

Administering Microsoft SQL Server 2022

Module 01: Introduction to SQL Server 2022

- Overview of SQL Server 2022
- SQL Server Components & Architecture
- SQL Server Instances, Editions and version.

Module 02: Installing and Configuring SQL Server 2022

- Installing SQL Server
- Considerations for Installing SQL Server
- Installation changes/ Feature Selection /New Tab

Module 03: SQL Server Security

- Authentication and authorization
- Managing users and logins
- Controlling access to objects with permissions
- Auditing database activity

Module 04: Data Protection with Encryption and Management

- Protecting Data with Encryption and Auditing
- Always Encrypted with Secure Enclave
- Dynamic Data Masking
- Database Ledger
- Data Classification and Function
- Row Level Security

Module 05: SQL Server 2022 Storage Engine Capabilities

- Tempdb Performance Critical for Scalability
- Shrink DB With Low Priority
- Accelerate Database Recovery Improvements
- Current Buffer Pool Scan Operations

Module 06: SQL Server Backup and Recovery

- Types of backups: full, differential, and transaction log backups
- Planning backup and recovery strategies
- Performing backups and restores
- Monitoring backup and recovery performance
- Improved backup metadata

Module 07 : SQL Server High Availability and Disaster Recovery

- Introduction to high availability and disaster recovery
- Configuring database mirroring
- Configuring log shipping
- Configuring Always On availability groups

Module 08 : SQL Server Performance Tuning and Optimization

- Identifying performance bottlenecks
- Query tuning techniques
- Index tuning
- Server configuration and resource allocation

Module 09 : Automating SQL Server Management

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

Module 10: Monitoring SQL Server with Alerts and Notifications

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

Module 11: Working Examples with data Integration

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

Module 12: SQL Server 2022: The cloud-connected database

- Business continuity through Azure SQL Managed Instance
- Azure Synapse Link for SQL Server
- Azure Purview integration
- Extending cloud-connected

Module 13: Monitoring SQL Server Using Tools

- Extend Events Concepts
- Working with Extended Events
- Working with Windows Performance Counter
- Working with Activity Monitor

Module 14: Common Issues and solutions with tips and tricks

- Troubleshooting Techniques
- Connectivity Issues
- Service-Related Issues
- Common Errors and solutions

Module 15: DB Management

- Accelerated Database Recovery (ADR) improvements
- Max server memory calculations
- Improved snapshot backup support
- Shrink database WAIT_AT_LOW_PRIORITY
- Asynchronous auto update statistics concurrency

Module 16: Advanced SQL Server Topics

- System page latch concurrency enhancements
- Ordered clustered column store index
- Improved column store segment elimination
- Virtual log file growth