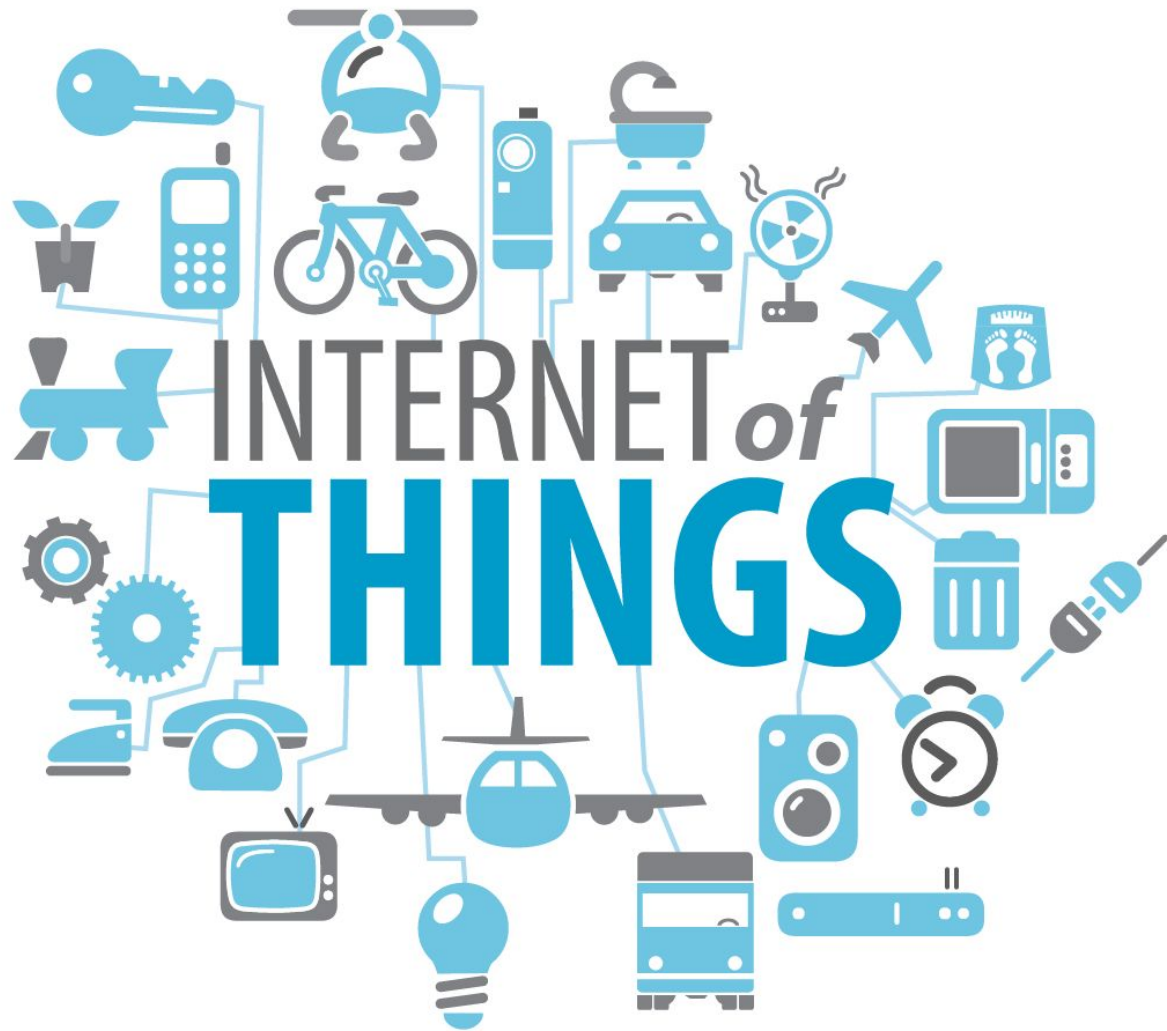


MQTT Device Description

Bachelor Thesis

Adrian Bärtschi

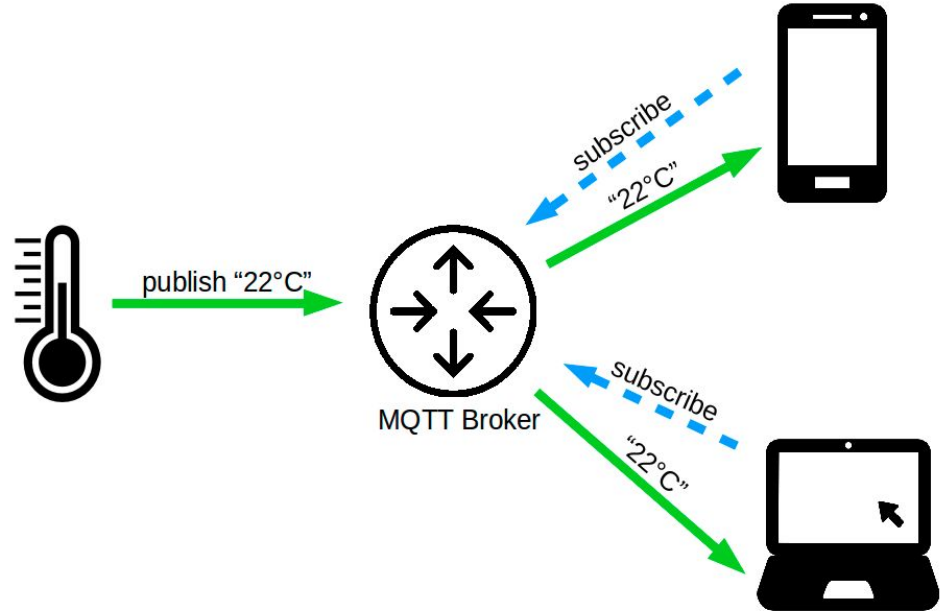


MQTT

Constrained Devices

Publish/Subscribe

Topics



Problem

Keine Topic Discovery

“home/livingroom/getTemp” ?

“home/temperatur/livingroom?”

“home/sensor1/temp” ?

...

