

MOHAMMAD WALEED FRDOOSE

SOFTWARE ENGINEER

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Amman, Jordan | Nationality: Syrian



SUMMARY

Software Engineer with 3 years of experience building and running production systems with **Java and Spring Boot**: microservices, multi-tenant SaaS, offline-first POS, ERP, **HR & payroll for Jordan and Saudi Arabia**, and a pharma document-management system. I build backends with many integrations (payment gateways and card terminals, delivery platforms, **WhatsApp Business API**, national e-invoicing, Keycloak SSO), add **AI features with LLMs** (document extraction, tool calling, text-to-SQL, assistants), and ship everything myself with **Docker, GitHub Actions, Nginx and Cloudflare** on Linux servers. I also contribute to **Angular** frontends.

SKILLS

Languages	Java (8–25), SQL, TypeScript, C#, Bash
Backend	Spring Boot 3/4, Spring Cloud (Gateway, Eureka, OpenFeign), Spring Security, Spring Data JPA / Hibernate, Spring Data MongoDB, Spring Modulith, Hibernate Envers, MapStruct, .NET Core
Architecture	Microservices, modular monolith, event-driven design, multi-tenancy (database per tenant, PostgreSQL RLS, tenant context propagation), transactional outbox, idempotency keys, offline-first sync, REST, Problem Details (RFC 7807), SSE, WebSocket
Data & Messaging	PostgreSQL, MySQL, MongoDB (aggregations, geospatial queries), Redis (cache, carts), RabbitMQ, Flyway, HikariCP tuning, pessimistic / optimistic locking, data migration
Security & Identity	OAuth2 / OIDC, Keycloak (organizations, custom themes), JWT, SSO, Passkeys (WebAuthn), Google & Microsoft sign-in, TOTP 2FA, OTP, step-up authentication, RBAC with per-endpoint permissions, Argon2 / BCrypt, CSRF, rate limiting (Bucket4j), HMAC webhook verification, PII redaction in logs
Messaging & Real-time	WhatsApp Business Cloud API (templates, broadcasts, webhooks), Firebase (FCM, Realtime Database, Auth), Web Push (VAPID), SMS gateways, SMTP email in Arabic and English, SSE, WebSocket
Payments & Delivery	PayTabs, MEPS (online payments and card terminals), wallets, gift cards, loyalty points; Careem and MyThings delivery (menu sync, order intake, status push)
Maps & Geo	Google Maps (Distance Matrix, Directions), MongoDB geospatial indexes, Haversine geofencing
Gulf & Compliance	Saudi GOSI, end-of-service benefits, tax brackets, Hijri calendar, Ramadan hours (Jordan and Saudi labor rules); JoFotara e-invoicing; GMP audit trails and electronic signatures
AI / LLM Integration	Gemini and Claude APIs, multimodal extraction of invoices and cheques into structured JSON, function calling / tool use, text-to-SQL over secured read-only views, AI proposals applied only after user approval, SSE streaming, model fallback on rate limits, AI audit logging
Files & Reports	Excel and Word (Apache POI), PDF (PDFBox, OpenPDF, OpenHTMLtoPDF) with Arabic shaping (ICU4J), QR and EAN barcodes (ZXing), ICS calendar feeds, HLS video, WebP images, S3 / Cloudflare R2 presigned URLs, dynamic report builder
Scheduling & Jobs	Quartz, ShedLock, Spring scheduling, retries with backoff, dead-letter handling
DevOps & Cloud	Docker, Docker Compose, GitHub Actions, GHCR, Jenkins, Nginx, Cloudflare (DNS API, R2, Pages, proxy), AWS EC2, Hetzner, Contabo, Linux (Ubuntu / Debian), systemd, blue-green deployments, basic Kubernetes
Hardware & Desktop	ESC/POS receipt, kitchen and bar printers, eSCL / WIA scanners, card payment terminals, Windows service with installer (Inno Setup), Debian packages
Testing & Quality	JUnit 5, Mockito, Testcontainers, ArchUnit, k6 load testing, Spring Boot Actuator, OpenAPI / Swagger, Postman
Frontend	Angular, PrimeNG, Tailwind CSS, Chart.js, ngx-translate (Arabic / RTL), with bug fixes and new features on existing apps

