

ASP.NET MVC 5 with WebAPI, AngularJS and Bootstrap

Overview

ASP.NET MVC 5 is a framework for building scalable, standards-based web applications using well-established design patterns and the power of ASP.NET and the .NET Framework.

Credit toward certification: MCP, MCS D

- Exam 70-486: Developing ASP.NET MVC Web Applications

ASP.NET MVC Training Objectives

- Understand the MVC design pattern and how it's applied in ASP.NET MVC
- Recognize the benefits and drawbacks of using ASP.NET MVC
- Learn to make good decisions about application architecture and the choice of data access technology
- Use ASP.NET MVC's routing system to achieve a REST-style architecture
- Learn how to build a compelling and maintainable HTML user interface using the Razor view engine and client-side JavaScript
- Using Bootstrap with ASP.NET MVC 5
- Use partial page updates and caching to reduce the network bandwidth used by an application and accelerates responses to user requests.
- Write JavaScript code that runs on the client-side and utilizes the jQuery script library to optimize the responsiveness of an MVC web application.
- Implement a complete security system (OWIN authentication).
- Learn AngularJS fundamentals and the internal.
- Use the Web API 2 framework to simplify the creation of HTTP services
- Build Single Page Application in MVC 5 using AngularJS and Web API.

Course Syllabus

Introduction

- Introduction to different Web Technology
- What is ASP.NET MVC
- Role of Model, View, and Controller
- How ASP.NET MVC Works
- Key Benefits of ASP.NET MVC
- Understanding the structure of an ASP.NET MVC project

ASP.NET MVC Architecture

- The MVC Pattern
- MVC Page Life Cycle
- Controllers, Models, and Views
- URL Routing
- Controller Actions
- Razor View Engine
- Extensibility

URL Routing

- Introducing URL Patterns
- Creating and Registering a Simple Route
- Defining Default Values
- Using Static URL Segments
- Defining Custom Segment Variables
- Constraining Routes
- Using Attribute Routing
- Generating Outgoing URLs in Views

Razor View Engine

- Razor Basics
- Razor design goals
- Implementation of Razor view
- Razor syntax
- Using Razor Expressions
- Accessing Model Data in Razor views

Views

- View Engines
- Templates and Scaffolding
- ViewData and ViewBag
- Strongly-Typed Views
- Layout Pages
- Custom Sections
- Partial Views
- Child Actions
- Using a ViewModel Object
- Bundling & Minification

HTML Helpers

- Basic Helpers
- Strongly-Typed Helpers
- Creating Custom Helpers
- Declarative Helpers

Bootstrap

- What is Bootstrap?
- Bootstrap File Structure
- Basic HTML Template
- Global Styles
- Grid System
- Typography
- Tables, Forms, Button
- Images, Icon
- Dropdown Menus

Controllers and Actions

- IController, ControllerBase, and Controller
- Defining Actions
- Action Selectors, Action Filters
- HTTP Verbs
- HttpContext and RouteData
- Returning Data with ActionResult
- Parameters and the Model Binder

Model Binding

- Object Relational Mapping (ORM)
- Entity Framework (EF) Database-first approach
- Entity Framework (EF) Code-first approach
- Repository Pattern
- Unit of work design pattern
- Model Binders
- Creating Unit Testable Applications in ASP.NET MVC

Model Validation

- Data Annotations
- Validation HTML Helpers
- ModelState
- Client Side Validation

Using AJAX and jQuery with ASP.NET MVC

- Overview of AJAX and ASP.NET MVC
- Unobtrusive AJAX
- Using AJAX Action Links
- Overview of jQuery
- jQuery Techniques
- Using jQuery UI
- Ajax calls using JQuery
- Using JQuery Grid

Security in MVC

- Authentication and Authorization
- ASP.NET Identity
- Configuring Forms Authentication
- MVC 5 App with Facebook, and Google OAuth2 Sign-on
- Enable role-based security
- Authorize attribute

Filters

- Introducing the Filter Types
- Using Authorization Filters
- Using Authentication Filters
- Using Exception Filters
- Using Action Filters
- Using Result Filters
- Using Other Filter Features

ASP.NET Web API2 with MVC

- Overview of the ASP.NET Web API
- Building servers and clients
- Content negotiation
- Validation
- ApiController
- MediaTypeFormatters
- OData in WebAPI

AngularJS - Building a Rich Client-Side UI

- Introduction to AngularJS
- AngularJS Directives, AngularJS Expressions
- AngularJS Controllers , AngularJS Models
- AngularJS Views , AngularJS Filters
- AngularJS Scopes
- AngularJS Forms
- Ajax, Data and Angular

Single-page Applications

- Understanding Single-page Applications
- Using Web API
- Using AngularJS for Single-page Applications

Features of MVC 6

- Overview of Visual Studio 2015
- Overview of Signal R
- Overview of Asp.net VNext.
- Overview of Asp.net Web Api v3.

Deployment

- Server Requirements
- Configuration Options