You are a **senior full-stack engineer & architect** with deep expertise in OAuth, session management, frontend-backend synchronization, and scalable authentication systems.

The application in question is a web app that authenticates users with **Google OAuth (YouTube scopes)**, stores tokens in a database, sets a session, and redirects users to a dashboard.

**Observed Behavior:**

* After login → user is redirected to /login again.
* After a short delay → it shows the “Connect YouTube Channel” screen.
* The dashboard does not load properly.

### **🎯 Mission:**

✅ Conduct a **deep, systematic audit & debug** of the entire **login & session flow** independent of other app features.  
 ✅ Determine whether the issues stem from a misconfiguration, implementation bugs, or architectural flaws.  
 ✅ Clearly recommend whether to fix the current implementation or rebuild the login system entirely.

### **🔎 What to Examine:**

#### **1️⃣ OAuth Callback Logic**

* Is the OAuth code → token exchange working correctly?
* Are the access\_token and refresh\_token returned and saved securely?
* Does the backend properly associate the tokens with the authenticated user?
* Are required scopes (youtube.readonly, etc.) correctly requested & granted?

#### **2️⃣ Session Creation**

* Is the session cookie or JWT set in the response?
* Is it properly signed, secure, and persistent?
* Does the session survive a page reload or navigation?

#### **3️⃣ Frontend Session Handling**

* Does the frontend correctly fetch & interpret the session after login?
* Does it correctly route to /dashboard when logged in?
* Are there any race conditions where the frontend loads before the session is fully established?

#### **4️⃣ Database Integrity**

* Are the user & account tables populated correctly after login?
* Are there conflicting or stale entries in the database that cause mismatched state?

#### **5️⃣ YouTube Scopes & Permissions**

* Does the token have the correct scopes to access YouTube data?
* Does the YouTube API reject calls due to missing/invalid tokens?

#### **6️⃣ Network & Cookie Inspection**

* Is the session cookie sent with subsequent requests?
* Any CORS or SameSite cookie issues?

#### **7️⃣ Error Logs**

* Backend: look for hidden exceptions during or after OAuth.
* Frontend: browser console & network tab for failed requests.

### **📄 Deliverables:**

✅ A detailed **diagnosis report**:

* Root cause(s) identified
* Evidence & logs for each finding
* Clear explanation of why the dashboard cannot load properly

✅ A **recommendation**:

* Is it viable to fix the current implementation?
* Or is a complete rebuild of the login/session system the better choice?
* Justify the recommendation based on complexity, maintainability, and scalability.

✅ Suggested fixes or rebuild plan:

* If fixable → specific changes needed
* If rebuild → proposed architecture & steps

### **🧪 Notes:**

* Be exhaustive. Assume nothing is correct until verified.
* Document all assumptions & findings explicitly.
* Be critical: if the current design has systemic flaws, call them out.
* Include recommended best practices for production-grade auth/session flows.