

## Course duration

- 5 days

## Course Benefits

- Learn how PHP works.
- Learn the basic syntax of PHP.
- Learn to create dynamic interactive pages with PHP.
- Learn to manipulate files with PHP.
- Learn to work with arrays in PHP.
- Learn to validate forms with PHP.
- Learn to write functions in PHP.
- Learn to manipulate and manage database data with PHP.
- Learn to authenticate users with PHP.
- Learn to manage sessions with PHP.
- Learn to work with the MDB2 package.
- Learn advanced form validation with regular expressions.
- Learn to send email with PHP.
- Understand how MySQL works.
- Learn to use SQL to output reports with MySQL.
- Learn to modify MySQL data with SQL.

## Available Delivery Methods

### Public Class

Public expert-led online training from the convenience of your home, office or anywhere with an internet connection. Guaranteed to run .

### Private Class

Private classes are delivered for groups at your offices or a location of your choice.

## Course Outline

1. PHP Basics
  1. Welcome to the Server-side
    1. What is a web server?
    2. Dynamic Websites
  2. Google Chrome DevTools: Network Tab

1. Status Codes
  3. How PHP Works
    1. The php.ini File
    2. PHP Tags
    3. Hello, World!
  4. Comments
  5. PHP Statements and Whitespace
  6. PHP Functions
  7. php.net
  8. Exercise: Using php.net
  9. Variables
    1. Variable Types
    2. Variable Names (Identifiers)
    3. Type Juggling and Casting
    4. Hello Variables!
  10. Exercise: First PHP Script
  11. Variable Scope
    1. Superglobals
  12. Single Quotes vs. Double Quotes
  13. Concatenation
  14. Passing Variables on the URL
  15. Exercise: Passing Variables via the Query String
  16. User-defined Functions (UDFs)
    1. Defining and Calling Functions
    2. Default Values
    3. Variable Scope
    4. By Reference vs. By Value
  17. Introduction to the Poet Tree Club
  18. Including Files
    1. require
    2. require\_once
  19. Exercise: Using Header and Footer Includes
  20. Constants
  21. Error Reporting
  22. Exercise: Displaying Errors
  23. Including a Secure Configuration File
  24. Exercise: Including a Configuration File
2. Flow Control
    1. if / if-else / if-elseif-else
      1. Simple if Condition
      2. if-else Condition
      3. if-elseif-else statement
      4. False Equivalents: Falsy Values
    2. switch/case
    3. Ternary Operator
    4. Exercise: Working with Conditions
    5. Loops

1. while
  2. dowhile
  3. for
  4. break and continue
6. Exercise: Working with Loops
3. Arrays
  1. Indexed Arrays
    1. Initializing Arrays
    2. Appending to an Array
    3. Reading from Arrays
    4. Looping through Arrays
  2. Exercise: Working with Indexed Arrays
  3. Associative Arrays
    1. Initializing Associative Arrays
    2. Reading from Associative Arrays
    3. Looping through Associative Arrays
    4. Superglobal Arrays
  4. Exercise: Working with Associative Arrays
  5. Multi-dimensional Arrays
    1. Reading from Two-dimensional Arrays
    2. Looping through Two-dimensional Arrays
    3. Two-dimensional Associative Arrays
    4. Non-tabular Multi-dimensional Arrays
  6. Array Manipulation Functions
  7. in\_array() Function
  8. Exercise: Array Practice
4. PHP and HTML Forms
  1. HTML Forms
    1. How HTML Forms Work
  2. Form Submissions
  3. Sanitizing Form Data
    1. htmlspecialchars()
    2. htmlentities()
    3. filter\_var()
    4. filter\_input()
  4. Validating Form Data
    1. Was the Field Filled In?
    2. Is the Entered Value an Integer?
    3. Is it an Email?
    4. Is it a Valid Password and Do the Passwords Match?
    5. Do the Combined Values Create a Valid Date?
    6. Did the User Check the Box?
  5. Exercise: Processing Form Input
5. String Manipulation
  1. Formatting Strings
    1. Concatenation
  2. String Manipulation Functions