PROFESSIONAL EXPERIENCE

LINK COMPANY

October 2023 – Present

SOFTWARE ENGINEER — BACKEND & DEVOPS

Backend & Architecture

- Delivered **10+ production systems** end to end across retail & POS, ERP, HR & payroll, e-commerce, food delivery, healthcare and pharma quality: **40+ Spring Boot services** and **5,000+ REST endpoints**.
- Designed microservices (Spring Cloud Gateway, Eureka, OpenFeign) and multi-tenant SaaS architectures: database per tenant with automated provisioning, PostgreSQL Row-Level Security, tenant context carried across service calls, and subdomain routing with automatic Cloudflare DNS.
- Built event-driven flows with RabbitMQ and Spring Modulith events, using the transactional outbox pattern, idempotency keys and retries with dead-letter handling.
- Implemented identity and security: Keycloak (OIDC), cross-system SSO with single-use signed tickets, Google / Microsoft sign-in, passkeys, TOTP 2FA and step-up checks, SMS OTP, JWT, fine-grained RBAC, and audit logs with field-level change tracking and PII redaction.
- Implemented **Jordan and Saudi labor rules** in payroll: GOSI and social-security contributions, end-of-service benefits, tax brackets, overtime, sick-pay tiers, Hijri calendar, Ramadan hours and public holidays.

Integrations & Real-time

- Built a **WhatsApp Business (Meta Cloud API)** module: template management, bulk broadcasts from Excel contact lists, inbound and status webhooks verified with HMAC-SHA256, delivery tracking, per-message cost estimation, and clear Arabic / English error messages.
- Integrated **15+ external services**: PayTabs and MEPS payments and card terminals, Careem and MyThings delivery (menu sync, order intake, status push), JoFotara e-invoicing, Firebase, SMS, email, Google Maps, Metabase and Cloudflare.
- Built real-time features: live order streams over SSE, WebSocket channels, customer–store chat on Firebase Realtime Database, FCM topic notifications and browser Web Push.
- Used Google Maps Distance Matrix and Directions for delivery pricing, MongoDB geospatial queries for nearby stores, and Haversine geofencing for staff check-ins.

AI Features

- Built **AI features into production systems**: invoice and cheque scanning with multimodal LLMs into structured JSON that the user reviews before saving; an AI chat with 7 tools (function calling) that answers from permission-checked, read-only SQL views; and an HR assistant (Claude tool use) that proposes changes as diffs the user approves, streamed over SSE.

Data, Performance & Reliability

- Ran data migrations: legacy MongoDB to PostgreSQL (menus, offers, branches, orders), customer companies from ZenHR through its OAuth API with balance reconciliation, and legacy pharma documents verified by checksums.
- Load-tested with k6 and added Redis caching (**~14× read throughput, 190 → 2,700+ req/s**), removed a double-payment race with pessimistic locking, tuned connection pools, and kept schemas versioned with **830+ Flyway migrations**.

DevOps & Infrastructure

- Built CI/CD for every service with GitHub Actions (**75+ workflows**): build, test, Docker image to GHCR, and **zero-downtime blue-green deployment** on AWS EC2, Hetzner and Contabo.
- Ran Linux servers (Ubuntu / Debian): Docker Compose stacks, Nginx reverse proxy, SSL and multi-tenant subdomain routing, Cloudflare in front of production, firewall rules, backups, cron jobs, and email alerts on downtime. Also maintained Jenkins pipelines.
- Packaged a desktop print and scan agent as a Windows service with a self-contained installer and as a Debian package with systemd, built automatically by GitHub Actions.

Frontend & Collaboration

- Contributed to Angular apps (PrimeNG, Tailwind) with bug fixes and new features (reports, Excel exports, WhatsApp broadcast screens, AI invoice scanning, tenant console), and wrote API guides, ERDs and frontend specs for the frontend team.

