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with Apache, MySQL, and  
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Weekend Crash Course<sup>®</sup>***

***Steven M. Schafer***



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# Preface

**I**n the early 1990s, a revolution was begun. Pioneers such as Richard Stallman, Linus Torvalds, Eric Raymond, and others created a program called Linux, a concept called *open source*, and a governing document called the *General Public License (GPL)*. Although the revolution was sparked by the advent of Linux, it was not limited to the operating system — the concept of open source software spread to all manner of programs, generating innovation across the boundaries of computing.

Innovations in open source software spawned servers such as the Apache HTTP server, the MySQL relational database, and scripting languages such as PHP.

However, open source software is not confined to running on open source operating systems — Apache, MySQL, and PHP run as well on Microsoft Windows (and other operating systems) as they do on Linux.

Thankfully, the open source world is both close-knit and prolific. Not only do these technologies work well on their own, they work even better together. Combining Apache, MySQL, and PHP, you can easily create and deploy dynamic content on your Web sites.

If you are reading this, you have already decided that knowing these technologies can be useful, and you want to learn how to use them. In that case, you have obtained the right book — this structured approach to Apache, MySQL, and PHP teaches you about all three technologies and how to integrate them in one short weekend.

---

## ***Who Should Read This Book***

This crash course was designed to provide you with short lessons to get you up to speed on Apache, MySQL, and PHP over one weekend. This book is for the following individuals:

- Someone who is new to running Web servers, using relational databases, and/or programming using scripting languages. This book covers many of the basic concepts and techniques necessary to get going with these three technologies. If you are new to them, you receive a serviceable background to get up and running quickly.
- Someone who has experience with similar technologies — administering servers, working with Web technologies, using relational databases, or programming. This book covers how the technologies interact, bolsters the knowledge you might already have, and shows you how to apply it to the technologies discussed in this book.

---

## ***What You Need***

To perform the tasks in this book, you need the following:

- **A machine running a recent copy of Linux or Windows.** This book uses Red Hat Linux 8.0 and Windows 2000 Professional. (Almost any version of Windows will do, from Windows 95 to Windows XP. However, I strongly recommended that you use Windows NT, Windows 2000, or Windows XP. These platforms provide better performance and more stability for server applications.)
- **Apache version 2.x, MySQL version 4.x, and PHP version 4.x.** The first three sessions of this book tell you where to get them and explain how to install each. This book was written based on the aforementioned versions. If you use other versions, the instructions and examples in this book may vary. However, subsequent versions of each program should vary only slightly.
- **A fairly quick Internet connection.** You need to download various applications and utilities to follow along with the sessions in this book. It is highly advisable that you download current copies of Apache, MySQL, and PHP from the Internet. The sessions provide several Web sites, which you should visit while reading this book.
- **A local area network and a separate machine with a Web browser.** These are handy to test your server's configuration.
- **A text editor.** Those readers using Linux can use any one of the many text editors provided with their distribution — *vi*, *vim*, Emacs, GNUmacs, and so on. Several other tools can help make your work easier; these tools are covered where appropriate in the text.
- **Ample time and patience.** This book is designed to occupy most of a weekend — set aside enough time to complete each section. In addition, although the concepts are fairly easy to understand, mastering them and getting everything to work as desired can take practice and patience.

---

## ***What You Can Expect from This Book***

This book, believe it or not, contains everything you need to use Apache to deliver dynamic content via PHP and MySQL. Although three technologies are covered in this book, they are all remarkably well-behaved and easy to integrate. In three short days and 30 sessions, you learn how to utilize all three technologies.

Of course, to accommodate such a broad spectrum of technologies, the coverage isn't as deep as that found in a book dedicated to each one individually — Apache, MySQL, or PHP. Although you learn the basics of each technology, including how to use each for various purposes and how they integrate, you will not learn *everything* about each. After getting acquainted with the technology, you need to continue learning about each on your own.

