new sheets for each concept and feel free to play around with styles, fields, formatting, etc.

\*\*\*IMPORTANT – The Sample-Superstore versions are different Ignore the values pictured in the book on page 74. It has no effect on the lab, but the numbers will be different

\*\*\*IMPORTANT – Page 80 has you using a field called “Number of Records”. In Tableau 2020, this field has been renamed to “Count” and will reflect the data source name and count. In this case: Orders(count)

**Chapter 6 – Design Insightful Visualizations**

**CHAPTER 6 Datasets**

**Sample-Superstore.xlsx – This is a different version of the Sample Superstore file and includes or renames fields not in other files – be SURE to use the one in the Chapter 6 Files**

**Resume.csv**

**ParksInEngland.csv**

**TIMING: 60-90 Minutes – Students should do as many charts as they**

Here is the breakdown on the included files and what the students will do with them:

Files include:

|  |
| --- |
| \_MAC\_OSX Folder – includes a solution file for the lab using the MAC OS |
| Sample-Superstore.xlsx file ( |
| Resume.csv file |
| ParksInEngland.csv |
|  |
| WhatsNew\_Chapter6\_Solution.twbx – this file is a SOLUTION file which demonstrates the completed labs for the chapter (for student reference) |
| WhatsNew\_Chapter6\_Starter.twbx – this file is a STARTER file which is the starting point for the students. |

Book Pages 83-120

\*\*If students want to create everything from scratch, they can start with a blank file, name it, connect to Sample-Superstore in Chapter 6 files, and rename all sheet tabs. OR they can use the starter file in the Chapter 6 files.

LABS – Pages 87-119 –

Not only is the book print extremely small and hard to read, the Student Lab manual contains hints and exercises that are not in the book. Plus, the Lab Manual contains Hints to help you understand what is happening. For the full experience, you can use the lab manual and then check your work with the pictures in the book.

LAB SUMMARY FOR CHAPTER

BAR: Page 87 (top)

Sales: Columns

Region: Rows

Category: Color

Marks Card: Change to Bar (even though this is default for this type of chart, you can change it to get good habits started)

LINE: Page 87 (bottom)

Order Date: Columns – Click arrow next to Order Date pill and choose the SECOND Year option. Then click the plus sign in the Hierarchy to see “Quarter”

Sales: Rows

Region: Color

AREA: Page 88 (top)

1. Duplicate Line Sheet
2. Change Marks card to Area

SQUARE Heatmap: Page 88 (bottom)

Sub-Category: Columns

Region: Rows

Profit: Color

Marks Card: Change to Square (even though this is default for this type of chart, you can change it to get good habits started)

SQUARE Treemap: Page 89 (top)

Sales: Color

Sales: Size

Category: Label

Sub-Category: Label

Marks Card: Change to Square (even though this is default for this type of chart, you can change it to get good habits started)

CIRCLE: Page 89 (bottom)

Longitude (generated): Columns

Latitude (generated): Rows

Profit: Color

Sales: Size

Country: Detail

State: Detail

City: Detail

Marks Card: Change to Circle Square (even though this is default for this type of chart, you can change it to get good habits started)

Size Card: Slide a bit bigger

\*Hint: You could have started this chart also by double-clicking the Country-Region field to create the original map. This would place the Longitude and Latitude fields in the columns and rows and the Country/Region field in detail. There is no difference in the end product if you start it this way, but it’s good to know how to do it manually

SHAPE: Page 90 (top)

Sales: Columns

Profit: Rows

Marks Card: Change to Shape

Category: Shape

Manufacturer: Detail

\*\*Hint: You can additionally drag Category to Color

TEXT: Page 90 (bottom)

Category and Region: Columns

Segment: Rows

Sales: Text

Marks Card: Text Square (even though this is default for this type of chart, you can change it to get good habits started)

WORD CLOUD: Page 91 (top)

Profit: Color

Sales: Size

State: Text

Marks Card: Change to Text (as it will be a treemap by default)

