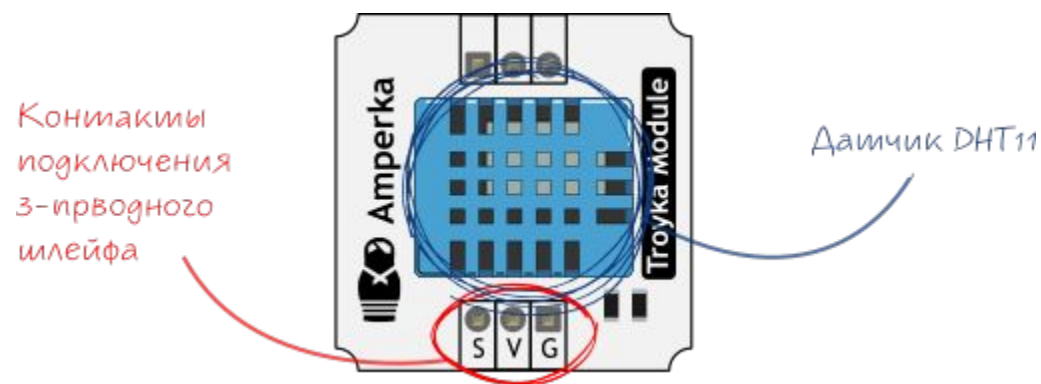


Data transfer to the dveet.io platform

Nikita Ilin

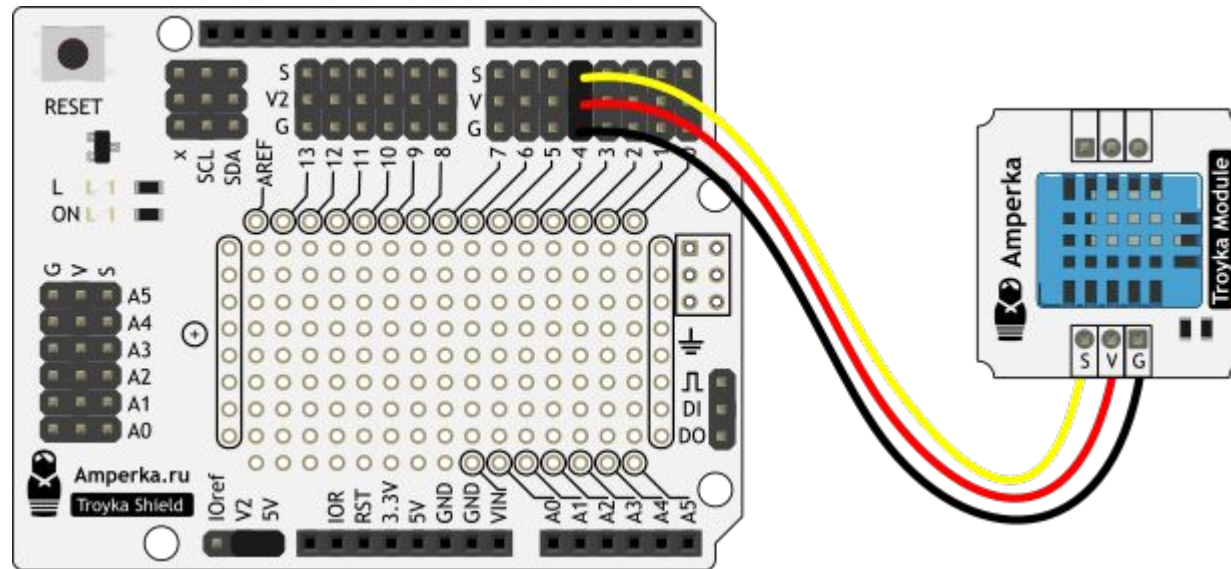
Temperature and humidity sensor

- The DHT11 digital sensor is a composite sensor that provides a calibrated digital signal with temperature and humidity readings.
- The sensor includes a resistive humidity measuring component and a negative temperature coefficient (NTC) temperature measuring component, which are connected to a high-performance 8-bit microcontroller.



DHT sensor protocol

The sensor output is a digital signal. Temperature and humidity are transmitted over one signal wire (S). DHT11 communicates with a host like Arduino using its own protocol.



Creating a device for the dweet.io platform

Link: <https://dweet.io/dweet/for/temp?hello=world>

← → ↻ 🔒 dweet.io/dweet/for/temp?hello=world 🔍 ☆ 📧 🔑 🗨️ 👤 ⋮

```
{"this": "succeeded", "by": "dweeting", "the": "dweet", "with": {"thing": "temp", "created": "2019-11-08T21:08:41.854Z", "content": {"hello": "world"}, "transaction": "80b7cc68-9167-4a44-9e1d-79c4627cc53d"}}
```

Creating a control program

- Library for working with the sensor (if it is not installed, it must be added)

#include <TroykaDHT.h>

- Add the pin number to which the sensor is connected:

DHT dht(4, DHT11);

- We start the sensor in the section void setup()

dht.begin();

- Reading data from the sensor in the section void loop()

dht.read();

