
Administering Microsoft® SQL Server® 2012 Databases

Duration: 5.00 Days Course Code: M10775

Overview:

This five-day instructor-led course provides students with the knowledge and skills to maintain a Microsoft SQL Server 2012 database. The course focuses on teaching individuals how to use SQL Server 2012 product features and tools related to maintaining a database.

The Beta version of this course (10775AB) utilises pre-release software in the virtual machine for the labs. Microsoft SQL Server 2012 Release Candidate 0 (RC0) is used in this course. Some of the exercises in this course are SQL Azure enabled.

Target Audience:

The primary audience for this 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 audiences for this course are individuals who develop applications that deliver content from SQL Server databases.

Objectives:

- Plan and install SQL Server.
 - Describes the system databases, the physical structure of databases and the most common configuration options related to them.
 - Explain the concept of the transaction log and SQL Server recovery models and implement different backup strategies available with SQL Server.
 - Create SQL Server Backups.
 - Restore SQL Server databases.
 - Use the import/export wizards and explain how they relate to SSIS.
 - Work with SQL Server security models, logins and users.
 - Work with fixed server roles, user-defined server roles, fixed database roles and user-defined database roles.
 - Work with permissions and the assignment of permissions.
 - Work with SQL Server Audit.
 - Work with SQL Server Agent, jobs and job history.
 - Implement SQL Server agent security, proxy accounts and credentials.
 - Configure database mail, alerts and notifications.
 - Create database maintenance plans.
 - Work with SQL Profiler and SQL Trace stored procedures.
 - Introduce DMVs and the configuration of data collection.
 - Work with Central Management Servers and Multi-Server queries, Virtualisation of SQL Server and Data-Tier Applications.
 - Troubleshoot SQL Server databases.
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Prerequisites:

In addition to their professional experience, students who attend this training should already have the following technical knowledge:

- Basic knowledge of the Microsoft Windows operating system and its core functionality.
- Working knowledge of Transact-SQL.
- Working knowledge of relational databases.
- Some experience with database design.

Students who attend this training can meet the prerequisites by attending the following courses, or obtaining equivalent knowledge

Testing and Certification

- This course helps you prepare for the Exam 70-462.

and skills:

■ 10774A: Writing T-SQL Queries for Microsoft SQL Server 2012

Content:

Module 1: Introduction to SQL Server 2012 and its Toolset

This module introduces the entire SQL Server platform and its major tools. It covers editions, versions, basics of network listeners, and concepts of services and service accounts. Introduction to the SQL Server Platform

- Working with SQL Server Tools
- Configuring SQL Server Services
- Lab : Introduction to SQL Server and its Toolset

Module 2: Preparing Systems for SQL Server 2012

This module covers planning for an installation related to SQL Server I/O requirements, 32 bit vs 64 bit, memory configuration options and I/O subsystem pre-installation checks using SQLIOSim and SQLIO.

- Overview of SQL Server Architecture
- Planning Server Resource Requirements
- Pre-installation Testing for SQL Server
- Lab : Preparing Systems for SQL Server

Module 3: Installing and Configuring SQL Server 2012

This module details installing and configuring SQL Server.

- Preparing to Install SQL Server
- Installing SQL Server
- Upgrading and Automating Installation
- Lab : Installing and Configuring SQL Server

Module 4: Working with Databases

This module describes how data is stored in databases, how to create databases, and how to move databases either within a server or between servers.

- Overview of SQL Server Databases
- Working with Files and Filegroups
- Moving Database File
- Lab : Working with Databases

Module 5: Understanding SQL Server 2012 Recovery Models

This module describes the concept of the transaction log and SQL Server recovery models. It introduces the different backup strategies available with SQL Server.

- Backup Strategies
- Understanding SQL Server Transaction Logging
- Planning a SQL Server Backup Strategy
- Lab : Understanding SQL Server Recovery Models

Module 6: Backup of SQL Server 2012 Databases

Module 8: Importing and Exporting Data

This module covers the use of the import/export wizards and explains how they relate to SSIS. Also introduces BCP.

