



# Laravel Career Path Outline

## Module 1

- Live class
  - Introduction to PHP
    - What is PHP
    - Why and How PHP was Created
    - PHP: Programming Language or Server-Side Language
    - PHP CLI vs PHP FPM
    - PHP: Past, Present, and Future
    - Intro to PHP Shells (Built-in shell and PsySh)
  - Recorded classes
    - PHP basics
      - Episode 1: Data Types
      - Episode 2: Type Hinting
      - Episode 3: Type Casting
      - Episode 4: Intro to Variables
      - Episode 5: Intro to Arrays
      - Episode 6: Array Manipulation
      - Episode 7: Built-In Functions
      - Episode 8: Intro to Functions
      - Episode 9: Function Return Type & Variadic Parameter
      - Episode 10: Function Named Arguments
      - Episode 11: Intro to Closures
      - Episode 12: Intro to Loops
    - Object-oriented PHP
      - Episode 1: What is the Programming paradigm
      - Episode 2: What is OOP
      - Episode 3: Principles of OOP
      - Episode 4: Abstract classes
      - Episode 5: Interface
      - Episode 6: Traits
      - Episode 7: Constants and Enums
    - Error handling in PHP
      - Episode 1: Error vs Exception
      - Episode 2: How to handle errors
  - Live class
    - How to build a simple PHP CLI application
      - Introduction to PHP CLI Applications
      - Handling Command-Line Arguments
      - Building the Application Structure
      - Reading and Writing to the Console
      - Interacting with Files and Directories
      - Error Handling and Exception Management

### Assignments:

- Assignment 1: Build a simple PHP CLI tool (Count the alphabet in the given sentence)
- Assignment 2: Build Expense tracker CLI app

## Module 2

- Recorded classes
  - PHP Advanced topics
    - Episode 1: Namespaces
    - Episode 2: Magic Methods
    - Episode 3: Composition vs Inheritance
    - Episode 4: Dependency Injection
    - Episode 5: OOP Design Principle: Composition over Inheritance
    - Episode 6: OOP Design Principle: Program to an Interface
    - Episode 7: OOP Design Principle: Encapsulate what changes
  - Live class
    - Advanced OOP design principles
      - SOLID
      - KISS
      - DRY
      - YAGNI
- Recorded classes
  - Autoloading and Dependency management
    - Episode 1: Introduction to Composer
    - Episode 2: Autoloading in PHP
    - Episode 3: Autoloading using Composer

- Episode 4: Autoloading Files using Composer
  - Episode 5: Managing Dependencies with Composer
  - Episode 6: Utilising Packagist and Packages
  - Episode 7: Advanced Dependency Management
- Live class
    - How to build your own composer package and publish in Packagist
    - Introduction to Composer Packages
    - Setting Up Your Package Structure
    - Writing and Testing Your Package Code
    - Documenting Your Package
    - Versioning and Releasing Your Package
    - Maintaining and Updating Your Package

**Assignments:**

- Assignment 3: Build a simple PHP Package

**Module 3**

- Recorded classes
  - Web primer
    - Episode 1: Intro to the Web and Internet
    - Episode 2: Intro to Web Servers
    - Episode 3: Understand Client↔Server Architecture
    - Episode 4: HTTP Basics
    - Episode 5: Cookie, Session
    - Episode 6: Different Parts of a web application
- Live class
  - PHP as a server-side language
    - How web servers execute PHP
    - Intro to PHP built-in web server
    - Building a simple web application (or website) using HTML, CSS, PHP, and Nginx
- Recorded classes
  - Intro to Database
    - Episode 1: Introduction to Databases
    - Episode 2: Database Types and Other Data Storage Options
    - Episode 3: Schema and Database Modeling
    - Episode 4: Intro to ER Diagram
    - Episode 5: Intro to MySQL
    - Episode 6: Query in Database
    - Episode 7: Mutation (insert, update, delete) in Database
- Live class
  - Intro to Database drivers and how to connect PHP with database
    - Introduction to PDO (PHP Data Objects)
    - Introduction to MySQLi
    - Establishing a Database Connection
    - Executing Queries
    - Handling Transactions
    - Error Handling and Debugging

**Assignments:**

- Assignment 4: Build a simple web application (Barta) (Twitter/Threads clone)

