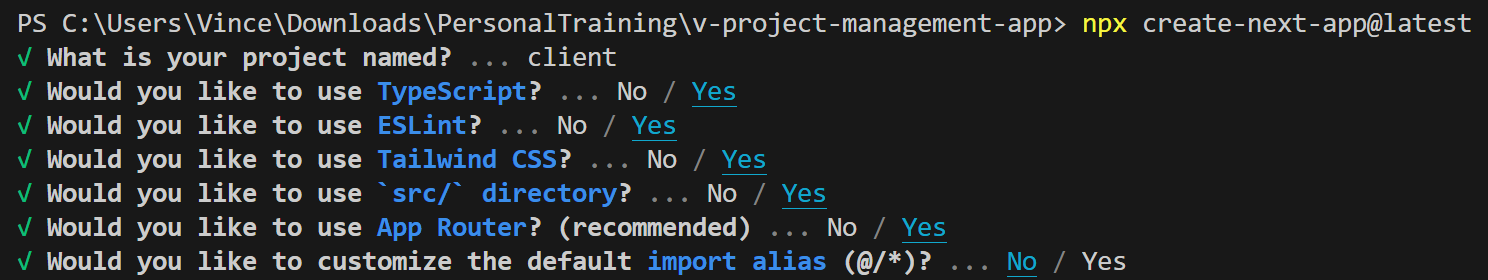
**Project Management App**

**Setup:**

* Create a client folder
  + npx create-next-app@latest



* VSCode Extension
  + ES7+ React/Redux/React-Native snippets
  + Prettier - Code formatter
* Frontend Packages Installation
  + (inside **client** folder)
  + npm install @mui/material @emotion/react @emotion/styled lucide-react numeral date-fns axios recharts react-dnd react-dnd-html5-backend gantt-task-react @mui/x-data-grid
  + Material UI (MUI) <https://mui.com/material-ui/getting-started/installation/>
  + Lucide React (Icons) <https://lucide.dev/guide/packages/lucide-react>
  + Numeral <https://www.npmjs.com/package/numeral>
  + date-fns <https://www.npmjs.com/package/date-fns>
  + axios <https://axios-http.com/docs/intro>
  + recharts <https://recharts.org/en-US/guide>
  + React Drag and Drop (DnD)
    - <https://www.npmjs.com/package/react-dnd>
    - <https://www.npmjs.com/package/react-dnd-html5-backend>
  + Interactive Gantt Chart for React with TypeScript <https://www.npmjs.com/package/gantt-task-react>
  + MUI Data Grid <https://mui.com/x/react-data-grid/getting-started/#installation>
* Dependencies Installation for TypeScript
  + (inside **client** folder)
  + npm i -D @types/node @types/uuid @types/numeral
* global.css modification

A screen shot of a computer program

Description automatically generated

* Dependencies Installation for Tailwind CSS (i.e., Tailwind x Prettier)
  + (inside **client** folder)
  + npm install -D prettier prettier-plugin-tailwindcss

