Faysal Aziz

Modernizing Development with Laravel

Build Smart, Scalable Web Apps with AI, Machine Learning & Linux Automation - 2 days

FA-0111 · 2 days

DevOps, Cloud & Infrastructure

Introduction

In a landscape where data-driven applications dominate, mastering Laravel's advanced capabilities paired with modern AI integration and automated Linux-based deployments is essential. This intensive 2-day course advances your Laravel skills by guiding you through creating a dynamic, intelligent recommendation platform powered by collaborative filtering.

Through practical, real-world OS automation and AI integrations, you'll learn how to modernize and elevate your web applications. Led by a seasoned instructor with over 30 years of practical industry experience, this course prioritizes hands-on expertise and market-ready skills over purely theoretical knowledge.

Learning outcomes

By the end of this course, participants will:

- Design and develop a Laravel-based movie recommendation system leveraging item-based collaborative filtering.
- Implement effective caching strategies to significantly boost Laravel application performance.
- Integrate AI capabilities seamlessly into Laravel applications for smart user interactions.
- Schedule and automate critical Laravel tasks using Linux cron jobs, enhancing operational efficiency.
- Deploy and manage Laravel projects effectively on a Linux server environment.

Prerequisites *(Mandatory)*:

Participants must possess:

- Thorough knowledge of intermediate Laravel topics (middleware, API development, authentication).
- Strong command of PHP (version 8+) and Laravel (version 10+).
- Solid experience with Linux systems, specifically command-line operations and cron jobs.
- Familiarity with databases and SQL querying.
- Basic conceptual understanding of Machine Learning techniques, specifically collaborative filtering.

Training outline

1. Building the Recommendation Engine

1. Introduction to collaborative filtering concepts
2. Item-based recommendation algorithm overview
3. Data preprocessing, model training, and similarity metrics calculation
4. Implementing recommendation logic within Laravel
5. Real-time recommendations versus precomputed caching

2. Advanced Caching Techniques

1. Choosing the optimal caching backend (Redis/Memcached)
2. Caching recommendations for high-performance retrieval
3. Strategic cache invalidation and refresh approaches
4. Cache warming practices for maintaining peak performance

3. AI Integration for Enhanced User Experience

1. Overview of AI integration possibilities in Laravel
2. Practical demonstration of using AI APIs (e.g., OpenAI, Azure Cognitive Services)
3. Enhancing user interfaces with AI-driven features (search, content tagging, personalization)
4. API integration best practices and handling API response caching

4. Automating Tasks with Cron Jobs

1. Fundamentals of Linux cron scheduling
2. Automating Laravel scripts using cron: artisan commands, scheduled database tasks
3. Writing robust bash scripts for automation and maintenance
4. Monitoring automated tasks, troubleshooting common issues

5. Deploying and Managing Laravel Apps on Linux

1. Server provisioning and configuration for Laravel deployment
2. Secure deployments with SSH, key management, and Git workflows
3. Deploying automated tasks in production environments reliably
4. Continuous deployment considerations and deployment rollbacks
5. Performance monitoring and logging practices (log rotation, job scheduling, error handling)

This course isn't just about advanced Laravel techniques—it's about empowering your team to build smart, automated, and highly scalable web applications optimized for real-world industry demands.

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