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Plugfest Result

W3C Web of Things IG/WG F2F meeting @ Prague

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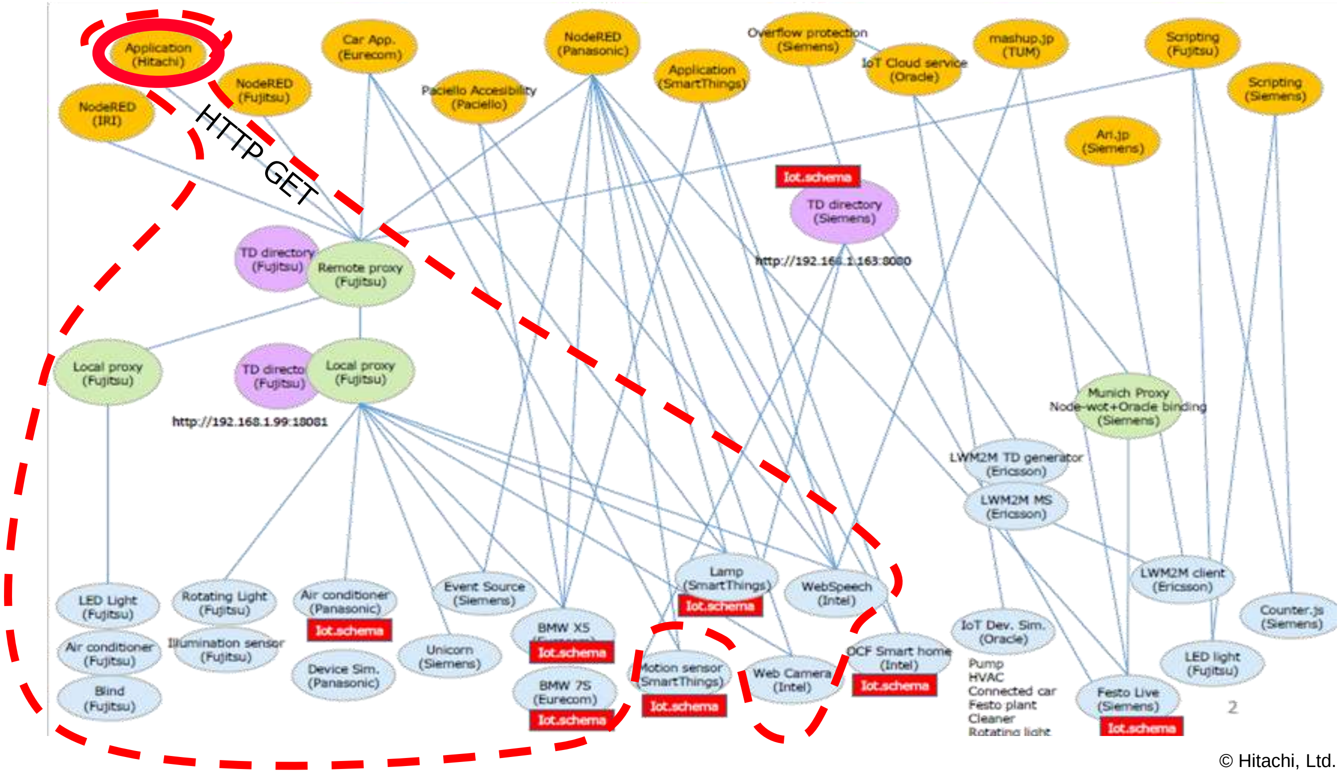
Mar. 26, 2018

