uCertify

Course Outline

PHP and MySQL Web Development



28 Mar 2024

1. Course Objective
2. Pre-Assessment
3. Exercises, Quizzes, Flashcards & Glossary

   Number of Questions
4. Expert Instructor-Led Training
5. ADA Compliant & JAWS Compatible Platform
6. State of the Art Educator Tools
7. Award Winning Learning Platform (LMS)
8. Chapter & Lessons

Syllabus

Chapter 1: Introduction

Chapter 2: PHP Crash Course

Chapter 3: Storing and Retrieving Data

Chapter 4: Using Arrays

Chapter 5: String Manipulation and Regular Expressions

Chapter 6: Reusing Code and Writing Functions

Chapter 7: Object-Oriented PHP

Chapter 8: Error and Exception Handling

Chapter 9: Designing Your Web Database

Chapter 10: Creating Your Web Database

Chapter 11: Working with Your MySQL Database

Chapter 12: Accessing Your MySQL Database from the Web with PHP

Chapter 13: Advanced MySQL Administration

Chapter 14: Advanced MySQL Programming

Chapter 15: Web Application Security Risks

Chapter 16: Building a Secure Web Application

Chapter 17: Implementing Authentication Methods with PHP

Chapter 18: Interacting with the File System and the Server

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Chapter 27: Debugging and Logging

Chapter 28: Building User Authentication and Personalization

Chapter 29: Building a Web-Based Email Service with Laravel Part I

Chapter 30: Building a Web-Based Email Service with Laravel Part II

Chapter 31: Social Media Integration Sharing and Authentication

Chapter 32: Building a Shopping Cart

Chapter 33: Installing Apache, PHP, and MySQL

Videos and How To

9. Practice Test

   Here's what you get

   Features

10. Live labs

    Lab Tasks

    Here's what you get

11. Post-Assessment

1. Course Objective

Learn PHP MySQL tools and techniques with the PHP and MySQL Web Development course and lab. The lab provides a hands-on learning experience in a safe and online environment. The PHP MySQL course and lab provide hands-on expertise to work with Web application security, MySQL administration, networks and protocol functions; image generation, debugging and logging; authentication, and personalization.

2. Pre-Assessment

Pre-Assessment lets you identify the areas for improvement before you start your prep. It determines what students know about a topic before it is taught and identifies areas for improvement with question assessment before beginning the course.

3. Exercises

There is no limit to the number of times learners can attempt these. Exercises come with detailed remediation, which ensures that learners are confident on the topic before proceeding.



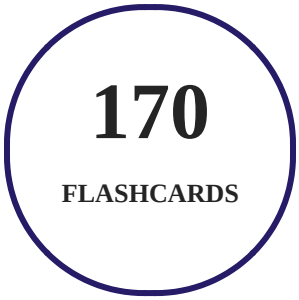
4. Quizzes

Quizzes test your knowledge on the topics of the exam when you go through the course material. There is no limit to the number of times you can attempt it.



5. flashcards

Flashcards are effective memory-aiding tools that help you learn complex topics easily. The flashcard will help you in memorizing definitions, terminologies, key concepts, and more. There is no limit to the number of times learners can attempt these. Flashcards help master the key concepts.



6. Glossary of terms

uCertify provides detailed explanations of concepts relevant to the course through Glossary. It contains a list of frequently used terminologies along with its detailed explanation. Glossary defines the key terms.



7. Expert Instructor-Led Training

uCertify uses the content from the finest publishers and only the IT industry's finest instructors. They have a minimum of 15 years real-world experience and are subject matter experts in their fields. Unlike a live class, you can study at your own pace. This creates a personal learning experience and gives you all the benefit of hands-on training with the flexibility of doing it around your schedule 24/7.

8. ADA Compliant & JAWS Compatible Platform

uCertify course and labs are ADA (Americans with Disability Act) compliant. It is now more accessible to students with features such as:

- Change the font, size, and color of the content of the course
- Text-to-speech, reads the text into spoken words
- Interactive videos, how-tos videos come with transcripts and voice-over
- Interactive transcripts, each word is clickable. Students can clip a specific part of the video by clicking on a word or a portion of the text.

