



MICROSOFT TRAINING

Advanced Administration for MS SQL Server 2019 Course Overview

Master advanced MS SQL Server 2019 administration to optimize performance, ensure high availability, and secure your databases.

DURATION

48 hours

LEVEL

Intermediate

FORMAT

Instructor-Led

- Globally Recognized Certification

- Expert-Led Hands-On Training

- Flexible Scheduling

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COURSE OVERVIEW

The Advanced Administration for MS SQL Server 2019 course is meticulously crafted for seasoned IT professionals and database administrators looking to deepen their expertise and master the intricacies of Microsoft's flagship database platform. This comprehensive program delves into advanced topics crucial for optimizing, securing, and maintaining high-performance SQL Server 2019 environments. Participants will gain practical skills in critical areas such as performance tuning, advanced high availability and disaster recovery strategies, robust security implementation, and proactive monitoring.

Through hands-on labs and real-world case studies, you will learn to tackle complex challenges, ensuring the stability, efficiency, and integrity of mission-critical databases. The course covers leveraging SQL Server 2019's enhanced features, including Intelligent Query Processing, Always On Availability Groups, advanced security mechanisms like Always Encrypted, and efficient data management techniques. By the end of this program, you will be equipped to design, implement, and manage a highly resilient and secure SQL Server infrastructure, directly contributing to your organization's data-driven success and significantly elevating your professional standing.

Duration	48 hours
Level	Intermediate
Vendor	Microsoft

COURSE CURRICULUM

01 Module 1: Advanced SQL Server Architecture and Configuration

- Deep Dive into SQL Server 2019 Engine Components
- Memory Management and I/O Subsystem Optimization
- Advanced Instance and Database Configuration Best Practices
- Understanding Database Files, Filegroups, and Storage Strategies
- Resource Governor and Workload Management

02 Module 2: Performance Tuning and Query Optimization

- Advanced Indexing Strategies (Columnstore, Clustered/Non-Clustered)
- Query Plan Analysis and Optimization Techniques
- Statistics Management and Auto-Tuning Features in SQL Server 2019
- Troubleshooting Performance Bottlenecks with Extended Events and DMVs
- In-Memory OLTP (Hekaton) for Performance-Critical Workloads

03 Module 3: High Availability and Disaster Recovery

- Implementing Always On Availability Groups (Advanced Configurations)
- Failover Clustering Instances vs. Availability Groups
- Log Shipping and Database Mirroring for Legacy Systems
- Backup and Restore Strategies for Complex Environments (Point-in-Time Restore)
- Disaster Recovery Planning and Testing

04 Module 4: Advanced Security and Compliance

- Auditing and Compliance Features (SQL Audit, Change Data Capture)
- Always Encrypted and Dynamic Data Masking
- Row-Level Security and Column-Level Encryption
- Server and Database Role Management Best Practices

- Threat Detection and Vulnerability Assessment

05 Module 5: Monitoring, Troubleshooting, and Automation

- Utilizing Performance Monitor, Activity Monitor, and Data Collector
- Advanced T-SQL for Administration and Monitoring
- SQL Server Agent Jobs and PowerShell Automation for DBA Tasks
- Troubleshooting Connectivity, Concurrency, and Deadlock Issues
- Implementing Proactive Monitoring Alerts and Dashboards

06 Module 6: Data Management and Emerging Features

- Working with Big Data Clusters in SQL Server 2019 (Introduction)
- Data Compression and Partitioning Strategies
- Database Consistency Checks (DBCC) and Repair
- Upgrading and Migrating SQL Server Instances
- PolyBase Integration for External Data Sources

CAREER PATHWAYS

Graduates of this program are prepared for the following roles:

- > **Senior Database Administrator (DBA)**
- > **Database Architect**
- > **SQL Server Performance and Optimization Specialist**

FREQUENTLY ASKED QUESTIONS

Q: What specific challenges will I be equipped to tackle after completing the Advanced Administration for MS SQL Server 2019 course?

This course is designed to prepare you for complex real-world scenarios such as optimizing critical database performance under heavy loads, implementing robust high availability solutions to minimize downtime, securing sensitive data against modern threats using SQL Server 2019's advanced security features, and troubleshooting intricate database issues effectively to ensure business continuity and data integrity. You will learn to architect solutions for maximum uptime and data protection.

Q: What foundational knowledge or experience is recommended before enrolling in this advanced SQL Server 2019 administration course?

To gain the most from this advanced curriculum, participants should have solid foundational experience with SQL Server administration, including a good understanding of database concepts, T-SQL querying, basic database installation, configuration, and maintenance. Familiarity with earlier versions of SQL Server and general Windows Server administration is also highly beneficial, as this course builds upon existing DBA skills.

Q: How does mastering advanced SQL Server 2019 administration, particularly its new features, enhance my marketability as a database professional?

By mastering the advanced administration concepts and specific features of SQL Server 2019 covered in this course—such as enhanced Always On Availability Groups, Intelligent Query Processing, improved security models, and Big Data Clusters integration—you differentiate yourself as an expert capable of leveraging the latest Microsoft technologies. This

positions you as a highly valuable asset to organizations seeking to maximize their data platform investments, ensuring high performance, availability, and security, thereby opening doors to senior DBA, database architect, and performance specialist roles in competitive IT markets.

ABOUT COMPUTER PRIDE



East Africa's Premier IT Training Center

With over 15 years of excellence, Computer Pride delivers globally recognized certification programs from leading technology vendors. Located on Kenyatta Avenue in Nairobi's CBD, our state-of-the-art facilities and expert instructors have empowered thousands of professionals across East Africa.

15+

Years of Excellence

10,000+

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50+

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Take the next step in your technology career.

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