A screen shot of a computer

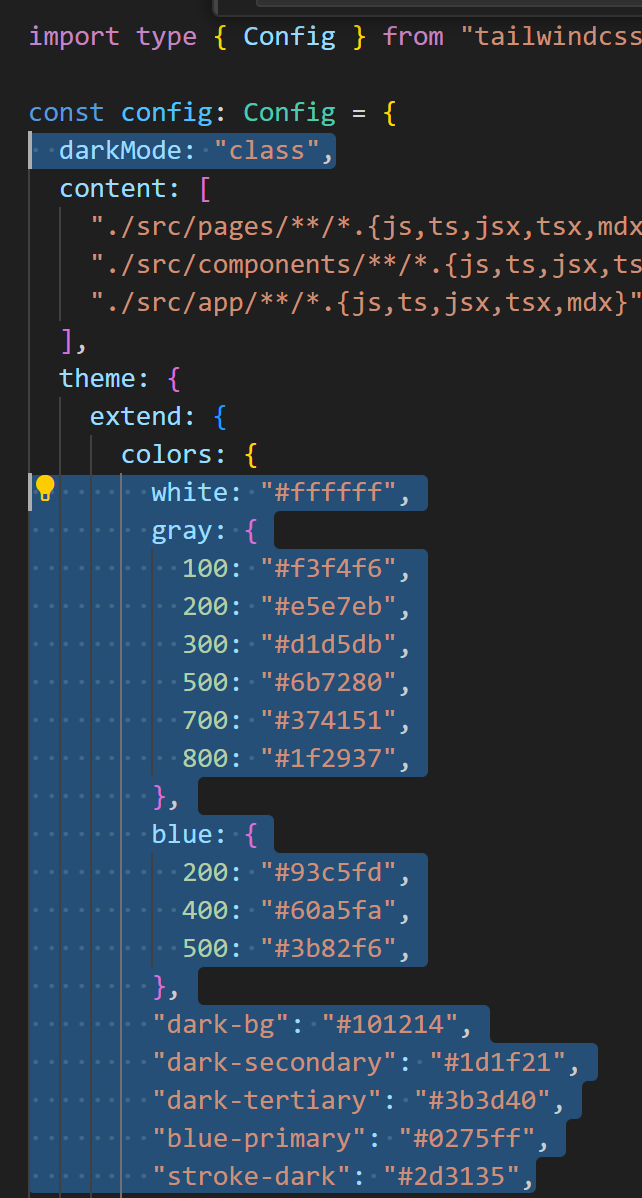
Description automatically generated

* + <https://tailwindcss.com/blog/automatic-class-sorting-with-prettier>
  + <https://github.com/tailwindlabs/prettier-plugin-tailwindcss>

A screenshot of a computer

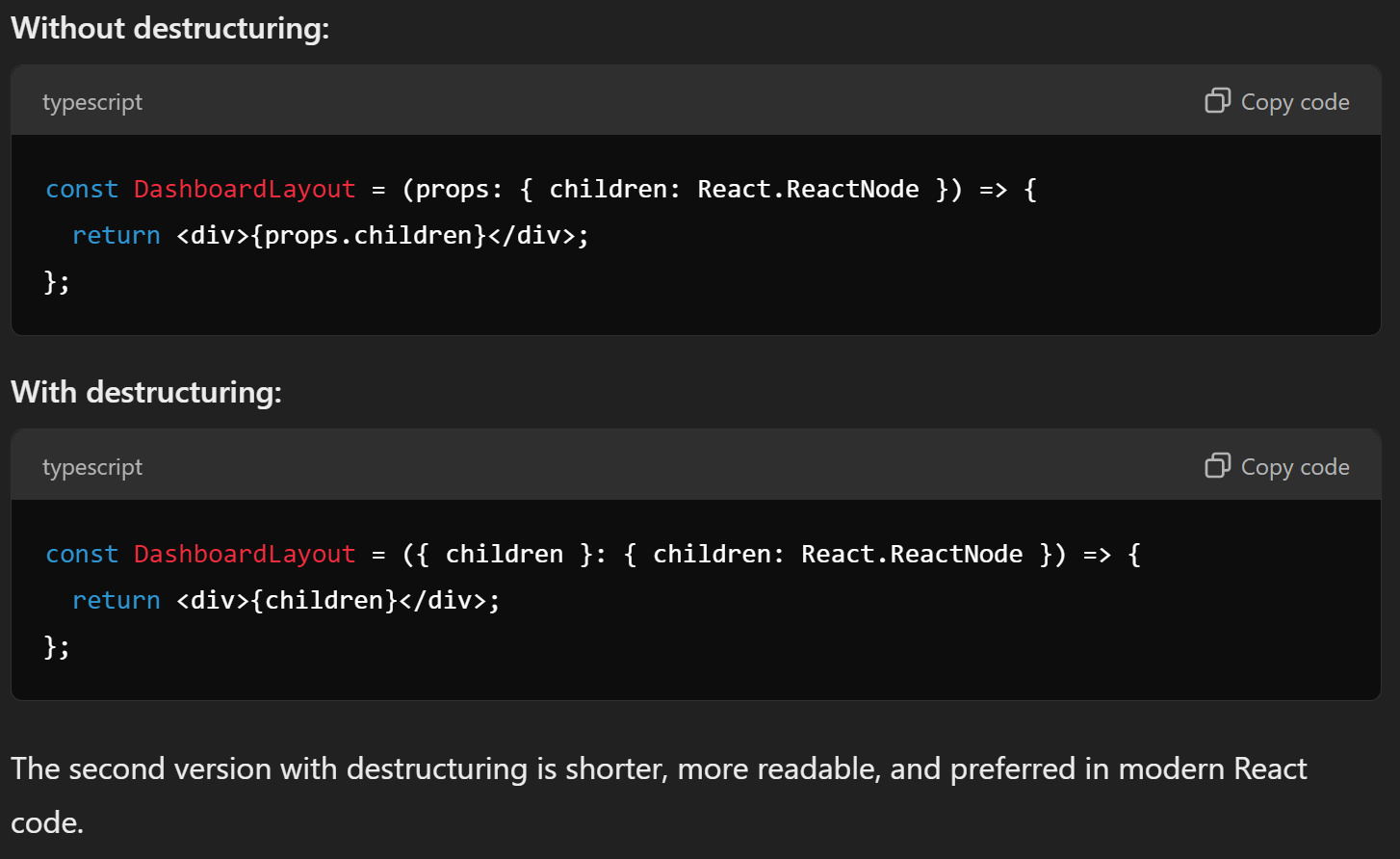
Description automatically generated

* Modify tailwind.config.ts



**dashboardWrapper.tsx**

* Create dashboardWrapper.tsx
  + Use tsrafce
  + Add parameter { children }: {children: React.ReactNode}
  + <https://dev.to/elhamnajeebullah/react-typescript-what-is-reactnode-and-when-to-use-it-3660>



