

Alegri

ASP.NET Core

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SAP  **Microsoft**

■ Agenda

- **What is ASP.NET Core?**
- **Anatomy**
 - **Startup (aka Bootstraper)**
 - **Built-in Dependency Injection**
 - **Middleware**
 - **Web Server**
- **Demos**

ASP.NET Core is the latest version of the ASP.NET family

www.asp.net

Based on .NET Core. Run it on..

- ✓ Windows
- ✓ macOS
- ✓ Linux (incl. Docker!)

.. can also run on the full .NET Framework.

Get building



ASP.NET

ASP.NET is an open source web framework for building modern web applications and services. With ASP.NET you can quickly create web sites based on HTML, CSS and JavaScript, scale them to millions of users and easily add more complex capabilities like Web APIs, forms over data or real time communications.

Download
Visual Studio 2015

Free, powerful IDE for ASP.NET on Windows

Download
.NET Core

Free .NET command-line tools for Windows, Mac, and Linux

Develop with

- ✓ Visual Studio
- ✓ Visual Studio Code
- ✓ Atom
- ✓ Any other editor and CLI

It is open source (MIT License) on GitHub!

Contributes are welcome 😊

ASP.NET Core dependencies
are shipped with NuGet

Microsoft.AspNet.Mvc.Core 6.0.0-rc1-final

The core runtime components of ASP.NET MVC.

To install Microsoft.AspNet.Mvc.Core, run the following command in the [Package Manager Console](#)

```
PM> Install-Package Microsoft.AspNet.Mvc.Core -Pre
```

<https://www.nuget.org/packages/Microsoft.AspNet.Mvc.Core/>

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44 lines (36 sloc) 900 Bytes

Raw

Blame

History



```
1 {
2   "dependencies": {
3     "Microsoft.NETCore.App": {
4       "version": "1.0.0",
5       "type": "platform"
6     },
7     "Microsoft.AspNetCore.Diagnostics": "1.0.0",
8
9     "Microsoft.AspNetCore.Server.IISIntegration": "1.0.0",
10    "Microsoft.AspNetCore.Server.Kestrel": "1.0.0",
11    "Microsoft.Extensions.Logging.Console": "1.0.0"
12  },
13
14  "tools": {
15    "Microsoft.AspNetCore.Server.IISIntegration.Tools": "1.0.0-preview2-final"
16  },
17
18  "frameworks": {
19    "netcoreapp1.0": { }
20  },
21
22  "buildOptions": {
23    "emitEntryPoint": true,
24    "preserveCompilationContext": true
25  },
26
27  "runtimeOptions": {
28    "configProperties": {
29      "System.GC.Server": true
30    }
31  },
32
33  "publishOptions": {
34    "include": [
35      "wwwroot",
36      "web.config"
37    ]
38  },
39
40  "scripts": {
41    "postpublish": [ "dotnet publish-iis --publish-folder %publish:OutputPath% --framework %publish:FullTargetFramework%" ]
42  }
43 }
```


Builds on a console application

```
class Program
{
    public static void Main(string[] args)
    {
        var host = new WebHostBuilder()
            .UseKestrel()
            .UseStartup<Startup>()
            .Build();

        host.Run();
    }
}
```

```
class Startup
{
    public void ConfigureServices( IServiceCollection services )
    {
    }

    public void Configure( IApplicationBuilder app )
    {
        app.Run(async (context) =>
        {
            await context.Response.WriteAsync("Hello World!");
        });
    }
}
```

Services (DI/IoC)

