

Lab 5 — Paho-MQTT

- Study the GitHub [repository](#) Lesson 5 labs
- Install Paho-MQTT
- Run subcpu.py and pubcpu.py

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2022-02-19-100702_38

40x2160_screenshot.png

2022-02-19-100851_12

95x801_screenshot.png

mosquito_sub_pub.py

sub_pub.png

sub_pub_multiple.png

```
pi@raspberrypi: ~/Desktop/CPE322iot/iot/lesson5
File Edit Tabs Help
rc = self._loop(timeout)
File "/usr/local/lib/python3.7/dist-packages/paho/mqtt/client.py", line 1159,
in _loop
socklist = select.select([list, wlist, []], timeout)
KeyboardInterrupt
pi@raspberrypi:~/Desktop/CPE322iot/iot/lesson5$ python3 sub.py
Connected with result code 0
paho/test: Hello
^CTraceback (most recent call last):
File "sub.py", line 11, in <module>
client.loop_forever()
File "/usr/local/lib/python3.7/dist-packages/paho/mqtt/client.py", line 1754,
in loop_forever
rc = self._loop(timeout)
File "/usr/local/lib/python3.7/dist-packages/paho/mqtt/client.py", line 1159,
in _loop
socklist = select.select([list, wlist, []], timeout)
KeyboardInterrupt
pi@raspberrypi:~/Desktop/CPE322iot/iot/lesson5$ python3 sub-multiple.py
Connected with result code 0
paho/test: Multiple 1
paho/test: Multiple 2
^CTraceback (most recent call last):
File "sub-multiple.py", line 11, in <module>
client.loop_forever()
File "/usr/local/lib/python3.7/dist-packages/paho/mqtt/client.py", line 1754,
in loop_forever
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KeyboardInterrupt
```

```
pi@raspberrypi:~/Desktop/CPE322iot/iot/lesson5
File Edit Tabs Help
^C[1]: Stopped
pi@raspberrypi:~/Desktop/CPE322iot/iot/lesson5$ service mosquito status
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address Foreign Address State
tcp 0 0 0.0.0.0:13586 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:1122 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:1125 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:1883 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:1122 0.0.0.0:* LISTEN
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tcp 0 0 0.0.0.0:1883 0.0.0.0:* LISTEN
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paho/test: Hello
pi@raspberrypi:~/Desktop/CPE322iot/iot/lesson5$ python3 sub-multiple.py
paho/test: Multiple 1
paho/test: Multiple 2
```

20 items (20 hidden)

Free space: 16.2 GB

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mosquito_sub_pub.py

sub_pub.png

sub_pub_multiple.png

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Connected with result code 0
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^CTraceback (most recent call last):
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File "/usr/local/lib/python3.7/dist-packages/paho/mqtt/client.py", line 1754,
in loop_forever
rc = self._loop(timeout)
File "/usr/local/lib/python3.7/dist-packages/paho/mqtt/client.py", line 1159,
in _loop
socklist = select.select([list, wlist, []], timeout)
KeyboardInterrupt
pi@raspberrypi:~/Desktop/CPE322iot/iot/lesson5$ python3 subcpu.py
Connected with result code 0
myCPU 2022-03-16 17:17:54
myCPU CPU Usage: 17.4 %
```

```
pi@raspberrypi:~/Desktop/CPE322iot/iot/lesson5
File Edit Tabs Help
^C[1]: Stopped
pi@raspberrypi:~/Desktop/CPE322iot/iot/lesson5$ service mosquito status
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address Foreign Address State
tcp 0 0 0.0.0.0:13586 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:1122 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:1125 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:1883 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:1122 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:1125 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:1883 0.0.0.0:* LISTEN
pi@raspberrypi:~/Desktop/CPE322iot/iot/lesson5$ python3 sub.py
paho/test: Hello
pi@raspberrypi:~/Desktop/CPE322iot/iot/lesson5$ python3 sub-multiple.py
paho/test: Multiple 1
paho/test: Multiple 2
2022-03-16 17:17:54
myCPU CPU Usage: 17.4 %
```

21 items (20 hidden)

Free space: 16.2 GB

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2022-02-19-100851_12 95x801_scat.png

mosquito_sub_pub.png

g

pi@raspberrypi: ~/Desktop/CPE322iot/iot/lesson5

