

C# 14

C# Fundamentals, .NET Fx Intro, Types, Classes, Attributes, Properties (init-only), Generics, Streams

C# 14 is the premier development language for the .NET platform. C# was designed from scratch with .NET in mind. Most of the internals of .NET 10 and Visual Studio are written in it. It has been selected by the majority of application teams creating commercial .NET 10 projects. C# builds on the rich common heritage of languages such as C++ and Java - but avoids their pitfalls and adds certain interesting new concepts, such as LINQ. There are aspects of C# that developers already know, there are some they have experienced similar but slightly different syntax in other languages, and some that are innovative.

C# can be used to develop stand-alone apps, local and distributed components, web services and mobile code. It produces code that can target desktop PCs, mobile devices, servers and IoT devices. C# 14 can be used for DB [EF 6], UWP, ASP.NET, WebAssembly (Blazor) & security projects. Hence it is an excellent all-round development language for all .NET applications. This intensive course aims to take experienced software engineers rapidly through all the major aspects of C# 14 - using plenty of demo source code and hands-on labs to show it in action. This is an ideal first course for those moving to the C# 14 language and .NET 10.

Contents of One-Day Training Course		
Target Audience Experienced software engineers wishing to rapidly get up to speed with C#.	C# 14 and .NET 10 What is .NET? The Base Class Library The CLR How C# is used with .NET Delivery of C# functionality in assemblies	Delegates And Events Equivalent of function pointers Defining and exposing delegates Registering an interest in a delegate Async info with events Design pattern for event handling
	A C# Project Walk through Solutions, projects and files Parts of a C# project Structure of code Setting up a solution with a C# app and class library	Interfaces When to use interfaces Multiple inheritance & hierarchies Abstract classes vs. interfaces
Prerequisites Programming experience with an OO language such as C++, TypeScript or Java, along with good exposure to object-oriented design. No previous experience of C# or .NET is needed. This is an ideal first course for those wishing to start in the modern .NET ecosystem.	Base Types Built-in data types .NET value types and reference types How C# and .NET data types compare Building code in C# that is callable from other languages	Exception Handling Try .. catch ... finally Detecting and responding to exceptions Strategies for exception handling
	Language Fundamentals Main starting point Flow control, operators Variables, methods Enumerators, bit flags, arrays, indexers Namespaces	Generics & Constraints Generics (for methods and classes) Constraints / Partial types Anonymous methods Type inferencing
This course covers C# 14 using Visual Studio 2026.	Class Fundamentals Members, constructors, visibility, ref and out, constant fields, structs Fields & properties, methods, nested types	Expression Bodied Members Succinct member definitions Methods, constructors, properties, indexers
	Inheritance Single inheritance only (for classes) Virtual functions / override / new with-expressions [C# 14] Designing libraries using inheritance	Specialist Features Null conditional operator Auto-property initializer / nameof
		Calling C Code Calling out to C code from C# Passing parameters / accepting return val
		Records A record is structured immutable data New data keyword
		C# 14 - What's new Review of the latest additions to the C# language and what benefits they deliver