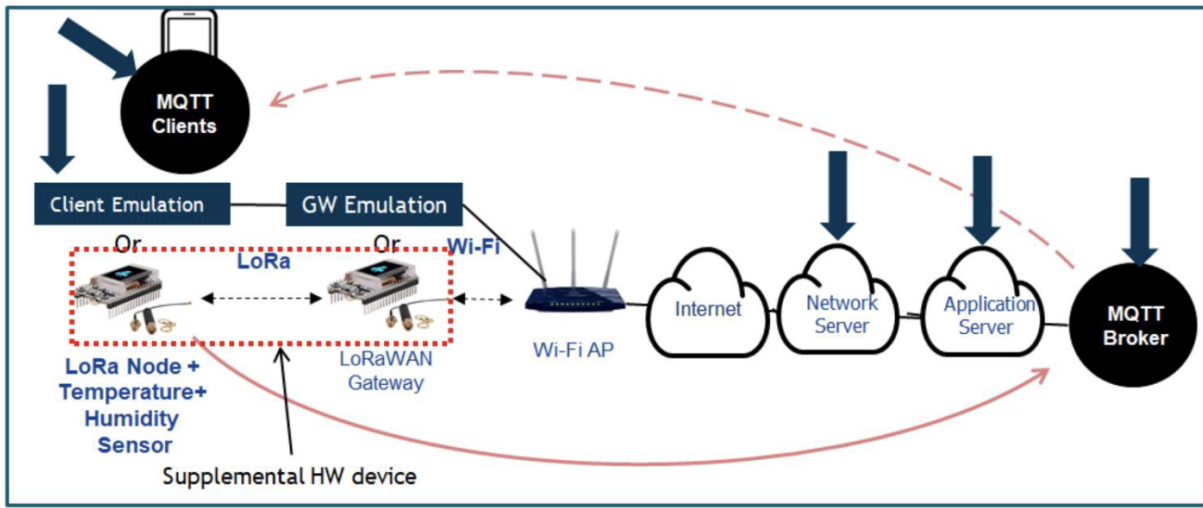


CIS549 project 5

Xiao Zhong

1.



Client Emulation:

- Packet Forward Host address (lora host address): nam1.cloud.thethings.network
- Gateway EUI: 08:00:27:00:00:58:f3:b5
- Device address:260CCC56
- NwkKey:0x60, 0x18, 0x9F, 0x7B, 0xA3, 0x7F, 0x07, 0x25, 0x76, 0x70, 0x72, 0x2A, 0xBF, 0x86, 0xF4, 0x65
- AppsKey:0x69, 0x75, 0xFD, 0x92, 0x06, 0xD1, 0xEF, 0x5C, 0x75, 0x36, 0x6E, 0x28, 0xB9, 0xDE, 0x2E, 0xE6

Network Server:

- Packet Forward Host address: nam1.cloud.thethings.network
- Gateway EUI: 08:00:27:00:00:58:f3:b5
- Device address:260CCC56
- NwkKey:0x60, 0x18, 0x9F, 0x7B, 0xA3, 0x7F, 0x07, 0x25, 0x76, 0x70, 0x72, 0x2A, 0xBF, 0x86, 0xF4, 0x65

Application Server:

- AppsKey:0x69, 0x75, 0xFD, 0x92, 0x06, 0xD1, 0xEF, 0x5C, 0x75, 0x36, 0x6E, 0x28, 0xB9, 0xDE, 0x2E, 0xE6
- WriteAPIKey: 9SMS2SOOXEPY070L (webhooks)

MQTT Broker(thingSpeak):

- WriteAPIKey: 9SMS2SOOXEPY070L
- ClientID&Username(MQTT API Key):LycLPBoNMDopABgmOiQfMws
- Password: nthTSXr08YutseRPqND5zEqd

- channel ID:1589626

MQTT Clients:

- channel ID:1589626
- ClientID&Username(MQTT API Key):LycLPBoNMDopABgmOiQfMws
- Password: nthTSXr08YutseRPqND5zEqd
- Subscriber topic: **channels/1589626/subscribe/fields/+**

2.

