

HOME AUTOMATION USING GOOGLE ASSISTANT

In this project we are going to control our devices with voice commands using Google assistant.

1. Installing required libraries

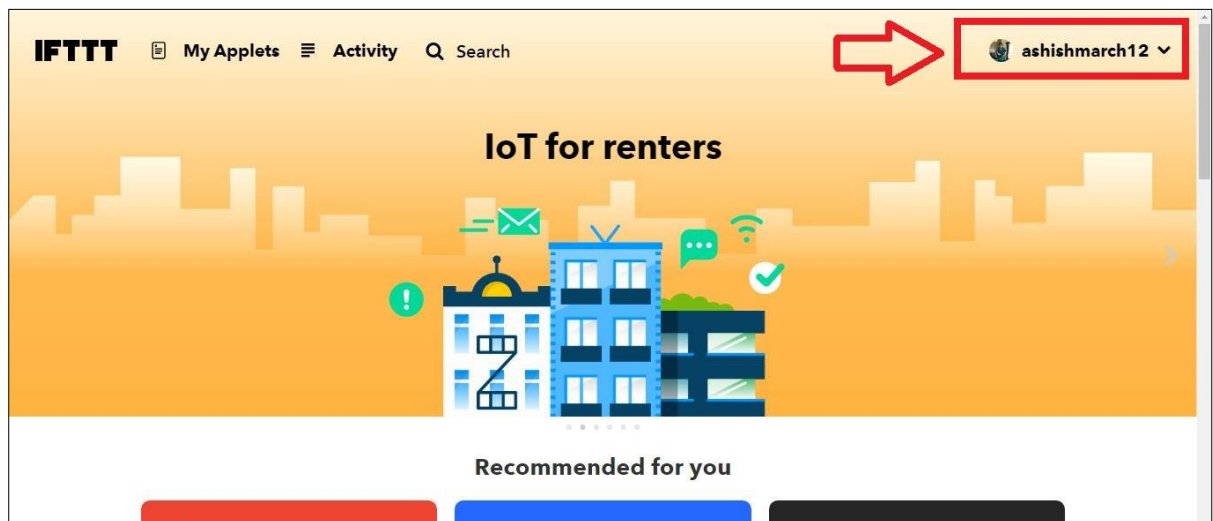
Install these libraries by typing the commands in terminal

pip install requests

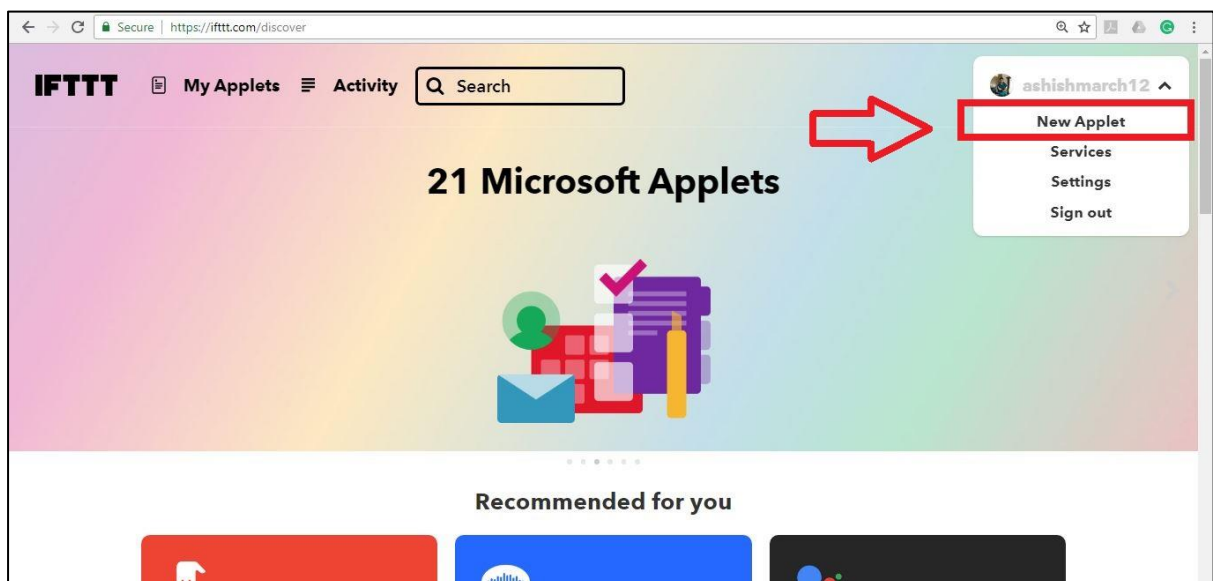
sudo apt-get install build-essential python-dev

