

Laravel career path outline (2nd batch)

Module 1

- Live class
 - Introduction to PHP
 - What is PHP
 - Why and How PHP was Created
 - PHP: Programming Language or Server-Side Language
 - PHP: Past, Present, and Future
 - PHP Foundation
 - How to run PHP code
 - Intro to some basic PHP syntaxes
- 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: Intro to Functions
 - Episode 8: Built-In Functions
 - Episode 10: Function Named Arguments
 - Episode 11: Intro to Closures
 - Episode 12: Intro to Loops
- Live class
 - Hands on logical problem solving with PHP

Assignments:

- Some basic problem solving tasks
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Module 2

- Live class

- How PHP works behind the scene
 - Intro to PHP SAPI
 - PHP CLI vs PHP FPM
 - Intro to PHP Shells (Built-in shell and PsySh)
- Recorded class
 - Autoloading and Dependency management
 - Episode 1: Autoloading in PHP
 - Episode 2: Introduction to Composer
 - 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
 - Episode 8: How Does Autoloading Using Composer Works?
 - How to build PHP CLI applications
 - Episode 1: Introduction to PHP CLI Applications
 - Episode 2: Handling Command-Line Arguments
 - Episode 3: Building the Application Structure
 - Episode 4: Reading and Writing to the Console
 - Episode 5: Interacting with Files and Directories
 - Episode 6: Error Handling and Exception Management
 - Episode 7: Let's build a 'report generation app' using Symfony Console
- Live Class
 - Git intro
 - Intro to Version Control
 - Git Basic Commands
 - GitHub basics

Assignments:

- Build an Money manager CLI app
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Module 3

- 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 using HTML, CSS, PHP, and Nginx

- Recorded classes
 - Web primer
 - Episode 1: Intro to the Web and Internet
 - Episode 2: Understand Client↔Server Architecture
 - Episode 3: HTTP Basics
 - Episode 4: Cookie, Session
 - Episode 5: Components of a web application
- Live class
 - Form handling in PHP
 - Super Globals in PHP
 - Let's build a simple login form

Assignments:

- Build an anonymous feedback app like HushUp: <https://hushup.app/> (Use 'file' as storage)
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Module 4

- Live class
 - Intro to OOP in PHP
- Recorded classes
 - Object-oriented PHP
 - Episode 1: What is the Programming paradigm
 - Episode 2: Programming paradigm in PHP
 - Episode 3: OOP basics
 - Episode 4: Principles of OOP
 - Episode 5: Abstract classes
 - Episode 6: Interfaces
 - Episode 7: Polymorphism
 - Episode 8: Constants and Enums
 - PHP Advanced topics
 - Episode 1: Namespaces
 - Episode 2: Composition vs Inheritance
 - Episode 3: OOP principle: Favour composition over inheritance
 - Episode 4: Dependency Injection
 - Episode 5: OOP principle: Program to an Interface
 - Episode 6: OOP principle: Encapsulate what varies
 - Episode 7: Traits

- Episode 8: Magic Methods
- Live class
 - SOLID design principles

Assignments:

- Build a simple Banking transaction manager web app (Use 'file' as storage)
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Module 5

- Live class
 - Intro to Database
 - Why we need Database
 - Database Types and Other Data Storage Options
 - How to decide which database to choose
- Recorded class
 - Database basics
 - Episode 1: Database, table, schema
 - Episode 2: Database Modeling
 - Episode 3: Intro to ER Diagram
 - Episode 4: Intro to MySQL
 - Episode 5: DDL vs DML
 - Episode 6: Data types
 - Episode 7: Query in Database
 - Episode 8: Mutation (insert, update, delete) in Database
 - Database drivers and how to connect PHP with database
 - Episode 1: Introduction to PDO (PHP Data Objects)
 - Episode 2: Introduction to MySQLi
 - Episode 3: Establishing a Database Connection
 - Episode 4: Executing Queries
 - Episode 5: Handling Transactions
 - Episode 6: Error Handling and Debugging
- Live class
 - More about requirement analysis and database design
 - Primary key, foreign key and indexing basics
 - Relationships

Assignments:

- Use Database for storage in previous week's assignment
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Module 6

- Live class
 - PHP clean code practices
 - PHP FIG and PSR guidelines
- 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)
 - 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
 - Errors and Exceptions in PHP
 - php.ini and other relevant configs

Assignments:

- Build your own MVC framework and implement the previous weeks project with it
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Module 7

- Live class
 - What's new in PHP 7 and PHP 8
- Live class
 - Q/A and Recap class for all the previously discussed topics

