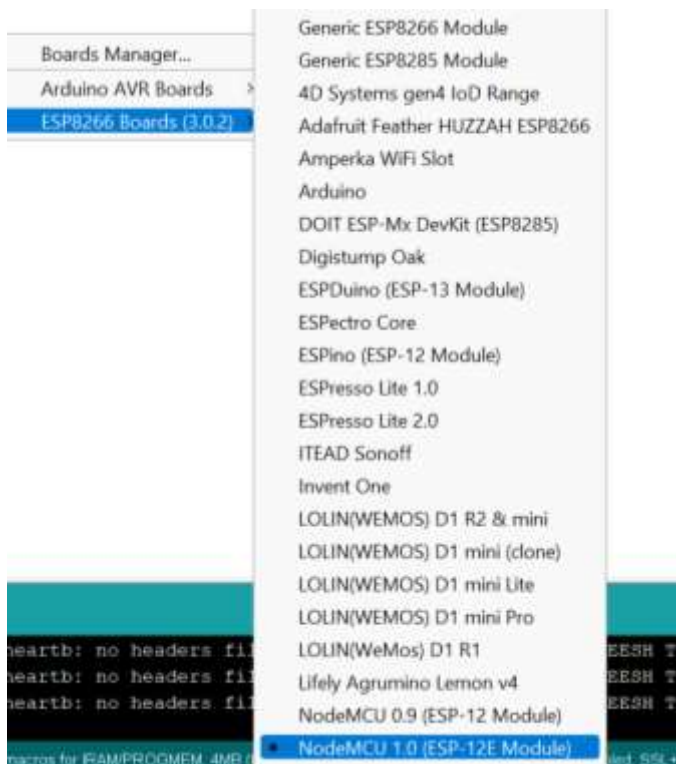# 4 Alexa Class Room Automation

REQUIREMENTS:
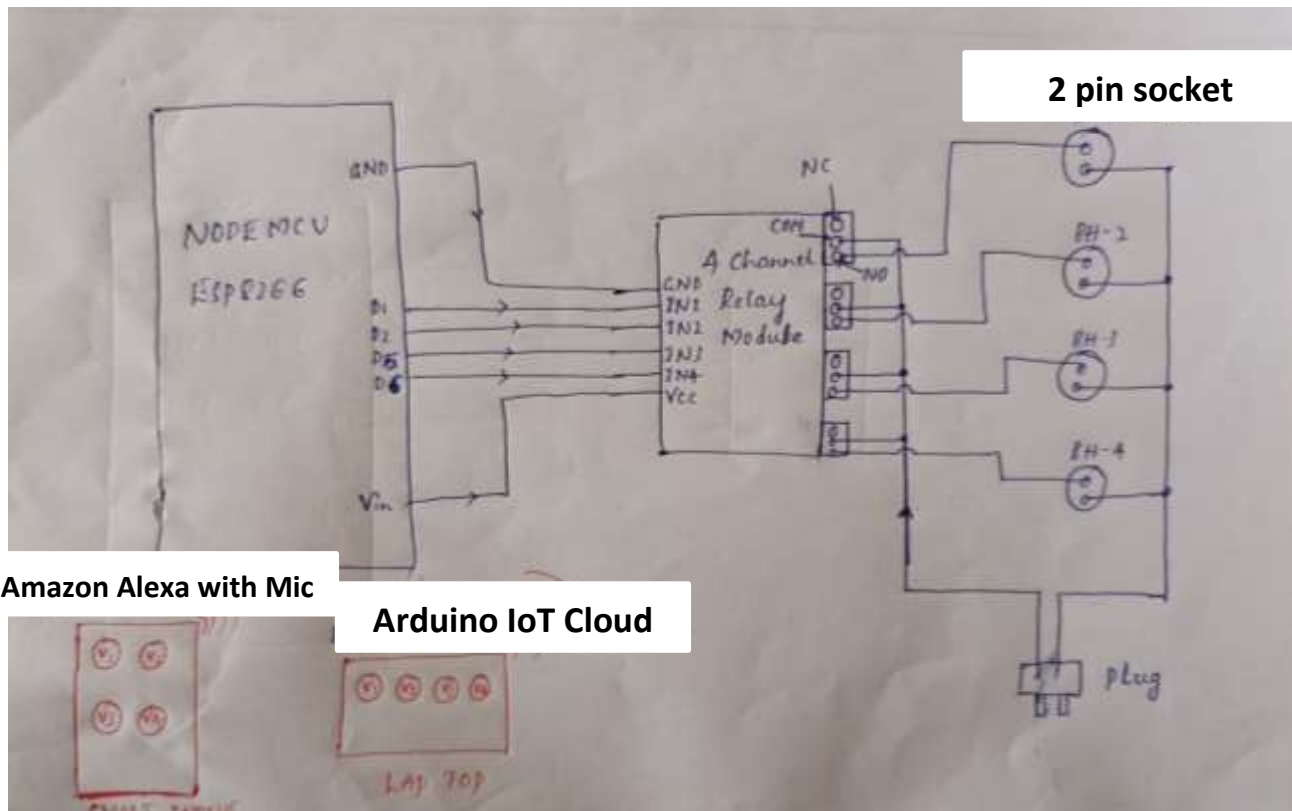
A. **NODEMCU8266 + USB To Micro-USB**

