Observing Cloud Resources

SRE Project Template

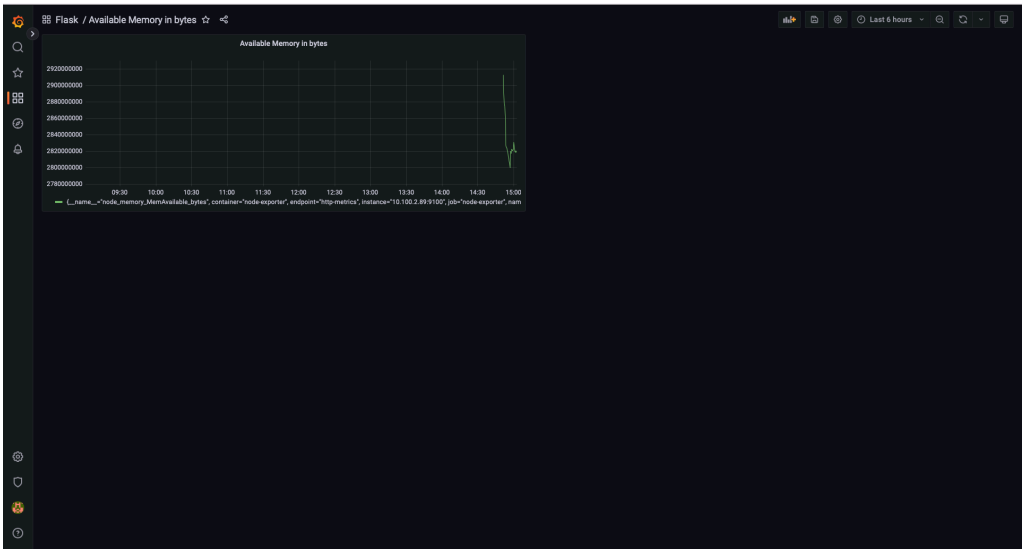
Categorize Responsibilities

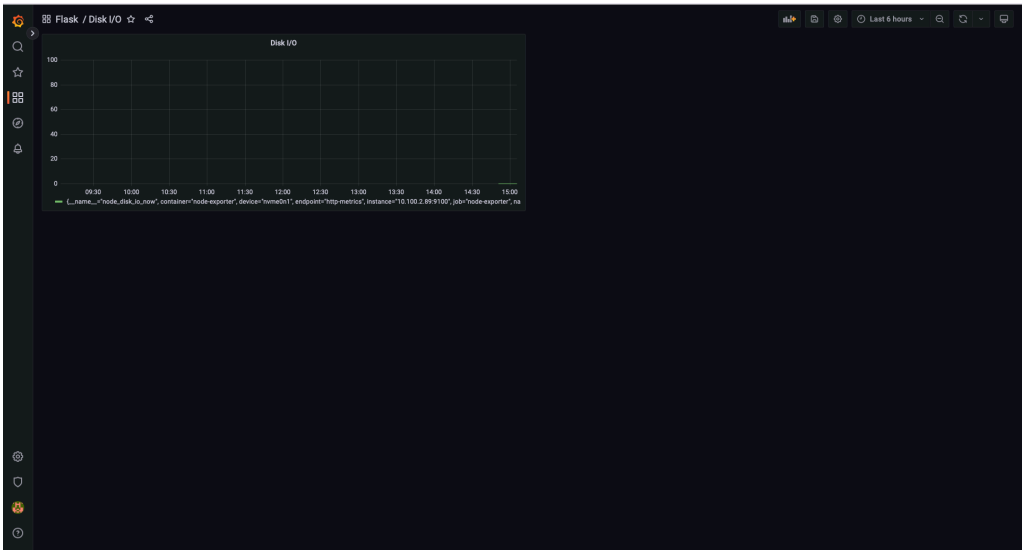
Prometheus and Grafana Screenshots

Provide a screenshot of the Prometheus node_exporter service running on the EC2 instance. Use the following command to show that the system is running: `sudo systemctl status node_exporter`

```
ubuntu@ip-10-100-10-253:~$ sudo systemctl status node_exporter
● node_exporter.service - Node Exporter
   Loaded: loaded (/etc/systemd/system/node_exporter.service; enabled; vendor preset: enabled)
   Active: active (running) since Mon 2022-12-05 13:35:27 UTC; 10s ago
 Main PID: 1342 (node_exporter)
    Tasks: 4 (limit: 1109)
   CGroup: /system.slice/node_exporter.service
           └─1342 /usr/local/bin/node_exporter

Dec 05 13:35:27 ip-10-100-10-253 node_exporter[1342]: level=info ts=2022-12-05T13:35:27.212Z caller=node_exporter.go:115 collector=thermal_zone
Dec 05 13:35:27 ip-10-100-10-253 node_exporter[1342]: level=info ts=2022-12-05T13:35:27.212Z caller=node_exporter.go:115 collector=time
Dec 05 13:35:27 ip-10-100-10-253 node_exporter[1342]: level=info ts=2022-12-05T13:35:27.212Z caller=node_exporter.go:115 collector=timex
Dec 05 13:35:27 ip-10-100-10-253 node_exporter[1342]: level=info ts=2022-12-05T13:35:27.212Z caller=node_exporter.go:115 collector=udp_queues
Dec 05 13:35:27 ip-10-100-10-253 node_exporter[1342]: level=info ts=2022-12-05T13:35:27.212Z caller=node_exporter.go:115 collector=uname
Dec 05 13:35:27 ip-10-100-10-253 node_exporter[1342]: level=info ts=2022-12-05T13:35:27.212Z caller=node_exporter.go:115 collector=vmstat
Dec 05 13:35:27 ip-10-100-10-253 node_exporter[1342]: level=info ts=2022-12-05T13:35:27.212Z caller=node_exporter.go:115 collector=xfs
