Sistemas industriales

Universitat d'Alacant
Universidad de Alicante

Practica 3

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30 de abril de 2022

Índice

1. Arduino Cloud

Para esta practica hemos conectado la placa arruino al sistema cloud de Arduino

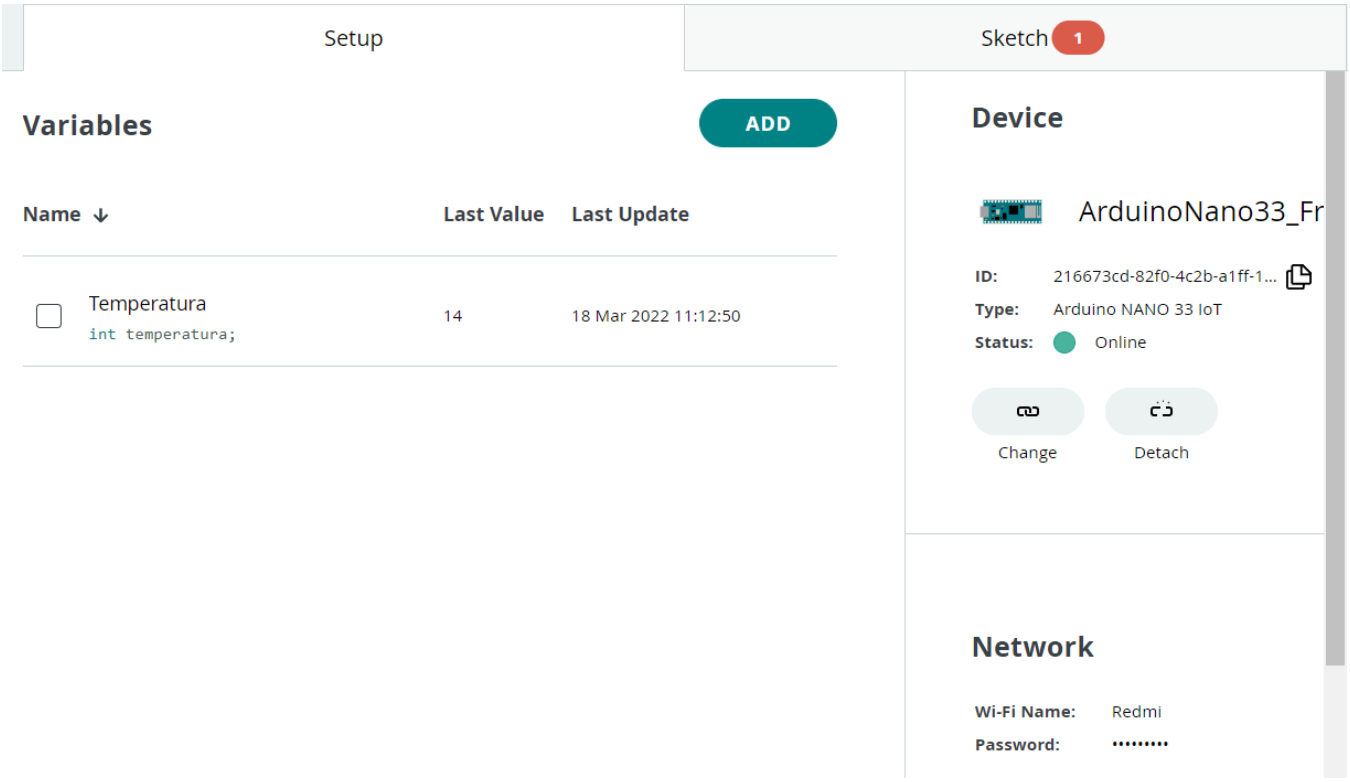

Figura 1: Arduino enlazado a IoT Cloud

Una vez conectado se ha creado una variable temperatura de tipo numérica para simular un recepción de datos. Esta variable se ira actualizando de manera aleatoria entre 0º y 40º.

```
/*
  Sketch generated by the Arduino IoT Cloud Thing "Untitled"
  https://create.arduino.cc/cloud/things/e93a11e4-9738-45ad-8931-e059afaed50d

  Arduino IoT Cloud Variables description

  The following variables are automatically generated and updated when changes are made to the Thing

  int temperatura;

  Variables which are marked as READ/WRITE in the Cloud Thing will also have functions
  which are called when their values are changed from the Dashboard.
  These functions are generated with the Thing and added at the end of this sketch.
*/

#include "thingProperties.h"

void setup() {
  // Initialize serial and wait for port to open:
  Serial.begin(9600);
```

```
  // This delay gives the chance to wait for a Serial Monitor without blocking if none is found
  delay(1500);

  // Defined in thingProperties.h
  initProperties();

  // Connect to Arduino IoT Cloud
  ArduinoCloud.begin(ArduinoIoTPreferredConnection);

  /*
     The following function allows you to obtain more information
     related to the state of network and IoT Cloud connection and errors
     the higher number the more granular information you'll get.
     The default is 0 (only errors).
     Maximum is 4
  */
  setDebugMessageLevel(2);
  ArduinoCloud.printDebugInfo();
}

void loop() {
  ArduinoCloud.update();
  // Your code here
  temperatura = rand() % 40;
  delay(3000);
}

/*
  Since Temperatura is READ_WRITE variable, onTemperaturaChange() is
  executed every time a new value is received from IoT Cloud.
*/
void onTemperaturaChange()  {
  // Add your code here to act upon Temperatura change

}
```