* Modify layout.tsx to include our custom dashboard wrapper

A computer screen with text

Description automatically generated

* Create a Navbar components (client/src/components/Header/index.tsx)

A screenshot of a computer program

Description automatically generated

* Import to dashboardWrapper.tsx

A screen shot of a computer program

Description automatically generated

* What is @?
  + Go to tsconfig.json

A close up of a computer screen

Description automatically generated

* How do you know the import works?
  + **Ctrl + Click on the path**
* Change tab icon and name
  + Change favicon.ico file (src/app/favicon.ico) with your logo
  + Modify name in the layout.tsx

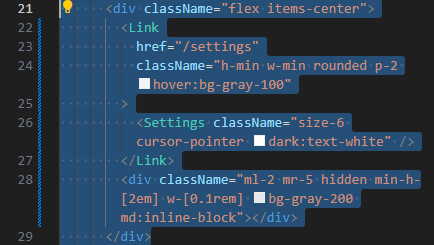
**NavBar**

* Create src/components/Header/index.tsx
* tsrafce
* Create the search bar
  + Import { Search } from “lucide-react”;
  + Create the search bar UI

A screenshot of a computer program

Description automatically generated

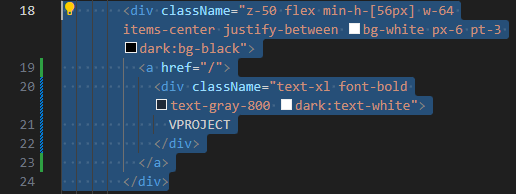
* + Create a settings icon
    - import { Settings } from "lucide-react";
    - import Link from "next/link";



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**SideBar**

* Create src/components/SideBar/index.tsx
* tsrafce
* Create Top Logo

****

**A black and white logo

Description automatically generated**

* Create Team section

**A screenshot of a computer

Description automatically generated**

**A screenshot of a computer program

Description automatically generated**

**Redux Toolkit (State Management) Installation**

The Redux Toolkit package is intended to be the standard way to write Redux logic.

* <https://redux-toolkit.js.org/usage/nextjs>
* Installation (Inside **client** folder)
* npm i react-redux @reduxjs/toolkit redux-persist dotenv

**react-redux**:

* This is the official **Redux binding** for React. It allows React components to interact with a Redux store and simplifies connecting your components to the store by providing useSelector and useDispatch hooks, among other utilities.
* React-Redux ensures that your React app automatically re-renders in response to state changes.
* <https://redux-toolkit.js.org/usage/nextjs>

**@reduxjs/toolkit**:

* This is the official, recommended way to write **Redux logic**. It includes a set of tools and utilities that simplify common Redux tasks, like creating reducers and actions, configuring the store, and handling middleware.
* It comes with functions like createSlice, configureStore, and createAsyncThunk to streamline development and reduce boilerplate code.
* <https://redux-toolkit.js.org/usage/nextjs>

**redux-persist**:

* This is a library that helps **persist and rehydrate** the Redux store. It allows the Redux state to be saved in local storage (or other storage options) so that the state is not lost when the page is refreshed.
* Redux Persist takes the information in the Redux state (using JSON. stringify) and saves it to a specified storage engine (e.g., localStorage or AsyncStorage for React Native). This saved information stays even if you close the app or browser.
* It is often used in applications that need to maintain user session data or settings across page reloads.
* **For example (In this case)**, the users set the website into dark mode, it carries on to the next session (even though they close the browser or tab, it will still be dark mode).
* <https://www.npmjs.com/package/redux-persist>

**dotenv**:

* This is a zero-dependency module that loads **environment variables** from a .env file into process.env. It is commonly used to manage sensitive or configurable values like API keys, database connection strings, or feature flags, allowing you to keep these values separate from your codebase.
* This helps to keep your sensitive data secure and also provides a clean way to manage different environments (e.g., development, production).
* **dotenv** is a **Node.js library** that allows you to load variables from a **.env** file into your Node.js application's **process.env.**
* (However, most of projects-creation scripts handle environment variables reading for you out of the box (i.e., use dotenv under the hood). <https://stackoverflow.com/questions/76078204/why-do-i-have-to-download-dotenv-package-if-i-can-use-env-file-without-it>