Dec 05 13:35:27 ip-10-100-10-253 node_exporter[1342]: level=info ts=2022-12-05T13:35:27.212Z caller=node_exporter.go:115 collector=zfs
Dec 05 13:35:27 ip-10-100-10-253 node_exporter[1342]: level=info ts=2022-12-05T13:35:27.213Z caller=node_exporter.go:199 msg="Listening on" address=:9100
Dec 05 13:35:27 ip-10-100-10-253 node_exporter[1342]: level=info ts=2022-12-05T13:35:27.223Z caller=tls_config.go:191 msg="TLS is disabled." http2=false
ubuntu@ip-10-100-10-253:~$
```

Host Metric (CPU, RAM, Disk, Network)	Dashboard
CPU %	
Available Memory in bytes	

Disk I/O	
Network Received in bytes	

Responsibilities

1. The development team wants to release an emergency hotfix to production. Identify two roles of the SRE team who would be involved in this and why.

- Monitoring engineer: this person could develop the dashboard to monitor the deployed application
- Release Manager: this person need to identify the risks that the new hotfix has to the environment and could decide the steps to achieve deployment.

2. The development team is in the early stages of planning to build a new product. Identify two roles of the SRE team that should be invited to the meeting and why.

- Team lead: who could give some propositions over the IT infrastructure, also he or she could propose how every position team could be integrated in the project
- System architect: who could give the advice over the IT infrastructure and technologies for the new product

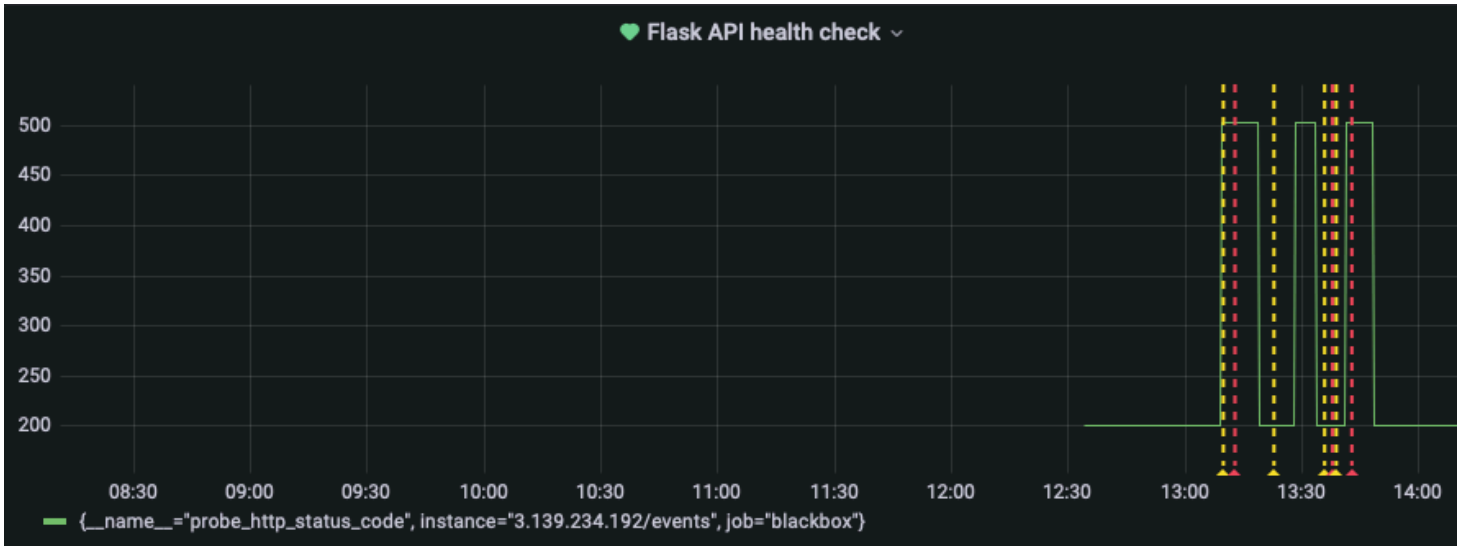
3. The emergency hotfix from question 1 was applied and is causing major issues in production. Which SRE role would primarily be involved in mitigating these issues?