Middleware

ASP.NET Core comes
with a built-in
Dependency Injection

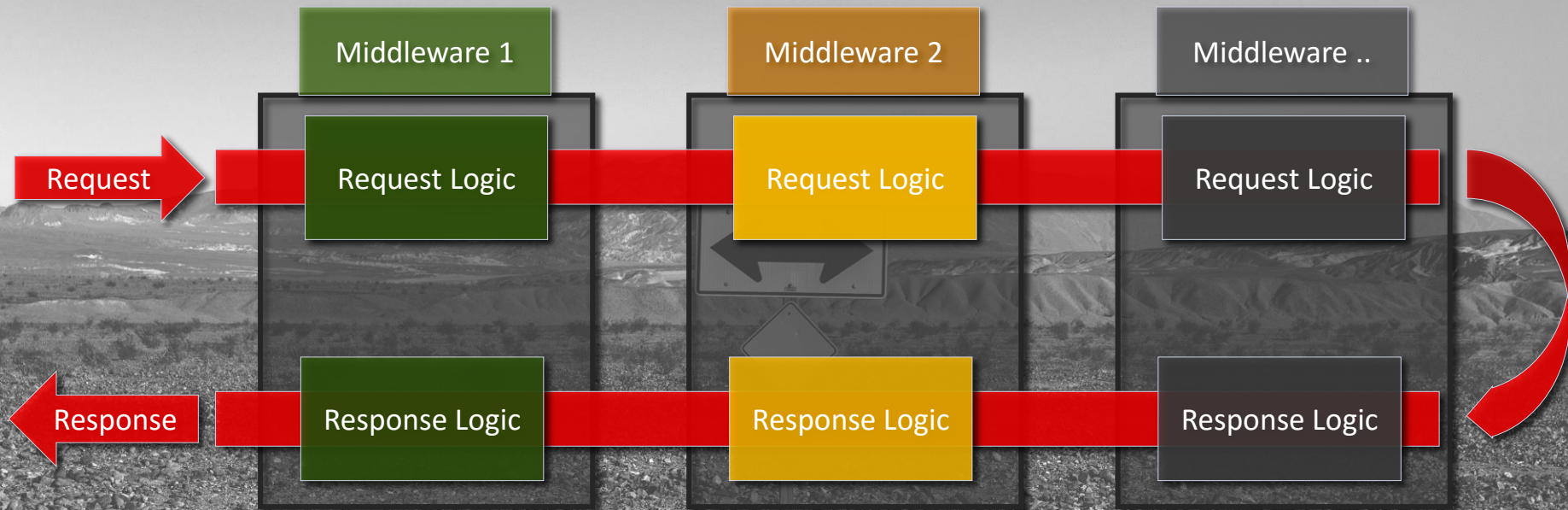
```
public void ConfigureServices(IServiceCollection services)
{
    // Add framework services.
    var conString = Configuration.GetConnectionString("DefaultConnection");

    services.AddDbContext<ApplicationDbContext>(options =>
        options.UseSqlServer( conString ));

    services.AddIdentity<ApplicationUser, IdentityRole>()
        .AddEntityFrameworkStores<ApplicationDbContext>()
        .AddDefaultTokenProviders();

    services.AddMvc();

    // Add application services.
    services.AddTransient<IEmailSender, EmailSenderService>();
    services.AddTransient<ISmsSender, SMSSenderService>();
}
```

Prebuilt Middlewares ex: Static File serve, Routing, Authentication


```
public class LogMiddleware
{
    private readonly RequestDelegate _next;
    private readonly ILogger _logger;

    public LogMiddleware( RequestDelegate next,
                          ILoggerFactory lf )
    {
        _next = next;
        _logger = lf.CreateLogger< LogMiddleware >();
    }

    public async Task Invoke(HttpContext context)
    {
        _logger.Log($"Request: {context.Request.Path}");

        await _next.Invoke(context);

        _logger.Log("Done.");
    }
}
```

```
class Startup
{
    public void ConfigureServices( IServiceCollection services )
    {
    }

    public void Configure( IApplicationBuilder app )
    {
        app.UseMiddleware< LogMiddleware >

        app.Run(async (context) =>
        {
            await context.Response.WriteAsync("Hello World!");
        });
    }
}
```



KESTREL WebServer

comes as NuGet package

usage with reverse proxy behavior

based on libuv (async, x-plat)

configuration via WebHostBuilder



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Benjamin Abt is
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This presentation was published on <https://github.com/AlegriGroup/AspNetCore-RTM-1.0-Demos>
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