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Introduction to .NET Core

Brant Wheeler

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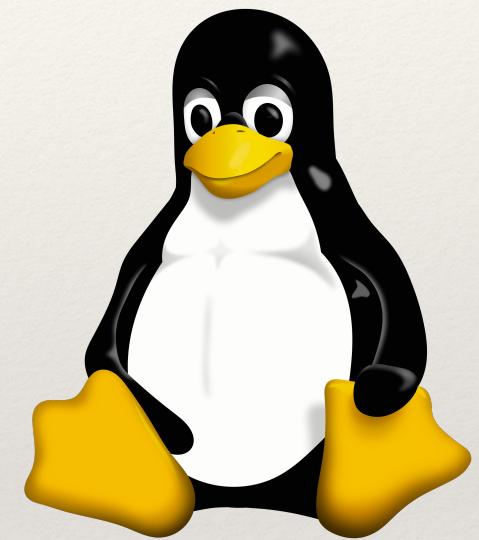
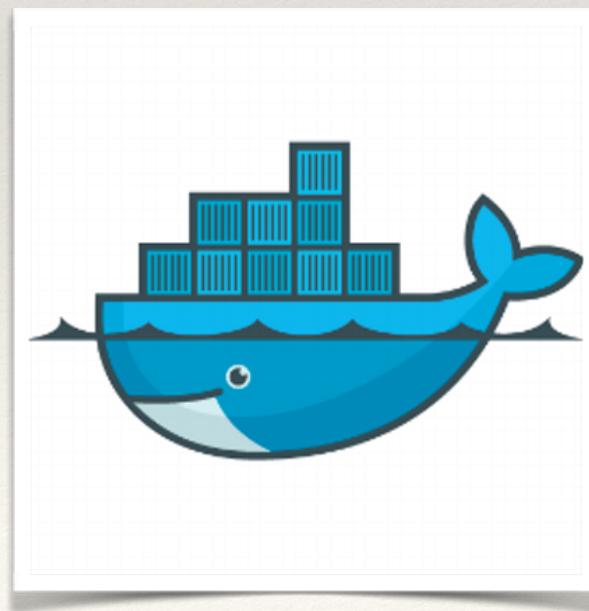
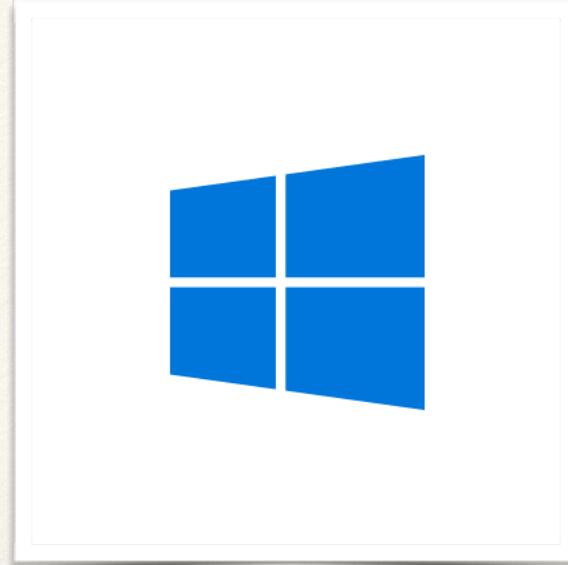
Lead Server Engineer at  **swimlane**
Cyber security incident management and response automation.



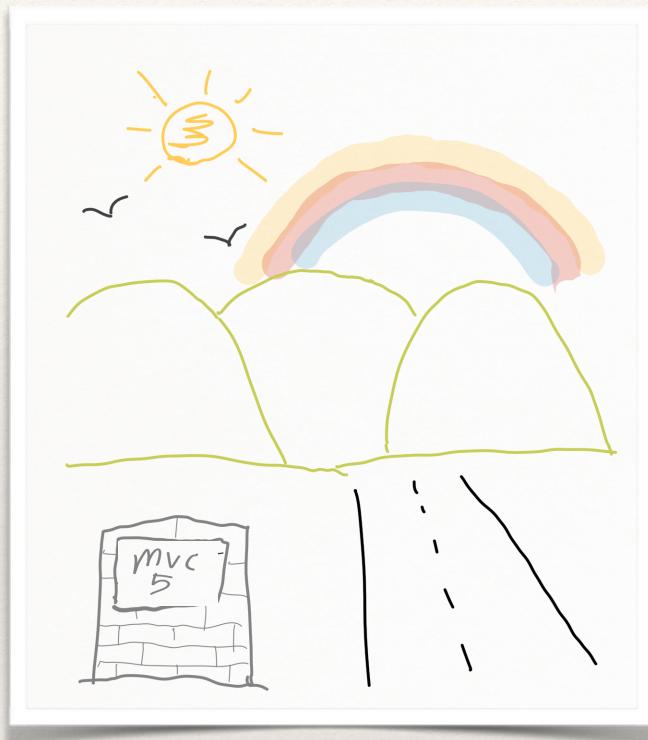
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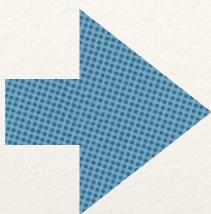


