Neo Rooms - Hotel Booking Application

Objective:

Neo Rooms is an application to be built as a product that can help customers to choose a hotel and book a room.

Users of the System:

1. Super Admin

2. Admin

3. Customer

Functional Requirements:

- Build an application that customers can book rooms in hotels.
- The application should have signup, login, profile, dashboard page for user and login, signup, profile, dashboard, add room page for the admin.
- This application should have a provision to maintain a database for customer information, Admin information, booking information and room information.
- Also, an integrated platform required for customers, admin and super admin.
- Administration module to include options for adding / modifying / removing the existing product(s) and customer management.
- **There should be one user per slot.**

While the above ones are the basic functional features expected, the below ones can be nice to have add-on features:

- Filters for products like Low to High or showcasing hotels and rooms based on the customer's price range, specific hotel etc.

- Email integration for intimating new personalized offers to customers.

- Multi-factor authentication for the sign-in process

- Payment Gateway

Output/ Post Condition:

- Records Persisted in Success & Failure Collections

- Standalone application / Deployed in an app Container

Non-Functional Requirements:

Security	● App Platform –Username/Password-Based Credentials ● Sensitive data has to be categorized and stored in a secure manner ● Secure connection for transmission of any data
Performance	● Peak Load Performance (during Festival days, National holidays etc) ● eCommerce -< 3 Sec

	• Admin application < 2 Sec • Non-Peak Load Performance • eCommerce < 2 Sec • Admin Application < 2 Sec
Availability	• 99.99 % Availability
Standard Features	• Scalability • Maintainability • Usability • Availability • Failover
Logging & Auditing	• The system should support logging(app/web/DB) & auditing at all levels
Monitoring	• Should be able to monitor via as-is enterprise monitoring tools
Cloud	• The Solution should be made Cloud-ready and should have a minimum impact when moving away to Cloud infrastructure
Browser Compatible	• IE 7+ • Mozilla Firefox Latest – 15 • Google Chrome Latest – 20 • Mobile Ready

Technology Stack

Front End	React 16+ Google Material Design Bootstrap / Bulma
Server Side	Spring Boot Spring Web (Rest Controller) Spring Security Spring AOP Spring Hibernate
Core Platform	OpenJDK 11
Database	MySQL or H2

Platform Prerequisites (Do's and Don'ts):

1. As soon as the project mode is opened and set up, navigate to the settings of the Visual Studio Code by clicking on **File -> preferences -> Settings or (Ctrl + ,)**.

   a.   Click on the settings icon located as the first icon on the right-hand side to open the **settings.json** file.

   b.   paste the following code inside it.

   ```
   { "settings": { "files.exclude": { "**/node_modules": true } } }
   ```

   c. Then proceed with running the react project.

Note: The above step has to be repeated each time, the project mode is opened up.

- The React app should run in port 8081. Do not run the react app in the port: 3000 or port: 4200.

- Spring boot app should run in port 8080.

Key points to remember:

1. The id (for frontend) and attributes(backend) mentioned in the SRS should not be modified at any cost. Failing to do may fail test cases.

2. The id provided should be defined strictly with the following name **data-testid="<your id>"**. Example : **<input data-testid="username" />.** The naming convention has to be followed for all the id's mentioned.

3. Remember to check the screenshots provided with the SRS. Strictly adhere to id mapping and attribute mapping. Failing to do may fail test cases.

4. Strictly adhere to the proper project scaffolding (Folder structure), coding conventions, method definitions and return types.

5. Adhere strictly to the endpoints given below.

Application assumptions:

1. The login page should be the first page rendered when the application loads.

2. Manual routing should be restricted by using Protected Routes from the react router package. For example, if the user enters as http://localhost:3000/signup or http://localhost:3000/home the page should not navigate to the corresponding page instead it should redirect to the login page.

3. Unless logged into the system, the user cannot navigate to any other pages.

4. Logging out must again redirect to the login page.

5. To navigate to the admin side, you can store a user type as admin in the database with a username and password as admin.

6. Use admin/admin as the username and password to navigate to the admin dashboard.

Validations:

1. Basic email validation should be performed.

2. Basic mobile validation should be performed.

Project Tasks:

API Endpoints:

Admin Side:

Action	URL	Method	Response
Admin Login	/admin/login	POST-Sends email ID and password	Return True/False
Admin SignUp	/admin/signup	POST-Sends Admin Model data	Admin added
Admin Dashboard	/admin/dashboard	GET	Return All the Rooms in the hotel
Admin Add Room	/admin/addRoom	POST-Sends Room Data	Room Added

Admin Edit Room	/admin/editRoom	POST-Sends Room Data	Room Edited
Admin Delete Room	/admin/deleteRoom	POST-Sends Room ID	Room Deleted
Admin Profile	/admin/profile	POST-Sends Admin ID	Return Admin Profile Details
Edit Profile	/admin/editProfile	GET-Sends Admin ID	Return Admin Profile Details
Edit Profile	/admin/editProfile	POST-Sends Admin Model data	Edits Admin Profile

User Side:

Action	URL	Method	Response
User Login	/user/login	POST-Sends email ID and password	Return True/False
Admin SignUp	/user/signup	POST-Sends User Model data	User added
User Dashboard	/user/dashboard	GET	Return all the Hotels available
Displaying Hotel Rooms	/user/rooms	POST - Sends Hotel name and admin ID of that hotel	Return all the rooms of the hotel
Room Details	/user/roomDetails	POST-Sends Room ID	Return room details
Booked Rooms	/user/bookings	POST-Sends User ID	Return user bookings

Super Admin:

Action	URL	Method	Response

Super Admin Login	/super/login	POST-Sends email ID and password	Return True/False
Delete an admin	/super/deleteAdmin	POST-Sends admin email ID	Delete an admin
Delete a User	/super/deleteUser	POST-Sends user email ID	Delete a user

Frontend:

Customer:

1. Signup: Design a signup page component where the new customer has options to sign up by providing their basic details.

   a. Ids:

