ASP.NET 3.5编程 (影印版)

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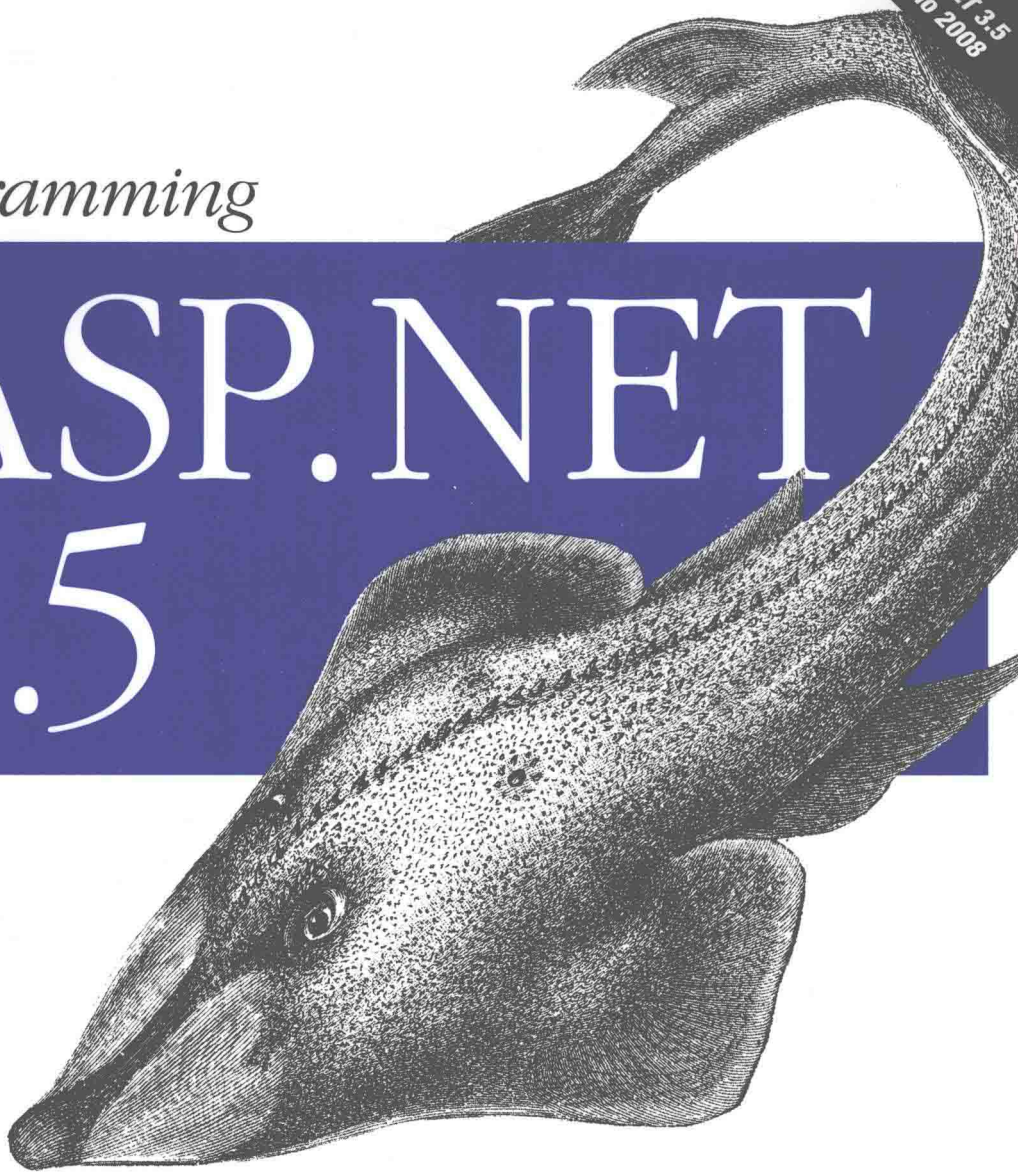
第4版
Updated for ASP.NET 3.5 and Visual Studio 2008

Programming

ASP.NET 3.5



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Jesse Liberty, Dan Hurwitz & Dan Maharry 著

