
Heltec Automation Docs

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This is the documentation for [Heltec Cloud Server](#) .

Cloud Server Quick Start

1.1 Summary

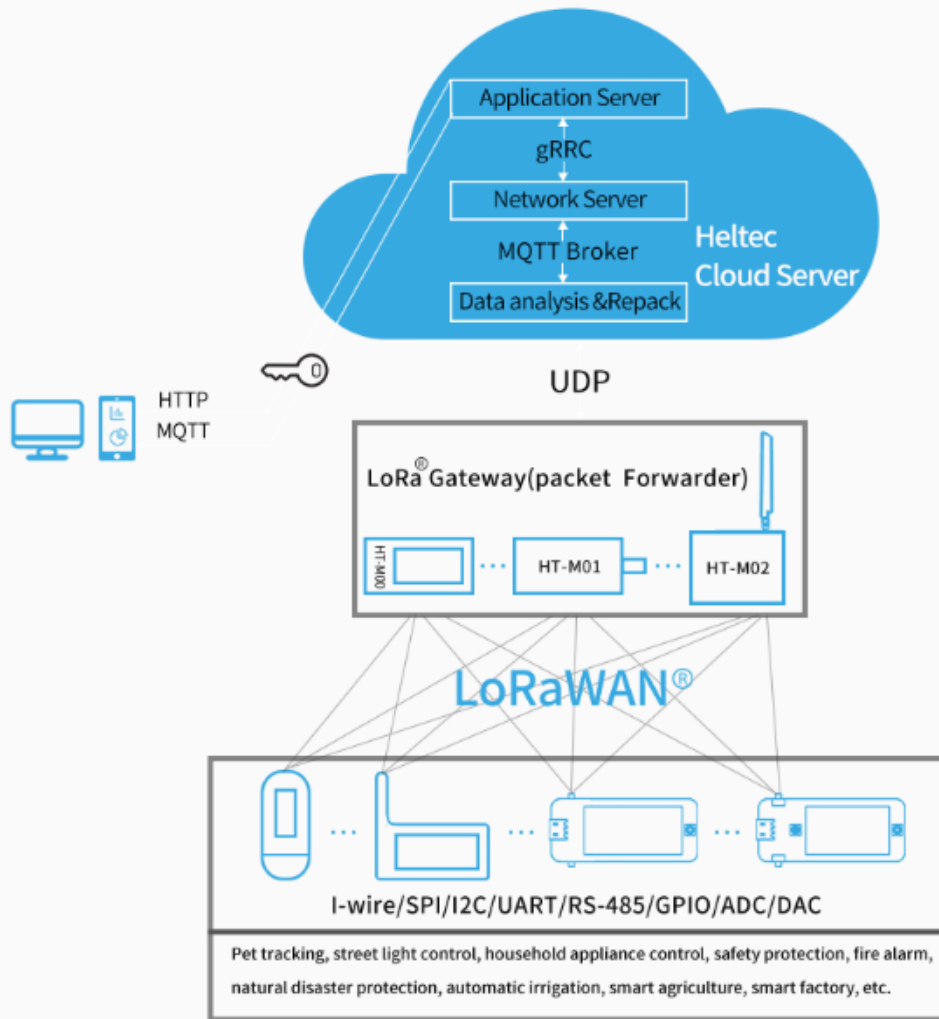
Cloud Server is a simple and fully functional LoRa cloud server. This page shows how to use this cloud server quickly.

Tip: Official website account, forum account and cloud server account can be logged in after activation.

1.2 Login/Register

Open the Browser, enter the URL <http://cloud.heltec.org> you will see the following interfaceclick Register/
Login

Heltec Cloud Server



A simple and fully functional LoRa cloud server can help you do your work better. The heltec.org account can be used to log in to the cloud server.




If you already have a heltec.org account, you can enter the correct user name and password directly and click LOG IN . If you don't have an account, you need to reister first. Enter the user name, email address and password. Click REGISTER to complete the registrationand you can log in successfully.

Login

USERNAME OR EMAIL ADDRESS *

PASSWORD *

LOG IN Remember me [Lost your password?](#)



Register


USERNAME *

EMAIL ADDRESS *

PASSWORD *

Your personal data will be used to support you, manage access to your account, and other uses described in our [privacy policy](#) throughout your experience of this website.

REGISTER



Tip: If you still cannot log in after successful registration, you can try to log out of the account and log in again.

