Dialogflow Weather API Using Flask and Ngrok server

The main theme of this project is to check basic details of the climate for any city in the world.

Requirements:

1. **Flask**
2. **Google's dialogflow(agent)**
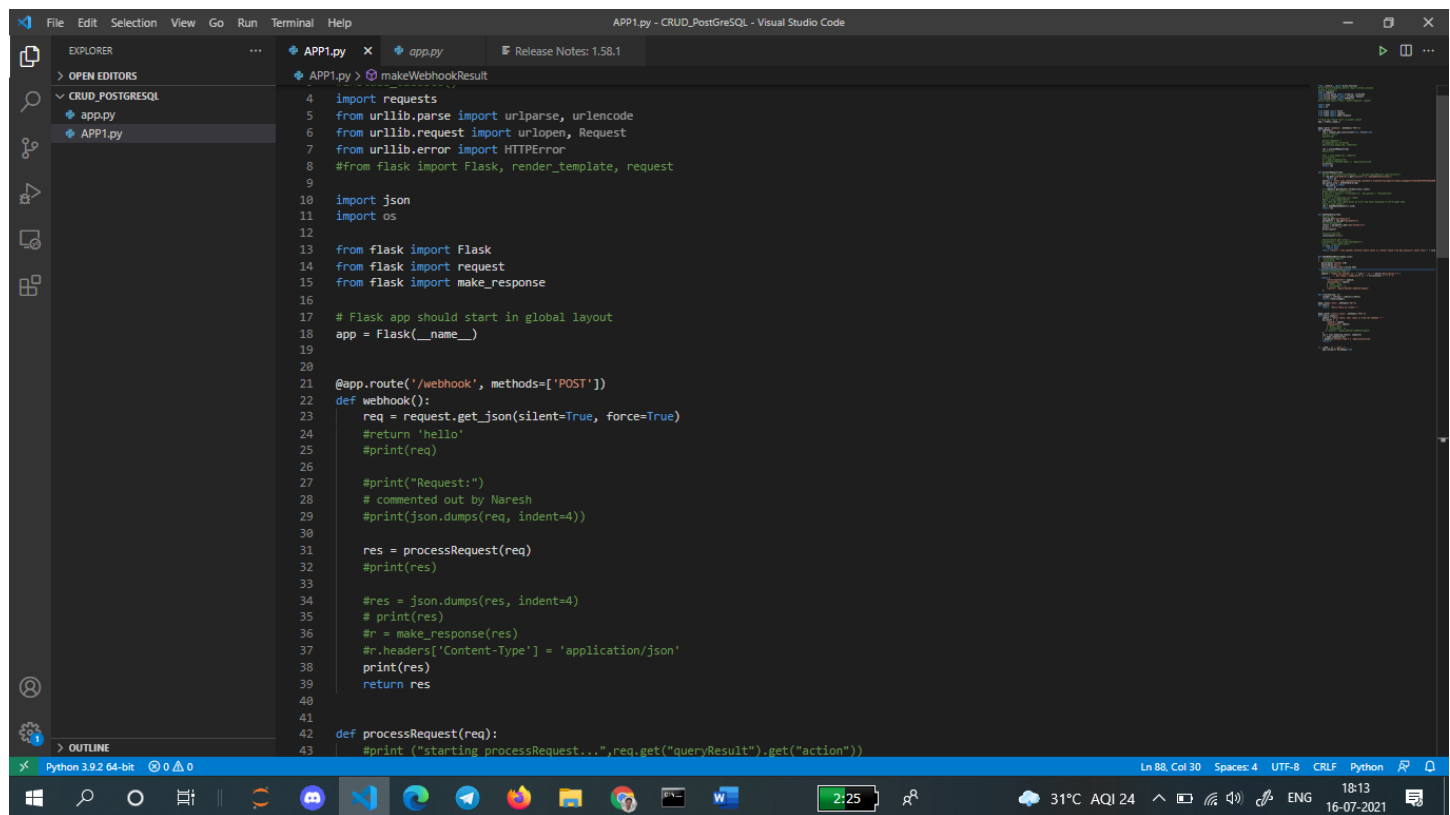3. **Ngrok server**

