

Full Stack Web development with PHP and MYSQL

Duration: 15 days

Prerequisites: Knowledge of OOPS Programming and Web Development

Module 1: Web Foundation & Frontend (Day 1–4)

Day 1: Web Basics & HTML5 Essentials

- Internet, HTTP, Client-Server Architecture
 - Structure of HTML Document
 - Headings, Paragraphs, Lists, Images, Links
 - Tables and Semantic Elements (<article>, <section>)
 - Forms & Input Elements
 - **Lab:** Create a static resume webpage with basic sections
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Day 2: Styling with CSS3

- Internal, Inline & External CSS
 - Selectors, Colors, Fonts, Backgrounds
 - Box Model, Float, Clear
 - Flexbox and Grid Layout
 - Media Queries for Responsiveness
 - **Lab:** Convert Day 1 resume into a styled responsive page
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Day 3: Introduction to JavaScript

- JS Syntax, Variables (var/let/const)
 - Data Types, Operators
 - Conditional Statements, Loops
 - Functions, Events, Scopes
 - **Lab:** JavaScript form validation & simple calculator
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Day 4: DOM Manipulation & jQuery Introduction

- DOM Tree, Query Selectors
 - Creating & Appending Elements
 - Handling Events (onClick, onSubmit, etc.)
 - jQuery Basics: selectors, effects, events
 - **Lab:** Interactive To-do list with add/remove using JS/jQuery
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Module 2: PHP Programming (Day 5–8)

Day 5: PHP Fundamentals

- PHP Syntax, Variables, Data Types
 - Operators, Control Structures
 - Introduction to Web Server (XAMPP)
 - Running PHP Scripts in Browser
 - **Lab:** Create a script to process basic math operations
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Day 6: PHP Functions & Form Handling

- User-defined Functions & Built-in Functions
 - Include/Require
 - Handling Form Data (GET, POST)
 - Input Validation & Sanitization
 - **Lab:** Contact form with input validation & confirmation message
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Day 7: Arrays, Strings & File Handling

- Indexed, Associative & Multidimensional Arrays
 - String Functions (substr, explode, etc.)
 - File Upload & Handling (fopen, fwrite)
 - **Lab:** CSV file upload and display content in a table
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Day 8: Sessions, Cookies & Authentication

- Setting and Getting Cookies
 - PHP Sessions – Create, Store, Destroy
 - User Authentication Logic
 - **Lab:** Create login/logout system using sessions
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Module 3: Database & Backend Integration (Day 9–12)

Day 9: MySQL Database Essentials

- MySQL Introduction & SQL Basics
- CREATE, INSERT, SELECT, UPDATE, DELETE
- Table Relationships, Primary & Foreign Keys
- Using phpMyAdmin
- **Lab:** Create database and perform CRUD operations via SQL

Day 10: Connecting PHP with MySQL

- MySQLi and PDO
- Database Connection
- Fetching, Displaying, and Inserting Data
- Prepared Statements for Security
- **Lab:** Fetch student records from DB and show in HTML table

Day 11: Build User Authentication Module

- Registration Form with Data Storage
- Password Hashing (password_hash)
- Login with Session Tracking
- Logout and Access Restriction
- **Lab:** Build end-to-end authentication system

Day 12: Admin Dashboard & CRUD Operations

- Admin Panel UI using Bootstrap
- Role-based Access Control (RBAC)
- Add/Edit/Delete Database Records
- File/Image Upload Handling
- **Lab:** CRUD for blog posts/products with images
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Module 4: Full Stack Concepts & Final Integration (Day 13–14)

Day 13: AJAX & Dynamic UI Interactions

- What is AJAX? Why use it?
- XMLHttpRequest & jQuery AJAX
- Live Search, Pagination, Dynamic Filters
- JSON Encode/Decode in PHP
- **Lab:** AJAX-based live search feature for product catalog

Day 14: Project Structuring & Security Best Practices

- Folder Structure and MVC-like Logic
- Securing Forms (XSS, SQL Injection)
- Password Policies, Input Filtering
- Environment Setup for Deployment (Localhost & Shared Hosting)
- Version Control Basics (Git Intro)
- **Lab:** Refactor application structure, secure and test

Module 5: Capstone Project (Day 15)

Day 15: Capstone Project – Development & Demo

Project Options (Choose 1):

- Mini CMS (Content Management System)
- Product Catalog with Admin Panel
- Blog System with Auth, Comments

Activities:

- Finalize Feature List and UI
- Implement Full Stack CRUD Features
- Add AJAX and User Auth
- Deploy on Localhost or Server (if possible)
- Final Testing and Debugging