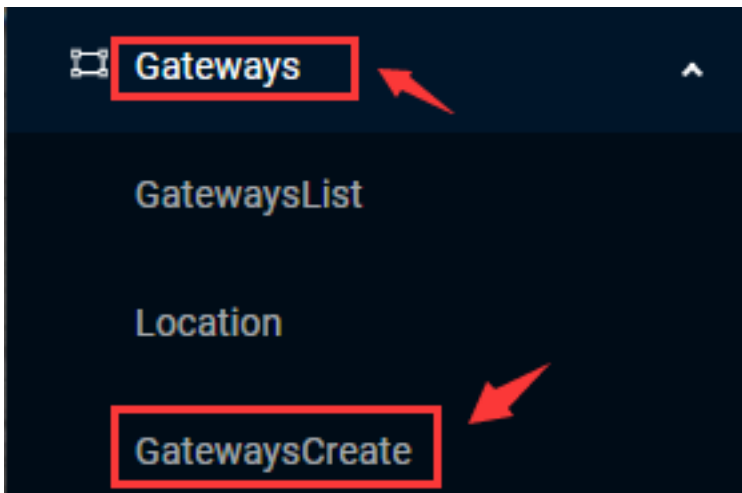
1.3 Select Frequency Band

After entering the platform, select the regional frequency band you need, such as AS923 .



1.4 Create Gateway

Click Gateways->GatewaysCreate Select the GENERAL menu and fill in the corresponding information. The following three options are required and the remaining options are optional. Finally, slide to the bottom of the page and click CREATE GATEWAY to complete the gateway creation. Here is an example.



GENERAL TAGS METADATA

Gateway Name *
gatewayName
Only contain words, numbers and dashes.

Gateway Description *
gatewayDescription
A brief description.

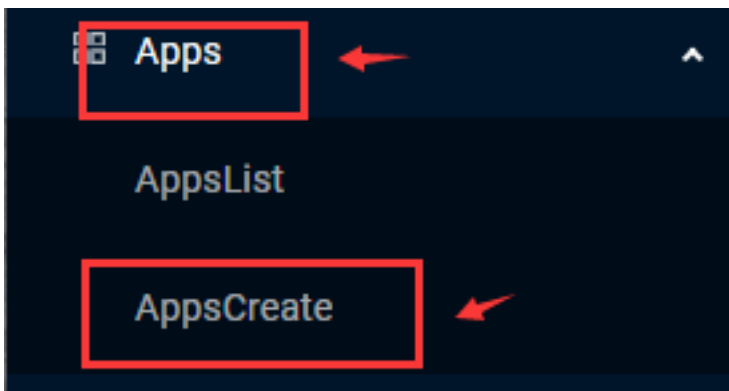
Gateway ID *
0c e7 3d 51 c0 5b 78 2b
The ID is unique. MSB ↻

Network Server: AS-01

ADD BOARD CONFIGURATION **CREATE GATEWAY**

1.5 Create Application

Click Apps->AppsCreate fill in the corresponding information. The following two options are required and the remaining options are optional. Click CREATE APPLICATION to complete creation. Here is an example.



App Name *
 AppName
 Only contain words, numbers and dashes.

App Description *
 AppDescription
 A brief description.

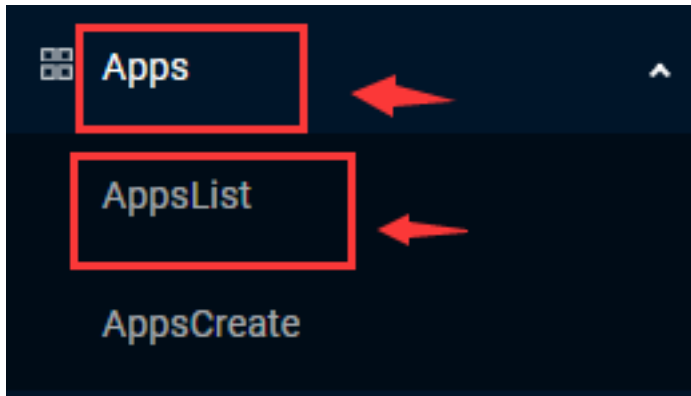
Service Profile ID: AS923

Payload codec
 None

CREATE APPLICATION

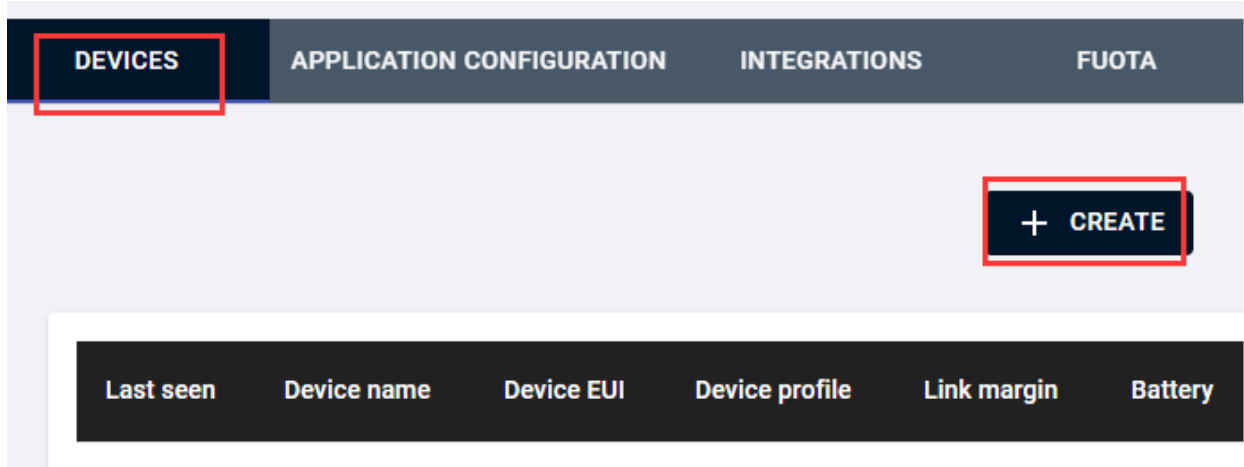
1.6 Create Device

Click Apps->AppsList You will see the application we created before (the AppName in the example)and click it.