MAP: Page 91 (bottom)

State: Double-Click

Sales: Color

State: Detail

Marks Card: Map Square (even though this is default for this type of chart, you can change it to get good habits started)

\*\*Hint: Page 92 Options for Maps (including new ones) TRY THESE:

1. Go to Maps Menu, then go to Background Maps. Try each one!
2. Go to Maps Menu, then go to Map Layers.
   1. Styles: Some new ones, consistent with Background Maps
   2. Map Layers: Contain new Layers: Cities, Water Labels, Points of Interest, Neighborhoods and Building Footprints (our map does not include all of them because the chart needs to contain more fields for them to be enabled)
   3. Data Layer: Has new fields and has some deleted from previous versions of Tableau
      1. Once the data layer has been clicked, you will also be able to change the “by” to State, County, Zip Code and new to Tableau is Census Tract
      2. Using: Choose any color sequence
3. Go to Maps Menu, then go to Map Options. See the new Map Options on Pan, Zoom, Map Search, View Toolbar, Map Scale and Units

\*\*Hint: Do a search on a state. Example, in search box, type “Texas” and the map will zoom to Texas

PIE: Page 92 (bottom), Page 93 (top)

Marks Card: Pie

Category: Color

Profit: Angle

Category and Profit to Label

View: Change to Entire View

GANTT BAR: Page 93 (bottom)

New Data Source: Use the Resume.csv text file from the Chapter 6 Files. When using the new data source, be sure to click on “Text File” instead of Excel

Date Start: Columns – then change to SECOND “Day” (which is continuous). The book is wrong, it depicts MONTH

Type and Where: Rows

Type: Color

Number of Days: Size

Marks Card: Gantt Bar

\*\*Hint: Can also change view to Entire View for a nicer chart

POLYGON: Page 94 (top)

\*\*There is no step-by-step example in the book – here is a great example:

DataSource: ParksInEngland.csv

Marks Card: Polygon (see the Path card appear)

Longitude: Columns

Latitude: Rows

Park Name: Color

Point Id: Path

\*\*Hint: Optionally: You can open the data source to see the Point ID Field. This field was created with a FREE tool called the “Drawing Tool for Tableau” (<https://drawingtool.powertoolsfortableau.com>)

DENSITY: Page 94 (bottom)

Discount: Columns – change the measure to AVERAGE

Sales: Rows

Customer Name: Detail

Marks Card: Change to Density

\*\*Hint: Change to Entire View

MULTIPLE MEASURES/DUAL Axis: Page 104-105

Order Date: Columns – SECOND Quarter on pull down pill menu (continuous)

Profit and Profit Ratio: Rows

\*See two charts

1. Click on first pill in Rows (Profit) and change Marks Card Type to Bar

2. Click on second pill in Rows (Profit Ratio) and change Marks Card Type to Line

3. Click arrow again on Profit Ratio Pill and use “Dual Axis” to bring the charts together as one

MEASURE NAMES AND VALUES: Pages 106-107

Order Date: Columns – SECOND quarter on drop down menu (continuous)

Sales: Rows

1. Drag and Drop PROFIT measure on top of the Sales Axis
2. Notice that Tableau has moved your fields about, accordingly

FILTER HIERARCHY: Pages 112-113

Sales: Columns

City: Rows

City: Filters Shelf – Select “Top” tab, select Top 5 by Sales

State: Right-Click on State Dimension and choose “Show Filter”

Quick Filter: Take check off ALL States and choose only California: The result is not what we want because it only returns two cities, even though we have filtered for Top 5.

Filter Shelf: Right-Click the State Filter and choose “Add to Context” – the pill turns gray and moves above the City filter. Now you have the Top 5 Cities by State – VIZ-QL is the SQL language running behind the scenes and SQL must go in specific order to be correct. For more detail, read the top of page 114.