- Transferring Data To/From SQL Server
- Importing ; Exporting Table Data
- Inserting Data in Bulk
- Lab : Importing and Exporting Data

Module 9: Authenticating and Authorising Users

This module covers SQL Server security models, logins and users.

- Authenticating Connections to SQL Server
- Authorising Logins to Access Databases
- Authorisation Across Servers
- Lab : Authenticating and Authorising Users

Module 10: Assigning Server and Database Roles

This module covers fixed server roles, user-defined server roles, fixed database roles and user-defined database roles.

- Working with Server Roles
- Working with Fixed Database Roles
- Creating User-defined Database Roles
- Lab : Assigning Server and Database Roles

Module 11: Authorising Users to Access Resources

This module covers permissions and the assignment of permissions.

- Authorising User Access to Objects
- Authorising Users to Execute Code
- Configuring Permissions at the Schema Level
- Lab : Authorising Users to Access Resources

Module 12: Auditing SQL Server Environments

This module covers SQL Server Audit.

- Options for Auditing Data Access in SQL
- Implementing SQL Server Audit
- Managing SQL Server Audit
- Lab : Auditing SQL Server Environments

Module 13: Automating SQL Server 2012 Management

This module covers SQL Server Agent, jobs and job history.

- Automating SQL Server Management
- Working with SQL Server Agent
- Managing SQL Server Agent Jobs
- Lab : Automating SQL Server

Module 15: Monitoring SQL Server 2012 with Alerts and Notifications

This module covers the configuration of database mail, alerts and notifications.

- Configuration of Database Mail
- Monitoring SQL Server Errors
- Configuring Operators, Alerts and Notifications
- Lab : Monitoring SQL Agent Jobs with Alerts and Notifications

Module 16: Performing Ongoing Database Maintenance

This module covers database maintenance plans.

- Ensuring Database Integrity
- Maintaining Indexes
- Automating Routine Database Maintenance
- Lab : Performing Ongoing Database Maintenance

Module 17: Tracing Access to SQL Server 2012

This module covers SQL Profiler and SQL Trace stored procedures.

- Capturing Activity using SQL Server Profiler
- Improving Performance with the Database Engine Tuning Advisor
- Working with Tracing Options
- Lab : Tracing Access to SQL Server 2012

Module 18: Monitoring SQL Server 2012

This module introduces DMVs and the configuration of data collection.

- Monitoring Activity
- Capturing and Managing Performance Data
- Analysing Collected Performance Data
- Lab : Monitoring SQL Server 2012

Module 19: Managing Multiple Servers

This module covers Central Management Servers and Multi-Server queries, Virtualisation of SQL Server and Data

- Tier Applications.
- Working with Multiple Servers
- Virtualising SQL Server
- Deploying and Upgrading Data-Tier Applications
- Lab : Managing Multiple Servers

Module 20: Troubleshooting Common SQL Server 2012 Administrative Issues

This module covers common issues that require troubleshooting and gives guidance on where to start looking for solutions.

This module describes SQL Server Backup and the backup types.

- Backing up Databases and Transaction Logs
- Managing Database Backups
- Working with Backup Options
- Lab : Backup of SQL Server Databases

Module 7: Restoring SQL Server 2012 Databases

This module describes the restoration of databases.

- Understanding the Restore Process
- Restoring Databases
- Working with Point-in-time recovery
- Restoring System Databases and Individual Files
- Lab : Restoring SQL Server 2012 Databases

Management

Module 14: Configuring Security for SQL Server Agent

This module covers SQL Server agent security, proxy accounts and credentials.

- Understanding SQL Server Agent Security
- Configuring Credentials
- Configuring Proxy Accounts
- Lab : Configuring Security for SQL Server Agent

- SQL Server Troubleshooting Methodology
- Resolving Service-related Issues
- Resolving Concurrency Issues
- Resolving Login and Connectivity Issues
- Lab : Troubleshooting Common Issues

Further Information:

For More information, or to book your course, please call us on 353-1-814 8200

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