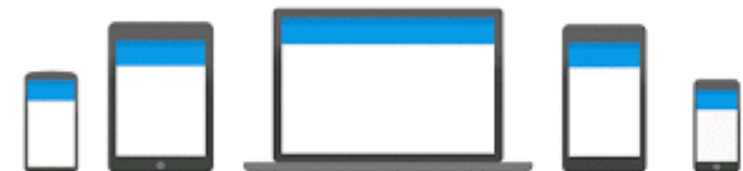




Firestore-NodeMCU

NodeMCU interface with Firestore

Dr. Sarwan Singh
NIELIT Chandigarh



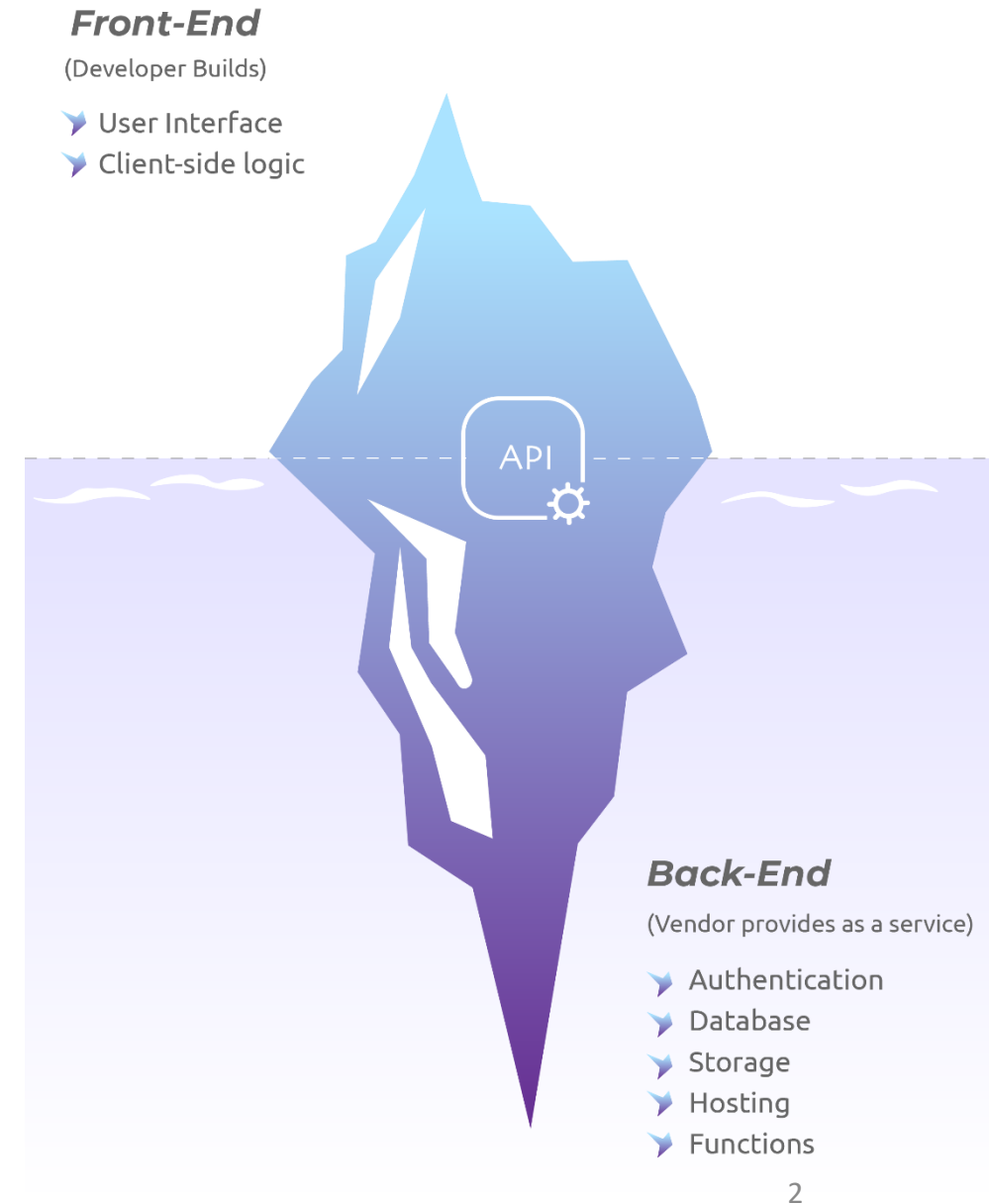


