

Vijay Kumar

BACKEND ENGINEER — JAVA · SPRING BOOT · REAL-TIME SYSTEMS

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• Open to remote backend roles

PROFILE

Backend engineer specializing in **Java 17** and **Spring Boot 3**, with production experience building real-time systems and automated deployment pipelines. Shipped **Nexus** — a live multiplayer platform handling concurrent WebSocket sessions, in-memory state management, and CI/CD to Oracle Cloud. Strong in concurrency, production debugging, and clean architecture. Seeking remote backend roles with ownership and architecture exposure.

TECHNICAL SKILLS

LANGUAGES	Java 17, SQL, JavaScript (ES2022)	BACKEND	Spring Boot 3, Spring Data JPA, Spring Security, WebSocket (STOMP/SockJS), REST APIs, JWT, bcrypt
DATA	PostgreSQL, Hibernate ORM, JPQL, H2 (testing)	INFRASTRUCTURE	Docker, GitHub Actions, Linux (Ubuntu), Oracle Cloud, Render, Vercel, systemd
BUILD / TEST	Maven, JUnit 5, Mockito, Git	FOUNDATIONS	DSA, Concurrency, System Design, OOP, Clean Architecture

PROJECTS

Nexus — Real-Time Multiplayer Game Platform

Live

nexusgame.space

GitHub

Java 17 · Spring Boot 3 · WebSocket (STOMP/SockJS) · PostgreSQL · Spring Security · bcrypt · GitHub Actions · Oracle Cloud

Production-deployed multiplayer game backend with real-time session management, persistent game state, and a full authentication pipeline. Designed, built, and shipped end-to-end as an independent engineering project.

- **Concurrent game state** managed via `ConcurrentHashMap` with atomic operations, handling simultaneous WebSocket sessions without data races
- **WebSocket session lifecycle** implemented with STOMP over SockJS, including connect/disconnect presence tracking and room-scoped message routing
- **Diagnosed and fixed** a JPQL enum inner-class reference crash (`User$UserStatus`) causing game move rejections every 10 seconds; resolved by passing enum as a named parameter instead of inline reference
- **Resolved a Railway port-587 SMTP block** by replacing JavaMailSender with Resend HTTP API on port 443, restoring account activation delivery from a 2-minute timeout to under 1 second
- **CI/CD pipeline** via GitHub Actions: builds JAR, copies via SCP to Oracle Cloud VM, and restarts the systemd service — zero-touch deploys
- **Authentication pipeline**: bcrypt password hashing, Spring Security with JWT tokens, email-based account activation with expiring tokens stored in PostgreSQL

TicTacToe — Network Multiplayer Engine

GitHub

Java · Raw Sockets · Multithreading

- **Built a TCP socket-based multiplayer server** from scratch using raw Java Sockets, handling concurrent sessions with dedicated per-client threads and synchronized game state
- Informed the session management and concurrency design of the Nexus WebSocket platform through direct architectural iteration

DSA in Java — Documented Algorithm Library

GitHub

Java 17 · Algorithms · Data Structures

- Implemented Trees, Graphs, Linked Lists, and sorting algorithms with documented time and space complexity analysis per solution

Portfolio Website — Engineering Log

Live

vijaykumarcode.space

GitHub

HTML · CSS · JavaScript · Spring Boot · Vercel · Render

- Built and deployed a full portfolio with blog system, contact form, and responsive design using vanilla HTML/CSS/JS — no frameworks
- Backend contact API on Spring Boot with Brevo email integration, deployed on Render with environment-driven configuration

EDUCATION

MCA — Master of Computer Applications AKGEC, Ghaziabad

Uttar Pradesh

BCA — Bachelor of Computer Applications LNMCBM, Muzaffarpur

Bihar