2. Setting up Google Assistant and linking it to ThingSpeak Channel

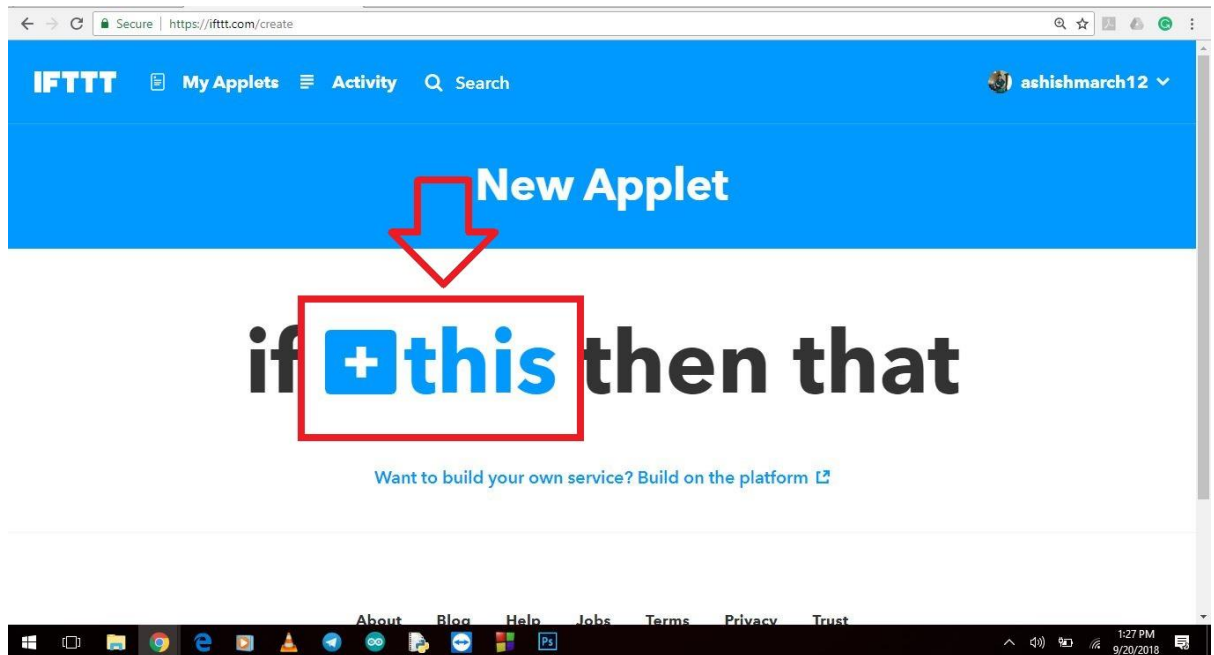
Step 1: Create account on IFTTT website and click on your ID.



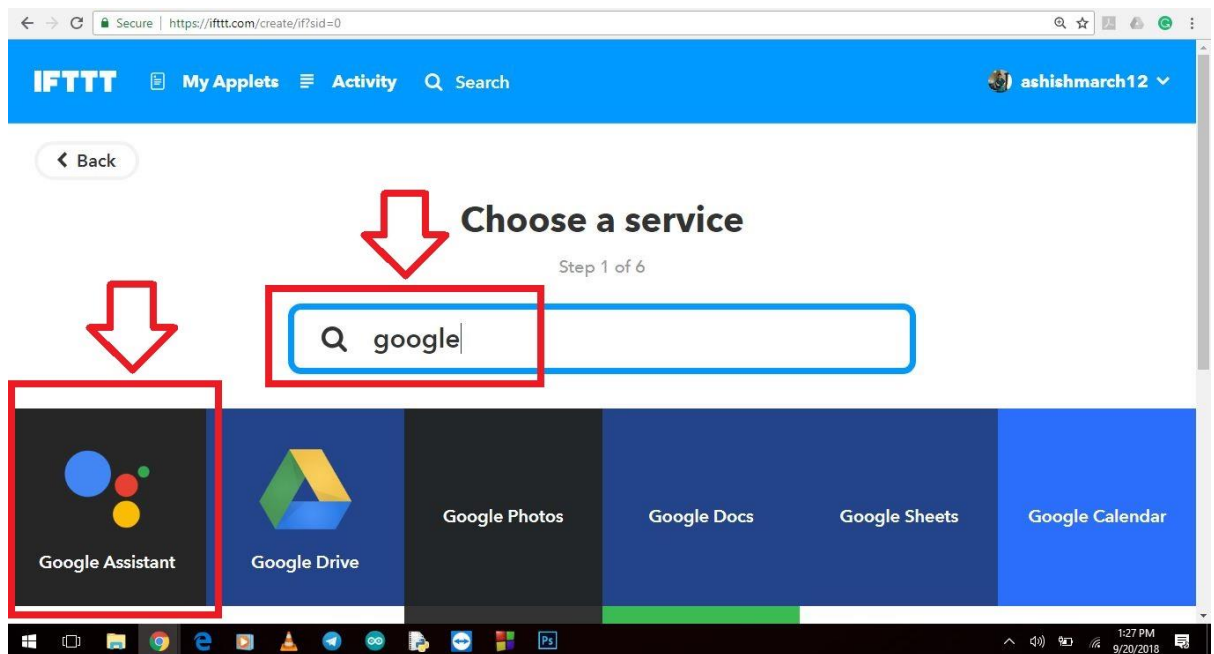
Step 2: Now click on “New Applet”



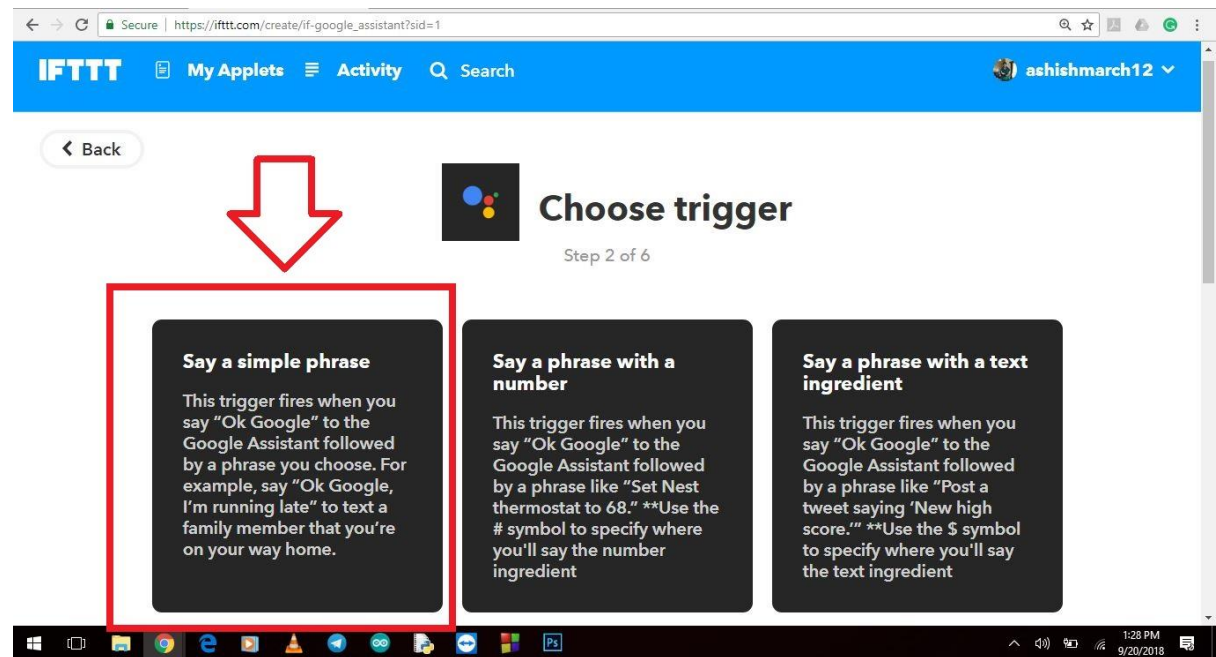
Step 3: Click on “+this”.



