Observing Cloud Resources

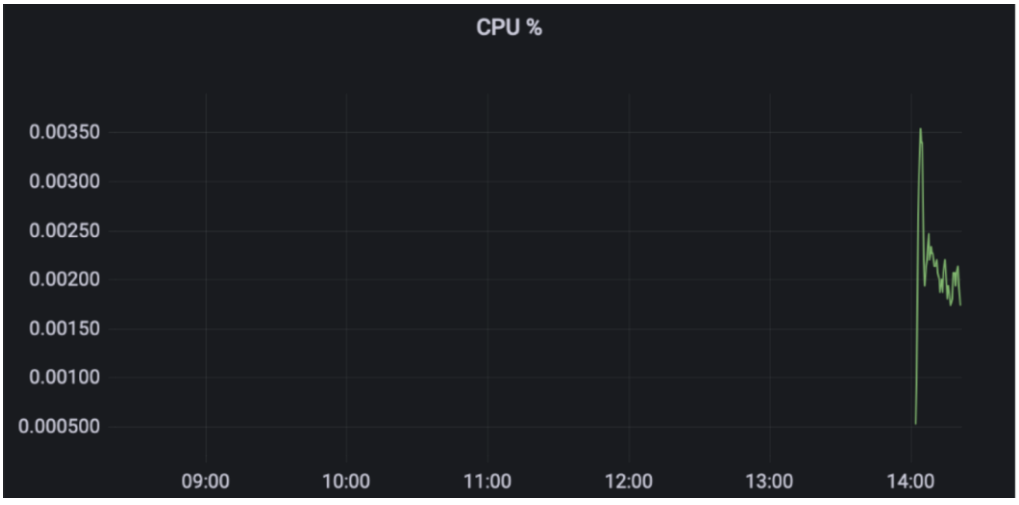
SRE Project Template

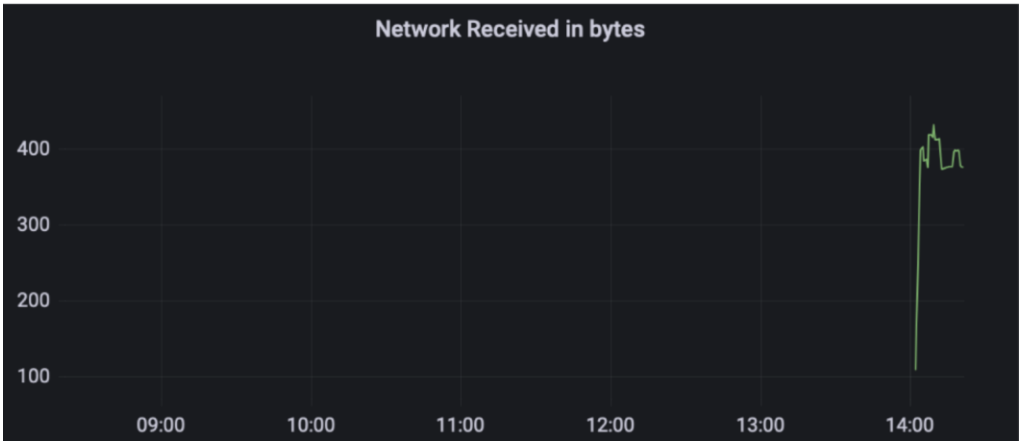
Categorize Responsibilities

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-172-31-29-133:~$ sudo ufw allow 9100/tcp
Rules updated
Rules updated (v6)
ubuntu@ip-172-31-29-133:~$ sudo systemctl restart ufw
ubuntu@ip-172-31-29-133:~$ 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 Fri 2022-07-01 18:13:02 UTC; 29s ago
 Main PID: 2743 (node_exporter)
    Tasks: 3 (limit: 1140)
   CGroup: /system.slice/node_exporter.service
           └─2743 /usr/local/bin/node_exporter

