



# INTRODUCTION TO BLAZOR

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# WHAT IS BLAZOR?

- ❖ Open-source, Single Page App(SPA) Framework from Microsoft
- ❖ Create rich, interactive UI (Blazor app)
- ❖ Run C# in the browser without code transpilation
- ❖ Supported on all modern web and mobile browsers
- ❖ JavaScript interoperability
- ❖ Blazor Apps are made up of components, *Razor Components*

# HOSTING MODELS



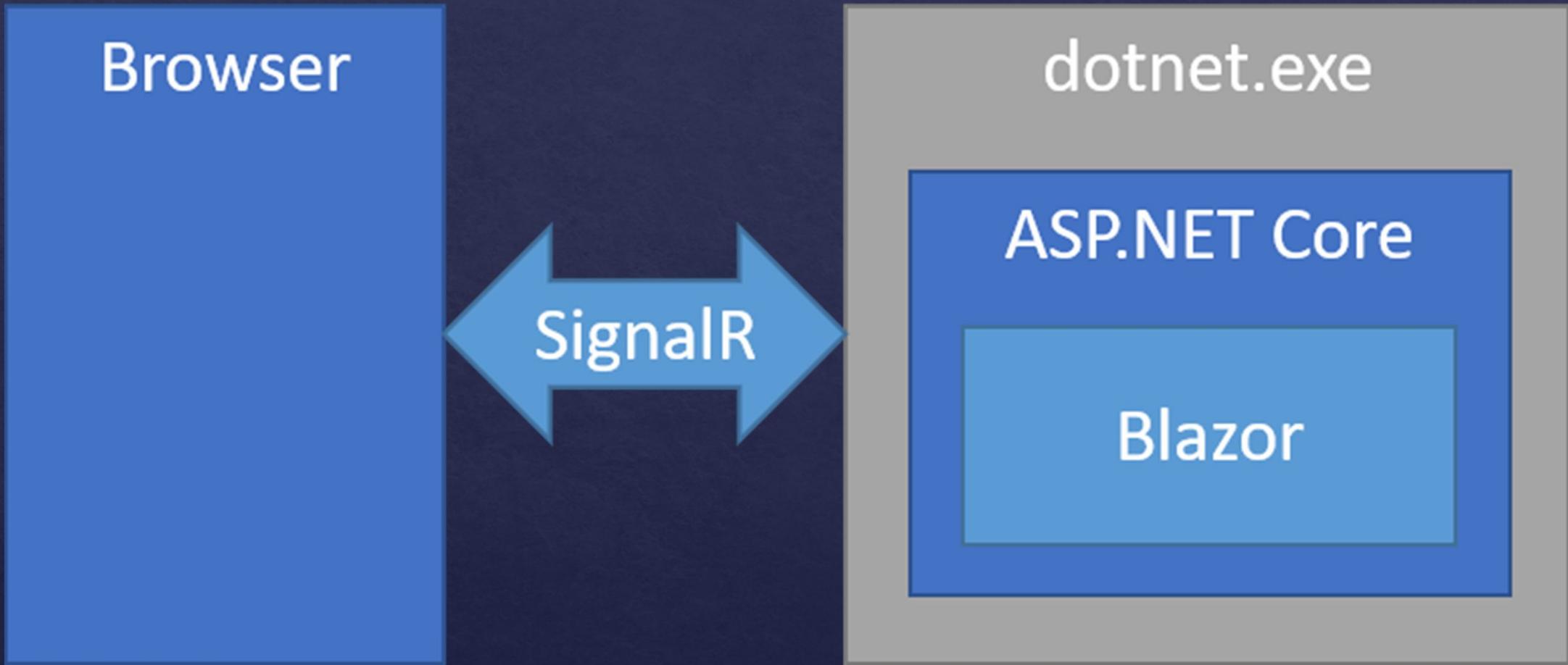
Blazor Server



Blazor WebAssembly

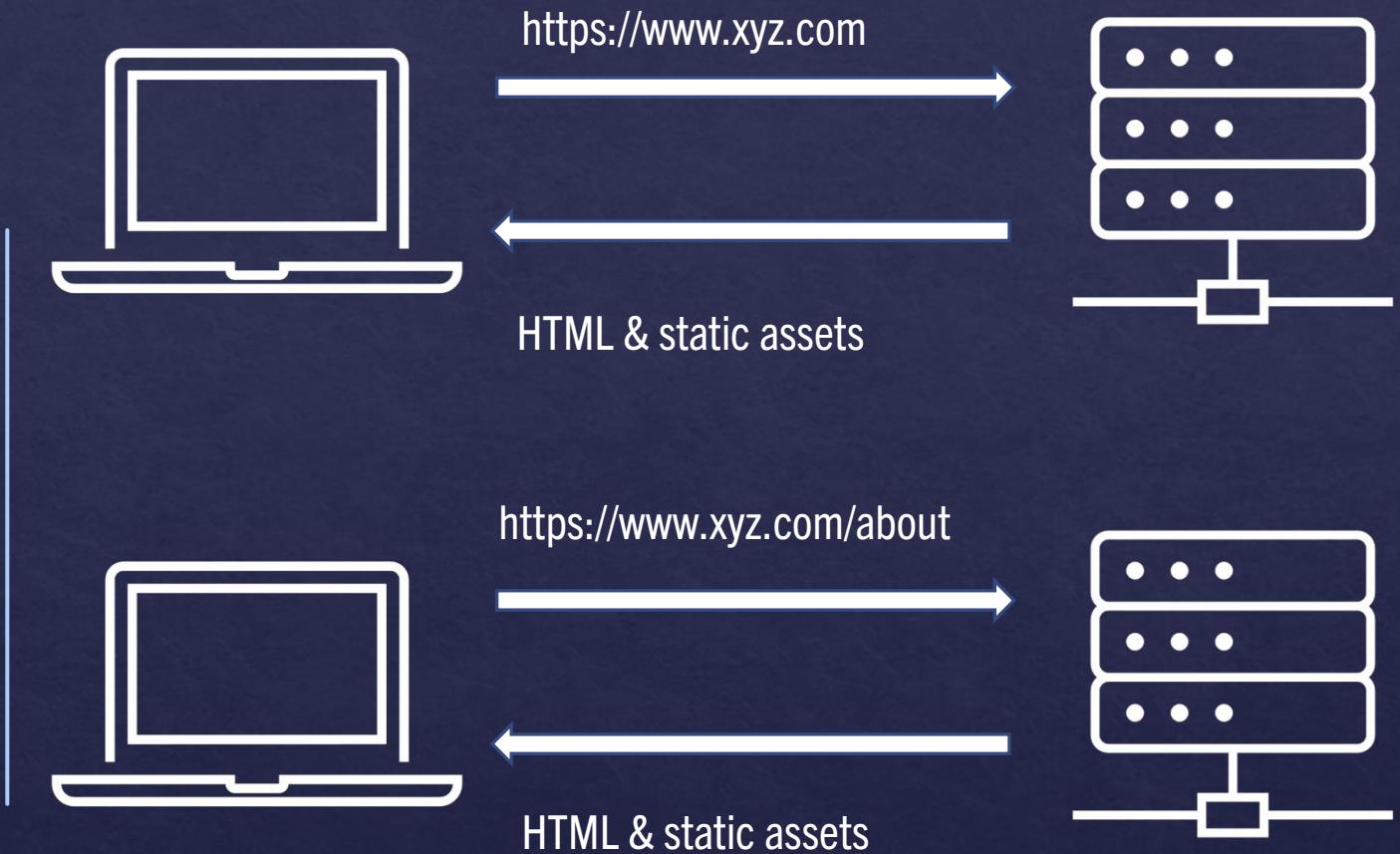
# BLAZOR SERVER

- ❖ Released in Sept 2019, alongside .NET Core 3.0
- ❖ Host Razor Components on the server in an ASP.NET Core app
- ❖ App is executed on the server
- ❖ UI updates, event handling and JavaScript calls are handled over a SignalR connection
- ❖ Requires an active SignalR connection

