

# .NET Series



## What is .NET? .NET Foundational Concepts



Microsoft



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## Manoj Kumar Sharma

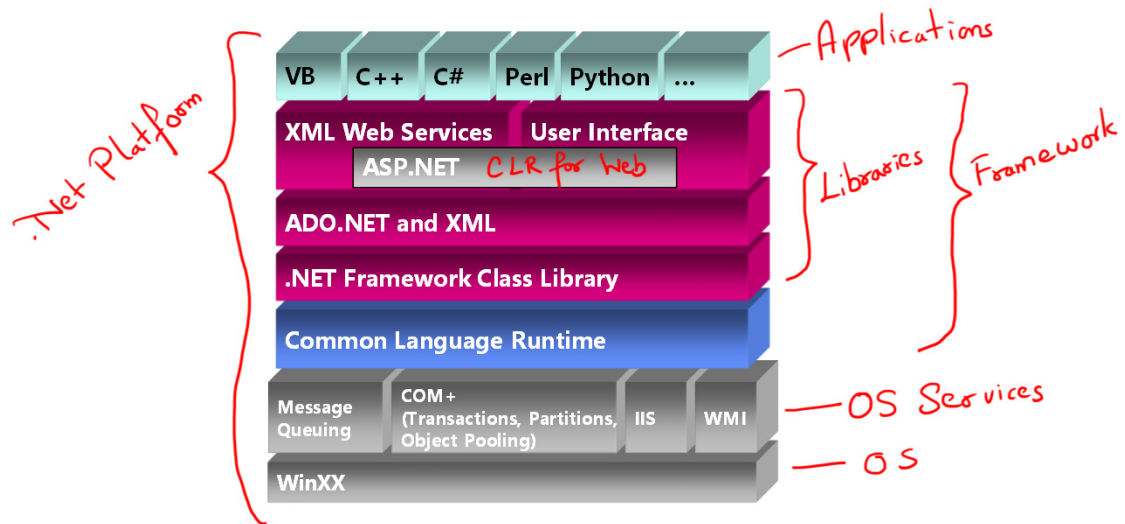
- Freelance Consultant / Corporate Trainer
- 29+ years of Experience in the Software Industry
  - 21+ years as a Software Architect / Systems Analyst / Project Lead
  - Last Designation held: *Chief Software Architect* for ADP India.
- 14+ years of Corporate Training Experience.
  - Delivered over 1600 in-person trainings across India, US, Oman and Thailand, and over 200 remote trainings
  - Microsoft Certified Trainer since 2012

[www.manojkumarsharma.com](http://www.manojkumarsharma.com)



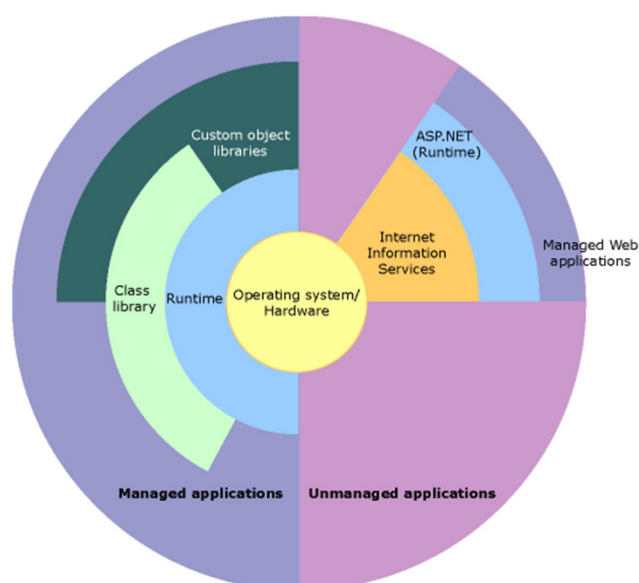
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## .NET Framework Components



