Adding Routes and Navigation

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Module
overview

Routing in ASP.NET Core and ASP.NET Core MVC
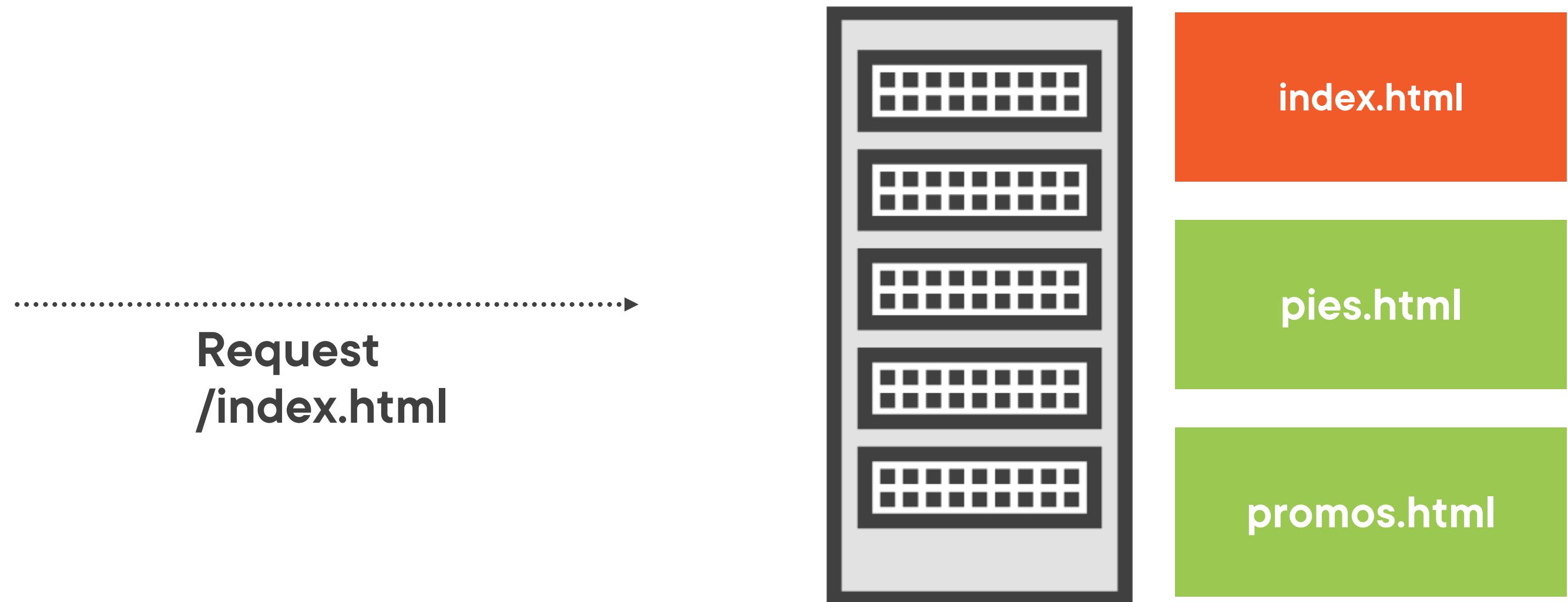
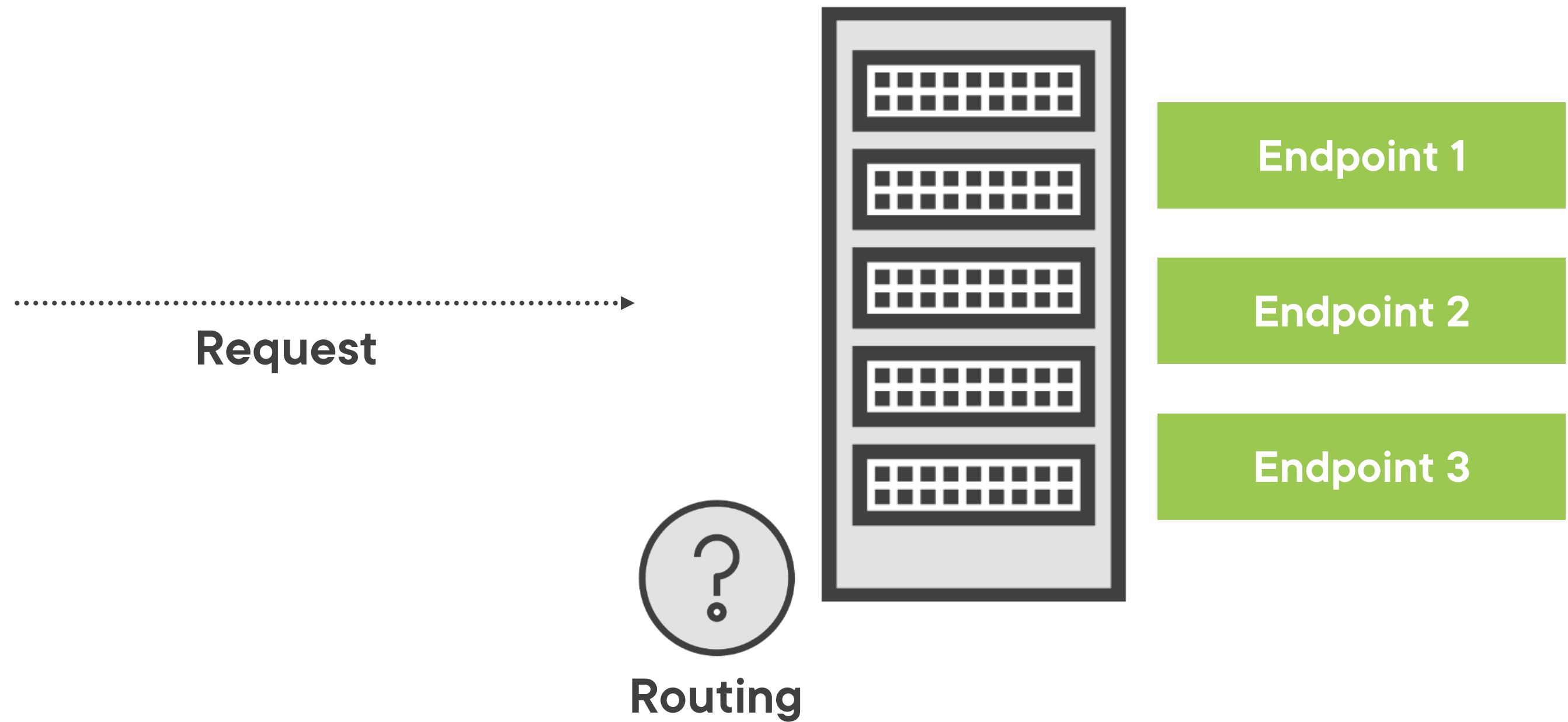**Configuring routes**

