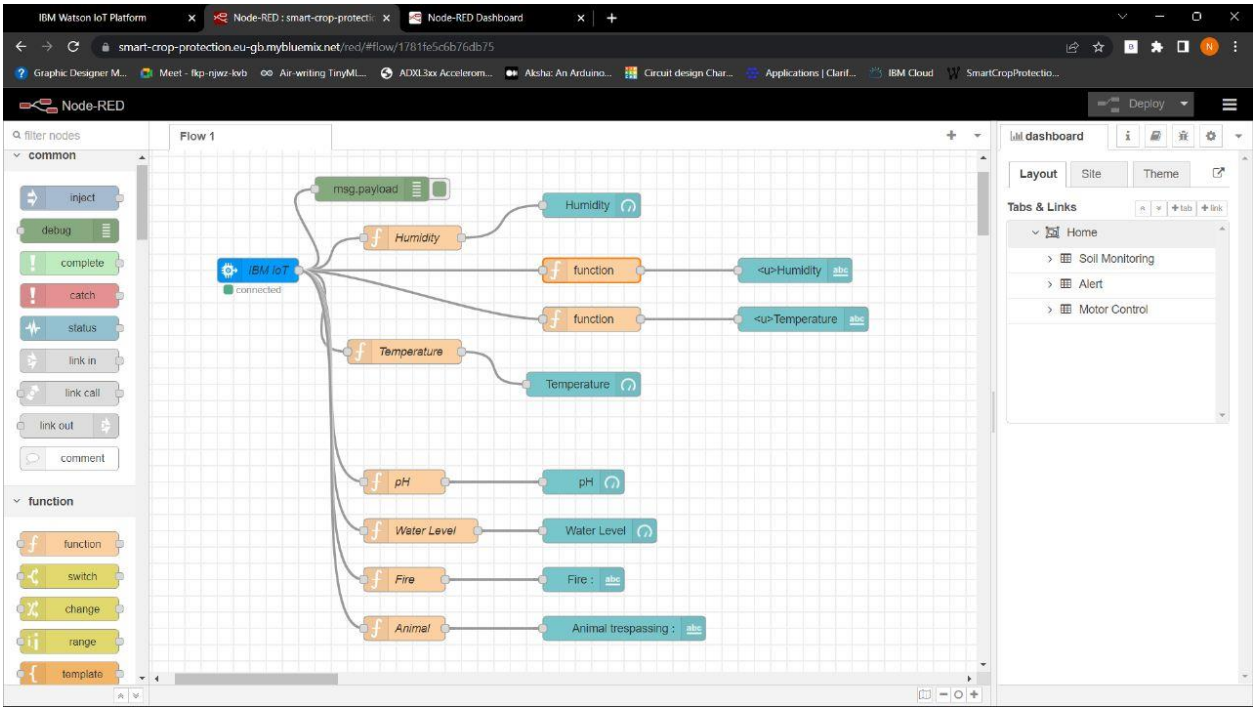
Sprint -4

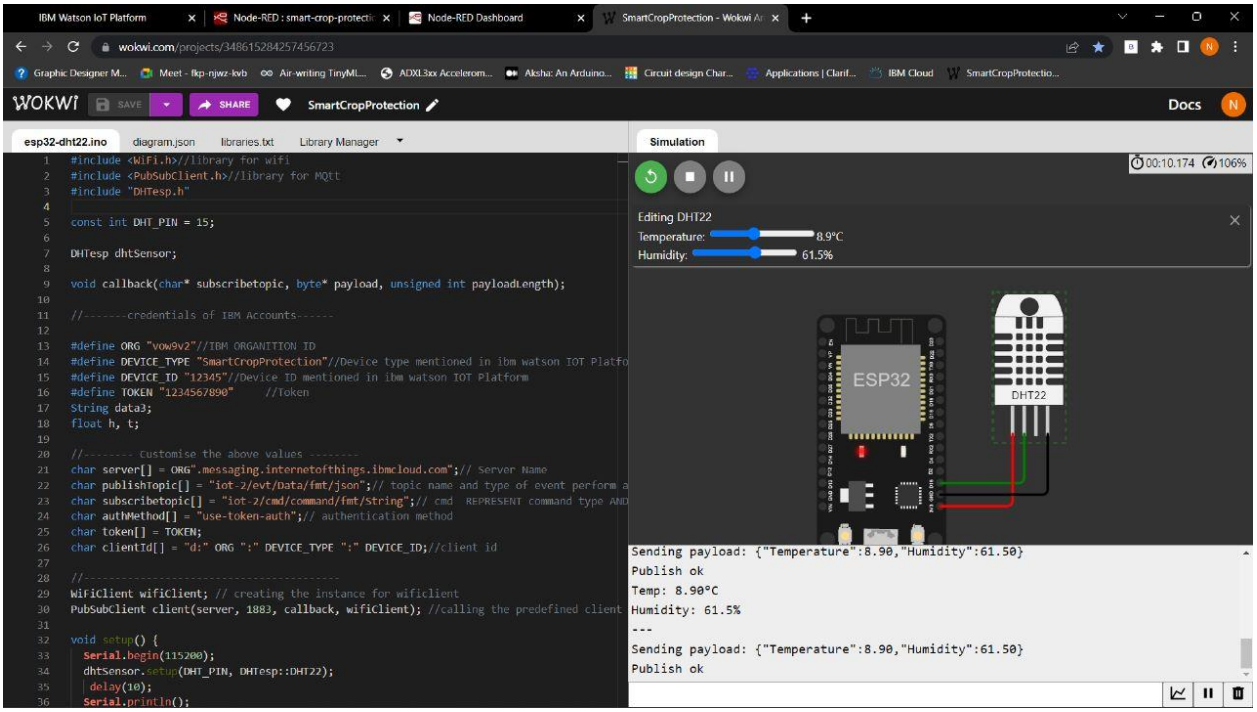
Date	19 November 2022
Team ID	PNT2022TMID06157
