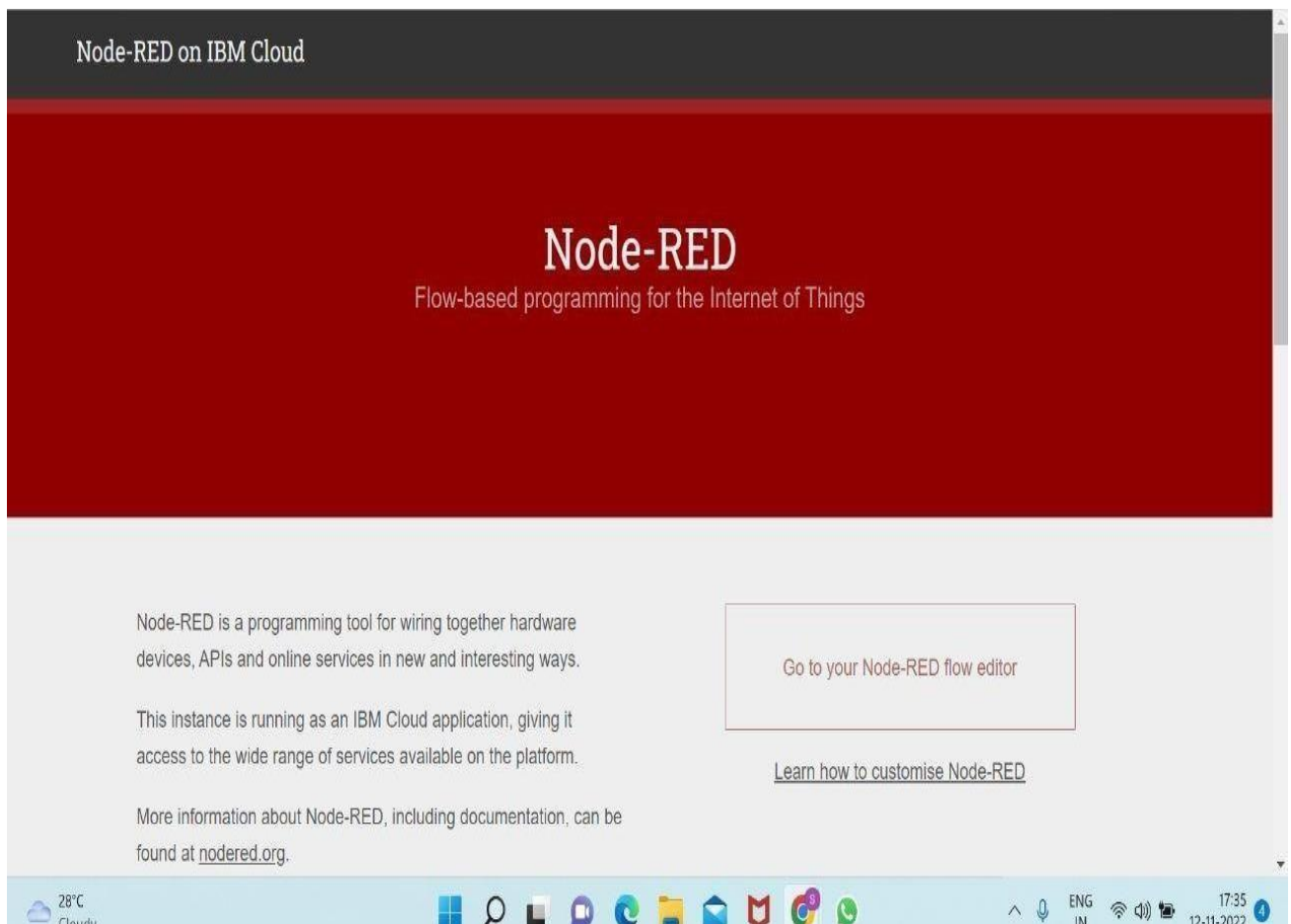
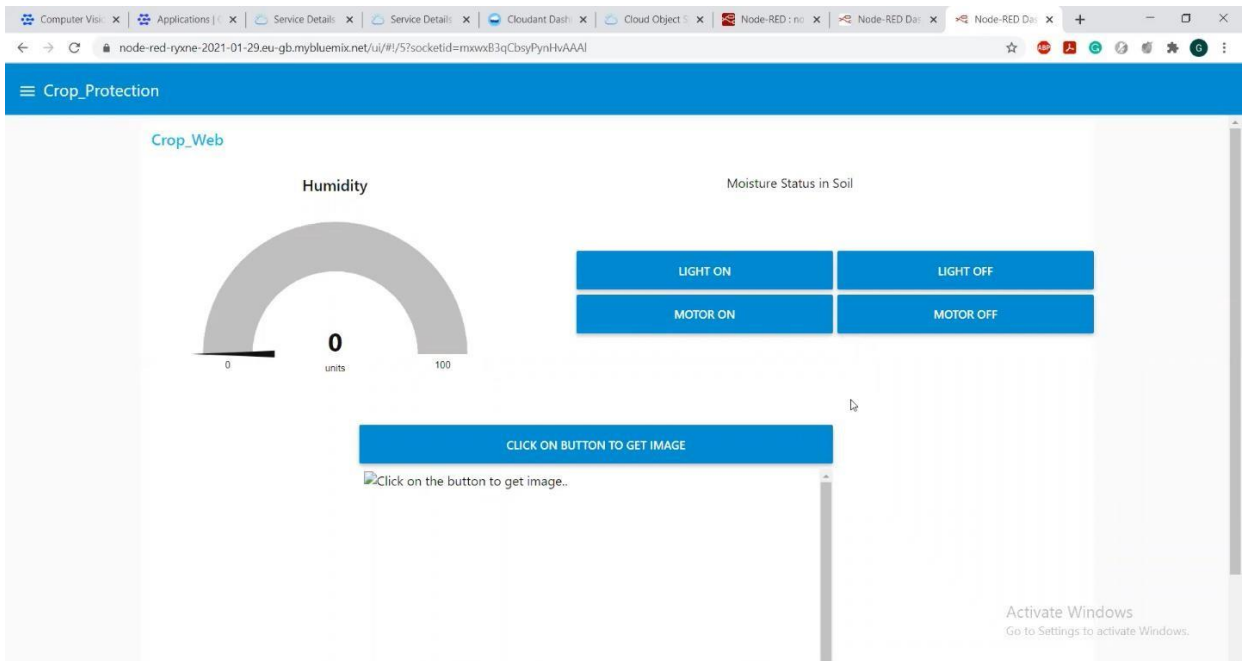
