UNIVERSITY OF
ARKANSAS
SAM M. WALTON
COLLEGE OF BUSINESS

TUTORIAL

Get Started with Tableau Desktop

Learn how to connect to data, create data visualizations, present your findings, and share your insights with others.

http://onlinehelp.tableau.com/current/guides/get-started-tutorial/en-us/get-started-tutorial-home.html

This tutorial walks you through features and functions of Tableau Desktop. As you work through this tutorial, you will create three views in a Tableau workbook. The steps you'll take is based on a Dillards data set extracted from the University of Arkansas Enterprise System group in the Information Systems Department. The workbook is based on an investigation of the top revenue generation based on: 1) Zip codes – top 10, 2) States – geographic view and 3) Geographic view by state and zip code.

NOTE: Use of this tutorial requires access to Tableau of which a free copy can be obtained from www.tableau.com. Obtaining the data for this tutorial requires an extracted Dillards 2016 file from the Enterprise Systems at the University of Arkansas (https://walton.uark.edu/enterprise/). The data is extracted using the file "Dillards 2016 Data Extraction-TUNtoExcel-KPIs.pdf" (available on the Enterprise Systems website and the Teradata University Network website) and should not be downloaded to your personal drives. The file should remain on the Remote Desktop S: drive provided by the University of Arkansas. This is due to our agreement with the data providers. Questions can be directed to Ron Freeze at rfreeze@walton.uark.edu.

ESTIMATED COMPLETION TIME: 20-40 minutes

Here's the story...

Suppose you are an employee for a large retail chain. You have just been hired as an area sales manager and are interested in understanding the sales for your area as well as other areas of the company. You are interested in visualization of the Sales value of the Top 10 Zip Codes, a visualization of the sales by states and a visualization of Sales by Zip code in the states for which you are responsible.

You'll use Tableau Desktop to build: 1) a column chart of the top 10 Zip Codes, 2) a geographic view by state and 3) a geographic view by Zip Code of your area (Arkansas, Kansas, Missouri and Oklahoma).

Connect to your data

The file you will need is from the extraction file mentioned above and should have been named DillardsTUN-Export-KPIs.txt.