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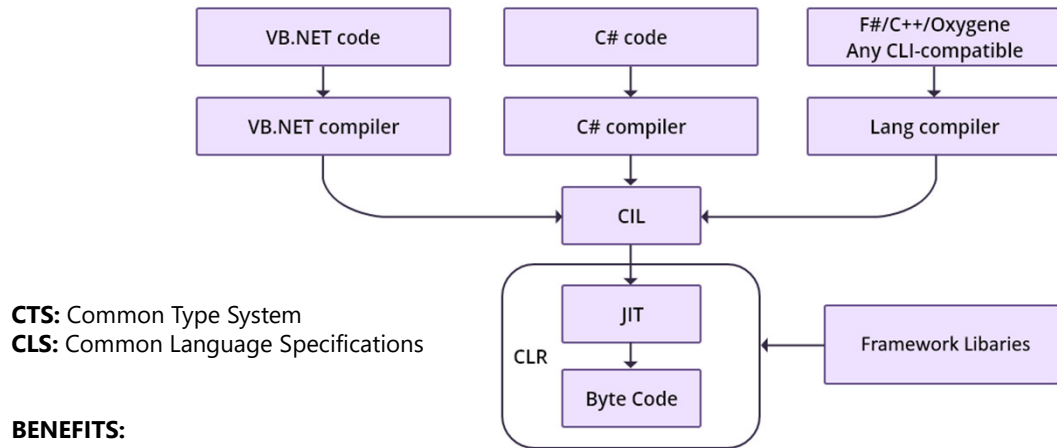
## Managed Code



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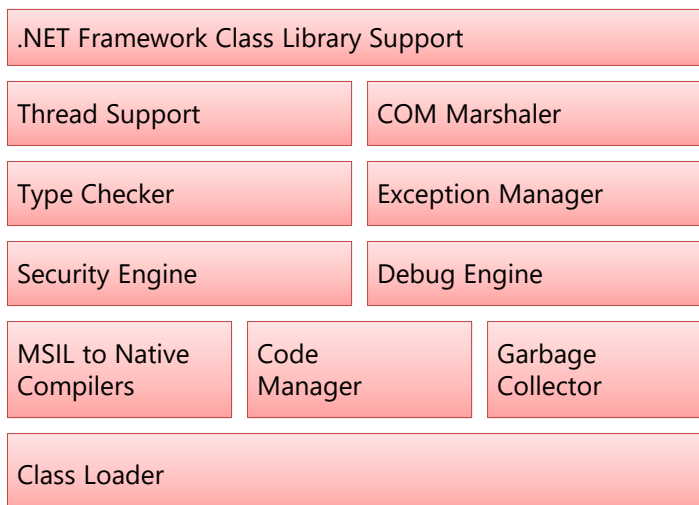
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## How .NET Code Works



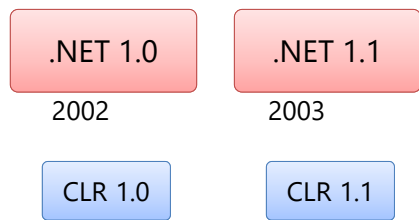
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## CLR Components



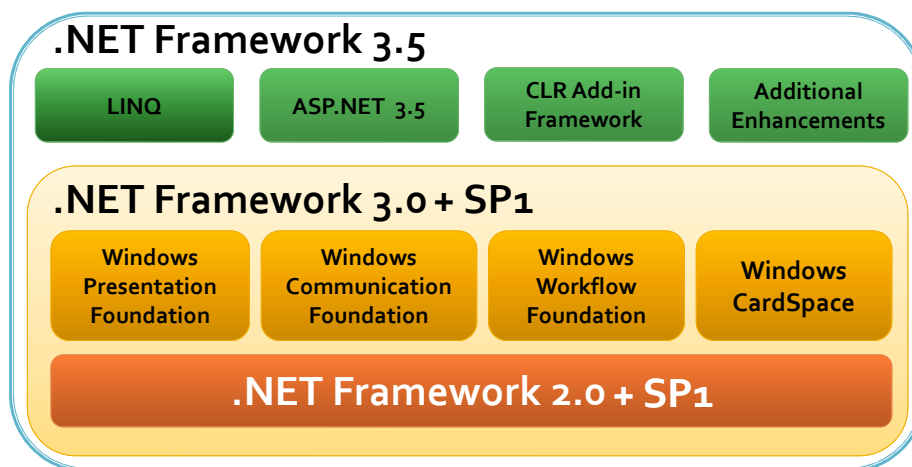
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## A Look Back...



