Weather Forecasting Web Applicati

A Full Stack Project using Python, Django & Weather API

Introduction

- Weather Forecast Web Application is a dynamic web-based syst
- Provides real-time and forecast weather data
- Built using Python and Django framework
- Uses external Weather API for live data

Problem Statement

Why this app?
- Weather info scattered across platforms
- Users need fast & accurate updates
- Complex interfaces confuse users
- Need a clean and simple solution

Project Objectives:

- Fetches real-time weather using API

- Display city-wise temperature an conditions

- Show humidity, wind speed and visibility

- Provide clean and user-friendly UI

Technology Stack

Frontend
- HTML
- CSS
- JavaScript
- Responsive UI

Backend
- Django (Python)

API
- OpenWeatherMap API

Tools
- VS Code
- Browser

Application Workflow

Flow

- User enters city name
- Request sent to backend
- API fetches live data
- Processed results shown on UI

Key Features

Weather App Highlights

- Real-time weather updates
- Temperature, humidity, wind speed
- Weather condition icons
- User-friendly design

Error Handling

- Invalid city name handling
- API failure handling
- User-friendly error messages

Challenges Faced

During Development

- API integration & errors
- Backend–Frontend connection
- UI responsiveness
- Handling invalid inputs

Advantages of the System

- Easy to use
- Real-time data
- Scalable architecture
- Good learning project

Limitations:

- Internet Dependency
- API requests limits
- Accuracy depends on API provider

Results:

Panel 1 — Mumbai

Mumbai 🔍

Weather Forecast

smoke

32
Feels like: 32

📍 Mumbai IN Jan. 13, 2026, 12:59 p.m.

Wind Kilometers per hour. Pressure is mb. Visibility is .
Maximum temperature is . Minimum temperature is

37
of humidity

NA
%
of clouds

13:00	14:00	15:00	16:00	17:00
27.7	22.8	25.4	24.7	23.4
Humidity: 22.3	Humidity: 25.8	Humidity: 21.4	Humidity: 27.3	Humidity: 21.8

Panel 2 — London

London 🔍

Weather Forecast

scattered clouds

10
Feels like: 8

📍 London GB Jan. 13, 2026, 1:01 p.m.

Wind Kilometers per hour. Pressure is mb. Visibility is .
Maximum temperature is . Minimum temperature is

92
of humidity

NA
%
of clouds

14:00	15:00	16:00	17:00	18:00
8.9	11.2	11.7	11.6	11.7
Humidity: 18.3	Humidity: 32.0	Humidity: 22.0	Humidity: 25.8	Humidity: 2

Panel 3 — Durg

Durg 🔍

Weather Forecast

clear sky

25
Feels like: 25

📍 Durg IN Jan. 13, 2026, 1:01 p.m.

Wind Kilometers per hour. Pressure is mb. Visibility is .
Maximum temperature is . Minimum temperature is

27
of humidity

NA
%
of clouds

14:00	15:00	16:00	17:00	18:00
26.7	24.4	24.4	24.4	24.4
Humidity: 21.8	Humidity: 25.8	Humidity: 21.4	Humidity: 27.3	Humidity: 21.8

Panel 4 — Jammu

Jammu 🔍

Weather Forecast

overcast clouds

8
Feels like: 7

📍 Jammu IN Jan. 13, 2026, 1:04 p.m.

Wind Kilometers per hour. Pressure is mb. Visibility is .
Maximum temperature is . Minimum temperature is

23
of humidity

NA
%
of clouds

14:00	15:00	16:00	17:00	18:00
6.8	8.5	9.5	11.6	11.7
Humidity: 21.7	Humidity: 25.8	Humidity: 21.4	Humidity: 27.3	Humidity: 2

Scotland

-2

Feels like: -2

80
of humidity

NA
%
of clouds

Weather Forecast

clear sky

⌖ Scotland US Jan. 13, 2026, 1:03 p.m.