Jul 01 18:13:02 ip-172-31-29-133 node_exporter[2743]: level=info ts=2022-07-01T18:13:02.739Z caller=node_exporter.go:115 collector=thermal_zone
Jul 01 18:13:02 ip-172-31-29-133 node_exporter[2743]: level=info ts=2022-07-01T18:13:02.739Z caller=node_exporter.go:115 collector=time
Jul 01 18:13:02 ip-172-31-29-133 node_exporter[2743]: level=info ts=2022-07-01T18:13:02.739Z caller=node_exporter.go:115 collector=timex
Jul 01 18:13:02 ip-172-31-29-133 node_exporter[2743]: level=info ts=2022-07-01T18:13:02.739Z caller=node_exporter.go:115 collector=udp_queues
Jul 01 18:13:02 ip-172-31-29-133 node_exporter[2743]: level=info ts=2022-07-01T18:13:02.739Z caller=node_exporter.go:115 collector=uname
Jul 01 18:13:02 ip-172-31-29-133 node_exporter[2743]: level=info ts=2022-07-01T18:13:02.739Z caller=node_exporter.go:115 collector=vmstat
Jul 01 18:13:02 ip-172-31-29-133 node_exporter[2743]: level=info ts=2022-07-01T18:13:02.739Z caller=node_exporter.go:115 collector=xfs
Jul 01 18:13:02 ip-172-31-29-133 node_exporter[2743]: level=info ts=2022-07-01T18:13:02.739Z caller=node_exporter.go:115 collector=zfs
Jul 01 18:13:02 ip-172-31-29-133 node_exporter[2743]: level=info ts=2022-07-01T18:13:02.740Z caller=node_exporter.go:199 msg="Listening on" address=:9100