Project Name	IOT BASED CROP PROTECTION SYSTEM FOR AGRICULTURE

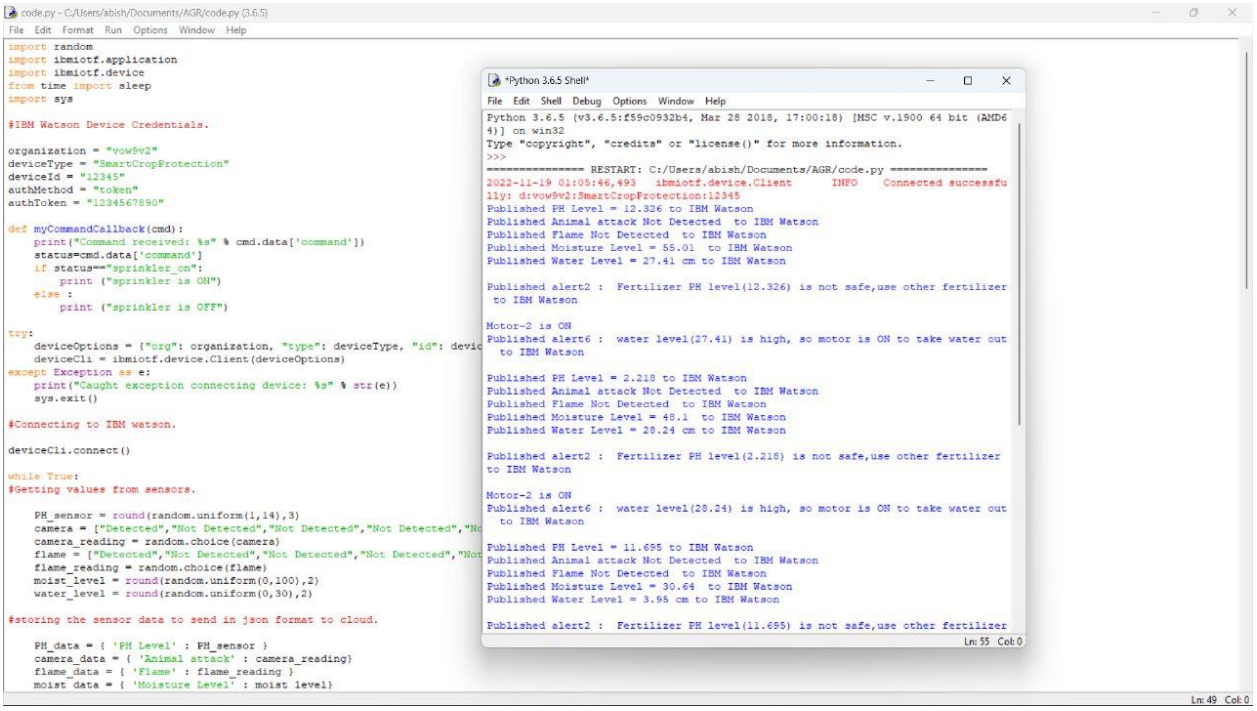
Description:

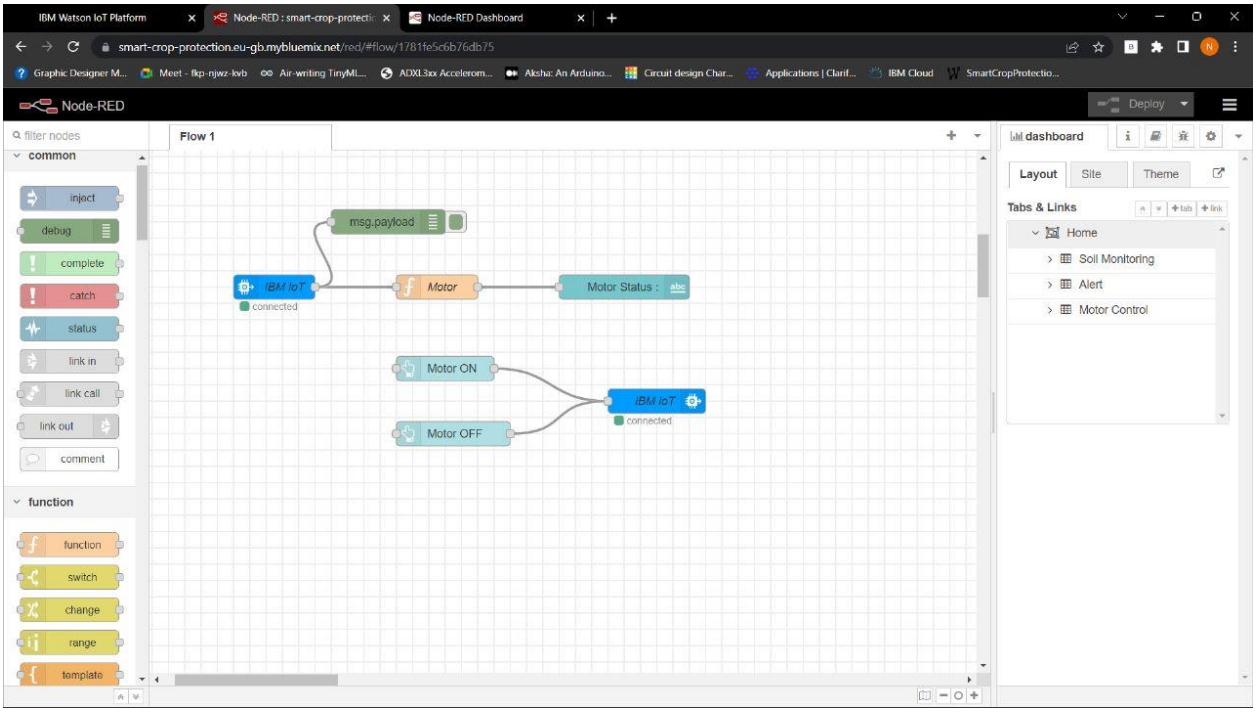
Created a Node-red Dashboard for monitoring the Soil and irrigation and controls the operation of Motor pump.

