KOENIG SOLUTIONS · COURSE OUTLINE

ASP.NET Core MVC (4043)

Learn to build ASP.NET Core MVC web applications with C#, from routing and data persistence to Web API and Azure deployment.

3 Days	9	53
24 HOURS	MODULES	TOPICS

COURSE OVERVIEW

This course provides a practical hands-on introduction to developing Web applications using ASP.NET Core 6.0 MVC and C#. This Web development framework from Microsoft emphasizes separation of concerns in the architecture and testability of applications. This course covers development on Microsoft's new .NET Core platform. The course is current to Visual Studio 2022 and.NET 6, which is the latest version of .NET Core and is the foundation for future Microsoft .NET development. This course covers the fundamentals of the Model-View-Controller design pattern and its implementation in ASP.NET Core MVC. This technology is compared with classical ASP.NET Web Forms. Visual Studio 2022 is used as a productive platform for creating MVC Web applications. After presenting the fundamentals of the technology with several examples, the main components of Model, Controller and View are covered in detail. The discussion of the Model incorporates Microsoft technologies for persisting data, including XML Serialization and ADO.NET with SQL Server 2019. The routing mechanism of ASP.NET MVC is covered. The course includes an introduction to ASP.NET Web API and deployment on the Azure cloud. Numerous programming examples and exercises are provided. The student will receive a comprehensive set of notes and all the programming examples.

WHO THIS COURSE IS FOR

Who Should Attend

- **Web Developers**
- **Software Developers**
- **.NET Developers**
- **Application Architects**
- **Backend Developers**

PREREQUISITES

Required Prerequisites

- The student should have a good working knowledge of C# and the .NET Framework.
- Student would require Azure Free Subscription
- Useful Prerequisites: Basic knowledge of HTML and some prior exposure to .NET Core would also be helpful. Useful prior Object Innovations courses are Object-Oriented Programming in C# or C# Essentials plus .NET Foundations.

TOOLS AND REQUIREMENTS

System Requirements

- Required software is Visual Studio, which includes .NET 6.0. The free Visual Studio Community 2022 may be used.
- Visual Studio 2022 includes LocalDB, a lightweight version of SQL Server 2019 Express, which is used for one example in the course.
- The operating system should be Windows 10 or more recent.
- The free Postman tool is used. It can be downloaded from the Web. See the course Setup Guide for details.
- A good minimal hardware profile for this course would have a 1.8 GHz or faster CPU, 4 GB of RAM, and at least 20 GB of free disk space for tools installation and courseware.

LEARNING OBJECTIVES

Benefits

- Gain a thorough understanding of the philosophy and architecture of Web applications using ASP.NET Core MVC
- Gain a practical understanding of.NET Core
- Acquire a working knowledge of Web application development using ASP.NET Core MVC and Visual Studio 2022
- Persist data with XML Serialization and ADO.NET with SQL Server 2019
- Create HTTP services using ASP.NET Core Web API
- Deploy ASP.NET Core MVC applications to the Windows Azure cloud

COURSE SYLLABUS

9 Modules, 53 Topics

01

Introduction to ASP.NET Core MVC

TOPICS

Review of ASP.NET Web Forms · Advantages and Disadvantages of Web Forms · Model-View-Controller Pattern · ASP.NET Core 6.0 · Considerations in Using ASP.NET MVC · Unit Testing

02

Getting Started with ASP.NET Core MVC

TOPICS

ASP.NET Core MVC Testbed · Using Visual Studio · Configuring for ASP.NET Core MVC · Rendering Views · Razor View Engine · Dynamic Output

03

NET MVC Architecture

TOPICS

The Controller · The View · The Model · Helper Methods for HTML · Form Submission · Model Binding · Input Validation

04

The Model

TOPICS

More Complex Models in MVC Programs · Microsoft Technologies for Model Persistence · Using XML Serialization · NuGet Package Manager · Using ADO.NET

05

The Controller

TOPICS

Controller Base Class · Actions · Retrieving Data from a Request · Action Results · Action Attributes · Serving Static Files · Filters

06

The View

TOPICS

View Responsibility · Using ViewBag · Using Dynamic Objects · Html Helpers · Validation Attributes

07

Routing

TOPICS

Routing in ASP.NET Core MVC · Properties of Routes · Parameters in Routing · Registering Routes · Attribute Routing

08

NET Core Web API

TOPICS

ASP.NET Core Web API · Representational State Transfer · REST and Web API · HTTP Services Using Web API · HTTP Testing Tools · Using Postman · HTTP Response Codes · ASP.NET Web API Clients

09

NET Core and Azure

TOPICS

What Is Windows Azure? · A Windows Azure Testbed · Deploying an Application to Azure · Updating an Application on Azure

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

Learn the Way That Suits You

Classroom Training | Live Online Classes (ILO) | Fly-Me-A-Trainer (FMAT) | Flexi (Self-Paced) | 1-on-1 Training

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