

Develop a code to publish in IBM IoT Platform

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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);  
    } }
```