---

## ***Weekend Crash Course Features and Layout***

This book follows the standard Weekend Crash Course format and layout. It is designed to be fast-paced, with each session taking 30 minutes to complete. However, a lot of information

is covered in each session, and you should take some time to relax after each session to let the information sink in and to prepare for the next session.

The format of each session is set up to provide the information in a structured fashion that reinforces the information through several levels. At the beginning of each session is a summary of the information covered within that session. At the end of the session, a short review section covers what you should have learned; and a Quiz Yourself section provides a few questions about the material you just covered. At the end of each part is a Part Review that provides questions on the content covered in that part of the book — answers to the Part Review questions can be found in Appendix A, “Answers to Part Review Questions.”

## ***Layout***

The Weekend Crash Course is divided into 30 individual, half-hour sessions. The sessions are divided into six parts, each of which corresponds to a particular time period of a weekend, from Friday evening through Sunday afternoon.

### ***Part I: Friday Evening***

Your weekend starts with installing the three technologies and getting acquainted with the basics of the Apache Web server.

### ***Part II: Saturday Morning***

Saturday begins with more details about the Apache Web server’s configuration and moves on to the configuration and operation of the MySQL database server. Coverage of MySQL proceeds through coverage of SQL queries.

### ***Part III: Saturday Afternoon***

The afternoon wraps up basic MySQL coverage and begins the basic coverage of PHP. You learn how to write basic scripts and progress to more advanced techniques.

### ***Part IV: Saturday Evening***

Saturday evening covers more advanced scripting techniques, including how to work with standard HTML and forms, and how to write scripts that work with multiple users.

### ***Part V: Sunday Morning***

Sunday morning wraps up the PHP coverage with more advanced scripting techniques, and then describes how to integrate PHP with MySQL. Finally, this section begins the hands-on projects covered in this book by showing how to create a simple calendar using PHP’s date-handling functionality.



## Part VI: Sunday Afternoon

Sunday afternoon's sessions kick into high gear by extending the calendar example and providing two projects for deploying dynamic content via PHP and MySQL. The last session and project show how dynamic content can be multipurposed by exporting it in various formats.

### Features

As mentioned in the previous section, each session is designed to take 30 minutes. To aid with the pacing for each session, the following icons appear:



**30 Min.  
To Go**

The 30-minute icon appears at the beginning of each session to remind you of the time frame.



**20 Min.  
To Go**

A 20-minute icon appears when you have progressed through a third of the session and have roughly 20 more minutes to go.



**10 Min.  
To Go**

The 10-minute icon appears at the two-thirds mark, when you have roughly 10 more minutes to go in the session.



**Done!**

The Done icon indicates that the current session's tutorial is complete and you can move on to the Quiz Yourself questions.

The following icons indicate special information throughout each session:



This icon indicates special information relating to the current section that you may find useful.



This icon indicates information that explains the best way to do something or alerts you to special considerations you should be aware of when performing a routine task.



This icon indicates a reference to related information in another session.



This icon indicates cautionary information, alerting you to potential hazards encountered within the tasks at hand.

### ***Other Conventions***

Additional conventions are used for special purposes throughout this book:

#### ***Code in Text***

This is a special font used to indicate code within normal text. It appears as follows: `<?php print "hello world"; ?>`.

#### ***Syntax Listings***

For most commands, functions, and the like, a syntax listing is given. This listing shows you the command's basic syntax. The following conventions are used for these listings:

- Required items are shown in a normal, monospaced font.
- Variable items — such as parameters — are shown in angle brackets or italics with mnemonic names.
- Optional items — such as optional parameters — are shown enclosed in square brackets ([ and ]).

For example, the following line shows the syntax for a MySQL query:

```
SELECT * FROM <database_name> [WHERE <conditions>];
```

In this example, *<database\_name>* would be replaced by the name of the database, the WHERE section is optional, and *<conditions>* would be replaced by conditions for the WHERE (if the WHERE were used).

