**Assignment 4: Third-Party Libraries in React**

**Integrate a third-party library (e.g., Axios for HTTP requests).**

**Understand how to use and configure external libraries in your React app.**

Let's integrate Axios, a popular third-party library for making HTTP requests, into a React app. Axios simplifies the process of sending asynchronous requests and handling responses. Below is an example of how to use and configure Axios in a React app.

Step 1: Install Axios

First, install Axios in your React app:

| **npm install axios** |
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Step 2: Create a Component with Axios

Create a new component, say DataFetching.js, to demonstrate using Axios for fetching data from an API:

| **// DataFetching.js**  **import React, { useState, useEffect } from 'react';**  **import axios from 'axios';**  **const DataFetching = () => {**  **const [data, setData] = useState([]);**  **const [loading, setLoading] = useState(true);**  **const [error, setError] = useState(null);**  **useEffect(() => {**  **const fetchData = async () => {**  **try {**  **const response = await axios.get('https://jsonplaceholder.typicode.com/posts');**  **setData(response.data);**  **setLoading(false);**  **} catch (error) {**  **setError(error.message);**  **setLoading(false);**  **}**  **};**  **fetchData();**  **}, []);**  **return (**  **<div>**  **<h2>Data Fetching with Axios</h2>**  **{loading ? (**  **<p>Loading...</p>**  **) : error ? (**  **<p>Error: {error}</p>**  **) : (**  **<ul>**  **{data.map((item) => (**  **<li key={item.id}>{item.title}</li>**  **))}**  **</ul>**  **)}**  **</div>**  **);**  **};**  **export default DataFetching;** |
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In this example, we are using the JSONPlaceholder API to fetch some sample data.

Step 3: Integrate into App

Now, integrate the DataFetching component into your main App.js file:

| **// App.js**  **import React from 'react';**  **import DataFetching from './DataFetching';**  **function App() {**  **return (**  **<div>**  **<h1>React App with Axios</h1>**  **<DataFetching />**  **</div>**  **);**  **}**  **export default App;** |
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Step 4: Run the App

Start your development server:

npm start

Visit http://localhost:3000 in your browser. You should see your React app making a request to the JSONPlaceholder API and displaying the fetched data.

Configuration (Optional):

Axios provides a way to set global configurations. For example, you can set a base URL for all requests. Create a separate file, say axiosConfig.js:

| **// axiosConfig.js**  **import axios from 'axios';**  **const instance = axios.create({**  **baseURL: 'https://jsonplaceholder.typicode.com',**  **});**  **export default instance;** |
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Now, you can use this configured instance throughout your app:

| // DataFetching.js  import React, { useState, useEffect } from 'react';  import axios from './axiosConfig'; // Import the configured instance  const DataFetching = () => {  // ... (rest of the component)  }; |
| --- |

This approach allows you to centralize your Axios configuration and reuse it across multiple components.

By following these steps, you've successfully integrated the Axios library into your React app, allowing you to make HTTP requests with ease. Adjust the example based on your specific API and data requirements.