ASP.NET CORE

1.what is ASP.NET core? How does it differs from previous versions of ASP.NET ?

* NET is a framework that makes desktop environment easier and faster.ASP.NET is a framework that has the same functionality as .NET only its adapted to writing backend for webpages and webApps.ASP.NET was the first version of the web adapted .NET framework.

ASP.NET core is an improved version with richer functionality, a more comfortable interface, new libraries and other distinction.it is the continuation of ASP.NET but an improved one

1. Open source tool
2. Cross platform and runs on Windows, Linux and macOS.
3. It supports modular architecture better than ASP.NET does
4. ASP.NET core framework supports side by side versioning so that different applications being developed on a single machine can target different versions of core. This was not possible with previous.

First Release-2016

Latest version ASP.NET CORE -v8.0

C# version-12

2.What are key features of ASP.NET Core?

* Cross-Platform Compatibility: Can be run on all Operating System , eg:Windows,Linux,Mac.
* Garbage Collection: Unwanted memory freeup.
* Code analyzer: Check the standadability of code.
* Exception Handling: Manage unwanted unexpected events during runtime.
* Attributes: Provide additional information.Eg metadata.
* Events: Handle events easily.

3. Why is asp.net core consigner cross platform and how it achieve this.?

**1. Support for Multiple Operating Systems**: [ASP.NET](http://asp.net/) Core is designed to run on various operating systems, including Windows, macOS, and Linux. This cross-platform capability allows developers to build and deploy applications on their preferred operating system

**2.Open Source**: [ASP.NET](http://asp.net/) Core is open-source, meaning its source code is publicly available and can be modified by anyone.

**3. Modular Design**: Its modular design allows developers to include or exclude specific features based on platform [requirements.it](http://requirements.it/) also help to error detection.

**4. .NET Core Runtime**: [ASP.NET](http://asp.net/) Core applications run on the .NET Core runtime, which is a lightweight and modular runtime environment. .NET Core is designed to be cross-platform from the ground up, providing consistent behaviour across different operating systems.

**5.Unified Development Experience**: [ASP.NET](http://asp.net/) Core provides a unified development experience across different platforms. Developers can use the same set of tools, libraries, and APIs regardless of the operating system they are targeting.

**6.Containerization Support**: [ASP.NET](http://asp.net/) Core applications can be easily containerized using technologies like Docker. This makes it simpler to deploy applications

4. what are the advantages of using ASP.net core over the web development framework?

Advantages

Cross platform development - it can run on different os like macos,windows,linux.

performance - ASP.net core known for its high performance. it is light weight and optimize speed, making it suitable for building high performance .

modular design - it follows a modular design approach. Allowing developers to approach to the required component from the application.

Security - includes built in security feature such as data protection .authentication and authorization.

5.What is role of the .NET Core Runtime in ASP.NET Core Runtime?

* creating an application,

The library provides components to run .NET Core is at runtime.

key roles:-

* execution environment:-

Provides the environment in which to run. :.managed by CLR(Common Language Runtime ), managed by garbage collector. All this executed by the execution environment.

* Cross-platform Compatibility:-

can be run on any OS. :.Windows, Linux, and macOS

* Runtime Libraries:-

The libraries, API required at run time are available at .NET core run time.

Http handles requests, session’s managing process.