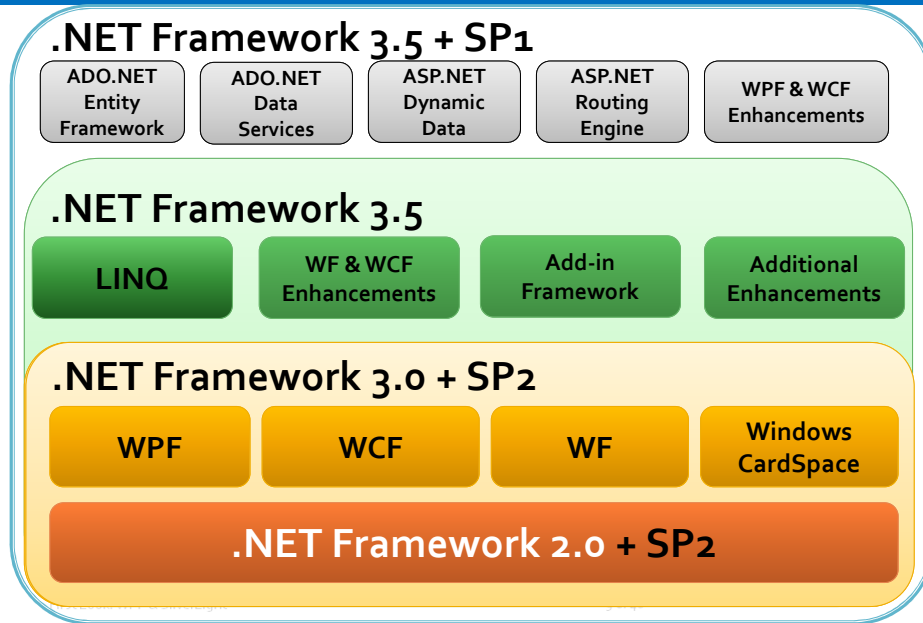
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## A Look Back...



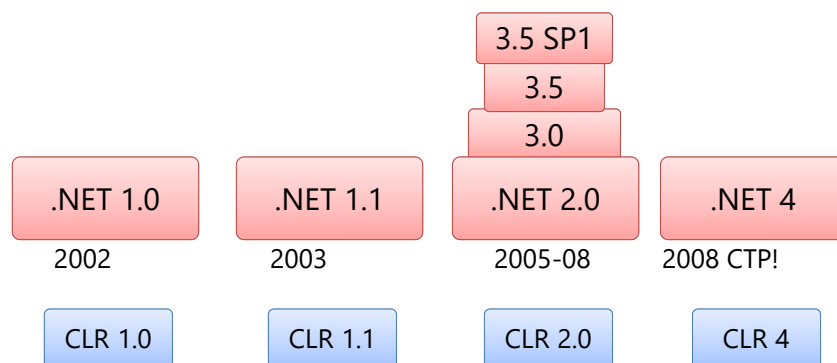
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## A Look Back...



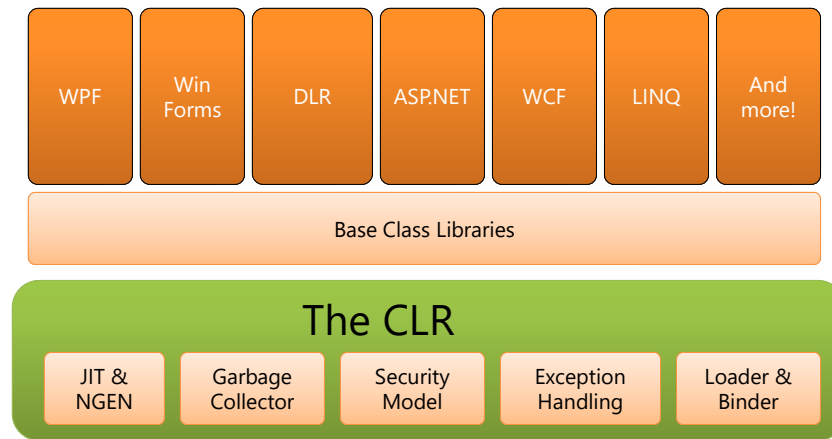
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## A Look Back...



