

# Web Applications with C<sup>#</sup>

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# .NET Conf 2021

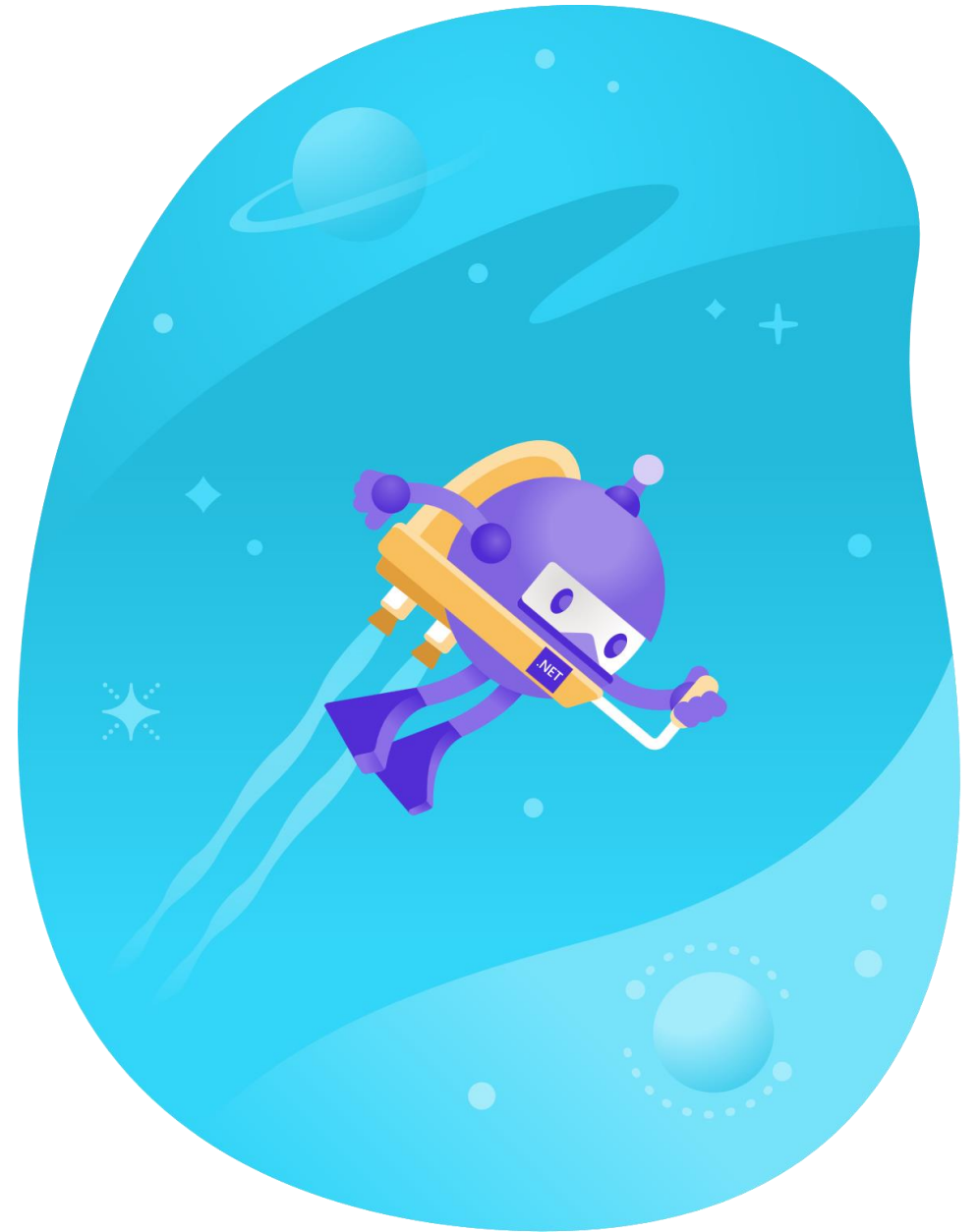
November 9-11: .NET Conf 2021

- .NET 6
- C# 10
- Blazor
- .NET MAUI
- F# 6
- EF Core 6

<https://www.dotnetconf.net/>

November 8: Visual Studio 2022

<https://visualstudio.microsoft.com/launch/>





# Agenda

Docker and Docker Compose

gRPC

GraphQL

Integration Testing ASP.NET Core

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ASP.NET Web Application Frameworks

