# MD TANVIR ALAM

**CTO / Senior Software Engineer | Java/J2EE Full Stack | Alawaf Technologies Limited**

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Open to: Malaysia (Kuala Lumpur / Klang Valley, visa sponsorship), Singapore, remote

## SUMMARY

CTO / Senior Software Engineer at Alawaf Technologies Limited with 5+ years of hands-on Java/J2EE and full-stack development: Spring Boot microservices, REST/SOAP web services, Kafka event-driven pipelines, and Angular, Vue.js, and TypeScript front ends with Node.js services. Strong in identity and access management (IAM): Single Sign-On (SSO) with OIDC, OAuth2, and SAML2, and JWT-secured APIs for high-concurrency banking platforms. Delivers across the full lifecycle (impact analysis, architecture design, coding, unit testing, code review, non-functional testing, deployment) on Kubernetes, Docker, AWS, and CI/CD with PostgreSQL and Oracle. Previously worked as a contractor customizing Oracle FLEXCUBE and Oracle Banking Payments (OBPM) for Bank Danamon (Indonesia) and SMBC (Singapore); not an Oracle employee. Open-source fixes landed in Meta Infer, Google Gson, and Google Auto.

## SKILLS

**Java and Backend:** Java, J2EE, Spring (Boot, MVC, Security), JSP, Struts, Microservices, REST and SOAP Web Services, OpenAPI, JVM, Grails, Node.js, Python

**Frontend:** JavaScript, TypeScript, Angular, Vue.js, JSP, Node.js, Ionic, HTML, CSS

**Identity & Security:** IAM, SSO, OAuth2, OIDC, SAML2, JWT, Spring Security, Role-Based Access Control

**Banking:** Oracle FLEXCUBE, Oracle Banking Payments (OBPM), SWIFT, ISO 20022

**Architecture and Patterns:** Event-Driven Microservices (Kafka), Design Patterns, DDD, CQRS, Event Sourcing, Clean Architecture, SOLID, TDD, Distributed Systems, System Design

**Databases:** Oracle PL/SQL (CDB/PDB), PostgreSQL, MySQL, Redis, Flyway

**Cloud and DevOps:** Kubernetes, Docker, AWS (EKS, ECS, Lambda, S3), GCP, Azure, Apache Kafka, MQTT, VerneMQ, Nginx, CI/CD, GitHub Actions

**Tools and Process:** Git, Bitbucket, GitHub, Jira, Confluence, Agile/Scrum, Code Review, Unit and Non-Functional Testing

**AI (secondary):** LangChain, RAG, Model Context Protocol (MCP), OpenAI API, Anthropic Claude

## EXPERIENCE

**CTO / Senior Software Engineer** | Alawaf Technologies Limited *November 2026 – Present*

- Lead architecture and hands-on development of distributed systems and Java / Spring Boot backends used in regulated environments.
- Designed the platform IAM layer: Single Sign-On (SSO) with OIDC and OAuth2, SAML2 federation for enterprise clients, and JWT access tokens validated by Spring Security resource servers.
- Build Angular and Vue.js front ends in TypeScript, backed by Node.js services that consume Java / Spring REST APIs.
- Deliver interface solutions for internal and external systems through REST/SOAP web services and Kafka-based event-driven microservices deployed on Kubernetes.
- Own impact analysis, architecture design, unit testing, and deployment via CI/CD pipelines; run code reviews and non-functional (performance and security) testing before release.
- Evaluate technology options and recommend solutions to stakeholders; maintain specifications and documentation in Confluence, with work tracked in Jira and code in Bitbucket.
- Also lead generative AI initiatives (LLM solutions, agentic workflows, RAG pipelines) alongside the core platform.

**Freelance Senior Software Engineer** | Various US Clients (Remote) *Nov 2025 – Oct 2026*

- Delivered Java / Spring Boot microservices and REST/SOAP integrations for multiple US clients, working remotely across US time zones.
- Implemented SSO and IAM features with OIDC, OAuth2, and SAML2, issuing and validating JWT access tokens through Spring Security.
- Built full-stack features with Angular and Vue.js front ends in TypeScript and Node.js services on top of Java backends.
- Designed Kafka-based event-driven services and containerized deployments on Docker and Kubernetes with CI/CD pipelines.
- Handled requirements, impact analysis, unit testing, code reviews, and technical documentation directly with client stakeholders.