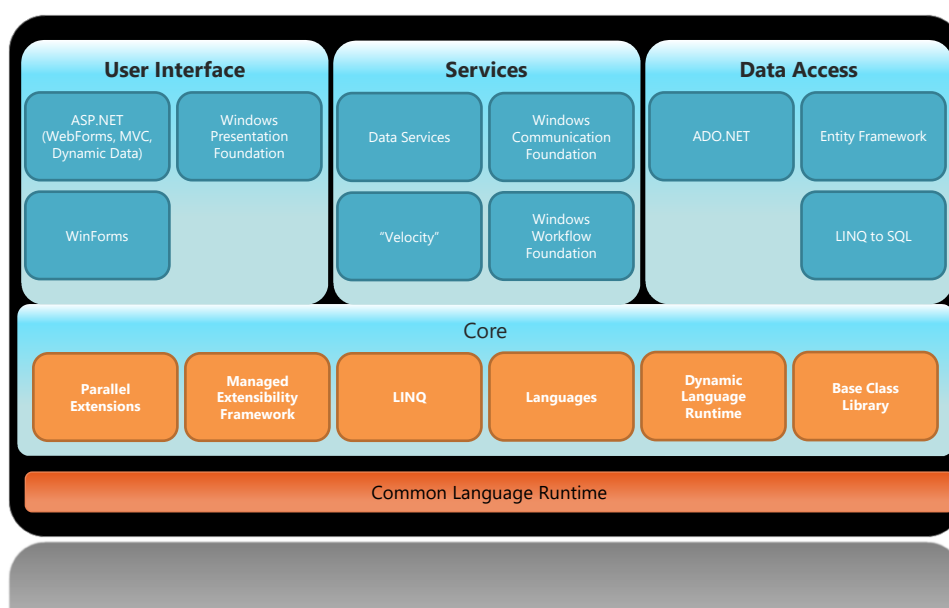
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## What Is The .NET Framework?



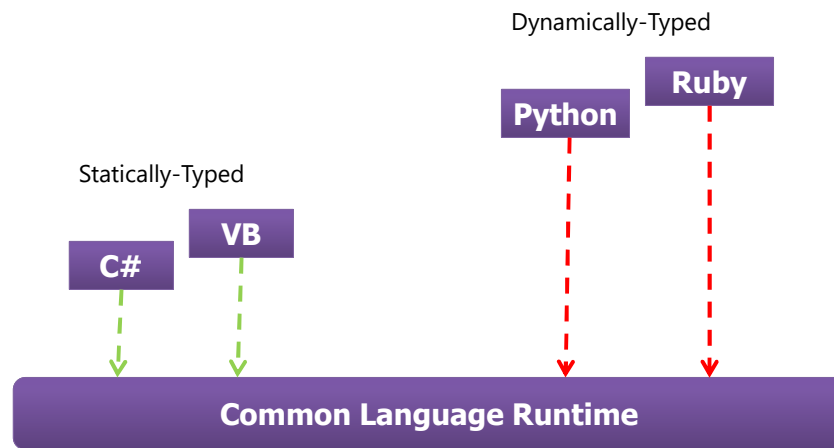
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## .NET Framework 4.0



