

Course Name: Microsoft SQL Server DBA

Course Duration: 40 Hrs.

Prerequisites

- Working knowledge of T-SQL and some experience with database design.
- Basic knowledge of the Microsoft Windows Server OS.

SQL Server Components

- Introduction to the SQL Server Platform
- Overview of SQL Server Architecture
- SQL Server Services and Configuration Options

Installing SQL Server and related services

- Considerations for installing SQL Server
- TempDB Files
- Installing SQL Server
- Automating Installation

Upgrading and Migrating Procedure

- Upgrade Requirements
- Upgrade SQL Server Services
- Migrating SQL Server Data and Applications

Working with Databases

- Overview of SQL Server Databases
- Creating Databases
- Database Files and Filegroups
- Moving Database Files
- Buffer Pool Extension

SQL Server Security

- Authenticating Connections to SQL Server
- Authorizing Logins to Connect to databases
- Authorization Across Servers
- Partially Contained Databases

Assigning Server and Database Roles

- Working with server roles
- Working with Fixed Database Roles
- Assigning User-Defined Database Roles

Authorizing Users to Access Resources

- Authorizing User Access to Objects
- Authorizing Users to Execute Code
- Configuring Permissions at the Schema Level

Protecting Data with Encryption and Auditing

- Options for auditing data access in SQL Server
- Implementing SQL Server Audit
- Managing SQL Server Audit
- Protecting Data with Encryption

Recovery Models and Backup Strategies

- Understanding Backup Strategies
- SQL Server Transaction Logs
- Planning Backup Strategies

Backing Up SQL Server Databases

- Backing Up Databases and Transaction Logs
- Managing Database Backups
- Advanced Database Options

Restoring SQL Server Databases

- Understanding the Restore Process
- Restoring Databases
- Advanced Restore Scenarios
- Point-in-Time Recovery

Importing and Exporting Data

- Transferring Data to and from SQL Server
- Importing and Exporting Table Data
- Using bcp and BULK INSERT to Import Data
- Deploying and Upgrading Data-Tier Application

Automating SQL Server Management

- Automating SQL Server management
- Working with SQL Server Agent
- Managing SQL Server Agent Jobs
- Multi-server Management

Monitoring SQL Server with Alerts and Notifications

- Monitoring SQL Server Errors
- Configuring Database Mail
- Operators, Alerts, and Notifications

Monitoring SQL Server

- Monitoring activity Capturing and Managing Performance Data
- Analyzing Collected Performance Data
- SQL Server Utility
- Tracing Access to SQL Server with Extended events

Performing Database Maintenance

- Ensuring Database Integrity
- Maintaining Indexes
- Automating Routine Database Maintenance

Troubleshooting SQL Server

- A Trouble Shooting Methodology for SQL Server
- Resolving Service Related Issues
- Resolving Connectivity and Log-in issues

Implementing HA/DR

- Implementing Replication
- Implementing AlwaysOn