

**ASP.NET Core with Orchard Core CMS**

**Course Number:** ASPNC-108  
**Duration:** 5 days

**Overview**

[ASP.NET Core](https://dotnet.microsoft.com/learn/aspnet/what-is-aspnet-core) is Microsoft’s modern, cross-platform web development framework. [Orchard Core](https://www.orchardcore.net/) is a free, open source, community-driven framework and web content management system (CMS) that extends ASP.NET Core with a wealth of capabilities.

In this ASP.NET Core with Orchard Core CMS training, attendees learn how to use Orchard’s various built-in features for content and media management, access control and auditing, scripting, and other tasks. Students extend Orchard with custom modules and themes written in C# (including Razor syntax), HTML, CSS, and JavaScript, following the MVC design pattern.

**Note:** This course runs 6 hours each day for 5 days.

**Prerequisites**

A solid understanding of using Visual Studio, Git (or some other source control system), C#, and ASP.NET Core MVC is strongly advised. A basic level of client-side web development (HTML, CSS, and JavaScript) is recommended.

**Materials**

All Orchard Core training students receive comprehensive courseware.

**Software Needed on Each Student PC**

The minimally required software is Visual Studio 2019 (any edition) or later installed with .NET Core development tools, as well as [SQLite Browser](https://sqlitebrowser.org/dl/) for looking into Orchard’s database. Certain Visual Studio extensions and other tools can further aid development; please see the page on the recommended development environment on [Orchard Dojo](https://orcharddojo.net/orchard-resources/CoreLibrary/DevelopmentGuidelines/DevelopmentEnvironment).

**Objectives**

* Understand Orchard Core architecture and basic usage
* Manage Orchard Core sites and content
* Customize Orchard Core
* Maintain and troubleshoot Orchard Core
* Develop themes, modules, and custom content
* Optimize Orchard Core performance
* Work on Orchard Core apps as a team

**Outline**

* Introduction
* Core Concepts and Basic Usage
  + Orchard ecosystem
  + Showcasing complex/notable Orchard apps
  + Architectural overview
  + How do I get my own Orchard instance?
  + Using Orchard as a full, decoupled, and headless CMS
  + Installing Orchard (running the setup): choosing a database engine (and its implications), recipes
  + Basic site settings
* Basic Site Management
  + Content model and content management
  + Themes and modules
  + User management, roles, and permissions
* Intermediate Content Management
  + Taxonomies
  + Widgets in Layers
  + Navigation
* Advanced Content Management
  + Search and indexing
  + Forms, Liquid and Workflows
  + Auditing content with Audit Trail
* Expert Content Management
  + Deployment and recipes
  + Queries
  + SQL queries
  + Other content type metadata: Listable, Creatable, Stereotypes
* Customization Features
  + Templates
  + Multi-tenancy
  + Writing recipes
  + Localization
* Basic Maintenance and Troubleshooting
* Getting Started with Theme Development
  + Structure
  + Code generation templates
  + Shapes
  + Static resource
* Advanced Theme Development
  + Placement.json
  + Approaches to building a new theme
* Getting Started with Module Development
  + Structural overview of the Orchard source
  + Module structure
  + Code generation templates
  + Integrating with the current theme
  + Dependency injection and basic services
* Basic Techniques in Module Development
  + Displaying entities with display management
  + Basic document storage
  + Abstracted file storage
* Developing Custom Content
  + Parts and their comparison to entities, part data storage
  + Content type and content part migrations
  + Drivers
  + Editor and display shapes
  + Handlers
  + Placement
* Intermediate Techniques in Module Development
  + Custom routes with attribute routing and route maps
  + Filters
  + Events
  + Permissions and authorization
  + Background tasks
* Advanced Techniques in Module Development
  + Ways of storing settings
  + Caching
  + Recipes inside modules
* Complementary Topics of Module Development
  + Writing tests
  + Middlewares
  + Integrating with client-side build pipeline
* Optimization
  + Understanding the implications of basic built-in performance-related features:
  + General guidelines
  + Profiling with the Mini Profiler module
* Team Training - How to Work on Orchard Apps as a Team
  + How to write code
  + How to share code and other application data
  + How to communicate
* Conclusion