Intelligent Alert system for HEP experiments

Rahul Indra

Mentors
Valentin Kuznetsov
Federica Legger
Christian Ariza

About Me

Rahul Indra
Computer Science Undergraduate Student
Indian Institute of Engineering Science & Technology
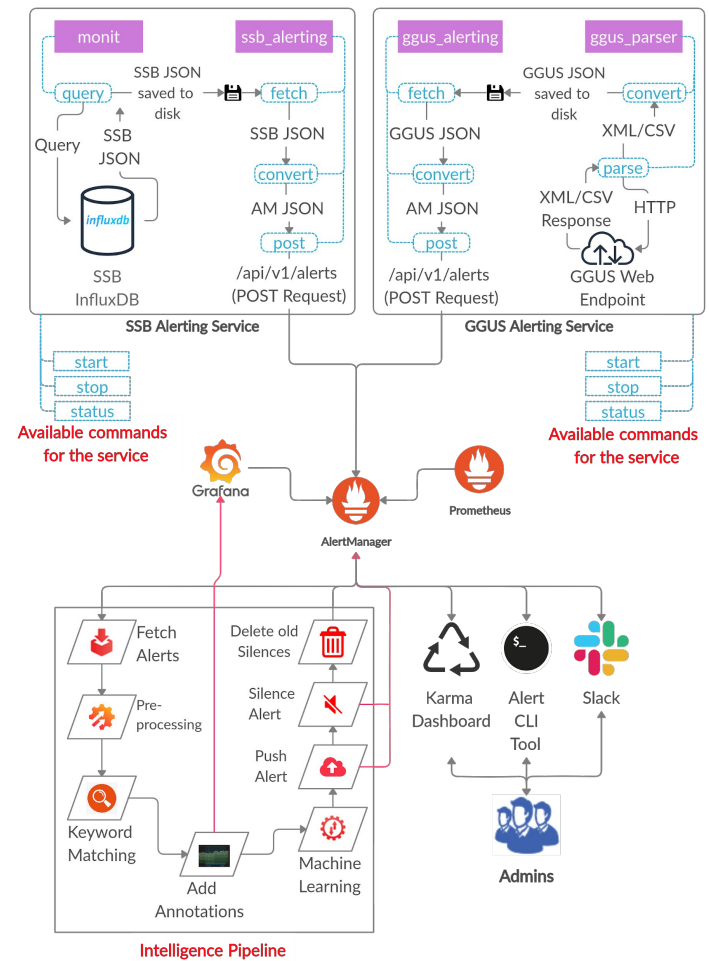Shibpur, India

Google Summer of Code '20
Student Developer
@ CERN-CMS

Components Developed

- Parser
- Alerting Module
- Alerting Service
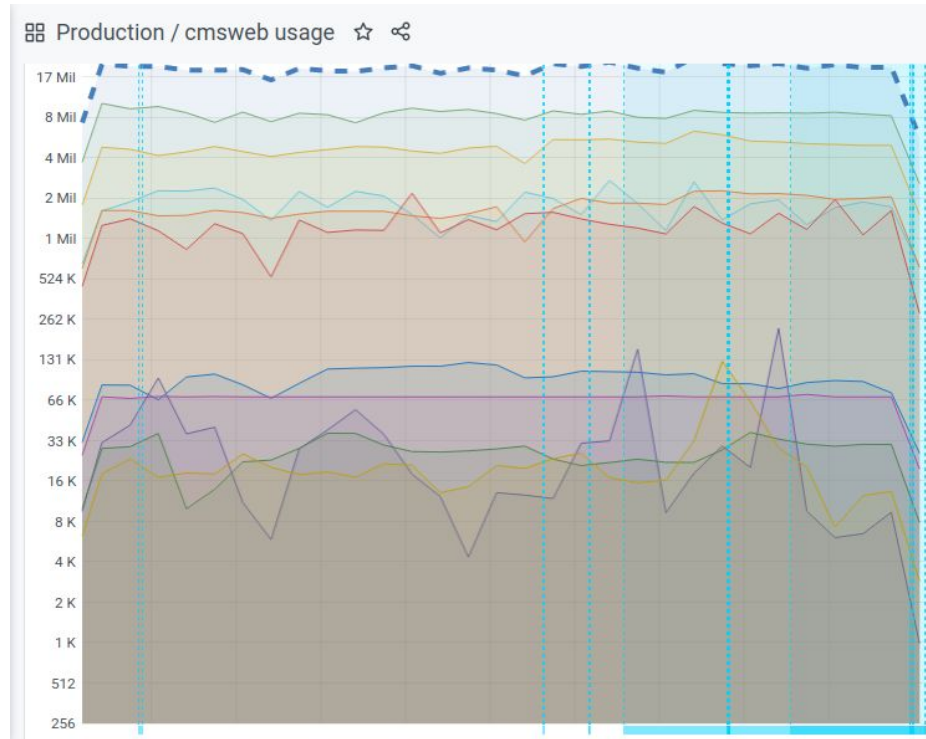- Intelligence Module
- Alert CLI Tool

