

Leveraging AI for SQL and Databases

Course Overview

This 3-day intensive training program is designed to empower database professionals, developers, and IT specialists with the expertise to leverage Artificial Intelligence (AI) technologies to streamline SQL coding, enhance query performance, and implement intelligent database tuning strategies within SQL Server Management Studio (SSMS). Participants will gain valuable skills to improve productivity, reduce manual effort, and adopt AI-driven automation in SQL Server environments.

Learning Objectives

- Understand the role of AI in SQL Server database development and management.
- Learn AI-powered methods to automate and optimize SQL query generation and tuning.
- Develop proficiency in AI-driven performance analysis and intelligent indexing strategies.
- Explore AI-enabled database monitoring and automatic tuning features in SQL Server.
- Apply practical solutions through hands-on labs and case studies for enterprise scenarios.

Target Audience

Database administrators, SQL developers, data engineers, IT professionals, and architects seeking to integrate AI techniques for enhanced SQL coding efficiency and database performance optimization.

Prerequisites

- Solid experience with SQL Server and T-SQL programming.

- Familiarity with SSMS interface and basic query tuning concepts.
- Basic understanding of database indexing and execution plans.
- Prior knowledge of AI concepts is helpful but not mandatory.

Course Outline

Module 1: Introduction and AI-Assisted SQL Coding

- AI in Database Management: Concepts and Use Cases
- Automating SQL Code Generation with AI
- Hands-On Lab: Generating and Optimizing Queries Using AI Tools
- Interactive Discussion and Q&A

Module 2: Enhancing Query Performance with AI

- Understanding Query Execution Plans and Bottlenecks
- AI-Driven Query Optimization and Indexing Strategies
- Hands-On Lab: Using AI Tools to Tune Slow Queries
- Real-World Case Study: AI-Based Performance Improvements

Module 3: Intelligent Database Tuning and Automation

- AI-Powered Performance Monitoring and Automatic Tuning in SQL Server
- Automating Database Maintenance and Workload Forecasting with AI
- Hands-On Lab: Configuring AI-Driven Tuning Features
- Future Trends in AI for Database Management and Wrap-Up