CORPORATE & GROUP · ARCHITECTURE & CODE

2026 SYLLABUS · OFFICIAL BROCHURE

CORPORATE SOFTWARE ENGINEERING SYLLABUS & BROCHURE

# Corporate Software Development & Modern Architecture Training

Modern web, backend, API architecture, security, and AI-assisted coding practices to help engineering teams ship reliable software faster.

| 4 Modules | Intermediate – Adv. | 6 Pages | On-Site / Online |
|---|---|---|---|
| HANDS-ON CURRICULUM | TARGET LEVEL | FULL BROCHURE | FLEXIBLE DELIVERY |

Clean Architecture · REST API & DB · OWASP Security · Automated Tests · AI-Assisted Coding



**Ferhat Balaban**
Software Development Manager · Full-Stack & AI Engineer · Trainer

ferhatbalaban.com/en/training/
2-4 Day Workshop or Modular Track

EXECUTIVE OVERVIEW & CONTENTS

# Corporate Software & Architecture

Across 20+ years of software engineering and team leadership, the highest cost I see comes from unclear architecture and inconsistent standards. This program focuses on practical habits that directly improve code maintainability, API design, security, and delivery speed.

**20+ Yrs Field**
Battle-tested engineering habits distilled from real production systems

**Stack-Flexible**
Language-agnostic principles with labs tailored to Laravel, Python, or your stack

**AI + Discipline**
Accelerate delivery with AI coding tools without sacrificing security or maintainability

01 **Training Methodology & Delivery Model** 03
4-stage hands-on delivery flow, format options, and before/after team transformation.

02 **Module-by-Module Curriculum & Labs** 04
Architecture blueprint and 4 structured modules with concrete deliverables.

03 **Prerequisites, Readiness Checklist & FAQ** 05
Technical preparation, pre-training checklist, logistics, and frequently asked questions.

### Who Should Attend?

- Full-stack, backend, and web engineering teams
- Tech leads preparing to modernize legacy codebases
- Organizations adopting AI-assisted software engineering safely

### Key Outcomes

- Clean code, layered architecture, and maintainable module boundaries
- Consistent REST API design, validation, versioning, and documentation
- Practical OWASP security checks and database/query performance tuning
- Disciplined AI-assisted development paired with rigorous code review

**TOOLS & STACK COVERED**

PHP / Laravel · Python · REST / OpenAPI · PostgreSQL / MySQL · Redis · GitHub Actions · AI Coding Tools

SECTION 01 · APPROACH & FORMATS

# 01 · Training Methodology & Delivery Model

Every session is engineered for immediate workplace application: discovery first, hands-on labs on real scenarios, and measurable post-training follow-up.

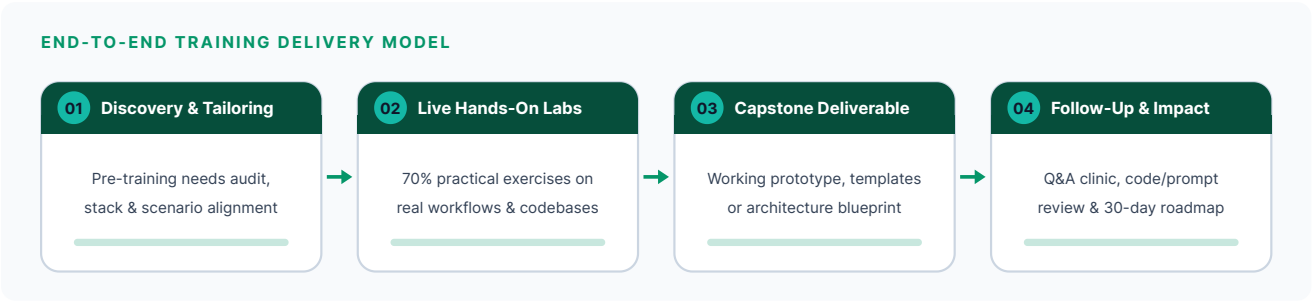



**Figure 1:** 4-stage end-to-end training delivery and impact lifecycle. 2-4 Day Workshop or Modular Track

## 1.1 Before & After Transformation

**BEFORE TRAINING**

Slow legacy modules, inconsistent API contracts, N+1 database bottlenecks, and unreviewed AI-generated code.

**AFTER TRAINING**

Clear service/DTO boundaries, fast consistent APIs, OWASP security checks, and disciplined PR/CI team standards.

## 1.2 Delivery Formats & Scheduling Options

| Format | Best Suited For | Cadence & Delivery |
|---|---|---|
| **Corporate (On-site / Online)** | Full team alignment & hands-on rollout | On-site or live online · Full/half days |
| **Engineering Workshop** | Focused leadership or cohort track | Interactive sessions · Q&A included |
| **Architecture Review** | Deep customization & live review | Weekly cadence · Direct mentoring |

**TAILORED TO YOUR TEAM**

All modules, lab exercises, and examples are customized during the pre-training discovery call so participants work on realistic scenarios from their own domain.

SECTION 02 · DETAILED SYLLABUS

# 02 · Module-by-Module Curriculum & Labs

Structured progression from core foundations to production-ready execution, with a tangible deliverable at the end of every module.

