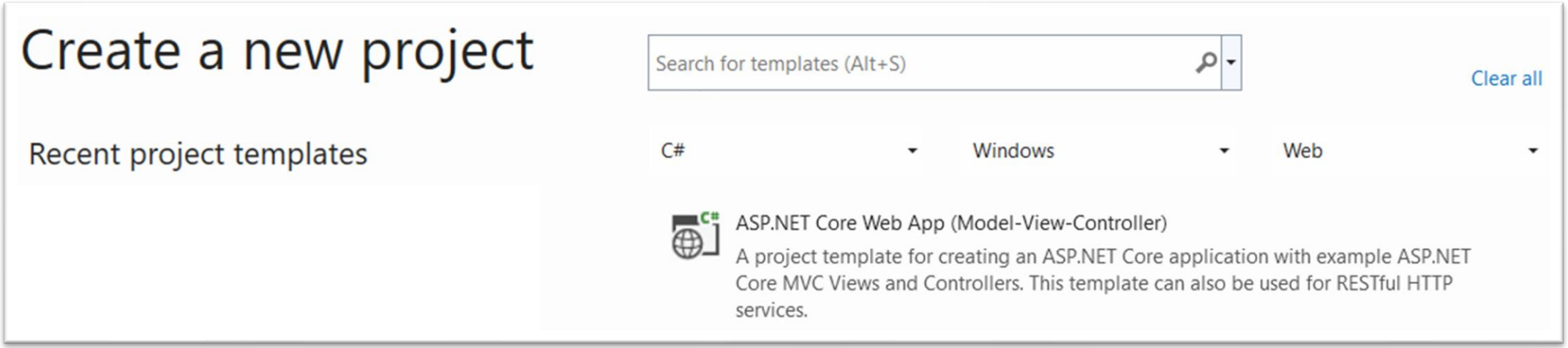
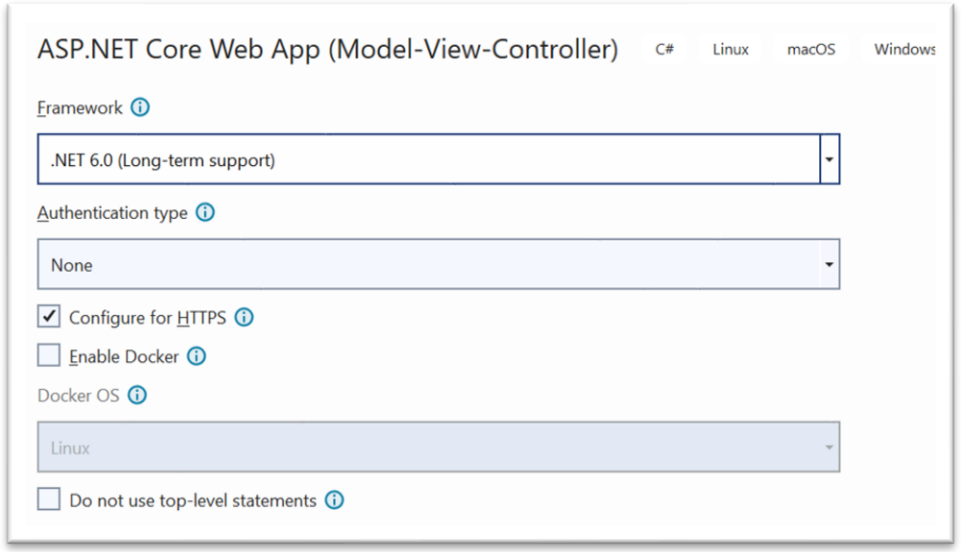
Asp.NET Core MVC

ARCTECH INFO PRIVATE LTD

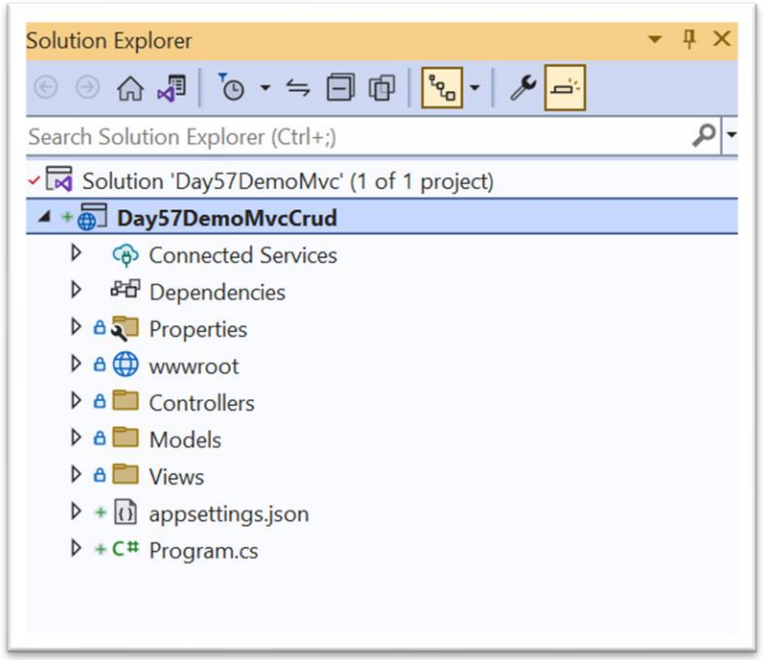
MVC New Project



MVC New Project Options



MVC Project Structure



Important project files & folders

- Files
  - appsettings.json
  - Program.cs
- Folders
  - wwwroot
  - Model
  - View
  - Controller