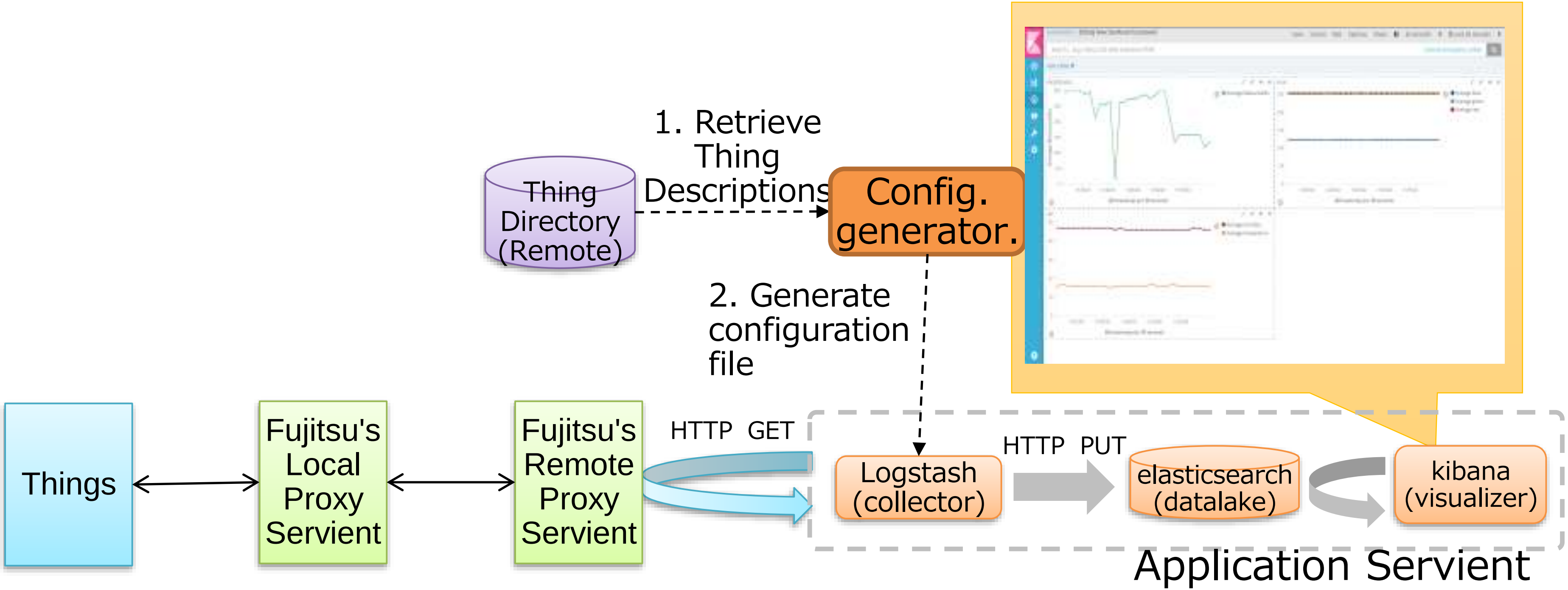
Plugfest Summary

- We've implemented two Application Servients.
  - Retrieving (HTTP GET) properties of Things via Fujitsu's Remote Proxy.



Application Servient (1/2): using ELK Stack

- Use Thing Description to generate configuration of existing IoT data collector solutions.
  - generate a configuration file for Logstash



Thing Directory (Remote)

1. Retrieve Thing Descriptions

Config. generator.

2. Generate configuration file

Things

Fujitsu's Local Proxy Servient

Fujitsu's Remote Proxy Servient

HTTP GET

Logstash (collector)

