

Purpose of this project is to create slack bot to get weather information of different cities using REST API.

Step 1 : Get Weather Information

To get weather information rest API from open weather map is used.

Link - <https://openweathermap.org/>

It provides different APIs so that by providing just the name of the city you will get weather information of it.

So as to use APIs from this website, you will need to create a free account which will allow to query upto 1000 times a day.

After creating an account, an API key will be generated, which is required to include inside API / url request like this -

http://api.openweathermap.org/.....&APPID={API_KEY}

E.g. of API - <http://api.openweathermap.org/data/2.5/weather?q=London&APPID=11111111>

(Instead of 11111111, you will need to enter API key provided to you after creating free account)

The response to this API will be as below -

```
{ "coord": { "lon": -0.13, "lat": 51.51 }, "weather": [ { "id": 521, "main": "Rain", "description": "shower rain", "icon": "09d" } ], "base": "stations", "main": { "temp": 290.37, "pressure": 1020, "humidity": 59, "temp_min": 289.15, "temp_max": 291.15 }, "visibility": 10000, "wind": { "speed": 6.7, "deg": 250 }, "clouds": { "all": 20 }, "dt": 1536940200, "sys": { "type": 1, "id": 5091, "message": 0.0055, "country": "GB", "sunrise": 1536903280, "sunset": 1536948962 }, "id": 2643743, "name": "London", "cod": 200 }
```

API query can be used in two formats :

http://api.openweathermap.org/data/2.5/weather?q=<CITY_NAME>&APPID=11111111

http://api.openweathermap.org/data/2.5/weather?q=<CITY_NAME>,<COUNTRY_ID>&APPID=11111111

Step 2 : Create Slack Bot

To create SlackBot use following link -

<https://www.fullstackpython.com/blog/build-first-slack-bot-python.html>

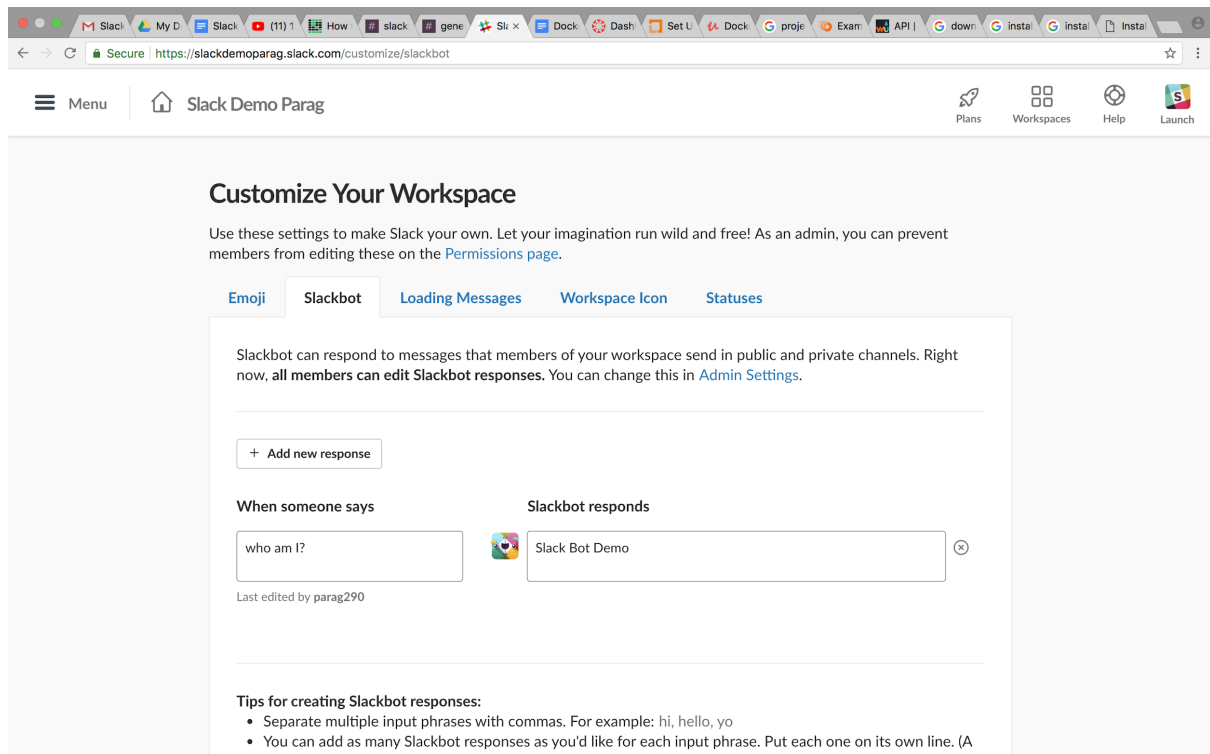
Tutorial - https://www.youtube.com/watch?v=tg1OoneCc_s

