ASP.Net Core Introduction

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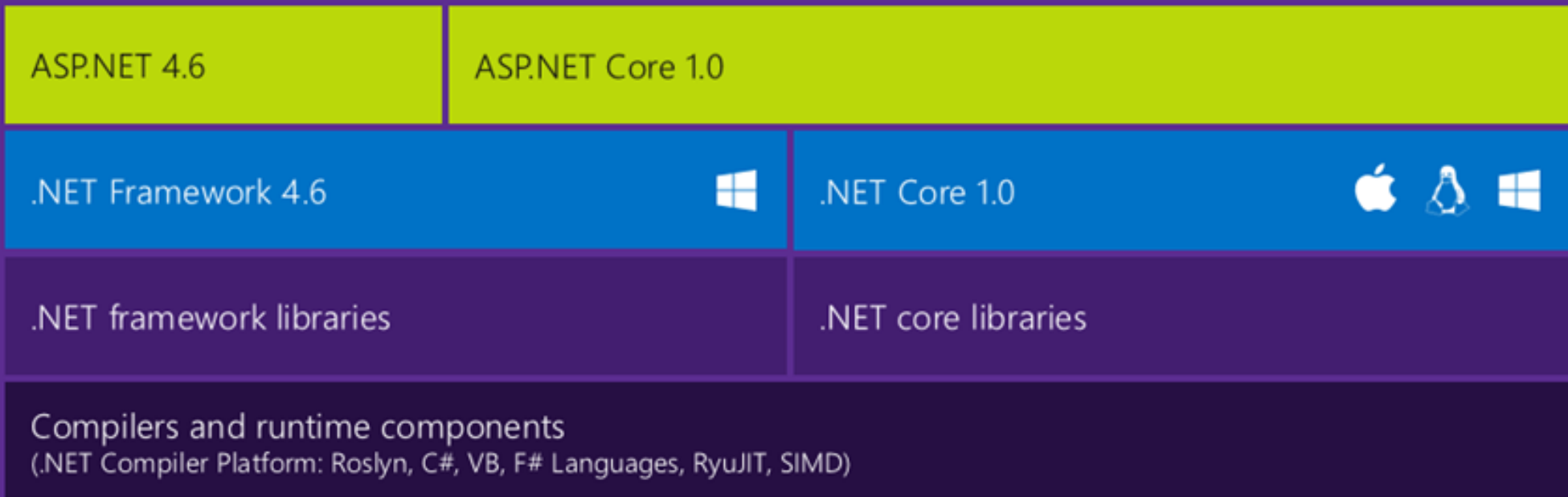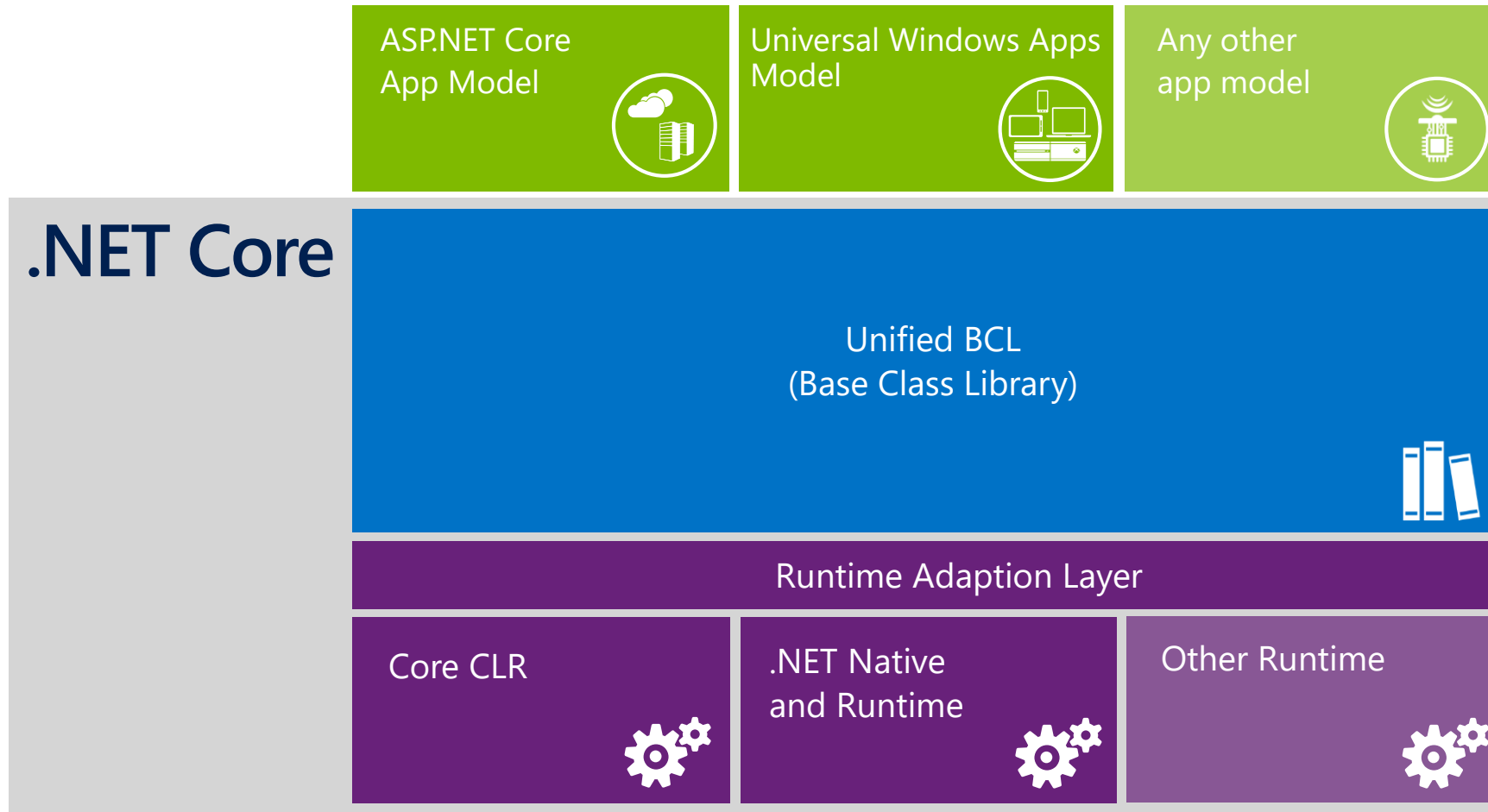
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Agenda

