

ASSIGNMENT – 4

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|--------------|---------------------------------------------------------------------|
| Team ID | PNT2022TMID15028 |
| Project Name | Project : SmartFarmer - IoT Enabled Smart Farming Application |

TEAM MEMBERS:

- VIJEY VARSHAN P A(LEAD)
- KODALARASAN M
- VISVABARATHI S
- NARESH V H

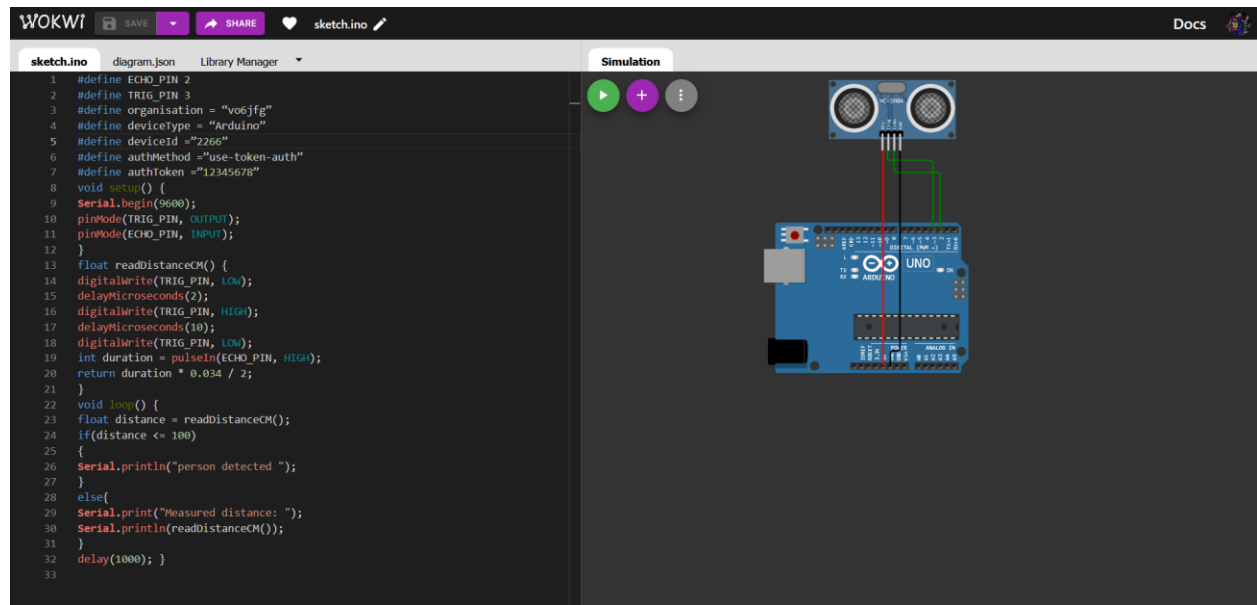
**Write code and connections in wokwi for the ultrasonic sensor.
Whenever the distance is less than 100 cms send an "alert" to the IBM
cloud and display in the device recent events.**

CODE:

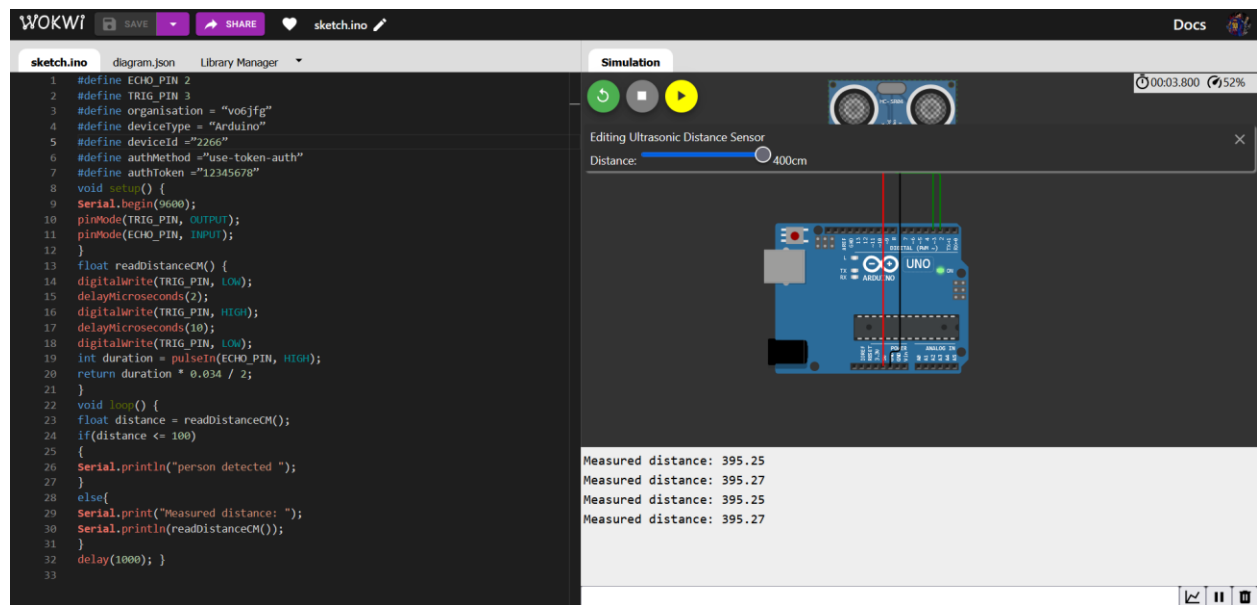
```
#define ECHO_PIN 2
#define TRIG_PIN 3
#define organisation = "vo6jfg"
#define deviceType = "Arduino"
#define deviceId ="2266"
#define authMethod ="use-token-auth"
#define authToken ="12345678"
void setup() {
  Serial.begin(9600);
```

```
pinMode(TRIG_PIN, OUTPUT);
pinMode(ECHO_PIN, INPUT);
}
float readDistanceCM() {
digitalWrite(TRIG_PIN, LOW);
delayMicroseconds(2);
digitalWrite(TRIG_PIN, HIGH);
delayMicroseconds(10);
digitalWrite(TRIG_PIN, LOW);
int duration = pulseIn(ECHO_PIN, HIGH);
return duration * 0.034 / 2;
}
void loop() {
float distance = readDistanceCM();
if(distance <= 100){
Serial.println("person detected ");
}
else{
Serial.print("Measured distance: ");
Serial.println(readDistanceCM());
}
delay(1000); }
```

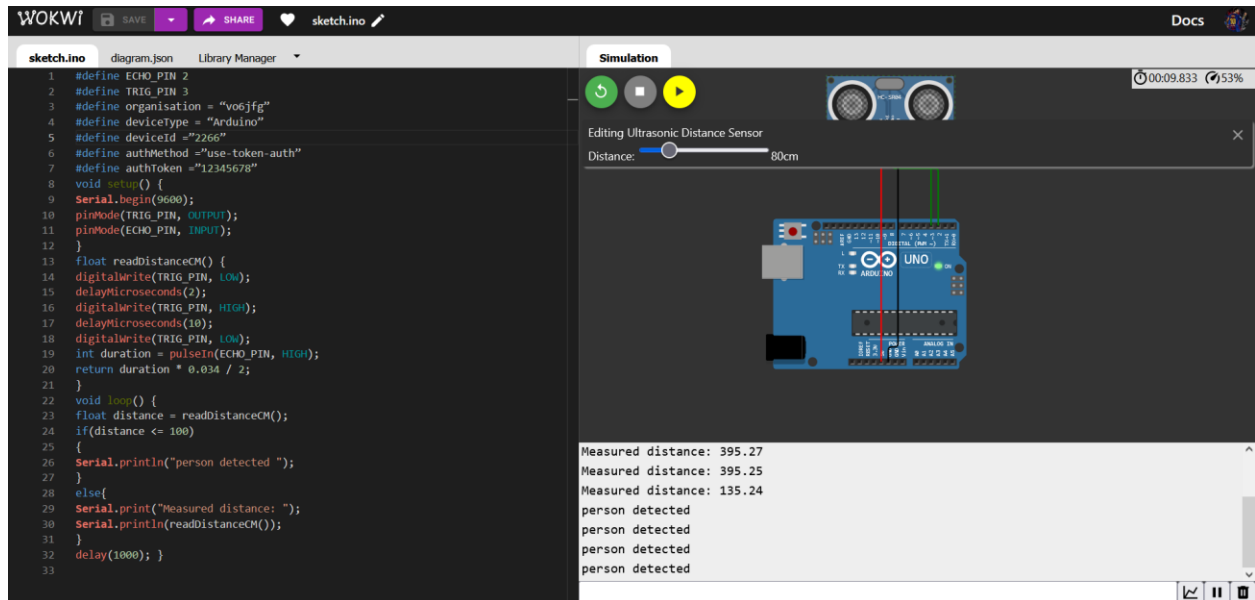
OUTPUT:



When the distance is greater than 100 cm:

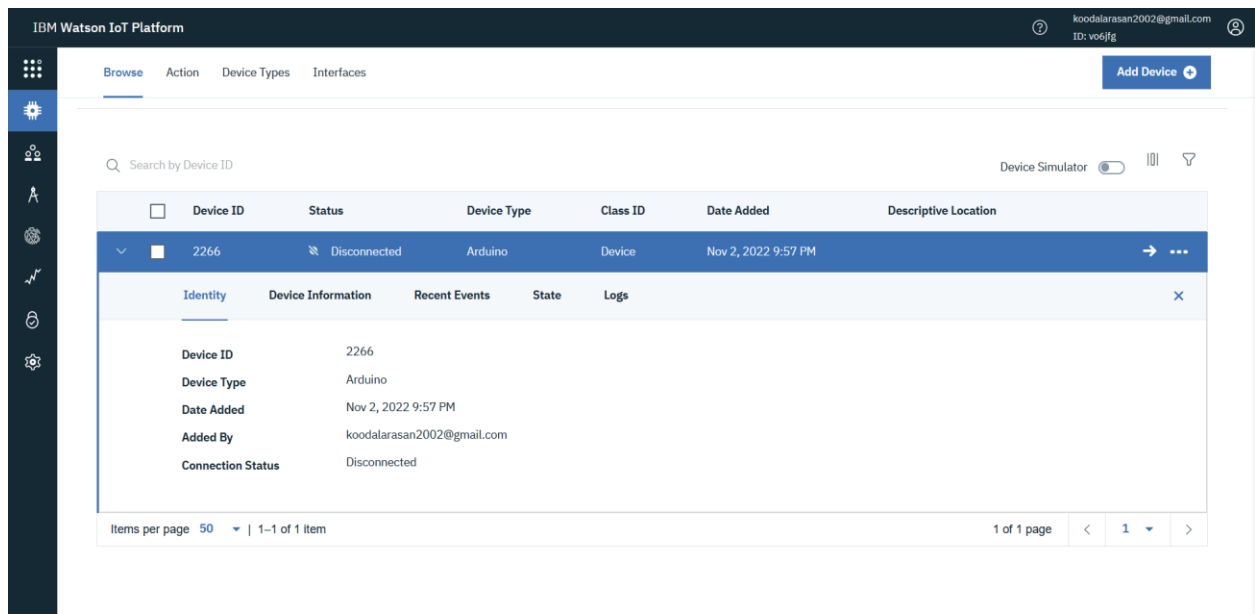


When the distance is lesser than 100 cm:



WOKWI LINK: <https://wokwi.com/projects/347401138371297874>

IBM Watson IoT Platform Output:



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Add Device +

IdentityDevice InformationRecent EventsStateLogs

The recent events listed show the live stream of data that is coming and going from this device.

| Event | Value | Format | Last Received |
|-------|-----------------------------------------------------|--------|-------------------|
| Data | {"Distance":51.99,"ALERT!!":"Distance less than ... | json | a few seconds ago |
| Data | {"Distance":51.99,"ALERT!!":"Distance less than ... | json | a few seconds ago |
| Data | {"Distance":51.99,"ALERT!!":"Distance less than ... | json | a few seconds ago |

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