

Custom Middleware & Microservices with ASP.NET Core 2.x

ONDREJ BALAS

@ONDREJBALAS 
WWW.ONDREJBALAS.COM 
ONDREJ@ONDREJBALAS.COM 

ONDREJ BALAS

Microsoft MVP in Developer Technologies

Blog at ondrejbalas.com

Consultant since 2001

Founded startup in 2017

Game development for fun



</> WWW.ONDREJBALAS.COM

✉ ONDREJ@ONDREJBALAS.COM

🐦 [@ONDREJBALAS](https://twitter.com/ONDREJBALAS)









Web Server & Host





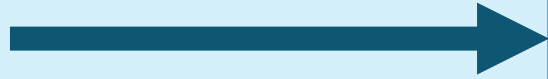
TCP



Web Server & Host (IIS)

HTTP





Web Server & Host (IIS)



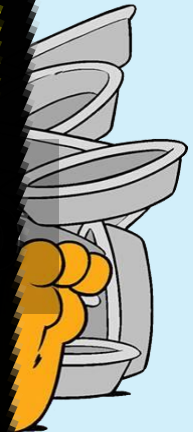
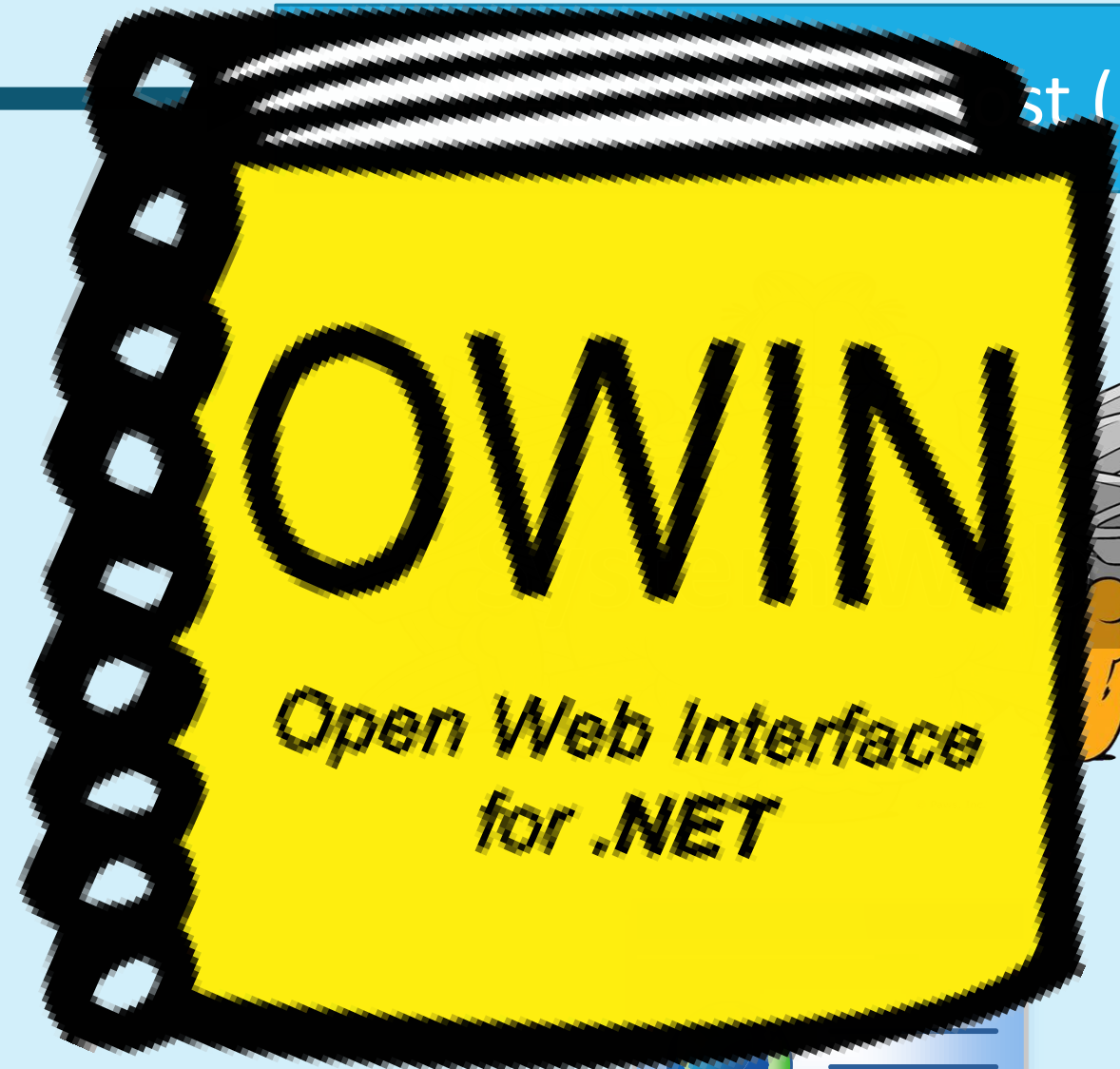








st (IIS)