PAGES – Pages 114-115 (there is no sample in the book. Follow below)

Sales: Columns

Profit: Rows

Category: Detail

Sub-Category: Detail

Year (Order Date): Pages Card

Pages Tool (right-side of screen): Click the Play button

\*\*Optional: Click “Show History” button and click arrow pointing down to see more options. For example, change “Selected Marks” to ALL, and Show Marks, Trails or Both, Use the Fade option.

FINAL OPTIONS: Pages 116-119

Students can have a look at, and play with these options:

* Pills
* Worksheet Menu
* View Options
* Formatting

**Chapter 7 – Powerful Dashboards, Stories and Actions**

**CHAPTER 7 Datasets**

**Sample-Supertstore.xlsx – use the one in the Chapter 7 files**

**There are STARTER and SOLUTION FILES FOR THIS CHAPTER –**

**TIMING: 60-90 Minutes**

**Everyone should start with the STARTER file. All the worksheets needed for their Dashboards and Story are already created:**

* **Profit by State – ter**
* **Profit by State**
* **Sales and Profit by Sub-Category**
* **Profit by Sub-Category**
* **Profit Evolution by Category**
* **Next**
* **Back**
* **Sales Comparison**
* **Drill Down**

**STUDENTS: Please use the STUDENT LAB MANUAL for this chapter**

LAB Dashboard – Sales and Profit Analysis –Filter – Create a new dashboard

1. Double-Click Profit by State
2. Double-Click Sales and Profit by Sub-Category
3. Click on the Dashboard Top Menu
4. Choose Actions
5. Add Filter (action) – Fill out the form as follows:
   1. Name Filter By State
   2. Source: Profit by State – ter
   3. Target: Profit by State – ter AND Sales and Profit by Sub-Category
   4. Run Action On: Select
   5. Clearing the Selection will: Show All Values
   6. Click OK Twice
6. TEST: by clicking on any State. Click on the white area to see ALL States

LAB Dashboard – Profit Analysis – Highlight - Create a new dashboard

1. Double-Click Profit by Sub-Category
2. Double-Click Profit Evolution by Category
3. Click on the Dashboard Top Menu
4. Choose Actions
5. Add Highlight (action) – Fill out the form as follows:
   1. Name Highlight Categories
   2. Source: Profit by Sub-Category AND Profit Evolution by Category
   3. Target: Profit by Sub-Category AND Profit Evolution by Category
   4. Run Action On: Hover
   5. Target Highlighting: Selected Fields - Category
   6. Click OK Twice
6. TEST: by hovering on either sheet and watch the other sheet change

LAB Dashboard – Open Wikipedia – URL – EXCELLENT LAB!!! - Create a new dashboard

1. Double-Click Profit by State
2. Double-Click a “Web Page Object” – URL: <https://en.wikipedia.org/wiki/>
3. Click on the Dashboard Top Menu
4. Choose Actions
5. Add Go to URL (action) – Fill out the form as follows:
   1. Open State Wikipedia Page
   2. Source: Profit by State
   3. Run action on: Menu
   4. URL: <https://en.wikipedia.org/wiki/><State>
   5. Click OK Twice
6. TEST: Click on a State and then Click on the MENU called: Open State Wikipedia Page (each page will change the Wikipedia article to that State)

LAB Dashboard – Go To Sheet - Create a new dashboard

For this lab, take a look at the sheets involved before you start:

Investigate:

1. Click on the Next Sheet. This is nothing more than a big Text Field which has the text Centered
2. Click on the Back Sheet. This is nothing more than a big Text Field with the text turned to white. The background has also been formatted with dark gray on the Format Menu (Shading Menu, Worksheet)

Create the Dashboard

1. Double-Click the Next sheet
2. Drag the Back sheet, so you can place it on the bottom.
3. The final Dashboard has only two sheets, one on top, one on bottom

Create Actions (two Actions for this Dashboard)

Action 1: Go to the Dashboard top menu, Click Actions, Click Add Action

1. Add Go to Sheet (action) – Fill out the form as follows:
   1. Name: GoToSheet1
   2. Source: Next
   3. Target Sheet: Sales comparison
   4. Run action on: Select

Action 2:

1. Add Go to Sheet (action) – Fill out the form as follows:
   1. Name: GoToSheet2
   2. Source: Back
   3. Target Sheet: Open Wikipedia – URL (it’s a Dashboard: note the icon)
   4. Run action on: Select
2. TEST: Click on Next and you will be taken to the Sales comparison sheet, then go back to the “Go to Sheet” Dashboard and click on Back and you will be taken to the Open Wikipedia- URL sheet.

