Contents

[1. Introduction to Layouts 3](#_Toc448677270)

Introduction

Welcome to Mastering Orchard Website Development, a book that will take us on an exciting journey through the wonderful world of Orchard. It will show us how to build real world websites, leveraging Orchard’s best practices & patterns.

Why this book

I remember well the very first time I downloaded and installed the Web distribution of Orchard 1.0. I had been looking for a decent open source .NET based CMS for quite some time. I had been working on an ASP.NET MVC 1.0 project that year, and I really did not want to do ASP.NET WebForms anymore. Nope. I wanted more MVC. So I started looking on the Internet. Imagine my excitement and joy when I discovered Orchard, an open source project created by Microsoft and built with ASP.NET MVC. Fantastic!

I had a new project I was determined to implement using Orchard. The project entailed a custom web design, some forms and data access. Nothing too fancy, ideal to get familiar with this new shiny toy called Orchard.

Then shit got real. I was able to generate a custom module and customize the website’s design, but I was clueless as to how the data access story worked. The documentation talked about content parts, widgets and data storage. And what about good ol’ custom controllers? I could create them of course, that was easy. But how to maintain the website’s design when working with custom controllers without duplicating entire layout views? Where did MVC’s Layout concept go, anyway? Should I create widgets instead? But then, how to deal with post-back?

Sleepless nights ensued as I pondered how things were supposed to work in Orchard. Especially the lack of comprehension regarding shapes and views returned from controllers not integrating in my site’s design caused me great grief. Clearly Orchard wasn’t ready for primetime. Switch to Umbraco then? With a deep sigh of defeat, I went and checked out Umbraco. But then it became all the clearer why I really wanted Orchard. Its architecture, applied modern practices and patterns, its modularity and based on MVC and Razor, it was way superior.

Back to Orchard. I must understand it. I re-read everything I could find (which wasn’t much at the time). I asked questions on the great Bertrand Leroy’s blog “The Evil Empire”. Bertrand is the Godfather of Orchard, a mythical presence. There were a few posts from Piotr Szmyd as well, another mythical person who clearly had the brains to actually understand Orchard.

And then, one evening, it all “clicked”. The final missing piece I was missing was something as simple as the **ThemedAttribute**. I kid you not. It was the missing link that paved the way to understanding the deep secrets of the universe. For whatever reason, I was mind-blocked by the fact that I could not work with controllers that integrated with the theme. And now I could.

Surging with victorious energy, inspiration and gratitude, I wanted to share what I learned and contribute back. And I knew exactly how I would do it: I would write my very first blog post and share everything.

That one blog post turned out to become a series of 10 posts (not counting the introductory one) called **“Writing an Orchard Webshop Module from scratch”**.

That was back in 2012. Orchard has seen some major updates since then, both performance-wise as well as feature-wise. The blog post series is getting out of date, and was only partially updated to accommodate Orchard 1.4, breaking away from **RoutablePart** in favor of the new **AutoroutePart** and **TitlePart**. I should probably do something about that, but instead I am writing this book.

Who should read it

The target audience of this book is aimed at both the beginner and experienced Orchard developer and everyone who fits in between, and will cover more aspects of Orchard than the WebShop tutorial does.

This book is a complete story of creating websites with Orchard from beginning to end, covering module development, theme development, leveraging core features such as Indexing and Search, Layouts, Forms, Projections, Workflows, Taxonomies, and finally, deployment.

Structure

The book is divided in four parts.

**Part 1** takes the reader through the process of downloading, cloning and setting up Orchard as well as the development environment. We’ll also talk about various options to keep your version of Orchard up to date with the latest version of Orchard, be it a released version or the latest change-set in the GitHub repository.

**Part 2** takes the reader on a tour through the most useful modules that ship with Orchard and demonstrates how various features can be used together without having to write a custom module. This is a great start to get familiar with Orchard’s functionality. When reading this part keep in mind that everything that you see is implemented as a module, which means that if you’re a developer, you can build pretty much anything you like and integrate seamlessly with the rest of Orchard.

**Part 3** is about creating custom modules to implement various website requirements that you come across in real world website development. We will cover data access, migrations, custom content parts, widgets, elements, drivers and much, much more. If you want to learn module development, this part is for you.

**Part 4** is about theming. Theming is the process of making the site look exactly how you want it to be by creating custom Razor views, stylesheets and scripts that are specific to the website. As we’ll see, there are quite a few ways to skin a cat. If you want to learn theme development, then this part is for you.

I hope you will enjoy reading this book as much as I had writing it, and that the knowledge you find here will be useful in your Orchard Projects.

Part 1

Welcome to part 1 of this book!

If you are new to Orchard, then this part is just for you. Before you can even hope to build Orchard websites, you need to be able to setup a new Orchard project first. This part covers downloading, cloning, setting up and running Orchard using various methods.

Even if you’re a seasoned Orchard developer, there may be some useful information to be found here that you didn’t know of.

# What is Orchard?

Since you’re reading this book on Orchard Website Development, you probably already have a pretty good idea of what Orchard is, but let’s talk about it anyway.

## It’s a CMS

Orchard is a highly flexible, extensible and modular Content Management System, or CMS for short, that is built with ASP.NET MVC.

Out of the box, you can simply run Orchard using IIS or IIS Express and start creating content such as pages and blog posts, and use any of the other features that ship with Orchard. The application comes with a so-called **admin** area, also known as the **dashboard** or **back-end**, from which authenticated users can manage content. This content can be viewed by anonymous users on the so called **front-end**.

## It’s Open Source

Orchard is an open source project hosted on GitHub. It was originally created from a subdivision of the ASP.TEAM team at Microsoft, led by Bertrand Leroy, godfather of the project and major open source advocate.

To ensure the continuity of the project, the original team contributed the project to the open source community, and even today Microsoft is generously contributing to the project in the form of a full-time Microsoft employee and sponsoring the yearly Orchard Harvest conference.

You can find the project here at: <https://github.com/OrchardCMS/Orchard>

The following lists some of the most useful features that come with Orchard.

* Content and content type management
* Blogs
* Comments
* Users & Permissions
* Workflows
* Taxonomies
* Projections
* Widgets
* Navigation
* Localization
* Tags
* Layouts
* Forms  
  Media
* Modules & Themes

But that is not the end of the story. As mentioned, Orchard is meant to be extended with **custom modules and themes**, collectively called **extensions**. Modules add additional functionality to the application, while themes provide the way the website looks and feels. Themes provide complete control over the HTML output of the application, as we will see later.

When you first start working with Orchard, it is helpful to understand some of the key concepts, which we