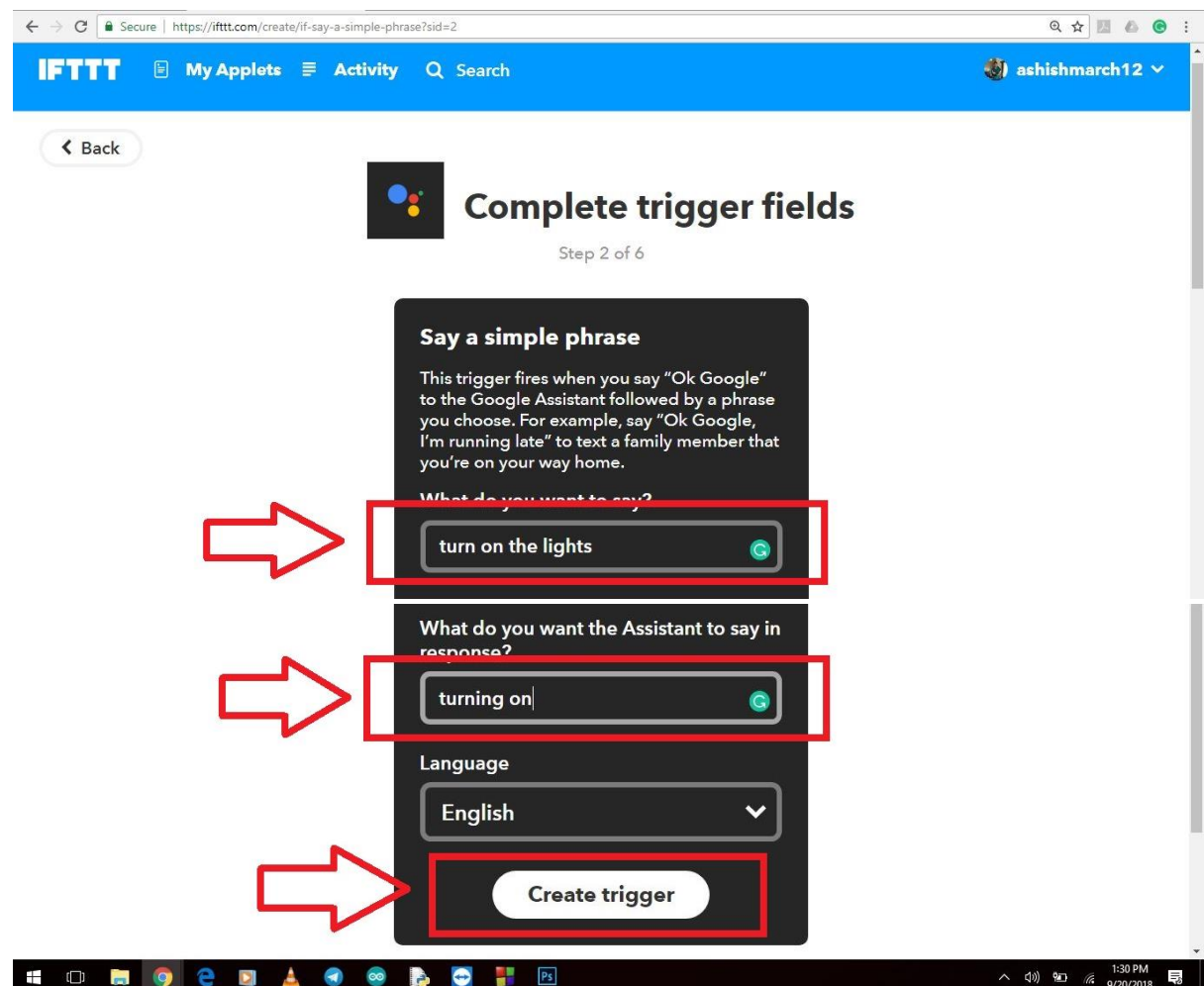
Step 4: Choose Google Assistant from the list.



