

# .Net

*Surbhi Bhardwaj*

*Dronacharya College of Engineering*

*Khentawas, Haryana*

## INTRODUCTION

**.NET Framework** (pronounced *dot net*) is a [software framework](#) developed by [Microsoft](#) that runs primarily on [Microsoft Windows](#). It includes a large [class library](#) known as [Framework Class Library](#) (FCL) and provides [language interoperability](#) (each language can use code written in other languages) across several [programming languages](#). Programs written for .NET Framework execute in a [software](#) environment (as contrasted to [hardware](#) environment), known as [Common Language Runtime](#) (CLR), an [application virtual machine](#) that provides services such as security, [memory management](#), and [exception handling](#). FCL and CLR together constitute .NET Framework.

FCL provides [user interface](#), [data access](#), [database connectivity](#), [cryptography](#), [web application](#) development, numeric [algorithms](#), and [network communications](#). Programmers produce software by combining their own [source code](#) with .NET Framework and other libraries. .NET Framework is intended to be used by most new applications created for the Windows platform. Microsoft also produces an [integrated development environment](#) largely for .NET software called [Visual Studio](#).

.NET Framework started out as a proprietary framework, although the company worked to [standardize](#) the software stack almost immediately, even before its first release. Despite the standardization efforts, developers—particularly those in the [free and open-source software](#) communities—expressed their uneasiness with the selected terms and the prospects of any free and open-source implementation, especially with regard to [software patents](#). Since then, Microsoft has changed .NET development to more closely follow a contemporary model of a community-developed software project, including issuing an update to its patent that promises to address the concerns.

.NET Framework family also includes two versions for [mobile](#) or [embedded device](#) use. A reduced version of the framework, [.NET Compact Framework](#), is available on [Windows CE](#) platforms, including [Windows Mobile](#) devices such

as [smartphones](#). Additionally, [.NET Micro Framework](#) is targeted at severely resource-constrained devices.

## WHAT IS THE .NET FRAMEWORK?

The .NET Framework is a new and revolutionary platform created by Microsoft for developing [applications](#).

- It is a platform for application [developers](#).
- It is a Framework that supports Multiple Language and Cross language integration.
- IT has IDE (Integrated Development Environment).
- Framework is a set of utilities or can say building blocks of your application system.
- .NET Framework provides GUI in a GUI manner.
- .NET is a platform independent but with help of Mono Compilation System (MCS). MCS is a middle level interface.
- .NET Framework provides interoperability between languages i.e. Common Type System (CTS) .
- .NET Framework also includes the .NET Common Language Runtime (CLR), which is responsible for maintaining the execution of all applications developed using the .NET library.
- The .NET Framework consists primarily of a gigantic library of code.

## .NET FRAMEWORK LANGUAGE SUPPORT

- [Ada](#)
  - A# for .NET<sup>[1]</sup> - a port of Ada to the Microsoft .NET Framework, free from the Department of Computer Science at the United States Air Force Academy under the terms of the GNU general public license
- [APL](#)

- [Dyalog APL](#) (Dyalog Ltd)
- [AsmL](#)
  - [Abstract State Machine Language](#) (Microsoft Research)
- [BETA](#)
  - [BETA.Net](#) (University of Aarhus, Denmark)
- [Boo](#)
  - [Boo](#) (Python-inspired syntax by Rodrigo B. de Oliveira, Georges Benatti)
- [C](#)
  - [lcc](#) ([ANSI C Compiler](#) from Princeton)
  - [csc](#) (ANSI C Compiler from Portable.NET)
- [C#](#)
  - [Visual C#](#) (Microsoft)
  - [Mono C# Compiler](#) (Mono/Ximian)
  - [csc](#) (DotGNU Portable.NET)
  - Variants:
    - [CSI](#) (a simple C# Interpreter by Steve Donovan)
    - [C\\_](#) (Microsoft Research)
    - [Parallel C#](#) - (formerly MC# by Vadim B. Guzev)
    - [Metaphor](#) (Gregory Neverov at Queensland University of Technology)
    - [Spec#](#) (Microsoft Research)
- [C++](#)
  - [Managed Extensions for C++](#) (Microsoft)
- [Caml](#)
  - [F#](#) (Microsoft)
- [OCAML](#) (Emmanuel Chailloux & Raphael Montelatici)
- [CAT](#)
  - [CAT](#) (Christopher Diggins)
- [COBOL](#)
  - NetCOBOL for .NET<sup>[2]</sup> - from [Fujitsu Corporation](#)
  - [NeoKicks](#) (Fujitsu)
  - [Net Express](#) (Micro Focus)
- [CULE](#)
  - [CULE.Net](#) (Software Perspectives)
- [Eiffel](#)
  - [Eiffel ENViSioN!](#) (Eiffel Software)
- [Forth](#)
  - [Delta Forth .NET](#) (Valer BOCAN)
- [FORTRAN](#)
  - [Lahey/Fujitsu Fortran for .NET](#) (Lahey Computer Systems, Inc.)
  - [FTN95 - Fortran for Microsoft .NET](#) (Salford Software Ltd.)
- [Haskell](#)
  - [Hugs98 for .NET](#)
  - [Haskell for .NET \(using Mondrian for .NET\)](#) (Nigel Perry)
  - [Haskell.net Project](#)
- [IL/MSIL](#)
  - [MSIL](#) (Microsoft)
  - [ilasm](#) (IL Assembler from Microsoft)
  - [ilasm](#) (Mono/Ximian)
  - [Portable.NET Assembler](#) (dotGNU; no specific link, but project still active)
- [Java](#)
  - [Visual J# .NET](#) (Microsoft)

