



# KALIPRASAD PADHI

Technical Lead | Senior Full Stack Engineer | Chicago, IL

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★ **Google Associate Cloud Engineer Certified** — Google Cloud Platform

## PROFESSIONAL SUMMARY

- **Technical Lead & Senior Full Stack Engineer — 12+ Years:** delivered cloud-native, event-driven platforms across banking, fintech, and e-commerce. Led cross-functional teams end-to-end, from architecture design to production ownership on AWS and GCP.
- **Full Stack Engineering — Java 21 · Spring Boot · React.js · Angular:** built high-performance microservices handling 10K+ TPS at p99 <120ms. Architected FIDO2/WebAuthn passwordless auth for 2.5M+ Bank of America users — 99.99% uptime, \$2.3M annual savings.
- **Dual-Cloud Leader — AWS (Bofa) & GCP (Ulta Beauty):** AWS: EKS, RDS, Lambda, Secrets Manager, ALB, WAF, CloudWatch, ElastiCache, DynamoDB, Terraform. GCP: GKE, Pub/Sub, BigQuery, Firestore, Cloud Functions, Cloud Logging. Google Associate Cloud Engineer Certified.
- **Apache Kafka & Event-Driven Architecture:** engineered credential streaming pipelines across 8 microservices with exactly once delivery (Transactional Outbox Pattern). Designed Kafka Streams + Pub/Sub fraud scoring for 40M users. Diagnosed partition theft and consumer concurrency issues at production scale.
- **Performance Engineering — 6.7x Latency Improvement:** eliminated 48 N+1 query patterns. Redis caching cut DB load 65%. JVM + Kafka tuning improved p99 latency from 800ms → 120ms. Reduced cloud infrastructure costs by \$450K annually.
- **Production Incident Ownership:** HikariCP pool exhaustion at 10K TPS, Kubernetes probe misconfiguration, SSL/TLS MDS silent failure, Prometheus OOM (40M time series), Spring profile PII leak (compliance incident), ArgoCD GitOps drift — all resolved at production scale with post-mortems.
- **Technical Leadership & Team Development:** led 5-engineer squads, mentored juniors, made hire/no-hire decisions, reversed a major architecture decision under deadline. Test coverage 72% → 94%. Production defects down 60%. PCI-DSS Level 1 — 3 audits, zero findings.
- **Full Stack Frontend Delivery — React.js · Angular · Next.js:** built Auth0 admin dashboards, fraud monitoring UIs, and compliance reporting interfaces end-to-end. Improved frontend performance 30% via lazy loading, Redux state optimization, and code splitting. Delivered Next.js SSR/SSG pages for SEO-sensitive flows and Node.js (Express/NestJS) BFF layers connecting microservices to UI.
- **DevOps & Kubernetes Engineering:** Terraform IaC (AWS + GCP), Helm, ArgoCD GitOps, Jenkins/GitLab CI/CD and Blue green + canary deployments, expand-and-contract schema migrations, HPA with custom RPS metrics, multi-AZ EKS and GKE clusters.
- **Security & Compliance:** FIDO2/WebAuthn, OAuth 2.0, JWT, MFA, Auth0, Spring Security, PCI-DSS Level 1, WAF, Secrets Manager, SSL/TLS chain management. Led 40M-user Auth0 migration — resolved rate limit change 3 weeks before go-live without data loss.
- **Observability & Databases:** Prometheus + Grafana + DataDog + CloudWatch + Splunk. Distributed tracing (Spring Cloud Sleuth) cut bug resolution 2hr → 10min. MTTR reduced 40%. Databases: PostgreSQL, MySQL, MongoDB Atlas, Oracle, DynamoDB, Redis, Firestore.
- **Cross-Functional Stakeholder & Compliance Delivery:** aligned Security, Compliance, and Product teams under deadline pressure — chose Transactional Outbox Pattern over CDC under a 6-week PCI-DSS deadline. 3 consecutive audits, zero findings.

## CERTIFICATIONS

★ **Google Associate Cloud Engineer** | Issued by: **Google Cloud Platform (GCP)**

Validates expertise in deploying, managing, and monitoring GCP solutions — including GKE, Pub/Sub, BigQuery, Cloud Functions, Firestore, Cloud Logging, IAM, and Cloud Run. Applied hands-on at Ulta Beauty across a 40M-user platform on Google Cloud infrastructure.