- Release Manager: who is responsible for the release management lifecycle and he or she controls the deployment and callback procedures.

Team Formation and Workflow Identification

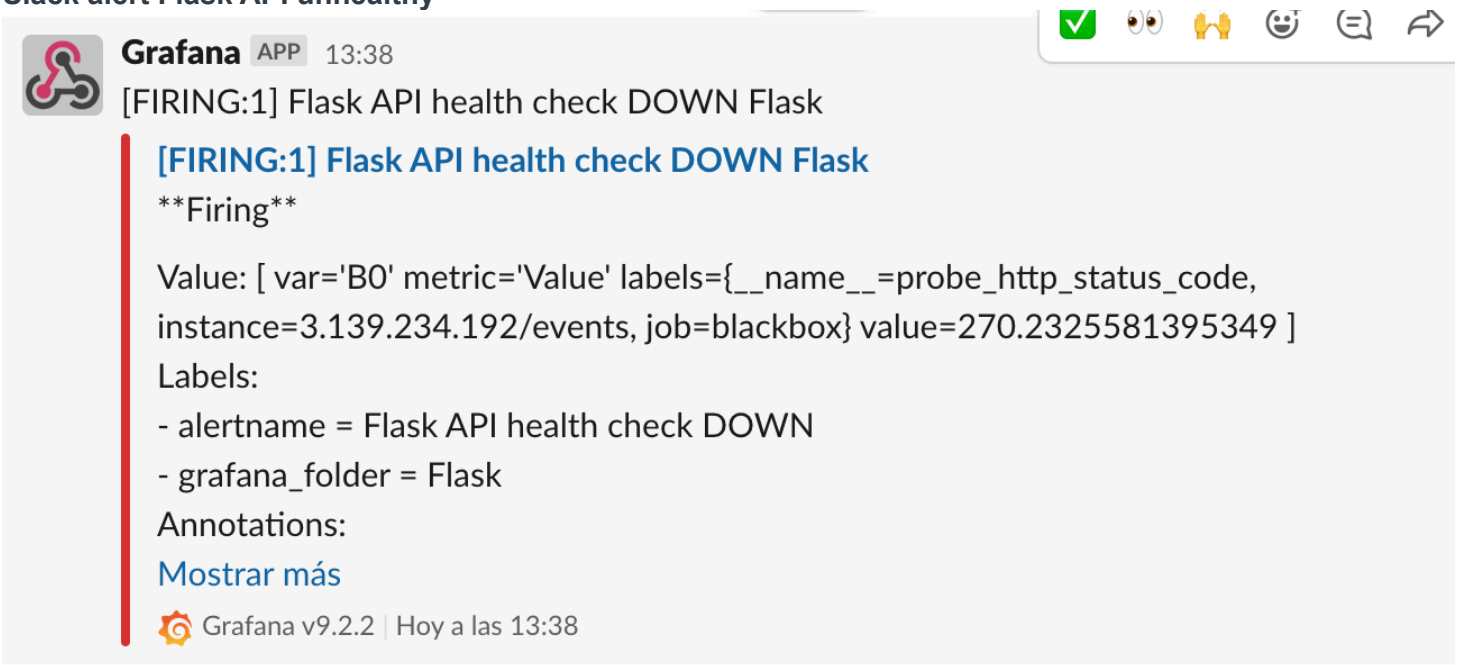
API Monitoring and Notifications

Display the status of an API endpoint: Provide a screenshot of the Grafana dashboard that will show at which point the API is unhealthy (non-200 HTTP code), and when it becomes healthy again (200 HTTP code).