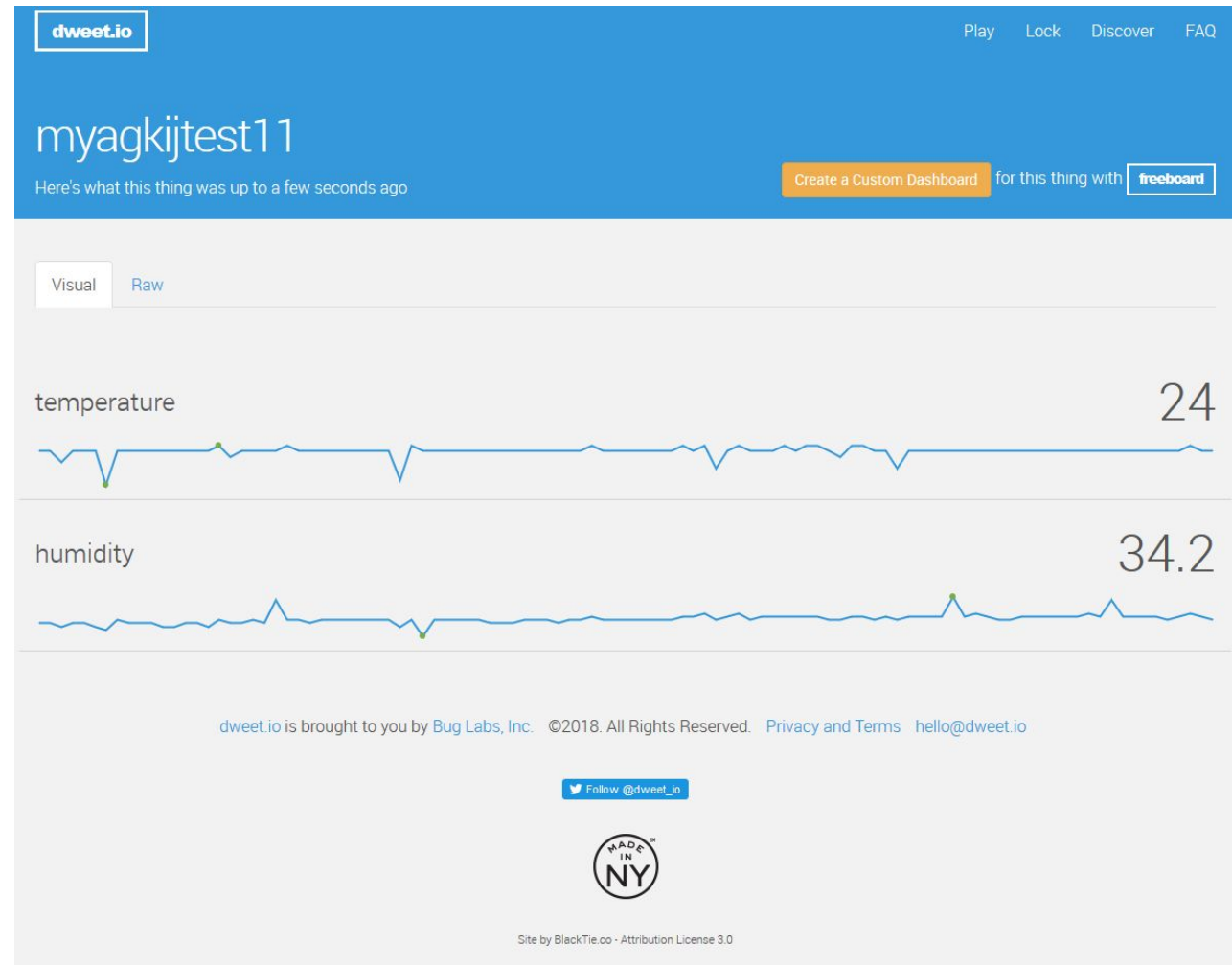
Creating a control program

- Displaying temperature readings in Celsius, Kelvin and Fahrenheit;
(section void httpRequest())

```
client.println(String ("POST /dweet/for/garden?Light=") + String  
(sensorLight.getLightLux()) + String ("&C=") + String  
(dht.getTemperatureC()) + String ("&K=") + String  
(dht.getTemperatureK()) + String ("&F=") + String  
(dht.getTemperatureF()));
```

Assignment

- Display temperature sensor readings on dweet.io



Freeboard interface

1. Go to www.freeboard.io
2. Create account / Login to account
3. On the www.dweet.io website, click the Create a custom dashboard button

Example

The image shows a dark-themed dashboard interface for 'freeboard'. At the top left, the 'freeboard' logo is enclosed in a white box. Below it are several menu items: '+ ADD PANE', 'DEVELOPER CONSOLE' (with a terminal icon), 'IMPORT' (with a folder icon), 'EXPORT' (with a document icon), and 'SETTINGS' (with a gear icon). On the top right, there is a 'DATASOURCES' section containing a table with two columns: 'Name' and 'Last Updated'. The table lists one data source named 'Temperature' with the value 'never'. To the right of the 'Temperature' row are two icons: a refresh icon and a trash icon. Below the table is an 'ADD' button. In the center of the dashboard, there is a small grey button with an upward-pointing arrow. At the bottom left, there is a gauge widget. The gauge is a semi-circle with a white needle pointing to the center, and the number '0' is displayed in the middle. The scale at the bottom of the gauge ranges from '0' to '100'. Above the gauge are three icons: a plus sign, a wrench, and a trash can.

freeboard

+ ADD PANE

DEVELOPER CONSOLE

IMPORT EXPORT SETTINGS

DATASOURCES

Name	Last Updated
Temperature	never

ADD

0 100

Changing the interface