Navigating with tag helpers

Routing in
ASP.NET Core and ASP.NET Core MVC

Serving Files from a Server

Request
/index.html

index.html

pies.html

promos.html

Handling Requests in ASP.NET Core

Request

Routing
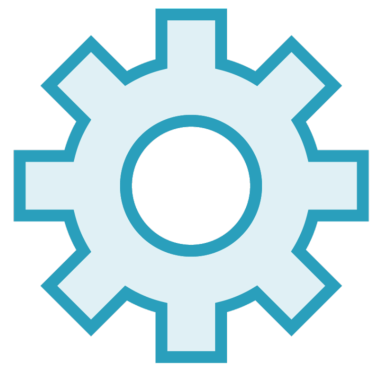
Endpoint 1

Endpoint 2

Endpoint 3

```
var builder = WebApplication.CreateBuilder(args);
var app = builder.Build();

app.MapGet("/", () => "Hello World!");

app.Run();
```

Routing in ASP.NET Core

Endpoints in ASP.NET Core

Executable units that can handle a request

Defined in app using configuration (Program)

Matching process gives access to values from URL of request
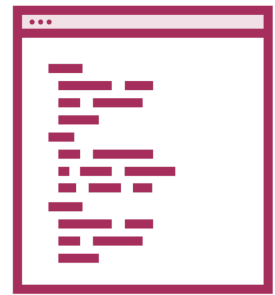
Middleware for Routing

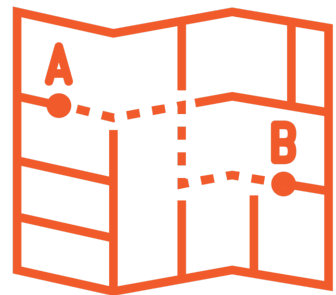UseRouting()

UseEndpoints()

