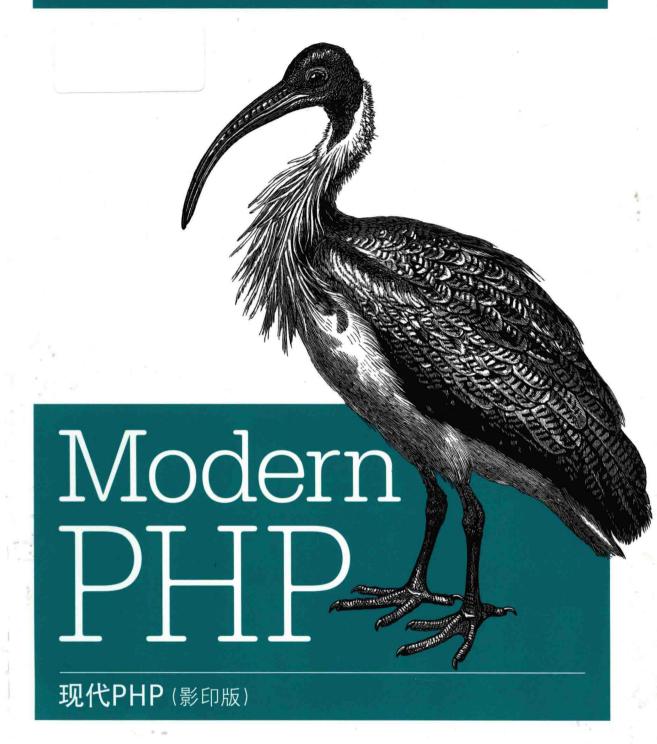
O'REILLY®

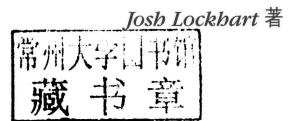


東南大學出版社

Josh Lockhart 著

现代PHP (影印版)

Modern PHP



Beijing • Cambridge • Farnham • Köln • Sebastopol • Tokyo



O'Reilly Media, Inc.授权东南大学出版社出版

图书高版编目(CIP)数据

现代 PHP: 英文/(美) 洛克哈特(Lockhart, J.) 著.

影印本. 一南京:东南大学出版社,2015.9

书名原文: Modern PHP

ISBN 978 - 7 - 5641 - 5914 - 6

I.①现··· Ⅱ.①洛··· Ⅲ.①PHP 语言-程序设计-英文 Ⅳ. ①TP312

中国版本图书馆 CIP 数据核字(2015)第 165745 号

江苏省版权局著作权合同登记

图字:10-2015-241号

© 2015 by O'Reilly Media, Inc.

Reprint of the English Edition, jointly published by O'Reilly Media, Inc. and Southeast University Press, 2015. Authorized reprint of the original English edition, 2015 O'Reilly Media, Inc., the owner of all rights to publish and sell the same.

All rights reserved including the rights of reproduction in whole or in part in any form.

英文原版由 O'Reilly Media, Inc.出版 2015。

英文影印版由东南大学出版社出版 2015。此影印版的出版和销售得到出版权和销售权的所有者—— O'Reilly Media, Inc.的许可。

版权所有,未得书面许可,本书的任何部分和全部不得以任何形式重制。

现代 PHP(影印版)

出版发行:东南大学出版社

地 址:南京四牌楼 2号 邮编:210096

出版人: 江建中

网 址: http://www.seupress.com

电子邮件: press@seupress.com

印 刷:常州市武进第三印刷有限公司

开 本: 787 毫米×980 毫米 16 开本

印 张: 16.75

字 数: 328 千字

版 次: 2015年9月第1版

印 次: 2015年9月第1次印刷

书 号: ISBN 978-7-5641-5914-6

定 价: 54.00元



Preface

There are a million PHP tutorials online. Most of these tutorials are outdated and demonstrate obsolete practices. Unfortunately, these tutorials are still referenced today thanks to their Google immortality. Outdated information is dangerous to unaware PHP programmers who unknowingly create slow and insecure PHP applications. I recognized this issue in 2013, and it is the primary reason I began PHP The Right Way (http://www.phptherightway.com), a community initiative to provide PHP programmers easy access to high-quality and up-to-date information from authoritative members of the PHP community.

