

Mohamed Mostafa

• Software Engineer •

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• [LinkedIn](#) • [Portfolio](#) • [GitHub](#) •

• SUMMARY •

Backend Engineer with 3+ years of experience building and maintaining production backend systems using Node.js and TypeScript. Experienced in designing scalable APIs, real-time services, background processing, cloud infrastructure, and payment integrations. Built and operated the backend for live marketplace platforms, focusing on performance, reliability, maintainability, and clean system design.

• EXPERIENCE •

Software Engineer II | [Lesoll](#)

• Jun 2023 – Jul 2026 • Cairo, Egypt •

Worked as the sole Backend Engineer responsible for developing and maintaining the backend systems for **Lesoll** and **EgyStay**, managing production infrastructure, cloud services, and third-party integrations.

- Developed and maintained scalable REST APIs using **Node.js, Express.js, TypeScript, and MongoDB**.
- Built backend services for authentication, property management, bookings, payments, reporting, and admin operations.
- Implemented **Redis** caching and **BullMQ** background jobs to improve performance and reduce database load.
- Developed real-time features using **Socket.IO**, including chat, notifications, and online user tracking.
- Integrated **Paymob** and **Amazon Payment Services**, implementing secure payment workflows and webhook processing.
- Managed production infrastructure using **AWS (EC2, S3, CloudFront, Route 53)**, **Docker, Nginx, PM2**, and **GitHub Actions**.
- Improved backend SEO by optimizing API performance and generating dynamic XML sitemaps for active listings.

• PROJECTS •

SRVJ — Real-Time Collaborative Whiteboard Platform [Live](#)

- Built real-time collaborative diagram editing using Yjs CRDTs over a custom WebSocket server implementing the Yjs sync and awareness protocols, enabling live cursors, presence, and seamless multiplayer editing.
- Secured WebSocket connections with PASETO v4 authentication and enforced project-level role-based access control, while isolating collaboration sessions into dedicated board rooms.
- Designed a dual-snapshot persistence layer that stores both the authoritative Yjs binary state for lossless recovery and a denormalized JSON representation for efficient querying and API reads.
- Architected the backend using PostgreSQL/Prisma for relational data (users, projects, memberships, sharing) and MongoDB/Mongoose for high-frequency diagram mutations.
- Implemented horizontally scalable notifications using SSE with Redis Pub/Sub fan-out, alongside BullMQ workers for asynchronous email and notification processing.
- Improved platform reliability and security through Zod validation, Helmet, CORS, rate limiting, centralized error handling, structured logging with Pino, and Prometheus metrics. Verified collaboration behavior with integration tests and containerized the platform using Docker Compose behind Nginx.

Gen-Import [GitHub](#), [npm](#)

- Built an open-source CLI tool that automatically generates [index.ts](#) barrel exports for large TypeScript codebases, reducing manual maintenance and import errors.
- Implemented recursive directory traversal with configurable exclusion rules, supporting scalable project structures and clean module organization.
- Designed the tool for developer productivity with automatic export generation, file watching, and seamless integration into existing Node.js/TypeScript workflows.
- Focused on Developer Experience (DX) by providing a lightweight, zero-runtime utility that integrates easily into existing development workflows.

· EDUCATION ·

Modern Academy – Maadi, Cairo, Jul 2022

Bachelor of Computer Science.

- Courses: Databases, Operating Systems, OOP, Data Structures, Distributed Systems

· TECHNICAL SKILLS ·

Languages: JavaScript, Python, Go Lang, C++

Backend: Node.js, Express.js, TypeScript, RESTful APIs, WebSockets, SSE.

Databases & Caching: MongoDB, PostgreSQL, Prisma, Redis.

Messaging & Async: BullMQ, message queues, AWS SQS, Redis pub/sub.

Payments: PayMob, Amazon Payment Services, Stripe (webhooks, HMAC, idempotency).

Cloud & DevOps: AWS (EC2, EKS, S3, ECR, Lambda), Docker & Docker Compose, GitHub Actions CI/CD.

Frontend: Vue.js, Vite, TailwindCSS, and UnoCSS.