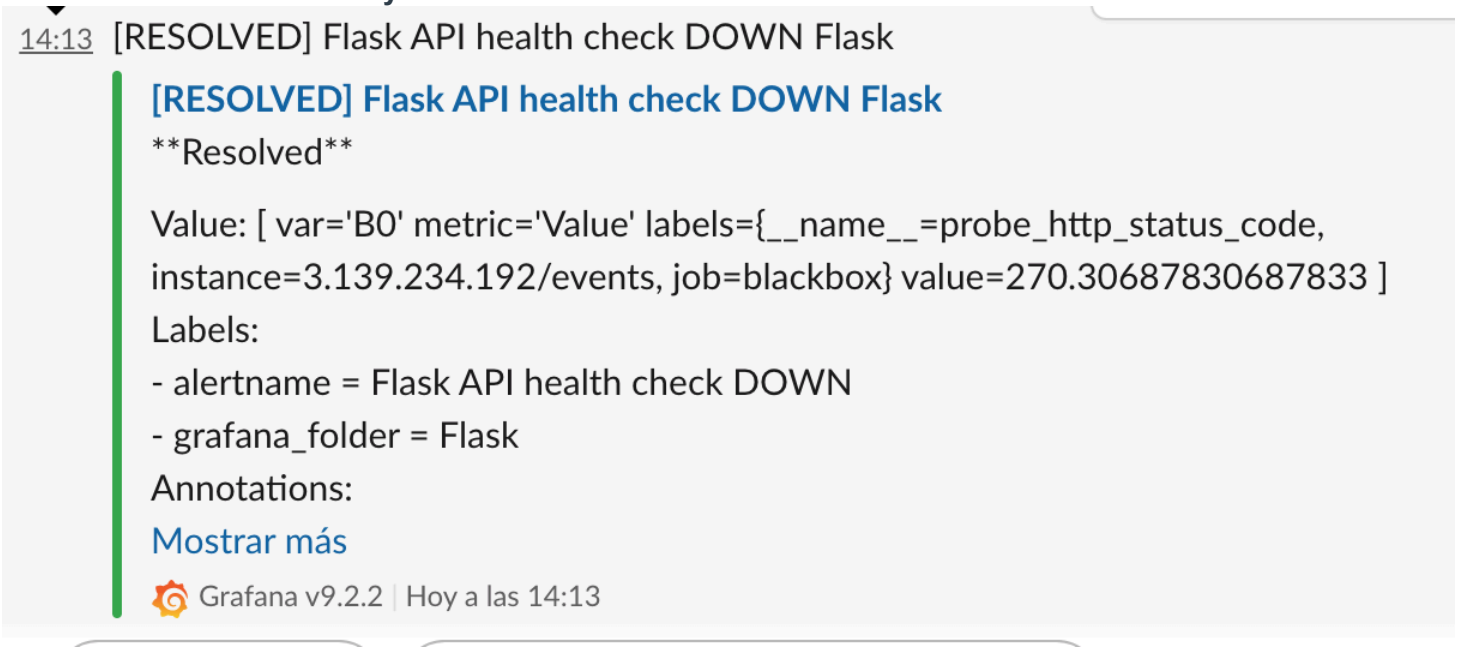


Create a notification channel: Provide a screenshot of the Grafana notification which shows the summary of the issue and when it occurred.

