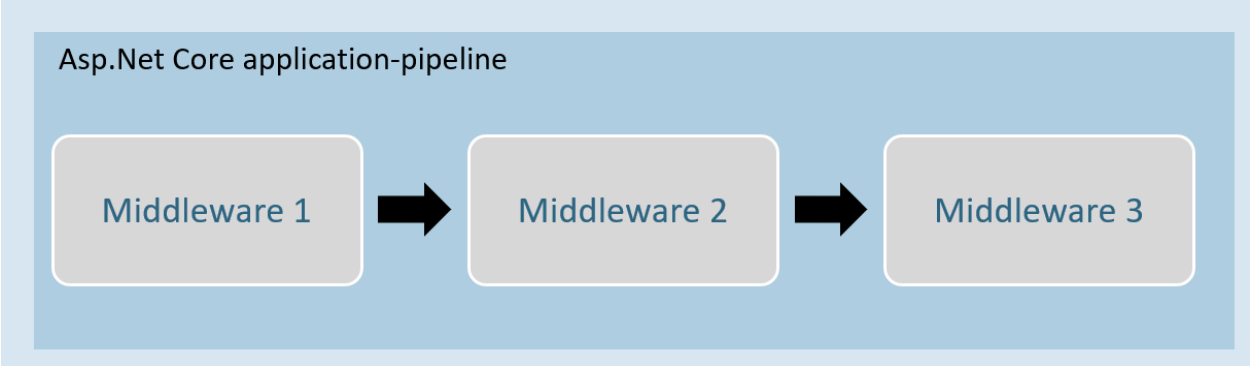
Section Cheat Sheet (PPT)

Introduction to Middleware

Middleware is a component that is assembled into the application pipeline to handle requests and responses.

Middlewares are chained one-after-other and execute in the same sequence how they're added.



Middleware can be a request delegate (anonymous method or lambda expression) [or] a class.

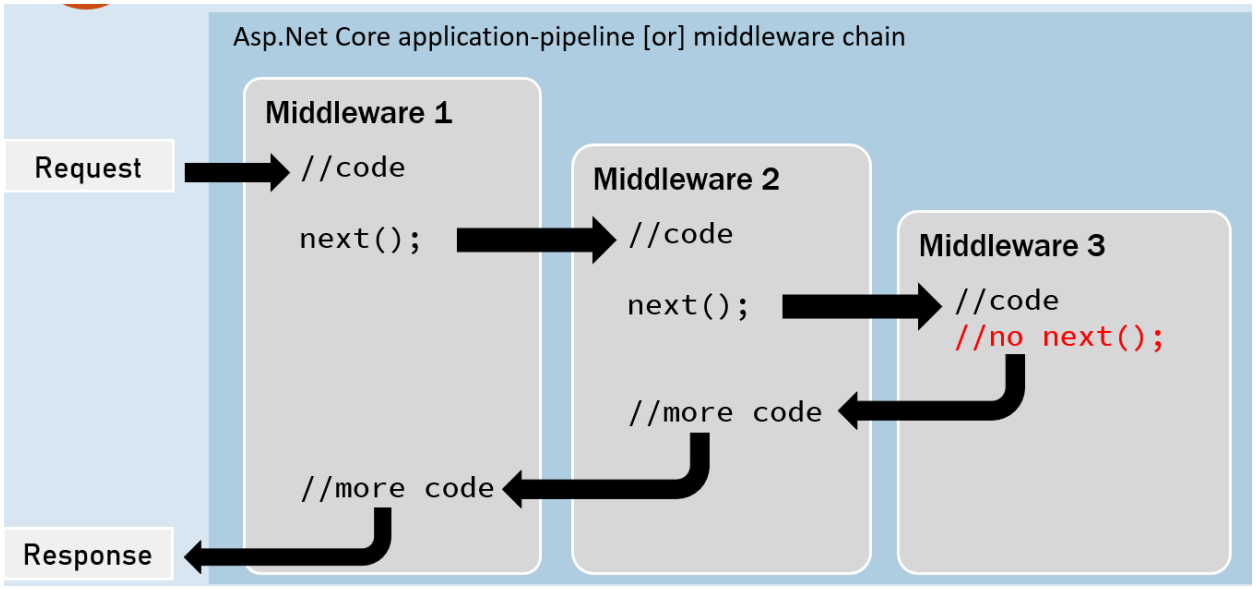
Middleware - Run

app.Run( )

```
app.Run(async (HttpContext context) =>
{
//code
});
```

The extension method called “Run” is used to execute a terminating / short-circuiting middleware that doesn’t forward the request to the next middleware.