Notice that the angle-bracketed text appears in italic text to avoid causing confusion in the syntax. For example, the following HTML syntax replaces the angle brackets with italic because the HTML code uses angle brackets:

```
<input type=text name=field_name value=field_value>
```

#### ***Code Listings***

Code listings appear in specially formatted fonts and paragraphs like these lines.

## ***User Input***

Two methods are used to indicate user input:

### **Bold text**

Within listings, it represents commands you should type.

Variable text in commands is indicated by an italic keyword or phrase enclosed in angle brackets:

```
mysql -p <user_name>
```

For example, *<user\_name>* would indicate that you should replace the text within the brackets with a specific username (which varies depending on the situation or use). As with syntax listings, italic text is used in place of the angle bracket text if the angle-bracketed text would cause confusion.

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## ***Feedback***

Wiley Publishing and I value your feedback. We welcome suggestions for making the books better — including hearing about errors and omissions in this book. You can visit [www.wiley.com](http://www.wiley.com) for information on additional books and ways to provide feedback to the publisher. I can be reached at [sschafer@synergy-tech.com](mailto:sschafer@synergy-tech.com).

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William Patterson, for checking my technical words and examples to ensure their accuracy and for adding numerous bits of value throughout. (Note that any deficiencies in this area remain my sole responsibility.)

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# Contents at a Glance

Preface .....	ix
Acknowledgments .....	xv
<b>FRIDAY</b> .....	<b>2</b>
<b>Part I—Friday Evening</b> .....	<b>4</b>
Session 1—Installing Apache .....	5
Session 2—Installing PHP .....	21
Session 3—Installing MySQL .....	33
Session 4—Apache Basics .....	47
<b>SATURDAY</b> .....	<b>56</b>
<b>Part II—Saturday Morning</b> .....	<b>58</b>
Session 5—Configuring Apache .....	59
Session 6—Apache Security Concerns .....	69
Session 7—The Basics of MySQL .....	79
Session 8—MySQL Security .....	89
Session 9—Working with Data .....	97
Session 10—Queries .....	111
<b>Part III—Saturday Afternoon</b> .....	<b>130</b>
Session 11—Troubleshooting MySQL Commands and Queries .....	131
Session 12—Advanced MySQL Concepts .....	139
Session 13—Getting Ready to Use PHP .....	151
Session 14—PHP Basics .....	159
Session 15—Program Flow .....	175
Session 16—PHP Functions .....	185
<b>Part IV—Saturday Evening</b> .....	<b>196</b>
Session 17—Working with Files .....	197
Session 18—HTML Constructs .....	213
Session 19—Working with Forms .....	219
Session 20—Multiple-User Considerations in PHP .....	233
<b>SUNDAY</b> .....	<b>246</b>
<b>Part V—Sunday Morning</b> .....	<b>248</b>
Session 21—Good Coding Practices .....	249
Session 22—Debugging and Troubleshooting PHP .....	257
Session 23—MySQL Through PHP .....	273
Session 24—Debugging and Troubleshooting MySQL in PHP .....	287
Session 25—Odds and Ends .....	293
Session 26—Project: Calendar I .....	303

<b>Part VI—Sunday Afternoon</b> .....	<b>320</b>
Session 27—Project: Calendar II .....	321
Session 28—Project: Content Publishing I .....	341
Session 29—Project: Content Publishing II .....	381
Session 30—Project: Building an RSS Feed .....	405
<b>Appendix A—Answers to Part Review Questions</b> .....	<b>415</b>
<b>Appendix B—What’s on the Companion Web Site</b> .....	<b>425</b>
<b>Index</b> .....	<b>427</b>

