In this intensive, hands-on PHP training course, students will learn to create database-driven websites using PHP and MySQL. Students will first learn the basics of PHP including syntax, flow control, string manipulation, and functions. Next, the course turns to database topics with several chapters on SQL basics followed by content on how to integrate PHP with the database. Regular Expressions are covered next to give students the tools they need for advanced form validation. Then, students will learn to track users as they move from page to page within a web site using PHP session variables. Finally, they will learn to manipulate files and send emails using built-in PHP functions.

Course Objectives:

- Write PHP scripts using all the major features of the language.
- Control the flow of program execution.
- Use indexed and associative arrays to store sets of values.
- Process and validate HTML forms.
- Work with PHP's built-in string manipulation functions.
- Write reusable files and include them in multiple pages.
- Define functions to create more manageable PHP applications.
- Create SQL Select, Insert, and Update statements.
- Integrate PHP with a database to create reports and insert and update records.
- Use the PEAR DB package as a database abstraction layer.
- Use PHP regular expressions for advanced form validation.
- Use session variables to create site-wide user authentication and cookies to remember visitors between visits.
- Send email with PHP's built in mail() function.
- Read, write, and upload files.

Audience: Programmers who want to learn PHP to access a MySQL database.

Prerequisites: HTML experience is required. Programming experience in a high-level language is required. Basic CSS and XML knowledge is helpful.

Number of Days: 4 days

1 PHP Basics

How PHP Works
The php.ini File
PHP Tags
PHP Statements and Whitespace
Comments
PHP Functions
Variable Types
Variable Names (Identifiers)
Type Strength
Variable Scope
Superglobals
Constants
Variable Testing and Manipulation Functions
PHP Operators
Creating Dynamic Pages
Single Quotes vs. Double Quotes

2 Flow Control

Conditional Processing
If Conditions
Loops

while
do…while
for
break and continue

3 Arrays
Enumerated Arrays
Initializing Arrays
Appending to an Array
Reading from Arrays
Looping through Arrays
Associative Arrays
Initializing Associative Arrays
Reading from Associative Arrays
Looping through Associative Arrays
Superglobal Arrays
Two-dimensional Arrays
Reading from Two-dimensional Arrays
Looping through Two-dimensional Arrays
Array Manipulation Functions

4 PHP and HTML Forms
How HTML Forms Work
A Sample HTML Form
Form Variables

5 String Manipulation
Concatenation
String Manipulation Functions
Examples of String Functions
Magic Quotes
magic_quotes_gpc
magic_quotes_runtime
Recommendation on Magic Quotes

6 Reusing Code and Writing Functions
Including Files
require
require_once
auto_prepend_file and auto_append_file
User Functions
Defining and Calling Functions
Default Values
Variable Scope
By Reference vs. By Value
Form Processing
Code Organization

7 Simple SELECTs
Introduction to the Northwind Database
Comments
Whitespace and Semi-colons
Case Sensitivity
SELECTing All Columns in All Rows
SELECTing Specific Columns
Sorting By a Single Column
Sorting By Multiple Columns
Sorting By Column Position
Ascending and Descending Sorts
The WHERE Clause and Operator Symbols
Checking for Equality
Checking for Inequality
Checking for Greater or Less Than
Checking for NULL
WHERE and ORDER BY
The WHERE Clause and Operator Words
The BETWEEN Operator
The IN Operator
The LIKE Operator
The NOT Operator
Checking Multiple Conditions
AND
OR
Order of Evaluation

8 Subqueries, Joins and Unions
Subqueries
Joins
Table Aliases
Multi-table Joins
Outer Joins
Unions
UNION ALL
UNION Rules

9 Inserting, Updating and Deleting Records
INSERT
UPDATE
DELETE

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10 Managing Data
Querying a Database
mysqli() Overview
mysqli Methods and Properties
Inserting and Updating Records
mysqli Prepared Statements
11 MDB2
Advantages and Disadvantages of MDB2
Why use a database abstraction layer?
When not to use a database abstraction layer?
Using MDB2
12 Authentication with PHP and SQL
A Database-less Login Form
13 Regular Expressions
preg_match()
preg_replace()
Regular Expression Tester
Regular Expression Syntax
Start and End (^ $)
Number of Occurrences (? + * {})
Common Characters (. \d \D \w \W \s \S)
Grouping ([])
Negation (^)
Subpatterns (())
Alternatives (|)
Escape Character (\ )
Form Validation Functions with Regular Expressions
14 Session Control and Cookies
Sessions
Configuring Sessions
Session Functions
Cookies
15 Sending Email with PHP
mail()
Shortcomings of mail()
PHPMailer
16 File System Management
Opening a File
Reading from a File
Writing to a File
File Locking
Uploading Files via an HTML Form
Getting File Information
More File Functions
Directory Functions

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