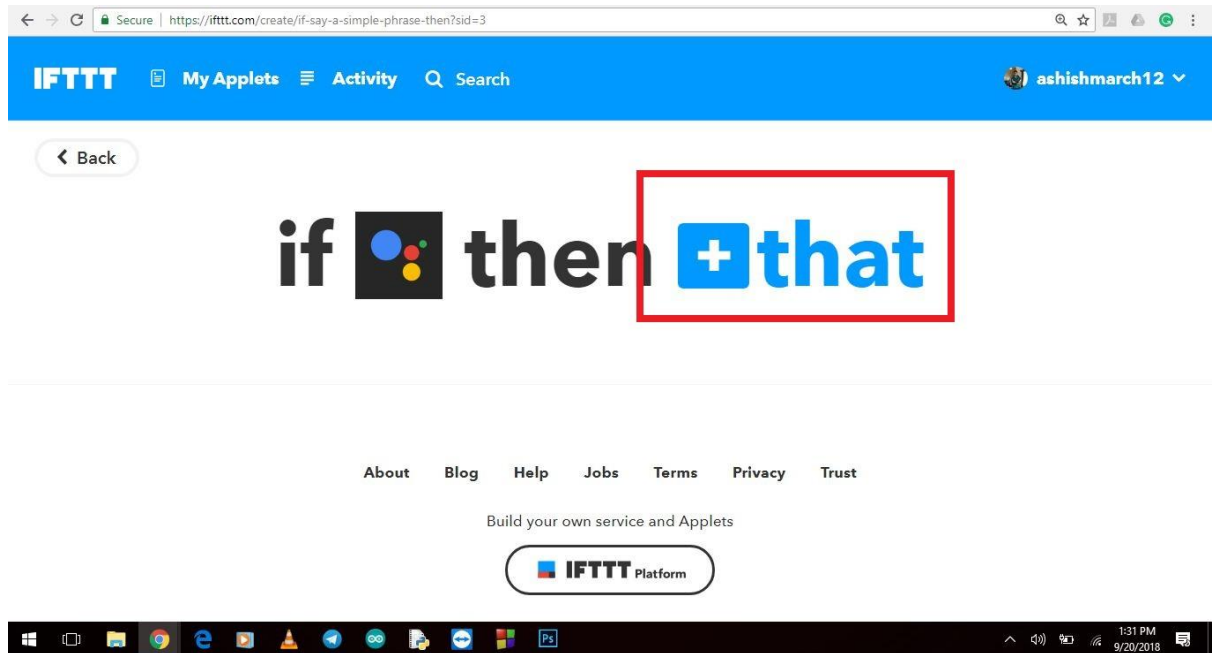
Step 5: Click on “Say a simple phrase” applet.



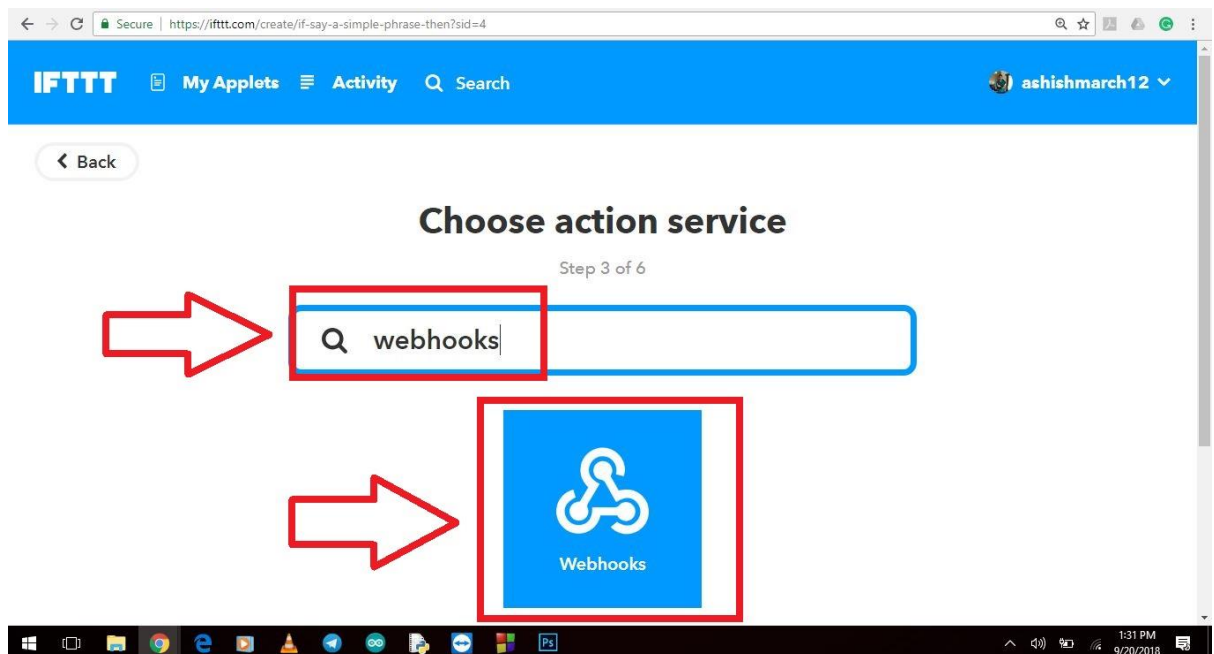
Step 6: Fill the following fields and click “Create trigger”.



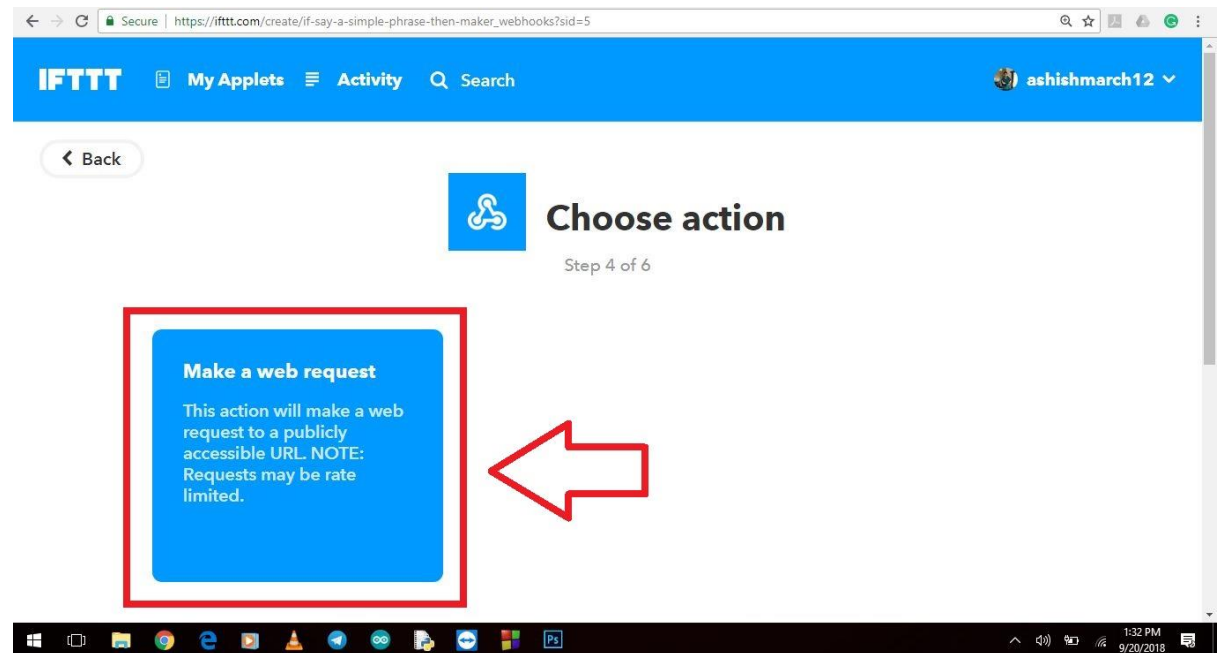
Step 7: Click on “+that”.