## TECHNICAL SKILLS

<b>Languages:</b>	Java 8 / 17 / 21, TypeScript, JavaScript, Python, SQL, PL/SQL
<b>Backend:</b>	Spring Boot 3.x, Spring WebFlux, Spring Cloud, Spring Security, Spring Batch, Spring Data JPA / Hibernate, Node.js (Express, NestJS), gRPC, OpenAPI
<b>Frontend:</b>	React.js, Angular, Next.js (SSR/SSG), Redux, Context API, TypeScript, HTML5, CSS3
<b>Cloud — AWS:</b>	EKS, Lambda, RDS, S3, CloudFront, ALB, WAF, Secrets Manager, CloudWatch, IAM, VPC, SQS, SNS, DynamoDB, EC2, ElastiCache
<b>Cloud — GCP:</b>	GKE, Pub/Sub, BigQuery, Cloud Functions, Firestore, Cloud Storage, Cloud Logging, Cloud Monitoring, IAM, Cloud Run
<b>Messaging:</b>	Apache Kafka (Core, Streams, Connect), GCP Pub/Sub, AWS SQS / SNS, RabbitMQ
<b>DevOps / IaC:</b>	Docker, Kubernetes, Helm, ArgoCD, Terraform, Jenkins, GitLab CI/CD, GitHub Actions, Blue-Green, Canary
<b>Databases:</b>	PostgreSQL, MySQL, MongoDB Atlas, Oracle, DynamoDB, Redis, Firestore
<b>Auth / Security:</b>	FIDO2 / WebAuthn, OAuth 2.0, JWT, MFA, Auth0, Spring Security, PCI-DSS, SSL/TLS, WAF, Secrets Manager
<b>Observability:</b>	Prometheus, Grafana, DataDog, New Relic, Splunk, CloudWatch, GCP Cloud Logging, Spring Cloud Sleuth
<b>Testing:</b>	JUnit, Mockito, REST Assured, WireMock, Cucumber, Selenium, TDD / BDD
<b>Architecture:</b>	Microservices, Event-Driven, DDD, CQRS, Outbox Pattern, Saga, Circuit Breaker, 12-Factor, Multi-Region

## PROFESSIONAL EXPERIENCE

### Bank of America — Identity & Authentication Platform

Jan 2026 – Present

Senior Software Engineer / Technical Lead | USA

Architected FIDO2/WebAuthn passwordless authentication for 2.5M+ users across 7 enterprise apps at 10K TPS. AWS-heavy: EKS, RDS PostgreSQL, Lambda, Secrets Manager, ALB, WAF, CloudWatch, Terraform.

- **FIDO2/WebAuthn Platform:** Designed core microservices (Java 21, Spring Boot 3.x, WebFlux) for YubiKey, Windows Hello, Apple Keychain — reduced auth failures 35%, cut support tickets 27%, saving \$2.3M annually.
- **Performance — 6.7x Latency:** Eliminated 48 N+1 patterns (16 DB round trips → 2 via JPA fetch joins), Redis caching (65% DB load reduction), JVM tuning — p99 improved 800ms → 120ms.
- **Incident — HikariCP Pool Exhaustion:** Connections leaked under error path, pool exhausted in ~15 min at 10K TPS. Fixed via connection validation, timeout enforcement, and pool sizing formula.
- **Incident — Kubernetes Startup Probe:** Liveness probe (initialDelaySeconds:15) killed pods at 30s cold start needed 40s loading 15 vendor configs from Secrets Manager. Replaced with startup probe — zero pod restarts since.
- **Incident — SSL/TLS MDS Validation:** Intermediate CA missing from JVM truststore caused silent FIDO MDS failure for 4 hours. Fixed image build pipeline to validate truststore on every build.
- **Kafka & Transactional Outbox:** Engineered credential pipelines across 8 microservices exactly once delivery via Outbox Pattern. Caught staging consumer group collision (3/12 partitions stolen) before SLA breach.
- **PCI-DSS Level 1:** Chose Outbox Pattern over CDC under 6-week deadline. 3 consecutive audits, zero findings reduced audit findings from 18 → 0.
- **AWS Infrastructure (Terraform):** EKS, multi-region RDS failover, Lambda, ALB/WAF, WAF IP whitelisting for EKS pod CIDR. RTO reduced 4hr → 12min via automated health checks.
- **Observability:** Prometheus + Grafana + DataDog + CloudWatch — MTTR reduced 40%. Distributed tracing cut cross-service bug resolution 2hr → 10min.

