



C#.NET LEVEL-2

Who should do this course?

.NET Developers who want to get up to speed quickly with the latest features of C# 5.0 in Visual Studio 2012, and learn C# 5.0 Best Practices

Prerequisites for the course

Experience of developing C# .NET Applications (Windows or Web) and a good understanding of Object Oriented Programming principles.

Course Contents

[30Hrs]

- Defining Members in .NET
 - A closer look at parameters
 - Construction and destruction
 - Properties
- Going Further with Types and Members
 - Static members
 - Operators
 - Partial types
 - Partial methods
- Delegates, Events
 - Delegates
 - Asynchronous delegates
 - Events
- C# Generics
 - Getting started with generics
 - A closer look at generics
 - Generic structs, delegates, interfaces
 - Generic methods
- Additional C# Language Features
 - Object and Collection Initialization
 - Anonymous Types
 - Extension Methods
- LINQ to Objects
 - Introduction to LINQ
 - Using LINQ with arrays
 - Using LINQ with collections
 - LINQ techniques
 - LINQ under the hood
- Serialization with C# & .NET
 - Runtime Serialization
 - Customizing Serialization

- XML Serialization
- Annex: Data contract serialization
- Reflection and Metadata
 - Reflection
 - Late binding
 - Assembly metadata
- Multithreading and Parallelization
 - Creating multiple threads
 - Additional thread techniques
 - Thread synchronization
 - Parallelization
 - Asynchronous methods
- Dynamic Programming
 - Using the Dynamic Keyword
 - Dynamic Language Runtime (DLR)
- Creating Windows Store Apps
 - Overview of Windows Store applications
 - Worked example
 - Adding controls and event handlers
- Introduction to Design Patterns
 - What are Design Patterns?
 - What are Anti-Patterns?
 - What are Design Heuristics?
- Using Design Patterns
 - Pattern classification
 - Creational patterns
 - Structural patterns
 - Behavioural patterns
- Test Driven Development (TDD) and Unit Testing Principles
 - Why do TDD and Unit Testing?
 - What tools are available?
- Unit Testing with NUnit
 - How to Test
 - Using NUnit
 - Test fixtures and methods
 - Asserts
- Test Doubles and Mocking
 - What are doubles?
 - Continuum of doubles
 - Mocking frameworks
 - Different approaches to mocking