

Courier & Logistics System Architecture

Core System Capabilities

Shipment & History

- Shipment booking, creation, and manifest generation.
- Real-time tracking and status history logging.
- Management of shipment items (content, weight, dimensions).
- Automated assignment to drivers/riders.

Hub & Rider Management

- Definition and management of multi-branch hubs.
- Rider/driver profiles and assignment management.
- Hub sorting and internal transfer logic.
- Tracking of location data for status updates.

Rate & Invoicing

- Pricing & rate tables (zone-based, weight slabs, volumetric).
- Vendor/carrier pricing management for cost control.
- Generation of invoices, daily statements, and payment records.
- Integration of payment/order details.

APIs & Partners

- Direct carrier API integrations (DHL, UPS, Aramex) for external bookings/tracking.
- User portal for customer bookings and self-service tracking.

Key Database Entities

User & Access Control

users
roles
user_roles
branches
audits / activity_logs

Operational Assets

hubs (Physical locations)
carriers (External partners)
customers (Primary account holders)
assignments (Driver / Shipment linking)

Shipment Core

shipments
shipment_items
(Contents/pieces)
shipment_status_log (History)
tracking_locations (Geographic updates)

Finance & Rates

rates
rate_zones
rate_slabs (Weight/volume structure)
orders_payments / invoices