

MVC.NET

1. Introduction

- 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

2. ASP.NET MVC Architecture

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

3. 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

4. Razor View Engine

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

5. 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

6. HTML Helpers

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

7. 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

8. 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

9. Model Validation

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

10. 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

11. 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

12. Filters

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

13. 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

14. Deployment

- Server Requirements
- Configuration Options