London TDM

Artificial Intelligence and Data Science Training Courses

Course Venue: Malaysia - Kuala Lumpur

Course Date: From 16 August 2026 To 20 August 2026

Course Place: Royale Chullan Hotel

Course Fees: 6,000 USD

Introduction

This "Advanced SQL for Data Analytics" course is designed for data professionals who are looking to elevate their SQL skills to perform complex queries and data manipulation tasks. The five-day intensive program will cover advanced SQL techniques and best practices, enriching participants' ability to extract, analyze, and visualize data effectively. Attendees will engage in both theoretical discussions and practical exercises, ensuring they can apply their learning to real-world data challenges.

Objectives

- To explore advanced SQL techniques for data extraction and analysis.
- To learn how to write and optimize complex SQL queries.
- To understand and apply SQL analytical functions.
- To employ SQL in data cleaning, transformation, and preparation for analysis.
- To develop the ability to solve real-world data problems using SQL.

Course Outlines

Day 1: Advanced Query Techniques

- Review of SQL basics and their advanced applications
- Nested and correlated subqueries
- Using Common Table Expressions (CTEs) for complex solutions
- Set operations: UNION, INTERSECT, and EXCEPT
- Handling temporal data with advanced date and time functions

Day 2: Data Transformation and Cleaning

- Using SQL for ETL processes
- Data cleaning techniques with SQL
- String manipulation and pattern matching with SQL
- Pivoting and unpivoting datasets
- Working with JSON and XML data types

Day 3: Advanced Joins and Aggregations

- Deep dive into JOIN types and performance implications
- Leveraging window functions for advanced analytics
- Aggregation techniques and GROUP BY extensions
- Case studies: practical applications of advanced joins
- De-duplicating and summarizing data efficiently

Day 4: Performance Tuning and Optimization

- Understanding SQL query execution plans
- Indexing strategies for optimal performance
- Optimizing queries for large datasets
- Identifying and rectifying slow queries
- Utilizing database-specific features for improved performance

Day 5: Real-World Analytics and Visualization

- Integrating SQL with BI tools for data visualization
- Building real-world use cases and data models
- Automating data reporting processes
- Introduction to SQL in Big Data analytics platforms
- Capstone project: end-to-end data analytics using advanced SQL