Project Name :- Smart Home Assistant With Ibm Cloud.

By:-CSE\_D19

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**TABLE OF CONTENTS:**

**1.INTRODUCTION**

1.1 Overview

1.2 Purpose

**2.LITERATURE SURVEY**

2.1 Existing problem

2.2 Proposed solution

**3.THEORETICAL ANALYSIS**

3.1 Block diagram

3.2 Hardware/Software designing

**4.EXPERIMENTAL INVESTIGATIONS**

**5.FLOW CHART**

**6.RESULT**

**7.ADVANTAGES & DISADVANTAGES**

**8.APPLICATIONS**

**9.CONCLUSION**

**10.FUTURE SCOPE**

**11.BIBLIOGRAPHY**

**12. APPENDIX**

A. Source code

B. UI output Screenshot

**1.INTRODUCTION:**

**1.1 overview**

The Smart home assistant is your personal assistant which makes the tasks of the person. It acts according to the person's commands.  A home assistant helps the user in controlling appliances in the home easily by giving voice commands. This gives the temperature and humidity of the home and also we can set reminders. Users can also send the messages to the desired person just by giving the voice inputs.

**1.2 Purpose**

By using this smart home assistant we can control our appliances by giving voice commands. we can also check our home humidity and temperature. We can also set reminders if there is an important event. Therefore, by using smart home assistant we can make our home more safe and secure.

**2 . LITERATURE SURVEY:**

**2.1 Existing Problem**

The following are the main existing problems:

-Your Smart Home Device Activates at the Wrong Times

-Your Smart Home Device Drains Its Batteries Too Fast

-Your Smart Home Device Is Hard to Control

-Your Smart Home Devices Don’t Play Together

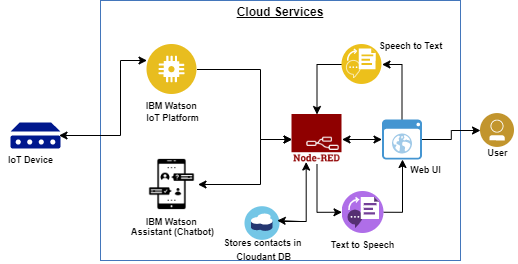
-Your Smart Home Device Can’t Connect to the Network

**2.2 Proposed Solution**

In this project we develop an assistant using IOT that is efficient, that is cost effective. In this smart home device can be easily connected to the network. This device activates at correct time only. Uses less energy to control the appliances, so that it can save more energy. It is an user friendly device which can be operated easily.

**3.THEORETICAL ANALYSIS:**

**3.1 Block diagram**



**3.2 Hardware/Software designing**

Software used in this project are :-

-python

-ibm cloud platform

-ibm Watson assistant

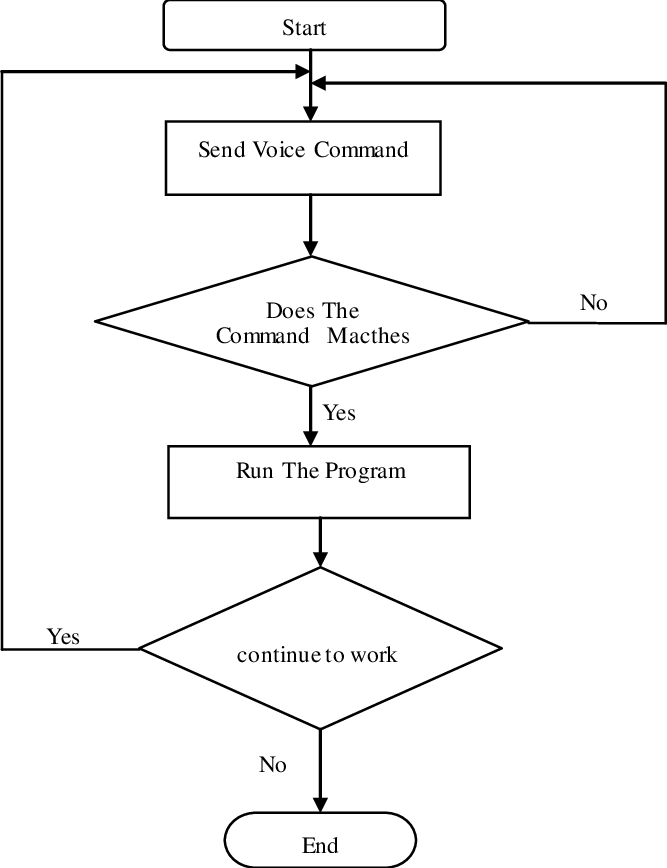
-ibm node-red service

**4.EXPERIMENTAL INVESTIGATIONS:**

The Internet of things (IoT) is a system of interrelated computing devices, mechanical and digital machines provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction. The definition of the Internet of things has evolved due to the convergence of multiple technologies, real-time analytics, machine learning, commodity sensors, and embedded systems.

