Date : 18 April 2022

Introduction to IOT
- IOT Block Diagram
- IOT Architecture
- What is MQTT (Message Query Telemetry Transport)
- Communication Protocols
- Publisher and Subscriber modules in MQTT
- Single level wildcard (using + sign)
- Multi Level wildcard (subscriber end, using # sign)
- Quality of Service (QOS) levels in MQTT

At most once (0)
At least once (1)
Exactly once (2)

- Message Passing using Mosquitto PUB and Mosquitto SUB
- Performed exercises for the same(Config.json and Publish.py file)

Date : 19 April 2022

What is MongoDB
- Introduction to MongoDB
- Advantages of MongoDB
- Different Terms of MongoDB like database, collections, documents.
- MongoDB CLI commands like

Show dbs
Use <database_name>
Show collections
db['<collection_name>'].find()
db['<collection_name>'].drop()

- Changed the port number for MQTT
- MongoDB Compass
- Created a new database in MongoDB compass GUI
- Performed exercise on Mosquitto PUB & Mosquitto SUB
- Created Config_sub.json and Subscriber.py files to perform that task

Topic: IOT
Install MongoDB in ubuntu
Functionality of MongoDB
Connect MongoDB to the MQTT

Date : 20/04/2022

Topic: IOT
Install curl
Install code-red
Use of code-red
connect code-red with MQTT using pub and sub

Date : 21/04/2022

Topic: IOT
What is cloud computing
Type of cloud
How to create IOT Hub on Azure
Device To Cloud & Cloud To Device Message Transfer

