Development of automated tests in Visual Studio

Course code: DOTNET_TEST

The course offers an introduction to testing concepts and strategies and will teach you how to use the MS TEST framework, but you will also try other frames such as NUnit and XUnit. The course covers unit testing concepts, requirements and characteristics of good testing strategies and ways in which these concepts can be implemented. Emphasis is placed on the practical application of acquired knowledge.

Affiliate	Duration	Course price	ITB
Praha	5	27 500 Kč	50
Bratislava	5	1 100 €	50

The prices are without VAT.

Course terms

	Date	Duration	Course price	Type	Course language	Location
🔨	22.06.2026	5	27 500 Kč	Telepresence	CZ/SK	GOPAS Praha
🔨	22.06.2026	5	1 100 €	Telepresence	CZ/SK	GOPAS Bratislava
🔨	22.06.2026	5	27 500 Kč	Telepresence	CZ/SK	GOPAS Brno

The prices are without VAT.

What we will teach you

You will learn the basic terminology of testing and you will better understand the testing process You will learn to create tests using the MS TEST framework You will learn about the Test Driven Development approach You will learn to monitor the progress of the tests You will improve your ability to find defects and prevent them

Required input knowledge

Experience with programming in c # at GOC2125 level is assumed Basic testing experience is beneficial

Teaching methods

Expert explanation with practical examples, exercises on computers

Course syllabus

Introduction and terminology
- Types of tests
- UAT
- Integrative
- Unit - unit size

Testable application architecture
- Status of classes and components
- Encapsulation
- Static operations
- IoC / DI and implications for testing

Creating tests using MS TEST framework
- Anatomy test (AAA)
- Test explorer
- Running tests
- Read results
- Debugging tests

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- Initialization and cleenup
- Assertion (Assert, CollectionAssert, StringAssert)
- Data driven tests

Unit insulation
- Creating fake implementations of collaborating objects
- Manual fake objects
- Moq
- Microsoft Fakes tool

Test Driven Development
- "Test First" approach
- Red-Green-Refactor
- Finding test cases using the "Devil's Advocate" technique

Code coverage analysis
- Code blocks and quantification
- Syntax coloring
- What percentage is just?

IntelliTest
- Generating unit tests
- Configuration

Configure the Test runner using a .runsettings file

Other test frameworks
- NUnit
- XUnit

Azure Pipelines and test runs

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