Modern PHP is my next endeavor toward the same goal. This book is not a reference manual. Nope. This book is a friendly and fun conversation between you and me. I'll introduce you to the modern PHP programming language. I'll show you the latest PHP techniques that I use every day at work and on my open source projects. And I'll help you use the latest coding standards so you can share your PHP components and libraries with the PHP community.

You'll hear me say "community" over and over (and over). The PHP community is friendly and helpful and welcoming—although not without occasional drama. If you become curious about a specific feature mentioned in this book, reach out to your local PHP user group with questions. I guarantee you there are nearby PHP developers who would love to help you become a better PHP programmer. Your local PHP user group is an invaluable resource as you continue to improve your PHP skills long after you finish this book.

What You Need to Know About This Book

Before we get started, I want to set a few expectations. First, it is impossible for me to cover *every* way to use PHP. There isn't enough time. Instead, I will show you *how I use PHP*. Yes, this is an opinionated approach, but I use the very same practices and standards adopted by many other PHP developers. What you take away from our brief conversation will be immediately applicable in your own projects.

Second, I assume you are familiar with variables, conditionals, loops, and so on; you don't have to know PHP, but you should at least bring a basic understanding of these fundamental programming concepts. You can also bring coffee (I love coffee). I'll supply everything else.

Third, I do not assume you are using a specific operating system. However, my code examples are written for Linux. Bash commands are provided for Ubuntu and CentOS and may also work on OS X. If you use Windows, I highly recommend you spin up a Linux virtual machine so you can run the example code in this book.

How This Book Is Organized

Part I demonstrates new PHP features like namespaces, generators, and traits. It introduces you to the modern PHP language, and it exposes you to features you may not have known about until now.

Part II explores good practices that you should implement in your PHP applications. Have you heard the term PSR, but you're not entirely sure what it is or how to use it? Do you want to learn how to sanitize user input and use safe database queries? This chapter is for you.

Part III is more technical than the first two parts. It demonstrates how to deploy, tune, test, and profile PHP applications. We dive into deployment strategies with Capistrano. We talk about testing tools like PHPUnit and Travis CI. And we explore how to tune PHP so it performs as well as possible for your application.

Appendix A provides step-by-step instructions for installing and configuring PHP-FPM on your machine.

Appendix B explains how to build a local development environment that closely matches your production server. We explore Vagrant, Puppet, Chef, and alternative tools to help you get started quickly.

Conventions Used in This Book

The following typographical conventions are used in this book:

Italic

Indicates new terms, URLs, email addresses, filenames, and file extensions.

Constant width

Used for program listings, as well as within paragraphs to refer to program elements such as variable or function names, databases, data types, environment variables, statements, and keywords.

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 or by values determined by context.



This element signifies a tip or suggestion.



This element signifies a general note.



This element indicates a warning or caution.

Using Code Examples

Supplemental material (code examples, exercises, etc.) is available for download at https://github.com/codeguy/modern-php.

This book is here to help you get your job done. In general, if example code is offered with this book, you may use it in your programs and documentation. You do not need to contact us for permission unless you're reproducing a significant portion of the code. For example, writing a program that uses several chunks of code from this book does not require permission. Selling or distributing a CD-ROM of examples from O'Reilly books does require permission. Answering a question by citing this book and quoting example code does not require permission. Incorporating a significant amount of example code from this book into your product's documentation does require permission.

We appreciate, but do not require, attribution. An attribution usually includes the title, author, publisher, and ISBN. For example: "Modern PHP by Josh Lockhart (O'Reilly). Copyright 2015 Josh Lockhart, 978-1-491-90501-2."

If you feel your use of code examples falls outside fair use or the permission given above, feel free to contact us at permissions@oreilly.com.

