## **Course duration**

1 day

## **Course Benefits**

- Understand the principles of test-driven development.
- Acquire fluency in developing tests using the Visual Studio unit testing framework.
- Efficiently exercise test suites using Visual Studio and MSTest.

## **Course Outline**

- 1. Test-Driven Development
  - 1. What Is Test-Driven Development (TDD)?
  - 2. Functional Tests / Customer Tests
  - 3. Unit Tests / Programmer Tests
  - 4. Test Automation
  - 5. Simple Design
  - 6. Refactoring
  - 7. A Visual Studio Test Drive
  - 8. TDD with Legacy Code
- 2. Visual Studio Unit Testing Fundamentals
  - 1. Structure of Unit Tests
  - 2. Unit Testing Framework
  - 3. Assertions
  - 4. Test Cases
  - 5. Test Classes
  - 6. Test Runners
  - 7. Ignoring Tests
  - 8. Initialization and Cleanup
- 3. More about Unit Testing Framework
  - 1. Expected Exceptions
  - 2. Custom Asserts
  - 3. Playlists
  - 4. Debugging Unit Tests
  - 5. MSTest
  - 6. Refactoring

## **Class Materials**

Each student will receive a comprehensive set of materials, including course notes and all the class examples.

**Class Prerequisites** 

Experience in the following is required for this C# class:

• The student should have a basic knowledge of the .NET Framework and experience programming in C# with Visual Studio.