

# Upgrade to .NET and C# language improvements

Course code: DOTNET\_UPG

The course is intended for C# developers who plan to migrate from the .NET Framework to the current version of .NET or want to learn what's new from the current version. NET. The course focuses on important changes between the .NET Framework version and the current .NET version that developers should not miss, such as project structure changes, configuration, compilation, and runtime and memory management changes. On the other hand, the course does not deal with changes in libraries for ASP.NET or Entity Framework, which are discussed in follow-up courses.

## Participant requirements

- Knowledge of C# programming at GOC2125 course level

## Teaching methods

- Expert interpretation with practical examples, exercises on computers.

## Studying materials

- Online presentation of discussed material and exercises.

## Course outline

Introductory overview

- Overview of the .NET platform
- LTS version
- .NET Standard
- Differences from the .NET Framework, unsupported technologies, replacement/new functionality
- New project structure

Migration

- Project migration scenarios from .NET Framework to .NET (Core)
- Auxiliary and (semi)automatic tools

Roslyn Compiler

- Targeting libraries, SDK, runtime versions
- Multiplatform (x-plat)
- Application distribution, self-contained deployment, roll forward
- AOT, PGO, R2R and related technologies

Other topics

- Configuration files
- Runtime and GC changes, new programming options in C# for optimized code
- Event counters
- Reflection, source generators
- Structured logging
- Integrated IoC/DI overview

A quick overview of what's new in the latest versions of C#

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