Blazor: The Big Picture

WHAT IS BLAZOR AND HOW DOES IT WORK?

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Introduction

What is Blazor?

Why should you use it?

Getting started with Blazor

Blazor WebAssembly & Blazor Server

Developing Rich, Client-side UIs with Blazor

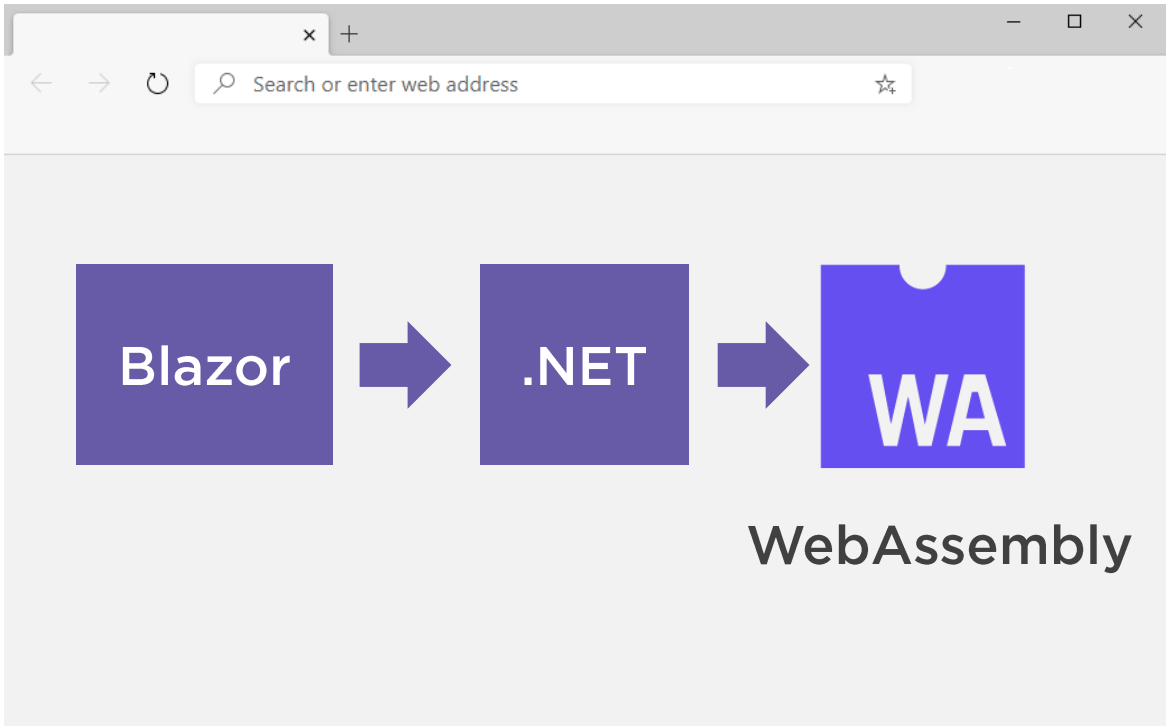
How Web Applications Work

Server

Java, .NET, Node.js

Disconnect

Run Any Code in the Browser



Why Use Blazor?

WebAssembly is supported by all major browsers

Use C# for interactive web applications

Reuse existing libraries

Performance is near-native

Tooling and debugging

What Is Blazor?

