20762 Developing SQL Databases

Register Online

Schedule

Class Length: 5 Days

G2R = “Guaranteed to Run” | OLL = “Online LIVE”
ILT = “Instructor-Led-Training”

05/17/21	G2R	10:00AM - 6:00PM	Global COL	OLL	$2,975.00

Overview

Are you looking for hands-on experience developing a Microsoft SQL Server database? Complete this course from New Horizons to confidently take the next step in your database career.

In the Developing SQL Databases course, you will learn how to use SQL Server 2016 features and tools and gain the knowledge and skills to develop a SQL Server database.

Prerequisite Comments

To maximize your time taking this course, you should have a working knowledge of Transact-SQL and relational databases. Basic knowledge of the Microsoft Windows operating system and its core functionality will also help you succeed in this course.

Target Audience

If you’re an IT professional looking to become skilled in SQL Server product features and database technologies, this course is for you. You can also benefit from taking this course if you’re a developer working with other platforms who wants experience implementing SQL Server databases.

Course Objectives

After finishing this course, you’ll master key concepts involved in developing and managing SQL Server databases. You’ll be able to implement SQL views, indexes and tables.

This course empowers you to:

- Design and implement tables
- Confidently speak about advanced table designs
- Ensure data integrity through constraints
- Describe indexes, including optimized and columnstore indexes
- Work with spatial data
- Address data manipulation using triggers
- Execute managed code in SQL Server
- Store and query XML data, BLOBs and text documents
- Design and implement views, stored procedures, user-defined functions and in-memory tables

Course Outline

1 - Introduction to Database Development

Navigate the SQL Server Platform
Perform SQL Server Database Development Tasks

2 - Designing & Implementing Tables

Design, Create and Alter Tables
Understand the Different Data Types
Create and Manage Schemas
Lab: Designing and implementing tables

3 - Advanced Table Designs

Partition and Compress Data
Create Temporal Tables
Lab: Using advanced table designs

4 - Ensuring Data Integrity through Constraints

Enforce Data Integrity
Add and Test Constraints
Implement Data Domain, Entity and Referential Integrity
Lab: Using Data Integrity Through Constraints

5 - Introduction to Indexes

Understand Core Indexing Concepts
Learn about Data and Index Types – Including Heaps, Clustered, Nonclustered, Single Column and Composite Indexes
Develop Heaps and Clustered and Covered Indexes
Lab: Implementing Indexes

6 - Designing Optimized Index Strategies

Learn About Index Strategies, Managing Indexes and Execution Plans
Work with the Database Engine Tuning Advisor
Use the Query Store to Identify and Fix Queries
Lab: Optimizing Indexes

7 - Columnstore Indexes

Interpret, Create and Work with Columnstore Indexes
Build a Memory Optimized Columnstore Table
Lab: Using Columnstore Indexes

8 - Designing and Implementing Views

Create and Manage Views
Understand Performance Considerations for Views
Set up Standard and Updateable Views
Lab: Designing and Implementing Views

9 - Designing and Implementing Stored Procedures

Create and Work with Stored Procedures
Build and Implement Parameterized Stored Procedures
Control Execution Context
Lab: Designing and Implementing Stored Procedures

10 - Designing and Implementing User-Defined Functions

Understand the Types of Functions, Alternatives and Key Considerations for Implementation
Design and Implement Scalar and Table-Valued Functions
Lab: Designing and Implementing User-Defined Functions

11 - Responding to Data Manipulation via Triggers

Design and Implement DML Triggers
Learn about Advanced Trigger Concepts
Create, Test and Improve Audit Triggers
Lab: Responding to Data Manipulation by Using Triggers

12 - Using In-Memory Tables

Work With Memory-Optimized Tables
Establish Natively Compiled Stored Procedures
Lab: Using In-Memory Database Capabilities

13 - Implementing Managed Code in SQL Server

Learn about CLR Integration in SQL Server
Implement and Publish CLR Assemblies
Lab: Implementing Managed Code in SQL Server

14 - Storing and Querying XML Data in SQL Server

Understand XML and XML Schemas
Store XML Data and Schemas in SQL Server
Implement the XML Data Type
Use the Transact-SQL FOR XML Statement
Get Started with XQuery and Shredding XML
Lab: Storing and Querying XML Data in SQL Server

15 - Storing and Querying Spatial Data in SQL Server

Store and Query Spatial Data
Work with SQL Server Spatial Data Types
Apply Spatial Data to Applications
Lab: Working with SQL Server Spatial Data

16 - Storing and Querying BLOBs and Text Documents in SQL Server

Understand Considerations for Working with BLOB Data
Store Unstructured Data Using FILESTREAM
Perform Full-Text Searches
Lab: Storing and Querying BLOBs and Text Documents in SQL Server

17 - SQL Server Concurrency

Learn how to Create Concurrency in SQL Server
Execute Transactions and Lock Internals to Establish Concurrency
Lab: SQL Server Concurrency

18 - Performance and Monitoring

Work with Extended Events
View and Interpret Live Query Statistics and Metrics
Optimize Database File Configuration
Lab: Monitoring, Tracing, and Baselining