Slack alert Flask API unhealthy

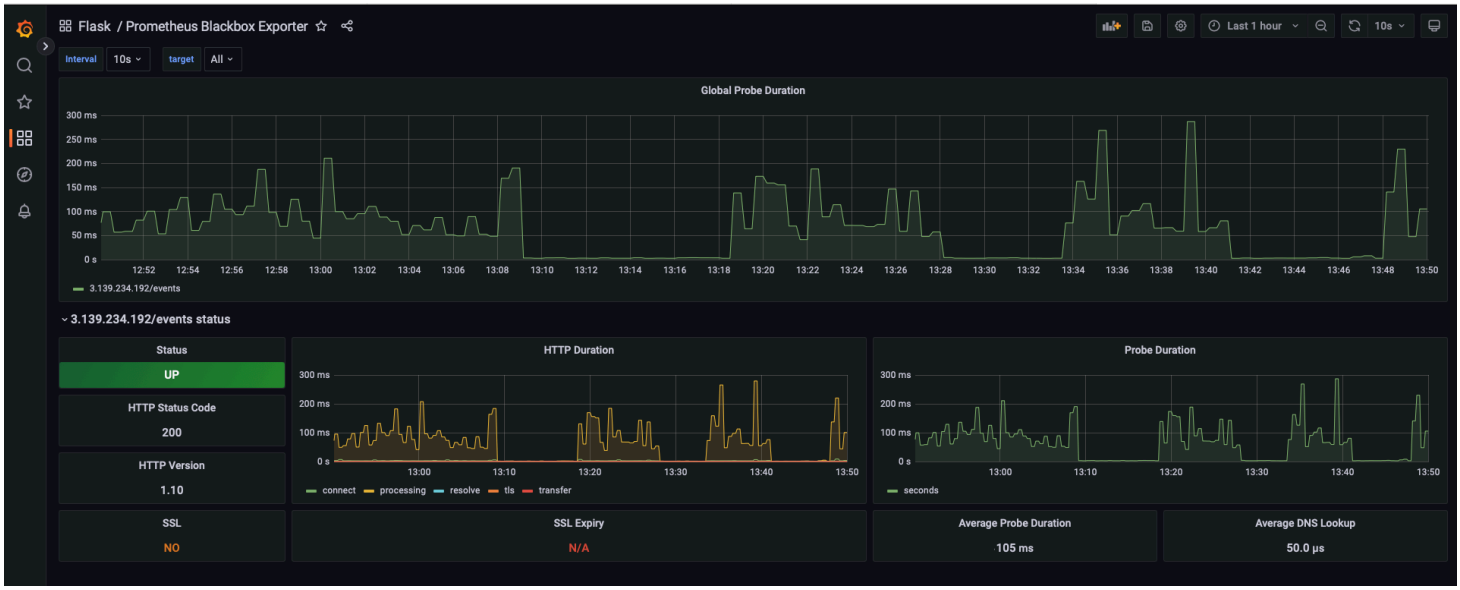


Slack alert Flask API healthy

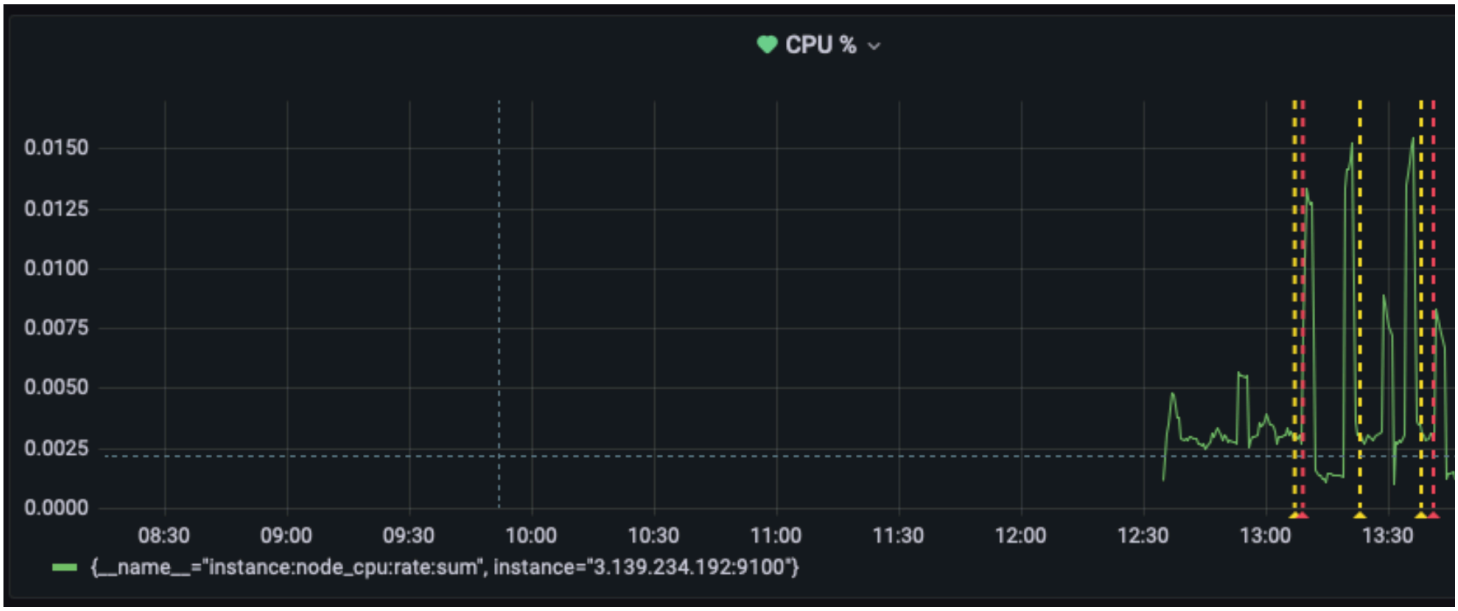


Configure alert rules: Provide a screenshot of the alert rules list in Grafana.