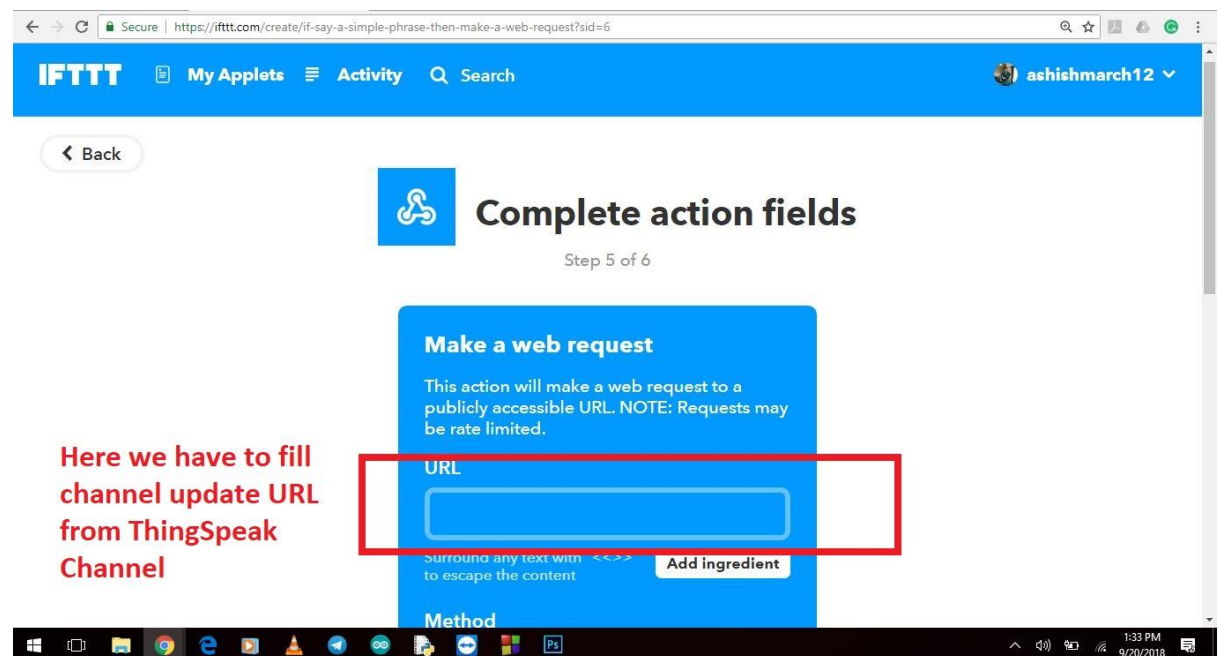
Step 8: Search for webhooks and select it.



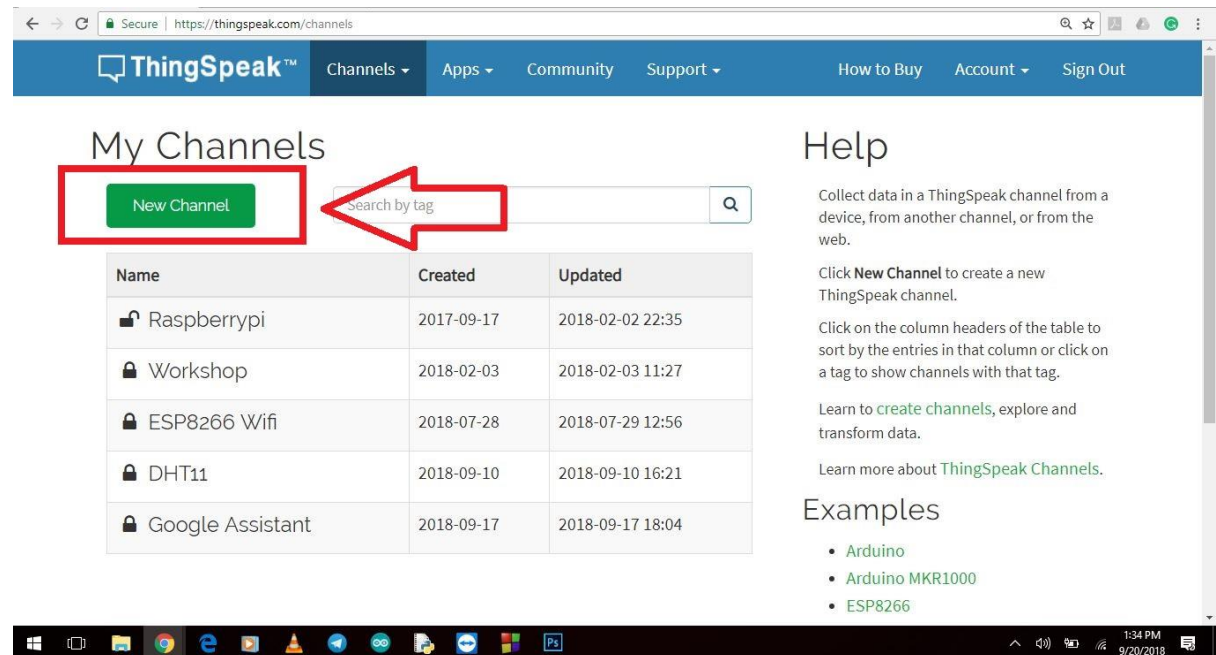
Step 8: Choose action “Make a web request”.