Building your own components

Choosing the right framework



# Docker & Docker Compose

Demo

gRPC

# gRPC Remote Procedure Calls

gRPC is a modern, open source, high-performance remote procedure call (RPC) framework that can run anywhere. gRPC enables client and server applications to communicate transparently and simplifies the building of connected systems.

```
$ dotnet new grpc
```

Source: <https://github.com/grpc/grpc> and <https://docs.microsoft.com/en-us/aspnet/core/grpc>

# GraphQL

# GraphQL

GraphQL is a query language for APIs and a runtime for fulfilling those queries with your existing data. GraphQL provides a complete and understandable description of the data in your API, gives clients the power to ask for exactly what they need and nothing more, makes it easier to evolve APIs over time, and enables powerful developer tools.

Go watch the talk on “Blazor and GraphQL” on <https://www.dotnetconf.net/>



A stylized globe with a network overlay. The globe is rendered in a golden-yellow color with a textured, pixelated surface. It is surrounded by a complex network of white lines and dots, representing a global network or data flow. The background is a dark blue gradient with faint, glowing lines and dots, suggesting a digital or space environment. A bright light source is visible behind the globe, creating a lens flare effect.

# ASP.NET Web Applications

# ASP.NET Web Applications

~~ASP.NET Web Forms (2002)~~

ASP.NET MVC (2010) → Core

ASP.NET Web Pages (2010) → Core

ASP.NET Core (2016)

- Razor Pages
- MVC
- Blazor (2018)
- SPA (Angular or React)
- Hybrid MVC + Blazor

<https://docs.microsoft.com/en-us/aspnet/core/tutorials/choose-web-ui>

# ASP.NET Core Razor Pages

Razor Pages is a page-based model. UI and business logic concerns are kept separate, but within the page. Razor Pages is the recommended way to create new page-based or form-based apps for developers new to ASP.NET Core. Razor Pages provides an easier starting point than ASP.NET Core MVC.

```
$ dotnet new webapp
```

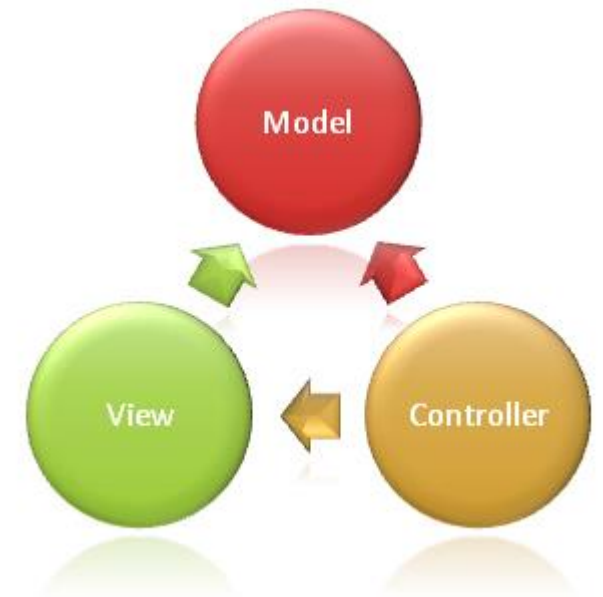
Source: <https://docs.microsoft.com/en-us/aspnet/core/razor-pages/>

# ASP.NET Core MVC

ASP.NET Core MVC is a rich framework for building web apps and APIs using the Model-View-Controller design pattern.

Based on a scalable and mature model for building  
Clear separation of concerns for maximum flexibility

```
$ dotnet new mvc
```



Source: <https://docs.microsoft.com/en-us/aspnet/core/mvc/overview>

# Blazor

Blazor is a framework for building interactive client-side web UI with .NET:

- Create rich interactive UIs using C# instead of JavaScript.
- Share server-side and client-side app logic written in .NET.
- Render the UI as HTML and CSS for wide browser support, including mobile browsers.
- Integrate with modern hosting platforms, such as Docker.

```
$ dotnet new blazorserver
```

```
$ dotnet new blazorwasm
```