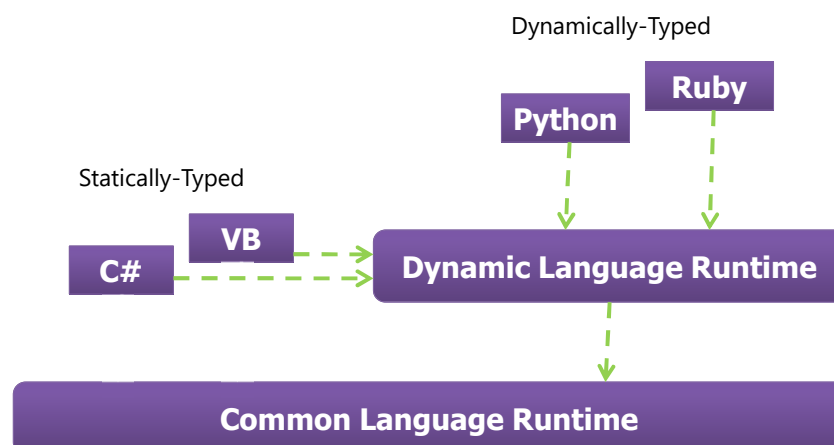
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## Why a “Dynamic Language Runtime”?



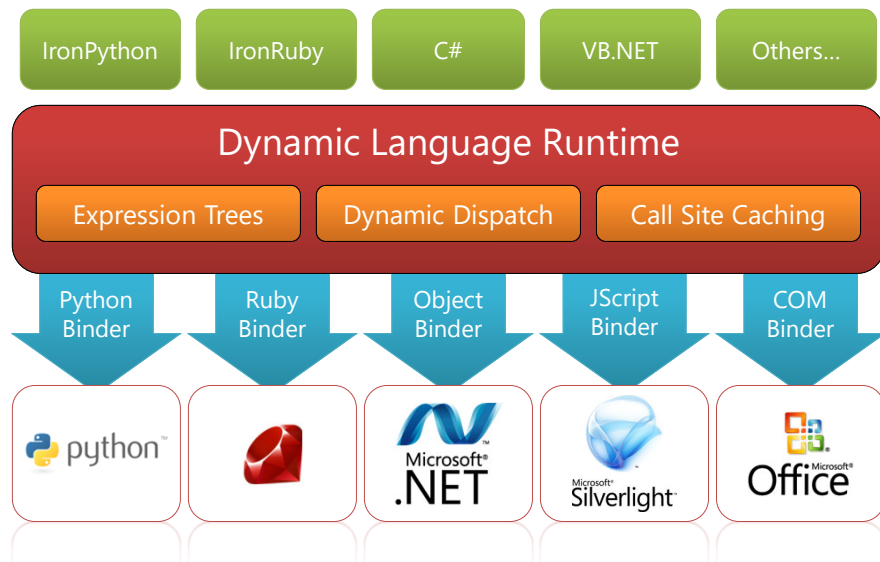
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## Why a “Dynamic Language Runtime”?



