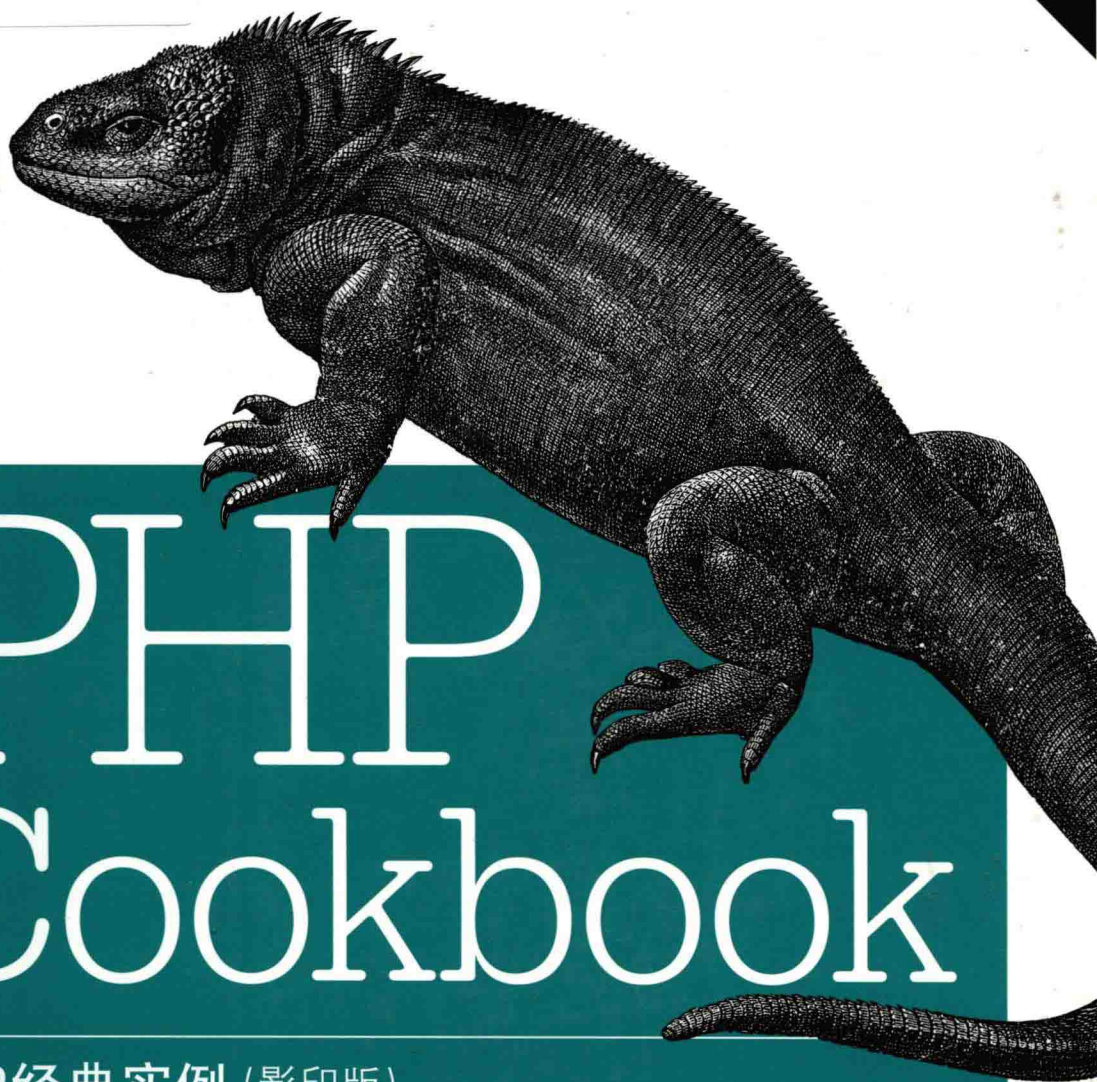


O'REILLY®

第3版



# PHP Cookbook

PHP经典实例 (影印版)

