# PHP for Absolute Beginners

•About the Author....xiv
About the Technical Reviewer....xv
•Acknowledgments....xvi
•Introduction....xvii
Chapter 1: Setting Up the PHP Development Environment....3
Why You Need Apache, MySQL, and PHP....3
Drilling Down on PHP....3
Stable/Production vs. Development Releases....4
How PHP Works....4
Server-Side vs. Glient-Side Scripting....4
What Apache Does....5
Store Info with MySQL....5
Installing PHP, Apache, and MySQL (the Hard Way)....6
Installation Made Easy....6
Installing XAMPP....6
Step!: DownloadXAMPP....7
Step 2: Open the Installer and Follow the Instructions....7
Step 3: Test XAMPP to Ensure Proper Installation....11
Choosing a Development Kit....15
Benefiting from SDKs and IDEs....15
Choosing the Right SDK....18
The Eclipse Foundation and PDT....18
Installing and Using the Eclipse PDT....18
Step 1: Downloading the PDT....19
Step 2: Unpacking the PDT Archive....19
Step 3: Choosing Your Project Workspace....20
Step 4: Creating Your First Project....23

Step 5: Creating a File ..... 26
Step 6: Writing Your First Script ..... 27
Summary ..... 28
**Chapter 2: Understanding PHP: Language Basics ..... 29**
Embedding PHP Scripts ..... 29
Alternative Delimiters ..... 30
Short Tags ..... 31
HTML <script> Tags and ASP-Style Delimiters ..... 31
Variables and Datatypes ..... 32
What Is a Variable? ..... 32
^Storing Values in a Variable ..... 32
Understanding Strings ..... 33
Understanding Integers ..... 37
Understanding Floating Point Numbers ..... 37
Understanding Boolean Values ..... 37
Understanding Arrays ..... 38
Sending Data to the Browser as Output ..... 41
The Different Output Commands ..... 41
The printO Statement ..... 41
The echo() Statement ..... 42
The printfO Statement ..... 43
The sprintfO Statement ..... 45
Commenting Your Code ..... 46
Inline vs. Block Comments ..... 46
Other Comment Styles ..... 47
Operators ..... 47
Arithmetic Operators ..... 48
Arithmetic Assignment Operators ..... 48
Comparison Operators ..... 50
Error Control Operators ..... 51
Incrementing/Decrementing Operators ..... 52
Logical Operators ..... 52
String Operators ..... 54
Control Structures ..... 54

if, else, and else if 55
while and do-while 56
for 58
foreach 59
break 60
switch 61
continue 62
return 63
include, include_once, require, and require_once 63
goto 65
User-Defined 66
Returning Values from Functions 67
Summary 68
**Chapter 3: Passing Information with PHP 69**
Superglobal Arrays 69
Variable Scope 70
$GLOBALS 73
$_SERVER 74
$_GET 77
URL Encoding 78
Accessing URL Variables 78
$_POST 82
$_REQUEST 84
$_FILES 85
$_SESSION 89
**Using session_destroy() 92**
$_COOKIE 93
**Summary 95**
**Chapter 4: Working with Databases 97**
The Basics of MySQL Data Storage 97
Manipulating Data in MySQL Tables 98
Creating and Deleting Databases 99
Deleting Databases Using DROP 99
Creating Databases Using CREATE 100

The CREATE TABLE Statement ..... 100
Data Types in MySQL ..... 102
Understanding PRIMARY KEY ..... 102
Understanding AUTOJNCREMENT ..... 102
Indexes in MySQL ..... 103
The INSERT Statement ..... 103
The SELECT Statement ..... 105
The UPDATE Statement ..... 107
The JOIN Statement ..... 108
The DELETE Statement ..... 109
Opening a Connection ..... 109
, PHP's MySQL Extension ..... 109
The MySQLi Extension ..... 111
Using Prepared Statements ..... 111
Using MySQLi ..... 112
Using Prepared Statements with MySQLi ..... 113
PHP Data Objects (PDO) ..... 116
—^_Rewriting Your Example in PDO ..... 116
Table Structure and a Crash Course in Planning ..... 118
Planning Database Tables ..... 118
The Shortcut Selector (*) ..... 122
Summary ..... 122
Recommended Reading ..... 122
**Chapter 5: Building the Entry Manager ..... 125s**
Planning the Entry Database Table ..... 125
Creating the Entry Input Form ..... 128
Create a Script to Process the Form Input ..... 132
Performing the Initial Verification ..... 133
Connect to the Database ..... 134
Keeping Database Credentials Separate ..... 134
Connecting to the Database in update.inc.php ..... 135
Save the Entry to the Database ..... 135
Retrieve the Entry's Unique ID and Display the Entry to the User ..... 136
Displaying the Saved Entries ..... 138

