Integrating JavaScript Components

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Module overview

Invoking JavaScript from Blazor

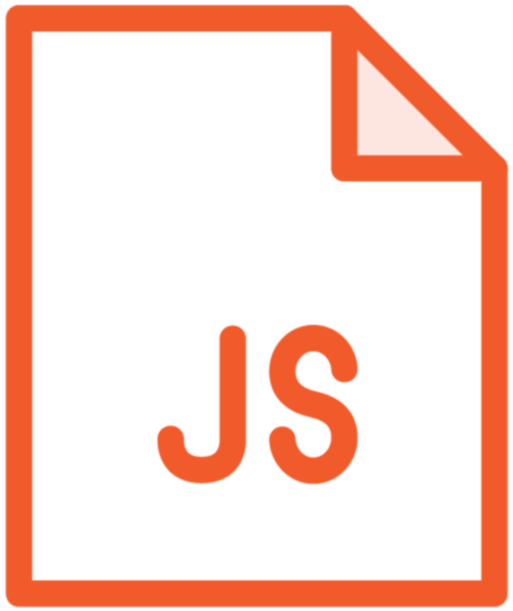
Wrapping components in a Razor Class Library

Lazy loading libraries

Invoking JavaScript from Blazor

In a Blazor WebAssembly app,
we're "just" running
a web page on the client.

So, JavaScript will work fine
here too.



Not everything is possible via just .NET

JavaScript interop

- Call into JavaScript from Blazor code

Runs on the client

- Loaded via surrounding page

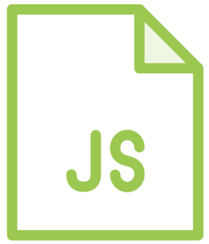
Blazor and JavaScript Interop

.NET calls JavaScript

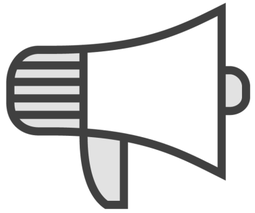
JavaScript calls .NET

Steps to Invoke JavaScript from .NET

Register script in surrounding page



Use IJSRuntime via Dependency Injection



Call script from .NET

```
<script>
     window.DoSomething = () => {
          //do some interesting task here
     }
</script>
```

Adding a Script

```
[Inject]
public IJSRuntime JsRuntime { get; set; }
```

Bring in IJSRuntime

```
var result = await JsRuntime.InvokeAsync<object>("DoSomething", "");
```

Invoking a JavaScript Function

Available Methods

InvokeVoidAsync()

InvokeAsync()

Working with JavaScript Interop

Working with JavaScript can only be done when the component is done rendering!

