Beginning CakePHP

From Novice to Professional

David Golding

Apress®

Beginning CakePHP: From Novice to Professional

Copyright © 2008 by David Golding

All rights reserved. No part of this work may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage or retrieval system, without the prior written permission of the copyright owner and the publisher.

ISBN-13 (pbk): 978-1-4302-0977-5

ISBN-13 (electronic): 978-1-4302-0978-2

Printed and bound in the United States of America 9 8 7 6 5 4 3 2 1

Trademarked names may appear in this book. Rather than use a trademark symbol with every occurrence of a trademarked name, we use the names only in an editorial fashion and to the benefit of the trademark owner, with no intention of infringement of the trademark.

Lead Editors: Steve Anglin, Tom Welsh
Technical Reviewer: Richard K. Miller
Editorial Board: Clay Andres, Steve Anglin, Ewan Buckingham, Tony Campbell, Gary Cornell, Jonathan Gennick, Matthew Moodie, Joseph Ottinger, Jeffrey Pepper, Frank Pohlmann, Ben Renow-Clarke, Dominic Shakeshaft, Matt Wade, Tom Welsh
Project Manager: Sofia Marchant
Copy Editor: Kim Wimpsett
Associate Production Director: Kari Brooks-Copony
Production Editor: Laura Cheu
Compositor: Linda Weidemann, Wolf Creek Press
Proofreader: Nancy Sixsmith, ConText Editorial Services, Inc.
Indexer: Becky Hornyak
Artist: Kinetic Publishing Services, LLC
Cover Designer: Kurt Krames
Manufacturing Director: Tom Debolski

Distributed to the book trade worldwide by Springer-Verlag New York, Inc., 233 Spring Street, 6th Floor, New York, NY 10013. Phone 1-800-SPRINGER, fax 201-348-4505, e-mail `orders-ny@springer-sbm.com`, or visit `http://www.springeronline.com`.

For information on translations, please contact Apress directly at 2855 Telegraph Avenue, Suite 600, Berkeley, CA 94705. Phone 510-549-5930, fax 510-549-5939, e-mail `info@apress.com`, or visit `http://www.apress.com`.

Apress and friends of ED books may be purchased in bulk for academic, corporate, or promotional use. eBook versions and licenses are also available for most titles. For more information, reference our Special Bulk Sales–eBook Licensing web page at `http://www.apress.com/info/bulksales`.

The information in this book is distributed on an “as is” basis, without warranty. Although every precaution has been taken in the preparation of this work, neither the author(s) nor Apress shall have any liability to any person or entity with respect to any loss or damage caused or alleged to be caused directly or indirectly by the information contained in this work.

The source code for this book is available to readers at `http://www.apress.com`. You will need to answer questions pertaining to this book in order to successfully download the code.

To Camille and Kenny—
your sacrifices, above all,
make this all possible.

Contents at a Glance

About the Author xvii

About the Technical Reviewer xviii

Acknowledgments xix

CHAPTER 1 Introduction 1

PART 1 ■ ■ ■ Getting Started

CHAPTER 2 Installing and Running CakePHP 9

CHAPTER 3 Creating a To-Do List Application. 17

PART 2 ■ ■ ■ Developing CakePHP Applications

CHAPTER 4 Naming Files and Designing the Database. 29

CHAPTER 5 Creating Simple Views and Baking in the Console 55

CHAPTER 6 Customizing Views 73

CHAPTER 7 Working with Controllers and Models. 89

CHAPTER 8 Implementing Ajax Features 113

PART 3 ■ ■ ■ Advanced CakePHP

CHAPTER 9 Helpers. 137

CHAPTER 10 Routes 175

CHAPTER 11 Components and Utilities 187

CHAPTER 12 Vendors 207

CHAPTER 13 Plugins. 219

CHAPTER 14 DataSources and Behaviors. 241

CHAPTER 15 Wrapping Up the Application 273

PART 4 ■ ■ ■ Appendixes

■APPENDIX A Installation Issues 281
■APPENDIX B How CakePHP Compares with Other Frameworks. 289

■INDEX 295

Contents

About the Author xvii
About the Technical Reviewer xviii
Acknowledgments xix

CHAPTER 1 **Introduction** 1

From Novice to Professional 2
Why Cake? 2
It's PHP! 2
Rapid Development 3
Model-View-Controller 3
CRUD Operations and the Bake Script 5
Scaffolding 5
Helpers 5
Customizable Elements 6
Large Community 6
More Features 6
Summary. 6

PART 1 ■ ■ ■ Getting Started

CHAPTER 2 **Installing and Running CakePHP**. 9

A Simple Start: Running Cake on a Localhost Environment. 9
Getting Cake 10
Launching Cake 10
Running the Setup Routines 13
Preparing the tmp Folder for Cake to Read and Write Temp Files. 13
Changing the Security.salt Value 13
Entering MySQL Connection Settings. 14
Designing Your Database Schema 15
Summary 16

