Observing Cloud Resources

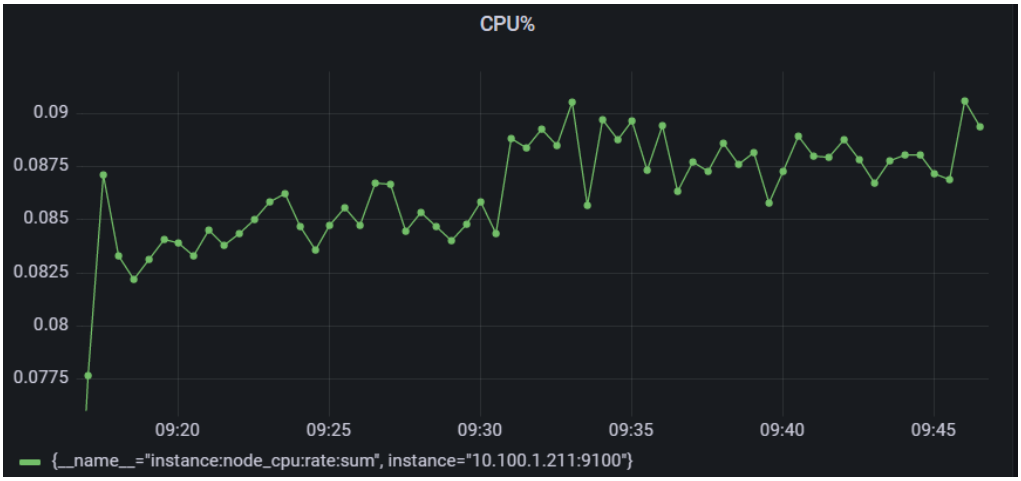
SRE Project Template

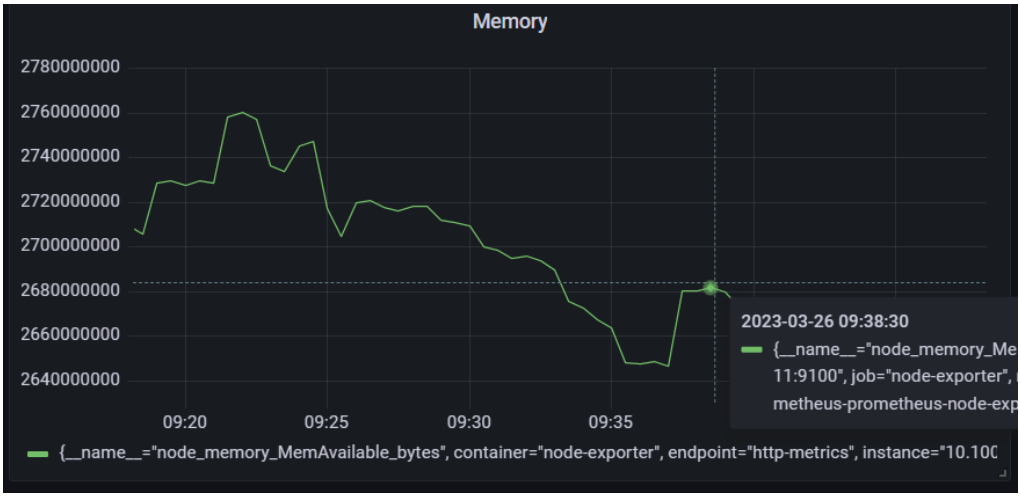
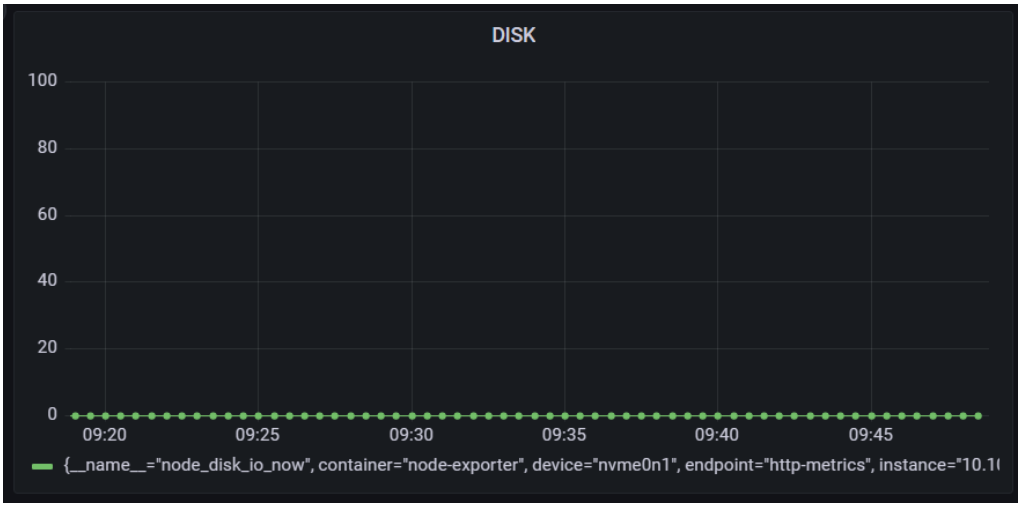
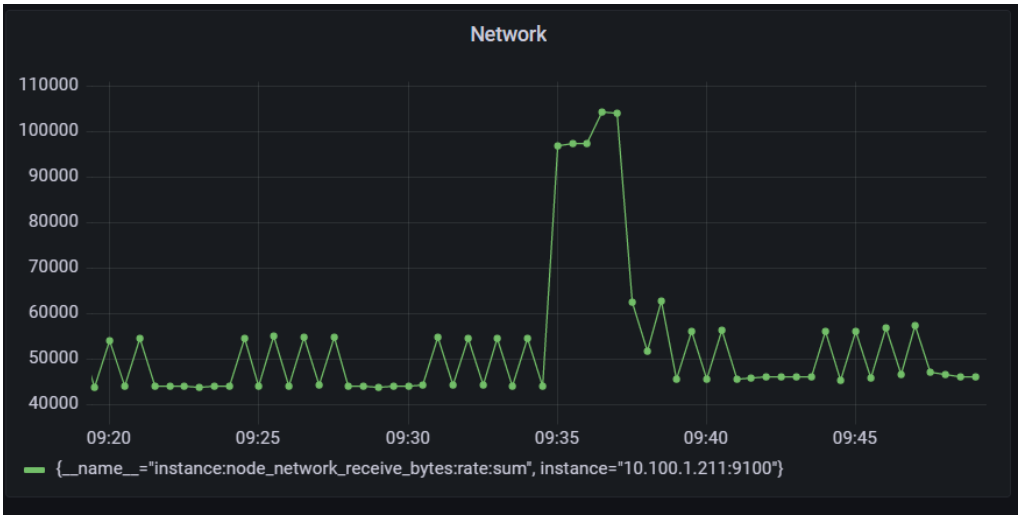
Categorize Responsibilities

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-172-31-14-64:~$ 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 Sat 2023-03-25 15:52:58 UTC; 1h 8min ago
 Main PID: 6800 (node_exporter)
    Tasks: 4 (limit: 1109)
   CGroup: /system.slice/node_exporter.service
           └─6800 /usr/local/bin/node_exporter

Mar 25 15:52:58 ip-172-31-14-64 node_exporter[6800]: level=info ts=2023-03-25T15:52:58.832Z caller=node_exporter.go:115 collector=thermal_zone