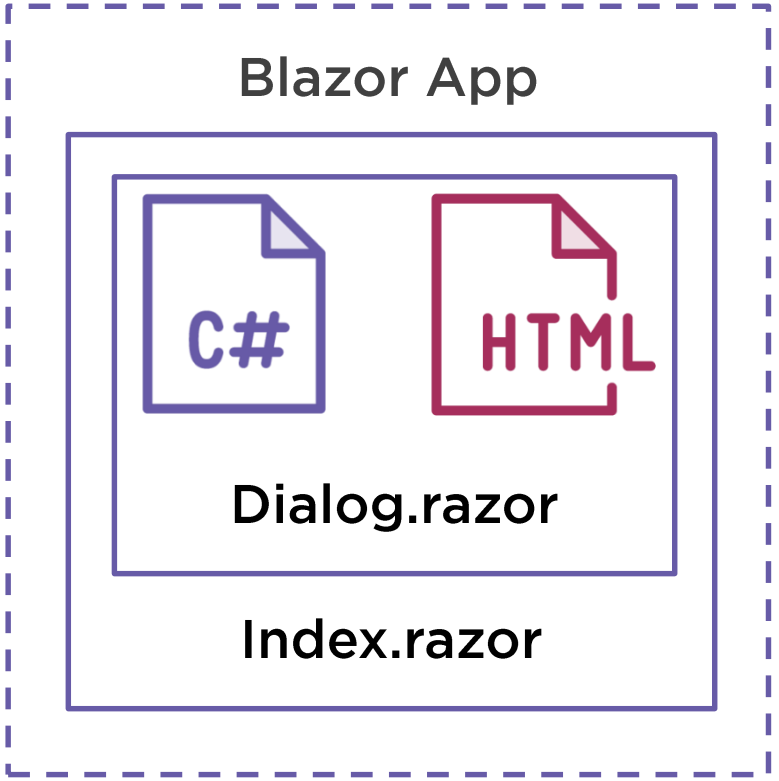
Index.razor

```
@page "/"

<h1>Hello, world!</h1>

Welcome to your new app.

<Dialog Title="Blazor">
    Do you want to
    <i>learn</i> about Blazor?
</Dialog>
```



Dialog.razor

```
<div>
    <h1>@Title</h1>

    @ChildContent

    <button @onclick="OnYes">Yes!</button>
</div>

@code {
    [Parameter]