Use OnAfterRenderAsync() for this

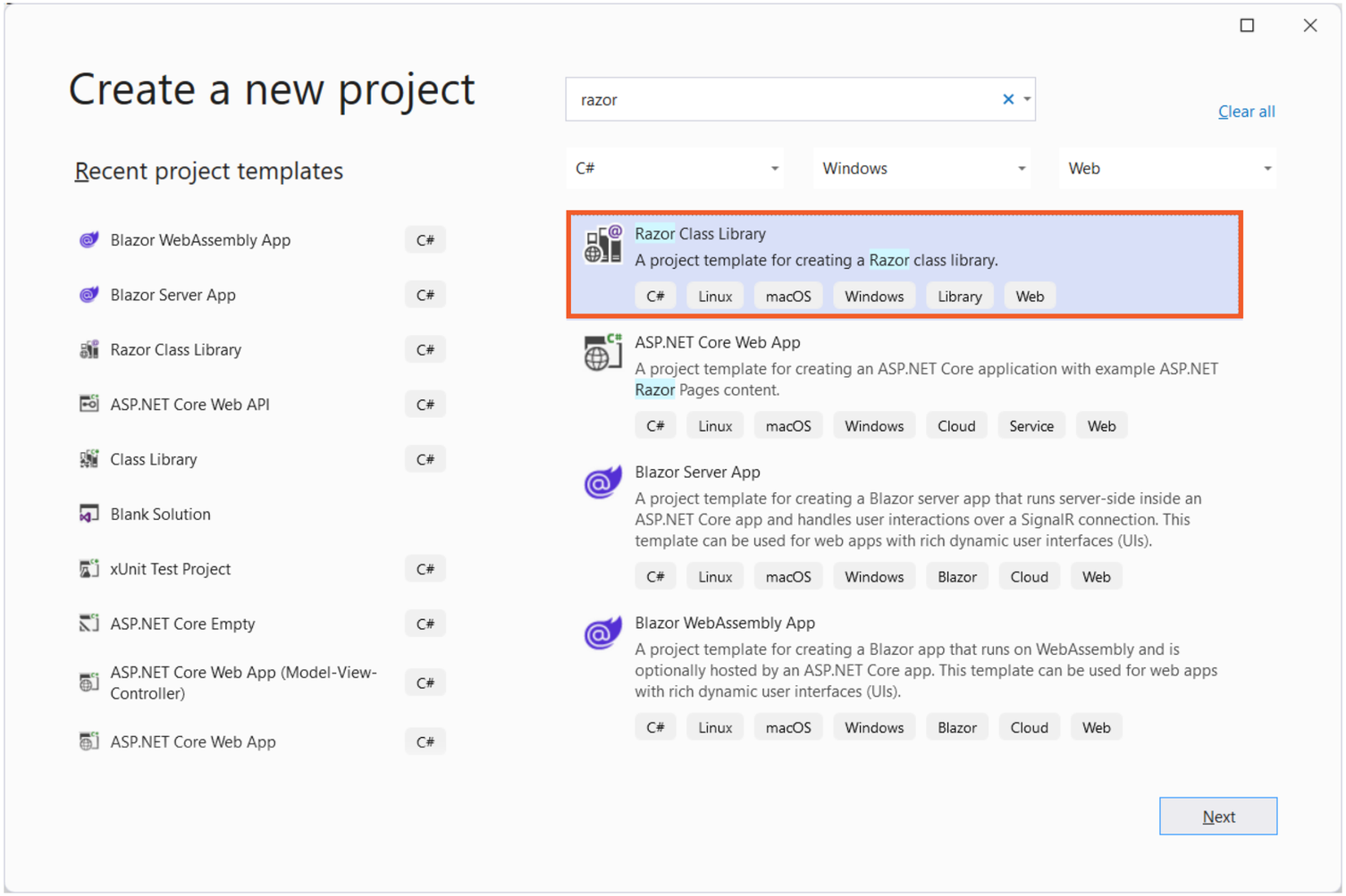
Demo

Showing a map on the details page

Map component:
https://aka.ms/blazorworkshop

Wrapping Components in a Razor Class Library

Introducing Razor Class Libraries



Razor Class Library project

- Can contain components and static assets
- Reusable
- NuGet package
- Referenced from main project

```
@using BethanysPieShopHRM.App.Components

<Map>...</Map>
```

Using a Component from an RCL

Full namespace also works
Typically @using will be placed in _Imports

```
<link
    href="_content/BethanysPieShopHRM.ComponentsLibrary/leaflet/leaflet.css"
    rel="stylesheet" />
```