      i. signupBox

      ii. email

      iii. password

      iv. mobilenumber

      v. userrole

      vi. username

      vii. age

      viii. submitButton

      ix. loginLink

   b. Routing Url: http://localhost:3000/user/signup

   c. Output screenshot:
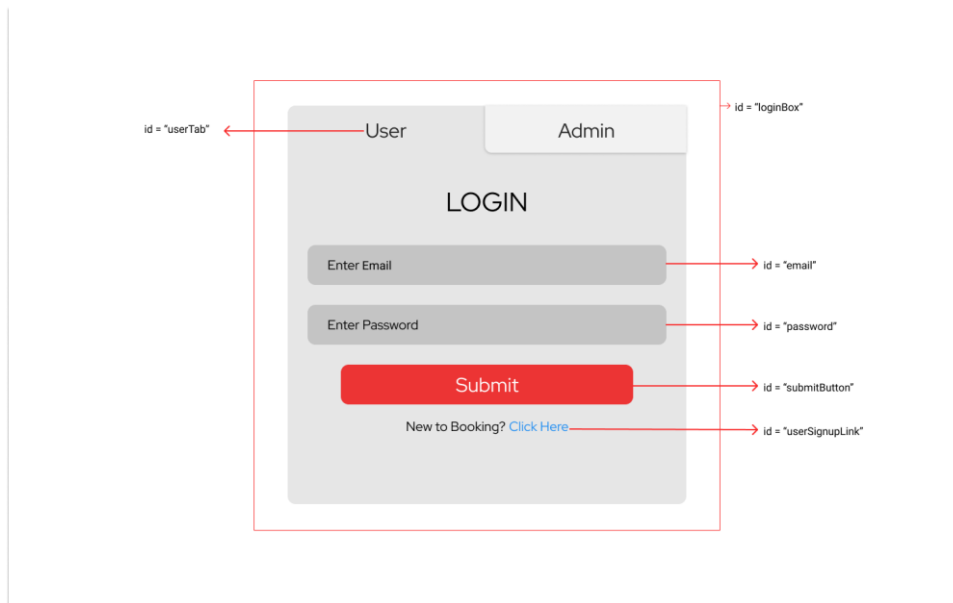
2. Login: Design a login page component where the existing customer can log in using the registered email id and password.
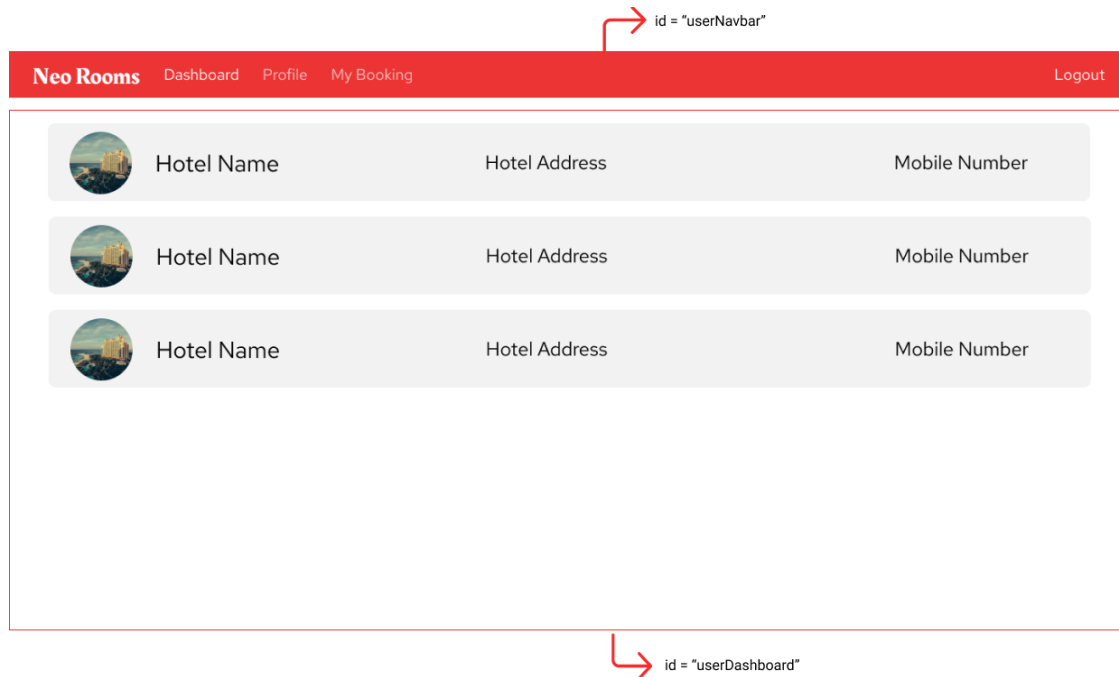
    a. Ids:

        i. loginBox

        ii. userTab

        iii. email

        iv. password

        v. submitButton

        vi. userSignupLink

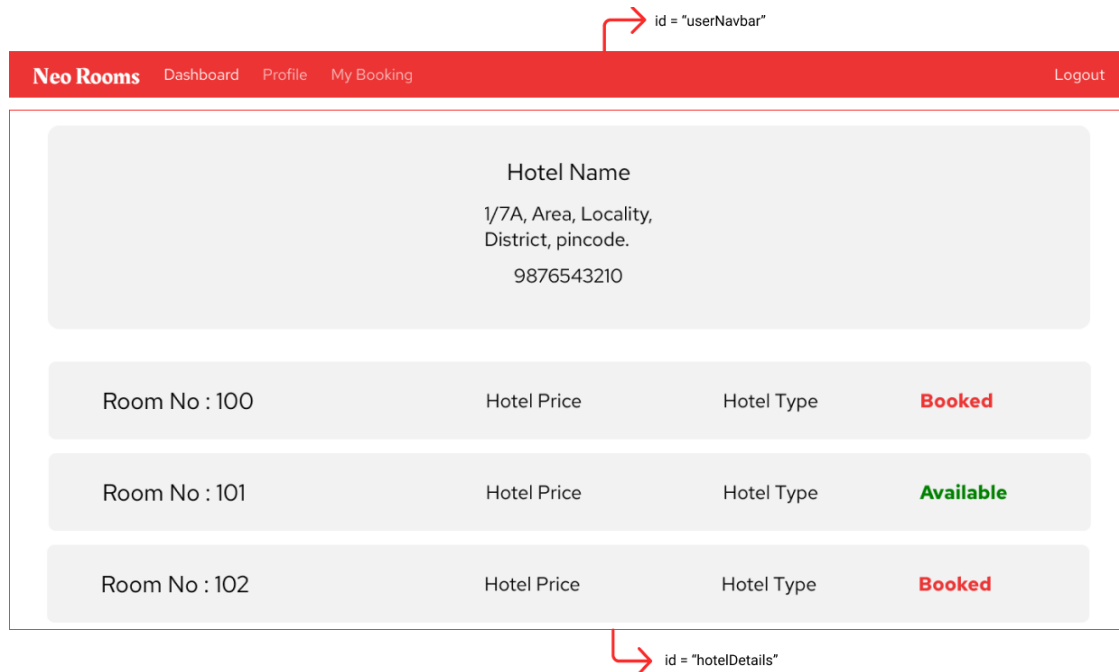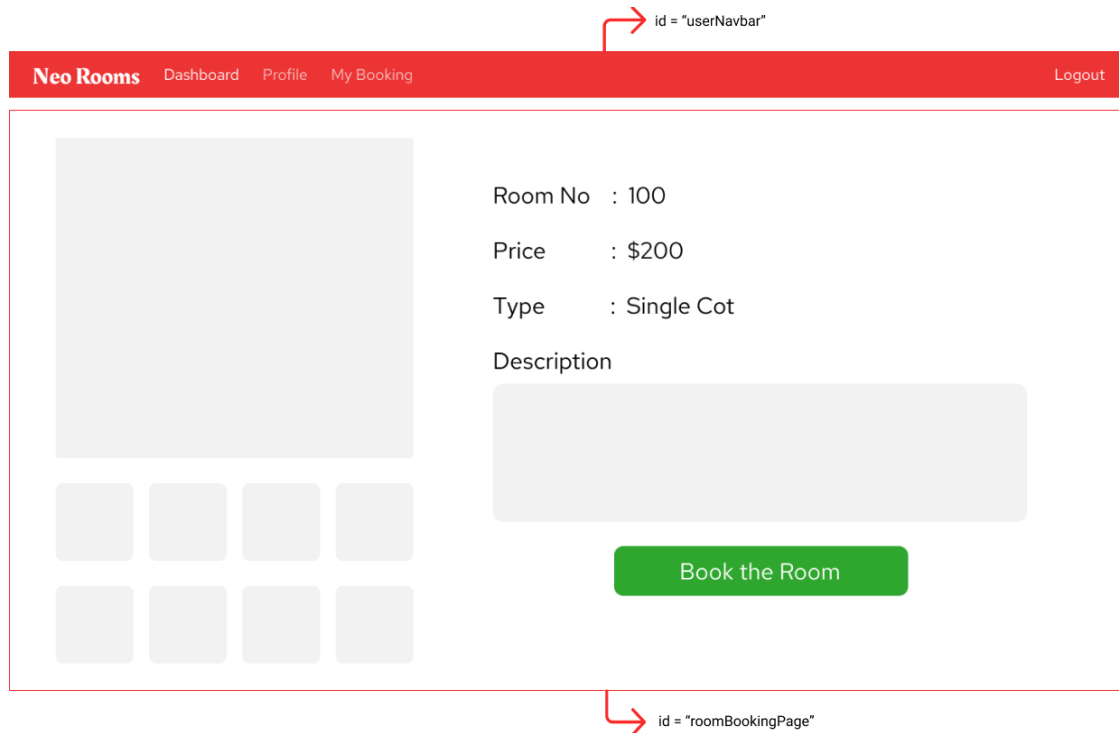   b. Routing Url: http://localhost:3000/login

    c. Output screenshot:

3. Dashboard / Home: Design a dashboard page component which provides a list of hotels available where the user can book a particular room.

    a. Ids:

        i. userNavbar

        ii. userDashboard

    b. Routing Url: http://localhost:3000/user/dashboard

    c. Screenshot

id = "userNavbar"

id = "userDashboard"

4. Hotel Details : Design a Hotel Details component which lists the total number of rooms available along with the individual status of each room (available / Booked).

    a. Ids

        i. userNavbar

        ii. hotelDetails

    b. Routing URL : http://localhost:3000/user/hotelDetail/{hotelId}

    c. Screenshot

Neo Rooms   Dashboard   Profile   My Booking   Logout

Hotel Name

1/7A, Area, Locality,
District, pincode.
9876543210

Room No : 100	Hotel Price	Hotel Type	**Booked**
Room No : 101	Hotel Price	Hotel Type	**Available**
Room No : 102	Hotel Price	Hotel Type	**Booked**

5. Room Details: Design a Room Booking Page that displays the details of the room that theuser is currently booking.

    a. Ids

        i. userNavbar

        ii. roomBookingPage

    b. Routing URL: http://localhost:3000/user/roomDetail/{roomId}

    c. Screenshot

Neo Rooms   Dashboard   Profile   My Booking   Logout

Room No   : 100

Price   : $200

Type   : Single Cot
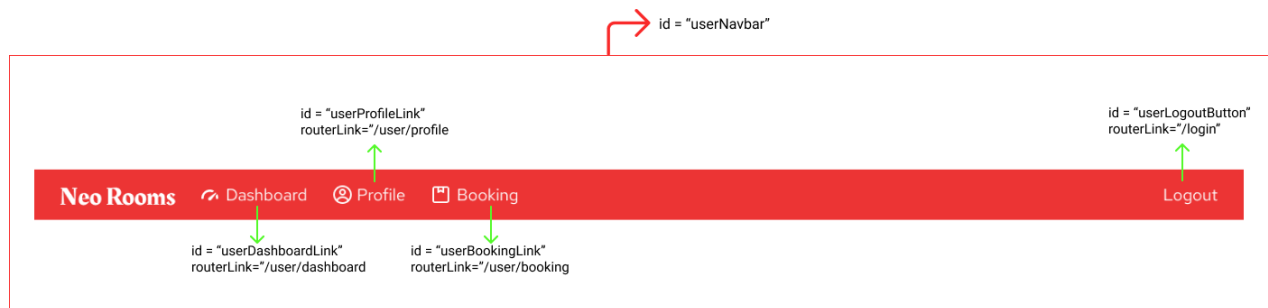
Description

Book the Room

6. User Navigation: Design a Navigation bar component where the user can navigateto other routes.

    a. Ids

        i. userNavbar

        ii. userProfleLink

        iii. userDashboardLink

        iv. userBookingLink

        v. userLogoutButton
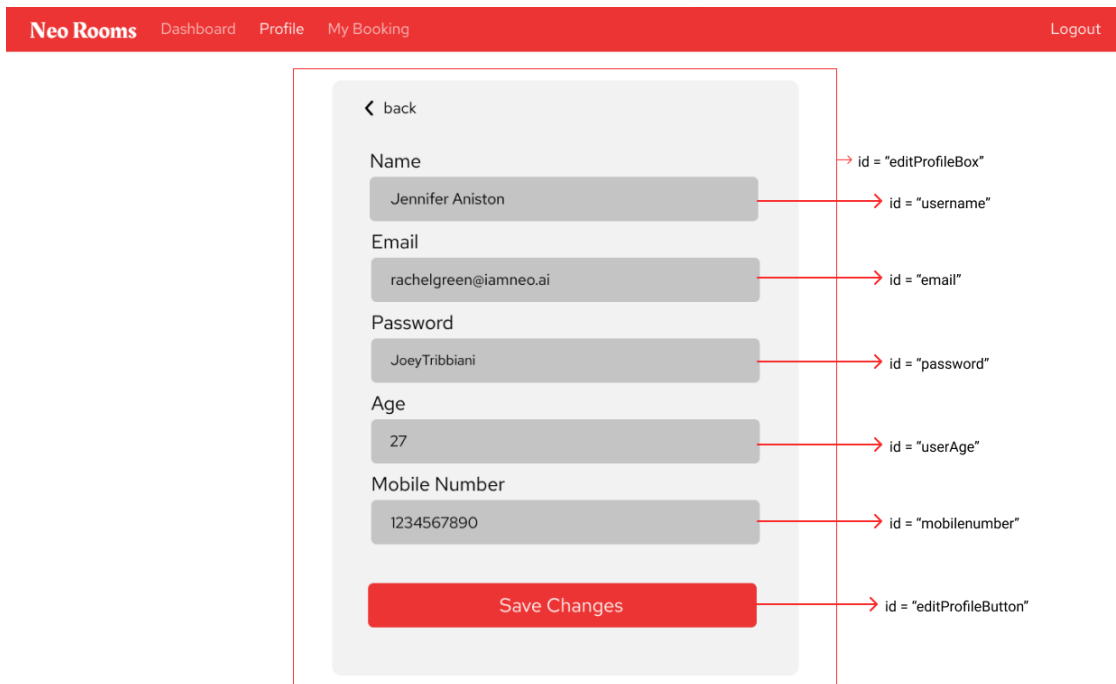
    b. Screenshot

7. User Profile Edit: Design a Profile Edit Page where the user can edit the details of him/herself.

    a. Ids

        i. userNavbar

        ii. editProfileBox

        iii. username

        iv. email

        v. password

        vi. userAge

        vii. mobilenumber