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ASP.NET 3.5 编程（影印版）

Programming ASP.NET 3.5

Jesse Liberty, Dan Hurwitz & Dan Maharry

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Preface

New ideas in web development are created all the time, and the speed with which they evolve into mature technologies is astounding. To its credit, Microsoft is one of the companies that continue to push the boundaries in web development. ASP.NET 3.5 is arguably the fastest, most efficient, most reliable, and best-supported way to create interactive web applications today. Combined with the development tools available from Microsoft (both free and commercial), it is incredibly easy to create websites that look great and perform well. The amount of code you need to write to implement quite complex things continues to reduce with each new version of ASP.NET. The ever-improving support that Visual Studio and ASP.NET have for Cascading Style Sheets (CSS), themes, and consistent layouts using master pages means it's even easier to make your sites look their best. Best of all, most of the "plumbing" (security, data access, layout, etc.) is taken care of for you by the .NET Framework and the controls that are built into ASP.NET. Want to switch from using an Access database to using SQL server? That'll take about five minutes. Want to let users log on to the site using their logon identities? That's built into ASP.NET along with four other methods of authentication. Want to make sure users don't accidentally enter the wrong type of data into a web page? You can do that without writing any code at all thanks to the built-in validation controls.

The list of possibilities is long, and with the release of ASP.NET 3.5, there are yet more new pieces in the Microsoft web development puzzle that weren't there before—and, promisingly, a number of pieces that will continue to appear in the future which we've previewed in Chapter 21 and will cover more fully in the next edition of this book.

Until such time as the fifth edition arrives, here's a list of the new features you'll find in this edition:

New ASP.NET 3.5 server controls

ASP.NET 3.5 introduces a trio of new controls. The `ListView` is a new data-bound control, which for those already using ASP.NET, works much like a cross between a `Repeater` and a `DataList` without the pain of using either. Combine it with the second new control, the `DataPager`, and you've got the best template-based data-bound control in ASP.NET today. We cover both in Chapter 8.

The third new control is another data source control which uses LINQ statements rather than SQL or XPath commands to select, alter, or create data. It is called the `LinqDataSource` control and we cover it in Chapter 10.

ASP.NET AJAX Extensions and the Control Toolkit

AJAX has been around awhile now, but this is the first version of this book to cover it. In Chapters 3 through 5, we look at the various controls in the ASP.NET AJAX Extensions library that now form part of ASP.NET 3.5 and those in the Microsoft-sponsored AJAX Control Toolkit available from *http://codeplex.com*.

WCF Web Services

Those of you who are already using web services in your websites will be aware that .NET 3.0 introduced the Windows Communication Framework and within it a new type of slim-line (RESTful) web service. This makes a lot more sense to use in some scenarios than those introduced originally in .NET 1.0. Chapter 16 looks at both types, the difference between them, and how to create and use them within a website.

LINQ

Probably the most compelling reason to look at .NET 3.5, the Language Integrated Query API presents a brand-new way to query for data across multiple sources in a consistent way. As Chapter 10 will demonstrate, LINQ is in no way just another data API.

New features in Visual Studio 2008

A new version of Visual Studio always includes a few new features and this edition is no different. In Chapter 2 we provide coverage of these new features, and in Chapter 20 we look at the new Web Deployment Project add-on for VS2008.

Vista and IIS 7.0

January 2007 saw the release of Windows Vista and with it a completely new version of Internet Information Services (IIS). Rewritten from scratch, IIS 7.0 is a completely different beast from its forebears, and this has a direct effect on forms-based security, site configuration, and deployment. Chapters 12, 18, and 20 will cover all these changes, respectively.

Even Vista itself has a certain impact on the development process. Its tighter grip on account permissions means that certain VS2008 functions can be performed only by an administrator. Notes throughout the book will highlight where this is the case.

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Examples and sample database

The majority of the examples in this book have been completely reworked and the database-dependent ones now also use the lightweight AdventureWorksLT sample database.

It's quite amazing just how deep and rich a feature set ASP.NET has on its own before you even start to consider the additional features of VS2008, IIS 7.0, C# 3.0, SQL Server, and the rest. Although we can't cover everything in minute detail, we hope this book does give you a good guide to working with ASP.NET 3.5 and its associated technologies.

Learning or Programming?

We have written two ASP.NET books: the one you are currently reading and another named *Learning ASP.NET 3.5* (O'Reilly). Whereas that book is aimed at complete beginners wanting to ramp up their ASP.NET skills, this book is aimed at those with at least a basic knowledge of development with ASP.NET who want to explore it in more depth. It is a way marker, mapping out and describing the various aspects of development with ASP.NET to a point where the reader has enough knowledge of it to understand what he can do and how to strike out on his own to deeper, more involved areas of the topic.