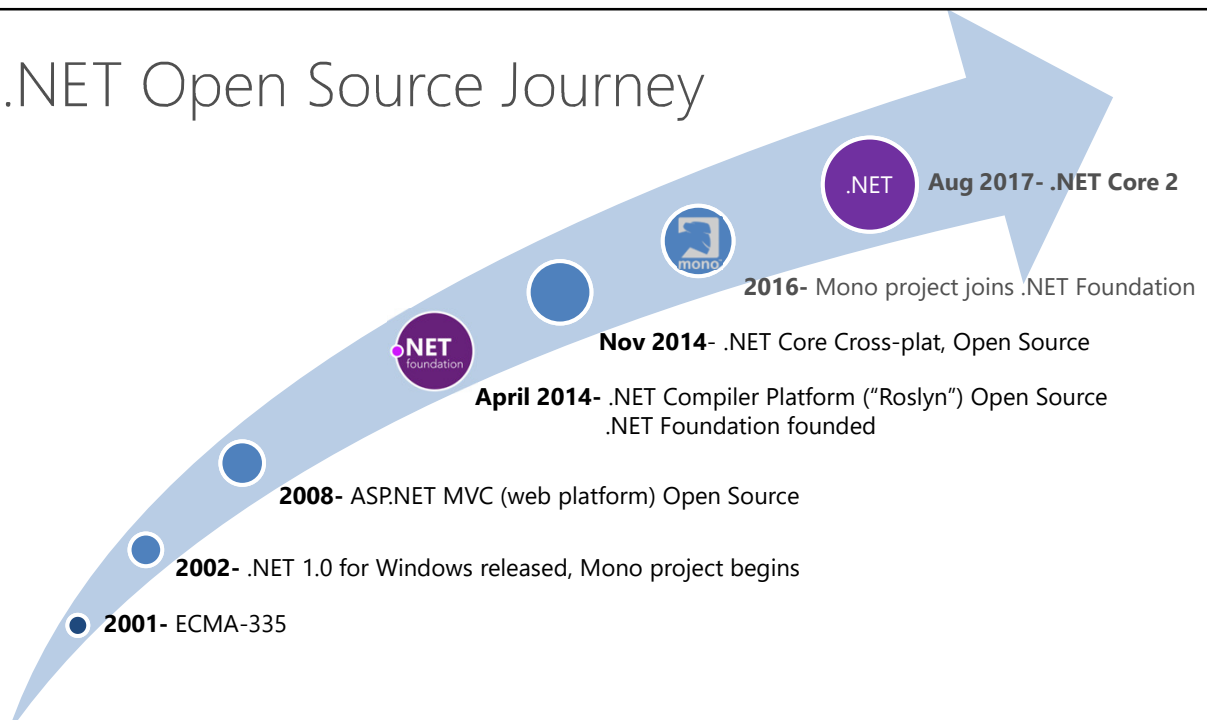
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## .NET Dynamic Programming



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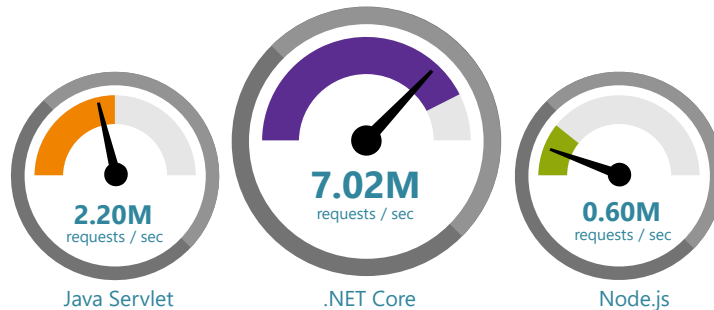
## .NET Open Source Journey



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## .NET is Fast. Really Fast!



Data sourced from official tests available at [TechEmpower Round 21](#) dated 19-JUL-2022.

“Using the same-size server, we were able to go from 1,000 requests per second per node with Node.js to 20,000 requests per second with .NET Core.”  
— Raygun

<https://www.microsoft.com/net/customers>

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## C# Language

- C#1 Jan 2002
- C#2 Generics, Nullables, Iterators Nov 2005
- C#3 LINQ Nov 2007
- C#4 Dynamic Apr 2010
- C#5 Async/await Aug 2012
- C#6 Roslyn, String Interpolation, Property Initializers Jul 2015
- C# 7 Out, Tuples, Pattern Matching, Local Functions Mar 2017
- C# 8 .NET CORE, Readonly, Null-coalescing, Ranges Sep 2019
- C# 9 .NET 5, Top Level Statements, Record Nov 2020
- C# 10 Global Using, Const Interpolation, Record struct Nov 2021
- C# 11 Generic Math, Raw String Literals, UTF8 Nov 2022

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# ASP.NET Core

A new open-source and cross-platform framework  
for building modern cloud-based Web applications  
using .NET

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## Why ASP.NET Core?