Safari® Books Online



Safari Books Online is an on-demand digital library that delivers expert content in both book and video form from the world's leading authors in technology and business.

Technology professionals, software developers, web designers, and business and creative professionals use Safari Books Online as their primary resource for research, problem solving, learning, and certification training.

Safari Books Online offers a range of plans and pricing for enterprise, government, education, and individuals.

Members have access to thousands of books, training videos, and prepublication manuscripts in one fully searchable database from publishers like O'Reilly Media, Prentice Hall Professional, Addison-Wesley Professional, Microsoft Press, Sams, Que, Peachpit Press, Focal Press, Cisco Press, John Wiley & Sons, Syngress, Morgan Kaufmann, IBM Redbooks, Packt, Adobe Press, FT Press, Apress, Manning, New Riders, McGraw-Hill, Jones & Bartlett, Course Technology, and hundreds more. For more information about Safari Books Online, please visit us online.

How to Contact Us

Please address comments and questions concerning this book to the publisher:

O'Reilly Media, Inc. 1005 Gravenstein Highway North Sebastopol, CA 95472 800-998-9938 (in the United States or Canada) 707-829-0515 (international or local) 707-829-0104 (fax)

We have a web page for this book, where we list errata, examples, and any additional information. You can access this page at http://bit.ly/modern_php.

To comment or ask technical questions about this book, send email to bookquestions@oreilly.com.

For more information about our books, courses, conferences, and news, see our website at http://www.oreilly.com.

Find us on Facebook: http://facebook.com/oreilly

Follow us on Twitter: http://twitter.com/oreillymedia

Watch us on YouTube: http://www.youtube.com/oreillymedia

Acknowledgments

This is my first book. When O'Reilly approached me about writing *Modern PHP*, I was equally excited and scared to death. The first thing I did was a Walter Huston dance; I mean, O'Reilly wanted me to write a book. How cool is that!? Then I asked myself can I really write that many pages? A book isn't a quick or small task.

Of course, I immediately said "yes." I knew I could write *Modern PHP* because I had family, friends, coworkers, editors, and reviewers supporting me the entire way. I want to acknowledge and thank my supporters for their invaluable feedback. Without them, this book would never have happened.

First, I want to thank my editor at O'Reilly Media—Allyson MacDonald (@allyatoreilly). Ally was nice, critical, supportive, and smart. She knew exactly how and when to gently nudge me in the right direction whenever I got off track. I can't imagine working with a better editor.

I also want to thank my technical reviewers—Adam Fairholm (@adamfairholm) and Ed Finkler (@funkatron). Adam is a brilliant web developer at Newfangled (https://www.newfangled.com), and he is perhaps best known for his work on IMVDb (http://imvdb.com)—the popular music video database. Ed is well-known throughout the PHP community for his incredible PHP skills, his personality on the /dev/hell pod-cast (http://devhell.info), and his commendable Open Sourcing Mental Illness (http://funkatron.com/osmi) campaign. Adam and Ed both pointed out everything dumb, illogical, and incorrect in my early drafts. This book is far better than anything I could write on my own thanks to their brutally honest feedback. I am forever indebted to them for their guidance and wisdom. If any faults or inaccuracies wriggled their way into the final manuscript, those faults are surely my own.

My coworkers at New Media Campaigns (http://www.newmediacampaigns.com) have been a constant source of encouragement. Joel, Clay, Kris, Alex, Patrick, Ashley, Lenny, Claire, Todd, Pascale, Henry, and Nathan—I tip my hat to all of you for your kind words of encouragement from beginning to end.

And most important, I want to thank my family—Laurel, Ethan, Tessa, Charlie, Lisa, Glenn, and Liz. Thank you for your encouragement, without which I would have never finished this book. To my lovely wife, Laurel, thank you for your patience. Thank you for accompanying me to Caribou Coffee for so many late-night writing sessions. Thank you for letting me abandon you on weekends. Thank you for keeping me motivated and on schedule. I love you now and forever.