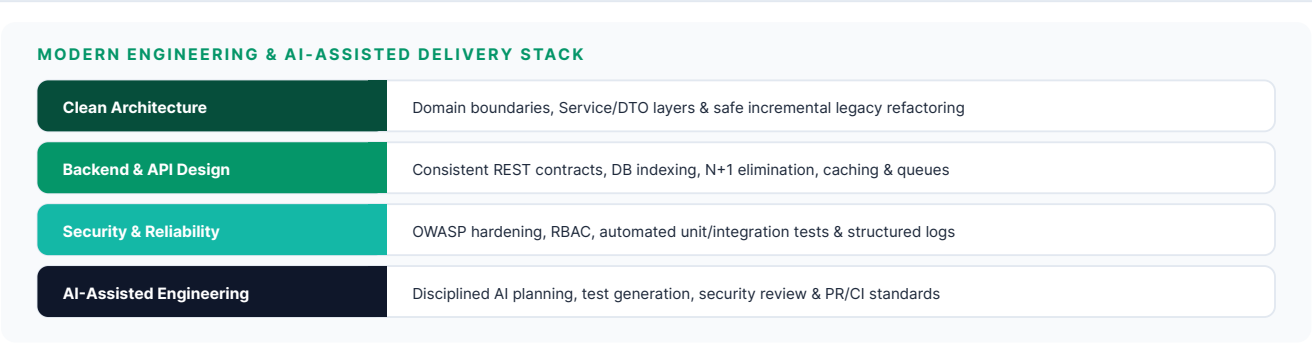



**Figure 2:** Core capability and architecture layers covered in this program. 4 Modules

## 2.1 Module Breakdown & Hands-On Deliverables

Module 1 — Hands-On Lab

### Clean Code, Architecture Boundaries and Refactoring

- Readable code habits, separation of concerns, and managing technical debt
- Service layers, DTOs, and domain boundaries in growing codebases
- Safe incremental refactoring strategies for legacy systems

**Deliverable:** Layered service/DTO refactoring lab and technical debt priority list

Module 2 — Hands-On Lab

### Modern Backend and REST API Design (Laravel / PHP / Python)

- Resource design, consistent error contracts, rate limiting, and pagination
- Database indexing, eliminating N+1 queries, and caching strategies
- Queues, scheduled jobs, and resilient third-party integrations

**Deliverable:** Standardized REST API contract, DB indexing & N+1 optimization report

Module 3 — Hands-On Lab

### Application Security and Quality Assurance

- Authorization, input validation, OWASP basics, and secret management
- Practical automated testing for high-value business logic
- Structured logging, monitoring, and production debugging workflows

**Deliverable:** OWASP security checklist plus high-value unit/integration test suite

Module 4 — Hands-On Lab

### AI-Assisted Software Engineering and Team Standards

- Using AI coding tools for planning, testing, and refactoring
- Reviewing AI-generated code for security and architectural drift
- Git workflows, pull request standards, and CI/CD checklists

**Deliverable:** Team-wide AI-assisted coding and pull-request review playbook

SECTION 03 · PREPARATION & FAQ

# 03 · Prerequisites, Readiness Checklist & FAQ

Everything you need to prepare your team, align schedules, and get maximum value from day one.

### Prerequisites & Setup

- Designed for active backend, web, and full-stack software engineering teams.
- Hands-on labs are adapted to PHP/Laravel, Python, or your organization's primary stack.
- Real bottlenecks from your active codebase can be reviewed under NDA.

### Pre-Training Readiness Checklist

- ☐ Primary stack (PHP/Laravel, Python, Node, etc.) and team seniority shared.
- ☐ Top pain points (legacy refactoring, API design, DB tuning, security, AI) prioritized.
- ☐ NDA executed if reviewing internal production repositories.
- ☐ Local dev environments (Git, IDE, DB/Docker) verified prior to kickoff.
- ☐ Engineering lead assigned to adopt the resulting PR and CI/CD checklists.

## 3.1 Frequently Asked Questions

**Is this training only for PHP/Laravel teams?**

No. Architecture, API design, security, and AI-assisted workflows are language-agnostic, and code labs can be adapted to your stack.

**Can we review our existing codebase during the program?**

Yes, under NDA we can work directly on real architectural bottlenecks from your active projects.

**NEXT STEP: REQUEST A CUSTOM PROPOSAL**

Share your team size, preferred format (on-site / online), and target dates via **ferhat@ferhatbalaban.com** or visit the program page on the back cover to receive a tailored syllabus and proposal within 24 hours.

ABOUT THE INSTRUCTOR



## Ferhat Balaban

**Software Development Manager · Full-Stack & AI Engineer · Corporate Trainer**

With 20+ years in software engineering and leadership, I build production web/mobile applications, private RAG assistants, and AI automation systems—and train corporate and individual teams through hands-on, field-tested programs.

BOOKING & CUSTOM SYLLABUS

## Ready to Plan This Program for Your Team?

Scan the QR code to view the live program page, or reach out directly for a custom corporate proposal, group schedule, or 1-on-1 mentoring.

**Program Page:** ferhatbalaban.com/en/training/corporate-software-development/
**Free AI E-Books:** ferhatbalaban.com/en/resources/
**Email:** ferhat@ferhatbalaban.com

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ALL TRAINING PROGRAMS · FERHAT BALABAN

| CORPORATE & GROUP | CORPORATE & GROUP | CURRENT PROGRAM | 1-ON-1 & SMALL GROUP |
|---|---|---|---|
| **Corporate AI Transformation** | **Corporate Flutter & Mobile** | **Corporate Software & Architecture** | **Individual & Group Training** |
| 1-2 Day Workshop or 4-Week Program | 3-5 Day Intensive Bootcamp or 4-6 Weeks | 2-4 Day Workshop or Modular Track | 4-8 Week Flexible Track |

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