- What is ASP.Net Core
- Components
- First Application
- Simple MVC Application
- Consequences
  - Hosting
  - Development
  - DNN

ASP.NET 4.6 and ASP.NET Core 1.0

ASP.NET 4.6	ASP.NET Core 1.0
.NET Framework 4.6	.NET Core 1.0
.NET framework libraries	.NET core libraries

Compilers and runtime components
(.NET Compiler Platform: Roslyn, C#, VB, F# Languages, RyuJIT, SIMD)

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- New Stack for Web Development
- Cross Platform (Windows, Linux, Mac)
- Open Source
- Following OWIN concept (Open Web Interface for .Net)
- Based on .Net Core 1.0 or .Net Framework 4.6
- Smaller Server Footprint
- Includes Web Server and Application

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.Net Core

.NET Core

ASP.NET Core App Model

Universal Windows Apps Model

Any other app model

Unified BCL (Base Class Library)

Runtime Adaption Layer

Core CLR

.NET Native and Runtime

Other Runtime

- New Implementation
- App Level isolation
- For Modern Apps and Web
- Subset of .Net 4.6, 100% compatible
  - .Net Core 1 Applications runs on .Net 4.6 – not vv.
- Modular and smaller, optimized for specific workloads
- Set of NuGet Packages (included in App)
- Side by side install (instead of shared framework)
- No support for WebForms, WinForms, WPF, Windows specifics

