

# DEVELOPING ASP.NET CORE MVC WEB APPLICATIONS

Course Code: 821521

Learn to develop advanced ASP.NET MVC 4 applications using .NET Core tools and technologies.

In this course, students will learn to develop advanced ASP.NET MVC applications using .NET Core tools and technologies. The focus will be on coding activities that enhance the performance and scalability of the Web site application. This course will also prepare the student for exam 70-486.

This course uses Microsoft Visual Studio 2017.

## What You'll Learn

- Describe the Microsoft Web Technologies stack and select an appropriate technology to use to develop any given application.
- Design the architecture and implementation of a web application that will meet a set of functional requirements, user interface requirements, and address business models.
- Configure the pipeline of ASP.NET Core web applications using middleware, and leverage dependency injection across MVC application.
- Add Controllers to an MVC Application to manage user interaction, update models, and select and return Views.
- Develop a web application that uses the ASP.NET Core routing engine to present friendly URLs and a logical navigation hierarchy to users.
- Create Views in an MVC application that display and edit data and interact with Models and Controllers.
- Create MVC Models and write code that implements business logic within Model methods, properties, and events.
- Connect an ASP.NET Core application to a database using Entity Framework Core.
- Implement a consistent look and feel across an entire MVC web application.
- Write JavaScript code that runs on the client-side and utilizes the jQuery script library to optimize the responsiveness of an MVC web application.
- Add client side packages and configure Task Runners.
- Run unit tests and debugging tools against a web application in Visual Studio 2017.
- Write an MVC application that authenticates and authorizes users to access content securely using Identity.
- Build an MVC application that resists malicious attacks.

- Use caching to accelerate responses to user requests.
- Use SignalR to enable two-way communication between client and server.
- Describe what a Web API is and why developers might add a Web API to an application.
- Describe how to package and deploy an ASP.NET Core MVC web application from a development computer to a web server.

## Who Needs to Attend

This course is intended for professional web developers who use Microsoft Visual Studio in an individual-based or team-based, small-sized to large development environment. Candidates for this course are interested in developing advanced web applications and want to manage the rendered HTML comprehensively. They want to create websites that separate the user interface, data access, and application logic.

## Prerequisites

- Experience with Visual Studio 2017.
- Experience with C# programming, and concepts such as Lambda expressions, LINQ, and anonymous types.
- Experience in using the .NET Framework.
- Experience with HTML, CSS and JavaScript.
- Experience with querying and manipulating data with ADO.NET.
- Knowledge of XML and JSON data structures.

# DEVELOPING ASP.NET CORE MVC WEB APPLICATIONS

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CLASSROOM LIVE

\$3,495 CAD

5 Day

## Classroom Live Outline

- 1. Exploring ASP.NET Core MVC**
  - Microsoft Web Technologies
  - ASP.NET 4x
  - ASP.NET Core MVC
- 2. Designing ASP.NET Core MVCWeb Applications**
  - Planning in the Project Design Phase
  - Designing Models, Controllers, and Views
- 3. Configure Middlewares and Services in ASP.NET Core**
  - Configuring Middlewares
  - Configuring Services
- 4. Developing Controllers**
  - Writing Controllers and Actions
  - Configuring Routes
  - Writing Action Filters
- 5. Developing Views**
  - Creating Views with Razor Syntax
  - Using HTML Helpers and Tag Helpers
  - Reusing Code in Views
- 6. Developing Models**
  - Creating MVC Models
  - Working with Forms
  - Validate MVC Application
- 7. Using Entity Framework Core in ASP.NET Core**
  - Introduction to Entity Framework Core
  - Working with Entity Framework Core
  - Use Entity Framework Core to connect to Microsoft SQL Server
- 8. Using Layouts, CSS and JavaScript in ASP.NET Core MVC**
  - Using Layouts
  - Applying CSS and JavaScript