**Check if a package is installed?**

* Open package.json and check dependencies
* (Terminal) npm ls dotenv

**Redux Toolkit Setup**

* <https://redux-toolkit.js.org/usage/nextjs>
* Create src/app/redux.tsx
* Copy and paste the template **with redux-persist** (i.e., the code contains inside it was generated from the link)

**globalReducer**

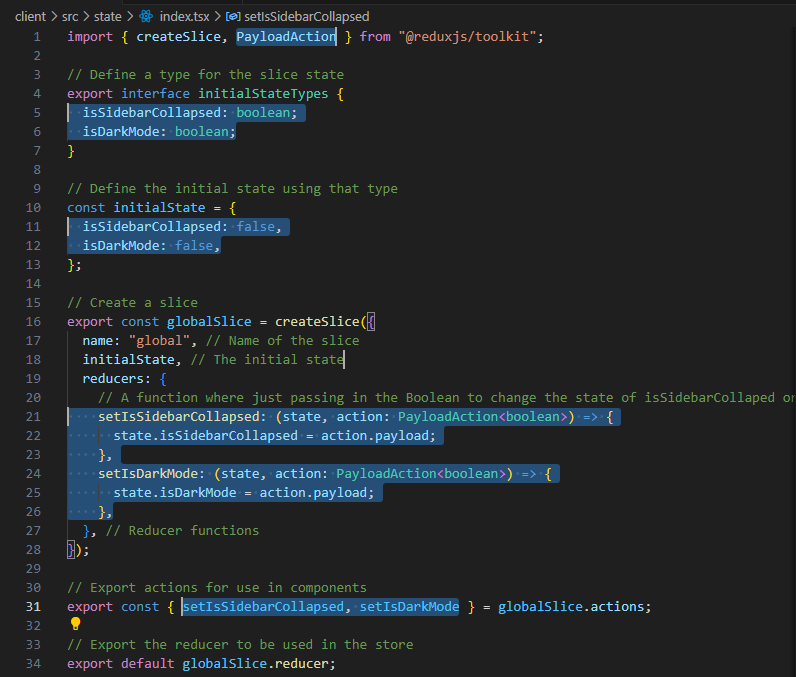
* Create our first logic for import globalReducer from "@/state";
* Create src/state/index.ts
* Create a Redux Slice. (Below is the Redux Slice skeleton for TypeScript)

**A screen shot of a computer program

Description automatically generated**

The **initialStateTypes** and **globalSlice** interface is exported, making it accessible to any other module that needs to refer to the structure of the global slice's state.

* After adding **isSidebarCollapsed** and **isDarkMode**



**api state**

* Create our second logic for import { api } from "@/state/api";
* Create src/state/api.ts
* Create a .env.local file

****

* Create a Redux Api. (Below is the Redux Api skeleton for TypeScript)

**A screen shot of a computer code

Description automatically generated**

**Integrate Redux to React**

* Modify dashboardWrapper.tsx (StoreProvider is a function from redux.tsx)

A screen shot of a computer

Description automatically generated

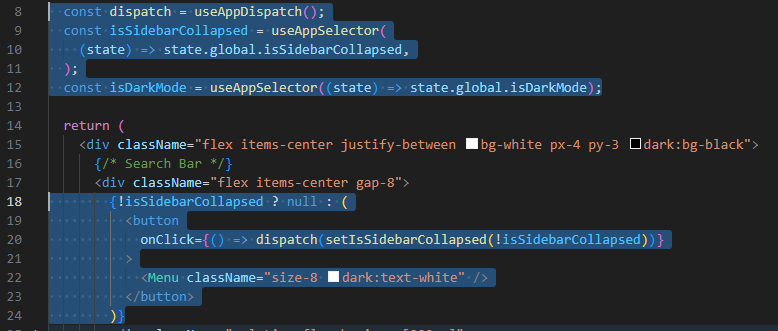
**DarkMode**

* Modify dashboardWrapper.tsx

A computer screen shot of a program code

Description automatically generated

* Modify NavBar/index.tsx



A screenshot of a computer program

Description automatically generated

**SideBar**

* Modify SideBar/index.tsx
  + Create SidebarLinkProps interface and SidebarLink function

A screenshot of a computer program

Description automatically generated

* + Create close Sidebar logic

A screen shot of a computer program

Description automatically generated

* + Create NavBar Links, Projects Links, and Priorities Links

A screenshot of a computer program

Description automatically generated

A screen shot of a computer program

Description automatically generated

**Data Model**

A screenshot of a computer

Description automatically generated

* Install PostgreSQL
  + <https://www.postgresql.org/download/>
* Install pgAdmin
  + <https://www.pgadmin.org/download/>
  + pgAdmin is the most popular and feature rich Open Source administration and development platform for PostgreSQL.