Date : 21/04/2022

Topic: IOT

Azure Storage Services

Blob

File

Table

Queue

Containers

Azure Blob Storage

Blob Container

Date : 25/04/2022

Topic: IOT

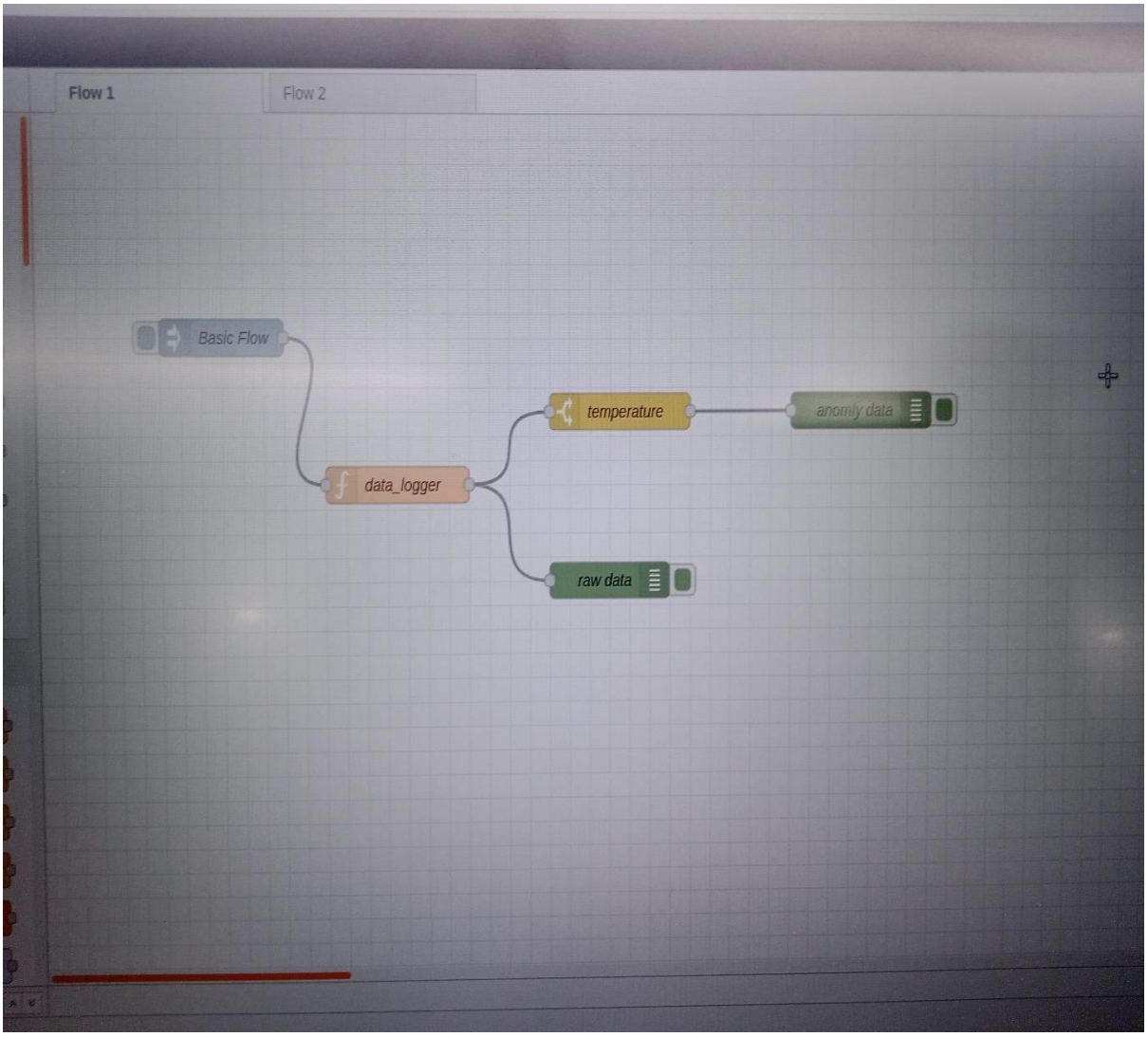
Device and Device Provisioning

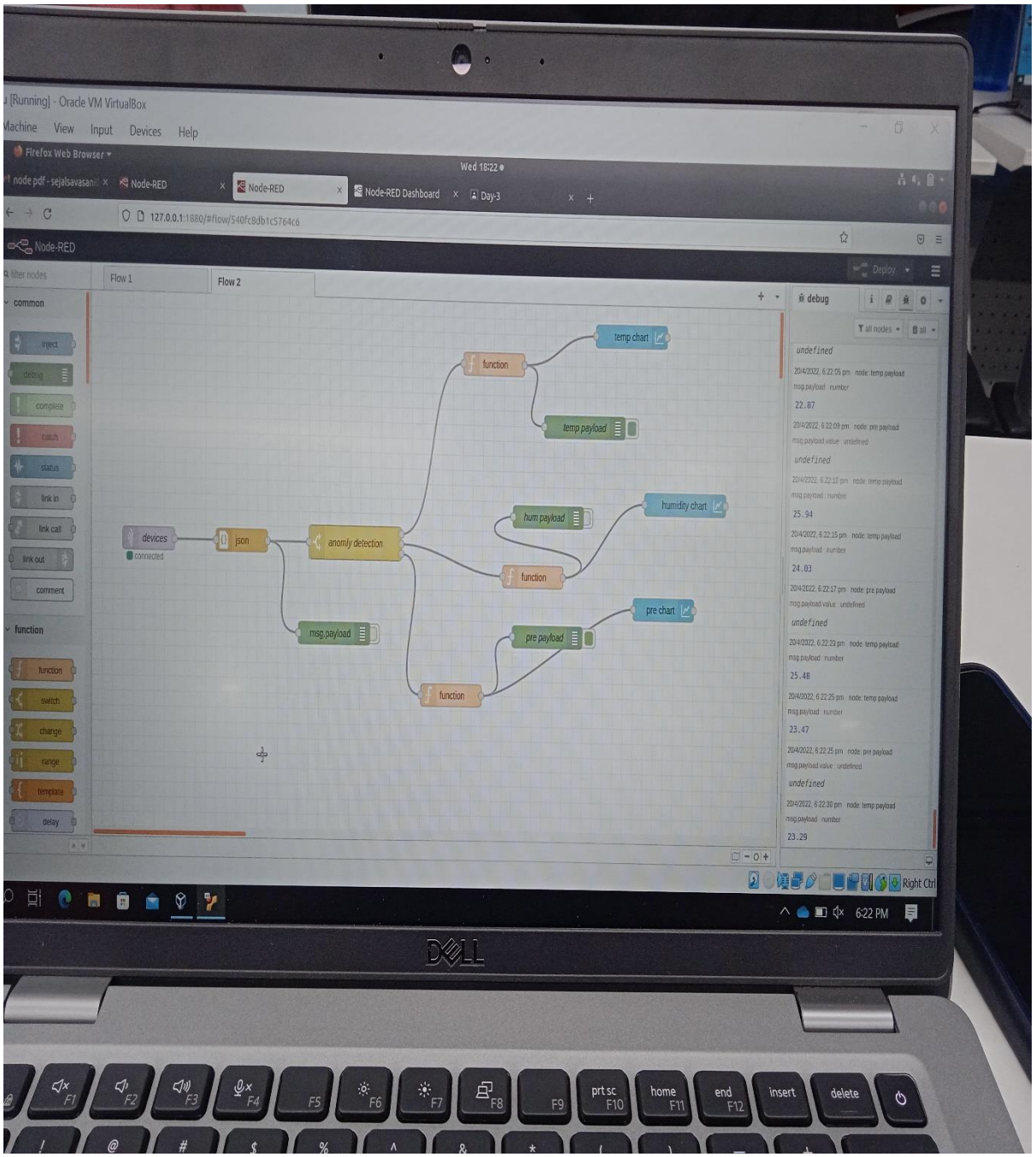