- 3. Examples of String Functions
- 2. Exercise: Working with String Manipulation Functions
- 6. Reusing Code and Writing Functions
  - 1. Including Files
    - 1. require
    - 2. require\_once
  - 2. Exercise: Adding a Header and Footer
    - 1. auto\_prepend\_file and auto\_append\_file
  - 3. User Functions
    - 1. Defining and Calling Functions
    - 2. Default Values
    - 3. Variable Scope
    - 4. By Reference vs. By Value
  - 4. Form Processing
    - 1. Code Organization
  - 5. Exercise: Form Validation and Presentation Functions
- 7. Simple SELECTs
  - 1. Introduction to the Northwind Database
  - 2. Some Basics
    - 1. Comments
    - 2. Whitespace and Semi-colons
    - 3. Case Sensitivity
  - 3. SELECTing All Columns in All Rows
  - 4. Exercise: Exploring the Tables
  - 5. SELECTing Specific Columns
  - 6. Exercise: SELECTing Specific Columns
  - 7. Sorting Records
    - 1. Sorting by a Single Column
    - 2. Sorting By Multiple Columns
    - 3. Ascending and Descending Sorts
  - 8. Exercise: Sorting Results
  - 9. The WHERE Clause and Logical Operator Symbols
    - 1. Checking for Equality
    - 2. Checking for Inequality
  - 10. Exercise: Using the WHERE Clause to Check for Equality or Inequality..252
    - 1. Checking for Greater or Less Than
  - 11. Exercise: Using the WHERE Clause to Check for Greater or Less Than.256
  - 12. Checking for NULL
  - 13. Exercise: Checking for NULL
  - 14. WHERE and ORDER BY
  - 15. Exercise: Using WHERE and ORDER BY Together
  - 16. Checking Multiple Conditions with Boolean Operators
    - 1. AND
    - 2. OR
    - 3. Order of Evaluation
  - 17. Exercise: Writing SELECTs with Multiple Conditions
  - 18. The WHERE Clause and Logical Operator Keywords

1. The BETWEEN Operator
  2. The IN Operator
  3. The LIKE Operator
  4. The NOT Operator
19. Exercise: More SELECTs with WHERE
8. Advanced SELECTs
  1. Calculated Fields
    1. Concatenation
    2. Mathematical Calculations
    3. Aliases
  2. Exercise: Calculating Fields
  3. Aggregate Functions and Grouping
    1. Aggregate Functions
    2. Grouping Data
  4. Exercise: Working with Aggregate Functions
    1. Selecting Distinct Records
  5. Built-in Data Manipulation Functions
    1. Common Math Functions
    2. Common String Functions
    3. Common Date Functions
  6. Exercise: Data Manipulation Functions
9. Subqueries, Joins and Unions
  1. Subqueries
  2. Exercise: Subqueries
  3. Joins
    1. Table Aliases
    2. Multi-table Joins
  4. Exercise: Using Joins
  5. Outer Joins
    1. Unions
    2. UNION ALL
  6. UNION Rules
  7. Exercise: Working with Unions
10. Inserting, Updating and Deleting Records
  1. INSERT
  2. Exercise: Inserting Records
  3. UPDATE
  4. DELETE
  5. Exercise: Updating and Deleting Records
11. Managing Data
  1. Querying a Database
    1. mysqli() Overview
    2. mysqli Methods and Properties
    3. Inserting and Updating Records
  2. Exercise: Inserting Records
  3. mysqli Prepared Statements
12. MDB2

1. Advantages and Disadvantages of MDB2
  1. Why use a database abstraction layer?
  2. When not to use a database abstraction layer?
2. Using MDB2
3. Exercise: Creating a Customer Report
13. Authentication with PHP and SQL
  1. The Registration Process
  2. Passwords and Pass Phrases
  3. Registration with Tokens
  4. Exercise: Creating a Registration Form
  5. Sessions
    1. Session Variables
  6. Cookies
  7. Exercise: Logging in
  8. Logging Out
  9. \$\_REQUEST Variables
  10. Exercise: Resetting the Pass Phrase
14. Regular Expressions
  1. Perl-compatible Regular Expression Functions
    1. preg\_match()
    2. preg\_replace()
    3. Regular Expression Tester
  2. Regular Expression Syntax
    1. Start and End ( ^ \$ )
    2. Number of Occurrences ( ? + \* )
    3. Common Characters ( . \d \D \w \W \s \S )
    4. Grouping ( [ ] )
    5. Negation ( ^ )
    6. Subpatterns ( ( ) )
    7. Alternatives ( | )
    8. Escape Character ( \ )
  3. Form Validation Functions with Regular Expressions
15. Session Control and Cookies
  1. Sessions
    1. Configuring Sessions
    2. Session Functions
  2. Cookies
  3. Exercise: Authentication with Session Control
16. Sending Email with PHP
  1. mail()
    1. Shortcomings of mail()
  2. Setting Up PHPMailer
    1. Get and Install the Latest Version of PHPMailer
  3. Mail Server
  4. Exercise: Including a Mail Configuration File
  5. Sending Email with PHPMailer
  6. PHPMailer Methods and Properties

7. Exercise: Creating a Contact Form
17. File System Management
  1. Opening a File
    1. fopen()
  2. Reading from a File
    1. fgets()
  3. Writing to a File
    1. fwrite()
  4. Exercise: Writing to a File
  5. File Locking
    1. flock()
  6. Uploading Files via an HTML Form
  7. Getting File Information
  8. More File Functions
  9. Directory Functions
    1. Getting a Directory Listing
  10. Exercise: Creating a Resume Management Page

## Class Materials

Each student will receive a comprehensive set of materials, including course notes and all the class examples.

## Class Prerequisites

Experience in the following *is required* for this PHP class:

- HTML

Experience in the following *would be useful* for this PHP class:

- CSS
- Basic Programming
- XML