PHP & Laravel Training Syllabus

CorporateSpace Web Development Academy

Hands-On Training for Building Robust Web Applications

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https://corporatespace.in/php-laravel-training

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1 Course Overview

This PHP & Laravel Training program equips participants with the skills to build dynamic, secure, and scalable web applications using PHP and the Laravel framework. Through hands-on coding, real-world projects, and expert-led instruction, learners will master core PHP programming, Laravel's MVC architecture, REST API development, and cloud deployment. The curriculum is designed for beginners and professionals, aligning with real-world use cases in fintech, edtech, and SaaS industries.

1.1 Course Objectives

- Understand core PHP programming and object-oriented concepts.
- Build web applications using Laravel's MVC framework and Eloquent ORM.
- Develop and secure REST APIs with Laravel Sanctum or Passport.
- Deploy Laravel applications to cloud platforms like Heroku or AWS.
- Create a functional e-commerce or CRM system through a real-time project.

1.2 Course Duration

- Total: 25–30 hours
- Format: Live sessions (onsite, online via Zoom/Google Meet, or hybrid)
- Schedule: Flexible, including weekend batches for corporate teams

1.3 Target Audience

- Software Engineers seeking backend development expertise
- Professionals transitioning from Java or other languages to PHP/JavaScript
- College Students (BCA, MCA, BE) targeting web development roles
- Startups and Founders building Laravel-based MVPs

1.4 Prerequisites

- Basic programming knowledge (e.g., variables, loops, functions) is recommended but not mandatory.
- Familiarity with HTML/CSS and basic web development concepts is helpful.

2 Module 1: Core PHP Fundamentals

2.1 Introduction to PHP

- Overview of PHP: Server-side scripting and web development
- Setting up a PHP development environment (XAMPP, WAMP, or Laravel Valet)
- PHP syntax, variables, data types, and operators

2.2 Functions and Control Structures

- Writing and reusing functions in PHP
- Control structures: If-else, loops, and switch statements
- Handling arrays and associative arrays

2.3 Object-Oriented Programming (OOP) in PHP

- Classes, objects, properties, and methods
- Inheritance, polymorphism, and encapsulation
- Using namespaces and autoloading

2.4 Lab: PHP Basics

- Writing a PHP script to process form data
- Creating a simple class for user management

3 Module 2: PHP Web Development Basics

3.1 Working with Forms and Sessions

- Handling form submissions (GET, POST)
- Managing sessions and cookies for user tracking
- Implementing basic input validation and sanitization

3.2 File Handling and Error Management

- Reading and writing files in PHP
- Handling errors and exceptions with try-catch
- Logging errors for debugging

3.3 Lab: Web Development with PHP

- Building a simple login system with session management
- Creating a file upload feature with validation

4 Module 3: Introduction to Laravel Framework

4.1 Laravel Fundamentals

- Overview of Laravel: Features, benefits, and ecosystem
- Setting up a Laravel project using Composer
- Understanding Laravel's directory structure and Artisan CLI

4.2 Laravel MVC Architecture

- Models: Defining database relationships with Eloquent ORM
- Views: Creating dynamic templates with Blade
- Controllers: Handling business logic and routing

4.3 Lab: Laravel Setup

- Installing Laravel and configuring the environment
- Creating a basic MVC application with routes, views, and controllers

5 Module 4: Authentication, Middleware, and Forms in Laravel

5.1 Authentication

- Implementing user authentication with Laravel's built-in Auth system
- Configuring registration, login, and password reset
- Customizing authentication with guards

5.2 Middleware

- Creating and applying middleware for request filtering
- Role-based access control using middleware
- Protecting routes with authentication middleware

5.3 Forms and Validation

- Building forms with Laravel Blade and CSRF protection
- Implementing server-side validation rules
- Handling form errors and user feedback

5.4 Lab: Authentication and Forms

- Setting up a user authentication system
- Creating a validated form for user profile updates

6 Module 5: REST API Development with Laravel

6.1 API Fundamentals

- Introduction to RESTful APIs and HTTP methods
- Setting up API routes in Laravel
- Using Laravel Sanctum or Passport for API authentication

6.2 Building and Securing APIs

- Creating API endpoints for CRUD operations
- Implementing token-based authentication
- Rate limiting and securing API endpoints

6.3 Lab: API Development

- Building a REST API for a resource (e.g., products or users)
- Testing API endpoints using Postman

7 Module 6: Database Integration with Eloquent

7.1 Database Setup

- Configuring MySQL/PostgreSQL with Laravel
- Running migrations to create database schema
- Seeding databases with sample data

7.2 Eloquent ORM

- Defining models and relationships (one-to-one, one-to-many, many-to-many)
- Querying data with Eloquent and query builder
- Optimizing database performance with eager loading

7.3 Lab: Database Operations

- Creating migrations for a sample application
- Building Eloquent queries for data retrieval and manipulation

8 Module 7: Deploying Laravel Applications

8.1 Cloud Deployment

- Preparing a Laravel app for production
- Deploying to Heroku: Environment setup and configuration
- Deploying to AWS: EC2 or Elastic Beanstalk basics

8.2 Version Control with GitHub

- Setting up a Git repository for Laravel projects
- Managing code versions and collaboration
- Automating deployments with GitHub Actions

8.3 Lab: Deployment

- Deploying a Laravel app to Heroku
- Pushing project code to a GitHub repository

9 Module 8: Real-Time Project: E-commerce or CRM System

9.1 Project Overview

- Designing an e-commerce or CRM system
- Defining requirements: User management, product catalog, or customer tracking

9.2 Implementation

- Building the backend with Laravel MVC and Eloquent
- Implementing user authentication and role-based access
- Creating a REST API for frontend integration
- Setting up a database with migrations and seeding

9.3 Project Deliverables

- Functional e-commerce or CRM application
- Documentation of features and API endpoints
- Project codebase hosted on GitHub

10 Module 9: Career Development and Certification

10.1 Building a Web Development Portfolio

- Crafting a resume with PHP and Laravel project highlights
- Showcasing the project codebase on GitHub
- Preparing for backend developer roles

10.2 Certification and Support

- Earning a CorporateSpace PHP & Laravel Certificate
- 30 days of post-training doubt-solving and code support
- Job and internship references (on request)

11 Course Materials and Tools

11.1 Provided Resources

- Comprehensive course slides and cheat sheets
- Access to recorded sessions for review
- Sample Laravel project code and configurations
- Templates for API documentation

11.2 Tools Covered

- Visual Studio Code for coding
- MySQL Workbench or pgAdmin for database management
- GitHub for version control and project hosting
- Postman for API testing
- Heroku for cloud deployment
- MySQL/PostgreSQL databases

12 Program Delivery Options

12.1 Training Formats

- Onsite: At your company premises
- Online: Live sessions via Zoom/Google Meet
- Hybrid: Weekend batches for flexible learning

12.2 Customization for Corporate Teams

- Tailored modules based on company project needs
- Flexible scheduling for team availability
- Integration with company-specific tech stacks

13 Instructor Profile

- Assistant Professor and Full-Stack Developer with over 6 years of experience
- Delivered training to 15+ corporate teams globally
- Expertise in PHP, Laravel, and web application development