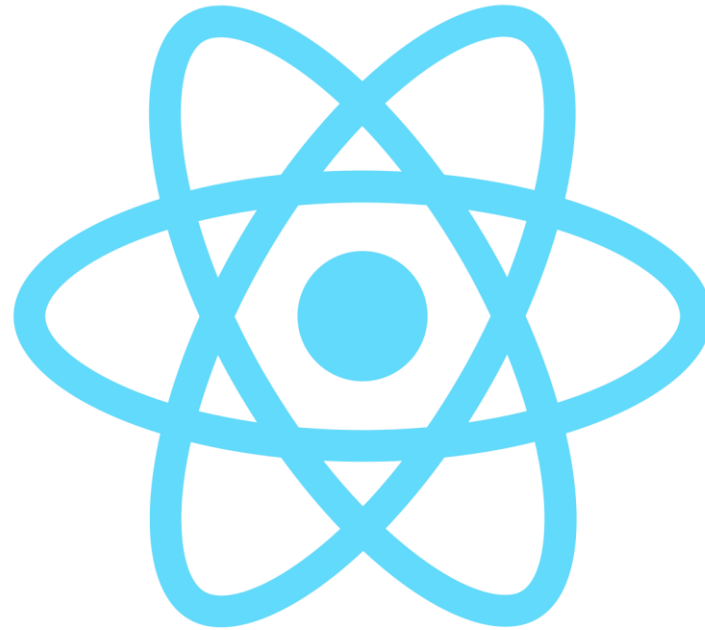
Go watch the videos on <https://channel9.msdn.com/Series/Beginners-Series-to-Blazor>

Source: <https://blazor.net> and <https://docs.microsoft.com/en-us/aspnet/core/blazor>

# Single Page Application (SPA)



Angular  
`$ dotnet new angular`



React  
`$ dotnet new react`



Vue



# ASP.NET Web Applications

Demo

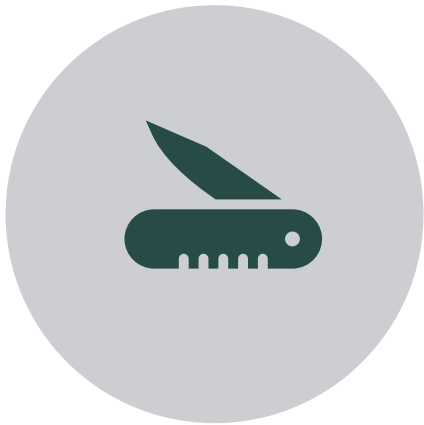
# Building your own components

# Building your own components



Source: <https://www.pmstudio.be/dont-re-invent-the-wheel/>

# Component Vendors



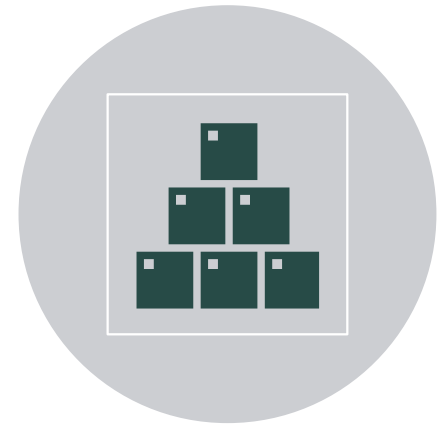
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[HTTPS://WWW.TELERIK.COM/](https://www.telarik.com/)



DEVEXPRESS:

[HTTPS://WWW.DEVEXPRESS.COM/](https://www.devexpress.com/)



RADZEN:

[HTTPS://BLAZOR.RADZEN.COM/](https://blazor.radzen.com/)

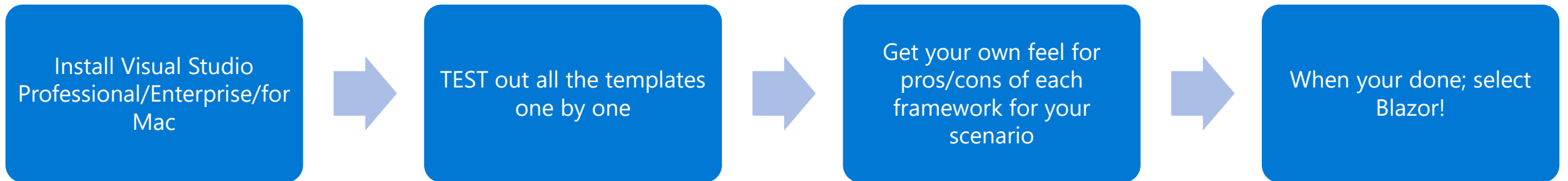
# Components

Demo

# How to choose a framework



# How to choose a framework



# No, really



Pick the one where you believe you  
will be the most productive



Don't be afraid to change your mind



Be prepared: The next great thing  
which is better than all the others will  
arrive tomorrow or next year approx.