东南大学出版社

David Sklar, Adam Trachtenberg 著

# PHP经典实例 (影印版)

你是否想要了解某个PHP编程技巧？或者你想要学习如何完成某个任务？你都可以从本书入手。本次第3版带有超过350个根据PHP 5.4和5.5修订的丰富代码秘方，为生成动态web内容提供了最新解决方案，涵盖了从使用基础数据类型到查询数据库，从调用RESTful API到测试和保护你的网站的方方面面。

本书中的每个秘方都包含了你可以自由使用的解决方案，并且阐述了这些方案是如何和为什么能够奏效。无论你是一名有经验的PHP程序员还是刚刚从其他语言转到PHP上来，本书都是绝佳的工作资源。

你将从本书中找到如下方面的秘方：

- 基础数据类型：字符串、数字、数组、日期和时间
- 程序块：变量、函数、类和对象
- Web编程：cookie、表单、会话和身份验证
- 使用PDO、SQLite和其他扩展来访问数据库
- RESTful API客户端和服务端：包括HTTP、XML和OAuth
- 重要概念：电子邮件、正则表达式和图形创建
- 设计健壮的应用程序：安全和加密、错误处理、调试和测试以及性能调优
- 文件、目录和PHP命令行接口
- 诸如Composer和PECL这样的库和包管理器

**David Sklar**是一名独立技术咨询师。除了撰写过《PHP经典实例》的前几版，他也是《Learning PHP 5》（O'Reilly出版）和《Essential PHP Tools》（Apress出版）的作者。

**Adam Trachtenberg**是LinkedIn Developer Network的部门主管。他是《Upgrade to PHP 5》（O'Reilly出版）和《PHP经典实例》前几版的作者。

PHP

责任编辑：张焯

封面设计：Karen Montgomery, 张健

O'Reilly Media, Inc. 授权东南大学出版社出版

此影印版仅限于在中华人民共和国境内（但不允许在中国香港、澳门特别行政区和中国台湾地区）销售发行  
This Authorized Edition for sale only in the territory of People's Republic of China (excluding Hong Kong, Macao and Taiwan)

“《PHP经典实例》中的丰富秘方让它成为每个PHP使用者必不可少的读本。”

——Andi Gutmans

Zend Technologies公司的  
CEO和联合创始人

ISBN 978-7-5641-5387-8



9 787564 153878 >

定价：99.00元



第3版

# Python 经典实例

(影印版)

David Sklar &  
Adam Trachtenberg

著

O'REILLY®

东南大学出版社

第3版

---

**PHP经典实例** (影印版)

**PHP Cookbook**

*David Sklar, Adam Trachtenberg* 著

Beijing • Cambridge • Farnham • Köln • Sebastopol • Tokyo

**O'REILLY**®

O'Reilly Media, Inc. 授权东南大学出版社出版

南京 东南大学出版社

## 图书在版编目(CIP)数据

PHP 经典实例:第3版:英文/(美)斯克拉(Sklar, D.),  
(美)切贝特伯格(Trachtenberg, A.)著. —影印本. —南  
京:东南大学出版社,2015.2

书名原文:PHP Cookbook, 3E

ISBN 978-7-5641-5387-8

I. ①P… II. ①斯… ②切… III. ①PHP 语  
言—程序设计—英文 IV. ①TP312

中国版本图书馆 CIP 数据核字(2014)第 294382 号

江苏省版权局著作权合同登记

图字:10-2013-377号

© 2014 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, 2013 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 2014。

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。

## PHP 经典实例 第3版(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](mailto: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:51.25

字 数:1004千字

版 次:2015年2月第1版

印 次:2015年2月第1次印刷

书 号:ISBN 978-7-5641-5387-8

定 价:99.00元

---

本社图书若有印装质量问题,请直接与营销部联系。电话(传真):025-83791830

---

# Preface

PHP is the engine behind millions of dynamic web applications. Its broad feature set, approachable syntax, and support for different operating systems and web servers have made it an ideal language for both rapid web development and the methodical construction of complex systems.