The Smart home assistant is your personal assistant which makes the tasks of the person. It acts according to the person's commands.  A home assistant helps the user in controlling appliances in the home easily by giving voice commands. This gives the temperature and humidity of the home and also we can set reminders. Users can also send the messages to the desired person just by giving the voice inputs.

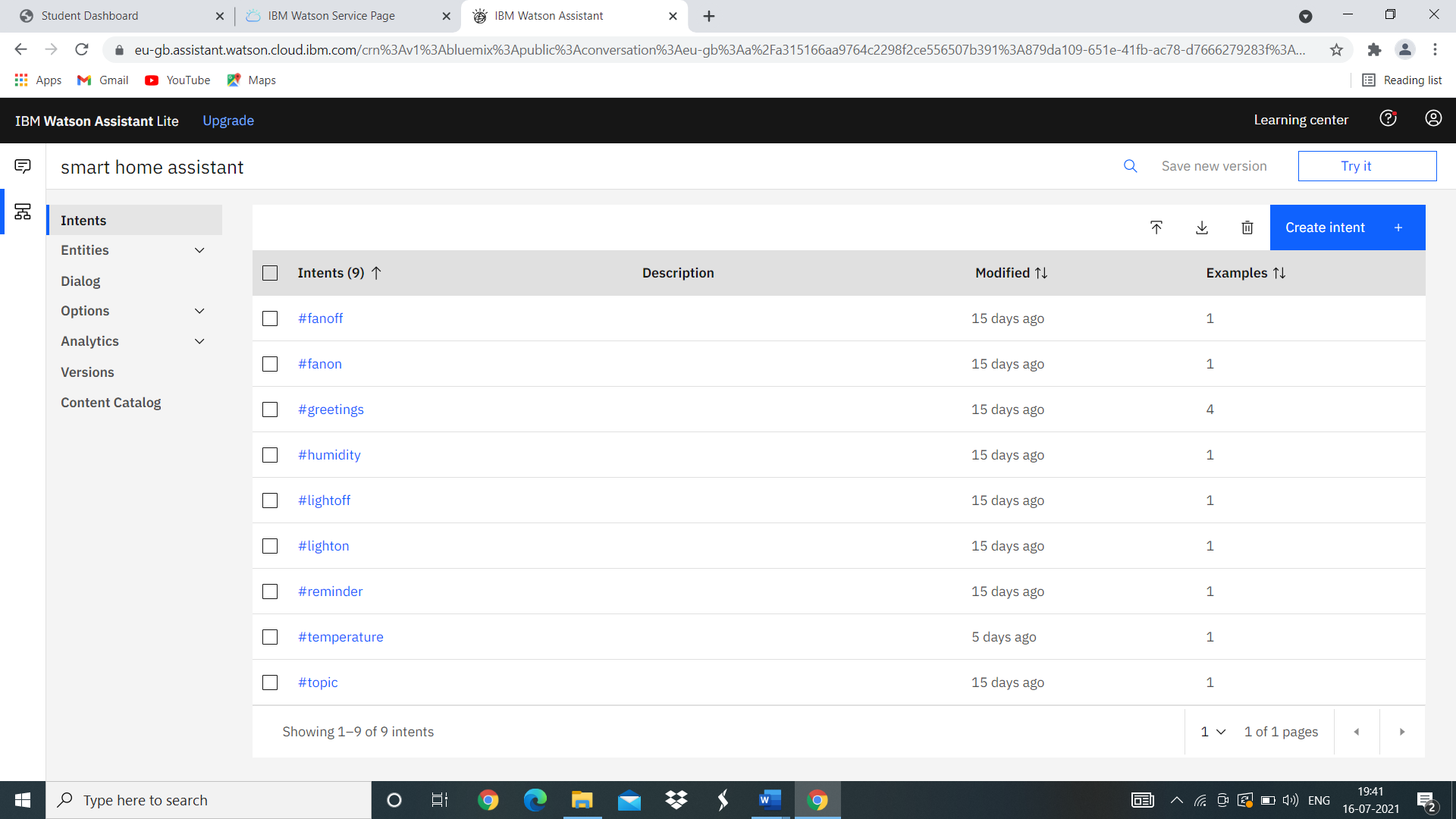
**5.FLOWCHART:**



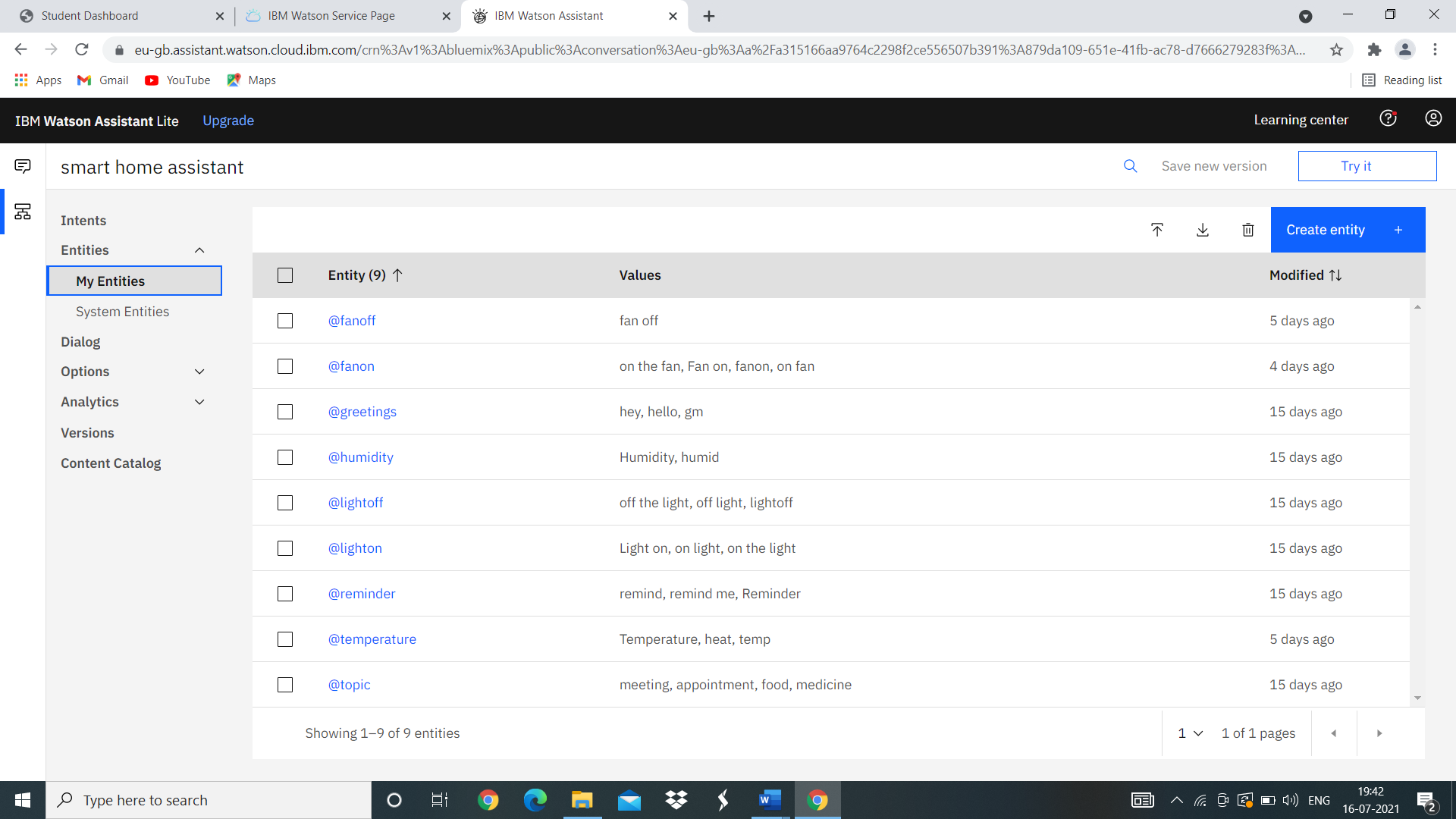
**6.RESULT:**

**CHAT BOT:**

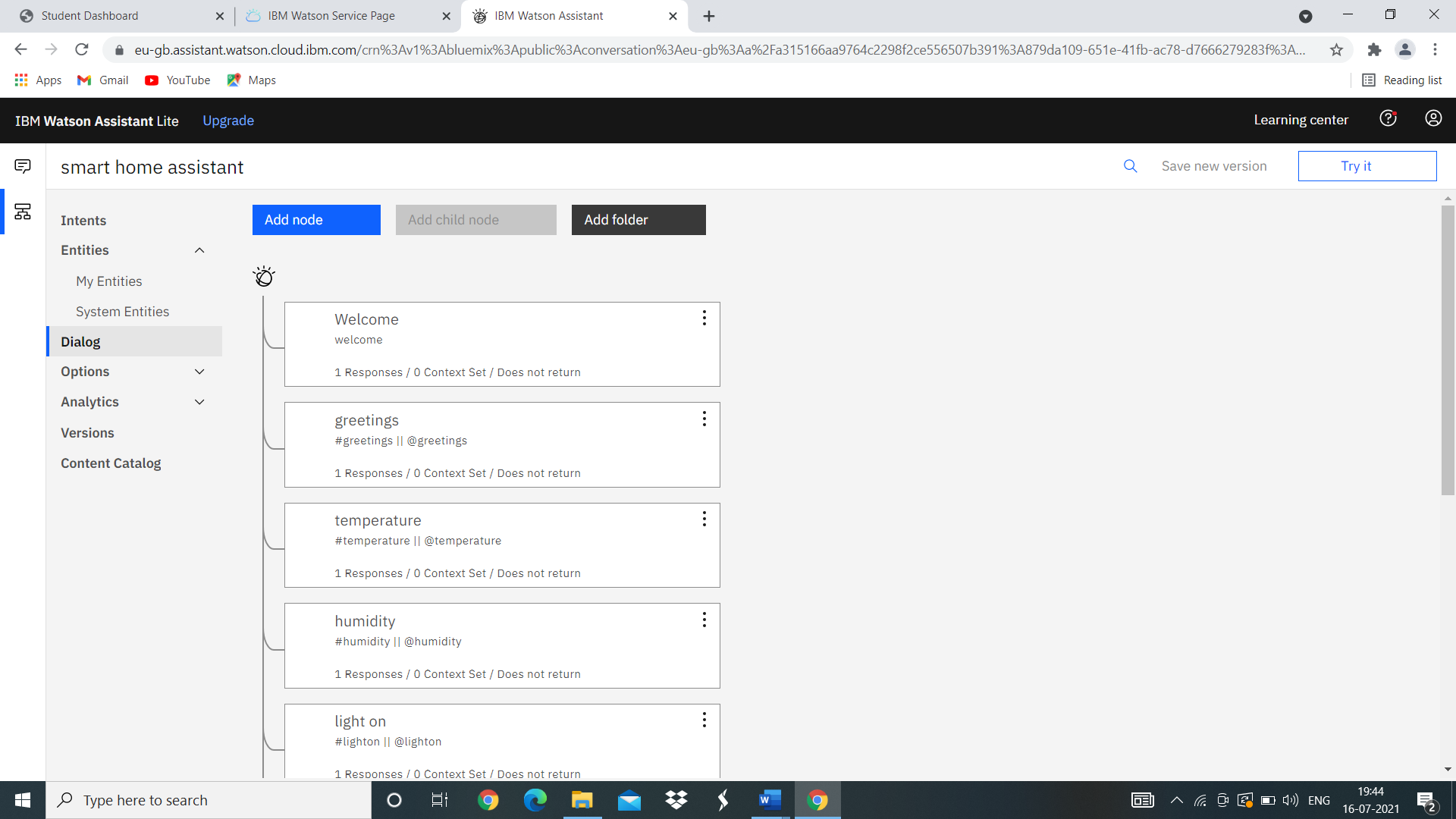