Note: No recorded class or assignment for this week

Module 8

- Live class
 - Intro to Laravel
 - What is Laravel? Why is Laravel So Popular?
 - Where to Find Laravel Codes (Framework, core and other components)
 - Intro to Laravel Ecosystem
 - Symfony Components in Laravel
 - A brief about Laravel directory Structure
- Recorded classes
 - Let's start
 - Episode 1: Laravel installation basics
 - Episode 2: Understanding laravel directory structure
 - Episode 3: Intro to Laravel sail
 - Episode 4: Intro to Routing
 - Episode 5: Intro to Controllers
 - Episode 6: Views in Laravel
 - Episode 7: Kernels
 - 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
 - How Laravel works
 - MVC in Laravel
 - Explaining Request-Response Lifecycle in Laravel
 - Intro to config and env

Assignments:

- Build your static portfolio site using Laravel (Use JSON file as storage)
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Module 9

- Live class
 - Intro to Basic Authentication in Laravel
 - Intro to DB migration and seeding
 - Database migration best practices
- Recorded classes
 - Intro to Database Management in Laravel
 - Episode 1: Database Migration 101
 - Episode 2: Database Seeding Insights
 - Episode 3: Seeding From External Data Source
 - Episode 4: Multiple Database Connections
 - Episode 5: Intro to DB Query Builder
 - Mastering View in Laravel
 - Episode 1: Intro to Blade Templating Engine
 - Episode 2: Layouts Using Blade Template Inheritance
 - Episode 3: Convert an HTML Template to Laravel Project Using Blade Template Inheritance
 - Episode 4: View Composers
 - Episode 5: Custom Blade Directives
 - Episode 6: Sessions
 - Episode 7: URL Generation
- Live class
 - How blade template works
 - Database schema analysis for this week's assignment

Assignments:

- Build the foundation of Barta (a social networking) app (UI template will be provided)
 - Note:
 - Use DB Query builder
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Module 10

- Live class
 - How to handle forms in Laravel
 - CSRF protection
 - Method spoofing
 - Handling form data
 - Form validation

- Recorded classes
 - Validation in Laravel
 - Episode 1: Introduction to Validation (Why and How)
 - Episode 2: Displaying Validation Errors in View
 - Episode 3: Form Request Validation
 - Episode 4: Custom Validators
 - Episode 5: Retrieve Old Form Data on Validation Error
 - Episode 6: Laravel Blade Directives for 'checked' and 'selected' Attributes
 - Episode 7: Custom Validation Rules
 - Episode 8: Custom Error Messages
 - Episode 9: Advanced Validation
 - Useful Laravel Helpers
 - Episode 1: Understanding Laravel Helpers and Their Utility Functions
 - Episode 2: Exploring Common Helpers like Str, Arr, and More
 - Episode 3: Creating Custom Helpers in Laravel
 - Episode 4: Intro to Laravel Collections
 - Episode 5: Commonly Used Collection Methods
 - Deep dive in Query builder
 - Episode 1: Intro to query builder and common db operations
 - Episode 2: Raw queries
 - Episode 3: Join operations
 - Episode 4: Mastering 'WHERE'
 - Episode 5: Ordering, grouping, limit, offset
 - Episode 6: Insert, update, delete
 - Episode 7: Chunking and Lazy Loading
- Live class
 - Building CRUD: the right way

Assignments:

- Build basic features of Barta app
 - Create, edit, delete post
 - Show posts on home feed

Module 11

- Live class
 - Understanding Auth mechanisms
- Recorded classes

- Auth scaffolding
 - Episode 1: Introduction to Starter Kits (Breeze, Jetstream, etc.)
 - Episode 2: Fortify, Sanctum, Passport
 - Episode 3: Guards and User providers
 - Episode 4: Social auth
- Best practices and recommendations
 - Episode 1: PSR and coding conventions
 - Episode 2: Intro to Coding Standard Tools
 - Episode 3: Laravel Pint 101
 - Episode 4: The Art of Semantic Versioning
- 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
 - Understanding Middleware

Assignments:

- Add more features to Barta app
 - Description:
 - Use Laravel Breeze to implement complete auth in the 'Barta' app.
 - Implement 'comment' feature.
 - View other user's profile with their posts
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Module 12

- Live class
 - Laravel models in-depth
 - N+1 query problem and eager loading
 - Accessor and Mutators
 - Model query scopes
- Recorded classes
 - Eloquent ORM
 - Episode 1: Intro to Eloquent ORM
 - Episode 2: Active record vs. Data Mapper pattern

- Episode 3: More about Eloquent
 - Episode 4: Eloquent vs. Query builder
 - Episode 5: Eloquent Relationships
 - Episode 6: Route model binding
 - Episode 7: Model factories
 - File storage
 - Episode 1: Explaining file storage mechanism, disks, and drivers
 - Episode 2: File store and retrieval
 - Episode 3: Restricting file access (public files vs. auth-protected files)
 - Episode 4: Scaling issue for file
 - Episode 5: Intro to Laravel media library package
 - Facades
 - Episode 1: Demystifying facades
- Live class
 - Thin controller, fat model, service pattern, Repository pattern etc.