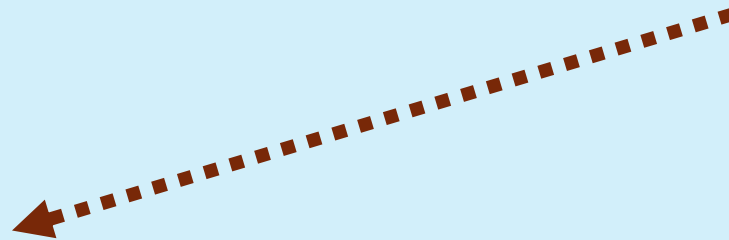
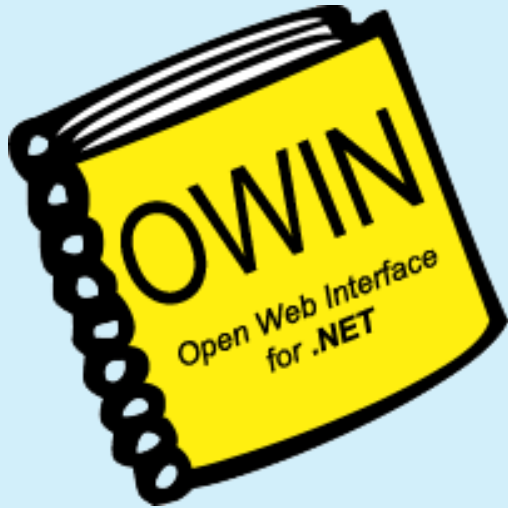




Web Server & Host (IIS)

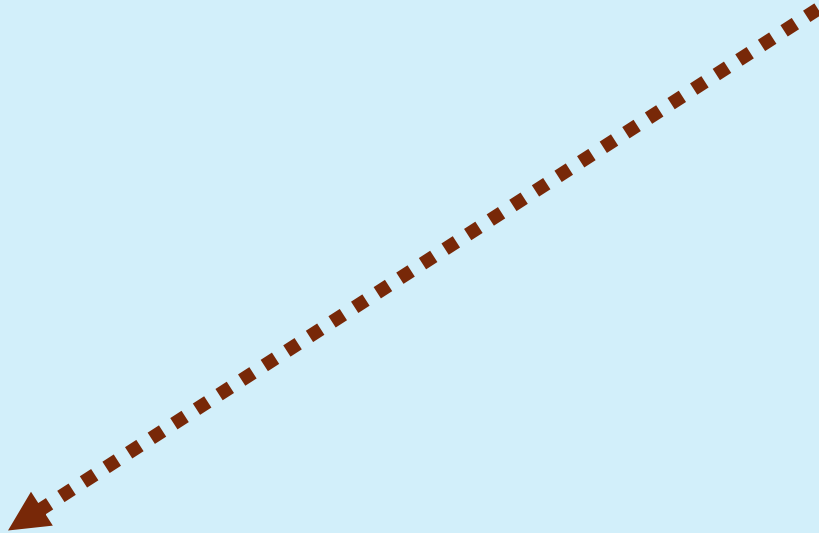
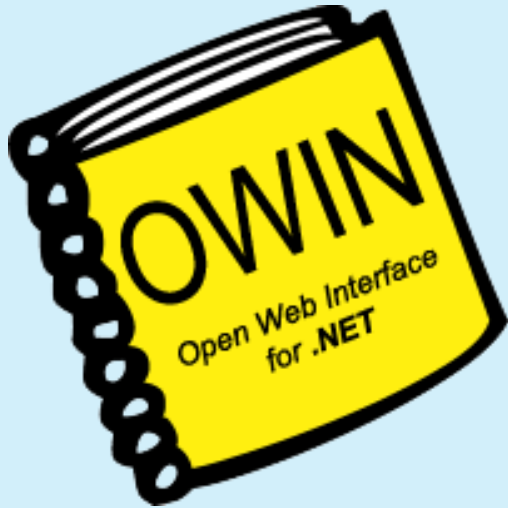


