

10987: Performance Tuning and Optimizing SQL Databases (SQL Server 2017)

Course Details

Course Outline

1. SQL Server Architecture, Scheduling, and Waits

- SQL Server Components and SQL OS
- Windows Scheduling vs SQL Scheduling
- Waits and Queues
- **Lab : SQL Server Architecture, Scheduling, and Waits**

2. SQL Server I/O

- Core Concepts
- Storage Solutions
- I/O Setup and Testing
- **Lab : Testing Storage Performance**

3. Database Structures

- Database Structure Internals
- Data File Internals
- TempDB Internals
- **Lab : Database Structures**

4. SQL Server Memory

- Windows Memory
- SQL Server Memory
- In-Memory OLTP
- **Lab : SQL Server Memory**

5. SQL Server Concurrency

- Concurrency and Transactions
- Locking Internals
- **Lab : SQL Server Concurrency**

6. Statistics and Index Internals

- Statistics Internals and Cardinality Estimation
- Index Internals
- Columnstore Indexes

- **Lab : Statistics and index Internals**

7. Query Execution and Query Plan Analysis

- Query execution and optimizer internals
- Query execution plans
- Analyzing query execution plans
- **Lab : Query execution and query plan analysis**

8. Plan Caching and Recompilation

- Plan cache internals
- Troubleshooting plan cache issues
- Query store
- **Lab : Plan caching and recompilation**

9. Extended Events

- Extended events core concepts
- Working with extended events
- **Lab : Extended events**

10. Monitoring, Tracing, and Baselineing

- Monitoring and tracing
- Baselineing and benchmarking
- **Lab : Monitoring, Tracing and Baselineing**