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CTREC HILTON IT ACADEMY

BUILDING TRAINING SOLUTIONS FOR THE IT WORLD

Implementing a Microsoft SQL Server 2005 Database

Days:	**5**
Format:	**Instructor-Led**
Class Code	**2779**
Certification Exams:	**None**
Certification Track:	**None**

Recommended Course Sequence

Knowledge of prerequisites noted below.

Course content is subject to change without notice.

Course Description:
This five-day instructor-led course provides students with the knowledge and skills 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.

Target Student:
This course is intended for IT Professionals who want to become skilled on SQL Server 2005 product features and technologies for implementing a database.

Delivery Method:
Instructor led, group-paced, classroom-delivery learning model with structured hands-on activities.

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 2780: Maintaining a Microsoft SQL Server 2005 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.
- Implement data integrity in Microsoft SQL Server 2005 by using triggers.
- Implement views.
- Implement stored procedures.
- Implement functions.
- Implement managed code in the database.
- Manage transactions and locks.
- Use Service Broker to build a messaging-based solution.
- Use Notification Services to generate and send notifications.

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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 : Creating Databases and Database Files
Creating a Database Creating Schemas Creating a Database Snapshot

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 : 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.

Lessons
Retrieving XML by Using FOR XML Shredding XML by Using OPENXML Introducing XQuery Using the xml Data Type
Lab : Using XML
Mapping Relational Data and XML Storing XML Natively in the Database Using XQuery with xml Methods

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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 : Creating and Tuning Indexes
Creating Indexes Tuning Indexes Creating XML Indexes

Module 5: Implementing Data Integrity by Using Constraints
This module explains how to implement constraints and provides an overview of data integrity.

Lessons
Data Integrity Overview Implementing Constraints
Lab : Implementing Data Integrity by Using Constraints
Creating Constraints Disabling Constraints

Module 6: Implementing Data Integrity by Using Triggers and XML Schemas
This module explains how to implement triggers and XML schemas.

Lessons
Implementing Triggers Implementing XML Schemas
Lab : Implementing Data Integrity by Using Triggers and XML Schemas
Creating Triggers Implementing XML Schemas

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Module 7: Implementing Views
This module explains how to create views.

Lessons
Introduction to Views Creating and Managing Views Optimizing Performance by Using Views
Lab : Implementing Views
Creating Views Creating Indexed Views Creating Partitioned Views

Module 8: Implementing Stored Procedures
This module explains how to create stored procedures and functions. It also describes execution plans, plan caching, and query compilation.

Lessons
Implementing Stored Procedures Creating Parameterized Stored Procedures Working With Execution Plans Handling Errors
Lab : Implementing Stored Procedures
Creating Stored Procedures Working With Execution Plans

Module 9: Implementing Functions
This module explains how to create functions. It also describes how to control the execution context.

Lessons
Creating and Using Functions Working with Functions Controlling Execution Context
Lab : Implementing Functions
Creating Functions Controlling Execution Context

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Module 10: 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 : Implementing Managed Code in the Database
■ Importing an Assembly ■ Creating Managed Database Objects

Module 11: Managing Transactions and Locks
This module explains how to use transactions and the SQL Server locking mechanisms to meet the performance and data integrity requirements of your applications.

Lessons
■ Overview of Transactions and Locks ■ Managing Transactions ■ Understanding SQL Server Locking Architecture ■ Managing Locks
Lab : Managing Transactions and Locks
■ Using Transactions ■ Managing Locks

Module 12: 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 : Using Service Broker (Optional)
■ Creating Service Broker Objects ■ Creating Service Broker Objects ■ Implementing the Target Service

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Module 13: Using Notification Services (Optional)
This module explains how to develop applications that generate and send timely messages to subscribers.

Lessons
Introduction to Notification Services
Developing Notification Services Solutions