Katana



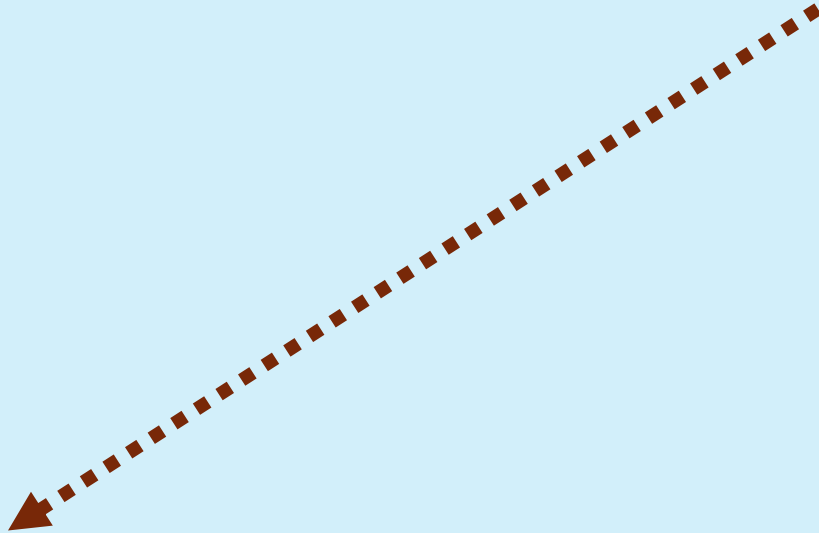
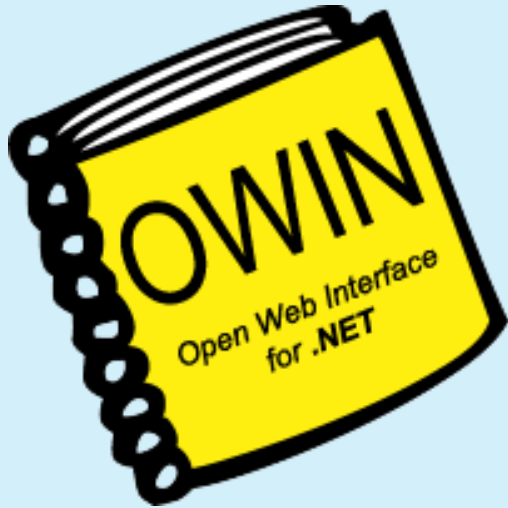


vNext



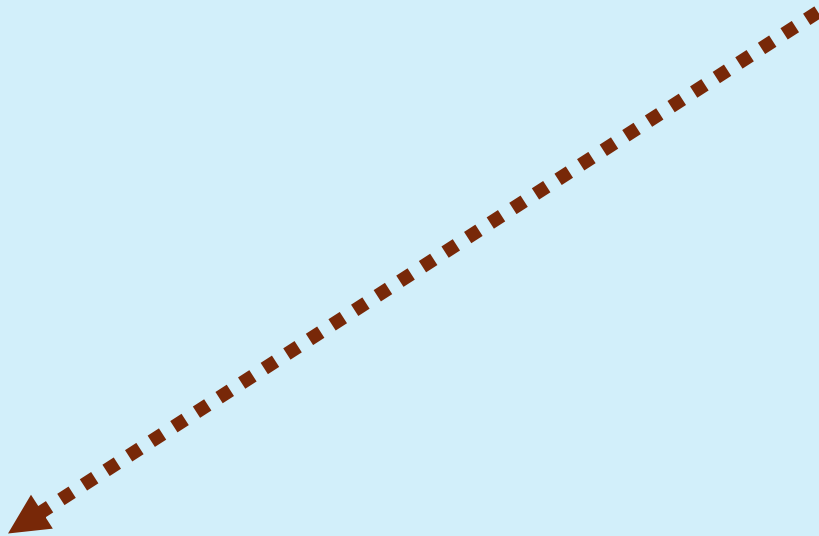
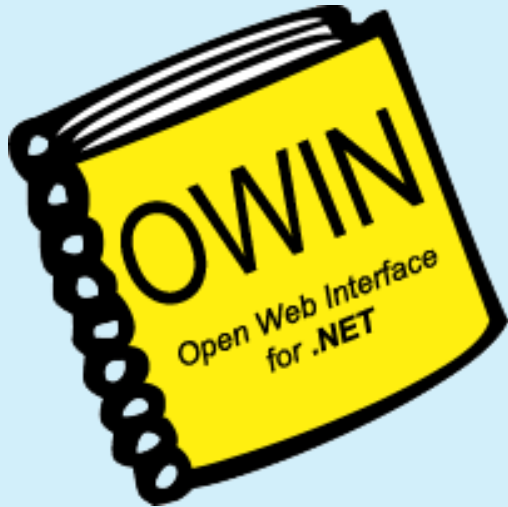
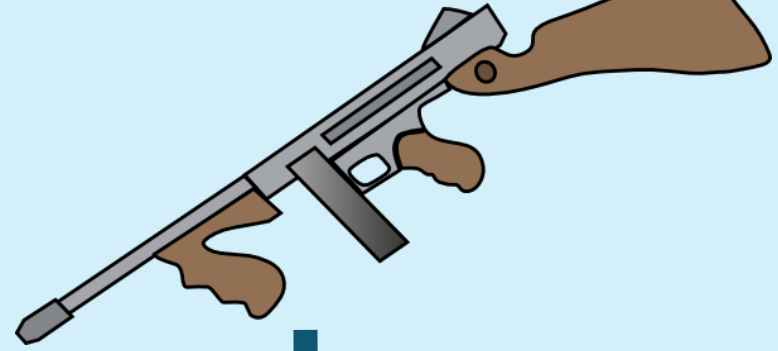


