Lab Test – 2 (Week-13)

COMP 3123 – Full Stack Development I

Total Points (06%)

Submission Deadline: Thursday, 28th Nov 2024 08:00 PM

You code will be evaluated against any plagiarism.

Creating Weather App using ReactJS

This weather app is a simple, user-friendly application that allows users to view the current weather conditions for any city. The app pulls real-time weather data using the **OpenWeatherMap** API and displays essential information such as temperature, weather conditions, and an icon representing the current weather.

Learning outcome

This lab test to build weather app is a practical project for beginners to intermediate students, showcasing the use of API integration, React state management, and basic UI/UX principles. It's designed to be extensible, so students can add more features if desired, like forecast data or additional styling for a more polished look.

Project Details and Setup Instructions

1. **Project Setup:**
   - Create a ReactJS project named <**studentId**>**_comp3123_labtest2**. Replace you <studentid> with your real student ID. ***For e.g. 123456789_comp3123_labtest2***
   - Initialize a Git repository with this name and push it to GitHub.

2. **API Integration:**
   - Use the **OpenWeatherMap** API or any other free API (e.g., food, movies, etc.) to get data. ***Please mention about what API you have used while submitting your work for faster review.***
   - Fore Weather app you'll need to create a free account on OpenWeatherMap to obtain free API key.
     http://api.openweathermap.org/data/2.5/weather?q=Toronto&appid={{APIkey}}. Replace {{APIkey}} with your actual API key.
   - Use either **axios** or **fetch** to handle API calls.

3. **React Features (props, state, hooks, lifecycle methods):**

- You can use both function and class components.
- Use React features like props, state, hooks, and lifecycle methods.
    - State management using **useState**
    - Lifecycle methods like **useEffect** for data fetching
    - **Props** to pass data between components
    - Hooks (like **useEffect** for fetching data when the component loads)
    - Optionally, **class** components if needed for certain features.

4. **UI/UX and Design:**
    - Design the app based on the API response, making use of icons, images, themes, and fonts.
    - Icons can be referenced from the OpenWeatherMap weather conditions page and image URLs (e.g., http://openweathermap.org/img/wn/10d@2x.png).

5. **Dynamic Page or Search by City**
    - Include a search or dynamic content feature to update based on user input.

6. **Displaying Data:**
    - Display required information from the API response.

      Reference link
      https://openweathermap.org/forecast16

      https://openweathermap.org/weather-conditions
    - Use any free design template for styling.

7. **Documentation:**
   Create a README.md file on GitHub to document your project, including screenshots and descriptions.

♦ **Note:**

Use following end point to get weather data

*http://api.openweathermap.org/data/2.5/weather?q=Toronto&appid={**{APIkey}}*

♦ **Submission**

A) Create the ZIP file having all your source code**.** Remove **node_modules** folder before zip.

B) Put the screenshots of all your outputs in single docx and GitHub link as comment

C) Put the screenshots of Postman response.

D) Upload the ZIP file having name **studentId_comp3123_labtest2** and **GitHub project link** on the blackboard on or before the deadline. *NO email will be accepted for any late submission of GitHub/screenshots links and source code.*

E) **ZERO** % will be awarded for any late submission.

- **Communication**

  Please contact on pritesh.patel2@georgebrown.ca or SLACK channel for any question or query.

- **References**
  - https://www.digitalocean.com/community/tutorials/react-axios-react
  - https://openweathermap.org/forecast16
  - https://designrevision.com/react-axios/
  - https://www.smashingmagazine.com/2020/06/rest-api-react-fetch-axios/

