

C# .NET Training: C# Programming with .NET - Live Online Training

Objectives

After attending the C# .NET Training, you will be able to program C# code and are familiar with the .NET framework. You can write basic applications with C# in Visual Studio .NET.

Participants

The C# .NET training addresses software developers and software architects.

Requirements

Basic knowledge of object-oriented programming as well as experience in programming with C or another programming languages.

Live-Online-Training

* Price per attendee, in Euro plus VAT

Training code: LE-C#-PRG

Face-To-Face - English

Duration

4 days

Live Online - German

Date	Duration
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12.06. – 15.06.2023	4 days
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11.12. – 14.12.2023	4 days
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Face-To-Face - German

Date	Duration
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12.06. – 15.06.2023	4 days
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Content

.NET Overview

- Introduction - .NET framework
- Key concepts of the .NET framework

Structure of .NET Programs

- Introduction - C# program
- Comments
- Examples

Overview of Standard Data Types

- Integers, floating point numbers, text
- Type conversion
- Arrays
- Enumeration types (enums)
- Own data types
- Type inference (var)
- Examples

Formatted Output

- Formatting types
- Own formats
- String interpolation
- Exercise: Working with data types and formatted output in a simple program

Operators

- Overview of operators
- Arithmetic, relational and logical operators, bit operators
- Examples

Control Statements

- Branching
- Jumps
- Looping
- Exercise: Working with control statements

Classes

- Structure of classes
- Object creation
- Fields, methods and properties
- Access modifier
- Constructors and destructors
- Overloading of methods
- Namespaces
- Exercise: Creating classes with properties and methods

Operator Overload

- Overloading operators
- Explicit and implicit conversion operators
- Indexer
- Examples

Inheritance

- Derivation from a basic class
- Impact of access modifiers
- Calling the basic class constructor
- Hiding and overriding methods
- Virtual methods
- Type checking and conversion rules
- Abstract and sealed classes
- Creating, using and implementing interfaces
- Exercise: Inheritance and virtual methods

Structures

- Difference to classes
- Passing by reference
- Boxing and unboxing
- Examples

Exception Handling

- Which errors result in exceptions?
- Exception handling
- Information about exceptions
- Throwing exceptions in own code
- Exercise: Error handling with exception handling

Generic Data Types and Collections

- What are generic data types?
- Advantages of generic collections
- Overview of the most common collection classes
- Optional exercise: Using a generic list

Delegates and Events

- Pointer to methods in C#
- Use of callbacks
- Use of events
- Lambda expressions
- Expression bodied function members
- Examples

Assemblies

- Structure of assemblies
- Use of DLLs
- Differences between private and shared assemblies
- Examples

Exercises in the C# .NET Training

- Use of data types and formatted output in a simple program
- Use of control structures
- Creation of classes with properties and methods
- Inheritance and virtual methods
- Error handling with exception handling
- Optional: Using a generic list
- The practical exercises are carried out after working through the related topics

MicroConsult PLUS

- We will provide you with a download link for your exercises and the solutions from this workshop.