One of the major reasons for PHP's success as a web scripting language is its origins as a tool to process HTML forms and create web pages. This makes PHP very web-friendly. Additionally, it is eagerly promiscuous when it comes to external applications and libraries. PHP can speak to a multitude of databases, and it knows numerous Internet protocols. PHP also makes it simple to parse form data and make HTTP requests. This web-specific focus carries over to the recipes and examples in the *PHP Cookbook*.

This book is a collection of solutions to common tasks in PHP. We've tried to include material that will appeal to everyone from newbies to wizards. If we've succeeded, you'll learn something (or perhaps many things) from *PHP Cookbook*. There are tips in here for everyday PHP programmers as well as for people coming to PHP with experience in another language.

PHP, in source code and binary forms, is available for download free from <http://www.php.net/>. The PHP website also contains installation instructions, comprehensive documentation, and pointers to online resources, user groups, mailing lists, and other PHP resources.

## Who This Book Is For

This book is for programmers who need to solve problems with PHP. If you don't know any PHP, make this your second PHP book. The first should be *Learning PHP 5*, also from O'Reilly.

If you're already familiar with PHP, this book helps you overcome a specific problem and get on with your life (or at least your programming activities). The *PHP Cook-*

*book* can also show you how to accomplish a particular task in PHP, such as sending email or parsing JSON, that you may already know how to do in another language. Programmers converting applications from other languages to PHP will find this book a trustworthy companion.

## What Is in This Book

We don't expect that you'll sit down and read this book from cover to cover (although we'll be happy if you do!). PHP programmers are constantly faced with a wide variety of challenges on a wide range of subjects. Turn to the *PHP Cookbook* when you encounter a problem you need to solve. Each recipe is a self-contained explanation that gives you a head start toward finishing your task. When a recipe refers to topics outside its scope, it contains pointers to related recipes and other online and offline resources.

If you choose to read an entire chapter at once, that's OK. The recipes generally flow from easy to hard, with example programs that “put it all together” at the end of many chapters. The chapter introduction provides an overview of the material covered in the chapter, including relevant background material, and points out a few highlighted recipes of special interest.

The book begins with four chapters about basic data types. Chapter 1 covers details like processing substrings, manipulating case, taking strings apart into smaller pieces, and parsing comma-separated data. Chapter 2 explains operations with floating-point numbers, random numbers, converting between bases, and number formatting. Chapter 3 shows you how to manipulate dates and times, format them, handle time zones and daylight saving time, and find time to microsecond precision. Chapter 4 covers array operations like iterating, merging, reversing, sorting, and extracting particular elements.

Next are three chapters that discuss program building blocks. Chapter 5 covers notable features of PHP's variable handling, such as default values, static variables, and producing string representations of complex data types. The recipes in Chapter 6 deal with using functions in PHP: processing arguments, passing and returning variables by reference, creating functions at runtime, and scoping variables. Chapter 7 covers PHP's object-oriented capabilities, with recipes on OOP basics as well as more advanced features, such as magic methods, destructors, access control, reflection, traits, and namespaces.

After the data types and building blocks come six chapters devoted to topics that are central to web programming. Chapter 8 covers cookies, headers, authentication, working with query strings, and other fundamentals of web applications. Chapter 9 covers processing and validating form input, displaying multipage forms, showing forms with error messages, and guarding against problems such as cross-site scripting and multiple submissions of the same form. Chapter 10 explains the differences between DBM and SQL databases and, using the PDO database access abstraction layer, shows how to

connect to a database, assign unique ID values, retrieve rows, change data, escape quotes, and log debugging information. Chapter 11 covers PHP's built-in sessions module, which lets you maintain information about a user as he moves from page to page on your website. This chapter also highlights some of the security issues associated with sessions. Chapter 12 discusses all things XML: the SimpleXML extension and DOM functions, using XPath and XSLT, and reading and writing both RSS and Atom feeds. Chapter 13 explores topics useful to PHP applications that integrate with external websites and client-side JavaScript such as retrieving remote URLs, cleaning up HTML, and responding to an Ajax request.