Open Tableau Desktop and begin

The first thing you see after you open Tableau Desktop is the **start PAGE**. Here, you select the connection that you want to use - how you will connect to your data.
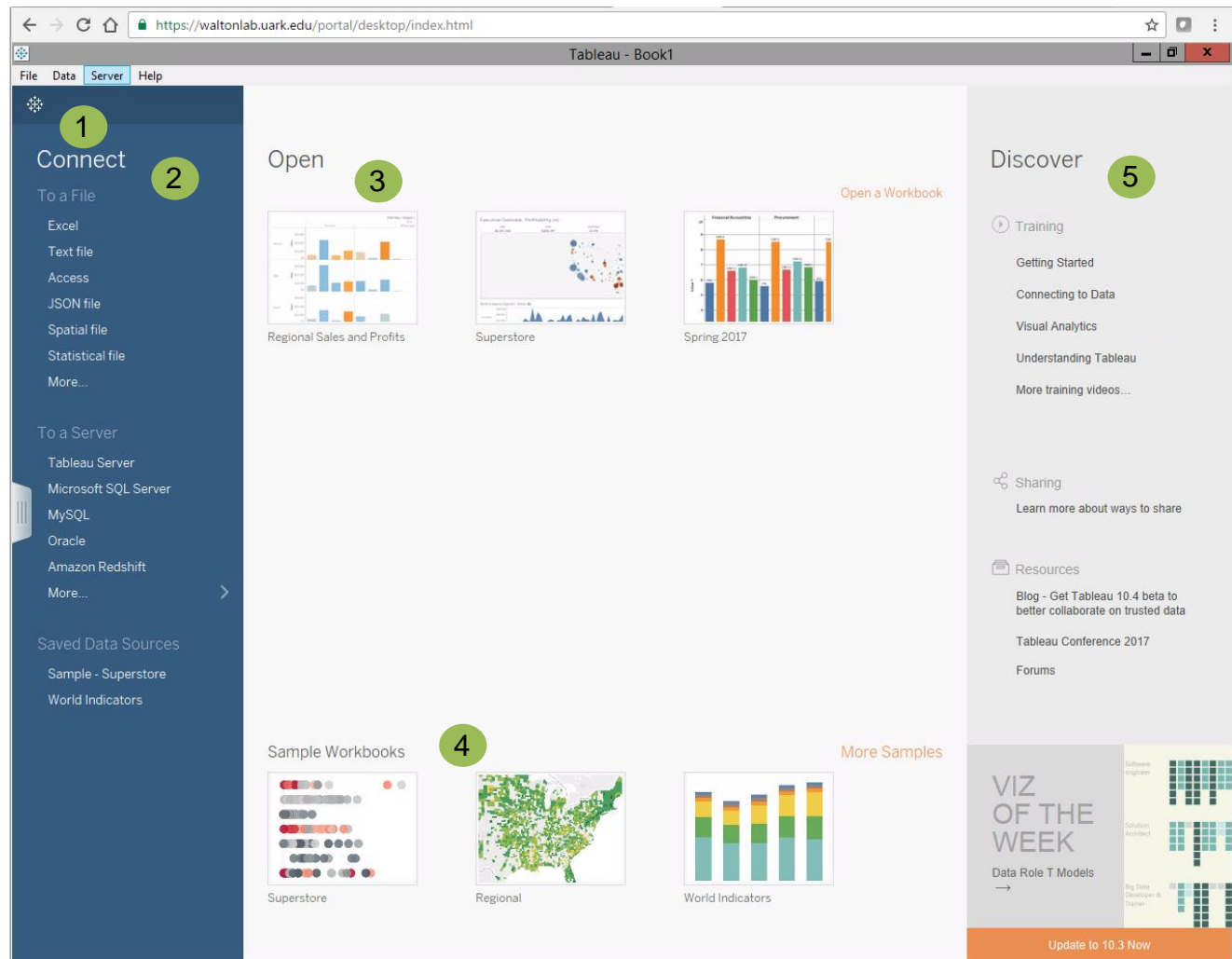
The start page gives you several options to choose from:

1. Click the Tableau icon in the upper left-hand corner of any page to visit the start page at any time.

2. Under **Connect**, you can:

   o Connect to data that is stored in a file, such as Microsoft Excel or Access.

   o Connect to data that is stored on a server, such as Tableau Server, Microsoft SQL Server, or Google Analytics.

   o Connect to a data source that you've connected to before.

   *Tableau supports the ability to connect to a wide variety of data stored in a wide variety of places. The **Connect** pane lists the most common places that you might want to connect to, or click the **More…** link to see more options. **More on connecting to data sources** in the Learning Library (in the top menu).*