Mar 25 15:52:58 ip-172-31-14-64 node_exporter[6800]: level=info ts=2023-03-25T15:52:58.832Z caller=node_exporter.go:115 collector=time
Mar 25 15:52:58 ip-172-31-14-64 node_exporter[6800]: level=info ts=2023-03-25T15:52:58.832Z caller=node_exporter.go:115 collector=timex
Mar 25 15:52:58 ip-172-31-14-64 node_exporter[6800]: level=info ts=2023-03-25T15:52:58.832Z caller=node_exporter.go:115 collector=udp_queues
Mar 25 15:52:58 ip-172-31-14-64 node_exporter[6800]: level=info ts=2023-03-25T15:52:58.832Z caller=node_exporter.go:115 collector=uname
Mar 25 15:52:58 ip-172-31-14-64 node_exporter[6800]: level=info ts=2023-03-25T15:52:58.832Z caller=node_exporter.go:115 collector=vmstat
Mar 25 15:52:58 ip-172-31-14-64 node_exporter[6800]: level=info ts=2023-03-25T15:52:58.832Z caller=node_exporter.go:115 collector=xfs
Mar 25 15:52:58 ip-172-31-14-64 node_exporter[6800]: level=info ts=2023-03-25T15:52:58.833Z caller=node_exporter.go:115 collector=zfs
Mar 25 15:52:58 ip-172-31-14-64 node_exporter[6800]: level=info ts=2023-03-25T15:52:58.833Z caller=node_exporter.go:199 msg="Listening on" address=:9100
Mar 25 15:52:58 ip-172-31-14-64 node_exporter[6800]: level=info ts=2023-03-25T15:52:58.836Z caller=tls_config.go:191 msg="TLS is disabled." http2=false
ubuntu@ip-172-31-14-64:~$
```

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

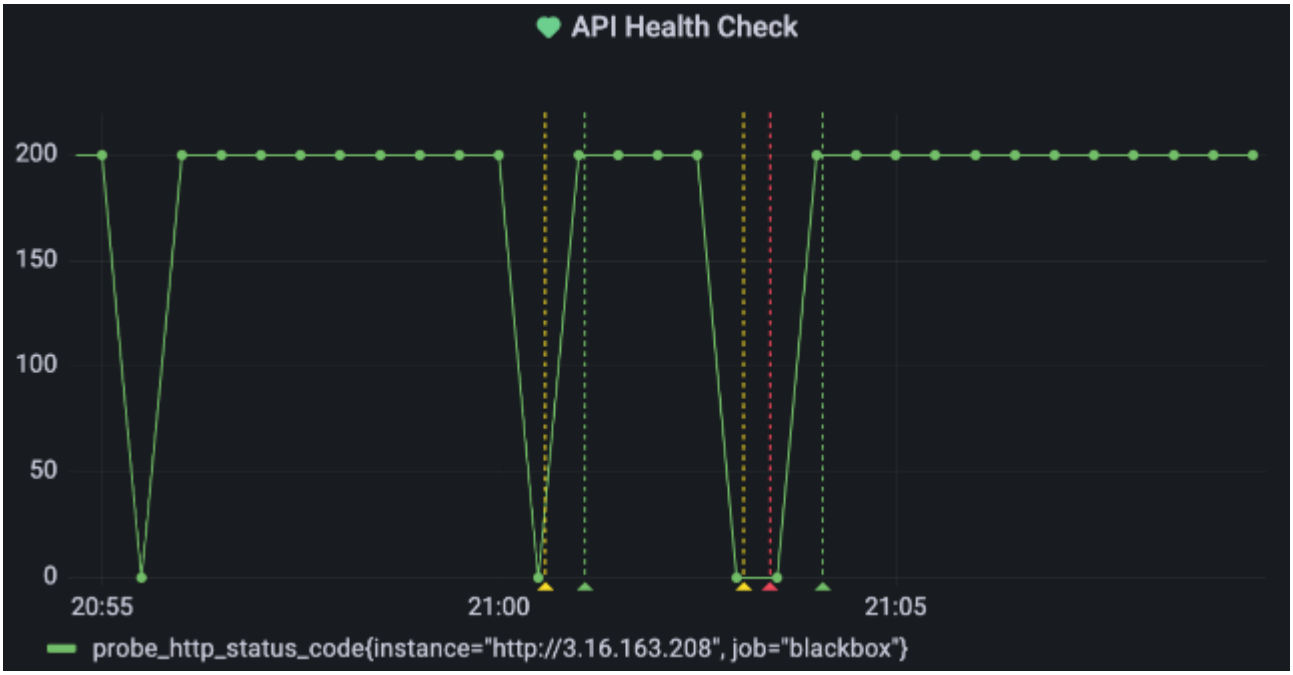