Middleware Chain



app.Use( )

```
app.Use(async (HttpContext context, RequestDelegate next)
=>
{
 //before logic
 await next(context);
 //after logic
});
```

The extension method called “Use” is used to execute a non-terminating / short-circuiting middleware that may / may not forward the request to the next middleware.

Middleware Class

Middleware class is used to separate the middleware logic from a lambda expression to a separate / reusable class.

```
class MiddlewareClassName : IMiddleware
{
 public async Task InvokeAsync(HttpContext context,
RequestDelegate next)
 {
   //before logic
   await next(context);
   //after logic
 }
```

```
    }
app.UseMiddleware<MiddlewareClassName>();
```

Middleware Extensions

```
    class MiddlewareClassName : IMiddleware
    {
     public async Task InvokeAsync(HttpContext
    context,RequestDelegate next)
     {
       //before logic
       await next(context);
       //after logic
     }
    });
```

Middleware extension method is used to invoke the middleware with a single method call.

```
    static class ClassName
    {
     public static IApplicationBuilder ExtensionMethodName(this
    IApplicationBuilder app)
     {
       return app.UseMiddleware<MiddlewareClassName>();
     }
    }
app.ExtensionMethodName();
```

Conventional Middleware

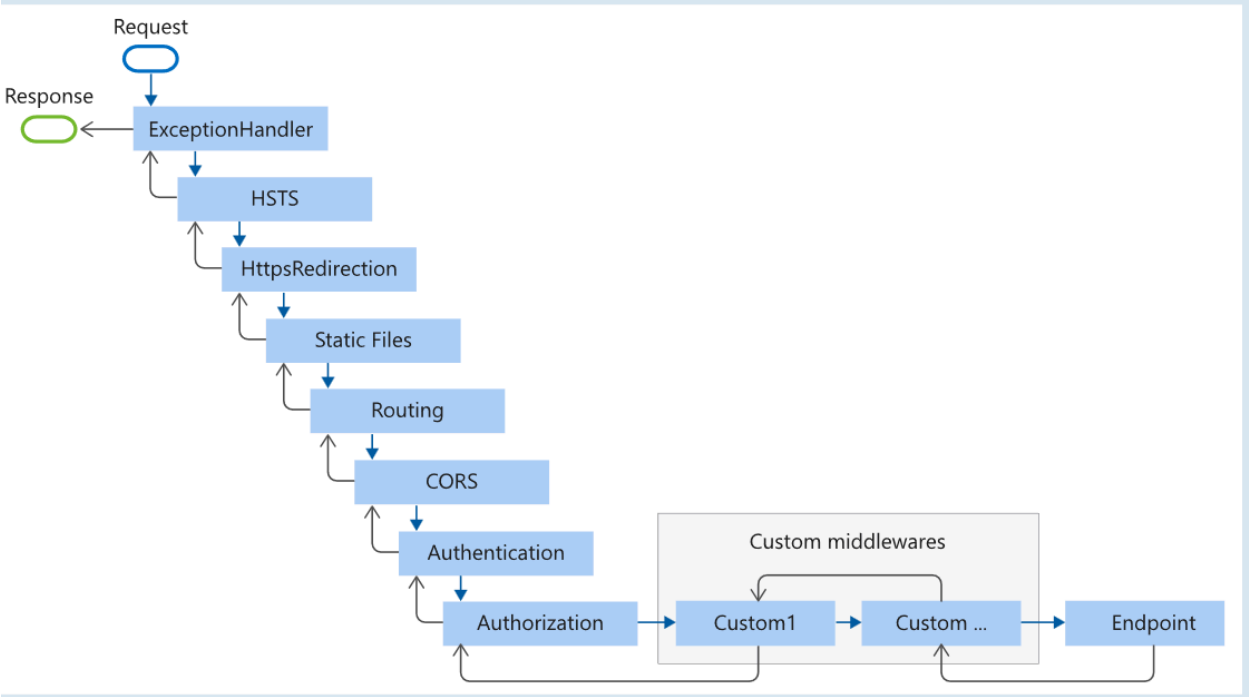
```
    class MiddlewareClassName
    {
     private readonly RequestDelegate _next;

     public MiddlewareClassName(RequestDelegate next)
     {
       _next = next;
     }

     public async Task InvokeAsync(HttpContext context)
     {
      //before logic
```

```
        await _next(context);
        //after logic
      }
    });
    static class ClassName
    {
     public static IApplicationBuilder ExtensionMethodName(this
    IApplicationBuilder app)
     {
      return app.UseMiddleware<MiddlewareClassName>();
     }
    }
app.ExtensionMethodName();
```

