REACT-LIFE CYCLE HOOKS

IIHT

Time To Complete: 10 to 12 hr

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1 PROJECT ABSTRACT

React applications often need to perform actions during different phases of a component's life cycle, such as fetching data, initializing values, or cleaning up resources. This project introduces participants to the concept of React's **life cycle hooks**—particularly focusing on state updates and side effects. Participants will build a User Dashboard application where users can search for a user by ID. Although this version uses mock data, the design structure prepares developers to later integrate real-world asynchronous data fetching (e.g., using useEffect). The project highlights how React manages component updates and renders based on state and props changes.

2 PROBLEM STATEMENT

You are required to develop a React User Dashboard where users can input a user ID and retrieve user details from mock data. The UserDashboard component manages the state for user input, search results, and errors. When a user submits a form, the application dynamically searches for the corresponding user and updates the interface accordingly. Even though external data fetching is mocked here, the project focuses on understanding how state updates trigger re-renders, mimicking common life cycle behaviors seen in React applications when using hooks like useEffect.

3 Proposed Life cycle Hooks Application Wireframe

UI needs improvisation and modification as per given use case and to make test cases passed.

3.1 SCREENSHOTS

User Dashboard



No user data available.





User Dashboard

1 Get User

No user data available.



User Dashboard

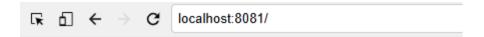
Enter user ID Get User

Leanne Graham

Email: Sincere@april.biz

Address: Kulas Light, Gwenborough

No user ID



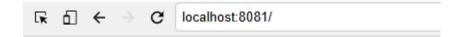
User Dashboard

5	Get User

Leanne Graham

Email: Sincere@april.biz

Address: Kulas Light, Gwenborough



User Dashboard



No user data available.

4 Business-Requirement:

As an application developer, develop the Life cycle hooks (Single Page App) with below guidelines:

User Story	User Story Name	User Story	
#	Name		
US_01	Welcome Page	As a user I should be able to visit the welcome page as the default page.	
		Acceptance criteria:	
		 Display a heading "User Dashboard". 	
		2. Provide an input form to:	
		Enter a user ID	

- Submit the ID to search for a user
- 3. After submission:
 - If user found \rightarrow display the user's name, email, and address.
 - If user not found → show an appropriate error message.
- 4. Handle state changes properly when submitting new searches.

State & Functionality Overview:

UserDashboard Component:

State Variables:

- 1. userId
 - Type: string
 - Stores the input user ID.
- 2. user
 - Type: object | null
 - Stores the found user details if available.
- 3. error
 - Type: string
 - Stores an error message if the user is not found.

Method: handleSubmit(userId):

- 1. Sets the current userId.
- 2. Resets user and error.
- 3. Searches in the mockUsers dataset.
- 4. Updates user or error based on the result.

UserForm Component

Props Received:

1. onSubmit: Function to handle user search when form is submitted.

Responsibilities:

- 1. Render an input field to accept a user ID.
- 2. On form submit:
 - Call onSubmit(userId) to trigger a search.
 - Clear the input field afterward.

UserCard Component

Props Received:

- 1. user: Object with user details.
- 2. error: String showing an error if user is not found.

Responsibilities:

- 1. If user is $null \rightarrow$ show message: "No user data available."
- 2. If error exists \rightarrow show the error message.
- 3. Otherwise display:
 - User Name
 - Email
 - Full Address (Street + City)

HTML Structure:

1. App Component:

- Wraps everything inside a top-level <div>.
- Renders the UserDashboard component.

2. UserDashboard:

- <h1> heading ("User Dashboard")
- UserForm (form with input and submit button)
- UserCard (shows user details or fallback/error)

3. UserForm:

- Input field (type "number") to accept a user ID.
- Submit button to trigger search.

4. UserCard:

- Conditionally renders:
 - → Fallback message
 - → Error message
 - → Or user details

Dynamic Behavior:

- 1. Typing into the form updates the userId state dynamically.
- 2. Submitting the form triggers a **lookup** into mock data.
- 3. The result is **conditionally displayed** based on success or failure.

	** Kindly refer to the screenshots for any clarifications. **

5 Constraints

1. You should be able to press the "TAB" key and "SHIFT + TAB" to navigate from top field to bottom field and vice-versa.

6 MANDATORY ASSESSMENT GUIDELINES

- 1. All actions like build, compile, running application, running test cases will be through Command Terminal.
- To open the command terminal the test takers, need to go to
 Application menu (Three horizontal lines at left top) -> Terminal ->New Terminal.
- 3. This editor Auto Saves the code.
- 4. These are time bound assessments the timer would stop if you logout and while logging in back using the same credentials the timer would resume from the same time it was stopped from the previous logout.
- 5. This is a web-based application, to run the application on a browser, use the internal browser in the workspace. Click on the second last option on the left panel of IDE, you can find Browser Preview, where you can launch the application.

Note: The application will not run in the local browser

- 6. You can follow series of command to setup React environment once you are in your project-name folder:
 - a. npm install -> Will install all dependencies -> takes 10 to 15 min.
 - b. npm run start -> To compile and deploy the project in browser. You can press <Ctrl> key while clicking on localhost:8080/8081 to open project in browser -> takes 2 to 3 min.
 - c. npm run jest -> to run all test cases and see the summary.
 - d. npm run test -> to run all test cases. It is mandatory to run this command before submission of workspace -> takes 5 to 6 min.

7. Once you are done with development and ready with submission, you may navigate to the previous tab and submit the workspace. It is mandatory to click on "Submit Assessment" after you are done with code.