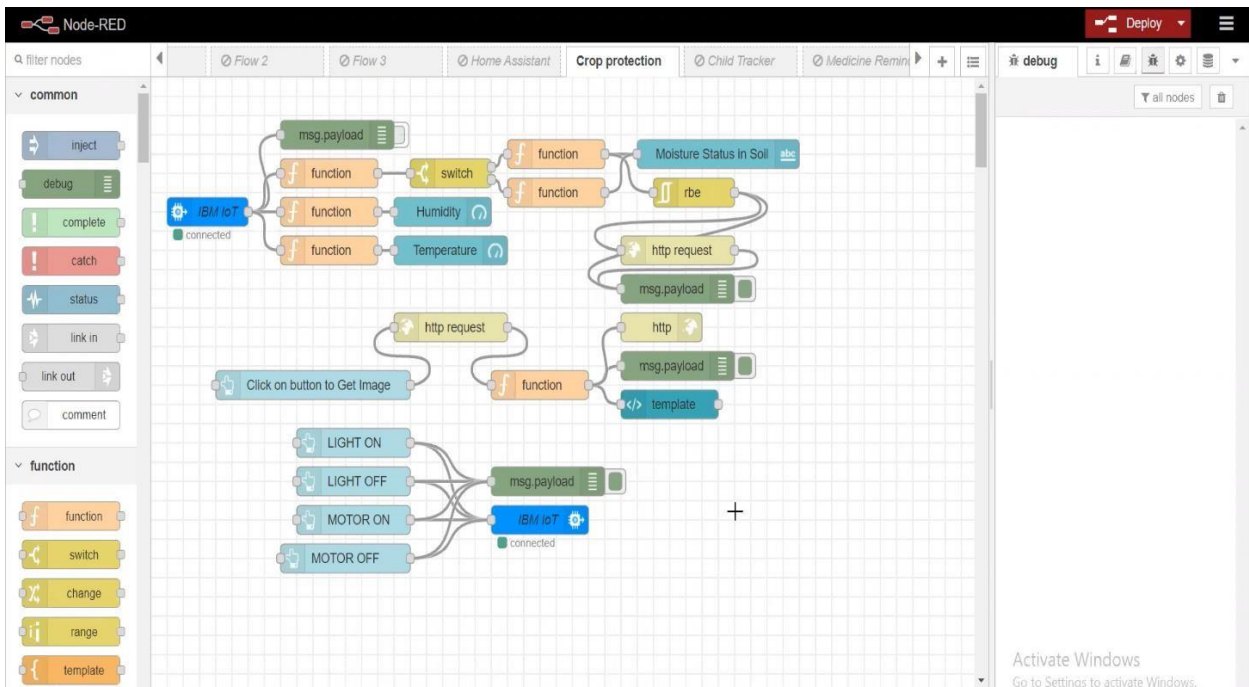