LAB Dashboard – Sales Comparison – Create Parameter - Create a new dashboard

Before You Start: In Chapter 1, you did a similar lab, but it was not complete. This chapter will re-visit that lab, but will show the complete concept.

Investigate:

Click on the Sales comparison sheet. – This is the exact one you created in Chapter 1. Notice that when you hover on each state, the values up on top, in the title, do not change (nothing happens). This lab will complete those actions.

Notice there are two parameters for this sheet. Right-click, then edit each one at a time, to investigate their values:

* Sales Parameter uses all the values of the Sales Measure
* State Parameter uses all the values of the State Measure

Create the Dashboard

1. Double-Click the Sales Comparison – Change Parameter sheet

Create Actions (two Actions for this Dashboard)

Action 1: Go to the Dashboard top menu, Click Actions, Click Add Action

1. Add Go to Sheet (action) – Fill out the form as follows:
   1. Name: Change Sales Value
   2. Source: Sales comparison
   3. Target Parameter: #Sales Parameter
   4. Run action on: (Your choice: Select or Hover) – you can go back and change later if desired
   5. Field: Sum(Sales(Sample-Superstore)
   6. Aggregation: None

Action 2:

1. Add Go to Sheet (action) – Fill out the form as follows:
   1. Name: Change State
   2. Source: Sales comparison
   3. Target Parameter: Abc State Parameter
   4. Run action on: (Your choice: Select or Hover) – you can go back and change later if desired
   5. Field: State(Sample-Superstore)
   6. Aggregation: None
2. TEST: Click or Hover (depending on your choice above), and notice that as you go from State to State, the Title will change to include the current State and Sales Total

LAB Dashboard – Drill Down - Create a new dashboard

Investigate:

Click on the Drilldown sheet. The sheet is a treemap with various categories of products. When you click on each category, nothing happens. This lab is designed to create a drilldown affect with Actions.

Notice: there are two parameters for this sheet. Right-click, then edit each one at a time, to investigate their values:

* Sales Parameter uses all the values of the Sales Measure
* State Parameter uses all the values of the State Measure

Notice: there is a “set” called “Category Set” – Right-click and edit this Set to see that only Furniture is selected

Notice: there is a calculation called “Drill to Sub-Category”. Right-click to edit and look at the “if then else” statement which includes that if someone uses the Category Set, then the Sub-Category field will show. Close the calculation

Notice: The view has both the Category Field and the Drill to Sub-Category calculation value in the Label card

Create the Dashboard

Double-Click the Sales Comparison – Change Parameter sheet

Create Action

Action: Go to the Dashboard top menu, Click Actions, Click Add Action

1. Add Change Set Values (action) – Fill out the form as follows:
2. Name: Drill to Sub-Categories
3. Source: Drill Down
4. Run action on: Select
5. Target Set:
   1. Data Source: Sample-Superstore
   2. Set: Category Set
6. Running the action will: Assign values to set
7. Clearing the selection will: Remove all values from set
8. TEST: Click each category one at a time and notice the drill-down of that category

**STORIES – If you did not complete all the Dashboards in this lab, use the Solution for this chapter to build your story**

LAB – BUILDING A STORY – Pages 140-141

This lab works exactly as written. Follow the directions to complete this lab. On page 142, when you are looking at the options (the bullets), Also feel free to click on “Format Story” and change anything you desire (such as the Navigation buttons – color, font)

