

RESTful API With Laravel

Duration : 3 Days

Course Content

RESTful API development with Laravel is intended for web developers, backend engineers, and software engineers who want to understand how to build secure, efficient, and scalable RESTful API using the Laravel framework. In this training, participants will learn how to design and implement APIs using Laravel with REST architectural principles, including authentication management, authorization, database relations, and data processing through Eloquent ORM.

Prerequisites

Training participants are advised to have:

- Basic understanding of PHP
- Basic understanding of database concepts
- Familiarity with HTTP, REST API, and JSON concepts
- (Optional) Previous experience using PHP frameworks

Who Should Attend

This training is intended for:

- Web Developers who want to focus on backend development
- Backend Engineers who want to deepen the Laravel API
- Software Engineers who build REST API-based applications
- Programmers who want to build medium to large scale Laravel projects

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Course objectives

In this training, you will learn to:

- Identify the basic practices of RESTful API development using Laravel
- Design and implement RESTful routes using Laravel Routing System
- Build application structure using MVC (Model-View-Controller) principles
- Manage data with Eloquent ORM and Query Builder based on business needs
- Manage database migration and seeding for initial needs and testing
- Implement form and request validation to ensure data integrity
- Implement file upload and storage system using Laravel Filesystem
- Secure API endpoints with Laravel Sanctum Middleware and Authentication
- Build and manage relationships between database entities with Eloquent Relationships
- Manage HTTP responses and error handling in standard REST JSON format
- Implement cache and session to improve API performance and efficiency
- Handle background processes using Queue, Jobs, and Event Listener
- Understand the use of Service Container and Dependency Injection in Laravel architecture
- Build a project API-based Inventory Management from zero to production ready

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Course Outline

Day 1: Laravel Fundamentals & REST API Basics

- Introduction to Laravel & MVC Architecture
- Routing (Basic, Named, Group, Resource)
- Blade Template Basics & Blade Components
- Controller Concepts
- Database Migration, Model, and Seeder
- Query Builder & Basic Eloquent ORM
- CRUD via Resource Controller
- Mini Project: Master Data Module

Day 2: Intermediate Laravel & API Security

- Form Handling & Validation
- File Upload & Storage System
- Middleware for API Control
- Authentication
- Authorization: Gates & Policies
- Eloquent Relationships
- Query Builder Joins
- API Error Handling & HTTP Response
- Mini Project: Authenticated User-Item Module

Day 3: Advanced Topics

- Caching Techniques
- Sessions for API
- Event, Observer, Listener
- Queue & Background Job Processing
- Service Container & Dependency Injection

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- Mail
- Final Project: Inventory Management System with Authentication, Item Assignment, File Upload

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