Step 9: Here we have to fill the ThingSpeak Channel.



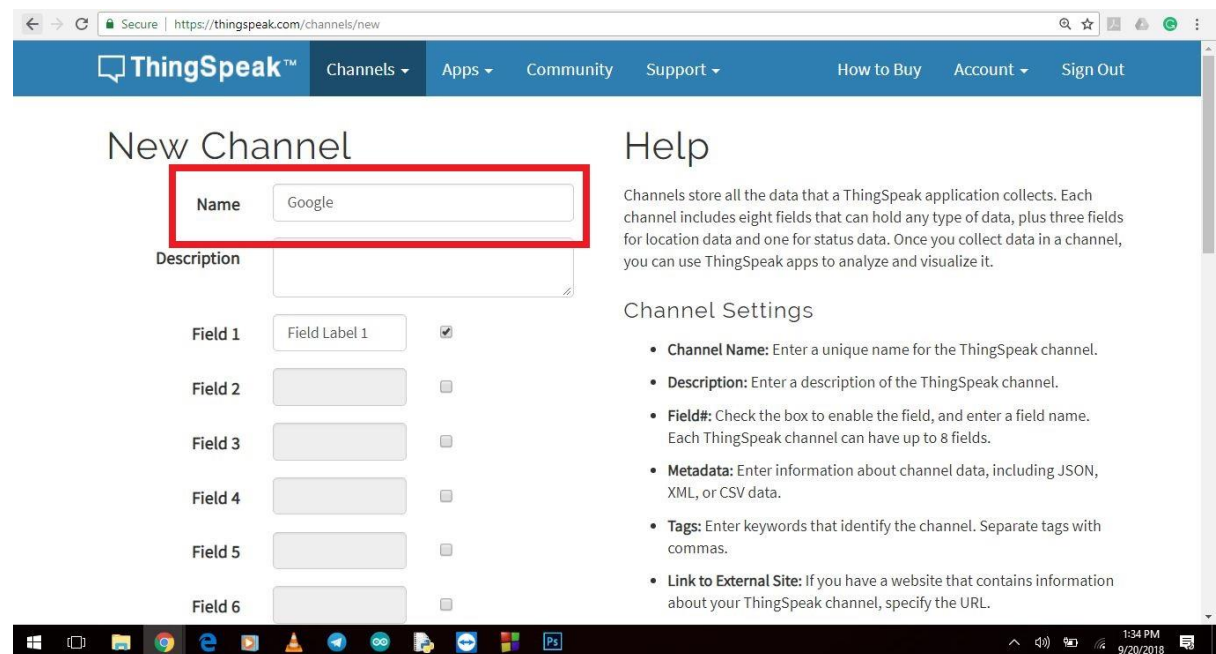
Step 10: Goto Thingspeak.com, sign in to your account and create a new channel.



The screenshot shows the Thingspeak website's 'My Channels' page. The navigation bar at the top includes 'Channels', 'Apps', 'Community', 'Support', 'How to Buy', 'Account', and 'Sign Out'. The main content area is titled 'My Channels' and features a green 'New Channel' button, which is highlighted with a red box. To the right of this button is a search bar labeled 'Search by tag'. Below these elements is a table listing existing channels. The table has three columns: 'Name', 'Created', and 'Updated'. The channels listed are 'Raspberrypi', 'Workshop', 'ESP8266 Wifi', 'DHT11', and 'Google Assistant'. To the right of the table is a 'Help' section with instructions on how to create a new channel and use the table's sorting and filtering capabilities. Below the help section is an 'Examples' section listing 'Arduino', 'Arduino MKR1000', and 'ESP8266'. The Windows taskbar at the bottom shows the time as 1:34 PM on 9/20/2018.

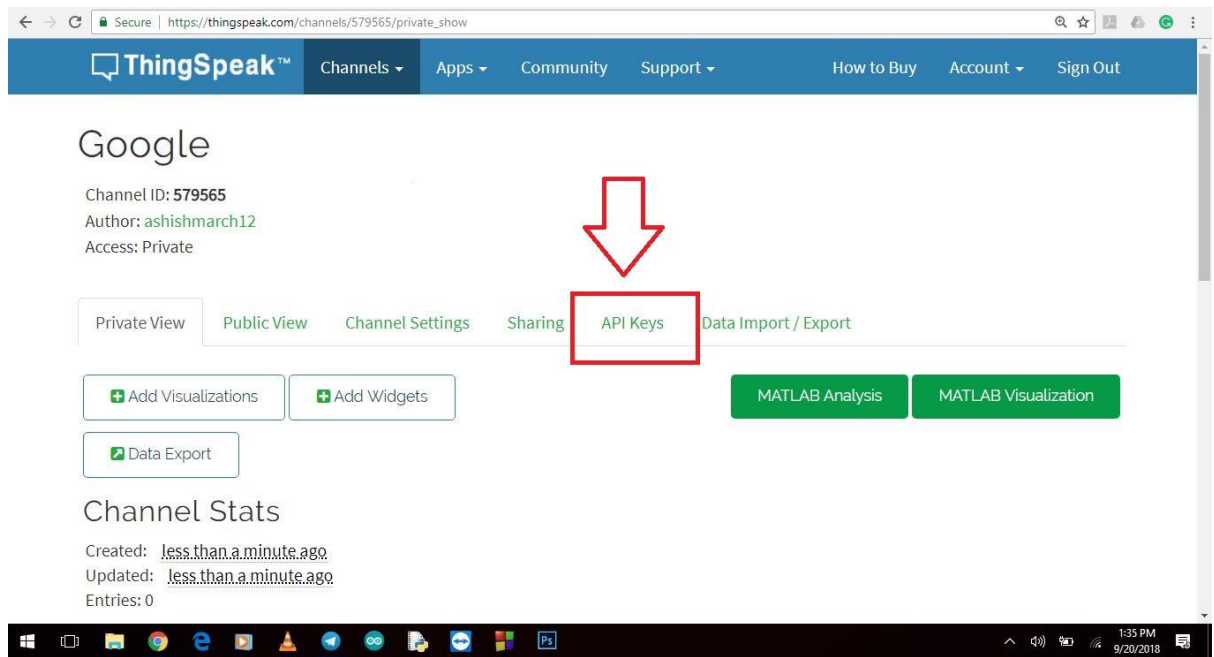
Name	Created	Updated
Raspberrypi	2017-09-17	2018-02-02 22:35
Workshop	2018-02-03	2018-02-03 11:27
ESP8266 Wifi	2018-07-28	2018-07-29 12:56
DHT11	2018-09-10	2018-09-10 16:21
Google Assistant	2018-09-17	2018-09-17 18:04

Step 11: Give this channel a name.

