

HealthSync - Microservice System Overview

Patient Service

Handles patient registration, profile management, and secure storage of medical history.

Doctor Service

Manages doctor profiles, specializations, schedules, and availability tracking.

Appointment Service

Enables booking, rescheduling, and cancellation of appointments with conflict checks.

Billing Service

Generates invoices for services rendered, applies insurance coverage, and tracks outstanding bills.

Payment Service

Handles payments, refunds, and transaction records for services availed.

Notification Service

Sends reminders and alerts for appointments, billing, and doctor communications using Kafka.

Report Service

Provides analytical reports like visit history, revenue summaries, and scheduled reports in PDF/CSV.

Gateway Service (Spring Cloud Gateway)

Acts as a single-entry point for all client requests, handling routing, rate limiting, and token validation.

Eureka Server

Provides service discovery for dynamically locating microservices in the system.

Config Server

Centralized configuration management for all microservices with Spring Cloud Config.

Security Module

Implements JWT-based authentication and role-based access control (RBAC).

Monitoring and Logging

Includes Prometheus, Grafana for metrics; ELK stack for centralized logging; and Zipkin for tracing.