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## 2779-Implementing a Microsoft SQL Server 2005 Database

Three days; Instructor-Led

### Introduction

This three-day instructor-led course provides students with product knowledge and skills needed to implement a Microsoft SQL Server 2005 database. The course focuses on teaching individuals how to use SQL Server 2005 product features and tools related to implementing a database.

### Audience

This course is intended for IT Professionals wanting to become skilled on SQL Server 2005 product features and technologies for implementing a database.

### At Course Completion

After completing this 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.

## 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.

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.

Lessons

- Creating Databases.
- Creating Filegroups.
- Creating Schemas.
- Creating Database Snapshots.

Lab 1: Creating a Database

- Creating a Database.
- Creating Schemas.

After completing this module, students will be able to:

- Create databases.
- Create filegroups.

- Create schemas.
- Create database snapshots.

## **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.

### **Lessons**

- Creating Data Types.
- Creating Tables.
- Creating Partitioned Tables.

### **Lab 2: Creating Data Types and Tables**

- Creating Data Types.
- Creating Tables.
- Creating Partitioned Tables.

After completing this module, students will be able to:

- Create data types.
- Create tables.
- Create 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.

### **Lessons**

- 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.

After completing this module, students will be able to:

- Retrieve XML with FOR XML.
- Shred XML with OPENXML.
- Use the xml data type.
- Use the methods of the xml data type.

#### **Module 4: Creating and Tuning Indexes**

This module explains how to plan, create, and optimize indexes. It also describes how to create XML indexes.

##### **Lessons**

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

##### **Lab 4: Creating Indexes**

- Creating Indexes.
- Tuning Indexes.
- Creating XML Indexes.

After completing this module, students will be able to:

- Plan indexes.
- Create indexes.
- Optimize indexes.
- Create XML indexes.

#### **Module 5: Implementing Data Integrity**

This module explains how to implement constraints, triggers, and XML schemas.

##### **Lessons**

- Data Integrity Overview.
- Implementing Constraints.
- Implementing Triggers.
- Implementing XML Schemas.

##### **Lab 5: Implementing Data Integrity**

- Creating Constraints.
- Creating Triggers.

- Implementing XML Schemas.

After completing this module, students will be able to:

- Describe types of data integrity and options for enforcing it.
- Implement constraints.
- Implement triggers.
- Implement XML schemas.

### **Module 6: Implementing Views**

This module explains how to create views.

#### **Lessons**

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

#### **Lab 6: Creating Views**

- Creating Views.
- Creating Indexed Views.
- Creating Partitioned Views.

After completing this module, students will be able to:

- Describe the purpose of views.
- Create and manage views.
- Design views for performance.

### **Module 7: Implementing Stored Procedures and Functions**

This module explains how to create stored procedures and functions.

#### **Lessons**

- 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.

After completing this module, students will be able to:

- Implement stored procedures.
- Create parameterized stored procedures.
- Handle errors in a stored procedure.
- Implement Scalar Functions.
- Create Table Valued Functions.
- Control Execution Context.

### **Module 8: Implementing Managed Code in the Database**

This module explains how to implement managed database objects.

#### **Lessons**

- 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.

After completing this module, students will be able to:

- Identify appropriate scenarios for managed code in the database.
- Import and configure assemblies.
- Create managed database objects.

### **Module 9: Using Service Broker**

This module explains how to build a messaging-based solution with Service Broker.

#### **Lessons**

- 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.

After completing this module, students will be able to:

- Describe Service Broker functionality and architecture.
- Create Service Broker objects.
- Send and receive Service Broker messages