

TEAM ID :
PNT2022TMID44574

SPRINT-2

NOTIFICATION and STORE DATA

```
#include<WiFi.h>//library for wifi
#include<PubSubClient.h>//library forMQTT
void callback(char* subscribe topic, byte* payload, unsigned int
payloadlength);
//-----credentials of IBM Account-----

#define ORG
"948e13
"// IBM ORGANIZATION ID
#define DEVICE_TYPE "NodeMCU"//DEVICE TYPE MENTIONED
IN IOTWATSON
PLATFORM #define DEVICE_ID "502645
"//DEVICE ID MENTIONED IN IOTWATSONPLATFORM
#define TOKEN "F1eqrGOoNLATFjk?Sz
"//Token String data3;floatdist;
//-----customize the above value-- char server [] =ORG
".messaging.internetofthings.ibmcloud.com";//servername
char publish topic[]="ultrasonic/evt/Data/fmt/json";/*topic
nameandtype
of event perform and
formatin which data to be
send*/
charsubscribetopic[]="ultrasonic/cmd/test/fmt/String";/*cmd
REPRESENT
Command tupe and
COMMAND IS TEST OF FORMAT STRING*/
char authMethod[]="use-token-auth";//authentication
method chartoken[]=TOKEN;
char clientid[]="d:" ORG ":" DEVICE_TYPE":" DEVICE_ID;//CLIENT
ID
//
WiFiClient wifiClient;// creating an instance for wificlient
PubSubClient client(server, 1883 , callback ,
wifiClient);/*calling thepredefined
client id by passing parameter like server id,portand
wificredential*/int LED =4;
```

```
int trig =5; int echo=18; void setup(){
```

```

Serial.begin(115200); pinMode(trig,OUTPUT);
pinMode(echo,INPUT);pinMode(LED,OUTPUT); delay(10);
Serial.println(); wificonnect(); mqttconnect();
void loop() { digitalWrite(trig,LOW);
digitalWrite(trig,HIGH);delayMicroseconds(10);
digitalWrite(trig,LOW);
float dur=pulseIn(echo,HIGH); float dist=(dur * 0.0343)/2;
Serial.print("distance in
cm"); Serial.println(dist);
PublishData(dist);delay(1000);
if (!client.loop()){ mqttconnect();
}
}
/*..... retriving to
cloud. ....
*/
void PublishData(float dist){ mqttconnect();//function call for
connectingto ibm
/*creating the string in form of JSON to update the data to ibm
cloud*/String
object;if(dist<100)
{
digitalWrite(LED,HIGH); Serial.println("no object is
near");object="Near";
}
else
{
digitalWrite(LED,LOW); Serial.println("no object found");
object="No";
}
String payload="{\"distance\":"; payload
+=dist; payload +="," "\"object\":\":";
payload += object;payload += "\}";
Serial.print("Sending payload: ");
Serial.println(payload);
if(client.publish(publishtopic, (char*)
payload.c_str())){ Serial.println("Publish ok");/* if its
sucessfully upload data on the cloud then it will print publish
ok in serial monitor or else it will printpublish
failed*/
} else{
Serial.println("Publish failed");

```

```

}
}
void
mqttconnect(){ if(!client.connected()){ Serial.print("
Reconnecting client to "); Serial.println(server);
while(!client.connect(clientid,authMethod,
token)){ Serial.print("."); delay(500);
}
initManagedDevice();
Serial.println();
}
}
void wificonnect()//function defenition for wificonnect
{
Serial.println(); Serial.print("Connecting to
");WiFi.begin("vivo 1816","taetae95",6);//PASSING THE WIFI
CREDENTIALS TO
ESTABLISH CONNECTION
while (WiFi.status() !=WL_CONNECTED){ delay(500);
Serial.print(".");
}
Serial.println(""); Serial.println("WiFi connected");
Serial.println("IPaddress");
Serial.println(WiFi.localIP());
}
void initManagedDevice(){ if(client.subscribe(subscribetopic)){
Serial.println((subscribetopic)); Serial.println("subscribe to cmd
OK");
}else{
Serial.println("subscribe to cmd failed");
}
}
void callback(char*
subscribetopic,byte*payload,unsigned int
payloadLength)
{
Serial.print("callback invoked for topic: ");
Serial.println(subscribetopic); for(int i=0; i< payloadLength;
i++){
//Serial.print((char)payload[i]); data3 +=(char)payload[i];
}
//Serial.println("dta: "+ data3);
//if(data3=="Near")
//{

```

```
//Serial.println(data3);
```

```
//digitalWrite(LED,HIGH);  
//}  
//else //{  
//Serial.println(data3);  
//digitalWrite(LED,LOW);//} data3="";  
}
```

CLOUD DEVICE:

IBM Watson IoT Platform

731719106008@smartinternz.com
ID: 948e13

Browse

Action

Device Types

Interfaces

Add Device

Identity

Device Information

Recent Events

State

Logs

Device ID

NodeMCU_1

Device Type

NodeMCU

Date Added

Nov 10, 2022 9:54 AM

Added By

731719106008@smartinternz.com

Connection Status

Disconnected

Last Connected: Nov 10, 2022 10:39 AM

Client Address: 103.114.208.154 SecureToken

Duration: 2 minutes

Data Transferred: 1.0 KB

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