Smart Agriculture

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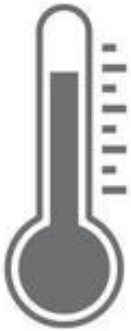
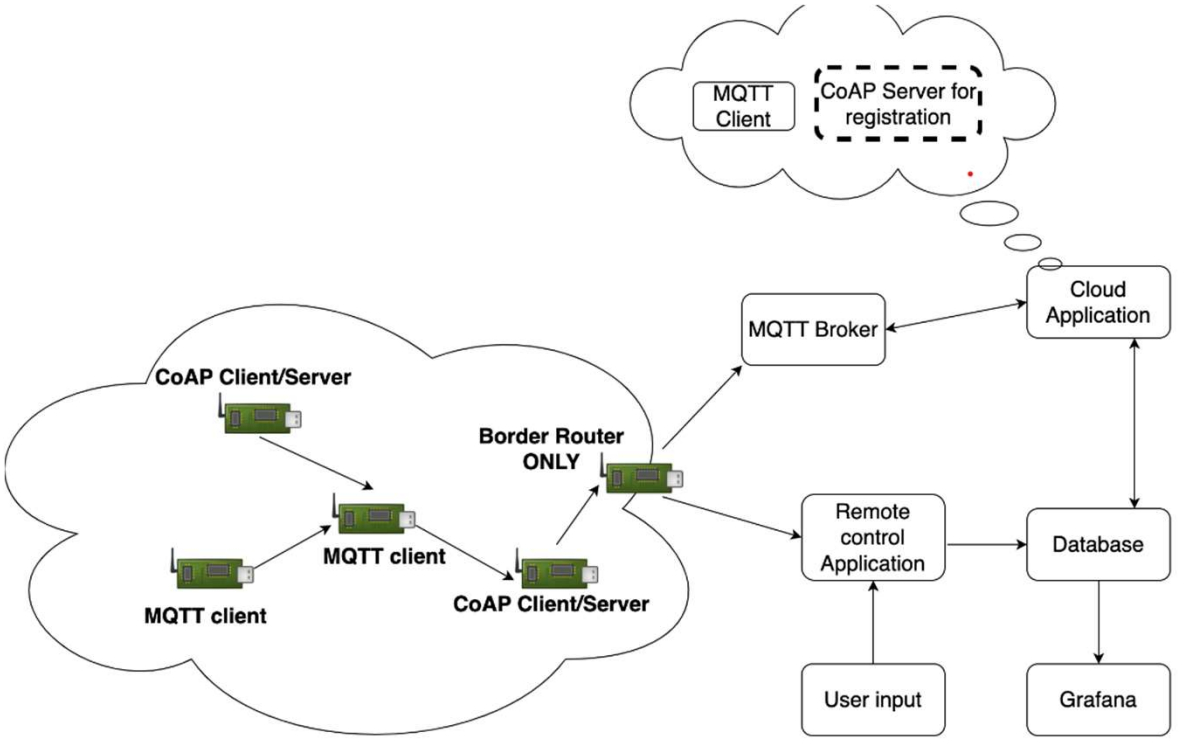
Introduction



System Architecture

- A network with **two** type of Protocols**:**
- **MQTT**
  - Humidity Sensors
  - Temperature Sensors
- **CoAP**
  - Sprinklers Actuators
- A **Java Collector** that**:**
- Receives data from sensors
- Executes control logic
- Writes to a MySQL database
- Exposes a CLI
- A **Web interface** Using Grafana



MQTT

- Temperature(pub=device, sub=controller):

Publish temperature(C) measurements periodically

- Humidity(pub=device, sub=controller):

Publish humidity(%) measurements periodically

CoAP

WaterSpurt

PUT mode=on/off : turns on or off the sprinkler

Data Encoding

```
{
    “node”:”NodeID”
    “temperature”:”temperature”
}

{
    “node”:”NodeID”
    “humidity”:”humidityLevel”
}
```

All sensors return the data they have collected in **JSON** format.

- **JSON** is more flexible and less verbose than **XML**
- The application **does not** process a critical data