ID	Name	Service-profile	Description
27	AppName	AS923	AppDescription

Select DEVICES menuClick CREATE to create device.



Select GENERAL menu fill in the corresponding informationThe following four options are required and the remaining options are optional. Click CREATE DEVICE

The image shows the 'GENERAL' configuration form for creating a device. The form has three tabs: 'GENERAL', 'VARIABLES', and 'TAGS'. The 'GENERAL' tab is selected and highlighted with a red box. The form contains the following fields:

- 'Device name *': A text input field containing 'DeviceName', highlighted with a red box and a red arrow pointing to it. Below the field is the text: 'The name may only contain words, numbers and dashes.'
- 'Device description *': A text input field containing 'DeviceDescription', highlighted with a red box and a red arrow pointing to it.
- 'Device EUI *': A text input field containing 'fc 94 53 67 be 02 3a 04', highlighted with a red box and a red arrow pointing to it. To the right of the field are the labels 'MSB' and a refresh icon.
- 'Device-profile *': A dropdown menu with 'OTAA/CLASS-A' selected, highlighted with a red box and a red arrow pointing to it.

At the bottom of the form, there is a checkbox labeled 'Disable frame-counter validation' which is unchecked. Below the checkbox is the text: 'Note that disabling the frame-counter validation will compromise security as it enables people to perform replay-attacks.' At the bottom right of the form is a 'CREATE DEVICE' button, highlighted with a red box.

Fill in the required Key or LoRa Protocol information according to the selected Device-profile option. For example, in this example, select Device-profile as OTAA/CLASS-A , as shown below

DETAILS CONFIGURATION **KEYS (OTAA)** ACTIVATION DEVICE DATA LORAWAN FRAMES FIRMWARE

Application key *
d1 d8 ec cf 59 20 09 25 35 67 f5 51 5a a5 dc 70 MSB ↻ 📄 🗑️

For LoRaWAN 1.0 devices. In case your device supports LoRaWAN 1.1, update the device-profile first.

Gen Application key
c0 4c 24 ae c2 5c a8 51 9b 85 d5 9d 22 d1 d8 2b MSB ↻ 📄 🗑️

For LoRaWAN 1.0 devices. This key must only be set when the device implements the remote multicast setup specification / firmware updates over the air (FUOTA). Else leave this field blank.

[SET DEVICE-KEYS](#)

This is the document of [Heltec Cloud Server](#) and MQTT message subscription.

2.1 MQTT Subscribe Quick Start

2.1.1 Summary

MQTT is a publish / subscribe protocol based on TCP / IP, which can connect a large number of remote sensors and control devices. It is a lightweight message subscription and publishing protocol.

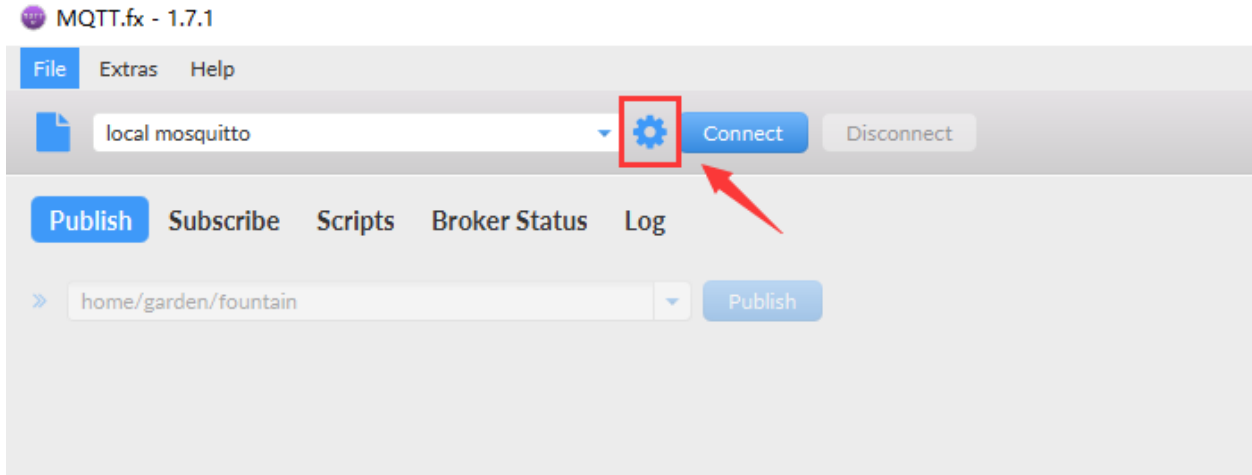
Tip: The software version used in this example is MQTT.fx 1.7.1 and python 3.8.5

