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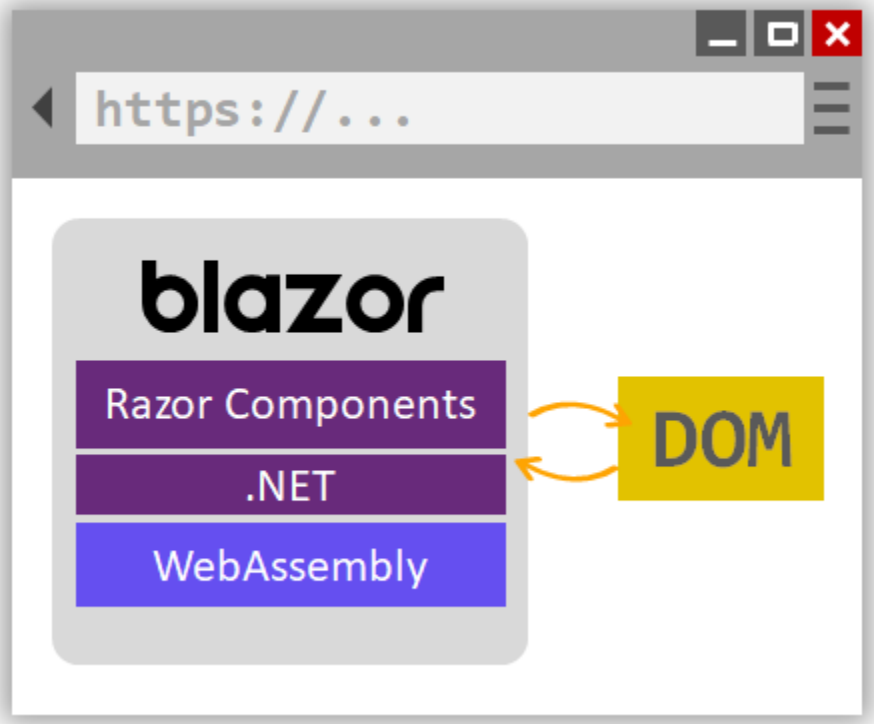
Blazor

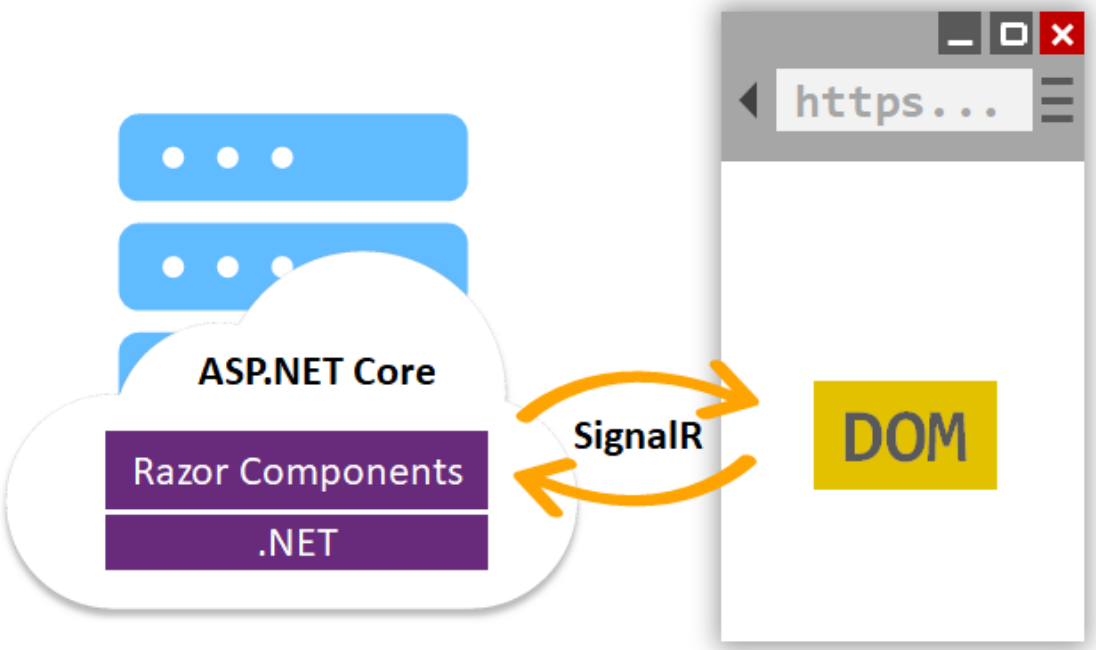
https://askme.blazor.cz

Blazor

Client-side hosting model



Server-side hosting model



Supported platforms

	Blazor client-side	Blazor server-side
Google Chrome (incl. Android)	YES	YES
Microsoft Edge	YES	YES
Mozilla Firefox	YES	YES
Safari (incl. iOS)	YES	YES
Microsoft Internet Explorer	NO	v11