Agenda

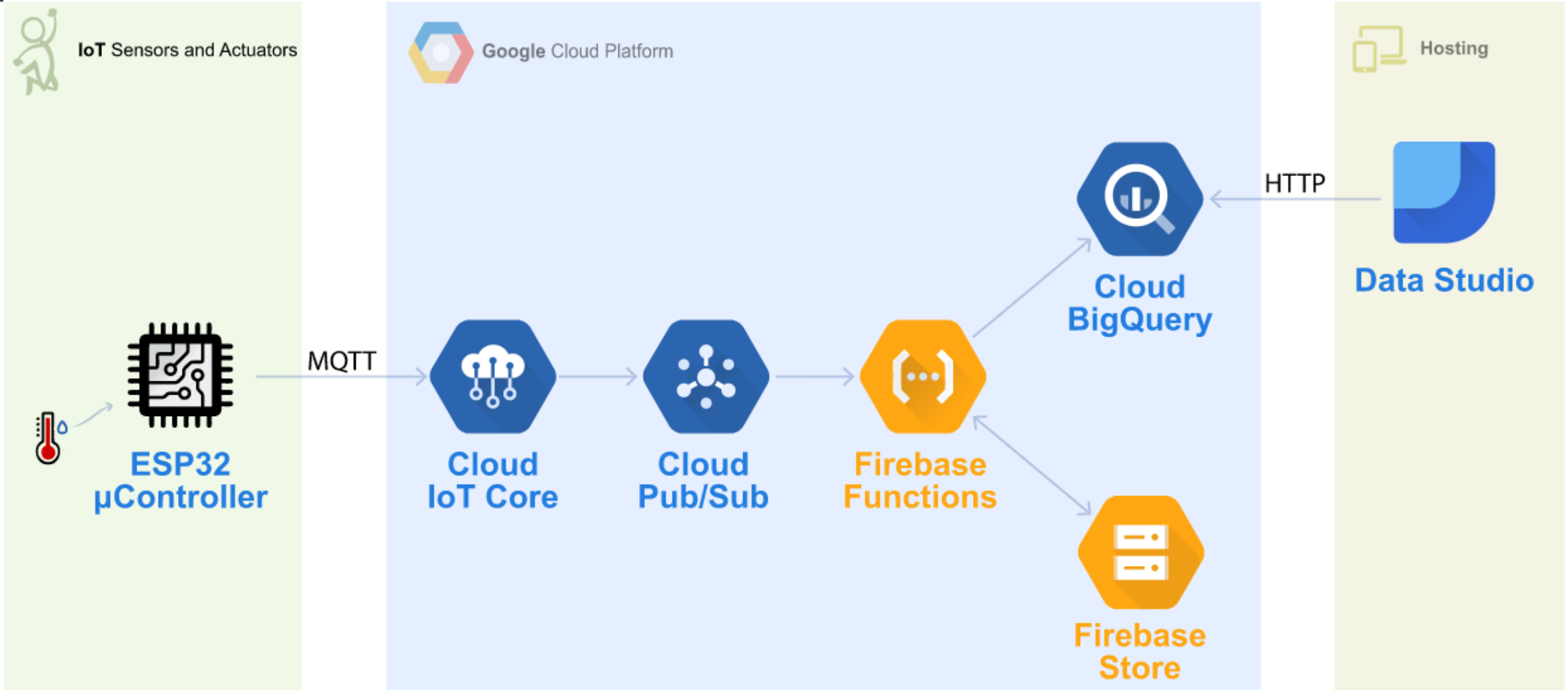
- Firebase – NodeMCU

References

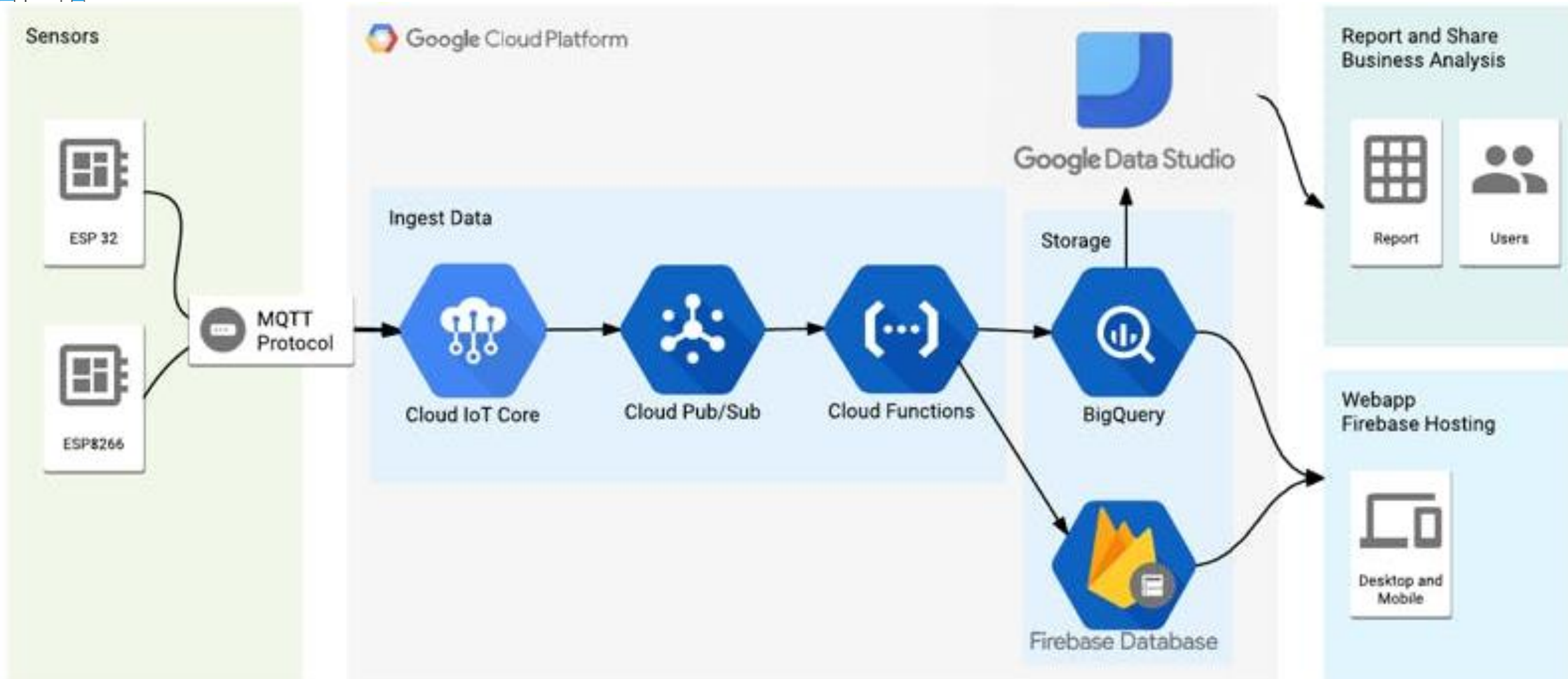
- google
- firebase.google.com



