Apache Superset – 21 Hours – Course Overview

Overview

Apache Superset is an open-source business intelligence (BI) and data visualization platform that enables users to explore, analyze, and visualize data interactively. This structured three-day course provides comprehensive training, covering everything from basic visualization to advanced dashboard design, custom CSS theming, plugin development, and deployment strategies.

Course Prerequisites

- Basic understanding of data visualization concepts

- Familiarity with SQL and database operations

- Knowledge of BI tools is beneficial but not mandatory

Course Content

3.1   Introduction to Apache Superset

- Overview of Apache Superset

- Key features and capabilities

- Use cases and benefits

- Superset architecture and components

3.2   Setting Up and Configuring Superset

- Installation and setup (local & cloud)

- Connecting to databases (PostgreSQL, MySQL, etc.)

- Configuring user roles and permissions

- Exploring the Superset UI

3.3 Basic Data Visualization

- Creating your first chart
- Understanding chart types (bar, line, pie, etc.)
- Customizing chart appearance
- Saving and sharing visualizations

3.4 SQL Lab

- Introduction to SQL Lab
- Writing and optimizing SQL queries
- Query best practices
- Saving and reusing queries

3.5 Advanced Charting Techniques

- Advanced chart types (treemaps, sunburst, etc.)
- Time-series visualizations
- Geospatial mapping (using GeoJSON)
- Interactive charts with drill-down capabilities

3.6 Dashboard Design and Best Practices

- Creating and managing dashboards
- Adding and arranging charts dynamically
- Dashboard filters and cross-chart interactions
- Best practices for effective dashboard design

3.7 Customizing Dashboards with CSS

- Introduction to Superset's theming system
- Customizing dashboard styles using CSS
- Overriding default UI elements
- Best practices for maintaining custom themes

3.8 Developing Custom Visualization Plugins

- Overview of Superset's plugin architecture

- Building a custom visualization plugin

- Integrating third-party charting libraries

- Deploying and managing plugins

3.9 Data Source Integration

- Connecting to various data sources (REST APIs, Snowflake, BigQuery, etc.)

- Managing database connections

- Importing and exporting datasets

- Troubleshooting common data source issues

3.10 User Access and Security

- Managing user roles and permissions

- Implementing row-level security (RLS)

- Auditing and monitoring user activities

- Security best practices for Superset

3.11 Deployment of Superset Dashboards

- Deployment options (Docker, Kubernetes, cloud services)

- Scaling Superset for production

- Configuring caching for performance

- Monitoring and maintaining Superset in production