Get Started with Tableau Desktop

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

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 Dillard’s Live data set from the University of Arkansas Enterprise System group in the Information Systems Department.

**Dataset Overview:**

<table>
<thead>
<tr>
<th>Table Name</th>
<th>Time Frame</th>
<th>Rows</th>
<th>Attributes</th>
<th>Size (GB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CUSTOMER</td>
<td>n/a</td>
<td>83,513,612</td>
<td>7</td>
<td>8.037</td>
</tr>
<tr>
<td>DEPARTMENT</td>
<td>n/a</td>
<td>938</td>
<td>6</td>
<td>0.001</td>
</tr>
<tr>
<td>SKU_STORE</td>
<td>n/a</td>
<td>520,148,909</td>
<td>4</td>
<td>19.969</td>
</tr>
<tr>
<td>SKU</td>
<td>n/a</td>
<td>29,594,797</td>
<td>10</td>
<td>3.239</td>
</tr>
<tr>
<td>STORE</td>
<td>n/a</td>
<td>411</td>
<td>6</td>
<td>0.001</td>
</tr>
<tr>
<td>TRANSACT</td>
<td>10/17/2016 to 7/20/2019</td>
<td>425,589,589</td>
<td>15</td>
<td>42.340</td>
</tr>
<tr>
<td><strong>10 TABLES</strong></td>
<td></td>
<td>48</td>
<td>48</td>
<td>137.593</td>
</tr>
</tbody>
</table>

Platform data is currently available: Yes

The dataset has a total of 1,058,848,256 records and 48 attributes distributed among 6 tables.

This tutorial shows you how to:

1. Connect directly to the WCOB_DILLARDS_LIVE dataset residing on the TERADATA system.
2. Prepare the dataset before working on it.
3. Create three visualizations based on an investigation of revenue generation.

**NOTE:** This tutorial assumes you have been granted access to the University of Arkansas VMWare platform. Requesting access can be done from the Enterprise Systems website at the University of Arkansas (https://walton.uark.edu/enterprise/). The data used should not be downloaded to your personal drives. All files 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
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 amount for the area you have been assigned to as well as other areas of the company.

Initially, you are interested in visualization of the sales value of the Top 10 Zip Codes. Next, you want to take the insights gained in the first visualization and break it down to a state level. At this point, you should have a clear understanding of which zip codes and states generated the highest sales revenue. Finally, and using the previous insights, you want to narrow down your work by looking at the area you were assigned to that includes Arkansas, Kansas, Missouri, and Oklahoma.

In order to reach the desired visualizations, the following are the steps we will follow:

1. **CONNECTING TO THE DATA** ([here](#))
   - Connect to Teradata.
   - Connect to WCOB_DILLARDS_LIVE database
   - Connect to the two tables: TRANSACT and STORE.

2. **PREPARING THE DATA** ([here](#))
   - Use hide, create calculated field, and filter tools to reach this list of attributes:
     - Store (Table: TRANSACT)
     - Tran Date (Table: TRANSACT)
     - Tran Type (filter/Tran type = ‘P’) (Table: TRANSACT)
     - Tran Amt (Table: TRANSACT)
     - City (Table: STORE)
     - State (Table: STORE)
     - Zip Code (Table: STORE)
   * For further understanding of the attributes listed above, please refer to the data dictionary appended at the end of the document.

3. **CREATE THE VISUALIZATIONS** ([here](#))
   1. A column chart of the top 10 Zip Codes.
   2. A geographic view by state.
   3. A geographic view by Zip Code of your area (Arkansas, Kansas, Missouri, and Oklahoma).
Open Tableau Desktop and begin

This tutorial assumes that you have logged in to University of Arkansas VMWare platform. Select the Start Windows icon, look for Tableau 2019.2 and click on it. Wait 10 seconds until the application opens. If an update Tableau window pops up, exit this window.

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:

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

b. Under Connect, you can:
   - Connect to data that is stored in a file, such as Microsoft Excel or Access.
   - Connect to data that is stored on a server, such as Tableau Server, Microsoft SQL Server, or Google Analytics.
   - 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).