    public string Title { get; set; }

    [Parameter]
    public RenderFragment ChildContent { get; set; }

    private void OnYes()
    {
        //something happens
    }
}
```

What Is Blazor?

Microsoft.AspNet.dll
System.dll
BlazorApp.dll

Blazor App

.NET Standard Libraries

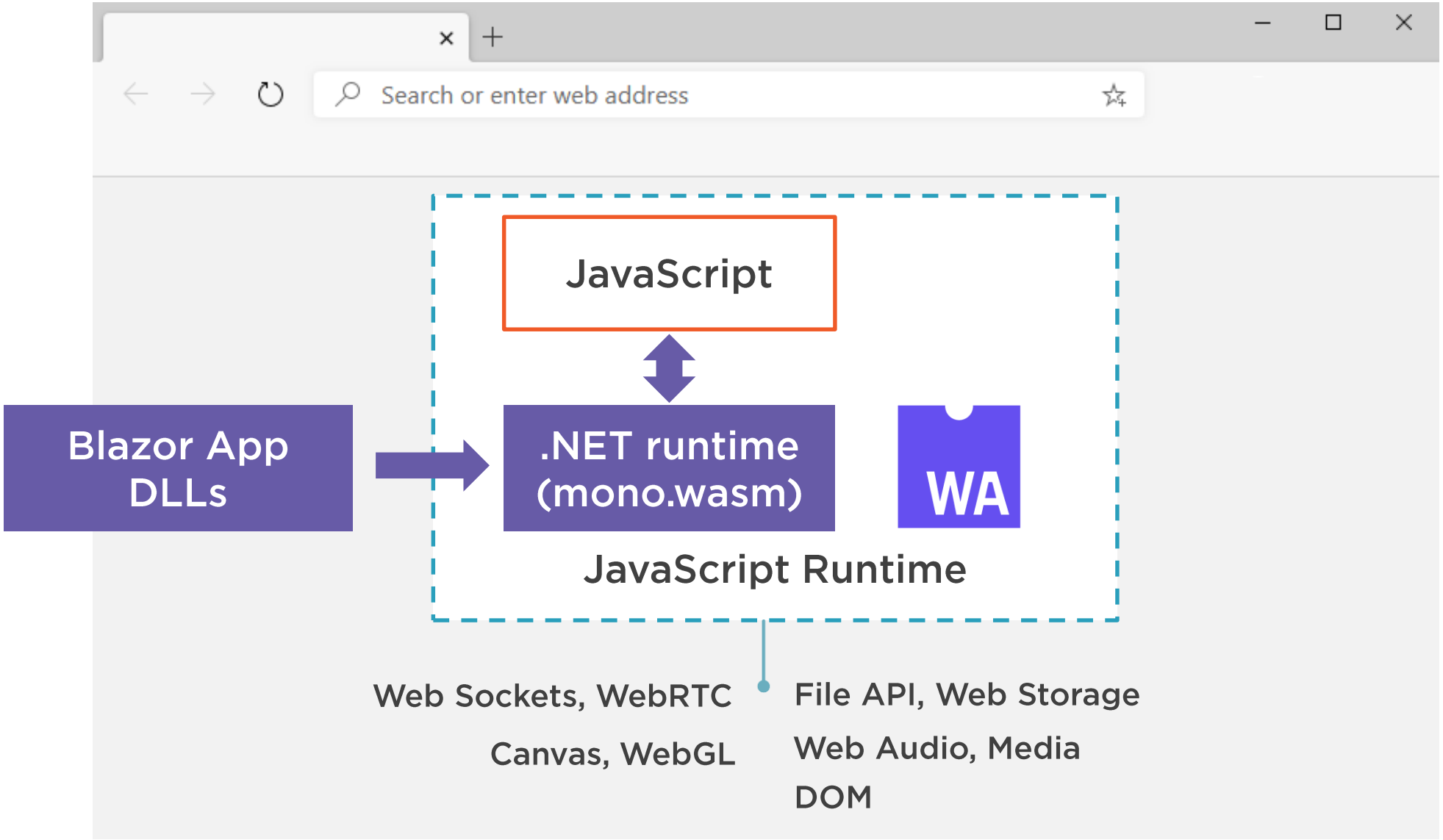
.NET Runtime (.wasm)

