Develop streaming pipelines and analytics solutions for CERN's IoT Platform

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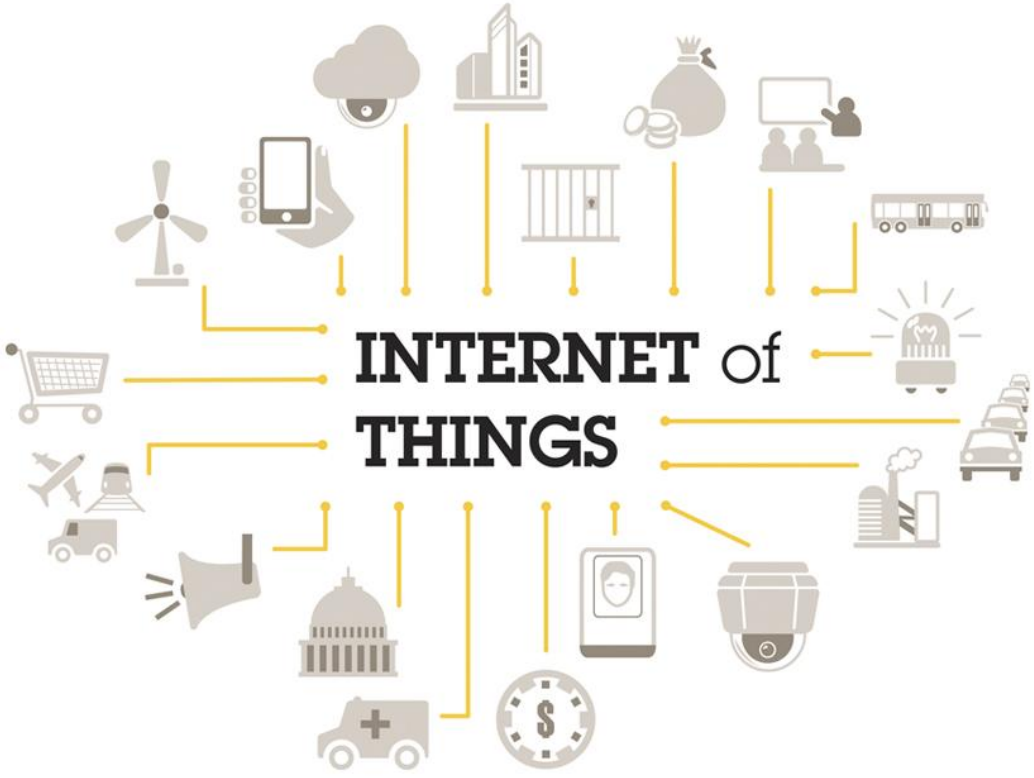
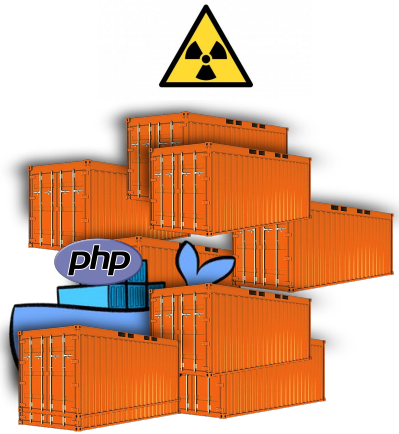
August 16, 2018

Supervisors
Manuel Martin Martinez
Jose Carlos Luna Duran

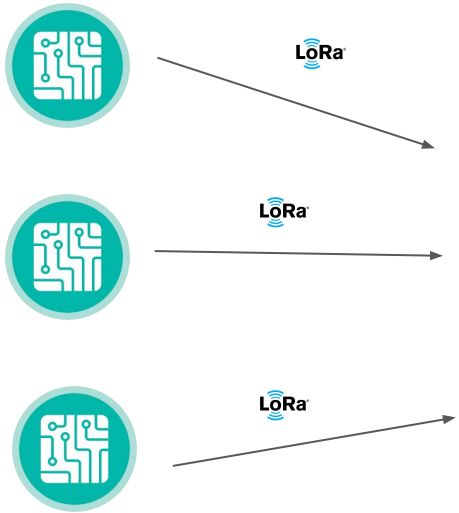
What is the problem?


