

# ASP.NET Core Programming

*Start learning how to program ASP.NET MVC Core applications using the C# programming language and become a professional from beginner/novice user.*

## About the Course & Importance of ASP.NET Core

All .NET Beginner(s)/Professional(s) who are keen to develop modern, light weight and cloud based web applications should go for this course. ASP.NET Web form and ASP.NET MVC available because of its age is considered to be very matured for web application development, it is because of the popularity of ASP.NET Core Framework and many exclusive features of ASP.NET Core that today it is dominating over Web Forms and MVC are first choice for large sized enterprise web application development.

***Computer programming is really fun in general, and programming with C# Language using Visual Studio is even better & simpler!***

## Learning ASP.NET Core :

**There are 4 phases to learn C#.**

1. Introduction to .NET Core & Language Fundamentals
2. Application Development and C# 1.0 new features
3. Files, Database's, XML & Cloud Storage
4. Distributed Programming

Pre-Requisites:

C# basic Knowledge

Duration : 45 days

Course Materials & Textbooks : 1. Running Notes in class, 2. Pdfs, 3. HandOuts, 4. Certification Material in Pdfs will be provided for this course.

Reference Websites: [www.dotnetgurukul.com](http://www.dotnetgurukul.com)

Instructor: Praveen Kumar M

Learning from Praveen Sir, is always different and you will experience it within few sessions – you attend and work regularly as per given guidance then you will be best in any team that you work in any company – assured.

# ASP.NET Core Course Syllabus by Praveen

## Phase I – Introduction to ASP.NET Core



### ASP.NET Core Introduction

- ▮ Introduction & Evolution of ASP.NET Core (Brief history of ASP , ASP.NET , ASP.NET MVC)
- ▮ What is ASP.NET Core
- ▮ ASP.NET Core Features
- ▮ Advantages of ASP.NET Core
- ▮ MVC Pattern
- ▮ Understanding ASP.NET Core MVC
- ▮ ASP.NET Core vs. ASP.NET MVC vs. ASP.NET Web Forms (Introducing Markup langs .html , .xhtml ,.xml , aspx , .cshtml )



### ASP.NET Core First Application

- ▮ ASP.NET Core Environment Setup
- ▮ ASP .NET Core First Application
- ▮ Project Layout
- ✓ Understanding Life Cycle of ASP.Net Core Request



### Controllers

- ✓ Controllers and Action Methods Overview
- ✓ Action Methods and IActionResult object
- ✓ Passing data from Controller to View
- ✓ Understanding Action Selectors
- ✓ Action Filters
- ✓ Building Custom Action Filters
- ✓ Middleware
- ✓ Asynchronous Action Methods



### Views

- ✓ Introducing Razor View
- ✓ Advantages of Razor View
- ✓ Razor Syntax
- ✓ Types of Views
- ✓ Partial Views
- ✓ Layout Pages
- ✓ Special Views
- ✓ View Categorization based on Model



### Model Binding

- ✓ Html Form behavior
- ✓ Model Binder Overview
- ✓ DefaultModelBinder
- ✓ Binding to Complex Classes
- ✓ IFormCollection Model Binding
- ✓ IFormFile Model Binder
- ✓ Bind Attribute
- ✓ TryUpdateModelAsync



### Helpers

- ▮ Html Helpers
- ✓ Built-In Html Helpers
- ✓ URL helpers
- ✓ Tag Helpers
- ✓ Custom Tag Helpers



## **Validations & Data Annotations**

- 🔒 Data Annotations and Validations Overview
- 🔒 Validations with Data Annotation
- 🔒 Server Side and Client-Side Validation
- 🔒 Custom Server-side validation
- 🔒 Model level validation using IValidatableObject
- 🔒 Custom unobstrive Client-side Validation
- 🔒 Remote Validation



## **State management Techniques**

- 🔒 Cookies
- 🔒 Sessions



## **Routing**

- 🔒 Url Routing Overview
- 🔒 Custom Routes
- 🔒 Attribute Routing
- 🔒 Routing Constraints



## **Security**

- 🔒 Authentication and Authorization
- 🔒 Implementing Security using ASP.NET Core Identity



## **MVC and Entity Framework Core**

- 🔒 Basic CRUD Operations using Entity Framework
- 🔒 Separation of work using BO Classes
- 🔒 Writing Generic Class / Repository
- 🔒 Caching in Repository



## **ASP.NET Core - Web Caching**

- 🔒 Cache Tag Helpers
- 🔒 Memory Caching Introduction
- 🔒 In-Memory Caching
- 🔒 Response Cache
- 🔒 Distributed Cache



## **Module Development**

- 🔒 Understanding Areas
- 🔒 Adding Areas
- 🔒 Defining Area Routes
- 🔒 Linking between Areas



## **Web API and JQuery Ajax**

- 🔒 Introduction to Web API
- 🔒 AJAX implementation using JQuery
- 🔒 Calling the Web API with JQuery Ajax
- 🔒 Creating a Web API that Supports CRUD Operations using EF



## **Bundling & Minification**

- 🔒 What is Bundling and Minification in ASP.net Core?
- 🔒 Bundler and Minifier Extension
- 🔒 How to Bundle your files
- 🔒 How to minify your Bundles
- 🔒 Convert to Gulp