DEVELOP A WEB APPLICATION USING NODERED

TEAM ID	PNT2022TMID26608
TITLE	IOT BASED SMART CROP PROTECTION SYSTEM FOR AGRICULTURE

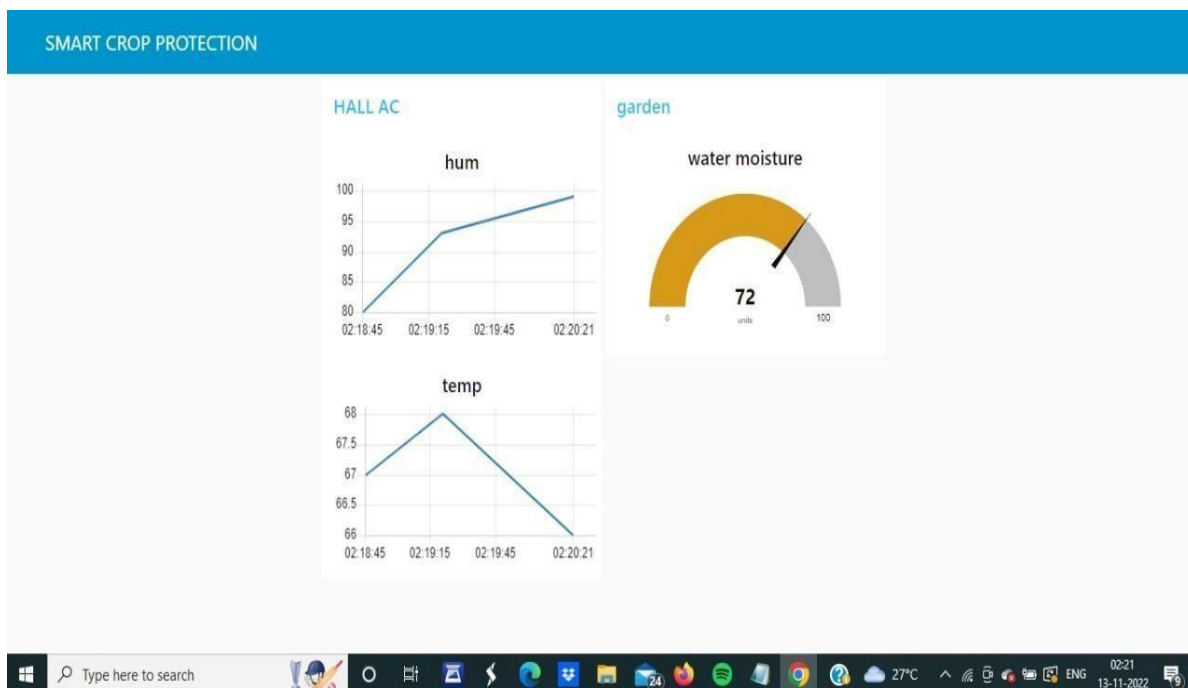
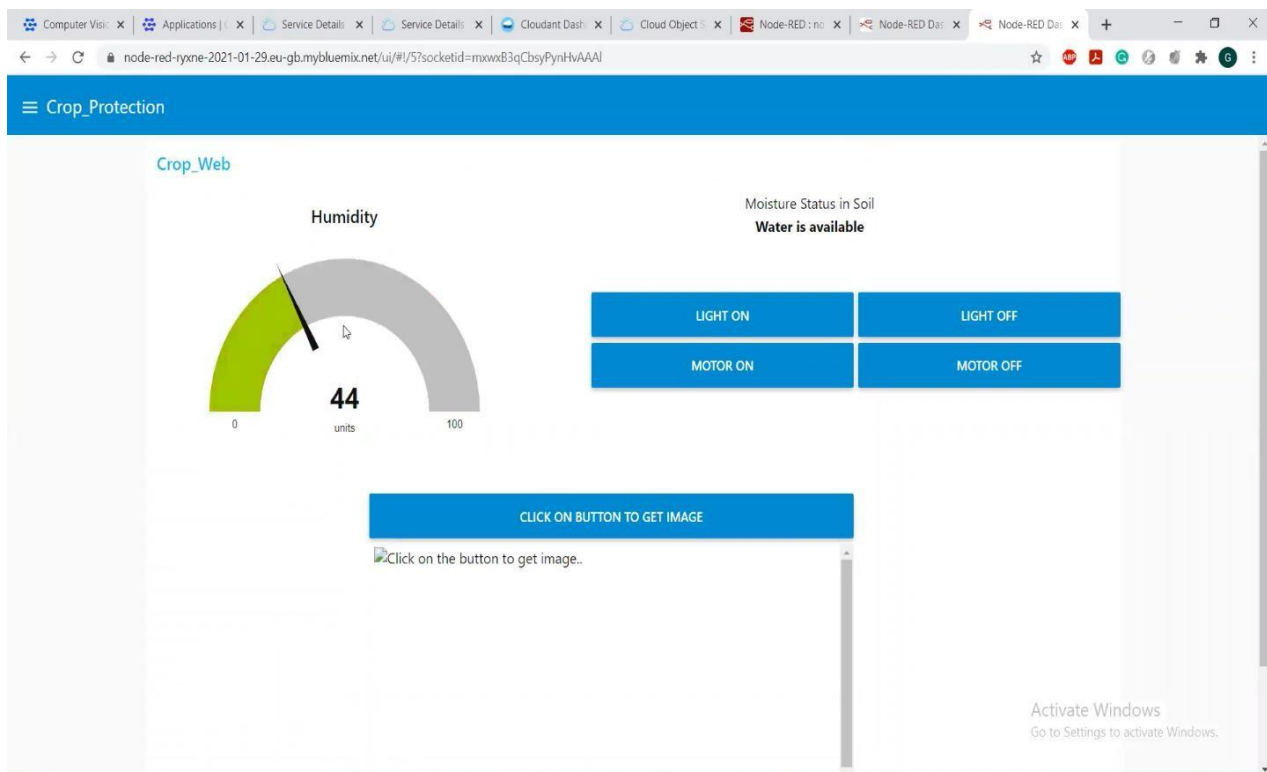




```
crop_protect.py - C:/Users/HP/Desktop/crop/crop_protect.py (3.8.8)
File Edit Format Run Options Window Help
import cv2
import numpy as np
import wiotp.sdk.device
import playsound
import random
import time
import datetime
import ibm_boto3
from ibm_botocore.client import Config, ClientError
#CloudantDB
from cloudant.client import Cloudant
from cloudant.error import CloudantException
from cloudant.result import Result, ResultByKey
from clarifai_grpc.channel.clarifai_channel import ClarifaiChannel
from clarifai_grpc.grpc.api import service_pb2_grpc
stub = service_pb2_grpc.V2Stub(ClarifaiChannel.get_grpc_channel())
from clarifai_grpc.grpc.api import service_pb2, resources_pb2
from clarifai_grpc.grpc.api.status import status_code_pb2
# This is how you authenticate.
metadata = (('authorization', 'Key bc885e5165d74ef48f42f6fa2c9eb87'),)
COS_ENDPOINT = "https://s3.jp-tok.cloud-object-storage.appdomain.cloud" # Current list available at https://control.cloud-object-storage.cloud.ibm.com/v2/endpoints
COS_API_KEY_ID = "f6ap-ct16m078902L7X9BAF71700meFLLUQozgmAzh5" # eg "W001f1RnLW4a3ftjMB-odB-2ysfTrfBiqgWanc--P3byk"
COS_AUTH_ENDPOINT = "https://iam.cloud.ibm.com/identity/token"
COS_RESOURCE_CRN = "crn:vl:bluemix:public:cloud-object-storage:global:a/6b644a3fda97440b889c23eeef263ed6:199able5-0d9d-420f-6e4a-96d866c04368::" # eg "crn:vl:bluemix:public:cloud-object-stc
clientdb = Cloudant("apikey-v2-16u3crmdpkghxwefdkvpssoh5fwezmuup5fv5g3ubz", "b0ab119f45d3e625eabb978e7e2f0e1", url="https://apikey-v2-16u3crmdpkghxwefdkvpssoh5fwezmuup5fv5g3ubz:b0ab119f45d3e625eabb978e7e2f0e1@apikey-v2-16u3crmdpkghxwefdkvpssoh5fwezmuup5fv5g3ubz:443")
clientdb.connect()
# Create resource
cos = ibm_boto3.resource("s3",
    ibm_api_key_id=COS_API_KEY_ID,
    ibm_service_instance_id=COS_RESOURCE_CRN,
    ibm_auth_endpoint=COS_AUTH_ENDPOINT,
