

SCAN FOR THE
FULL GUIDE

Set up your SHT-30 air node

Four wires and an accurate air temperature and humidity sensor, reporting to a place you own. Two sensors fit one board.

BEFORE YOU START

Have these on hand:

- An **ESP32** board (classic, S3, C3 or C6) and a **data** USB cable.
- An **SHT-30** sensor (a breakout or a cabled probe) — one, or two with different addresses.
- Four jumper wires: **SDA to GPIO 21**, **SCL to GPIO 22**, **3V3**, **GND**. Cable colours vary; red is power and black is ground, the other two are clock and data — swapping them does no harm.
- A computer with **Chrome** or **Edge** (to flash it the first time).
- Your **Wi-Fi name and password** (2.4 GHz only) and where the readings should go — or the **OAT Test Endpoint** below.

FLASH IT (FIRST TIME ONLY)

- 1 Open openagriculturetechnology.com/build/sketches/sht30-node/, plug the board in, press **Connect & Install**. Already flashed? Skip to step 2.

CONNECT TO THE NODE

- 2 **Power the node** with a USB cable (any USB charger or your computer).
- 3 **On your phone or laptop, join its Wi-Fi network**. It appears as **OAT-Setup-XXXXXX** (open, no password). A setup page opens by itself; if not, go to <http://192.168.4.1>.

Setup page address	http://192.168.4.1
Username	admin
Password	oatsetup (change it once the node is online)

FILL IN YOUR SETTINGS

Write yours here first, then type them into the setup page. One card per node.

Device name

e.g. GH2-North bench

Farm ID

the same on every node you own

Location

zone the node watches

Wi-Fi name (SSID)

2.4 GHz

Wi-Fi password

Webhook URL

[https:// ...](https://...) (or the Test Endpoint below)

SDA / SCL pins

ESP32 21/22 · S3 8/9 · C3 6/7 · C6 23/22

Humidity offset (%RH)

default 0

Push interval (sec)

default 60

Delivery method

Webhook or MQTT

MQTT host / port

if using MQTT · 1883 or 8883 TLS

Temperature offset (°C)

default 0 — to match a reference

Heater pulse (sec) / every (min)

0 = off · only for condensing air

Sensor serial (from the setup page)

sht30:... — the stream id at your endpoint

NO ENDPOINT YET? USE THE OAT TEST ENDPOINT

A public test endpoint the collective runs. Your node appears under your Farm ID with the sensor beneath it.

Delivery method	Webhook
Webhook URL	https://iot-test.openagriculturetechnology.com/ingest
Watch it live	https://iot-test.openagriculturetechnology.com

It keeps roughly the last hour. Prove the chain, then point the node at an endpoint you keep.

USING MQTT INSTEAD (HOME ASSISTANT)

Point the node at the broker Home Assistant uses; temperature and humidity land on `oat/<name>/<stream>/<measurement>`. Declare each as an MQTT sensor in YAML (`value_json.value`).

MQTT host	the Home Assistant machine
Port	1883 plain · 8883 with TLS ticked
User / password	if your broker requires them
Readings land on	<code>oat/<device name>/<sensor>/<measurement></code>

SAVE & CHECK THE DATA IS FLOWING

- 4 Press Save.** The node joins your Wi-Fi while the setup page waits, then shows its **address on your own network**, like `http://192.168.1.37` and `http://oat-yourname.local`. Bookmark one; that's the node's home page from now on.
- 5 Open Live Status** there and press **Send a test reading**. A green “OK” means a reading just reached your endpoint. That's the whole job done.

Updating later: After setup the node lives on your network — open the address it showed when it joined (`http://192.168.x.x` or `http://oat-<name>.local`). The setup page's **sensor block** lists each SHT-30 found with its serial and live reading; a second sensor needs its ADDR pin tied to 3V3 (0x45).

THE USB CONSOLE

Open the install page, choose **Console**. Every setting is there.

<code>status</code>	Wi-Fi, push counters, and each sensor's serial and reading.
<code>bus</code>	scan the I2C bus: does anything answer at 0x44 or 0x45?
<code>set sda 21 / set scl 22</code>	move the bus if your board differs.
<code>heater on / off</code>	run the heater pulse now — only for condensing air; readings during it are discarded.
<code>push</code>	send a test reading now.

IF SOMETHING'S NOT WORKING

No sensor found	In order: power and ground, SDA and SCL swapped (swap them; no harm), missing pull-ups on a bare chip (4.7k–10k from each line to 3V3; breakouts have them). Type <code>bus</code> : it shows whether anything answers at all.
Readings look high and dry	The heater is on, or the sensor sits in sun or against warm electronics. Turn the heater off unless the air condenses; move the sensor into a shield.
It won't join my Wi-Fi	2.4 GHz only. Names with spaces are easier over the console: <code>set ssid ...</code> .
I forgot the setup password	It's <code>oatsetup</code> unless you changed it. Re-flash to reset.

Generated 2026-10-10 · This card and the firmware are open. The full sketch, the supported boards, and the web installer are at openagriculturetechnology.com/build/sketches/sht30-node/.