RAM	
DISK	
Network	

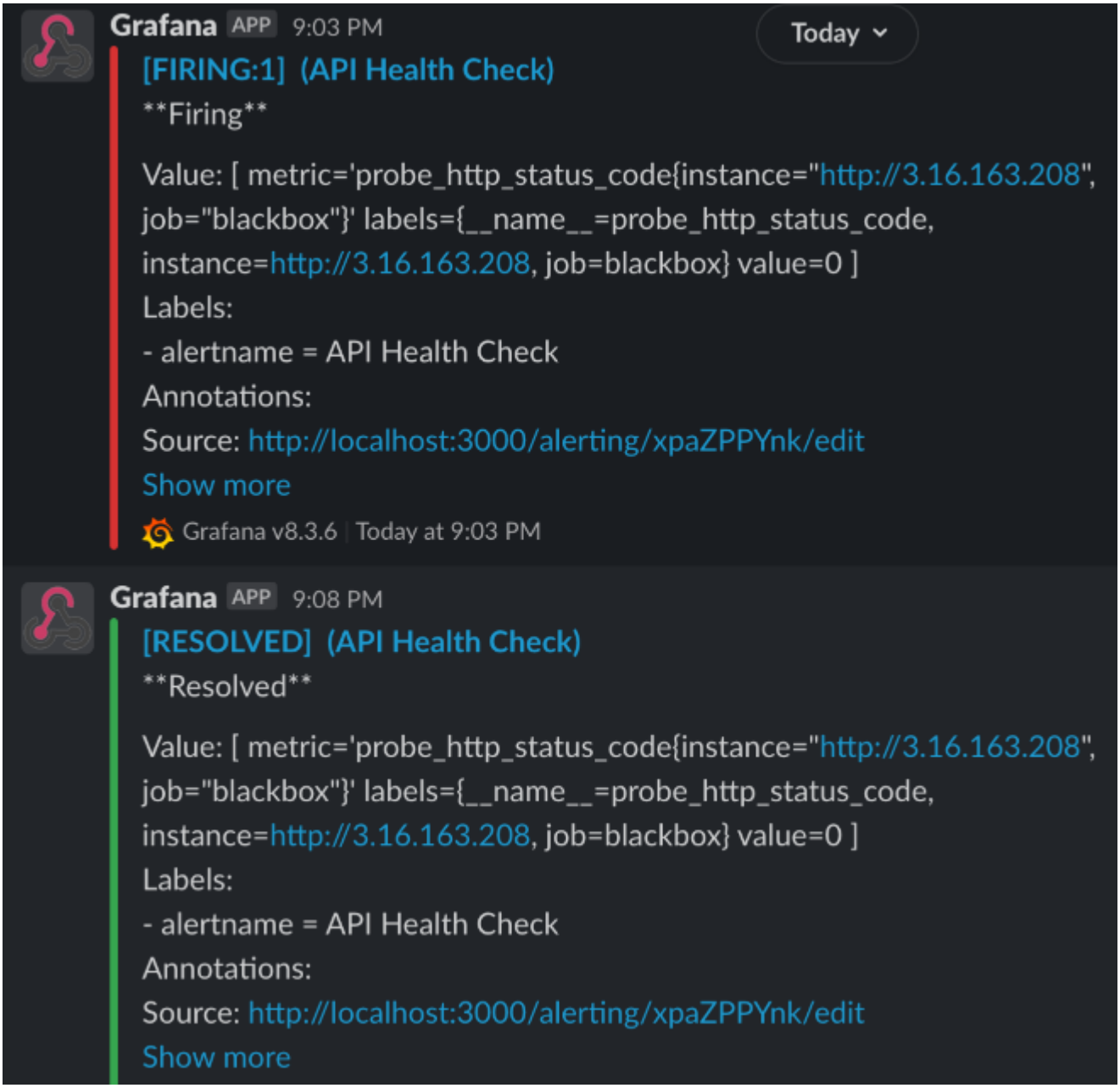
Responsibilities

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.

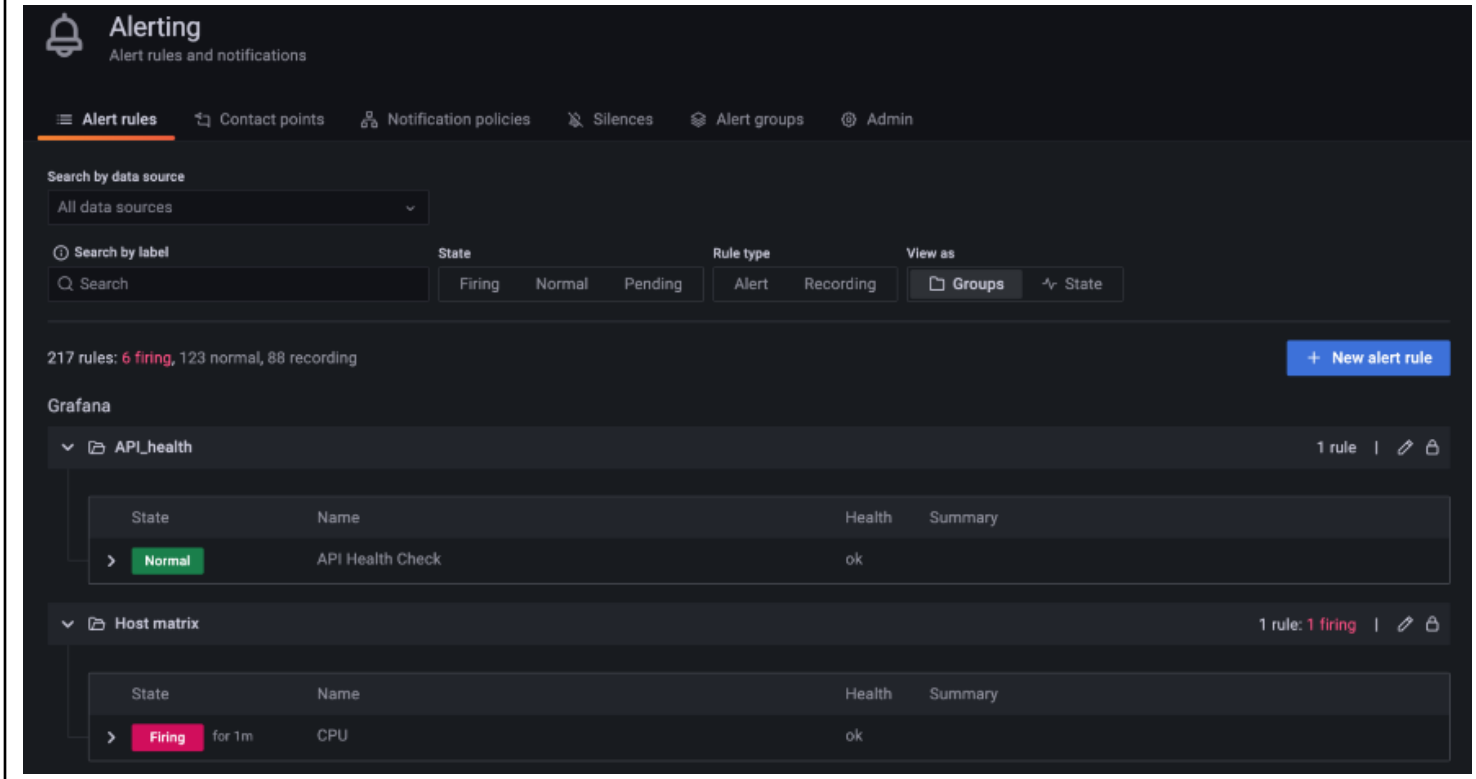
Infrastructure Engineers would be involved in this to check & upgrade pipelines or if there is demand of scaling. Change Management would also be involved to check & review the change if its code change is all set for production.
2. The development team is in the early stages of planning to build a new product. Identify two roles of the SRE team that should be invited to the meeting and why.
SRE team lead and system architect should be invited to the meeting, as the architect would help in designing the app architecture and for the same SRE team can point where monitoring is involved.
