ASSIGNMENT 2

Group #1 – GME
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Different IoT-Scenarios

BICYCLE

MICROWAVE

PLANTS

07.05.2021

IoT-Scenario

- Scenario 1
- Scenario 2
- Scenario 3

Pros & Cons

- Easy to manage
- Scalability
- Modular
  - Automation

- Takes the fun out if it

Flow [JSON]

```
assignment-two on  main [!] is 📦 v1.0.0 via ⬢ v16.0.0 took 10s
[I] → node index.js
Broker is up and running
Connected to DB!
Payload [ JSON ] is now saved as JSON in db
Payload [ JSON ] is now saved as JSON in db
^C
```

```
{"data":{"plant":{"id":1,"type":"ESP8266","temperature":15}}}
{"data":{"plant":{"id":2,"type":"ESP8266","humidity":9}}}
Message from sensor one sent! {"data":{"plant":{"id":1,"type":"ESP82
66","temperature":15}}}
PLANTS/sensorOne
Message from sensor two sent! {"data":{"plant":{"id":2,"type":"ESP82
66","humidity":9}}}
PLANTS/sensorTwo
^C
```

Flow [XML]

```
assignment-two on  main [!] is 📦 v1.0.0 via ⬢ v16.0.0 took 17s
[I] → node index.js
Broker is up and running
Connected to DB!
Payload [ XML ] is now saved as JSON in db
Payload [ XML ] is now saved as JSON in db
```

```
assignment-two on  main [!] is 📦 v1.0.0 via ⬢ v16.0.0 took 15s
[I] → node pub.js
<data><plant><id>1</id><type>ESP8266</type><temperature>2</temperatu
re></plant></data>
<data><plant><id>2</id><type>ESP8266</type><humidity>11</humidity></
plant></data>
Message from sensor one sent! <data><plant><id>1</id><type>ESP8266</
type><temperature>2</temperature></plant></data>
PLANTS/sensorOne
Message from sensor two sent! <data><plant><id>2</id><type>ESP8266</
type><humidity>11</humidity></plant></data>
PLANTS/sensorTwo
^C
```

Flow [EXI]

```
EE
EE
EE
EE
EE
EE
numberOfQNames ED: 77
Message from sensor one sent! 128,64,86,70,23,70,26,128,36,12,224,21
6,194,220,233,80,4,128,218,89,42,0,208,8,0,5,116,121,112,101,168,4,6
6,81,84,212,14,12,141,141,128,199,70,86,215,6,87,38,23,71,87,38,90,1
28,52,34,0,84,0,0,0,0,0,0
PLANTS/sensorOne
Message from sensor two sent! 128,64,86,70,23,70,26,128,36,12,224,21
6,194,220,233,80,4,128,218,89,42,0,208,16,0,5,116,121,112,101,168,4,
66,81,84,212,14,12,141,141,128,150,135,86,214,150,70,151,71,154,128,
52,36,0,84,0,0,0,0,0,0,0,0,0
PLANTS/sensorTwo
^C

assignment-two on  main [!] is 📦 v1.0.0 via ⬢ v16.0.0 took 6s
[I] ➜
```

```
         decodeNBitUnsignedInteger --> 1
        EventCode == 1
<< EE (map)
        CodeLength == 1
         decodeNBitUnsignedInteger --> 0
        EventCode == 0
<< EE (data)
        CodeLength == 1
         decodeNBitUnsignedInteger --> 1
        EventCode == 1
<< EE (map)
        CodeLength == 0
        EventCode == 0
< ED
Payload [ EXI ] is now saved as JSON in db
Payload [ EXI ] is now saved as JSON in db
^C

assignment-two on  main [!] is 📦 v1.0.0 via ⬢ v16.0.0 took 9s
[I] ➜
```

Flow [SenML]

```
assignment-two on  main [!] is 📦 v1.0.0 via ⬢ v16.0.0 took 8s
[I] → node index.js
Broker is up and running
Connected to DB!
Payload [ XML ] is now saved as JSON in db
Payload [ XML ] is now saved as JSON in db
^C

assignment-two on  main [!] is 📦 v1.0.0 via ⬢ v16.0.0 took 8s
[I] →
```

```
assignment-two on  main [!] is 📦 v1.0.0 via ⬢ v16.0.0
[I] → node pub.js
{"data":{"n":"urn:dev:ow:10e2073a01080063","u":"Cel","v":14,"t":"202
1-05-07T11:02:18.642Z"}}
{"data":{"n":"urn:dev:ow:10e2073a01080064","u":"Percent","v":0,"t":"
2021-05-07T11:02:18.642Z"}}
Message from sensor one sent! {"data":{"n":"urn:dev:ow:10e2073a01080
063","u":"Cel","v":14,"t":"2021-05-07T11:02:18.642Z"}}
PLANTS/sensorOne
Message from sensor two sent! {"data":{"n":"urn:dev:ow:10e2073a01080
064","u":"Percent","v":0,"t":"2021-05-07T11:02:18.642Z"}}
PLANTS/sensorTwo
^C

assignment-two on  main [!] is 📦 v1.0.0 via ⬢ v16.0.0 took 8s
[I] →
```