https://caniuse.com/#search=webassembly

Blazor Now

A component model for building composable UI

Routing

Layouts

Forms and validation

Dependency injection

JavaScript interop

IntelliSense and tooling

Publishing and app size trimming (basic)

Debugging (in browser PoC)

Blazor Plans

Authentication, Authorization

Live reloading in the browser during development

Server-side rendering

Full .NET debugging both in browsers and in the IDE

Rich IntelliSense and tooling

Publishing and app size trimming

AskMe – Blazor Edition

Page = Component + Route

Namespace/Namespace/ClassName.razor

@functions => @code

@page "/route"

Layouts

layout

- just another component
- inherits from LayoutComponentBase
- Body property (@Body in markup)

using the layout

- @layout directive (compiles to [LayoutAttribute])
- _Imports.razor

nested layouts

Routing

@page directive

@page "/products"

@page "/products/{ProductId}" => [Parameter]ProductId

@page "/products/{ProductId:int}"

App.razor:

<**Router** AppAssembly="typeof(Program).Assembly"

FallbackComponent="typeof(Pages.NotFound)" />

<**NavLink** href="..." class="..." Match="NavLinkMatch.All | Prefix" />

IUriHelper.**NavigateTo**(), .OnLocationChanged, ...

Components

.razor

@functions => @code

parameters - private property + [Parameter]

private RenderFragment ChildContent { get; set; }

@inherits

@using + _Imports.razor

@inject

@implements

Components Lifecycle methods

OnInit[Async]()

SetParameters(ParameterCollection parameters)

OnParametersSet[Async]()

bool **ShouldRender**()

void **BuildRenderTree**(RenderTreeBuilder builder)

OnAfterRender[Async]()

*IDisposable.**Dispose**()*

StateHasChanged()

Coded Components

derived from ComponentBase

override BuildRenderTree(RenderTreeBuilder builder)

builder

.OpenElement(sequence, elementName); + .CloseElement();

.AddContent(sequence, ...);

.AddMarkupContent(sequence, ...);

.AddAttribute(...)

....

[Inject], [Parameter], [Route], [Layout], ...

