



**CTREC
HILTON**
IT ACADEMY

BUILDING TRAINING SOLUTIONS
FOR THE IT WORLD

Maintaining a Microsoft SQL Server 2008 Database

Days: 5
Format: Instructor-Led
Class Code 6231
Certification Exams: None
Certification Track: None

Recommended Course Sequence

Knowledge of prerequisites
noted below.

*Course content is subject to change
without notice.*

Course Description:

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.

Target Student:

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

Delivery Method:

Instructor led, group-paced, classroom-delivery learning model with structured hands-on activities.

Prerequisites:

Before attending this course, students must have:

- 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.

At Course Completion:

Upon successful completion of 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.

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Course Outline

Module 1: Installing and Configuring SQL Server

The students will be introduced to planning for a SQL Server installation. The students will then be introduced to installing, configuring, and managing SQL Server.

Lessons
<ul style="list-style-type: none">■ Preparing to Install SQL Server■ Installing SQL Server■ Configuring a SQL Server Installation
Labs: Installing and Configuring SQL Server
<ul style="list-style-type: none">■ Installing SQL Server■ Configuring SQL Server

Module 2: Managing Databases and Files

The students will be introduced to database planning and creation, and using database options to control database behavior.

Lessons
<ul style="list-style-type: none">■ Planning Databases■ Creating Databases■ Using Policy-Based Management
Lab: Managing Databases and Files
<ul style="list-style-type: none">■ Creating a Database■ Monitoring and Managing Filegroup Usage■ Creating a Policy

Module 3: Disaster Recovery

The students will be introduced to disaster recovery techniques for SQL Server. They will learn how to perform different types of backup and restore operations, including online restores and backup and restores of system databases.

Lessons
<ul style="list-style-type: none">■ Planning a Backup Strategy■ Backing Up User Databases■ Restoring User Databases■ Performing Online Restore Operations■ Recovering Data from Database Snapshots■ System Databases and Disaster Recovery
Lab: Disaster Recovery
<ul style="list-style-type: none">■ Designing a Backup Strategy■ Implementing a Backup Strategy■ Restoring and Recovering a Database■ Performing Piecemeal Backup and Restore Operations■ Restoring the master Database

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Module 4: Managing Security

The students will be introduced to protecting SQL Server. Students will learn about the SQL Server security model and how to use SQL Server security features to control access to databases and their contents.

Lessons
<ul style="list-style-type: none">■ Overview of SQL Server Security■ Protecting the Server Scope■ Protecting the Database Scope■ Protecting the Server Scope■ Auditing Security
Lab: Managing Security
<ul style="list-style-type: none">■ Creating Logins and Assigning Server-Scope Permissions■ Creating and Managing Users■ Using a Certificate to Protect Data■ Implementing SQL Server Audit

Module 5: Transferring Data

The students will be introduced to transfer data to and from SQL Server using UI and command-line tools, and learn about transferring and transforming data with SQL Server Integration Services.

Lessons
<ul style="list-style-type: none">■ Overview of Data Transfer■ Introduction to SQL Server Integration Services
Lab: Transferring Data
<ul style="list-style-type: none">■ Using the Import/Export Wizard■ Performing a Bulk Load■ Creating an SSIS Solution

Module 6: Automating Administrative Tasks

The students will learn how to automate routine administrative tasks using jobs, operators, and alerts.

Lessons
<ul style="list-style-type: none">■ Automating Administrative Tasks in SQL Server■ Using SQL Server Agent■ Creating Maintenance Plans■ Implementing Alerts■ Managing Multiple Servers■ Managing SQL Server Agent security
Lab: Automating Administrative Tasks
<ul style="list-style-type: none">■ Configuring SQL Server Agent■ Creating Operators and Jobs■ Creating Alerts

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Module 7: Implementing Replication

The students will be introduced to techniques for configuring SQL Server replication.

Lessons
<ul style="list-style-type: none">■ Overview of Replication■ Managing Publications and Subscriptions■ Configuring Replication in Some Common Scenarios
Lab: Automating Administrative Tasks
<ul style="list-style-type: none">■ Implementing Snapshot Replication■ Implementing Peer-to-Peer Transactional Replication■ Implementing HTTP Merge Replication

Module 8: Maintaining High Availability

The students will be introduced to concepts and methods for maintaining high availability with SQL Server.

Lessons
<ul style="list-style-type: none">■ Introduction to High Availability■ Implementing Log Shipping■ Implementing Database Mirroring■ Implementing Server Clustering■ Using Distributed High Availability Solutions
Lab: Maintaining High Availability
<ul style="list-style-type: none">■ Configuring Log Shipping■ Configuring Database Mirroring■ Implementing SQL Server Clustering

Module 9: Monitoring SQL Server

The students will be introduced to monitoring SQL Server performance and activity.

Lessons
<ul style="list-style-type: none">■ Viewing Current Activity■ Using SQL Server Profiler■ Monitoring with DDL Triggers■ Using Event Notifications
Lab: Monitoring SQL Server
<ul style="list-style-type: none">■ Monitoring SQL Server Activity■ Tracing SQL Server Activity■ Using DDL Triggers■ Using Event Notifications

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Module 10: Troubleshooting and Performance Tuning

The students will learn how to troubleshoot a variety of common SQL Server problems. Students will also learn how to tune SQL Server for improved performance using a variety of tools.

Lessons
<ul style="list-style-type: none">■ Troubleshooting SQL Server■ Performance Tuning in SQL Server■ Using Resource Governor■ Using Data Collector
Lab: Troubleshooting and Performance Tuning
<ul style="list-style-type: none">■ Troubleshooting Connectivity Problems■ Troubleshooting Concurrency Problems■ Using the Database Engine Tuning Advisor■ Implementing Resource Governor■ Implementing Data Collector