    config=Config(signature_version="oauth"),
    endpoint_url=COS_ENDPOINT
)
def multi_part_upload(bucket_name, item_name, file_path):
    try:
        print("Starting file transfer for [0] to bucket: [1]\n".format(item_name, bucket_name))
        # set 5 MB chunks
        part_size = 1024 * 1024 * 5
        # set threshold to 15 MB
        file_threshold = 1024 * 1024 * 15
        # set the transfer threshold and chunk size
        transfer_config = ibm_boto3.s3.transfer.TransferConfig(
            multipart_threshold=file_threshold,
            multipart_chunksize=part_size
        )
        # the upload fileobj method will automatically execute a multi-part upload
    except Exception as e:
        print(e)
    return True
```

```
crop_protect.py - C:/Users/HP/Desktop/crop/crop_protect.py (3.8.8)
File Edit Format Run Options Window Help
Fileobj=file_data,
Config=transfer_config
)
print("Transfer for [0] Complete!\n".format(item_name, bucket_name))
except ClientError as be:
    print("CLIENT ERROR: [0]\n".format(be))
except Exception as e:
    print("Unable to complete multi-part upload")
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data)
    command=cmd.data['command']
    print(command)
    if(command=='lighton'):
        print('lighton')
    elif(command=='lightoff'):
        print('lightoff')
    elif(command=='motoron'):
        print('motoron')
    elif(command=='motoroff'):
        print('motoroff')
myConfig = {
    "identity": {
        "orgId": "hj5fmy",
        "typeId": "NodeMCU",
        "deviceId": "12345"
    },
    "auth": {
        "token": "12345678"
    }
}
client = wiotp.sdk.device.DeviceClient(config=myConfig)
client.connect()
database name = "sample"
my_database = clientdb.create_database(database_name)
if my_database.exists():
    print(f'"{database_name}" successfully created.')
cap=cv2.VideoCapture('garden.mp4')
if(cap.isOpened()==True):
    print('File opened')
else:
    print('File not found')
while(cap.isOpened()):
    ret, frame = cap.read()
    gray = cv2.cvtColor(frame, cv2.COLOR_BGR2GRAY)
```