INTERNET of
THINGS

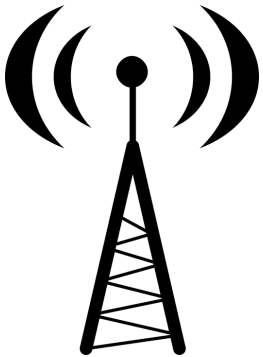
Case of use at @*CERN*



Garbage containers



Sensors



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The Project

Solution

Technologies

kafka

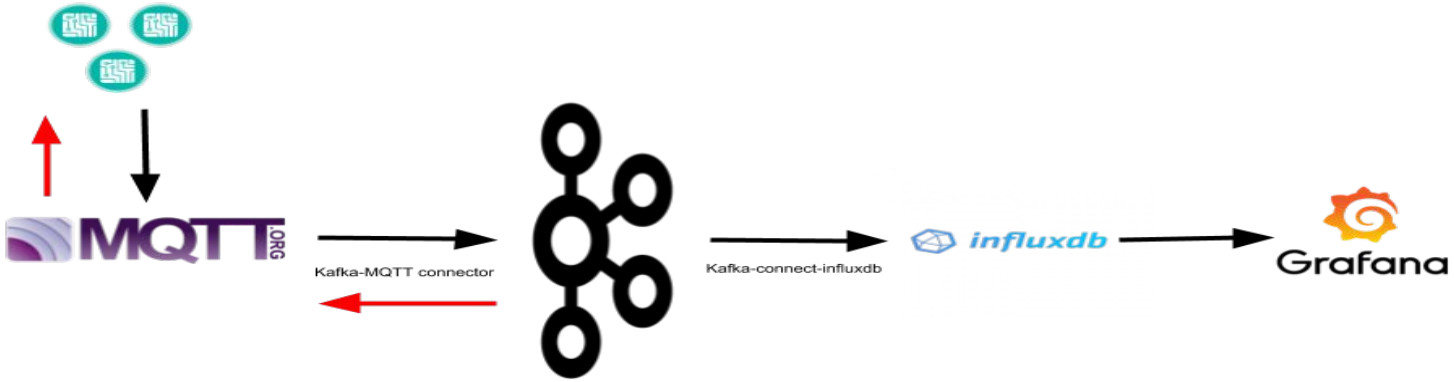
influxdb

telegraf

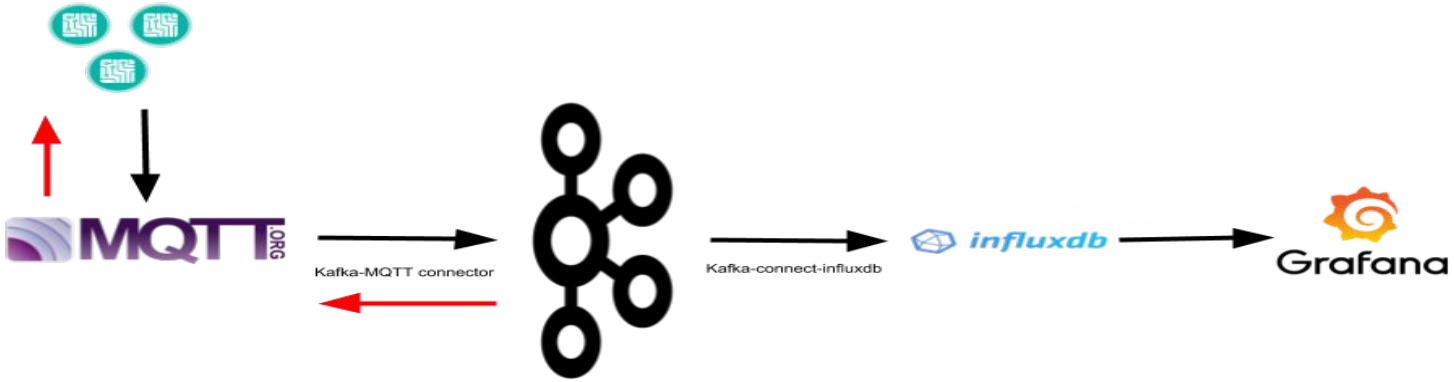
MQTT.ORG

Grafana

Solution Architecture



Solution Architecture

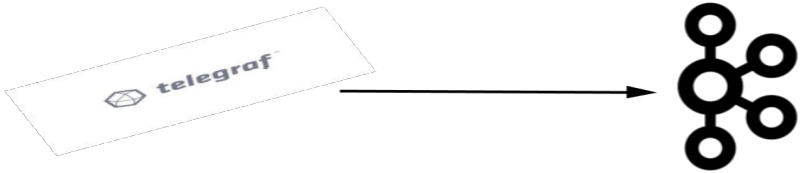


Phase #1

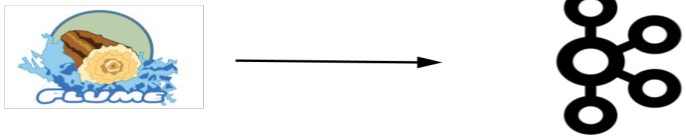
Phase #2

Solution Architecture Phase #1

Learn how each one works!



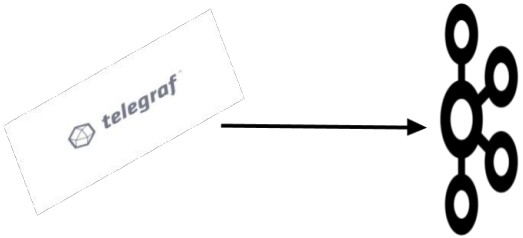
Telegraf



Flume

Results? Well, for me is check that is working!

```
natacha:1.7.1 naquinte$ vim telegraf.toml
