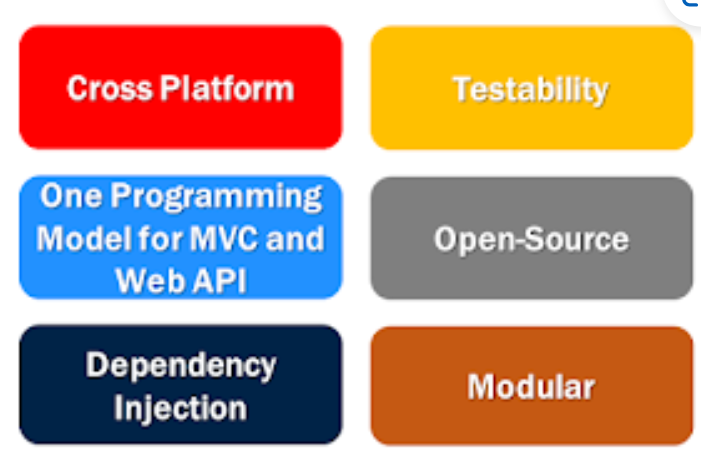
# ASP.NET CORE

## WHAT IS ASP.NET CORE?

* ASP.NET Core is a cross-platform, high-performance, open-source framework for building modern, cloud based, Internet-connected applications
* ASP.NET Core is a redesign of ASP.NET 4.x

## ASP.NET CORE BENEFITS AND FEATURES

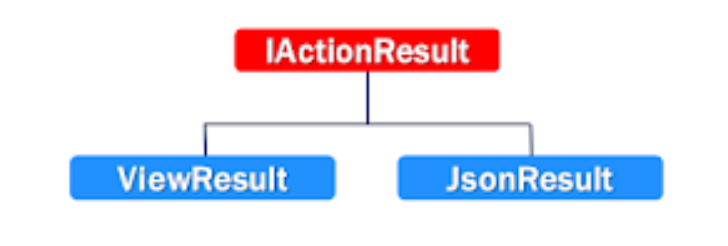


### CROSS PLATFORM:

1. ASP.NET Core applications can be developed and run across different platforms like Windows, MacOS, Linux
2. ASP.NET Core applications can be hosted on IIS, Apache, Docker, Self-host in your own process

### One Unified Programming Model for MVC and Web API:

Both the MVC Controller class and the ASP.NET Web API Controller class inherit from the same 'Controller' base class and returns 'IActionResult'



### Modular:

* ASP.NET Core Provides Modularity with Middleware Components
* Both the request and response pipelines are composed using the middleware components
* Rich set of built-in middleware components are provided out of the box
* Custom Middleware Components can also be created

## ASP.NET Core Project File

### TargetFramework

* Specifies the target framework for the application
* To specify a target framework we use Target Framework Moniker (TFM)



In our case the TFM is **netcoreapp3.1**

### AspNetCoreHostingModel

* Specifies how the application should be hosted
* InProcess or OutOfProcess
* InProcess hosts the app inside of the IIS worker process(w3wp.exe)
* OutOfProcess hosting model forward web requests to a backend ASP.NET Core app running the Kestrel Server

# Main Method in ASP.NET Core

* A Console application usually has a **Main()** method
* Why do we have a **Main()** method in ASP.NET Core web application
* ASP.NET Core application initially starts as a Console application and the **Main()** method of Program.cs class is the entry point



* This **Main()** method configures ASP.NET Core and starts it and at that point it becomes an ASP.NET Core web application

# ASP.NET Core InProcess Hosting

## Some of the Tasks that CreateDefaultBuilder() performs

* Setting up the web server
* Loading the host and application configuration from various configuration sources and
* Configuring logging

## An ASP.NET core application can be hosted

* InProcess or
* OutOfProcess

### To configure InProcess hosting



CreateDefaultBuilder() method calls UseIIS() method and host the app inside of the IIS worker process (w3wp.exe or iisexpress.exe)

InProcess hosting delivers significantly higher request throughput than OutOfProcess hosting

### With OutOfProcess hosting

* 2 Web Servers – Internal and External Web Server
* The internal web server is Kestral
* The external web server can be IIS, Nginx, Apache

## What is Kestral

* Cross-Platform Web Server for ASP.NET Core
* Kestral can be used, by itself as an edge server
* The process used to host the app is dotnet.exe