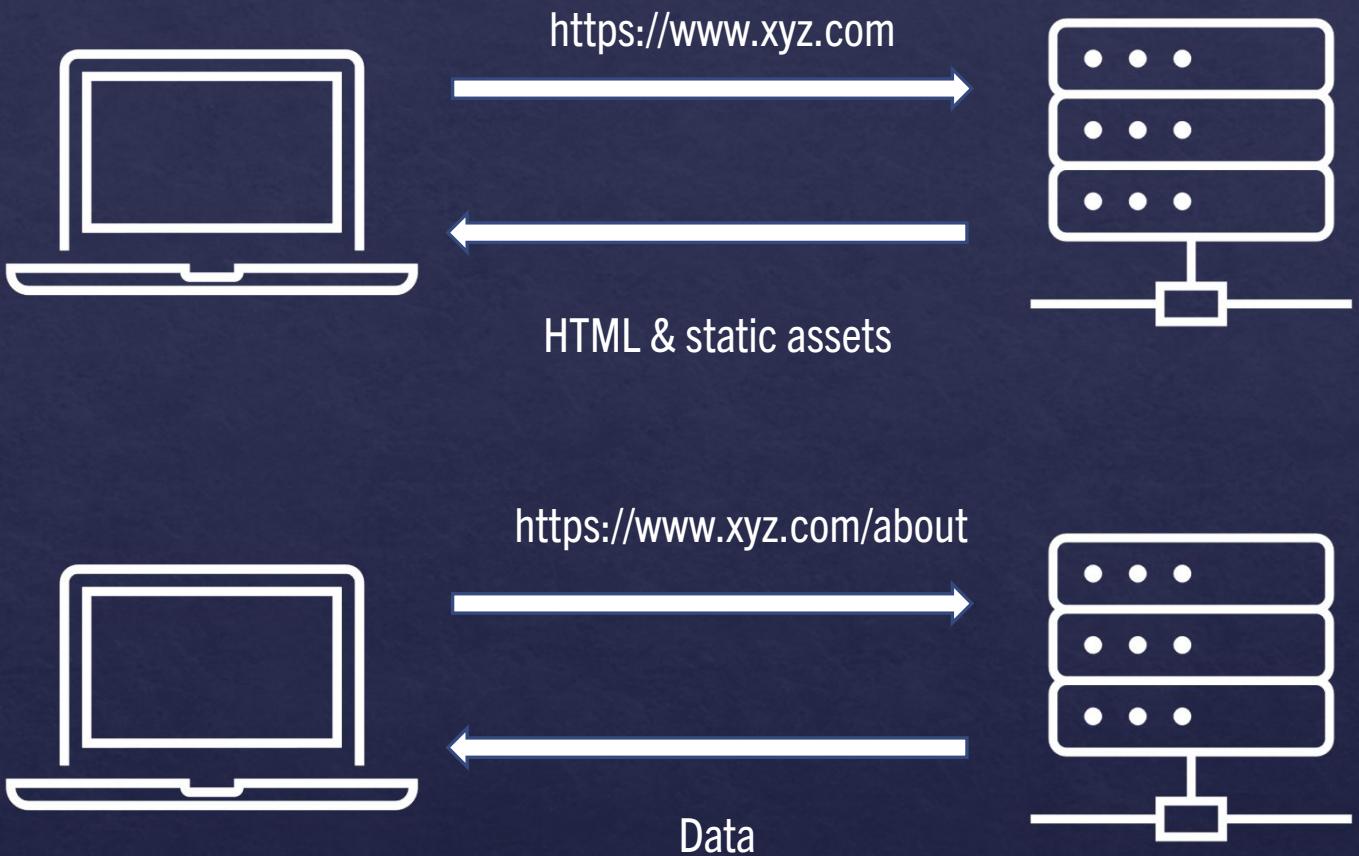


<https://docs.microsoft.com/en-gb/aspnet/core/blazor/hosting-models?view=aspnetcore-5.0>