Components – Event Handling

on<event>

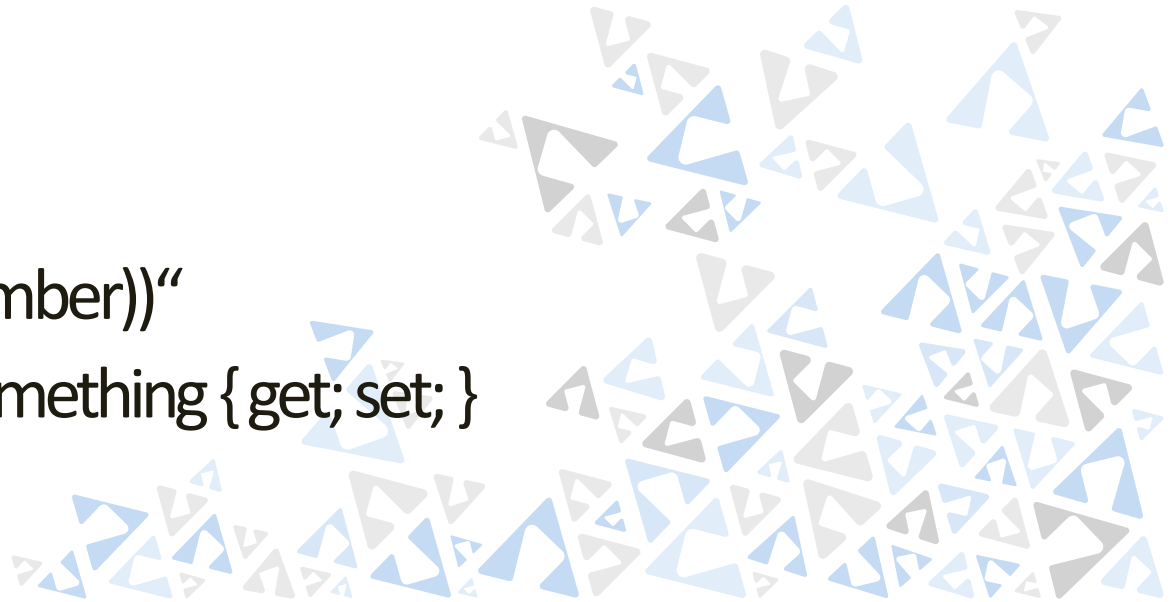
synchronous + asynchronous

event-args

- UIEventArgs
- UIChangeEventArgs
- UIKeyboardEventArgs
- UIMouseEventArgs
- custom

onclick="@(args => DoSomething(args, itemNumber))“

[Parameter] private EventCallback<TArgs> OnSomething { get; set; }



Built-in Components

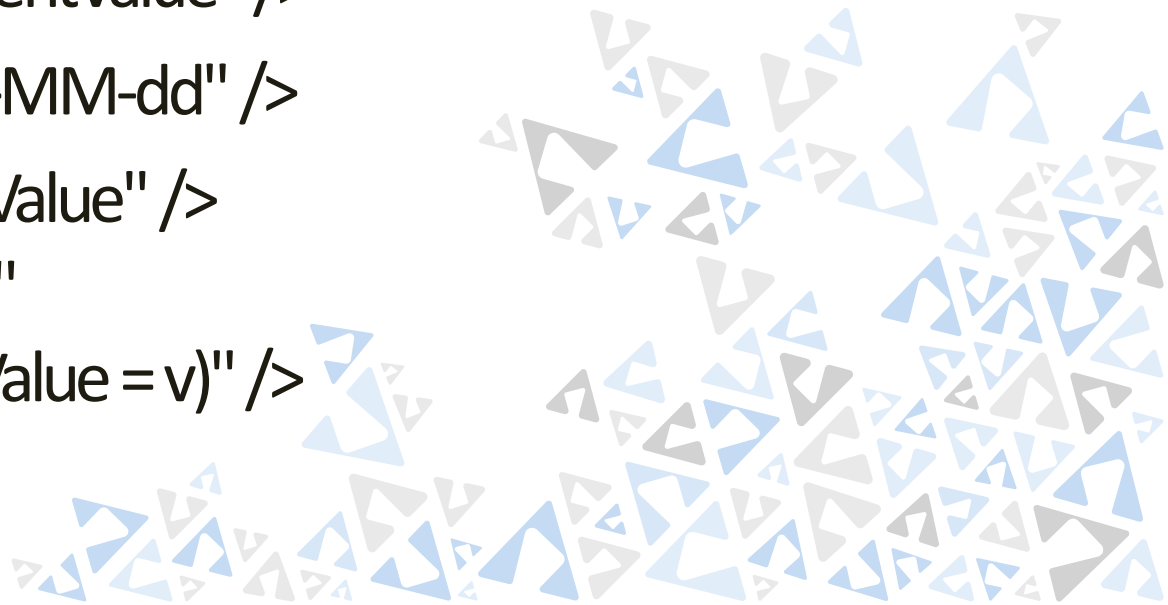
```
<NavLink /> + <Router />
<EditForm Model="@MyModel" OnValidSubmit="@HandleValidSubmit">
        <DataAnnotationsValidator />
        <ValidationSummary />
        <InputText id="name" bind-Value="@MyModel.Name" />
        <ValidationMessage For="@(() => MyModel.Name)" />
        <InputTextArea />
        <InputSelect />
        <InputNumber />
        <InputCheckBox />
        <InputDate />
</EditForm>
```

+ 3rd party ☺

Data Binding

both Components & DOM elements

```
<input bind="@MyValue“ />
<input value="@MyValue"
        onchange="@((UIChangeEventArgs __e) => MyValue = __e.Value)" />
<input type="text" bind-value-oninput="@CurrentValue" />
<input bind="@StartDate" format-value="yyyy-MM-dd" />
<MyComponent bind-MyParameter="@SomeValue" />
<MyComponent MyParameter="@SomeValue"
        MyParameterChanged="@(v => SomeValue = v)" />
```