3. Under **Open**, you can open workbooks that you have already created.

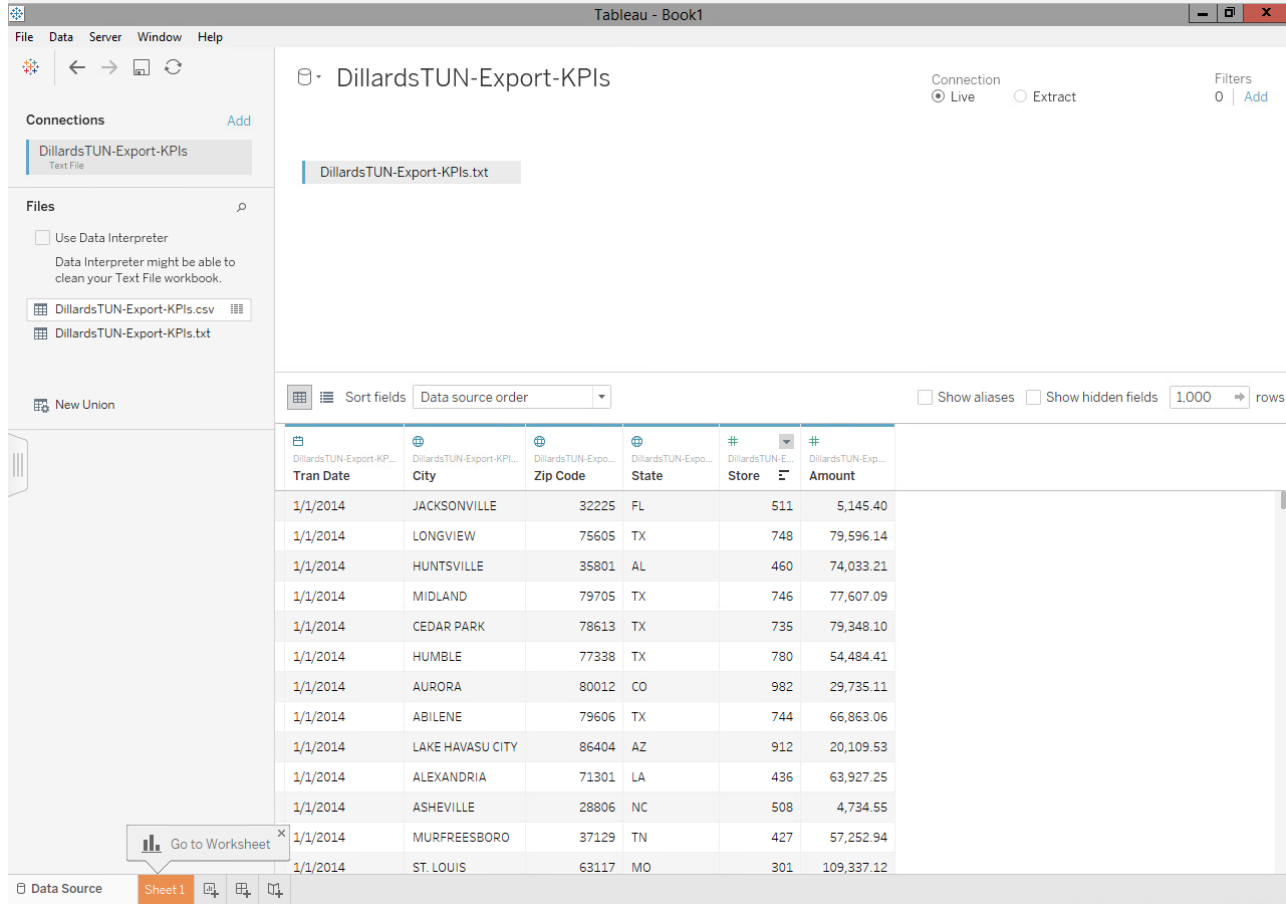4. Under **Sample Workbooks**, view sample dashboards and worksheets that come

with Tableau Desktop.

5. Under **Discover**, find additional resources like video tutorials, forums, or the "Viz of the week" to get ideas about what you can build.

Under **Connect > To a File**, select **Text file** and navigate to your Dillards Text file. Your screen will look something like this:


Exploring Data:

After you connect to your data, Tableau does the following:

- Opens a new worksheet. This is a blank slate where you create your first view.

- Automatically assigns data types (such as date, number, string, etc.) and roles (dimension or measure) to your data. (We'll talk more about these terms later.)

- Adds columns from your data source to the Data pane on the left-hand side. Columns are added as fields.

