

MD. SHAMIM MOLLA

Senior Software Engineer (Backend)

Java • Spring Boot • Microservices • Kafka • AWS
SQL & NoSQL • Application Security • Spring AI / RAG

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SUMMARY

Backend-focused Senior Software Engineer with 7+ years building production Java/Spring Boot systems for AdTech, cloud billing, pharmacy ERP, e-commerce and fintech. I own 7+ microservices on Improve Digital's marketplace (Azerion), led its pentest remediation to certification, and built Azerion's multi-cloud billing backend. Previously led 6–10 engineers on a pharmacy ERP now serving 700+ branches.

CORE STRENGTHS

- **Backend & microservices:** 10+ production Java/Spring Boot services; REST + OpenAPI/Swagger
- **Data & performance:** query tuning on 10–20M+ row tables, indexing, N+1 fixes, MongoDB and Redis
- **Event-driven systems:** Kafka, RabbitMQ, transactional outbox, asynchronous report generation
- **Security & multi-tenancy:** pentest-certified platform; Keycloak SSO (10K+ users); OAuth 2.0, JWT, RBAC
- **Quality & leadership:** full unit/integration coverage, TDD, CI/CD; led 6–10 engineers for global clients

TECHNICAL SKILLS

Languages	Java, SQL, TypeScript, JavaScript (ES6+)
Backend	Spring Boot, Spring MVC, Spring Data JPA / Hibernate, Spring Security, Spring Cloud (Gateway, Config), Spring AI, Node.js
APIs & messaging	REST, OpenAPI/Swagger, Kafka, RabbitMQ (transactional outbox), AWS MediaConvert
Security	OAuth 2.0, Keycloak SSO, JWT (access/refresh), RBAC, TOTP 2FA, tenant isolation
Databases	MySQL, PostgreSQL (pgvector, full-text), MariaDB, MongoDB, AWS Redshift, Redis, Memcached; Flyway, Liquibase
Cloud & DevOps	AWS (ECS, Lambda, S3, RDS, SQS, Redshift), Docker, Docker Compose; Jenkins, GitHub Actions, GitLab CI, TeamCity, Bamboo
Testing	JUnit, TDD, unit & integration testing, Postman
Tools & process	Git, Maven, Gradle, Jira, Confluence, Agile/Scrum
AI & frontend	Spring AI, OpenAI models, hybrid search (RRF); React, Next.js (SSR), Thymeleaf

EXPERIENCE

Senior Software Engineer (L-I → L-II)

Mar 2022 – Present

Vivasoft Limited, Dhaka • Client: [Azerion](#) • Promoted to L-II in Jan 2025

Marketplace — Improve Digital's DSP

- Own **7+ of 15+ microservices** (ad configuration, deal management, reporting, security) in a 10+ engineer team working directly with Azerion in Europe.
- **Led security pentest remediation**, including tenant data isolation; the platform is now **pentest-certified**.
- **Cut a third-party sync from 20 to 6 min (–70%)**.
- **Made 100K–250K-row bulk writes on a 2M+ row table sub-second**.
- Tuned reporting on **10–20M+ row Redshift tables**, fixed N+1 queries to run in milliseconds, and built async report generation on Kafka.
- Implemented **Keycloak SSO for 10K+ users** and AWS MediaConvert integration.

Multicloud — Azerion's multi-cloud billing platform (2025)

- Built the **full backend**: a batch service that normalizes **AWS, GCP and Huawei Cloud** billing, and an API with per-account views and cost forecasts.
- Multi-tenant with RBAC and tenant isolation; moved auth from JWT to the company SSO.
- Full unit and integration test coverage on both products; code reviews, sprint planning, Confluence docs.

Tech: Java, Spring Boot, Spring Security, MariaDB, AWS Redshift, MongoDB, Redis, Kafka, Keycloak, JUnit, Jira

Software Engineer → Senior Software Engineer

Dec 2019 – Feb 2022

Zaag Systems Ltd., Dhaka • *Joined as Software Engineer; promoted to Senior*

- **Team lead for 6–10 engineers:** hired, mentored and reviewed code.
- Built Spring Boot ERP services for **OS Pharmacy** handling **~1M requests a day** with real-time inventory sync across 200+ branches, now **700+ branches and 3,000+ users**: inventory and expiry, POS, accounting, offline mode and drug-combination safety alerts.
- **Oushod Sheba** backend: medicine delivery with GPS tracking, route planning and secure payments.
- Led delivery of a **Restaurant Management System** (Docker on AWS) to the client.
- Built **Alisha's World** end to end with two engineers (customers pick designs and fabrics; designers sell their own), and **Eignert**, a German app with discounts from nearby shops.

Tech: Java, Spring Boot, MySQL, MongoDB, Redis, React, Next.js, TypeScript, Docker, AWS

Junior Software Engineer

Jan 2019 – Nov 2019

Vivasoft Limited, Dhaka

- Fixed P2P, statement and account bugs in a fintech banking backend; redesigned its Thymeleaf portal.
- Built server-side-rendered Next.js frontends for **Instorage** (storage booking) and **PI-CMS** (a CMS for React apps); Spring Boot, REST and JUnit.

KEY PROBLEMS SOLVED

Third-party sync, 20 → 6 min (Marketplace)

Each run took 20+ minutes. Redesigned indexes on priority fields, rewrote queries with CTEs and range filters, parallelized the external API calls, and cached auth tokens and config. Bulk sync from the third party, already requested, is the next step.

Bulk writes on a 2M+ row table, slow → sub-second (Marketplace)

Batching barely helped and async added complexity, so I moved the workload to MongoDB with targeted indexes and one collection per operation, so operations never conflict.

Security pentest → certification (Marketplace)

A well-known security firm's penetration test found security and data-isolation issues. I fixed every finding, including tenant isolation and hardening.

PROJECTS

Enterprise RAG Platform • Personal • MVP built, ongoing

- Multi-tenant RAG on Spring microservices (gateway, config, user, document, ingestion, chat): a transactional outbox + RabbitMQ pipeline chunks and embeds versioned documents into pgvector.
- Hybrid vector + full-text search (Reciprocal Rank Fusion) gives grounded, cited answers behind JWT.

Tech: Java 25, Spring Boot 4.1, Spring AI 2.0, PostgreSQL 17 + pgvector, RabbitMQ, MinIO, React 19

EDUCATION & MORE

Education	B.Sc. in Computer Science & Engineering, Southeast University , Dhaka • 2019 CGPA 3.56 / 4.00
Problem solving	LeetCode HackerRank (skill certificates) UVA Online Judge — DS & algorithms
Languages	Bangla (native), English, Hindi