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YOUR COURSE, YOUR WAY - MORE EFFECTIVE IT TRAINING

MVC For .NET Developers

Duration: 3 days

Overview:

This course MVC the popular Microsoft technology that enables you to build dynamic, data-driven websites This course takes you through step-by-step techniques on using MVC to best advantage, by building a MVC website to illustrate the concepts. It covers controllers, views, and models; forms and HTML helpers; data annotation and validation; membership, authorization, and security.

This course can be presented for either C# or VB Developers.

Prerequisites:

Delegates should have a good working knowledge of either C# or VB.

Topics:

1 - Getting Started

A Quick Introduction to ASP.NET MVC

How ASP.NET MVC Fits in with ASP.NET

The MVC Pattern

MVC as Applied to Web Frameworks

Bootstrap Templates

Attribute Routing

ASP.NET Scaffolding

Authentication Filters

Filter Overrides

Creating an ASP.NET MVC Application

The New ASP.NET Project Dialog

The MVC Application Structure

ASP.NET MVC and Conventions

2 - Controllers

The Controller's Role

The Exercise Application
Controller Basics
Writing Your First Controller
Parameters in Controller Actions
3 - Views
The Purpose of Views
View Basics
Understanding View Conventions
Strongly Typed Views
Understanding ViewBag, ViewData, and ViewDataDictionary
View Models
Adding a View
The Razor View Engine
What Is Razor?
Layouts
ViewStart
Specifying a Partial View
4 - Models
Modeling the Exercise
Scaffolding a Manager
What Is Scaffolding?
Scaffolding and the Entity Framework
Executing the Scaffolding Template
Executing the Scaffolded Code
Editing
Building a Resource to Edit
Responding to the Edit POST Request
Model Binding
The DefaultModelBinder
Explicit Model Binding
5 - Forms And Html Helpers
Liging Forms

Using Forms

The Action and the Method

To GET or to POST?

HTML Helpers
Automatic Encoding
Making Helpers Do Your Bidding
Inside HTML Helpers 116
Setting Up an Edit Form
Adding Inputs
Helpers, Models, and View Data
Strongly Typed Helpers
Helpers and Model Metadata
Templated Helpers
Helpers and ModelState
Other Input Helpers
Rendering Helpers
Html.ActionLink and Html.RouteLink
URL Helpers
Html.Partial and Html.RenderPartial
Html.Action and Html.RenderAction
6 - Data Annotations And Validation
A CONTRACT
Annotating for Validation
Annotating for Validation Using Validation Annotations
Using Validation Annotations
Using Validation Annotations Custom Error Messages and Localization
Using Validation Annotations Custom Error Messages and Localization Looking Behind the Annotation Curtain
Using Validation Annotations Custom Error Messages and Localization Looking Behind the Annotation Curtain Controller Actions and Validation Errors
Using Validation Annotations Custom Error Messages and Localization Looking Behind the Annotation Curtain Controller Actions and Validation Errors Custom Validation Logic
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Using Validation Annotations Custom Error Messages and Localization Looking Behind the Annotation Curtain Controller Actions and Validation Errors Custom Validation Logic Custom Annotations IValidatableObject Display and Edit Annotations 7 - Membership, Authorization, And Security Security: Incredibly Important Using the Authorize Attribute to Require Login Securing Controller Actions
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Persistance control
Managing users and roles
External Login via OAuth and OpenID
Understanding the Security Vectors in a Web Application
Threat: Cross-Site Scripting
Threat: Cross-Site Request Forgery
Threat: Cookie Stealing
Threat: Over-Posting
Threat: Open Redirection
Proper Error Reporting and the Stack Trace
Using Configuration Transforms
Using Retail Deployment Configuration in Production
Using a Dedicated Error Logging System
Security Recap and Helpful Resources
8 - AJAX
jQuery
jQuery Features
Unobtrusive JavaScript
Using jQuery
Ajax Helpers
Adding the Unobtrusive Ajax Script to Your Project
Ajax ActionLinks
HTML 5 Attributes
Ajax Forms
Client Validation
jQuery Validation
Custom Validation
Beyond Helpers
jQuery UI
Autocomplete with jQuery UI
JSON and Client-Side Templates
Bootstrap Plugins
Improving Ajax Performance
Using Content Delivery Networks
Script Optimizations
Bundling and Minification

9 - Routing Uniform Resource Locators Introduction to Routing Comparing Routing to URL Rewriting Routing Approaches Defining Attribute Routes **Defining Traditional Routes** Choosing Attribute Routes or Traditional Routes Named Routes **MVC** Areas Catch-All Parameter Multiple Route Parameters in a Segment StopRoutingHandler and IgnoreRoute Debugging Routes Inside Routing: How Routes Generate URLs Ambient Route Values More Examples of URL Generation with the Route Class RouteData Custom Route Constraints Using Routing with Web Forms **10 - NUGET** Introduction to NuGet Adding a Library as a Package Finding Packages Installing a Package Updating a Package Package Restore Using the Package Manager Console Creating Packages Packaging a Project Packaging a Folder Configuration File and Source Code Transformations NuSpec File Metadata

Dependencies

Specifying Files to Include
Tools
Framework and Profile Targeting
Prerelease Packages
Publishing Packages
Publishing to NuGet.org
Using NuGet.exe
Using the Package Explorer
11 - ASP.NET WEB API
Defining ASP.NET Web API
Getting Started with Web API
Writing an API Controller
Async by Design: IHttpController
Incoming Action Parameters
Action Return Values, Errors, and Asynchrony
Configuring Web API
Configuration in Web-Hosted Web API
Configuration in Self-Hosted Web API
Adding Routes to Your Web API
Binding Parameters
Filtering Requests
Enabling Dependency Injection
Exploring APIs Programmatically
Tracing the Application
Web API Example
Single Page Applications With AngularJS
Understanding and Setting Up AngularJS
What's AngularJS?
Getting Started
Adding AngularJS to the Site
Setting Up the Database
Building the Web API
Building Applications and Modules
Creating Controllers, Models, and Views
Services
Routing

Details View A Custom Service 12 - Dependency Injection Software Design Patterns Design Pattern: Inversion of Control Design Pattern: Service Locator Design Pattern: Dependency Injection Dependency Resolution in MVC Singly Registered Services in MVC Multiply Registered Services in MVC Arbitrary Objects in MVC Dependency Resolution in Web API Singly Registered Services in Web API Multiply Registered Services in Web API Arbitrary Objects in Web API Dependency Resolvers in MVC vs. Web API 13 - Unit Testing Understanding Unit Testing and Test-Driven Development Defining Unit Testing Defining Test-Driven Development Building a Unit Test Project Examining the Default Unit Tests Test Only the Code You Write Advice for Unit Testing Your ASP.NET MVC and ASP.NET Web API Applications **Testing Controllers Testing Routes Testing Validators** 14 - Extending MVC

Extending Models

Turning Request Data into Models

Describing Models with Metadata

Validating Models

Extending Views

Customizing View Engines
Writing HTML Helpers
Writing Razor Helpers
Extending Controllers
Selecting Actions
Filters
Providing Custom Results

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