Unified web stack for web UI and web APIs

Totally modular

Microservices & containers

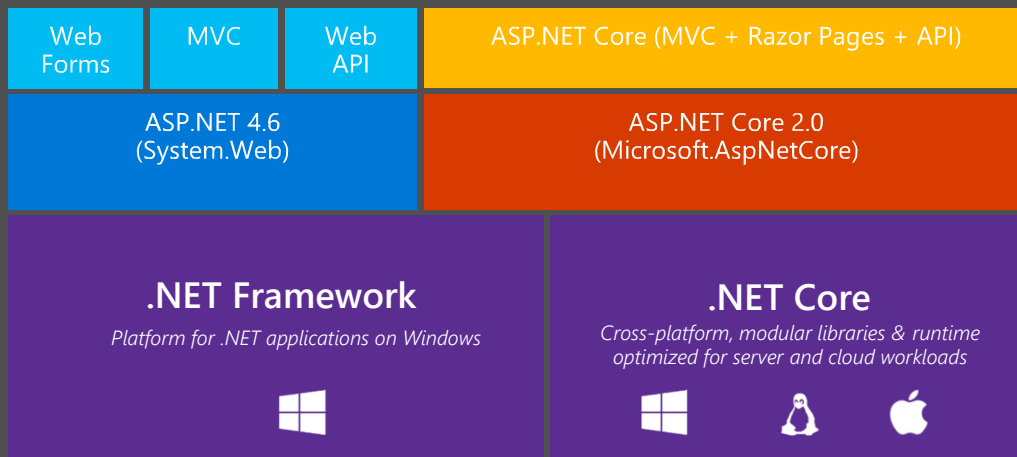
Cloud ready

Choose your host

*Fast*

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# ASP.NET Core in a Nutshell



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## ASP.NET Core features

Hosting

Kestrel, Startup

Middleware

Built-in and custom

Dependency Injection

Configuration

Logging

Application frameworks

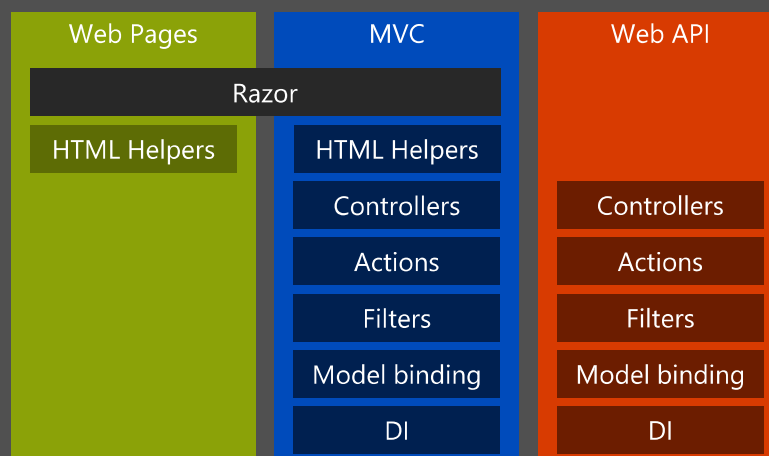
MVC, Razor Pages, Identity, SignalR (preview)

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MVC + Web API + Web Pages =  
ASP.NET Core MVC

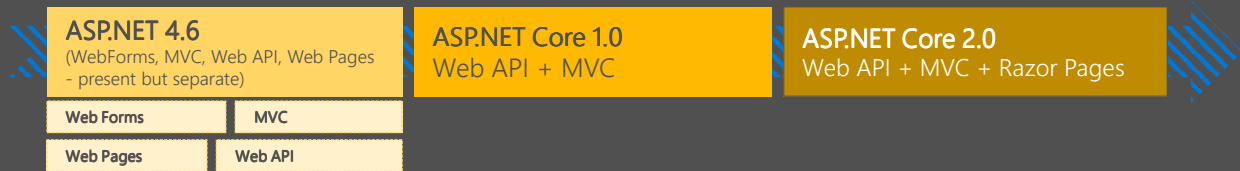
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Previous ASP.NET frameworks - similar, but different



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# ASP.NET = A unified web stack



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# ASP.NET = A unified web stack



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# Thank You



**Microsoft** | developer & platform evangelism