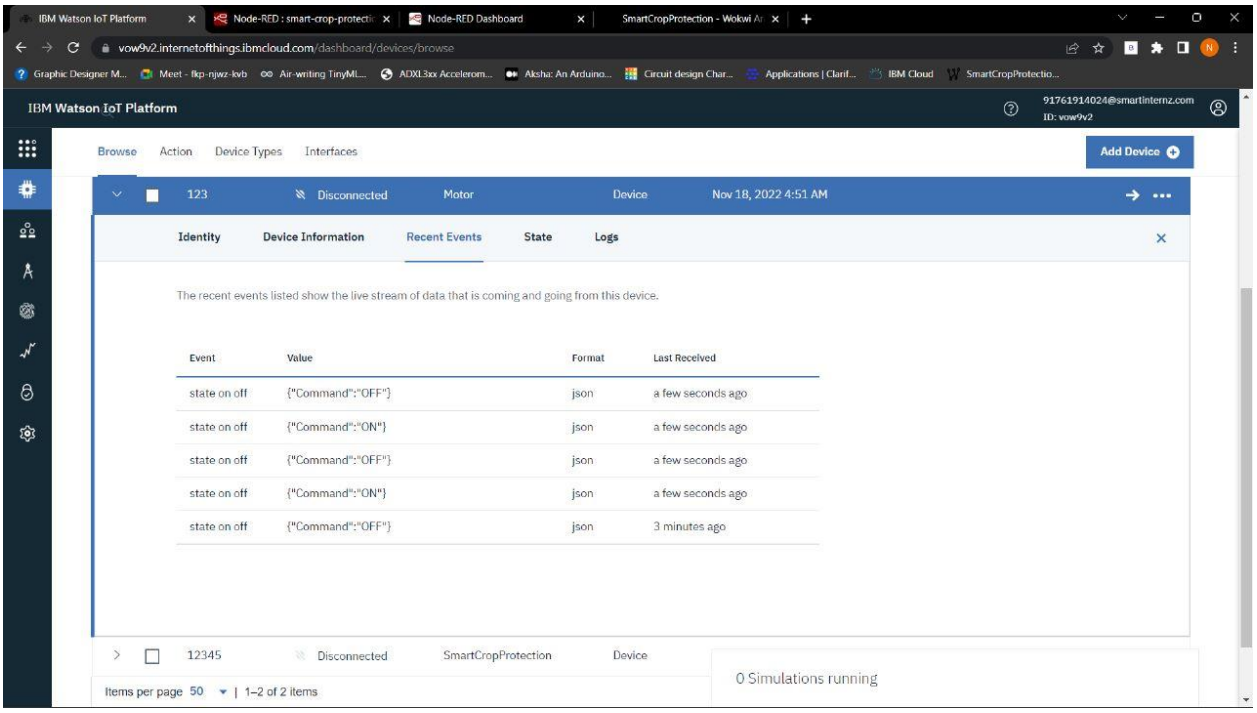
Output:

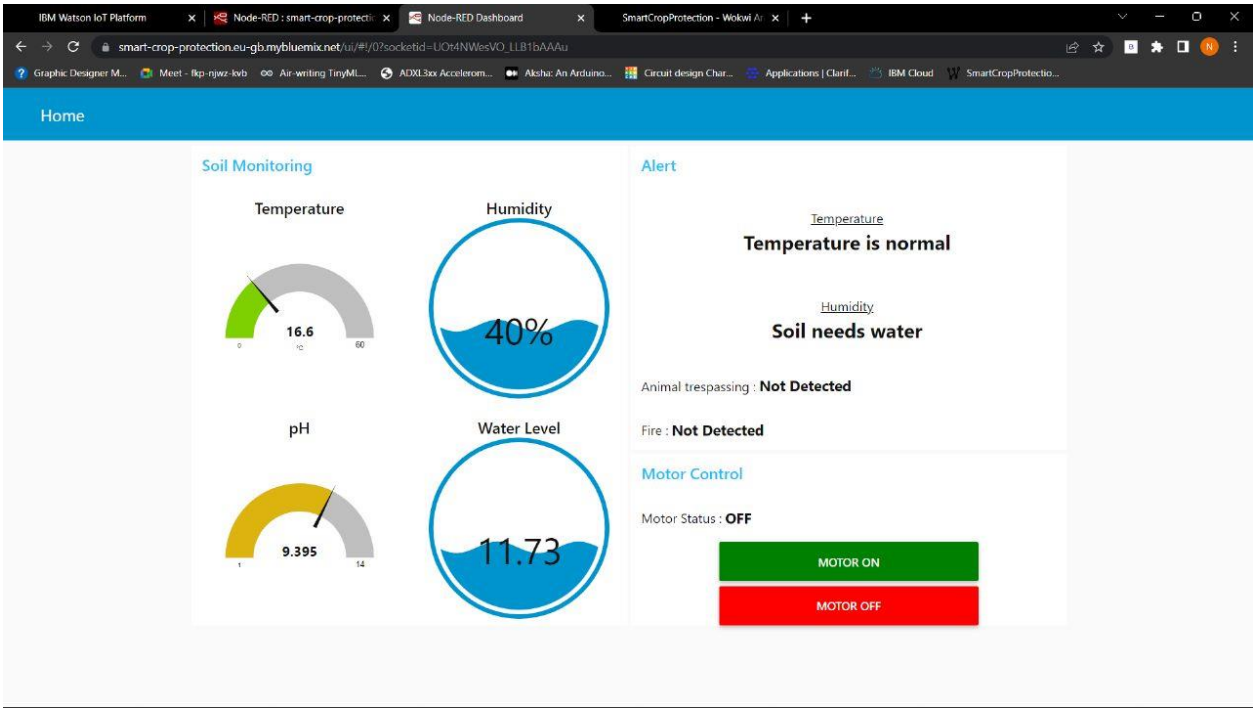





code.py - C:/Users/abish/Documents/AGR/code.py (3.6.5)
File Edit Format Run Options Window Help
import random
import ibmiotf.application
import ibmiotf.device
from time import sleep
import sys
#IBM Watson Device Credentials.
organization = "vow9v2"
deviceType = "SmartCropProtection"
deviceId = "12345"
authMethod = "token"
authToken = "1234567890"
def myCommandCallback(cmd):
print("Command received: %s" % cmd.data['command'])
status=cmd.data['command']
if status=="sprinkler_on":
print ("sprinkler is ON")
else :
print ("sprinkler is OFF")
try:
deviceOptions = {"org": organization, "type": deviceType, "id": devic
deviceCli = ibmiotf.device.Client(deviceOptions)
except Exception as e:
print("Caught exception connecting device: %s" % str(e))
sys.exit()
#Connecting to IBM watson.
deviceCli.connect()
while True:
#Getting values from sensors.
PH_sensor = round(random.uniform(1,14),3)
camera = ["Detected","Not Detected","Not Detected","Not Detected","No
camera_reading = random.choice(camera)
flame = ["Detected","Not Detected","Not Detected","Not Detected","Not
flame_reading = random.choice(flame)
moist_level = round(random.uniform(0,100),2)
water_level = round(random.uniform(0,30),2)
#storing the sensor data to send in json format to cloud.
PH_data = { 'PH Level' : PH_sensor }
camera_data = { 'Animal attack' : camera_reading}
flame_data = { 'Flame' : flame_reading }
moist_data = { 'Moisture Level' : moist_level}
Ln: 49 Col: 0
Python 3.6.5 Shell
File Edit Shell Debug Options Window Help
Python 3.6.5 (v3.6.5:f59c0932b4, Mar 28 2018, 17:00:18) [MSC v.1900 64 bit (AMD6
4)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: C:/Users/abish/Documents/AGR/code.py ==========
2022-11-19 01:05:46,493 ibmiotf.device.Client INFO Connected successfu
lly: d:vow9v2:SmartCropProtection:12345
Published PH Level = 12.326 to IBM Watson
Published Animal attack Not Detected to IBM Watson
Published Flame Not Detected to IBM Watson
Published Moisture Level = 55.01 to IBM Watson
Published Water Level = 27.41 cm to IBM Watson
Published alert2 : Fertilizer PH level(12.326) is not safe,use other fertilizer
to IBM Watson
Motor-2 is ON
Published alert6 : water level(27.41) is high, so motor is ON to take water out
to IBM Watson
Published PH Level = 2.218 to IBM Watson
Published Animal attack Not Detected to IBM Watson