The next three chapters are all about network interaction. Chapter 14 details the ins and outs of consuming a web service—using an external REST service from within your code. Chapter 15 handles the other side of the web services equation—serving up REST requests to others. Both chapters discuss authentication, headers, and error handling. Chapter 16 discusses other network services such as sending email messages, using LDAP, and doing DNS lookups.

The next section of the book is a series of chapters on features and extensions of PHP that help you build applications that are robust, secure, user-friendly, and efficient. Chapter 17 shows you how to create graphics, with recipes on drawing text, lines, polygons, and curves. Chapter 18 focuses on security topics such as avoiding session fixation and cross-site scripting, working with passwords, and encrypting data. Chapter 19 helps you make your applications globally friendly and includes recipes for localizing text, dates and times, currency values, and images, as well as a recipe working with text in UTF-8 character encoding. Chapter 20 goes into detail on error handling and logging, while Chapter 21 discusses debugging techniques, writing tests for your code, and using PHP's built-in web server. Chapter 22 explains how to compare the performance of two functions and provides tips on getting your programs to run at maximum speed. Chapter 23 covers regular expressions, including capturing text inside of HTML tags, calling a PHP function from inside a regular expression, and using greedy and nongreedy matching.

Chapters 24 and 25 cover the filesystem. Chapter 24 focuses on files: opening and closing them, using temporary files, locking files, sending compressed files, and processing the contents of files. Chapter 25 deals with directories and file metadata, with recipes on changing file permissions and ownership, moving or deleting a file, and processing all files in a directory.

Last, there are two chapters on topics that extend the reach of what PHP can do. Chapter 26 covers using PHP outside of web programming. Its recipes cover command-line topics such as parsing program arguments and reading passwords. Chapter 27 covers Composer, PEAR (PHP Extension and Application Repository), and PECL (PHP Extension Community Library). Composer and PEAR provide access to a collection of PHP code that provides functions and extensions to PHP. PECL is a similar collection,



but of extensions to PHP written in C. We use PEAR and PECL modules throughout the book and Chapter 27 shows you how to install and upgrade them.

## Other Resources

### Websites

There is a tremendous amount of PHP reference material online. With everything from the annotated PHP manual to sites with periodic articles and tutorials, a fast Internet connection rivals a large bookshelf in PHP documentary usefulness. Here are some key sites:

*The Annotated PHP Manual* (<http://www.php.net/manual>)

Available in 11 languages, this site includes both official documentation of functions and language features as well as user-contributed comments.

*PHP mailing lists* (<http://www.php.net/mailling-lists.php>)

There are many PHP mailing lists covering installation, programming, extending PHP, and various other topics; there is also a read-only web interface (<http://news.php.net/>) to the mailing lists.

*PHP support resources* (<http://us3.php.net/support.php>)

This handy collection of support resources has information on PHP user groups, events, and other support channels.

*Composer* (<https://getcomposer.org/>)

Composer is a dependency manager for PHP that provides a structured way both to declare dependencies in your project and to install them.

*PEAR* (<http://pear.php.net>)

PEAR calls itself “a framework and distribution system for reusable PHP components.” You’ll find lots of useful PHP classes and sample code there. Read more about PEAR in Chapter 27.

*PECL* (<http://pecl.php.net>)

PECL calls itself “a repository for PHP Extensions, providing a directory of extensions and hosting facilities for downloading and development of PHP extensions.” Read more about PECL in Chapter 27.

*PHP.net: A Tourist’s Guide* (<http://www.php.net/sites.php>)

This is a guide to the various websites under the *php.net* umbrella.