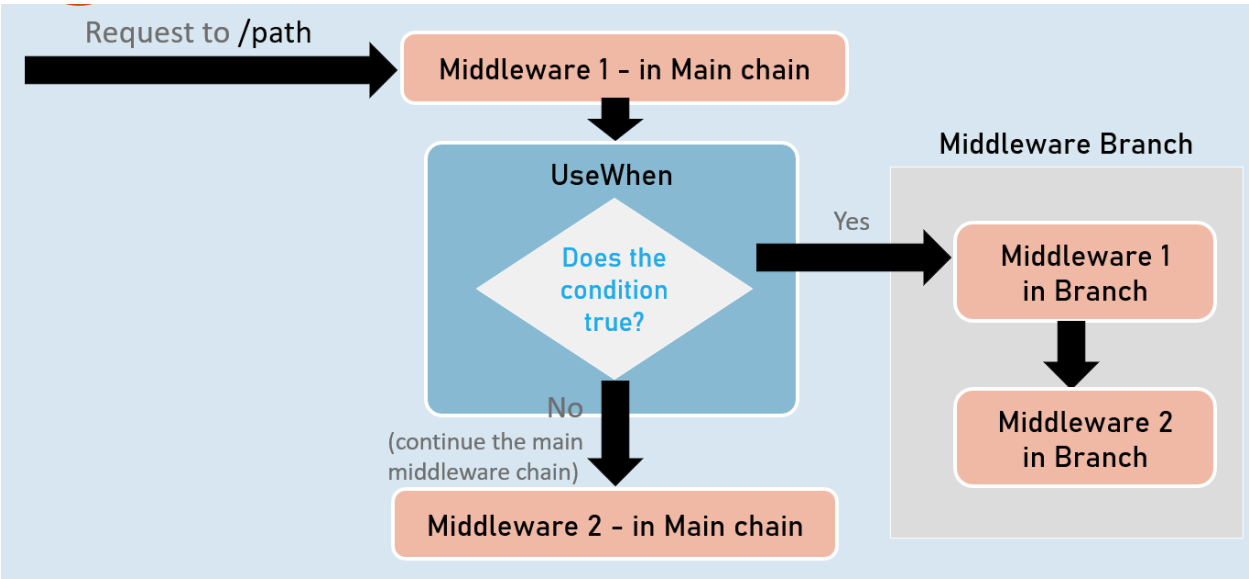
The Right Order of Middleware




```
    app.UseExceptionHandler("/Error");
    app.UseHsts();
    app.UseHttpsRedirection();
    app.UseStaticFiles();
    app.UseRouting();
    app.UseCors();
    app.UseAuthentication();
    app.UseAuthorization();
    app.UseSession();
```

```
app.MapControllers();
//add your custom middlewares
app.Run();
```

Middleware - UseWhen



app.UseWhen( )

```
app.UseWhen(
 context => { return boolean; },
 app =>
 {
   //add your middlewares
 }
);
```

The extension method called “UseWhen” is used to execute a branch of middleware only when the specified condition is true.