Problem

Keine Topic Discovery

Payload Encoding

02dc990 696c 6e65 2f74 716d 7474 3376 492f 714d

02dc9a0 7474 6341 6974 6e6f 694c 7473 6e65 7265

02dc9b0 632e 616c 7373 4b50 0201 0314 000a 0000

02dc9c0 0008 3920 4652 a66e b98c 1af9 0000 4b7a

02dca30 01be 0000 0034 0000 0000 0000 0000 0000

02dc990 696c 6e65 2f74 716d 7474 3376 492f 714d

02dc9a0 7474 6341 6974 6e6f 694c 7473 6e65 7265

02dc9b0 632e 616c 7373 4b50 0201 0314 000a 0000

Problem

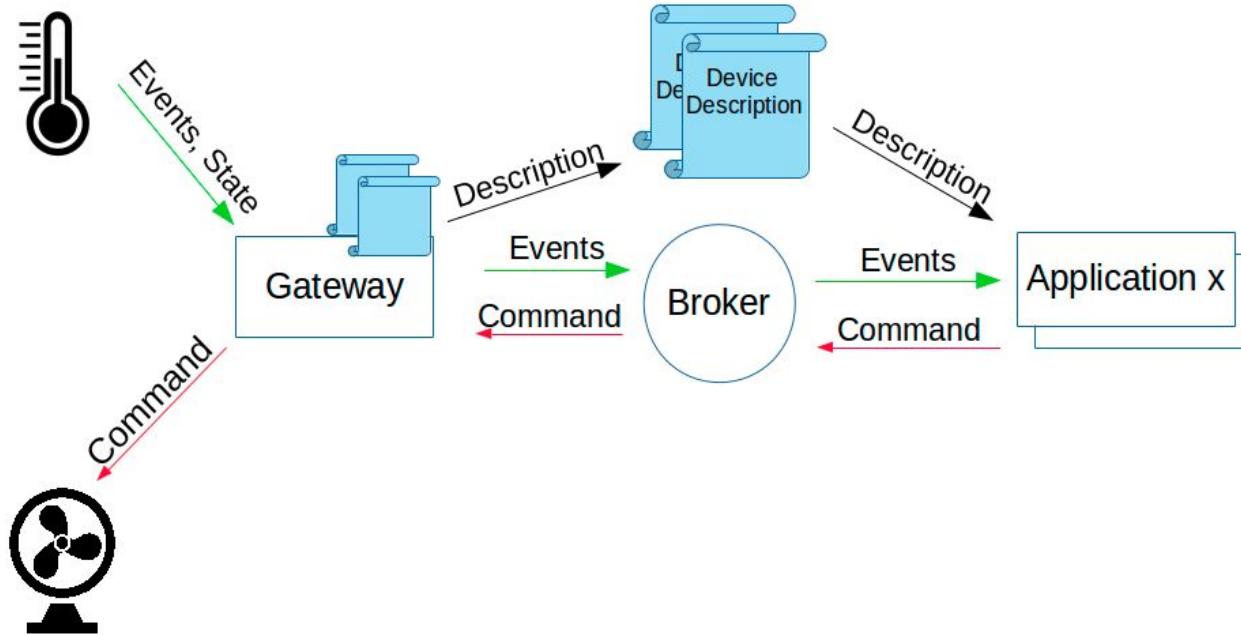
Keine Topic Discovery

Payload Encoding

Message Interpretation

```
{  
  "value": 22.3  
}
```

Lösung



Device Description

State

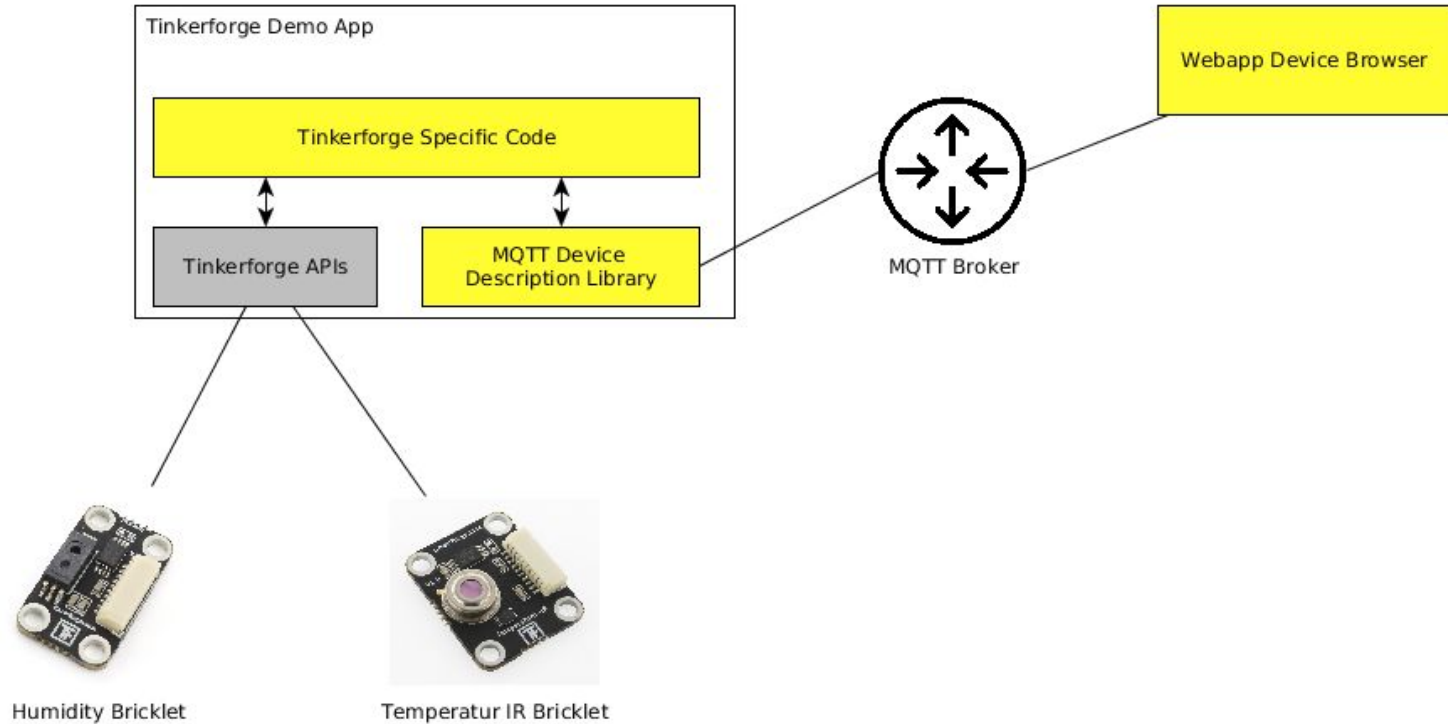
Events

Commands

YAML / JSON

```
id: "IoT-Humidity Sensor"
description: "The Humidity sensor can be used to measure relative humidity."
stateDescription:
  states:
    - name: "HumidityInterval"
      range:
        min: 0
        max: 9223372036854775807
      type: "Long"
      description: "Interval of the measurements in ms."
eventDescription:
  events:
    - name: "Humidity"
      range:
        min: 0.0
        max: 100.0
      type: "Double"
      description: "Relative Humidity in percent"
commandDescription:
  commands:
    - name: "SetInterval"
      linkedState: "HumidityInterval"
      description: "Set the measurement interval of the sensor, 0 disables the measurements"
      parameter:
        Interval:
          min: 0
          max: 9223372036854775807
          type: "Long"
```


Umsetzung



Application	Group	Subgroup	Device Type	Device ID
home	red-brick	tfstack2	Temperature IR Bricklet	qC1
home	red-brick	tfstack2	Humidity Bricklet	qSG

```
---