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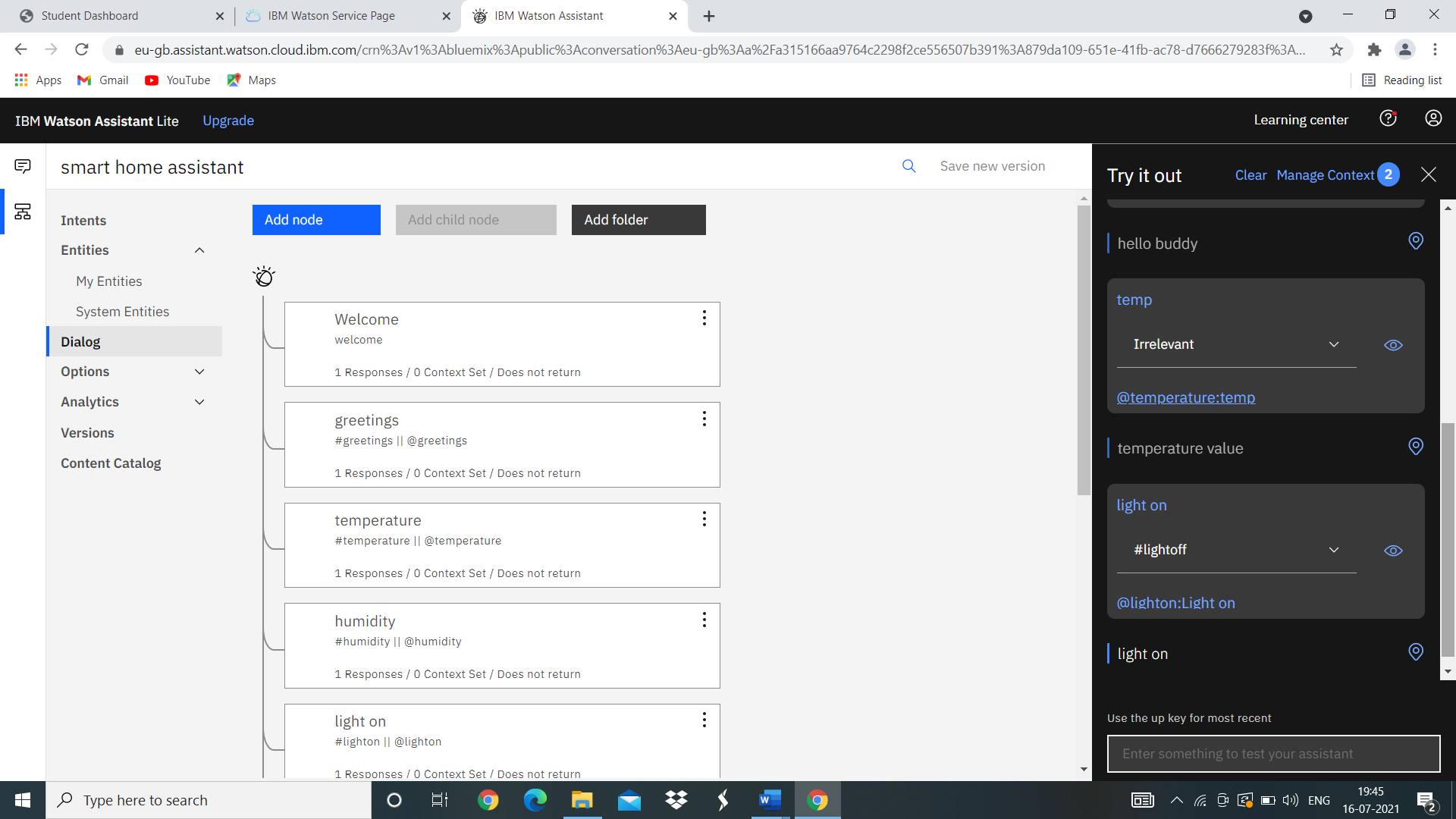
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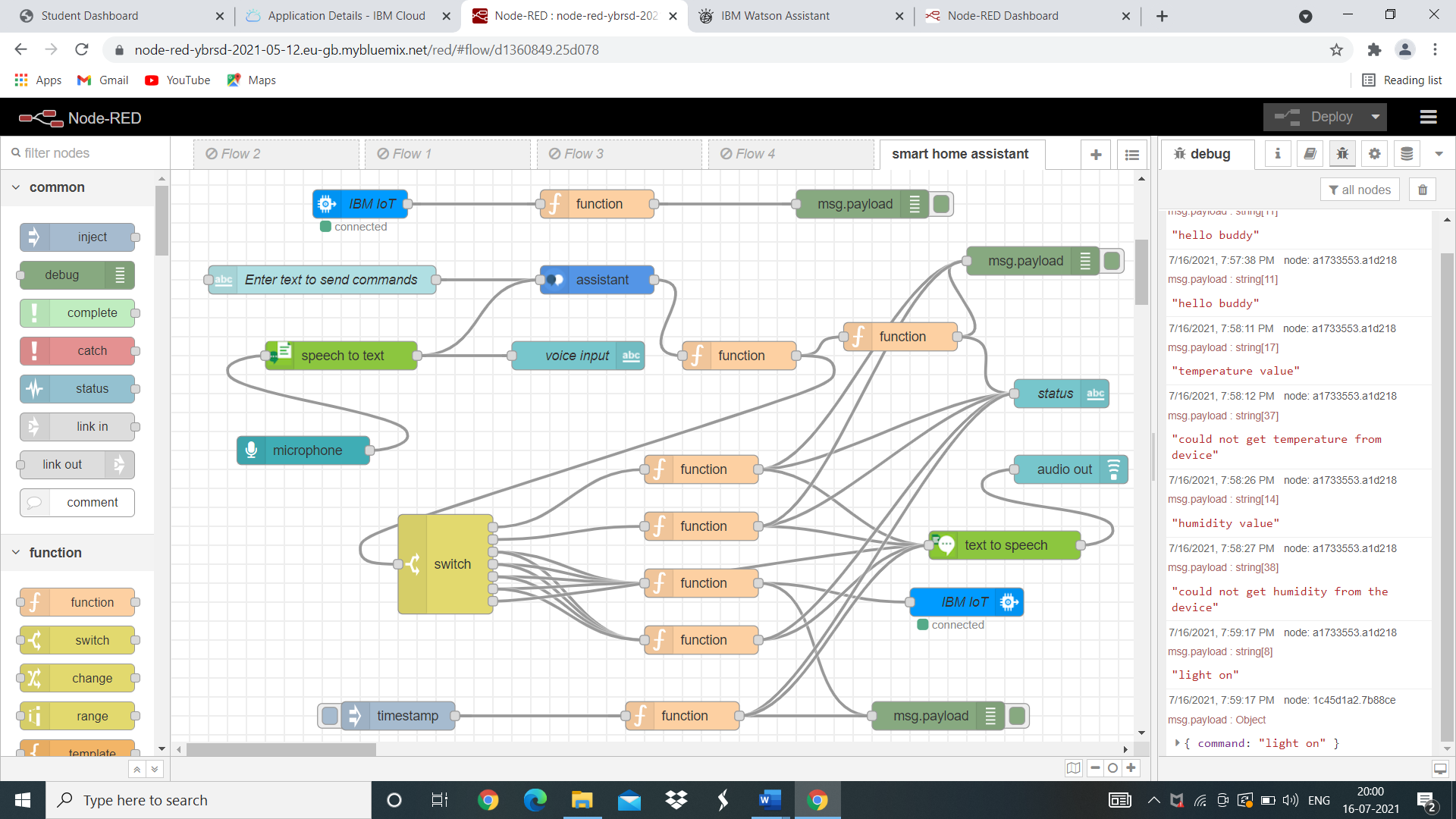
**Dialog:**