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?
Monitoring Engineers will be the first one to know about issues after fix, they would involve the application team to collect logs and meanwhile Change Management would be involved to rollback and inform stakeholders.

Team Formation and Workflow Identification

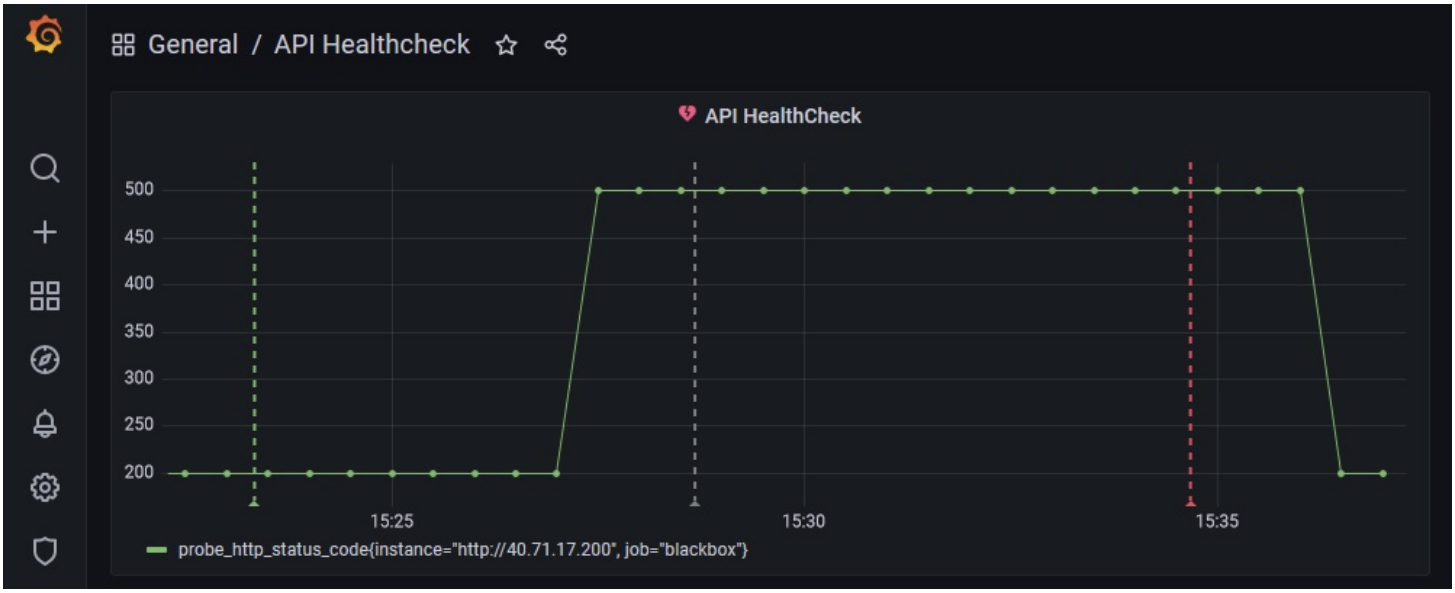
API Monitoring and Notifications
Display the status of an API endpoint: Provide a screenshot of the Grafana dashboard that will show at which point the API is unhealthy (non-200 HTTP code), and when it becomes healthy again (200 HTTP code).