PROJECTS

Planet Donuts — Full Retail Chain Platform

End-to-end · 6 connected systems

The whole platform a donut chain runs on: customers order from the app and website, the call center takes phone orders, branches sell through POS and waiter apps, factories produce, warehouses supply, and one admin panel manages everything.

- **Customer app & website:** SMS-OTP sign-up, menus and prices per branch, delivery and pickup orders, saved addresses and delivery areas, card payments (PayTabs, MEPS), wallet, loyalty points, gift cards, ratings, special occasions, push notifications, and website content (careers, boards).
- **Call center:** phone orders for any branch, customer lookup, complaints and reviews, call records and agent performance reports.
- **Branches:** cashier POS plus waiter and branch apps (tables, shifts, Z-reports, inventory counts, stock requests to factories); an offline-first branch server that keeps selling without internet and syncs both ways; MEPS card terminals; kitchen / bar printing over RabbitMQ; OTP-approved cancellations; screen recording uploaded to Cloudflare R2 and played back as HLS; geofenced QR checklists for staff.
- **Factories, warehouses & maintenance:** branch orders to factories, recipes and production steps, EAN barcodes, Arabic PDFs, warehouse vouchers, purchase orders, suppliers and stock ledger, embedded Metabase dashboards, maintenance tickets with push notifications, and SSO between all panels with single-use signed tickets.
- **Admin panel (Angular):** one panel for menus and branch prices, offers and promotions, employees and roles, all orders, call center, delivery providers, WhatsApp campaigns, mobile app content, reports and audit. I built its backend APIs and added frontend pages (reports, WhatsApp broadcasts, QR sessions, table order history, factory report).
- **Integrations:** WhatsApp Business module (templates, broadcasts, HMAC-verified webhooks, cost tracking); Careem and MyThings (menu-sync queue with retry and backoff, status outbox, quarantine for unmapped orders); JoFotara e-invoicing (outbox → RabbitMQ → append-only PostgreSQL ledger); FCM topics; live branch order stream over SSE; audit log with field-level entity changes.

Tech: Java 21, Spring Boot, PostgreSQL, Redis, RabbitMQ, Flyway, Hibernate Envers, Docker, GitHub Actions, AWS EC2, Cloudflare R2, k6, Angular

Link HR — HR & Payroll SaaS

Multi-tenant · Jordan & Saudi Arabia

- Modular monolith on Spring Modulith with event-driven modules; tenant isolation by PostgreSQL Row-Level Security; Quartz and ShedLock jobs; idempotency keys, Problem Details, correlation IDs and PII-redacted logs.
- Payroll for Jordan and Saudi Arabia: GOSI and social security, end-of-service benefits, tax brackets, payslip PDFs and bank files; leaves with accruals and carry-over, geofenced photo attendance, shifts, overtime, ICS calendar feeds, approval chains, assets, appraisals, loans, expenses and HR letters.
- Tenant provisioning with subdomains via the Cloudflare Pages API, branding, custom fields, module toggles, invitations, custom roles, TOTP for platform admins and Bucket4j rate limiting.
- Migration from ZenHR through its OAuth API: extraction, mapping, opening balances and reconciliation before go-live.
- AI HR assistant with Claude tool use: proposes record changes as diffs under field-level policies, applies them only after the user confirms, and streams over SSE.
- Notifications by email (signed short links), Web Push, mobile push and a real-time channel, with retries and a dead-letter queue.

Tech: Java 25, Spring Boot 4, Spring Modulith, PostgreSQL (RLS), Redis, Quartz, ShedLock, Bucket4j, Claude API, Docker

QBridge (Link Vault) — Pharma Document Management System

Multi-tenant SaaS · GMP

- Database per tenant with automated provisioning; isolation proven by tests at the database, application and API level (Testcontainers) and architecture rules enforced with ArchUnit.
- Keycloak with one organization per tenant and a custom login theme; Google, Microsoft and passkey sign-in. Electronic signatures need a fresh password sign-in and are bound to the document's SHA-256 hash.
- Full document lifecycle: versions, check-out / check-in, multi-round review and approval, change requests, effectiveness by training or acknowledgement, periodic review, controlled paper copies and an append-only GMP audit trail.
- Word templates filled automatically, inspection PDFs with a signature page (PDFBox), uploads checked by file signature and re-hashed, presigned R2 storage, bilingual email reminders and escalations, Excel import and legacy migration.

