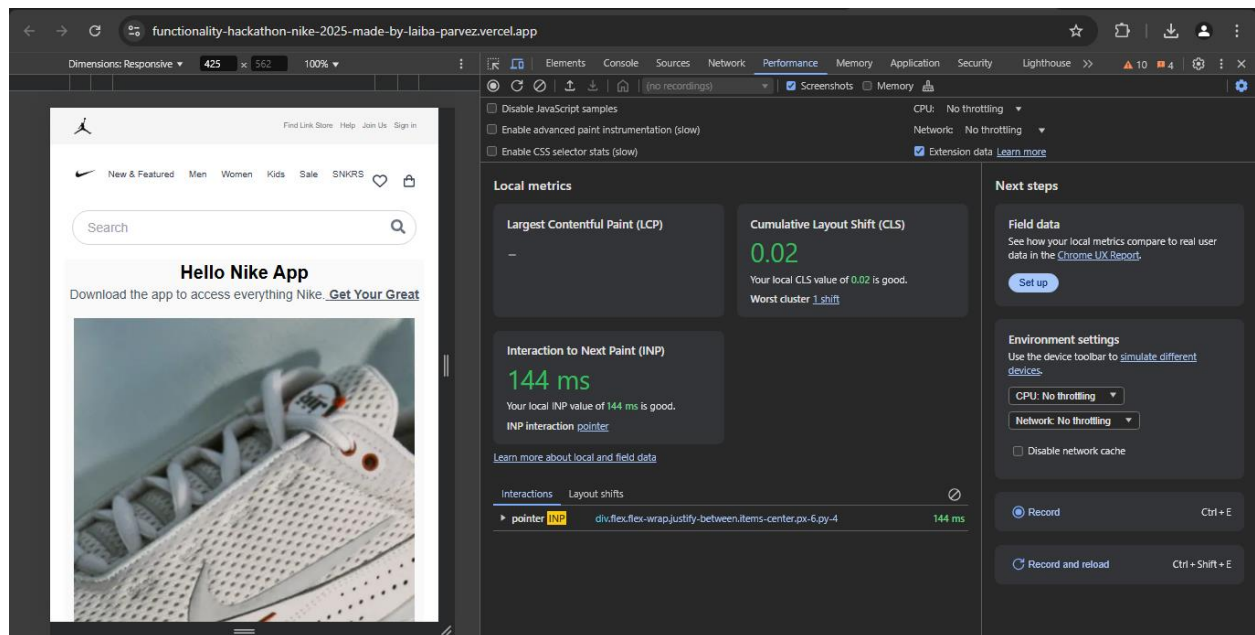
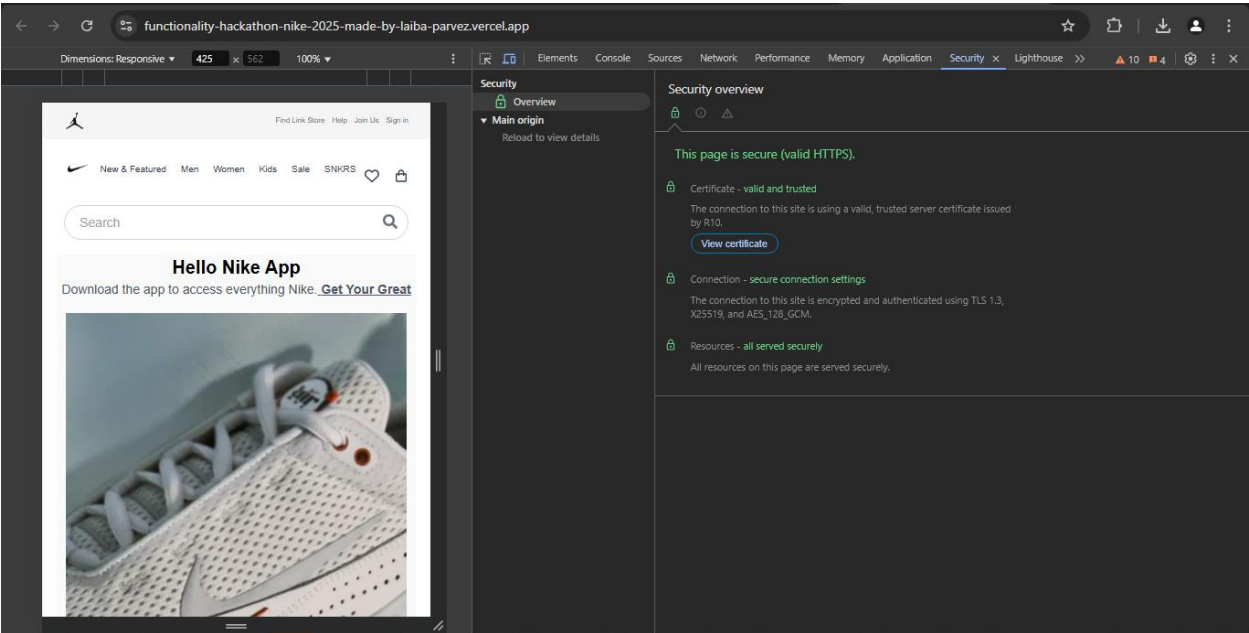