2.1.2 Use MQTT.fx Subscribe To Messages

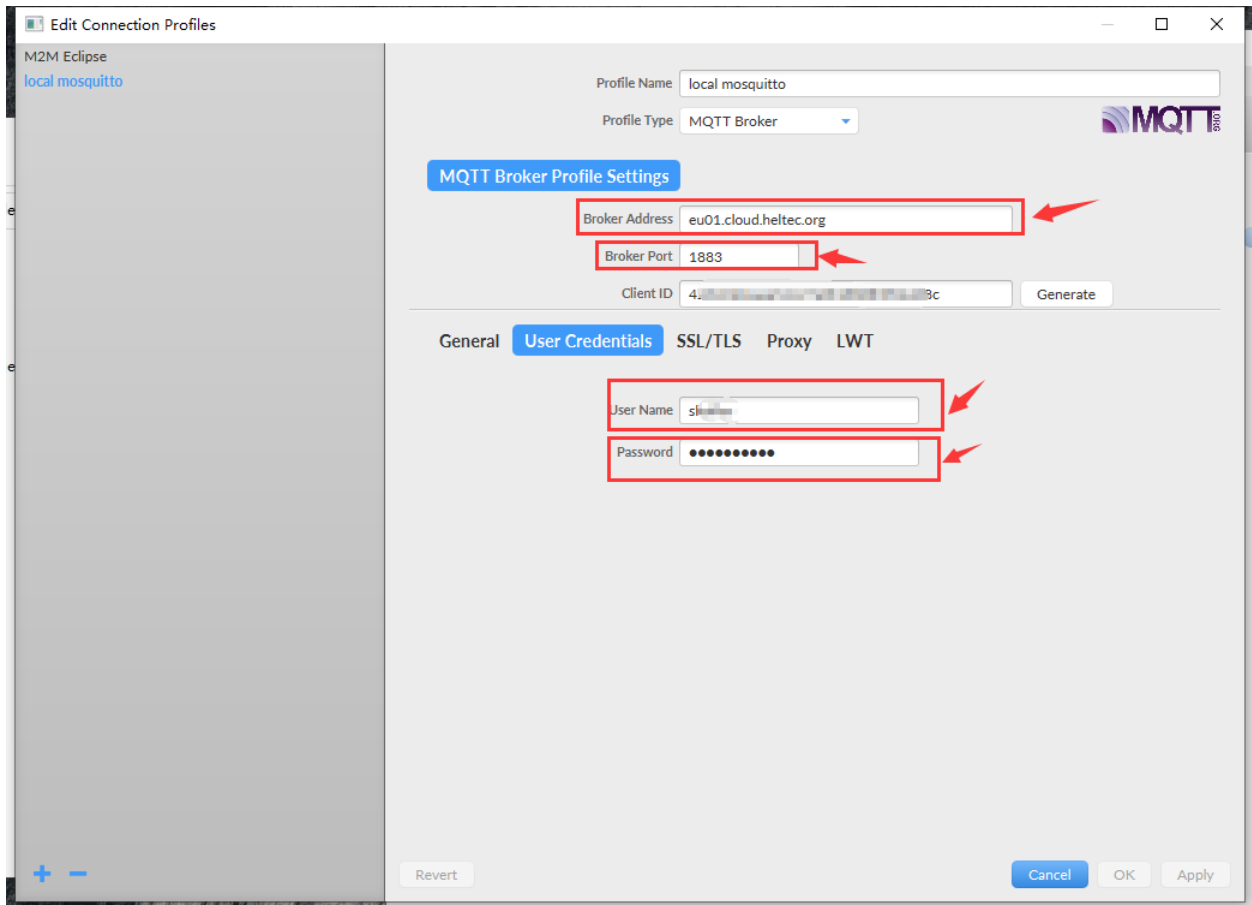
[Download MQTT.fx](#)

