

Complete SQL Server 2005

IN BRIEF

Delivery: Instructor-led course

Duration: Five days

Class size: 10 Students Max.

Cost: \$2,900 per person + GST

Inclusions: Microsoft expert instructor, comprehensive course manual, individual computer access, and fully catered lunch, morning and afternoon tea breaks.

Prerequisites: A solid understanding of relational databases is recommended.

Products Covered: Microsoft SQL Server 2005

Previous Training: None

Course Description

SQL Server 2005 includes a rich set of tools that go beyond the basics of querying and manipulating data. You'll learn how to take advantage of the new, user-friendly management console that integrates both authoring and administrative tasks. You'll learn how to take advantage of SQL Server's tools for analyzing and tuning your databases. You'll also learn about integration services, implementing security, and Microsoft's new Business Intelligence (BI) suite.

Audience

This workshop is intended for database developers and administrators.

Excerpt of Topics Covered

A Tour of SQL Server 2005

- Including:
- Editions, Components, and Tools
 - SQL Server Management Studio (SSMS)
 - Sample Databases
 - Tables, Queries and Views
 - TOP(n), APPLY, PIVOT and XML PATH
 - Running CLR Code in SQL Server 2005
 - SQL Server Integration Services (SSIS)
 - SQL Server Business Intelligence Development Studio (BIDS)
 - Reporting and Analysis Services

Installing SQL Server 2005

- Including:
- Hardware and Software Requirements
 - Setting Up the Service Accounts
 - Upgrading an Earlier Version
 - Installing & Customizing the Installation

Designing and Creating a Database

- Including:
- Relational Database
 - Understanding the Referential Integrity
 - Beyond Normalization
 - Creating and Modifying Databases
 - Creating Tables and Constraints
 - Using Database Diagrams

Data Selection Queries

- Including:
- Understanding Transact-SQL
 - Schemas and Naming SQL Server 2005
 - The LIKE and BETWEEN Operator
 - Using IS NULL to Test for Nulls
 - Multiple Conditions with AND/OR/NOT
 - The GROUP BY Clause
 - Aggregate Functions
 - Using GROUP BY
 - TOP Values Queries
 - Cross Joins and Join Notation

Modifying Data

- Including:
- Inserting a Single or Multiple Values
 - New Table Using SELECT INTO
 - Using Bulk Copy to Insert Data
 - Updating Data and with TOP
 - Updating Large Value Types
 - Isolation Levels Explained

Working with SQL Server Management Studio

- Including:
- Configuring SSMS Options and Toolbars
 - Exploring the Object Explorer
 - Server and Database Objects
 - Displaying Multiple Code Windows
 - Formatting and Editing Code
 - Scripting with SSMS
 - Executing Queries

Transact-SQL Programming

- Including:
- Transact-SQL Extensions
 - Batches and Scripts
 - Variables, Delimiters and Operators
 - Using Built-In Functions
 - Working with Nulls and Numbers
 - Manipulating Strings
 - Using the @@ Functions

Creating Views

- Including:
- Advantage of Views
 - Views and Security
 - View Syntax and Options
 - Nesting Views, Derived Tables & CTEs

Transactions and Error Handling

- Including:
- Transaction Concepts and Types
 - Passing the ACID Test
 - Avoiding Blocked Transactions
 - Working around Deadlocks
 - Designing Transactional Support
 - Understanding Errors

Creating Stored Procedures and Triggers

- Including:
- Stored Procedure Syntax
 - Creating Stored Procedures Using SSMS
 - Working with Parameters
 - Testing and Debugging
 - Creating Triggers and Uses for Triggers

Topics Covered Continued Overleaf.....

.....Topics Covered Continued

Creating User-Defined Functions

Including:

- Scalar Functions and Syntax
- Inline Table-Valued Functions
- Inline Functions with Parameters
- Multi-Statement Table-Valued Functions
- Joining to Functions
- Using Functions, Views, and Stored Procedures
- Using Scalar Functions

Using .NET code in SQL Server 2005

Including:

- Enabling and Writing SQLCLR
- SQL Data Types
- Accessing Local Data
- Returning Results
- Stored Procedures and Triggers
- User-Defined Functions
- Aggregates
- System Catalogs
- Troubleshooting
- Security
- SQLCLR Permission Sets
- T-SQL vs. .NET Code

Advanced Query Techniques

Including:

- Full-Text Search
- SQL Server 2005 Enhancements
- Using CONTAINSTABLE and FREETEXTTABLE
- Generating XML with FOR XML
- Using AUTO, EXPLICIT and RAW Mode
- Comparing APPLY to Using Joins
- Using a Common Table Expression
- Creating Pivot Queries
- Rotating Column Data
- Executing Dynamic SQL
- Overcoming PIVOT Limitations
- Using Parameters with sp_executesql

Understanding and Implementing Security

Including:

- The Threats
- The Two Stage of Security
- SQL Server Authentication
- Authorization and Permissions
- Execution Context
- Metadata Security
- Data Encryption
- Security Epilog

Automating Administrative Tasks

- SQL Server Agent
- Operators, Jobs and Alerts

Maintenance Plans

- Maintenance Plan Wizard
- Maintenance Plan Designer

SQL Management Objects (SMO)

- SMO Object Model
- Accessing and Managing a Server

Analyzing and Tuning Performance

Including:

- Evaluating Performance
- Define Monitoring Goals
- Tuning Queries
- How Join Types Affect Performance
- Avoid Cursors
- Indexes and Partitions
- Slow Queries
- CPU and Memory Bottlenecks

Programming Replication

Including:

- Agents and Metadata
- Replication Programming
- Agent Executables and ActiveX Controls
- Configuring Replication
- Publishing Data

Using Integration Services

Including:

- When to Use SSIS
- SSIS Architecture
- Importing and Exporting Data
- Execute Package Utility
- Adding Control Flow Tasks
- Adding Data Flows
- Troubleshooting the Package
- Visual Tools

Analysis Services

Including:

- OLAP Terminology
- Cubes, Dimensions, and Measures
- The Unified Dimensional Model
- The AdventureWorksDW Sample
- Creating a Data Source View
- Creating a Cube
- Data Mining
- Microsoft Data Mining Algorithms
- Processing and Viewing a Data Mining Model

Introduction to Reporting Services

Including:

- Server Components
- Client Components
- Building a Simple Report
- Creating, Publishing, and Viewing Reports
- Creating a Data Source
- Adding Data to the Report
- Previewing the Report
- Publishing the Report
- Using and Managing Published Reports