Lesson 07 Demo 01

JSON Response from the API

Objective: To develop a React application that demonstrates API calls with React

Tools Required: Node Terminal, React App, and Visual Studio Code

Prerequisites: Knowledge of creating a React app and understanding of the folder structure

Steps to be followed:

1. Create a new React app
2. Modify the **src/App.js** by defining a state variable
3. Run the app and view it in a browser

Step 1: Create a new React app

1.1 Open the terminal and run the command **npx create-react-app api-demo**

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL

shreemayeebhatt@ip-172-31-22-250:~$ npx create-react-app api-demo
```

This command will create a new **React** app with the name **api-demo.**

1.2 Run the command **cd api-demo** in the terminal to move inside the newly created directory

Step 2: Modify the src/App.js by defining a state variable

2.1 Open the React app with the **Visual Studio Code** editor and open **src/App.js** file. Modify the **App.js** file by importing **React, useState,** and **useEffect** from **react** library.

```
import React, { useState, useEffect } from 'react';
```

2.2 Define the **App** functional component, and inside it, define a state variable called **data** using the **useState** hook, and initialize it as **null**

```
function App() {
const [data, setData] = useState(null);

```

2.3 Define an asynchronous function called **fetchData** that makes an API call using the fetch function and updates the state with the response data

```
async function fetchData() {
```

2.4 Use the **useEffect** hook to call the **fetchData** function when the component mounts by passing an empty **dependency array []** as the second argument to **useEffect**

```
async function fetchData() {
const response = await fetch('https://jsonplaceholder.typicode.com/todos/1');
const jsonData = await response.json();
setData(jsonData);
}

useEffect(() => {
fetchData();
}, []);
```

2.5 In the **return** statement, render a **div** and use a conditional rendering to display the **API response** if the data state is not null, and if it is null, render a **p** element with the text **Loading...** and export the **App** component as the default export of the file

```
return (
<div className="App">
<h1>API Demo</h1>
{data ? (
<p>API response: {JSON.stringify(data)}</p>
) : (
<p>Loading...</p>
)}
</div>
);
}

export default App;
```

Note: Refer to the following code to configure the **App.js** file:

```
import React, { useState, useEffect } from 'react';
import './App.css';

function App() {
const [data, setData] = useState(null);

async function fetchData() {
const response = await fetch('https://jsonplaceholder.typicode.com/todos/1');
const jsonData = await response.json();
setData(jsonData);
}
useEffect(() => {
fetchData();
}, []);

return (
<div className="App">
<h1>API Demo</h1>
```

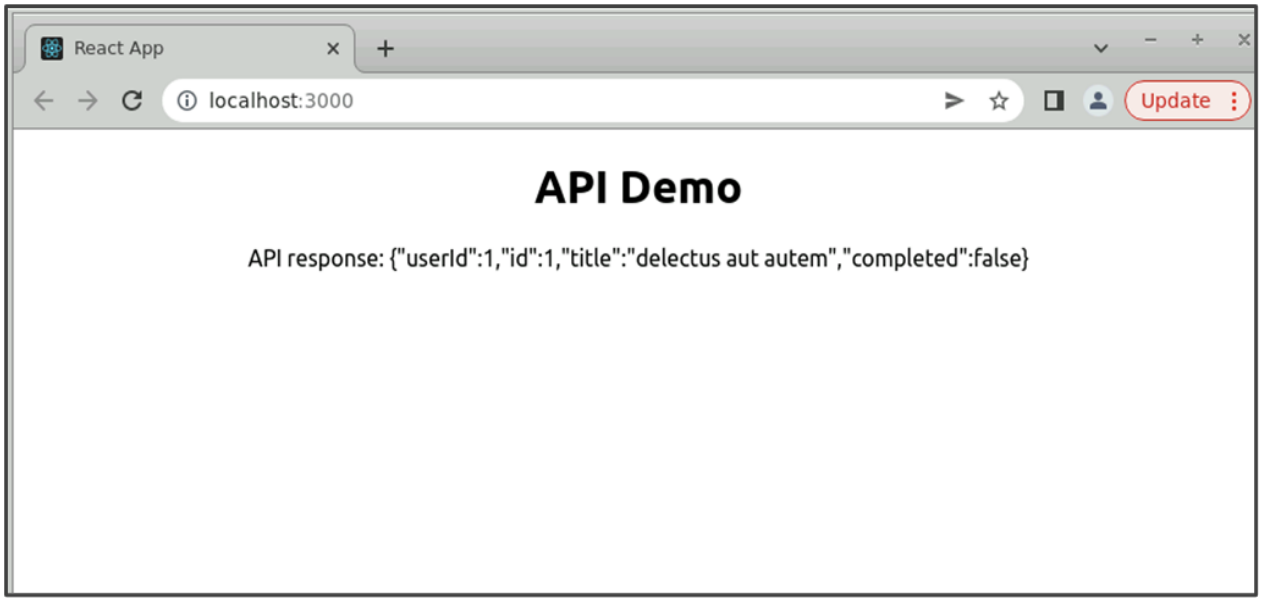
```
{data ? (
<p>API response: {JSON.stringify(data)}</p>
) : (
<p>Loading...</p>
)}
</div>
);
}

export default App;
```

```
src > JS App.js > ...
1   import React, { useState, useEffect } from 'react';
2   import './App.css';
3
4   function App() {
5   const [data, setData] = useState(null);
6
7   async function fetchData() {
8   const response = await fetch('https://jsonplaceholder.typicode.com/todos/1');
9   const jsonData = await response.json();
10  setData(jsonData);
11  }
12
13  useEffect(() => {
14  fetchData();
15  }, []);
16
17  return (
18  <div className="App">
19  <h1>API Demo</h1>
20  {data ? (
21  <p>API response: {JSON.stringify(data)}</p>
22  ) : (
23  <p>Loading...</p>
24  )}
25  </div>
26  );
27  }
28
29  export default App;
```

Step 3: Run the app and view it in a browser

3.1 In the terminal, navigate to the project directory and run the **npm start** command to start the development server

3.2 Open your browser and navigate to **http://localhost:3000**



You should see a simple app that displays the **JSON** response from the **API**, initially showing **Loading...** and then updating with the actual response once it is fetched.

With this, you have successfully created an app to demonstrate the API call in React.