MQTT Access To Cloud Server

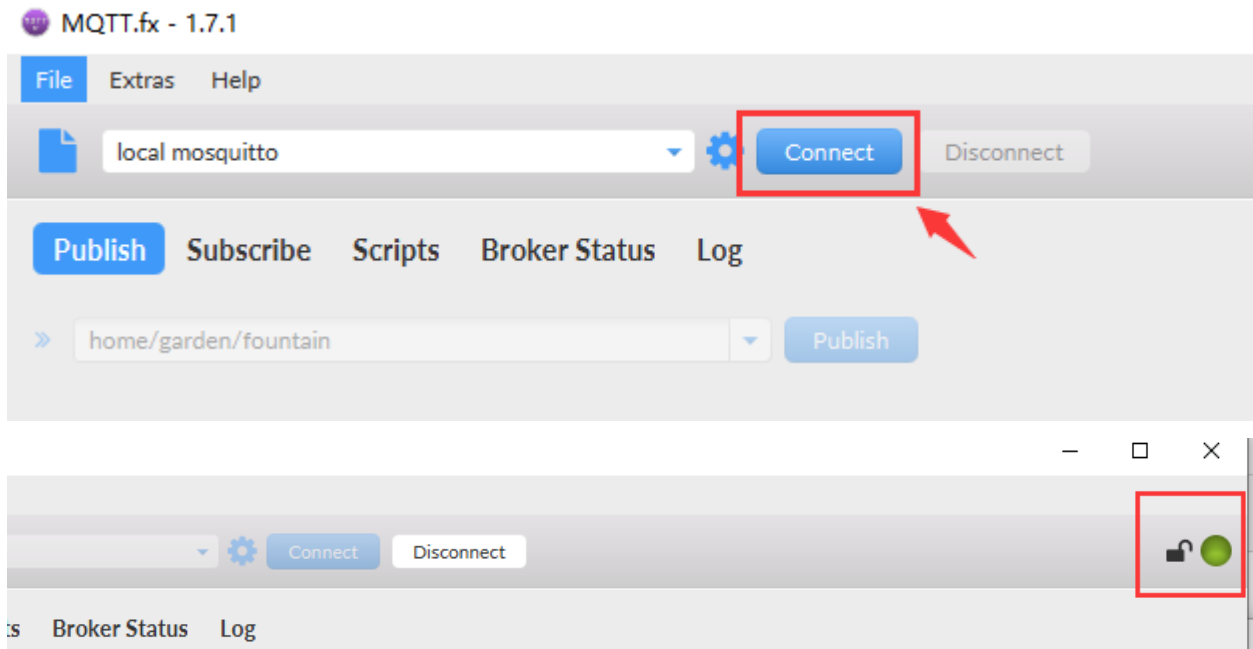
Click the button shown below to configure the connection information.



Enter the information, where Broker Address is the server address corresponding to selected frequency band ,the port number is 1883 select User Credentials to enter account and password and click OK .

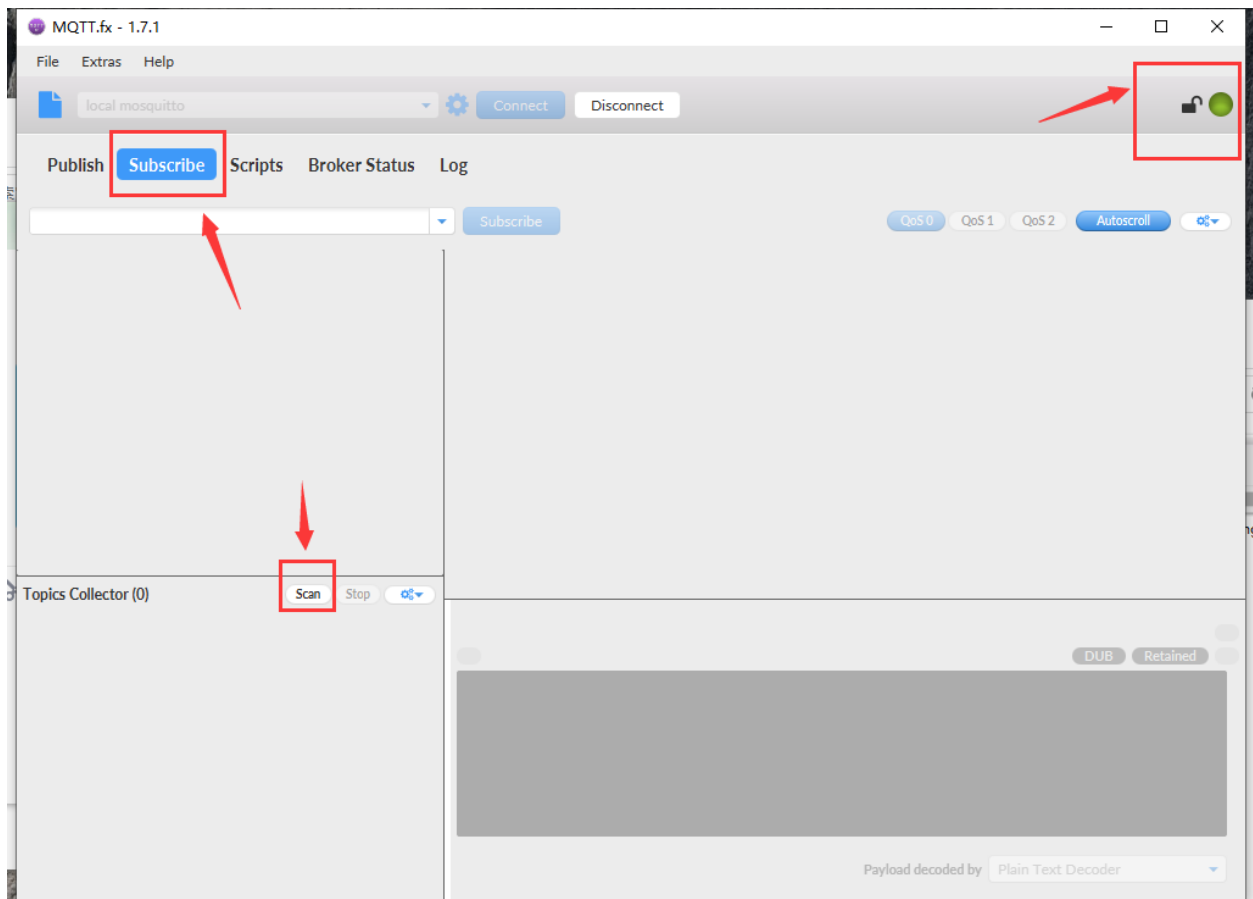


Click Connect to connect to the server. After successful connection, it will be displayed in green on the right.

