

JAVA FULL STACK PROJECT

ZIDIO DEVELOPMENT

ENTERPRISE EXPENSE MANAGEMENT SYSTEM



This project will train developers in Spring Boot (backend), SQL (database), and a modern frontend framework (React or Angular) to build a scalable, secure, and efficient enterprise application.

1. Project Overview

The Enterprise Expense Management System allows companies to track, manage, and analyze employee expenses. It includes role-based access, automated approvals, real-time analytics, and PDF reporting.

2. Tech Stack

Backend: Spring Boot (Java)

- Spring Boot (REST API)
- Spring Security (JWT Authentication)
- Spring Data JPA (Hibernate ORM)
- Flyway (Database Migrations)
- Lombok (Boilerplate Reduction)
- OpenAPI/Swagger (API Documentation)

Database: SQL (PostgreSQL/MySQL)

- Relational Database (PostgreSQL/MySQL)
- Entity Relationship Design
- Stored Procedures & Triggers

Frontend: React or Angular (Modern UI)

- React.js (with Redux Toolkit) or Angular (with RxJS)

- Material UI (React) or Angular Material
- Axios (API calls)
- Chart.js / D3.js (Analytics)

Deployment:

- Backend: AWS EC2, Docker, or Kubernetes
- Frontend: Vercel, Netlify
- Database: AWS RDS or Cloud SQL

3. Key Features

User Management & Authentication

- Role-Based Access Control (Employee, Manager, Admin)
- JWT Authentication with Spring Security
- OAuth2 Login (Google, GitHub)

Expense Management

- Create, update, delete, and view expenses
- Attach invoices (PDF, images)
- Categorize expenses (Travel, Food, Office Supplies)

Approval Workflow

- Multi-level approval process (Manager → Finance → Admin)
- Auto-approval for expenses under a threshold
- Real-time notifications for approvals

Analytics & Reporting

- Expense trends (monthly, yearly)
- Expense breakdown by category
- Export reports in Excel/PDF format
- Charts & graphs for analysis

Additional Features

- Audit logs for tracking changes
- Email notifications for approvals
- WebSocket for real-time status updates

4. Database Schema (PostgreSQL/MySQL) Story Subtitle or summary

Thank You.