If you want the juicy details, you can select the Data Source tab in the bottom left-hand corner. Here, you can view the first 1,000 rows of your data, and some analysts go nuts: Sort or hide fields, split fields into multiple columns, and rename column headers, all without modifying the original data.
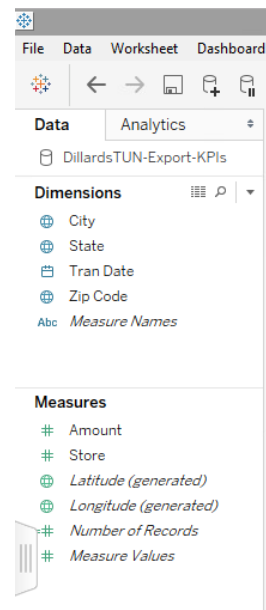
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What happens in Tableau stays in Tableau; the data is safe.

When you connect to your own data, you might need to do some prep work before connecting to it in Tableau. This is because Tableau makes assumptions about your data so that it can display it properly for you to work with.

Note: If you navigated to Data Source to check out the details, just click on the tab for Sheet 1 to get back to where you started.

Top 10 Zip Codes

Create the column chart for the Top 10 Zip Codes in the United States.

The following are the parameters you wanted for the exploration of the sales value in your column chart.

- Top 10 Zip Codes in descending order
- For the year 2015
- Show the City and State associated with the Zip Code
- The chart should be in US Dollars

The parameters help set which dimensions and measures you are interested in using.

Tableau will assume certain things for you as you create your visualization.
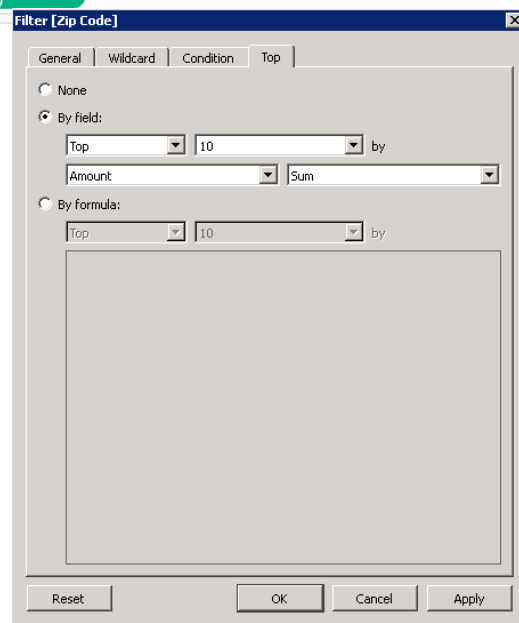
1. Start by dragging and dropping the dimensions of **Zip Code**, **City** and **State** to the Columns cell and the **Amount** measure to the Rows cell.
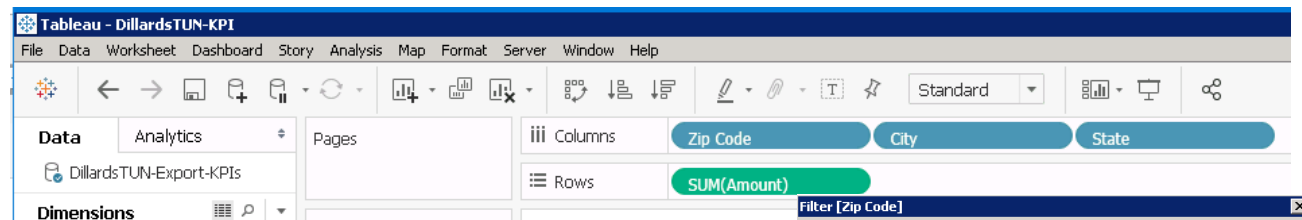
Since we only want the top 10 Zip Codes for the year 2015, we need to drag and drop, in order, the Zip Code dimension and the Tran Date dimension to the Filters cell. A Filter [] pop-up will appear to select what is to be filtered.

