RAHUL K JHA

SENIOR BACKEND ARCHITECT

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About Me

Senior Backend Architect with 10+ years of experience engineering high-throughput, distributed systems. A polyglot developer with deep proficiency in TypeScript, Java, and PHP, focused on building resilient, cloud-native architectures that prioritize high availability, web security, and performance. Proven ability to oscillate between high-level technical leadership and hands-on implementation, ensuring technical excellence throughout the entire software development lifecycle.

Experience

Medtronic India (03/2024 - Current)
Senior Software Engineer

1. **Cloud Native Patient Management Platform**
- Engineered scalable microservices for a patient management platform, implementing a hybrid architecture of synchronous REST APIs and event-driven communication patterns.
- Developed domain-driven services for DICOM image ingestion and spearheaded the technical execution of metadata extraction pipelines for large-scale distributed systems.
- Implemented secure user identity and Role-Based Access Control (RBAC) modules, ensuring strict platform compliance with organizational security and audit logging policies.
- Orchestrated complex asynchronous workflows and inter-service communication using AWS SNS and reactive programming (RxJS) to maximize system responsiveness.
- Optimized PostgreSQL schemas and indexing strategies for high-throughput operations while integrating the ELK stack (Elasticsearch, Kibana) for centralized tracing and fault diagnosis.
- Collaborated with cross-functional teams to define resilient API contracts and retry mechanisms, ensuring high availability and fault tolerance across a cloud-native AWS environment.

Technologies: NestJS, RxJS, Typescript, Jest, GraphQl PostgreSql, Redis, OpenSearch, Logstash, Docker, K8S, DynamoDb, Kibana, AWS (Cognito, RDS, SQS, S3, SES, SNS, Bedrock, ECR, ECS, Cloudwatch)

2. **Mobile App Middleware Service**
- Engineered GraphQL-based middleware service designed to aggregate and serve data from multiple backend systems to the mobile application.
- Designed efficient schema and resolver patterns that enabled flexible client queries and significantly minimized data over-fetching.
- Implemented complex data transformation and stitching logic to unify data from diverse REST and database sources into a cohesive API.
- Optimized service performance by implementing asynchronous processing and fine-tuning connection pooling within a Spring Boot 3 environment.
- Partnered with mobile engineering teams to facilitate seamless integration and managed AWS-based deployments with integrated logging and monitoring.

Technologies: SpringBoot 3, Java, Junit, GraphQl, Redis, Docker, AWS Cognito, OAuth

Borzo India (09/2023 - 11/2023)
Senior Backend Developer

1. **Delivery Platform**
- Engineered high-integrity transaction and payment processing features as a primary contributor within the Finance Research and Development team
- Spearheaded the technical migration and translation of legacy Russian codebase modules and documentation to English, significantly improving global developer onboarding and scalability.

Technologies: PHP 8, Symfony, PHPUnit, MySql, Redis, ElasticSearch, Logstash, Docker, K8S, RabbitMQ, ClickHouse, Grafana

Darwinbox (03/2023 - 08/2023)
SDE - III

1. **Main Product**
- Architected Multi-Language Support framework adopted across all product modules to facilitate global localization and user preference support.
- Developed centralized notification management system, enabling administrators to configure preferences across Email, SMS, WhatsApp, and Push channels.
- Optimized the caching layer, identifying and resolving performance bottlenecks to significantly enhance data retrieval speeds and overall user experience.
- Served as core contributor to the Payroll team, delivering high-impact feature enhancements and critical technical bug fixes.

Technologies: PHP 8, Symfony, NodeJS, MongoDB, MySql, Redis, ElasticSearch, Docker, K8S, RabbitMQ

ACS Solutions (04/2018 - 03/2023)
Principal Software Engineer

1. **Cannabis Potency Testing web app for a US based client**
- Led a team of 7 developers in the end-to-end delivery of a specialized SaaS application, translating complex client requirements into scalable backend logic.
- Partnered with stakeholders to refine project scope while remaining hands-on in the development of core application features using PHP 8 and Laravel.
- Spearheaded infrastructure optimization and established an automated API testing environment using Postman, significantly reducing regression cycles and ensuring high production quality.

Technologies: PHP 8, Laravel 9, VueJS, MySql, Redis, Docker, AWS, RabbitMQ

2. **Business Research & Analysis Data Management App for a US based client**
- Spearheaded a 10-member engineering team while leading the construction and expansion of a high-performance REST API, achieving a 150% improvement in average response times.
- Engineered system scalability by implementing auto-scaling mechanisms, multi-layer caching, and load balancing at the application and data layers.
- Fortified security and enterprise integration through JWT-based authentication, 2FA, and Single Sign-On (SSO) via Azure Active Directory.
- Developed a robust Full-Text Search system from the ground up utilizing Elasticsearch to enhance content discovery and accuracy.
- Integrated GA4 and Google BigQuery for granular user activity tracking, building an actionable behavioral analytics dashboard to drive product improvements.
- Automated the release lifecycle by developing and deploying a Jenkins-based CI/CD pipeline to ensure reliable and streamlined production updates.