Designing IoT based application using GCP

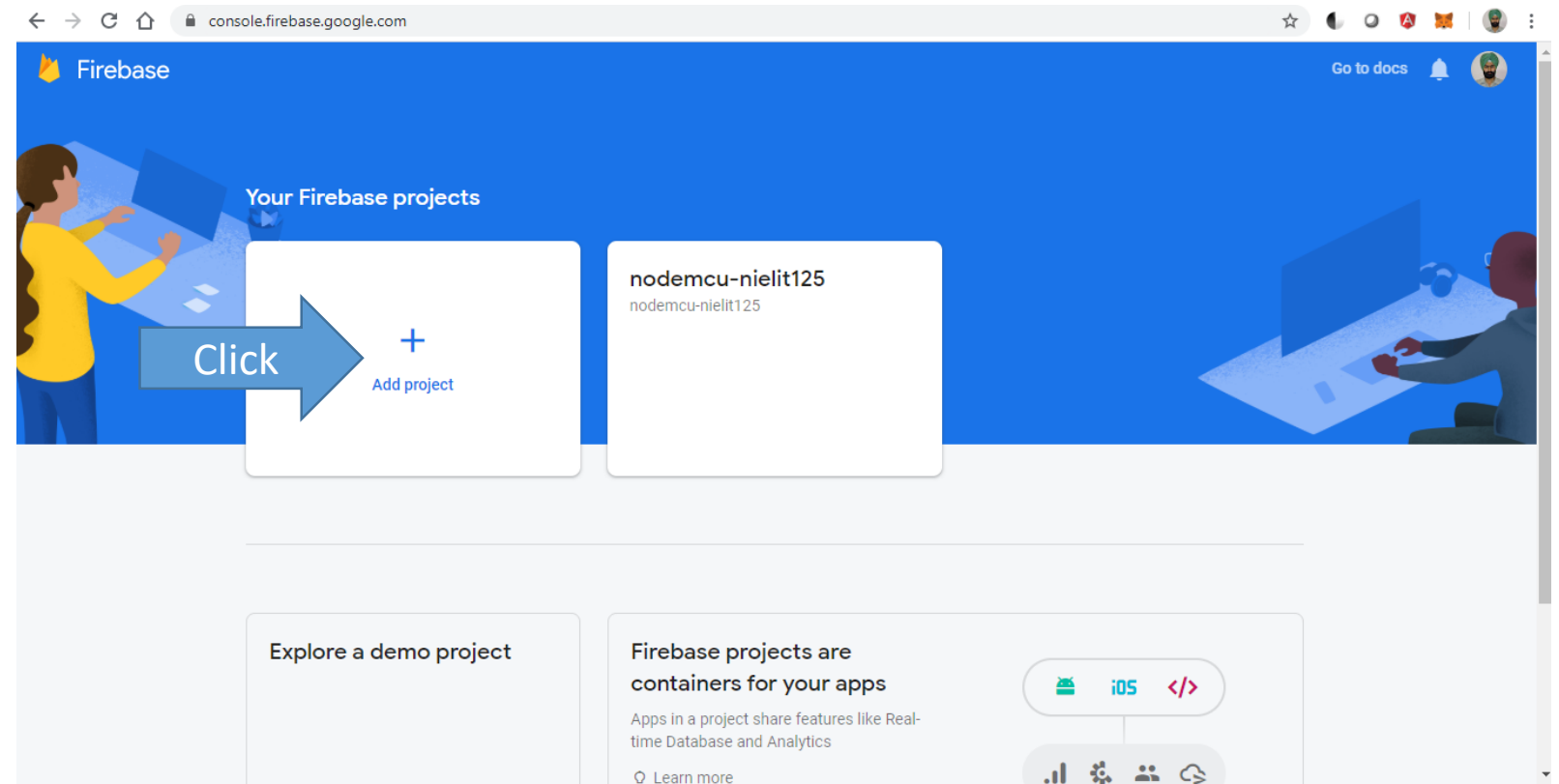


Designing IoT based application using GCP



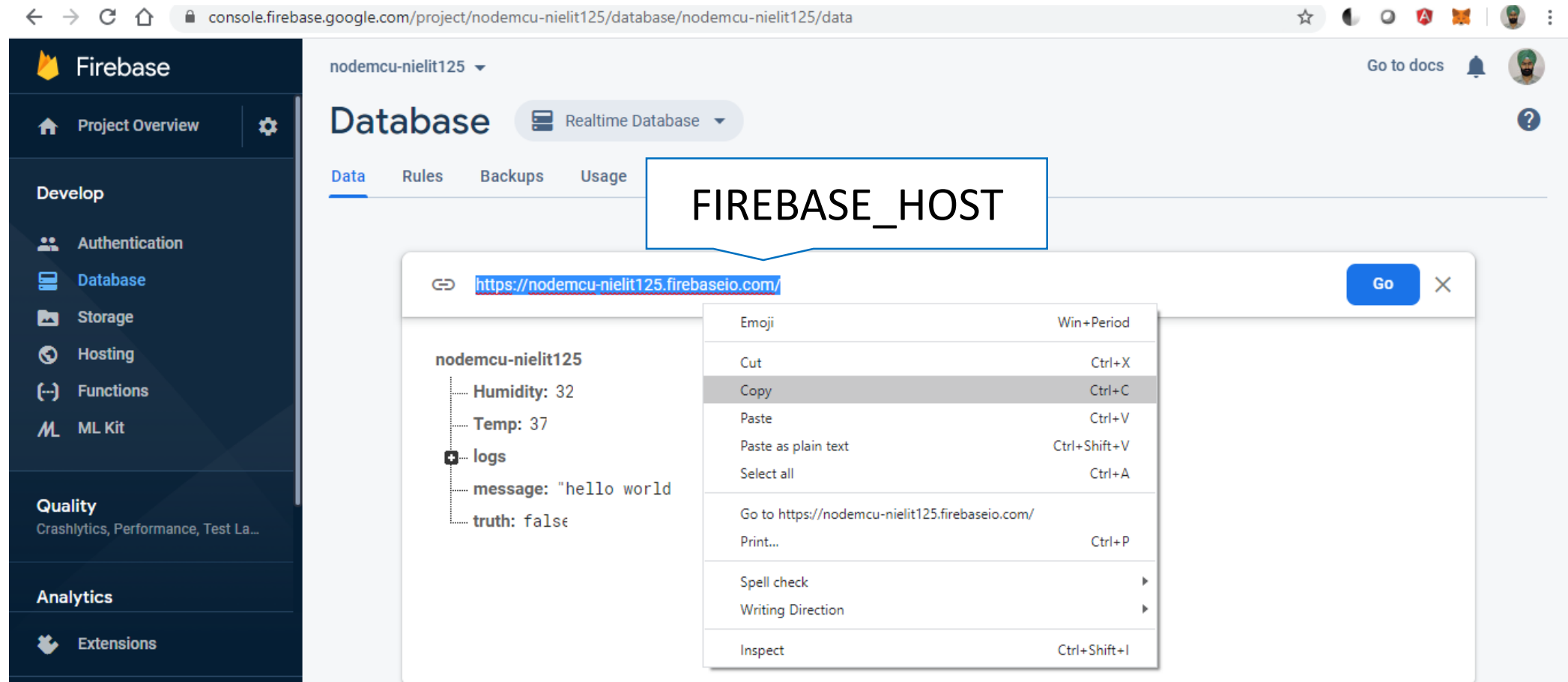
Firebase console settings

- Create new project





- Copy the link for FIREBASE_HOST variable in Arduino code



console.firebase.google.com/project/nodemcu-nielit125/database/nodemcu-nielit125/data