JAWS (Job Access with Speech) is a computer screen reader program for Microsoft Windows that reads the screen either with a text-to-speech output or by a Refreshable Braille display. Student can easily navigate uCertify course using JAWS shortcut keys.

9. State of the Art Educator Tools

uCertify knows the importance of instructors and provide tools to help them do their job effectively. Instructors are able to clone and customize course. Do ability grouping. Create sections. Design grade scale and grade formula. Create and schedule assessments. Educators can also move a student from self-paced to mentor-guided to instructor-led mode in three clicks.

10. Award Winning Learning Platform (LMS)

uCertify has developed an award winning, highly interactive yet simple to use platform. The SIIA CODiE Awards is the only peer-reviewed program to showcase business and education technology's finest products and services. Since 1986, thousands of products, services and solutions have been

recognized for achieving excellence. uCertify has won CODiE awards consecutively for last 7 years:

- **2014**
    1. Best Postsecondary Learning Solution

- **2015**
    1. Best Education Solution
    2. Best Virtual Learning Solution
    3. Best Student Assessment Solution
    4. Best Postsecondary Learning Solution
    5. Best Career and Workforce Readiness Solution
    6. Best Instructional Solution in Other Curriculum Areas
    7. Best Corporate Learning/Workforce Development Solution

- **2016**
    1. Best Virtual Learning Solution
    2. Best Education Cloud-based Solution
    3. Best College and Career Readiness Solution
    4. Best Corporate / Workforce Learning Solution
    5. Best Postsecondary Learning Content Solution
    6. Best Postsecondary LMS or Learning Platform
    7. Best Learning Relationship Management Solution

- **2017**
    1. Best Overall Education Solution
    2. Best Student Assessment Solution
    3. Best Corporate/Workforce Learning Solution
    4. Best Higher Education LMS or Learning Platform

- **2018**
    1. Best Higher Education LMS or Learning Platform

2. Best Instructional Solution in Other Curriculum Areas
3. Best Learning Relationship Management Solution

- **2019**
  1. Best Virtual Learning Solution
  2. Best Content Authoring Development or Curation Solution
  3. Best Higher Education Learning Management Solution (LMS)

- **2020**
  1. Best College and Career Readiness Solution
  2. Best Cross-Curricular Solution
  3. Best Virtual Learning Solution

11.  Chapter & Lessons

uCertify brings these textbooks to life. It is full of interactive activities that keeps the learner engaged. uCertify brings all available learning resources for a topic in one place so that the learner can efficiently learn without going to multiple places. Challenge questions are also embedded in the chapters so learners can attempt those while they are learning about that particular topic. This helps them grasp the concepts better because they can go over it again right away which improves learning.

Learners can do Flashcards, Exercises, Quizzes and Labs related to each chapter. At the end of every lesson, uCertify courses guide the learners on the path they should follow.

Syllabus

Chapter 1: Introduction

- Why You Should Read This Book
- What You Will Learn from This Book
- What Is PHP?

- What Is MySQL?
- Why Use PHP and MySQL?
- Some of PHP's Strengths
- Some of MySQL's Strengths
- What Is New in MySQL (8.x)?
- How Is This Book Organized?
- Finally

Chapter 2: PHP Crash Course

- Before You Begin: Accessing PHP
- Creating a Sample Application: Bob's Auto Parts
- Embedding PHP in HTML
- Adding Dynamic Content
- Accessing Form Variables
- Understanding Identifiers
- Examining Variable Types
- Declaring and Using Constants
- Understanding Variable Scope

- Using Operators
- Working Out the Form Totals
- Understanding Precedence and Associativity
- Using Variable Handling Functions
- Making Decisions with Conditionals
- Repeating Actions Through Iteration
- Breaking Out of a Control Structure or Script
- Employing Alternative Control Structure Syntax
- Using declare
- Next
- Programming Exercises

Chapter 3: Storing and Retrieving Data

- Saving Data for Later
- Storing and Retrieving Bob's Orders
- Processing Files
- Opening a File
- Writing to a File

- Closing a File
- Reading from a File
- Using Other File Functions
- Locking Files
- A Better Way: Databases
- Further Reading
- Next
- Programming Exercises