Technologies: NodeJs, ExpressJS, VueJS, Java, MySql, Redis, RabbitMQ, Google BigQuery, ElasticSearch, Docker, K8S, AWS

3. **E-Commerce Application for a US based medical organisation**
- Architected and managed the migration of legacy on-premise application to cloud-based infrastructure utilizing Kubernetes and Docker.
- Designed scalable hosting environment capable of handling 3 million monthly visitors, implementing automated scaling strategies to maintain performance during traffic surges.
- Drove a 500% improvement in page load speeds by leveraging Fastly and Varnish as reverse caches and HTTP accelerators.
- Engineered mission-critical payment resilience by implementing a fallback payment gateway integration to ensure uninterrupted transaction processing.
- Fortified system security by implementing critical enhancements to protect sensitive medical data and optimize the end-user experience.

Technologies: PHP 7, Laravel 8, JavaScript, MySql, Redis, RabbitMQ, Fastly, ElasticSearch, Docker, K8S

Meltag Inc (01/2017 - 03/2018)
Senior Software Engineer

1. **Campaign & Loyalty Management Application**
- Engineered REST APIs for the Campaign Management platform supporting Web, Mobile, and SMS interfaces.
- Reduced infrastructure expenditures by 20% through targeted application and system-level optimizations.
- Boosted API responsiveness by 30% by refactoring core logic and implementing performance-focused code enhancements.

Technologies: PHP 7, Laravel 5.5, VueJS, MySql, Redis, AWS SQS

Tattvam Media (06/2015 - 12/2016)
Software Engineer

1. **Digital Media Marketing Engagement Analytics Application**
- Spearheaded development team of four to build and scale in-house application from scratch for tracking digital media marketing conversion rates.
- Integrated data from Google Adwords and Facebook Marketing to create centralized dashboard providing actionable marketing insights.
- Translated marketing requirements into optimized technical solutions and feature enhancements.
- Provisioned and managed cloud-based hosting environment on AWS to ensure robust system availability.

Technologies: PHP 7, VueJS MySql, Redis, AWS

Open Source Contributions

Sentry Integration For Magento
Added New Feature
- Added a new feature that has let users enable or disable the integration on demand
  Pull Request Link: https://github.com/justbetter/magento2-sentry/pull/59

- Fixed a very critical bug for Native Azure Mailer Bridge for Symfony Framework
  Pull Request Link: https://github.com/symfony/symfony/pull/53388

Hackathon (2019)

Dobby Chat Bot
A Chat Bot for newly joined employees
- Engineered Microsoft Teams bot to automate internal knowledge retrieval regarding organization structure and processes for new employees.
- Implemented Natural Language Processing using Python and Google Dialogflow to handle employee queries effectively.

Area of interest

- Web Security
- REST API Design
- Distributed Computing

Education

2015
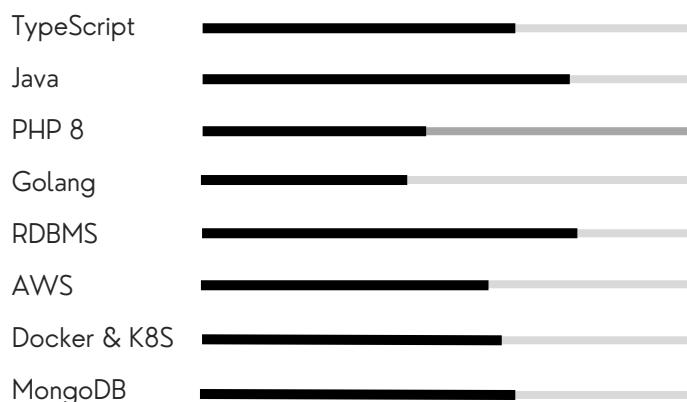
RTU Kota

BTech in Computer Science & Engineering

Certification

Programming with Google Go
Coursera

- A Golang course taught by Ian Harris (University of California Irvine)
  Certification Link: https://coursera.org/verify/specialization/EKYKE8T3QKFL

Technology & Expertise

TypeScript
Java
PHP 8
Golang
RDBMS
AWS
Docker & K8S
MongoDB

Web Presense

Github
https://github.com/t9toqwerty

Website
https://rahulkjha.com

Linkedin
https://www.linkedin.com/in/t9toqwerty/

Stackoverflow
https://stackoverflow.com/users/2668465/