**Lead Software Engineer / AI Consultant** | MehvozSoft *Aug 2025 – Oct 2025*

- Designed and developed self-executing AI agents with LangChain, orchestrating multi-step reasoning to reduce manual oversight by 40%.
- Integrated resilient messaging pipelines with Kafka and Redis to streamline background processing and improve Java / Spring Boot performance.
- Secured service and agent APIs with OAuth2 / OIDC client-credentials flows and JWT, enforcing IAM role-based access to internal document repositories and external APIs.
- Built Node.js integration services in TypeScript and Angular / Vue.js admin dashboards for configuring and monitoring workflows.

- Reviewed code, wrote unit tests, and documented interface specifications for internal teams and external client systems.

**Senior Software Engineer (Java)** | Midas Software Solutions Ltd. *Mar 2023 – Aug 2025*

- Bank Danamon (Indonesia): Architected and executed migration of a core digital banking monolith to a distributed Spring Boot Microservices structure, delivering 70% faster deployment cycles for high-concurrency instances.
- Designed, optimized, and maintained over 100 microservice REST endpoints using OAuth2 and JWT, supporting 50k+ concurrent users.
- Collaborated with bank stakeholders to implement Single Sign-On (SSO) for digital banking channels using OIDC and SAML2 federation with the bank's IAM, with OAuth2 / JWT token validation through Spring Security.
- Contract engagement: customized Oracle FLEXCUBE and Oracle Banking Payments (OBPM) for Bank Danamon (Indonesia) and SMBC (Singapore) using JavaScript, XML, and Oracle PL/SQL to execute cross-border SWIFT transactions.
- Maintained Java/J2EE modules (JSP, Struts, Spring MVC) and built SOAP and REST web services as interface solutions between core banking and internal and external systems.
- Developed Angular and Vue.js screens in TypeScript and Node.js middleware for internet banking and operations portals.
- Applied System Design and Distributed Systems practices (Kafka event-driven microservices, Kubernetes, Docker, CI/CD) on production banking workloads with PostgreSQL and Oracle.
- Performed impact analysis, unit testing, code reviews, and non-functional (performance) testing; worked with project managers to prioritise project and BAU tasks using Jira, Confluence, and Bitbucket.

**Application Developer** | MehvozSoft *Sep 2021 – Feb 2023*

- Developed and deployed cross-platform mobile utilities (including Express Entry Calculator and Adhaan applications) on iOS and Android using Ionic and Angular.
- Built Angular and Ionic features in TypeScript and JavaScript, plus Vue.js web dashboards for client projects.
- Developed Node.js and Java / Spring REST APIs with JWT authentication and OAuth2 / OIDC sign-in, mapped to IAM user roles.
- Crafted database schemas and optimized SQL queries, indexing, and procedures on PostgreSQL and MySQL to accelerate transactional execution.
- Wrote unit tests, took part in code reviews, and shipped releases through CI/CD pipelines with Git, Bitbucket, and Jira.

## SELECTED PROJECTS

*Original portfolio demos, not employer or client production systems. Repositories: github.com/tanvir-ux*

**banking-payments-spring** | *Java 17, Spring Boot 3.3, Kafka, PostgreSQL, Docker*
Credit-transfer REST microservice with JWT resource security, idempotent POST, JPA persistence, an AML sanctions stub, and ISO 20022 / SWIFT-inspired Kafka domain events.

**kafka-spring-microservices** | *Java, Spring Boot, Kafka, Kubernetes, PostgreSQL*
Transfer, ledger, and notifications services with double-entry execution, idempotent consumers, publish-after-commit events, plus Docker Compose and Kubernetes manifests.

## OPEN SOURCE

- **Meta Infer:** Track streams from `Socket.getInputStream` and `getOutputStream` in Pulse (PR #2302).
- **Meta Infer:** Track `Deflater` and `Inflater` as native resources in Pulse (PR #2275).
- **Google Gson:** Record the JSON path after `promoteNameToValue` (PR #3098).
- **Google Auto:** Copy `javax` and `jakarta` `@Qualifier` onto generated AutoFactory parameters (commit d10c050).

## EDUCATION

**Stamford University Bangladesh — B.Sc. in Electrical and Electronic Engineering (EEE)** *Graduated Aug 2021 | CGPA: 3.25*

**Machine Learning Specialization — Stanford University and DeepLearning.AI (Coursera)** *Credential ID: 4UGJY8KESNCZ*