Blackbox exporter dashboard



CPU dashboard showing alert



Slack CPU alert

[FIRING:1] CPU high Flask

[FIRING:1] CPU high Flask

Firing

Value: [var='B0' metric='Value' labels={__name__=instance:node_cpu:rate:sum, instance=3.139.234.192:9100} value=0.004367500489239866]
Labels:
- alertname = CPU high
- grafana_folder = Flask
Annotations:
Mostrar más

Grafana v9.2.2 | Hoy a las 13:41

Grafana APP 14:11

[RESOLVED] CPU high Flask

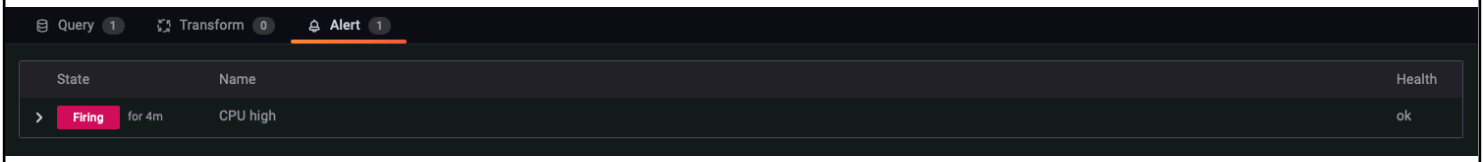
[RESOLVED] CPU high Flask

Resolved

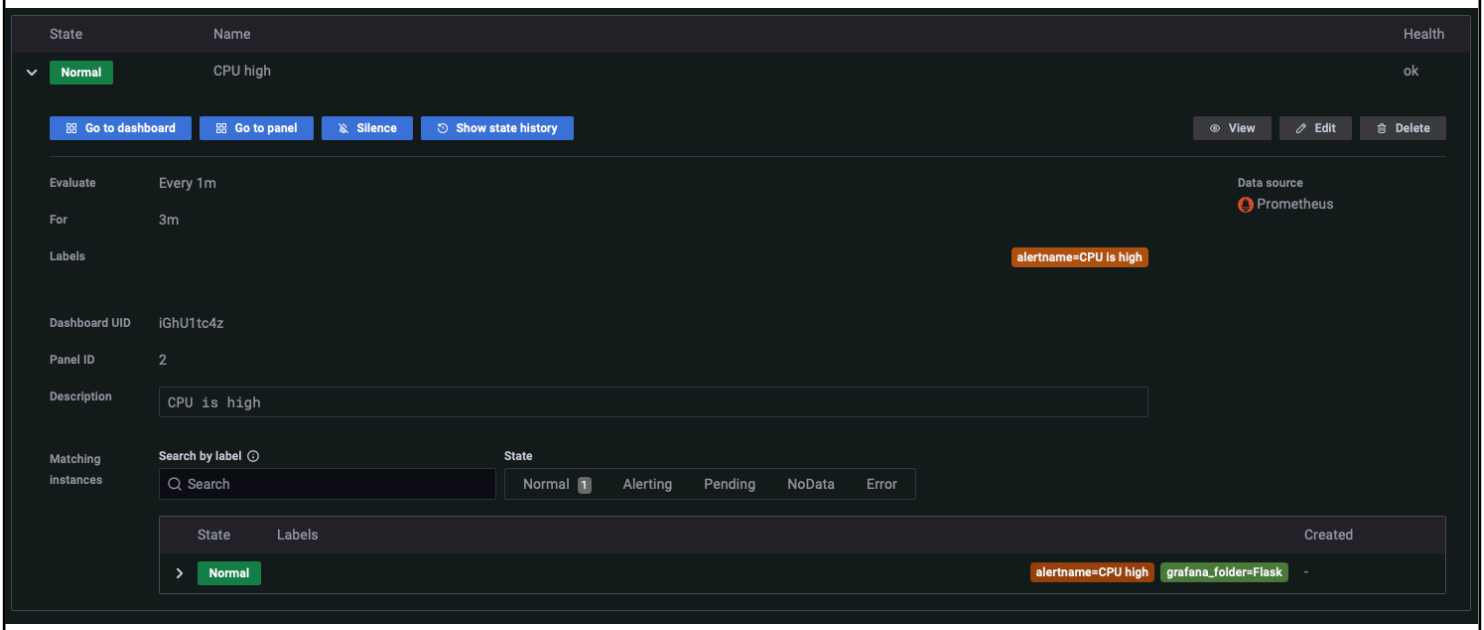
Value: [var='B0' metric='Value' labels={__name__=instance:node_cpu:rate:sum, instance=3.139.234.192:9100} value=0.004345403578269579]
Labels:
- alertname = CPU high
- grafana_folder = Flask
Annotations:
Mostrar más

