# ASP.NET Core

## Chapter 1: Introduction to ASP.NET Core

* What is ASP.NET Core
* Differences between ASP.NET MVC and ASP.NET Core
* ASP.NET Core Cross Platform Capabilities
* Modular and Lightweight Framework
* Microservices Architecture Support

## Chapter 2: Core Environment Setup

* ASP.NET Core Installing .NET SDK and Runtime
* ASP.NET Core Installing Visual Studio 2022
* Creating Your First ASP.NET Core Application
* ASP.NET Core Project Structure and Files
* ASP.NET Core Understanding .csproj File

## Chapter 3: Application Structure and Middleware

* ASP.NET Core Program cs and Startup cs Overview
* ASP.NET Core Middleware Pipeline Configuration
* ASP.NET Core Built in Middleware
* ASP.NET Core Creating Custom Middleware

## Chapter 4: Routing and Endpoints

* Routing Mechanism in ASP.NET Core
* ASP.NET Core Conventional vs Attribute Routing
* ASP.NET Core Route Constraints
* ASP.NET Core Endpoint Routing

## Chapter 5: Controllers and Actions

* ASP.NET Core Creating Controllers
* ASP.NET Core Action Methods
* ASP.NET Core Returning JSON, Views, and Status Codes
* ASP.NET Core Model Binding and Model Validation

## Chapter 6: Views and Razor Pages

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* ASP.NET Core Layout and Sections
* ASP.NET Core ViewComponents and Partial Views
* ASP.NET Core Tag Helpers and HTML Helpers

## Chapter 7: Dependency Injection

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* ASP.NET Core Service Lifetimes Transient, Scoped, Singleton
* ASP.NET Core Injecting Services in Controllers and Views
* ASP.NET Core Registering and Using Custom Services

## Chapter 8: Configuration and Options Pattern

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* ASP.NET Core Reading Configuration Values
* ASP.NET Core Using IOptions and IOptionsSnapshot
* ASP.NET Core Custom Configuration Sections

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* ASP.NET Core Logging to External Systems
* ASP.NET Core Logging to Console, Files
* ASP.NET Core Using Serilog
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* Identity in ASP.NET Core
* ASP.NET Core Claims based and Role based Authorization
* ASP.NET Core Using Policy-based Authorization
* ASP.NET Core External Login Providers Google

## Chapter 11: Entity Framework Core

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* ASP.NET Core DbContext and DbSet
* ASP.NET Core Migration Commands
* ASP.NET Core LINQ Queries and Raw SQL
* ASP.NET Core EF Core with Repository Pattern

## Chapter 12: Forms and Validations

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* ASP.NET Core Server side Validation
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* ASP.NET Core Using FluentValidation

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* Creating RESTful APIs in ASP.NET Core
* ASP.NET Core Routing and HTTP Methods
* ASP.NET Core Model Binding and Return Types
* ASP.NET Core Securing APIs with JWT
* ASP.NET Core Versioning Web APIs

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* ASP.NET Core Understanding async and await
* ASP.NET Core IO Bound vs CPU Bound Operations
* ASP.NET Core Using Tasks and Cancellation Tokens
* ASP.NET Core Improving Scalability with Async Code

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* ASP.NET Core Health Checks
* ASP.NET Core Rate Limiting
* ASP.NET Core gRPC Integration
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