2. Drag **Zip Code** to *Filters*

3. Select the *Top* tab

4. Select the radial button *By field:*

5. The Top 10 by Amount Sum should already be selected

6. Select *OK*
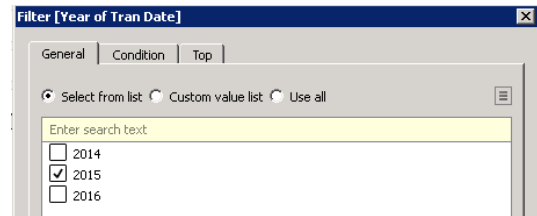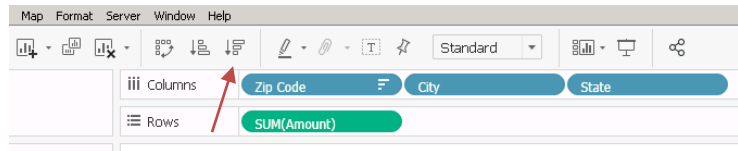
The column is not currently in descending order.

7. Select descending on the top tool bar

8. Drag **Tran Date** to *Filters*

9. Select *Years* in Filter Field [] and *Next*

10. Select 2015 in *Enter search text* on the General tab

11. Select *OK*

At this point, we have our visualization but need to adjust the Title, the y-axis to reflect currency and the bars in order to see the City spelling completely.
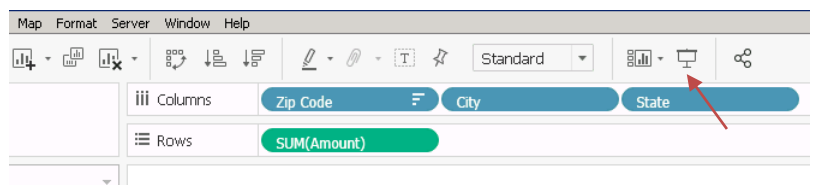
12. To adjust the Title, double click on the *Sheet 1* tab at the bottom

13. Rename *Sheet 1* to **Top 10 Zip Codes**

14. Hit *enter* to complete

15. To adjust the y-axis, right click on **Amount** and select *Format* – The left navigation pane will change to allow you to format the y-axis

