**Develop a code to publich in IBM IoT Platform**

|  |  |
| --- | --- |
| Date | 17 November 2022 |
| Team ID | PNT2022TMID14561 |
| Project Name | Project – Smart Farmer-IoT Enabled smart Farming Application |

**Connecting Sensors with Arduino using C++ code**

#include "Arduino.h" #include "dht.h"

#include "SoilMoisture.h" #define dht\_apin A0

#define organization = "mmbh4c" #define deviceType = "smartfarmer" #define deviceId = "smartfarmer\_1" #define authMethod = "use-token-auth" #define authToken = "123456789"

char server[] = ORG ".messaging.internetofthings.ibmcloud.com";

char publishTopic[] = "iot-2/evt/abcd\_1/fmt/json"; char topic[] = "iot-2/cmd/home/fmt/String";

char authMethod[] = "use-token-auth"; char token[] = TOKEN;

char clientId[] = "d:" ORG ":" DEVICE\_TYPE ":" DEVICE\_ID;

const int sensor\_pin = A1; //soil moisture int pin\_out = 9;

dht DHT; int c=0; void setup()

{

pinMode(2, INPUT); //Pin 2 as INPUT pinMode(3, OUTPUT); //PIN 3 as OUTPUT pinMode(9, OUTPUT);//output for pump

}

void loop()

{

if (digitalRead(2) == HIGH)

{

digitalWrite(3, HIGH); // turn the LED/Buzz ON delay(10000); // wait for 100 msecond digitalWrite(3, LOW); // turn the LED/Buzz OFF delay(100);

}

Serial.begin(9600); delay(1000);

DHT.read11(dht\_apin); //temprature float h=DHT.humidity;

float t=DHT.temperature; delay(5000); Serial.begin(9600);

float moisture\_percentage; int sensor\_analog;

sensor\_analog = analogRead(sensor\_pin);

moisture\_percentage = ( 100 - ( (sensor\_analog/1023.00) \* 100 ) );

float m=moisture\_percentage; delay(1000);

if(m<40)//pump

{

while(m<40)

{

digitalWrite(pin\_out,HIGH); //open pump sensor\_analog = analogRead(sensor\_pin);

moisture\_percentage = ( 100 - ( (sensor\_analog/1023.00) \* 100 ) );

m=moisture\_percentage; delay(1000);

}

digitalWrite(pin\_out,LOW); //closepump

}

if(c>=0)

{

mySerial.begin(9600); delay(15000); Serial.begin(9600); delay(1000); Serial.print("\r"); delay(1000);

Serial.print((String)"update-

>"+(String)"Temprature="+t+(String)"Humidity="+h+(String

)"Moisture="+m); delay(1000);

}

}