**Chapter 8 – Publishing and Interacting in Tableau Server - SKIP**

**Students can go to** [**www.onlc.com**](http://www.onlc.com) **and look for a separate Tableau Server class:**

**Tableau Server Administration:**

<https://www.onlc.com/outline.asp?ccode=XTBS10>

**SECTION 3: Advanced Features**

**Chapter 9 – An Introduction to Calculations**

**CHAPTER 9 Datasets**

**Superstore-with-Target.xlsx**

**There are STARTER and SOLUTION FILES FOR THIS CHAPTER – STUDENTS CAN EITHER CREATE A NEW TABLEAU WORKBOOK OR USE THE STARTER**

**TIMING: 30-45 Minutes**

**STUDENTS NEED TO USE THE STUDENT LAB MANUAL FOR THIS CHAPTER BECAUSE THE DIRECTIONS ARE NOT CLEAR IN THE BOOK**

Students: You can create a calculation in Tableau in several ways. Through this chapter, try them all (your choice)

* Go to the Analysis menu and choose “Create Calculated Field”
* Right-Click an empty/white area of the Measures section and choose “Create Calculated Field”
* Next to the tiny grid view in the Data pane, click the arrow pointing down and choose “Create Calculated Field”

This covers pages 173-186

**LAB – Simple Aggregate Calculation**

Create a calculation:

Name: Sales Minus Profit

Calculation: SUM([Sales]) – SUM([Profit])

Create a view/sheet:

Name: Simple Aggregate

Segment: Columns

Sales Minus Profit (new calculation): Rows

Segment: Color

**LAB – Sales Highlight**

Create a calculation:

Name: Sales Highlight

Calculation:

IF

SUM([Sales]) > 300000 THEN “Great”

ELSEIF SUM([Sales]) < 50000 THEN “Bad”

ELSE “Average”

END

Create a view/sheet:

Name: Sales Highlight

Sales: Columns

Sub-Category: Rows

Sales Highlight: Color

**LAB – Sales by Quarter (using a Quick Calculation)**

You will create a view, inspect it, then duplicate the sheet/view and add a quick calculation

Create a view/sheet:

Name: Sales by Quarter

Order Date: Columns – then click on plus sign next to year to see quarter

Sales: Rows

NOTICE: That you can see separate panes for each quarter, but it is hard to see the “side by side” of sales

Duplicate the Sales by Quarter view/sheet

Name: Quick Calc – Running Total

Change: Quarter (Order Date) to Continuous

Remove: Year from Columns

Add a Quick Calculation: Click the Sales pill’s arrow and choose “Quick Table Calculation”, choose “Running Total”

Drag a NEW Order Date field into COLOR card

\*\*Now you can see the totals across the year and still have the quarter axis on the bottom

**LAB – Highest Value**

Create a calculation:

Name: Highest Value

Calculation:

SUM([Sales]) = WINDOW\_MAX(SUM([Sales]))

Create a view/sheet:

Name: Highest Value

Category and Sales: Columns

Region: Rows

Highest Value: Color

\*\*The Table calculation by default is computed on Table(Down) – which in this case is REGION – to see a different compute (for example category), try this:

1. Click the Highest Value pill that you dragged to the color card and click the arrow pointing down.
2. Choose “Compute Using” and pick Table(Across) – watch the chart change.
3. Continue to see a few more if desired

**LAB – 3 Measures by Sub-Category Using FIXED**

Create two calculations:

**Calculation 1**

Name: FIXED Sum of Sales

Calculation:

SUM( { FIXED [Sub-Category] : SUM ([Sales]) } )

**Calculation 2**

Name: Ratio of Sales

Calculation:

SUM([Sales]) / SUM(

{ FIXED [Sub-Category] : SUM([Sales]) } )

Create a view/sheet:

Name: 3 Measured by Sub-Category

Drag 3 fields to Columns shelf: Sales, Fixed Sum of Sales, Ratio of Sales

Sub-Category: Rows

State: to Filter Shelf and Filter for California

\*\*Please read the explanation on Page 184 (bottom) and page 185 (top) to get detailed clarity on this view and it’s calculations

IGNORE Pages 185 and 186. This FIXED calculation does not work with the data they provide.