- [IKVM.NET](#) - Java VM for .NET (Jeroen Frijters)
- [JavaScript](#)
  - [DotGnu JScript](#) (dotGNU)
- [Lexico](#)
  - [Lexico; English version here](#) (page is in Spanish, with English translation)
- [LISP](#)
  - [clisp](#) (Microsoft)
  - [DotLisp](#) (Rich Hickey)
  - [L# \(L Sharp .NET\)](#) - LISP-based script language (Rob Blackwell)
  - [FOIL](#) - (Rich Hickey and Eric Thorsen)
  - [RDNZL](#) - .NET Layer for Common Lisp (Edi Weitz)
- [LOGO](#)
  - [TurtleTracks.net Logo](#) (University of Patras)
- [Lua](#)
  - [Lua.NET: Integrating Lua with Rotor](#) (PUC-RIO)
- [Mercury](#)
  - [Mercury on .NET](#)
- [Mixal Assembly Language](#)
  - [MixNet](#) (SourceForge)
- [Modula-2](#)
  - [GPM/CLR](#) (Queensland University of Technology)
- [Mondrian](#)
  - [Mondrian for .NET](#) (Nigel Perry)
- [Oberon](#)
  - [Active Oberon for .NET](#) (ETH Zuerich)
  - [Component Pascal](#) (QUT)
- [Nemerle](#)
  - [Nemerle](#) (The University of Wroclaw)
- [Pan](#)
  - [Pan#](#) (Computer Languages for Secondary Education)
- [Perl](#)
  - [Perl for .NET, PerlNET](#) (ActiveState SRL.)
  - [PerlSharp](#) (Joshua Tauberer)
- [Pascal](#) variants:
  - [Delphi](#) (Borland)
  - [Delphi.NET - interoperability tools](#) (Marcus Schmidt)
- [PHP](#)
  - [PHP4Mono](#) (Raphael Romeikat)
  - [PHP4Apps](#) - Unmanaged wrapper (Daaron)
  - [Phalanger](#)
- [Processing](#)
  - [Processing.NET](#) (Jonatan Rubio, et al)
- [Prolog](#)
  - [P#](#) (Jon Cook at Univ. of Edinburgh)
  - [Prolog.NET](#) (Oregon Institute of Technology)
- [Python](#)
  - [IronPython](#) (Microsoft)
  - [Python for .NET](#) - .NET Integration with Python (Brian Lloyd)
- [Ruby](#)
  - [Mono Ruby.NET](#) (Jaen, Mono developers)
  - [NetRuby](#) (arton)
  - [RubyCLR](#) (John Lam)
  - [Ruby.NET](#) (Dr. Wayne Kelly)
- [RPG](#)
  - [ASNA Visual RPG for .NET](#)
- [Scala](#)

- [Scala on Microsoft.NET](#) (Martin Odersky, LAMP at EPFL)
- [Scheme](#)
  - [Common Larceny](#) (Northeastern University)
  - [Bigloo](#) (Inria Sophia-Antipolis)
  - [Tachy](#) (Ken Rawlings)
- [Smalltalk](#)
  - [#Smalltalk](#) (John Brant & Don Roberts)
- [SML](#) (Standard Meta Language)
  - [SML.NET](#) (Microsoft Research, University of Cambridge)
- [Synergy](#)
  - [Synergy](#) (Synergex, now known as Synergy/DE)
- [Tcl/Tk](#)
  - [TickleSharp](#) (jscottb, Novell Forge)
- [Visual Basic](#)
  - [Visual Basic.NET](#) (Microsoft)
  - [Mono Visual Basic Compiler](#) (Mono/Ximian)
  - [bmcs](#) (Jambunathan)
  - Variants:
    - [KPL - Kid's Programming Language](#) (Morrison Schwartz)

## REFERENCES

- [https://en.wikipedia.org/wiki/.NET\\_Framework](https://en.wikipedia.org/wiki/.NET_Framework)
- <http://www.c-sharpcorner.com/uploadfile/puranindia/net-framework-and-architecture/>
- [http://en.citizendium.org/wiki/List\\_of\\_languages\\_using\\_the\\_.NET\\_Framework](http://en.citizendium.org/wiki/List_of_languages_using_the_.NET_Framework)