Templated Components

RenderFragment / RenderFragment<T> parameters

@typeparam TItem

context implicit parameter: @context

```
<ItemTemplate Context="item"> ...@item.Xy... </ItemTemplate>
```

Razor Templates

```
@<tag>...</tag>
@{
        RenderFragment template = @<p>The time is @DateTime.Now.</p>;
        RenderFragment<Pet> petTemplate = (pet) => @<p>Name: @pet.Name.</p>
}
@template
@petTemplate(new Pet { Name = "Bzuk" })
```

JavaScript Interop

IJSRuntime.InvokeAsync<T>(string identifier, params object[] args)

JSON Serializable input + output

window scope

OnAfterRenderAsync

ElementRef

Invoke .NET from JavaScript

DotNet.invokeMethod[Async]('ClassName', 'MethodName')

[JSInvokable]

DotNetObjectRef

Tips & Tricks

@((MarkupString)myRawHtml)

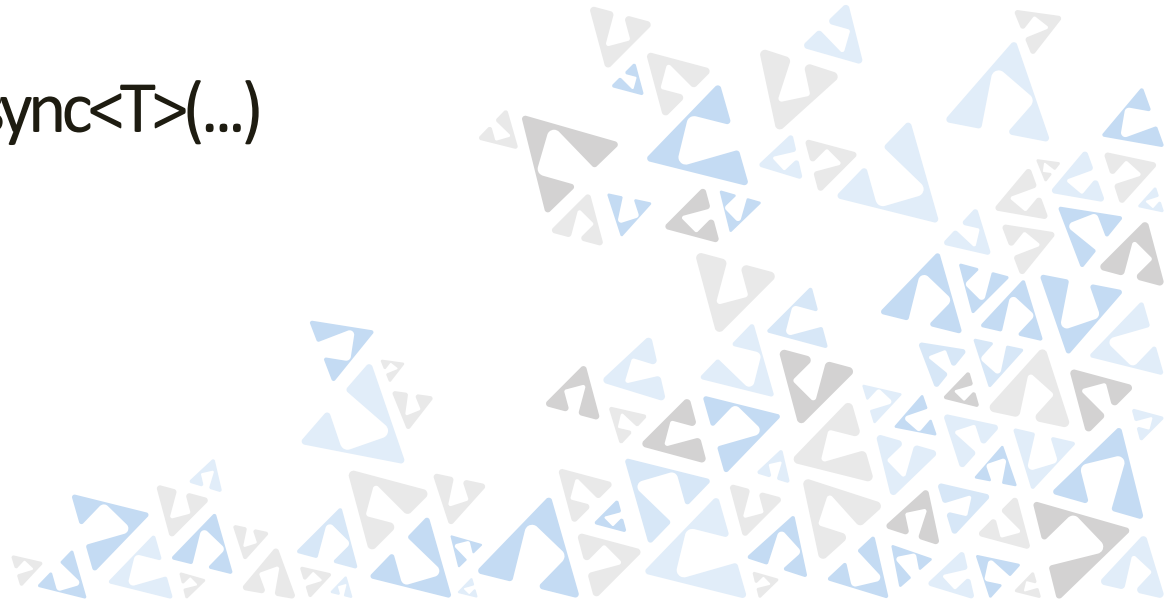
always set **Id** for <InputXy /> components

.csproj: <AppendRuntimeIdentifierToOutputPath>false</AppendRuntimeIdentifierToOutputPath>

StateHasChanged()

Debugging

Razor Pages / MVC : Html.RenderComponentAsync<T>(...)



Novinky ASP.NET Core 3.0

ASP.NET Core 3.0 will only run on .NET Core

Microsoft.AspNetCore.App shared fw w/o Newtonsoft.Json, EF Core, CodeAnalysis

Blazor Server-Side (Razor Components)

SignalR client-to-server streaming

Pipes on HttpContext

Generic host in templates

Endpoint routing

REFERENCES

Demos	https://github.com/hakenr/AskMe https://github.com/ridercz/AskMe
Blog	http://knowledge-base.havit.cz/ + .eu www.blazor.cz
Twitter	@RobertHaken
YouTube	https://www.youtube.com/user/HAVITcz