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

d. Under Sample Workbooks, view sample dashboards and worksheets that come with Tableau Desktop.

e. Under Discover, find additional resources like video tutorials, forums, or the “Viz of the week” to get ideas about what you can build.
Connect to Teradata

Under Connect > To a Server, select More. A new window will open, click on Teradata as shown in the figure alongside.

A window will ask you to enter the following information:

**Server:** 130.184.26.161

**Username:** given to you by instructor

**Password:** given to you by instructor

Connect to WCOB_DILLARDS_LIVE

Now we have to access the WCOB_DILLARDS_LIVE database through the panel to the left:

1. Type “WCOB_DILLARDS_LIVE”, click on the search icon. A new “WCOB_DILLARDS_LIVE” will appear below, click on it.

2. Once on the database, click on the search icon.

3. Finally, tables from the database should appear on the panel to the left.

Your window should look like the picture on the right. You are connected to WCOB_DILLARDS_LIVE database (circled in red). The left panel shows the tables (circled in green) in the database.

At the bottom left corner, there are two tabs named Data Source and Sheet 1. Click on Sheet 1 and a window similar to the picture below will appear.
Sheet 1 does not currently have data. This is indicated by an exclamation point next to the database name (circled in red).

Click on the Data Source tab on the bottom left (circled in green). This will take you to the previous window where you connected to the Database and displayed the tables.

Connect to TRANSACT table

On the Data Source window:

4. Drag and drop the TRANSACT table on the left panel to the blank space at the top where it says “Drag tables here”.

5. Click on Update Now (circled in green) and Tableau will fill the columns with data.

6. Click on Sheet 1.

You will now note that you can see the table attributes assigned to Dimensions and Measures.

As a recap:

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 measures) 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 to review details of your data, 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. 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. With the TRANSACT table added, we have the first three variables needed for our analysis: Store, Tran Date and Tran Type.

**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.

### Add the STORE table

To obtain the variables for the remainder of the analysis, we need to add and connect the STORE table to the TRANSACT table. The connection is possible since both tables share a single variable attribute: **Store**.

7. Return to the Data Source page.

8. Drag and drop **STORE** to the blank space like you did with **TRANSACT**.

   The two intersecting circles (circled in green) mean that they were successfully connected. This is considered an inner join.

Right click on the join symbol. The popup shows all the different joins Tableau allows you to do. Here **TRANSACT** table is taken as ‘Data Source’ inner joining **STORE** table. Both have Store as the common attribute joined by an equal sign (circled in red).

9. Click on the **Update Now** button and you should have a window similar to the one alongside.

Now we have the attributes from both the **TRANSACT** table and the **STORE** table.
Preparing the Data

Hide Unneeded Fields and Create Calculated Fields

To get the list of attributes stated in The Story we need to hide the ones we don’t need:

10. Click the down arrow at the top right corner of each attribute not needed in the analysis.

11. Click on Hide and the attribute will no longer appear in the data.

To undo this click the ‘Show hidden fields’ box at the far right of the window and manually unhide the attribute.

After hiding all the unnecessary attributes and keeping only the ones mentioned (Tran Date, City, State, Zip Code, Store, Tran Type, and Tran Amnt) your screen should look like the following:

One more tool that can help you visualize your data before working with it is to order your data in ascending or descending order. For instance:

12. Click on the bar figure next to the name of the attribute (circled in red) and this will organize your column. The two figures below show how to do this.
Filter Fields

Due to the size of the TRANSACT table (425 million records), we need to reduce our focus in order to display the results more efficiently.

On the picture above, at the top right corner, you can find a Filters subtitle:

13. Click on Add. A new window will open, click on Add.. again.

14. You are now in the ‘Add Filter’ window. Click on Tran Type and then click OK. A window will 'Filter [Tran Type]' will pop-up stating the two different values present in that field. In this case ‘P’ or ‘R’.
15. Click on the P box (circled in red) to only work with Tran Type = P and click OK. The data now is updated for only Tran Type = P.

