



Web App Design with React Week 15 Coding Assignment

Points possible: 75

URL to GitHub Repository:

Instructions: In VS Code, or an IDE of your choice, write the code that accomplishes the objectives listed below. Ensure that the code compiles and runs as directed. Take screenshots of the code and of the running program (make sure to get screenshots of all required functionality) and paste them in this document where instructed below. Create a new repository on GitHub for this week's assignments and push this document, with your JavaScript project code, to the repository. Add the URL for this week's repository to this document where instructed and submit this document to your instructor when complete.

Coding Steps:

1. Using the Houses API, or any open API of your choice you can find online, create a single page that allows for all 4 crud operations to be performed on a resource from that API. Create a React component (or more, if needed) to represent the resource. Make all forms and other necessary UI pieces their own components as reasonable.

Screenshots of Code:



PROMINEO TECH

```
JS HousesAPI.js U X JS App.js M JS HousesList.js U JS House.js U JS NewRoomForm.js U
src > rest > JS HousesAPI.js > HousesAPI > put
1  const HousesEndpoint = 'https://ancient-taiga-31359.herokuapp.com/api/houses'; //This constant holds the URL of the API endpoint for houses
2
3  class HousesApi { //Just a normal class.
4    get = async () => { //Sends a GET request to the HOUSES_ENDPOINT.
5      try {
6        const response = await fetch(HousesEndpoint); //Uses fetch() to make HTTP request.
7        const responseJson = await response.json(); //Converts the response to JSON using response.json().
8        return responseJson;
9      } catch(e) { //Any errors occurring during the process are caught, error message logged to console.
10       console.log('FetchHouses had an error.', e);
11     }
12   }
13
14   put = async (house) => { //Method updates a house by sending a PUT request to API with updated house object.
15     try {
16       const response = await fetch(`${HousesEndpoint}/${house.id}`, {
17         method: 'PUT',
18         headers: {
19           'Content-Type': 'application/json'
20         },
21         body: JSON.stringify(house)
22       });
23       return await response.json();
24     } catch(e) {
25       console.log('Updating houses had an error.', e);
26     }
27   }
28 }
29
30 export const housesApi = new HousesApi();
```

```
JS HousesAPI.js U JS App.js M X JS HousesList.js U JS House.js U JS NewRoomForm.js U
src > JS App.js > default
1  import React, { Component } from 'react';
2  import { HousesList } from './Components/HousesList';
3
4  class App extends Component {
5    render() {
6      return (
7        <div>
8          <HousesList />
9        </div>
10      )
11    }
12  }
13
14  export default App;
```



PROMINEO TECH

```
JS HousesAPI.js U × JS App.js M JS HousesList.js U × JS House.js U JS NewRoomForm.js U
src > Components > JS HousesList.js > ...
1 import React from 'react';
2 import House from './House'; // Import House as default export
3 import { housesApi } from '../rest/HousesAPI.js';
4
5 class HousesList extends React.Component {
6   constructor(props) {
7     super(props);
8
9     this.state = { // state holds list of houses fetched from API
10       housesList: []
11     };
12   }
13
14   componentDidMount() { // Called after component is mounted.
15     this.fetchHousesFromApi(); //Fetches list of houses from API
16   }
17
18   async fetchHousesFromApi() { // Asynchronous, fetches houses from API
19     try {
20       const fetchedHouses = await housesApi.get();
21       this.setState({ housesList: fetchedHouses });
22     } catch (error) {
23       console.error('There was an error fetching houses', error);
24     }
25   }
26
27   async updateHouse(updatedHouse) { //Asynchronous, updates house
28     try {
29       await housesApi.put(updatedHouse);
30       this.fetchHousesFromApi(); //Fetches houses from API, with updated changes
31     } catch (error) {
32       console.error('There was an error updating houses', error);
33     }
34   }
35
36   render() {
37     const { housesList } = this.state;
```



