

Uma Nath Jha

Lead Backend / Platform Engineer | Java 21 | Spring Boot | AWS | Distributed Systems

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PROFESSIONAL SUMMARY

Lead Backend Engineer and AWS Certified Solutions Architect Associate with 10+ years of experience across banking, fintech, cloud migration, monitoring platforms, and enterprise backend systems. Strong background in Java/Spring Boot microservices, AWS architecture, distributed systems, database scalability, observability, production debugging, and cloud cost optimization. Currently at JPMorgan Chase, leading infrastructure initiatives for a high-throughput offers platform processing 1B+ personalized offer/customer instances at 3,000 peak TPS. Designed a transaction-aware datasource routing pattern adopted across teams and accepted into an internal Spring Boot platform library, recognized with a JPMC Innovation Award.

CORE SKILLS

Languages: Java 21, Python

Backend Engineering: Spring Boot, REST APIs, Microservices, Distributed Systems, API Design, API Versioning

Cloud and Infrastructure: AWS ECS Fargate, EMR Serverless, Lambda, Aurora PostgreSQL, DynamoDB, S3, SNS/SQS, API Gateway, Route 53, IAM

Data, Cache and Messaging: PostgreSQL, SQL Server, MongoDB, Redis, Kafka, RabbitMQ

Observability and Reliability: Datadog, Splunk, Dynatrace, CloudWatch, Icinga2, SLA/SLO Engineering, Performance Monitoring

DevOps and Delivery: Docker, Kubernetes, Terraform, Jenkins, Spinnaker, Git

Testing: JUnit, Contract Testing, Integration Testing, Load Testing, Performance Testing

Architecture and Leadership: Platform Ownership, Infrastructure Strategy, Architecture Reviews, Cross-team Execution, Mentoring, Production Readiness, Cost Optimization, Incident Debugging

PROFESSIONAL EXPERIENCE

JPMorgan Chase - Bengaluru, India

Senior Software Engineer (SSE-3) | August 2024 - Present

Lead infrastructure and backend platform initiatives for the Chase Bank Offers platform, which manages offer catalog metadata and personalized offer instances consumed by Chase branch and digital channels. Platform scale includes 10-12 core APIs, Aurora PostgreSQL Global Database across 2 regions, ~1.2B personalized offer/customer instances, 1,000-1,500 average TPS, 3,000 peak TPS, 150 ms response-time SLA, 4 environments, and ~\$40K-\$50K monthly AWS spend.

- Lead a virtual global infrastructure team of 5-6 engineers across multiple subteams, owning platform roadmap, architecture reviews, stakeholder communication, production support, release readiness, platform upgrades, and cost optimization.
- Architected active-passive and blue-green deployment architecture for microservices on AWS ECS Fargate, using ALB/NLB and Route 53 failover routing to improve release safety and production resilience.
- Designed and productionized a transaction-aware dynamic datasource routing pattern for Aurora PostgreSQL, using read-only semantics to route read traffic to scalable Aurora replicas while keeping writes and mixed transactions on the writer instance; reduced writer load by up to ~95% and database-related API failures by ~99% during peak ingestion.
- Drove cross-team adoption of the datasource routing pattern and secured acceptance into an internal Spring Boot platform library; recognized with a JPMC Innovation Award.
- Led migration of ingestion jobs from EKS to EMR Serverless, reducing infrastructure cost by more than 70% while improving operational efficiency.
- Fixed a critical PostgreSQL partition-swap issue where partition attachment validation caused 4-5 minute blocking windows and production API failures; added prevalidated partition-key check constraints, reducing attach/detach time to milliseconds.
- Debugged a Terraform upgrade failure by inspecting remote state and identifying inconsistency caused by repeated targeted plan/apply workflows; restored consistency through full-configuration planning/apply and documented the recovery pattern, helping 10+ teams resolve similar blockers.
- Lead design and build of a team-level Agentic AI platform using RAG, MCP-based tool integration, enterprise knowledge retrieval, auditability, and compliance-aware access controls to support cross-service request debugging, offer testing in lower environments, platform cost insights, and proactive infrastructure-upgrade planning.

Technologies: Java 21, Spring Boot, AWS ECS Fargate, ALB/NLB, API Gateway, Route 53, Lambda, Aurora PostgreSQL, DynamoDB, S3, SNS, SQS, IAM, CloudWatch, Redis, Kafka, Datadog, Splunk, Dynatrace, Jenkins, Spinnaker, Terraform, JUnit, Contract Testing, Load Testing

Newgen Digital Works - Bengaluru, India

Technical Lead, AWS DevOps | February 2020 - July 2024

- Designed and built a Health Monitoring platform for 100+ servers and 150+ applications using Icinga2, Spring Boot agents, RabbitMQ, and Python plugins.
- Reduced noisy primary email alerts from 100+ per day to ~15 actionable alerts per day by improving event filtering, aggregation, and notification workflows.
- Built Java REST APIs and notification workflows to collect service health metrics, process critical events, and improve incident visibility for support teams.

- Migrated and containerized monitoring workloads and 5 related projects to AWS using ECS, RDS, OpenSearch, and AmazonMQ.
- Led a 4-member engineering team across implementation, code reviews, delivery, cloud migration activities, and operational support.

Technologies: Java, Spring Boot, REST APIs, Python, Docker, AWS ECS, EC2, Lambda, S3, RabbitMQ, Kubernetes, Icinga2, Elasticsearch/OpenSearch, RDS, AmazonMQ

ThoughtClan Technologies - Bengaluru, India

Lead Backend Developer | November 2016 - February 2020

- Built Spring Boot services and workflow components for Atkins Assist, a tenant-based inspection/observation platform used by field engineers at construction sites.
- Led backend development for data migration workflows from MS SQL Server to MongoDB, including metadata migration and Activiti workflow automation.
- Implemented SAP Hybris Marketing Cloud integration services using Java, Spring Boot, REST, OData, SAP HCI, MySQL, and AWS.
- Integrated outbound email workflows using AWS SES, SNS, and SQS.

Cognizant Technology Solutions

Programmer Analyst Trainee | April 2016 - November 2016

- Completed Java and Adobe Experience Manager training; developed reusable AEM components.

EDUCATION

B.Tech in Information Technology | FIEM, Kolkata | 2015

AWARDS

- JPMC Innovation Award for designing a transaction-aware datasource routing pattern adopted by multiple teams and accepted into an internal Spring Boot platform library.

CERTIFICATIONS

- AWS Certified Solutions Architect - Associate | Credential: <https://www.credly.com/badges/53c5728c-741d-411e-bb33-c475d588f003>
- AWS Certified Cloud Practitioner | Credential: https://www.credly.com/badges/515b2ce1-721e-48fa-b226-33aeef1f561c/public_url