ASP.NET 5

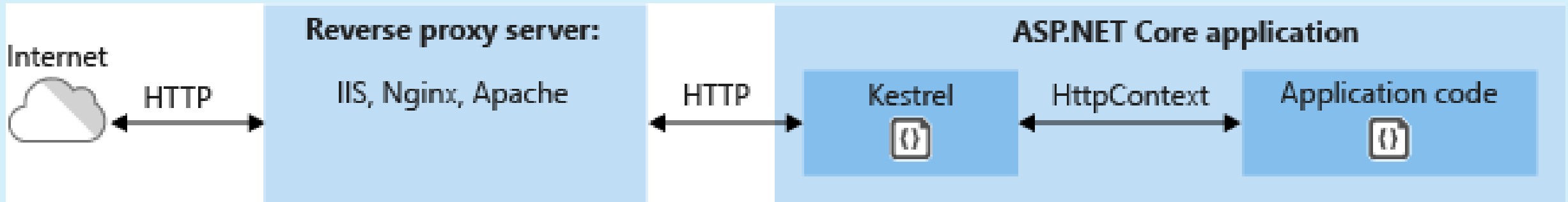
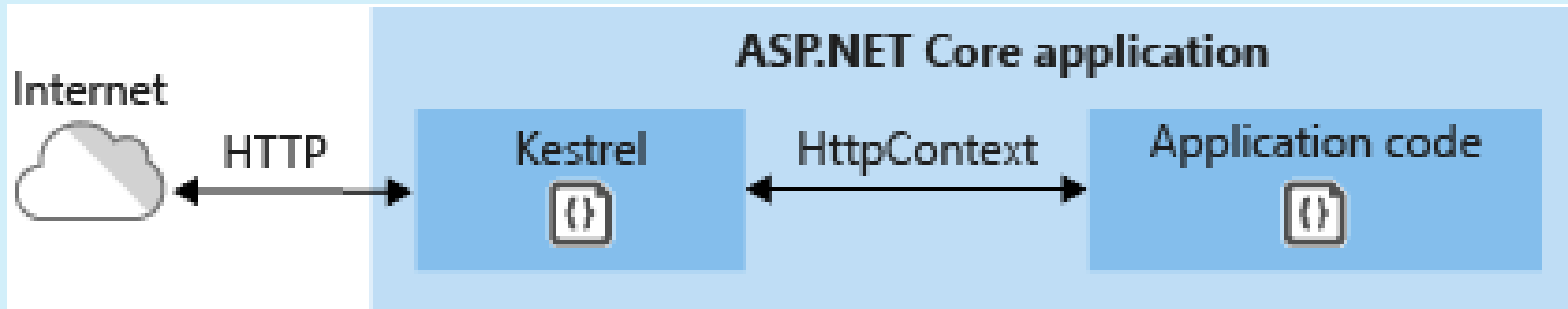