**Module 4**

- Recorded classes
  - Intro to Framework
    - Episode 1: What is a Framework?
    - Episode 2: Why Do We Need a Framework?
    - Episode 3: Library vs. Framework
    - Episode 4: Micro-framework vs regular framework
    - Episode 5: Framework vs. CMS (Content Management System)
- Live class
  - Framework, CMS, Library: When to use which and why?
- Recorded classes
  - How to Build an MVC Framework
    - Episode 1: Introduction to MVC (Model-View-Controller)
    - Episode 2: Initial Setup & Autoload Classes
    - Episode 3: Application Entry Point & Routing
    - Episode 4: Working With Views and Helpers
    - Episode 5: Model Usage and Configuration
    - Episode 6: Refactor and Future Extensions
- Live class
  - Best practices and recommendations
    - PSR and coding conventions
    - Intro to coding standard tools (PHPCS etc.)
    - Intro to Semantic Versioning

**Assignments:**

- Assignment 5: Build 'Barta' using your own framework
  - Build a simple MVC framework and rebuild the 'Barta' (Assignment 4) using this framework.  
Features should be the same.

## Module 5

- Recorded classes
  - Intro to Laravel
    - Episode 1: What is Laravel? Why is Laravel So Popular?
    - Episode 2: Where to Find Laravel Codes
    - Episode 3: Intro to Laravel Ecosystem
    - Episode 4: Symfony Components in Laravel
    - Episode 5: Introduction to 'Artisan' Commands
- Live class
  - Understanding laravel code structure and how different parts are connected
- Recorded classes
  - Development Environment Setup
    - Episode 1: Setup Your Code Editor (VS Code)
    - Episode 2: Recommended VSCode Extensions & Utilities
    - Episode 3: Other Options for Development Environments (online platforms etc.)
- Live class
  - Let's start with Laravel
    - Different Options for Laravel Installation
    - Server Requirements to Install Laravel
    - Docker and Laravel Sail
    - Intro to Configuration and Environment Variables

### Assignments:

- Assignment 6: Setup your development environment and Install a fresh Laravel application

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## Module 6

- Recorded classes
  - How Laravel Handles a Simple Request
    - Episode 1: Intro to Routing in Laravel
    - Episode 2: Route parameters and named routes
    - Episode 3: Route group, route prefix, resourceful route, etc.
    - Episode 4: Controllers in Laravel
    - Episode 5: Demystifying Request
    - Episode 6: Demystifying Response
- Live class
  - Explaining Request-Response Lifecycle in Laravel
- Recorded classes
  - Mastering View in Laravel
    - Episode 1: Views in Laravel
    - Episode 2: Intro to Blade Templating Engine
    - Episode 3: View composers
    - Episode 4: Sessions
    - Episode 5: URL generation
- Live class
  - Intro to Laravel Collections

### Assignments:

- Assignment 7: Build your static portfolio site using Laravel

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## Module 7

- Recorded classes
  - Intro to Database Management in Laravel
    - Episode 1: Database Migration
    - Episode 2: Database Seeding
    - Episode 3: Multiple Database Connections
- Live class
  - Database migration best practices
- Recorded classes
  - Query builder in Laravel
    - Episode 1: Common DB operations (Select, join, etc.)
    - Episode 2: Raw queries
    - Episode 3: Mastering 'WHERE'
    - Episode 4: Ordering, grouping, limit, offset
    - Episode 5: Insert, update, delete
    - Episode 6: Chunking and lazy loading
- Live class
  - Intro to Basic Authentication in Laravel

### Assignments:

- Assignment 8: Rebuild the 'Barta' app using Laravel

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## Module 8

- Recorded classes
  - Auth scaffolding

- Episode 1: Introduction to Starter Kits (Breeze, Jetstream, etc.)
- Episode 2: Route protection
- Episode 3: Guards
- Episode 4: Custom user providers
- Episode 5: Social auth
- Live class
  - Middleware in Laravel
- Recorded classes
  - Validation in Laravel
    - Episode 1: Introduction to Validation (Why and How)
    - Episode 2: Form Request Validation
    - Episode 3: Custom Validators
    - Episode 4: Custom validation rules
    - Episode 5: Custom error messages
    - Episode 6: Advanced validation
  - Useful Laravel helpers
    - Episode 1: Understanding Laravel Helpers and Their Utility Functions
    - Episode 2: Exploring Common Helpers like Str, Arr, File, and More
- Live class
  - How to handle forms in Laravel: the right way
    - CSRF protection
    - Method spoofing
    - Handling form data
    - Form validation

**Assignments:**

- Assignment 9: Use Laravel Breeze and Social auth in 'Barta'