CHAPTER 3 **Creating a To-Do List Application** 17

Exploring the MVC Structure 17
The To-Do List's MVC Layout 19
Designing and Creating the Database 19
Creating Models. 20
What's Happening in This Model. 21
Model Possibilities. 21
Creating Controllers 21
What's Happening in This Controller 22
Controller Possibilities. 22
Launching the Application 22
How Cake Resolves URLs. 23
Creating the Scaffolding. 23
Summary. 25

PART 2 ■■■ **Developing CakePHP Applications**

CHAPTER 4 **Naming Files and Designing the Database** 29

Convention Over Configuration 29
Intercepting Cake. 29
Starting with the Database. 30
MVC Default Behaviors. 30
Naming Conventions. 31
Naming Controllers 31
Naming Models 32
Naming Views. 33
More Than One Word in the Name 33
Naming Other Cake Resources 34
Best Practices. 37
Poorly Designed Databases. 39
Why Good Database Design Matters 39
Feature Creep and Cake. 40

Table Associations. 40
The Database Design 40
“Belongs To” 41
“Has One” 43
“Has Many” 44
Testing the Associations. 45
Conventions for Establishing Table Associations 47
“Has and Belongs to Many”. 48
Beyond the Scaffold 52
Summary. 53

CHAPTER 5 Creating Simple Views and Baking in the Console 55

Introducing Layouts. 55
Writing the default.ctp File. 56
Creating Individual Views. 59
Adding Actions to the Controller 59
Using Bake to Create Views. 61
Configuring the Console’s Profile to Run Bake 62
Launching Bake 63
Using Bake to Generate CRUD Views 64
Editing Baked Views 68
Considering Internationalization 70
Using Commands for Faster Baking. 70
Customizing Views 70
Summary. 71

CHAPTER 6 Customizing Views. 73

Handling User Interactions. 73
A Simple Page Request. 73
A Form Submission Sequence. 75
Filling Form Fields for Editing or Updating. 78
An Asynchronous Sequence 79
Writing Individual View Files 80
Using the Debug Function 82
Customizing the View File from Scratch 83
Customizing an HTML Form. 84
Using Other Helpers 86
Summary 87

CHAPTER 7 **Working with Controllers and Models** 89

Building an Extensive Blog. 89
Working with Actions 90
Using Variables in Actions 90
Requesting Actions 91
How Callback Actions Work in the Controller 92
Customizing the Controller for the Blog. 92
Recursive. 93
Pagination 93
The find() Function. 93
Displaying the Most Recent Posts. 96
The View Action 97
The read() Function 97
The setFlash() Function. 98
The redirect() Function 99
Creating a Model for the Blog 100
The Add Action. 101
The save() Function 101
Validating Data 102
Writing Custom Model Functions 106
Trimming Results 109
The unbindModel() Function 109
The bindModel() Function. 110
Summary. 111

CHAPTER 8 **Implementing Ajax Features** 113

How Ajax Works. 113
Working with Ajax Frameworks. 114
Using the Ajax Helper 115
Preparing the Ajax Helper 116
Installing Prototype 116
Including the JavaScript Helper in the App Controller File 116
Making Helpers Available for the Whole Application 117
Adding Comments to the Blog. 117
Working Ajax into the View 118
Displaying Comments 118
Using an Ajax Form 120

Working Ajax into the Controller 121
Rendering for Ajax 122
Using Other Ajax Helper Functions 123
The submit() Function 124
The link() Function 124
Doing More with the Ajax Helper 129
Passing JavaScript with the Options Array 130
Prototype vs. jQuery 130
Uploading Files with jQuery 131
Installing jQuery and the Form Plugin 131
Creating the Posts Add Action 131
Creating the Posts Controller Text Action 132
Writing the Text View 133
More Ajax Features 134
Summary 134

PART 3 ■■■ Advanced CakePHP

CHAPTER 9 **Helpers** 137

Installing Helpers 137
Using Cake’s Built-in Helpers 138
Explain Every Helper Function? 138
Working with the HTML Helper 139
Using the HTML Helper in the Default Layout 149
Working with the Form Helper 150
Using Other Built-in Helpers 157
The Ajax Helper 157
The JavaScript Helper 157
The Number Helper 158
The Paginator Helper 158
The RSS Helper 159
The Session Helper 160
The Text Helper 160
The Time Helper 161
The XML Helper 162

Creating Custom Helpers 162
Using the App Helper. 163
Creating the Helper File 163
Using Outside Helper Functions 164
Making a Helper for Your Blog. 164
Customizing Helper Variables 171
Summary. 173

CHAPTER 10 **Routes** 175

The Basic Route. 175
Arguments 176
Reverse Routing. 177
Lookups. 177
Rewriting URLs in the Router. 177
Admin Routing 178
Choosing an Admin Prefix 179
Linking Admin Actions and Views. 179
Baking Admin Routes 179
Route Parameters 180
Magic Variables 180
Custom Expressions 181
The Pass Key 181
Parsing Files with Extensions Other Than .php 182
The Process 182
Creating the RSS Feed 183
Summary. 185

CHAPTER 11 **Components and Utilities**. 187

Why Use Components?. 187
Using Components. 188
Using Built-in Components 188
Authentication 189
Session 194
Cookie 195
Email 196
Other Components. 198

