

## Mobile Telecommunications Networks Mini Project 4

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- **Scenario Description**

使用者在 lineBot 將要做運算的數值輸入，傳到 IoTtalk platform 運算完後，再透過 lineBot 將結果回傳。

- **How to Design**

- 1) **IoTtalk:**

建立一個具有 IDF 和 ODF feature 的 Device model (named 108062586\_1)，Input 需要餵入兩個數值，Output 出兩數值相加的結果。

- 2) **LineBot:** 主要透過 line 的 reply message API 做三種處理。1) 先判斷使用值是否輸入數值 2) 若是數值，則把數值 push 到 IoTtalk platform，之後再將 pull 的結果 reply 給使用者 3) 輸入 terminate 時，則將已註冊在 IoTtalk platform 的 DAI device model deregister。



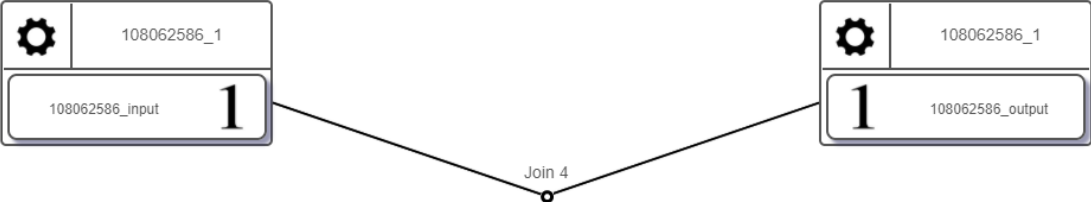
### 3) Heroku log:

```
2021-01-14T05:26:31.335855+00:00 app[web.1]: This device has successfully registered.
2021-01-14T05:26:31.335890+00:00 app[web.1]: Device name = project_D.610_108062586_1
2021-01-14T05:26:31.335891+00:00 app[web.1]: Create control threading
2021-01-14T05:26:32.336508+00:00 app[web.1]: dm_name is 108062586_1
2021-01-14T05:26:32.336522+00:00 app[web.1]: Server is http://140.114.77.89:9999
2021-01-14T05:26:32.339595+00:00 app[web.1]: * Serving Flask app "app" (lazy loading)
2021-01-14T05:26:32.339624+00:00 app[web.1]: * Environment: production
2021-01-14T05:26:32.339675+00:00 app[web.1]: WARNING: This is a development server. Do not use it in a production deployment.
2021-01-14T05:26:32.339722+00:00 app[web.1]: Use a production WSGI server instead.
2021-01-14T05:26:32.339746+00:00 app[web.1]: * Debug mode: off
2021-01-14T05:26:32.340560+00:00 app[web.1]: * Running on http://0.0.0.0:29799/ (Press CTRL+C to quit)
2021-01-14T05:26:32.897493+00:00 heroku[web.1]: State changed from starting to up
2021-01-14T05:26:34.082212+00:00 app[web.1]: ready to push: 108062586_1
2021-01-14T05:26:34.082851+00:00 heroku[router]: at=info method=POST path="/callback" host=test-demo-0103.herokuapp.com request_id=ce7a5714-aa42-495e-b58f-aed937b91c4e
fwd="147.92.149.170" dyno=web.1 connect=0ms service=305ms status=200 bytes=155 protocol=https
2021-01-14T05:26:34.078824+00:00 app[web.1]: 10.28.44.109 - - [14/Jan/2021 05:26:34] "[37mPOST /callback HTTP/1.1[0m" 200 -
2021-01-14T05:26:35.646509+00:00 app[web.1]: ready to push: 6688
2021-01-14T05:26:36.524550+00:00 app[web.1]: 13376
2021-01-14T05:26:36.524590+00:00 app[web.1]: got result
2021-01-14T05:26:36.725458+00:00 app[web.1]: 10.63.127.111 - - [14/Jan/2021 05:26:36] "[37mPOST /callback HTTP/1.1[0m" 200 -
2021-01-14T05:26:36.729569+00:00 heroku[router]: at=info method=POST path="/callback" host=test-demo-0103.herokuapp.com request_id=1ddec447-8214-480c-8fff-9707cd48197c
fwd="147.92.149.170" dyno=web.1 connect=0ms service=1081ms status=200 bytes=155 protocol=https
2021-01-14T05:27:04.060467+00:00 app[web.1]: ready to push: terminate
2021-01-14T05:27:04.761397+00:00 app[web.1]: Bye ! -----108062586_1
2021-01-14T05:27:04.968670+00:00 app[web.1]: 10.30.16.105 - - [14/Jan/2021 05:27:04] "[37mPOST /callback HTTP/1.1[0m" 200 -
2021-01-14T05:27:04.973022+00:00 heroku[router]: at=info method=POST path="/callback" host=test-demo-0103.herokuapp.com request_id=2d298cce-9c44-497d-8517-73256fc0fda8
fwd="147.92.149.170" dyno=web.1 connect=0ms service=910ms status=200 bytes=155 protocol=https
2021-01-14T05:27:06.445559+00:00 app[web.1]: Control error: mac_addr not found: 263F0DF22758
2021-01-14T05:27:06.445575+00:00 app[web.1]: Reg_addr is not found. Try to re-register...
2021-01-14T05:27:06.445576+00:00 app[web.1]: IoTalk Server = http://140.114.77.89:9999
2021-01-14T05:27:07.011288+00:00 app[web.1]: This device has successfully registered.
2021-01-14T05:27:07.011301+00:00 app[web.1]: Device name = project_D.610_108062586_1
```

- Screenshots

- IoTalk GUI connection, DM/DF creation, join connection

#### GUI connection



#### Device model IDF feature creation

108062586_1 (IDF)					Save
108062586_input	Type	Min	Max	Function	
x1	sample	0	0	disabled	▼
x2	sample	0	0		

#### Device model ODF feature creation, and do numerical calculation.

108062586\_1 (ODF) Save

108062586_output	Function	Min	Max
y1	add	0	0

Selected Function: add

Version: 20210113 Delete Save

Include non-DF arguments ☐

```
def run(*args):
    return args[0] + args[1]
```

## Join connection

Connection Name: Join 4 Delete Save

108062586\_1 (IDF) Delete

108062586_input	Type	Function
x1	sample	disabled
x2	sample	

108062586\_1 (ODF) Delete

108062586_output	Function
y1	add

### ○ IDF/ODF monitor

IDF Monitor

Sub-stage: Input Continue Next Table 1 108062586\_input

Timestamp	x <sub>1</sub>	x <sub>2</sub>
00:47:08	22.00	22.00
01:04:24	22.00	22.00

ODF Monitor

Sub-stage: Function Table 1 108062586\_output

Timestamp	y <sub>1,F</sub>
00:47:08	44.00
01:04:24	44.00

### ○ LineBot result



- What you learn

本次 project 學習如何操作 IoTtalk platform，創建一些 IoT 的簡單應用；並透過 Heroku 的雲端平台去架設 lineBot，再將 lineBot 和 IoTtalk platform 串聯。