natacha:1.7.1 naquinte$ telegraf -config telegraf.toml
2018-08-15T08:27:03Z I! Starting Telegraf v1.7.1
2018-08-15T08:27:03Z I! Loaded inputs: inputs.cpu
2018-08-15T08:27:03Z I! Loaded aggregators:
2018-08-15T08:27:03Z I! Loaded processors:
2018-08-15T08:27:03Z I! Loaded outputs: kafka
2018-08-15T08:27:03Z I! Tags enabled: dc=us-east-1 host=natacha.dyndns.cern.ch
2018-08-15T08:27:03Z I! Agent Config: Interval:10s, Quiet:false, Hostname:"natacha.dyndns.cern.ch", Flush Interval:10s
2018-08-16T01:52:58Z W! Skipping a scheduled flush because there is already a flush ongoing.
2018-08-16T08:12:38Z W! Skipping a scheduled flush because there is already a flush ongoing.
```



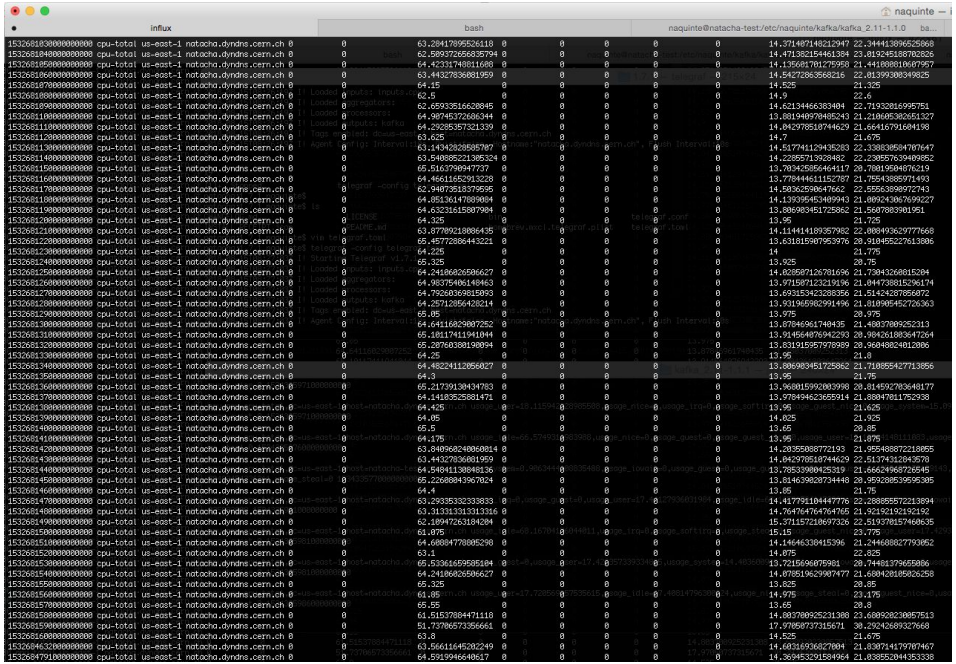
CPU information!