Planning Our Scripts ... 139
Separation of Logic in Programming ... 139
Mapping Your Functions to Output Saved Entries ... 140
Writing the Database Functions ... 141
Writing the Business Function ... 148
Writing the Presentation Code ... 149
Fix the Redirect ... 155
Summary ... 156
**Chapter 6: Adding Support for Multiple Pages ... 157**
Add a page Column to the entries Table ... 157
Modify Your Functions to Accept Page Parameters ... 158
Accepting Page Information in the URL ... 158
Using the Page Information to Filter Entries ... 159
Modifying admin.php to Save Page Associations ... 165
Saving Page Associations ... 168
Using .htaccess to Create Friendly URLs ... 170
What .htaccess Does ... 170
Using Regular Expressions ... 171
Creating Your .htaccess File ... 171
Step 1: Turn on URL Rewriting ... 171
Step 2: Declare the Base-Level Folder for Rewriting ... 172
Step 3: Set Up a Rule to Stop Rewriting for Certain File Types ... 172
Step 4: Set Up a Rule for Admin Page Access ... 173
Step 5: Set Up a Rule for Page-Only URLs ... 174
Step 6: Set Up a Rule for Page-and-Entry URLs ... 174
Trying It Out ... 175
Creating Friendly URLs Automatically ... 175
Step 1: Add a url Column to the entries Table ... 176
Step 2: Modify functions.inc.php to Handle URLs ... 176
Step 3: Modify index.php to Handle URLs ... 178
Step 4: Write a Function to Create Friendly URLs Automatically ... 180
Step 5. Modify update.inc.php to Save URLs in the Database ... 182
Adding a Menu ... 184
Creating Different Viewing Styles for the Pages ... 185
Summary ... 186

**IChapter 7: Updating and Deleting Entries 187**
Creating Administrative Links 187
Displaying Administrative Links 188
Passing URL Values to admin.php with .htaccess 190
Modifying the Original Admin Rule 190
The New Admin Rule 191
Populating Your Form with the Entry to Be Edited 191
Updating Entries in the Database 194
Handling Entry Deletion 19.7.
Confirming Your Choice to Delete an Entry 200
Handling Your Submitted Confirmation Form 201
Removing Deleted Entries from the Database 203
Summary 205
**Chapter 8: Adding the Ability to Upload Images 207**
Adding a File Input to the Admin Form 207
Accessing the Uploaded File 208
A Quick Refresher on the $_FILES Superglobal Array 208
Object-Oriented Programming **211** -
Drill Down on Objects 211
Why Objects Are Useful 212
Writing the Image Handling Class 218
Saving the Image 219
Checking for Errors Using Exceptions 221
Saving the File 223
Modifying update.inc.php to Save Images 225
Using try...catch with Exceptions 226
Creating a New Folder 228
Renaming the Image 236
Determining the File Extension 237
Storing and Retrieving Images from the Database 240
Modifying the entries Table 241
Modifying update.inc.php to Save Images 241
Modifying retrieveEntriesO to Retrieve Images 244
Modifying index.php to Display Images 246

Adding a Function to Format Images for Output ..... 246
Resizing Images ..... 248
Determining the New Image Dimensions ..... 249
Adding a Property for Maximum Dimensions ..... 249
Creating the Method to Determine New Width and Height ..... 250
Determining Which Image Functions to Use ..... 252
Resampling the Image at the Proper Size ..... 254
Adding Your New Method to processUploadedImageO ..... 258
Summary ..... 260
**Chapter 9: Syndicating the Blog ..... 263**
What Is RSS? ..... 263
What Is XML? ..... 264
Creating ah RSS Feed ..... 264
Describing Your Feed ..... 265
Creating Feed Items ..... 266
Using Existing Functions to Minimize Effort ..... 266
What Is a GUID? ..... 271
What Is a Publishing Date? ..... 272
Publishing Your Feed ..... 278
Adding the Feed to the Blog ..... 278
Using the <link> Tag to Signify an RSS Feed ..... 278
Adding an RSS Link ..... 279
Summary ..... 281
**Chapter 10: Adding a Commenting System to Your Blog ..... 283**
Creating a comments Table in the Database ..... 283
Building a Comments Class ..... 285
Building the Comment Entry Form ..... 286
Modifying index.php to Display the Comment Form ..... 287
Storing New Comments in the Database ..... 289
Modifying update.inc.php to Handle New Comments ..... 291
Retrieving All Comments for a Given Entry ..... 293
Displaying Comments for a Given Entry ..... 296
Modifying index.php to Display Entry Comments ..... 302

Deleting Comments....304
Creating a Confirmation Form....305
Removing the Comment from the Database....306
Modifying update.inc.php to Handle Comment Deletion....307
Summary....310
**IChapter 11: Adding Password Protection to Administrative Links....311**
Adding an admin Table to the Database....311
Adding Administrators in the Database....312
Building an HTML Form....312
Saving New Administrators in the Database....315
Dealing with Passwords....316
Saving the Admin....316
Hiding Controls from Unauthorized Users....318
Modifying index.php....318
Modifying comments.inc.php....323
Modifying admin.php....325
Creating a Login Form....328
Displaying Controls to Authorized Users....330
Logging Users Out....337
Adding a Log Out Link....337
Modifying update.inc.php to Log Out Users....339
Summary....340
IChapter **12: Finishing Touches....341**
Email Validation....341
Adding a Method to Validate Email....342
Validating Email Addresses....343
Saving Comments in Sessions....344
Displaying the Stored Comment Information....345
Adding Error Messages....348
Identifying Errors in saveCommentQ....348
Modifying update.inc.php....349
Matching Error Codes in showCommentForm()....350
Basic Spam Prevention....353
Creating a Basic Logic Question....354

Generating Random Numbers....354
Obfuscating the Values....354
Adding the Math Question to the Form....355
Adding the Challenge Question to the Form....356
Verifying the Correct Answer....358
Adding the Verification into saveCommentO....359
"Post to Twitter" Link....362
Creating a Shortened Link with http://bit.ly....363
Generating an Automatic Status Update for Twitter....365
Displaying the Link on Entries....366
Summary....368
IIndex....369