- Using jQuery
- 9. **Client-Side Development**
  - Applying Styles
  - Using Task Runners
  - Responsive design
- 10. **Testing and Troubleshooting**
  - Testing MVC Applications
  - Implementing an Exception Handling Strategy
  - Logging MVC Applications
- 11. **Managing Security**
  - Authentication in ASP.NET Core
  - Authorization in ASP.NET Core
  - Defending from Attacks
- 12. **Performance and Communication**
  - Implementing a Caching Strategy
  - Managing State
  - Two-way communication
- 13. **Implementing Web APIs**
  - Introducing Web APIs
  - Developing a Web API
  - Calling a Web API
- 14. **Hosting and Deployment**
  - On-premise hosting and deployment
  - Deployment to Microsoft Azure
  - Microsoft Azure Fundamentals

## Classroom Live Labs

### **Lab 1: Exploring ASP.NET Core MVC**

- Exploring a Razor Pages Application
- Exploring a Web API Application
- Exploring an MVC Application

### **Lab 2: Design ASP.NET MVC Web Applications**

- Plan Models Classes
- Planning Controllers
- Planning Views
- Architect and MVC Web Application

### **Lab 3: Configuring Middleware and Services in ASP.NET Core**

- Working with Static Files
- Creating custom middleware
- Using dependency injection
- Injecting a service to a controller

### **Lab 4: Developing Controllers**

- Adding controllers and actions to an MVC application
- Configuring routes by using the routing table
- Configuring routes using attributes
- Adding an action filter

### **Lab 5: Developing Views**

- Adding Views to an MVC Application
- Adding a partial view
- Adding a view component

### **Lab 6: Developing Models**

- Adding a model
- Working with Forms
- Add Validation

### **Lab 7: Using Entity Framework Core in ASP.NET Core**

- Adding Entity Framework Core
- Use Entity Framework Core to retrieve and store data
- Use Entity Framework Core to connect to Microsoft SQL Server

### **Lab 8: Using Layouts, CSS and JavaScript in ASP.NET Core**

- Applying a layout and link views to it
- Using CSS
- Using JavaScript
- Using jQuery

### **Lab 9: Client-Side Development**

- Use gulp to run tasks
- Styling using Sass
- Using Bootstrap

### **Lab 10: Testing and troubleshooting**

- Testing a Model
- Testing a controller using a fake repository
- Implementing a repository in MVC project
- Add exception handling
- Add logging

### **Lab 11: Managing Security**

- Use Identity
- Add Authorization
- Avoid the Cross-Site Request Forgery Attack

### **Lab 12: Performance and Communication**

- Implementing a Caching Strategy
- Managing state
- Two-Way communication

### **Lab 13: Implement Web APIs**

- Adding Actions and Call Them Using Microsoft Edge

- Calling a Web API using server-side code
- Calling a Web API using jQuery

#### **Lab 14: Hosting and Deployment**

- Deploying a Web Application to Microsoft Azure
- Upload an Image to Azure Blob Storage

# DEVELOPING ASP.NET CORE MVC WEB APPLICATIONS

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VIRTUAL CLASSROOM LIVE

\$3,495 CAD

5 Day

## Virtual Classroom Live Outline

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- Microsoft Web Technologies
- ASP.NET 4x
- ASP.NET Core MVC

### 2. Designing ASP.NET Core MVCWeb Applications

- Planning in the Project Design Phase
- Designing Models, Controllers, and Views

### 3. Configure Middlewares and Services in ASP.NET Core

- Configuring Middlewares
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### 4. Developing Controllers

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  - Deployment to Microsoft Azure
  - Microsoft Azure Fundamentals

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Aug 3 - 7, 2026 | 8:30 AM - 4:30 PM EDT

Oct 5 - 9, 2026 | 8:30 AM - 4:30 PM EDT

Dec 7 - 11, 2026 | 8:30 AM - 4:30 PM EST

Feb 8 - 12, 2027 | 8:30 AM - 4:30 PM EST



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PRIVATE GROUP TRAINING

5 Day

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