B. **4 Channel Relay Module + Devices**

C. **Arduino IoT Cloud + Widgets-4 SWITCHES(V1,V2,V3&V4)**

D. **Amazon Alexa + Widgets**

E. **Jumpers**

F. **Arduino IDE**

G. **Library Manager :**

H. **Board Manager:**

Ver 0.1

AO
G
VU
S3
S2
S1
SC
S0
SK
G
3V
EN
RST
G
VIN

D0
D1
D2
D3
D4
3V
G
D5
D6
D7
D8
RX
TX
G
3V

LoLin
RST   FLASH

Label	Pin		Pin	Label	Label
TOUT	ADC0		GPIO16	USER	WAKE
	RESERVED		GPIO5		
	RESERVED		GPIO4		
SDD3	GPIO10		GPIO0	FLASH	
SDD2	GPIO9		GPIO2	TXD1	
SDD1	MOSI		3.3V		
SDCMD	CS		GND		
SDD0	MISO		GPIO14	HSCLK	
SDCLK	SCLK		GPIO12	HMISO	
	GND		GPIO13	RXD2	HMOSI
	3.3V		GPIO15	TXD2	HCS
	EN		GPIO3	RXD0	
	RST		GPIO1	TXD0	
	GND		GND		
	Vin		3.3V		

RST   FLASH

SILABS
CP2102

4 Relay Module
K1   K2   K3   K4
JD-VCC   VCC
IN1 IN2 IN3 IN4   GND IN1 IN2 IN3 IN4 VCC

BLOCK DIAGRAM: BLOCK DIAGRAM:

2 pin socket

Amazon Alexa with Mic

Arduino IoT Cloud

CODE:

```
#define SECRET_SSID "TVN"

#define SECRET_PASS "ndtv@1234"

#define SECRET_DEVICE_KEY "HUUHDVAZCFLRWUSZXRH8"


#include <ArduinoIoTCloud.h>

#include <Arduino_ConnectionHandler.h>


const char THING_ID[]         = "61c0b30e-c148-4de2-938c-8efd9a8c0d02";

const char DEVICE_LOGIN_NAME[]  = "27aabf30-0194-4aaf-a7fa-250b92c717d5";


const char SSID[]       = SECRET_SSID;

const char PASS[]       = SECRET_PASS;

const char DEVICE_KEY[]  = SECRET_DEVICE_KEY;


WiFiConnectionHandler iot(SSID, PASS);
```

```
int relay1=D1;

int relay2=D2;

int relay3=D5;

int relay4=D6;


CloudSwitch switch1;

CloudSwitch switch2;

CloudSwitch switch3;

CloudSwitch switch4;


void setup()
{
  Serial.begin(9600);

  delay(1500);

  initProperties();

  ArduinoCloud.begin(iot);

  setDebugMessageLevel(2);

  ArduinoCloud.printDebugInfo();

  pinMode(relay1, OUTPUT);

  pinMode(relay2, OUTPUT);

  pinMode(relay3, OUTPUT);

  pinMode(relay4, OUTPUT);


  digitalWrite(relay1, HIGH);

  digitalWrite(relay2, HIGH);

  digitalWrite(relay3, HIGH);

  digitalWrite(relay4, HIGH);

}
```

```cpp
void loop()

{

 ArduinoCloud.update();

}


void initProperties()

{

 ArduinoCloud.setBoardId(DEVICE_LOGIN_NAME);

 ArduinoCloud.setSecretDeviceKey(DEVICE_KEY);

 ArduinoCloud.setThingId(THING_ID);

 ArduinoCloud.addProperty(switch1, READWRITE, ON_CHANGE, s1change);

 ArduinoCloud.addProperty(switch2, READWRITE, ON_CHANGE, s2change);

 ArduinoCloud.addProperty(switch3, READWRITE, ON_CHANGE, s3change);

 ArduinoCloud.addProperty(switch4, READWRITE, ON_CHANGE, s4change);

}


void s1change()

{

        if (switch1 == 1)

                {

                  digitalWrite(relay1, LOW);

                  Serial.println("Device1 ON");

                }

        else

                {

                  digitalWrite(relay1, HIGH);

                  Serial.println("Device1 OFF");

 }

}
```

```
void s2change()

{
        if (switch2 == 1)
                {
                        digitalWrite(relay2, LOW);
                        Serial.println("Device2 ON");
                }
        else
                {
                        digitalWrite(relay2, HIGH);
                        Serial.println("Device2 OFF");
                }
}


void s3change()

{
        if (switch3 == 1)
                {
                        digitalWrite(relay3, LOW);
                        Serial.println("Device2 ON");
                }
        else
                {
                        digitalWrite(relay3, HIGH);
                        Serial.println("Device3 OFF");
                }
}
```

```
void s4change()

{

        if (switch4 == 1)

            {

                    digitalWrite(relay4, LOW);

                     Serial.println("Device4 ON");

            }

        else

            {

                    digitalWrite(relay4, HIGH);

                    Serial.println("Device4 OFF");

            }

}
```
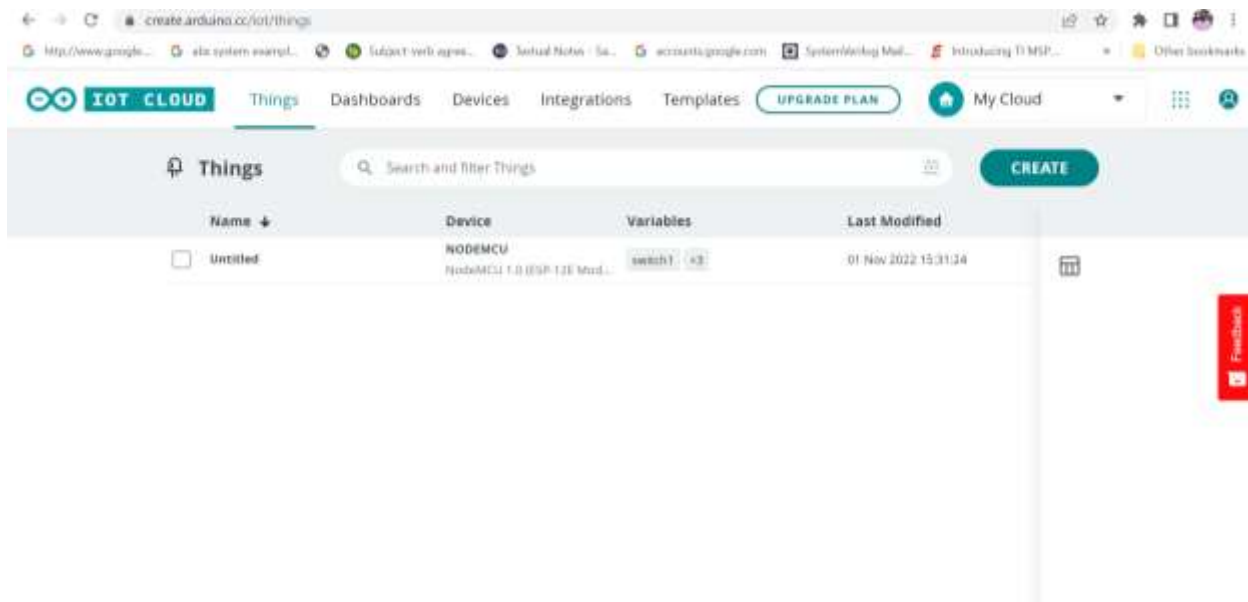
First Screenshot (Setup page)

