**Custom API Specification**

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**IWP API**

IWP allows users to fetch weather and pollen data using an IP address’s latitude and longitude coordinates. It uses three APIs called ip-api, Open-Meteo, and Pollen API. Ip-api is used to allow users to fetch the latitude and longitude coordinates of an IP address entered. The latitude and longitude coordinates are then used to fetch data from the other two APIs. Open-Meteo is used to fetch weather data, such as temperature and precipitation, for the location of the requested IP address. The Pollen API is used to fetch data, such as the type of pollen present and their universal pollen index (UPI) for the IP address’s location as well. This API requires an IP address and a resource called weather to fetch data. It also requires an API key for the Pollen API. The data fields that this API can return are listed in the chart below.

|  |  |
| --- | --- |
| **Name** | **Description** |
| Status | Success or fail |
| Message | Included only when status is false, can be; private range, reserved range, invalid query |
| regionName | Region/state the IP address is located |
| City | The city where the IP address is located |
| IP address | A numerical identifier assigned to a device connected to the internet |
| Latitude | Identifies the distance north or south of the Earth’s equator |
| Longitude | Identifies the distance east or west of the meridian |
| Temperature (2m) | The degree of heat in an object at 2 meters above ground in Fahrenheit |
| Relative Humidity (2m) | The amount of water vapor in the air at 2 meters above the ground |
| Precipitation | The sum of rain, showers, and snow for the last hour |
| Snowfall | The amount of snow that has fallen in the last hour in centimeters |
| DayInfo | The date of the represented forecast |
| PollenTypeInfo | The pollen types, UPI, and health recommendations for the requested location |
| PlantInfo | The names and descriptions of plants and their seasonality, appearance, and cross-reactions |