Chapter 4: Using Arrays

- What Is an Array?
- Numerically Indexed Arrays
- Arrays with Different Indices
- Array Operators
- Multidimensional Arrays
- Sorting Arrays
- Sorting Multidimensional Arrays
- Reordering Arrays

- Loading Arrays from Files
- Performing Other Array Manipulations
- Further Reading
- Next
- Programming Exercises

Chapter 5: String Manipulation and Regular Expressions

- Creating a Sample Application: Smart Form Mail
- Formatting Strings
- Joining and Splitting Strings with String Functions
- Comparing Strings
- Matching and Replacing Substrings with String Functions
- Introducing Regular Expressions
- Finding Substrings with Regular Expressions
- Replacing Substrings with Regular Expressions
- Splitting Strings with Regular Expressions
- Further Reading
- Next

- Programming Exercises

Chapter 6: Reusing Code and Writing Functions

- The Advantages of Reusing Code
- Using require() and include()
- Using Functions in PHP
- Defining Your Own Functions
- Examining Basic Function Structure
- Using Parameters
- Understanding Scope
- Passing by Reference Versus Passing by Value
- Using the return Keyword
- Implementing Recursion
- Further Reading
- Next
- Programming Exercises

Chapter 7: Object-Oriented PHP

- Understanding Object-Oriented Concepts
- Creating Classes, Attributes, and Operations in PHP
- Instantiating Classes
- Using Class Attributes
- Calling Class Operations
- Controlling Access with private and public
- Writing Accessor Functions
- Implementing Inheritance in PHP
- Using Traits
- Designing Classes
- Writing the Code for Your Class
- Understanding Advanced Object-Oriented Functionality in PHP
- Next
- Programming Exercises

Chapter 8: Error and Exception Handling

- Exception Handling Concepts
- The Exception Class

- User-Defined Exceptions
- Exceptions in Bob's Auto Parts
- Exceptions and PHP's Other Error Handling Mechanisms
- Further Reading
- Next
- Programming Exercises

Chapter 9: Designing Your Web Database

- Relational Database Concepts
- Designing Your Web Database
- Web Database Architecture
- Further Reading
- Next

Chapter 10: Creating Your Web Database

- Using the MySQL Monitor
- Logging In to MySQL
- Creating Databases and Users
- Setting Up Users and Privileges

- Introducing MySQL's Privilege System
- Setting Up a User for the Web
- Using the Right Database
- Creating Database Tables
- Understanding MySQL Identifiers
- Choosing Column Data Types
- Further Reading
- Next
- Programming Exercises

Chapter 11: Working with Your MySQL Database

- What Is SQL?
- Inserting Data into the Database
- Retrieving Data from the Database
- Updating Records in the Database
- Altering Tables After Creation
- Deleting Records from the Database
- Dropping Tables

- Dropping a Whole Database
- Further Reading
- Next
- Programming Exercises

Chapter 12: Accessing Your MySQL Database from the Web with PHP

- How Web Database Architectures Work
- Querying a Database from the Web
- Putting New Information in the Database
- Using Other PHP-Database Interfaces
- Further Reading
- Next
- Programming Exercises

Chapter 13: Advanced MySQL Administration

- Understanding the Privilege System in Detail
- Making Your MySQL Database Secure
- Getting More Information About Databases

- Optimizing Your Database
- Backing Up Your MySQL Database
- Restoring Your MySQL Database
- Implementing Replication
- Further Reading
- Next
- Programming Exercises

Chapter 14: Advanced MySQL Programming

- The LOAD DATA INFILE Statement
- Storage Engines
- Transactions
- Foreign Keys
- Stored Procedures
- Triggers
- Further Reading
- Next
- Programming Exercises

Chapter 15: Web Application Security Risks

- Identifying the Threats We Face
- Understanding Who We're Dealing With
- Next

Chapter 16: Building a Secure Web Application

- Strategies for Dealing with Security
- Securing Your Code
- Securing Your Web Server and PHP
- Database Server Security
- Protecting the Network
- Computer and Operating System Security
- Disaster Planning
- Next
- Programming Exercises

