Programming in C#

Description

Master the fundamentals of the programming in C#

Our course *Learn to program in C* provides you with the essential skills to master programming in C#, a key language for developing robust and efficient applications. By taking this course, you will learn how to structure your programs, handle data, and manage errors in a professional manner. With a practical and comprehensive approach, you will be able to design and optimize applications while integrating modern methods of data management and performance. This is an ideal training for any developer wishing to improve or effectively start **programming.**

- If you want a course .NET Framework 4.7, please contact us directly

Course Content

Learning to program in C#: mastering the fundamentals of programming

Programming in C# is an essential skill in developing high-performance and scalable applications. This training will provide you with the necessary foundations to start effectively in C#, while integrating modern and professional practices. You will learn how to structure your programs, manipulate complex data, and integrate advanced features that meet the needs of modern businesses.

Why learn to program in C#?

The **C# language** was designed by Microsoft to offer a powerful, versatile, and accessible solution for developers. It is used in a wide range of applications, from enterprise software to video games, and even mobile development with Xamarin. Unlike other languages, C# allows you to work within the .NET ecosystem, which is appreciated for its stability, security, and tight integration with Microsoft tools.

The benefits of C# skills for a developer

Learning **C# programming** gives you a competitive advantage in the job market. The demand for C# developers continues to grow thanks to the popularity of .NET Core and the ability to develop cross-platform applications. Additionally, C# helps you understand the core concepts of object-oriented programming, which is used in many modern languages.

Is C# still relevant in 2024?

In 2024, C# remains a widely used and relevant language due to its performance, robustness, and compatibility with modern platforms like .NET 7. Whether you want to develop web applications with ASP.NET Core, desktop applications, or video games with Unity, C# remains a relevant and suitable choice. Its flexibility and continuous support by Microsoft make it a top choice for many projects, whether small or complex.

How to structure a program in C#?

Structuring a program in C# is a key skill for writing clean, maintainable, and scalable code. With classes, methods, and namespaces, C# allows you to structure projects logically and modularly, making code reuse and collaboration between developers easier. By learning to organize your projects rigorously, you will gain in productivity and clarity.

The fundamentals of object-oriented programming

Object-oriented programming is at the heart of C#. This paradigm allows you to model real-world objects in your code, making it easier to create modular and reusable applications. You will learn to create classes, define properties and methods, and use concepts like inheritance and polymorphism to organize your code more intuitively.

Best practices for structuring code in C#

To effectively structure your code in C#, it is important to follow certain best practices. For example, dividing your code into multiple classes with well-defined responsibilities makes your program more maintainable. Additionally, using design patterns such as singleton, factory, or the MVC pattern will help you structure your applications effectively and in a standardized way.

Data manipulation in C#

Data manipulation is a fundamental aspect of **C# programming**. Whether you're working with databases, files, or data streams, C# offers powerful tools to process and manipulate this information. You will learn to use collections such as lists, arrays, and dictionaries, as well as manage more complex data through LINQ, a query language integrated into C#.

Manipulating collections and data with LINQ

LINQ (Language Integrated Query) is a powerful feature of C# that allows you to manipulate data collections intuitively and efficiently. With LINQ, you can filter, sort, and transform your data using simple expressions, while keeping your code readable and maintainable. This approach is especially useful when working with databases or APIs that return complex data.

Where to code in C#?

C# development is primarily done with integrated development environments (IDEs) such as Visual Studio. This tool, designed by Microsoft, is the most comprehensive solution for coding in C#. It offers a multitude of features like code completion, advanced debugging, and multi-platform project management.

Visual Studio: the ideal environment for programming in C#

Visual Studio is one of the most powerful IDEs for coding in C#. It provides integrated tools to manage your projects, debug your applications, and even collaborate with other developers via Git. If you are new to C#, Visual Studio will guide you every step of the way, from creating your first project to deploying it into production.

Mobile development with Xamarin

In addition to Visual Studio, you can use Xamarin to develop mobile applications in C#. This technology allows you to create native applications for Android and iOS from a shared code base, saving you time and effort in mobile development. Learning C# with Xamarin is a valuable asset for anyone looking to get into mobile app development without having to learn multiple languages.

Is it worth learning C#?

Learning C# is an excellent investment for your future as a developer. This language is not only versatile, but it is also supported by an active community and a rich ecosystem of tools and libraries. Companies value C# developers for their ability to create robust, secure, and scalable applications. Moreover, the fact that C# is an object-oriented language makes it easier to transition to other similar languages such as Java.

Career opportunities with C#

Mastering the **C# language** opens many doors in the professional world. Whether you want to work in web development, mobile development, or the video game industry, C# offers you various opportunities. The language is also widely used in enterprise application development, making it a sought-after skill by recruiters in large tech companies.

Lab / Exercises

Module 1: Review of Visual C# Syntax Module 2: Creating Methods, Handling Exceptions, and Monitoring Applications Module 3: Basic types and constructs of Visual C# Module 4: Creating Classes and Implementing Type-Safe Collections Module 5: Creating a Class Hierarchy by Using Inheritance Module 6: Reading and Writing Local Data Module 7: Accessing a Database Module 8: Accessing Remote Data Module 9: Designing the User Interface for a Graphical Application Module 10: Improving Application Performance and Responsiveness Module 11: Integrating with Unmanaged Code Module 12: Creating Reusable Types and Assemblies Module 13: Encrypting and Decrypting Data

Documentation

- Digital courseware included

Participant profiles

- Experienced developers

Prerequisites

- Know how to name, declare, initialize and assign values ??to variables
- Master arithmetic, relational and logical operators
- Master the keywords of the C # language
- Master the if and for statement and also the Visual Studio IDE
- Know how to connect and sort SQL Server data in a loop

Objectives

- Describe the core syntax and features of Visual C#
- Create methods, handle exceptions, and describe the monitoring requirements of large-scale applications
- Implement the basic structure and essential elements of a typical desktop application

Description

Programming in C# Training

Niveau

Intermédiaire

Classroom Registration Price (CHF)

3800

Virtual Classroom Registration Price (CHF)

3550
Duration (in Days)
5
Reference
CSHARP