nodemcu-nielit125

Database

Realtime Database

Data Rules Backups Usage

FIREBASE_HOST

<https://nodemcu-nielit125.firebaseio.com/>

nodemcu-nielit125

- Humidity: 32
- Temp: 37
- logs
 - message: "hello world"
 - truth: false

NodeMCU setting

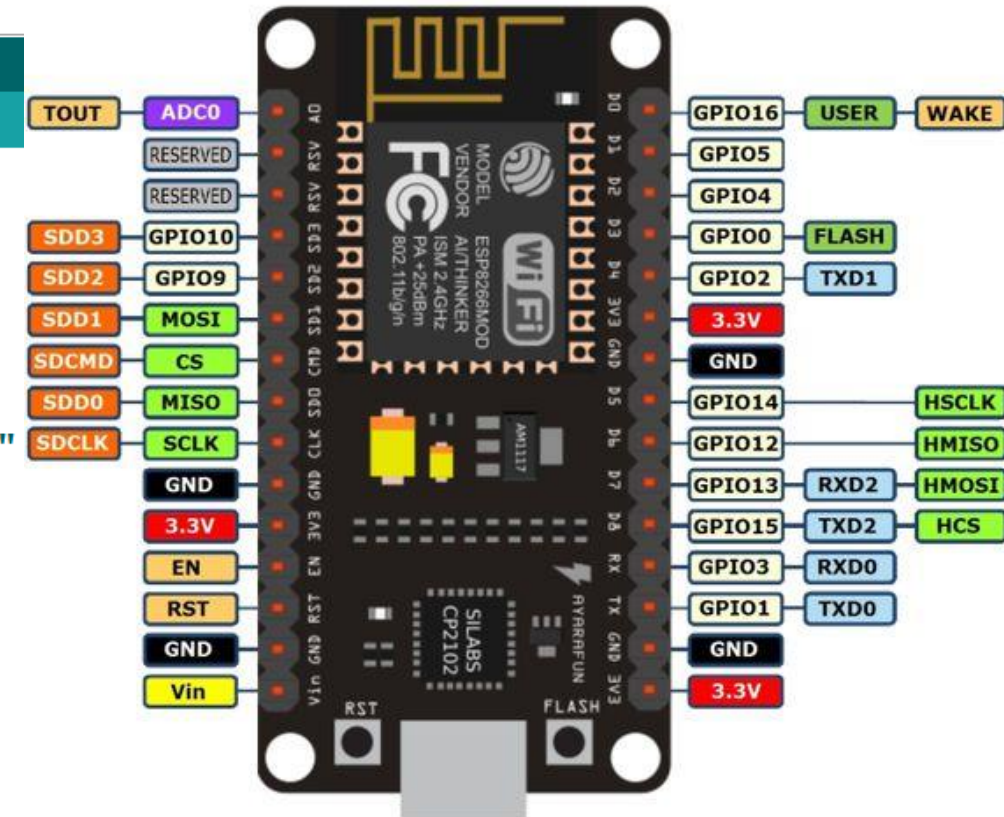
- Change the appropriate FIREBASE_HOST , FIREBASE_AUTH, WIFI_SSID, WIFI_PASSWORD setting