*PHP: The Right Way* (<http://www.phptherightway.com/>)

A quick reference that attempts to be a comprehensive source of PHP best practices. A great place to start if you’re wondering about the idiomatic way to do something in PHP.

*Planet PHP* (<http://www.planet-php.net>)

An aggregation of blog posts by PHP developers, about PHP.

*SitePoint Blogs on PHP* (<http://www.sitepoint.com/blogs/category/php>)

A good collection of information that explores PHP.

## Books

This section lists books that are helpful references and tutorials for building applications with PHP. Most are specific to web-related programming; look for books on MySQL, HTML, XML, and HTTP.

At the end of the section, we've included a few books that are useful for every programmer regardless of language of choice. These works can make you a better programmer by teaching you how to think about programming as part of a larger pattern of problem solving:

- *Learning PHP 5* by David Sklar (O'Reilly)
- *Programming PHP* by Rasmus Lerdorf, Kevin Tatroe, and Peter MacIntyre (O'Reilly)
- *Extending and Embedding PHP* by Sara Golemon (Sams)
- *Learning PHP, MySQL, JavaScript, and CSS* by Robin Nixon (O'Reilly)
- *Mastering Regular Expressions* by Jeffrey E. F. Friedl (O'Reilly)
- *MySQL Reference Manual* (<http://dev.mysql.com/doc/#manual>)
- *MySQL*, by Paul DuBois (New Riders)
- *The Practice of Programming*, by Brian W. Kernighan and Rob Pike (Addison-Wesley)
- *Programming Pearls* by Jon Louis Bentley (Addison-Wesley)
- *The Mythical Man-Month*, by Frederick P. Brooks (Addison-Wesley)

## Conventions Used in This Book

### Programming Conventions

The examples in this book were written to run under PHP version 5.4.28 (and, where applicable, PHP 5.5.12). Sample code should work on both Unix and Windows, except where noted in the text. We've generally noted in the text when we depend on a feature added to PHP in or after 5.5.

Some examples rely on the `$php_errormsg` variable, which is only available when the `track_errors` configuration directive is turned on.

## Typesetting Conventions

The following typographic conventions are used in this book:

### *Italic*

Used for commands, filenames, and example URLs. It is also used to define new terms when they first appear in the text.

### Constant width

Used in code examples to show partial or complete PHP source code program listings. It is also used for class names, method names, variable names, and other fragments of PHP code.

### Constant width bold

Used for user input, such as commands that you type on the command line.

### *Constant width italic*

Shows text that should be replaced with user-supplied values or by values determined by context.

## Comments and Questions

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/phpckbk3>.

To comment or ask technical questions about this book, send email to [bookquestions@oreilly.com](mailto: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

Most importantly, a huge thanks to everyone who has contributed their time, creativity, and skills to making PHP what it is today. This amazing volunteer effort has created not only hundreds of thousands of lines of source code, but also comprehensive documentation, a QA infrastructure, lots of add-on applications and libraries, and a thriving user community worldwide. It's a thrill and an honor to add the *PHP Cookbook* to the world of PHP.

Thanks also to our reviewers: Paul Huff, Peter MacIntyre, Simon MacIntyre, and Russ Uman. Special mention to Chris Shiflett and Clay Lovelace for their contributions to the second edition of this book.

And big thanks to the folks at O'Reilly that made this book a reality: Rachel Roumeliotis, Allyson MacDonald, Melanie Yarbrough, and Maria Gulick as well as the nameless orcs and dwarves that toil in the subterranean caverns of Sebastopol and Cambridge to make sure that the production process runs smoothly.

## David Sklar

Thanks twice again to Adam. We've been working together (in one way or another) for 18 years and PHPing together for 17. There is still no one with whom I'd rather have written this book (except, to be completely honest, maybe Ben Franklin, if he could somehow be brought back to life).

Thanks to my family members of all ages. You gave me the time and space to focus on the book. Now I will give you time and space to read the entire thing!

