

Garage Management System - Solution Architecture

Architecture Overview

The solution architecture of the Garage Management System bridges the gap between the business challenges faced by vehicle service centers and a modern, digital solution.

It is designed to:

- Offer seamless interactions across web and mobile devices.
- Support modular service operations (e.g., booking, invoicing, tracking).
- Utilize scalable and secure cloud infrastructure.

Key Components:

1. User Interface Layer: React.js (Web), Flutter (Mobile)
2. Application Layer: Spring Boot APIs for core features, Python for analytics
3. Business Logic Layer: Service job logic, billing, notification management
4. Data Layer: MySQL for transactions, Firebase for real-time data, AWS S3 for file storage
5. Infrastructure: AWS EC2, Load Balancer, Firebase Hosting

This layered architecture ensures maintainability, performance, and scalability, while providing an intuitive experience for customers and garage staff alike.

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Architecture Diagram

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