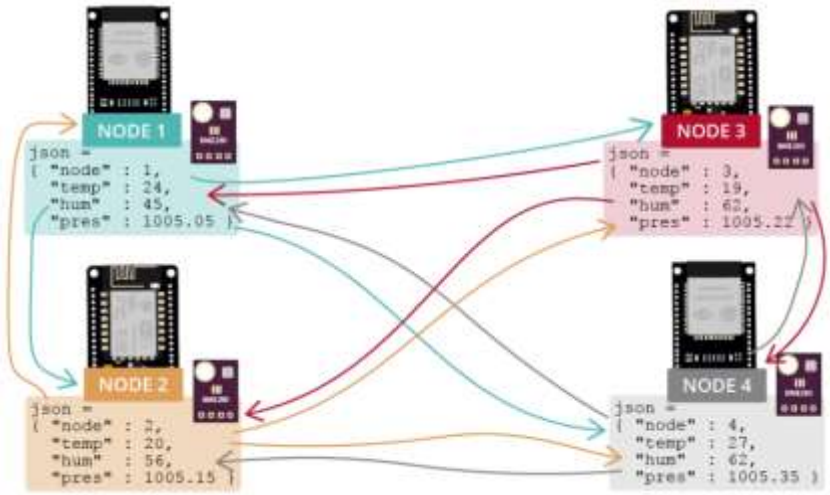
Exchange Sensor Readings using ESP-MESH

In this example, we'll exchange sensor readings between 4 boards (you can use a different number of boards). Every board receives the other boards' readings.



As an example, we'll exchange sensor readings from a BME280 sensor, but you can use any other sensor.

Here's the parts required for this example:

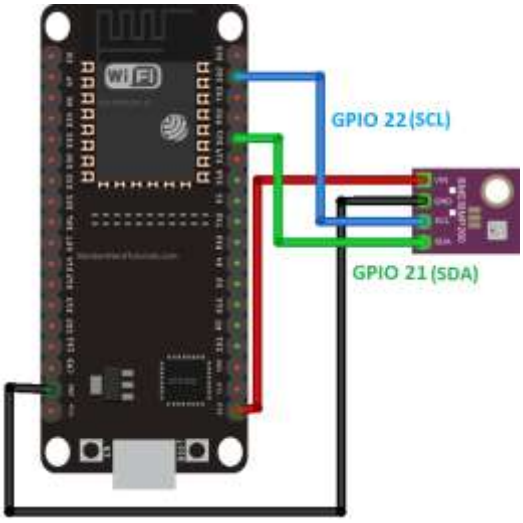
- 4x ESP boards (ESP32 or ESP8266)
- 4x BME280
- Breadboard
- Jumper wires

Arduino_JSON library

In this example, we'll exchange the sensor readings in JSON format. To make it easier to handle JSON variables, we'll use the Arduino_JSON library.

Circuit Diagram

Wire the BME280 sensor to the ESP32 or ESP8266 default I2C pins as shown in the following schematic diagrams.



Upload the following code to each of your boards. This code reads and broadcasts the current temperature, humidity and pressure readings to all boards on the mesh network. The readings are sent as a JSON string that also contains the node number to identify the sender board.

Source - https://github.com/saibhargav1508/ESP32-mesh/blob/main/espmesh_sensor.c

Demonstration

After uploading the code to all your boards (each board with a different node number), you should see that each board is receiving the other boards' messages.

The following screenshot shows the messages received by node 1. It receives the sensor readings from node 2, 3 and 4.