        viii. editProfileButton

    b. Routing URL : http://localhost:3000/user/editProfile/{userId}
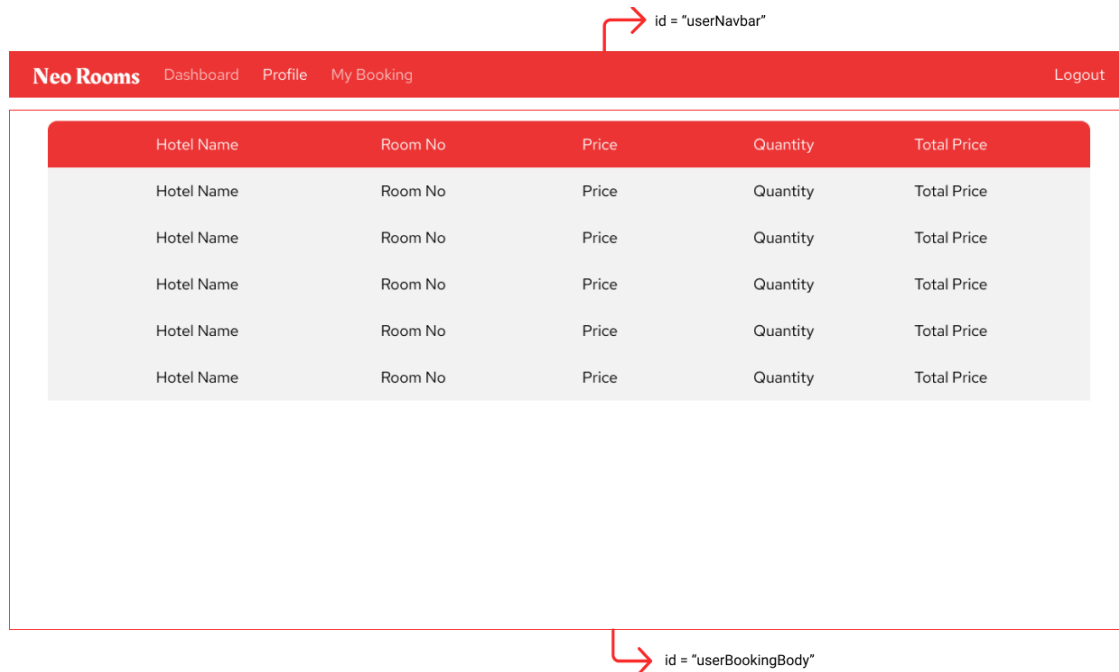
    c. Screenshot:

8. User Bookings: Design a User Bookings Page that allows the user to view the bookings that the user has made till date.

    a. Ids:

        i. userNavbar

        ii. userBookingBody

    b. Routing URL : http://localhost:3000/user/bookings/{userId}

    c. Screenshot:
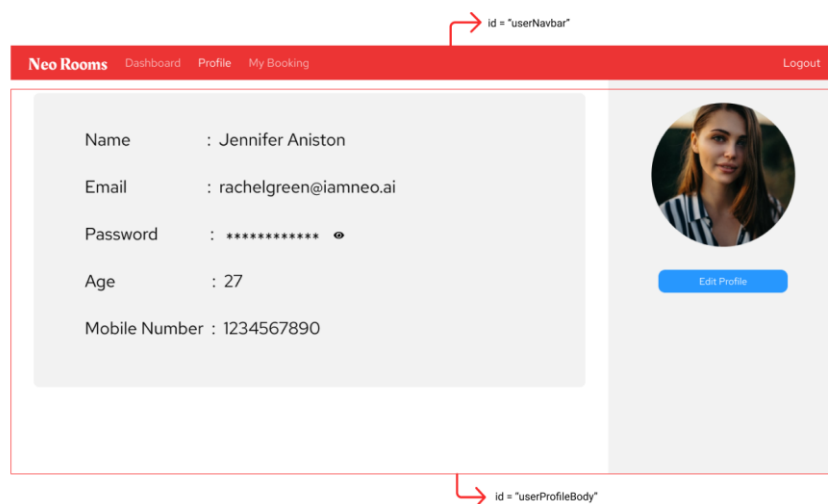
id = "userNavbar"

id = "userBookingBody"

9. User Profile Page: Design a User Profile Page that allows the user to view their Information.

  a. Ids:
    i. userNavbar
    ii. userProfileBody

  b. Routing URL : http://localhost:3000/user/profile/{userId}

  c. Screenshot:

id = "userNavbar"

id = "userProfileBody"

Admin:

10. Admin Signup: Design a Signup page that registers a particular user with the role of Admin.

    a. Ids

        i. signupbox

        ii. email

        iii. password

        iv. mobilenumber

        v. userrole

        vi. adminname

        vii. hotelname

        viii. hotelimageURL

        ix. hotelAddress

        x. submitButton

        xi. adminLoginLink

    b. Routing Url : http://localhost:3000/admin/signup

c. Screenshot

11. Admin Login: Design an Admin Login page that allows admin to login.

    a. Ids

        i. loginBox

        ii. adminTab

        iii. email

        iv. password

        v. submitButton

        vi. adminSignupLink

    b. Routing URL: http://localhost:3000/login
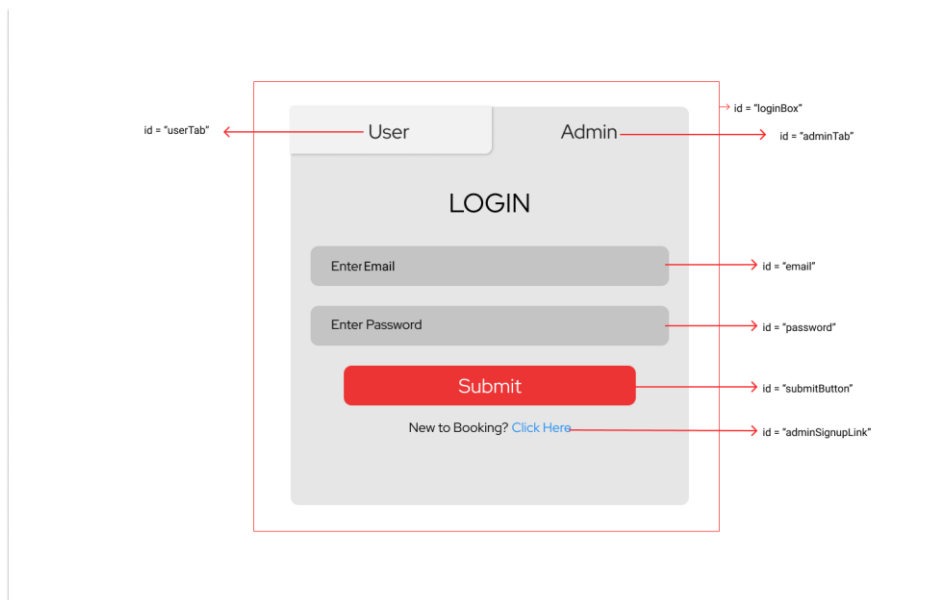
    c. Screenshots

12. Admin Profile: Design an Admin Profile page that displays the details of the admincurrently logged in.

    a. Ids

        i. adminNavbar

        ii. adminProfile

        iii. editAdminProfile

    b. Routing URL: http://localhost:3000/admin/profile/{adminId}

    c. Screenshots

id = "adminNavbar"

id ="editAdminProfile"