We have finished organizing our data:

16. Click on Sheet 1, your window should look like the picture alongside.

Create the Visualizations

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 2017
- 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 Tran Amnt measure to Rows cell.

Since we only want the top 10 Zip Codes for the year 2017, 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.

Drag Zip Code to Filters:

2. Select the Top tab (circled in red).
3. Select the radial button By field:
4. The Top 10 by Tran Amnt Sum should already be selected.
5. Click OK.
6. Select descending on the top tool bar. (circled in red)
7. Drag Tran Date to Filters
8. Select Years in Filter Field (highlighted in blue) and click Next.
9. Select 2017 in Enter search text. Click 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.

10. To adjust the Title, double click on the Sheet 1 tab at the bottom
11. Rename Sheet 1 to Top 10 Zip Codes for 2017
12. Hit enter to complete
13. To adjust the y-axis, right click on Tran Amnt and select Format – The left navigation pane will change to allow you to format the y-axis
14. Under Scale, select the down arrow on Numbers: and select Currency (Custom)
15. Change the Decimal places: to 0
16. Change the Units: to Millions (M).
17. Verify the following (see screen shot):
   a. Negative values: is ($1234)
   b. Prefix / Suffix: is $
   c. Include thousands separators is checked
18. Click off the pop-up to save settings and return to your worksheet.
19. To adjust the column widths, mouse over one of the separators between the zip codes at the top until you get the double arrow.
20. Right click and drag the column to the appropriate width.
21. Finally, to view your final product, click on Presentation Mode (F7) on the top tool bar (circled in red).
Your visualization should look similar to the following visualization:

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 2017. We will need to create a new visualization.

1. Click on the tab to the right of your **Top 10 Zip Codes for 2017** tab to create a **New Worksheet**.
2. Tableau creates a new **Sheet 2**.
3. Double click on **Sheet 2** and rename it to **2017 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 **Tran Amnt**.
5. Double click on **State**.
6. Filter on **Tran Date** to 2017 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. Right Click on **State** under Dimensions and look for **Geographic Role** and then click on **State/Province**. (Path shown in figure alongside).

8. Now, locate **Show Me** at the top right of the page and select the indicated visualization.

9. Go to Presentation Mode (F7).

The map confirms that Texas is the highest selling state. 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.
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 2017 Revenue by Zip Code**.

1. Double click on **Tran Amnt.**
2. Double Click on **Zip Code**.
3. Drag and Drop **State** to **Filters**.
4. Select your Areas (AR, KS, MO, OK) and Click OK.
5. Drag and Drop **Tran Date** to **Filters** and filter to Year 2017.
6. Select Show Me and select the indicated geographic visualization to the right (Circled in red).

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**.
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(Tran Amnt) 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

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
# Data Dictionary

## CUSTOMER Table

<table>
<thead>
<tr>
<th>Column name</th>
<th>Key specifications</th>
<th>Datatype</th>
<th>Short description</th>
<th>Long description</th>
<th>Sample values</th>
</tr>
</thead>
<tbody>
<tr>
<td>CUST_ID</td>
<td>Primary key</td>
<td>Integer (not null)</td>
<td>Customer Identifier</td>
<td>Unique identifier representing a customer instance</td>
<td>219948527 219930818</td>
</tr>
<tr>
<td>CITY</td>
<td>Varchar (28)</td>
<td>City</td>
<td>City where the customer lives.</td>
<td>HOUSTON  COOS BAY</td>
<td></td>
</tr>
<tr>
<td>STATE</td>
<td>Char(2)</td>
<td>State</td>
<td>State where the customer lives.</td>
<td>FL  TX</td>
<td></td>
</tr>
<tr>
<td>ZIP_CODE</td>
<td>Char(5)</td>
<td>Zip code</td>
<td>Customer’s 5-digit zip code.</td>
<td>72701  84770</td>
<td></td>
</tr>
<tr>
<td>ZIP_SECSEG</td>
<td>Char(4)</td>
<td>Sector segment code</td>
<td>Customer’s geographic segment code</td>
<td>5052  6474</td>
<td></td>
</tr>
<tr>
<td>DISTANCE_TO_NEAREST_STORE</td>
<td>Decimal(8,3)</td>
<td>Distance to nearest store for customer</td>
<td>Miles from the customer’s house to the closest Dillard’s store.</td>
<td>0.687  6.149</td>
<td></td>
</tr>
<tr>
<td>PREFERRED_STORE</td>
<td>Foreign Key (References STORE table)</td>
<td>Small Int</td>
<td>Customer Preferred Store Location</td>
<td>Dillard’s store number the customer prefers to shop at regardless of distance to the customer’s home address.</td>
<td>910  774</td>
</tr>
</tbody>
</table>