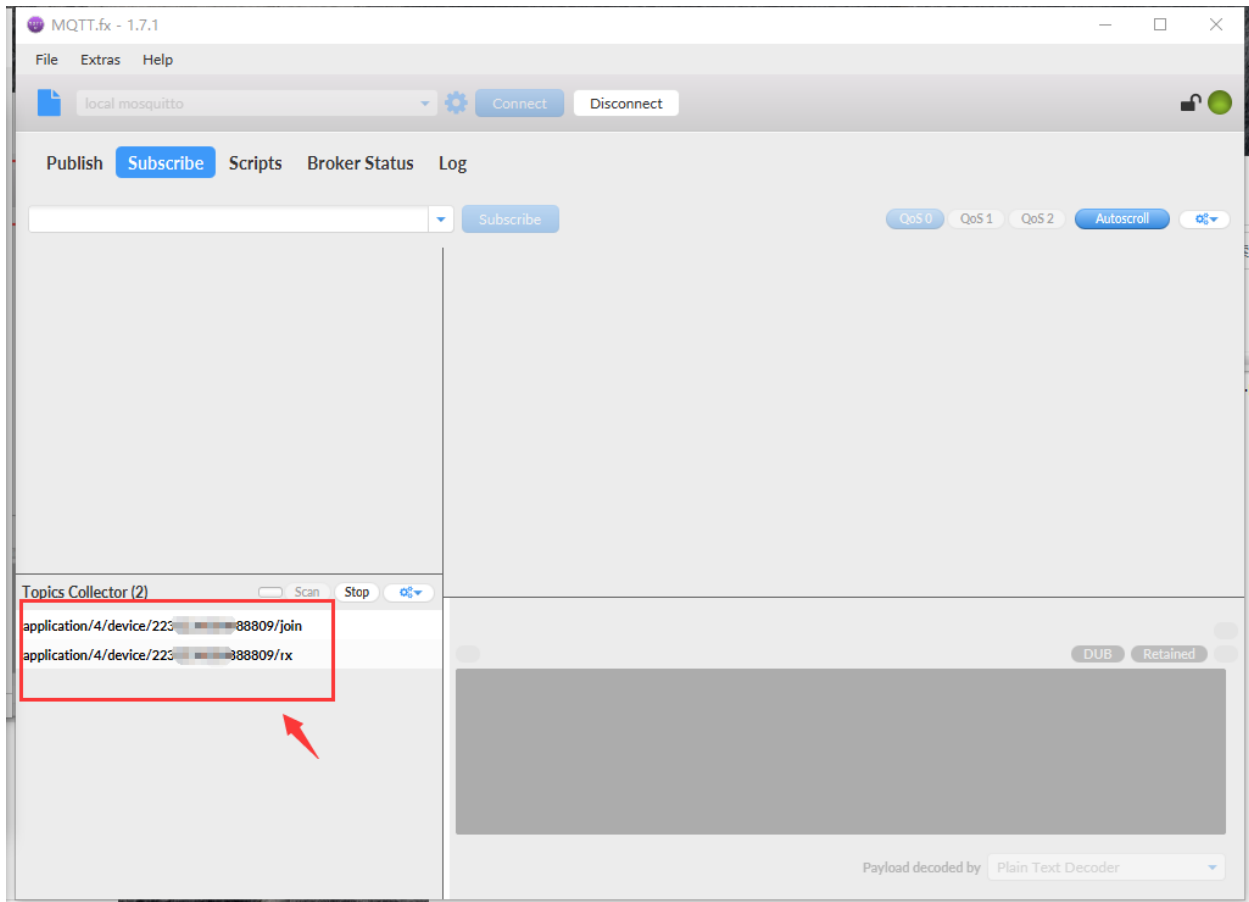


Subscribe To Messages

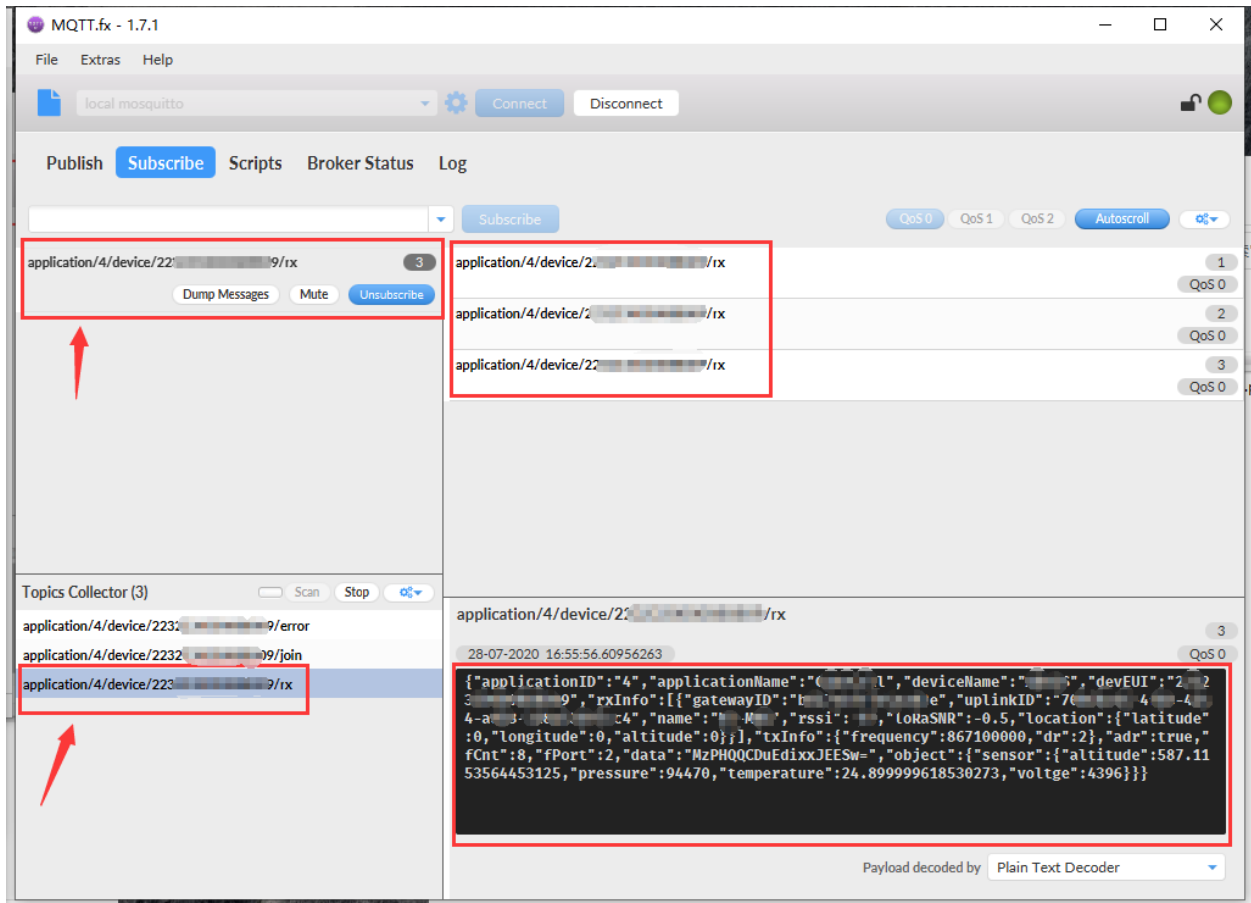
Click Subscribe -> scan , Wait for the nodes that access the Cloud Server to transmit data.



When a node uploads data, information will be scanned in the scan column.



Select one as your subscription information. When there is a matching subscription information uploaded, it will be displayed in the data column. The following example subscribes to application/4/device/22.....09/rx



2.1.3 Subscribing To MQTT Using Python

After you Download Python, you need to enter `pip install paho-mqtt python-etcd` in the terminal to install the module.

