

**INTERNET of THINGS**  
**Lab 1 Assignment**  
**On**  
**MQTT, Docker and, Arduino Simulator**



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## Task 1 & 2:

Fig. 1: Publishing the messages to the subscriber

```
Hello from Caius_HiveMQ
published data is : 11
ACK Data is :

{"app_id": "hajo66", "dev_id": "node1", "port/channel": 51, "rssi": 47, "snr": 46, "sf": "SF7BW125", "C_F": "C", "temperature": 26, "time": "25-Apr-2021 13:15:46", "messgae id/counter": 69}
ACK Data is :

{"Sending ACK To Device": "ACK_MSG_RECEIVED", "Publishing to topic": "testtopic/bala", "Payload": "ACK_MSG_RECEIVED"}
ACK Data is :
```

Fig 2: Subscriber and publisher

```
Message Retain flag= 0
received data is :
{"app_id": "hajo66", "dev_id": "node1", "port/channel": 48, "rssi": 30, "snr": 46, "sf": "SF7BW125", "C_F": "C", "temperature": 77, "time": "25-Apr-2021 13:15:15", "messgae id/counter": 63}
Message topic= testtopic/bala
Message qos= 2
Message Retain flag= 0
{"Sending ACK To Device": "ACK_MSG_RECEIVED", "Publishing to topic": "testtopic/bala", "Payload": "ACK_MSG_RECEIVED"}
published data is : 6
received data is :
```

## Task 3:

```
C:\Users\makn0023\Desktop\IOT\Answers\Lab 1>docker run -it mqtt-image-lin
Connecting to broker: broker.hivemq.com
Connected with result code: 0
testtopic/SMH/Yam/buderus/Tank2/level b'1640'
testtopic/SMH/Yam/Regentank/dist b'133'
testtopic/yam/buderus/Tank3/VCS b'-813.7'
testtopic/yam/buderus/Tank3/level b'626'
testtopic/eks1 b'test msg'
testtopic/gou1 b'100'
testtopic/SMH/Yam/buderus/Tank2/Vol b'1604'
testtopic/SMH/yam/buderus/MwTime b'02.04.21 04:24'
testtopic/DaHaKa_home/menu/tc b'Hello I am Misha!'
testtopic/MyTopic b'THIS IS THE MESSAGE FROM OUTER SPACE. WE ARE COMING!!!'
testtopic/diglbs b'hello'
testtopic/testtopic09090910/ b'0'
testtopic/qw1 b'hello world'
testtopic/db20 b'{"speed": "25.5", "battery_voltage": "43.5", "battery_soc": "38", "success": true, "datatype": "int", "timestamp": "161934868886", "value": 14, "registerId": "D16048E0-6CA8-491A-A009-12AESBD054E9", "description": ""}'
testtopic b'{"deviceName": "Product A", "tagName": "temp", "deviceID": "2B64C7E6-8615-43C4-9153-E1A78EA0AC00", "success": true, "datatype": "float", "timestamp": "1619348688110", "value": 64.70898723315393, "registerId": "A047476F-A888-41E-AD0F-63EEAFE03ABC", "description": ""}'
testtopic b'{"success": true, "datatype": "float64", "timestamp": "1619348688630", "registerId": "19840906-6139-48A5-94CE-D31E-AD0F-63EEAFE03ABC", "value": -1.6682105711, "deviceID": "69A8EC37-FAFB-4518-9483-DB271D97951C", "tagName": "tagger1", "deviceName": "Simulator", "description": ""}'
testtopic b'{"success": true, "datatype": "int64", "timestamp": "1619348688630", "registerId": "866C33D0-75D7-4B0B-844B-E8A71BCA0798", "value": 0, "deviceID": "69A8EC37-FAFB-4518-9483-DB271D97951C", "tagName": "test.sim.tag", "deviceName": "Simulator", "description": ""}'
testtopic b'{"deviceName": "Tank Farm 2", "tagName": "float", "deviceID": "10AFD376-A296-4A97-88F2-732D324B7210", "success": true, "datatype": "float", "timestamp": "1619348688882", "value": 44.47620610962911, "registerId": "8208D19C-88AC-4C1C-B591-B5EF42D97DC4", "description": "float-tag"}'
testtopic b'{"deviceName": "Tank Farm 2", "tagName": "test.sim.gen.1", "deviceID": "10AFD376-A296-4A97-88F2-732D324B7210", "success": true, "datatype": "int", "timestamp": "1619348688886", "value": 88, "registerId": "D16048E0-6CA8-491A-A009-12AESBD054E9", "description": ""}'
testtopic b'{"deviceName": "Product A", "tagName": "temp", "deviceID": "2B64C7E6-8615-43C4-9153-E1A78EA0AC00", "success": true, "datatype": "int", "timestamp": "1619348689110", "value": 70, "registerId": "4D2DFEEF-304C-4645-984E-238C56411670", "description": ""}'
testtopic b'{"deviceName": "Product A", "tagName": "pressure", "deviceID": "2B64C7E6-8615-43C4-9153-E1A78EA0AC00", "success": true, "datatype": "float", "timestamp": "1619348689110", "value": 99.01685811579138, "registerId": "A047476F-A888-41E-AD0F-63EEAFE03ABC", "description": ""}'
testtopic/DaHaKa_home/pol_moy/period b'89'
testtopic/DaHaKa_home/pol_moy/pwm b'0'
```

Feedback:

1. The lab material was very relevant but for me, it took some time in understanding the concept explained in the lab manual. But still, I was unclear about some things and I need to figure them out and understand them.
2. I suggest no corrections.