

## E-Commerce Order Tracking & Admin Portal

**Role:** Full Stack JavaScript Developer

**Tech Stack:** React, Redux Toolkit, Node.js, Express, PostgreSQL, Stripe API, AWS (EC2, S3, CloudFront), Tailwind CSS

### Overview

Developed a scalable, full-stack e-commerce platform providing both a **customer-facing real-time order tracking experience** and an **internal admin portal** for product, order, and user management. The platform included secure authentication, payment processing, webhook-driven order updates, and cloud-based deployment — significantly improving purchasing transparency, operational efficiency, and sales conversions.

---

### Team Configuration

- **1 Product Owner** — Requirement grooming & product roadmap
- **Me (Full Stack Developer)** — Frontend development, API engineering, AWS deployments
- **1 Backend Engineer** — Database modeling & performance optimization
- **1 Frontend Engineer** — UI components & responsive UX
- **1 QA Engineer** — Regression testing & release validation
- **Shared DevOps Support** — CI/CD pipeline & infrastructure environments

**Process:** Agile Scrum with 2-week sprints, code reviews, Git-based branching strategy, sprint demos, and iterative deployments.

---

### Key Engineering Contributions

- Built a **mobile-first React frontend** using **Redux Toolkit** for reliable global state management across product catalogs, checkout, and order tracking interfaces.
- Developed **secure RESTful Node.js/Express APIs** for user authentication, product management, checkout, order workflows, and webhook processing.
- Designed a **PostgreSQL database schema** supporting product data, users, inventory, transactions, and order lifecycle history.

- Integrated **Stripe API** for payments, refunds, and subscription billing, and implemented webhook listeners for real-time status updates.
  - Implemented **role-based access controls** across admin, support staff, and customer user types.
  - Deployed full-stack application to **AWS EC2** with **S3-based file storage** and **CloudFront CDN distribution** for high-availability and fast load times.
  - Established **error logging, monitoring, and alerting** to ensure platform reliability and quick remediation.
- 

## Impact

The platform delivered measurable improvements:

- **Reduced cart abandonment by ~40%** through streamlined checkout and real-time order visibility.
- **Improved customer satisfaction** by eliminating “Where is my order?” support requests.
- **Enhanced operational efficiency** with unified admin workflows replacing manual trackers.
- **Enabled scalable, cloud-ready deployment** with high availability across environments.

Overall, customers gained end-to-end visibility and admins gained real-time insights into order and product health, reducing friction for both business and buyers.

---

## Key Responsibilities

In this project, my responsibilities included:

- Developing end-to-end features across **React, Redux Toolkit, Node.js, and PostgreSQL**.
- Designing and documenting API routes, data contracts, and backend business logic.
- Implementing secure authentication, session handling, and input validation.
- Creating reusable and responsive UI components using **Tailwind CSS**.
- Configuring and deploying application workloads on **AWS EC2, S3, and CloudFront**.
- Integrating and testing **Stripe-based billing, checkout, and webhook handling**.

- Participating in sprint planning, estimation, code reviews, and release readiness tasks.