**Module 9**

- Recorded classes
  - Eloquent ORM
    - Episode 1: Intro to Eloquent ORM
    - Episode 2: Route model binding
    - Episode 3: Model factories
    - Episode 4: Eloquent Relationships
    - Episode 5: Accessor and Mutators
    - Episode 6: Model query scopes
  - Live class
    - Laravel models in depth
- Recorded classes
  - Working with Date & Time
    - Episode 1: Introduction to Carbon
    - Episode 2: Exploring Carbon's Features and Functionalities
    - Episode 3: Available Methods for Date and Time Manipulation
    - Episode 4: Date, DateTime, and timestamp fields in DB
    - Episode 5: Explaining created\_at, updated\_at and deleted\_at
  - File storage
    - Episode 1: Explaining file storage mechanism, disks, and drivers
    - Episode 2: File Retrieval
    - Episode 3: Storing file
    - Episode 4: File Handling in Forms
    - Episode 5: Restricting file access (public files vs. auth-protected files)
- Live class
  - Intro to Laravel media library package

**Assignments:**

- Assignment 10: Implement the Model and a few new features in 'Barta' app

**Module 10**

- Recorded classes
  - Laravel Architecture concepts
    - Episode 1: 'Reflections' in PHP
    - Episode 2: IoC Containers
    - Episode 3: Service Container in Laravel
    - Episode 4: Dependency Injection in Controllers
    - Episode 5: Service Providers in Laravel
  - Live class
    - Kernels
      - Understanding the Concept of Kernels in Laravel
      - Exploring the HTTP and Console Kernels
- Recorded classes
  - Demystifying Facades
    - Episode 1: What is Facade
    - Episode 2: Facade vs. Dependency Injection
    - Episode 3: Facade vs. Helper Functions
    - Episode 4: Real-time Facades
  - Error handling, Logging, and Debugging

- Episode 1: Exception Handler
- Episode 2: Rendering exceptions
- Episode 3: Reporting exceptions
- Episode 4: Custom HTTP Error Pages
- Episode 5: Logging
- Episode 6: Debugging tools and techniques (dd, var dump server, debugbar, ray, telescope, etc.)
- Live class
  - Access control
    - Intro to Authorization
    - Gates
    - Policies

**Assignments:**

- Assignment 11: Implement 'Admin dashboard' for 'Barta' app

## Module 11

- Recorded classes
  - RESTful API development
    - Episode 1: What is API
    - Episode 2: What is REST
    - Episode 3: RESTful API Development in Laravel
    - Episode 4: API Authentication (Laravel Sanctum and other options)
    - Episode 5: Introduction to API Clients (Postman, Insomnia)
    - Episode 6: Eloquent API resources
    - Episode 7: Introduction to Fractal (Package by PHP League)
- Live class
  - RESTful API development best practices
    - Naming
    - Proper use of HTTP methods and status codes
    - Authentication
    - API Versioning
    - API Rate Limiting
    - API Documentation
- Recorded classes
  - Caching
    - Episode 1: What is caching and why do we need it?
    - Episode 2: Caching Patterns and Techniques
    - Episode 3: Cache drivers
    - Episode 4: Cache usages
    - Episode 5: Cache tags
    - Episode 6: How to manage Cache keys effectively
- Live class
  - Intro to 'Laravel Actions'

**Assignments:**

- Assignment 12: Build a RESTful API for a URL shortener service (or Barta)

## Module 12

- Recorded classes
  - Brushing up Front-end skills
    - Episode 1: Intro to TailwindCSS
    - Episode 2: Intro to AlpineJS
    - Episode 3: Intro to VueJS
  - Asset bundling
    - Episode 1: Asset Bundling using Vite
    - Episode 2: Asset Bundling using Mix
- Live class
  - Intro to Livewire
- Recorded classes
  - Full-stack app development without front-end JS frameworks
    - Episode 1: Full Stack App using Laravel + Blade + JQuery/AlpineJS + Tailwind/Bootstrap
    - Episode 2: Full Stack App using TALL Stack (Tailwind + AlpineJS + Livewire + Laravel)
  - Full-stack app development with front-end JS frameworks
    - Episode 1: Introduction to SPA (Single Page Application)
    - Episode 2: Client-side Routing vs Server-Side Routing
    - Episode 3: Full Stack App using Laravel + Vue/React/Svelte SPA + Tailwind/Bootstrap
    - Episode 4: Intro to Inertia
    - Episode 5: Full Stack App using Laravel + Vue/React/Svelte + Inertia + Tailwind/Bootstrap
    - Episode 6: Introduction to Laravel Spatie
    - Episode 7: Introduction to Ziggy package (by TightenCo)
- Live class
  - Laravel + Vue SPA best practices

**Assignments:**

- Assignment 13: Convert the 'Barta' app into a SPA (Only the public-facing site, not the Admin dashboard). (Note: We'll provide the basic routes for the Vue code so that participants don't get stuck on the routing part.)