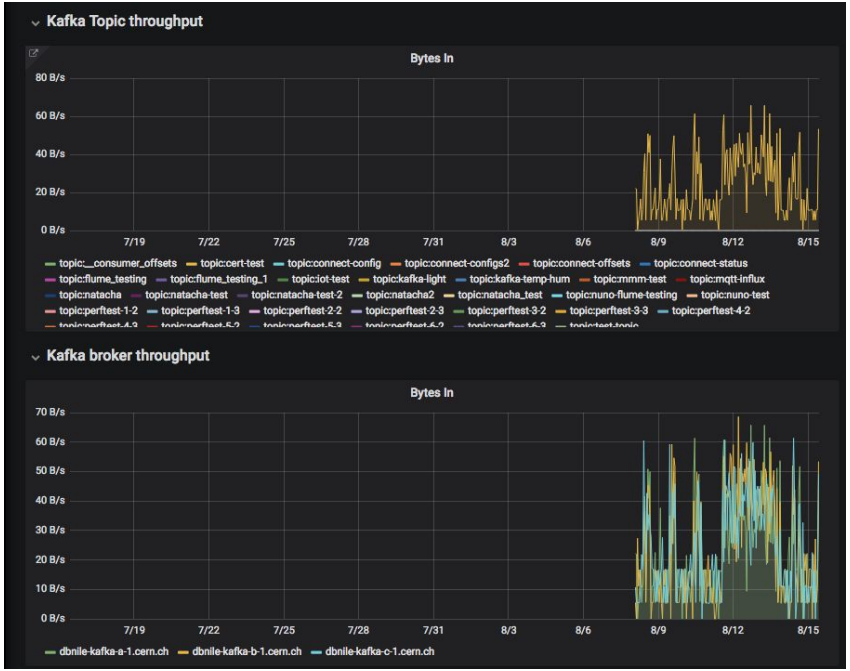
kafka_2.11-1.1.1 — java — 251×44

```
cpu,cpu=cpu-total,dc=us-east-1,host=natacha.dyndns.cern.ch usage_idle=50.8254127635318,usage_nice=0,usage_iowait=0,usage_steal=0,usage_guest=0,usage_guest_nice=0,usage_user=23.536768384192097,usage_system=25.637818909454726,usage_irq=0,usage_softirq=0 1534411959000000000

cpu,cpu=cpu-total,dc=us-east-1,host=natacha-test.cern.ch usage_guest_nice=0,usage_user=1.5621063240198 8,usage_system=0.9070294784714351,usage_idle=97.3544973549319,usage_irq=0,usage_steal=0.07555879987242863,usage_nice=0,usage_iowait=0,usage_softirq=0.10078105316323818,usage_guest=0 1534411750000000000

cpu,cpu=cpu-total,dc=us-east-1,host=natacha.dyndns.cern.ch usage_user=43.75,usage_iowait=0,usage_softirq=0,usage_steal=0,usage_system=29.85,usage_idle=26.4,usage_nice=0,usage_irq=0,usage_guest=0,usage_guest_nice=0 1534411965000000000

cpu,cpu=cpu-total,dc=us-east-1,host=natacha.dyndns.cern.ch usage_user=43.75,usage_system=29.85,usage_nice=0,usage_iowait=0,usage_irq=0,usage_softirq=0,usage_guest=0,usage_idle=26.4,usage_steal=0,usage_guest_nice=0 1534411965000000000

cpu,cpu=cpu-total,dc=us-east-1,host=natacha.dyndns.cern.ch usage_nice=0,usage_iowait=0,usage_guest_nice=0,usage_steal=0,usage_guest=0,usage_user=43.75,usage_system=29.85,usage_idle=26.4,usage_irq=0,usage_softirq=0 1534411965000000000
```

Solution Architecture
Phase #2

Results? Well, for me is check that is working!