Utility Classes 198
Configure 199
File and Folder 199
HTTP Socket 201
Localization and Internationalization 202
Sanitize 204
Third-Party Components 204
Creating Custom Components 205
Using the Initialize and Startup Functions 205
Writing Vendor Files Instead of Components 206
Summary 206

CHAPTER 12 **Vendors** 207

Using Vendors 207
Dealing with File Names 209
Dealing with Nested Folders 209
Making No Assumptions for Third-Party Scripts 209
Unidirectional Scripting 210
Installing a Third-Party Script 210
Including Textile 210
Instantiating and Running Textile 211
Writing Posts with Textile 211
Using Other Frameworks with CakePHP 211
Zend Framework 212
Summary 217

CHAPTER 13 **Plugins** 219

Installing a Third-Party Plugin 219
Creating Custom Plugins 221
Naming Convention for Plugin Elements 221
Running Plugin Actions 223
Using Plugin Layouts 223
The Calendar Plugin 224
Setting Up the Files and Folders 224
Create the Events Table 225
Create the Event Model 225
Create the Events Controller 225
Summary 240

CHAPTER 14 **DataSources and Behaviors** . . . 241

Extending the Model with DataSources and Behaviors . . . 243
Working with DataSources. . . . 243
Using Built-in DataSources . . . 244
Building a Custom DataSource . . . 246
Working with Behaviors . . . 254
Using the Tree Behavior to Categorize Blog Posts . . . 255
Using Other Tree Behavior Functions . . . 263
Using the ACL and Translate Behaviors . . . 265
Using the Containable Behavior . . . 265
Attaching and Detaching Behaviors . . . 267
Writing Custom Behaviors . . . 268
Summary. . . . 270

CHAPTER 15 **Wrapping Up the Application** . . . 273

Designing the Home Page . . . 273
Using the Pages Controller to Produce a Single View . . . 273
Making an Action the Starting Point . . . 274
Generating Dynamic Navigation . . . 275
Customizing the Overall Design . . . 276
Debugging the Application. . . . 276
Running the Application on a Remote Host. . . . 277
Summary. . . . 278

PART 4 **Appendixes**

APPENDIX A **Installation Issues** . . . 281

Developing in a Localhost Environment. . . . 281
Using the Localhost First, Remote Last . . . 281
Why Doing It All Remotely Is Bad . . . 282
Setting Up a Localhost . . . 282
Setting Up on a Mac . . . 282
Setting Up on Windows. . . . 284
Running MySQL . . . 286
Where to Find Other MySQL Tools . . . 286
Typical Settings When Running MySQL . . . 287

APPENDIX B How CakePHP Compares with Other Frameworks 289

PHP Frameworks 289

Using the Various Frameworks 290

CakePHP 290

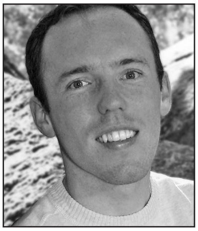
CodeIgniter 291

Symfony. 292

Zend Framework 293

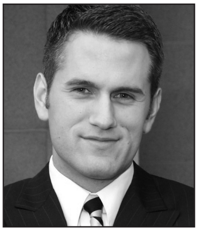
INDEX 295

About the Author



■**DAVID GOLDING** began developing web sites in 1999 and first started using CakePHP on a bet he couldn't complete a web application in five minutes. Golding has a degree in European Studies from Brigham Young University and currently works in technology consulting and freelance web development. He lives with his wife, Camille, and his son, Kenny, in southern California and spends his free time playing golf and studying history. His musings can be found at `www.davidgolding.net`.

About the Technical Reviewer



■**RICHARD K. MILLER** is the executive vice president of a nonprofit foundation in Utah. He graduated from Brigham Young University with a bachelor's degree in business management but has been interested in technology since he began computer programming at age 10. His experience includes web programming, Internet marketing, and new media strategies such as blogging, podcasting, social networking, and online video. He is the developer of several MediaWiki extensions and WordPress plugins, including the widely used What Would Seth Godin Do plugin.

Acknowledgments

I owe much to those who have contributed to this book, especially since CakePHP is an improving framework and its online community is growing. Chris Nielsen and Benjamin Swanson directed me in which web frameworks to consider and how to build more robust web sites, for which I'm grateful. Steven Burton, Julie Cloward, and Richard Culatta at Brigham Young University provided the opportunities and support to explore web development and to teach others; your influence also contributed to my personal skill set, for which I'll always be thankful. Spencer Fluhman, in so many ways, has been a brilliant mentor and advisor; thank you for your professional counsel and support. Richard Miller's technical expertise and reviews made this book so much more solid, not to mention the professional skills that helped tighten up the loose ends. I wish to thank the Cake Software Foundation and other dedicated Cake developers for providing not only an exceptional framework but for taking the time to judiciously design an effective paradigm for web development. Felix Geisendörfer, Daniel Hofstetter, Tom O'Reilly, and Garrett J. Woodworth have all been especially helpful in providing examples and documentation that facilitated the writing of this book. And, most especially, the staff members at Apress have been remarkable; thank you for taking this book to the next level.