With this in mind, *Programming ASP.NET 3.5* is not aimed specifically at the total newcomer to ASP.NET development, though arguably newcomers may gain the most from it over a period of time. Nor is it targeted at the ASP.NET guru who wants in-depth knowledge of operations at the protocol level, although we hope there are a few nuggets in here that such readers didn't already know, and that they may choose to use this book as a handy fallback if their memory fails them.

Visual Basic Versus C#

A quick note on Visual Basic versus C#: some people choose a .NET book based on the language in which the examples are given. That's a natural reaction, but it's really not necessary, and here's why: there is very little actual Visual Basic or C# code in any given ASP.NET application, and what there is, you can easily translate from one to the other "on inspection." Besides, the two languages are strikingly similar, and both produce the same output. If you know one, it's quite simple to learn the other. In fact, software tools are available that can convert one language to the other with amazing accuracy. Finally, ASP.NET programmers benefit terrifically by being "bilingual"—that is, having the ability to read C# and write Visual Basic (or vice versa).

In the end, we had to choose one language over the other, and we elected to do the examples and exercises for this book in C#. However, if you prefer Visual Basic, you'll find every single example and exercise solution reproduced in Visual Basic free for download from this book's website, at *http://www.oreilly.com/catalog/9780596529567*.

How This Book Is Organized

Here is a summary of the chapters in this book and what you can expect from each:

Chapter 1, *Web Development in 2008*
: Provides a short introduction to how .NET has grown between v2.0 and v3.5, and in which areas it will continue to grow.

Chapter 2, *Visual Studio 2008*
: Explores Visual Studio 2008 and its new features since the previous version, and shows how you can use them to create ASP.NET applications.

Chapter 3, *Controls: Fundamental Concepts*
: Introduces the five types of control you'll use to create an ASP.NET website, and how they differ from each other. This chapter also introduces the concept of events and postbacks on a page.

Chapter 4, *Basic Controls*
: Looks at all the text-, image-, and list-related ASP.NET Server controls and AJAX server controls installed by default into Visual Studio 2008. The chapter also looks at some of the controls in the AJAX Control Toolkit that extend the functionality of the basic controls.

Chapter 5, *More Controls*
: Looks at more advanced ASP.NET Server controls and AJAX server controls installed by default into Visual Studio 2008, including the `Panel`, `UpdatePanel`, `Wizard`, `FileUpload`, and `Calendar` controls.

Chapter 6, *Website Fundamentals*
: Shows you how to use the code behind a page effectively, and how to manage state in the otherwise stateless Web. This chapter also describes the life cycle of a web page in detail and shows you how to take advantage of advanced directives.

Chapter 7, *Data Source Controls and Connections*
: Looks at the ASP.NET data source controls, how to use them, and which sources of data can be used with which control.

Chapter 8, *Using Data-Aware Controls*
: Explores the various data-bound controls supplied with ASP.NET 3.5, including the new `ListView` control. This chapter also demonstrates how they use the `DataSource` controls shown in Chapter 7 to both retrieve and save data.

Chapter 9, *ADO.NET*

Shows you the technology underlying the controls described in Chapters 7 and 8, so you understand how it all works and can take precise control when necessary.

Chapter 10, *Presenting LINQ*

Looks at the brand-new LINQ API, how it can be used to query and join diverse sources of data, and how to make use of it within ASP.NET pages.

Chapter 11, *Validation*

Demonstrates the various ASP.NET server controls dedicated to validating the contents of a form to ensure data consistency and protect against spoofing.

Chapter 12, *Forms-Based Security*

Describes in detail how to implement forms-based security to constrain user access to your website over the Internet. In addition, this chapter demonstrates how to use either the default (SQL Express) database for this or how to create your SQL Server database and use that instead to create users and roles (groups) and to facilitate authentication and authorization.

Chapter 13, *Master Pages and Navigation*

Describes some of the features that help you build professional-quality web applications. Master pages allow you to create a uniform look and feel throughout your application, and the navigation controls allow you to build site maps, menus, and breadcrumbs quickly and easily to facilitate navigation of large applications.

Chapter 14, *Personalization*

Shows you how to allow your users to tailor the look and feel of your site to their own requirements, and how to store that information so that when users return, the site remembers their preferences and state.

Chapter 15, *Custom and User Controls*

Covers the powerful yet easy-to-use technology that allows you to extend ASP.NET to create controls customized for your specific problem domain.

