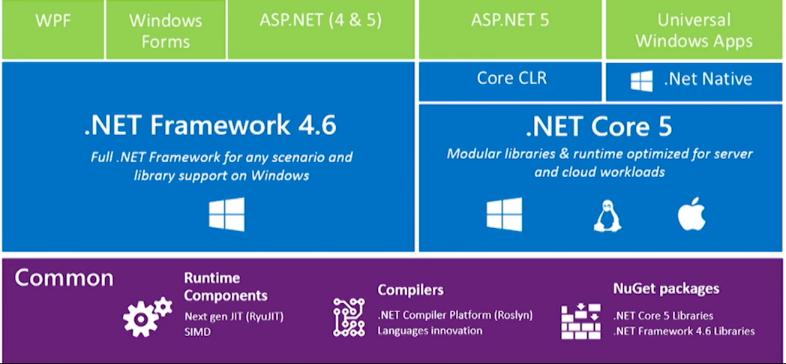
**Overview of .NET Framework release history**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Version number** | [**CLR**](https://en.wikipedia.org/wiki/Common_Language_Runtime) **version** | **Release date** | **Development tool** | **Replaces** |
| **Windows** |
| [1.0](https://en.wikipedia.org/wiki/.NET_Framework_version_history#.NET_Framework_1.0) | 1.0 | 2002-02-13 | [Visual Studio .NET](https://en.wikipedia.org/wiki/Visual_Studio_.NET)[[23]](https://en.wikipedia.org/wiki/.NET_Framework#cite_note-new-vs2003-24) | [XP SP1](https://en.wikipedia.org/wiki/Windows_XP)[[a]](https://en.wikipedia.org/wiki/.NET_Framework#endnote_a1none) |
| [1.1](https://en.wikipedia.org/wiki/.NET_Framework_version_history#.NET_Framework_1.1) | 1.1 | 2003-04-24 | [Visual Studio .NET 2003](https://en.wikipedia.org/wiki/Visual_Studio_.NET_2003)[[23]](https://en.wikipedia.org/wiki/.NET_Framework#cite_note-new-vs2003-24) | [XP SP2, SP3](https://en.wikipedia.org/wiki/Windows_XP)[[b]](https://en.wikipedia.org/wiki/.NET_Framework#endnote_b1none) |
| [2.0](https://en.wikipedia.org/wiki/.NET_Framework_version_history#.NET_Framework_2.0) | 2.0 | 2005-11-07 | [Visual Studio 2005](https://en.wikipedia.org/wiki/Visual_Studio_2005)[[25]](https://en.wikipedia.org/wiki/.NET_Framework#cite_note-new-vs2005-26) | N/A |
| [3.0](https://en.wikipedia.org/wiki/.NET_Framework_version_history#.NET_Framework_3.0) | 2.0 | 2006-11-06 | [Expression Blend](https://en.wikipedia.org/wiki/Microsoft_Blend)[[27]](https://en.wikipedia.org/wiki/.NET_Framework#cite_note-new-blend-28)[[c]](https://en.wikipedia.org/wiki/.NET_Framework#endnote_c1none) | [Vista](https://en.wikipedia.org/wiki/Windows_Vista) |
| [3.5](https://en.wikipedia.org/wiki/.NET_Framework_version_history#.NET_Framework_3.5) | 2.0 | 2007-11-19 | [Visual Studio 2008](https://en.wikipedia.org/wiki/Visual_Studio_2008)[[28]](https://en.wikipedia.org/wiki/.NET_Framework#cite_note-new-vs2008-29) | [7](https://en.wikipedia.org/wiki/Windows_7), [8](https://en.wikipedia.org/wiki/Windows_8), [8.1](https://en.wikipedia.org/wiki/Windows_8.1), [10](https://en.wikipedia.org/wiki/Windows_10)[[d]](https://en.wikipedia.org/wiki/.NET_Framework#endnote_d1none) |
| [4.0](https://en.wikipedia.org/wiki/.NET_Framework_version_history#.NET_Framework_4) | 4 | 2010-04-12 | [Visual Studio 2010](https://en.wikipedia.org/wiki/Visual_Studio_2010)[[29]](https://en.wikipedia.org/wiki/.NET_Framework#cite_note-new-vs2010-30) | N/A |
| [4.5](https://en.wikipedia.org/wiki/.NET_Framework_version_history#.NET_Framework_4.5) | 4 | 2012-08-15 | [Visual Studio 2012](https://en.wikipedia.org/wiki/Visual_Studio_2012)[[30]](https://en.wikipedia.org/wiki/.NET_Framework#cite_note-new-vs2012-31) | [8](https://en.wikipedia.org/wiki/Windows_8) |
| [4.5.1](https://en.wikipedia.org/wiki/.NET_Framework_version_history#.NET_Framework_4.5.1) | 4 | 2013-10-17 | [Visual Studio 2013](https://en.wikipedia.org/wiki/Visual_Studio_2013)[[31]](https://en.wikipedia.org/wiki/.NET_Framework#cite_note-new-vs2013-32) | [8.1](https://en.wikipedia.org/wiki/Windows_8.1) |
| [4.5.2](https://en.wikipedia.org/wiki/.NET_Framework_version_history#.NET_Framework_4.5.2) | 4 | 2014-05-05 | N/A | N/A |
| [4.6](https://en.wikipedia.org/wiki/.NET_Framework_version_history#.NET_Framework_4.6) | 4 | 2015-07-20 | [Visual Studio 2015](https://en.wikipedia.org/wiki/Visual_Studio_2015)[[32]](https://en.wikipedia.org/wiki/.NET_Framework#cite_note-33) | [10 v1507](https://en.wikipedia.org/wiki/Windows_10) |
| [4.6.1](https://en.wikipedia.org/wiki/.NET_Framework_version_history#.NET_Framework_4.6.1) | 4 | 2015-11-30[[33]](https://en.wikipedia.org/wiki/.NET_Framework#cite_note-34) | [Visual Studio 2015 Update 1](https://en.wikipedia.org/wiki/Visual_Studio_2015) | [10 v1511](https://en.wikipedia.org/wiki/Windows_10#Updates_and_support) |
| [4.6.2](https://en.wikipedia.org/wiki/.NET_Framework_version_history#.NET_Framework_4.6.2) | 4 | 2016-08-02[[34]](https://en.wikipedia.org/wiki/.NET_Framework#cite_note-35) |  | [10 v1607](https://en.wikipedia.org/wiki/Windows_10#Updates_and_support) |
| [4.7](https://en.wikipedia.org/wiki/.NET_Framework_version_history#.NET_Framework_4.7) | 4 | 2017-04-05[[35]](https://en.wikipedia.org/wiki/.NET_Framework#cite_note-36) | [Visual Studio 2017](https://en.wikipedia.org/wiki/Visual_Studio_2017) | [10 v1703](https://en.wikipedia.org/wiki/Windows_10#Updates_and_support) |
| [4.7.1](https://en.wikipedia.org/wiki/.NET_Framework_version_history#.NET_Framework_4.7.1) | 4 | 2017-10-17[[36]](https://en.wikipedia.org/wiki/.NET_Framework#cite_note-37) | [Visual Studio 2017](https://en.wikipedia.org/wiki/Visual_Studio_2017) | [10 v1709](https://en.wikipedia.org/wiki/Windows_10#Updates_and_support) |
| [4.7.2](https://en.wikipedia.org/wiki/.NET_Framework_version_history#.NET_Framework_4.7.2) | 4 | 2018-04-30[[37]](https://en.wikipedia.org/wiki/.NET_Framework#cite_note-38) | [Visual Studio 2017](https://en.wikipedia.org/wiki/Visual_Studio_2017) | [10 v1803](https://en.wikipedia.org/wiki/Windows_10#Updates_and_support) |
| [4.8](https://en.wikipedia.org/wiki/.NET_Framework_version_history#.NET_Framework_4.8) | 4 | Developing[[38]](https://en.wikipedia.org/wiki/.NET_Framework#cite_note-39) | [Visual Studio 2019](https://en.wikipedia.org/w/index.php?title=Visual_Studio_2019&action=edit&redlink=1) (Planning)[[39]](https://en.wikipedia.org/wiki/.NET_Framework#cite_note-40) | [10 v1903](https://en.wikipedia.org/wiki/Windows_10#Updates_and_support) (Planning) |