WA

WebAssembly

```
0x00000000 0061736D0100000001 .asm......
0x00000010 7F0302010007070103 ...add....
0x00000020 010700200020016A0B .j....name
0x00000030 010601000361646402 .....add..
0x00000040 68730103726873     hs..rhs
```

What Is Blazor?

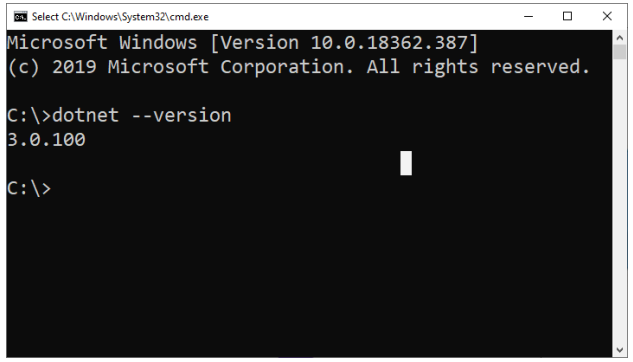


Getting Started with Blazor

Ways to Develop Blazor Applications

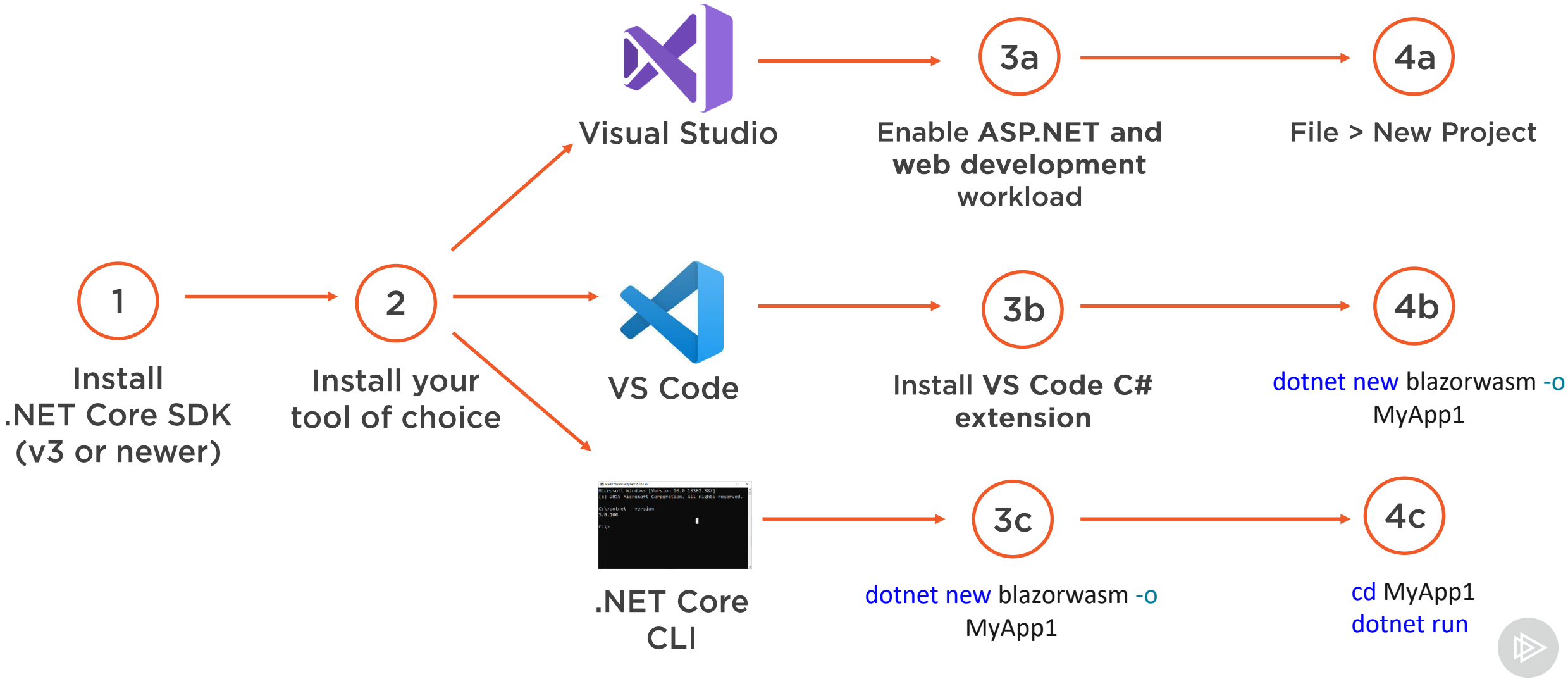
Visual Studio

Visual Studio Code

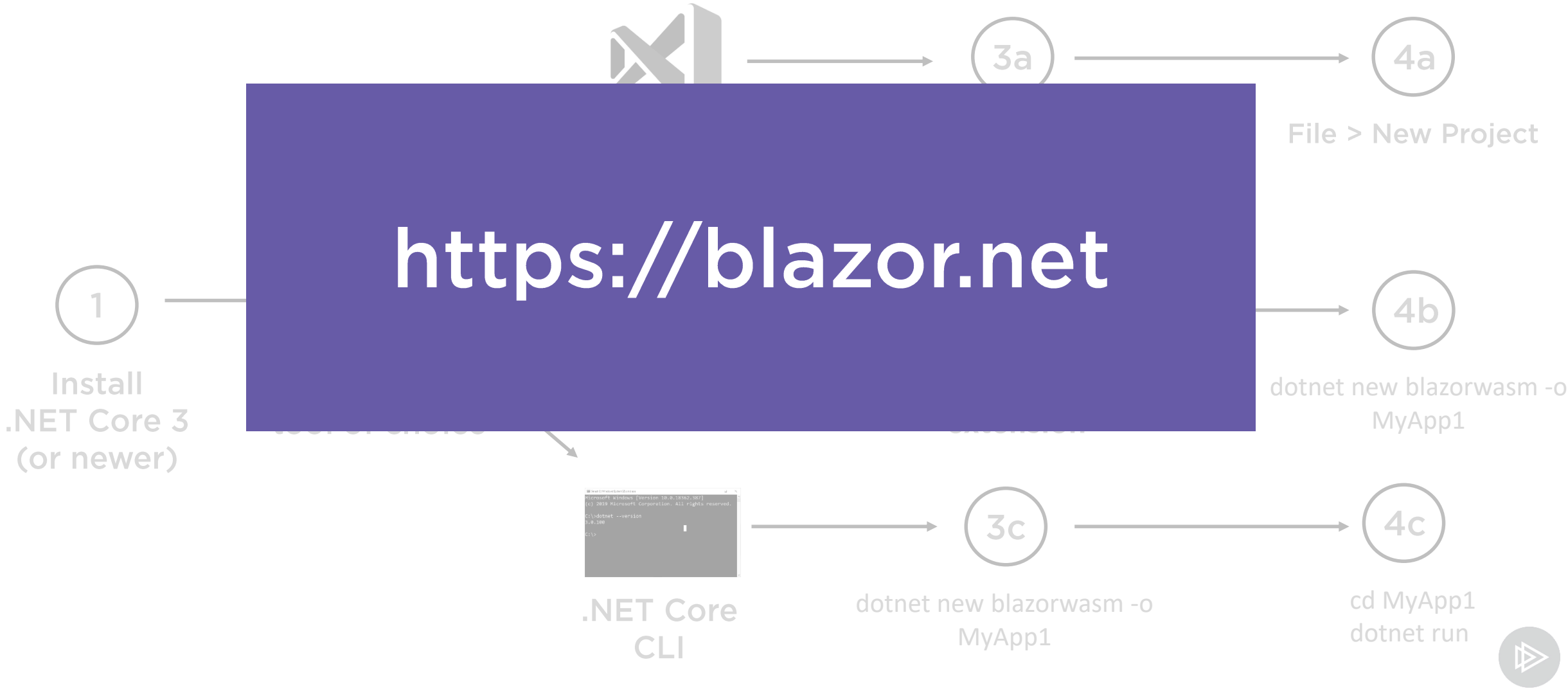


.NET Core CLI

Get Started with Blazor



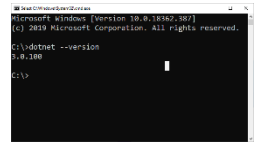
Get Started with Blazor



Demo

Visual Studio

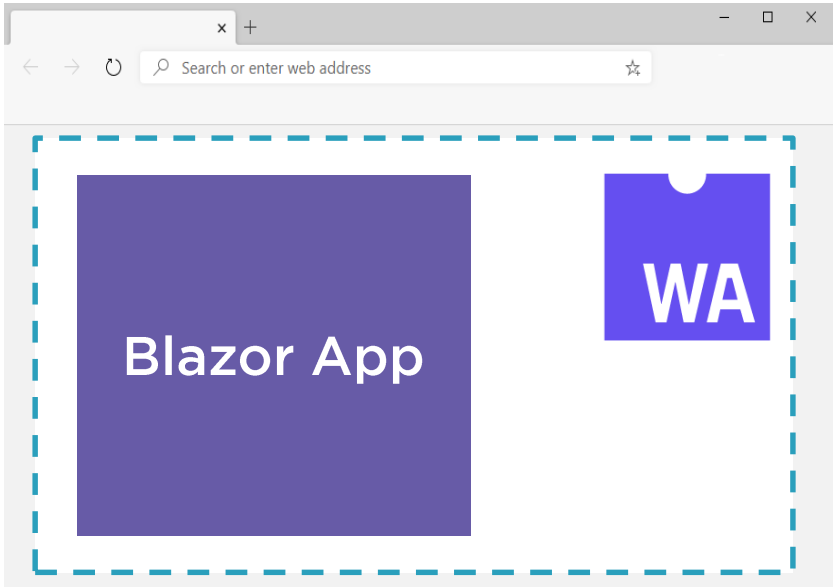
VS Code



.NET Core CLI

What is Blazor Server and Blazor WebAssembly?

