Internet Of Things(IOT)

Implementation of Messanger Application using MQTT

Submitted By:

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Readme to Run the Code (MQTTchat.c)   :

Execute the following Commands.
(Note: All Prerequisite should be satisfied to run MQTT Broker)

Step 1> Compile

$ *gcc MQTTchat.c -l paho-mqtt3c -lm -o USER1.out*

$ *gcc MQTTchat.c -l paho-mqtt3c -lm -o USER2.out*

$ *gcc MQTTchat.c -l paho-mqtt3c -lm -o USER3.out*

For 10 users we have to run the same code for 10 different Binaries.

Step 2> Run the binaries

./USER1.out

./USER2.out

./USER3.out

For 10 users we have to run the 10 different Binaries.
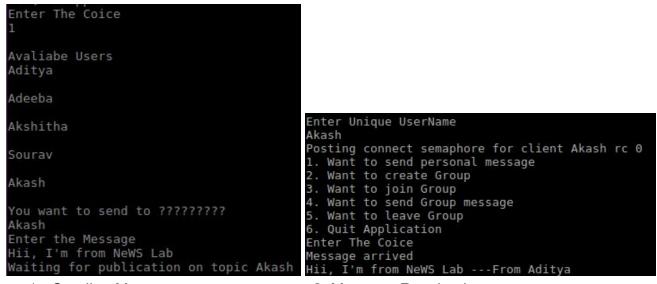
Step3> Options and Executions

```
aditya@adityasingh:~/Downloads/cs19mtech11032_iot$ ./user1.out

Are you Registered Y/N
Y
Enter Unique UserName
Aditya
Posting connect semaphore for client Aditya rc 0
1. Want to send personal message
2. Want to create Group
3. Want to join Group
4. Want to send Group message
5. Want to leave Group
6. Quit Application
```

```
aditya@adityasingh:~/Downloads/cs19mtech11032_iot$ ./user2.out

Are you Registered Y/N
N
Enter Unique UserName
Akash
Registration Successsful !!!!!!!!!!!!
Posting connect semaphore for client Akash rc 0
1. Want to send personal message
2. Want to create Group
3. Want to join Group
4. Want to send Group message
5. Want to leave Group
6. Quit Application
```

1. If you are registered , Provide the Username   2. Register Yourself with Unique UserName

After Registration, we get the mentioned options

1. Want To Send Personal Message
   (a) It will show a list of registered Users and ask whom you want to send message.
   (b) Select the user and Enter the message to be sent.
User: Aditya wants to send message to Akash

```
Enter The Coice
1

Avaliabe Users
Aditya

Adeeba

Akshitha

Sourav

Akash

You want to send to ?????????
Akash
Enter the Message
Hii, I'm from NeWS Lab
Waiting for publication on topic Akash
```

```
Enter Unique UserName
Akash
Posting connect semaphore for client Akash rc 0
1. Want to send personal message
2. Want to create Group
3. Want to join Group
4. Want to send Group message
5. Want to leave Group
6. Quit Application
Enter The Coice
Message arrived
Hii, I'm from NeWS Lab ---From Aditya
```

   1. Sending Message   2. Message Received

   (c) It will ask want to send again Personal message Y/N.

2. Want To Create Group
   (a) It will ask to enter unique Group Name
   (b) Group is created and you joined the group

```
Enter The Coice
2
Enter Group Name
Group1
You created and joined the Group::: Group1
```

3. Want To Join a Group

(NOTE: Assuming that you know which groups are existing)

        (a) It will show all existing groups and the users in corresponding groups.

        (b) Ask which group to join!!

```
Enter The Coice
3
Avaliable groups and users in them
1  Group1
        Aditya

        Akash

2  Group2
        Sourav

Which group you want to join
Group1
You Successsfully Joined!!!!!!!!!!!
```

4. Want To Send Group Message

        (a) Ask in which group you want to send the message.

            Checking whether the group exist or not

            If group exist you are a member of that group or not

```
Are you Registered Y/N
Y
Enter Unique UserName
Aditya
Posting connect semaphore for client Aditya rc 0
1. Want to send personal message
2. Want to create Group
3. Want to join Group
4. Want to send Group message
5. Want to leave Group
6. Quit Application
Enter The Coice
4
In Which group you want to send Message        Group1
Enter the Message
Hii Everyone
Waiting for publication on topic Group1
Send Again Y/x
 Message with token value 2 delivery confirmed
Message arrived
Hii Everyone
```

```
aditya@adityasingh:~/Downloads/cs19mtech11032_iot$ ./user2.out

Are you Registered Y/N
Y
Enter Unique UserName
Akash
Posting connect semaphore for client Akash rc 0
1. Want to send personal message
2. Want to create Group
3. Want to join Group
4. Want to send Group message
5. Want to leave Group
6. Quit Application
Enter The Coice
Message arrived
Hii Everyone
```

```
aditya@adityasingh: ~/Downloads/cs19mtech11032_iot 80x23
aditya@adityasingh:~/Downloads/cs19mtech11032_iot$ ./user3.out

Are you Registered Y/N
Y
Enter Unique UserName
Sourav
Posting connect semaphore for client Sourav rc 0
1. Want to send personal message
2. Want to create Group
3. Want to join Group
4. Want to send Group message
5. Want to leave Group
6. Quit Application
Enter The Coice
```

```
aditya@adityasingh: ~/Downloads/cs19mtech11032_iot 80x2
aditya@adityasingh:~/Downloads/cs19mtech11032_iot$ ./user4.out

Are you Registered Y/N
Y
Enter Unique UserName
Adeeba
Posting connect semaphore for client Adeeba rc 0
1. Want to send personal message
2. Want to create Group
3. Want to join Group
4. Want to send Group message
5. Want to leave Group
6. Quit Application
Enter The Coice
Message arrived
Hii Everyone
```

Here in Group1(Aditya, Adeeba, Akash). Aditya sends a message in Group1 which is received by all 3 but not the 4th user(Not a Member)

5. Want To Leave Group
        (a) Ask which group you want to leave
            Checking whether the group exist or not
            If a group exist you are a member of that group or not

```
5
Which group you want to leave    Group1
You are Removed from group :: Group1
 dl = 3
```

After leaving the group, the user gets unsubscribed from group and didn't receive any message further sent in Group.