## DEPARTMENT Table

<table>
<thead>
<tr>
<th>Column name</th>
<th>Key specifications</th>
<th>Datatype</th>
<th>Short description</th>
<th>Long description/Additional Details</th>
<th>Sample values</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEPT</td>
<td>Primary key</td>
<td>Varchar (10), not null</td>
<td>Department Number</td>
<td>The Dillard’s unique identifier for a collection of merchandise within a store format</td>
<td>0471 0029</td>
</tr>
<tr>
<td>DEPT_DESC</td>
<td>Varchar (25)</td>
<td>Department Description</td>
<td>The name for a department collection of merchandise within a store format.</td>
<td>“Christian Dior” “REBA”</td>
<td></td>
</tr>
<tr>
<td>DEPTDEC</td>
<td>Char(4)</td>
<td>Department Decade</td>
<td>The first three digits of a department code, a way to classify departments at a higher level.</td>
<td>047X 002X</td>
<td></td>
</tr>
<tr>
<td>DEPTDEC_DESC</td>
<td>Varchar (25)</td>
<td>Department Decade Description</td>
<td>Descriptive name representing the decade to which a department belongs.</td>
<td>“BASICS” “TREATMENT”</td>
<td></td>
</tr>
<tr>
<td>DEPTCENT</td>
<td>Char(4)</td>
<td>Department Century</td>
<td>The first two digits of a department code, a way to classify departments at a higher level.</td>
<td>04XX 00XX</td>
<td></td>
</tr>
<tr>
<td>DEPTCENT_DESC</td>
<td>Varchar (25)</td>
<td>Department Century Description</td>
<td>The descriptive name of the century.</td>
<td>CHILDRENS COSMETICS</td>
<td></td>
</tr>
</tbody>
</table>
## SKU Table

<table>
<thead>
<tr>
<th>Column/Field name</th>
<th>Key specifications</th>
<th>Datatype</th>
<th>Short description</th>
<th>Long description/Additional Details</th>
<th>Sample values</th>
</tr>
</thead>
<tbody>
<tr>
<td>SKU</td>
<td>Primary key</td>
<td>Char(10), Not null</td>
<td>Stock Keeping Unit</td>
<td>Unique identifier for an item, identifies the item by size within a color and style for a particular vendor.</td>
<td>0557578 6383039</td>
</tr>
<tr>
<td>DEPT</td>
<td>Foreign key (references DEPARTMENT table)</td>
<td>Varchar(10), Not null</td>
<td>Department Number</td>
<td>The Dillard’s unique identifier for a collection of merchandise within a store format.</td>
<td>0134 0343</td>
</tr>
<tr>
<td>SKU_CLASS</td>
<td>Char(10)</td>
<td>Stock Keeping Unit Class</td>
<td>Three character alpha/numeric classification code used to define the merchandise. Class requirements vary by department.</td>
<td>K51 220</td>
<td></td>
</tr>
<tr>
<td>SKU_STYLE</td>
<td>Char(15)</td>
<td>Stock Keeping Unit Style</td>
<td>The Dillard’s numeric identifier for a style of merchandise.</td>
<td>091923690 LBF41728</td>
<td></td>
</tr>
<tr>
<td>UPC</td>
<td>Decimal (15,0)</td>
<td>Universal Product Code</td>
<td>A number provided by vendors to identify their product to the size level.</td>
<td>889448437421 44212146767</td>
<td></td>
</tr>
<tr>
<td>COLOR</td>
<td>Varchar(12)</td>
<td>Stock Keeping Unit Color</td>
<td>Color of an item.</td>
<td>BLACK PINEBARK</td>
<td></td>
</tr>
<tr>
<td>SKU_SIZE</td>
<td>Char(10)</td>
<td>Stock Keeping Unit Size</td>
<td>Size of an item. Product sizes are not standardized and issued by vendor</td>
<td>6 085M</td>
<td></td>
</tr>
<tr>
<td>BRAND_NAME</td>
<td>Varchar(70)</td>
<td>Brand Name</td>
<td>The item’s brand.</td>
<td>Stride Rite UNKNOWN</td>
<td></td>
</tr>
<tr>
<td>CLASSIFICATION</td>
<td>Varchar(70)</td>
<td>Classification</td>
<td>Category used to sort products into logical groups.</td>
<td>Dress Shoe</td>
<td></td>
</tr>
<tr>
<td>PACKSIZE</td>
<td>Char(5)</td>
<td>Item Package Size</td>
<td>Number that describes how many of the product come in a package</td>
<td>001 002</td>
<td></td>
</tr>
</tbody>
</table>

