Data Visualization Workshop

Telecom networks are continuing to transform in fundamental ways - cloud platforms are enabling networks to be run as software-based functions. This enables the management of these networks to become software centric and thus require the use of scripting and software-oriented approaches to automate tasks performed on these networks. Industries are starting to leverage feature-rich tools that analyze massive, varied data sets to complete tasks more productively and effectively. This course teaches techniques by taking large datasets of network performance data and creating close to 50 visualizations. This includes visualizations like Line Charts, Scatter Maps, Tree Maps, Heat Maps, Box-Whisker Maps, Histograms and covers the use of Joins, Blends, Calculated Fields, Table Calculations, Parameters and Dashboards to create powerful visualizations.

Intended Audience

This workshop is intended for anyone who wants to build knowledge and skills related to leveraging data tools to be more productive.

Objectives

After completing this course, the student will be able to:

- Connect to a data source
- Visualize KPIs that change over time
- Visualize large data sets by leveraging power of Filters
- Visualize KPIs using Bar Charts, Scatter Maps and Pie Charts
- Visualize KPIs using Tree Maps, Heat Maps, Box-Whisker Maps
- Correlate/Compare data with Dual Axis and Histograms
- Use Joins and Blends to visualize data from multiple sources
- Visualize geographical data with Filled Maps

Prerequisites

- Basic knowledge of Excel

Required Equipment

- Students will need a laptop with access to Tableau Desktop

Course Outline

1. Tableau Prep for ETL
1.1 Introduction to the ETL concepts and process
1.2 Navigation in Prep
1.3 Understanding the various panes and their functions
1.4 Extracting data from various sources: Excel, Text/CSV, JSON, Web, Database
1.5 3 Types of Transformation: Content, Shape, Combine datasets
1.6 Tall vs Wide Data Sets

Exercise: Preview Data in Desktop
Exercise: Load Data Output files
Exercise: Data Sampling Options in Prep

2. Data Visualization and Tableau
2.1 Getting started with Tableau
2.2 Navigation of Tableau
2.3 Dimensions and Measures
2.4 Visualizing Time Series
2.5 Use of Line Charts
2.6 Filtering Large Data Sets
2.7 Filtering Techniques
2.8 Comparing Categorical Data
2.9 Use of Bar Charts

Exercise: Connect to data source
Exercise: Create Tableau Visualizations

3. Data Visualizations
3.1 Correlating KPIs using Scatter Maps
3.2 Using granularity for Visualizations
3.3 Pie Charts
3.4 Hierarchical data and Tree Maps
3.5 Visuals with color and Heat Maps
3.6 Data distribution and Box-Whisker Maps
3.7 Correlating two KPIs with Dual Axis
3.8 Using bins and Histograms for comparison
3.9 Correlating multiple KPIs with Multi-Measure Comparisons

Exercise: Create Tableau Visualizations

4. Advanced Data Visualizations
4.1 Joins to visualize two data sources
4.2 Geographical data and Filled Maps
4.3 Blends to visualize two data sources
4.4 Modifying data with calculated fields
4.5 Table Calculations and aggregated data
4.6 Parameters for interactive visualizations
4.7 Using Highlights to draw attention
4.8 Merging data with Groups
4.9 Sets
4.10 Creating a visual narrative with Dashboard and Story

Exercise: Create Visualizations with Joins and Blends
Exercise: Create a Dashboard

Award Solutions