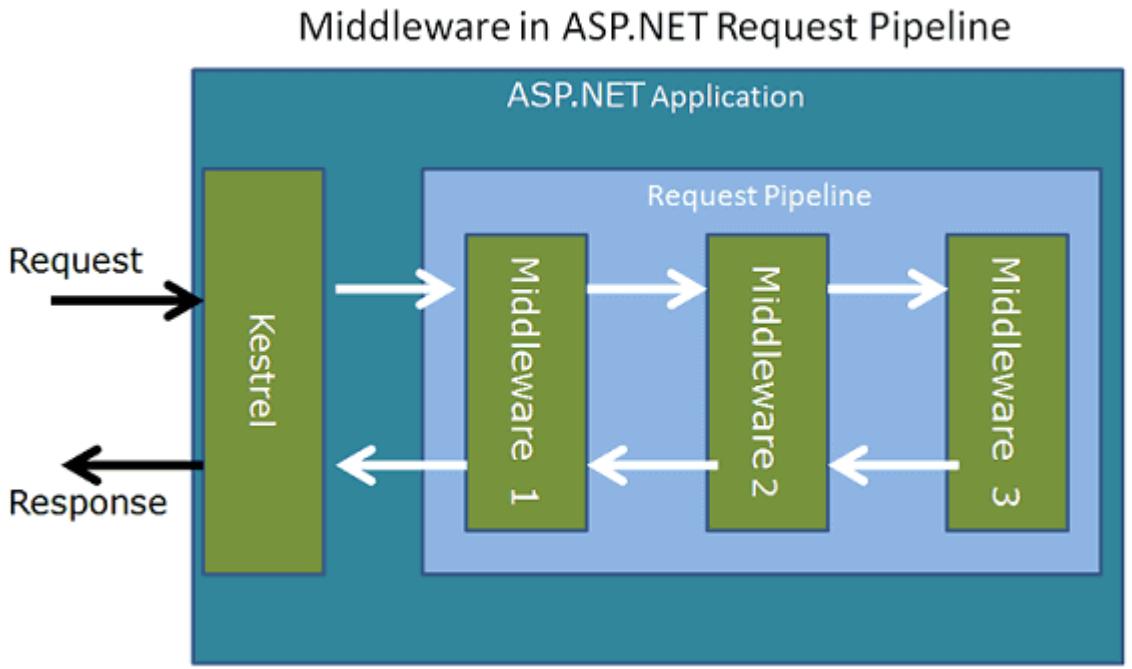
Program.cs

Program.cs file is starting point of the application and used to manage application server level configurations

