

Final code

Team I'd -PNT2022TMID45857

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#include <WiFi.h> #include <WiFiClient.h> #include <PubSubClient.h> #include <ArduinoJson.h>
#include<TinyGPS++.h> #define RXD2 16 #define TXD2 17#include <WiFi.h> #include <WiFiClient.h>
#include <PubSubClient.h> #include <ArduinoJson.h> #include<TinyGPS++.h> #define RXD2 16 #define
TXD2 17 HardwareSerial neogps(1); TinyGPSPPlus gps; char arr[100]; const char* ssid = "Redmi"; const
char* password = "krish@08"; #define ID "17cmwk" #define DEVICE_TYPE "Tracker" #define
DEVICE_ID "gps1" #define TOKEN "childtracker1" char server[] = ID
".messaging.internetofthings.ibmcloud.com"; char publish_Topic1[] = "iot-2/evt/Data1/fmt/json"; char
publish_Topic2[] = "iot-2/evt/Data2/fmt/json"; char authMethod[] = "use-token-auth"; char token[] =
TOKEN; char clientId[] = "d:" ID ":" DEVICE_TYPE ":" DEVICE_ID; WiFiClient wifiClient; PubSubClient
client(server, 1883, NULL, wifiClient); void setup() { Serial.begin(115200); Serial.println();
wifi_init(); } long previous_message = 0; void loop() { client.loop(); String payload =
getLocationPayload(); if(payload==""){ return; } Serial.print("Sending payload: ");
Serial.println(payload); if (client.publish(publish_Topic1, arr)) { Serial.println("Published
successfully"); } else { Serial.println("Failed"); } delay(2000); } void wifi_init(){
WiFi.begin(ssid, password); neogps.begin(9600,SERIAL_8N1,RXD2,TXD2); while (WiFi.status() !=
WL_CONNECTED) { delay(500); Serial.print("."); } Serial.println("");
Serial.println(WiFi.localIP()); if (!client.connected()) { Serial.print("Reconnecting client to ");
Serial.println(server); while (!client.connect(clientId, authMethod, token)) { Serial.print(".");
delay(500); } Serial.println("Connected TO IBM IoT cloud!"); } } String getLocationPayload(){
boolean newData = false; for(unsigned long start = millis();millis()-start<1000;){
while(neogps.available()){ if(gps.encode(neogps.read())){ newData = true; } } }
String payload; if(newData == true){ newData = false; payload = locationPayloadGenerator();
} else{ Serial.println("No data"); payload = ""; } return payload; } String
locationPayloadGenerator(){ String payload = ""; if(gps.location.isValid()){ float lat =
gps.location.lat(); float lon = gps.location.lng(); payload = "{\"latitude\" :
"+String(lat)+"\", \"longitude\" : "+String(lon)+"\""; create_json(lat,lon); } return payload; } void
create_json(float lat,float lon){ StaticJsonDocument<100> doc; JsonObject root =
doc.to<JsonObject>(); root["name"]="Child"; root["latitude"] = lat; root["longitude"] = lon;
serializeJsonPretty(doc,arr); } Footer HardwareSerial neogps(1); TinyGPSPPlus gps; char arr[100]; const
char* ssid = "Redmi"; const char* password = "krish@08"; #define ID "17cmwk" #define DEVICE_TYPE
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} else{ Serial.println("No data"); payload = "{}"; } return payload; } String
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"+String(lat)+"\", \"longitude\" : "+String(lon)+"}"; create_json(lat,lon); } return payload; } void
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