

# Web Development Training

Using Technology and Language	Tools Required to start
Asp.Net Core MVC	Visual Studio 2019 or 2022
C# Programming	SQL Server 2019
SQL Server	

- Duration of Training – 3-month (90 days) Timing (Mon-Sat) – 7:30-8:30
- Alternate Sunday doubt session
- Study Material PDF and Code

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## **C# Programming Language**

### **OOPs in C#**

- Object Oriented Programming (OOPs) in C#
- Class and Objects in C#
- Constructors in C#
- Destructor in C#
- Access Specifiers in C#
- Encapsulation in C#
- Abstraction in C#
- Inheritance in C#
- Interface in C#
- Multiple Inheritance in C#
- Abstract Class and Abstract Methods in C#
- Polymorphism in C#
- Method Overloading in C#
- Method Overriding in C#
- Method Hiding in C#
- Partial Classes and Partial Methods in C#
- Sealed Class in C#
- Extension Methods in C#

### **Delegates**

- Delegates in C#
- Multicast Delegates in C#
- Delegates Real-time Example in C#
- Anonymous Method in C#
- Lambda Expressions in C#
- Generic Delegates in C#

## **Collections in C#**

- Arrays in C#
- Advantages and Disadvantages of Arrays in C#
- Collections in C#
- Array List in C#
- Advantages and Disadvantages of Non-Generic Collection in C#
- Generic Collections in C#
- Generics in C#
- Generic List in C#
- Generic List Class Range Methods in C#
- How to Sort a List of Simple Type in C#
- How to Sort a List of Complex Type in C#
- Dictionary in C#
- Conversion Between Array List and Dictionary in C#
- List vs Dictionary in C#

## **Asynchronous Programming in C#**

- Task-based Asynchronous Programming in C#
- C# Task Return Value
- Chaining Tasks by Using Continuation Tasks

## **Exception Handling**

- Exception Handling in C#
- Multiple Catch Blocks and Finally Block in C#
- Custom Exception in C#
- Inner Exception in C#

## **SQL Server**

### **SQL Server – Basics**

- Connecting to SQL Server using SQL Server Management Studio
- Creating Altering and Deleting Database in SQL Server
- Creating Altering and Deleting Tables in SQL server
- SQL Server Data Types
- Constraints in SQL Server
- Primary Key in SQL Server
- Foreign Key in SQL Server

- Primary Key and Foreign key Relationship Between Multiple Tables in SQL Server
- Identity Column in SQL Server

### **SQL Server – Clauses**

- Where Clause in SQL Server
- Order By Clause in SQL Server
- Top n Clause in SQL Server
- Group By Clause in SQL Server
- Having Clause in SQL Server
- Difference Between Where and Having Clause in SQL Server

### **SQL Server – JOINS**

- Joins in SQL Server
- Inner Join in SQL Server
- Left Outer Join in SQL Server
- Right Outer Join in SQL Server
- Full Outer Join in SQL Server

### **User Defined Functions and Stored Procedure**

## **MVC Dot Net core 5.0**

### **ASP.NET Core Basics**

- Introduction to ASP.NET Core Framework
- ASP.NET Core Environment Setup
- Creating ASP.NET Core Web Application
- ASP.NET Core Project File
- ASP.NET Core Main Method
- ASP.NET Core InProcess Hosting
- Kestrel Web Server in ASP.NET Core
- ASP.NET Core OutOfProcess Hosting
- ASP.NET Core launchSettings.json file
- ASP.NET Core Startup Class
- ASP.NET Core appsettings.json file
- ASP.NET Core Middleware
- ASP.NET Core Request Processing Pipeline
- wwwroot folder in ASP.NET Core
- Static Files Middleware in ASP.NET Core
- Configuring Default Page in ASP.NET Core
- Developer Exception Page Middleware in ASP.NET Core
- ASP.NET Core Command Line Interface
- ASP.NET Core MVC

### **Introduction to ASP.NET Core MVC Framework**

- How to Set up MVC in ASP.NET Core

- AddController vs AddMvc vs AddControllersWithViews vs AddRazorPages
- Models in ASP.NET Core MVC
- ASP.NET Core Dependency Injection
- Controllers in ASP.NET Core MVC
- Views in ASP.NET Core MVC
- Creating ASP.NET Core Application using MVC Template
- ViewData in ASP.NET Core MVC
- ViewBag in ASP.NET Core MVC
- Strongly Typed View in ASP.NET Core MVC
- ViewModel in ASP.NET Core MVC
- Routing in ASP.NET Core MVC
- Custom Routing in ASP.NET Core MVC
- Attribute Routing in ASP.NET Core MVC
- ASP.NET Core Attribute Routing using Tokens
- Layout View in ASP.NET Core MVC
- Sections in Layout Page in ASP.NET Core MVC
- ViewStart in ASP.NET Core MVC
- ViewImports in ASP.NET Core MVC
- How to Install Bootstrap in ASP.NET Core MVC
- How to Use Bootstrap in ASP.NET Core MVC
- Tag Helpers in ASP.NET Core MVC
- Image Tag Helper in ASP.NET Core
- Environment Tag Helper in ASP.NET Core
- Navigation Menus in ASP.NET Core
- Form Tag Helpers in ASP.NET Core
- Model Binding in ASP.NET Core

### **Entity Framework Core**

- Introduction to Entity Framework Core
- How to Install Entity Framework Core
- DbContext in Entity Framework Core

### **Dependency Injection Design Pattern**

- Dependency Injection Design Pattern in C#
- Property and Method Dependency Injection in C#
- Dependency Injection using Unity Container in MVC

### **Repository Design Pattern**

- Repository Design Pattern in C#
- Generic Repository Pattern in C#
- Using Both Generic and Non-Generic Repository Pattern in c#
- Unit Of Work in Repository Pattern

### **E-commerce project**