Published Flame Not Detected to IBM Watson
Published Moisture Level = 48.1 to IBM Watson
Published Water Level = 28.24 cm to IBM Watson
Published alert2 : Fertilizer PH level(2.218) is not safe,use other fertilizer
to IBM Watson
Motor-2 is ON
Published alert6 : water level(28.24) is high, so motor is ON to take water out
to IBM Watson
Published PH Level = 11.695 to IBM Watson
Published Animal attack Not Detected to IBM Watson
Published Flame Not Detected to IBM Watson
Published Moisture Level = 30.64 to IBM Watson
Published Water Level = 3.95 cm to IBM Watson
Published alert2 : Fertilizer PH level(11.695) is not safe,use other fertilizer
Ln: 55 Col: 0


IBM Watson IoT Platform
Node-RED : smart-crop-protectic
Node-RED Dashboard
smart-crop-protection.eu-gb.mybluemix.net/red/#flow/1781fe5c6b76db75
Node-RED
Deploy
filter nodes
common
inject
debug
complete
catch
status
link in
link call
link out
comment
function
function
switch
change
range
template
Flow 1
msg.payload
IBM IoT
connected
Motor
Motor Status :
Motor ON
Motor OFF
IBM IoT
connected
dashboard
Layout
Site
Theme
Tabs & Links
Home
Soil Monitoring
Alert
Motor Control


IBM Watson IoT Platform
vow9v2.internetofthings.ibmcloud.com/dashboard/devices/browse
IBM Watson IoT Platform
91761914024@smartinternz.com
ID: vow9v2
Browse
Action
Device Types
Interfaces
Add Device
123
Disconnected
Motor
Device
Nov 18, 2022 4:51 AM
Identity
Device Information
Recent Events
State
Logs
The recent events listed show the live stream of data that is coming and going from this device.
Event
Value
Format
Last Received
state on off
{"Command":"OFF"}
json
a few seconds ago
state on off
{"Command":"ON"}
json
a few seconds ago
state on off
{"Command":"OFF"}
json
a few seconds ago
state on off
{"Command":"ON"}
json
a few seconds ago
state on off
{"Command":"OFF"}
json
3 minutes ago
12345
Disconnected
SmartCropProtection
Device
Items per page 50
1–2 of 2 items
0 Simulations running


smart-crop-protection.eu-gb.mybluemix.net/ui/#!/0?socketid=UOt4NWesVO_LLB1bAAAu
Home
Soil Monitoring
Temperature
16.6
Humidity
40%
pH
9.395
Water Level
11.73
Alert
Temperature
Temperature is normal
Humidity
Soil needs water
Animal trespassing : Not Detected
Fire : Not Detected
Motor Control
Motor Status : OFF
MOTOR ON
MOTOR OFF

Simulation link:

https://wokwi.com/projects/348615284257456723

Note RED link:

https://smart-crop-protection.eu-gb.mybluemix.net/ui/