

Microsoft Developing SQL Database

Module 1: An Introduction to Database Development

- Lesson 1: Introduction to the SQL Server Platform
- Lesson 2: SQL Server Database Development Tasks

Module 2: Designing and Implementing Tables

- Lesson 1: Designing Tables
- Lesson 2: Data Types
- Lesson 3: Working with Schemas
- Lesson 4: Creating and Altering Tables
- Lab: Designing and Implementing Tables

Module 3: Advanced Table Designs

- Lesson 1: Partitioning Data
- Lesson 2: Compressing Data
- Lesson 3: Temporal Tables
- Lab: Using Advanced Table Designs

Module 4: Ensuring Data Integrity Through Constraints

- Lesson 1: Enforcing Data Integrity
- Lesson 2: Implementing Data Domain Integrity
- Lesson 3: Implementing Entity and Referential Integrity
- Lab: Ensuring Data Integrity Through Constraints

Module 5: Introduction to Indexes

- Lesson 1: Core Indexing Concepts
- Lesson 2: Data Types and Indexes
- Lesson 3: Heaps, Clustered, and Nonclustered Indexes
- Lesson 4: Single Column and Composite Indexes
- Lab: Implementing Indexes

Module 6: Designing Optimized Index Strategies

- Lesson 1: Index Strategies
- Lesson 2: Managing Indexes
- Lesson 3: Execution Plans
- Lesson 4: The Database Engine Tuning Advisor
- Lesson 5: Query Store
- Lab: Optimizing Indexes

Module 7: Columnstore Indexes

- Lesson 1: Introduction to Columnstore Indexes
- Lesson 2: Creating Columnstore Indexes
- Lesson 3: Working with Columnstore Indexes
- Lab: Using Columnstore Indexes

Module 8: Designing and Implementing Views

- Lesson 1: Introduction to Views
- Lesson 2: Creating and Managing Views
- Lesson 3: Performance Considerations for Views
- Lab: Designing and Implementing Views

Module 9: Designing and Implementing Stored Procedures

- Lesson 1: Introduction to Stored Procedures
- Lesson 2: Working with Stored Procedures
- Lesson 3: Implementing Parameterized Stored Procedures

- Lesson 4: Controlling Execution Context
- Lab: Designing and Implementing Stored Procedures

Module 10: Designing and Implementing User-Defined Functions

- Lesson 1: Overview of Functions
- Lesson 2: Designing and Implementing Scalar Functions
- Lesson 3: Designing and Implementing Table-Valued Functions
- Lesson 4: Considerations for Implementing Functions
- Lesson 5: Alternatives to Functions
- Lab: Designing and Implementing User-Defined Functions

Module 11: Responding to Data Manipulation Via Triggers

- Lesson 1: Designing DML Triggers
- Lesson 2: Implementing DML Triggers
- Lesson 3: Advanced Trigger Concepts
- Lab: Responding to Data Manipulation by Using Triggers

Module 12: Using In-Memory Tables

- Lesson 1: Memory-Optimized Tables
- Lesson 2: Natively Compiled Stored Procedures
- Lab: Using In-Memory Database Capabilities

Module 13: Implementing Managed Code in SQL Server

- Lesson 1: Introduction to CLR Integration in SQL Server
- Lesson 2: Implementing and Publishing CLR Assemblies
- Lab: Implementing Managed Code in SQL Server

Module 14: Storing and Querying XML Data in SQL Server

- Lesson 1: Introduction to XML and XML Schemas
- Lesson 2: Storing XML Data and Schemas in SQL Server
- Lesson 3: Implementing the XML Data Type
- Lesson 4: Using the Transact-SQL FOR XML Statement

- Lesson 5: Getting Started with XQuery
- Lesson 6: Shredding XML
- Lab: Storing and Querying XML Data in SQL Server

Module 15: Storing and Querying Spatial Data in SQL Server

- Lesson 1: Introduction to Spatial Data
- Lesson 2: Working with SQL Server Spatial Data Types
- Lesson 3: Using Spatial Data in Applications
- Lab: Working with SQL Server Spatial Data

Module 16: Storing and Querying BLOBs and Text Documents in SQL Server

- Lesson 1: Considerations for BLOB Data
- Lesson 2: Working with FILESTREAM
- Lesson 3: Using Full-Text Search
- Lab: Storing and Querying BLOBs and Text Documents in SQL Server

Module 17: SQL Server Concurrency

- Lesson 1: Concurrency and Transactions
- Lesson 2: Locking Internals
- Lab: Concurrency and Transactions

Module 18: Performance and Monitoring

- Lesson 1: Extended Events
- Lesson 2: Working with Extended Events
- Lesson 3: Live Query Statistics
- Lesson 4: Optimize Database File Configuration
- Lesson 5: Metrics
- Lab: Monitoring, Tracing, and Baselineing