Grafana v9.2.2 | Hoy a las 14:11

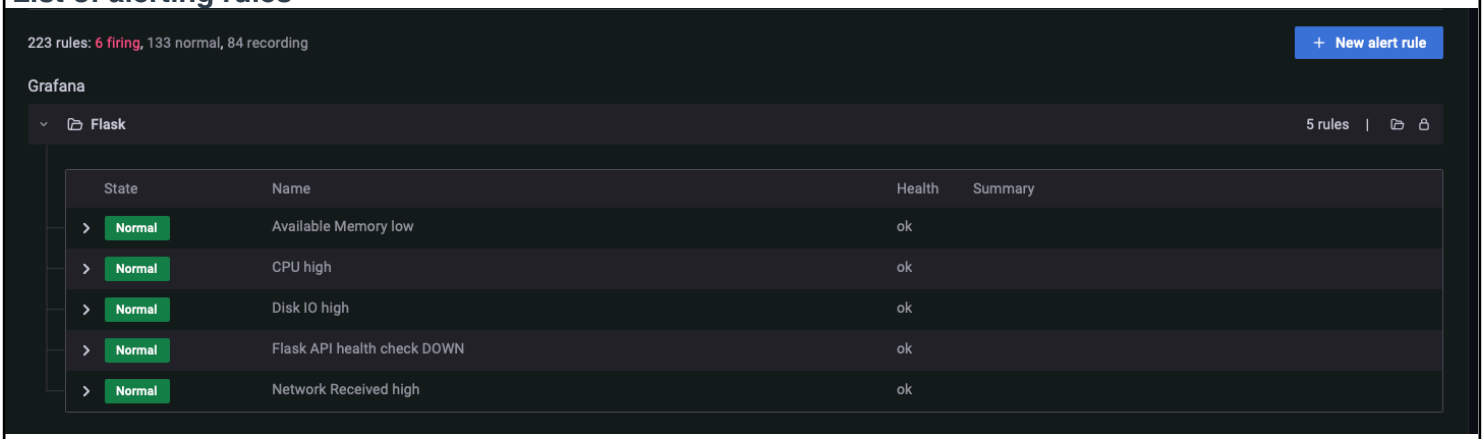
Alert showing CPU is high



Alert showing CPU is normal

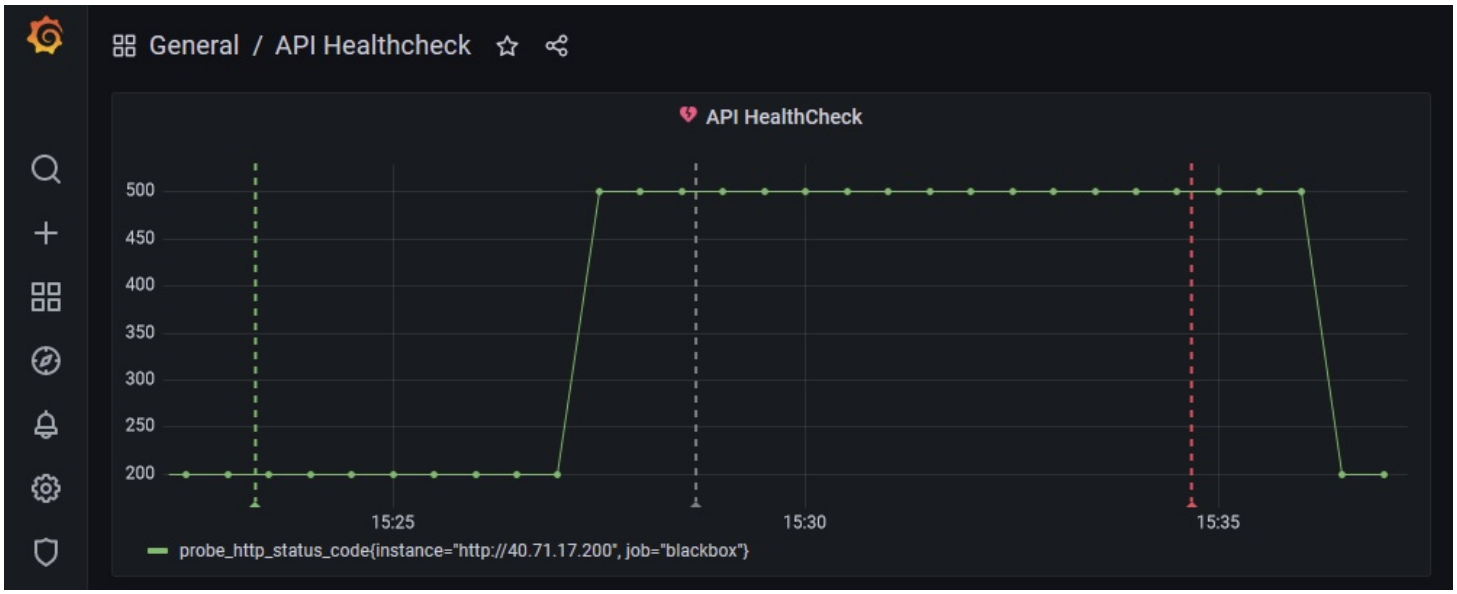


List of alerting rules



Applying the Concepts

Graph 1



4a. Given the above graph, where does it show that the API endpoint is down? Where on the graph does this show that the API is healthy again?

