

Role-Based Access Control (RBAC) System

Project Overview

This project implements a **Role-Based Access Control (RBAC)** system where administrators can manage users, roles, and permissions. The application allows for the management of:

- **Users:** Adding, editing, and deleting users.
- **Roles:** Creating, editing, and deleting roles with associated permissions.
- **Permissions:** Assigning roles specific permissions (Read, Write, Delete).

Data is persisted using **localStorage**, meaning the data will remain available even after a page refresh.

Features

- **User Management:**
 - Add, edit, and delete users.
 - Assign roles to users.
- **Role Management:**
 - Create, edit, and delete roles.
 - Assign specific permissions (Read, Write, Delete) to roles.
- **Permissions Management:**
 - Users' roles come with specific permissions that control what they can do within the system.
- **Responsive Design:**
 - The app is responsive and can be used across different devices (desktop, tablet, mobile).
- **Persistent Data:**
 - The data is stored in the browser's **localStorage**, so it persists even after the page is refreshed.

Technologies Used

- **HTML:** Structure of the web pages.
- **CSS:** Styling the user interface (UI).
- **JavaScript:** Implements logic for managing users, roles, and permissions.
- **localStorage:** Stores the data (users, roles, and permissions) persistently.

Application Features

User Management

- **Add a User:** Click on **Add User**, fill out the required information (name, email, role), and click **Save** to add the user.

- **Edit a User:** Modify an existing user's details by clicking the **Edit** button next to the user's name. Update the name, email, or role, and click **Save**.
- **Delete a User:** Click the **Delete** button next to a user to remove them from the system.

Role Management

- **Add a Role:** Click on **Add Role**, give the role a name (e.g., Admin, User), and assign specific permissions (Read, Write, Delete).
- **Edit a Role:** Modify an existing role by clicking the **Edit** button next to a role. Update its permissions or name, and click **Save**.
- **Delete a Role:** Remove a role by clicking the **Delete** button next to the role.

Permissions Management

- Each role can be assigned specific permissions:
 - **Read:** View data.
 - **Write:** Edit data.
 - **Delete:** Remove data.
- Permissions are clearly displayed for easy editing.

Code Explanation

index.html

This file contains the structure of the web application:

- Includes the HTML for displaying users, roles, and permissions in tables.
- Modals for adding and editing users and roles.

styles.css

The styling of the application:

- Responsive layout with proper styling for forms, buttons, tables, and modals.

app.js

Contains the main functionality for:

- **User Management:** Adding, editing, and deleting users.
- **Role Management:** Managing roles and assigning permissions.
- **Data Persistence:** Storing data in **localStorage**.

modals.js

Handles modal windows:

- **Add/Edit User Modal:** Allows the admin to add or edit user information.
- **Add/Edit Role Modal:** Allows the admin to create or modify roles and assign permissions.

How to Use the App

1. Add a User

- Click on **Add User**.
- Fill in the **Name**, **Email**, and **Role** fields.
- Click **Save** to add the user to the system.

2. Edit a User

- Find the user in the user list and click **Edit** next to their name.
- Modify their information (e.g., name, email, or role).
- Click **Save** to update the user.

3. Delete a User

- Find the user in the user list and click **Delete** next to their name to remove them.

4. Add a Role

- Click on **Add Role**.
- Enter the **Role Name** (e.g., Admin, Manager) and assign permissions (Read, Write, Delete).
- Click **Save** to create the role.

5. Edit a Role

- Click **Edit** next to an existing role.
- Modify the role's name or permissions.
- Click **Save** to update the role.

6. Delete a Role

- Click **Delete** next to the role you want to remove.

Author

Name: M.Mounika

GitHub Profile: [mounika](#)

LinkedIn Profile: [linkedin](#)