Assignment 02

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Branch: BE CSE **Section/Group:** KRG_3B

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Subject Name: Full Stack - II **Subject Code:** 23CSH-309

Aim: Build a React-based Daily Water Intake Tracker in EcoTrack that lets a logged-in user track hydration progress, set a goal, and view a daily health tip

Objective:
1. Implement route-based navigation (/login, /dashboard, /dashboard/water) using React Router.
2. Protect dashboard routes using a token-based ProtectedRoute.
3. Manage tracker state (count, goal) with useState.
4. Persist daily data using localStorage with useEffect.
5. Integrate external API (https://api.adviceslip.com/advice) with loading and error handling.
6. Optimize rendering using React.memo and useCallback

Input/Apparatus Used:
- Programming Language: JavaScript (ES6+)
- Framework / Library: React (Functional Components)
- Build Tool: Vite
- Code Editor: Visual Studio Code
- Web Browser: Google Chrome

Tools & Tech Used

- **React (Functional Components)**
- **React Router DOM**
- **Context API**
- **Optimized Hooks: React.memo, useMemo, useCallback**
- **Material UI (MUI)**

Flow of data

1. opens app.
2. If not logged in, redirect to /login.
3. User clicks Login, token stored in localStorage.
4. User navigates to Dashboard or Water Tracker via Navbar.
5. In Water Tracker:
   - Increment/decrement/reset water count.
   - Set and save daily goal.
   - See progress (count/goal) and goal status.
6. App auto-saves count and goal to localStorage.
7. On refresh, previous values are restored.
8. Health tip is fetched from API and shown with loading/error states.
9. Logout removes token and redirects to /login.

Learning Outcomes

1. Understand client-side routing and protected routes in React.
2. Apply useState and useEffect for dynamic and persisted state.
3. Perform API integration with proper async handling.
4. Handle UX states: loading, success, and error.
5. Improve React performance using memoization techniques.
6. Build a clean, component-based frontend structure suitable for real projects.

EcoTrack Login

Click to create a demo session.

Login

Dashboard **Water Tracker**

Logout

Dashboard

Welcome to EcoTrack wellness dashboard.

Use the Water Tracker tab to record your daily hydration progress.

Dashboard **Water Tracker**

Logout

Daily Water Tracker

3

Keep going

3 / 8 glasses completed

[+ Add Water] [- Remove Water] [Reset]

Daily Goal: [8] [Save Goal]

Today's Health Tip: Don't assume anything is possible or impossible until you've asked the people who will be doing the work.

[Unrelated Button]

Unrelated clicks: 3