id: "IoT-Humidity Bricklet"
version: "0.0.1"
description: "The Humidity Bricklet can be used to measure
relative humidity. The\
 \ measured humidity can be read out directly in percent, no
conversions are necessary,\
 \ with configurable interval"
stateDescription:
  states:
    - name: "HumidityInterval"
      range:
        min: 0
        max: 9223372036854775807
        type: "Long"
      description: "Interval of the measurements in ms."
eventDescription:
  events:
    - name: "Humidity"
      range:
        min: 0.0
        max: 100.0
        type: "Double"
      description: "Relative Humidity in percent"
commandDescription:
  commands:
    - name: "SetInterval"
      linkedState: "HumidityInterval"
      description: "Set the measurement interval of the sensor,
0 disables the measurements"
      parameter:
        Interval:
          min: 0
          max: 9223372036854775807
          type: "Long"
  complexTypes: []
```

Info

Id: IoT-Humidity Bricklet**Version:** 0.0.1**Description:** The Humidity Bricklet can be used to measure relative humidity. The measured humidity can be read out directly in percent, no conversions are necessary, with configurable interval

State

HumidityInterval

Interval of the measurements in ms.

Value:

- Type: Long
- Min: 0
- Max: 9223372036854776000

Topic

home/red-brick/tfstack2/Humidity Bricklet/qSG/state/HumidityInterval

Events

Humidity

Relative Humidity in percent

Value:

- Type: Double
- Min: 0
- Max: 100

Topic

home/red-brick/tfstack2/Humidity Bricklet/qSG/events/Humidity

Subscribe

Fazit

Viel neu, wenig Erfahrungen

Funktionierendes Konzept

Implementation an System in Praxis

Vielen Dank