Tools

- Grafana
- Prometheus
- AlertManager
- Slack
- Karma

Intelligence Module

Annotated Dashboard

Slack

alerts-ggus channel for GGUS alerts on Slack

#alerts-ggus ☆
👥 2 | Add a topic

(i) Details

[FIRING:1] ggus-147646 (urgent WLCG IFCA-LCG2 USER cms GGUS ticket monitoring)

Thursday, July 2nd ⌄

[FIRING:1] ggus-147596 (urgent WLCG USER cms GGUS ticket monitoring)

[FIRING:1] ggus-147695 (urgent WLCG FI_HIP_T2 USER cms GGUS ticket monitoring)

[FIRING:1] ggus-147648 (urgent WLCG BUDAPEST USER cms GGUS ticket monitoring)

[FIRING:1] ggus-147663 (urgent WLCG USCMS-FNAL-WC1 USER cms GGUS ticket monitoring)

[FIRING:1] ggus-147704 (very urgent WLCG USER cms GGUS ticket monitoring)

[FIRING:1] ggus-147676 (urgent WLCG INFN-T1 USER cms GGUS ticket monitoring)

[FIRING:1] ggus-147640 (urgent WLCG USER cms GGUS ticket monitoring)

AlertManager APP 6:20 AM

[FIRING:1] ggus-147699 (urgent WLCG NCG-INGRID-PT USER cms GGUS ticket monitoring)

[FIRING:1] ggus-147658 (urgent WLCG INDIACMS-TIFR USER cms GGUS ticket monitoring)

