PHP Solutions

Dynamic Web Design Made Easy Second Edition

David Powers



Contents

Contents at a Glance	
Contents	iv
About the Author	xiii
About the Technical Reviewers	;xiv
Acknowledgments	xv
Introduction	xvi
Chapter 1: What Is PHP-And, Why Should I Care?	1
How PHP has grown	2
How PHP makes pages dynamic	2
Creating pages that think for themselves	4
How hard is PHP to use and learn?	5
Can I just copy and paste the code?	6
How safe is PHP?	6
What software do I need to write PHP?	6
What to look for when choosing a PHP editor	'
So, let's get on with it	8
Chapter 2: Getting Ready to Work with PHP	9
Checking whether your website supports PHP	g
Deciding where to test your pages	10
What you need for a local test environment	10
Individual programs or an all-in-one package?	11
Setting up on Windows	11
Getting Windows to display filename extensions	11
Choosing a web server	12
Installing XAMPP on Windows	12
Installing PHP with the Microsoft Web Platform Installer	16

	Setting up on Mac OS X	19
	Installing MAMP	19
	Testing and configuring MAMP	20
	Checking your PHP settings (Windows and Mac)	21
	Editing php.ini	25
,	Where to locate.your PHP files	26
	What's next?	27
ì	hapter 3: How to Write PHP Scripts	29
	PHP: The big picture	30
	Telling the server to process PHP	:30
	Embedding PHP in a web page	31
	Storing PHP in an external file	31
	Using variables to represent changing values	32
	Ending commands with a semicolon	34
	Commenting scripts	34
	Using arrays to store multiple values'	35
	PHP's built-in superglobal arrays	36
	Understanding when to use quotes	37
	Making decisions	^f .39
	Making comparisons•:	41
	Using indenting andwhitespace for clarity	42
	Using loops for repetitive tasks	42
	Using functions for preset tasks	42
	Understanding PHP classes and objects	43
	Displaying PHP output:	44
	Understanding PHP error messages	45
	PHP: A quick reference	47
	Using PHP in an existing website	48
	Data types in PHP	48
	Doing calculations with PHP	49
	Adding to an existing string	51
	All you ever wanted to know about quotes—and more	51

Creating arrays	55
The truth.according to PHP	•57
Creating, loops	62
Modularizing code with functions	64
PHP quick checklist	67
Chapter 4: Lightening Your Workload with Includes	69
Including code from external files	70
Introducing the PHP include commands	′
Where PHP looks for include files	71
Choosing the right filename extension for includes	•74
Creating pages with changing content	83
Preventing errors with include files	92
Choosing where to locate your include files	98
Adjusting your include_path	98
Why can't I use site-root-relative links with PHP includes?	100
Security considerations with includes	101
Chapter review	101
Chapter 5: Bringing Forms to Life	103
How PHP gathers information from a form	103
Understanding the difference between post and get	•. 105
Keeping safe with PHP superglobals	107
Removing unwanted backslashes from form input	108
Processing and validating user input	110
Creating a reusable script	• <u>:</u> 110
Preserving user input when a form is incomplete	115
Filtering out potential attacks	118
Sending email	121
Using additional email headers safely	122
Keeping spam at bay	•129
Handling multiple-choice form elements	132
Chapter review	140

Chapter 6: Uploading.Files	141
How PHP handles file uploads	142
Checking whether your server supports uploads	142
Adding a file upload field to a form	143
Understanding the \$_FILES array	144
Establishing an upload directory;"	146
Uploading files	147
Moving the temporary file to the upload folder	148
Creating a PHP file upload class	150
Defining a PHP class	151
Checking upload errors	156
Changing protected properties	161
Explicitly changing a data type	166
Preventing files from being overwritten	
Uploading multiple files	171
How the \$_FILES array handles multiple files	•171
Using namespaces in PHP 5.3 and later	176
Using the upload class	177
Points to watch with file uploads	178
Chapter review	178
Chapter 7: Using PHP to Manage Files	179
Checking that PHP has permission to open a file	179
Configuration settings that affect file access	180
Creating afile storage folder for local testing	181
Reading and writing files	181
Reading files in a single operation	181
Opening and closing files for read/write operations	
Exploring the file system	195
Inspecting a folder with scandir()	195
Inspecting the contents of a folder with DirectoryIterator	196
Restricting file types with the RegexIterator.	198