Wind Kilometers per hour. Pressure is mb. Visibility is .
Maximum temperature is . Minimum temperature is

14:00	15:00	16:00	17:00	18:00
8.9	11.2	11.7	11.6	11.7
Humidity: 21.8	Humidity: 25.8	Humidity: 21.4	Humidity: 27.3	Humidity: 21.8

New Delhi

18

Feels like: 17

45
of humidity

NA
%
of clouds

Weather Forecast

haze

⌖ New Delhi IN Jan. 13, 2026, 1:03 p.m.

Wind Kilometers per hour. Pressure is mb. Visibility is .
Maximum temperature is . Minimum temperature is

14:00	15:00	16:00	17:00	18:00
20.6	21.3	20.5	22.2	22.7
Humidity: 18.9	Humidity: 32.0	Humidity: 22.0	Humidity: 25.8	Humidity: 21.4

Hyderabad

27

Feels like: 27

39
of humidity

NA
%
of clouds

Weather Forecast

scattered clouds

⌖ Hyderabad IN Jan. 13, 2026, 1:02 p.m.

Wind Kilometers per hour. Pressure is mb. Visibility is .
Maximum temperature is . Minimum temperature is

14:00	15:00	16:00	17:00	18:00
28.1	25.1	20.1	16.6	14.4
Humidity: 24.8	Humidity: 20.9	Humidity: 28.3	Humidity: 25.3	Humidity: 20.9

Kerala

32

Feels like: 32

38
of humidity

NA
%
of clouds

Weather Forecast

few clouds

⌖ Kerala IN Jan. 13, 2026, 1:04 p.m.

Wind Kilometers per hour. Pressure is mb. Visibility is .
Maximum temperature is . Minimum temperature is

14:00	15:00	16:00	17:00	18:00
28.5	22.0	23.9	21.4	22.7
Humidity: 18.2	Humidity: 32.0	Humidity: 22.0	Humidity: 25.8	Humidity: 21.4

Panel 1 (top-left):

New York

1

Feels like: -2

64
of humidity

NA
%
of clouds

Weather Forecast

clear sky

New York US Jan. 13, 2026, 1:08 p.m.

Wind Kilometers per hour. Pressure is mb. Visibility is . Maximum temperature is . Minimum temperature is

14:00	15:00	16:00	17:00	18:00
8.9	11.2	11.7	11.6	11.7
Humidity: 24.8	Humidity: 20.9	Humidity: 28.3	Humidity: 25.3	Humidity: 20.9

Panel 2 (top-right):

Srinagar

8

Feels like: 7

23
of humidity

NA
%
of clouds

Weather Forecast

broken clouds

Srinagar IN Jan. 13, 2026, 1:10 p.m.

Wind Kilometers per hour. Pressure is mb. Visibility is . Maximum temperature is . Minimum temperature is

14:00	15:00	16:00	17:00	18:00
6.8	8.5	9.5	11.6	11.7
Humidity: 21.7	Humidity: 25.8	Humidity: 21.4	Humidity: 27.3	Humidity: 21.8

Panel 3 (bottom-left):

Australia

39

Feels like: 35

6
of humidity

NA
%
of clouds

Weather Forecast

clear sky

Australia AU Jan. 13, 2026, 1:08 p.m.

Wind Kilometers per hour. Pressure is mb. Visibility is . Maximum temperature is . Minimum temperature is

14:00	15:00	16:00	17:00	18:00
33.1	25.1	20.1	16.6	14.4
Humidity: 23.4	Humidity: 21.7	Humidity: 25.8	Humidity: 21.4	Humidity: 27.3

Panel 4 (bottom-right):

Raipur

25

Feels like: 24

29
of humidity

NA
%
of clouds

Weather Forecast

haze

Raipur IN Jan. 13, 2026, 1:10 p.m.

Wind Kilometers per hour. Pressure is mb. Visibility is . Maximum temperature is . Minimum temperature is

14:00	15:00	16:00	17:00	18:00
26.7	24.4	24.4	24.4	24.4
Humidity: 25.8	Humidity: 21.4	Humidity: 27.3	Humidity: 21.8	Humidity: 25.8

Conclusion & Future Scope

Final Thoughts

- Successfully built a weather app
- Accurate and real-time data
- Future: Forecasts, alerts, maps
- Mobile & GPS integration

Thankyou!