# UI RENDERING



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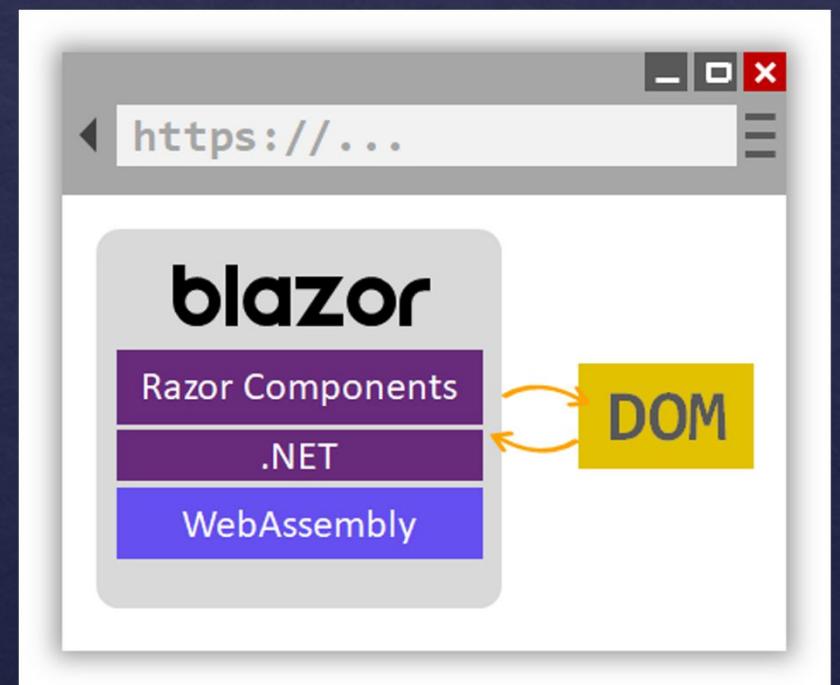


# PRERENDERING

- ❖ Razor components compiled to static HTML and sent to client upon first request
- ❖ When SignalR connection is established, the static elements are replaced with interactive elements
- ❖ Creates UI state on the server
- ❖ More responsive app

# BLAZOR WEBASSEMBLY(WASM)

- ❖ Principal hosting model
- ❖ Released in May 2020
- ❖ Run .NET code in the browser using the JavaScript security sandbox
- ❖ DOM manipulation using JavaScript interop



# UI UPDATES

- ❖ Component graph re-rendered
- ❖ UI difference calculated and sent to client
- ❖ Applied by browser

# PROJECT TEMPLATES

`dotnet new blazorwasm -h`

`dotnet new blazorserver -h`

# BLAZOR SERVER V/S WASM

- ❖ Smaller download size
- ❖ App loads faster
- ❖ Existing .NET tooling, debugging all works
- ❖ Every user interaction involves a network hop
- ❖ Bigger download size
- ❖ Initial render less responsive
- ❖ Limited debugging capabilities
- ❖ Fully functional app once downloaded to the client
- ❖ Secrets & credentials must be wrapped in an API layer

# HOSTING

- ❖ Azure SignalR Service recommended
- ❖ GitHub pages, Azure Blob Storage
- ❖ Azure Static Web App
- ❖ Azure App Service (Hosted deployment)

