ASP.NET Core

- ASP.NET Core is a cross-platform, high-performance framework for developing modern, cloud-enabled, Internet-connected apps.
- ASP.NET Core is an open-source version of ASP.NET that operates on Windows, macOS, and Linux.
- ASP.NET Core is the new version of the ASP.NET web framework mainly targeted to run on .NET Core platform.
- ASP.NET Core is a free, open-source, and cross-platform framework for building cloud-based applications, such as web apps, IoT apps, and mobile backends. It is designed to run on the cloud as well as on-premises.
- ASP.NET Core is an open source framework supported by Microsoft and the community, so you can also contribute or download the source code from the ASP.NET Core Repository on Github.

Why ASP.NET Core

- With ASP.NET Core, you can do the following:
  - Build web apps and services, IoT Apps, and mobile backends.
  - Use development tools on Windows, macOS, and Linux.
  - Deploy to the cloud or on-premises.
  - Run-on .NET Core.

ASP.NET Core Features

- ASP.NET Core is a single framework for developing web UI and web APIs.
- ASP.NET Core is designed for testing.
- Razor Pages makes coding easier and provides a more productive environment to code page-focused situations. Razor Pages are a page-based approach for building server-side rendered apps.
- Blazor is a feature in ASP.NET for building interactive web UIs. Blazor allows the use of C# alongside JavaScript in the browser. Share server-side and client-side application logic built in.NET.
- Capability to design and run applications on Windows, macOS, and Linux.
- Community-driven and open-source.

ASP.NET Core Features

- Modern client-side frameworks and development methods are integrated.
- ASP.NET provides a configuration system that is cloud-ready and environment-based.
- A high-performance, lightweight, modular HTTP request pipeline and provides built-in dependency injection.
- Capability to host on the platforms like Kestrel, IIS, HTTP.sys, Nginx, and Apache Docker.
- ASP.NET supports side-by-side versioning. It has the ability to run multiple versions of an application on the same device side by side.

Benefits of .NET Core Over .NET Framework

- Benefits of .NET Core over .NET Framework include:
  - Cross-platform- ASP.NET Core runs on Windows, macOS, and Linux.
  - Improved performance- ASP.NET Core has improved performance because of the substantial usage of asynchronous patterns inside the new MVC and Kestrel frameworks.
  - Side-by-side versioning- ASP.NET Core has the ability to run multiple versions of an application on the same computer side by side
  - New APIs- ASP.NET Core provides new application programming interfaces.
  - Open-source- ASP.NET Core is an open-source version of ASP.NET.

ASP.NET Core - Development Environment Setup

- To develop ASP.NET Core application, the following must be installed in your system:
- .NET Core SDK
- Integrated Development Environment (IDE)
- ASP.NET Core is a part of .NET Core SDK, so you don't need to install it separately.
- Note:NET Core Runtime and .NET Core SDK are different things. .NET Core Runtime is only used to run .NET Core application whereas .NET Core SDK includes tools and libraries to develop .NET Core applications. To setup a development environment, we need to install .NET Core SDK for the platform we use for the development such as Windows, Linux or Mac.
- Go to https://www.microsoft.com/net/core and select the platform you are using. Here, we use Windows so select Windows as shown below.

ASP.NET Core

- **ASP.NET Core Project Templates**
- Given below is the list of project templates that ASP.NET Web Core 2 provides.
- ASP.NET Core Web App (Razor Pages).
- ASP.NET Core Web App (Model-View-Controller).
- ASP.NET Core Web API (no UI).
- ASP.NET Core with Angular (SPA).
- ASP.NET Core with React.js (SPA).
- ASP.NET Core with React.js and Redux (SPA).