Chapter 17: Implementing Authentication Methods with PHP

- Identifying Visitors

- Implementing Access Control
- Using Basic Authentication
- Using Basic Authentication in PHP
- Using Basic Authentication with Apache's .htaccess Files
- Creating Your Own Custom Authentication
- Further Reading
- Next
- Programming Exercises

Chapter 18: Interacting with the File System and the Server

- Uploading Files
- Using Directory Functions
- Interacting with the File System
- Using Program Execution Functions
- Interacting with the Environment: getenv() and putenv()
- Further Reading
- Next
- Programming Exercises

Chapter 19: Using Network and Protocol Functions

- Examining Available Protocols
- Sending and Reading Email
- Using Data from Other Websites
- Using Network Lookup Functions
- Backing Up or Mirroring a File
- Further Reading
- Next
- Programming Exercises

Chapter 20: Managing the Date and Time

- Getting the Date and Time from PHP
- Converting Between PHP and MySQL Date Formats
- Calculating Dates in PHP
- Calculating Dates in MySQL
- Using Microseconds
- Using the Calendar Functions
- Further Reading

- Next
- Programming Exercises

Chapter 21: Internationalization and Localization

- Localization Is More than Translation
- Understanding Character Sets
- Creating a Basic Localizable Page Structure
- Using gettext() in an Internationalized Application
- Further Reading
- Next
- Programming Exercises

Chapter 22: Generating Images

- Setting Up Image Support in PHP
- Understanding Image Formats
- Creating Images
- Using Automatically Generated Images in Other Pages
- Using Text and Fonts to Create Images

- Drawing Figures and Graphing Data
- Using Other Image Functions
- Next
- Programming Exercises

Chapter 23: Using Session Control in PHP

- What Is Session Control?
- Understanding Basic Session Functionality
- Implementing Simple Sessions
- Creating a Simple Session Example
- Configuring Session Control
- Implementing Authentication with Session Control
- Next
- Programming Exercises

Chapter 24: Integrating JavaScript and PHP

- Understanding AJAX
- A Brief Introduction to jQuery
- Using jQuery in Web Applications

- Using jQuery and AJAX with PHP
- Further Reading
- Next
- Programming Exercises

Chapter 25: Other Useful Features

- Evaluating Strings: eval()
- Terminating Execution: die() and exit()
- Serializing Variables and Objects
- Getting Information About the PHP Environment
- Temporarily Altering the Runtime Environment
- Highlighting Source Code
- Using PHP on the Command Line
- Next
- Programming Exercises

Chapter 26: Using PHP and MySQL for Large Projects

- Applying Software Engineering to Web Development

- Planning and Running a Web Application Project
- Reusing Code
- Writing Maintainable Code
- Implementing Version Control
- Choosing a Development Environment
- Documenting Your Projects
- Prototyping
- Separating Logic and Content
- Optimizing Code
- Testing
- Further Reading
- Next

Chapter 27: Debugging and Logging

- Programming Errors
- Variable Debugging Aid
- Error Reporting Levels
- Altering the Error Reporting Settings

- Triggering Your Own Errors
- Logging Errors Gracefully
- Logging Errors to a Log File
- Next

Chapter 28: Building User Authentication and Personalization

- Solution Components
- Solution Overview
- Implementing the Database
- Implementing the Basic Site
- Implementing User Authentication
- Implementing Bookmark Storage and Retrieval
- Implementing Recommendations
- Considering Possible Extensions

Chapter 29: Building a Web-Based Email Service with Laravel Part I

- Introducing Laravel

Chapter 30: Building a Web-Based Email Service with Laravel Part II

- Building a Simple IMAP Client using Laravel
- Pulling it All Together to Build a Web-based Email Client
- Conclusion

Chapter 31: Social Media Integration Sharing and Authentication

- Web Service Authentication with OAuth
- Conclusion

Chapter 32: Building a Shopping Cart

- Solution Components
- Solution Overview
- Implementing the Database
- Implementing the Online Catalog
- Implementing the Shopping Cart
- Implementing Payment
- Implementing an Administration Interface
- Extending the Project

Chapter 33: Installing Apache, PHP, and MySQL

- Installing Apache, PHP, and MySQL Under UNIX
- Installing Apache, PHP, and MySQL for Windows and Mac OS X Using All-in-One Installation Packages
- Installing PEAR
- Installing PHP with Other Web Servers

12. Practice Test

uCertify provides full length practice tests. These tests closely follow the exam objectives and are designed to simulate real exam conditions. Each course has a number of test sets consisting of hundreds of items to ensure that learners are prepared for the certification exam.