↓ Latest messages

alerts-ssb channel for SSB alerts on Slack

Alert CLI Tool

$alert -service=SSB -sort=duration

NAME	SERVICE	TAG	SEVERITY	STARTS	ENDS	DURATION
ssb-OTG0057733	SSB	monitoring	notification	IN 11h 39m 35s	IN 11h 49m 35s	10m
ssb-OTG0055105	SSB	monitoring	notification	IN 15D 7h 39m 35s	IN 15D 8h 39m 35s	1h
ssb-OTG0057766	SSB	monitoring	notification	IN 11h 39m 35s	IN 12h 39m 35s	1h
ssb-OTG0057846	SSB	monitoring	notification	IN 19h 39m 35s	IN 20h 39m 35s	1h
ssb-OTG0057667	SSB	monitoring	notification	IN 14D 6h 54m 35s	IN 14D 7h 54m 35s	1h
ssb-OTG0057735	SSB	monitoring	notification	IN 11h 9m 35s	IN 12h 39m 35s	1h 30m
ssb-OTG0057664	SSB	monitoring	notification	IN 12D 8h 9m 35s	IN 12D 10h 9m 35s	2h
ssb-OTG0057827	SSB	monitoring	notification	IN 5D 11h 39m 35s	IN 5D 13h 39m 35s	2h
ssb-OTG0057666	SSB	monitoring	notification	IN 14D 8h 9m 35s	IN 14D 10h 9m 35s	2h
ssb-OTG0057746	SSB	monitoring	notification	IN 7D 15h 39m 35s	IN 7D 17h 39m 35s	2h
ssb-OTG0057663	SSB	monitoring	notification	IN 7D 8h 9m 35s	IN 7D 10h 9m 35s	2h
ssb-OTG0057711	SSB	monitoring	notification	IN 12D 8h 9m 35s	IN 12D 10h 9m 35s	2h
ssb-OTG0057829	SSB	monitoring	notification	IN 12D 8h 9m 35s	IN 12D 10h 9m 35s	2h
ssb-OTG0057582	SSB	monitoring	notification	IN 15h 39m 35s	IN 18h 39m 35s	3h
ssb-OTG0057603	SSB	monitoring	notification	IN 1M 16D 19h 39m 35s	IN 1M 16D 23h 39m 35s	4h
ssb-OTG0057723	SSB	monitoring	notification	IN 12h 39m 35s	IN 16h 39m 35s	4h
ssb-OTG0057769	SSB	monitoring	notification	IN 10h 39m 35s	IN 14h 39m 35s	4h
ssb-OTG0057670	SSB	monitoring	notification	IN 2D 3h 39m 35s	IN 2D 10h 39m 35s	7h
ssb-OTG0057731	SSB	monitoring	notification	IN 1D 9h 39m 35s	IN 1D 19h 39m 35s	10h
ssb-OTG0057828	SSB	monitoring	notification	1D 4h 50m 25s AGO	IN 5D 19h 19m 35s	7D 10m
ssb-OTG0056808	SSB	monitoring	notification	IN 1M 17D 1h 39m 35s	Undefined	Undefined
ssb-OTG0057541	SSB	monitoring	notification	12h 20m 25s AGO	Undefined	Undefined
ssb-OTG0054346	SSB	monitoring	notification	IN 4M 9D 12h 40m 22s	Undefined	Undefined
ssb-OTG0054345	SSB	monitoring	notification	IN 4M 15D 2h 39m 35s	Undefined	Undefined
ssb-OTG0057527	SSB	monitoring	notification	4D 10h 41m 53s AGO	Undefined	Undefined

$alert -severity=high

```
NAME                              SERVICE      TAG        SEVERITY     STARTS              ENDS          DURATION
No CMS monitoring status _        monitoring   cms        high         7D 23h 24m 18s AGO  IN 3m 27s     7D 23h 27m 45s
```

$alert -name=ssb-OTG0054345 -details

```
NAMES: ssb-OTG0054345
LABELS
        service: SSB
        severity: notification
        tag: monitoring
ANNOTATIONS
        type: Service Change
        description: IT Infrastructure Services
        feName: Linux Support
        monitState1: OPEN
        ssbNumber: OTG0054345
        sysModCount: 2
        sysUpdatedBy: mmoller
        updateTimestamp: 2020-01-20T10:40:41Z
        date: 2020-11-29T23:00:00Z
        monitState: OPEN
        seName: Linux Operating System
        shortDescription: End of support for SLC6 (Scie
ntific Linux CERN 6)
        sysCreatedBy: morrice
```

$alert -name=ssb-OTG0054345 -details -json

```
{"labels":{"alertname":"ssb-OTG0054345","description":"IT Infrastructure S
ervices","feName":"Linux Support","seName":"Linux Operating System","servi
ce":"SSB","severity":"notification","tag":"monitoring","type":"Service Cha
nge"},"annotations":{"date":"2020-11-29T23:00:00Z","description":"IT Infra
structure Services","feName":"Linux Support","monitState":"OPEN","monitSta
te1":"OPEN","seName":"Linux Operating System","shortDescription":"End of s
upport for SLC6 (Scientific Linux CERN 6)","ssbNumber":"OTG0054345","sysCr
eatedBy":"morrice","sysModCount":"2","sysUpdatedBy":"mmoller","type":"Serv
ice Change","updateTimestamp":"2020-01-20T10:40:41Z"},"startsAt":"2020-11-
29T23:00:00Z","endsAt":"3000-05-24T15:43:26Z"}
```

Thank You