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.NET Test Driven Development   (3 days)

Course overview

All developers want to build good quality software but not all developers test their software as they go along. Why not? A common explanation is "I don't have time to write tests!". The more pressure they feel, the fewer tests they write. This leads to less accurate and stable code, less productivity, less confidence and, ultimately, more pressure. It's a vicious cycle.

This course is designed to help you break out of the cycle by embracing unit-testing and, in particular, test-driven development. We will introduce the techniques and the tools necessary to prove your code as you go along. The course can be run using C# or VB.

What you'll learn

- Understanding TDD principles
- Writing effective unit tests
- Refactoring code
- Implementing Inversion of Control (IoC)
- Using mocking frameworks

Prerequisites

- At least 6 months experience in C# or VB

Course details

- Overview of Test-Driven Development: Test, code, refactor, repeat; The benefits of TDD; The process of TDD; Tools available

- Unit testing basics: Getting started with unit testing using Test Explorer in Visual Studio; Structure of a unit test; Using assertions; Dealing with exceptions; Using MS Test Extensions; Additional techniques

- Additional testing techniques: Using NUnit; NUnit constraint syntax; NUnit data-driven design; Code coverage

- Refactoring: The need for refactoring; Types of refactoring; Guidelines and recommendations; Creating layered designs; Using dependency injection

- Inversion of control: Overview of IoC; Using factories; Using IoC containers; Using a configuration file

- Test doubles and mocking: Principles and techniques; Getting started with RhinoMocks; Working with mock objects; Additional techniques and considerations

- Testing legacy code: Where to start; Adding new behaviour; Finding change points; Breaking dependencies