Blazor WebAssembly



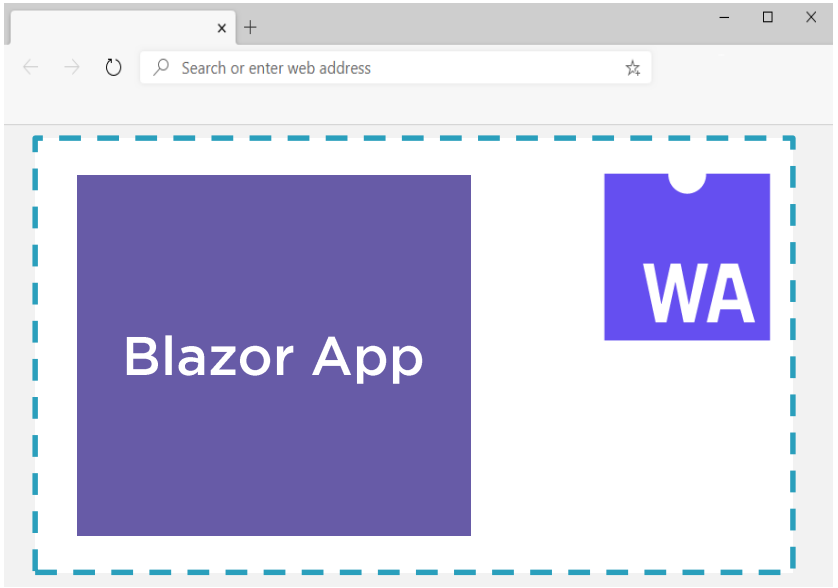
Downloads everything to the browser

- HTML, CSS, JavaScript
- Application (.NET Standard DLLs)
- .NET Runtime

Runs on WebAssembly

No server connection needed

Blazor WebAssembly

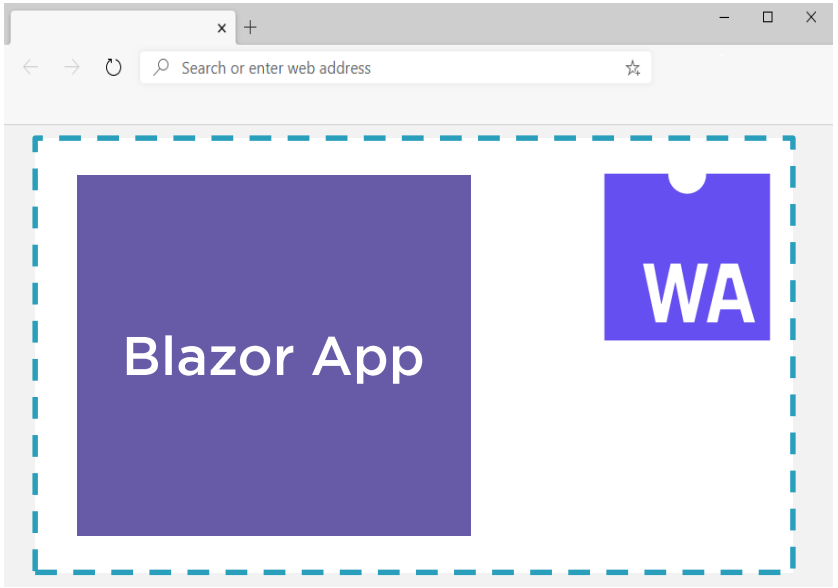


CDN

Server

Azure Storage
Static Website

Blazor WebAssembly



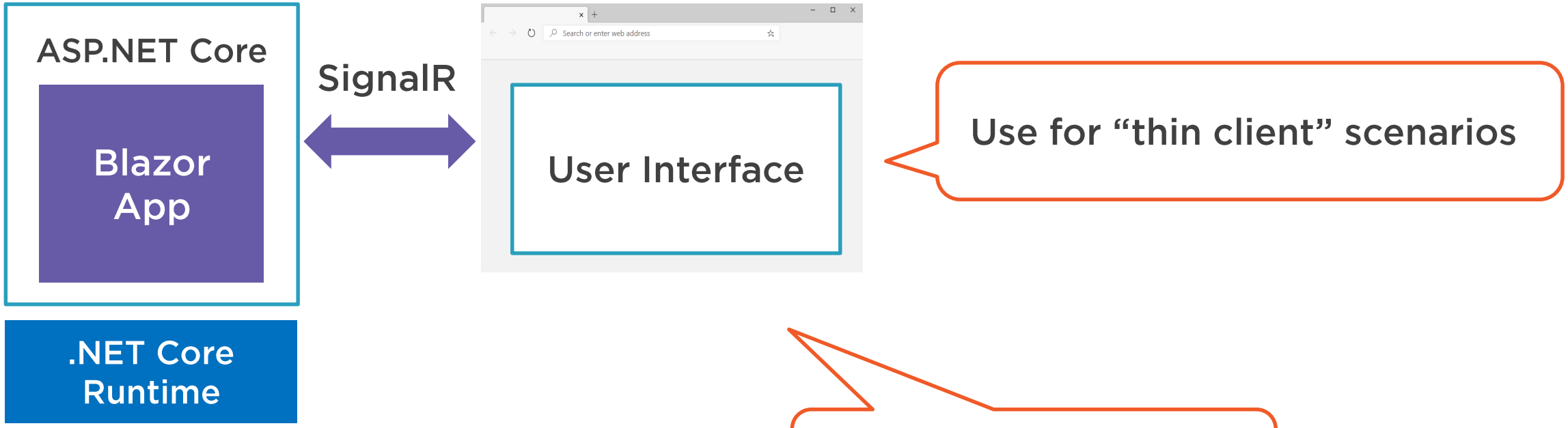
