BigLab 2D: Multi-user Application with Authentication

What Are We Building This Week?

You will add the possibility of **having multiple users** in your application, enabling them to **authenticate** (i.e., *login* and *logout* functionalities) for managing their films. Non-authenticated users can not be able to see a list of films anymore.

Step-by-step Instructions

- In the front-end, add a new page (with a dedicated route) with a form, which will be used by users to log in. The page should be well structured in terms of needed components and appropriate states. The login form will have two *mandatory* fields: **email** and **password**. The login form should be validated before its submission, and you must use proper error messages when inconsistencies are found. Specifically, at least the following checks should be executed:
  - When a field is missing or empty it must be forbidden to send a log-in request to the server.
  - The email should be properly formatted (i.e., *something@something.something*).
- Implement the **login** process by exploiting the **Passport** authentication middleware in Express. **Before** implementing the login process, you will have to **substitute** the already available **database** with the new version released in the BigLab2 folder on GitHub.
  - Add a new user with username "*testuser*" and password: "*password*".
  - Create at least three new films in the database and assign them to this new user. **Beware**: do not store **plain text passwords** in the database! Use **scrypt** (*see the hints*) to generate a hash of the passwords before saving them.
    - If you plan to add additional users, **write their username(s) and the plain text password(s)** in the *README.md* file included in your repository.
- When the login process **fails**, the front-end should display a suitable error message (e.g., "*Incorrect username or password*") and continue to show the login form. Instead, when the login is **successful**, the application redirects the users to their film list page, showing a message like: "*Welcome, {name_of_the_user}*".
- Identify the routes that need to be authenticated (e.g., those to get the list of films) and *protect* them accordingly. Non-authenticated users must not see any film, meanwhile authenticated users must see **only** their films.
- Implement the **logout** functionality, again by exploiting the **Passport** authentication middleware. When the users are logged out, redirect them to the login form.

Hints:

1. *All the specifications of the BigLab can be found at:*
   https://github.com/polito-WA1-AW1-2022/materials/tree/main/labs/BigLab2
2. *You can find the new version of the server-side database on GitHub:*
   https://github.com/polito-WA1-AW1-2022/materials/blob/main/labs/BigLab2/films.db
3. *Note: You can find in the README file the usernames and passwords of the default users.*
4. *You can use the following website to generate the hash of a password, according to scrypt:*
   https://www.browserling.com/tools/scrypt.

   If you need to generate a salt by hand, you can use https://www.browserling.com/tools/random-hex, considering the length of the generated hex as the one of the salt (e.g., 16).