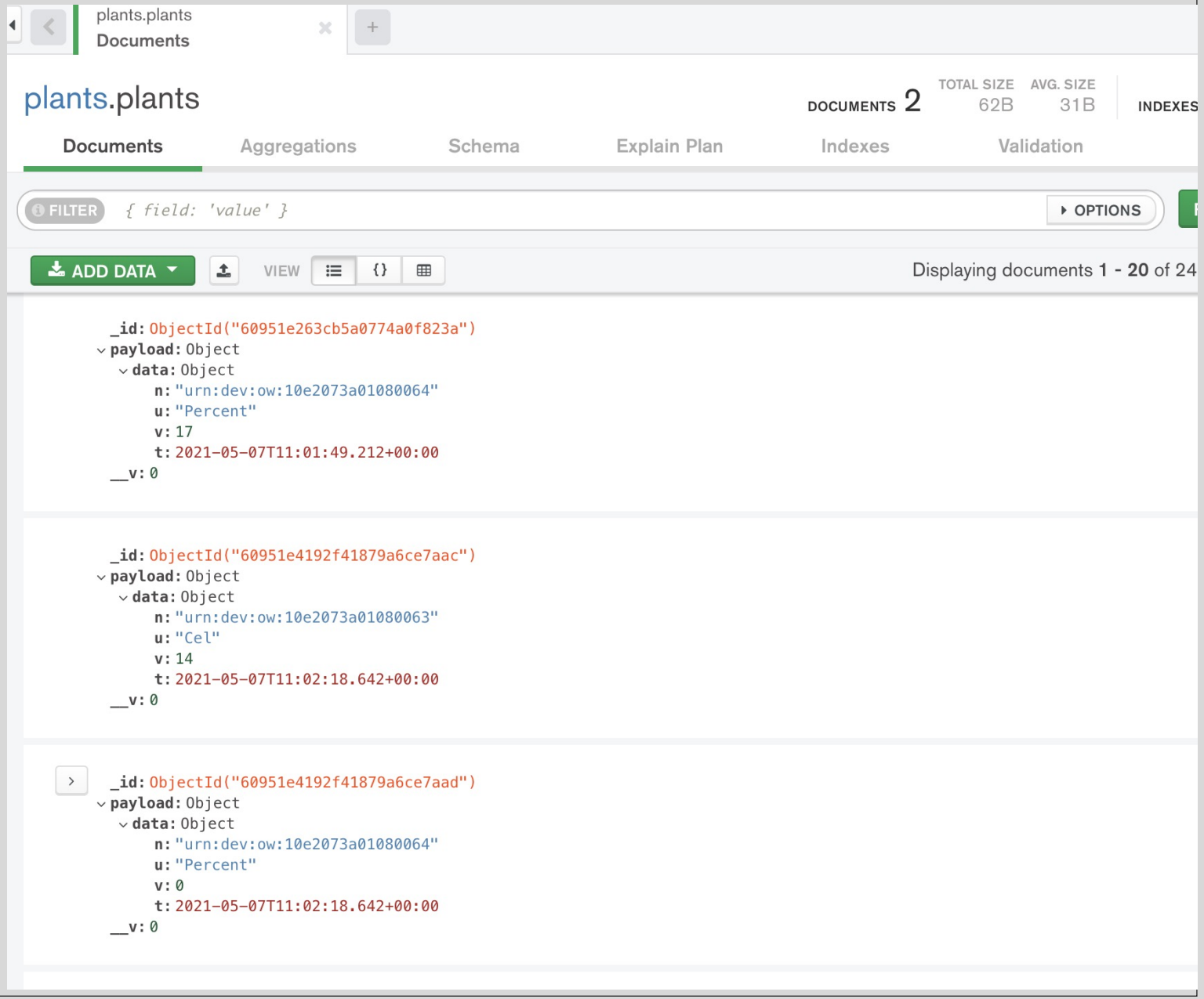
Response

```
---------------------------------
Topic: PLANTS/sensorOne
---------------------------------
Sensor: urn:dev:ow:10e2073a01080063
Temperature: 1 °C / 33 F
Time: 1620385815141
Message: Current temp is below 5°C turn on the heat
---------------------------------



---------------------------------
Topic: PLANTS/sensorTwo
---------------------------------
Sensor: urn:dev:ow:10e2073a01080064
Humidity: 19 %
Time: 1620385815141
Message: Current humidity is over 10% turn off air fresher
---------------------------------
```

Storage


plants.plants
Documents
plants.plants
DOCUMENTS 2
TOTAL SIZE 62B
AVG. SIZE 31B
INDEXES
Documents
Aggregations
Schema
Explain Plan
Indexes
Validation
FILTER
{ field: 'value' }
OPTIONS
ADD DATA
VIEW
Displaying documents 1 - 20 of 24
_id: ObjectId("60951e263cb5a0774a0f823a")
payload: Object
data: Object
n: "urn:dev:ow:10e2073a01080064"
u: "Percent"
v: 17
t: 2021-05-07T11:01:49.212+00:00
__v: 0
_id: ObjectId("60951e4192f41879a6ce7aac")
payload: Object
data: Object
n: "urn:dev:ow:10e2073a01080063"
u: "Cel"
v: 14
t: 2021-05-07T11:02:18.642+00:00
__v: 0
_id: ObjectId("60951e4192f41879a6ce7aad")
payload: Object
data: Object
n: "urn:dev:ow:10e2073a01080064"
u: "Percent"
v: 0
t: 2021-05-07T11:02:18.642+00:00
__v: 0