16. Under Scale, select the down arrow on Numbers: and select Currency (Custom)

17. Change the *Decimal places:* to 0

18. Change the *Units:* to Millions (M)
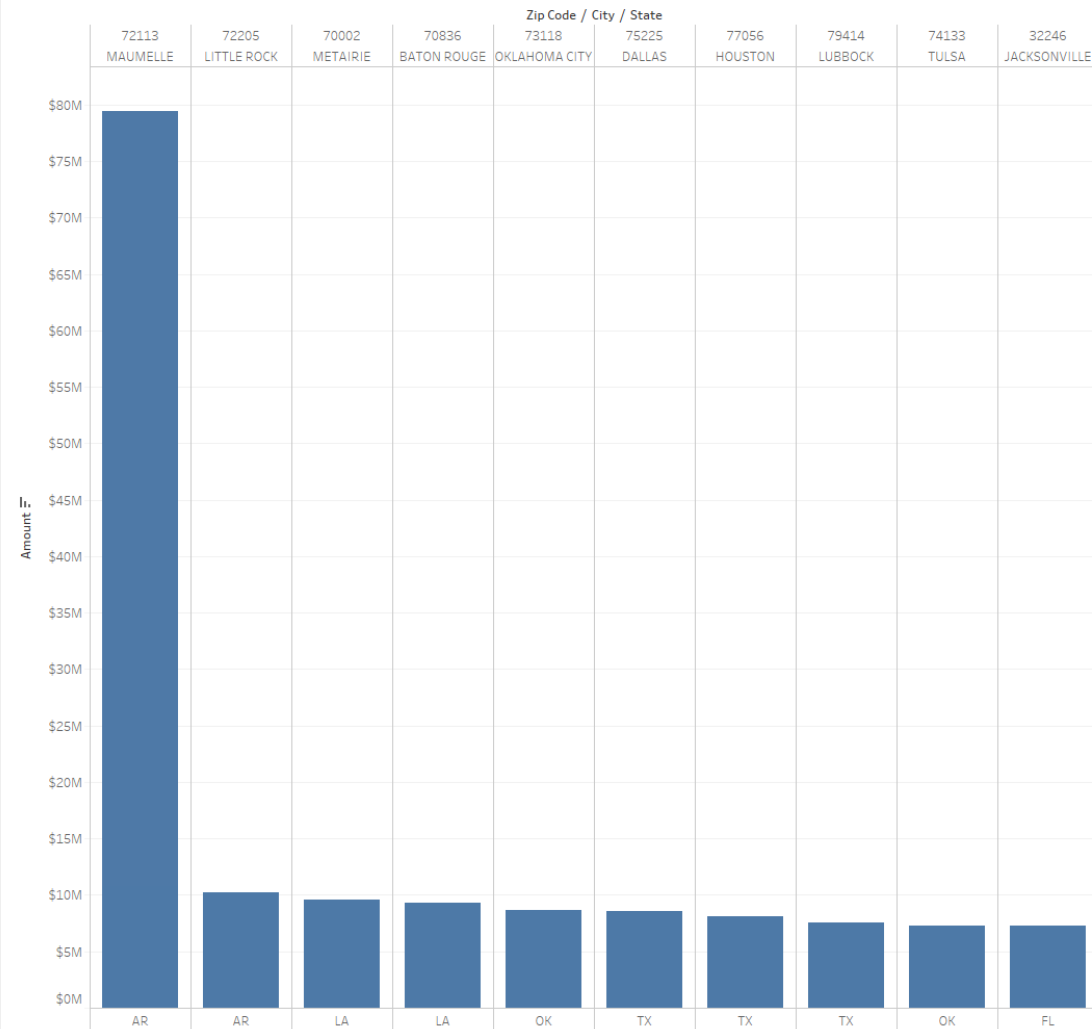
19. Verify the following (see screen shot)
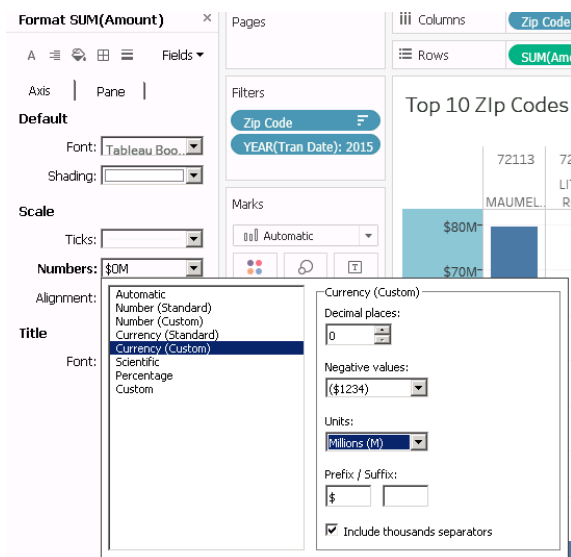
    • Negative values: is ($1234)

    • Prefix / Suffix: is $

    • Include thousands separators is checked

20. Click off the pop-up to save settings and return to your worksheet

21. To adjust the column widths, mouse over one of the separators between the zip codes at the top until you get the double arrow

22. Right click and drag the column to the appropriate width

23. Finally, to view your final product, click on Presentation Mode (F7) on the top tool bar

24. Your visualization should look similar to the following visualization

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Dillards 2016 Data Extraction

Created June 2018

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1871

Top 10 Zip Codes for 2015

rds.WALTON.UARK.EDU

You note that Maumelle, Arkansas with zip code 72113 leads all other zip codes with the highest revenue at almost $80 million. Now you would like to see how this compares to revenue across all states.

Geographic View by State

Now you would like to see how each state compares in terms of total revenue in 2015. We will need to create a new visualization.

