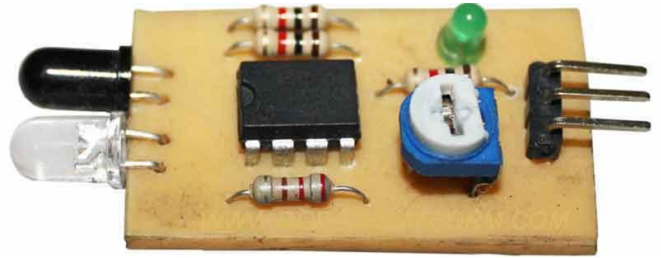
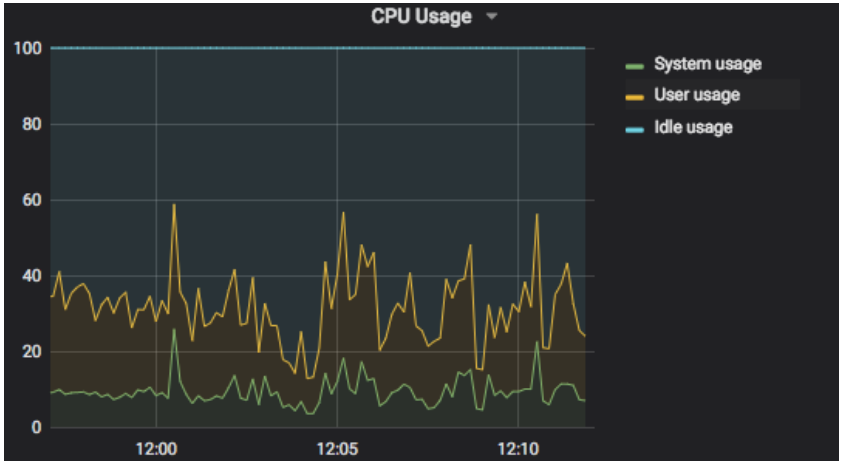
Internet of Things Data Infrastructure

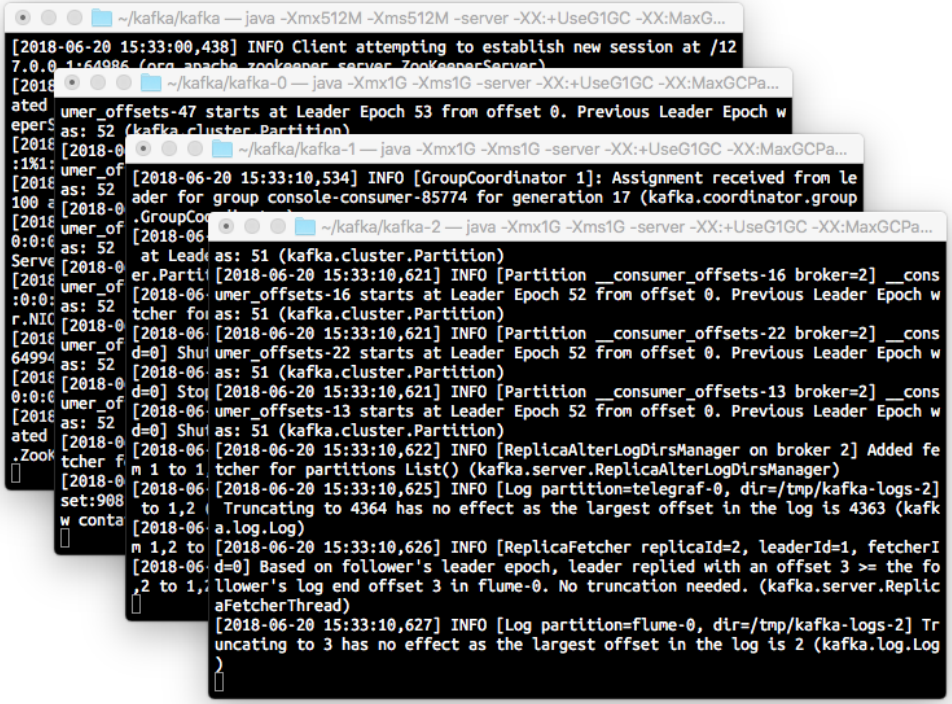
CERN HSSIP Sweden 2018
Eli Adelhult & Gustav Sörnäs
Supervised by Manuel Martin Marquez




CPU Usage
100
80
60
40
20
0
12:00
12:05
12:10
System usage
User usage
Idle usage

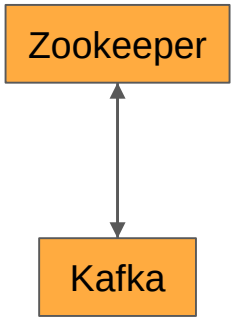
How did we accomplish this?