Provisioning Process

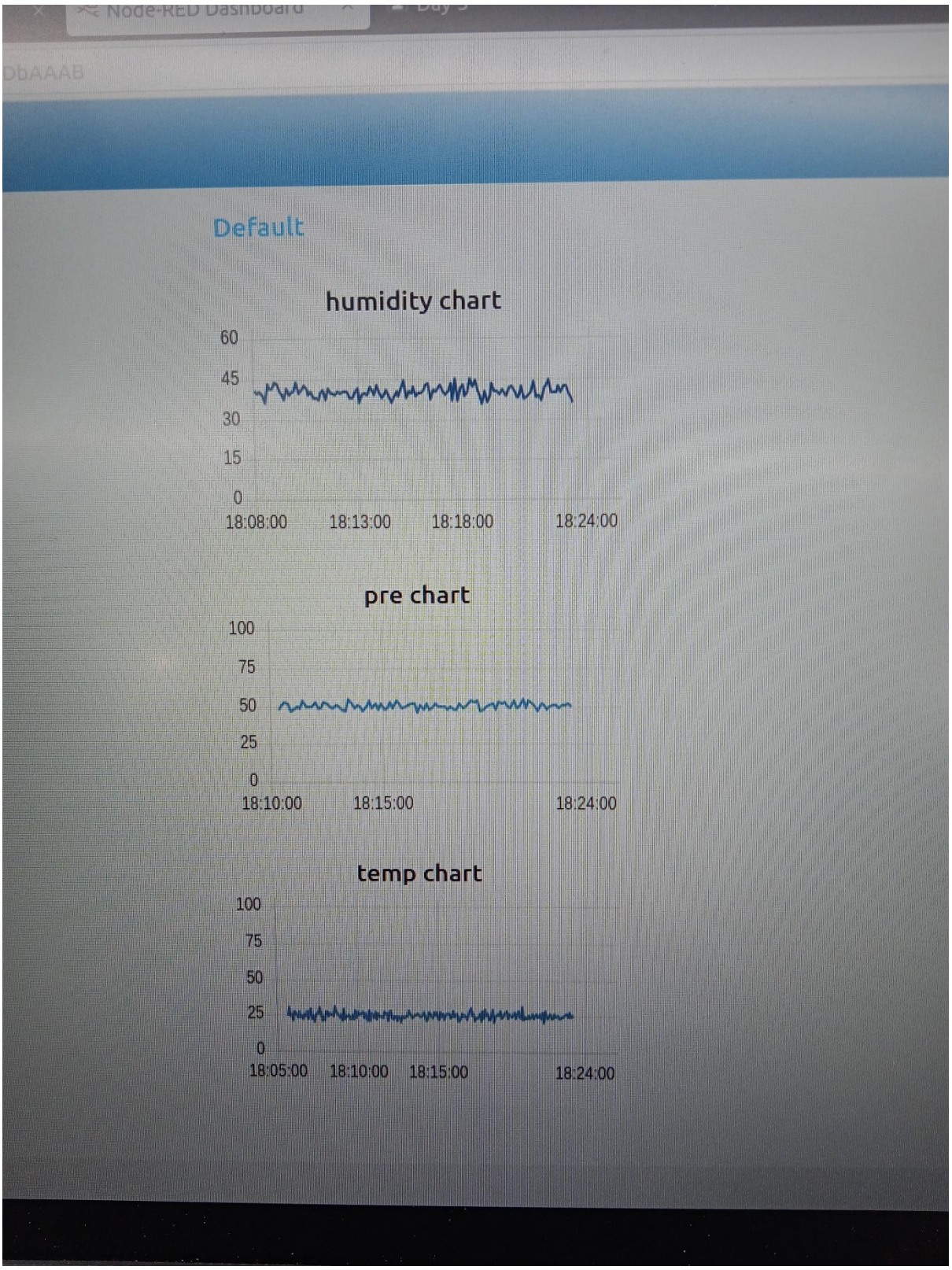
Registration vs Provisioning

Features of the Device Provisioning Services (DPS)