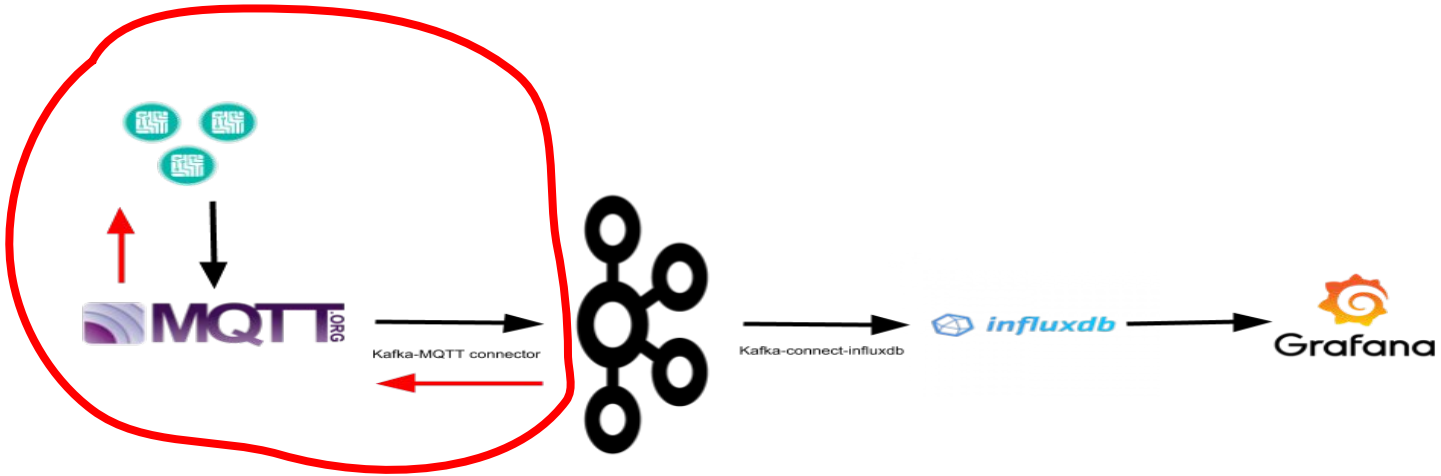


InfluxDb

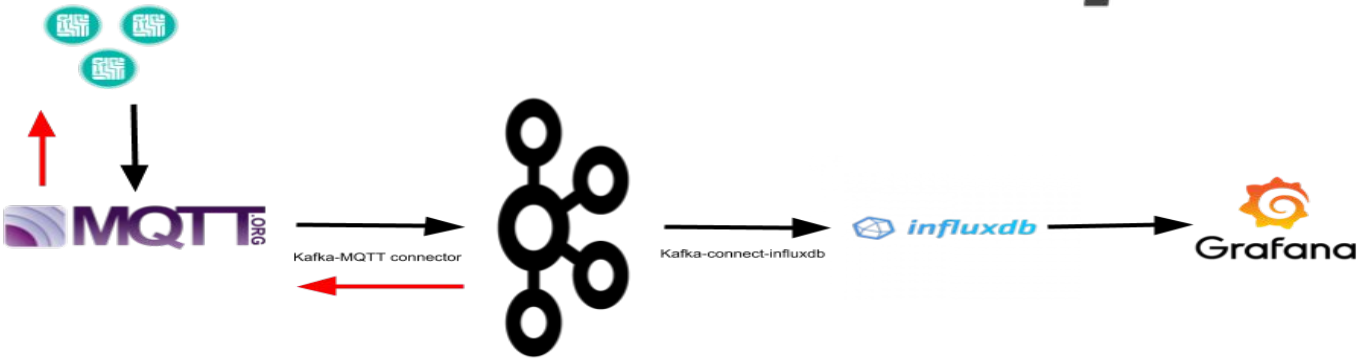
Grafana

Future?

1


MQTT.ORG
Kafka-MQTT connector
Kafka-connect-influxdb
influxdb
Grafana

2


MQTT
Kafka-MQTT connector
Kafka-connect-influxdb
influxdb
Grafana

Thank you!

Linkedin:https://www.linkedin.com/in/natacha-quintero-246a81a4/