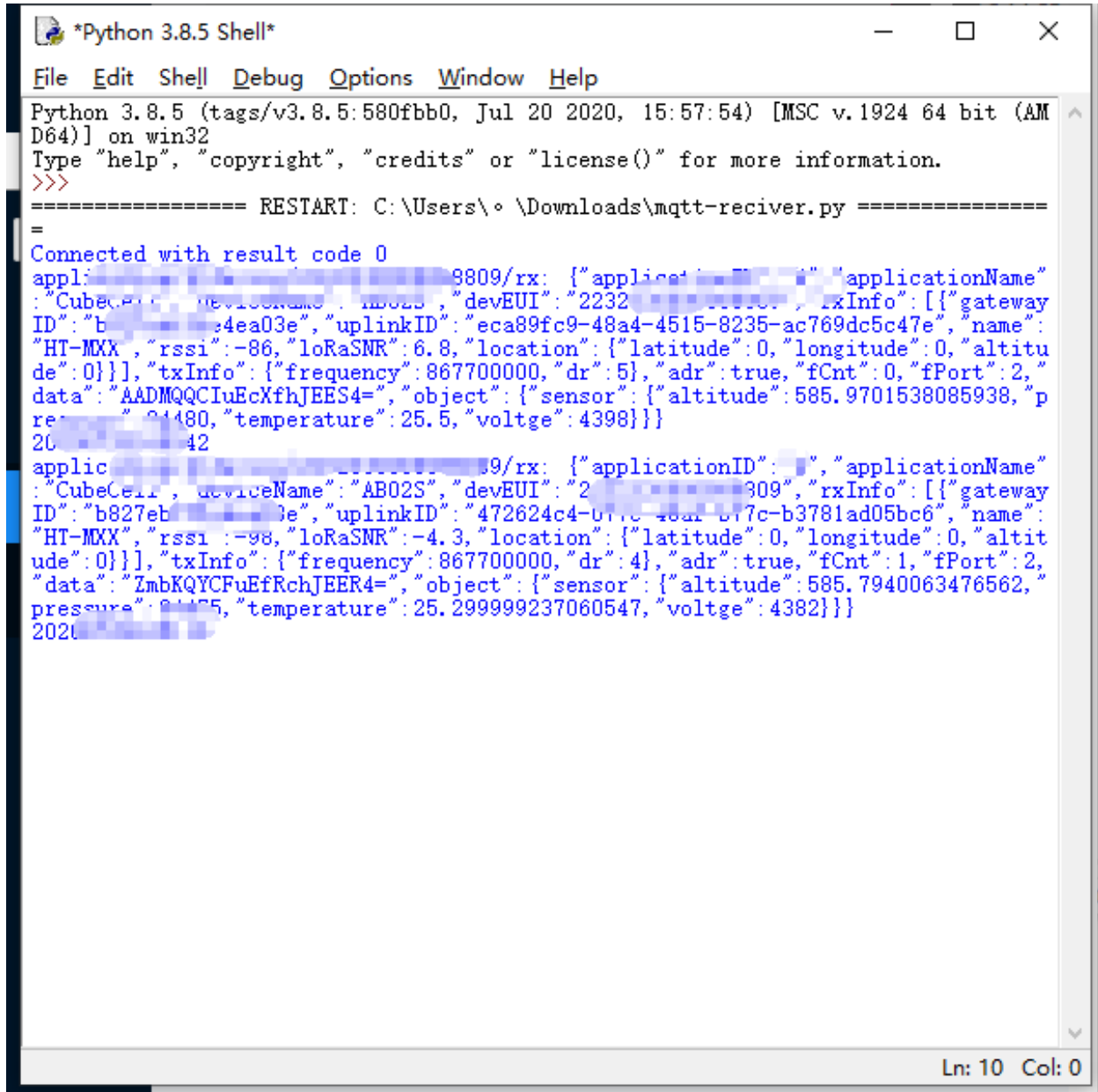
Information Configuration

Change the following data to the account and password for accessing the Cloud Server .

```
def client_loop():
    client_id = time.strftime('%Y%m%d%H%M%S', time.localtime(time.time()))
    client = mqtt.Client(client_id)
    client.username_pw_set("...", "...")
    client.on_connect = on_connect
    client.on_message = on_message
    client.connect(HOST, PORT, 60)
    client.loop_forever()
```

Modify the following data to the content you want to subscribe to.

Run Python



```

Python 3.8.5 Shell
File Edit Shell Debug Options Window Help
Python 3.8.5 (tags/v3.8.5:580fbb0, Jul 20 2020, 15:57:54) [MSC v.1924 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\o\Downloads\mqtt-reciver.py =====
=
Connected with result code 0
appl: [REDACTED] 8809/rx: {"applicationID": "[REDACTED]", "applicationName":
: "CubeCell", "deviceName": "AB02S", "devEUI": "2232 [REDACTED] 909", "rxInfo": [{"gateway
ID": "b [REDACTED] 4ea03e", "uplinkID": "eca89fc9-48a4-4515-8235-ac769dc5c47e", "name":
"HT-MXX", "rssi": -86, "loRaSNR": 6.8, "location": {"latitude": 0, "longitude": 0, "altitu
de": 0}], "txInfo": {"frequency": 867700000, "dr": 5, "adr": true, "fCnt": 0, "fPort": 2,
"data": "AADMQQCIuEcXfhJEES4=", "object": {"sensor": {"altitude": 585.9701538085938, "p
re": 91480, "temperature": 25.5, "voltge": 4398}}}
20 [REDACTED] 42
applic [REDACTED] 89/rx: {"applicationID": "[REDACTED]", "applicationName":
: "CubeCell", "deviceName": "AB02S", "devEUI": "2 [REDACTED] 909", "rxInfo": [{"gateway
ID": "b827eb [REDACTED] 3e", "uplinkID": "472624c4-0 [REDACTED] 48a1-017c-b3781ad05bc6", "name":
"HT-MXX", "rssi": -98, "loRaSNR": -4.3, "location": {"latitude": 0, "longitude": 0, "altit
ude": 0}], "txInfo": {"frequency": 867700000, "dr": 4, "adr": true, "fCnt": 1, "fPort": 2,
"data": "ZmbKQYCFuEfRchJEER4=", "object": {"sensor": {"altitude": 585.7940063476562, "p
ressure": 81475, "temperature": 25.299999237060547, "voltge": 4382}}}
20 [REDACTED]
Ln: 10 Col: 0

```