PROMINEO TECH

```
37     const { housesList } = this.state;
38
39     return (
40       <div className="houses-list">
41         {housesList.map((house) => (
42           <House
43             key={house.id} // Unique identifier
44             house={house} // Passes data to House component
45             updateHouse={(updatedHouse) => this.updateHouse(updatedHouse)} // Passes update function as a prop
46           />
47         ))}
48       </div>
49     );
50   }
51 }
52
53 export { HousesList };
```



PROMINEO TECH

```
JS HousesAPI.js U JS App.js M JS HousesList.js U JS House.js U X JS NewRoomForm.js U
src > Components > JS House.js > [x] House
1  import React from 'react';
2  import { NewRoomForm } from './NewRoomForm';
3
4  const House = ({ house, updateHouse }) => {
5
6      const handleDeleteRoom = (roomId) => {
7          const updatedRooms = house.rooms.filter(room => room._id !== roomId);
8          const updatedHouse = { ...house, rooms: updatedRooms };
9          updateHouse(updatedHouse);
10     };
11
12     const handleAddNewRoom = (newRoom) => {
13         const updatedRooms = [...house.rooms, newRoom];
14         const updatedHouse = { ...house, rooms: updatedRooms };
15         updateHouse(updatedHouse);
16     };
17
18     const renderRooms = () => (
19         <ul>
20             {house.rooms.map(room => (
21                 <li key={room._id}>
22                     <label>`${room.name} Area: ${room.area}`</label>
23                     <button onClick={() => handleDeleteRoom(room._id)}>Delete</button>
24                 </li>
25             ))}
26         </ul>
27     );
28
29     return (
30         <div>
31             <h1>{house.name}</h1>
32             {renderRooms()}
33             <NewRoomForm addNewRoom={handleAddNewRoom} />
34         </div>
35     );
36 };
37
38 export default House;
```



PROMINEO TECH

```
JS HousesAPI.js U JS App.js M JS HousesList.js U JS House.js U JS NewRoomForm.js U X
src > Components > JS NewRoomForm.js > [x] NewRoomForm
1  import React, { useState } from 'react';
2
3  export const NewRoomForm = (props) => {
4    const [name, setName] = useState('');
5    const [area, setArea] = useState(undefined);
6
7    const handleAreaInput = (e) => {
8      const int = parseInt(e.target.value, 10);
9      setArea(int >= 0 ? int : '');
10   }
11
12   const onSubmit = (e) => {
13     e.preventDefault();
14     if (name && area) {
15       props.addNewRoom({name, area});
16       setName('');
17       setArea('');
18     } else {
19       console.log('invalid input');
20     }
21   };
22
23   return (
24     <div>
25       <h4>Add a new room</h4>
26       <form onSubmit={onSubmit}>
27         <input
28           type='text'
29           placeholder='Name'
30           onChange={(e) => setName(e.target.value)}
31           value={name}
32         />
33         <input
34           type='text'
35           placeholder='Area'
36           onChange={handleAreaInput}
37           value={area}
```



PROMINEO TECH

```
JS HousesAPI.js U JS App.js M JS HousesList.js U JS House.js U JS NewRoomForm.js U X
src > Components > JS NewRoomForm.js > NewRoomForm
34      type='text'
35      placeholder='Area'
36      onChange={handleAreaInput}
37      value={area}
38    />
39    <button type='submit'>Add Room</button>
40  </form>
41 </div>
42 )
43 }
```

Screenshots of Running Application:



PROMINEO TECH

Second House

Add a new room

Name	Area	Add Room
------	------	----------

my first house

Add a new room

Name	Area	Add Room
------	------	----------

Fetch House

Add a new room

Name	Area	Add Room
------	------	----------

Fetch House

Add a new room

Name	Area	Add Room
------	------	----------



Second House

Add a new room

Test Name	156	Add Room
-----------	-----	----------

Second House

- Test Name Area: 156

Add a new room

Name	Area	Add Room
------	------	----------

<https://github.com/Vshea/Week15/tree/master>