Jul 01 18:13:02 ip-172-31-29-133 node_exporter[2743]: level=info ts=2022-07-01T18:13:02.743Z caller=tls_config.go:191 msg="TLS is disabled." http2=false
ubuntu@ip-172-31-29-133:~$
Feedback  Looking for language selection? Find it in the new Unified Settings  © 2022, A
```

Host Metric (CPU, RAM, Disk, Network)	Dashboard
CPU	

RAM	
DISK	
Network	

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.

Release Manager and Monitoring Engineer.

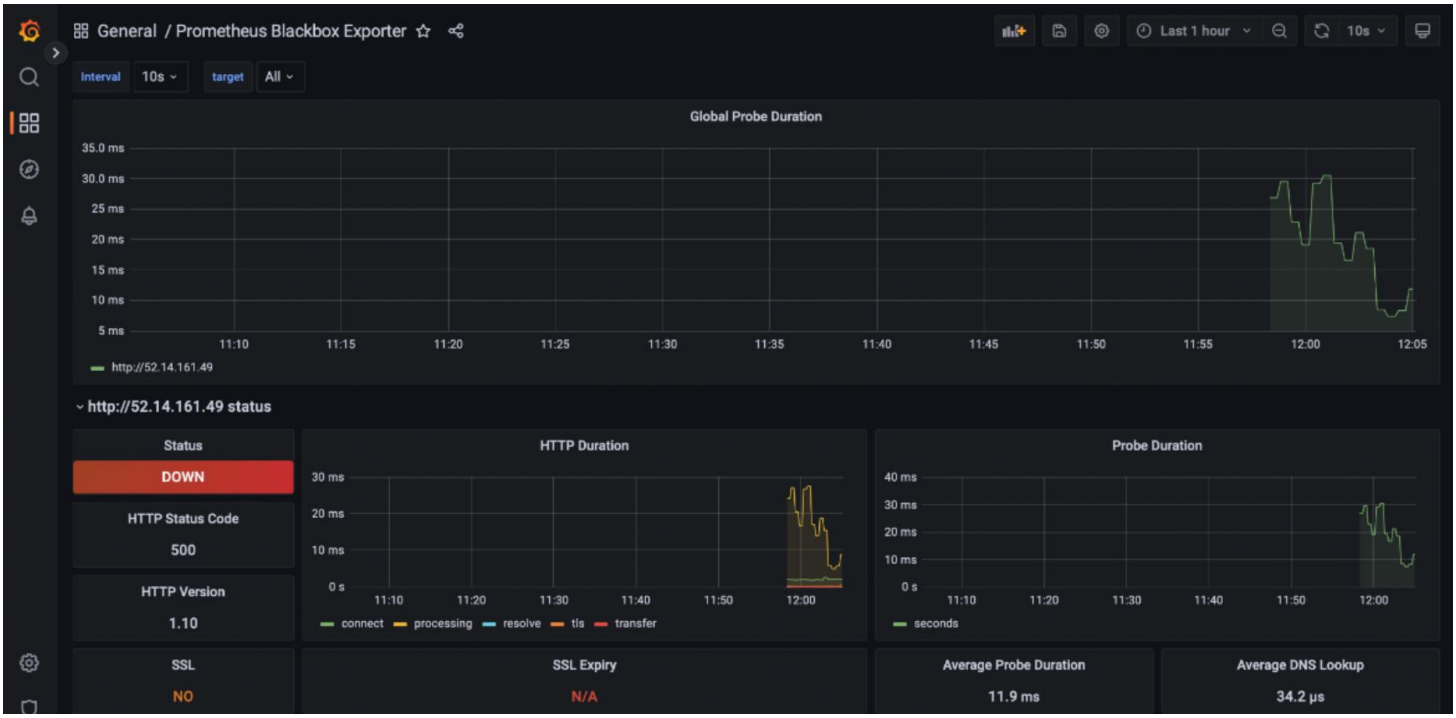
Release Engineer is responsible to check code and its dependencies, he/she uses CI/CD to ensure code could be released or not and execute rollback procedures if necessary.

