#You have 2 devices, one is your laptop/pc, another one is your Raspberry Pi. You need to install MQTT Explorer in your laptop/PC.

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#In your RPi, type the following commands:

sudo apt update

sudo apt upgrade

Y

#it will take some time

sudo apt-get install mosquitto mosquitto-clients

Y

mosquitto -v

sudo systemctl enable mosquitto.service

mosquitto_sub -d -t "testingMQTT"

#Open a new terminal on your RPi. In that separate terminal on your RPi, type the following:

mosquitto_pub -d -t "testingMQTT" -m "Any msg you want to publish"

---

#Download MQTT Explorer in your other PC/laptop from this link, based on your OS you have in your laptop/PC:

www.mqtt-explorer.com

#Open the MQTT explorer in your pc, give it a name, put your raspberry pi's IP address in Host section.

---

#You can get IP address of your RPi by typing the following on your RPi:

hostname -I

#Get some settings on your RPi before you save your MQTT explorer settings:

sudo nano /etc/mosquitto/mosquitto.conf

#At end, type the following as shown in video:

listener 1883

allow_anonymous true

#Press ctrl+O and then enter to save the file, then ctrl+X to exit

sudo reboot

---

#Now we will do : RPi as subscriber and Laptop as publisher:

---

#Now, as shown in video, open a terminal in your RPi and type the following:

mosquitto_sub -d -t "testingMQTT"

#Then open the MQTT Explorer from your laptop/pc and check the IP address of RPi and then save and connect:

#Now the connection logo beside DISCONNECT text should be green
#In publish section of the MQTT Explorer, type the topic "testingMQTT", type any text message you want to publish, then press publish.
#Now in your RPi, you should be able to see your messages sent from your laptop/PC

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#Next, we will do : RPi as publisher and Laptop as subscriber:
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#Open the MQTT explorer on your laptop, click on disconnect button, then go to ADVANCED settings, put the topic "testingMQTT", click add, then go back, save and connect
#Now open a new terminal in your RPi and type the following:
mosquitto_pub -d -t "testingMQTT" -m "Any msg you want to publish"
#Now in your MQTT Explorer of your laptop, you should be able to see your messages sent from RPi

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#Next, we will do : using python program to publish and subcribe
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#open 2 new terminals (lets give it a name: terminal-1 and terminal-2) in your RPi and type the following commands in terminal-1:
sudo git clone https://github.com/binaryupdates/mqttclient.git
ls
#In terminal-2 in your RPi, type ls to see whether mqttclient is downloaded.
#Then type the following command to change directory on both the terminals 1 & 2:
cd mqttclient/
#In terminal-1, type the following:
sudo nano subscriber.py
#In the MQTT_HOST variable, change and put the IP address of RPi; Please note that now the topic is hello/world in the python script
#Press ctrl+O and then enter to save the file, then ctrl+X to exit

#In terminal-2, type the following:
sudo nano publisher.py
#In the MQTT_HOST variable, change and put the IP address of RPi
#Press ctrl+O and then enter to save the file, then ctrl+X to exit

#In terminal-1, type the following commands:

sudo pip install paho-mqtt
python subscriber.py

#In terminal-2, type the following command:
python publisher.py
#You should be able to see "Hello MQTT" in your terminal-1
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# Now follow the rest of the videos to run using the MQTT Explorer, similar the ways we did earlier.