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



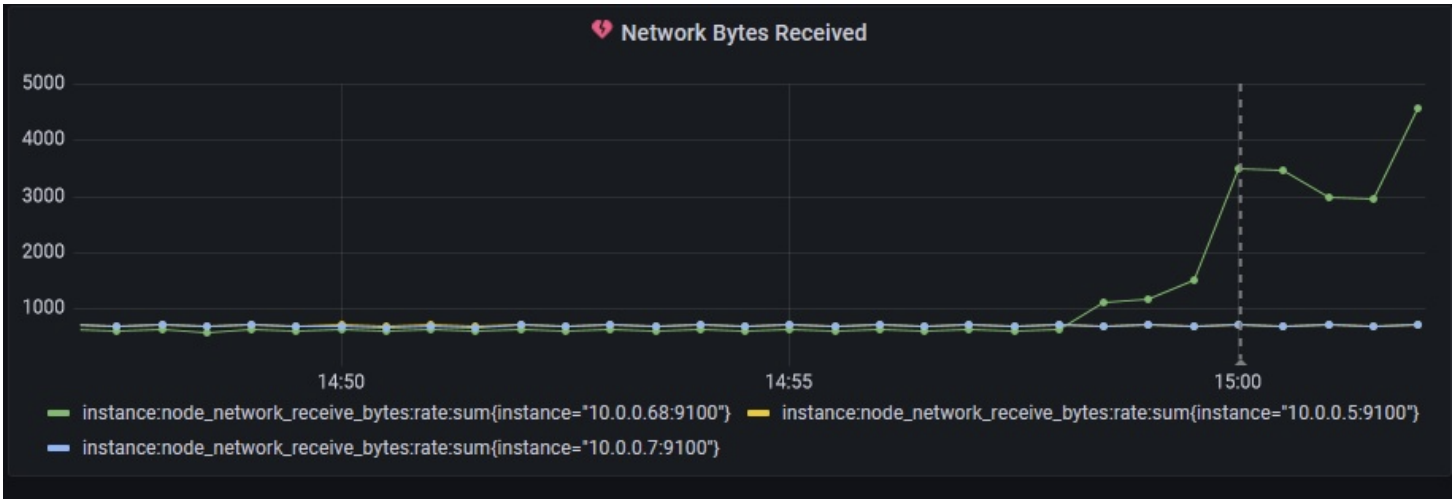
Configure alert rules: Provide a screenshot of the alert rules list in Grafana.


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
Groups
State
217 rules: 6 firing, 123 normal, 88 recording
New alert rule
Grafana
API_health
1 rule
State
Name
Health
Summary
Normal
API Health Check
ok
Host matrix
1 rule: 1 firing
State
Name
Health
Summary
Firing
for 1m
CPU
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?
At 15:27 around it shows that API endpoint is down and at 15:37 around it shows API is healthy.
4b. If there was no SRE team, how would this outage affect customers?
Customers would not have been able to access the app and they would be first to know that something is wrong in Production.
4c. What could be put in place so that the SRE team could know of the outage before the customer does?
Monitoring tools have to be in place so that the SRE team knows about production outages than customers.

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)?

Instance "10.0.0.68" had increased in traffic of around 4500.

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

Monitoring team would be very much interested in this graph, as they would check if any alerts are being triggered with increase in traffic, any latency or error observed.