id = "adminProfile"
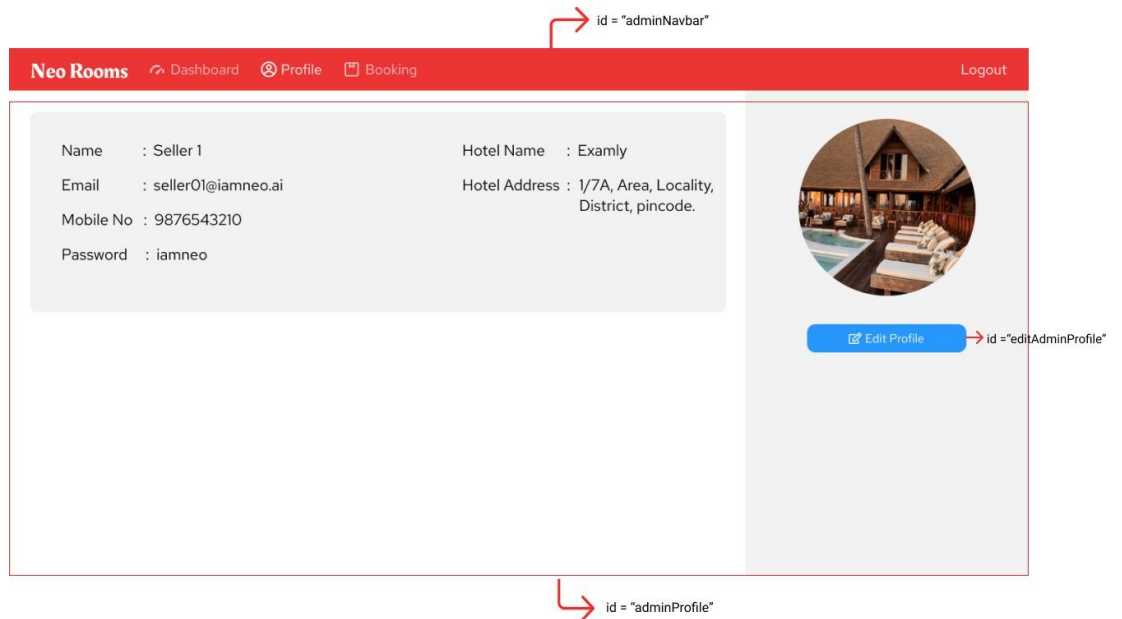
13. Admin Dashboard: Design a dashboard page where the list of rooms is displayed on the admin side.

    a. Ids

        i. adminNavbar

        ii. addRoomButton

        iii. adminDashboard

    b. Routing Url: http://localhost:3000/admin/dashboard

    c. Screenshot
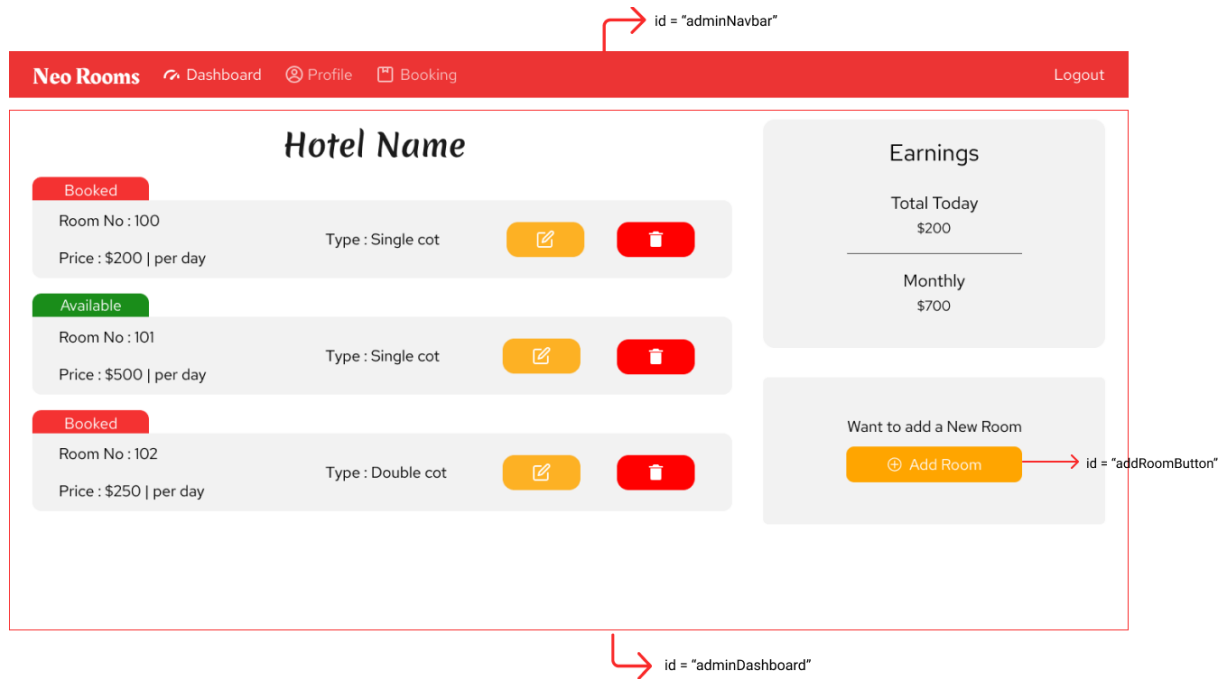
14. Admin Navigation: Design an Admin navigation component that can navigate to the Dashboard, profile and bookings done by the users

    a. Ids:

        i. adminNavbar

        ii. adminProfileLink

        iii. adminDashboardLink

        iv. adminBookingLink

        v. adminLogoutButton

    b. Screenshot:
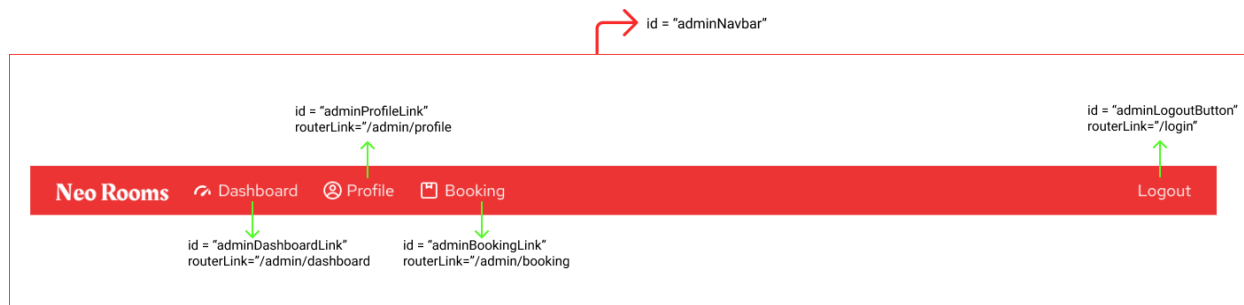
15. Admin Add Room: Design an Add Room component in which the admin can add new rooms to the inventory.

    a. Ids:

        i. adminNavbar

        ii. addRoomBox

        iii. roomNo

        iv. roomPrice

        v. roomType

        vi. addRoomButton

    b. Routing Url: http://localhost:3000/admin/addRoom
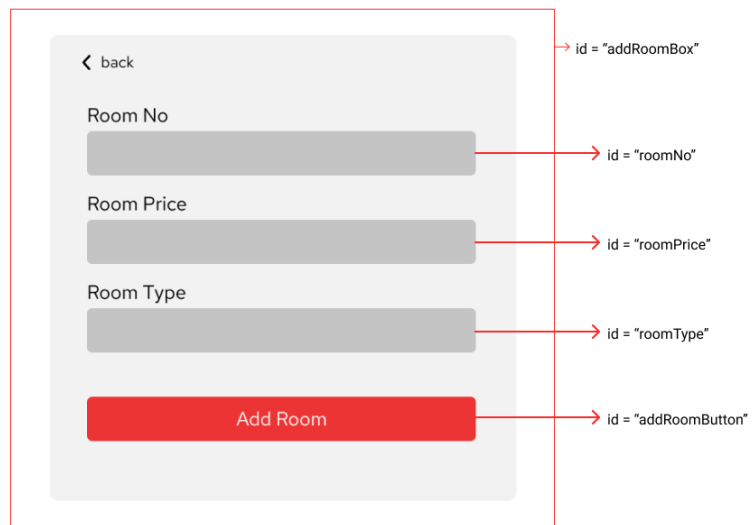
    c. Screenshot