Chapter 16, *Web Services*

Looks at how to create and consume both ASP.NET and WCF web services, how to enable them in an AJAX environment and the various standard protocols used for services and their clients to talk to one another.

Chapter 17, *Caching and Performance*

Lays out the various ways that some or all of an ASP.NET page can be cached on the server and the different toggles that will require it to be deleted from the cache and regenerated.

Chapter 18, *Application Logic and Configuration*

Looks at how information can be stored at the application level and how the *web.config* file can be used to alter the operating parameters of your website. In particular, you'll see how to use IIS 7.0 and the Web Site Administration Tool (WAT) to alter *web.config* and then how to create custom sections of *web.config* for your own specific use.

Chapter 19, *Tracing, Debugging, and Error Handling*
: Examines the various ways to detect errors during development in ASP.NET, and how to handle errors that occur in your production code.

Chapter 20, *Deployment*
: Looks at three different ways to deploy your website: by copying the site's file directly with XCOPY, by wrapping it up into an installer with a Web Setup Project, and finally by deploying it as a part of the build process with a Web Deployment Project.

Chapter 21, *Epilogue: From Now to vNext*
: Last but not least, this chapter takes a brief look at the various .NET 3.5 web development-related beta projects currently available for download.

Appendix A, *Installing the AJAX Control Toolkit*
: Demonstrates how to install the AJAX Control Toolkit used throughout the book.

Appendix B, *Relational Database Technology: A Crash Course*
: Introduces the key concepts needed to use relational databases, such as SQL Server, used in this book.

Appendix C, *Keyboard Shortcuts*
: Describes all the keyboard shortcuts enabled in Visual Studio 2008 under its Web Development default settings.

What You Need to Use This Book

We wrote this book using Visual Studio 2008 and SQL Server 2005 on a laptop running Windows Vista. You may want to copy this setup to follow the book, but any of the following will do:

Operating systems
: Windows XP or later will do, except to follow Chapter 18's look at IIS 7.0, which is available only for Windows Vista and Windows Server 2008.

Visual Studio
: The 2008 edition of Visual Web Developer (free to download) will be more than sufficient to follow this book. If you have a paid-for copy of Visual Studio 2008, so much the better.

SQL Server
: Any edition of SQL Server 2005 or 2008 will do. If you decide to follow this text using SQL Server 2008, please note that you will need to download a slightly different version of the sample database to follow the material in Chapters 7 through 10.

Conventions Used in This Book

The following typographical conventions are used in this book:

Italic
: Indicates new terms, URLs, email addresses, filenames, file extensions, pathnames, directories, and Unix utilities

`Constant width`
: Indicates commands, options, switches, variables, attributes, keys, functions, types, classes, namespaces, methods, modules, properties, parameters, values, objects, events, event handlers, XML tags, HTML tags, macros, the contents of files, and the output from commands

`Constant width bold`
: Shows commands or other text that should be typed literally by the user

`Constant width italic`
: Shows text that should be replaced with user-supplied values

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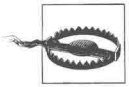

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Acknowledgments

From Jesse Liberty

This book is the result of the extraordinary work of three teams: the ASP.NET developers at Microsoft, my coauthors who shouldered the responsibility to turn a good book on ASP.NET into a world-class tutorial on a tremendously expanded framework, and the editorial and production team at O'Reilly who contribute more than can ever be expressed. I am deeply grateful to you all.

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From Dan Hurwitz

I would like to once again thank Jesse for being an excellent colleague and good friend, and the fine folks at O'Reilly who made this book possible, especially John Osborn and Brian MacDonald. I also wish to acknowledge the outstanding contribution of our new coauthor, the other Dan. And as always, I especially want to thank my wife and family for being so supportive.

From Dan Maharry

There are a number of people connected to this project that I need to thank. Jesse and Dan H. were brave enough to let me work with them, and John Osborn was kind enough to suggest me in the first place. Lou Franco and Mike Pope also provided some additional text. Thanks to them. Having worked in publishing in a former life, I know how many others will also have touched this book before reaching you, the reader, so I thank them, too.

Thirteen months is a long time to dedicate weekends and nights to a single project, so thanks to my family and friends for necessarily distracting me every so often.

Last but not least (first and foremost even), thanks to *my wife Janey*, who endured my absence during the writing process with the patience of a saint. I love her lots and am amazed daily at how lucky I am to be married to her.

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