File Edit Sketch Tools Help

```

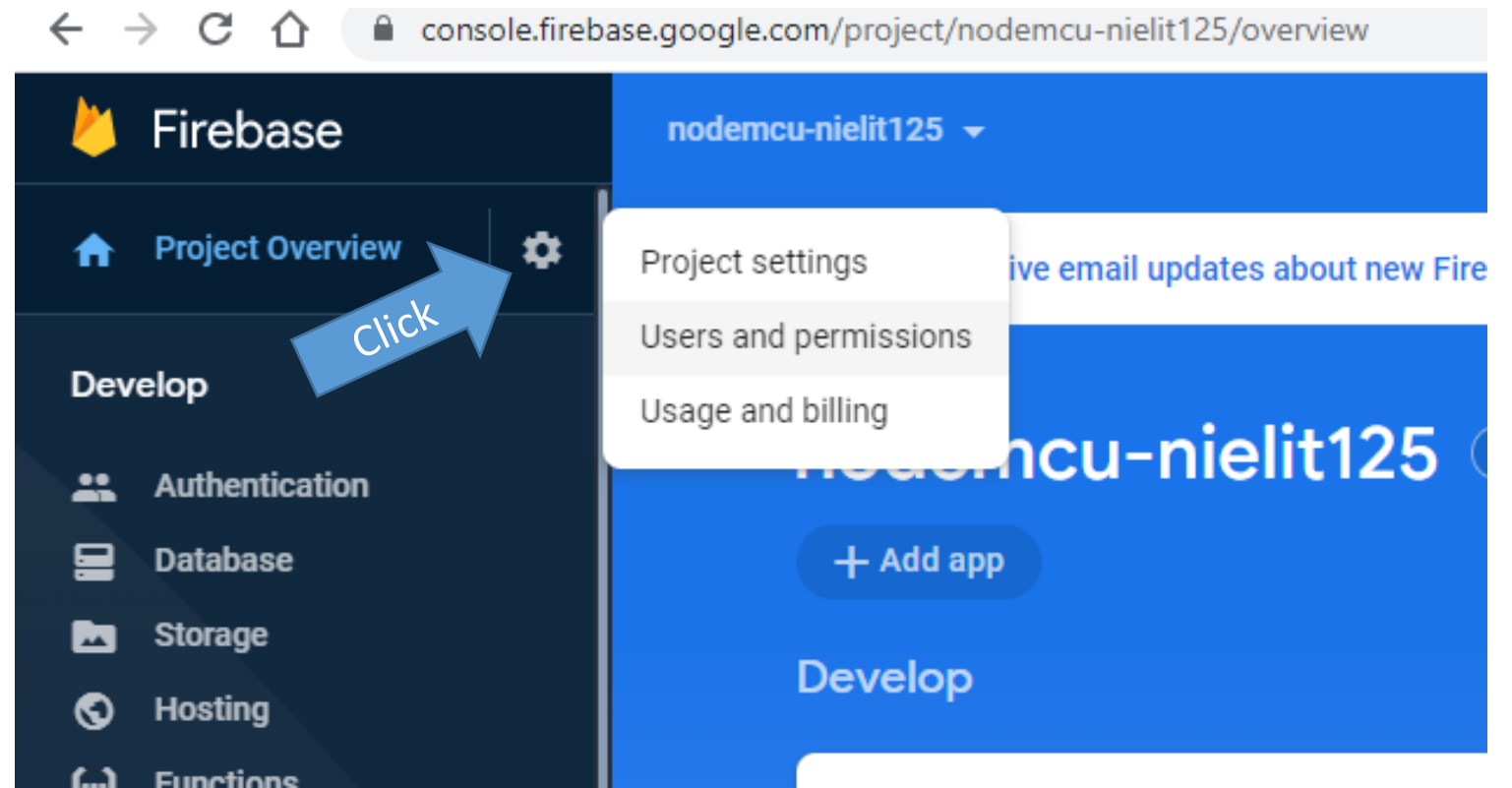
FirebaseDHT_NodeMCU $
4 #include <FirebaseArduino.h>
5 #include <ESP8266WiFi.h>
6
7 // Set these to run example.
8 #define FIREBASE_HOST "yyyyyyyyyyyyy.firebaseio.com"
9 #define FIREBASE_AUTH "xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx"
10 #define WIFI_SSID "ssssss" // wifi SSID
11 #define WIFI_PASSWORD "pppppp" // wifi password
12
13