## SKU_STORE Table

<table>
<thead>
<tr>
<th>Column/Field name</th>
<th>Key specifications</th>
<th>Datatype</th>
<th>Short description</th>
<th>Long description/Additional Details</th>
<th>Sample values</th>
</tr>
</thead>
<tbody>
<tr>
<td>STORE</td>
<td>Primary key, Small Int, Not null</td>
<td>Store Number</td>
<td>The numerical identifier for a Dillard’s store.</td>
<td>915 701</td>
<td></td>
</tr>
<tr>
<td>SKU</td>
<td>Primary key</td>
<td>Char(10)</td>
<td>Stock Keeping Unit</td>
<td>Unique identifier for an item, identifies the item by size within a color and style for a particular vendor.</td>
<td>4305296 6137609</td>
</tr>
<tr>
<td>SKU</td>
<td>Foreign key (references SKU table)</td>
<td>Char(10)</td>
<td>Stock Keeping Unit</td>
<td>Unique identifier for an item, identifies the item by size within a color and style for a particular vendor.</td>
<td>4305296 6137609</td>
</tr>
<tr>
<td>RETAIL</td>
<td>Decimal[7,2] Not null</td>
<td>Retail Price</td>
<td>The price of an item.</td>
<td>11.90 45.15</td>
<td></td>
</tr>
<tr>
<td>COST</td>
<td>Decimal[7,2] Not null</td>
<td>Item Cost</td>
<td>The price charged by a vendor for an item</td>
<td>8.51 44.84</td>
<td></td>
</tr>
</tbody>
</table>
# WCOB Dillards Live Data Connection

## STORE Table

<table>
<thead>
<tr>
<th>Column/ Field name</th>
<th>Key specifications</th>
<th>Datatype</th>
<th>Short description</th>
<th>Long description/ Additional Details</th>
<th>Sample values</th>
</tr>
</thead>
<tbody>
<tr>
<td>STORE</td>
<td>Primary Key</td>
<td>Small Int, Not null</td>
<td>Store</td>
<td>The numerical identifier for any type of Dillard’s location.</td>
<td>767 460</td>
</tr>
<tr>
<td>DIVISION</td>
<td></td>
<td>Char(2)</td>
<td>Division</td>
<td>The division to which a location is assigned for operational purposes.</td>
<td>07 04</td>
</tr>
<tr>
<td>CITY</td>
<td></td>
<td>Varchar (28)</td>
<td>City</td>
<td>The city where the store is located.</td>
<td>IRVING MOBILE</td>
</tr>
<tr>
<td>STATE</td>
<td></td>
<td>Char (2)</td>
<td>State</td>
<td>The state abbreviation where the store is located.</td>
<td>MO AL</td>
</tr>
<tr>
<td>ZIP_CODE</td>
<td></td>
<td>Char (5)</td>
<td>Zip Code</td>
<td>The 5 digit zip code of a store’s address.</td>
<td>70601 35801</td>
</tr>
<tr>
<td>ZIP_SECSEG</td>
<td></td>
<td>Char (4)</td>
<td>Zip Code Geographic Segment Code</td>
<td>The 4 digit code of a neighborhood within a specific zip code.</td>
<td>5052 6474</td>
</tr>
</tbody>
</table>

