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Steven M. Schafer



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Preface

In 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.

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 for information on additional books and ways to provide feedback to the publisher. I can be reached at sschafer@synergy-tech.com.

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A book such as this is not a singular effort. Many people came together and worked hard to produce this work. As such, I'd like to thank each one, especially those who interacted with me during this process:

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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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