

Swapnil Shah

Backend Developer | Spring Boot | Microservices | DevOps & Self-Hosted Infrastructure

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PROFESSIONAL SUMMARY

Backend Developer with 1.5+ years at JM Financial (BlinkX trading platform) building scalable Spring Boot microservices and high-throughput RESTful APIs serving 500K+ daily active users. Proficient in Java, Python, Redis, MySQL, Docker, and GCP. Passionate about algorithmic trading, self-hosted infrastructure, and full-stack observability with Grafana, Prometheus, and Loki. Strong foundation in system design, rate limiting, and OAuth-based authentication architectures.

TECHNICAL SKILLS

Languages:	Java (Primary), Python, Go, C++, JavaScript, SQL, Bash/Shell Scripting
Backend:	Spring Boot, REST APIs, JWT/OAuth2, Kafka, JPA/Hibernate, Flask, Gunicorn, APScheduler
Datastores:	MySQL, Redis, MongoDB, SQLite, HikariCP Connection Pooling
Infrastructure:	Docker, Nginx, Cloudflare Tunnel, Systemd, Linux (Ubuntu 24.04), GCP Cloud Console
Monitoring:	Grafana, Prometheus, Loki, Promtail, Node Exporter, Nginx Exporter
Tools & APIs:	Git, GitHub, Jira, Postman, Zerodha Kite Connect API, Telegram Bot API, Cloudflare Zero Trust
Frontend:	Tailwind CSS, Chart.js, React.js, Next.js, HTML/CSS, Responsive Design
Concepts:	Microservices Architecture, Rate Limiting (Sliding Window), Reverse Proxy, CGNAT Bypass, Zero Trust Security, CI/CD, System Design

PROFESSIONAL EXPERIENCE

Software Developer

Jun 2024 - Present

JM Financial Ltd - BlinkX Trading Platform

Mumbai, India

- Optimized critical app-init API from 800 ms (spiking >2 s) to 60-70 ms under high traffic, achieving 92% latency reduction and improving startup reliability for 500K+ daily active users.
- Reduced API response times of multiple reports endpoints by 85% (2 s to 300 ms) through query optimization, Redis caching, and HikariCP connection pool tuning.
- Engineered byte-format data transmission cutting API payloads by up to 80%, significantly boosting network throughput across mobile and web clients.
- Implemented per-endpoint, per-API-key rate limiting using Redis + Bucket4j with sliding window counters and Lua scripting for atomic operations.
- Architected the Trading API Developer Portal authentication: OAuth-style flow with api_key, api_secret, request_token, access_token, and SHA-256 checksum verification; produced architecture documentation (PDF/PPTX).
- Built and maintained 15+ Spring Boot microservices with Grafana monitoring, Docker containerization, and automated deployments across UAT and production on Google Cloud Platform.
- Designed position/holding notes feature with client-side reconciliation against Omnisys OMS and MySQL Event Scheduler for automated cleanup of expired records.

PROJECTS

Traders Diary Python, Flask, Zerodha Kite API, SQLite, APScheduler, Telegram Bot API, Chart.js, Tailwind CSS

- Built automated trading journal integrating Zerodha Kite API to auto-sync closed positions at 3:30 PM IST daily, recording entry/exit prices, realized P&L, and trade metadata into SQLite (WAL mode).
- Engineered regex-based Indian options symbol parser extracting underlying, expiry, strike, and type from complex symbols and auto-detecting multi-leg strategies (Iron Condors, Spreads, Straddles).
- Developed per-underlying analytics computing win rate, avg P&L, W/L ratio, and edge verdicts with equity curve, doughnut charts, and per-symbol breakdown using Chart.js.
- Integrated Telegram Bot (webhook-based) for real-time trade alerts with inline /note and /rate commands to journal trades remotely; self-hosted on homelab via Cloudflare Tunnel.

Self-Hosted Homelab Infrastructure Cloudflare Tunnel, Nginx, Grafana, Prometheus, Loki, Promtail, Systemd, Linux

- Architected multi-app homelab on Linux laptop behind CGNAT using Cloudflare Tunnel (QUIC) for public access with free SSL and DDoS protection; domain: silentkillerop.me.
- Configured Nginx reverse proxy with wildcard subdomain routing to serve 8+ apps (web terminal, trading backends, monitoring dashboards, Telegram bot) on a single domain.
- Deployed full observability stack: Grafana + Prometheus + Node Exporter for system metrics, Loki + Promtail for centralized log aggregation, Nginx Exporter for request metrics.
- Secured endpoints with Cloudflare Zero Trust (email OTP gate); enabled remote SSH via tunnel; automated all services with shell scripts and systemd persistence.

URL Shortener (Bitly Clone) Django REST Framework, React.js, Next.js

- Developed full-stack URL shortener with Django REST Framework backend and React/Next.js frontend featuring short link generation, click analytics tracking, and QR code generation.
- Deployed on personal homelab with Nginx reverse proxy and Cloudflare Tunnel; engineered URL abbreviation reducing link length by 30% with responsive cross-device UI.

EDUCATION

Dwarkadas J. Sanghvi College of Engineering, Mumbai University

2020 - 2024

B.E. in Computer Engineering | CGPA: 9.375 / 10

Coursework: DBMS, OOP, Operating Systems, Analysis of Algorithms, Computer Networks, Data Structures

CERTIFICATIONS & ACHIEVEMENTS

- Meta Front-End Developer Professional Certificate (Coursera) - HTML, CSS, Bootstrap, React, responsive design principles.
- Designed and produced comprehensive architecture documentation for Trading API Developer Portal (PDF + PPTX deliverables) presented to stakeholders at JM Financial.
- Maintained 9.375 CGPA (Distinction) throughout 4-year Computer Engineering program at DJ Sanghvi, Mumbai University.