2. Interfaz

Se ha creado una dashboard para la recepción y muestreo de la variable temperatura.

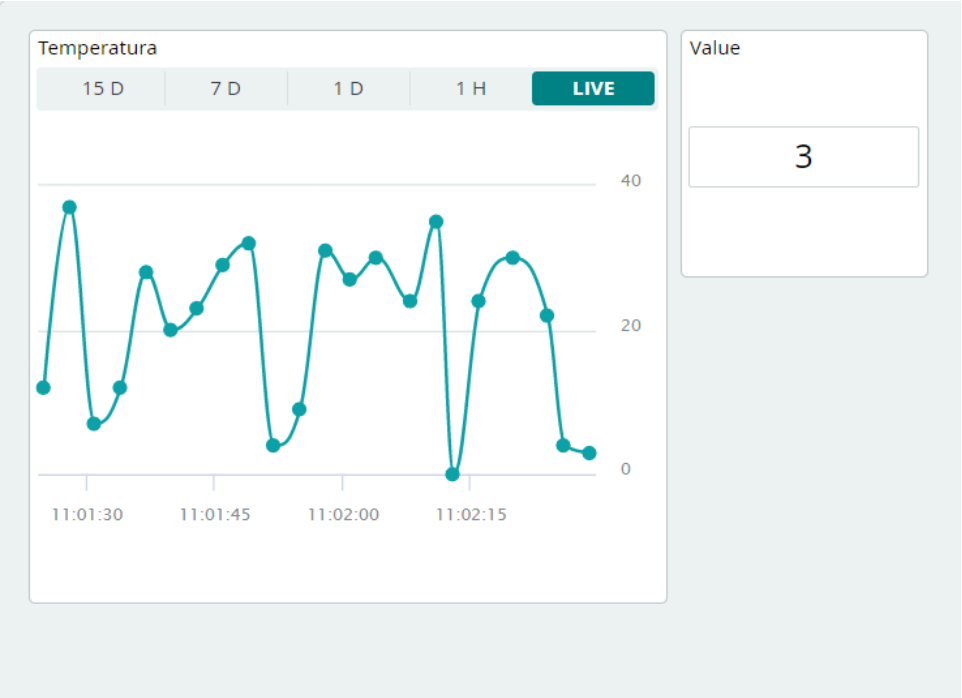

Figura 2: Grafica de temperatura

Finalmente si se descarga la app de Arduini IoT Cloud veremos como el arduino sigue mandando datos que se ven reflejado en el teléfono.

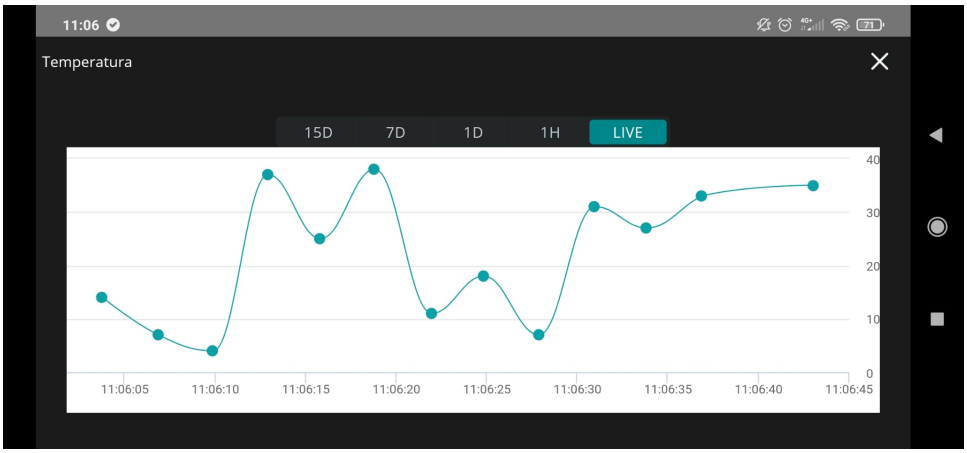

Figura 3: Grafica de temperatura desde android