Laravel PHP Framework

Course Duration: 40 Hours (5 Days)

Overview

The Laravel PHP Framework course is designed to offer comprehensive training for both new and experienced developers looking to enhance their web application development skills. Through this course, learners will dive into the architectural foundations of Laravel, including Service Providers, Service Containers, Facades, and the Request Life Cycle. Starting with Module 2, participants will learn how to set up and install Laravel, configure a web server, and understand the Project structure. As they progress through modules on Basic Routing, Responses, Middleware, and Controllers, students will gain hands-on experience building robust applications. Advanced topics such as Blade Templates, Routing, URL Generation, Request Data, and Forms will help learners create a fully functional web application. The course also covers Validation, Database usage, the Eloquent ORM for database interactions, and crucial features like Authentication and Authorization. By the end of this Laravel framework training, participants will have a strong understanding of how to build and maintain modern web applications with Laravel, making them valuable assets in the development industry.

Audience Profile

To successfully undertake training in the Laravel PHP Framework course offered by Koenig Solutions, the following minimum prerequisites are recommended:

- Basic understanding of PHP and its syntax
- Familiarity with HTML and CSS for web page structure and styling
- Knowledge of object-oriented programming (OOP) concepts in PHP
- Experience using command-line interfaces (CLI)
- Familiarity with the Model-View-Controller (MVC) design pattern
- Understanding of how to use a web server such as Apache or Nginx
- Basic knowledge of database concepts and SQL
- Comfortable working with a code editor or integrated development environment (IDE)

Course Syllabus

Day 1: Introduction to Laravel and Basic Setup

- Overview of the Laravel Framework
- Key features and benefits
- Comparison with other PHP frameworks
- Installing PHP and Composer
- Installing Laravel via Composer

- Creating a new Laravel project
- Understanding the project directory structure
- Configuring environment variables
- Overview of the Artisan command-line tool
- Basic routing concepts
- Defining routes in web.php
- Using route parameters and constraints

Lab 1: Setting Up a Laravel Project

- Setting up a new Laravel project
- Exploring the directory structure
- Defining basic routes and running the development server

Day 2: Controllers, Views, and Blade Templating

- Creating controllers using Artisan
- Understanding controller actions
- Route-Controller integration
- Introduction to Blade
- Creating and rendering views
- Using template inheritance and sections
- Passing data from controllers to views
- Using Blade directives
- Creating and using Blade components
- Building layouts with Blade

Lab 2: Building a Simple Web Application

- Creating controllers and views
- Passing data to views and rendering content
- Using Blade to create reusable templates and layouts

Day 3: Working with Databases and Eloquent ORM

- Overview of Eloquent ORM
- Configuring the database connection
- Creating and migrating database tables
- Creating models using Artisan
- Defining relationships (one-to-one, one-to-many, many-to-many)
- Retrieving data using Eloquent
- Using query scopes and aggregate functions

- Creating and running migrations
- Seeding the database with test data

Lab 3: Building a CRUD Application

- Creating and migrating database tables
- Defining models and relationships
- Implementing CRUD operations (Create, Read, Update, Delete) using Eloquent

Day 4: Forms, Validation, and Authentication

- Creating and processing forms
- Implementing CSRF protection
- Using Laravel's validation rules
- Custom validation messages and rules
- Setting up Laravel Breeze or Laravel Jetstream for authentication
- Implementing user registration and login
- Managing roles and permissions
- Protecting routes and views based on roles

Lab 4: Creating and Validating Forms

- Creating forms for user input
- Implementing validation and displaying error messages
- Setting up user authentication and role-based access control

Day 5: Advanced Topics and Final Project

- Understanding middleware
- Creating and using custom middleware
- Introduction to Laravel events and listeners
- Broadcasting events with Laravel Echo
- Setting up task scheduling with Cron
- Using queues for background processing
- Preparing a Laravel application for deployment
- Configuring environment-specific settings
- Best practices for Laravel development

Lab 5: Final Project

- Integrating all learned concepts into a final project
- Implementing advanced features such as events, queues, and middleware
- Preparing the application for deployment

- Final review and Q&A