**Chapter 10 – Analytics and Parameters**

**CHAPTER 10 Datasets**

**Sample-Superstore.xlsx (use the one in Chapter 10 files)**

**TIMING: 45-60 Minutes**

Students can use the book, as the pictures are pretty clear, so if they are familiar with Analytics, they can just look at the pictures and read the text to re-create. But for detailed instructions, new features, hints and extras, they should use the Student Lab Manual.

This covers Pages 187-204

LAB – CONSTANT LINE

Go to “Constant Line” sheet

Click on the Analytics Tab (next to the Data tab with all the Dimensions and Measures)

Drag a Constant Line onto the page. Type in 450,000 so that it matches the picture at the top of page 189

**\*\*Extras**

**New Feature: Insights**

* Right-Click the Constant Line that rests on the blue data bars
* Choose “Explain Data”
* This box called “Insights” gives a detailed view of what is happening with the data and the constant line! So cool!

**Oldie but Goodie:**

* Go to a white area of the constant line and right click.
* See the choices to Edit, Format or Remove
* Click on Format – see the options to format numbers, and colors, etc.
* Repeat above actions but click Edit this time.
  + Move the box out of the way and while you have it open, click on items to see changes immediately on the sheet. This is an “apply” option, so you can see your changes.
  + Click Close button so you don’t save any changes
  + Close the Format menu

LAB – AVERAGE LINE

* Go to “Average Line” sheet
* Click on the Analytics Tab (next to the Data tab with all the Dimensions and Measures)
* Drag an Average Line onto the Table
* Click Undo
* Drag an Average Line onto the Pane
* Click Undo
* Drag an Average Line onto the Cell

**\*\*Extras – What a right-mouse click will get you**

* Check out the insights
* Check out the edit menu

LAB – MEDIAN WITH QUARTILES (MWQ)

* Go to “Median with Quartiles” (MWQ) sheet
* Click on the Analytics Tab (next to the Data tab with all the Dimensions and Measures)
* Drag a MWQ onto the Table
* Click Undo
* Drag a MWQ onto the Pane
* Click Undo
* Drag a MWQ onto the Cell

**\*\*Extras – What a right-mouse click will get you**

* Check out the insights
* Check out the edit menu

LAB – BOX PLOT – not in book

Order Date: Columns – keep it discrete (blue), but change it to Month

Sales: Rows

Sub-Category: Detail

SHOW ME: Click on “Box and Whisker” plot

Go to Analytics and drag a Linear Trend Line onto the chart

**\*\*Extras – What a right-mouse click will get you**

* Check out the insights (these are particularly useful for this type of chart)
* Check out the edit menu

LAB – TOTALS

Go to Totals Sheet

Go to Analytics and drag “Totals” onto the sheet (first sub-totals, then grand totals) – depending on your chart, the Row or Column totals will be available

**\*\*Extras – What a right-mouse click will get you**

* Check out the insights (these are particularly useful for this type of chart)
* Check out the edit menu

LAB – Average or Median with 95% ci (confidence interval)

* Go to “Average with 95% ci” sheet
* Click on the Analytics Tab (next to the Data tab with all the Dimensions and Measures)
* Drag one of each (Average and Median) onto the Table. Practice undoing and dragging onto Pane and Cell

**\*\*Extras – What a right-mouse click will get you**

* Check out the insights
* Check out the edit menu

LAB – Trend Lines and Models

\*\*You can use the Analytics tab or Right-Click directly on the view to get Trend Lines – Try Both!

\*\*There are several different types of Trend Lines, and you can practice by dragging, then undoing and trying them all out.

**\*\*Extras:**

* Right-Click the Trend Lines and Choose Describe Trend Line – Tableau uses a basic, analytical Trend Line and you can see the formula for it
* Right-Click the Trend Lines and Choose Describe Trend Model – Tableau uses a basic analytical Trend Model to observe and come to conclusions about the data.