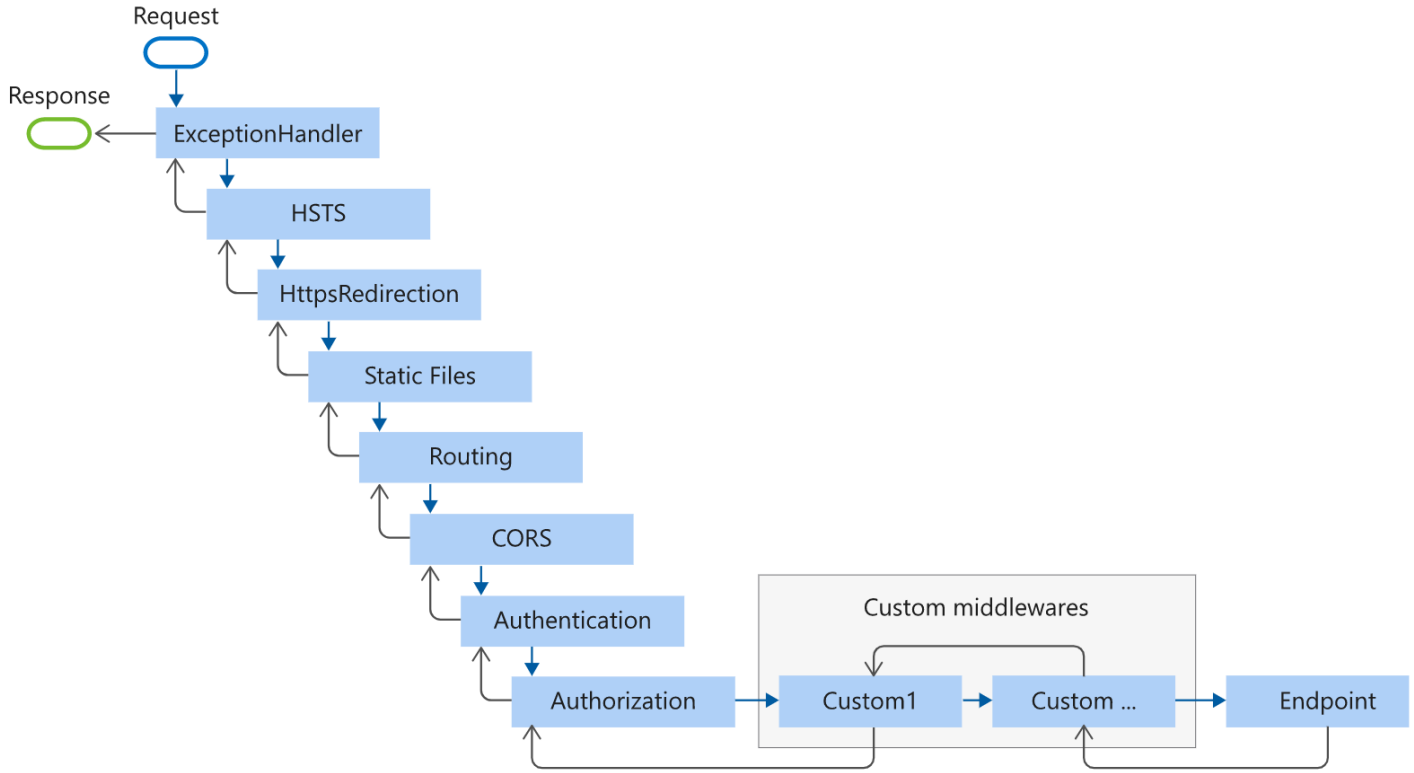
- Configure the HTTP request pipeline
- Add services to the application server container
- Start Web App

```
1  var builder = WebApplication.CreateBuilder(args);
2
3  // Add services to the container.
4  builder.Services.AddControllersWithViews();
5
6  var app :WebApplication = builder.Build();
7
8  // Configure the HTTP request pipeline.
9  if (!app.Environment.IsDevelopment())
10 {
11     app.UseExceptionHandler("/Home/Error");
12     // The default HSTS value is 30 days. You may want to change
13     app.UseHsts();
14 }
15
16 app.UseHttpsRedirection();
17 app.UseStaticFiles();
18
19 app.UseRouting();
20
21 app.UseAuthorization();
22
23 app.MapControllerRoute(
24     name: "default",
25     pattern: "{controller=Home}/{action=Index}/{id?}");
26
27 app.Run();
28
```

.NET Core Pipeline



.NET Core Pipeline



Adding Middleware to PipeLine

```
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```

Middleware are code modules which are executed for every http request

The middleware is executed in the same sequence as it appears in the Program.cs.

Visual Studio automatically inserts standard middleware modules to a new .NET Core project

Middleware Modules can

- Access & Modify the request parameters
- Return immediately e.g. trying to access Account Balance page without logging in.
- Access & Modify the response data

You can create your own Custom Middleware module and insert it into the pipeline

Asp.NET Framework vs .NET 6

.NET FRAMEWORK ASPX

Views are files with extension .aspx

UserControls => .ascx files

Common Layout => Master pages

All static and dynamic pages (aspx) are in the same folders

When user types http://domain-name:port/Home/Index.aspx, ASP.NET will

- look for a Index.aspx file inside the Home folder
- execute the server side code and server controls
- Generate the output html and return to browser

.NET 5 RAZOR VIEW

Views are files with extension .cshtml

Partial Views => _[ViewName]Partial.cshtml

Common Layout => _layout.cshtml

Static files are in wwwroot folder, while dynamic views (cshtml) are outside

When user types http://domain-name:port/Home/Index, MVC .NET 6 will

- Look for a controller class called HomeController
- Execute the action method called Index
- The return value of the action method is packaged into an html and returned to the browser

Routing Overview

In MVC, routing is a process of mapping the browser request to the controller action and return response back.

Each MVC application has default routing for the default HomeController.

Routing is handled in MVC applications via the app.MapControllerRoute middleware

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

The important section here is the controller, action and id parameter

More on routing

A general URL in asp.net looks like http://domain-name:port/{folder-name}/{page-name}?id=5

- For e.g., http://localhost:5555/customer/ViewCustomer.aspx?id=5

In MVC however the URL is http://domain-name:port/{controller}/{action}/{id}

- For e.g., http://localhost:5555/customer/showdata/5
- This will execute the ShowData method inside the CustomerController class and return the desired View.
- In the example below, return View() returns the default view which is ShowData to the browser

```
public class CustomerController : Controller
{
    public IActionResult ShowData(int id)
    {
        return View();
    }
}
```