

Table of Contents

1. PHP Basics.....	1
Welcome to the Server-side.....	1
What is a web server?.....	1
Dynamic Websites.....	2
Google Chrome DevTools: Network Tab.....	4
Status Codes.....	7
How PHP Works.....	8
The php.ini File.....	8
PHP Tags.....	8
Hello, World!.....	9
Comments.....	11
PHP Statements and Whitespace.....	11
PHP Functions.....	12
php.net.....	13
<i>Exercise 1: Using php.net.....</i>	16
Variables.....	19
Variable Types.....	19
Variable Names (Identifiers).....	19
Type Juggling and Casting.....	19
Hello Variables!.....	20
<i>Exercise 2: First PHP Script.....</i>	22
Variable Scope.....	25
Superglobals.....	25
Single Quotes vs. Double Quotes.....	26
Concatenation.....	28
Passing Variables on the URL.....	29
<i>Exercise 3: Passing Variables via the Query String.....</i>	31
User-defined Functions (UDFs).....	38
Defining and Calling Functions.....	38
Default Values.....	39
Variable Scope.....	40
By Reference vs. By Value.....	43
Introduction to the Poet Tree Club.....	45
Including Files.....	60
require.....	60
require_once.....	60
<i>Exercise 4: Using Header and Footer Includes.....</i>	63
Constants.....	72
Error Reporting.....	74
<i>Exercise 5: Displaying Errors.....</i>	78
Including a Secure Configuration File.....	81
<i>Exercise 6: Including a Configuration File.....</i>	82

Table of Contents

2. PHP Conditionals.....	87
if / if - else / if - elseif - else.....	87
Simple if Condition.....	87
if-else Condition.....	87
if-elseif-else statement.....	88
False Equivalents: Falsy Values.....	90
Testing for Variable Existence	92
<i>Exercise 7: Checking for Variable Existence.....</i>	96
switch/case.....	99
<i>Exercise 8: Working with Conditions.....</i>	104
Ternary Operator.....	107
<i>Exercise 9: The Ternary Operator.....</i>	108
Null Coalescing Operator.....	111
3. Arithmetic Operators and Loops.....	113
Arithmetic Operators.....	113
The Modulus Operator.....	114
Loops.....	114
while.....	115
do...while.....	115
for.....	115
break and continue.....	116
<i>Exercise 10: Working with Loops.....</i>	117
4. Arrays.....	121
Indexed Arrays.....	121
Initializing Arrays.....	121
Appending to an Array.....	121
Reading from Arrays.....	122
Looping through Arrays.....	122
<i>Exercise 11: Working with Indexed Arrays.....</i>	124
Associative Arrays.....	127
Initializing Associative Arrays.....	127
Reading from Associative Arrays.....	127
Looping through Associative Arrays.....	127
Superglobal Arrays.....	128
<i>Exercise 12: Working with Associative Arrays.....</i>	133
Multi-dimensional Arrays.....	135
Reading from Two-dimensional Arrays.....	135
Looping through Two-dimensional Arrays.....	135
Two-dimensional Associative Arrays.....	138
Non-tabular Multi-dimensional Arrays.....	139
Array Manipulation Functions.....	140
in_array() Function.....	141
<i>Exercise 13: Array Practice.....</i>	142

5. Working with Databases.....	151
Objects.....	151
Attributes / Properties.....	151
Behaviors / Methods.....	152
Classes vs. Objects.....	152
Connecting to a Database with PDO.....	153
Introducing the Poetree Database.....	154
phpMyAdmin.....	155
Querying Records with PHP.....	160
<i>Exercise 14: Creating a Single Poem Page.....</i>	167
Queries Returning Multiple Rows	172
<i>Exercise 15: Creating the Poems Listings.....</i>	175
<i>Exercise 16: Adding Pagination.....</i>	184
<i>Exercise 17: Sorting.....</i>	188
<i>Exercise 18: Filtering.....</i>	193
<i>Exercise 19: Adding Filtering Links to the Single Poem Page.....</i>	201
6. Exception Handling.....	205
Uncaught Exceptions.....	205
Throwing Your Own Exceptions.....	207
Catching Exceptions.....	209
Getting Information about Exceptions.....	209
<i>Exercise 20: Division Form.....</i>	212
PDOExceptions.....	217
<i>Exercise 21: Logging Errors.....</i>	218
<i>Exercise 22: The dbConnect() Function.....</i>	223
When Queries Fail to Execute.....	226
<i>Exercise 23: Catching Errors in the PHP Poetry Website.....</i>	229
7. PHP and HTML Forms.....	237
HTML Forms.....	237
How HTML Forms Work.....	237
Form Submissions	246
Sanitizing Form Data.....	247
htmlspecialchars().....	249
htmlentities().....	250
filter_var().....	250
filter_input().....	250
Validating Form Data.....	253
Was the Field Filled In?.....	253
Is the Entered Value an Integer?.....	254
Is it an Email?.....	255
Is it a Valid Password and Do the Passwords Match?.....	255
Do the Combined Values Create a Valid Date?.....	256
Did the User Check the Box?	256
<i>Exercise 24: Processing Form Input.....</i>	257

Table of Contents

8. Sending Email with PHP.....	275
mail().....	275
Shortcomings of mail().....	276
Setting Up PHPMailer.....	277
Get and Install the Latest Version of PHPMailer.....	277
Mail Server.....	280
<i>Exercise 25: Including a Mail Configuration File.....</i>	282
Sending Email with PHPMailer.....	287
PHPMailer Methods and Properties.....	288
<i>Exercise 26: Creating a Contact Form.....</i>	290
9. Authentication with PHP and SQL.....	299
The Registration Process.....	299
Passwords and Pass Phrases.....	300
Registration with Tokens.....	302
<i>Exercise 27: Creating a Registration Form.....</i>	305
Sessions.....	316
Session Variables.....	316
Cookies.....	318
<i>Exercise 28: Logging in.....</i>	326
Logging Out.....	339
\$_REQUEST Variables.....	339
<i>Exercise 29: Resetting the Pass Phrase.....</i>	343
10. LAB: Inserting, Updating, and Deleting Poems.....	355
<i>Exercise 30: Submitting a New Poem.....</i>	356
<i>Exercise 31: Editing an Existing Poem.....</i>	364
<i>Exercise 32: Deleting a Poem.....</i>	372
11. Uploading Files.....	381
Uploading Images via an HTML Form.....	381
Resizing Images.....	385
<i>Exercise 33: Uploading a Profile Picture.....</i>	388