Code link : https://github.com/krishnasai7500/-Dialogflow-Weather-API-Using-Flask-and-Ngrok-server/tree/main

Dialogflow is the chatbot agent in that the user will ask the agent about climate in any city

The Ngrok is the server which connect the dialogflow and flask by giving the same port numbers for Ngrok and flask

Lets start

Flask

```python
def processRequest(req):
    #print ("starting processRequest...",req.get("queryResult").get("action"))
    if req.get("queryResult").get("action") != "yahooWeatherForecast":
        return {}
    baseurl = "http://api.openweathermap.org/data/2.5/weather?q={}&units=imperial&appid=271d1234d3f497eed5b1d80a07b3fcd1"
    yql_query,city = makeYqlQuery(req)
    if yql_query is None:
        return {}
    r = requests.get(baseurl.format(city)).json()
    #print(baseurl.format(city))
    # yql_url = baseurl + urlencode({'q': yql_query}) + "&format=json"
    # print(yql_url)
    # result = urlopen(yql_url).read()
    #data = json.loads(result)
    #for some the line above gives an error and hence decoding to utf-8 might help
    #data = json.loads(r)
    res = makeWebhookResult(r,city)
    return res


def makeYqlQuery(req):
    #print(req)
    req=req.get("queryResult")
    parameters = req.get("parameters")
    #print(parameters)
    result = parameters.get("geo-county-us")
    print("---------")
    print(result)

    #result=result[0]
    city=result['city']

    #print(result.get('city'))
    # parameters = result.get("parameters")
    #city = result.get("city")
    if city is None:
        return None
    return "select * from weather.forecast where woeid in (select woeid from geo.places(1) where text='" + city + "')",city
```

```python
def makeWebhookResult(data,city):
    main1=data['weather'][0]
    main2=data['main']
    celsius=(main2['temp']-32)*0.5555
    celsius=truncate(celsius,2)
    #print(type(main2['temp']))
    speech = "Today the weather in " + city + " is " + main1['description'] + \
            ", And today's temperature is " + str(celsius) + "^" + 'C'

    return {
        "fulfillmentText": speech,
        "displayText": speech,
        # "data": data,
        # "contextOut": [],
        "source": "apiai-weather-webhook-sample"
    }
def truncate(num, n):
    integer = int(num * (10**n))/(10**n)
    return float(integer)


@app.route('/test', methods=['GET'])
def test():
    return  "Hello there my friend !!"


@app.route('/static_reply', methods=['POST'])
def static_reply():
    speech = "Hello there, this reply is from the webhook !! "
    my_result = {
        "speech": speech,
        "displayText": speech,
        # "data": data,
        # "contextOut": [],
        # "source": "apiai-weather-webhook-sample"
    }
    res = json.dumps(my_result, indent=4)
    r = make_response(res)
    r.headers['Content-Type'] = 'application/json'
    return r
if __name__ == "__main__":
    app.run(port= 80,debug=True)
```

This application running on port number "80"

Ngrok server which runs for a 2 Hours

This application running also runs on port number "80"

https://e94b42ac5437.ngrok.io this link will connect the dialogflow and flask

Dialogflow

This is the intent of dialogflow , the intent is nothing but in chatbot from the user input dialogflow will identifies the which intent is suitable for the user's question. And above screenshot is how the intents is create and how to extract the city from the user question