Arduino IoT Cloud

create.arduino.cc/iot/things/61c0b30e-c148-4de2-938c-8efd9a8c0d02/setup

IOT CLOUD Things Dashboards Devices Integrations Templates (UPGRADE PLAN) My Cloud

Untitled   Setup   Sketch 3   Metadata

Cloud Variables   [ADD]

Associated Device

Name ↓	Last Value	Last Update	
switch1 cloudSwitch switch1;	false	08 Nov 2022 11:52:48	⋮
switch2 cloudSwitch switch2;	false	08 Nov 2022 11:52:48	⋮
switch3 cloudSwitch switch3;	false	08 Nov 2022 11:52:48	⋮
switch4 cloudSwitch switch4;	false	08 Nov 2022 11:52:48	⋮

NODEMCU

ID: 27aabf30-0194-4aaf-a7fa-2...
Type: NodeMCU 1.0 (ESP-12E Module)
Status: ● Offline

Change   Detach

Set webhook

22°C Mostly cloudy

Second Screenshot (Metadata page)

Arduino IoT Cloud

create.arduino.cc/iot/things/61c0b30e-c148-4de2-938c-8efd9a8c0d02/metadata

IOT CLOUD Things Dashboards Devices Integrations Templates (UPGRADE PLAN) My Cloud

Untitled   Setup   Sketch   Metadata

Tags   [+ ADD]

Tags are metadata composed by a key and a value; assign tags to your Things to organize and filter them. Each tag can be assigned only once per Thing.