## TRANSACT Table

<table>
<thead>
<tr>
<th>Column/ Field name</th>
<th>Key specifications</th>
<th>Datatype</th>
<th>Short description</th>
<th>Long description/ Additional Details</th>
<th>Sample values</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRANSACTION_ID</td>
<td>Primary key</td>
<td>Integer</td>
<td>Transaction Identifier</td>
<td>Unique numerical identifier for each scan of an item at a register.</td>
<td>40333797 15129264</td>
</tr>
<tr>
<td>TRAN_DATE</td>
<td></td>
<td>Date in format MM/DD/YYYY, not null</td>
<td>Transaction Date</td>
<td>Calendar date the transaction occurred in a store.</td>
<td>1/1/2015 5/19/2014</td>
</tr>
<tr>
<td>STORE</td>
<td>Foreign key (references STORE table)</td>
<td>Small Int Not null</td>
<td>Store</td>
<td>The numerical identifier for any type of Dillard’s location.</td>
<td>716 205</td>
</tr>
<tr>
<td>REGISTER</td>
<td></td>
<td>Small Int Not null</td>
<td>Register</td>
<td>The numerical identifier for the register where the item was scanned.</td>
<td>91 55 12</td>
</tr>
<tr>
<td>TRAN_NUM</td>
<td></td>
<td>Integer Not null</td>
<td>Transaction Number</td>
<td>Sequential number of transactions scanned on a register.</td>
<td>184 14</td>
</tr>
<tr>
<td>TRAN_TIME</td>
<td></td>
<td>Char(4) Not null</td>
<td>Transaction Time</td>
<td>Time of day the transaction occurred.</td>
<td>1839 1536</td>
</tr>
<tr>
<td>CUST_ID</td>
<td>Foreign key (references CUSTOMER table)</td>
<td>Integer Not null</td>
<td>Customer Identifier</td>
<td>Unique identifier representing the instance of a customer.</td>
<td>118458688 115935775</td>
</tr>
<tr>
<td>TRAN_LINE_NUM</td>
<td></td>
<td>Small Int Not null</td>
<td>Transaction Line Number</td>
<td>Sequential number of each scan or element in a transaction.</td>
<td>3 2</td>
</tr>
<tr>
<td>MIC</td>
<td></td>
<td>Char (3) Not null</td>
<td>Manufacturer Identification Code</td>
<td>Manufacturer Identification Code used to uniquely identify a vendor or brand within a department.</td>
<td>154 128 217</td>
</tr>
<tr>
<td>Field</td>
<td>Type</td>
<td>Description</td>
<td>Value(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>----------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>----------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRAN_TYPE</td>
<td>Char (1) Not null</td>
<td>Transaction Type</td>
<td>P R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORG_PRICE</td>
<td>Decimal(7,2) Not null</td>
<td>Original Price</td>
<td>20.00 6.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SALE_PRICE</td>
<td>Decimal(7,2) Not null</td>
<td>Sale Price</td>
<td>15.00 2.64 6.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRAN_AMT</td>
<td>Decimal(7,2) Not null</td>
<td>Transaction Total Amount</td>
<td>15.00 2.64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TENDER_TYPE</td>
<td>Varchar (5) Not null</td>
<td>Tender Type</td>
<td>BANK DLRD DAMX</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SKU</td>
<td>Index, Foreign key (references SKU table) Char (10)</td>
<td>Stock Keeping Unit</td>
<td>6107653 9999999950</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>