# From Zero to MVC Core

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

## Learning Objectives

Basics of MVC Core

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 or Visual Studio Code.

## Course Length

4 days

# Module 1: Basics of MVC Core

Create a new MVC Core project in VS Code

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: Passing Data

Using ViewData

Using a ViewBag

Using TempData

Passing data as a query string

# Module 3: 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 4: 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 5: Logging

Built-in logging

Logging levels

Configuring logging levels

Logging a product object

Using replaceable parameters in Log() methods

Logging to file

# Module 6: 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 7 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 8: 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 9: Working with HTML Tables

Build a table of product data

Searching product data

Searching using the MVVM design pattern

Sorting columns in a table

# Module 10: Paging Tables

Creating hard-coded pager

Create a data-driven pager

Paging product data

# Module 11: Build a CRUD Page

Using the MVVM design pattern

Select and display a product

Add and edit a product

Delete a product

# Module 12: Security

Authentication
Getting started with Identity
Registration of users
Login
Logout
Working with Roles
Securing pages

# Module 13: 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 14: MVC Core 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 15: 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 16: 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