First of all, we need to create Workspace on Slack

Here, I have created 'Slack Demo Parag'

Slack provides facility to Create customize Responses on Slackbot -

Slack provides an option to customize your workspace, so for particular input you can generate desired output on the chat window.



In our case this feature will not be useful as we need to run different APIs for different requests using Python code

Following link provides all information to create a bot on slack workspace - <https://api.slack.com/bot-users>

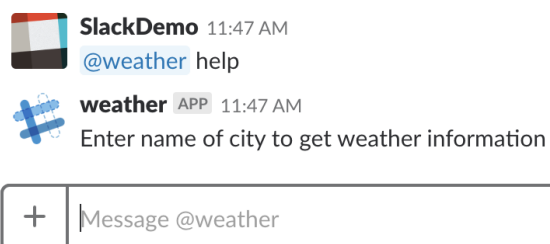
After creating bot, a bot ID will be generated which is required for our program (Slack client) to connect with our slack bot.

We need to write code to handle different inputs to slack bot.
Here, I have created a bot to get weather information by entering the name of the city.

Step 3 : Write code in Python for Slack Client

Now, we will write code to handle different requests using python. (refer code weatherbot.py)
In this project, Slack bot will accept two types of command -

1) @weather help

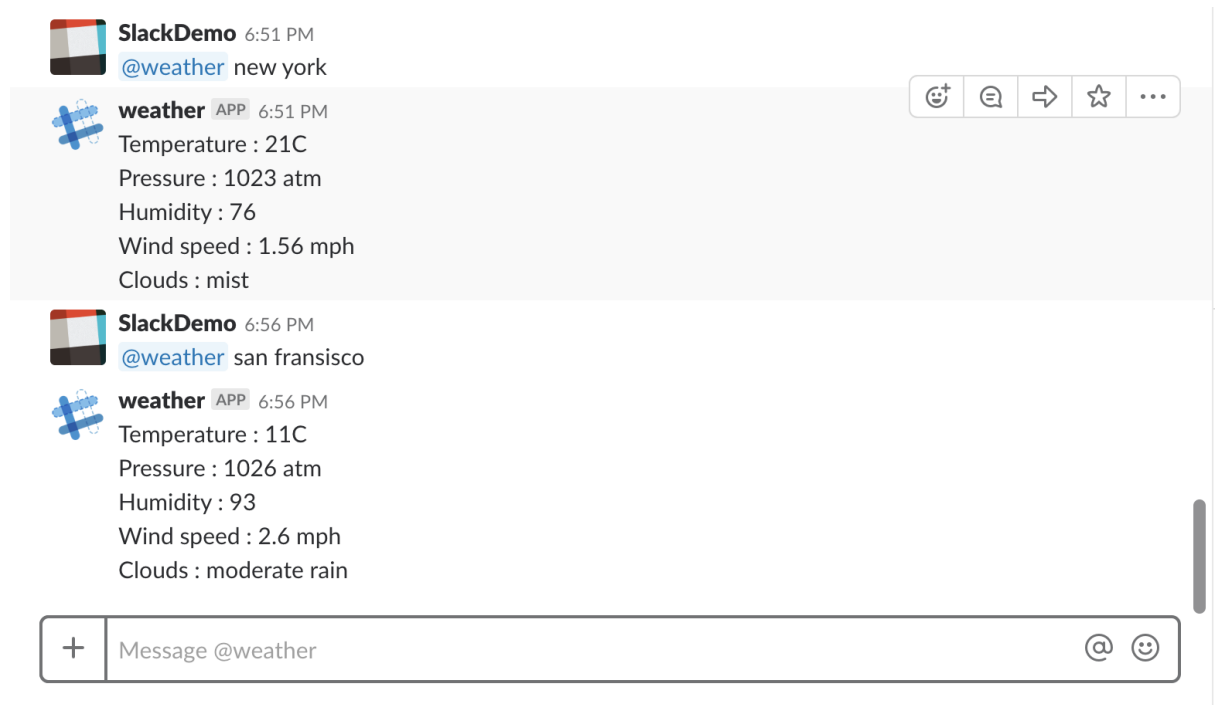


Help command will give some idea about what type of input is required.

2) @weather *city_name* or @weather *city_name*, *country_code*

After hitting this command, weather.py code will create an API to find weather information of city entered in command.

If it gets response from open weather map, it will display output as below -



