# .NET Core Components

## .NET Core Runtime

Provides the Just-In-Time (JIT) compiler, garbage collection, and base class libraries required to execute .NET applications.

## Base Class Library (BCL)

A collection of core functionalities such as file handling, networking, collections, data types, LINQ, and security.

## .NET Core SDK

Includes CLI, MSBuild, and NuGet Package Manager for developing, building, and publishing .NET applications.

## ASP.NET Core

Framework for building modern web applications, RESTful APIs, and microservices with MVC, Razor Pages, and SignalR.

## Entity Framework Core (EF Core)

ORM for database interaction with support for code-first and database-first approaches.

## Razor Pages & Blazor

Simplified web development with Razor Pages and interactive UI development with Blazor.

## Dependency Injection (DI)

Built-in support for dependency injection to improve modularity and testability.

## Cross-Platform Support

Runs on Windows, Linux, and macOS for building console apps, web apps, microservices, and cloud applications.

## .NET Core CLI

Command-line interface for managing .NET projects, including commands like `dotnet new`, `dotnet build`, and `dotnet run`.

## NuGet Package Management

Manages third-party libraries and dependencies using NuGet.

## Hosting & Deployment

Supports hosting on Kestrel, IIS, NGINX, Docker, and cloud platforms like Azure, AWS, and Google Cloud.

## Microservices & Cloud-Native Features

Includes gRPC for high-performance API communication and Docker support for containerized applications.