Hands-On Lab for 9.0 Deep Dive

# About this Data

The **Las Vegas Yelp Data.xls** data set is from Yelp, and shows information about Businesses, Reviews, and Users through 2014. It is filtered for the City of Las Vegas, for the years 2011 – 2014, and for **Business Categories** in Bars Cafes and Restaurants (this field was simplified).

The **Las Vegas Loyalty Data.xls** data set contains fabricated data representing customer purchase patterns for a Loyalty program. It is intentionally messy in order to demonstrate data prep features like Data Interpreter and Pivot.

Both of these data sets are in Excel files so that attendees can see and easily understand the data prep process. Note that the Excel files are blended (instead of joined) in order to demonstrate pivot on the secondary data source.

# Agenda

1. Connect to Data
2. Analytics
3. Data Prep
4. Calculations and LOD Expressions
5. LOD Expressions – Optional Example 2

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| Format of the Training Each section has a guiding statement or question  Overview:  Provides basic directions on the purpose of the section and what the desired outcome is. For those who want to dive in and try it on their own, this may be enough guidance to begin.  Detailed Steps:  Provides step-by-step level directions on how to complete the section. |

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| 0) Connect to Data Connect to an Excel file and join two tables  Overview:  Open the file “Las Vegas Yelp Data”  Detailed Steps:   1. Open Tableau Desktop 9.0 2. Under “Connect” Click “Excel” 3. Navigate to the file on your machine (desktop) and open it 4. Click and drag out the sheet named *Las Vegas Yelp Data* 5. Click “Sheet 1” and call it “**Reviews vs. Ratings**” |

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| 1) Analytics I am a Las Vegas event planner. Tableau is coming for Tableau Conference 2015. Where should I recommend that they eat?  Overview:   1. Drag and Drop Analytics    1. Create a Scatter Plot of **Business Name** comparing **Average Stars** to **Number of Records**    2. Drag out Analytics items from the Analytics Pane to learn about the data 2. Instant Analytics    1. Color by **Business Category**    2. Click each in the legend to see instant analytics   Detailed Steps:  How do my restaurants look compared to others in their category, in terms of ratings?     * Create Scatter Plot   + Drag **Stars** to Rows Shelf     - Double click on Pill, change from SUM to AVG   + Drag **Number of Records** to Columns Shelf   + Drag **Business Name** to Detail * Drag and Drop Analytics   + Open Analytics Pane   + Drag **Trend Line** into view     - Choose “Linear”     - Hover over the trend line to see the value   + Drag **Trend Line** off of view   + Drag **Average Line** into view     - Choose “Table”     - Hover to see value of vertical line     - Drag vertical line off     - Hover to see value of horizontal line       * Click on the Average Line       * Options appear above the Tooltip       * Click the caret by Average and change it to **Median**     - Click Edit on Tooltip       * Set back to **Average**       * Set Label to **Value** * Drag **Business Category** to Color * Click on Café’s to see Instant Analytics * Name Worksheet “Reviews vs. Ratings” |
| 2) Data Prep Bring in a data set that does not have data in columns  Overview:   1. Connect to **Las Vegas Loyalty Data.xls** and prepare the data 2. See Customer growth over time, by **Business Name** 3. Create a Dashboard to use the Scatter Plot as a filter   Detailed Steps:  🡪   * Click the Tableau Icon   + Click Excel to connect to a new dataset   + Navigate to **Las Vegas Loyalty Data.xls** * Show Data Interpreter   + Click **“Turn On”**   + Optional: Click **“Review Results’** to see what the Data Interpreter has done * Pivot   + Select the 3 Category fields (on a Mac, by dragging across them. On a PC, hold down shift and click on the first and last columns).   + Choose **Pivot** from caret drop down * Split   + Select just the new “Pivot field names” column   + Choose **Split** from caret drop down * Go to Metadata Grid (image to the right)   + Single-click on “Pivot field names – Spilt 1”   + Rename it “**Business Category**”   + Press Tab to move to the next field   + Rename it “**Spend**”     Graph New Customer Acquisition Over Time. Which business is the fastest growing?   * Create a new Tab called **Customer Growth**   + Double click on Rows Shelf   + Type **COUNT**(**Customer ID)** and click tab   + Drag **Date** to Columns     - Click caret on **Date**     - Choose **Exact Date**   + Create a Quick Table Calc for User ID     - Click Caret on Customer ID Pill     - Choose Running Total   + Drag **Business Name** onto Color     Create a Dashboard to filter the view using the Scatter Plot   * Create Dashboard: “Las Vegas Restaurants” * Drag **Reviews vs. Ratings** into view * Drag **Customer Growth** below it * Click Caret on **Reviews vs. Ratings**, choose “Use as Filter” * Right click on view > “Show View Toolbar” * Choose Lasso Select option   + Select the 4 dots that are the farthest right and above average |
| 3) Calculations and Level of Detail Expressions What businesses are driving signups to the Loyalty program?  Overview:   * Identify New Customers   + Create a Level of Detail Expression of the date of each User’s first review   + Create a calculation to identify the date for which they were new customers * Add to filter for Customer Growth   Detailed Steps:  Identify New Customers     * Create new sheet called “**LOD Prep**” * Drag **Customer ID** to Rows Shelf * Double click to the right of **Customer ID** on the Rows Shelf, start to type **Date**, let Tableau auto-complete * Create a new Calculation   + Title it “**Date of Customer’s First Visit**”   + Type “**MI”** and let Tableau auto-complete   + Drag **Date** into Calc   + Close Parentheses and click Apply   + Double Click to the right of **Date** on the Rows Shelf     - Type “**[Date of**” and let Tableau auto complete     - See that the MIN is calculating at the level of detail in the view     - Drag it off   + In the Calc editor, type around your text so it says: { fixed[**Customer ID**] : MIN([**Date**]) }   + Click Apply   + Double Click to the right of **Date** on the Rows Shelf     - Type “**[Date of**” and let Tableau auto complete * Double click on Marks Card to start new Calculation   + Drag **Date** into the pill   + Type “=”   + Drag **Date of Customer’s First Visit** into the pill   + Click Enter   + Set to Color   + Drag this pill from the Marks Card to Dimensions   + Name it “**New Customer”**   Add filter to **Customer Growth** graph   * Go to **Customer Growth** tab   + Drag **New Customer** onto Filters shelf |

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| 4) Level of Detail Expressions – Optional Example 2 What is the distribution of restaurants over their average reviews? Use the Las Vegas Yelp Data (not the loyalty data)     * Create a New Sheet called **Aggregate Bins** * Create a new Calculation   + Title it “Average Review by Business”   + Type “{ Fixed[**Business Name**] : AVG([**Stars**]) }”   + Click Apply * Right click on new field > Create > Bins   + Set to .2 * Double click on Rows Shelf   + Type COUNT([**Number of Records**)}   + Double click on **Average Review by Business (bin)** |