

6. Next.js Frontend Setup

The Next.js frontend serves as the primary user interface for the SOC Co-Pilot dashboard, providing a modern and responsive web application. It is built with Next.js, TypeScript, and Tailwind CSS.

6.1. Project Initialization

To create the Next.js project, navigate to your desired parent directory (e.g., `~/soc-copilot`) and execute the following command. This will start an interactive setup process:

```
npx create-next-app@latest soc-copilot-dashboard
```

During the setup process, you will be prompted to configure several options. Select the following to align with the project's architecture and best practices for this project:

- **TypeScript:** `Yes`
- **ESLint:** `Yes` (Recommended for code quality)
- **Tailwind CSS:** `Yes`
- **src/ directory:** `Yes`
- **App Router:** `Yes`
- **Import alias:** `No` (or configure as per your preference)

After the project creation is complete, navigate into the newly created project directory:

```
cd soc-copilot-dashboard
```

6.2. Directory Structure

To organize the dashboard into logical modules, create the following essential directories within the `src/app/` folder. These directories will house the different

sections of your application, such as login, alerts, tasks, and more. Execute the command from within the `soc-copilot-dashboard` directory:

```
mkdir -p src/app/{login,alerts,tasks,intel,health,recommendations}
```

This command creates a well-structured `app` directory, which is beneficial for maintaining a scalable and organized Next.js application. Each sub-directory will typically contain its own `page.tsx` (or `page.jsx`), `layout.tsx`, and other component files.

6.3. Running the Development Server

To start the Next.js development server and view your application in a web browser, run:

```
npm run dev  
# or yarn dev
```

This will typically make your application accessible at `http://localhost:3000`.