## Adam Trachtenberg

David: It's tough to compete with Ben Franklin. Please know that I support the turkey as the official animal of PHP instead of the elephant. Many thanks for your support over all these years, beginning long ago in the days of PHP/FI. Without you, this book would merely be a dream.

Thanks to my family and friends for their support and encouragement over these many months. All my love to my two sons, even the one who helped me relearn that human children don't give you extensions after 40 weeks if your work on *PHP Cookbook* isn't complete. Finally, special thanks to my wife Elizabeth Anne; I should take your good advice more often.



---

# Table of Contents

<b>Preface</b> .....	<b>xv</b>
<b>1. Strings</b> .....	<b>1</b>
1.1 Accessing Substrings	5
1.2 Extracting Substrings	6
1.3 Replacing Substrings	7
1.4 Processing a String One Byte at a Time	9
1.5 Reversing a String by Word or Byte	10
1.6 Generating a Random String	11
1.7 Expanding and Compressing Tabs	12
1.8 Controlling Case	14
1.9 Interpolating Functions and Expressions Within Strings	16
1.10 Trimming Blanks from a String	17
1.11 Generating Comma-Separated Data	19
1.12 Parsing Comma-Separated Data	20
1.13 Generating Fixed-Width Field Data Records	21
1.14 Parsing Fixed-Width Field Data Records	22
1.15 Taking Strings Apart	25
1.16 Wrapping Text at a Certain Line Length	27
1.17 Storing Binary Data in Strings	29
1.18 Program: Downloadable CSV File	31
<b>2. Numbers</b> .....	<b>35</b>
2.1 Checking Whether a Variable Contains a Valid Number	36
2.2 Comparing Floating-Point Numbers	37
2.3 Rounding Floating-Point Numbers	38
2.4 Operating on a Series of Integers	40
2.5 Generating Random Numbers Within a Range	42
2.6 Generating Predictable Random Numbers	43

2.7	Generating Biased Random Numbers	44
2.8	Taking Logarithms	46
2.9	Calculating Exponents	46
2.10	Formatting Numbers	47
2.11	Formatting Monetary Values	49
2.12	Printing Correct Plurals	50
2.13	Calculating Trigonometric Functions	51
2.14	Doing Trigonometry in Degrees, Not Radians	52
2.15	Handling Very Large or Very Small Numbers	53
2.16	Converting Between Bases	55
2.17	Calculating Using Numbers in Bases Other Than Decimal	56
2.18	Finding the Distance Between Two Places	58
<b>3.</b>	<b>Dates and Times</b> .....	<b>61</b>
3.1	Finding the Current Date and Time	63
3.2	Converting Time and Date Parts to an Epoch Timestamp	66
3.3	Converting an Epoch Timestamp to Time and Date Parts	68
3.4	Printing a Date or Time in a Specified Format	69
3.5	Finding the Difference of Two Dates	72
3.6	Finding the Day in a Week, Month, or Year	74
3.7	Validating a Date	76
3.8	Parsing Dates and Times from Strings	77
3.9	Adding to or Subtracting from a Date	80
3.10	Calculating Time with Time Zones and Daylight Saving Time	81
3.11	Generating a High-Precision Time	83
3.12	Generating Time Ranges	84
3.13	Using Non-Gregorian Calendars	85
3.14	Program: Calendar	88
<b>4.</b>	<b>Arrays</b> .....	<b>95</b>
4.1	Specifying an Array Not Beginning at Element 0	98
4.2	Storing Multiple Elements per Key in an Array	99
4.3	Initializing an Array to a Range of Integers	101
4.4	Iterating Through an Array	101
4.5	Deleting Elements from an Array	104
4.6	Changing Array Size	106
4.7	Appending One Array to Another	108
4.8	Turning an Array into a String	110
4.9	Printing an Array with Commas	111
4.10	Checking if a Key Is in an Array	113
4.11	Checking if an Element Is in an Array	113
4.12	Finding the Position of a Value in an Array	115