Assignments:

- Implement the Eloquent Model and a few new features in 'Barta' app
 - Description:
 - Instead of DB query builder, use the Eloquent model.
 - Users should be able to post images in the post (only one image per post).
 - Users should be able to add profile pictures.
 - Implement search functionality with user nick name, user full name or email

Module 13

- Live class
 - Laravel naming conventions and best practices
- Recorded classes
 - Laravel Architecture concepts
 - Episode 1: Reflections in PHP
 - Episode 2: Service Container in Laravel
 - Episode 3: Service Providers in Laravel
 - Episode 4: Service container and service provider practical example
 - Access Control
 - Episode 1: Guard vs. Gate vs. Policy
 - Episode 2: Role, permission management

- Episode 3: Authorization practical example
- Working with Date & Time
 - Episode 1: Working with Date & Time in PHP
 - Episode 2: Introduction to Carbon
 - Episode 3: Exploring Carbon's Features and Functionalities
 - Episode 4: Available Methods for Date and Time Manipulation
 - Episode 5: Date, DateTime, and timestamp fields in DB
 - Episode 6: Explaining created_at, updated_at and deleted_at
- Live class
 - Intro to TailwindCSS and AlpineJS

Assignments:

- Implement 'Admin dashboard' for 'Barta' app
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Module 14

- Live class
 - Intro to REST
 - Naming
 - Proper use of HTTP methods and status codes
 - Authentication
 - API Versioning
 - API Rate Limiting
 - API Documentation
 - Introduction to Fractal (Package by PHP League)
- Recorded classes
 - RESTful API development
 - Episode 1: Intro RESTful API
 - Episode 2: Intro API clients
 - Episode 3: RESTful API development in Laravel
 - Episode 4: API development best practices
 - Episode 5: Eloquent API resources
 - Episode 6: Error handling in API
 - Episode 7: API Authentication
- Live class
 - Caching
 - What is caching and why do we need it?
 - Caching Patterns and Techniques

- Cache drivers
- Cache usages
- Cache tags
- How to manage Cache keys effectively

Assignments:

- Assignment 12: Build a RESTful API for a URL shortener service
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Module 15

- Live class
 - Console commands
 - How to create your own console command
 - Some use cases for console commands
 - Laravel zero
 - Laravel Prompt
- Recorded classes
 - Asset bundling
 - Episode 1: Asset Bundling using Vite
 - Episode 2: Asset Bundling using Mix
 - Full-stack app development without front-end JS frameworks
 - Episode 1: Introduction and Project Overview
 - Episode 2: Project Requirements Discussion
 - Episode 3: Setting Up The Project
 - Episode 4: Configuring Models, Migrations, and Factories & Seeders
 - Episode 5: Setting Up Routes, Views, and Controllers
 - Episode 6: Completing the Frontend User Interface
 - Episode 7: Admin Dashboard: Implementing Job CRUD Operations
 - Brushing up Front-end skills
 - Episode 1: Intro to VueJS
 - Episode 2: VueJS 101
 - Episode 3: Let's Play With VueJS
 - Full-stack app development with front-end JS frameworks
 - Episode 1: Intro to InertiaJS
 - Episode 2: Project Overview in a Nutshell
 - Episode 3: Initiating the Project Setup Ritual
 - Episode 4: Interactive Homepage Design and Functionality
 - Episode 5: Brushing Up The Job Details Page
 - Episode 6: Polishing the Jobs Listing Page
 - Episode 7: Mastering Single Job Display in the Dashboard

- Episode 8: Dashboard Magic: Creating New Job Entries
- Episode 9: Crafting Perfection: Editing Jobs and Wrapping Up
- Live class
 - Intro to Livewire
 - How to choose the front-end, back-end stack in Laravel

Assignments:

- Use Vue or Livewire to implement the Home feed of 'Barta' app along with the 'show more' feature.
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Module 16

