

```
1 import paho.mqtt.client as paho
2 import matplotlib.pyplot as plt
3
4 # Important: change the line below to a unique string,
5 # e.g. your name & make corresponding change in mqtt_plot_mpy.py
6 session = "rimuru"
7 BROKER = "iot.eclipse.org"
8 qos = 0
9
10 # connect to MQTT broker
11 print("Connecting to MQTT broker", BROKER, "...", end="")
12 mqtt = paho.Client()
13 mqtt.connect(BROKER, 1883)
14 print("Connected!")
15
16 # initialize data vectors
17 # in this example we plot only 1 value, add more as needed
18 t = []
19 s = []
20
21 # mqtt callbacks
22 def data(c, u, message):
23     # extract data from MQTT message
24     msg = message.payload.decode('ascii')
25     # convert to vector of floats
26     f = [ float(x) for x in msg.split(',') ]
27     print("received", f)
28     # append to data vectors, add more as needed
29     t.append(f[0])
30     s.append(f[1])
31
32 def plot(client, userdata, message):
33     # customize this to match your data
34     print("plotting ...")
35     plt.plot(t, s, 'rs')
36     plt.xlabel('Time')
37     plt.ylabel('Sinusoid')
38     print("show plot ...")
39     # show plot on screen
40     plt.show()
41
42 # subscribe to topics
43 data_topic = "{} /data".format(session, qos)
44 plot_topic = "{} /plot".format(session, qos)
45 mqtt.subscribe(data_topic)
46 mqtt.subscribe(plot_topic)
47 mqtt.message_callback_add(data_topic, data)
48 mqtt.message_callback_add(plot_topic, plot)
49
50 # wait for MQTT messages
51 # this function never returns
52 print("waiting for data ...")
```