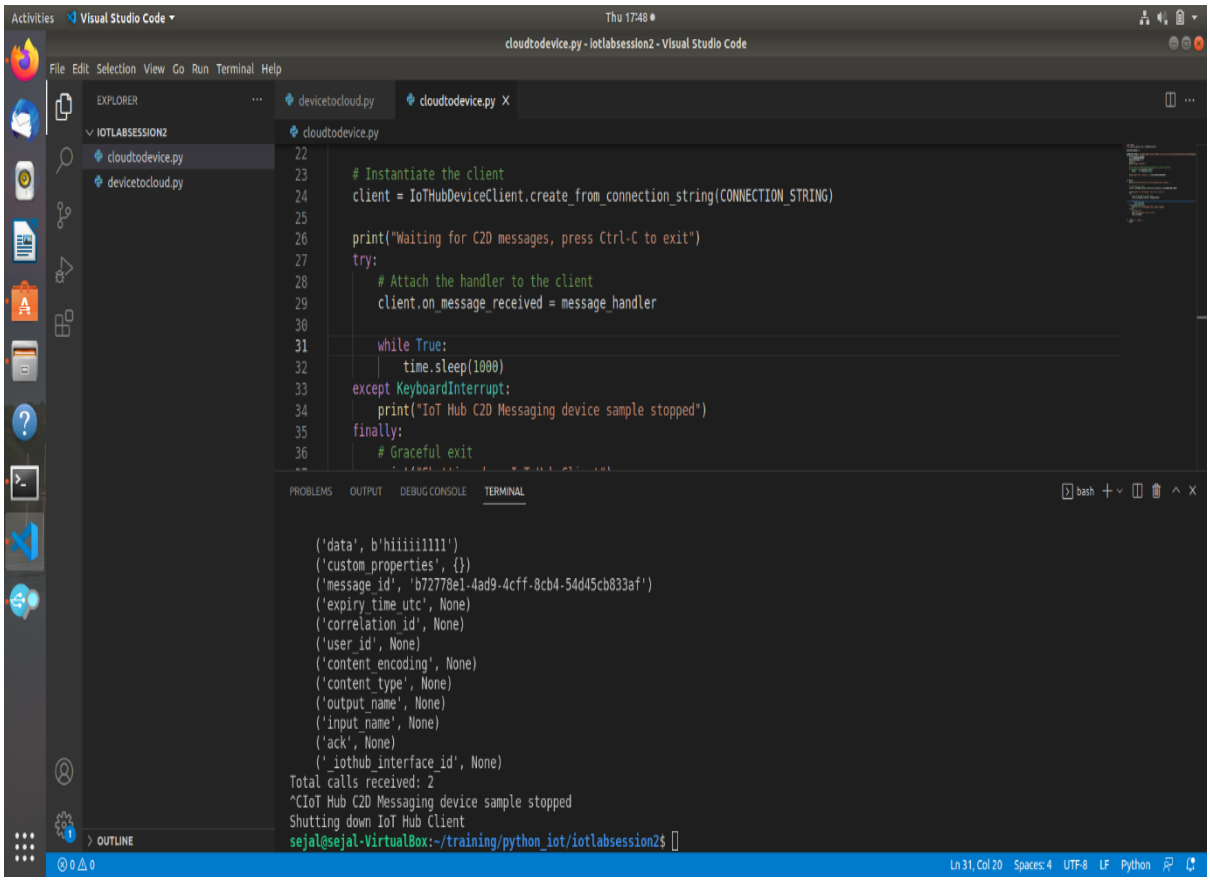
X.509




[Running] - Oracle VM VirtualBox
Machine View Input Devices Help
Firefox Web Browser
Wed 18:22
Node-RED
Node-RED Dashboard
Day-3
127.0.0.1:1880/#flow/540fc8db1c5764c6
Node-RED
Deploy
Flow 1
Flow 2
common
inject
debug
complete
catch
status
link in
link call
link out
comment
function
function
switch
change
range
template
delay
devices
connected
json
anomily detection
msg.payload
function
temp chart
temp payload
hum payload
humidity chart
pre chart
pre payload
debug
all nodes
undefined
22.87
undefined
25.94
24.03
undefined
25.48
23.47
undefined
23.29
Right Ctrl
6:22 PM
DELL



Client to server and server to client program:


Activities
Visual Studio Code
Thu 17:48
cloudtodevice.py - iotlabsession2 - Visual Studio Code
File Edit Selection View Go Run Terminal Help
EXPLORER
IOTLABSESSION2
cloudtodevice.py
devicetocloud.py
devicetocloud.py
cloudtodevice.py X
cloudtodevice.py
# Instantiate the client
client = IoTHubDeviceClient.create_from_connection_string(CONNECTION_STRING)
print("Waiting for C2D messages, press Ctrl-C to exit")
try:
# Attach the handler to the client
client.on_message_received = message_handler
while True:
time.sleep(1000)
except KeyboardInterrupt:
print("IoT Hub C2D Messaging device sample stopped")
finally:
Graceful exit
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
bash
('data', b'hiiiii1111')
('custom_properties', {})
('message_id', 'b72778e1-4ad9-4cff-8cb4-54d45cb833af')
('expiry_time_utc', None)
('correlation_id', None)
('user_id', None)
('content_encoding', None)
('content_type', None)
('output_name', None)
('input_name', None)
('ack', None)
('_iothub_interface_id', None)
Total calls received: 2
^CIoT Hub C2D Messaging device sample stopped
Shutting down IoT Hub Client
sejal@sejal-VirtualBox:~/training/python_iot/iotlabsession2$
OUTLINE
Ln 31, Col 20 Spaces: 4 UTF-8 LF Python