€TRAINING

MS SQL Server DBA

10 - 21 November 2024
Online

MS SQL Server DBA

Introduction:

This training program provides participants with essential knowledge and skills in managing and administering Microsoft SQL Server databases. It empowers them to ensure the performance, availability, and security of SQL Server databases.

Program Objectives:

At the end of this program, participants will be able to:

- Understand the architecture and components of SQL Server.

- Perform installation, configuration, and upgrading of SQL Server.

- Manage and monitor SQL Server instances and databases.

- Implement security measures and backup strategies.

- Troubleshoot and optimize SQL Server performance.

Targeted Audience:

- Database Administrators.

- IT Professionals involved in database management.

- SQL Server Developers seeking DBA skills.

- System Administrators.

- Professionals aiming to enhance their SQL Server skills.

Program Outline:

Unit 1:

Introduction to SQL Server:

- Overview of SQL Server editions and versions.

- SQL Server architecture and components.

- Installing and configuring SQL Server.

- SQL Server Management Studio SSMS basics.

- Database and instance concepts.

Unit 2:

Database Administration Fundamentals:

- Creating and configuring databases.

- Understanding database files and filegroups.

- Managing tables, indexes, and schemas.

- Using SQL Server Agent for automation.

- Database maintenance plans.

Unit 3:

Security Management:

- Authentication modes and logins.

- Creating and managing users and roles.

- Implementing permissions and encryption.

- Security best practices.

- Auditing and monitoring security.

Unit 4:

Backup and Recovery:

- Backup types and strategies.

- Configuring and managing backups.

- Restoring databases from backups.

- Point-in-time recovery.

- Disaster recovery planning.

Unit 5:

High Availability and Disaster Recovery:

- Configuring database mirroring.

- Implementing AlwaysOn Availability Groups.

- Setting up SQL Server clustering.

- Log shipping configuration and management.

- Replication concepts and setup.

Unit 6:

Performance Tuning and Optimization:

- Monitoring SQL Server performance.

- Indexing strategies and management.

- Query optimization techniques.

- Analyzing and resolving bottlenecks.

- Using SQL Server Profiler and Extended Events.

Unit 7:

Monitoring and Maintenance:

- Setting up and configuring alerts.

- Monitoring with SQL Server Agent.

- Using Data Collector and Management Data Warehouse.

- Automating maintenance tasks.

- Monitoring and troubleshooting jobs.

Unit 8:

Advanced Administration:

- Partitioning tables and indexes.

- Managing large databases.

- Implementing and managing SQL Server Integration Services SSIS.

- SQL Server Reporting Services SSRS basics.

- SQL Server Analysis Services SSAS basics.

Unit 9:

SQL Server Upgrades and Migration:

- Planning and preparing for upgrades.

- Upgrading SQL Server instances.

- Migrating databases to new servers.

- Using Data Migration Assistant DMA.

- Post-upgrade tasks and validation.

Unit 10:

Troubleshooting and Best Practices:

- Common SQL Server issues and solutions.

- Using SQL Server logs and error messages.

- Best practices for database administration.

- Regular health checks and audits.

- Staying updated with SQL Server features and updates.