This is the fulfillment part which is used to connect the dialogflow which external API's . Here the ngrok link used connection of both dialogflow and ngrok and "/webhook" is used to root the application which on running in the same port . Here in this the flask and ngrok running on same port so we can directly access the flask code with this.
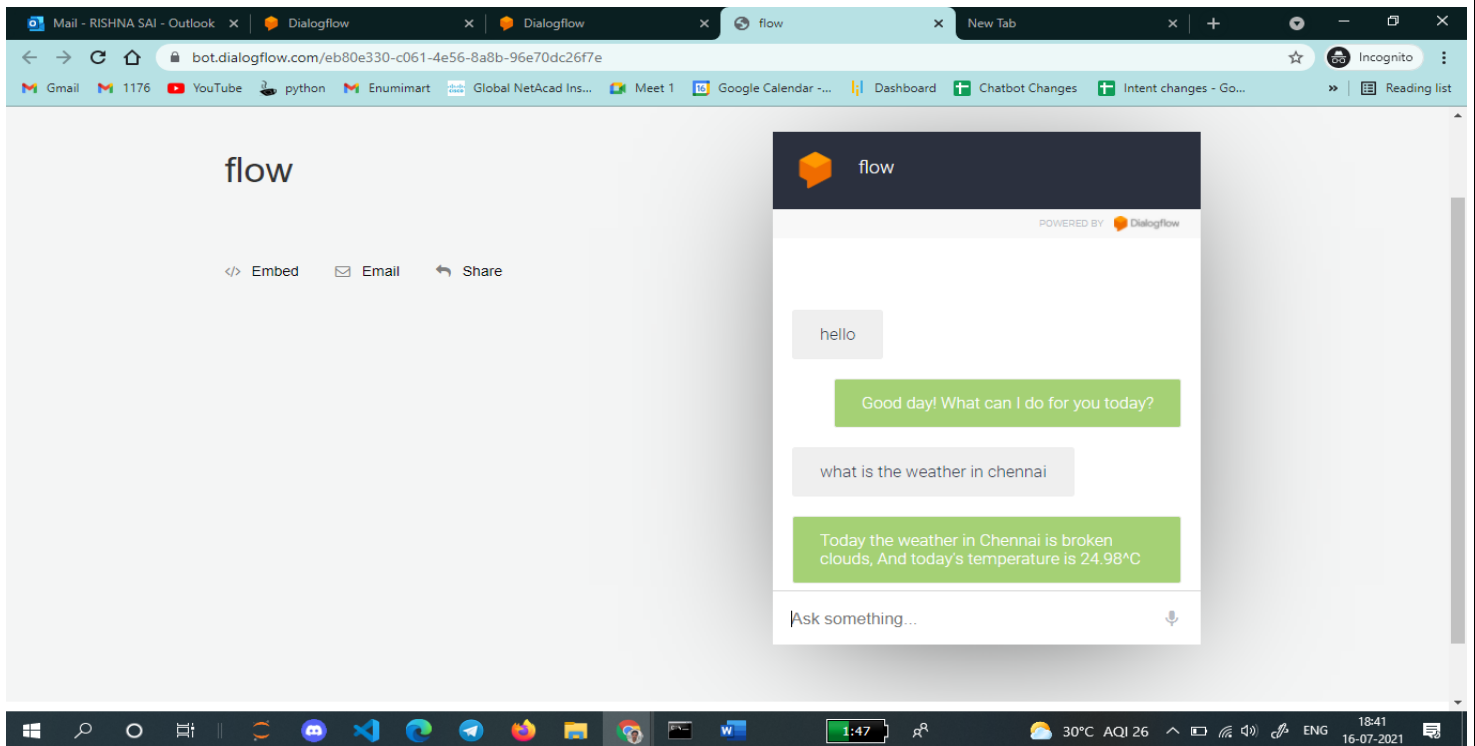
Here the user asking the question that what is the weather in Chennai

