

Live Weather Report Dashboard

– Documentation

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GitHub Repository: https://github.com/Aaryan1901/Live_Weather_Report_Dashboard

Live Weather Report Dashboard

An interactive Power BI Dashboard that provides live and forecasted weather data across multiple Indian cities using the WeatherAPI.

Project Highlights

- Location-based real-time weather updates
 - 7-day forecast with air quality data
 - Visuals on temperature, humidity, AQI, UV index, and more
 - Map integration for spatial context
 - Automatically refreshable via Power BI Service or manual refresh
 - Supports multiple cities: Pondicherry, Chennai, Bengaluru, Mumbai, etc.
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Files and Structure

- Weather_Report_Dashboard.pbix: Main Power BI report file with all dashboards and data queries
- Icons/: Custom icons used in dashboard visuals
- Backgrounds/: Background images used for dashboard layout
- README.md: Project documentation

How It Works

Data Source: WeatherAPI

API Endpoint Used:

<https://api.weatherapi.com/v1/forecast.json?q={city}&days=7&aqi=yes&alerts=no>

Key Query Parameters:

- q: City name (e.g., Pondicherry, Mumbai)
- days: 7 (for 7-day forecast)
- aqi: yes (to fetch air quality)
- alerts: no (optional)

Power BI Queries

Each city has a dedicated Power Query (<City>_Weather) that:

1. Calls the WeatherAPI endpoint.
2. Expands nested JSON fields like forecast.forecastday.hour.air_quality.
3. Transforms data types.
4. Appends to a unified MasterTable for cross-location analysis.

Example Query Steps (from Pondicherry_Weather):

Source -> Converted to Table -> Expanded location -> Expanded current -> Expanded forecast.forecastday -> Expanded forecast.forecastday.hour.air_quality -> Changed Type

Getting Started

1. Get a WeatherAPI Key

- Sign up at: <https://www.weatherapi.com>
- Copy your API key.

2. Open the PBIX

- Install Power BI Desktop
- Open Weather_Report_Dashboard.pbix

3. Configure Parameters

- Go to **Home > Manage Parameters**
- Replace placeholder API key and city names if needed

4. Refresh the Data

- Click **Refresh** to fetch live data
- Optionally, schedule automatic refresh in Power BI Service (Pro license required)

Supported Cities

- Pondicherry
- Chennai
- Bengaluru
- Thiruvananthapuram
- Mumbai
- Madurai

(You can add more cities by duplicating an existing query and changing the city name)

Tech Stack

- **Power BI:** Dashboard creation and data modeling
 - **Power Query (M):** Data transformation
 - **WeatherAPI:** REST API for weather and air quality data
 - **JSON:** Data format from API
 - **Custom Icons:** UI design
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Future Enhancements

- Add weather alerts tab
- Enable user-based dynamic location selection
- Integrate mobile responsiveness via Power BI Service
- Add historical comparison and trends

👏 Acknowledgements

- **WeatherAPI** – for the free API
- **Microsoft Power BI Team** – for the platform
- Icon & image providers (as applicable)

📄 License

This project is open-source for learning and demonstration purposes.
Feel free to fork and modify with credit.

Developed By Aaryan