Course 6231A: Maintaining a Microsoft SQL Server 2008 Database

Length	5 days
Audience(s)	IT Professionals
Technology	Microsoft SQL Server 2008
Type	Course
Delivery Method	Instructor-led (classroom)

About this Course

This five-day instructor-led course provides students with the knowledge and skills to maintain a Microsoft SQL Server 2008 database. The course focuses on teaching individuals how to use SQL Server 2008 product features and tools related to maintaining a database.

Audience Profile

This course is intended for IT Professionals who administer and maintain SQL Server databases.

At Course Completion

After completing this course, students will be able to:

- Install and configure SQL Server 2008.
- Manage database files.
- Backup and restore databases.
- Manage security.
- Transfer data into and out of SQL Server.
- Automate administrative tasks.
- Replicate data between SQL Server instances.
- Maintain high availability.
- Monitor SQL Server.

Certification Path

MCP (Microsoft Certified Professional)

MCTS: SQL Server 2008, Implementation and Maintenance
- Exam 70-432: TS: Microsoft SQL Server 2008, Installation and Maintenance

MCITP (Microsoft Certified IT Professional)

Microsoft Learning

Course Outline

Module 1: Installing and Configuring SQL Server

Lessons	Labs: Installing and Configuring SQL Server	After completing this module, students will be able to
• Preparing to Install SQL Server • Installing SQL Server • Configuring a SQL Server Installation	• Installing SQL Server • Configuring SQL Server	• Prepare hardware/resources needed to install SQL Server. • Install SQL Server. • Manage and configure SQL Server.

Module 2: Managing Databases and Files

Lessons	Labs: Managing Databases and Files	After completing this module, students will be able to
• Planning Databases • Creating Databases • Using Policy-Based Management	• Creating a Database • Monitoring and Managing File-group Usage • Creating a Policy	• Plan a DB imp., meeting an organization's requirements. • Create a SQL Server database. • Manage a SQL Server database.

Module 3: Disaster Recovery

Lessons	Labs: Disaster Recovery	After completing this module, students will be able to
• Planning a Backup Strategy • Backing Up/Restoring User Databases • Performing Online Restore Operations • Recovering Data from Database Snapshots • System Databases and Disaster Recovery	• Designing a Backup Strategy • Implementing a Backup Strategy • Restoring and Recovering a Database • Performing Piecemeal Backup & Restore Operations • Restoring the master Database	• Plan a backup strategy for a database. • Back up/Restoring user databases. • Restore data in a user database while it is online. • Recover data for user database from a database snapshot. • Restore and recover system databases.

Module 4: Managing Security

Lessons	Labs: Managing Security	After completing this module, students will be able to
• Overview of SQL Server Security • Protecting the Server Scope • Protecting the Database Scope • Protecting the Server Scope • Auditing Security	• Creating Logins and Assigning Server-Scope Permissions • Creating and Managing Users • Using a Certificate to Protect Data • Implementing SQL Server Audit	• Describe how SQL Server manages security. • Protect SQL Server at the server level. • Protect SQL Server databases. • Use keys and certificates to protect SQL Server objects. • Audit SQL Server security

Module 5: Transferring Data

Lessons	Labs: Transferring Data	After completing this module, students will be able to
• Overview of Data Transfer • Introduction to SQL Server Integration Services	• Using the Import/Export Wizard • Performing a Bulk Load • Creating an SSIS Solution	• Use UI and command-line tools to import and export data. • Describe the features of SQL Server Integration Services.

Module 6: Automating Administrative Tasks

Lessons	Labs: Automating Administrative Tasks	After completing this module, students will be able to
• Automating Administrative Tasks in SQL Server • Using SQL Server Agent • Creating Maintenance Plans • Implementing Alerts • Managing Multiple Servers • Managing SQL Server Agent security	• Configuring SQL Server Agent • Creating Operators and Jobs • Creating Alerts	• Define SQL Server administrative tasks & schedule them to run automatically. • Configure SQL Agent to support auto task scheduling. • Script tasks using SQL jobs & define operators to manage • Define warnings about events raised by SQL Server. • Define/manage administrative tasks on multiple servers. • Configure SQL Server Agent security.

Module 7: Implementing Replication

Lessons	Labs: Implementing Replication	After completing this module, students will be able to
• Overview of Replication • Managing Publications and Subscriptions • Configuring Replication in Common Scenarios	• Implementing Snapshot Replication • Implementing Peer-to-Peer Trans. Replication • Implementing HTTP Merge Replication	• Describe replication and its components. • Configure and implement replication. • Use replication to meet req. of common scenarios

Module 8: Maintaining High Availability

Lessons	Labs: Maintaining High Availability	After completing this module, students will be able to
• Introduction to High Availability • Implementing Log Shipping • Implementing Database Mirroring • Implementing Server Clustering • Using Distributed High Availability Solutions	• Configuring Log Shipping • Configuring Database Mirroring • Implementing SQL Server Clustering	• Describe the factors affecting database availability. • Explain implementing log shipping to support fast recovery of a standby SQL Server database • Explain using SQL Server mirroring to implement a software solution for fast failover • Explain how to implement clustering to support fast failover of computers running SQL Server instances. • Explain implementing distributed high availability solutions

Module 9: Monitoring SQL Server

Lessons	Labs: Monitoring SQL Server	After completing this module, students will be able to
• Viewing Current Activity • Using SQL Server Profiler • Monitoring with DDL Triggers • Using Event Notifications	• Monitoring SQL Server Activity • Tracing SQL Server Activity • Using DDL Triggers • Using Event Notifications	• Examine the current activity in a SQL Server instance. • Use SQL Server Profiler to trace server & database activity. • Use DDL triggers to monitor changes to the structure of DB objects. • Use event notifications to capture and monitor significant events for a SQL Server instance.

Module 10: Troubleshooting and Performance Tuning

Lessons	Labs: Troubleshooting and Performance Tuning	After completing this module, students will be able to
• Troubleshooting SQL Server • Performance Tuning in SQL Server • Using Resource Governor • Using Data Collector	• Troubleshooting Connectivity Problems • Troubleshooting Concurrency Problems • Using the Database Engine Tuning Advisor • Implementing Resource Governor • Implementing Data Collector	• Troubleshoot common SQL Server problems, such as connectivity, concurrency, and job and disk space problems. • Perform basic performance tuning tasks in SQL Server using the Database Engine Tuning Advisor, index tuning, and query tuning. • Use Resource Governor to manage SQL Server workloads and resources. • Use Data Collector to obtain performance data about your computer and the instances of SQL Server running on your computer.