THE MINDCENTER
COMPUTER EDUCATION PROFESSIONALS

# Implementing a Microsoft SQL Server 2005 Database

***Course 2779 — Instructor-led***

## *Course Length: Three days*

**At the end of the course, students will be able to:**

- Create databases and database files.
- Create data types and tables.
- Use XML-related features in Microsoft SQL Server 2005.
- Plan, create, and optimize indexes.
- Implement data integrity in Microsoft SQL Server 2005 databases by using constraints, triggers, and XML schemas.
- Implement views.
- Implement stored procedures and functions.
- Implement managed code in the database.
- Use Service Broker to build a messaging-based solution.
- Configure the desktop environment, and use profiles to control desktop customization.
- Configure and support Transmission Control Protocol/Internet Protocol (TCP/IP).
- Configure Windows XP Professional to operate on Windows networks.
- Support remote users.
- Configure Windows XP Professional for mobile computing.
- Monitor resources and performance.

## *Prerequisites:*

- 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.

In addition, it is recommended, but not required, that students have completed:

- Course 2778, Writing Queries Using Microsoft SQL Server 2005 Transact-SQL

## *Course Outline*

**Module 1: Creating Databases and Database Files**
This module explains how to create databases, filegroups, schemas, and database snapshots.

*Topics:*
- Creating Databases.
- Creating Filegroups.
- Creating Schemas.
- Creating Database Snapshots.

*Lab 1: Creating a Database*
- Creating a Database.
- Creating Schemas.

**Module 2: Creating Data Types and Tables**
This module explains how to create data types and tables. It also describes how to create partitioned tables.

*Topics:*
- Creating Data Types.
- Creating Tables.
- Creating Partitioned Tables.

*Lab 2: Creating Data Types and Tables*
- Creating Data Types.
- Creating Tables.
- Creating Partitioned Tables.

**Module 3: Using XML**
This module explains how to use the FOR XML clause and the OPENXML function. It also describes how to use the xml data type and its methods.

*Topics:*
- Retrieving XML by Using FOR XML.
- Shredding XML by Using OPENXML.
- Using the xml Data Type.

*Lab 3: Working with XML*
- Mapping Relational Data and XML.
- Storing XML Natively in the Database.

**Module 4: Creating and Tuning Indexes**
This module explains how to plan, create, and optimize indexes. It also describes how to create XML indexes.

*Topics:*
- Planning Indexes.

- Creating Indexes.
- Optimizing Indexes.
- Creating XML Indexes.

*Lab 4: Creating Indexes*
- Creating Indexes.
- Tuning Indexes.
- Creating XML Indexes.

**Module 5: Implementing Data Integrity**
This module explains how to implement constraints, triggers, and XML schemas.

*Topics:*
- Data Integrity Overview.
- Implementing Constraints.
- Implementing Triggers.
- Implementing XML Schemas.

*Lab 5: Implementing Data Integrity*
- Creating Constraints.
- Creating Triggers.
- Implementing XML Schemas.

**Module 6: Implementing Views**
This module explains how to create views.

*Topics:*
- Introduction to Views.
- Creating and Managing Views.
- Optimizing Performance by Using Views.

*Lab 6: Creating Views*
- Creating Views.
- Creating Indexed Views.
- Creating Partitioned Views.

**Module 7: Implementing Stored Procedures and Functions**
This module explains how to create stored procedures and functions.

*Topics:*
- Implementing Stored Procedures.
- Creating Parameterized Stored Procedures.
- Creating Functions.
- Handling Errors.
- Controlling Execution Context.

*Lab 7: Creating Stored Procedures and Functions*
- Creating Stored Procedures.
- Creating Functions.

**Module 8: Implementing Managed Code in the Database**
This module explains how to implement managed database objects.

*Topics:*
- Introduction to the SQL Server Common Language Runtime.
- Importing and Configuring Assemblies.
- Creating Managed Database Objects.

*Lab 8: Implementing Managed Code in the Database*
- Importing an Assembly.
- Creating Managed Database Objects.

**Module 9: Using Service Broker**
This module explains how to build a messaging-based solution with Service Broker.

*Topics:*
- Service Broker Overview.
- Creating Service Broker Objects.
- Sending and Receiving Messages.

*Lab 9: Using Service Broker*
- Creating Service Broker Objects.
- Implementing the Initiating Service.
- Implementing the Target Service.