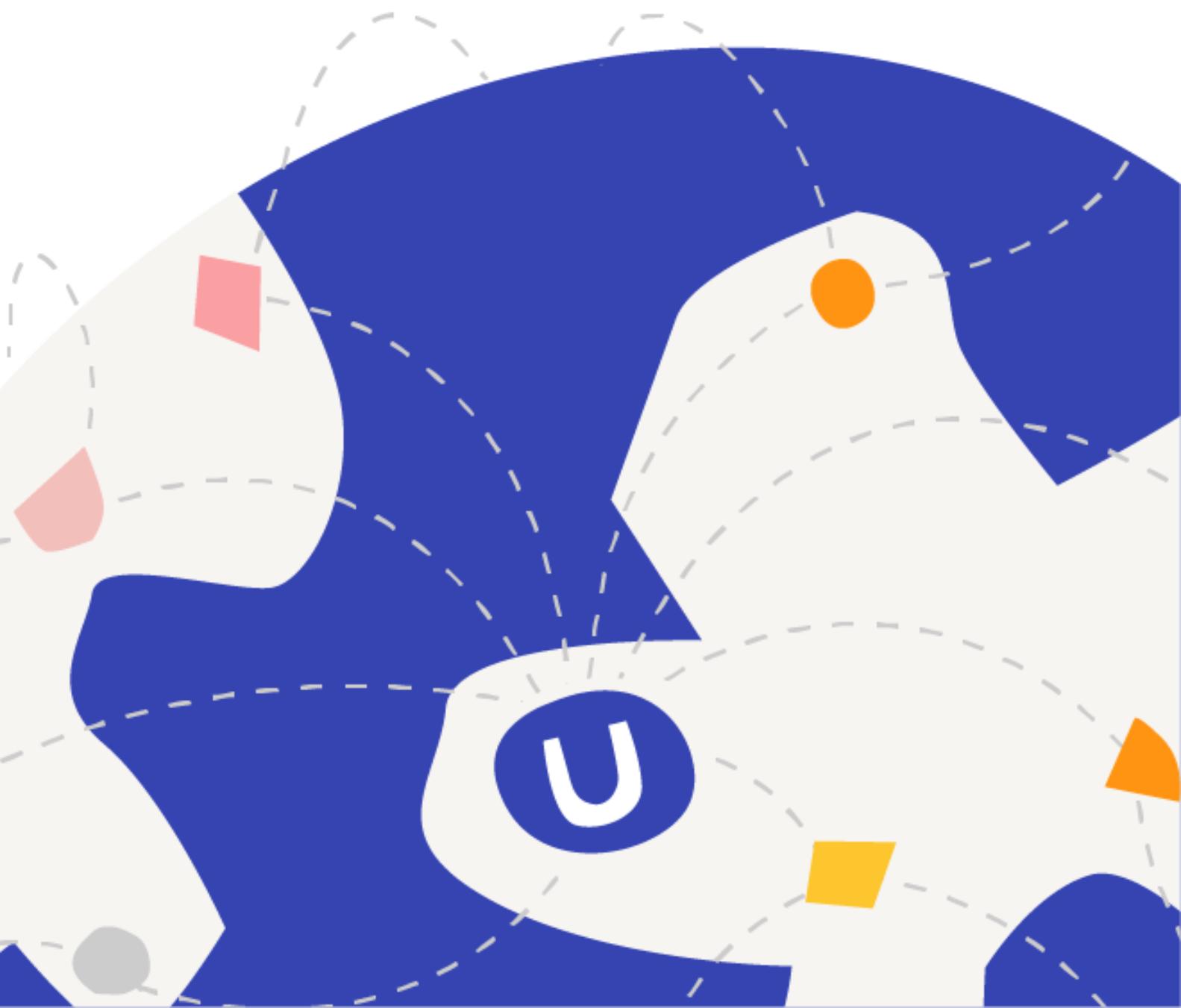
# BLAZOR & UMBRACO



UMBRA  
UMBRACO 8



UMBRACO  
HEARTCORE





# UMBRACO 9

WHAT'S NEW IN .NET 6?



- ❖ Dynamic Components – Render varying components at runtime
- ❖ .NET Hot Reload
- ❖ Ahead of time compilation (Blazor WASM)
- ❖ Query String Component Parameters
- ❖ Modify HTML Head for better SEO
- ❖ Performance Improvements (Blazor WASM)
- ❖ Accessibility improvements
- ❖ .NET MAUI Blazor Apps

# RESOURCES

- ❖ [https://docs.microsoft.com/en-gb/aspnet/core/blazor/?view=aspnetcore-5.0&WT.mc\\_id=DT-MVP-5004155](https://docs.microsoft.com/en-gb/aspnet/core/blazor/?view=aspnetcore-5.0&WT.mc_id=DT-MVP-5004155)
- ❖ <https://github.com/AdrienTorris/awesome-blazor>
- ❖ <https://skrift.io/issues/umbraco-and-blazor/>
- ❖ <https://www.telerik.com/blogs/whats-new-dotnet-6-blazor>

THANK YOU