HTTP PUT

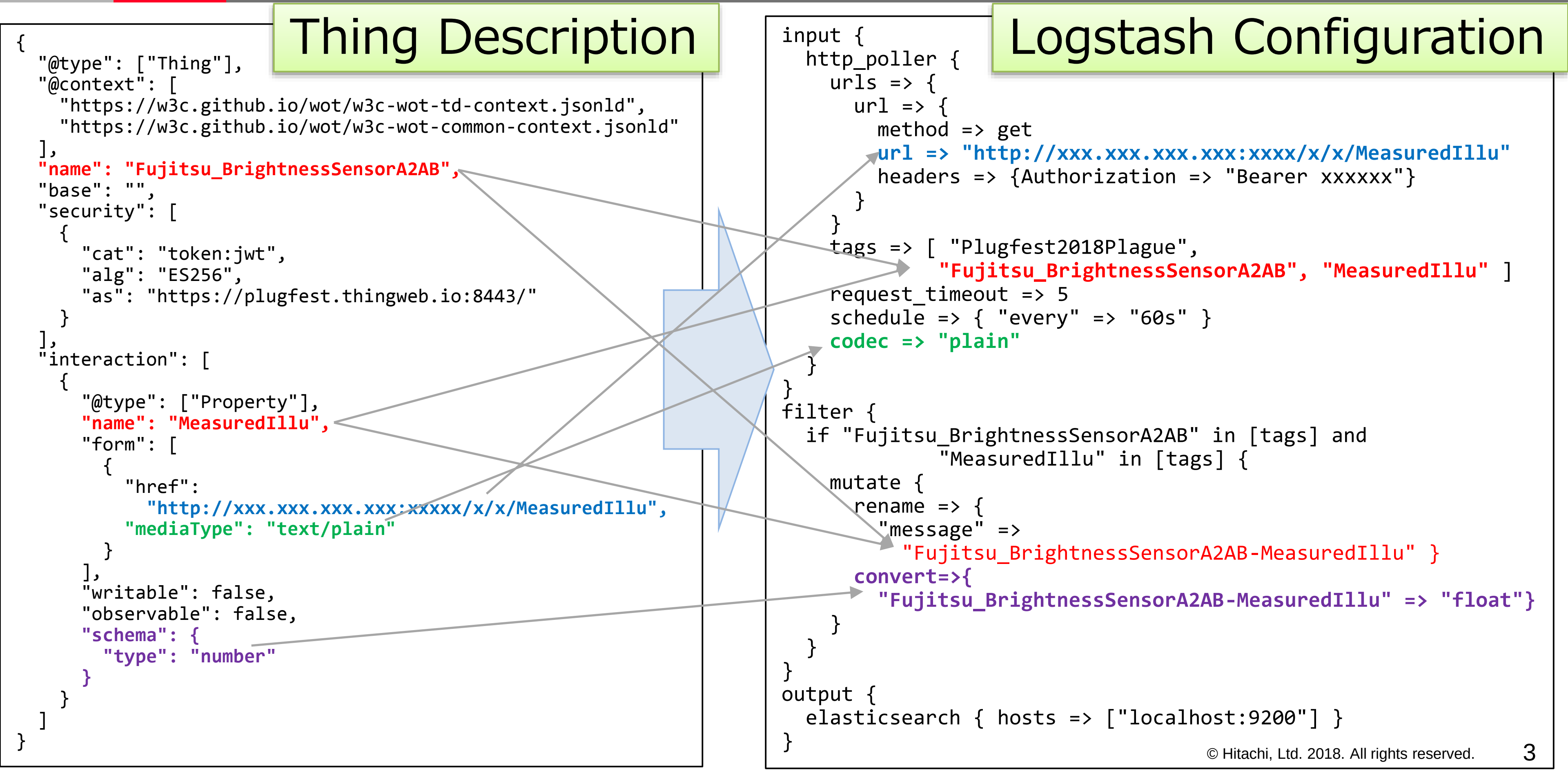
elasticsearch (datalake)

kibana (visualizer)

Application Servient

ELK: Elasticsearch, Logstash, and Kibana. (https://www.elastic.co/elk-stack)

