Why

* Cross Platform

: Developed and Deployed on Mac , Linux Or Windows

: 70 % of deployment happens on Linux. No Licensing Cost .NEt doesn’t support Linux and Mac.

* Cloud Provider :

: Scalable : On demand Resource

1 Server : 8GB … : Application => 10000 User

Sat : Sun : 1 Lakh : 1 Server 32 GB : 1 Lakh

* JS Frameworks : Angular React,Vue

: Performance : Swiggy , Zomato

* Docker and K8s

: Application is hosted in K8

* Reduced the infrastructure cost : 4 .. 2 Server

.NET :

* 20 Years : 1998
* It was not created keeping Cross Platform, Cloud , JS frameworks, K8 : Popular

.NET Core

* Cross Platform : Linux, Windows and MAC
* Cloud ready :
* JS Frameoworks : Angular React
* K8 and Docker : Reduced the infra cost

What

* .Net Core is framework for building an cross platform application

When

* .Net Framework Or .Net Core

1. Cross Platform : .Net Core
2. Performance : .Net Core
3. Docker : K8 : .Net Core

.Net Framework

* Application : Third party libraries , Packages Only .Net Framework
* CAS, Remoting

.Net Core Version

* 1.0 ,1.1
* 2.0 , 2.2
* 3.1 : Stable : Visual Studio 2019
* [Download Visual Studio 2019 for Windows & Mac (microsoft.com)](https://visualstudio.microsoft.com/downloads/)
* 5.0 :

IDE :

* VS 2019 : Mac Windows
* Visual Studio Code : Cross Platform , Lightweight

.Net Core 3.1

* ASP.Net Core Web App
* Console App .Net Core
* Windows Form : Was not present 2.2
* WPF : Was not present 2.2

.Net core 3.1

* C#, F# and C++

.Net Core 5

* VB.Net Support
* EF6 Support Removed.

ASP.Net and Web Service => ASP.Net Core or Web API.

ASP.Net Core or Web API => Rearchitected

* Application structure new

Testing : XUnit, Nunit Project … : Nsubstitute , Moq ;Packages

Demo : How to build project in .Net Core

* Project Structure

1. Program.cs : Entry point for your application. Application Set up
2. Startup.cs : Execute the Request using Request Pipeline. Activate the Objects

Required.

1. Configure

* Build or Reprsents Request Pipeline
* Contains Middleware

: Code that get executes in the pipeline

* IApplicationBuilder : Application Object is Created using this
* IWebHostEnvironment : To identify the environment in which code is running .

1. ConigureService

* Builds Service Object : DB , Security
* Object is Provided to Request Pipeling
* IServiceCollection

: Service Object Activate

1. appSetting.json : Configuration of your application: connectionstring … Keys
2. launchSettings.json : Application Startup Settings. Port number, Environment
3. Dependencies : Project Requirement, Packages , framework etc

Startup.cs

Program.cs

IApp

Env

ConfigureService

Configure

Req

Browser

DB

1.Middleware : next

Middleware

3Middleware

2.Middleware: ne

Request Pipeline

ASP.Net Core Platform

To Create a middleware

1. Use : Code , next : next middleware to be called
2. Run : Code , it wont contain next parameter

Async or Await

Server

Req : DB : 5

Thread 1

Thread

Request

Browser

Thread 2

Req : File : 10

Thread 3

Req : Web : 15