Introduction

# What Does This Book Cover?

ASP.NET is an established and well-known web application framework, and there are several books on the market with different emphases and at different levels. However, ASP.NET is becoming more and more a foundation technology upon which larger and larger projects are being built. Developers are facing increasing complexity and greater demands to fulfill in their daily tasks. This book examines in-depth the technology beyond the basic ASP.NET topics available elsewhere. It’s full of practical tips and tricks from an experienced developer. You’ll learn not only how things work, but also why. By adopting this knowledge, you will succeed in extending and adapting highly useful functionality in your own projects.

Extensibility is covered in great depth. Developers have a tendency to use a framework, language, or piece of software “as is”. Even in the age of open source software, most developers don’t look inside existing code or attempt to adapt it to fit their needs. Instead, they write their own code. For years, I’ve been asking developers why they avoid third party code and go to such lengths in order to write essentially the same software. It’s usually because if they’ve created it, they know that they can control, understand, and master it.

With .NET 2.0, Microsoft shifted the ASP.NET framework towards a new paradigm—the paradigm of extensibility. This allows developers to extend Microsoft’s software and adapt the parts to behave exactly as you would have designed. Microsoft encourages you to change existing behaviors, add features, modify settings, and basically do whatever you want in order to get the most out of their framework. However, never ignore infrastructure sections or replace them completely with your own code.

Almost every ASP.NET book explains ASP.NET from the ground up—some are in-depth and some provide clear details, but ASP.NET is always treated “as is”. Their failing is in treating ASP.NET like concrete—when, in fact, it’s like Lego™. My underlying motivation for writing this book was to educate developers about this overlooked aspect of ASP.NET: the many ways it can be extended.

# Conventions Used in This Book

We understand that you’re eager to start reading and learning, but it is worth taking a few seconds to look over this section—it will help you to get the most out of this book. Several icons and font conventions are used throughout the book:

\* Screen messages, code listings, and command samples appear in monospace type.

\* The same monospace font is used for HTML, ASP.NET controls (declarative listings), and XML snippets.

\* Important parts of a listing are highlighted in **bold** **monospace**.

\* Code-related text includes many references to code, such as method names, class names, namespaces, members, and so on. This is a mixture of common framework names and the ones I’ve used in examples. To distinguish between them, all framework names (from the Microsoft world) are set in monospace, while all private names are set in *italics*.

\* To emphasize or quote things, “quotes” are occasionally used.

Several icons highlight important definitions, cautions, and conclusions:

Tip: This is a tip

Note: A note that explains a topic further but is not required for understanding the main topic

Caution: A warning to keep you from common pitfalls

# Who Is This Book For?

This book is intended for advanced web developers interested in learning about the internal workings of ASP.NET. I assume that you already have some experience writing small web applications, that you’ve actively created some web projects and you want to take your skills a step further. What if your next customer wishes to run a large server cluster, a site with thousands of pages, complex navigation, and heavy database access? ASP.NET can handle this, but its out-of-the-box features won’t be adequate. This book covers situations such as these in detail and shows you what to do when ASP.NET reaches its limits. You’ll learn how to extend, customize, and enhance this platform to get what you want. “No more compromise” is my motto.

Throughout my years of experience programming ASP.NET, I’ve noticed that developers often complain about incorrect behavior, supposed bugs, incomplete implementations, or missing features. In most of these situations I don’t agree that ASP.NET is deficient or faulty. I’ll demonstrate that the key to success with ASP.NET is a deep understanding of the platform that goes beyond the basics. ASP.NET is not perfect—it has its rough edges, like any other piece of software. However, Version 4 is top-of-the-line, providing almost everything you need in order to get your professional projects functioning well. Really, really well. This is what I’d like to tell you: learn, explore, understand, and you will be *the* professional developer you want to be.

I also assume that you already have some basic knowledge of skills and technologies often required as a web developer:

\* HTML, CSS, and JavaScript

\* Visual Studio basics, such as creating a project, running, and debugging it

\* ASP.NET basics, such as putting a control onto the page, customizing it, creating a user or custom control, and so on

\* Basic knowledge of how to obtain database access, as well as using LINQ to query it and write data back

\* Using XML as either a data source or storage

There is no information specific to the topics in this book, but I use all of these techniques with the example code.

# Prerequisites

This book is based on ASP.NET 3.5. As a basic platform, I use Visual Studio 2008, running on Windows Server 2008 with IIS7. When a client is involved, I use Windows Vista SP1. A similar platform is helpful for getting samples running. Because the last radical change in IIS took place between IIS5 and IIS6, it’s not possible to transform anything to IIS5 level. However, much of the information pertaining to IIS7 may also be true for IIS6—a bit of backward compatibility! Nevertheless, I’d encourage you to look to the future and work with the most current tools and platforms you can obtain.

# How This Book Is Organized

There are many ways of structuring a book. From my long-term experience in writing and publishing books, I know that people read books very differently. Some read from beginning to end, just like a novel, while others start where they find an interesting topic. There is no book that can cover all reading styles! However, this book follows the same successful strategy I’ve used many times before. I start with the basics: low level concepts and background information necessary to *really* understand a theme. Then I proceed systematically through all sections in an independent order. This allows you to read from beginning to end—or to dip in to an interesting chapter and skip the others. The many references in the book, pointing to sections or pages where related parts are described in more detail, will help you get the information you need. To help you find the right starting point, a brief summary of each chapter follows.

This book is full of code and examples, which are all available for download from Apress. Included with the package are subfolders named after each chapter: “chapter01”, “chapter02”, etc. These folders contain several sample solutions or web sites in separate folders. Almost all examples are fully functional. Smaller code snippets that can’t run on their own aren’t included, to avoid confusion.

# Acknowledgements

I’d like to mention the people who helped me create this book and make it what it is. Firstly, I’d like to thank David White and his daughter Rebekah for their amazing work smoothing my style and cajoling it into readable English. I know you had a challenging task. I can’t forget the support from Jonathan Hassel for my first steps into the Apress world, as well as the continuing help from Kylie Johnston. Thanks for your frequent reminders about the deadline, Kylie. They really motivate lazy writers back to the keyboard. Thanks to our technical reviewer, Stefan, who opened my mind with his remarks and code style ideas, and pointed out the mistakes that I made in haste. His work greatly improved the quality of this book.

Lastly, but not least, I’d like to thank my family and friends for understanding when I went back to the computer to continue writing or fighting with Visual Studio, while they sat on the terrace for a barbeque. Believe me, it was much harder for me than for you.