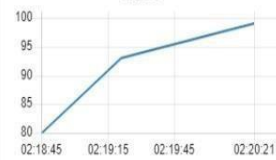
```
"IDLE Shell 3.8.8"
File Edit Shell Debug Options Window Help
Python 3.8.8 (tags/v3.8.8:024d805, Feb 19 2021, 13:18:16) [MSC v.1928 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/HP/Desktop/crop/crop_protect.py =====
2021-04-06 12:52:19,640 wiotp.sdk.device.client.DeviceClient INFO Connecte
d successfully: d:hj5fmy:NodeMCU:12345
'sample' successfully created.
File opened
{'Animal': False, 'moisture': 17, 'humidity': 41}
Publish Ok..
{'Animal': False, 'moisture': 84, 'humidity': 16}
Publish Ok..
{'Animal': False, 'moisture': 49, 'humidity': 43}
Publish Ok..
{'Animal': False, 'moisture': 0, 'humidity': 3}
Publish Ok..
{'Animal': False, 'moisture': 73, 'humidity': 68}
Publish Ok..
{'Animal': False, 'moisture': 26, 'humidity': 26}
Publish Ok..
```



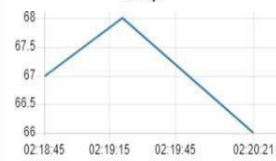
SMART CROP PROTECTION

HALL AC

hum



temp



garden

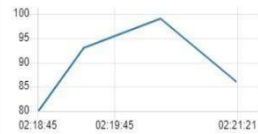
water moisture



SMART CROP PROTECTION

HALL AC

hum



temp



garden

water moisture