- In agreement with the graph in which the healthchek of API endpoint is measured the outage happens at 15:27.The API endpoint is down from 15:27 until 15:36. The alert from API HealthCheck is pending at 15:28 and fired at 15:35.
- The API is healthy at 15:36

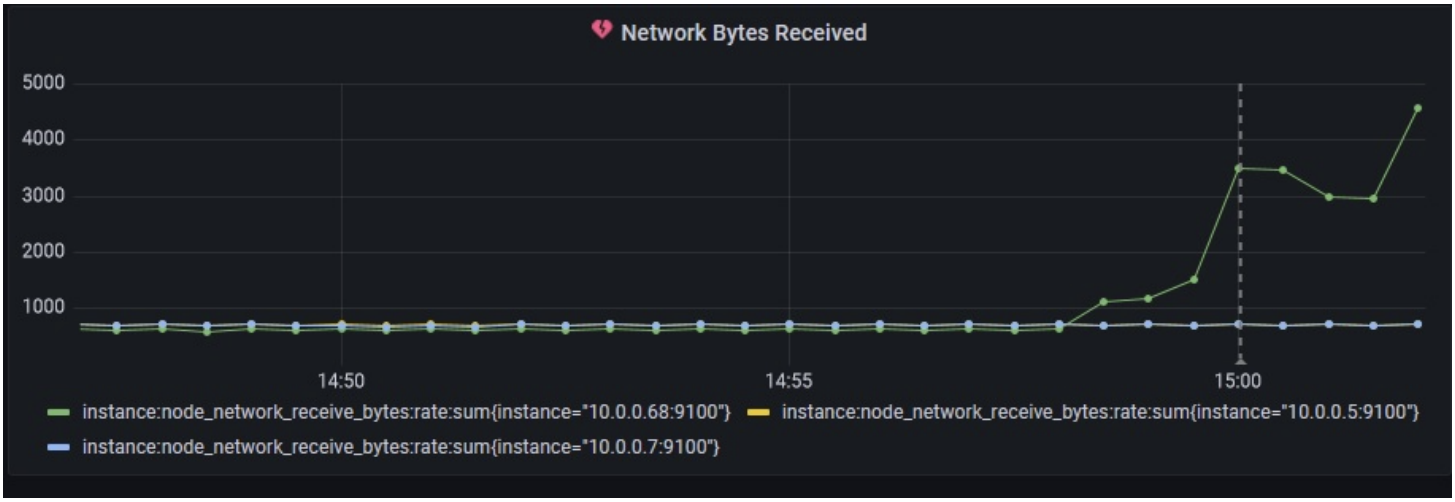
4b. If there was no SRE team, how would this outage affect customers?

- If there wasn't SRE team, there weren't anybody to monitor the application and to solve the problem. At the consequence of not having SRE team is unavailable service or degrading the service with slowly service.The customer team will be frustrated with the experience outage and willl have to eventually update the dev team, because that outage will negativity impact the customer user-experience of the service.

4c. What could be put in place so that the SRE team could know of the outage before the customer does?

- The SRE could creating a dashboard for host metrics (CPU%, Memory, Network I/O and Disk I/O) and the health check API endpoint , with these graphs the SRE team could know the outage before the client.

Graph 2



5a. Given the above graph, which instance had the increase in traffic, and approximately how many bytes did it receive (feel free to round)?

- The instance with the increase in traffic is the instance with IP 10.0.0.68 at the port 9100. This instance received approximately 3500 at 15:00. After this time there was an increase in the bytes received by the instance.

5b. Which team members on the SRE team would be interested in this graph and why?

- Release manager: because he or she could compare the graph with some recent release and compare if these timing might be related.
- Cloud Architect: because with this graph he or she could decide to modify the infrastructure and adding a load balancer with the goal to decrease the load to one node and sharing that load between another two nodes, that don't receive any bytes.
- Team leader because he or she could coordinate and solve the problem of automation to avoid that one node receive all the traffic and split the traffic to another nodes that don't receive any traffic.