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#1. Install Flask and requests:
pip install Flask
pip install requests

#Get an API Key:
#Sign up for a free API key from OpenWeatherMap.

#3. Create the following files:
#app.py (for the Flask backend)
#templates/index.html (for the HTML frontend)

#4. app.py (Flask Backend):
from flask import Flask, render_template, request
import requests

app = Flask(__name__)

# OpenWeatherMap API key (replace 'your_api_key' with your actual API key)
api_key = 'your_api_key'

@app.route('/')
def index():
    return render_template('index.html')

@app.route('/weather', methods=['POST'])
def get_weather():
    city = request.form.get('city')
    if city:
        weather_data = fetch_weather(city)
        return render_template('index.html', weather_data=weather_data, city=city)
    else:
        return render_template('index.html', error='Please enter a city.')

def fetch_weather(city):
    base_url = 'http://api.openweathermap.org/data/2.5/weather'
    params = {
        'q': city,
        'appid': api_key,
        'units': 'metric', # Change to 'imperial' for Fahrenheit
    }

    response = requests.get(base_url, params=params)
    data = response.json()

    if response.status_code == 200:
        weather = {
            'temperature': data['main']['temp'],
            'description': data['weather'][0]['description'],
            'icon': data['weather'][0]['icon'],
        }
        return weather
    else:
        return {'error': 'Unable to fetch weather data.'}

if __name__ == '__main__':
    app.run(debug=True)

#5. templates/index.html (HTML Frontend):
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Weather App</title>
</head>
<body>
    <h1>Weather App</h1>

    <form method="post" action="{{ url_for('get_weather') }}">
        <label for="city">Enter City:</label>
        <input type="text" id="city" name="city" required>
        <button type="submit">Get Weather</button>
    </form>

    {% if weather_data %}
    <h2>Weather in {{ city }}</h2>

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<p>Temperature: {{ weather_data['temperature'] }}°C</p>
<p>Description: {{ weather_data['description'] }}</p>

{% endif %}

{% if error %}
  <p style="color: red;">{{ error }}</p>
{% endif %}
</body>
</html>
```

#6. Run the Flask App:

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python app.py
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