From the above, we could easily deduce the following:

* **.NET Framework 4.6** is a full framework for everything related to .NET, but lacks libraries & runtime optimized for multi-platform (Windows, Linux and Mac) and cloud deployments
* **.NET Core** on the other hand is a subset of .NET Framework 4.6 which is mainly optimized for multi-platform and cloud deployments
* **.NET Native** is mainly used to develop Universal Apps which will be quite optimized to run on any device and platform, natively (not for the web apps though)

An interesting point is ASP.NET:

* If we need backward compatibility to the fullest extent (say web forms or aspx support), we need to go with .NET Framework 4.6
* If we develop MVC, Web API or Razor web pages, then we can deploy those web apps either in .NET Framework 4.6 or .NET Core environment

ASP.NET Core

**ASP.NET Core** is a free and open-source web framework, and higher performance than ASP.NET developed by [Microsoft](https://en.wikipedia.org/wiki/Microsoft) and the community. It is a modular framework that runs on both the full .NET Framework, on Windows, and the cross-platform .NET Core.

The framework is a complete rewrite that unites the previously separate ASP.NET MVC and ASP.NET Web API into a single programming model.

## Release history

|  |  |  |  |
| --- | --- | --- | --- |
| **Version Number** | **Release Date** | **Support Ended** | **Development Tool** |
| 1.0 | 2016-06-27 | 2019-06-27 | Visual Studio 2015, 2017 |
| 1.1 | 2016-11-18 | 2019-06-27 | Visual Studio 2015, 2017 |
| 2.0 | 2017-08-14 | 2018-10-01 | Visual Studio 2017 |
| 2.1 | 2018-05-30 | 2021-08-21[[3]](https://en.wikipedia.org/wiki/ASP.NET_Core#cite_note-3) | Visual Studio 2017 |
| 2.2 | 2018-12-04[[4]](https://en.wikipedia.org/wiki/ASP.NET_Core#cite_note-4) |  | Visual Studio 2017 15.9 and 2019 16.0 preview 1 |
| 3.0 | in development |  | Visual Studio 2017 and 2019 |

https://docs.microsoft.com/en-us/dotnet/standard/choosing-core-framework-server

**Use .NET Core for your server application when:**

* You have cross-platform needs.
* You are targeting microservices.
* You are using Docker containers.
* You need high-performance and scalable systems.
* You need side-by-side .NET versions per application.

**Use .NET Framework for your server application when:**

* Your app currently uses .NET Framework (recommendation is to extend instead of migrating).
* Your app uses third-party .NET libraries or NuGet packages not available for .NET Core.
* Your app uses .NET technologies that aren't available for .NET Core.
* Your app uses a platform that doesn’t support .NET Core.

With **Eager Loading**, all the data is retrieved **in a** single query, which can then be cached to improve the Application performance. With **Eager Loading**, we are trading memory consumption for the database round trips. With **Lazy Loading**, we only retrieve just the amount of data, which we need **in a** single query