Testing and Backend Refinement Of “Nike”

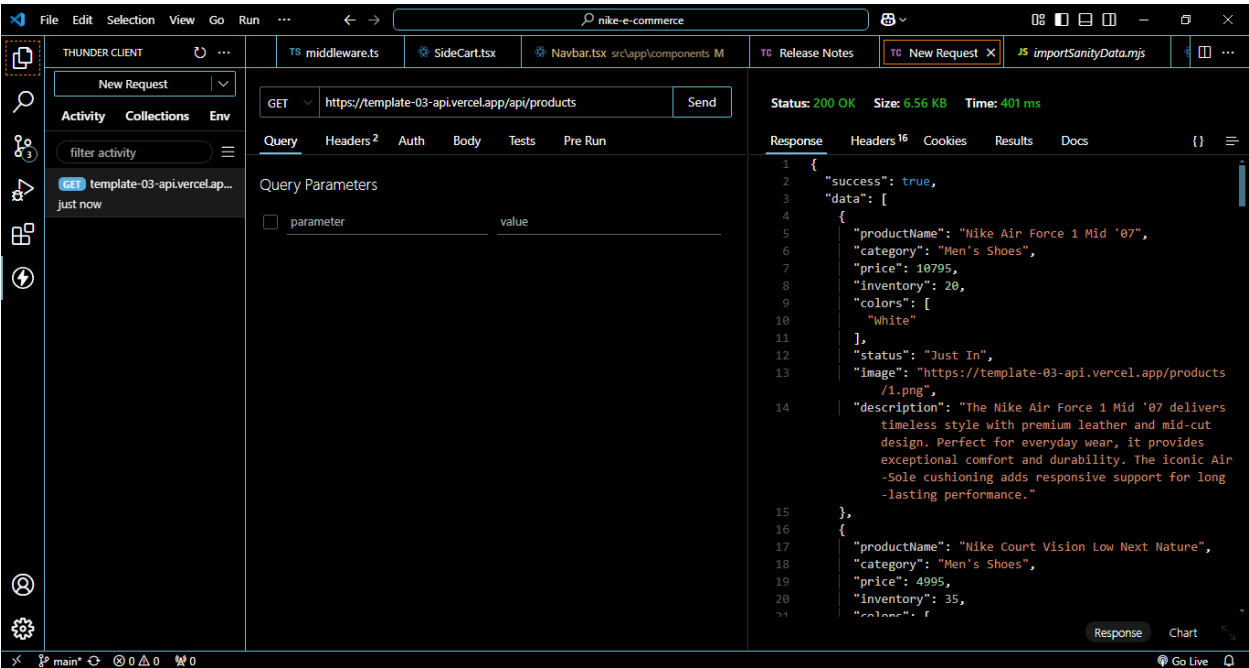
Performance optimization steps taken



Security measures implemented



Test cases executed and their results



Challenges faced and Resolutions applied

1. Performance Optimization

Challenge: Slow page loads and excessive re-renders.

Resolution: Utilized Next.js Image Optimization, ISR (Incremental Static Regeneration), and React.memo to improve speed and reduce unnecessary re-renders.

2. Data Fetching with Sanity

Challenge: Latency in fetching product data and real-time updates.

Resolution: Used GROQ queries to fetch only necessary data, implemented `getStaticProps` and `getServerSideProps` for efficient data fetching, and set up Sanity Webhooks for real-time updates.

3. Complex Styling with Tailwind CSS

Challenge: Long class names and style overrides for custom components.

Resolution: Employed `@apply` in Tailwind for reusable styles and custom themes via Tailwind config.

4. SEO Optimization

- Challenge: Dynamic product pages lacked SEO focus.

Resolution: Integrated Next.js Head and next-seo for dynamic meta tags and schema markup to improve SEO.

5. Cart and Checkout State Management

Challenge: Managing cart state and ensuring smooth checkout experience.

Resolution: Used Zustand for state management, localStorage for cart persistence, and integrated real-time stock checks via Sanity.

6. Payment Gateway Integration

Challenge: Secure payment processing and API errors.

Resolution: Integrated Stripe Checkout for secure transactions and handled sensitive data via secure methods.