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DotNet Core CLI

- Use DotNet CLI

  - `dotnet new`   Scaffold a minimal application
  - `dotnet restore`   Restores packages for the project
  - `dotnet run`   Compiles and runs the application
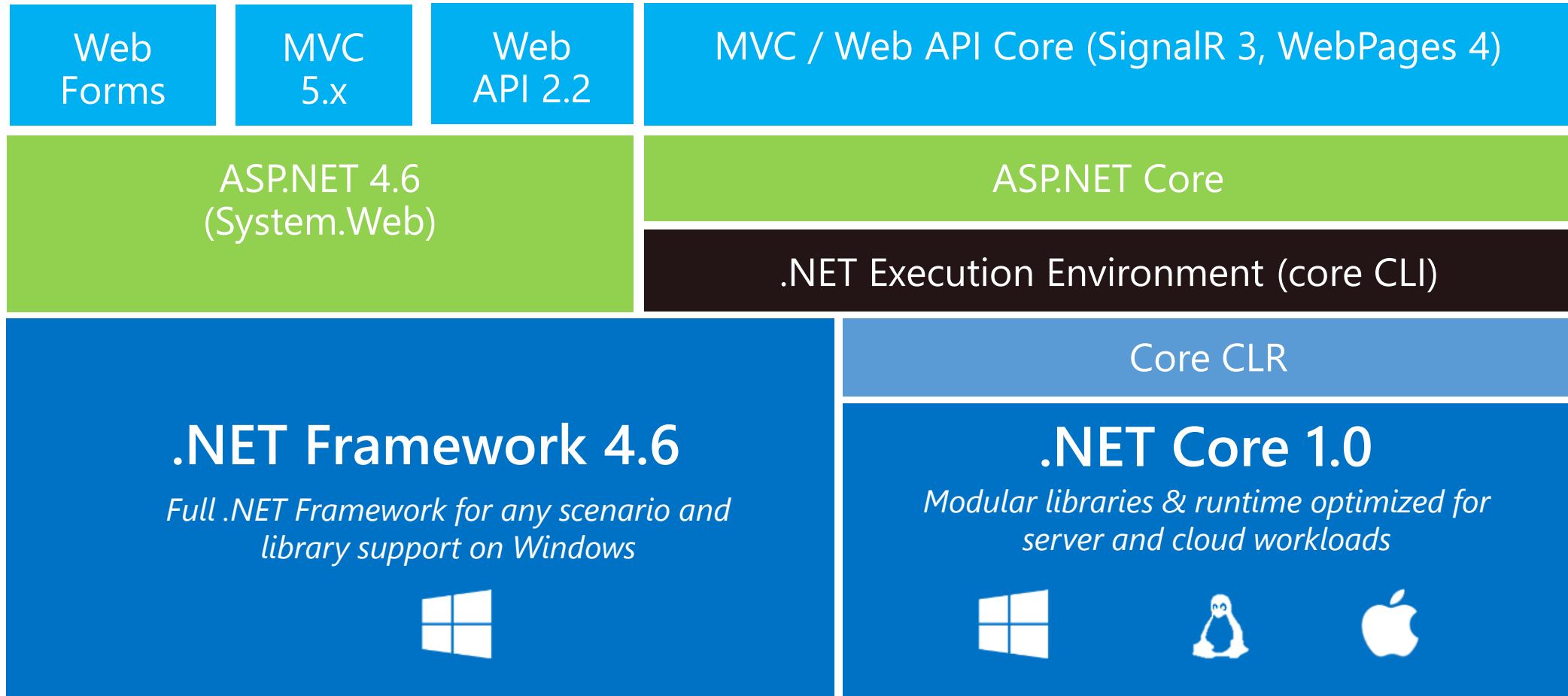 - `dotnet build`   Compiles to IL
  - `dotnet build native`   Compiles to a single executable
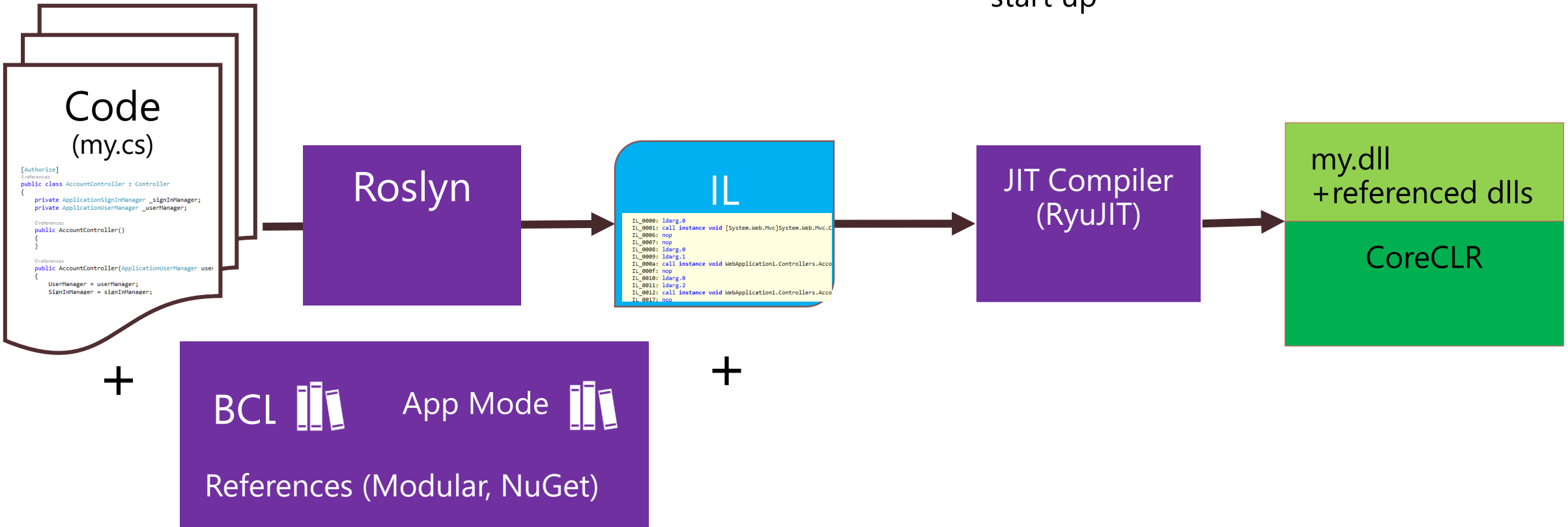 - `dotnet dosomething`   You can build your own commands