---

# Contents

<b>Preface</b> .....	<b>ix</b>
<b>Acknowledgments</b> .....	<b>xv</b>
<b>FRIDAY</b> .....	<b>2</b>
<b>Part I—Friday Evening</b> .....	<b>4</b>
<b>Session 1—Installing Apache</b> .....	<b>5</b>
<b>Why Use Apache?</b> .....	<b>5</b>
Apache Is Free .....	6
Apache Is Open Source .....	6
Apache Is Cross-Platform .....	6
Apache Is Continually Undergoing Rapid Development .....	6
Apache Capabilities .....	7
<b>Gathering Required Materials</b> .....	<b>7</b>
Windows Downloads .....	9
Linux Downloads .....	9
<b>Installing Apache</b> .....	<b>10</b>
Installing Apache on Windows .....	10
Building and Installing Apache for Linux (from Source) .....	13
Installing Apache on Linux from Packages .....	16
<b>Testing the Installation</b> .....	<b>18</b>
<b>Session 2—Installing PHP</b> .....	<b>21</b>
<b>Understanding Preprocessed HTML</b> .....	<b>21</b>
<b>Gathering the Required Materials</b> .....	<b>22</b>
Compiling PHP for Linux .....	22
Installing PHP on Linux from a Package .....	24
Installing PHP on Windows .....	26
<b>Getting PHP to Work with Apache</b> .....	<b>26</b>
Updating httpd.conf on Linux .....	27
Updating http.conf on Windows .....	28
<b>Testing PHP</b> .....	<b>30</b>
<b>Session 3—Installing MySQL</b> .....	<b>33</b>
<b>Introducing MySQL</b> .....	<b>33</b>
<b>Gathering the Required Materials</b> .....	<b>34</b>
Compiling MySQL for Linux .....	35
Installing a Linux Binary Version of MySQL .....	35
Installing MySQL on Linux from a Package .....	36
Installing MySQL on Windows .....	37
<b>Testing Your MySQL Installation</b> .....	<b>42</b>

<b>Session 4—Apache Basics</b> .....	<b>47</b>
<b>Understanding HTTP Servers</b> .....	<b>47</b>
The Evolution of Feature-Rich Web Content .....	47
HTTP Services over TCP .....	48
<b>Apache: Status, Starting, and Stopping</b> .....	<b>48</b>
Apache Status .....	48
Starting and Stopping the Server .....	50
Automatically Starting Apache .....	51
<b>Locating Apache Files</b> .....	<b>52</b>
<b>Apache Log Files</b> .....	<b>54</b>
<b>SATURDAY</b> .....	<b>56</b>
<b>Part II—Saturday Morning</b> .....	<b>58</b>
<b>Session 5—Configuring Apache</b> .....	<b>59</b>
<b>Understanding the httpd.conf File</b> .....	<b>59</b>
<b>Apache Directives</b> .....	<b>60</b>
Scope Sections .....	64
Conditional Directives .....	65
Access Directives .....	66
<b>MIME Types</b> .....	<b>67</b>
<b>Session 6—Apache Security Concerns</b> .....	<b>69</b>
<b>The Web — A Great Security Hole</b> .....	<b>69</b>
<b>A Review of Apache Security</b> .....	<b>70</b>
<b>Securing the Entire Site</b> .....	<b>71</b>
<b>Securing Individual Directories</b> .....	<b>72</b>
Securing Directories with <Directory> .....	72
Securing Directories with .htaccess .....	72
Securing Directories with Authentication Control .....	73
<b>Securing Script Access</b> .....	<b>76</b>
<b>Performing a Security Audit</b> .....	<b>77</b>
<b>Session 7—The Basics of MySQL</b> .....	<b>79</b>
<b>Understanding MySQL</b> .....	<b>79</b>
<b>What’s New in MySQL 4.0?</b> .....	<b>80</b>
<b>Configuring MySQL</b> .....	<b>80</b>
MySQL Linux Configuration .....	80
Windows MySQL Configuration .....	81
<b>Building Blocks of Databases</b> .....	<b>83</b>
Tables .....	83
Records (Row) .....	84
Fields .....	84
Putting It All Back Together .....	84
<b>Running the MySQL Server</b> .....	<b>85</b>
<b>Using the MySQL Monitor</b> .....	<b>86</b>
<b>Session 8—MySQL Security</b> .....	<b>89</b>
<b>Setting the Root Password</b> .....	<b>89</b>



