Course Description ASP.NET MVC 4.0

Overview

ASP.NET MVC 4 training teaches participants all the skills necessary for designing and building an effective ASP.NET MVC 4 application.

Objective

At the end of ASP.NET MVC 4 Training course, participants will be able to:

- Understand the MVC design pattern and how it's applied in ASP.NET MVC

- Recognize the benefits and drawbacks of using ASP.NET MVC

- 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

- Build a compelling and maintainable HTML user interface using the Razor view engine and client-side JavaScript

- Use the new Web API framework to simplify the creation of HTTP services

- Gain experience with using adaptive rendering, mobile-specific views, and a view switcher to support a variety of mobile devices

- Extend and modify ASP.NET MVC 4 by creating custom components and templates

Prerequisites

- Prior .NET development experience and familiarity with object-oriented programming concepts is assumed

- Some experience with HTML and JavaScript is also expected

- Experience developing ASP.NET application with Web Forms would be beneficial but is not required

Course Curriculum

1. Introduction

- ASP and ASP.NET WebForms

- Web Standards and REST

- JavaScript and AJAX

- The MVC Design Pattern

- Managing Dependencies

2. ASP.NET MVC Architecture

- ASP.NET Platform

- Controllers, Models, and Views

- URL Routing

- Controller Actions

- Razor View Engine

- Extensibility

3. Defining the Model

- Defining the model

- Understanding DBContext

- Entity Framework and MVC Code First

- Listing, Creating, Editing Data

- Using an IoC Container

4. Routes and URLs

- Introduction to Routing

- Defining Routes

- Route Evaluation

- The Controller Factory

- Constraints

- Exempting URLs

5. 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

- Asynchronous Action Methods

6. Views

- View Engines

- Templates and Scaffolding

- Razor Syntax

- ViewData and ViewBag

- Strongly-Typed Views

- Layout Pages

- Custom Sections

- Partial Views

- Child Actions

- Using a ViewModel Object

7. HTML Helpers

- Basic Helpers

- Strongly-Typed Helpers

- Declarative Helpers

8. Data Validation

- Data Annotations

- Validation HTML Helpers

- ModelState

- IValidatableObject

- Client Side Validation

9. Authentication and Authorization

- Using Windows Authentication

- Configure Forms Authentication

- Using the Authorize Attribute

- Seeding Membership

- Cross site request forgery

10. Ajax

- Controller Actions for Ajax

- Ajax Helpers

- Unobtrusive Ajax

- Ajax with jQuery

11. Web API

- Using HTTP as an Application Protocol

- Content Negotiation

- Routing

- ApiController

- MediaTypeFormatters

12. Building a Rich Client-Side UI

- jQuery UI

- jQuery Templates

13. Mobile Clients

- CSS 3 Media Queries

- Adaptive Rendering

- Mobile-Specific Views

- Using a View Switcher

14. Customizing and Extending ASP.NET MVC

- ASP.NET MVC Pipeline

- Advanced Routing

- Custom Global Filters

Course Description - ASP.NET MVC 5.0

Overview

This program is aimed at introducing some of the advanced features of the ASP.NET MVC5 framework.

This is an advanced program and the participants are expected to have already worked in any version of ASP.NET MVC .

Course Curriculum

1. ASP.NET MVC 5 - New Features Overview

- Attribute Based Routing

- Filter Overrides

- Membership Enhancements using ASP.NET Identity

- Scaffolding Improvements

2. Building Loosely Coupled Components

- Dependency Injection

- - Using Dependency Injection

- - Using Dependency Injection Containers

- - Using NInject

3. Routing

- Custom Segment Variables
- Route Constraints
- Attribute Routing
- Customizing the Routing System
- Working With Areas

4. Filters

- Using Filters
- Authentication and Authorization Filters
- Action and Result Filters
- Creating Custom Action and Result Filters
- Using Global Filters

5. Controller Extensibility

- Builtin Controller Factory
- Creating Custom Controller Factory
- Using Custom Action Invoker

6. Model Binding

- Using Default Model Binder
- Creating Custom Model Binders

7. Model Validations

- Model Validation Overview
- Removing Model Validations from Controllers
- Validations in the Model Binder
- Self Validating Models

- Custom and Remote Validations

- Client Side Validations

8. Bundles

- Script Bundles

- CSS Bundles