

Apache Superset - Explore, Visualize ,Analyze and Build Modern Dashboards

Course Duration: 24 Hours (3 Days)

Course Description

In this course, learners will discover how to use Apache Superset to transform raw data into interactive dashboards and insightful visualizations. They will learn to connect to diverse data sources, build reports, and explore data through intuitive analytics tools. The course covers dashboard creation, chart customization, data exploration, and sharing insights across teams. Learners will gain practical experience with real-world business intelligence scenarios and data-driven decision-making. No prior coding expertise is required, making it ideal for professionals who want to confidently analyze and visualize data.

Target Audience Profile -

This course is designed for:

- **Business Analysts who want to create interactive dashboards and derive actionable insights from data.**

- **Data Analysts and Reporting Professionals** looking to build visualizations and self-service analytics solutions.
 - **BI Developers and Data Engineers** who need an open-source platform for data exploration and dashboard development.
 - **Managers and Decision-Makers** seeking to monitor KPIs and make data-driven business decisions.
 - **Students and Professionals** interested in learning modern Business Intelligence and data visualization tools with minimal coding requirements.
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Prerequisites (Recommended):

- **Basic understanding of databases and data concepts.**
 - **Familiarity with SQL is helpful but not mandatory for introductory learning.**
 - **No prior experience with Apache Superset is required.**
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Course Syllabus

Module 1: Introduction

- Introduction to Data Exploration, Data Visualization and Data Analytics
 - Data Exploration vs Data Visualization vs Data Analytics
 - What is Business Intelligence
 - What is Apache Superset and its prominent features
 - The history of Apache Superset
 - Introduction to Apache Superset
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Module 2: Installation and Setup

- Installing Superset using Docker (Recommended)
 - Installing Superset using Python
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Module 3: Superset UI Walkthrough

- Understanding Superset Architecture
 - Navigating the Superset Interface
 - Understanding Roles and Permissions
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Module 4: Data Connection and Dataset Creation

- **Connecting to Databases (PostgreSQL)**
 - **Connecting to Databases (MySQL)**
 - **Base Table Introduction**
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Module 5: SQL Basics

- **Installation on Mac**
- **Installation on Windows**
- **Database & Schema**
- **Create Base Tables**
- **Insert into Tables**
- **Create and Drop Tables**
- **Select Columns**
- **Experiments: Select (Without Tables)**
- **Experiments: Mathematical Expression**
- **Distinct**
- **Experiments: Distinct**
- **Aggregate Functions, String Functions, Sub-Strings, Concat, Limit & Offset, Alias**
- **Filters with Numeric, Filters with String, Filters with Date, IN Clause,**
- **Cast: Decimal & Integers, Like, Default Values, Inner Queries, Inner Queries: Any & ALL,**

- **Union, Union All, Intersect, Group By, Group By with Having, Group By with Filters, Order By, Order By with Filters**
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Module 6: SQL Lab

- **Writing and Saving SQL Queries**
 - **Creating Datasets**
 - **Save Custom Datasets**
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Module 7: File based Datasets

- **Dataset: CSV File Upload**
 - **Dataset: Excel Upload**
 - **Dataset: Column Oriented Parquet File**
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Module 8: Exploring and Visualizing Data

- **Charts Architecture**
- **Charts GUI walk through**
- **First Chart on Big Number**
- **Create Table using Charts**
- **Active Products using Big Number**

- **Applying Ordering on Chart**
 - **Customization on Charts**
 - **Create Virtual Dataset**
 - **Line Chart with Virtual Dataset**
 - **Questions**
 - **Pie Chart**
 - **Questions**
 - **Sankey Chart**
 - **Questions**
 - **Total Sales using Line Chart**
 - **Questions**
 - **Calendar Heat Map**
 - **Questions**
 - **Big Number with Trend Line**
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Module 9: Advanced Charts

- **Custom Columns**
- **Custom Metrics**
- **Multiple Line Series Chart**
- **Pivot Table**
- **Word Count Chart**
- **Funnel Chart**
- **Waterfall Chart**

- **Area Chart**
 - **Mixed Chart**
 - **World Map**
 - **Tree Chart**
 - **Histogram Chart**
 - **Scatter Plot**
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Module 10: Applying Filters and Conditions

- **Filter Introduction Screen**
 - **Applying Filters on Integer**
 - **Applying Filters on String Fields**
 - **Like Filtering on String Fields**
 - **IN Clause Filtering**
 - **Between Clause Filtering**
 - **Chart Customization and Formatting**
 - **Number Formatting on Charts**
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Module 11: Dashboards

- **Creating First Dashboard**
- **Adding Filters, Tabs, and Layouts**
- **Cross-filtering Between Charts**

- **Filters with Dividers on Dashboard**
 - **Pagination in Table using Dashboard**
 - **Human Readable Column Names**
 - **Assign Permissions to new User**
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Module 12: Advanced Features

- **Role Based Access Control (RBAC) and how to achieve that in Superset**
 - **Row-level Security (RLS)**
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Module 13: Superset Administration

- **Config File and Environment Variables**
 - **Installation of Production Environment**
 - **Rebranding with Your Logo or Company**
 - **Performance Optimization**
 - **Backup and Restore**
 - **Logging and Monitoring**
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Module 14: Project: Sales Analysis

- **Business Overview**
- **Table Structure**
- **Create Superstore Table**
- **Dataset & Chart: Top 5 Most Profitable States**
- **Dataset & Chart: Average Delivery Time**
- **Dataset & Chart: Discount Impact on Margin**
- **Dataset & Chart: Top 15 By Sales**
- **Dataset & Chart: Sales By Region**
- **Dataset & Chart: Sales By Region And states**
- **Dataset & Chart: Sales By Category**
- **Dataset & Chart: Category performance by region**
- **Dataset & Chart: Category Popularity By Customer Segment**
- **Dataset & Chart: Customer segment by Region**
- **Dataset & Chart: Monthly Sales Trend**
- **Dataset & Chart: Product Sales Hierarchy**
- **Dataset & Chart: Top 10 Sub-Category**
- **Dataset & Chart: Top 15 Product By Sales**
- **Dataset & Chart: Dashboard For Executive**
- **Dataset & Chart: Product Performance Dashboard**