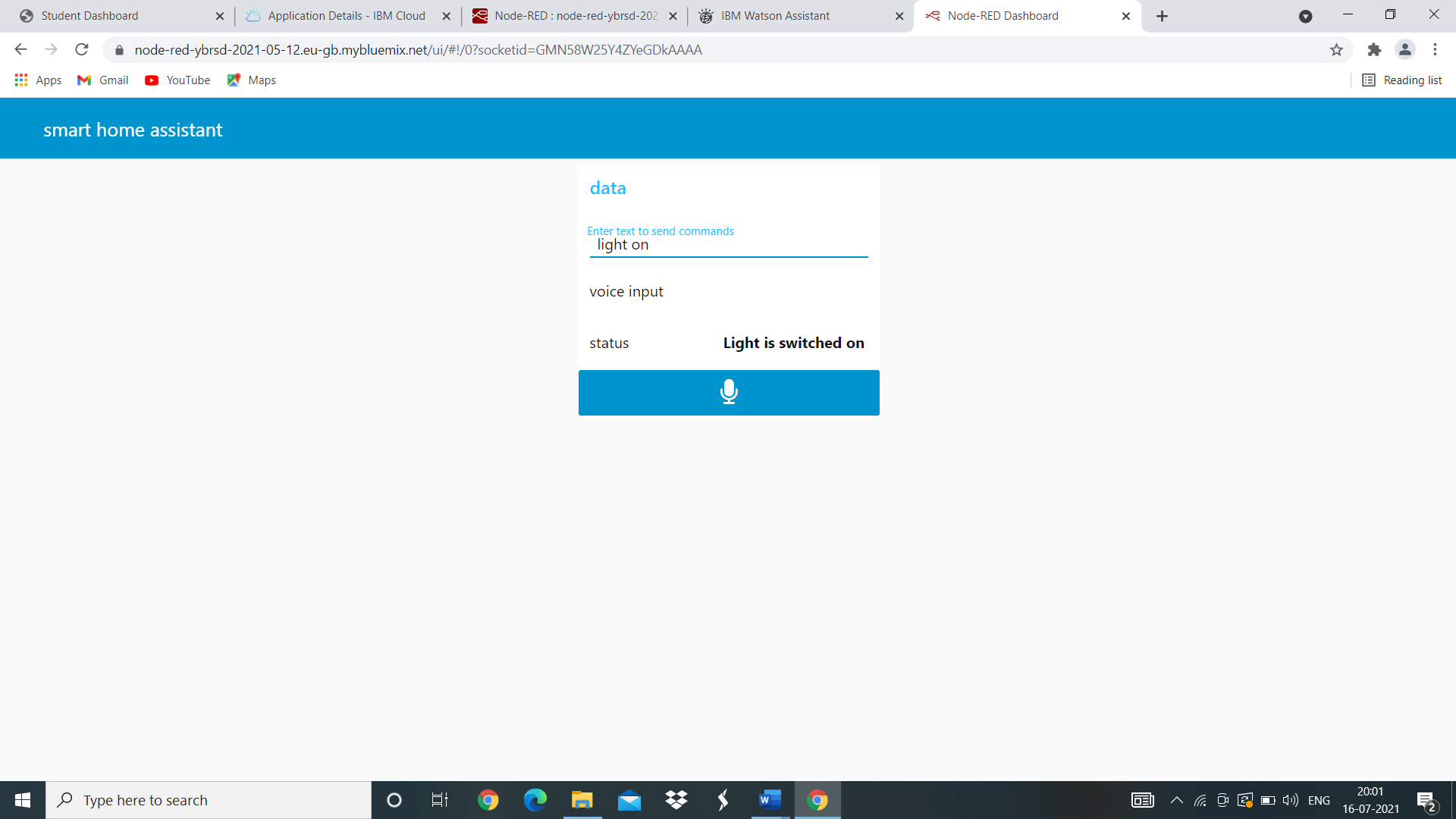
**Chat Bot Output:**



