

SQL Server Performance Tuning and Optimization

Summary: Duration – 5 full days, Level - 400 (MS Scale), Delivery method - Virtual Instructor-led class or In-class

This Masterclass suits Database administrators who are responsible for the proper and reliable operation of one or more SQL Servers. It also suits to Database Developers who want to know how to optimize their code or to isolate performance issues in the data access layer. Participants will learn how to search and detect problems raising in SQL database, the QP and code Execution. This class includes solid theoretical material, part of which comes directly from the programme team, who develops SQL Server in Microsoft, and unpublished tuning techniques for increasing of SQL Server performance.

AUDIENCE:

- Database administrators who are responsible for the proper and reliable operation of one or more SQL Servers
- Developers who want to create a good and scalable code by understanding how the internal processes, the QP and code execution work
- SQL Server architects and professionals who want to be successful in performance tuning of SQL Server environments, to empower themselves with knowledge, skills and methodology for finding, isolating and troubleshooting performance problems

AFTER THE TRAINING ATTENDEES WILL BE ABLE TO:

- Find performance problems in SQL Server workload and tune them properly
- Know monitoring and profiling tools that SQL Server provides out of the box
- Choose the right tool in order to get the right monitoring data for fast problem detection
- Have a deep understanding of the architecture and the way SQL Server works in order to reach the problem root cause and to act properly
- Configure SQL Server at all levels in order to avoid and reduce problems
- Get to the problem quickly in order to reduce the downtime in production environment
- Develop SQL code that is aligned to good coding practices and provides scalability and performance of the database access layer
- Avoid traps in code development and object usage
- Find/assess code that performs badly and to know how to optimize it

TOPICS:

- Module 1.** SQL Server Internals and Resource Management
- Module 2.** Waits and Queues Methodology for PTO
- Module 3.** TempDB and Database level PTO
- Module 4.** Event-based Monitoring and PTO Scenarios
- Module 5.** Query Execution and Query plans
- Module 6.** The importance of statistics and indexes
- Module 7.** Query Tuning when indexes cannot help
- Module 8.** Optimizing Large Tables Performance
- Module 9.** Tools for analysing performance problems