Observing Cloud Resources

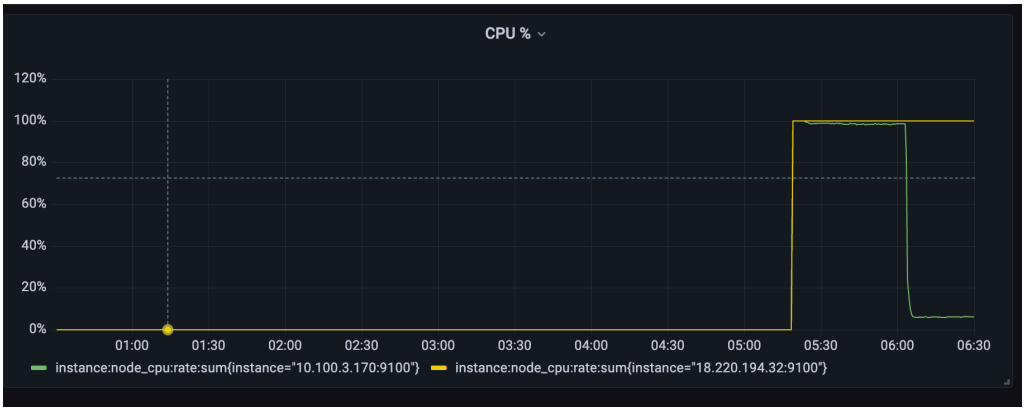
SRE Assessment Template

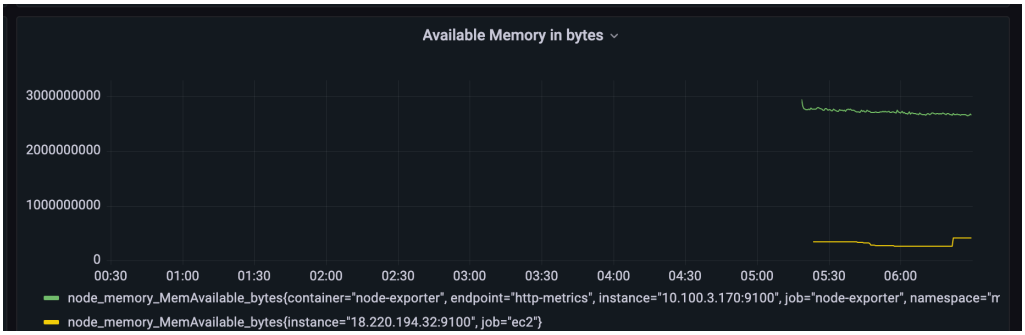
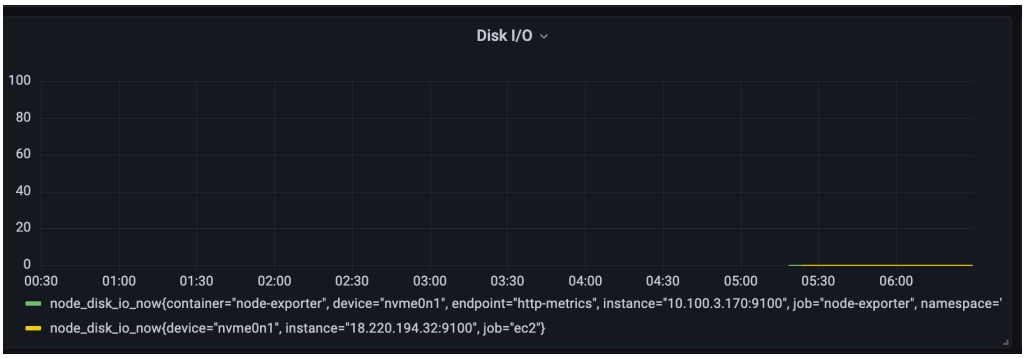
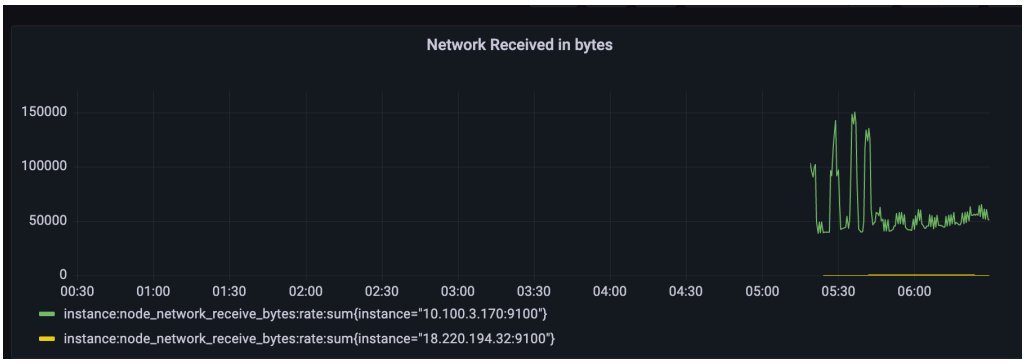
Categorize Responsibilities

