

■■ Complete Flask Weather App Project

Backend (app.py)

```
from flask import Flask, jsonify, request, render_template
import requests

app = Flask(__name__)

API_KEY = "YOUR_API_KEY"
BASE_URL = "http://api.openweathermap.org/data/2.5/weather"

@app.route("/")
def home():
    return render_template("weather.html")

@app.route("/api/weather", methods=["GET"])
def get_weather():
    city = request.args.get("city")
    if not city:
        return jsonify({"error": "Please provide a city name"}), 400

    params = {"q": city, "appid": API_KEY, "units": "metric"}
    response = requests.get(BASE_URL, params=params)

    if response.status_code != 200:
        return jsonify({"error": "Failed to fetch weather data"}), 500

    data = response.json()
    result = {
        "city": data["name"],
        "temperature": data["main"]["temp"],
        "feels_like": data["main"]["feels_like"],
        "humidity": data["main"]["humidity"],
        "weather": data["weather"][0]["description"]
    }
    return jsonify(result)

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

Frontend (templates/weather.html)

```
<!DOCTYPE html>
<html>
<head>
  <title>Weather App ■■</title>
  <style>
    body { font-family: Arial, sans-serif; text-align: center; padding: 40px; }
```

```

        input { padding: 8px; font-size: 16px; }
        button { padding: 8px 12px; font-size: 16px; }
        .result { margin-top: 20px; font-size: 18px; }
    </style>
</head>
<body>
    <h1>■ Weather App</h1>
    <input type="text" id="cityInput" placeholder="Enter city name">
    <button onclick="getWeather()">Get Weather</button>

    <div class="result" id="result"></div>

    <script>
        async function getWeather() {
            const city = document.getElementById("cityInput").value;
            if (!city) {
                alert("Please enter a city");
                return;
            }

            try {
                const response = await fetch(`/api/weather?city=${city}`);
                const data = await response.json();

                if (data.error) {
                    document.getElementById("result").innerHTML = `<p style="color:red;">■ ${data.error}</p>`;
                } else {
                    document.getElementById("result").innerHTML = `
                        <h3>${data.city}</h3>
                        <p>■ Temperature: ${data.temperature} °C</p>
                        <p>■ Feels Like: ${data.feels_like} °C</p>
                        <p>■ Humidity: ${data.humidity}%</p>
                        <p>■ Condition: ${data.weather}</p>
                    `;
                }
            } catch (error) {
                document.getElementById("result").innerHTML = `<p style="color:red;">■ Failed to fetch data</p>`;
            }
        }
    </script>
</body>
</html>

```

Python Client (client.py)

```

import requests

BASE_URL = "http://127.0.0.1:5000/api/weather"

def get_weather(city):
    try:
        response = requests.get(BASE_URL, params={"city": city})

```

```
if response.status_code == 200:
    data = response.json()
    print(f"■ City: {data['city']}")
    print(f"■■ Temperature: {data['temperature']}°C")
    print(f"■ Feels Like: {data['feels_like']}°C")
    print(f"■ Humidity: {data['humidity']}%")
    print(f"■ Condition: {data['weather']}")
else:
    print("■■ Error:", response.json())
except Exception as e:
    print("■ Exception:", str(e))

if __name__ == "__main__":
    city = input("Enter city name: ")
    get_weather(city)
```