Benefits

- Near-native performance
- Can work offline
- No server needed
  - Technology to serve static files
- Use client-side resources
- Runs in all modern browsers

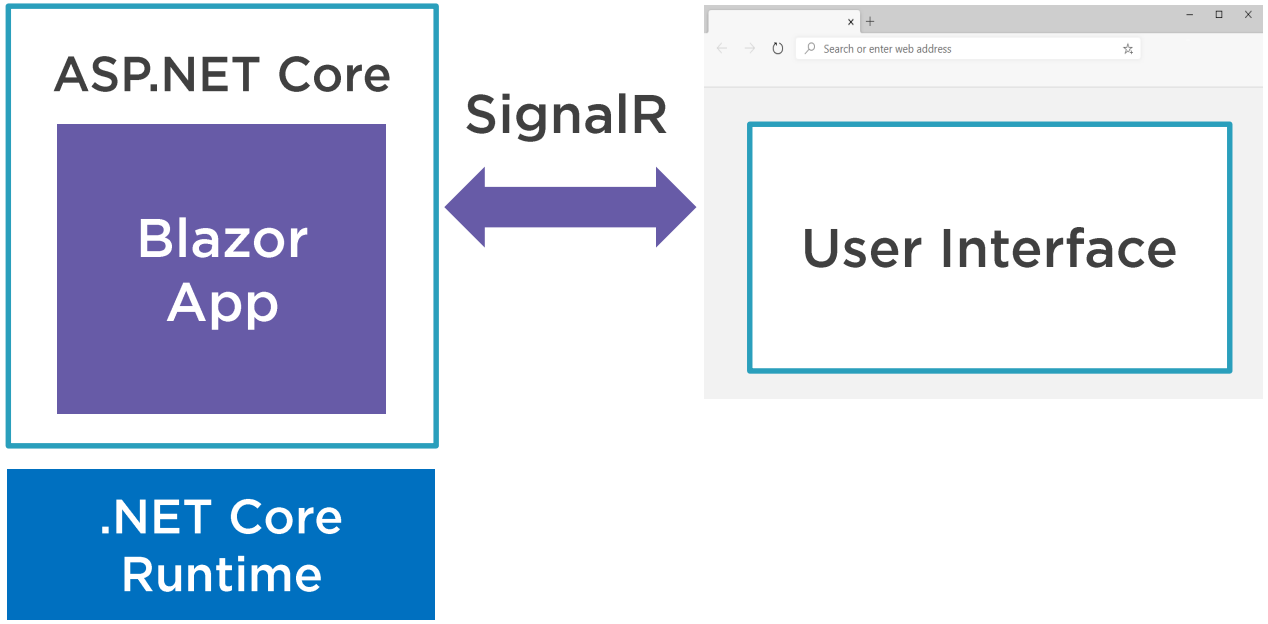
Downsides

- Restricted to capabilities of the browser
- The browser does all the work
- More to download, longer load time
- Client-side secrets
- WebAssembly is required