Routing in ASP.NET Core MVC

Match URL of request with template

Defined in Program.cs

Mapped to action on controller

Also used to generate outgoing links

Types of Routing

Convention-based
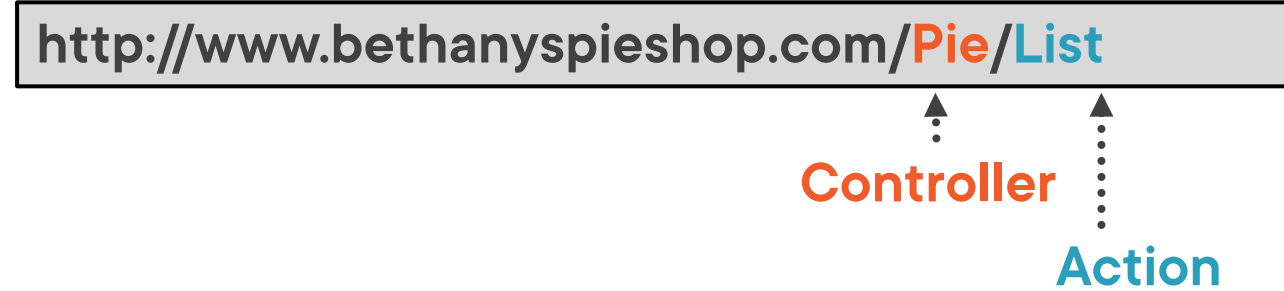
Attribute-based

Convention-based Routing

http://www.bethanyspieshop.com/**Pie**/**List**

Controller

Action

{Controller}/**{Action}**

app.MapControllerRoute(name: **"default"**, pattern: **"{controller}/{action}"**);
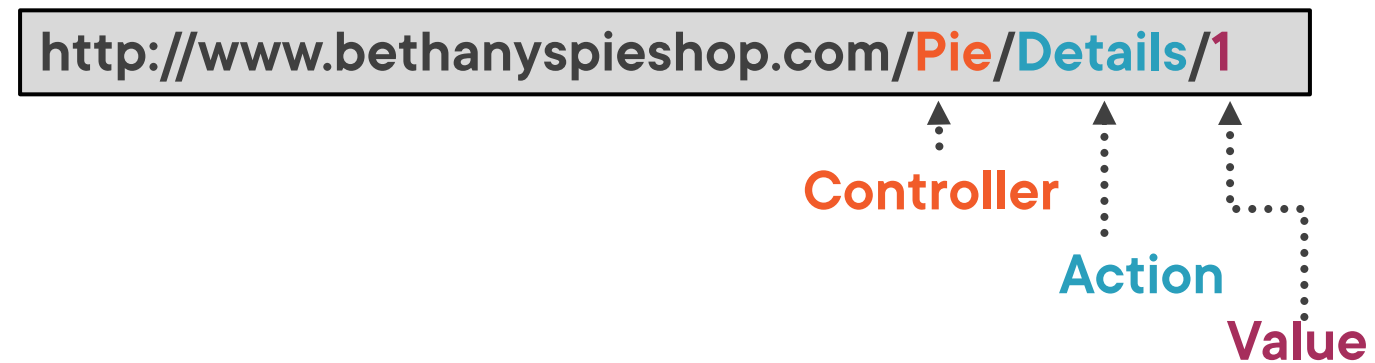
Routing to the Action Method

```
public class PieController : Controller
{
    public ViewResult List()
    {
        ...
    }
}
```

Convention-based Routing

http://www.bethanyspieshop.com/**Pie**/**Details**/**1**

Controller

Action

Value

app.MapControllerRoute(name: **"default"**, pattern: **"{controller}/{action}/{id}"**);

Passing a Value

```
public class PieController : Controller
{
    public ViewResult Details(int id)
    {
        //Do something
    }
}
```

```
app.MapDefaultControllerRoute();
```

Using MapDefaultControllerRoute

Demo

Using routes in the application

Configuring Routes

```
app.MapControllerRoute(name: "default", pattern: "{controller=Home}/{action=Index}");
```

Using Route Defaults

```
app.MapControllerRoute(
    name: "default",
    pattern: "{controller=Home}/{action=Index}/{id}");
```

Passing Values

```
app.MapControllerRoute(
    name: "default",
    pattern: "{controller=Home}/{action=Index}/{id?}");
```

Optional Segments

Will match:
- **www.bethanyspieshop.com/Pie/List**
- **www.bethanyspieshop.com/Pie/Details/1**

```
app.MapControllerRoute(
    name: "default",
    pattern: "{controller=Home}/{action=Index}/{id:int?}");
```

Adding Constraints

Navigating with Tag Helpers

We need to generate correct links in the resulting HTML.

```
<a asp-controller="Pie" asp-action="List">
  View Pie List
</a>
```

Creating a Link with Tag Helpers

Introducing Tag Helpers

Server-side

Trigger code execution

Look like standard HTML

Replace HTML Helpers

Built-in or custom

```
<a asp-controller="Pie" asp-action="List">
  View Pie List
</a>
```

Tag Helpers for Navigation

```
<a href="/Pie/List">View Pie List</a>
```

The Resulting HTML

Registering Your Tag Helpers

```
@using BethanysPieShop.Models
@using BethanysPieShop.ViewModels
@addTagHelper *, Microsoft.AspNetCore.Mvc.TagHelpers
```

Tag Helpers

Available attributes
- asp-controller
- asp-action
- asp-route-*
- asp-route

Demo

Adding navigation to the site

Summary

Routing matches incoming request URI with pattern

Tag Helpers help to create clean code
- Also for links

Up next:
Improving the views