Microsoft

SQL Server: Hands-On Troubleshooting

WorkshopPLUS

Target Audience:

This is an advanced course for SQL Server database administrators, database architects and developers who wish to formulate a practiced approach to SQL Server 2016 database engine troubleshooting.

The basic concepts and know-how of the product will not be covered in this course, and it is expected that attendees will already possess that knowledge.

Multiple versions of the workshop are available, with each version containing differing sets of problem scenarios and solutions.

Overview

The SQL Server Hands-On troubleshooting workshop provides attendees with the deep knowledge and understanding of the troubleshooting techniques and tools needed to identify and solve issues on an on-premise SQL Server instance. Through lecture, white-board discussions, and scenario-based instruction, this three-day workshop covers individual approaches for troubleshooting problems and explores the tools available to monitor, troubleshoot and identify the root cause of issues.

Key Features and Benefits

Each day presents scenarios designed to provide participants with in-depth expertise, tools and hands-on experience to help troubleshoot specific SQL Server issues. All scenarios take place against a set of SQL Server 2016 instances.

Technical Highlights

After completing this course, you will be able to:

- Understand the tools that can help troubleshoot SQL Server.
- Understand how to approach different troubleshooting scenarios.
- Identify and correct common administrative problems.
- Collect and analyze performance data in order to form an educated hypothesis about reasons for SQL Server issues.
- Identify action plans to troubleshoot different components and areas of SQL Server.
- Implement action plan/fixes and confirm the changes made repair the issue.

Syllabus

Hardware Requirements:

- *Designate engagement space at customer location.*
- *Internet connectivity with appropriate network bandwidth.*
- *Connection to Microsoft's On-Demand learning environment.*
- *Secure attendance of appropriate personnel for workshops, discussions and demonstrations.*

This workshop runs for three full days. Students should anticipate consistent start and end times for each day. Early departure on any day is not recommended.

Day 1:

Introduction and overview of classroom setup. Learn how to capture performance data using SQLDIAG, SQLNexus, Profiler, Perfmon, DMVs. Review common performance counters, SQL Wait States, blocking and error logs while providing insight on what performance issues they indicate. Problem workloads will be introduced for the students to troubleshoot.

Day 2:

Day two begins with review of the previous day's performance and administrative issues and their solutions. The class will be confronted with deeper problems. Students will apply day one knowledge to identify performance issues from the normal activity of a production server. Students learn to identify deadlocking, parameter sniffing, tempdb contention and provide/implement their solutions.

Day 3:

Day 3 investigates more performance and administrative problems including misconfiguration, blocking, backup and restore, corruption and wait states. All previous performance issues might also be part of the lab investigation. This is the last round of performance diagnostics. By the end of the day, students will have addressed performance and configuration issues, implemented solutions, and validated their results.