ASP.NET Core



ASP.NET Core 2.0



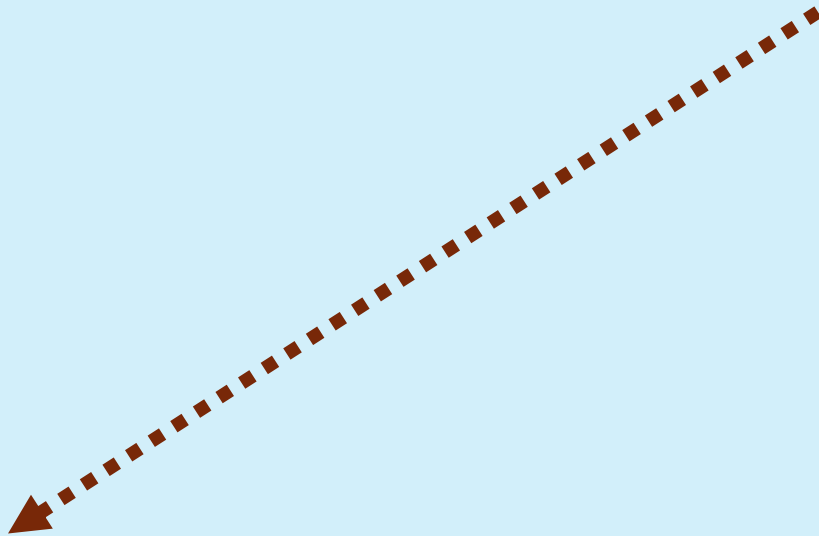
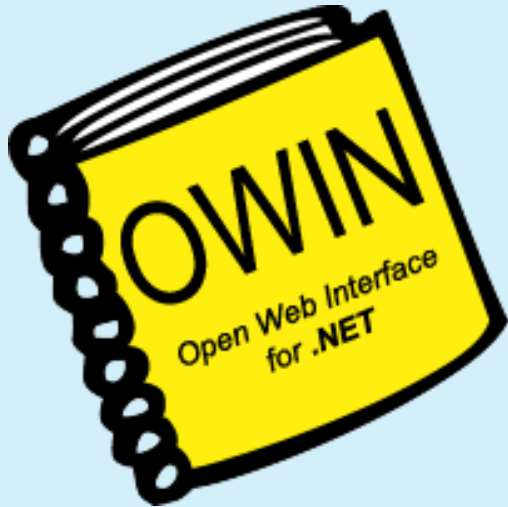
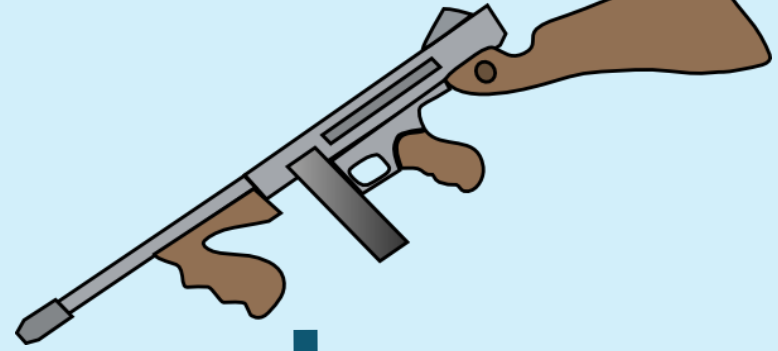
Source: <https://docs.microsoft.com/en-us/aspnet/core/fundamentals/servers/>

