

- **PBEL VIRTUAL INTERNSHIP**

Project :Weather Application

Submitted by:

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Declaration

I hereby declare that this project report titled “**weather application**” is a result of my own work carried out during the IBM PBEL Virtual Internship. The project is original, and no part of it has been copied or submitted elsewhere for any other course or internship.

Acknowledgement

I would like to express my heartfelt gratitude to my Project guide, Mr. Deepanshu Kumar for their valuable support, guidance, and encouragement throughout the project. Their constructive feedback and constant motivation helped me complete this internship successfully. I also extend my sincere thanks to the IBM PBEL team for offering this incredible opportunity to gain practical experience. My appreciation also goes to my college, United college of engineering and research , and my peers who supported me during the course of this internship.

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1.Introduction

A weather application provides users with real-time or forecasted weather information for desired locations. Typically, these apps leverage APIs to fetch weather data and present it in a user-friendly format. They often include features like current conditions, temperature, humidity, wind speed, and forecasts for the coming days. The goal is to offer a convenient and informative way for users to stay updated on weather conditions.

Key aspects of a weather app include :

***Data acquisition:**

Fetching weather data from a reliable source like an API (e.g., [OpenWeatherMap](#), [Weather API](#)) based on user input (city name, location coordinates).

***Data Presentation:**

Displaying weather information in a clear and understandable format, often including current conditions, temperature, humidity, wind speed, and forecasts for the coming days.

***User Interface:**

Designing an intuitive and easy-to-navigate interface that allows users to easily input locations and view weather details.

***Functionality:**

Adding features like search functionality, location-based weather updates (using geolocation), and potentially even historical weather data.

2. Technologies Involved

The following technologies and tools were used to build this project:

React.js – For building the user interface and handling dynamic routing.

JavaScript (ES6+) – Core scripting language used across the project.

HTML5 & CSS3 – Used for structuring and styling the components.

React Router DOM – For client-side routing and dynamic page rendering.

Redux Toolkit / Context API – For state management.

Git & GitHub – Version control and project repository management.

3. Problems Faced & Solution Implementation

During the development process, several challenges were encountered and resolved:

Prioritizes a user-friendly and intuitive interface:

The application should be easy to navigate and provide clear, concise information.

Delivers fast and accurate weather data:

Real-time data from reliable sources is crucial for informed decision-making.

Offers customization and personalization:

Users should be able to tailor the app to their specific needs and preferences, such as selecting preferred units of measurement or receiving notifications for specific weather events.

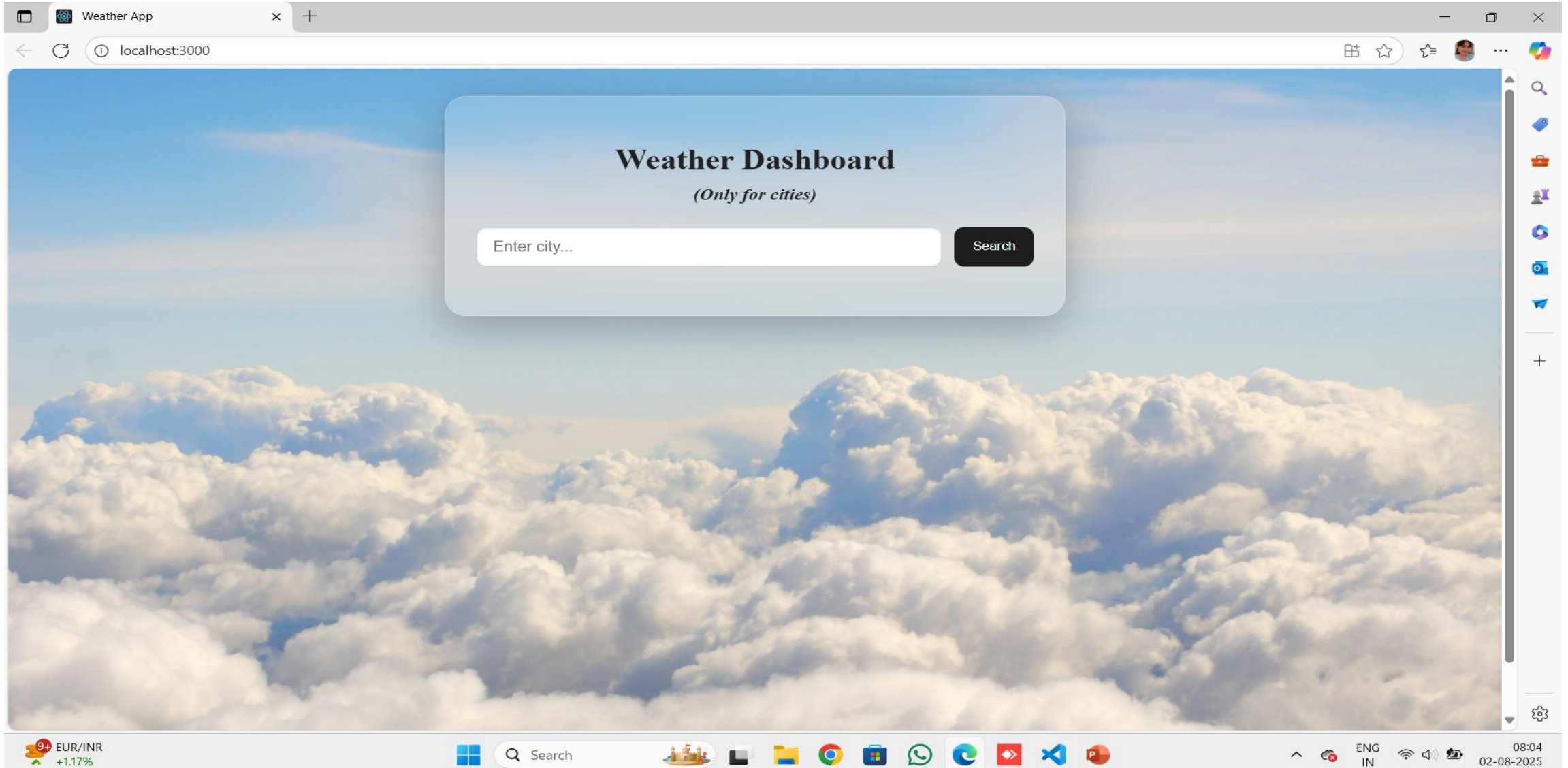
Lack of User-Friendly Interface and Speed:

Many existing weather apps can be clunky, slow, and difficult to navigate, making it challenging for users to quickly find the information they need.

This can be frustrating for users who need to access weather information quickly, especially when planning outdoor activities or making travel arrangements


4. Output Screenshot

Home page



Allahabad, IN

overcast clouds

 **4.12 km/h**
Wind Speed

AQI: 1 **Good** (Air quality is satisfactory)

Sun



Mon

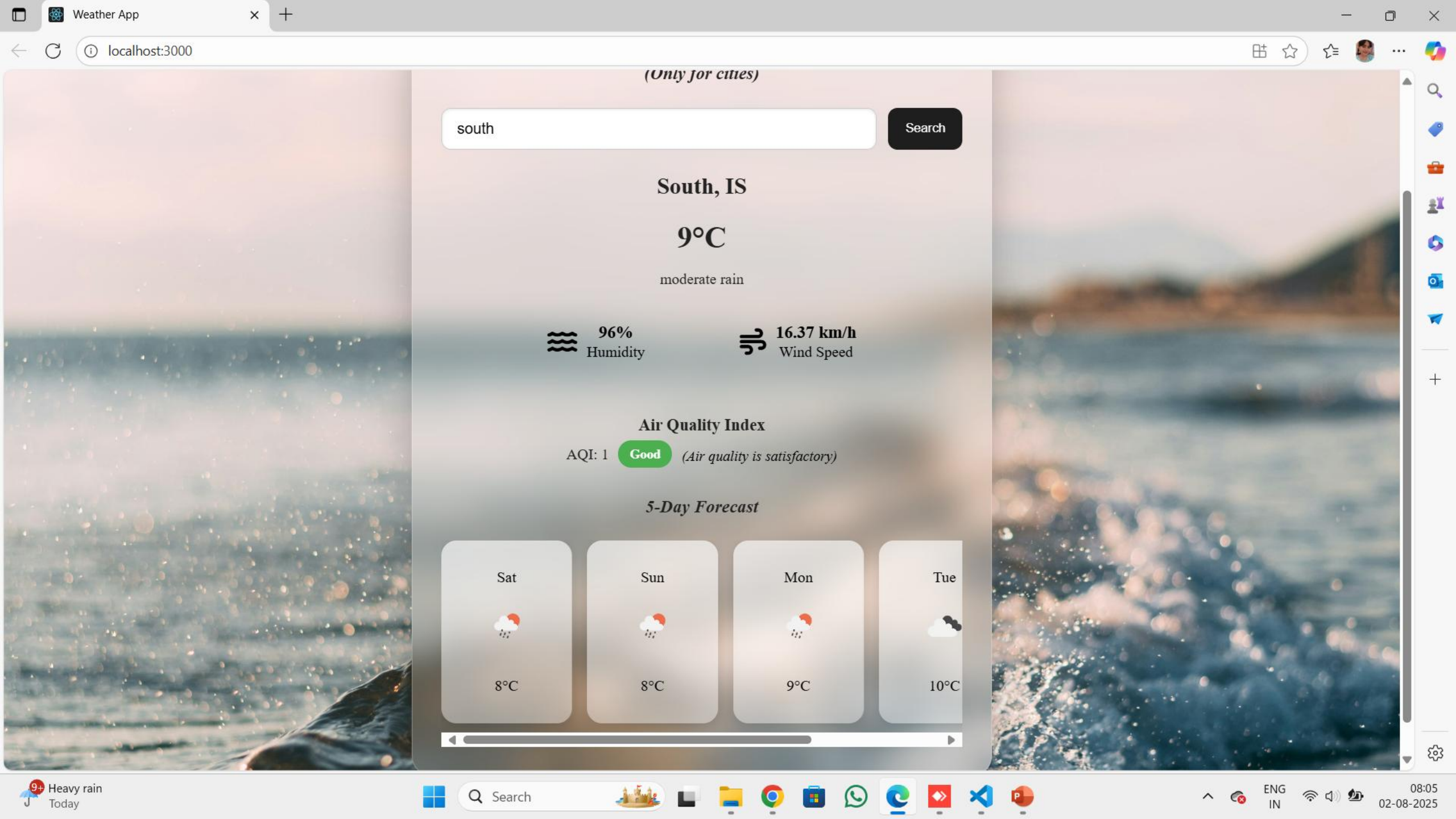


Tue



Wed





(Only for cities)


south


Search

South, IS

9°C

moderate rain

 96%
Humidity

 16.37 km/h
Wind Speed

Air Quality Index

AQI: 1 Good (Air quality is satisfactory)

5-Day Forecast

Sat



8°C

Sun



8°C

Mon

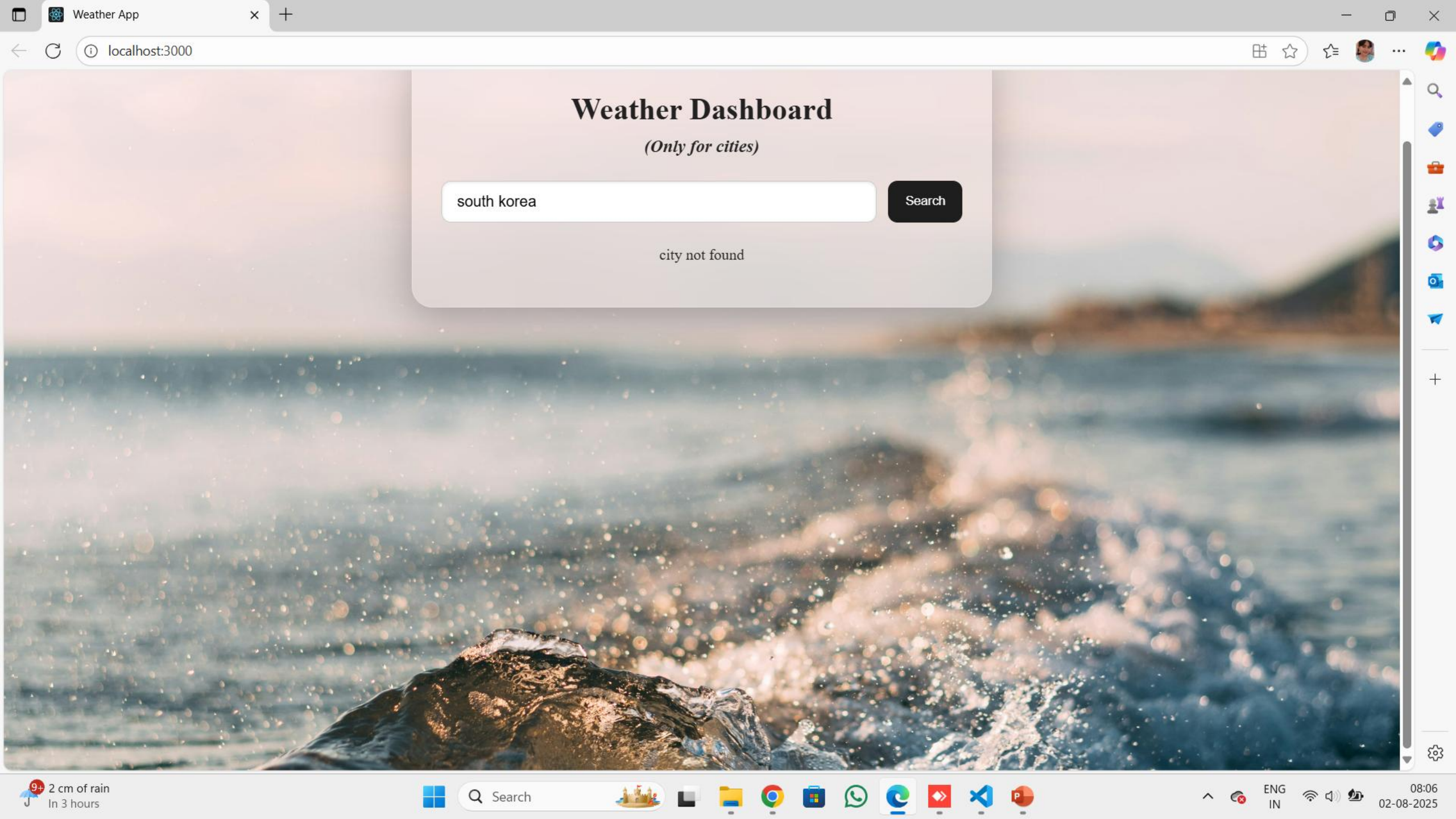


9°C

Tue



10°C



Weather Dashboard

(Only for cities)

Search

city not found