<b>An Overview of the MySQL Privileges System</b> .....	<b>90</b>
<b>The MySQL Privileges Database</b> .....	<b>91</b>
<b>Setting and Changing User Privileges</b> .....	<b>91</b>
The GRANT Command .....	92
The REVOKE Command .....	94
Column Privileges .....	94
<b>Updating Privileges</b> .....	<b>94</b>
<b>Session 9—Working with Data</b> .....	<b>97</b>
<b>Creating Databases</b> .....	<b>97</b>
<b>Dropping Databases</b> .....	<b>98</b>
<b>Creating Tables</b> .....	<b>98</b>
Column Attributes .....	99
Column Data Types .....	100
<i>Text Column Types</i> .....	100
<i>Numeric Column Types</i> .....	102
<i>Date Column Types</i> .....	103
Column Indexes and Primary Keys .....	104
<b>Altering Tables</b> .....	<b>105</b>
Changing a Table's Name .....	106
Adding Columns .....	106
Changing Column Definitions .....	107
Dropping Columns .....	107
Changing Primary Keys and Indexes .....	107
<b>Dropping Tables</b> .....	<b>108</b>
<b>Informational Commands</b> .....	<b>108</b>
<b>Session 10—Queries</b> .....	<b>111</b>
<b>Sample Data</b> .....	<b>111</b>
<b>Understanding Queries</b> .....	<b>113</b>
<b>Adding Data with INSERT</b> .....	<b>113</b>
<b>Selecting Data with SELECT</b> .....	<b>116</b>
The Basics of SELECT .....	116
Choosing Specific Rows with WHERE .....	117
Using LIKE to Find Data .....	119
Using Complex Expressions with WHERE .....	120
Ordering Results with ORDER BY .....	120
Limiting Results with LIMIT .....	121
Selecting from More Than One Table .....	122
<b>Deleting Records with DELETE</b> .....	<b>124</b>
<b>Updating Records with UPDATE</b> .....	<b>124</b>
<b>Part III—Saturday Afternoon</b> .....	<b>130</b>
<b>Session 11—Troubleshooting MySQL Commands and Queries</b> .....	<b>131</b>
<b>The MySQL Monitor</b> .....	<b>131</b>
Running the Monitor .....	132
MySQL Monitor Basics .....	132

Logging the Monitor Session .....	133
Piping Files to the Monitor .....	133
<b>Troubleshooting Queries .....</b>	<b>134</b>
Format Your Queries with Line Breaks .....	134
Try SELECT .....	135
Simplify Your Query .....	135
<b>Session 12—Advanced MySQL Concepts .....</b>	<b>139</b>
<b>Counting Result Sets .....</b>	<b>139</b>
<b>Using SELECT with More Than One Table .....</b>	<b>140</b>
Specifying Columns from Multiple Tables .....	140
The Equi-Join .....	141
The Outer Join .....	142
<b>Database Normalization .....</b>	<b>144</b>
First Normal Form .....	144
Second Normal Form .....	145
Third Normal Form .....	147
<b>Backing Up and Restoring MySQL Databases .....</b>	<b>147</b>
<b>Session 13—Getting Ready to Use PHP .....</b>	<b>151</b>
<b>Reviewing Apache and PHP Configuration .....</b>	<b>151</b>
Reviewing Windows PHP Setup .....	151
Reviewing Linux PHP Setup .....	152
<b>Understanding How PHP Works with Apache .....</b>	<b>153</b>
<b>Command-Line PHP .....</b>	<b>153</b>
<b>PHP as a Command-Line Scripting Language .....</b>	<b>155</b>
<b>Session 14—PHP Basics .....</b>	<b>159</b>
<b>Basic Script Syntax .....</b>	<b>159</b>
PHP Beginning and Ending Tags .....	159
Command Termination Character .....	160
PHP's Use of White Space .....	160
Commenting Code .....	161
<b>PHP Variables .....</b>	<b>162</b>
<b>print and echo .....</b>	<b>164</b>
Quoting Output .....	164
Escape Characters .....	165
Here Document Output .....	166
<b>PHP Data Types .....</b>	<b>167</b>
The Different Data Types .....	167
PHP Arrays .....	168
Changing Data Types .....	168
<i>Testing Data Types .....</i>	<i>169</i>
<i>Converting Types .....</i>	<i>169</i>
<b>Operators and Expressions .....</b>	<b>169</b>
Assignment Operator .....	170
Arithmetic Operators .....	170
Concatenation Operator .....	171