1. Click on the tab to the right of your **Top 10 Zip Codes for 2015** tab to create a *New Worksheet*

2. Tableau creates a new *Sheet 2*

3. Double click on *Sheet 2* and rename it to **2015 Revenue by State**

Tableau allows multiple ways to create visualizations. For each Dimension and Measure, you can double click on your selected variables and allow Tableau to place and create your visualization.

4. Double click on Amount

5. Double click on State

6. Filter on Tran_Date to 2015 as was done above

Tableau automatically created a column chart and our filter shows Texas as the highest revenue. However, we are interested in a geographic visualization to show each state. To do this, we need to change the visualization to a geographic representation.

7. Locate Show Me at the top right of the page and select the indicated visualization

8. Go to Presentation Mode (F7)

The map confirms that Texas is the highest selling stated. A mouse over of the Texas circle is consistent with the indication in the Legend that the highest revenue is $237 M. A mouse over of Arkansas (where the highest zip code sales resided) shows that all of Arkansas had sales revenue of $113 M or roughly ½ of Texas.


2015 Revenue by State
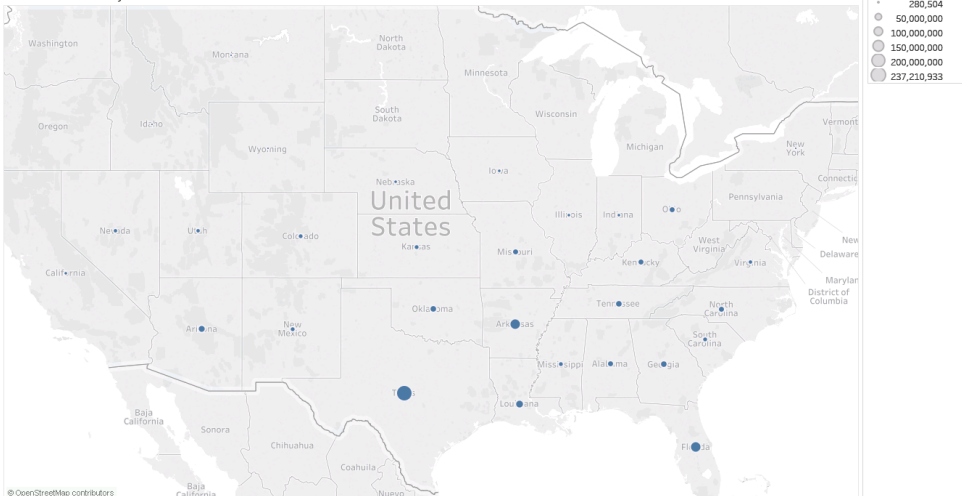
Midwest Area View by Zip Code

Now we are ready to drill down to the area of responsibility by zip code. Select a new worksheet and name it **Midwest Area 2015 Revenue by Zip Code.**

1. Double click on **Amount**

2. Double Click on **Zip Code**

3. Drag and Drop **State** to *Filters*

4. Select your Areas (AR, KS, MO, OK) and select *OK*

5. Drag and Drop **Tran Date** to *Filters* and filter to Year 2015

6. Select Show Me and select the indicated geographic visualization to the right
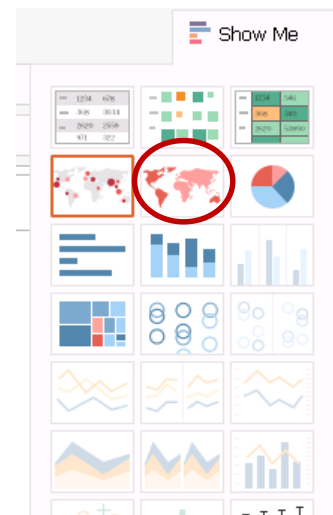
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This graph provides the outline of the zip code area and not just a circle. It is very easy to see where the highest Zip Code sales occurred in the middle of Arkansas (Maumelle, AR 72113). However, this Zip Code was so far ahead of the other zip codes that you would like to see a greater differentiation. This can be done by filtering out Zip Code 72113 from the visualization.