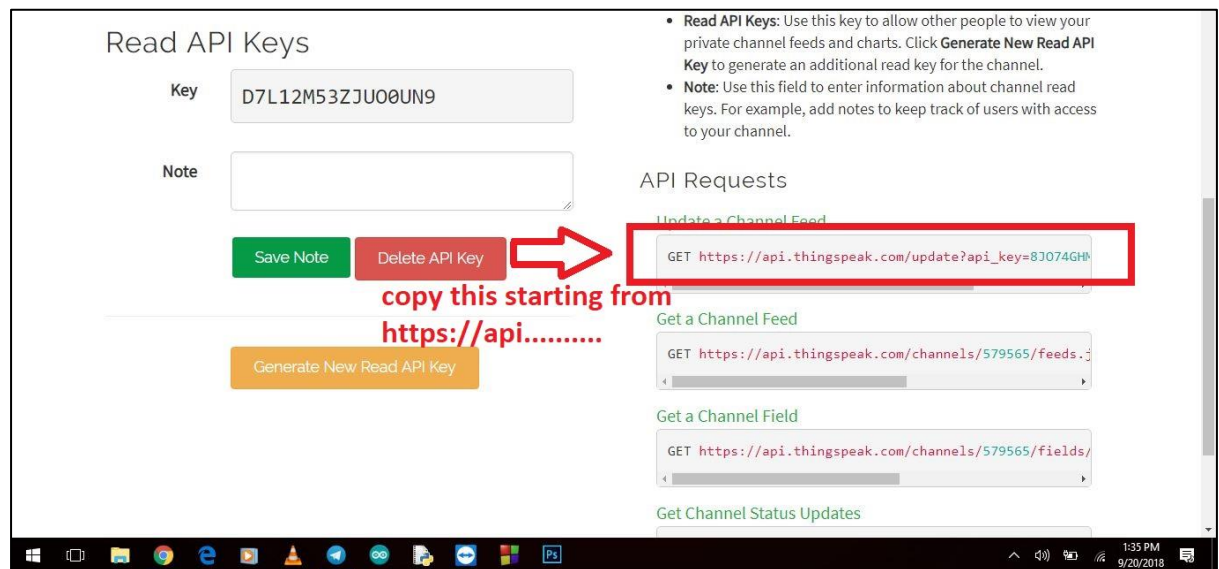


The screenshot shows the Thingspeak website's 'New Channel' page. The navigation bar is the same as in the previous screenshot. The main content area is titled 'New Channel' and features a form for creating a new channel. The 'Name' input field is highlighted with a red box and contains the text 'Google'. Below the 'Name' field is a 'Description' text area. To the right of the form is a 'Help' section explaining that channels store data and can have up to 8 fields. Below the help section is a 'Channel Settings' section with a list of settings: 'Channel Name', 'Description', 'Field#', 'Metadata', 'Tags', and 'Link to External Site'. The Windows taskbar at the bottom shows the time as 1:34 PM on 9/20/2018.

Step 12: Click on "API" keys.



Step 13: Copy the “Update channel feed” link. Make sure you don’t copy “GET” prefix written in front of it.



Step 14: Paste the URL here and change the last values according to what data you want to send. The same data will be updated on ThingSpeak channel.

For eg: you can send "1" as a signal to turn on LED/Light.
And you can send "0" to turn it off.

The screenshot shows the IFTTT 'Complete action fields' step (Step 5 of 6) for the 'Make a web request' action. The URL field is highlighted with a red box and a red arrow pointing to it with the text 'and paste here'. The URL is `https://api.thingspeak.com/update?api_key=8JO74GHM426DWCVL&field1=1`, with a red arrow pointing to the value '1' and the text 'change this to 1'. The Method dropdown is set to 'GET'. The Content type dropdown is highlighted with a red box and a red arrow pointing to it, and is set to 'application/json'. The Body field is empty. The 'Create action' button is at the bottom.

and paste here →

URL

`https://api.thingspeak.com/update?api_key=8JO74GHM426DWCVL&field1=1` change this to 1