The .NET Core Journey

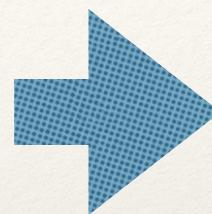


Credit Matt Honeycutt

RC1



RC2



1.0

- dnvm
- dnx
- dnu

- dotnet

dotnet CLI

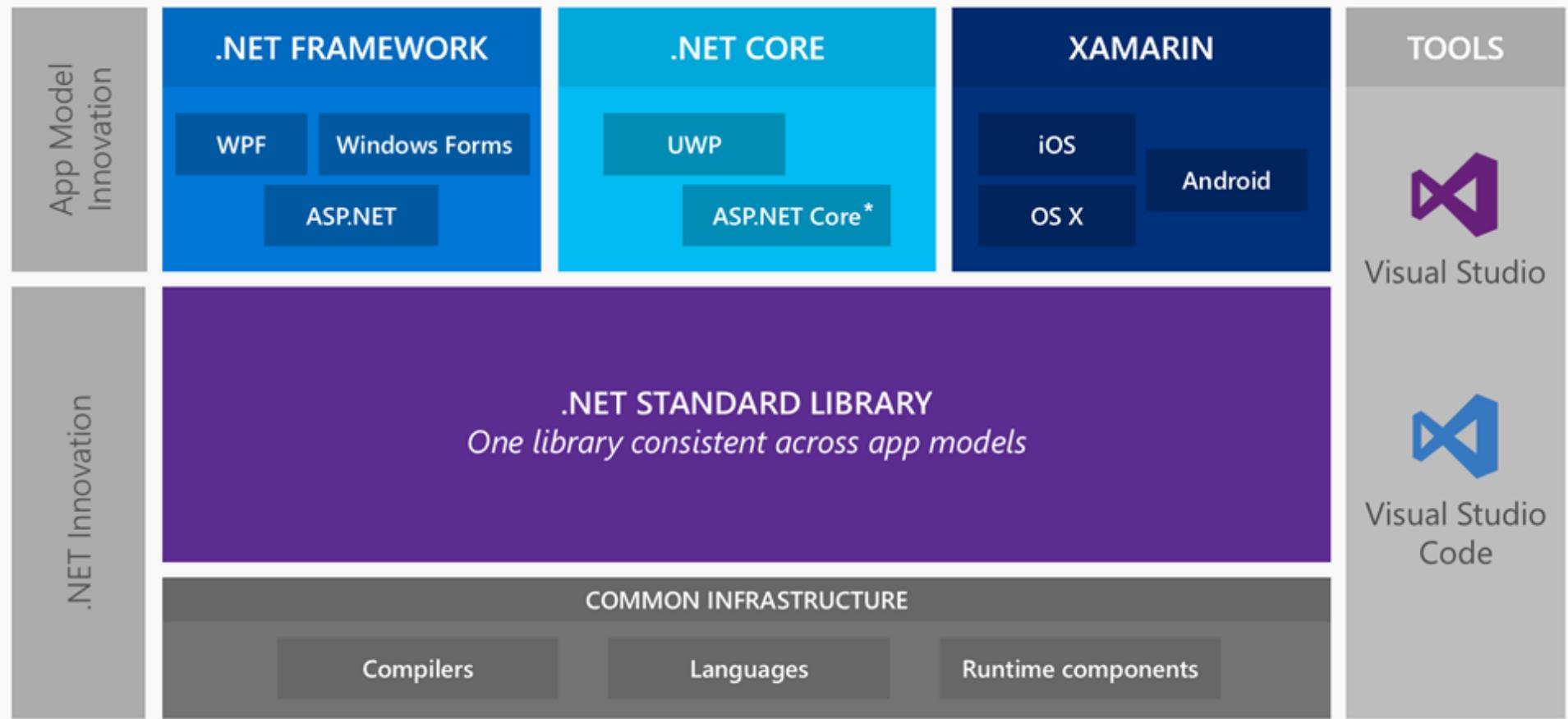
- dotnet restore - Download and install NuGet packages
- dotnet build - Build your application
- dotnet run - Run your application
- dotnet test - Run tests for your application
- dotnet pack - Build a NuGet package
- CLI is extensible by adding tools to your project.json file.
 - dotnet watch - Watch your application for changes and restart the server
 - dotnet publish-iis - Gets your app ready for use with IIS

What's included?