The reply here is "Today the weather in Chennai is broken clouds, And today's temperature is 24.98^C"
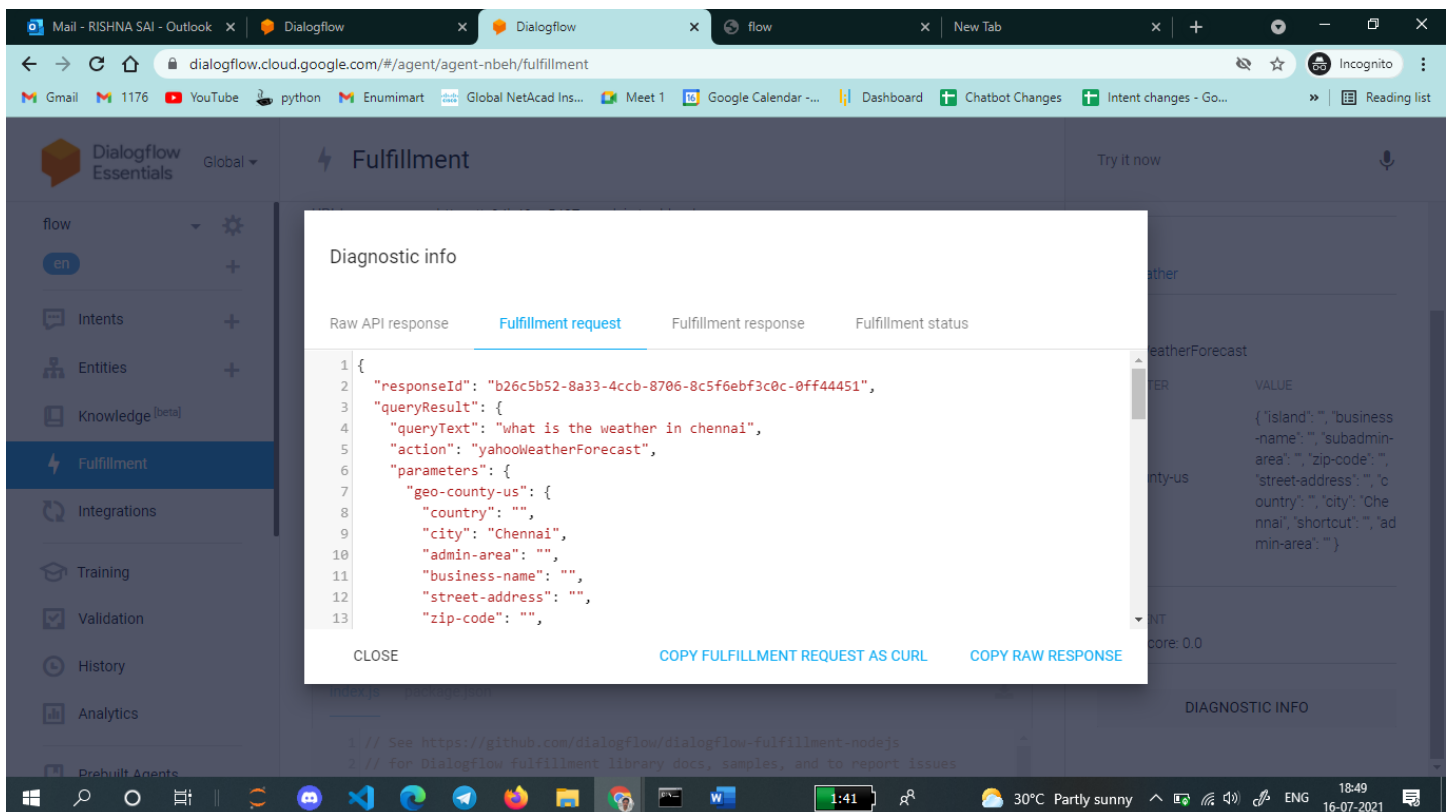
This is the responds was given by dialogflow which was in json format

In that we are extracting the city name

Here the dialogflow was connected to ngrok server


```
baseurl = "http://api.openweathermap.org/data/2.5/weather?q={}&units=imperial&appid=271d1234d
3f497eed5b1d80a07b3fcd1"
```

This is the link which I'm using to extract the weather data which is in format of json ,

Here I'm connecting the link with city with the help of format() function in python.

This is the Dialogflow Weather API Using Flask and Ngrok server

Thank you 😊

By T Krishna sai