LAB – Forecast

* Go to the Forecast Sheet
* Drag a Forecast object onto the Sheet

**New Feature:**

* Right-Mouse click the data line and hover over Forecast. See these options:
  + Show Forecast (or not) (not new)
  + **NEW: Forecast Options – you can change the options to customize the Forecast wizard**
  + Describe Forecast(not new): Check out the Summary and Model tabs to describe the Forecast

LAB – Cluster

* Go to the Cluster Sheet
* Drag a Cluster onto the view (from the Analytics Tab)
* Be sure to click the “Show Me” wizard out of the way
* Notice that the Cluster separates by color Profit and Sales
* Click the X to close the Variables box
* Right-Click the Cluster pill which went into the Color Card. Choose “Describe Cluster”
* Click both the Summary and Models tab to get insight into the Clustering algorithm. Tableau uses “K-Means” Clustering.

**New Feature:**

* Right-Mouse click the data line and hover over Forecast. See these options:
  + Show Forecast (or not) (not new)
  + **NEW: Forecast Options – you can change the options to customize the Forecast wizard**
  + Describe Forecast(not new): Check out the Summary and Model tabs to describe the Forecast

LAB – Year on Year Compare – Contains Parameter, 2 Calculations and Reference Line

**Create a Parameter as follows:**

* Right-Click the white/blank area under Parameters and choose “Create Parameter”
* Name: Select a Year
* Data Type: Integer
* Allowable Values: List

(Numbers will have commas on the Value side (2,015) – don’t worry as the display value will be correct)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| |  | | --- | | Value Display As | | 2,015 2015 | | 2,016 2016 | | 2,017 2017 | | 2,018 2018 | |

* Click OK
* Right-Click to Display the Parameter Control

**Create 3 Calculated Fields as Follows:**

Calculation 1

Name: Profit – Selected Year

Calculation:

IF YEAR([Order Date]) = [Select a Year]

THEN

[Profit]

END

Calculation 2

Name: Profit – Last Year

Calculation:

IF YEAR([Order Date]) = [Select a Year] -1

THEN

[Profit]

END

Calculation 3

Name: Is Selected Year Better?

Calculation:

SUM([Profit – Selected Year]) >= SUM([Profit – Last Year])

Build the View:

Profit – Selected Year: Columns

Region: Rows (descending order sort)

Is Selected Year Better?: Color Card

Profit – Last Year: Detail Card

Add a Reference Line:

Go to Analytics Pane

Under Custom Reference Line, Drag a Reference Line to Cell

TEST: Change the Years on your Select a Year Parameter and watch the values change. Also, Notice via Color if the Selected Year was better or worse.

**Chapter 11 – Advanced Data Connections**

**CHAPTER 11 Datasets**

**Sample-Superstore.xls (use the one in Chapter 11 files)**

**Reimbursement.xlsx (also in Chapter 11 files)**

**Target.xlsx(also in Chapter 11 files)**

**TIMING: 45-60 Minutes**

This covers Pages 206-214

LAB – Cross-Database Joins

Outcome: To demonstrate the concept of pulling in data from two different data sources, for the purpose of matching

Create a New Tableau Workbook with the Excel Sample Super Store file in the Chapter 11 Files

1. Name: Chapter 11\_Data
2. When choosing the first Data Set, choose the Sample-Superstore.xls file, then double-click the ORDERS table

Add a New Data Source

**NEW FEATURE HERE:**

1. **Look on Page 207 of your book to see the new “Add” Connection picture, so you will know where to find the Add Link**
2. **Click on the “Add” Link and additionally add the Reimbursement.xlsx file from the Chapter 11 files**
3. **Close the Edit Relationship box when it opens**

Create the View:

1. Go to Sheet1 and rename it to: Using Cross Data
2. Drag the following fields to the ROWS shelf:
3. Order ID: From the Orders Sample Superstore
4. Order ID (Reimbursement): From the Reimbursement Data Source
5. Reason: From the Reimbursement Data Source
6. Reimbursed: From the Reimbursement Data Source

\*\*Notice when you are on a worksheet – your data source now says Orders (Multiple Connections) instead of showing two different connections. They are JOINED

LAB – Data Blend

**Get Two Data Sources:**

Data Source 1

Click on the Data top menu and Add a new data source :Sample-Supertstore.xls

Double-Click the Orders Table

Data Source 2

Click on the Data top menu and Add a new data source :Sample-Supertstore.xls

The only table in this data source is Target and will be chosen for you

Create a View with Blended Data

1. Go to a new sheet and name it: Using Blends
2. Order Date: Columns
3. Sales: Rows
4. Mark Card Type: Bar
5. #Target: to detail shelf – SEE THE WARNING – you must choose a matching field in order to blend this data:
   1. Click on Data menu and “Edit Relationships”
   2. Choose Sample-Superstore as the Primary Data Source
   3. Choose Target as the Second Data Source and then choose “Custom” on the right – check your book on page 210 for correctness
   4. On Left Choose YEAR(Order Date) from the Primary Data Source Field and on the Right, Choose Year from the Secondary data source – check your book on page 211 for correctness
6. Now your chart has blended data from two different sources that are NOT joined.
7. From the Analytics Tab, Add a Reference Line with a Custom Label called “Target” – See your book on page 211 (bottom) for correctness

LAB – Wildcard Union

Create a View with Wildcard Union Data

1. Go to a new sheet and name it: Using Wildcard Union
2. Go to Data top menu
3. Choose New Data Source, Microsoft Excel
4. Navigate to the Chapter 11 Files, and THEN to the SALES Folder, Choose Sales 2015.xlsx, you will have one sheet called “Sheet 1” on the data source area
5. Drag a “New Union” onto the data source area – Look at page 212 for a good picture of this
6. In the Pop up for the Union, fill in the form as follows:
   1. Under sheets Include: Leave Blank (if there is anything in this field, delete it)
   2. Under Workbooks Include: Leave Blank (if there is anything in this field, delete it)
   3. Click OK
   4. In the Edit Relationship Pop Up, Click Customer ID on left and Customer ID Union) on the right – wait a few seconds. When the data has loaded, click the X to close the edit relationships box
7. Go back to the Using Wildcard Union sheet and see the new “Union” data source set
   1. Drag Order Date (union) into the rows
   2. Notice that you have all four years! The Union worked, even though this data was in four separate files.
   3. Drag the Sales (union) measure to the Columns
   4. Drag the Profit (union) measure to the LABEL card

\*\*NOTE: The table resembles the one on page 213 but will not be an exact match for numbers. Do not worry as the data is different.

**Chapter 12 – Dealing with Security - SKIP**

**Students can go to** [**www.onlc.com**](http://www.onlc.com) **and look for a separate Tableau Server class:**

**Tableau Server Administration:**

<https://www.onlc.com/outline.asp?ccode=XTBS10>

**Chapter 13 – How to Keep Growing Your Skills**

**There are no labs in this chapter, but instead there are references for you to continue your Tableau Growth!**

**Hope you enjoyed class!**

**REFERENCES FOR STUDENTS:**

For Class Materials:

1. Github.com/ONLC-classmaterials :
2. Find the Repository called: Tableau Desktop – Whats-New
3. Click the green “Clone or Download” button and save the .zip file

Book Author: Tristen Guillevin Tableau Public Website

<https://public.tableau.com/profile/guillevin#!/>

Want to keep up with Tableau’s Ongoing New Features?

<https://www.tableau.com/products/new-features>

Help for Custom SQL statements: Click on “Learn SQL” from the HUB menu on the left, once you have arrived”

<https://www.w3schools.com>

Drawing Tools for Tableau to create custom polygon files:

<https://drawingtool.powertoolsfortableau.com>