

ARSHDEEP SINGH

Noida, Uttar Pradesh, India,

+919988383891 adsingh.net@gmail.com [linkedin.com/in/adsinghnet/](https://www.linkedin.com/in/adsinghnet/) github.com/adsinghnet

Summary

Backend Software Engineer with 4+ years of experience building event-driven, fault-tolerant microservices for fintech and payment systems. Sole backend owner of Paytm’s Payment Gateway Notification Service, delivering real-time SMS, WhatsApp, email, and webhook notifications for merchants including Flipkart, Ola, DMRC, Jio, DLF. Hands-on across webhook infrastructure, Kafka and Redis pipelines, production incident resolution, and security hardening. Previously at Airtel, built payment orchestration and API gateway services handling high-volume transaction flows across African markets, including integrations with the Rwanda National Digital Payment System and Zambia’s National Financial Switch. Strong in Java, Spring Boot, Kafka, Redis, MongoDB, and distributed system design.

Experience

Paytm Payments Services | One97 Communications

Aug 2025 – Present

Senior Software Engineer

Noida, Uttar Pradesh

- Built MID-level webhook suppression for Pre-Auth, Capture, and Void stages using FF4J feature flags, giving merchants control over notification behaviour without touching transaction processing.
- Replaced Redis polling with Redis Pub/Sub for bank-form availability in the Notification Queue Handler, removing redundant reads and resolving production incidents caused by webhook signature-verification failures.
- Added WhatsApp support to the external createAndSend API and migrated 150+ legacy SMS and payment-link templates into the Merchant Center store with backup/rollback scripts for a zero-downtime cutover.
- Designed Kafka-driven settlement lifecycle webhooks (initiated, pending, success, failed, reversed) with versioned JSON payloads and MID-scoped fallback routing.
- Unified two parallel notification-service codebases into one, merging FF4J flags and MongoDB template stores and adding bootstrap-server failover to remove duplicate infrastructure.
- Remediated SSRF, weak-hashing, and PII-masking vulnerabilities, moved sensitive data into HashiCorp Vault, and onboarded 70+ clients with custom integrations.

Airtel International LLP | Airtel Africa Digital Labs

Jan 2022 – Aug 2025

Software Engineer

Gurugram, Haryana

- Scaled core payment microservices to 300+ TPS across 14+ African markets, improving transaction throughput and revenue.
- Built transaction lifecycle logic with Spring State Machine covering validation, processing, and automated reversals for core payment products.
- Developed payment flows for the Rwanda National Digital Payment System, driving 27% user growth.
- Added Keystore/Truststore support to the Spring HTTP client, enabling secure communication with 1M+ partners.
- Reworked transaction correction logic with Kafka and Redis to handle 5M+ daily transactions with zero data loss, and added Resilience4j rate limiting and circuit breakers for downstream failures.
- Received a commendation from the Bankers Association of Zambia for reducing transaction failure rates.

Major Projects

PG Notification Service | Java, Spring Boot, Kafka, Redis, MongoDB, ff4j

2025 – Present

- Multi-channel notification platform on Spring Boot and Kafka that consumes payment, refund, and settlement events and fans them out to SMS, WhatsApp, email, push, and merchant webhooks in real time.
- Template-driven messaging layer backed by MongoDB with dynamic placeholders, plus per-MID delivery rules served through FF4J feature flags so notification behaviour changes without a deploy.
- Webhook delivery pipeline with signature-based partner authentication, HTTPS-only callbacks, fallback routing, and Vault-managed credentials; sole engineer owning design, releases, and production support.

Airtel Payment Controller | Java, Spring State Machine, Kafka, Rqueue, PostgreSQL

2022 – 2025

- Built a high-throughput, fault-tolerant payment orchestration microservice for Bill Pay, P2P transfers, and vouchers, using Kafka for asynchronous processing and service decoupling.
- Implemented Rqueue-based retry and transaction correction flows to maintain data consistency during downstream failures, significantly cutting the failure rate.
- Integrated biller, bank, loan, remittance-switch, and wallet systems over REST via Spring WebClient, with FreeMarker templating for API config changes without redeloys.

Archway API Gateway | Spring Cloud Gateway, WebFlux, Redis, Resilience4j

2022 – 2025

- Engineered a dynamic routing engine sourcing routes, filters, and security policies from MongoDB, enabling zero-downtime configuration updates.
- Implemented security filters for JWT, OAuth2, HMAC, and Keycloak, with per-route SSL/TLS context management via Bouncy Castle.
- Added Resilience4j circuit breakers, Redis-based rate limiting, async auditing with PII masking, and custom filters for ISO 8583 message routing.

Technical Skills

Languages: Java (11+), SQL, JavaScript, HTML/CSS, Shell Scripting (Bash), C
Backend & Frameworks: Spring Boot, Spring Cloud, Spring Security, Spring WebFlux, Spring State Machine, Hibernate, JPA, Resilience4j, jPOS
Databases: MySQL, PostgreSQL, MongoDB, Redis
Messaging & Event-Driven: Apache Kafka, Redis Pub/Sub
Cloud & DevOps: AWS, GCP, Docker, Kubernetes, Jenkins
Security & API: REST, SOAP, OAuth2, JWT, HMAC, Keycloak, Kong Gateway, HashiCorp Vault, FF4J, SAST Remediation
Monitoring: Prometheus, Grafana, Loki, Jaeger (APM), Spring Boot Admin
Tools: Git, Bitbucket, Jira, Maven, Gradle, IntelliJ IDEA, VS Code
Architecture: Microservices, Event-Driven Architecture, Distributed Systems, System Design, High Availability, CI/CD, TDD

Education

Chitkara University	2018 – 2022
<i>Bachelor Of Engineering In Computer Science & Engineering</i>	<i>9.02 CGPA</i>

Certifications

Oracle Certified Professional – Java SE 11 Developer	Sept 2021
Data Structures and Performance – UC San Diego	Nov 2020