

Developing SQL Databases (M20762)

This five-day instructor-led training course provides students with the knowledge and skills to develop a Microsoft SQL Server 2016 database. The training course focuses on teaching individuals how to use SQL Server 2016 product features and tools related to developing a database.

Objective

After completing this training course, students will be able to:

- Design and Implement Tables.
- Describe advanced table designs
- Ensure Data Integrity through Constraints.
- Describe indexes, including Optimized and Columnstore indexes
- Design and Implement Views.
- Design and Implement Stored Procedures.
- Design and Implement User Defined Functions.
- Respond to data manipulation using triggers.
- Design and Implement In-Memory Tables.
- Implement Managed Code in SQL Server.
- Store and Query XML Data.
- Work with Spatial Data.
- Store and Query Blobs and Text Documents.

Details

Duration: 4 Days

Who is this course for

- Basic knowledge of the Microsoft Windows operating system and its core functionality.
- Working knowledge of Transact-SQL.
- Working knowledge of relational databases.

Course Content

Module 1: Introduction to Database Development

Before beginning to work with Microsoft SQL Server in either a development or an administration role, it is important to understand the scope of the SQL Server platform. In particular, it is useful to understand that SQL Server is not just a database engine—it is a complete platform for managing enterprise data. SQL Server provides a strong data platform for all sizes of organizations, in addition to a comprehensive set of tools to make development easier, and more robust. Lessons

- Introduction to the SQL Server Platform
- SQL Server Database Development Tasks

After completing this module, you will be able to:

- Describe the SQL Server platform.
- Use SQL Server administration tools.

Module 2: Designing and Implementing Tables In a relational database management system (RDBMS), user and system data is stored in tables. Each table consists of a set of rows that describe entities and a set of columns that hold the attributes of an entity. For example, a Customer table might have columns such as CustomerName and CreditLimit, and a row for each customer. In Microsoft SQL Server data management software tables are contained within schemas that are very similar in concept to folders that contain files in the operating system. Designing tables is one of the most important tasks that a database developer undertakes, because incorrect table design leads to the inability to query the data efficiently. After an appropriate design has been created, it is important to know how to correctly implement the design. Lessons

- Designing Tables
- Data Types
- Working with Schemas
- Creating and Altering Tables

Lab : Designing and Implementing Tables

- Designing Tables
- Creating Schemas
- Creating Tables

After completing this module, you will be able to:

- Design tables using normalization, primary and foreign keys.
- Work with identity columns.
- Understand built-in and user data types.
- Use schemas in your database designs to organize data, and manage object security.
- Work with computed columns and temporary tables.

Module 3: Advanced Table Designs The physical design of a database can have a significant impact on the ability of the database to meet the storage and performance requirements set out by the stakeholders. Designing a physical database implementation includes planning the filegroups, how to use partitioning to manage large tables, and using compression to improve storage and performance. Temporal tables are a