Comparison Operators .....	171
Logical Operators .....	172
Operator Precedence .....	173
<b>Session 15—Program Flow .....</b>	<b>175</b>
<b>Programming Blocks .....</b>	<b>175</b>
<b>Conditional Statements .....</b>	<b>176</b>
General if Structure .....	176
else and elseif .....	177
Multiple Choice with switch .....	178
<b>Understanding Loops .....</b>	<b>180</b>
while Loop .....	180
do while Loop .....	181
for Loop .....	181
Breaking and Continuing Code .....	182
<b>Session 16—PHP Functions .....</b>	<b>185</b>
<b>Understanding Functions .....</b>	<b>185</b>
<b>Built-in PHP Functions .....</b>	<b>186</b>
<b>User-Defined Functions .....</b>	<b>187</b>
Function Definition .....	187
Returning a Value from a Function .....	188
Function Arguments .....	189
<i>Default Argument Definition and Use</i> .....	189
<i>Optional Arguments</i> .....	189
<i>Call by Reference</i> .....	190
Variable Scope .....	191
<b>Part IV—Saturday Evening .....</b>	<b>196</b>
<b>Session 17—Working with Files .....</b>	<b>197</b>
<b>File Operations with PHP: The Good and the Bad .....</b>	<b>197</b>
<b>Accessing Files with PHP .....</b>	<b>198</b>
Opening a File .....	198
Closing a File .....	200
Reading from or Writing to a File .....	200
<i>Writing to a File</i> .....	200
<i>Reading from a File</i> .....	201
<b>Additional Reading and Writing Techniques .....</b>	<b>204</b>
Positioning the File Pointer .....	204
Reading a File One Character at a Time .....	205
Locking Files .....	205
Deleting Files .....	206
<b>Working with Directories .....</b>	<b>206</b>
Making Directories .....	206
Removing Directories .....	207
Reading the Contents of a Directory .....	207
<b>File Information .....</b>	<b>208</b>

<b>Session 18—HTML Constructs</b> .....	<b>213</b>
<b>The Automatic HTML Header</b> .....	<b>213</b>
<b>Other Content Headers</b> .....	<b>214</b>
<b>Outputting HTML</b> .....	<b>215</b>
Large HTML Blocks .....	215
HTML Formatting Conventions .....	217
<b>Session 19—Working with Forms</b> .....	<b>219</b>
<b>Understanding How HTML Forms Work</b> .....	<b>219</b>
Standard HTML Form Elements .....	219
Form Actions .....	222
How Form Data Is Returned .....	223
<b>PHP Form Data Handling</b> .....	<b>224</b>
Parsing \$_POST .....	224
Auto-Register Globals: Easier, But Less Secure .....	226
<b>Working with File Uploads</b> .....	<b>227</b>
<b>Session 20—Multiple-User Considerations in PHP</b> .....	<b>233</b>
<b>The Old Counter Example</b> .....	<b>233</b>
The Problem .....	233
The “So What if a Simple Counter Fails?” Argument .....	235
Letting the Technology Sort It Out .....	235
<b>Data Locking Schemes</b> .....	<b>235</b>
Using flock() .....	236
Using a Lock File .....	236
Clearing Stale Locks .....	237
<b>Keeping User State with Sessions</b> .....	<b>237</b>
Session Mechanics .....	237
Key Session Configuration Options .....	237
Using Sessions .....	238
<i>Starting or Resuming a Session</i> .....	239
<i>Registering Variables with a Session</i> .....	239
<i>Unregistering Variables with the Session</i> .....	240
<i>Destroying a Session</i> .....	240
<i>Manually Dealing with Session IDs</i> .....	240
<i>Encoding and Saving Session Data</i> .....	241
<b>SUNDAY</b> .....	<b>246</b>
<b>Part V—Sunday Morning</b> .....	<b>248</b>
<b>Session 21—Good Coding Practices</b> .....	<b>249</b>
<b>Building Solid Code</b> .....	<b>249</b>
The Value of the Right Tools .....	250
Coding It Right the First Time Around .....	251
The Value of Consistency .....	251
Using Functions .....	252
Revisiting Old Code .....	252
<b>Code Libraries</b> .....	<b>252</b>