The screenshot shows a Slack interface with two messages. The first message is from 'SlackDemo' at 6:51 PM, mentioning '@weather' and 'new york'. Below it is a message from the 'weather' app at 6:51 PM, displaying weather data for New York: Temperature : 21C, Pressure : 1023 atm, Humidity : 76, Wind speed : 1.56 mph, and Clouds : mist. The second message is also from 'SlackDemo' at 6:56 PM, mentioning '@weather' and 'san francisco'. Below it is a message from the 'weather' app at 6:56 PM, displaying weather data for San Francisco: Temperature : 11C, Pressure : 1026 atm, Humidity : 93, Wind speed : 2.6 mph, and Clouds : moderate rain. At the bottom is a message input field with a plus icon, the placeholder text 'Message @weather', and icons for mentions and emojis.

SlackDemo 6:51 PM
@weather new york

weather APP 6:51 PM
Temperature : 21C
Pressure : 1023 atm
Humidity : 76
Wind speed : 1.56 mph
Clouds : mist

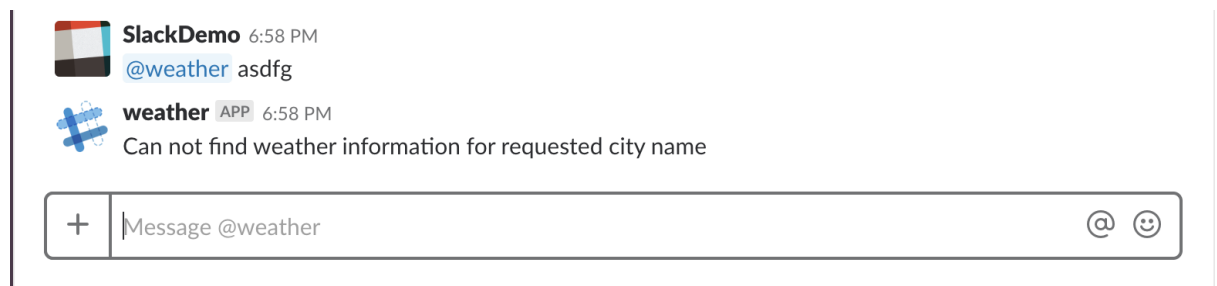
SlackDemo 6:56 PM
@weather san francisco

weather APP 6:56 PM
Temperature : 11C
Pressure : 1026 atm
Humidity : 93
Wind speed : 2.6 mph
Clouds : moderate rain

+ Message @weather

open weather map will provide various parameters related to weather for any city as shown above in example at step 1, but I have displayed limited parameters in slack bot.

In case error status 400 from open weather map, output will be displayed as below -



The screenshot shows a Slack interface with two messages. The first message is from 'SlackDemo' at 6:58 PM, mentioning '@weather' and 'asdfg'. Below it is a message from the 'weather' app at 6:58 PM, displaying the error message: 'Can not find weather information for requested city name'. At the bottom is a message input field with a plus icon, the placeholder text 'Message @weather', and icons for mentions and emojis.

SlackDemo 6:58 PM
@weather asdfg

weather APP 6:58 PM
Can not find weather information for requested city name

+ Message @weather