Blazor Server

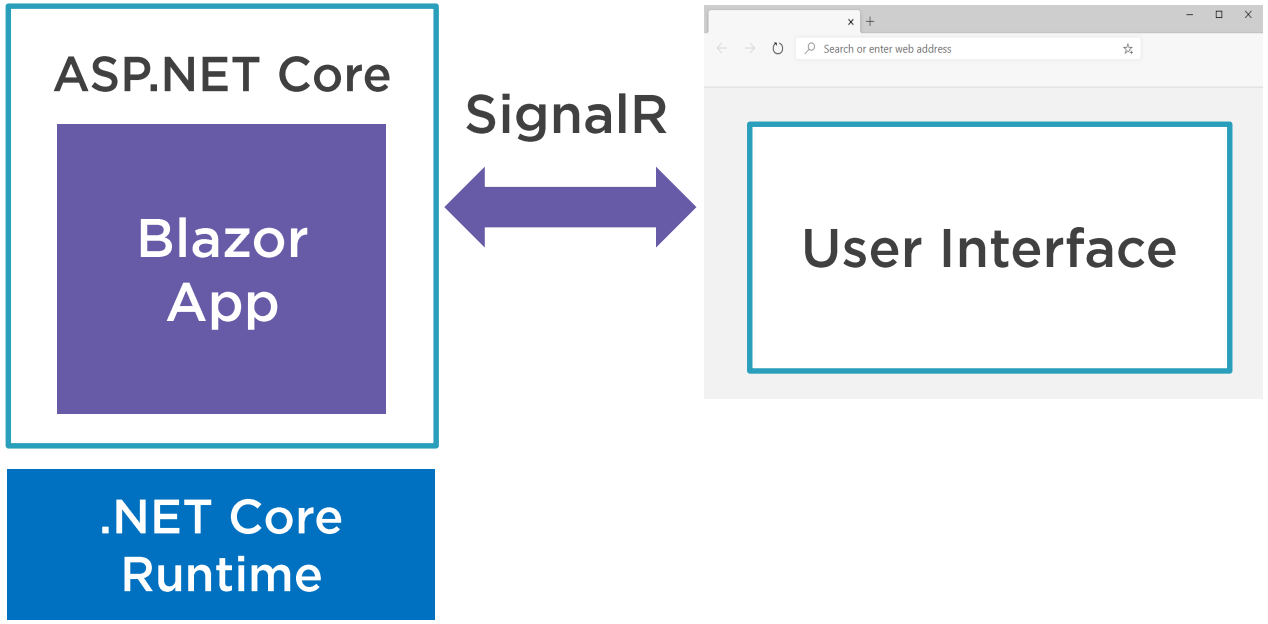


Blazor Server



Azure SignalR Service

Blazor Server



Benefits

- Small download, loads fast
- Full ASP.NET Framework
- WebAssembly not needed
- Server-side secrets

Downsides

- No offline support
- Need a server running ASP.NET Core
- Higher latency, slower application

What to Use When?

	Blazor WebAssembly	Blazor Server
When you need near-native performance	●	
When you need to connect to server-side resources		●
When you can't rely on WebAssembly		●
When you need to work offline	●	
When you don't want to run an ASP.NET Core server	●	
When you want to create fast, interactive web apps with C#	●	●

Demo

Blazor WebAssembly

Blazor Server

Summary

ASP.NET Core Blazor

- Framework for interactive web UIs with C#
- Uses Razor components
- Reuse existing libraries
- WebAssembly is supported by all browsers

Develop Blazor applications with

- Visual Studio, VS Code and .NET Core CLI

Blazor WebAssembly

- Runs on WebAssembly
- Near-native performance
- Offline

Blazor Server

- Smaller download
- “Thin clients”
- Server capabilities

Where to Go Next

More courses in the Blazor skill path

https://blazor.net

- Official Microsoft Blazor website