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ASP.Net Core

Web Forms	MVC 5.x	Web API 2.2	MVC / Web API Core (SignalR 3, WebPages 4)

ASP.NET 4.6 (System.Web)	ASP.NET Core
	.NET Execution Environment (core CLI)

	Core CLR
.NET Framework 4.6 *Full .NET Framework for any scenario and library support on Windows*	**.NET Core 1.0** *Modular libraries & runtime optimized for server and cloud workloads*

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- Demo

- **Startup, Middleware pipeline**

    Routing, authentication, static files, diagnostics, error handling, session, CORS, custom

- **Configuration**

    project.json, config.json, package management (NuGet, npm), tasks runners (gulp)

- **Models, Controllers, Views**

    Data (EF7), web methods, tag helpers

- **Web Listeners**

    Web (Windows), Kestrel (cross-plat), IIS

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- Demo

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EF Core: New Development

- Cross Platform
- Supports
  - Microsoft SQL Server
  - SQLite
  - Postgres (Npgsql)
  - SQL Server Compact Edition
  - InMemory (for testing purposes)
  - MySQL
  - IBM DB2
- Basic Modelling based on POCO
- LINQ
- Basic Save with Change Tracking
- Database schema management
- Not all features of EF 6 in EF Core 1.0!

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- New options for web development from ground
- Cloud optimized
- Faster websites
- Smaller Memory Footprint
  - More efficient use of web servers

- DNN ??

- Can a CMS follow the principles of .Net Core?
    - Would be necessary for speed
    - Reduce resource consumption
    - Stay up2date with web development

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.NET Core: https://dotnet.github.io/core
ASP.NET Docs: www.asp.net, https://docs.asp.net
Samples and code: https://github.com/aspnet

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Questions?

Please remember to evaluate the session online

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