Accessing remote files	
Consuming news and other RSS feeds	;204
Using SimpleXML	
Creating a download link	210
Chapter review	<i>i.::</i> 213
Chapter 8: Generating Thumbnail Images	215
Checking your server's capabilities	216
Manipulating images dynamically	216
Making a smaller copyof an image	217
'Resizing an image automatically on upload	235
; Extending a class	
.; Using the Ps2JThumbnailUpload class	240
Chapter summary	241
Chapter 9: Pages That Remember: Simple Login and Multipa	ge Forms 243
. What sessions are and how they work	243
Creating PHP sessions	245
'*Creating and destroying session variables	•'246
Destroying a session	246
:: , Regenerating .the session ID.	.:•
: • The "Headers already sent" error	v;.247
Using sessions to restrict access.	-'247
Using file-based authentication	251
Making passwords more secure	258
.Setting a time limit on sessions	270
. Passing information through multipage forms	273
Chapter review	278
Chapter 10: Getting Started with MySQL,	279
Why MySQL?	280
. Which version?	;280
How a database stores information	; 28 1
How primary keys work	281
Linking tables with primary and foreign keys	282

Breaking down information into small chunks	283
Checkpoints for good database design	284
Using MySQL with a graphical interface	284
Launching phpMyAdmin	286
Setting up the phpsols database	287
MySQL naming rules	287
Using phpMyAdmin to create a new database	288
Creating database-specific user accounts	288
Creating a database table	291
Inserting records into a table	293
Creating a SQL file for backup and data transfer	297
Choosing the right data type in MySQL	299
Storing text " :::;•	
. Storing numbers	300
Storing dates and times/	300
Storing predefined lists	301
Storing.binary data	301
Chapter review	
Chapter 11: Connecting to MySQL with PHP and SQL	303
Checking your remote server setup	304
How PHP communicates with MySQL	305
Connecting with the MySQL Improved extension	305
Connecting with PDO.	305
, PHP.Solution 11-1: Making a reusable database connector	306
Finding the number.ofresults from a query	307
Displaying the results of a query	310
MySQL connection crib sheet	313
Using SQL to interact with a database	314
Writing SQL queries.	314
Refining the data retrieved by a SELECT query	315
Understanding the danger of SQL injection	319
Chapter review	334

Chapter 12: Creating a Dynamic Online Gallery	335
Why not store images in a database?	336
Planning the gallery	336
Converting the gallery elements to PHP	339
Building the dynamic elements	341
Passing information through a query string	341
Creating amulticolumn table	344
Paging through a long set of records	347
Chapter review	353
Chapter 13: Managing Content	355
Setting up a content management system	355
Creating the blog database table	356
Creating the basic insert and update form	357
Inserting new records	•
Linking to the update and delete pages	363
Updating records	366
Deleting records	
Reviewing the four essential SQL commands	376
' SELECT••	,377
INSERT	
UPDATE	••, 380
DELETE:	
Security and error messages	
Chapter review:	i
Chapter 14: Formatting Text and Dates	383
Displaying a text extract	
Extracting a fixed number of characters	384
Ending an extract on a complete word'	385
Extracting the first paragraph	
Extracting complete sentences	387
Let's make a date	390
How MySQL handles dates	390

Inserting dates into MySQL	
Working with dates in PHP	399
Chapter review	414
Chapter 15: Pulling Data from Multiple Tables	415
Understanding table relationships	415
Linking an image to an article	417
Altering the structure of an existing table	417
Inserting a foreign key in a table	419
Selecting records from multiple tables	422
Finding records that don't have a matching foreign key	427
Creating an intelligent link,	428
Chapter review	429
Chapter 16: Managing Multiple Database Tables	431
Maintaining referential integrity	431
Inserting records into multiple tables	435
Creating a cross-reference table	436
Getting the filename of an uploaded image	437
Adapting the insert form to deal with multiple tables	438
Updating and deleting records in multiple tables	448
Updating records in a cross-reference table	449
Preserving referential integrity on deletion	452
Creating delete scripts with foreign key constraints	456
Creating delete scripts without foreign key constraints	457
Chapter review	458
Chapter 17: Authenticating Users with a Database	459
Choosing an encryption method	459
Using one-way encryption	460
Creating a table to store users' details	460
Registering new users in the database	461
Using two-way encryption	469
Creating the table to store users' details	469
Registering new users	469

User authentication with two-way encryption		471
Decrypting a password		472
Updating user details		
Where next?	l:	472
Index:	-	475