Mohammed Aftab Muddassir

Java Developer | Distributed Systems & Cloud | Spring Boot | AWS

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SUMMARY

Java Backend Engineer specialized in architecting high-availability distributed systems and event-driven microservices. Proven track record in optimizing Spring Boot ecosystems, integrating LLMs into production workflows, and leveraging AWS for cloud-native scaling. Expert at delivering secure, low-latency solutions for mission-critical financial and retail platforms.

EDUCATION

University at Buffalo - SUNY – *Master of Science in Computer Science*   Aug 2024 – Dec 2025

- **Coursework:** Algorithms, ML, Deep Learning, OS, Distributed Systems, Modern Network Concepts, Database Systems

WORK EXPERIENCE

LTIMindtree | *Software Engineer, Java Developer – Remote*   Dec 2021 – Jul 2024
Tech Stack: Java 17, Spring Boot, Spring Batch, Spring Data JPA, Hibernate, Redis, AWS (EC2, RDS, S3), PostgreSQL, Splunk, AWS CloudWatch, JUnit 5, Mockito.

- Engineered a 20% increase in payment microservice throughput by fine-tuning **Spring Boot** thread pool configurations and resolving **Hibernate N+1** query inefficiencies.
- Achieved a 40% reduction in API latency by implementing a **Redis Cache-Aside** pattern and integrating **Resilience4j** circuit breakers to maintain availability during peak traffic
- Orchestrated the migration of 20 years of legacy data for 500+ boutiques to **AWS RDS (PostgreSQL)**; redesigned complex schemas and optimized JPA queries to handle high-concurrency inventory transactions.
- Developed **Spring Batch** pipelines processing 3M+ daily transactions with 99.9% reliability using chunk-based processing and custom **ItemProcessors**.
- Slashed SLA breaches by 30% through deep-dive **Root Cause Analysis (RCA)** and automated **Splunk/CloudWatch** alerting for proactive incident detection.

LTIMindtree | *Software Engineer Intern, Java Developer – Hyderabad, India*   Aug 2021 – Dec 2021

- Assisted in the development of core payment modules and wrote comprehensive unit tests using **JUnit 5** and **Mockito** to ensure 85%+ code coverage
- Collaborated with senior engineers to identify and resolve slow-running SQL queries, gaining hands-on experience in **Index optimization** and **Hibernate** profiling.
- Contributed to the maintenance of **Spring Cloud** microservices and supported legacy data cleanup tasks during the initial phases of the cloud migration project.

INTERNSHIP EXPERIENCE

Marketeq Digital | *Software Engineer, Backend Intern – Miami, FL, USA*   May 2025 – Aug 2025
Tech Stack: Java 17, Spring Boot 3, Spring Security (JWT), Spring Cloud AWS (S3), Spring WebFlux, Hibernate/JPA, PostgreSQL, Redis, JUnit 5, Mockito, Maven, Docker.

- Developed core reactive modules for a messaging platform using **Spring WebFlux**, maintaining sub-100ms latency for real-time delivery. Leveraged **Claude** to accelerate the development of complex **Project Reactor** stream logic
- Reduced server overhead by 40% by implementing an **S3 Pre-signed URL** strategy; this enabled direct-to-cloud uploads for files up to 500MB, effectively bypassing JVM heap bottlenecks.
- Integrated a hybrid encryption layer using **Java Cryptography Architecture (JCA)**; utilized **AES-256 GCM** for message payloads and **RSA** for secure key exchange, managed via **Spring Cloud Config**
- Standardized system workflows by authoring **OpenAPI 3.0 (Swagger)** specifications and a technical guide on Spring Bean lifecycles, reducing new-hire onboarding time by 30%

TECHNICAL SKILLS

Languages: Java (17+), Python, SQL (MS SQL Server, PostgreSQL, MySQL), TypeScript, JavaScript

Backend & Distributed Systems: Spring Boot 3, Spring WebFlux (Reactive), Spring Batch, Microservices Architecture, Kafka, Redis (Caching & State Management)

Data Persistence & ORM: Hibernate/JPA, Spring Data JPA, AWS RDS, Schema Design & Optimization

Cloud & Infrastructure: AWS (EC2, S3, IAM, Lambda), Docker, Kubernetes, Jenkins CI/CD, Cloudflare R2

Security & Reliability: Spring Security (JWT), JCA (AES/RSA), Resilience4j (Circuit Breaker), OpenAPI/Swagger

Testing & Observability: JUnit 5, Mockito, Splunk, AWS CloudWatch, Postman, Wireshark

Other skills: Swagger API Documentation, Debugging, RCA, Microservices Design Patterns

PROJECTS

Hifdh Quest - Gamified Ed-Tech Platform | *Java 17, Spring Boot 3.2, WebSocket (STOMP), Redis, PostgreSQL, React, Docker.*

- Engineered a low-latency, multiplayer gaming platform using **Spring WebSockets (STOMP)** and **SockJS**, enabling millisecond-accurate state synchronization for a "fastest-finger-first" buzzer system

- Leveraged **Redis** to manage transient game states and implemented a "smart-buzzer" limiting algorithm to ensure thread-safe score updates and prevent spam.

- Designed a decoupled backend with **Spring Boot** and **PostgreSQL**, integrating third-party audio APIs with custom validation logic.

Studentbnb – AI-Driven Student Housing Marketplace | *FastAPI, Node.js, Python, PostgreSQL, AWS*

- Architected a scalable marketplace using **FastAPI** (Python) for high-performance AI service integration and **Node.js** for real-time user interactions, utilizing **Apache Kafka** for asynchronous messaging and service decoupling

- Integrated Machine Learning models for roommate compatibility scoring, embedding AI-driven inference services into the backend to enhance user matching precision.

- Implemented **Google OAuth 2.0** for centralized authentication and deployed the containerized infrastructure via **AWS** for cloud-native scaling and high availability.