Detail of Configuration file generation



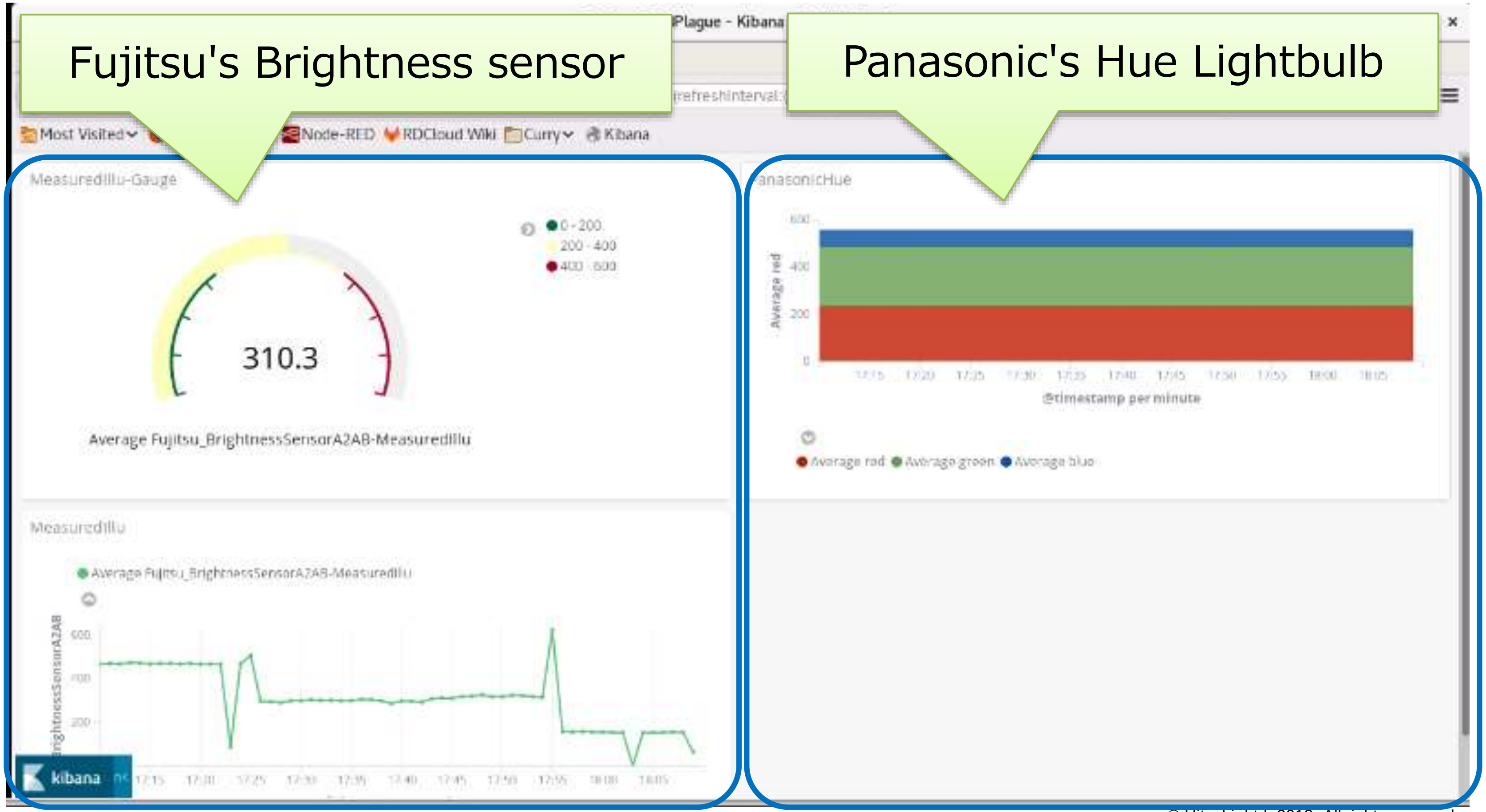
Thing Description

```
{
  "@type": ["Thing"],
  "@context": [
    "https://w3c.github.io/wot/w3c-wot-td-context.jsonld",
    "https://w3c.github.io/wot/w3c-wot-common-context.jsonld"
  ],
  "name": "Fujitsu_BrightnessSensorA2AB",
  "base": "",
  "security": [
    {
      "cat": "token:jwt",
      "alg": "ES256",
      "as": "https://plugfest.thingweb.io:8443/"
    }
  ],
  "interaction": [
    {
      "@type": ["Property"],
      "name": "MeasuredIllu",
      "form": [
        {
          "href":
            "http://xxx.xxx.xxx.xxx:xxxxx/x/x/MeasuredIllu",
          "mediaType": "text/plain"
        }
      ],
      "writable": false,
      "observable": false,
      "schema": {
        "type": "number"
      }
    }
  ]
}
```

Logstash Configuration

```
input {
  http_poller {
    urls => {
      url => {
        method => get
        url => "http://xxx.xxx.xxx.xxx:xxxx/x/x/MeasuredIllu"
        headers => {Authorization => "Bearer xxxxxx"}
      }
    }
    tags => [ "Plugfest2018Plague",
             "Fujitsu_BrightnessSensorA2AB", "MeasuredIllu" ]
    request_timeout => 5
    schedule => { "every" => "60s" }
    codec => "plain"
  }
}
filter {
  if "Fujitsu_BrightnessSensorA2AB" in [tags] and
             "MeasuredIllu" in [tags] {
    mutate {
      rename => {
        "message" =>
          "Fujitsu_BrightnessSensorA2AB-MeasuredIllu" }
      convert=>{
        "Fujitsu_BrightnessSensorA2AB-MeasuredIllu" => "float"}
    }
  }
}
output {
  elasticsearch { hosts => ["localhost:9200"] }
}
```

