**API Specifications Document**

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**IP-API**

URL = http://ip-api.com/json/{query}

This API allows users to find a location with an IP address or domain. An API key is not required, and the response formats include JSON, XML, CSV, Newline, and PHP. It has three parameters: *fields, lang,* and *callback*. The Chart below lists all the fields and values this API can return. Users can choose specific fields to return by using the GET parameter *fields* such as (fields=status, message).

|  |  |
| --- | --- |
| **Name** | **Description** |
| status | Success or fail |
| message | Included only when status is false, can be; private range, reserved range, invalid query |
| continent | Continent name |
| continentCode | Two-letter continent code |
| country | Country name |
| countrycode | Two-letter country code |
| region | Region/state short code |
| regionName | Region/State |
| city | City |
| district | District (subdivision of city) |
| zip | Zip code |
| lat | Latitude |
| lon | Longitude |
| timezone | Timezone |
| offset | Timezone UTC DST offset in seconds |
| currency | National currency |
| isp | ISP name |
| org | Organization Name |
| as | AS number and organization, separated by space (RIR). Empty for IP blocks not being announced in BGP tables. |
| asname | AS name (RIR). Empty for IP blocks not being announced in BGP tables. |
| reverse | Reverse DNS of the IP (can delay response) |
| mobile | Mobile connection |
| proxy | Proxy, VPN, or Tor exit address |
| hosting | Hosting, collocated, or data center |
| query | IP used for the query |

The data can be returned in different languages using the parameter *lang*. The languages that can be used are English(en), German(de), Spanish(es), Portuguese(pt-BR), French(fr), Japanese(ja), Chinese(zh-CN), and Russian(ru). Although, there is no callback function you can use the GET parameter *callback*. This API is limited to 45 requests per minute from an IP address. A user that goes over the limit will have all their requests throttled until the limit window is reset and can be banned for an hour if the user constantly goes over the limit. The header X-R1 states the number of requests left, and the header X-Ttl states the seconds left until the limit is reset.

**OpenWeather**

URL = https://api.openweathermap.org/data/2.5/weather?lat={lat}&lon={lon}&appid={API key}

Openweather is an API that gives users access to current weather data for any location on Earth. The data is collected from different sources such as satellites, requires an API key, and is available in JSON, XML, or HTML format. This API has the parameters lat(latitude), lon(longitude), appid(API key), mode(response format), units(units of measurement), and lang(language). The chart below lists the response fields that can be returned using this API.

|  |  |
| --- | --- |
| Name | Description |
| coord.lon | Longitude of the location |
| coord.lat | Latitude of the location |
| wheather.id | Weather condition id |
| weather.maain | Group of weather parameters (Rain, Snow, etc.) |
| weather.description | Weather conditions within the group |
| weather.icon | Weather icon id |
| base | Internal parameter |
| main.temp | Temperature |
| main.feels\_like | Temperature based on human perception |
| main.pressure | Atmospheric pressure on the sea level |
| main.humidity | Humidity percentage |
| main.temp\_min | Minimum temperature at the moment |
| main.temp\_max | Maximum temperature at the moment |
| main.sea\_level | Atmospheric pressure on the sea level |
| main.grnd\_level | Atmospheric pressure on the ground level |
| visibility | Visibility, the maximum value is 10 km |
| wind.speed | Wind speed. Unit Default: meter/sec, Metric: meter/sec, Imperial: miles/hour |
| wind.deg | Wind direction |
| wind.gust | Wind gust. Unit Default: meter/sec, Metric: meter/sec, Imperial: miles/hour |
| clouds.all | Cloudiness percentage |
| rain.1h | Rain volume for the last 1 hour, mm |
| rain.3h | Rain volume for the last 3 hours, mm |
| snow.1h | Snow volume for the last 1 hour, mm |
| snow.3h | Snow volume for the last 3 hours, mm |
| dt | Internal parameter |
| sys.type | Internal parameter |
| sys.id | Internal parameter |
| sys.message | Internal parameter |
| sys.country | Country cose |
| sys.sunrise | Sunrise time, unix, UTC |
| sys.sunset | Sunset time, unix, UTC |
| timezone | Shift in seconds from UTC |
| id | City ID |
| name | City name |
| cod | Internal parameter |

Users can make a call by city name, city ID, or zip code and can have data returned in different languages from English to Japanese. Temperature can be converted into Fahrenheit(imperial), Celsius(metric), or Kelvin(default/standard), and a callback function can be used as well.

**BreezoMeter Pollen**

URL =https://api.breezometer.com/pollen/v2/forecast/daily?lat={latitude}&lon={longitude}&key=YOUR\_API\_KEY&features={Features\_List}&days={Number\_of\_Days}

This API allows users to request pollen information for a specific location. The plants that are supported by this API are alder, ash, birch, cottonwood, elm, maple, olive, juniper, oak, pine, cypress\_pine, hazel, graminales, ragweed, and mugwort. This API does require an API key, that will allow users to receive a 5-day maximum pollen forecast. For all plant types in Canada and the US, a 5-day pollen forecast is provided. However, for other countries, a 5-day pollen forecast is available only for the plants Ash, Cottonwood, Oak, Pine, and Hazel. The parameters for this API are lat(latitude), lon(longitude), key(API key), days(a number from 1 to 5 that indicates how many days to request), features(sets the data fields returned by the response), metadata, and lang(sets the response language). Response fields include date, index\_id(BreezoMeter Pollen Index), index\_display\_name(pollen index name), types, and plants. The features that users can use are types\_information, index\_description, health\_recommendations, and plants\_description. Types\_information provides all the available pollen types at the requested location including their BreezoMeter Pollen Index, color, category, and seasonality. Plants\_information are all the available pollen plants at the requested location including their BreezoMeter Pollen Index, color, category, and seasonality. Index\_description is a sentence that helps users understand the current index level and health\_recommendations are actionable insights based on the current pollen levels. The plants\_description Allow feature allows users to identify and learn more about the plants that affect their allergies. Users can also return metadata that describes the original request by using the features start\_date and end-date(indicates the date range the data was requested), location, types(up to three pollen types), and symptoms(symptoms for allergy conditions).