<b>Commenting and Creating Documentation</b> .....	253
Comment Placement .....	253
“Look Here!” Comments .....	253
“War and Peace” or “Reader’s Digest”? .....	253
Documentation .....	254
<b>Applying Good Coding Habits Universally</b> .....	254
<b>Session 22—Debugging and Troubleshooting PHP</b> .....	257
<b>Modular Code for Easy Debugging</b> .....	257
A Nonmodular Coding Example .....	258
Modular Coding Techniques .....	260
<i>Use Functions</i> .....	260
<i>Using Global Variables</i> .....	260
<i>Group Global Variable Declarations</i> .....	261
A Modular Code Example .....	261
<b>Dividing and Conquering</b> .....	263
<b>Error Control and Processing</b> .....	264
Controlling the Error Level .....	264
Sending Errors to a File or E-mail Address .....	265
Custom Error Handling .....	266
<b>Print Everything</b> .....	267
<b>Command-Line PHP</b> .....	269
<b>Session 23—MySQL Through PHP</b> .....	273
<b>Connecting to and Disconnecting from the MySQL Server</b> .....	273
Connecting to the MySQL Server .....	273
Disconnecting from the MySQL Server .....	274
<b>Selecting a Database</b> .....	275
<b>Querying the Database</b> .....	275
Returning the Result Set Row by Row .....	276
Resetting the Result Set Pointer .....	277
Returning the Result Set in an Associative Array .....	277
<b>Working with Result Sets</b> .....	278
<b>Determining Affected Rows</b> .....	283
<b>Letting MySQL Do Some Work</b> .....	283
<b>Other MySQL Functions</b> .....	283
<b>Session 24—Debugging and Troubleshooting MySQL in PHP</b> .....	287
<b>Turning Off Verbose Error Reporting</b> .....	287
<b>Avoiding Common Errors</b> .....	288
<b>Error Testing, Trapping, and Reporting</b> .....	289
Error Testing and Trapping .....	290
Error Reporting .....	290
<b>Testing Queries and Functions</b> .....	291
<b>Session 25—Odds and Ends</b> .....	293
<b>PHP Libraries</b> .....	293
What Is PEAR? .....	294
PHPBuilder.com .....	294