Method

GET

Content type

application/json

Body

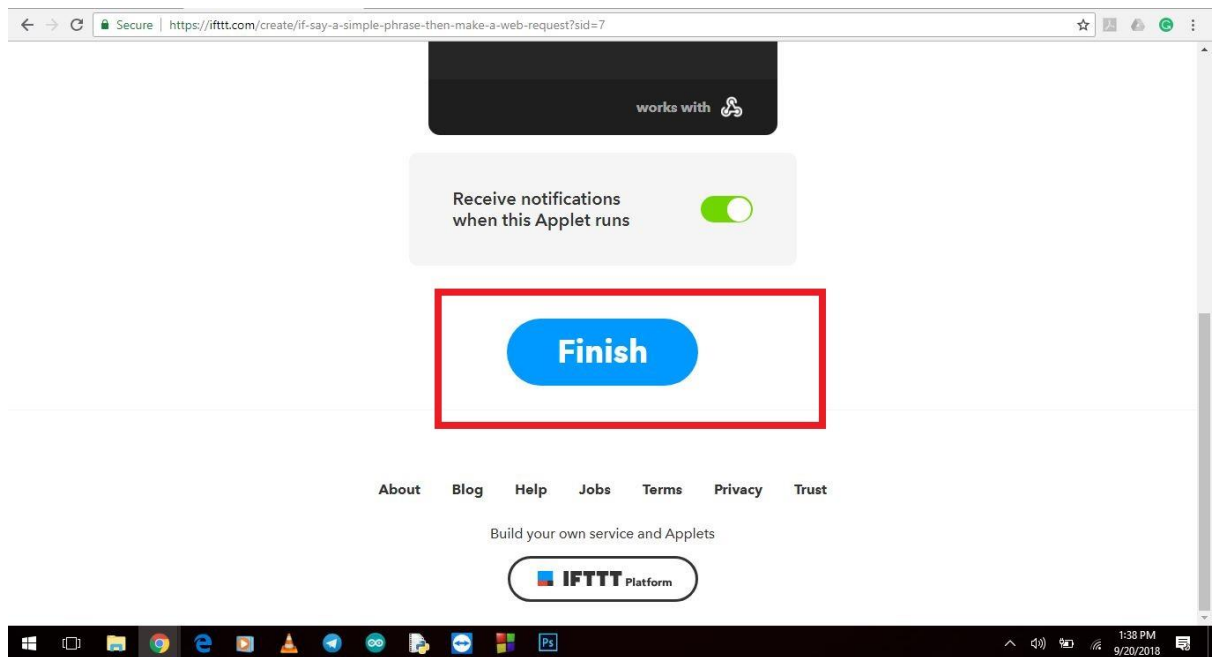
Create action

Make sure you select json from the Method drop down menu

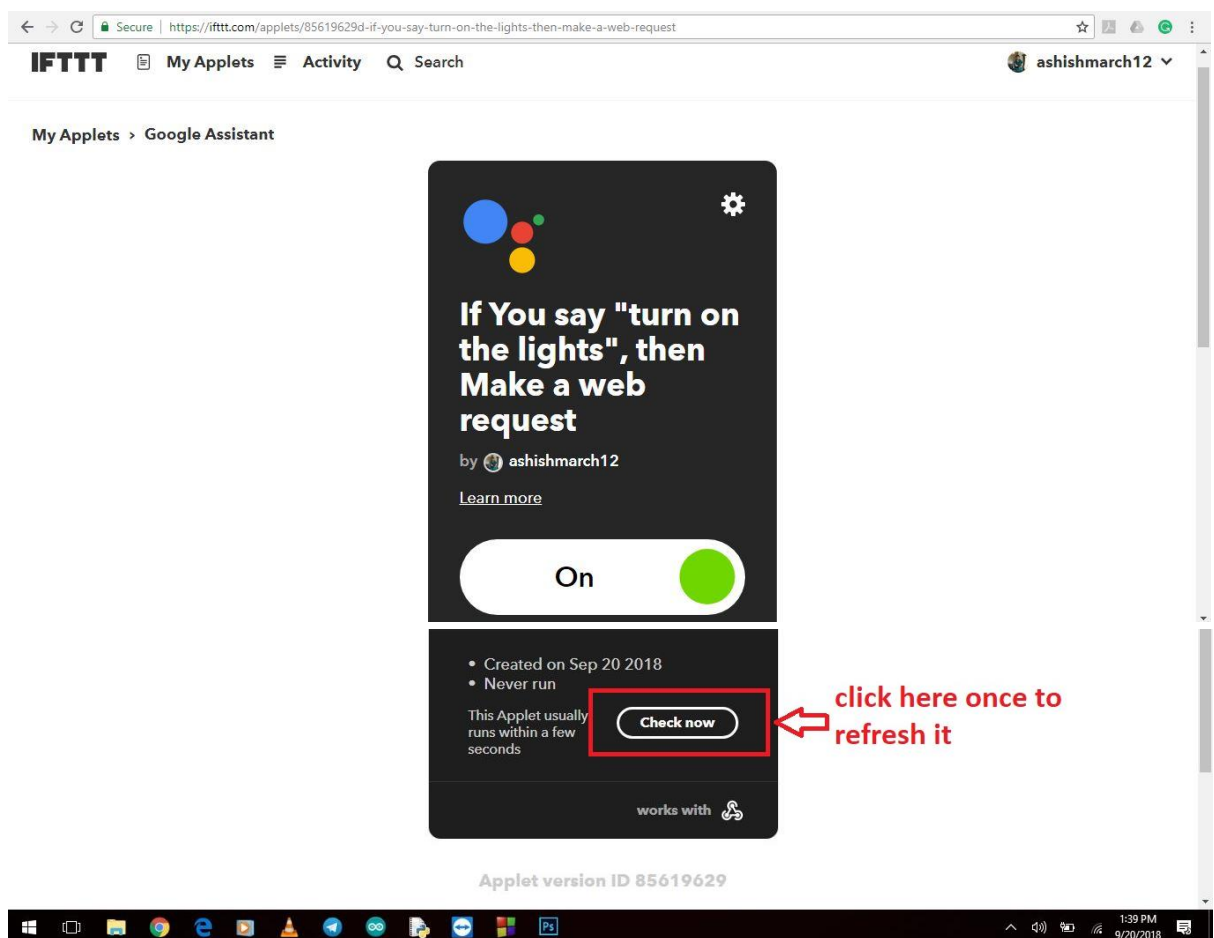
Select content type as application/json

Now click on "Create action".

Step 15: Click on “Finish”.



Step 16: Click on “check now”.



3. Code to Fetch data from ThingSpeak Channel

```
import json
import requests
import time
import RPi.GPIO as GPIO
led = 3
GPIO.setmode(GPIO.BOARD)
GPIO.setup(led,GPIO.OUT)
myserverURL = "https://www..... enter your URL here"
while(True):
    data=requests.get(myserverURL)
    if data.status_code!=200:
        print("error");
    try:
        data=json.loads(data.text)
    except:
        data=None;
    if data!=None:
        value =data["feeds"][0]["field1"]
        print("value = %s" % (value))
        if value=='1':
            GPIO.output(led,True)
        if value=='0':
            GPIO.output(led,False)
        time.sleep(0.01)
```