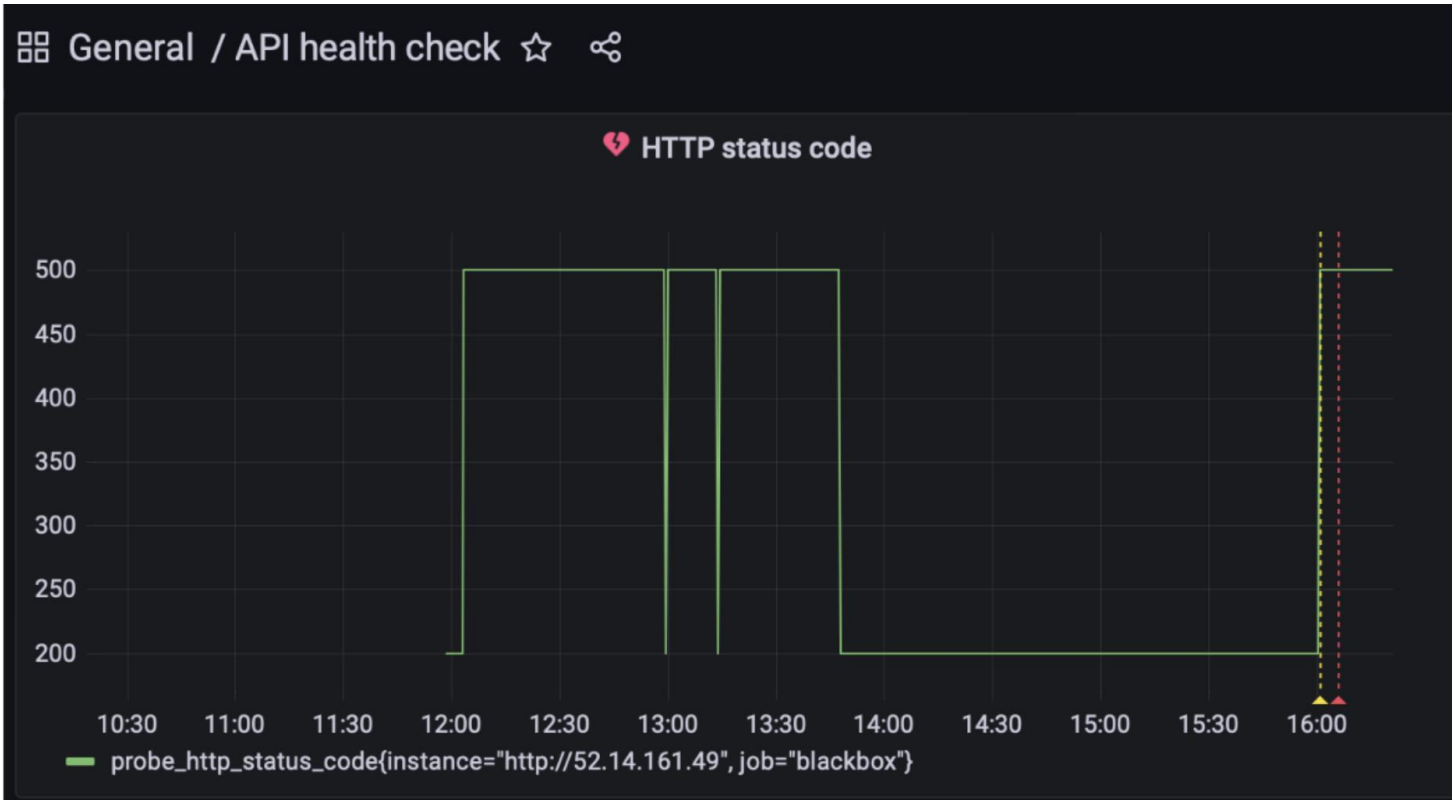
Monitoring Engineer is responsible for creating Dashboards, creating alert rules, ideally is the first one to know of an incident and manage monitoring rules for IT infrastructure.
2. The development team is in the early stages of planning to build a new product. Identify two roles of the SRE team that should be invited to the meeting and why.
Team Lead and System Architect should be invited. *The Team lead is responsible to contributes to architecture meetings, create workflows of the team and keep them focused. The System architect is responsible for documentation, make recommendations for new technologies, provide migration paths and create a highly scalable infrastructure.*
