

C# Introduction

.Net framework and C# Language

1. C# is a general purpose high-level object oriented programming language developed by Microsoft that runs on .Net framework.
2. The .Net framework including C# language was first released in 2002.
3. Microsoft wanted to name C# as cool, but because of some copyright issues they ended up with the name C# (pronounced as "C sharp").

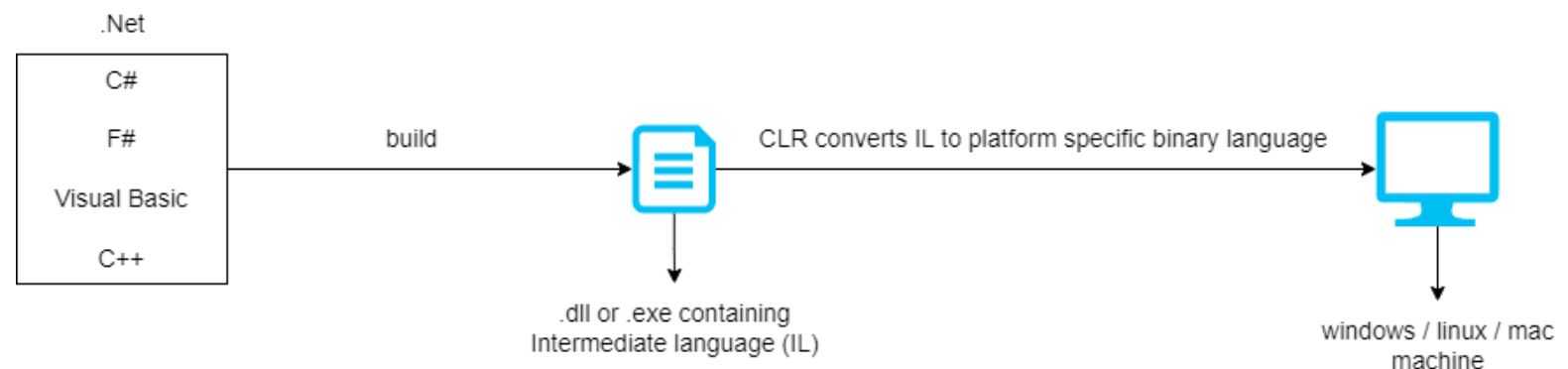
.Net SDK and Runtime

.Net SDK (Software development kit) is used to build and run .Net applications on a machine.

.Net Runtime is a set of libraries that are used to execute a .Net application on a machine.

CLS, CIL and CLR

The .NET Framework supports multiple languages, including C#, F#, Visual Basic, C++, etc. Your project can contain a single language or multiple languages.



CLS (Common Language Specification):

1. Set of rules and standards ensuring language interoperability within .NET.
2. Defines guidelines that languages must adhere to for seamless integration and interaction.
3. Enables components written in one language to be used by other .NET-compliant languages while ensuring compatibility and consistency.

CIL (Common Intermediate Language):

1. Intermediate language (IL) generated by compiling source code in .NET languages.
2. This is platform independent (platform agnostic).

3. Allows different .NET languages to interoperate since they all compile to a common intermediate language.

CLR (Common Language Runtime):

1. Manages the execution of code written in various .NET languages.
2. Provides services such as memory management, garbage collection, security, and exception handling.
3. JIT (Just-In-Time) compiles Common Intermediate Language (CIL) into native machine code during runtime.

What all applications can you create using C#?

1. Mobile Applications
2. Web Applications
3. Windows/Linux/Mac Applications
4. Web APIs
5. Games