```
File Edit Tabs Help
$SYS/broker/publish/messages/dropped 34050528
$SYS/broker/publish/messages/received 146575912
$SYS/broker/publish/messages/sent 392387293
$SYS/broker/publish/bytes/received 2066877033
$SYS/broker/publish/bytes/sent 27166693193
$SYS/broker/publish/messages/dropped 34060981
$SYS/broker/publish/messages/received 146576665
$SYS/broker/publish/messages/sent 392393676
$SYS/broker/publish/bytes/received 2066844675
$SYS/broker/publish/bytes/sent 27166689487
<--traceback (most recent call last):
  File "client.py", line 24, in <module>
    client.loop_forever()
  File "/usr/local/lib/python3.7/dist-packages/paho/mqtt/client.py", line 1756,
in loop_forever
    rc = self._loop(timeout)
  File "/usr/local/lib/python3.7/dist-packages/paho/mqtt/client.py", line 1358,
in _loop
    socklist = select.select([rlist, wlist, []], timeout)
KeyboardInterrupt
pi@raspberrypi:~/Desktop/CPE322iot/iot/lesson5 $ python3 sub.py
connected with result code 0
paho/test Hello
```

pi@raspberrypi: ~/Desktop/CPE322iot/iot/lesson5

```
File Edit Tabs Help
[21] Stopped service mosquito status
pi@raspberrypi:~$ netstat -tln
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address Foreign Address State
tcp 0 0 0.0.0.0:22 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:80 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:443 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:8080 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:8081 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:8082 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:8083 0.0.0.0:* LISTEN
pi@raspberrypi:~$ mosquitto_sub -h localhost -v -t test/topic &
[2] 11869
pi@raspberrypi:~$ test/topic hello
pi@raspberrypi:~/Desktop/CPE322iot/iot/lesson5$ python3 pub.py
pi@raspberrypi:~/Desktop/CPE322iot/iot/lesson5$
```

README.md

Edit index.html to add the Google Maps API key

- [Application programming interface \(API\)](#)
- [Google Maps Platform](#)
- [Get Google Maps API Key](#)
- [How to fix "This page didn't load Google Maps correctly" error](#)
- Alternatively, use [Amap API](#) that requires registration with a cellphone number in China

```
File Edit Tabs Help
pi@raspberrypi:~$ mosquitto_pub -h localhost -t test/topic -m "Hello"
pi@raspberrypi:~$
```

Copy

- \$
 -)
- ```
~/mycpu/myapp/static $ cp ~/iot/lesson4/static/favicon.ico .
~/mycpu/myapp/static $ mkdir myapp
~/mycpu/myapp/static $ cd myapp
~/mycpu/myapp/static/myapp $ cp ~/iot/lesson4/static/*.css .
~/mycpu/myapp/static/myapp $ cp ~/iot/lesson4/static/*.js .
~/mycpu/myapp/static/myapp $ cd ~/mycpu
```

```
File Edit Tabs Help
pi@raspberrypi:~$ service mosquitto status
*2[1]+ Stopped service mosquitto status
pi@raspberrypi:~$ netstat -tln
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address Foreign Address State
tcp 0 0 0.0.0.0:22 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:80 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:443 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:225 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:1883 0.0.0.0:* LISTEN
tcp0 0 0 :::22 :::* LISTEN
tcp0 0 0 :::80 :::* LISTEN
tcp0 0 0 :::443 :::* LISTEN
tcp0 0 0 :::225 :::* LISTEN
tcp0 0 0 :::1883 :::* LISTEN
pi@raspberrypi:~$ mosquitto_sub -h localhost -v -t test/topic &
[2] 11860
pi@raspberrypi:~$ test/topic Hello
```

### Copy controller.py to ~/mycpu

```
~/mycpu $ ls
db.sqlite3 manage.py myapp/ mycpu/
~/mycpu $ cp ~/iot/lesson4/mycpu/controller.py .
```