- **.NET Core** - Runtime and framework - “.NET Core 1.0”
- **.NET Core Tools** - Compiler and tooling - “.NET Core Tools Preview 2”
- **.NET Core SDK** - .NET Core and .NET Core Tools - “.NET Core SDK 1.0 Preview 2”

Get it all plus documentation at dot.net

.NET future innovation



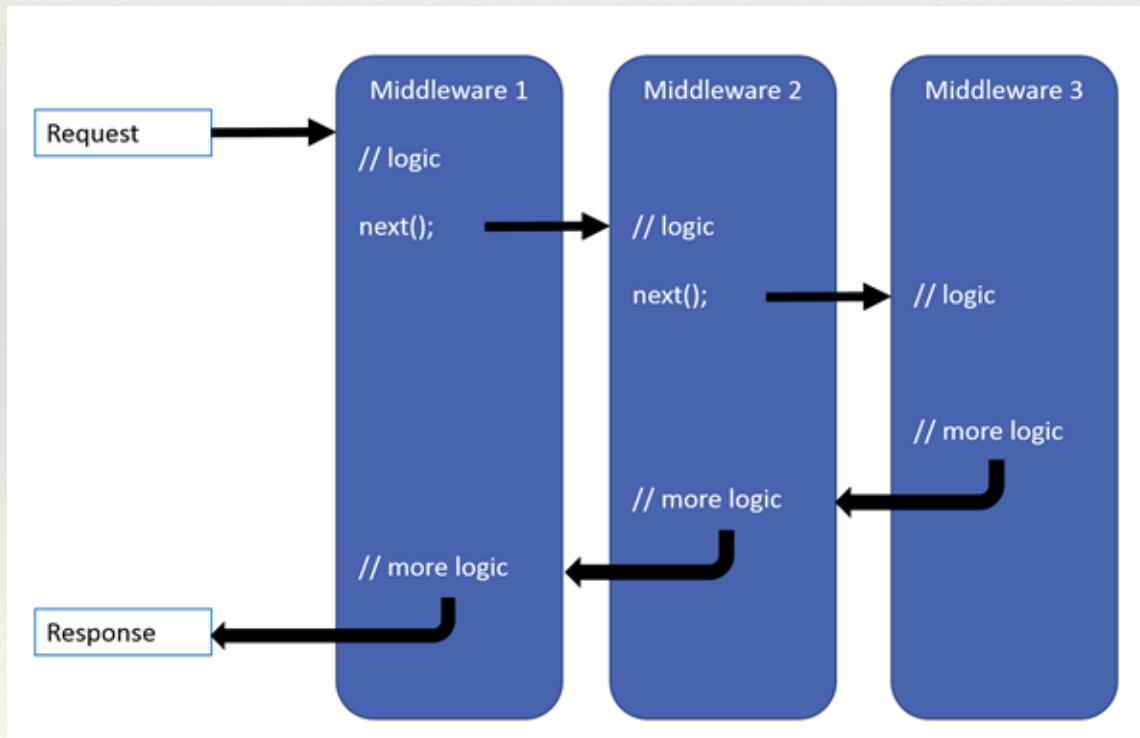
Credit <http://www.hanselman.com/blog/AnUpdateOnASPNETCore10RC2.aspx>

ASP.NET Core MVC

- ASP.NET MVC and ASP.NET Web API have been merged into ASP.NET Core MVC
- Model, Views, and Controllers still work the same as before
- Application startup and configuration is completely different
 - Middleware based
- Dependency injection is built in
 - A basic IoC container is provided, but you can bring your own
- Kestrel is libuv based web server
 - Microsoft recommends running IIS or NGINX in front of Kestrel, do not expose Kestrel directly to the web
- Many, many other changes

Middleware

- HTTP Request pipeline is just a series of chained middleware
- Each middleware receives a request and response object
- Each middleware must call `next();` to continue processing the pipeline
- **Order is important** - Don't put static file serving or MVC middleware before authentication middleware



Demo!

Migrating to .NET Core

- Eliminate use of APIs not in .NET Standard or .NET Core
 - Use .NET Compatibility Diagnostic Tools to identify incompatible APIs (<http://dotnetstatus.azurewebsites.net>)
 - Has Visual Studio plugin to analyze your solution
 - It will produce a report of APIs used by your project and their compatibility
- If you are using ASP.NET, move to ASP.NET Core and target .NET Framework while incrementally reducing your API footprint
- Official ASP.NET MVC upgrade guide (RC2) - (<https://docs.asp.net/en/latest/migration/mvc.html>)

Rank	Usage	API	.NET Core	.NET Framework	.NETPlatform
159	33%	System.Threading.Thread	✗	✓	✓
171	31%	System.Type.Assembly.get_Assembly()	R	✗	✓
201	28%	System.Type.op_Equality(Type, Type)	S	✗	✓
253	25%	System.Threading.Thread.CurrentCulture.get_CurrentThread()		✗	✓
264	24%	System.Type.IsAssignableFrom(Type)	S	✗	✓

Questions?



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Thank you!

Visit [dot.net](#) for documentation, examples, and to download .NET Core SDK

Join the .NET Slack channel at <http://tattoocoder.com/aspnet-slack-sign-up>



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