

## SQL Server® 2008: A Comprehensive Hands-On Introduction - 4 Days

*Course 137 Overview*

- You Will Learn How To**
- Build and manage SQL Server 2008 databases
  - Retrieve and manipulate data with SQL queries
  - Integrate SQL Server with .NET, Microsoft Office and XML
  - Secure and monitor databases with Management Studio
  - Replicate data over multiple servers with merge replication
  - Transform data into strategic information using business intelligence processes

**Course Benefits** SQL Server 2008 offers a progressive and powerful way to manage your organisation's information. A robust and scalable enterprise solution, SQL Server 2008 extends the features of SQL Server 2005 and improves application development time and cost management. This hands-on course provides a solid foundation on which to build essential SQL Server development and administrative skills, including creating databases, generating Transact-SQL statements, implementing security and replicating data over multiple servers.

**Who Should Attend** Those who are new to Microsoft SQL Server. Familiarity with relational databases is helpful.

**Hands-On Training** Throughout the course, you gain extensive experience with SQL Server 2008. Practical exercises include:

- Installing SQL Server 2008 R2
- Creating tables and constraints
- Manipulating data with SQL
- Integrating SQL Server with Office
- Securing access to SQL Server from intruders
- Backing up databases to prevent disasters with the Maintenance Plan Wizard
- Replicating data between multiple databases
- Rendering a report with Reporting Services

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## Course 137 Outline

### Getting Started with SQL Server 2008

#### Overview of SQL Server architecture

- Fundamentals of relational databases
- Client/server model

#### SQL Server 2008 editions

- Standard
- Enterprise
- Workgroup
- Express
- Compact
- Developer

#### SQL Server components and tools

- SQL Server Management Studio
- Management reports
- Business Intelligence Development Studio
- SQL Server Agent
- Database engine

### Constructing the Database

#### Creating a database

- Choosing files and directories
- Allocating file size and growth parameters
- Implementing database schemas

#### Designing tables

- Analysing various datatypes
- Defining column attributes
- Indexing tables with Management Studio
- Adding, deleting or changing columns

#### Protecting data with constraints

- Enforcing uniqueness with primary key constraints
- Check constraints to validate conditions
- Building relationships with foreign keys

### Server-Side Programming

#### Data retrieval with Transact-SQL

- Leveraging Query Designer to construct SQL statements
- Writing multiple table join queries
- Aggregating data for business analysis

#### Modifying data

- Adding new rows with the INSERT command
- Changing targeted data with UPDATE
- Deleting specific rows

#### Programming constructs

- Writing stored procedures for performance and productivity
- Capturing change events with triggers

- Simplifying data access with user-defined functions

### Integrating with Client Applications

#### Connecting to SQL Server

- Authenticating with SQL Server and Windows logins
- Programming client applications

#### Interacting with Microsoft Office

- Pulling data from SQL Server into Excel
- Migrating an Access database to SQL Server

#### Leveraging XML and .NET features

- Retrieving data in XML form
- Utilising a .NET CLR component

### Administering SQL Server 2008

#### Securing the database infrastructure

- Controlling access to SQL Server
- Granting or revoking permissions
- Defining roles and user memberships

#### Running the Maintenance Plan Wizard

- Automating backups by scheduling jobs
- Checking database integrity and defragmenting data
- Notifying operators via e-mail

#### Monitoring SQL Server activity

- Viewing locks and queries
- Requesting management reports with Management Studio

### Sharing Data through Replication

#### Defining the replication architecture

- Snapshot
- Transactional
- Merge replication
- Choosing a replication strategy

#### Configuring merge replication

- Distributing published data
- Subscribing to a publication

### Business Intelligence Components

#### Transforming data with Integration Services

- Importing and exporting files
- Moving and denormalising data into a data warehouse

#### Producing information with Analysis Services

- Building multidimensional cubes
- Predicting trends with data mining

### Information delivery with Reporting Services

- Designing reports quickly with the Report Wizard
- Deploying reports to a Report Server for centralised access