Refer attached JSON file for response

- **Evaluation Criteria**

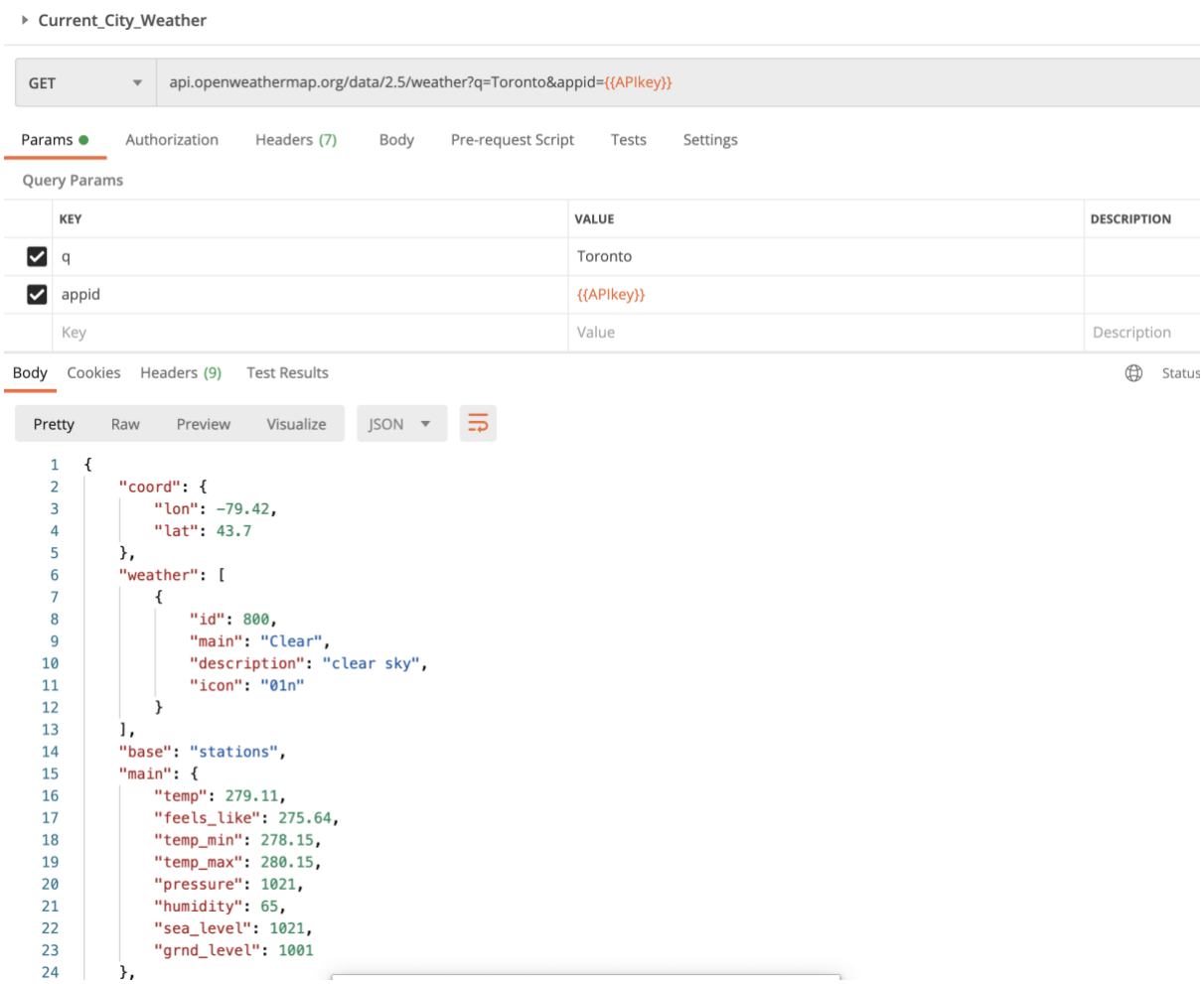
Sr. #	Description	Points
1	Create a ReactJS application having name **studentId_comp3123_labtest2** and **connect to GitHub repository** **ZERO point if you upload files or modify code on GitHub Website.**	10
2	Used icons/images/theme/fonts for weather condition. Refer icons from https://openweathermap.org/weather-conditions Sample: http://openweathermap.org/img/wn/10d@2x.png	20
3	Based on the response from API **think of your own UI/UX** and display all the information.	30
4	Add Search or any dynamic content change feature.	10
5	Display relevant required information from response. Can use any free template for design.	20
6	Create **ReadMe.md** file on GitHub to document and show your screens output with descriptions.	10

Reference Design


Friday
18 Nov 2022
Mumbai - Mahārāshtra - India
29°C
Clear
Mumbai - Mahārāshtra
Fri 29°C
Sat 29°C
Sun 27°C
Mon 27°C
Tue 28°C
Wed 28°C
Thu 29°C
UV Index 8 (Very High)
HUMIDITY 44 %
WIND 6 km/h
Mumbai - Mahārāshtra - Population 23,355,000


preview of the project's end result
Weather Forecast
Sunday
June 13th
Berlin
17°C
Heavy Cloud
PREDICTABILITY 71 %
HUMIDITY 57 %
WIND 10 km/h
AIR PRESSURE 1023 mb
MAX TEMP 21 °C
MIN TEMP 11 °C
Mon 27°
Tue 23°
Wed 27°
Thu 31°
Fri 32°

Postman


Current_City_Weather
GET
api.openweathermap.org/data/2.5/weather?q=Toronto&appid={{APIkey}}
Params
Authorization
Headers (7)
Body
Pre-request Script
Tests
Settings
Query Params
KEY
VALUE
DESCRIPTION
q
Toronto
appid
{{APIkey}}
Key
Value
Description
Body
Cookies
Headers (9)
Test Results
Status
Pretty
Raw
Preview
Visualize
JSON
{
"coord": {
"lon": -79.42,
"lat": 43.7
},
"weather": [
{
"id": 800,
"main": "Clear",
"description": "clear sky",
"icon": "01n"
}
],
"base": "stations",
"main": {
"temp": 279.11,
"feels_like": 275.64,
"temp_min": 278.15,
"temp_max": 280.15,
"pressure": 1021,
"humidity": 65,
"sea_level": 1021,
"grnd_level": 1001
},