There are three set of code:

1. code_in_node3.1_node1
   should be downloaded into the sensor nodes a head of time(no need to alter anything in the code.) the initial ID of each sensor node id 255.

Sensor node hardware requirement:
400Mhz radio chip
900Mhz radio chip
GPS

2. computer_side2.2
   should be download into the computer side node, which connected to the computer. It will print received data from sensor nodes into the processing code in specific format.

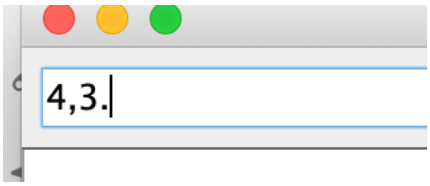
Computer node hardware requirement:
900Mhz radio chip

3. configure_node
   configure node is a node that should connected to laptop and carry with you during the deployment of sensor nodes. Can assign node_ID to the sensor nodes and exam connections between nodes.

Configure node hardware requirement:
400Mhz radio chip
900Mhz radio chip
   configure node should not wear antennas and should be placed really close to the node that your are going to configure.(like within 5 cm).

Operating Instruction:

Enter “NODE_ID,DEST_ID.” and press enter to configure the sensor node. Just like:

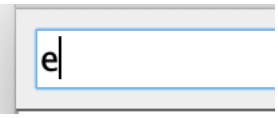


Assign the node_ID = 4, and unicast to 3.

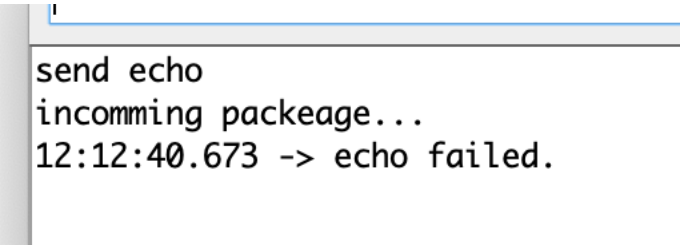
```
send configuration:
12:07:46.114 -> ID:4
12:07:46.114 -> Destination:3
incomming packeage...
12:07:47.670 -> get configure reply:
12:07:47.670 -> ID:4
12:07:47.670 -> DEST:3
```

When you get configure reply that means configuration success,(should get replay with in 2 seconds) otherwise configuration node is not close enough to the sensor node you are trying to assign id.

Then press ‘e’ into the serial monitor.



And ‘send echo’ appear in the serial monitor. After 3 seconds you should have a incoming package to tell you weather the echo is a success, otherwise configure node is not communicating with the sensor node.



Here is a success echo:

```
send echo
incomming packeage...
12:17:31.281 -> Reading buffer:
12:17:31.281 -> done.
12:17:31.281 -> SNR:55 dB
12:17:31.281 -> Rssi:-5 dBm
12:17:31.281 -> clearing IRQ flags...
12:17:31.281 -> done
12:17:31.281 -> getting IRQ status...
12:17:31.281 -> Done.
12:17:31.281 -> Successful reset IRQ.
12:17:31.281 -> 3 4 69 67 72
12:17:31.281 -> packet_dest_ID:3
12:17:31.281 -> Unicast not aim at me.
12:17:31.281 -> setting RX...
12:17:31.281 -> Done.
incomming packeage...
12:17:31.528 -> Reading buffer:
12:17:31.528 -> done.
12:17:31.528 -> SNR:57 dB
12:17:31.528 -> Rssi:-107 dBm
12:17:31.528 -> clearing IRQ flags...
12:17:31.528 -> done
12:17:31.528 -> getting IRQ status...
12:17:31.528 -> Done.
12:17:31.528 -> Successful reset IRQ.
12:17:31.528 -> 4 3 66 65 67
12:17:31.528 -> packet_dest_ID:4
12:17:31.528 -> Unicast not aim at me.
12:17:31.528 -> setting RX...
12:17:31.528 -> Done.
incomming packeage...
12:17:34.399 -> echo success.
```

3 4 ECH

4 3 RPL