

I would really be grateful if you start to build the Weather Clock, that you go to Github and say hi.

<https://github.com/billbill100/Weather-Clock>

ESP32 Weather Clock User Guide. V1.1 19/02/2025

This project is based on the original open-source code and project details found here.

[ESP32 WiFi Color Display Kit Grande • ThingPulse](#)

Note:- The firmware code used for my version has been heavily modified to make it much simpler to build and use. The original open-source code will work (if you want to try it) but will require editing as all of the user credentials are hard coded.

You will also need to change the TFT pin configuration, either in the code or on the hardware.

Adding User Details

The user details, as described in the previous document, need to be input to the Weather Clock. Once done, it need never be done again, unless any of the details change, like new WIFI code or moving town.

In the 'Arduino IDE Software Load document' you should have already learned how to connect your ESP32 board to the computer, open Serial Monitor and see the ESP32 output to the computer screen.

So again, open Arduino IDE and set it so you can see output from your ESP32 in the Serial Monitor window.

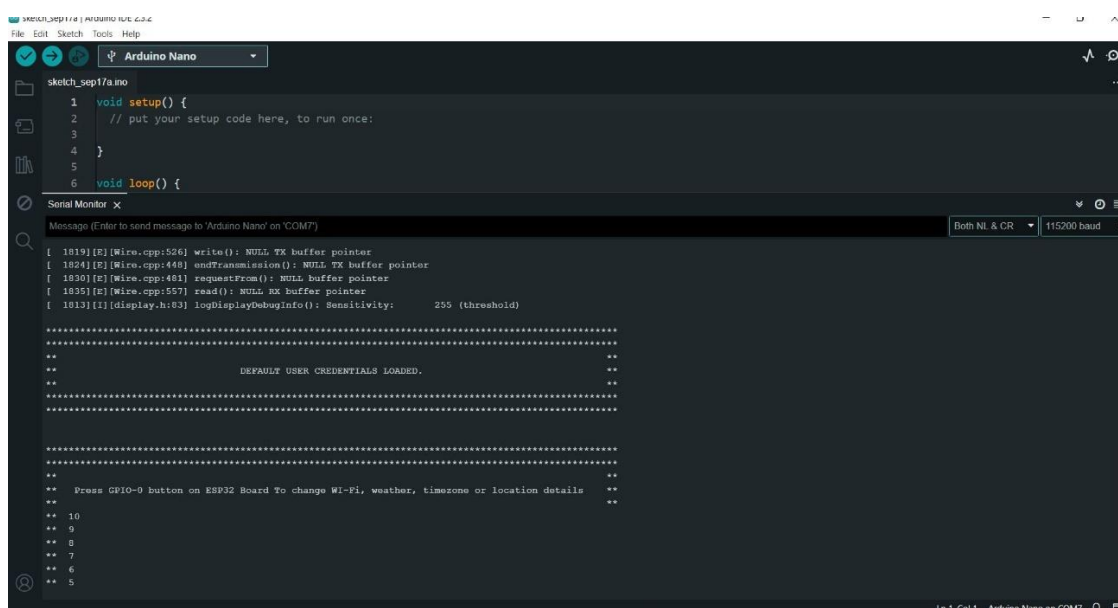
Ensure you drag up the serial Monitor window to make it as large as possible and **press the ESP32 reset button**.

You should see the serial monitor show similar to the below.

The numbers will countdown from 10 to 0.

Within this time, press GPIO 0 button on the ESP32 board. This will now allow new user data to be input.

Ensure you select 'Both NL & CR' at the end of the black bar on the screen.



```
sketch_sep17a.ino
1 void setup() {
2   // put your setup code here, to run once:
3
4 }
5
6 void loop() {

Serial Monitor x
Message (Enter to send message to 'Arduino Nano' on 'COM7')
Both NL & CR 115200 baud

[ 1819][E][Wire.cpp:526] write(): NULL TX buffer pointer
[ 1824][E][Wire.cpp:448] sendTransmission(): NULL TX buffer pointer
[ 1830][E][Wire.cpp:461] requestFrom(): NULL buffer pointer
[ 1835][E][Wire.cpp:557] read(): NULL RX buffer pointer
[ 1813][I][display.h:83] logDisplayDebugInfo(): Sensitivity: 255 (threshold)

*****
**                                     **
**                               DEFAULT USER CREDENTIALS LOADED.                               **
**                                     **
*****

*****
**                                     **
** Press GPIO-0 button on ESP32 Board To change WI-Fi, weather, timezone or location details **
**                                     **
** 10 **
** 9 **
** 8 **
** 7 **
** 6 **
** 5 **

Ln 1, Col 1 Arduino Nano on COM7
```

Following the prompts below, input your user data here and press Return

```

1 void setup() {
2   // put your setup code here, to run once:
3
4 }
5
6 void loop() {

```

Serial Monitor x

your-WIFI-SSID

[1813][I][display.h:83] logDisplayDebugInfo(): Sensitivity: 255 (threshold)

**

** DEFAULT USER CREDENTIALS LOADED. **

**

** Press GPIO-0 button on ESP32 Board To change Wi-Fi, weather, timezone or location details **

**

** 10

** 9

** 8

** 7

** 6

** 5

** 4

** 3

current SSID: Your-SSID

Paste Wi-Fi SSID, or RTN to keep existing:

Prompts to input user data, one item at a time

The screen will show your newly input data and show the next field to be input. Continue following the prompts and pasting the requested data.

sketch_sep17a.ino

```
1 void setup() {
```

Serial Monitor x

Message (Enter to send message to 'Arduino Nano' on 'COM7')

Both NL & CR 115200 baud

```
** 8
current SSID: Your-SSID
Paste Wi-Fi SSID, or RTN to keep existing:
New SSID : your-WIFI-SSID

current password: Your-WIFI-password
Paste Wi-Fi Password, or RTN to keep existing:
New password: your-password

current timezone: GMT0BST,M3.5.0/1,M10.5.0
Paste timezone string, or RTN to keep existing:
New timezone: GMT0BST,M3.5.0/1,M10.5.0

Current measurement unit: Metric
Paste Imperial or Metric, or RTN to keep existing:
New unit: Metric

current MAP_API_KEY: Your-openWeathermap.org key
Paste OPEN_WEATHER_MAP_API_KEY, or RTN to keep existing:
New MAP_API_KEY: 4b1234567890bf49d54c40a5b12345678

current location ID: 2643743
Paste OPEN_WEATHER_MAP_LOCATION_ID, or RTN to keep existing:
New location ID: 2644559

current location Name: London
Paste DISPLAYED_LOCATION_NAME, or RTN to keep existing:
New location Name: London

current language: en
Paste OPEN_WEATHER_MAP_LANGUAGE, or RTN to keep existing:
length of input 2
```

Ln 1, Col 1 Arduino Nano on COM7

If all of your details are correct, the Weather Station will now show 'Starting WIFI' and then connect, update the Weather to the TFT screen.

Both the TFT screen & Serial Monitor will be helpful in diagnosing issues. For example, if your WIFI details are incorrect, the TFT will stay on the 'Starting WIFI screen & Serial Monitor will keep scrolling, trying to connect.

If the TFT get past the WIFI connection, but the screen shows '?' on the icons, it indicates that the openweather settings are not correct.