7. Drag **Zip Code** to *Filters*

8. Deselect Zip Code 72113
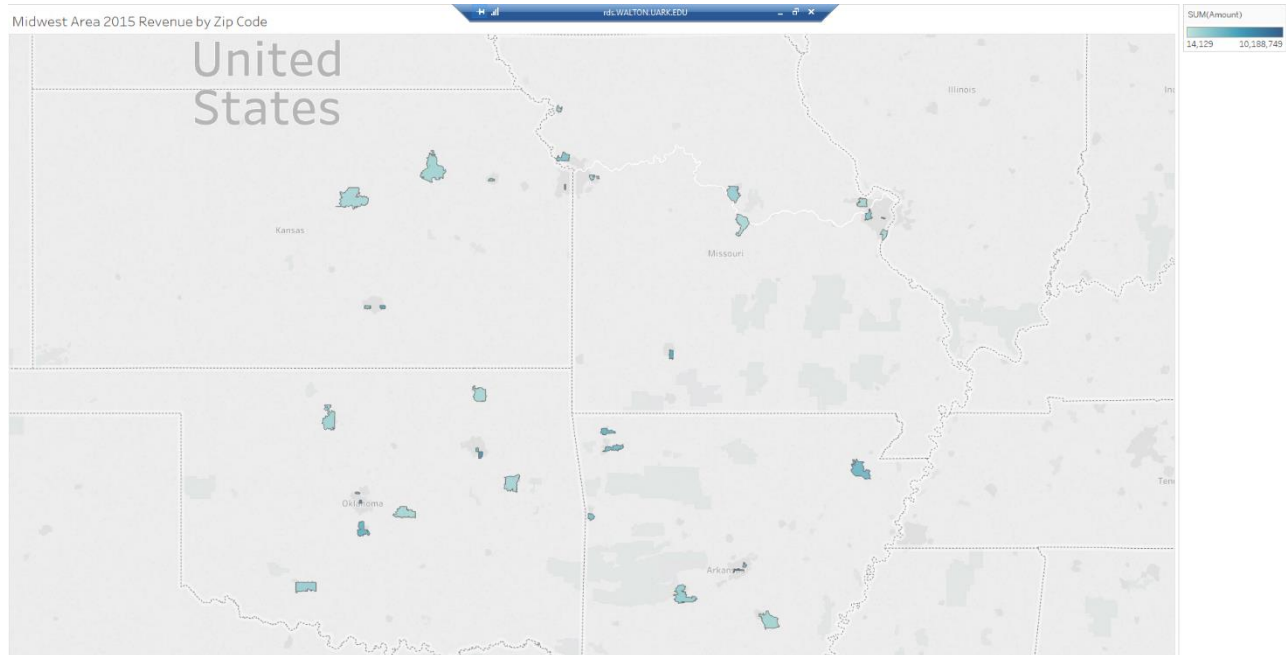
On Your Own

These visualizations provide a starting point for analyzing Sales Revenue for Dillards and the Midwest Area. Here are some additional suggestions along with the steps to create additional views that can further enhance your analysis.

I would like to change the Visualization scale for the Zip Code Areas

1. Select the down arrow in The SUM(Amount) legend on the right

2. Select Edit Colors…

3. Select the down arrow under Palette…

4. Choose your preferred palette and select OK

I would like to change the Year of Analysis

5. Right click on YEAR(**Tran Date**): under *Filters*

6. Select Show Filter

7. The Filter selection will now appear on the Right of your chart

8. Select the single year or multiple years you would like to view

9. NOTE: The title will be incorrect with a new filter selection

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I would like to Correct my Title so the Year updates correctly

1. Rename your tab to "Midwest Area Revenue by Zip code for "

2. Right Click on the Title and select Edit Title…

3. Select YEAR(Tran Date) under Insert and OK

4. Verify your Title change by selecting different years