```





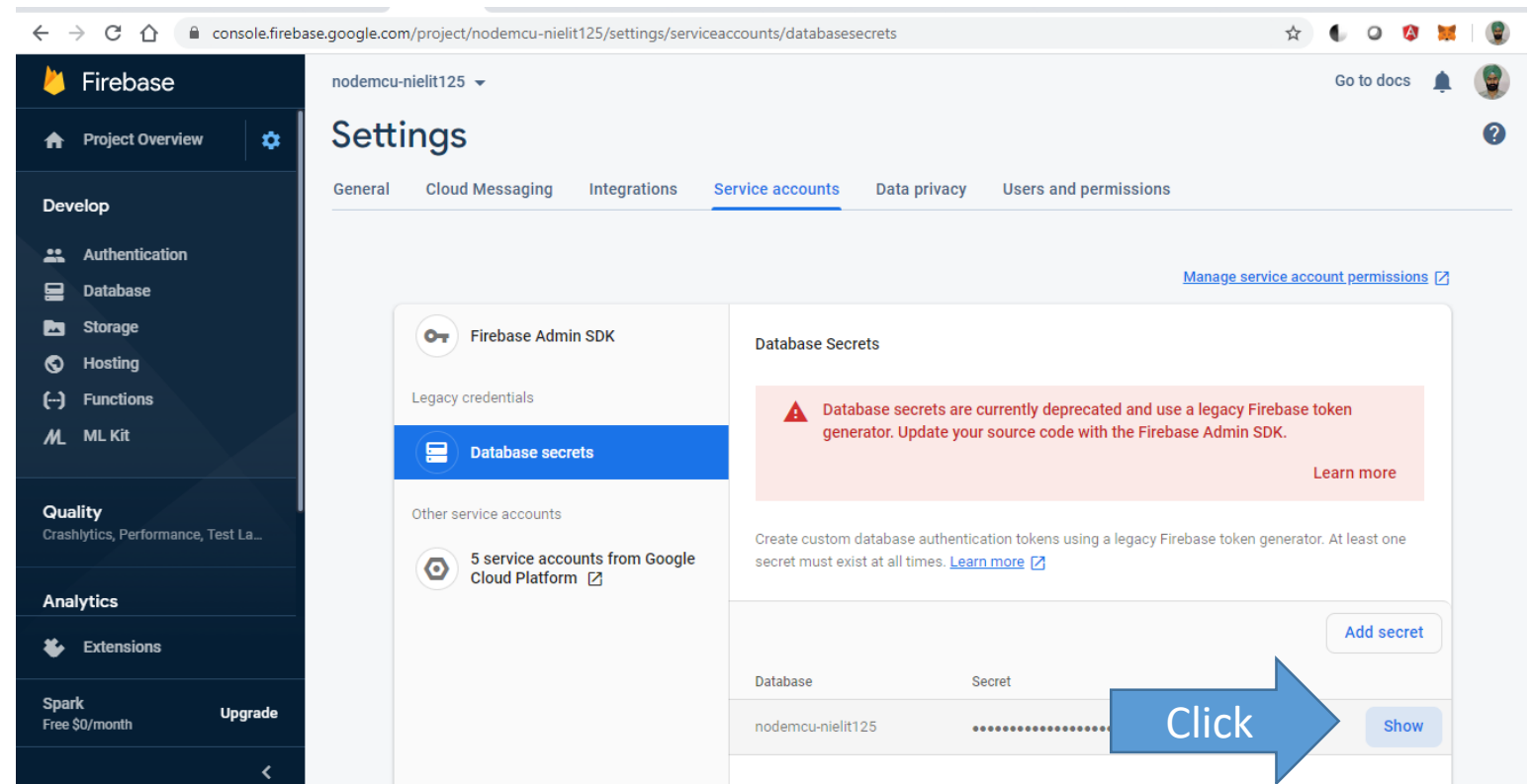
- Firebase console > Project Settings





- Firebase console > Project Settings >
Service accounts > Database Secrets

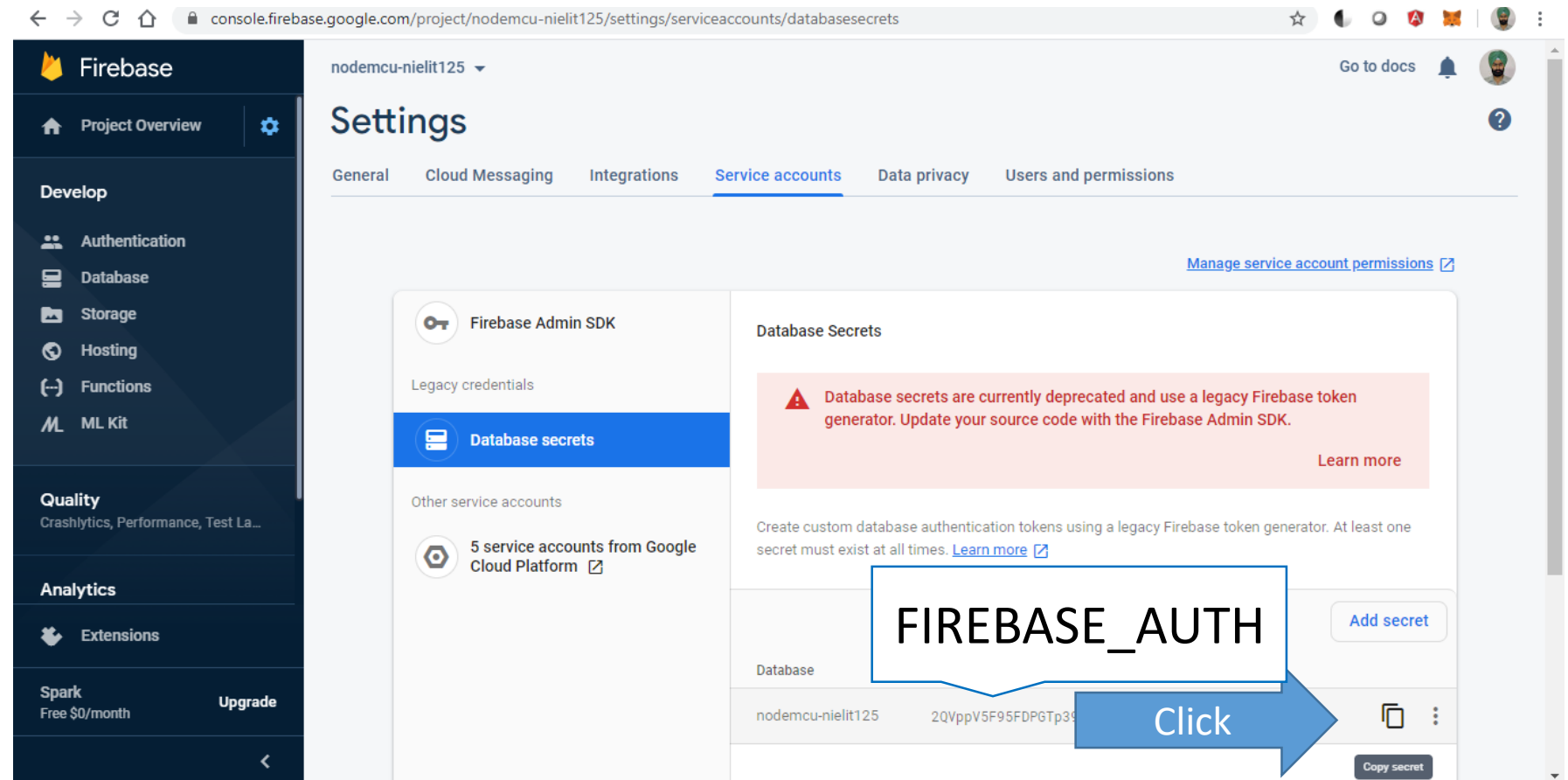
Click show button



The screenshot shows the Firebase console interface for the project 'nodemcu-nielit125'. The left sidebar contains the 'Firebase' logo and navigation links for 'Project Overview', 'Develop' (Authentication, Database, Storage, Hosting, Functions, ML Kit), 'Quality' (Crashlytics, Performance, Test Lab), 'Analytics', 'Extensions', and 'Spark' (Free \$0/month, Upgrade). The main content area is titled 'Settings' and has tabs for 'General', 'Cloud Messaging', 'Integrations', 'Service accounts' (selected), 'Data privacy', and 'Users and permissions'. Under 'Service accounts', there are sections for 'Legacy credentials' (Firebase Admin SDK) and 'Other service accounts' (5 service accounts from Google Cloud Platform). The 'Database Secrets' section contains a warning message: 'Database secrets are currently deprecated and use a legacy Firebase token generator. Update your source code with the Firebase Admin SDK.' Below this, there is a table with columns 'Database' and 'Secret'. The first row shows 'nodemcu-nielit125' in the 'Database' column and a masked secret in the 'Secret' column. A blue arrow labeled 'Click' points to the 'Show' button next to the masked secret. An 'Add secret' button is also visible in the top right of the table area.



- Copy the Secret by clicking **copy secret** button



console.firebase.google.com/project/nodemcu-nielit125/settings/serviceaccounts/databasesecrets

nodemcu-nielit125

Settings

General Cloud Messaging Integrations **Service accounts** Data privacy Users and permissions