16. Admin Edit Room: Design an Edit Room component in which the admin can edit details of an already existing room in the inventory.

    a. Ids:

        i. adminNavbar

        ii. editRoomBox

        iii. roomNo

        iv. roomPrice

        v. roomType

        vi. editRoomButton

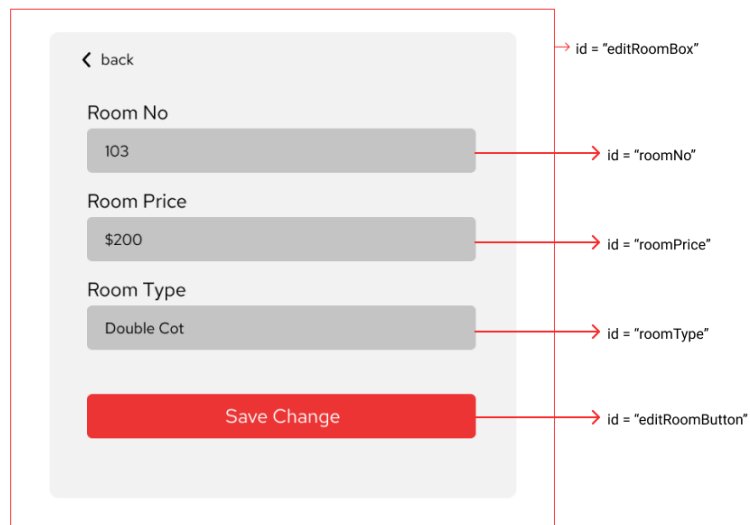   b. Routing Url: http://localhost:3000/admin/editRoom/{roomId}

    c. Screenshot

id = "adminNavbar"

Neo Rooms ⌒ Dashboard   ⊕ Profile   ⊡ Booking   Logout

id = "editRoomBox"

‹ back

Room No

103   → id = "roomNo"

Room Price

$200   → id = "roomPrice"

Room Type

Double Cot   → id = "roomType"

Save Change   → id = "editRoomButton"
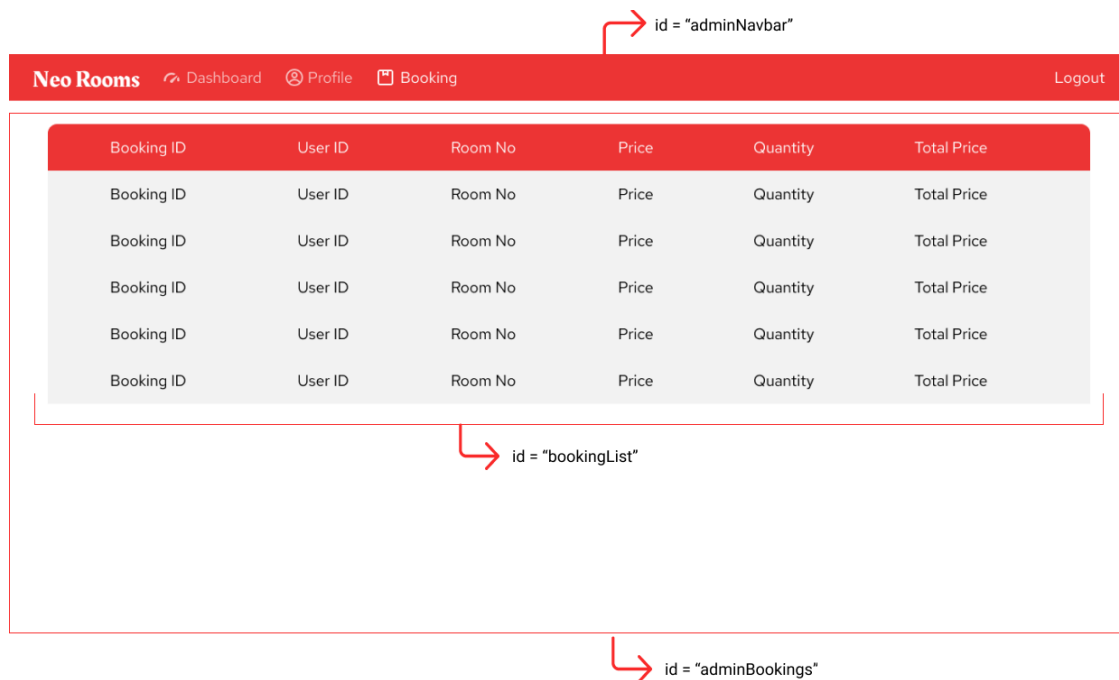
17. Admin Bookings : Design a Admin Bookings component where the admin can see the booking details that all the users have made till present date.

    a. Ids

        i. adminNavbar

        ii. adminBookings

        iii. bookingList

    b. Routing URL : http://localhost:3000/admin/bookings/{adminId}

    c. Screenshot:

Booking ID	User ID	Room No	Price	Quantity	Total Price
Booking ID	User ID	Room No	Price	Quantity	Total Price
Booking ID	User ID	Room No	Price	Quantity	Total Price
Booking ID	User ID	Room No	Price	Quantity	Total Price
Booking ID	User ID	Room No	Price	Quantity	Total Price
Booking ID	User ID	Room No	Price	Quantity	Total Price

id = "adminNavbar"

id = "bookingList"

id = "adminBookings"

18. Admin Profile Edit : Design an Admin Profile Edit page where the admin can edit the details of himself.

    a. Ids

        i. adminEditBox

        ii. adminName

        iii. adminEmail

        iv. adminMobileNumber

        v. adminPassword

        vi. hotelName

        vii. hotelAddress

        viii. profileEditButton

    b. Routing URL : http://localhost:3000/admin/editProfile/{adminId}

    c. Screenshot:

Super Admin:

19. Super Admin Login Page: Design a Login page through which the super user can log in.

   a. Ids:

      i. superAdminLoginBox

      ii. email

      iii. password

      iv. submitButton

   b. Routing URL: http://localhost:3000/superadmin/login

   c. Screenshot:

id = "superAdminLoginBox"

Super Admin

Enter Super Admin Email → id ="email"

Enter Password → id ="password"

Submit → id ="submitButton"

20. Super-Admin Admin page : Design a Super-Admin users page where the superadmin has authority to view and delete any admin currently registered into the system.

    a. Ids:

        i. superAdminNavbar

        ii. allUserDetails

    b. Routing URL : http://localhost:3000/superadmin/adminList

    c. Screenshot

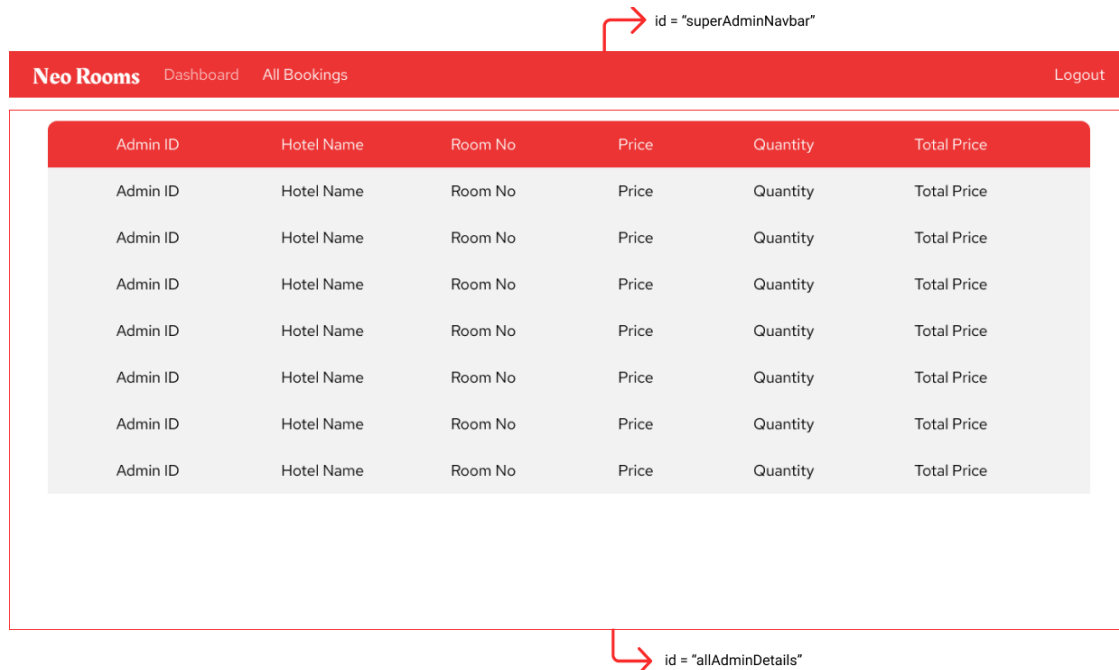id = "superAdminNavbar"

id = "allUserDetails"
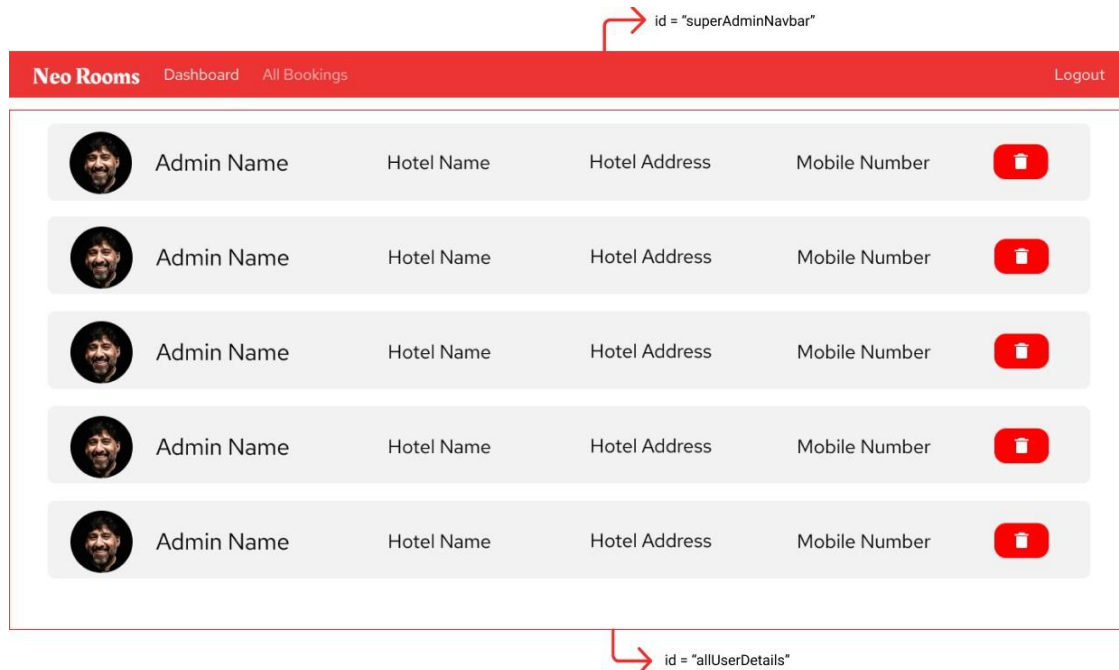
21. Super Admin Bookings page: Design a Super-Admin Booking component where the super admin has authority to view all the bookings.

    a. Ids:

        i. superAdminNavbar

        ii. allAdminDetails

    b. Routing URL : http://localhost:3000/superadmin/adminBookings

    c. Screenshot

id = "superAdminNavbar"

| Admin ID	Hotel Name	Room No	Price	Quantity	Total Price
Admin ID	Hotel Name	Room No	Price	Quantity	Total Price
Admin ID	Hotel Name	Room No	Price	Quantity	Total Price
Admin ID	Hotel Name	Room No	Price	Quantity	Total Price
Admin ID	Hotel Name	Room No	Price	Quantity	Total Price
Admin ID	Hotel Name	Room No	Price	Quantity	Total Price
Admin ID	Hotel Name	Room No	Price	Quantity	Total Price
Admin ID	Hotel Name	Room No	Price	Quantity	Total Price

id = "allAdminDetails"

22. Super Admin Navigation : Design a Navigation page for the super admin where hecan navigate to the dashboard, all the bookings and logout.

    a. Ids :

        i. superAdminNavbar

        ii. superAdminBookingLink

        iii. superAdminLogoutButton

        iv. superAdminDashboardLink

    b. Screenshot:
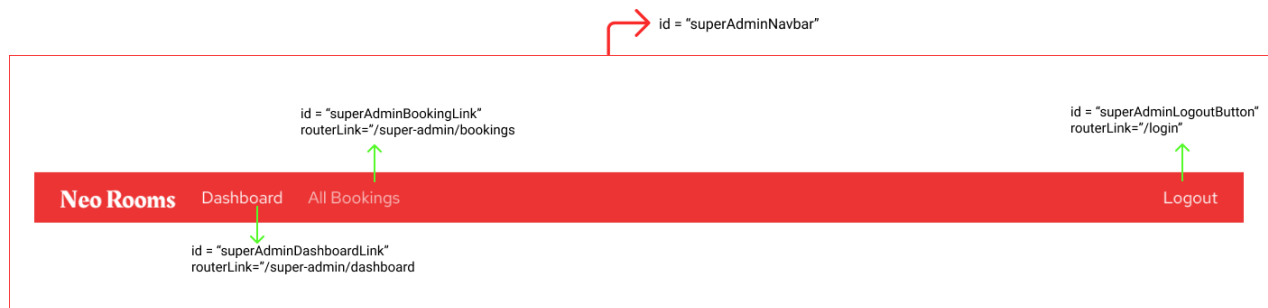
Backend:

Class and Method description:

Model Layer:

1. UserModel: This class stores the user type (admin or the customer) and all user information.

    a. Attributes:

        i. email: String

        ii. password: String

        iii. username: String

        iv. mobileNumber: String

        v. age: int

        vi. userRole: String

2. LoginModel: This class contains the email and password of the user.

    a. Attributes:

        i. email: String

        ii. password: String

3. AdminModel: This class stores the details of the product.
    a. Attributes:
        i. email:String
        ii. password:String
        iii. mobileNumber:String
        iv. sellerName:String
        v. userRole:String
        vi. hotelName:String
        vii. hotelImageURL:String
        viii. hotelAddress: String
        ix. earnings:int
4. RoomModel: This class stores the cart items.
    a. Attributes:
        i. roomID:String
        ii. roomNo:String
        iii. adminID:String
        iv. status:String
        v. price:String
        vi. type:String

Controller Layer:

5. AuthController: This class control the user /admin signup and signin
    a. Methods:
        i. isUserPresent(LoginModel data): This method helps to check whether the user present or not and check the email and password are correct and return the boolean value.
        ii. isAdminPresent(LoginModel data): This method helps to check whether the admin present or not and check the email and password are correct and return the boolean value.
        iii. saveUser(UserModel user): This method helps to save the user data in the database.
        iv. saveAdmin(UserModel user): This method helps to save the admin data in the database.
6. RoomController: This class controls the save/edit/delete/view rooms.

    a. Methods:

        i. saveRoom(RoomModel data): This method helps the admin to save new rooms in the database.

        ii. editRoom(RoomModel data):This method helps the admin to edit the details of the rooms and save it again in the database.

        iii. deleteRoom(String Room ID): This method helps the admin to delete a room from the hotel and as well as in the database.

        iv. getRooms(String Admin_Email_ID): This method helps the admin to get all the rooms in the hotel.

        v. bookRoom(String Room_ID): This method helps the user to book the room by changing the room status and add the record in the bookings table.