### Module 13

- Recorded classes
  - Mail
    - Episode 1: Mailing Basics
    - Episode 2: Mail Drivers
    - Episode 3: Mailables
    - Episode 4: Email Sending
    - Episode 5: Email and Local Development
    - Episode 6: Transactional email vs. marketing email
  - Events in Laravel
    - Events in Laravel
- Recorded classes
  - Notifications in Laravel
    - Episode 1: Understanding Laravel's notification system
    - Episode 2: Creating and Sending Notifications
    - Episode 3: Customising and Handling Notifications
- Live class
  - Broadcasting in Laravel
    - Intro to WebSockets
    - Understanding the Concept of Broadcasting in Laravel
    - Configuring Laravel's Broadcasting Drivers and Settings

#### Assignments:

- Assignment 14: Implement real-time notification and email feature for the 'Barta' app

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### Module 14

- Recorded classes
  - Queue
    - Episode 1: What is Queue
    - Episode 2: What is Job
    - Episode 3: How to manage sync jobs using Queue
    - Episode 4: Handling failed jobs
    - Episode 5: Intro to Laravel Horizon
  - Live class
    - Laravel Queue best practices and real-life examples
- Recorded classes
  - Localization in Laravel
    - Episode 1: Understanding the Importance of Localization in Web App
    - Episode 2: Implementing Multi-Language Support
    - Episode 3: Configuring Language Files and Language Switching
    - Episode 4: How to manage localization in Front-end frameworks (Vue/React)
  - Processes
    - Episode 1: Intro to Processes
    - Episode 2: Example and use cases of Processes
- Live class
  - Task Scheduling in Laravel
    - Introduction to Laravel's Task Scheduling Feature
    - Scheduling and Executing Tasks at Specific Intervals
    - Configuring and Managing Scheduled Tasks

#### Assignments:

- Assignment 15: Implement Vaccine registration system

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### Module 15

- Recorded classes
  - Working with external services
    - Episode 1: HTTP Client in Laravel
    - Episode 2: Consuming External Services (Third-party API Integration)
    - Episode 3: What is Webhook
    - Episode 4: How to Implement a Webhook in Laravel
    - Episode 5: How to Consume a Webhook in Laravel
  - Live class
    - Securing a Laravel App
      - Hashing and Encryption in Laravel
      - Other Security Concerns
- Recorded classes
  - Deployment
    - Episode 1: Understanding the Deployment Process
    - Episode 2: Preparing the Application for Production Deployment
    - Episode 3: Deploying a Laravel Application to Hosting
    - Episode 4: Local vs. Staging vs. Production Environment
  - Live class
    - Scaling a Laravel app
      - Laravel Application Scaling Techniques

- Strategies for Scaling a Laravel Application
- Configuring and Utilizing Technologies Like Redis and Memcached

**Assignments:**

- Assignment 16: Design and propose a plan for scaling the 'Vaccine registration system' for the whole country.

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**Module 16**

- Recorded classes
  - Intro to testing
    - Episode 1: Testing basics
    - Episode 2: Different types of tests
    - Episode 3: Intro to TDD
    - Episode 4: Intro to PHPUnit
- Live class
  - Intro to testing in Laravel
- Recorded classes
  - Testing advanced
    - Episode 1: Data providers
    - Episode 2: Mocking
    - Episode 3: HTTP Tests
    - Episode 4: Browser tests
- Live class
  - Testing in Laravel Using PEST

**Assignments:**

- Assignment 17: Write tests for 'Barta' app

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**Module 17**

- Recorded class
  - How to build a multi-tenant Laravel App
    - Episode 1: Introduction to Multi-tenancy in Laravel
    - Episode 2: Understanding the Concept of Multi-Tenancy and Its Use Cases
    - Episode 3: Handling Tenant Isolation
    - Episode 4: Database Separation
    - Episode 5: Tenant-Specific Customization in Laravel
- Live class
  - Console commands and use cases
- Recorded class
  - Git basics
- Live class
  - GitHub and how to work collaboratively in a team

**Assignments:**

- Assignment 18: Convert a single-tenant app to a multi-tenant app

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**Module 18**

- Recorded classes
  - Intro to Laravel ecosystem projects and tools
- Live class
  - Case study analysis of different project requirements and scenarios
- Recorded classes
  - Intro to some popular 3rd party Laravel Packages
    - Packages from Spatie, Tightenco, Beyondcode
    - Other popular "Open Source Community-Driven Packages" to make the development easier.
- Live class
  - Open Q/A and Career guideline

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**Module 19-24**

- Team projects, Mock interview, Job placement preparation etc.