

Technical Stack for E-commerce Marketplace Website

1. Next.js 15

- **Purpose:** A React-based framework for building fast, scalable, and SEO-friendly applications.
- **Why Use:**
 - Server-side rendering (SSR) for better SEO and faster page load.
 - API Routes to build backend services directly within the application.
 - File-based routing for a clear and intuitive structure.
 - Built-in performance optimizations like image optimization and static site generation (SSG).

2. Sanity

- **Purpose:** A headless CMS to manage and deliver content via APIs.
- **Why Use:**
 - Customizable schemas to define content structure.
 - Real-time collaboration for managing content updates.
 - GROQ (Graph-Relational Object Queries) for flexible data querying.
 - Scalable for handling large amounts of content.

3. ShadCN

- **Purpose:** A set of beautifully styled UI components for building responsive web apps.
- **Why Use:**
 - Pre-built components tailored for modern web design.
 - Fully customizable with Tailwind CSS.
 - Consistent design system that reduces development time.

4. Clerk

- **Purpose:** User authentication and management platform.
- **Why Use:**
 - Supports authentication methods like email/password, social logins, and multi-factor authentication.
 - Easy integration with React/Next.js apps.
 - Built-in user profile management and session handling.

5. Framer Motion

- **Purpose:** Animation library for creating smooth, interactive animations.
- **Why Use:**
 - Declarative syntax to define animations directly in JSX.

- Powerful features like gestures, drag-and-drop, and spring animations.
- Lightweight and works seamlessly with React components.

6. Tailwind CSS

- **Purpose:** Utility-first CSS framework for designing responsive and modern UIs.
 - **Why Use:**
 - Speeds up development with pre-defined classes for styling.
 - Fully responsive and customizable design system.
 - Supports dark mode and theming out of the box.
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How to Use These Tools in Your Project

1. Setting Up Next.js 15

1. Install Next.js:
2. `npx create-next-app@latest ecommerce-marketplace`
3. `cd ecommerce-marketplace`
4. Start the development server:
5. `npm run dev`

2. Integrating Sanity

1. Install Sanity CLI and initialize a project:
2. `npm install -g @sanity/cli`
3. `sanity init --project ecommerce`
4. Define your schemas (e.g., for products, categories, and orders).
5. Fetch content using Sanity's GROQ in your Next.js app.

3. Adding ShadCN Components

1. Install ShadCN:
2. `npm install @shadcn/ui`
3. Import and use pre-built components in your pages.

4. Configuring Clerk for Authentication

1. Install Clerk:
2. `npm install @clerk/nextjs`
3. Wrap your app with Clerk's provider in `_app.tsx`:
4. `import { ClerkProvider } from '@clerk/nextjs';`
- 5.
6. `function MyApp({ Component, pageProps }) {`
7. `return (`

8. `<ClerkProvider>`
9. `<Component {...pageProps} />`
10. `</ClerkProvider>`
11. `);`
12. `}`
- 13.
14. `export default MyApp;`
15. Add login/signup components where needed.

5. Animations with Framer Motion

1. Install Framer Motion:
2. `npm install framer-motion`
3. Add animations to components:
4. `import { motion } from 'framer-motion';`
- 5.
6. `const AnimatedComponent = () => (`
7. `<motion.div initial={{ opacity: 0 }} animate={{ opacity: 1 }}>`
8. `Hello World!`
9. `</motion.div>`
10. `);`

6. Using Tailwind CSS

1. Install Tailwind CSS:
 2. `npm install -D tailwindcss postcss autoprefixer`
 3. `npx tailwindcss init`
 4. Configure `tailwind.config.js` and include the Tailwind directives in `globals.css`:
 5. `@tailwind base;`
 6. `@tailwind components;`
 7. `@tailwind utilities;`
 8. Start styling with Tailwind's utility classes:
 9. `<div className="bg-blue-500 text-white p-4 rounded-lg">Hello Tailwind!</div>`
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Example Workflow

1. Set up the Next.js app.
 2. Integrate Sanity for managing product and category data.
 3. Use ShadCN for ready-to-use UI components.
 4. Implement user authentication with Clerk.
 5. Add smooth animations using Framer Motion for interactive UX.
 6. Style your components with Tailwind CSS for a responsive and modern design.
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This stack ensures scalability, responsiveness, and a great user experience for your e-commerce marketplace.

For API'S and Blueprint pls see attached images in repository or view link:

<https://excalidraw.com/#json=SOjjibVyOL8ijGKO8dg1t,Tnmr9--MSaaNv7rH2iRsZg>