7. AdminController: This class controls the edit/view admin details.

    a. Methods：

        i. editAdmin(AdminModel data): This method helps the admin to edit the profile details and save it in the database.

        ii. getProfile(String Admin_Email_ID): This method helps admin to get the profile details.
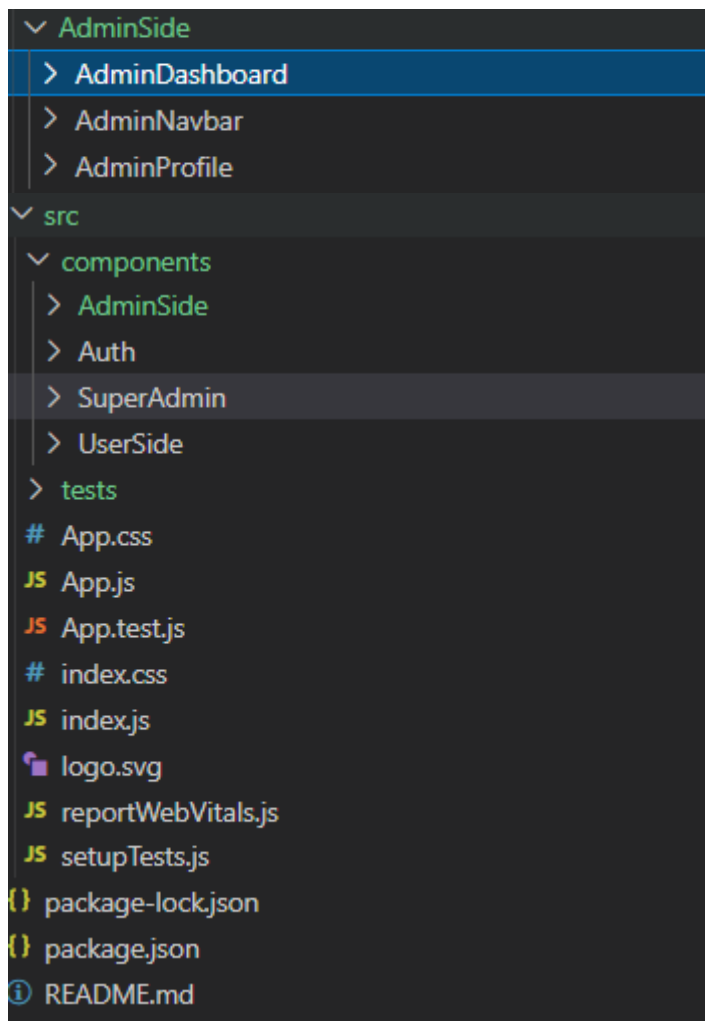
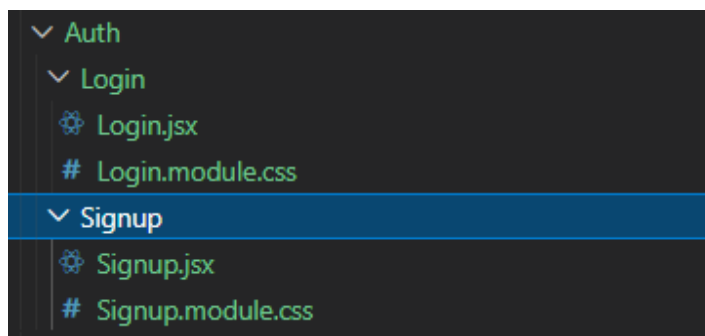8. UserController: This class helps to get the rooms.

    a. Methods:

        i. userBookings(String User_ID):This method helps users to get all the booking details done by them.

        ii. userProfileEdit(String User ID): This method helps users to edit their own details.

        iii. userBookRoom(): This method helps user to book a particular room.

        iv. userGetBookings(String UserID): This method helps to get all the bookings of the particular user.
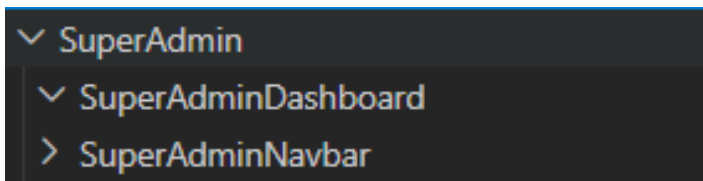
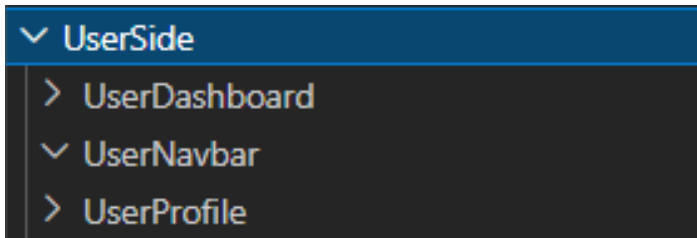**React Folder Structure:**

Admin Side:

```
∨ AdminSide
   > AdminDashboard
   > AdminNavbar
   > AdminProfile
∨ src
   ∨ components
      > AdminSide
      > Auth
      > SuperAdmin
      > UserSide
   > tests
   # App.css
   JS App.js
   JS App.test.js
   # index.css
   JS index.js
   🔒 logo.svg
   JS reportWebVitals.js
   JS setupTests.js
{} package-lock.json
{} package.json
ⓘ README.md
```

Auth Side:

```
∨ Auth
   ∨ Login
      ⚛ Login.jsx
      # Login.module.css
   ∨ Signup
      ⚛ Signup.jsx
      # Signup.module.css
```

Super Admin Side:

User Side:

React component Structure:

- **src (folder)**
  - **components (folder)**
    - **Navbar (folder)**
      - **Navbar.jsx (jsx file)**
      - **Navbar.module.css (css file)**

NOTE:

You should create the above folder structure mandatorily to pass the test cases and you can also create extra components if you need.

Workflow Prototypes:

Admin Flow
https://www.figma.com/proto/Hg13FkhAJskiFvizpXbNiE/Neo-Rooms-Admin-Flow?node-id=30%3A53&viewport=700%2C675%2C0.08671894669532776&scaling=scale-down

User Flow
https://www.figma.com/proto/PsLcbyAahDsWBCUJcrM1pW/Neo-Rooms-User-Flow?node-id=2%3A12&viewport=153%2C142%2C0.043812938034534454&scaling=scale-down

Super Admin Flow
https://www.figma.com/proto/aLvkpVlp2he09tNwQxj5FR/Neo-Rooms-SuperAdmin-Flow?node-id=1%3A2&viewport=467%2C246%2C0.10300646722316742&scaling=scale-down