## Ulta Beauty — Fraud Risk & Unified Accounts Platform

Nov 2022 – Jan 2026

Technical Lead | Chicago, IL

Led 5-engineer team building Fraud Risk and Unified Accounts platform for 40M+ users. GCP-heavy: GKE, Pub/Sub, BigQuery, Firestore, Cloud Functions, Cloud Logging, Terraform. Made hire/no-hire decisions.

- **Auth0 Migration — 40M Users:** Led OAuth2/MFA/RBAC migration. Discovered Auth0 rate limit change 3 weeks before go-live — coordinated emergency tier upgrade, replanned migration waves. Zero data integrity issues.
- **Architecture Reversal:** Identified component coupling pattern mid-project that required full rewrites at scale. Presented risk to leadership, redesigned on schedule.
- **Real-Time Fraud Detection:** Kafka Streams + Pub/Sub pipelines for cart/checkout/payment fraud scoring. Added circuit breaker resolving device fingerprinting API cascade → Kafka lag → cart back-pressure during flash sale.
- **Incident — HPA Black Friday:** CPU-based HPA on I/O-bound fraud service never triggered (CPU at 40%). Switched to custom Prometheus RPS metrics — correct autoscaling from next deployment.
- **Incident — Prometheus OOM:** Developer added userId label → 40M time series → OOM (4GB → 32GB) → 45-min blackout during fraud investigation. Introduced label governance + sample\_limit enforcement.
- **Incident — Spring Profile in Prod:** SPRING\_PROFILES\_ACTIVE=staging shipped to prod DEBUG logged full JWTs + PII to Splunk 30 min. Added profile validation gate to CI/CD pipeline.
- **GCP Infrastructure (Terraform):** GKE clusters, Pub/Sub, BigQuery pipelines, Firestore, Cloud Logging dashboards. ArgoCD GitOps across all services.
- **Mentoring & Test Coverage:** Mentored engineers through code reviews, architecture sessions, K8s patterns. Test coverage 72%→94% production defects down 60%.

## Gap Inc — Order Management System

Oct 2021 – Oct 2022

Senior Software Engineer | Columbus, OH

Modernized OMS microservices on AWS (ECS Fargate, Lambda, SQS/SNS, RDS, DynamoDB, CloudWatch).

- **OMS & GraphQL APIs:** Spring Boot microservices on ECS Fargate GraphQL APIs for OLGA & RLA reducing network payload. Event-driven SQS/SNS pipelines cutting response times 40%.
- **Incident — Log4j Security Patch:** Dockerfile caching kept vulnerable version 3 days (pom.xml hash unchanged). Added Snyk/Trivy scanning gate to CI.
- **Incident — ArgoCD GitOps Drift:** kubectl scale 3→10 during incident ArgoCD sync reset to 3 mid-traffic. Established runbook: annotate sync-options before manual scaling.

## Gap Inc — Workflow Orchestration

Oct 2019 – Oct 2021

Senior Software Engineer | India

- **Workflow Orchestration:** Designed orchestration solutions DB query and indexing optimization reduced microservice response times 40%.
- **Observability:** Splunk + ELK Stack integration for real-time log monitoring and faster incident response.

## Evoke Technologies

Jun 2018 – Aug 2019

Senior Java Developer | Hyderabad, India

- **Document Platform:** Spring Boot + Spring Batch + Apache Camel document ingestion, validation, encryption — manual effort reduced 50%. Deployed on AWS EKS with Docker rolling updates.

## Birlasoft — Synchrony Financial

Oct 2014 – Jun 2018

Java Developer | India

- **PCI-Compliant Payment Processing:** Spring Boot + Spring Cloud microservices Spring Batch + Oracle chunk processing reduced batch time 50%. Kafka real-time transaction streaming for fraud detection.
- **Distributed Tracing:** Zipkin + New Relic for multi-service transaction monitoring and latency profiling.

## EDUCATION

Bachelor of Technology (B.Tech) — Electrical Engineering

2014

SOA University, Odisha, Bhubaneswar, India