or

<http://bit.ly/2rDrfFZ>

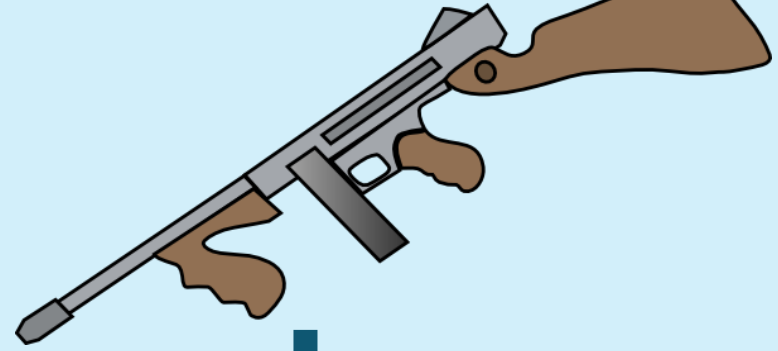


ASP.NET Core

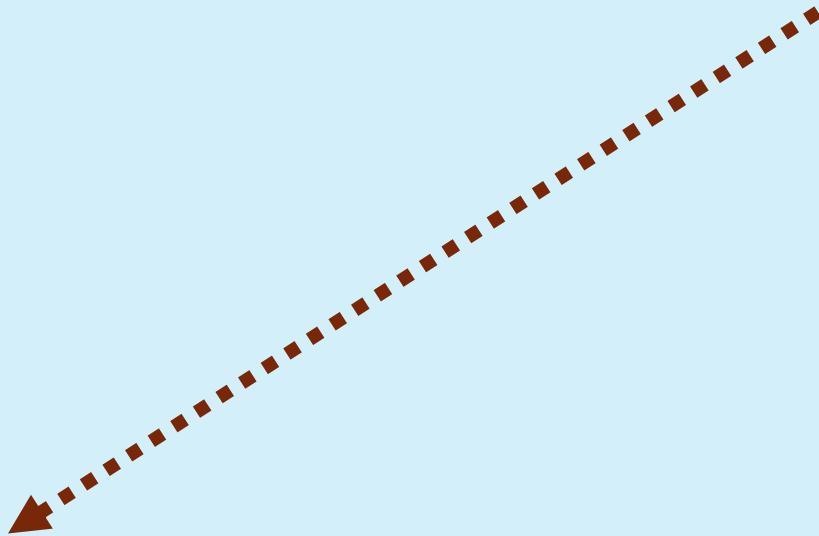
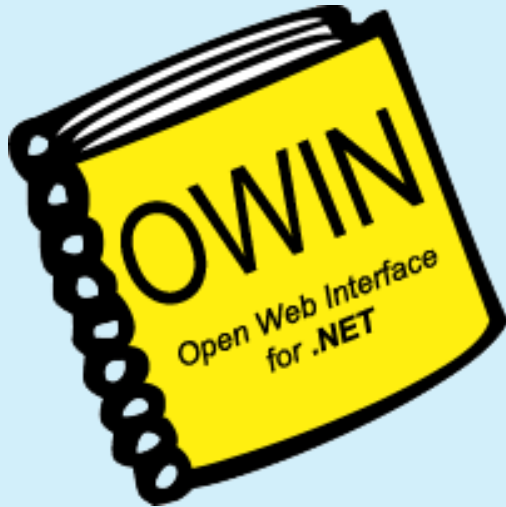
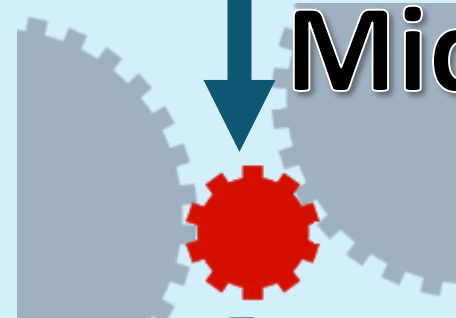




ASP.NET Core



Middleware



Implementing IHttpModule

```
<configuration>  
  <system.web>  
    <httpModules>  
      <add name="HelloWorldModule" type="HelloWorldModule"/>  
    </httpModules>  
  </system.web>  
</configuration>
```

Middleware is for cross-cutting concerns

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Logging

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Logging

Access Control (Authentication & Authorization)

Middleware is for cross-cutting concerns

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Routing

Middleware is for cross-cutting concerns

Logging

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Routing

Serving Special Content

Middleware is for cross-cutting concerns

Logging

Access Control (Authentication & Authorization)

Routing

Serving Special Content

Any other time you want to do some **THING** between receiving a request and returning a response, even if that **THING** is preventing something else from happening.







MVC

Startup.cs

```
public void Configure(IApplicationBuilder app, IHostingEnvironment env) {  
    if (env.IsDevelopment())  
        app.UseDeveloperExceptionPage();  
    else {  
        app.UseExceptionHandler("/Home/Error");  
        app.UseHsts();  
    }  
  
    app.UseHttpsRedirection();  
    app.UseStaticFiles();  
    app.UseCookiePolicy();  
  
    app.UseMvc(routes =>  
    {  
        routes.MapRoute(  
            name: "default",  
            template: "{controller=Home}/{action=Index}/{id?}");  
    });  
}
```