- Live class
 - Events
 - Intro to Events
 - Default events provided by Laravel
 - Event and Listeners - how to use them
- Recorded classes
 - Mail
 - Episode 1: Mailing Basics
 - Episode 2: Mail Drivers
 - Episode 3: Email and Local Development
 - Episode 4: Email Sending
 - Episode 5: Marketing email
 - Notifications
 - Episode 1: Intro to notifications
 - Episode 2: Creating and Sending Notifications
 - Episode 3: Quick note about notifications
 - Episode 4: Real life example
- Live class
 - Broadcasting in Laravel
 - Intro to WebSockets
 - Intro to Laravel Reverb
 - Understanding the Concept of Broadcasting in Laravel
 - Configuring Laravel's Broadcasting Drivers and Settings

Assignments:

- Implement real-time notification and email feature for the 'Barta' app
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Module 17

Live class:

- Intro to FilamentPHP

Live class:

- Q/A and recap of previous classes

Note:

- No recorded class or assignment will be given this week.
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Module 18

- Live class
 - Processes
 - Intro to Processes
 - Example and use cases of Processes
 - Task Scheduling in Laravel
 - Introduction to Laravel's Task Scheduling Feature
 - Scheduling and Executing Tasks at Specific Intervals
 - Configuring and Managing Scheduled Task
- Recorded classes
 - Queue
 - Episode 1: Intro to Queue and Job
 - Episode 2: How to manage async jobs using Queue
 - Episode 3: Handling failed jobs
 - Episode 4: Intro to Laravel Horizon
 - Localization
 - Episode 1: Intro to localization
 - Episode 2: Configuring Language Files and Language Switching
 - Episode 3: How to manage localization in Front-end frameworks (Vue/React)
- Live class

- Laravel Queue best practices and real-life examples

Assignments:

- Build a Vaccine registration system
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Module 19

- Live class
 - Working with external services
 - HTTP Client in Laravel
 - Consuming External Services (Third-party API Integration) using HTTP Client
- Recorded Class
 - Intro to Saloon
 - Webhook
 - Episode 1: What is Webhook
 - Episode 2: How to Implement a Webhook in Laravel
 - Episode 3: How to Consume a Webhook in Laravel
- Live class
 - Deployment
 - Understanding the Deployment Process
 - Preparing the Application for Production Deployment
 - Deploying a Laravel Application to Hosting
 - Local vs. Staging vs. Production Environment

Assignments:

- Build a Google form + Zapier + Laravel integration by implementing webhook.
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Module 20

- Live class
 - Testing basics
 - Different types of tests
 - Intro to TDD

- Recorded class
 - Episode 1: Intro to PHPUnit
 - Episode 2: Data providers
 - Episode 3: Mocking
 - Episode 4: Testing in Laravel
 - Episode 5: HTTP Tests
 - Episode 6: Browser tests
- Live class
 - Testing in Laravel Using PEST

Assignments:

- Write tests for 'Vaccine registration system'
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Module 21

- Live class
 - Securing a Laravel App
 - Hashing and Encryption in Laravel
 - Password rehashing
 - Other Security Concerns
- Recorded class
 - Scaling a Laravel app
 - Episode 1: Laravel Application Scaling Techniques
 - Episode 2: Strategies for Scaling a Laravel Application
 - Episode 3: Configuring and Utilizing Technologies Like Redis and Memcached
- Live class
 - Intro to System design

Assignments:

- Propose how you would design the vaccine registration system for the entire country
 - Submit your system design diagram
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Module 21

- Live class
 - Laravel ecosystem products and tools
- Recorded class
 - How to build a multi-tenant Laravel App
 - Introduction to Multi-tenancy in Laravel
 - Understanding the Concept of Multi-Tenancy and Its Use Cases
 - Handling Tenant Isolation
 - Database Separation
 - Tenant-Specific Customization in Laravel
- Live class
 - Soft skills for software engineers

Assignments:

- Convert a single-tenant app to a multi-tenant app
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Module 22

- Live class
 - GitHub and how to collaborate in a team
- Recorded class
 - How to build your own composer package and publish in Packagist
 - Episode 1: Introduction to Composer Packages
 - Episode 2: Setting Up Your Package Structure
 - Episode 3: Documenting Your Package
 - Episode 4: Versioning and Releasing Your Package
 - Episode 5: Maintaining and Updating Your Package
- Live class
 - 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.

Assignments:

- Build a Laravel package

Module 23

- Live class
 - Modular Laravel
 - Intro to 'Laravel Actions'
- Live class
 - Case study analysis of different project requirements and scenarios
 - Assign Team projects

Next

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