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?
The Release Manager is responsible for handle this situations by running rolling back procedures.

Team Formation and Workflow Identification

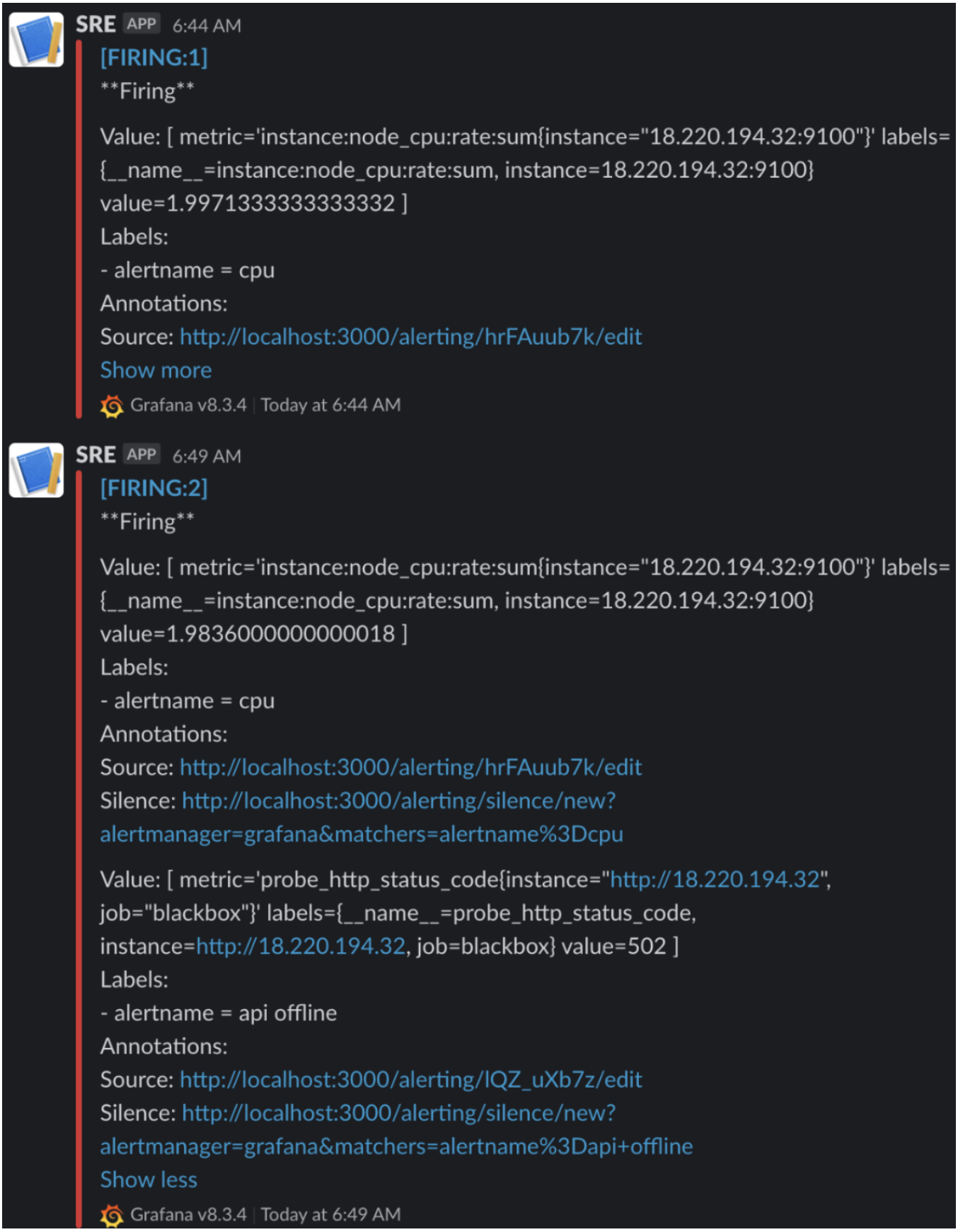
API Monitoring and Notifications

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).

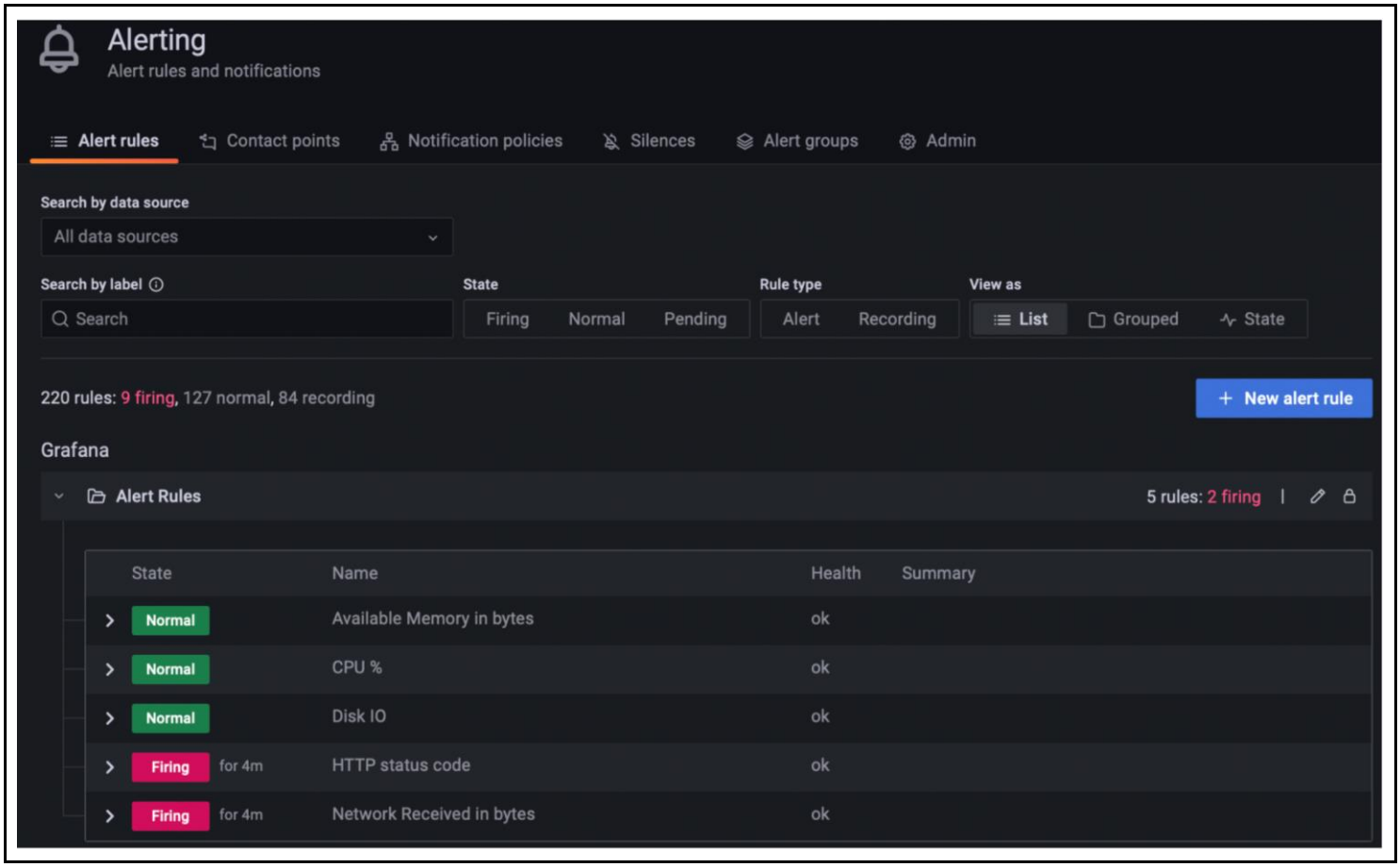




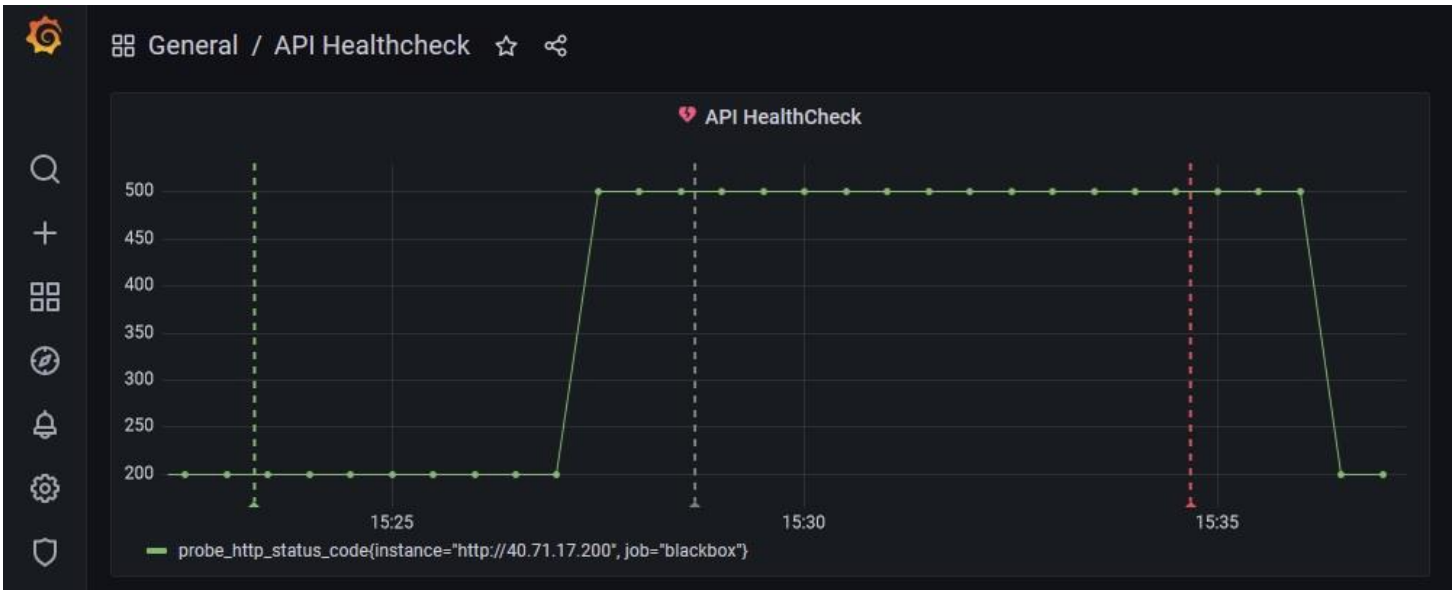
Create a notification channel: Provide a screenshot of the Grafana notification which shows the summary of the issue and when it occurred.