Tech: Spring Boot, Spring Security (OAuth2 Resource Server), Keycloak, PostgreSQL, Flyway, Testcontainers, ArchUnit, Cloudflare R2, Nginx, Docker, Angular

Link Invoice — AI Purchasing & Invoices

AI / LLM · Desktop agent

- AI scanning of invoices and cheques (photos, PDFs, or straight from the office scanner) into structured JSON with multimodal Gemini; the user reviews the draft before it is saved.
- AI chat with persistent sessions and 7 tools (function calling): search invoices and cheques, supplier spend, unpaid invoices, dashboards, and free questions answered by text-to-SQL over 25 dedicated read-only views, limited by the user's permissions and a statement timeout.

- AI price-offer analysis with buy / negotiate advice from purchase history; automatic fallback to other models on rate limits; every AI action recorded in the audit trail.
- Cheques, supplier payments and advances, price-change alerts, and per-endpoint permissions.
- Local print and scan agent: silent ESC/POS and image printing with receipt / kitchen / bar printer roles, auto-discovered eSCL network scanners and Windows WIA scanners; shipped as a Windows service installer and a Debian package.

Tech: Spring Boot, PostgreSQL, Gemini API (multimodal, function calling, JSON output), Cloudflare R2, Docker, GitHub Actions, Inno Setup, Angular

Link ERP Suite — Warehouse, Factory & CRM Single and multi-tenant

- Dynamic report builder that registers every JPA entity as a data source, with grouping, aggregates, master-detail, Excel / CSV export and full Arabic labels.
- Multi-tenant Warehouse SaaS: database per tenant, platform console, and automatic Cloudflare DNS for each new tenant subdomain.
- CRM for call centers: customers, loyalty points, wallets, complaints, reviews and bulk Excel import.

Tech: Spring Boot, PostgreSQL, Flyway, Apache POI, Metabase, Cloudflare API, Nginx, Docker, Angular

Offerat — Offers & Food Delivery Marketplace Microservices

- 10+ services behind an API gateway with service discovery: stores, menus, Redis cart, orders, drivers (captains), taxes and discounts.
- Nearby stores with MongoDB geospatial queries, delivery cost and time from Google Distance Matrix and Directions, delivery areas and blocked zones.
- Customer–store chat and live data on Firebase Realtime Database, live call updates over SSE with heartbeats, WebSocket channels, Firebase push and SMS OTP sign-in.

Tech: Spring Cloud (Gateway, Eureka, OpenFeign), MongoDB, Redis, RabbitMQ, Firebase, Google Maps APIs, Docker

Multi-Tenant Restaurant & E-commerce Platforms Microservices · Subscriptions

- Subscription platforms where each tenant gets its own subdomain, theme and logo; the tenant is carried through every service call by request interceptors.
- Catalog, options, offers, cart, wishlist, discounts, loyalty points, orders, delivery integration, image (WebP) and video media, and SMS / email providers set per tenant.

Tech: Spring Cloud, MongoDB, PostgreSQL, Redis, Nginx, Docker, GitHub Actions

Vaccine Tracker Healthcare

- Children's vaccination schedules with scheduled reminders by push, SMS and HTML email; doctors and news; paid subscriptions through PayTabs with promo codes; forced app updates by version; Excel reports for admins.

Tech: Spring Boot, MongoDB, Firebase, PayTabs, Thymeleaf, Docker

EDUCATION	CERTIFICATIONS	LANGUAGES
B.Sc. Software Engineering Zarqa University, Jordan Oct 2020 – Sep 2023 · GPA 89.5% (Excellent)	Spring Boot — Udemy (10/2023) ASP.NET Core — Udemy (10/2022) C# — Udemy (08/2022) Entrepreneurship Bootcamp — Jordan Start	Arabic — Native English — Good