Software Skills Training, Inc.

Contact Us
978.250.4983

ASP.NET MVC Programming Using VB.NET

Duration: 5 Days *(Face-to-Face & Remote-Live)*, or 35 Hours *(On-Demand)*

Price: $2495 *(Face-to-Face & Remote-Live)*, or $895 *(On-Demand)*

Discounts: We offer multiple discount options. Click here for more information.

Delivery Options: Attend face-to-face in the classroom, remote-live or via on-demand training.

Description

This course provides students with hands on experience using Visual Studio to create dynamic web applications using ASP.NET MVC and VB.NET. The class provides a thorough introduction to the VB.NET programming language, including coverage of the essentials of the VB.NET programming language, built in data types, operators, control structures, classes and methods, collections and exception handling.

Students learn how to leverage the power of the Model-View-Controller design pattern with the ASP.NET MVC Framework to separate the layers of a web application. Students will use the ASPX and Razor view engines to design a user interface. Students will learn how to build models to manage an application's data layer using both the Entity Framework and LINQ to SQL. Students will also learn how to build controllers containing action methods to manage communication between views and models.

Other topics include data scaffolding; URL routing; implementing security; using MVC and Web Forms in the same application; unit testing; and deploying ASP.NET MVC applications. Comprehensive labs provide the students with experience creating, debugging, testing and deploying dynamic ASP.NET MVC applications.

Prerequisites

Knowledge of fundamental HTML syntax is helpful, but not required. Prior experience with a scripting or programming language is required.

Course Overview

Introduction to .NET

- Overview of the .NET Framework
- How .NET is Different from Traditional Programming
- Common Language Runtime (CLR)
- Common Language Specification (CLS)
- Common Type System (CTS)
- .NET Assemblies
- Microsoft Intermediate Language (CIL)
- .NET Namespaces
- .NET Framework Class Library

Introduction to Visual Studio

- Creating a Project
- Using the Code Editor
- Correcting Syntax Errors
- Setting Project Properties
- Adding References
- Compiling a Program
- Running a Program
- Debugging a Program
- Using the MSDN (Help)

Language Fundamentals

- VB.NET Program Structure
- Defining Namespaces
- Understanding VB.NET Data Types
- Defining Variables and Constants
- Comparing Value Types vs. Reference Types
- Working with Operators and Expressions
- Performing Type Conversions
- Using Console I/O
- Formatting Numbers, Date and Times

Conditionals and Looping

- `If/Else`
- `Select Case`
- `Do/Loop`
- `While`
- `For`
- `For Each`

Procedures and Parameters

- Subroutines vs. Functions
- Defining Shared and Instance Methods
- Passing Parameters by value and by reference
- Overloading Methods
- Using Variable Length Parameter Lists

Exception Handling

- What are Exceptions?
- .NET Exception Hierarchy
- Catching Exceptions
- Throwing Exceptions
- Managing Resources with Finally

Collections

- Defining and Using Arrays
- Understanding `System.Array`
- .NET Collections vs Generic Collections
- Working with Lists
- Working with Dictionaries
- Using LINQ to Objects

Object-Oriented Programming

- Overview of Object-Oriented Programming
- Building Classes
- Defining Properties
- Using Auto-Implemented Properties
- Defining Methods
- Understanding Constructors
- Extending .NET Classes via Inheritance
- Defining and Implementing Interfaces

Understanding the Role of Interfaces in .NET

Overview of ASP.NET MVC

- Overview of Model-View-Controller Design Pattern
- ASP.NET MVC Application Architecture
- Understanding the MVC Execution Process
- Building an ASP.NET MVC Application Using Visual Studio
- Visual Studio MVC Project Templates
- Using a `web.config` File

Developing Controllers

- Creating Controllers
- Defining Action Methods
- Mapping URLs to Action Methods
- Understanding `ActionResult` Types
- Working with `ViewData` and `ViewBag`

Developing Views

- Creating Views
- Understanding View Engines
- Using the ASMX View Engine
- Using the Razor View Engines
- Using HTML Helpers
- Adding Validation
- Working with Strongly-Typed Views

Developing Models

- Creating Model Classes
- Working with the Entity Framework
- Working with LINQ to SQL
- Using Scaffolding

Routing Control

- Understanding Routing in ASP.NET MVC
- Defining URL Routes
- Registering Routes
- Adding Constraints to Routes
- Debugging Routes

Integrating ASP.NET MVC and Web Forms

- What are Web Forms
- Using Web Forms in an MVC Application
- Using MVC in a Web Form Application
- Linking to MVC Actions from Web Forms

MVC Unit Testing

- Test-Driven Development
- Designing Test Cases
- Creating Unit Tests
- Using MS Test

Securing MVC Applications

- ASP.NET Security
- Windows vs Forms Authentication
- Configuring Authentication
- Configuring Authorization
- Building a Secure Web Site
- Defending against Attacks
    - Cross-site Scripting
    - Session Hijacking
    - SQL Injection
    - Input Forgery

Deploying ASP.NET MVC Applications

- Understanding Deployment Issues
- Required MVC Assemblies
- Server Requirements
- Configuring an ASP.NET Application for Deployment
- Using XCOPY Deployment
- Using WebDeploy

Software Skills Training, Inc.
6 Hemlock Drive
Chelmsford, MA 01824
978.250.4983
www.software-skills-training.com

Copyright © 2021 Software Skills Training, Inc.