Here's what you get

100	100
PRE-ASSESSMENTS QUESTIONS	POST-ASSESSMENTS QUESTIONS

Features

Each question comes with detailed remediation explaining not only why an answer option is correct but also why it is incorrect.

Unlimited Practice

Each test can be taken unlimited number of times until the learner feels they are prepared. Learner can review the test and read detailed remediation. Detailed test history is also available.

Each test set comes with learn, test and review modes. In learn mode, learners will attempt a question and will get immediate feedback and complete remediation as they move on to the next question. In test mode, learners can take a timed test simulating the actual exam conditions. In review mode, learners can read through one item at a time without attempting it.

13. Live Labs

The benefits of live-labs are:

- Exam based practical tasks
- Real equipment, absolutely no simulations
- Access to the latest industry technologies
- Available anytime, anywhere on any device
- Break and Reset functionality
- No hardware costs

Lab Tasks

PHP Crash Course

- Creating a Form
- Declaring Constants
- Using Arithmetic Operators
- Concatenating Strings
- Using the Ternary Operator
- Using the Type Operator
- Creating an Output Form
- Using the if Statement

- Using the if-else Statement
- Using the switch Statement
- Using the while Loop
- Using the for Loop
- Using the foreach Loop
- Using the do-while Loop

Storing and Retrieving Data

- Opening and Reading a File

Using Arrays

- Creating an Array
- Inserting and Retrieving Values from an Array Using the foreach Loop
- Creating a Multi-dimensional Array
- Sorting an Array
- Generating a Random Value
- Loading Arrays from a File

String Manipulation and Regular Expressions

- Creating a Dynamic Form
- Splitting Strings with Regular Expressions

Reusing Code and Writing Functions

- Reusing the Code
- Creating a Function
- Using the Pass by Reference
- Reversing a String Using Recursion and Iteration

Object-Oriented PHP

- Creating an Instance of a Class
- Implementing Function Overriding
- Implementing Static Methods

- Generating a Fizzbuzz Sequence

Error and Exception Handling

- Creating a User-Defined Exception Class
- Implementing Error Handling

Creating Your Web Database

- Creating a Table

Working with Your MySQL Database

- Inserting Values into a Table
- Retrieving All the Attribute Values Using an Asterisk
- Retrieving the Data from Multiple Tables
- Retrieving the Data in Sorted Order
- Using Aggregate Functions
- Using the GROUP BY and HAVING Clauses
- Retrieving the Limited Number of Rows from the Table
- Using the NOT IN Operator
- Updating a Table
- Modifying a Table Definition
- Dropping a Table

Advanced MySQL Programming

- Declaring a Basic Stored Procedure
- Declaring a Stored Function
- Using Cursors and Loops
- Creating a Trigger

Implementing Authentication Methods with PHP

- Implementing a Simple Authentication Mechanism

Interacting with the File System and the Server

- Creating an HTML Form for File Upload
- Displaying the Uploaded Files
- Displaying the Directory List of the Uploaded Files

Using Network and Protocol Functions

- Verifying the URL and Email Address

Managing the Date and Time

- Calculating Age

Generating Images

- Creating a Simple Line Graph

Using Session Control in PHP

- Creating a Simple Session

Integrating JavaScript and PHP

- Creating Functions Using jQuery

Other Useful Features

- Listing the Extensions Available to PHP

Debugging and Logging

- Declaring a Custom Error Handler

Here's what you get

60	60	01:20
LIVE LABS	VIDEO TUTORIALS	HOURS

14. Post-Assessment

After completion of the uCertify course Post-Assessments are given to students and often used in conjunction with a Pre-Assessment to measure their achievement and the effectiveness of the exam.

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