

Microsoft SQL Server 2008 for Developers

Duration: 5 days

Overview

In this course, you'll see an overview tour of SQL Server 2008 including its editions, components, and tools. Then you will learn about the steps to install, and/or upgrade to SQL Server 2008 and configuring the server. You will see how the principals of database design are used in creating of databases and then how to apply server tables to them. The course continues with SQL Server Management Studio and how to build effective views, stored procedures, triggers, and user-defined functions using Transact-SQL. Learn how to make your databases more scalable through partitioning and how to use .NET languages like Visual C# and Visual Basic to build database objects.

SQL Server 2008 includes a rich set of tools that go beyond the basics of querying and manipulating data. You will learn how to take advantage of the user-friendly management console that integrates both authoring and administrative tasks. You will learn how to take advantage of SQL Server's tools for analyzing and tuning your databases. You'll also learn about integration servers, implementing security, and Microsoft's new Business Intelligence (BI) suite.

In this course, you will learn how to...

- Install or upgrade from an earlier version of SQL Server.
- Configure SQL 2008 Server to meet your needs.
- Apply relational database design principles.
- Create a SQL Server database and tables.
- Understand T-SQL, the SELECT statement and the WHERE Clause.
- Use SQL Server Management Studio (SSMS).
- Implement security with authentication, authorization and encryption.
- Understand the differences between views, stored procedures, triggers, and user-defined functions.
- Explore the various types of user-defined functions and how they support reusable database code.
- Learn why using .NET code, using either C# or Visual Basic, in the database overcomes many Transact-SQL limitations, and how SQL Server protects itself from misbehaving code.
- Understand the complex data types in SQL Server, such as for spatial and hierarchical data, and how they support complex data operations.
- How to partition data to store data in ways that improves the efficiency of queries.
- Understand Business Intelligence to add reporting and analysis capabilities to your databases and applications.

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Prerequisites: To get the most out of the Microsoft SQL Server 2008 course, you should have a solid understanding of relational databases and the concepts of SQL Server. No particular programming experience is required, but the course is taught from a developer's perspective.

A Tour of SQL Server 2008

- SQL Server 2008 Editions, Components, and Tools
- Using SQL Server Management Studio (SSMS)
- Working with Tables, Queries, and Views
- Business Intelligence Services

Installing SQL Server 2008

- Preparing for Installation
- Upgrading an Earlier Version
- Installation Steps
- Configuring the Server

Designing and Creating a Database

- Relational Database Design Principles
- Implementing the Design
- Create a SQL Server Database
- Create SQL Server Tables
- Creating Relationships Using a Database Diagram

Data Selection

- Understanding Transact-SQL
- The SELECT Statement
- The WHERE Clause
- Using ORDER BY to Sort Data
- The GROUP BY Clause
- Joining Tables

Modifying Data

- Modifying Data with Transact-SQL
- Inserting Data
- Updating Data
- Understanding Transaction Isolation

Working with SQL Server Management Studio

- Getting Started with Management Studio
- Exploring the Object Explorer
- Working with the Query Editor
- Using SQL Server Books Online

Transact-SQL Programming

- Overview of Transact-SQL
- Using Built-In Functions
- Using Control of Flow Constructs

Understanding and Implementing Security

- Security Overview
- Authentication
- Authorization
- Data Encryption
- Security Epilog

Creating Views

- What Is a View?
- Creating Views
- Updating Data Using a View
- Using Computed Columns
- Indexed Views
- Partitioned Views

Creating Stored Procedures and Triggers

- Creating Stored Procedures
- Creating Triggers

Creating User-Defined Functions

- User-Defined Function Overview
- Scalar Functions
- Inline Table-Valued Functions

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- Multi-Statement Table-Valued Functions
- Using Functions, Views, and Stored Procedures

Transactions and Error Handling

- Transaction Concepts
- Applications and Transactions
- Creating Explicit Transactions
- Using TRY/CATCH Error Handling

Using .NET Code in SQL Server

- Introduction
- Writing SQLCLR Code
- SQLCLR Code Modules
- SQLCLR Security
- T-SQL vs. .NET Code

Advanced SQLCLR Code Techniques

- Advanced SQLCLR Code Modules
- Managing Code Modules

Advanced Query Techniques

- Full-Text Search
- Advanced T-SQL Techniques
- Executing Dynamic SQL

Advanced Data Types

- Introduction
- The HierarchyID Data Type
- Sparse Columns and Column Sets
- FILESTREAM Storage
- Spatial Data

Implementing Partitions

- SQL Server Partitions
- Creating Partitioned Tables
- Querying Partitions
- Managing Partitions

Complex Querying

- Complex Queries
- Ranking
- Correlated SubQueries
- Common Table Expressions

Advanced Techniques

- Complex Data and Structures
- Efficient Queries
- Working with Complex Queries
- Maintaining Query Files

Design and Deployment with Visual Studio

- Team System for Database Professionals
- Creating Databases and Managing Projects
- Database and Project Management

Working with XML

- XML Data Type
- XML Schema Collections
- Querying XML
- Best Practices

Business Intelligence Services

- Introduction to Business Intelligence Services
- Using Integration Services
- Using Analysis Services
- Using Reporting Services