

From Zero to MVC

One of the most popular methods for creating web application these days is Microsoft's MVC and Razor. This course assumes you have little to no experience using MVC and want to learn this exciting technology. This course takes you through building a business application using the MVC Razor pages in the .NET Framework.

Learning Objectives

Basics of MVC

Displaying, validating and modifying data in a database

Working with HTML helpers

Using the MVVM design pattern

Creating Web API calls

Prerequisites

We assume you have a good knowledge of C# and the .NET Framework. You must have access to a version of Visual Studio.

Course Length

4 days

Module 1: Basics of MVC

Create a new MVC project

Overall program flow

Folders and files

Using @Html.ActionLink helper

Using @Url.Action helper

Anchor Tag Helpers

Partial pages

CSS style sheets

Adding page head styles

Adding JavaScript

Retrieving configuration settings from appsettings.json

Modify the overall layout of your website

Module 2: Displaying Lists of Data

Add a data layer class library

Add a view model class library

Display an unordered list

Display an ordered list

Build a <select> list

Use the @Html.DropDownList HTML helper

Use the Select Tag Helper

Module 3: Working with HTML Forms

Create a product input form using @Html Helpers

Create a product input form using Input Tag Helpers

Add data annotations for displaying labels

Cancel out of a form

Work with related data in a <select> list

Working with radio buttons

Working with check boxes

Module 4: Validating Data

Add data annotations for validation (required, string length, datatype, range, etc.)

Bind/display validation messages using asp-validation-for

Use the validation summary tag helper

Create your own server-side custom validation attribute
Using the IValidatableObject interface for validation

Module 5: Passing Data

Using ViewData
Using a ViewBag
Using TempData
Passing data as a query string

Module 6: State Management

Working with the Session object
Create your own session class wrapper
Send and retrieve Cookies
Working with the Cache object
Create your own state class and use dependency injection

Module 7: Exception Handling

Built-in global exception handling
Add a custom development page for retrieving exception information
Handle 404 status codes
Handle status code errors with redirect
Handle status code errors with re-execute

Module 8: Working with HTML Tables

Build a table of product data
Searching product data

Searching using the MVVM design pattern
Sorting columns in a table
Paging table data

Module 9: WebGrid

Using the WebGrid control
Styling the grid
Styling the pager
Displaying specific columns
Formatting columns

Module 10: Paging Table Data

Creating a pager
Using a data-driven pager
Hooking up our pager to a table
Paging and sorting table data

Module 11: Drop Downs and Ajax

One to many Drop-downs with Ajax
Setting up the API call
Working with the JSON data that is returned

Module 12: Html Helpers

Creating your own HTML helpers
Emit bootstrap styles with controls
Creating radio buttons and check boxes quickly and easily

Module 13: Using the MVVM Design Pattern

Why use the MVVM design pattern

Creating a view model base class

Using hidden fields

Binding data

Using custom data- attributes to communicate to view model

Module 14: Security

Authentication

Getting started with Identity

Registration of users

Login

Logout

Working with Roles

Securing pages

Module 15: File Uploading

Making the <input type="file"> look good

Uploading a single file

Restricting file size

Uploading large files

Exception handling

Creating a thumbnail

Storing the file on the file system

Storing the file in SQL Server

Multiple file uploads

Module 16: MVC Web API

- Get all products
- Get a single product
- Get products by category
- Build a base controller class
- Handling exceptions
- Using POST to add a product
- Using PUT to edit a product
- Using DELETE to delete a product
- Adding CORS

Module 17: Alternatives to HTML Tables

- See bad examples of tables on mobile devices
- Eliminate table columns
- Use bootstrap panels or cards
- Use List groups
- Use carousels
- Use collapsible areas
- Detect browser and switch your display