CERN HSSIP Sweden 2018
Eli Adelhult & Gustav Sörnäs
Supervised by Manuel Martin Marquez

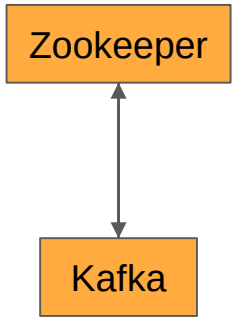


CERN HSSIP Sweden 2018
Eli Adelhult & Gustav Sörnäs
Supervised by Manuel Martin Marquez

Kafka

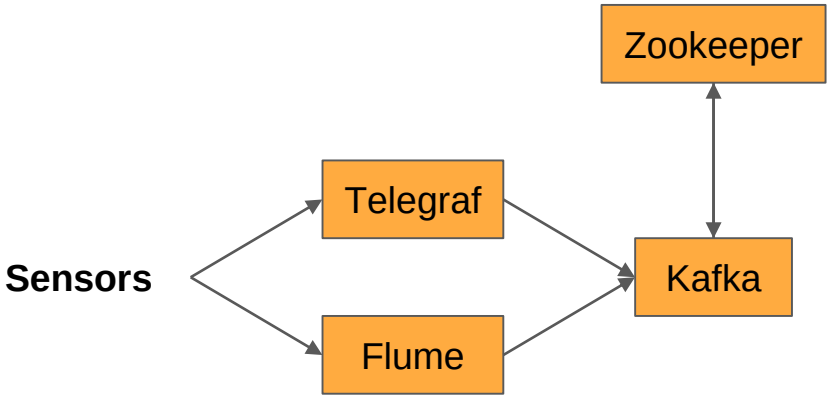


Our task

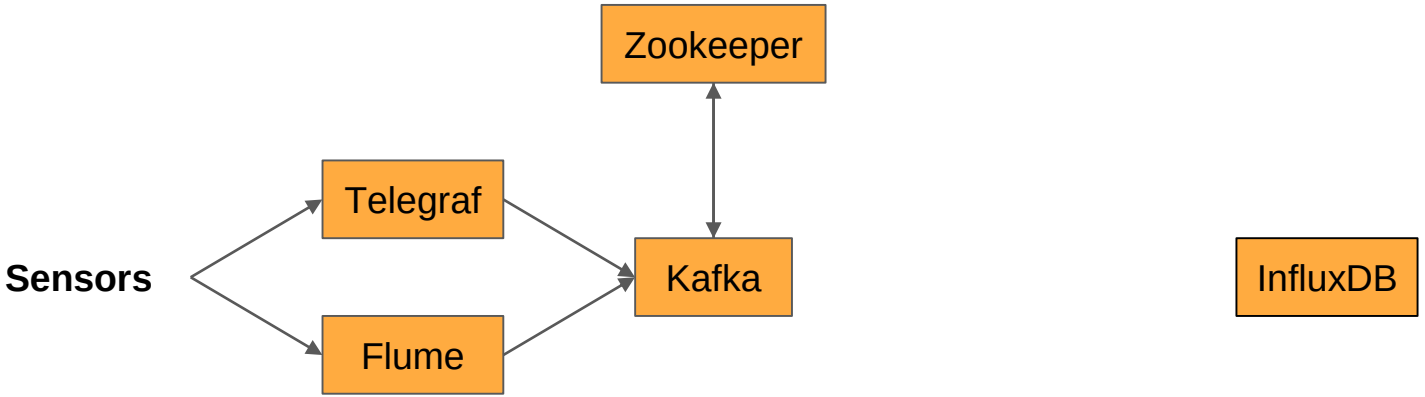


Sensors

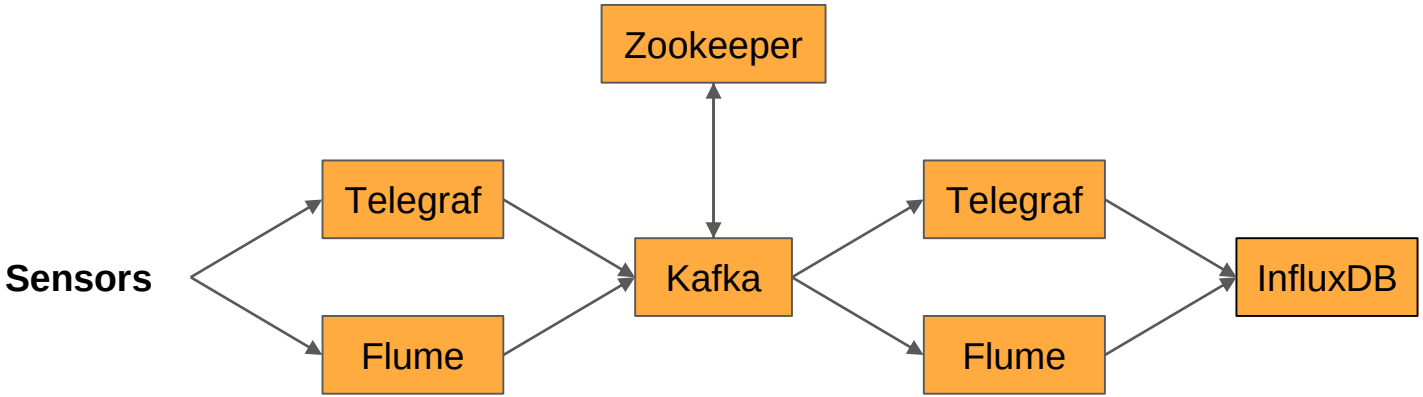
Telegraf or Flume



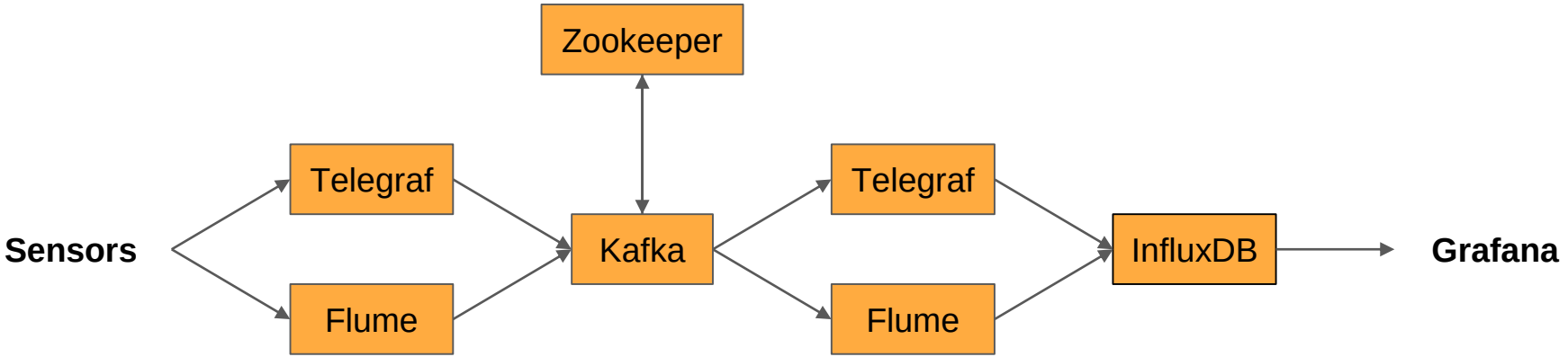
InfluxDB



Telegraf or Flume again



Grafana


Zookeeper
Telegraf
Telegraf
Sensors
Kafka
InfluxDB
Grafana
Flume
Flume

Grafana

CERN HSSIP Sweden 2018
Eli Adelhult & Gustav Sörnäs
Supervised by Manuel Martin Marquez

Documentation

README.md

Setting up Flume & Telegraf with Kafka and InfluxDB

About this documentation

This documentation assumes that you have already know how to set up a cluster of Kafka brokers as well as how to use InfluxDB. If you don't, more information on this topic can be found in the NILE user guide. All files that will be used (including the Telegraf and Flume config files) can also be found on Github. The code snippets below were tested on Mac and should work on Linux-based systems. For Windows, please check the documentation of the specific tools mentioned.

The entirety of this documentation was written by Eli Adelhult and Gustav Sörnäs with guidance from Manuel Martin Marquez in 2018 as a part of CERN's High School Student Internship Programme (HSSIP).

Telegraf

First of all, you need to install Telegraf. Visit influxdata.com/downloads and follow the instructions. If the file */etc/telegraf/telegraf.conf* doesn't exist, generate a default config file (which includes all plugins that we will use) with the following command:

```
$ telegraf config > /etc/telegraf/telegraf.conf
```

https://github.com/CERN-HSSIP-Sweden/kafka-iot

Eli Adelhult & Gustav Sörnäs
Supervised by Manuel Martin Marquez

What can this be used for?

Applications

- **Temperature**
- **Empty parking spots**
- **Radiation levels**
- **Energy consumption**
- **Lighting conditions**
- **Noise levels**

Demo

CERN HSSIP Sweden 2018
Eli Adelhult & Gustav Sörnäs
Supervised by Manuel Martin Marquez