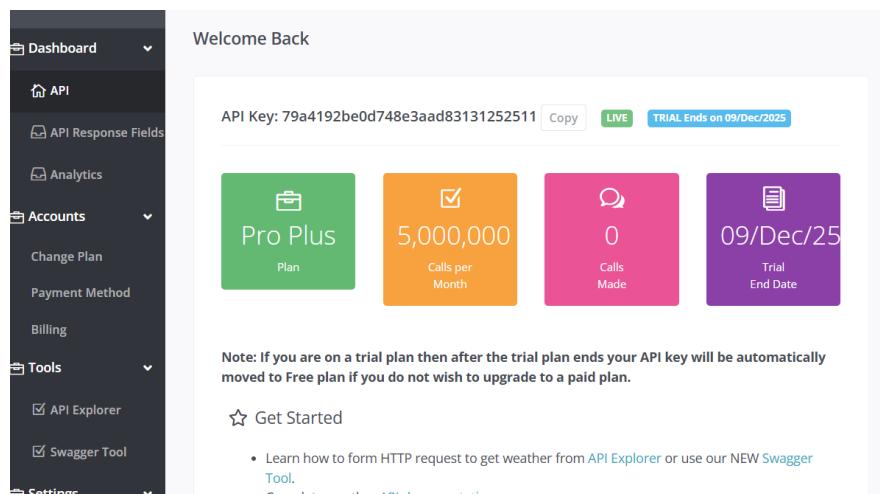


Weather Analysis Guide

气象 API – Power BI ETL Process Below is the complete process from Extracting → Transforming → Loading multiple city weather datasets using WeatherAPI and Power BI Power Query.

1 Extraction (Getting Data from Weather API)

Create an account on WeatherAPI.com and generate your API key.



Go to API Explorer → Forecast section.

Choose:

City (e.g., Hyderabad, Chennai, Noida...)

days = 7 (or any required number)

aqi = yes

alerts = no

Interactive API Explorer

WeatherAPI.com interactive API explorer or IO Docs allows you to test our APIs and methods. It returns response headers, response code and response body.

For complete documentation please visit our [Weather API Documentation](#) section.

You can also now use our Swagger tool to learn as to how to form weather Request. Visit [Swagger Tool](#)

The screenshot shows two examples of the Interactive API Explorer. The top example is for a weather forecast, with parameters: q=London, type=string, location=query. The bottom example is for a weather forecast with parameters: days=1, type=integer, location=query; aqi=no, type=string, location=query; alerts=no, type=string, location=query. Both examples show dropdown menus for 'Protocol' (HTTP) and 'Format' (JSON).

The explorer automatically generates a full forecast JSON URL.

Copy this URL (it contains your API key + city name + parameters).

Open Power BI → Get Data → Web, paste the URL, and load the JSON response into Power Query.

Transformation (Power Query Processing)

A. Convert JSON to Table

After loading the JSON, you will see location, current, and forecast records.

Convert the JSON record → table.

Expand each field progressively:

location

current

current.condition

current.air_quality

forecast

forecast.forecastday

forecast.forecastday.hour

Continue expanding as required.

B. Duplicate the First Query for Each City

1. Right-click the first city query → Duplicate.
2. For each duplicate, go to: Advanced Editor → Update only the city name in the Source URL.
3. Repeat this for all regions you want (Hyderabad, Chennai, Shimla, Noida, etc.).

The screenshot shows the Power BI desktop interface. The ribbon at the top has 'File', 'Home', and 'Transform' tabs. Under the 'Home' tab, there are buttons for 'Close & Apply', 'New Source', 'Recent Sources', 'Enter Data', 'Close', and 'New Query'. Below the ribbon, a list titled 'Queries [12]' is displayed. The queries listed are: Bengaluru, Hyderabad, Chennai, Sonamarg, Shimla (which is highlighted with a gray background), Noida, and Gurgaon.

Each query now loads weather data for one city.

3. Combining All City Data A. Append All City Queries

1. Go to Home → Append Queries → Append Queries as New.
2. Select Two or More Tables.
3. Append all city tables together.
4. Name the appended output table as Master

	A	B
100%	Valid	100%
0%	Error	0%
0%	Empty	0%
	1 distinct, 0 unique	7 distinct, 7 unique
77.0333	Asia/Kolkata	
77.5833	Asia/Kolkata	
78.4744	Asia/Kolkata	
80.2833	Asia/Kolkata	
77.32	Asia/Kolkata	
77.1722	Asia/Kolkata	
75.3	Asia/Kolkata	

This creates a single combined dataset with weather information for all cities.

4 Creating Clean Analytical Tables A. Create "Current" Table

1. Right-click Master → Reference (not duplicate).
2. Remove all forecast-related columns (forecast., forecastday., hour.).
3. Keep only location + current fields.
4. Rename this table to Current.

B. Create "ForecastDay" Table

Again, Reference the Master table.

Remove:

Current columns

Hourly forecast columns (forecast.forecastday.hour)

Keep only daily-level forecast data.

Rename to ForecastDay.

5 Loading (Final Step) A. Disable Loading for City Queries

For all individual city tables:

Right-click each city query → Enable Load (Turn Off)

This prevents unnecessary raw tables from loading to the model.

B. Enable Load Only For:

Master (combined raw dataset)

Current (clean current weather dataset)

ForecastDay (clean forecast dataset)

6 Close & Apply

Finally:

Click Close & Apply in Power Query

The cleaned and structured data loads into Power BI Model

Now you can build dashboards such as: ✓ Air quality index analysis ✓ Temperature trends ✓
City-wise weather comparison ✓ Forecast visualizations