Code is demonstrated below:

```
function decodeUplink(input) {

    var bytes  = input.bytes;

    var port = input.fport;

    var decoded = {};

    var StudentID = (bytes[0]<<24)+ (bytes[1]<<16) +(bytes[2]<<8)+(bytes[3]);

    var Count = (bytes[4]<<8)+(bytes[5]);

    var Temperture = (bytes[6]<<8)+(bytes[7]);

    Temperture = Temperture/100;

    var Humidity = (bytes[8]<<8)+(bytes[9]);

    Humidity = Humidity/100;

    decoded.field1=StudentID;

    decoded.field2 = Count;

    decoded.field3 = Temperture;

    decoded.field4 = Humidity;

    return {

        data: decoded,

        warnings: [],

        errors: []

    }

}
```

```
} ;  
  
}
```

IS STACK / Edition	Overview	Applications	Gateways	Organizations	NAM1 Community Fair use policy applies	Xiao DIZZY
Applications > cis549-god-plan > Live data						
Time	Entity ID	Type	Data preview	Verbose stream	Pause	Clear
↑ 24:51:49	my-end-device1	Forward uplink data message	Payload: { field1: 38167305, field2: 20, field3: 25.48, field4: 36.12 }	02 46 63 09 00 14 09 F4 ...	FPort:	
↑ 24:51:19	my-end-device1	Forward uplink data message	Payload: { field1: 38167305, field2: 19, field3: 25.48, field4: 36.12 }	02 46 63 09 00 13 09 F4 ...	FPort:	
↑ 24:50:49	my-end-device1	Forward uplink data message	Payload: { field1: 38167305, field2: 18, field3: 25.48, field4: 36.12 }	02 46 63 09 00 12 09 F4 ...	FPort:	
↑ 24:50:19	my-end-device1	Forward uplink data message	Payload: { field1: 38167305, field2: 17, field3: 25.48, field4: 36.12 }	02 46 63 09 00 11 09 F4 ...	FPort:	
↑ 24:49:49	my-end-device1	Forward uplink data message	Payload: { field1: 38167305, field2: 16, field3: 25.48, field4: 36.12 }	02 46 63 09 00 10 09 F4 ...	FPort:	
↑ 24:49:19	my-end-device1	Forward uplink data message	Payload: { field1: 38167305, field2: 15, field3: 25.48, field4: 36.12 }	02 46 63 09 00 0F 09 F4 ...	FPort:	
↑ 24:48:49	my-end-device1	Forward uplink data message	Payload: { field1: 38167305, field2: 14, field3: 25.48, field4: 36.12 }	02 46 63 09 00 0E 09 F4 ...	FPort:	
↑ 24:48:19	my-end-device1	Forward uplink data message	Payload: { field1: 38167305, field2: 13, field3: 25.48, field4: 36.12 }	02 46 63 09 00 0D 09 F4 ...	FPort:	
↑ 24:47:49	my-end-device1	Forward uplink data message	Payload: { field1: 38167305, field2: 12, field3: 25.48, field4: 36.12 }	02 46 63 09 00 0C 09 F4 ...	FPort:	
↑ 24:47:19	my-end-device1	Forward uplink data message	Payload: { field1: 38167305, field2: 11, field3: 25.48, field4: 36.12 }	02 46 63 09 00 0B 09 F4 ...	FPort:	
↑ 24:46:49	my-end-device1	Forward uplink data message	Payload: { field1: 38167305, field2: 10, field3: 25.48, field4: 36.12 }	02 46 63 09 00 0A 09 F4 ...	FPort:	
↑ 24:46:19	my-end-device1	Forward uplink data message	Payload: { field1: 38167305, field2: 9, field3: 25.48, field4: 36.12 }	02 46 63 09 00 09 09 F4 ...	FPort:	

Figure.1. TTN console Page

3.

MQTT Explorer

Search...

DISCONNECT

▼ mqtt3.thingspeak.com

▼ channels

▼ 1589626

▼ subscribe

▼ fields

field1 = 38167305

field2 = 21

field3 = 25.48

field4 = 36.12

Topic

4

channels / 1589626 / subscribe / fields

Value

Publish

Topic

channels/1589626/subscribe/fields

raw xml json

PUBLISH

Figure.2.MQTT Client with Data

- Channel ID: **1589626**
- MQTT API Key: **LycLPBoNMDopABgmOiQfMws**
- Read API key: **FOOEBOH57KDEQGW3**
- Topic String: **channels/1589626/subscribe/fields/+**