Vivek Singh

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Summary

Software Engineer with **5 years** of experience in designing **scalable, high-performance systems** using **Java, Spring Boot, Microservices, Kafka, and event-driven architectures**. Expert in **distributed systems, system optimization**, and enhancing user experience. Strong background in **Travel and Hospitality**, delivering robust solutions for **enterprise clients**.

Skills

Languages: Java, SQL, NoSQL

Technologies: Spring Boot, Microservices, Hibernate, AWS, Multi-threading, JUnit, Mockito, MySQL, DynamoDB, MongoDB, Redis, Kafka, RabbitMQ, Grafana, EKS, SonarQube, Git, Bitbucket, Docker, Kubernetes, CI/CD.

Experience

Senior software Engineer *Bangalore, India*
Publicis Sapient *Sep 2025 – Present*

- Worked as a Backend Developer for a **global hospitality (hotel) client**, developing and enhancing Spring Boot microservices supporting **hotel booking, reservation lifecycle, and guest management workflows**.
- Built and optimized RESTful APIs integrating multiple downstream systems (inventory, pricing, loyalty, payments), applying **resiliency patterns** such as retries, timeouts, and fault handling.
- Implemented asynchronous processing using Apache Kafka for **reservation updates and notifications**, ensuring scalability and eventual consistency across distributed services.
- Improved API performance by leveraging **Java multithreading and concurrency**, and contributed to AWS-based deployments using Docker, Kubernetes , and CI/CD pipelines.

System Engineer *Kolkata, India*
Tata Consultancy Services *Feb 2021 – Present*

- Designed and deployed enterprise-grade Spring Boot microservices for a leading airline, powering real-time trip management and boarding passes. Achieved scalability with **Amazon EKS**, resilience with **DynamoDB** and efficiency with **Kafka-driven asynchronous messaging**, while ensuring secure operations through **AWS API Gateway and Secrets Manager**.
- **Reduced the response time of services by 30%** by changing the downstream integration strategy—replaced sequential REST APIs invocations with **parallel, multithreaded API calls** using **Java Concurrency utilities**. Leveraged **asynchronous processing** to enhance scalability, throughput and reduce latency in a microservices-based environment.
- Developed a microservices based itinerary management feature using **Spring Boot and AWS**, enabling airline passengers to access complete journey details. Integrated multiple **downstream RESTful APIs** following industry-standard **design patterns** and best practices for scalable, loosely coupled distributed system architecture.
- Replaced a long-polling mechanism with a high-performance **Spring Boot consumer API** within an **event-driven architecture** to process **Apache Kafka messages**, improving throughput and **reducing update latency by 30%**, enabling near real-time updates to boarding passes and itineraries.
- Developed a real-time flight tracking feature in Spring Boot, integrating live data feeds and exposing **RESTful APIs** to provide passengers with **instant flight status updates**. **Leveraged DynamoDB** for seamless horizontal scaling and automatic indexing, reducing customer support queries by 25% and improving user engagement by 30%.
- Developed a **real-time baggage tracking microservice** that provided passengers with end-to-end visibility from **check-in** to **carousel assignment**. Integrated multiple downstream systems via **partner RESTful APIs** and enabled secure, scalable access through **AWS API Gateway**, improving transparency and reducing baggage-related customer inquiries.
- Enhanced system reliability and performance by **optimizing JVM** (GC tuning, heap/stack management, thread pooling), resolving memory leaks, , enforcing code quality with **SonarQube** implementing **centralized logging**, and establishing real-time monitoring and alerting with **Grafana**.

Education

Meghnad Saha Institute of Technology *July 2016 – August 2020*
BTech in Electronics And Communication Engineering *DGPA : 8.37*

Projects

Blogging Back-end Application

- Built a blogging platform with **post management, commenting, search, pagination, and sorting**. Integrated **role-based APIs with JWT** for secure access.
- Tools And Technologies Used: **Java, Spring Boot, Spring Security, Hibernate, MySQL, Postman**.

Publications And Achievements

- **Runner-up** in **Smart India Hackathon 2019**, securing a podium finish in a **national-level competition**.
- Published a research paper **Design and Implementation of Arduino Based Voting Machine** in **IEEE (2018)** .
- Cleared TCS Wings 1, to become a DIGITAL cadre employee, received double promotion for being in top 1% of assessment.