



**REAL WORLD**  
TECHNOLOGY TRAINING & SOLUTIONS  
*"Training You Can Really Use"*

# 55340: Developing ASP.NET MVC Web Applications

**Duration: 5 Days**

**Method: Instructor-Led Training (ILT) | Live Online Training**

## Course Description

In this course, participants will learn to develop advanced ASP.NET Core applications using .NET tools and technologies. The focus will be on coding activities that enhance the performance and scalability of the Web site application.

## Target Audience

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 who are interested in developing advanced web applications and want to manage the rendered HTML comprehensively.

## Prerequisites

To attend this course, candidates must have:

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

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## Course Objectives

Upon successful completion of this course, attendees will be able to:

- 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 applications.
- 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 application that display and edit data and interact with Models and Controllers.
- Connect an ASP.NET Core application to a database using Entity Framework Core.
- Implement a consistent look and feel across an entire web application.
- Write JavaScript code that runs on the client-side and utilizes the jQuery script library to optimize the responsiveness of a web application.
- Add client-side packages and configure Task Runners.
- Run unit tests and debugging tools against a web application in Visual Studio 2022.
- Write an application that authenticates and authorizes users to access content securely using Identity.
- Build an 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 web application from a development computer to a web server.

## Course Topics

### Module 1: Exploring ASP.NET Core

- Introducing of Microsoft Web Technologies
- Getting Started with Razor Pages in ASP.NET Core
- Introducing ASP.NET Core MVC

### Module 2: Designing ASP.NET Core MVC Web Applications

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



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## Course Topics *Continued*

### Module 3: Configure Middleware and Services in ASP.NET Core

- Configuring Middlewares
- Configuring Services

### Module 4: Developing Controllers

- Writing Controllers and Actions
- Configuring Routes
- Writing Action Filters

### Module 5: Developing Views

- Creating Views with Razor Syntax
- Using HTML Helpers and Tag Helpers
- Reusing Code in Views

### Module 6: Developing Models

- Creating MVC Models
- Working with Forms
- Validating User Input

### Module 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

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

- Using Layouts
- Using CSS and JavaScript
- Using JavaScript Libraries

### Module 9: Client-Side Development

- Applying Styles and Responsive Design
- Using Task Runners
- Looking at ASP.NET Core Blazor

### Module 10: Testing and Troubleshooting

- Testing ASP.NET Core Applications
- Implementing an Exception Handling Strategy
- Logging ASP.NET Core Applications

### Module 11: Managing Security

- Authentication in ASP.NET Core
- Authorization in ASP.NET Core
- Defending from Common Attacks

### Module 12: Performance and Communication

- Implementing a Caching Strategy
- Managing State
- Supporting Two-way Communication

### Module 13: Implementing Web APIs

- Introducing Web APIs
- Developing a Web API
- Calling a Web API

### Module 14: Hosting and Deployment

- Hosting and Deploying On-Premises
- Deploying to Microsoft Azure
- Looking at Microsoft Azure Fundamentals

## LABS INCLUDED

