

Developing High Quality Databases Using Visual Studio 2017

SSDT2017 | 2 Days



This two-day, instructor-led course provides students with the knowledge and skills to effectively design, develop, and deliver modern SQL Server databases. Student will experience how to manage changes to database schema, ensure quality through T-SQL unit testing and static code analysis, and automate the building and deploying of SQL Server databases.

Course Objectives

Through a combination of instructor-led training and hands-on activities you will learn how to use Visual Studio 2017 and the integrated SQL Server Data Tools (SSDT) to manage the development of high-quality SQL Server databases. Specifically, attendees will be exposed to ...

- ✓ Relevant Visual Studio ALM tools
- ✓ SSDT versions and capabilities
- ✓ SSDT vs. SSDT-BI vs. BIDS
- ✓ Online vs. offline database development
- ✓ Integration with Team Foundation Server
- ✓ Integration with Visual Studio Team Services
- ✓ Using team projects for DB development
- ✓ Using work items to track development
- ✓ Product backlogs and sprint backlogs
- ✓ SQL Server database project type
- ✓ Importing database schema
- ✓ Importing database scripts
- ✓ Permissions required for development
- ✓ Permissions required for deployment
- ✓ Configuring and using version control
- ✓ TFVC vs. Git version control systems
- ✓ Detecting database schema changes
- ✓ Reconciling database schema changes
- ✓ Using the MSSCCI provider
- ✓ SQL Server unit tests
- ✓ Unit test assertions vs. conditions
- ✓ Load testing SQL Server unit tests
- ✓ Static code analysis
- ✓ Database refactoring tools
- ✓ Automating database builds
- ✓ Automating database deployments
- ✓ Automated deployment options
- ✓ Automated builds
- ✓ Build agents and topology
- ✓ Running tests as part of the build process
- ✓ Agile database techniques
- ✓ Preferred development practices
- ✓ Customizing and extending SSDT
- ✓ Relevant third party products

Who Should Attend

This course is intended for database developers and administrators working with SQL Server 2005 and newer versions. Application developers who are involved with writing and testing T-SQL code and working with test data will also find value from this course. It would also be beneficial if the student has worked on a team-based software development project and is familiar with their organization's development lifecycle and practices.

This course is intended for practitioners who are comfortable with the concepts of designing, developing, testing, and deploying SQL Server databases.

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Modules

Each module contains a combination of slides, lecture, demonstration, Q&A, and hands-on activities performed by students as a team.

1. Introduction to SQL Server Data Tools

- ✓ Visual Studio components and editions
- ✓ Relevant Visual Studio ALM tools
- ✓ Working with databases in Visual Studio
- ✓ SQL Server Data Tools overview
- ✓ SSDT versions and capabilities
- ✓ SSDT vs. SSDT-BI vs. BIDS
- ✓ Online vs. offline database development

2. Team Projects

- ✓ Creating and configuring a team project
- ✓ Creating and managing work items
- ✓ Selecting the right work item type
- ✓ Planning for a high quality database
- ✓ Managing a product backlog
- ✓ Managing a sprint backlog
- ✓ Using the sprint task board

3. SQL Server Database Projects

- ✓ SQL Server database project type
- ✓ Creating a database project
- ✓ Managing a database project
- ✓ Visual Studio integration
- ✓ Importing database schema
- ✓ Importing SQL scripts
- ✓ Required permissions

4. Managing Schema Changes

- ✓ TFVC vs. Git version control overview
- ✓ Configuring and using version control
- ✓ Detecting and reconciling schema changes
- ✓ Generate scripts to synchronize changes
- ✓ Using the MSSCCI provider

5. Assuring a High-Quality Design

- ✓ SQL Server unit tests
- ✓ Unit test assertions vs. conditions
- ✓ Load testing a SQL Server unit test
- ✓ Static code analysis
- ✓ Database refactoring tools

6. Building and Deploying Changes

- ✓ Automating building and deploying
- ✓ Deployment options
- ✓ Running tests as part of the build
- ✓ Team Foundation Build and build agents

7. Advanced Topics

- ✓ Agile database techniques
- ✓ Preferred practices
- ✓ Customizing and extending SSDT
- ✓ Third party products

Course Designer

This course was designed by Richard Hundhausen, a Visual Studio ALM MVP, Professional Scrum Developer, and an experienced software developer and trainer. To see other developer courses, visit www.accentient.com.