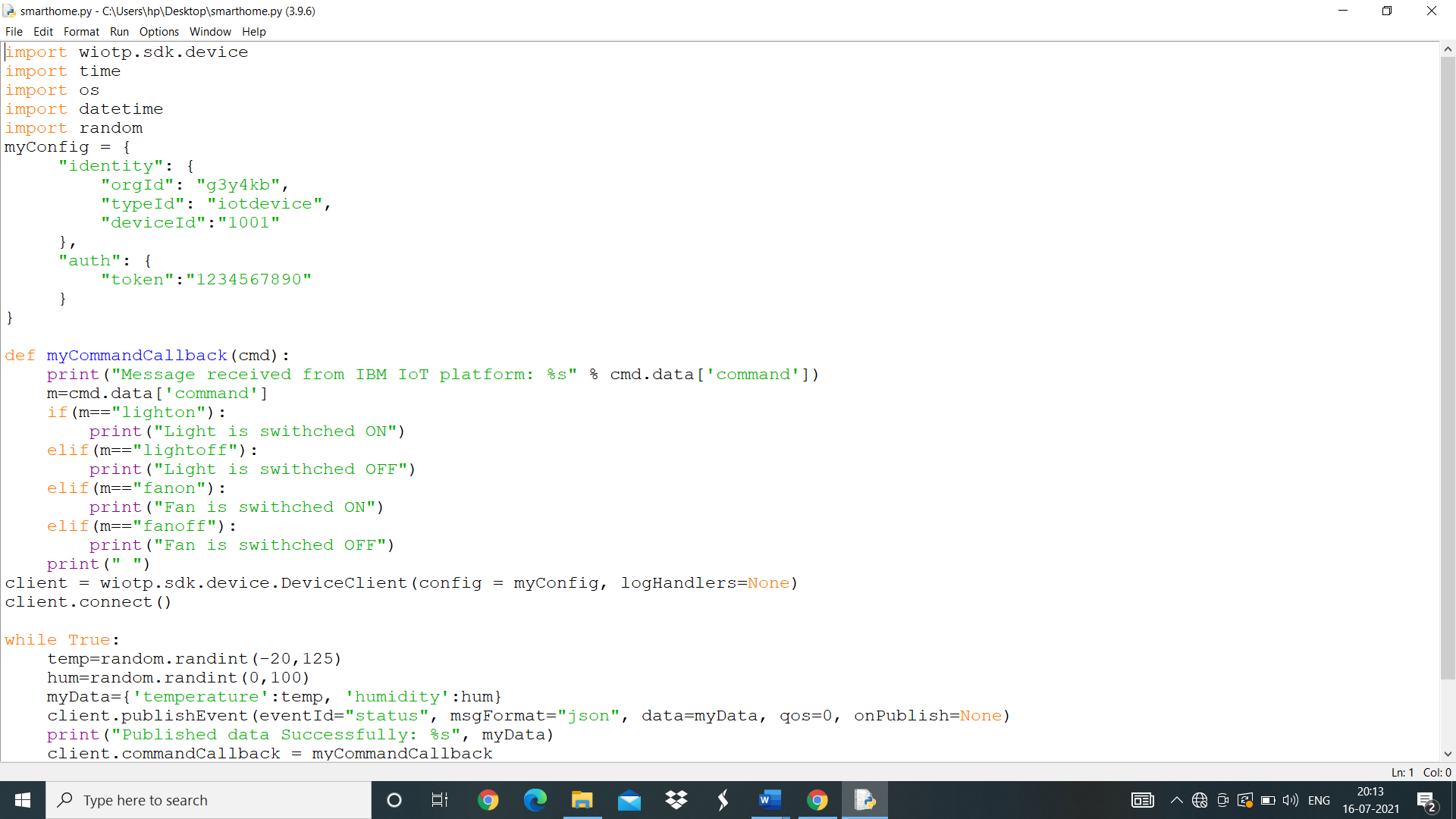
Node-red:



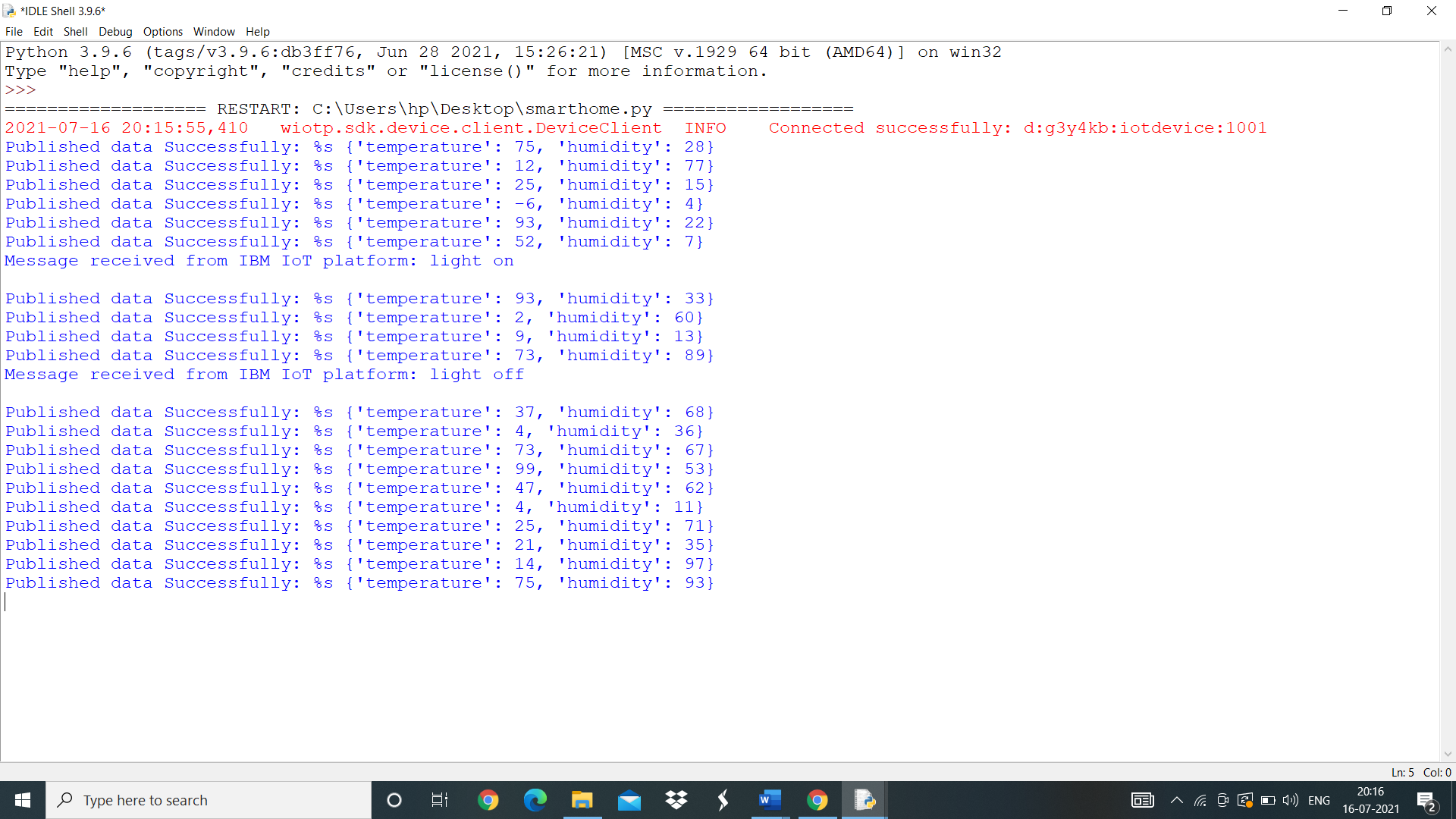
UI:



Python Code:



Output:



**7.ADVANTAGES:**

- Managing all of your **home** devices from one place.

- Maximizing **home** security.

- Increased energy efficiency

- Improved appliance functionality.

- Remote control of **home** functions.

**DISADVANTAGES:**

**-** Significant installation costs.

**-** Helplessness if technology fails.

- Reliable internet connection is crucial.

**8.APPLICATIONS:**

Home Assistant is a free and open-source software for home automation that is designed to be the central control system for smart home devices with focus on local control and privacy.

**9.CONCLUSION:**

With Home Assistant you can make your house smarter. This way you could switch all your lights on remotely and check the values of temperature and humidity. You can make your home more safe and secure. You can set reminders also for an important meetings. The home automation using Internet of Things has been experimentally proven to work satisfactorily by connecting simple appliances to it and the appliances were successfully controlled remotely through internet.

**10.FUTURE SCOPE:**

Future scope for the home automation systems involves making homeseven smarter. Homes can be interfaced with sensors including motion sensors, light sensors and temperature sensors and provide automated toggling of devices based on conditions. The home automation market is primarily driven by growing need for effective solutions in various domestic applications such as lighting, safety and security, energy management, entertainment (audio and video), and HVAC (heating, ventilation, and air conditioning).

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**12.APPENDIX:**

**12.1 Source Code**

**import wiotp.sdk.device**

**import time**

**import os**

**import datetime**

**import random**

**myConfig = {**

**"identity": {**

**"orgId": "g3y4kb",**

**"typeId": "iotdevice",**

**"deviceId":"1001"**

**},**

**"auth": {**

**"token":"1234567890"**

**}**

**}**

**def myCommandCallback(cmd):**

**print("Message received from IBM IoT platform: %s" % cmd.data['command'])**

**m=cmd.data['command']**

**if(m=="lighton"):**

**print("Light is swithched ON")**

**elif(m=="lightoff"):**

**print("Light is swithched OFF")**

**elif(m=="fanon"):**

**print("Fan is swithched ON")**

**elif(m=="fanoff"):**

**print("Fan is swithched OFF")**

**print(" ")**

**client = wiotp.sdk.device.DeviceClient(config = myConfig, logHandlers=None)**

**client.connect()**

**while True:**

**temp=random.randint(-20,125)**

**hum=random.randint(0,100)**

**myData={'temperature':temp, 'humidity':hum}**

**client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)**

**print("Published data Successfully: %s", myData)**

**client.commandCallback = myCommandCallback**

**time.sleep(2)**

**client.disconnect()**

**12.2 UI OUTPUT:**

