WhatsApp Weather Alert — n8n Project Documentation

1. Project Overview

The **WhatsApp Weather Alert System** is an automation workflow built in **n8n** that provides daily weather notifications directly to WhatsApp. The system integrates the **OpenWeather API** to fetch weather forecasts, evaluates the likelihood of rain, and sends alerts using **Twilio's WhatsApp API** or **Meta's WhatsApp Cloud API**. This project eliminates manual weather checks and delivers timely updates, making it both practical and impactful.

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2. Objectives

- Automate weather checks without user intervention.
- Send personalized alerts to WhatsApp daily.
- Provide actionable insights (e.g., carry an umbrella if rain is forecasted).
- Demonstrate a **no-code/low-code automation** solution using n8n

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3. Tools & Technologies

1. **n8n** — Workflow automation platform.
2. **OpenWeather API** — Weather forecast provider.
3. **Twilio WhatsApp API** *(Option A)* — To send WhatsApp messages.
4. **Meta WhatsApp Cloud API** *(Option B)* — Alternative method to send WhatsApp messages.
5. **Cron Trigger (n8n)** — For scheduling daily runs.
6. **IF Node (n8n)** — To evaluate conditions (rain or no rain).
7. **HTTP Request Node (n8n)** — For API calls (OpenWeather & WhatsApp Cloud API).

4. Workflow Flow

Step 1: Cron Trigger

- Runs daily at a specific time (e.g., 07:00 AM).
- Initiates the workflow automatically.

Step 2: HTTP Request — OpenWeather API

Fetches the weather forecast using the OpenWeather endpoint:

https://api.openweathermap.org/data/2.5/forecast?q=YourCity&appid=YOUR_API_KEY&units=metric

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- Returns data in JSON format with forecasts for multiple time slots.

Step 3: IF Node (Condition Check)

- Evaluates forecast data.
- If rain is detected in any slot for the next 24 hours → **True branch**.
- If no rain → **False branch**.

Step 4: WhatsApp Notification

- **Option A: Twilio Node**
    - Preconfigured node for Twilio WhatsApp.
    - Requires `Account SID`, `Auth Token`, and Sandbox/Production WhatsApp number.
- **Option B: WhatsApp Cloud API (Meta)**
    - Use HTTP Request node.
    - Endpoint: `https://graph.facebook.com/v15.0/YOUR_PHONE_NUMBER_ID/messages`

- Method: POST
- Headers: `Authorization: Bearer YOUR_ACCESS_TOKEN`

JSON Body Example:

```
{
 "messaging_product": "whatsapp",
 "to": "<YOUR_PHONE_NUMBER>",
 "type": "text",
 "text": { "body": "Weather Alert 🌧️: Rain expected tomorrow in Hyderabad." }
}
```

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Step 5: Optional — Else Branch

If no rain, send a different WhatsApp message:

Weather Update ☀️: No rain expected tomorrow. Have a great day!

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5. Value Proposition

- **Convenience:** Eliminates the need to manually check weather apps.
- **Timeliness:** Daily automated alerts ensure you are prepared for rain.
- **Personalization:** Direct delivery via WhatsApp, a platform most users check regularly.
- **Scalability:** Can be extended to send alerts to multiple users or groups.
- **No-Code Friendly:** Built with drag-and-drop nodes in n8n, requiring minimal technical knowledge.

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6. Possible Enhancements

- Add temperature, humidity, and wind speed to messages.

- Extend to multiple cities or group alerts.Add user preferences for rain alerts (e.g., only alert for heavy rain).
- Integrate with Google Sheets to log daily weather history.
- Provide weekly summary reports.

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7. Conclusion

The **WhatsApp Weather Alert with n8n** is a simple yet impactful automation project. It highlights how everyday problems like checking the weather can be solved with no-code workflows, API integration, and instant messaging. This project demonstrates both technical utility and real-world value.