PHP Classes Repository .....	295
New York PHP Components .....	295
<b>Object-Oriented PHP .....</b>	<b>295</b>
<b>Monitoring Apache Traffic .....</b>	<b>295</b>
Analog .....	296
Webalizer .....	297
AWStats .....	297
Finding the Right Log Analyzer .....	298
<b>Virtual Hosting with Apache .....</b>	<b>299</b>
Monitoring Several IP Addresses .....	299
Monitoring One IP Address .....	300
Setting Up Virtual Hosts .....	300
Putting It All Together .....	301
<i>Three Domains, Three IP Addresses</i> .....	301
<i>Three Domains, One IP Address</i> .....	301
<b>Session 26—Project: Calendar I .....</b>	<b>303</b>
<b>Project Description .....</b>	<b>303</b>
<b>Taking Stock of Assets in PHP .....</b>	<b>304</b>
Robust Date Handling .....	304
Integration with Forms .....	305
<b>Pseudocoding Our Calendar .....</b>	<b>305</b>
Pseudo-Table .....	305
Pseudo-Form .....	307
Data and State .....	308
<b>Pseudo-PHP .....</b>	<b>308</b>
<b>Calendar Code .....</b>	<b>309</b>
Calendar.php .....	309
Explaining the Code .....	315
<b>Part VI—Sunday Afternoon .....</b>	<b>320</b>
<b>Session 27—Project: Calendar II .....</b>	<b>321</b>
<b>Defining the Project .....</b>	<b>321</b>
<b>Database Definition .....</b>	<b>322</b>
<b>Web and Flow Design .....</b>	<b>322</b>
Web Design .....	323
Application Flow .....	324
<b>Coding the Application .....</b>	<b>325</b>
Calendar.php .....	325
Appt.php (Day View) .....	326
Editappt.php (Edit Appointment) .....	330
<b>The Scripts in Action .....</b>	<b>337</b>
<b>Room for More .....</b>	<b>340</b>
<b>Session 28—Project: Content Publishing I .....</b>	<b>341</b>
<b>The Scope of the Project .....</b>	<b>341</b>
The Publishing System .....	341
Necessary Tools .....	342

<b>The Publishing System Database</b> .....	<b>342</b>
The Authors Table .....	342
The Categories Table .....	343
The Articles Table .....	343
<b>Designing the Editing Tools</b> .....	<b>344</b>
Understanding Monolithic Scripts .....	344
Controlling State with Submit .....	345
A Basic Monolithic Editor .....	347
States for the Article Editor .....	348
<b>Coding the Article Editing Script</b> .....	<b>349</b>
The Start State .....	349
The Find State .....	349
The Edit State .....	352
The Add/Update State .....	352
The Delete State .....	353
<b>The printform() Function</b> .....	<b>354</b>
<b>The Finished Article Editing Script</b> .....	<b>359</b>
<b>Category and Author Editing Scripts</b> .....	<b>371</b>
<b>Putting It all Together</b> .....	<b>379</b>
<b>Session 29—Project: Content Publishing II</b> .....	<b>381</b>
<b>Methods of Publishing Dynamic Content</b> .....	<b>381</b>
Full Page from PHP .....	382
Only Dynamic Content from PHP .....	383
<i>Turning PHP On and Off</i> .....	383
<i>Server-Side Includes</i> .....	384
<b>Publishing Scripts</b> .....	<b>385</b>
Common Library .....	385
Full Article .....	386
Headlines Only .....	388
Category Listings .....	390
Teasers .....	392
<b>Enabling Search Functionality for Users</b> .....	<b>394</b>
Simple Substring Searches .....	394
Full-Text Index Searches .....	397
<i>Creating a FULLTEXT Index</i> .....	397
<i>Searching a FULLTEXT Index</i> .....	397
<i>Modifying the Find Script for Full-Text Searching</i> .....	399
<b>Adding Authentication to Your Scripts</b> .....	<b>400</b>
<b>Using Authentication with PHP and MySQL</b> .....	<b>401</b>
<b>Scalability</b> .....	<b>403</b>
<b>Session 30—Project: Building an RSS Feed</b> .....	<b>405</b>
<b>What Are RSS Feeds?</b> .....	<b>405</b>
RSS Syntax .....	406
Publishing the Feed .....	406
<b>Creating an RSS Feed for the Publishing System</b> .....	<b>407</b>

When to Run the RSS Generator .....	410
Additional RSS References .....	411
Appendix A—Answers to Part Review Questions .....	415
Appendix B—What’s on the Companion Web Site .....	425
Index .....	427



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