Language Features



Table of Contents

Preface xiii		
Part I. Language Features		
1. The New PHP. Past Present Future		
Namespaces Why We Use Namespaces Declaration Import and Alias Helpful Tips Code to an Interface Traits Why We Use Traits How to Create a Trait How to Use a Trait Generators Create a Generator Use a Generator Closures Create Attach State Zend OPcache	5 7 8 9 11 13 17 18 19 21 22 22 23 25 25 27 29	

	Enable Zend OPcache	29
	Configure Zend OPcache	31
	Use Zend OPcache	31
	Built-in HTTP server	32
	Start the Server	32
	Configure the Server	33
	Router Scripts	33
	Detect the Built-in Server	34
	Drawbacks	34
	What's Next	34
Pa	rt II. Good Practices	
3.	Standards	37
	PHP-FIG to the Rescue	38
	Framework Interoperability	38
	Interfaces	39
	Autoloading	39
	Style	39
	What Is a PSR?	40
	PSR-1: Basic Code Style	40
	PSR-2: Strict Code Style	41
	PSR-3: Logger Interface	45
	Write a PSR-3 Logger	46
	Use a PSR-3 Logger	47
	PSR-4: Autoloaders	48
	Why Autoloaders Are Important	48
	The PSR-4 Autoloader Strategy	49
	How to Write a PSR-4 Autoloader (and Why You Shouldn't)	49
4.	Components	51
	Why Use Components?	51
	What Are Components?	52
	Components Versus Frameworks	53
	Not All Frameworks Are Bad	54
	Use the Right Tool for the Job	55
	Find Components	55
	Shop	56
	Choose	56
	Leave Feedback	57
	Use PHP Components	57

	How to Install Composer	58
	How to Use Composer	59
	Example Project	61
	Composer and Private Repositories	64
	Create PHP Components	66
	Vendor and Package Names	66
	Namespaces	66
	Filesystem Organization	67
	The composer.json File	68
	The README file	70
	Component Implementation	71
	Version Control	72
	Packagist Submission	73
	Using the Component	74
5.	Good Practices	75
	Sanitize, Validate, and Escape	75
	Sanitize Input	76
	Validate Data	79
	Escape Output	80
	Passwords	80
	Never Know User Passwords	81
	Never Restrict User Passwords	81
	Never Email User Passwords	81
	Hash User Passwords with bcrypt	82
	Password Hashing API	82
	Password Hashing API for PHP < 5.5.0	87
	Dates, Times, and Time Zones	87
	Set a Default Time Zone	88
	The DateTime Class	88
	The DateInterval Class	89
	The DateTimeZone Class	91
	The DatePeriod Class	92
	The nesbot/carbon Component	93
	Databases	93
	The PDO Extension	93
	Database Connections and DSNs	93
	Prepared Statements	96
	Query Results	98
		100
		103
	Character Encoding	104

	Output OTF-8 Data	105
	Streams	106
	Stream Wrappers	106
	Stream Context	109
	Stream Filters	110
	Custom Stream Filters	112
	Errors and Exceptions	115
	Exceptions	115
	Exception Handlers	118
	Errors	119
	Error Handlers	121
	Errors and Exceptions During Development	123
	Production	124
Pa	rt III. Deployment, Testing, and Tuning	
6.	Hosting	129
	Shared Server	129
	Virtual Private Server	130
	Dedicated Server	131
	PaaS	131
	Choose a Hosting Plan	132
7.	Provisioning	133
	Our Goal	134
	Server Setup	134
	First Login	134
	Software Updates	135
	Nonroot User	135
	SSH Key-Pair Authentication	136
	Disable Passwords and Root Login	138
	PHP-FPM	138
	Install	139
	Global Configuration	139
	Pool Configuration	140
	nginx	143
	Install	143
	Virtual Host	143
	Automate Server Provisioning	146
	Delegate Server Provisioning	146
	Further Reading	147