Using Static Content from an RCL

Files must be placed in wwwroot folder

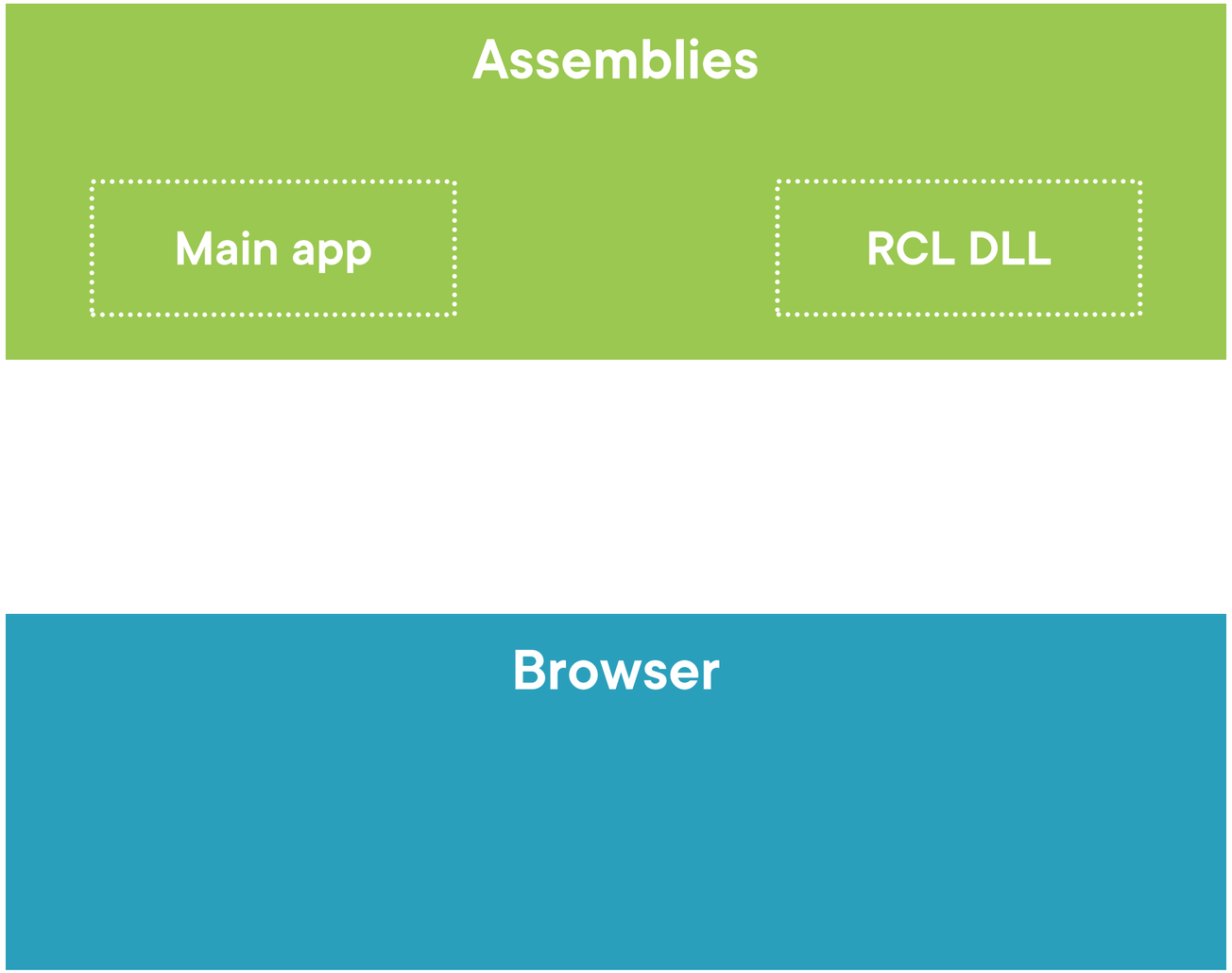
Demo

Moving the Map component to a Razor Class Library

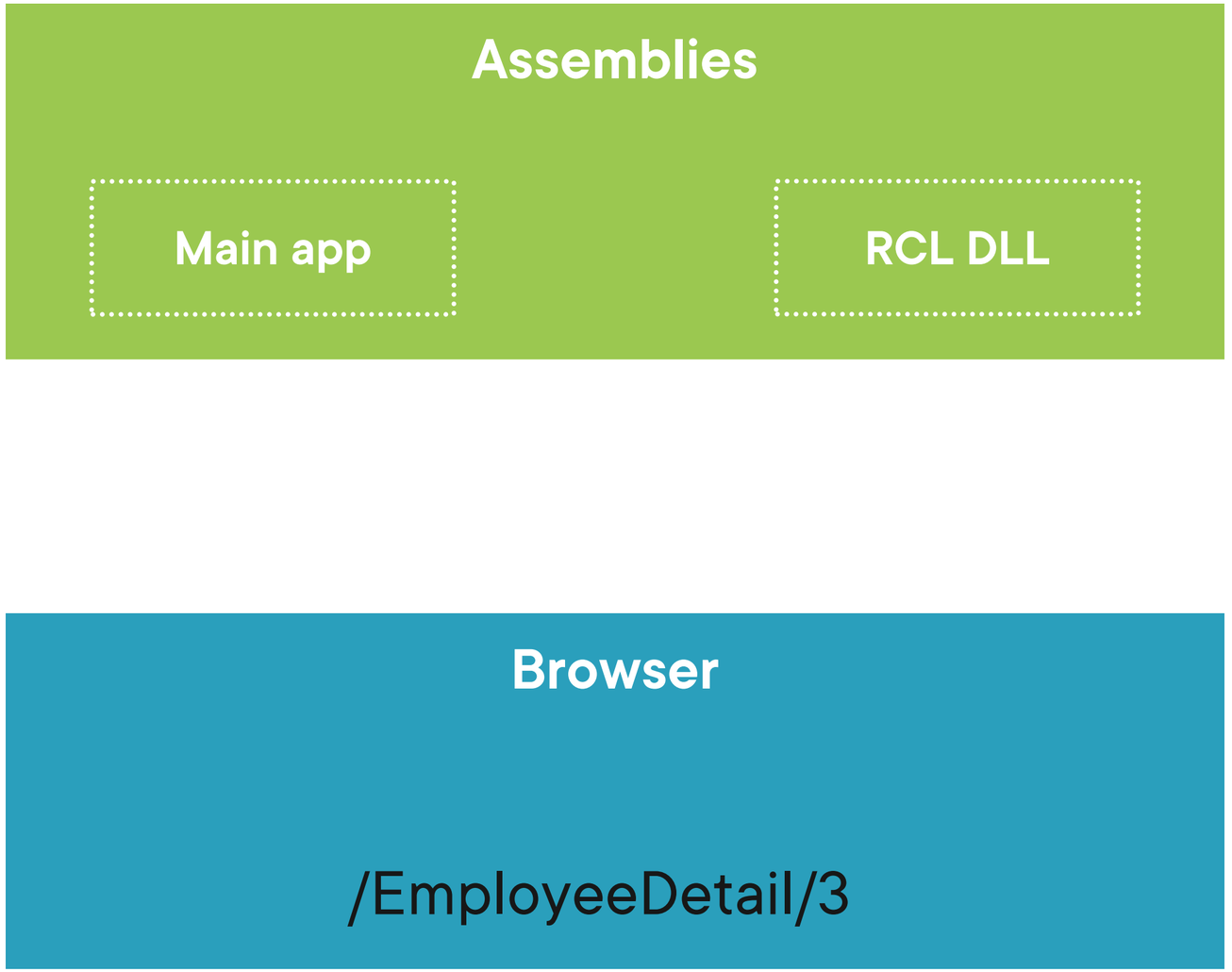
Changing the main project

Lazy Loading Libraries

Normal Loading



Introducing Lazy Loading



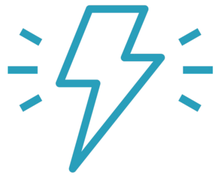
```
<ItemGroup>
    <BlazorWebAssemblyLazyLoad Include="BethanysPieShopHRM.ComponentsLibrary.dll" />
</ItemGroup>
```

Changes to the Project File

Needs to be included for each assembly

Changes to the Router

App gets service instance injected to support lazy loading: LazyAssemblyLoader



Trigger is OnNavigateAsync()

Loads assembly via async JavaScript call

Assembly will be loaded into runtime

Can include routable components

Demo

Lazy loading the RCL

Summary

- Missing functionality in Blazor can be added through JavaScript interop
- Components can be placed in Razor Class Library
- Lazy loading can speed up application start

Up next:
Authenticating in the application