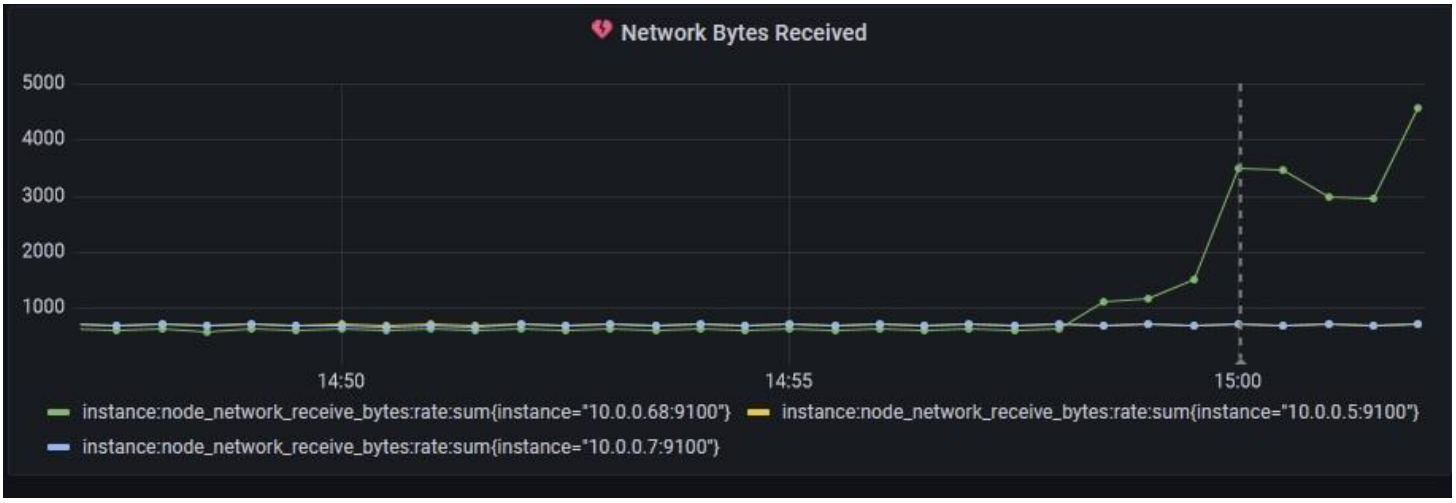
Configure alert rules: Provide a screenshot of the alert rules list in Grafana.


Alerting
Alert rules and notifications
Alert rules
Contact points
Notification policies
Silences
Alert groups
Admin
Search by data source
All data sources
Search by label
Search
State
Firing
Normal
Pending
Rule type
Alert
Recording
View as
List
Grouped
State
220 rules: 9 firing, 127 normal, 84 recording
New alert rule
Grafana
Alert Rules
5 rules: 2 firing
State
Name
Health
Summary
Normal
Available Memory in bytes
ok
Normal
CPU %
ok
Normal
Disk IO
ok
Firing
for 4m
HTTP status code
ok
Firing
for 4m
Network Received in bytes
ok

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?
Any value from above 200 the API is down. It's health again after 15:35
4b. If there was no SRE team, how would this outage affect customers?
The customers will not be able to access the app and probably he/she would complaint about it.
4c. What could be put in place so that the SRE team could know of the outage before the customer does?
Set Alerts rules to send messages to a notification channel (Slack, Teams, e-mail, etc)

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)?

10.0.0.68 instance. It received around 3.5k bytes.

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

Monitoring Engineer. Because it's core responsibilities include

- *Creating dashboards*
- *Managing alerting rules*
- *Usually first to know of an incident*
- *Manages monitoring rules/governance for new/existing IT infrastructure*
- *This role would use monitoring software such as Prometheus/Grafana or be most interested in the dashboarding/alerting features of other types of monitoring software.*