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
23.11. – 26.11.2026	4 days

Face-To-Face - German

Duration
4 days

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Content

.NET Overview
  - Introduction in .NET
  - Key concepts of .NET

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.