[Manage service account permissions](#)

Database secrets

Database secrets are currently deprecated and use a legacy Firebase token generator. Update your source code with the Firebase Admin SDK. [Learn more](#)

Create custom database authentication tokens using a legacy Firebase token generator. At least one secret must exist at all times. [Learn more](#)

Database	Secret	Actions
nodemcu-nielit125	2QVppV5F95FDPGTp39	Add secret Copy secret

FIREBASE_AUTH

Click

NodeMCU setting

- Change the appropriate FIREBASE_HOST , FIREBASE_AUTH, WIFI_SSID, WIFI_PASSWORD setting

```

File Edit Sketch Tools Help
[Icons]
FirebaseDHT_NodeMCU $
4 #include <FirebaseArduino.h>
5 #include <ESP8266WiFi.h>
6
7 // Set these to run example.
8 #define FIREBASE_HOST "yyyyyyyyyyyyy.firebaseio.com"
9 #define FIREBASE_AUTH "xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx"
10 #define WIFI_SSID "ssssss" // wifi SSID
11 #define WIFI_PASSWORD "pppppp" // wifi password
12
13

```

File Edit Sketch Tools Help

```

19 void setup() {
20     Serial.begin(9600);
21     WiFi.begin(WIFI_SSID, WIFI_PASSWORD);
22     while (WiFi.status() != WL_CONNECTED) {
23         delay(500);
24         Serial.print(".");
25     }
26     dht.begin();
27     Serial.println("");
28     Serial.println("WiFi Connected!");
29     Serial.println(WiFi.localIP());
30
31     Firebase.begin(FIREBASE_HOST, FIREBASE_AUTH);
32 }

```

FirebaseDHT_NodeMCU \$

```

33
34 void loop() {
35
36     float h = dht.readHumidity();
37     float t = dht.readTemperature(); // !
38
39     Firebase.setFloat ("Temp", t);
40     Firebase.setFloat ("Humidity", h);
41
42     //forTesting();
43     delay(1000);
44 }

```