

20462 - Administering Microsoft SQL Server Databases

Duration: 5 days

Overview:

This five-day instructor-led course provides students with the knowledge and skills to maintain a Microsoft SQL Server 2014 database. The course focuses on teaching individuals how to use SQL Server 2014 product features and tools related to maintaining a database. This is a Microsoft Official Course (MOC).

Target Audience:

The primary audience for this Microsoft 20462 training course is individuals who administer and maintain SQL Server databases. These individuals perform database administration and maintenance as their primary area of responsibility, or work in environments where databases play a key role in their primary job. The secondary audience for this course is individuals who develop applications that deliver content from SQL Server databases.

Pre-requisites:

Before attending this course, students must have:

- Basic knowledge of the Microsoft Windows operating system and its core functionality.
- Working knowledge of Transact-SQL.

[Read more...](#)

At Course Completion:

After completing this course, students will be able to:

- Describe core database administration tasks and tools.
- Install and configure SQL Server 2014.
- Configure SQL Server databases and storage.
- Plan and implement a backup strategy.
- Restore databases from backups.
- Import and export data.
- Monitor SQL Server.
- Trace SQL Server activity.

[Read more...](#)

Module 1: Introduction to SQL Server 2014 Database Administration

Lessons

- Database Administration Overview
- Introduction to the SQL Server Platform
- Database Management Tools and Techniques

Lab : Using SQL Server Administrative Tools

- Using SQL Server Management Studio
- Using the sqlcmd Utility
- Using Windows PowerShell with SQL Server

Module 2: Installing and Configuring SQL Server 2014

Lessons

- Planning SQL Server Installation
- Installing SQL Server 2014
- Post-Installation Configuration

Lab : Installing SQL Server 2014

- Preparing to Install SQL Server
- Installing SQL Server
- Performing Post-Installation Configuration

Module 3: Working with Databases and Storage

Lessons

- Introduction to Data Storage with SQL Server
- Managing Storage for System Databases
- Managing Storage for User Databases
- Moving Database Files
- Configuring the Buffer Pool Extension

Lab : Managing Database Storage

- Configuring tempdb Storage
- Creating Databases
- Attaching a Database

Module 4: Planning and Implementing a Backup Strategy

Lessons

- Understanding SQL Server Recovery Models
- Planning a Backup Strategy
- Backing up Databases and Transaction Logs
- Using Backup Options
- Ensuring Backup Reliability

Lab : Backing Up SQL Server Databases

- Backing Up Database
- Performing Database, Differential, and Transaction Log Backups
- Performing a Partial Backup

Module 5: Restoring SQL Server 2014 Databases

Lessons

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

Lab : Restoring SQL Server Databases

- Restoring a Database Backup
- Restoring Database, Differential, and Transaction Log Backups
- Performing a Piecemeal Restore

Module 6: Importing and Exporting Data

Lessons

- Introduction to Transferring Data
- Importing and Exporting Table Data
- Copying or Moving a Database

Lab : Importing and Exporting Data

- Using the SQL Server Import and Export Wizard
- Using the bcp Utility
- Using the BULK INSERT Statement
- Using the OPENROWSET Function

Module 7: Monitoring SQL Server 2014

Lessons

- Introduction to Monitoring SQL Server
- Dynamic Management Views and Functions
- Performance Monitor

Lab : Monitoring SQL Server 2014

- Collecting Baseline Metrics
- Monitoring a Workload

Module 8: Tracing SQL Server Activity

Lessons

- Tracing SQL Server Workload Activity
- Using Traces

Lab : Tracing SQL Server Workload Activity

- Capturing a Trace in SQL Server Profiler
- Generating Database Tuning Recommendations
- Using SQL Trace

Module 9: Managing SQL Server Security

Lessons

- Introduction to SQL Server Security
- Managing Server-Level Security
- Managing Database-Level Principals
- Managing Database Permissions

Lab : Managing SQL Server Security

- Managing Server-Level Security
- Managing Database-Level Security
- Testing Database Access

Module 10: Auditing Data Access and Encrypting Data

Lessons

- Auditing Data Access in SQL Server
- Implementing SQL Server Audit
- Encrypting Databases

Lab : Auditing Data Access and Encrypting Data

- Implementing Auditing
- Implementing Transparent Database Encryption

Module 11: Performing Ongoing Database Maintenance

Lessons

- Ensuring Database Integrity
- Maintaining Indexes

Automating Routine Database Maintenance

Lab : Performing Ongoing Database Maintenance

- Managing Database Integrity
- Managing Index Fragmentation
- Implementing a Maintenance Plan

Module 12: Automating SQL Server 2014 Management

Lessons

- Automating SQL Server Management
- Implementing SQL Server Agent Jobs
- Managing SQL Server Agent Jobs
- Managing Job Step Security Contexts
- Managing Jobs on Multiple Servers

Lab : Automating SQL Server Management

- Creating a Job
- Scheduling a Job
- Configuring Job Step Security Contexts

Module 13: Monitoring SQL Server 2014 by Using Alerts and Notifications

Lessons

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

Lab : Monitoring SQL Server by Using Alerts and Notifications

- Configuring Database Mail
- Implementing Operators and Notifications
- Implementing Alerts