Timezone

Asia/Kolkata

Details

Thing ID:
61c0b30e-c148-4de2-938c-8efd9a8c0d02

Last Modified:
01 Nov 2022 15:31:24

Last Sync:
08 Nov 2022 11:52:48
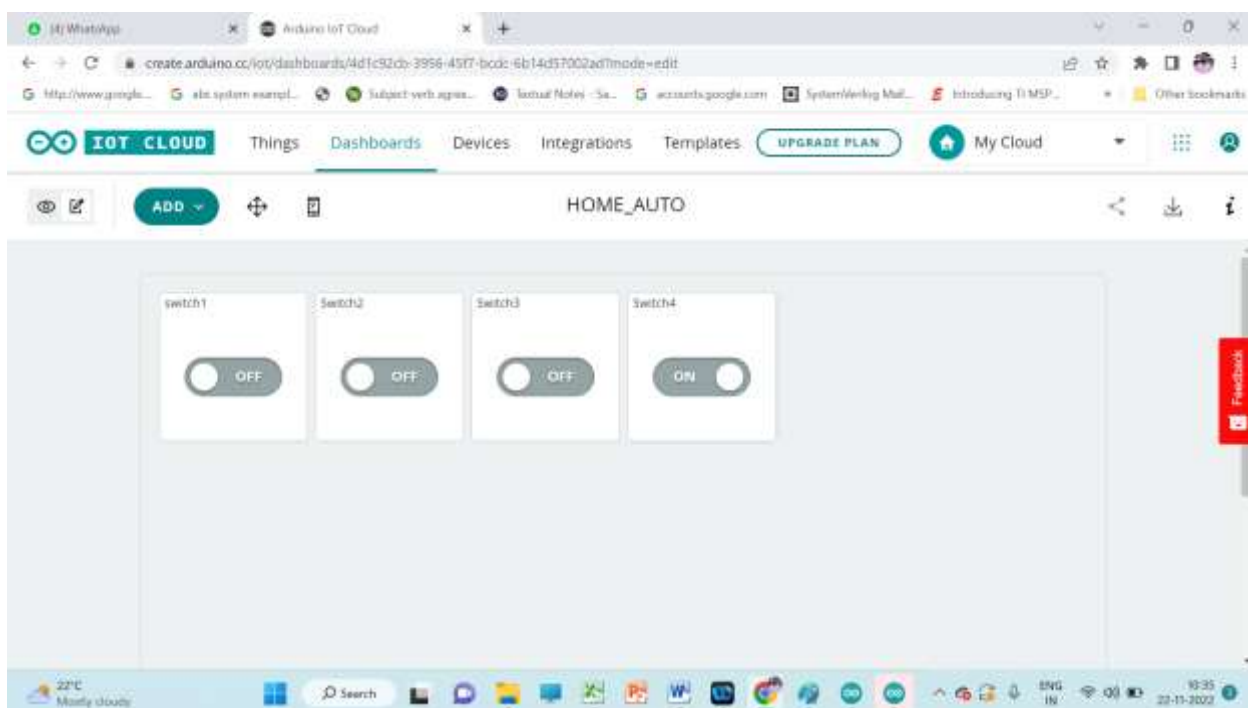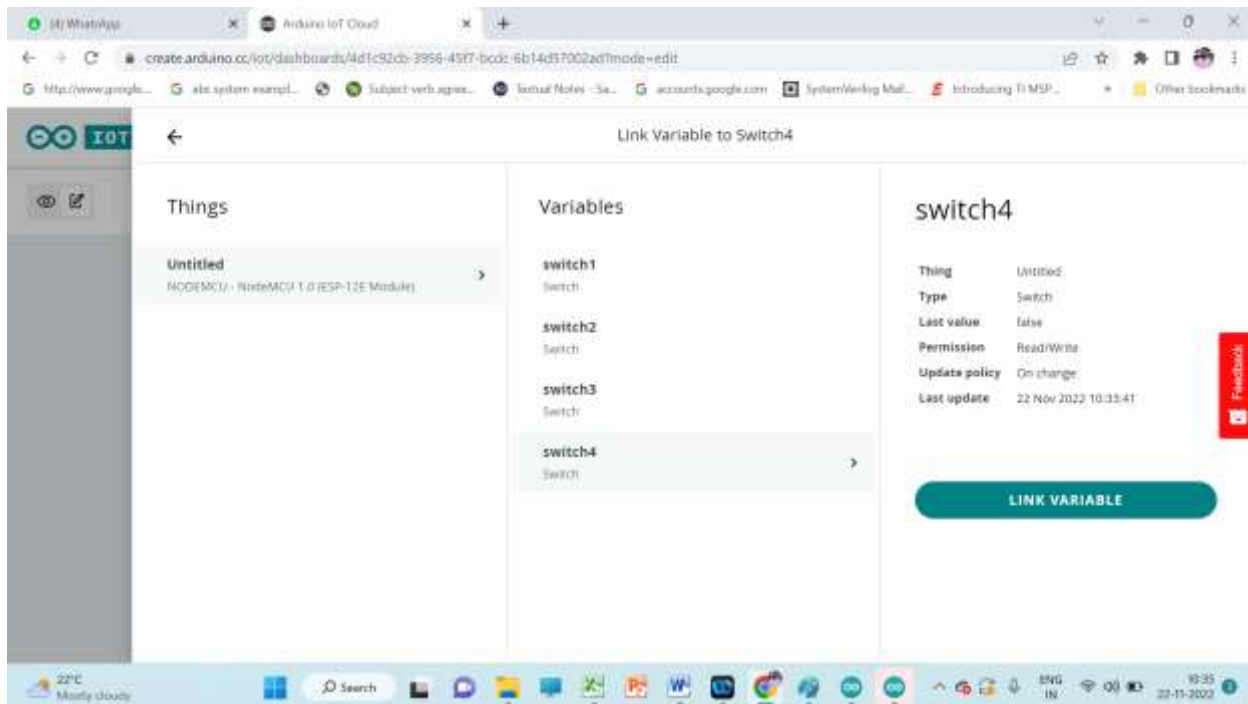
Created at:
01 Nov 2022 15:29:47

22°C Mostly cloudy

Link Variable to Switch4

Things

Untitled
NODEMCU - NodeMCU 1.0 (ESP-12E Module)

Variables

switch1
Switch

switch2
Switch

switch3
Switch

switch4
Switch

switch4

Thing	Untitled
Type	Switch
Last value	false
Permission	Read/Write
Update policy	On change
Last update	22 Nov 2022 10:35:41

LINK VARIABLE

IOT CLOUD   Things   Dashboards   Devices   Integrations   Templates   UPGRADE PLAN   My Cloud

ADD ⌄

HOME_AUTO

switch1	Switch2	Switch3	Switch4
OFF	OFF	OFF	ON

alexa

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Picked from your recent visits

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Get to know the Alexa app

Access Alexa on the go and customize Alexa features - all from the app.

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