Developer
ExceptionPage

HttpsRedir

StaticFiles

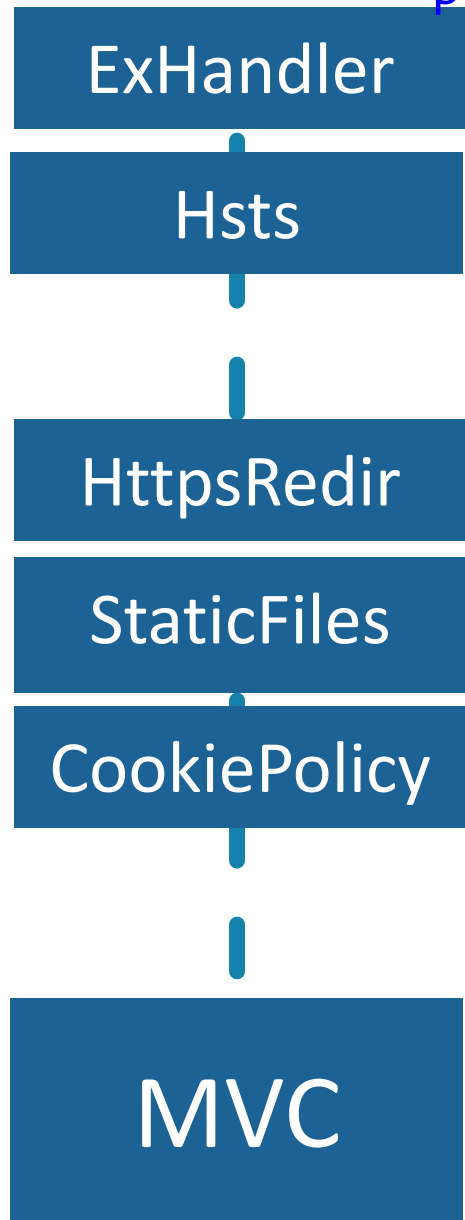
CookiePolicy

MVC

```
public void Configure(IApplicationBuilder app, IHostingEnvironment env)
{
    if (env.IsDevelopment())
        app.UseDeveloperExceptionPage();
    else {
        app.UseExceptionHandler("/Home/Error");
        app.UseHsts();
    }

    app.UseHttpsRedirection();
    app.UseStaticFiles();
    app.UseCookiePolicy();

    app.UseMvc(routes =>
    {
        routes.MapRoute(
            name: "default",
            template: "{controller=Home}/{action=Index}/{id?}");
    });
}
```



```
public void Configure(IApplicationBuilder app, IHostingEnvironment env)
{
    if (env.IsDevelopment())
        app.UseDeveloperExceptionPage();
    else {
        app.UseExceptionHandler("/Home/Error");
        app.UseHsts();
    }

    app.UseHttpsRedirection();
    app.UseStaticFiles();
    app.UseCookiePolicy();

    app.UseMvc(routes =>
    {
        routes.MapRoute(
            name: "default",
            template: "{controller=Home}/{action=Index}/{id?}");
    });
}
```


