

Kartik Dwivedi

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Professional Summary

Software Engineer with 5+ years of experience designing, developing, and supporting scalable enterprise applications using **Java, Spring Boot, REST APIs, microservices, Oracle, PostgreSQL, and AWS**. Strong experience in backend architecture, database design and SQL query optimization, distributed systems, production troubleshooting, performance tuning, and cloud-native application development. Experienced in building reliable services, writing maintainable and well-tested code, and collaborating across engineering, QA, DevOps, architecture, and product teams.

Professional Experience

Oracle India Pvt. Ltd.

Gandhinagar

Application Developer 2

Jun 2022 – Present

- Designed and developed scalable enterprise backend components for **Oracle Fusion HCM US Payroll** using **Java, Spring Boot, REST APIs, microservices, Oracle Database, and AWS**.
- Developed distributed payroll-processing components for Oracle's **US Payroll Tax Engine**, supporting accurate tax-jurisdiction calculations and automated payroll processing for **100+ enterprise customers**.
- Reduced payroll-processing errors by **30%** by designing and implementing flat-tax override functionality integrated with US payroll taxation formulas.
- Improved backend API performance by approximately **20%** through business-logic optimization, SQL query tuning, database access improvements, and JVM performance tuning.
- Worked extensively with **Oracle Database and SQL**, developing complex queries, optimizing database interactions, troubleshooting data issues, and improving performance of payroll-processing workflows.
- Developed cloud-native application components integrated with **AWS EC2, S3, and RDS**, focusing on scalability, reliability, and secure application deployment.
- Built high-throughput **Kafka consumer services in Go** using goroutines and channel-based concurrency for reliable asynchronous event processing.
- Investigated and resolved complex **application, API, database, and production issues**, performing root-cause analysis and implementing permanent fixes across distributed services.
- Improved service reliability through **idempotent processing, exception handling, retry strategies, and fault-tolerant service design** for business-critical payroll workflows.
- Developed and maintained **unit and integration tests using JUnit and Mockito** and participated in code reviews, technical discussions, CI/CD activities, and production support.

Tata Consultancy Services

Gandhinagar

System Engineer

Oct 2020 – May 2022

- Designed and developed scalable **Java and Spring Boot microservices** for enterprise applications with focus on maintainability, reliability, and performance.
- Developed scalable and maintainable **RESTful APIs** for business-critical backend services.
- Worked extensively with **PostgreSQL and Oracle Database**, developing complex SQL queries, optimizing database interactions, and improving application performance.
- Performed **PostgreSQL query optimization, indexing, and database performance tuning** for high-volume backend applications.
- Implemented **Kafka-based event-driven communication** between microservices to support asynchronous processing and scalability.
- Improved API response time and throughput through **caching, SQL optimization, efficient REST API design, and backend performance tuning**.
- Developed stateless services for **horizontal scalability** and deployed workloads using Docker and Kubernetes.
- Implemented resilience mechanisms including **retries, circuit breakers, exception handling, and graceful degradation**.
- Developed unit and integration tests using **JUnit and Mockito** and participated in code reviews and technical discussions.
- Supported CI/CD workflows using **Git, Jenkins, and Maven** across development and testing environments.

Technical Skills

Languages	Java (8–17), Go, SQL, Python (Basic), C/C++
Backend	Spring Boot, Spring Framework, Hibernate, JPA, REST APIs, J2EE, Microservices, API Design, Enterprise Application Development
Databases	PostgreSQL, Oracle Database, MySQL, MongoDB, SQL, Query Optimization, Data Modeling, Transactions, Database Performance Tuning
Distributed Systems	Microservices Architecture, Apache Kafka, Event-Driven Architecture, Concurrency, Multi-threading, Idempotency, Caching, Resilience Patterns
AWS & Cloud	AWS EC2, S3, RDS, Docker, Kubernetes, Cloud-Native Architecture, Scalability, Availability, Deployment
Testing	JUnit, Mockito, Unit Testing, Integration Testing, Test-Driven Development, Debugging, Root-Cause Analysis
Security	Spring Security, JWT, OAuth 2.0, Authentication, Authorization, RBAC
DevOps & Tools	Git, Jenkins, Maven, Gradle, Linux, CI/CD, Automated Deployment

Personal Project

PayFlowX — Distributed Wallet and Transaction Platform *Java 17, Spring Boot, Kafka, PostgreSQL, AWS*

- Built a scalable **Spring Boot** microservices-based wallet and transaction platform exposing REST APIs for account and transaction management.
- Designed a transactional data model using **PostgreSQL**, including a double-entry ledger approach and transaction consistency controls.
- Implemented **idempotent APIs, Kafka-based asynchronous processing, consumer groups, retry handling, and dead-letter queues** for reliable transaction workflows.
- Optimized database access through appropriate indexing, query optimization, transaction management, and efficient persistence-layer design.
- Containerized services using **Docker** and designed AWS-based deployment using EC2 and RDS.
- Secured REST APIs using **JWT authentication and role-based authorization**.

Education

B.Tech, Computer Science and Engineering — Rajasthan Technical University (RTU), Kota 2016 – 2020
71.8%

Certifications

Oracle Certified Professional, Java EE 7 Application Developer; Oracle Certified Associate, Java SE 8 Programmer 2019