Visualization result

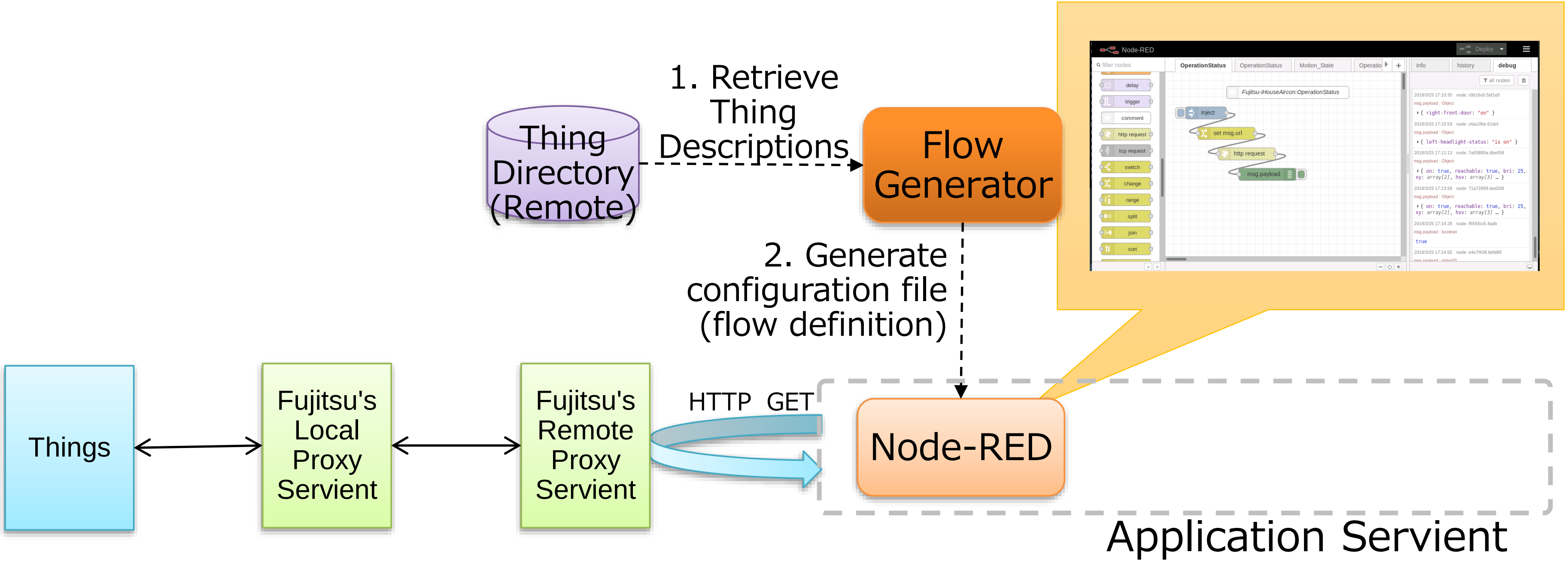


Fujitsu's Brightness sensor

Panasonic's Hue Lightbulb

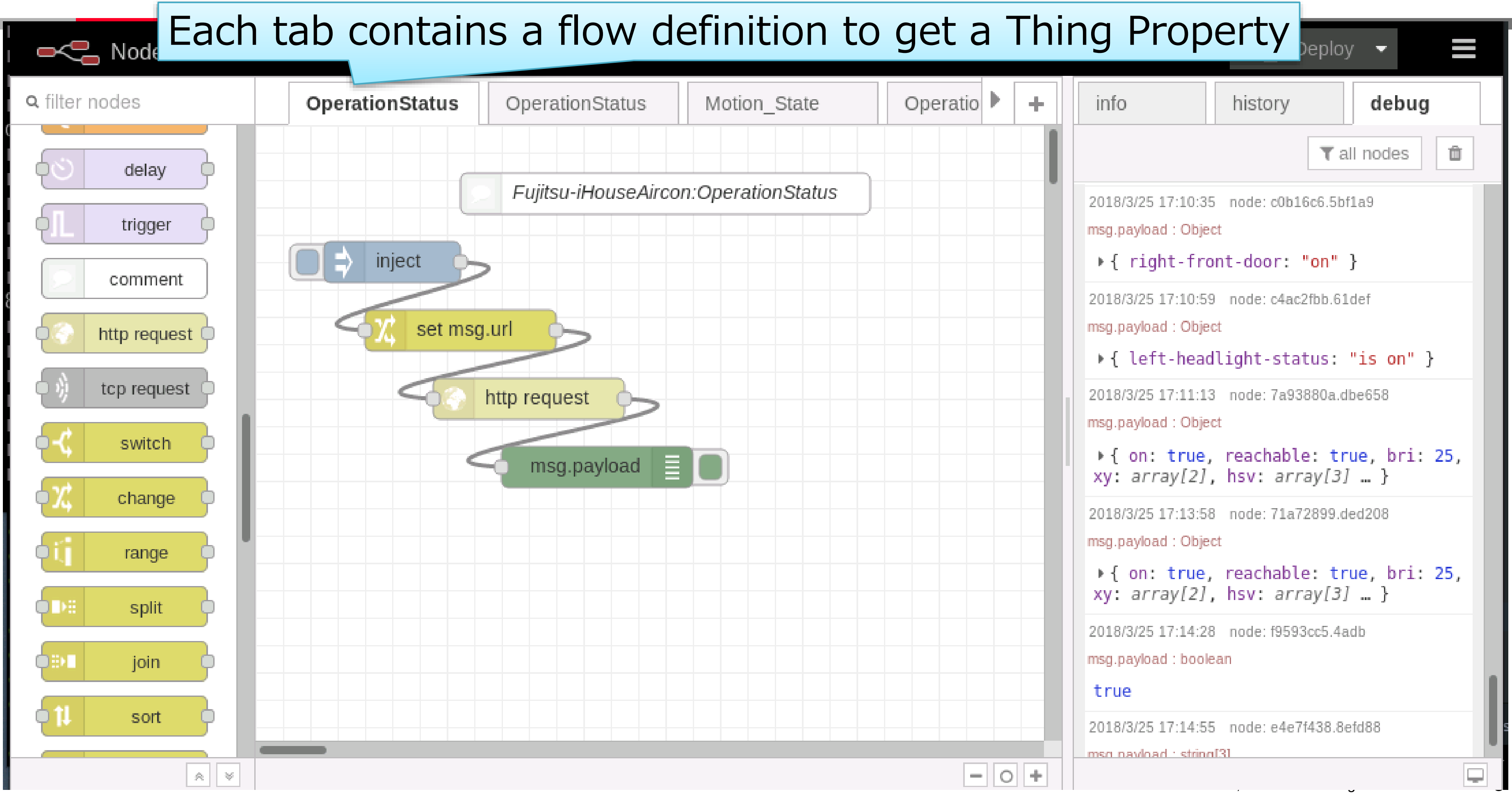
Application Servient (2/2): using Node-RED

- Use Thing Description to generate program (Node-RED flow)
    - generate skeleton flows for retrieve each property of Things



```
2018/3/25 17:10:35   node: c0b16c6.5bf1a9
msg.payload : Object
▸{ right-front-door: "on" }
2018/3/25 17:10:59   node: c4ac2fbb.61def
msg.payload : Object
▸{ left-headlight-status: "is on" }
2018/3/25 17:11:13   node: 7a93880a.dbe658
msg.payload : Object
▸{ on: true, reachable: true, bri: 25,
xy: array[2], hsv: array[3] … }
2018/3/25 17:13:58   node: 71a72899.ded208
msg.payload : Object
▸{ on: true, reachable: true, bri: 25,
xy: array[2], hsv: array[3] … }
2018/3/25 17:14:28   node: f9593cc5.4adb
msg.payload : boolean
true
2018/3/25 17:14:55   node: e4e7f438.8efd88
msg.payload : string[3]
```

Example of Generated Flow Skeleton



Each tab contains a flow definition to get a Thing Property

```
2018/3/25 17:10:35   node: c0b16c6.5bf1a9
msg.payload : Object
▸{ right-front-door: "on" }

2018/3/25 17:10:59   node: c4ac2fbb.61def
msg.payload : Object
▸{ left-headlight-status: "is on" }

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