ExHandler

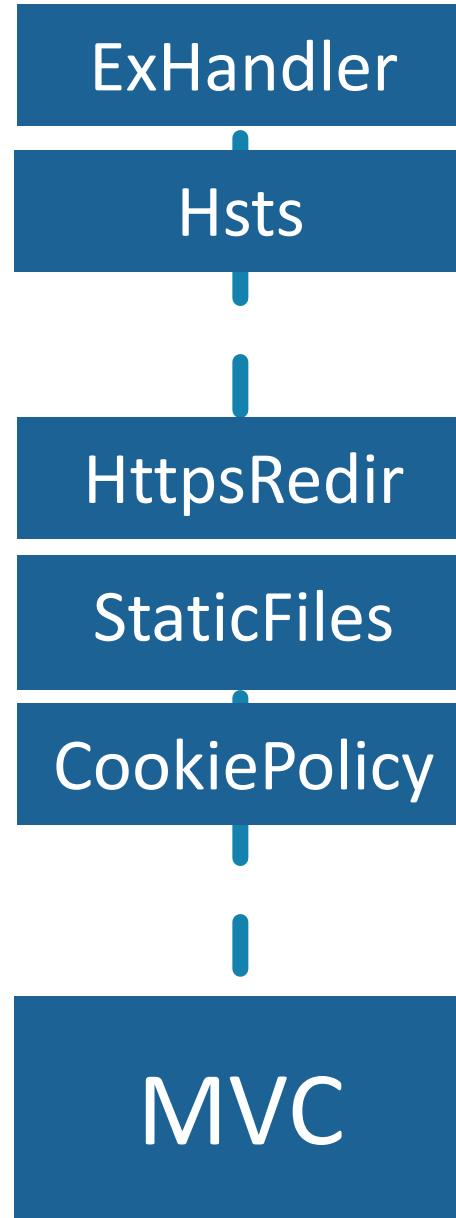
Hsts

HttpsRedir

StaticFiles

CookiePolicy

MVC



HttpContext

ExHandler

Hsts

HttpsRedir

StaticFiles

CookiePolicy

MVC



ExHandler

Hsts

HttpsRedir

StaticFiles

CookiePolicy

HttpContext VC

Demo Time

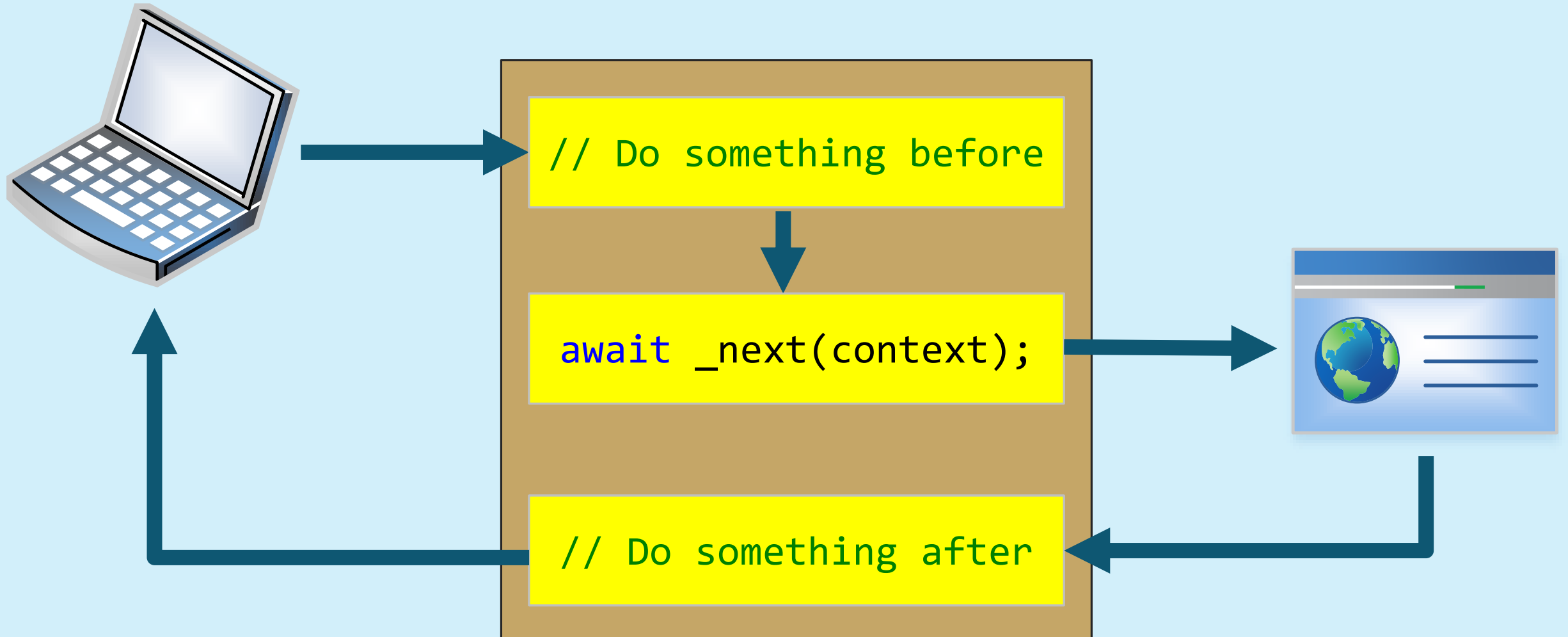
Middleware

```
// Do something before
```

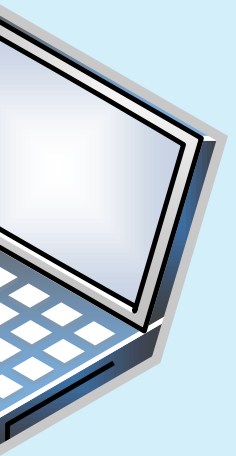
```
await _next(context);
```

```
// Do something after
```

Middleware



Middleware



```
// Do something before
```

```
await _next(context);
```

```
// Do something after
```

```
// Do something before
```

```
await _next(context);
```

```
// Do something after
```

```
// Do something before
```

```
await _next(context);
```

```
// Do something after
```

Middleware

String Appender

```
// Do something before
```

```
await _next(context);
```

```
// Do something after
```

Static File

```
// Do something before
```

```
await _next(context);
```

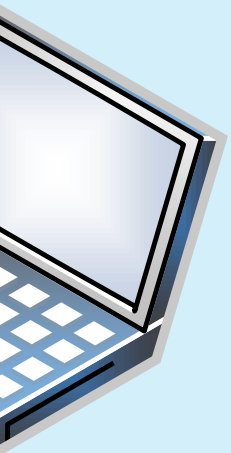
```
// Do something after
```

MVC

```
// Do something before
```

```
await _next(context);
```

```
// Do something after
```



Middleware

String Appender

```
// Do something before
```

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await _next(context);
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```
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Static File

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```
await _next(context);
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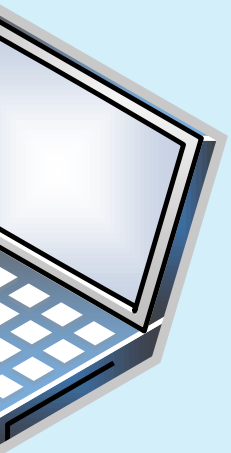
```
// Do something after
```

MVC

```
// Do something before
```

```
await _next(context);
```

```
// Do something after
```



Demo Time

Thanks!

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ONDREJ BALAS

WWW.ONDREJBALAS.COM </>
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