

C# and ASP.NET MVC with HTML, CSS, JavaScript, Bootstrap

Part 1: Frontend Development Basics

1. HTML (HyperText Markup Language)

- Introduction to HTML
- Tags, Elements, and Attributes
- Formatting Tags (b, i, u, hr, br, etc.)
- Lists (ul, ol, li)
- Links and Anchors (<a>)
- Images ()
- Tables (<table>, <tr>, <td>)
- Forms and Input Controls
- Semantic HTML (<header>, <footer>, <article>)
- HTML5 New Elements

2. CSS (Cascading Style Sheets)

- Introduction to CSS
- Types of CSS (Inline, Internal, External)
- CSS Selectors and Properties
- Box Model
- Margins, Padding, Borders
- Colors, Backgrounds, Gradients
- Fonts and Text Styling
- Positioning (static, relative, absolute, fixed)
- Flexbox and Grid Basics
- Media Queries (Responsive Design)

3. JavaScript

- Introduction to JavaScript
- Variables and Data Types
- Operators and Expressions
- Conditions (if, else, switch)
- Loops (for, while, do-while)
- Functions and Scope
- Arrays and Objects
- DOM Manipulation
- Event Handling
- Form Validation
- Basic ES6 (let/const, arrow functions, template literals)

4. Bootstrap

- Introduction to Bootstrap
- Bootstrap Grid System
- Typography and Utilities
- Buttons and Alerts
- Forms and Inputs Styling
- Cards, Navbars, Carousels
- Modals and Collapse
- Responsive Design with Bootstrap

Part 2: C# Programming Language

1. Introduction to C#

- C# Overview
- IDE: Visual Studio
- Creating Console Applications
- Data Types and Variables
- Operators and Expressions
- Conditional Statements
- Loops and Iterations
- Arrays and Collections

2. Object-Oriented Programming in C#

- Classes and Objects
- Constructors
- Inheritance
- Polymorphism
- Abstraction
- Encapsulation
- Static vs Instance Members
- Interfaces
- Exception Handling
- File Handling (Text, CSV)

3. Advanced C# Concepts

- Delegates and Events
- Lambda Expressions
- LINQ (Language Integrated Query)
- Nullable Types
- Extension Methods
- Generic Collections

🌐 Part 3: ASP.NET MVC

1. Introduction to ASP.NET MVC

- What is MVC Architecture?
- Model, View, Controller Overview
- MVC vs WebForms
- Setting up MVC Project in Visual Studio

2. MVC Project Structure

- Understanding MVC Folder Structure
- Creating Controllers
- Creating Views
- Creating Models
- ViewBag, ViewData, TempData

3. Routing in MVC

- URL Routing
- RouteConfig
- Attribute Routing

4. Working with Data

- Introduction to Entity Framework (EF Core)
- Code First Approach
- Database First Approach
- CRUD Operations (Create, Read, Update, Delete)
- LINQ Queries in MVC

5. Forms and Validations

- HTML Helpers
- Data Annotations
- Client-side and Server-side Validation
- Strongly Typed Views

6. Authentication & Authorization

- ASP.NET Identity Basics
- Login, Register, Logout
- Role-Based Authorization

7. AJAX & jQuery in MVC

- Introduction to AJAX
- Partial Views and AJAX
- jQuery Basics
- Calling Controller Actions via jQuery AJAX

8. Miscellaneous

- Bundling and Minification
- Layout Pages and Sections
- Using Bootstrap in MVC
- Publishing MVC App

Final Project

- Full-stack CRUD Web Application using:
 - C#
 - ASP.NET MVC
 - Entity Framework
 - HTML, CSS, JS, Bootstrap