4.13 Finding Elements That Pass a Certain Test	116
4.14 Finding the Largest or Smallest Valued Element in an Array	117
4.15 Reversing an Array	118
4.16 Sorting an Array	119
4.17 Sorting an Array by a Computable Field	120
4.18 Sorting Multiple Arrays	123
4.19 Sorting an Array Using a Method Instead of a Function	124
4.20 Randomizing an Array	125
4.21 Removing Duplicate Elements from an Array	126
4.22 Applying a Function to Each Element in an Array	127
4.23 Finding the Union, Intersection, or Difference of Two Arrays	129
4.24 Iterating Efficiently over Large or Expensive Datasets	131
4.25 Accessing an Object Using Array Syntax	133
<b>5. Variables.....</b>	<b>137</b>
5.1 Avoiding == Versus = Confusion	139
5.2 Establishing a Default Value	140
5.3 Exchanging Values Without Using Temporary Variables	141
5.4 Creating a Dynamic Variable Name	142
5.5 Persisting a Local Variable's Value Across Function Invocations	143
5.6 Sharing Variables Between Processes	145
5.7 Encapsulating Complex Data Types in a String	152
5.8 Dumping Variable Contents as Strings	153
<b>6. Functions.....</b>	<b>159</b>
6.1 Accessing Function Parameters	160
6.2 Setting Default Values for Function Parameters	161
6.3 Passing Values by Reference	163
6.4 Using Named Parameters	164
6.5 Enforcing Types of Function Arguments	165
6.6 Creating Functions That Take a Variable Number of Arguments	166
6.7 Returning Values by Reference	169
6.8 Returning More Than One Value	171
6.9 Skipping Selected Return Values	172
6.10 Returning Failure	173
6.11 Calling Variable Functions	174
6.12 Accessing a Global Variable Inside a Function	177
6.13 Creating Dynamic Functions	178
<b>7. Classes and Objects.....</b>	<b>181</b>
7.1 Instantiating Objects	185
7.2 Defining Object Constructors	186



7.3 Defining Object Destructors	187
7.4 Implementing Access Control	188
7.5 Preventing Changes to Classes and Methods	191
7.6 Defining Object Stringification	192
7.7 Requiring Multiple Classes to Behave Similarly	193
7.8 Creating Abstract Base Classes	197
7.9 Assigning Object References	199
7.10 Cloning Objects	200
7.11 Overriding Property Accesses	203
7.12 Calling Methods on an Object Returned by Another Method	207
7.13 Aggregating Objects	208
7.14 Accessing Overridden Methods	212
7.15 Creating Methods Dynamically	214
7.16 Using Method Polymorphism	215
7.17 Defining Class Constants	217
7.18 Defining Static Properties and Methods	219
7.19 Controlling Object Serialization	222
7.20 Introspecting Objects	224
7.21 Checking If an Object Is an Instance of a Specific Class	228
7.22 Autoloading Class Files upon Object Instantiation	231
7.23 Instantiating an Object Dynamically	232
7.24 Program: whereis	233
<b>8. Web Fundamentals.....</b>	<b>237</b>
8.1 Setting Cookies	238
8.2 Reading Cookie Values	240
8.3 Deleting Cookies	240
8.4 Building a Query String	241
8.5 Reading the POST Request Body	242
8.6 Using HTTP Basic or Digest Authentication	243
8.7 Using Cookie Authentication	247
8.8 Reading an HTTP Header	250
8.9 Writing an HTTP Header	251
8.10 Sending a Specific HTTP Status Code	252
8.11 Redirecting to a Different Location	253
8.12 Flushing Output to the Browser	255
8.13 Buffering Output to the Browser	255
8.14 Compressing Web Output	257
8.15 Reading Environment Variables	258
8.16 Setting Environment Variables	258
8.17 Communicating Within Apache	259
8.18 Redirecting Mobile Browsers to a Mobile Optimized Site	260