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`

```
root@ip-172-31-18-44: ~                                                    ⌥⌘3

root@ip-172-31-18-44:~# tar xvfz node_exporter-1.2.2.linux-amd64.tar.gz
node_exporter-1.2.2.linux-amd64/
node_exporter-1.2.2.linux-amd64/LICENSE
node_exporter-1.2.2.linux-amd64/NOTICE
node_exporter-1.2.2.linux-amd64/node_exporter
root@ip-172-31-18-44:~# sudo cp node_exporter-1.2.2.linux-amd64/node_exporter /usr/local/bin
root@ip-172-31-18-44:~# sudo chown node_exporter:node_exporter /usr/local/bin/node_exporter
root@ip-172-31-18-44:~# vim /etc/systemd/system/node_exporter.service
root@ip-172-31-18-44:~# sudo systemctl daemon-reload
root@ip-172-31-18-44:~# sudo systemctl enable node_exporter
Created symlink /etc/systemd/system/multi-user.target.wants/node_exporter.service → /etc/systemd/system/node_exporter.service.
root@ip-172-31-18-44:~# sudo systemctl start node_exporter
root@ip-172-31-18-44:~# 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 2022-01-31 20:59:31 UTC; 3s ago
 Main PID: 24127 (node_exporter)
    Tasks: 4 (limit: 1109)
   CGroup: /system.slice/node_exporter.service
           └─24127 /usr/local/bin/node_exporter

Jan 31 20:59:32 ip-172-31-18-44 node_exporter[24127]: level=info ts=2022-01-31T20:59:32.049Z caller=node_exporter.go:115 collector=thermal_zone
Jan 31 20:59:32 ip-172-31-18-44 node_exporter[24127]: level=info ts=2022-01-31T20:59:32.049Z caller=node_exporter.go:115 collector=time
Jan 31 20:59:32 ip-172-31-18-44 node_exporter[24127]: level=info ts=2022-01-31T20:59:32.049Z caller=node_exporter.go:115 collector=timex
Jan 31 20:59:32 ip-172-31-18-44 node_exporter[24127]: level=info ts=2022-01-31T20:59:32.049Z caller=node_exporter.go:115 collector=udp_queues
Jan 31 20:59:32 ip-172-31-18-44 node_exporter[24127]: level=info ts=2022-01-31T20:59:32.049Z caller=node_exporter.go:115 collector=uname
Jan 31 20:59:32 ip-172-31-18-44 node_exporter[24127]: level=info ts=2022-01-31T20:59:32.049Z caller=node_exporter.go:115 collector=vmstat
Jan 31 20:59:32 ip-172-31-18-44 node_exporter[24127]: level=info ts=2022-01-31T20:59:32.049Z caller=node_exporter.go:115 collector=xfs
Jan 31 20:59:32 ip-172-31-18-44 node_exporter[24127]: level=info ts=2022-01-31T20:59:32.049Z caller=node_exporter.go:115 collector=zfs
Jan 31 20:59:32 ip-172-31-18-44 node_exporter[24127]: level=info ts=2022-01-31T20:59:32.049Z caller=node_exporter.go:199 msg="Listening on" address=:9100
Jan 31 20:59:32 ip-172-31-18-44 node_exporter[24127]: level=info ts=2022-01-31T20:59:32.050Z caller=tls_config.go:191 msg="TLS is disabled." http2=false
root@ip-172-31-18-44:~# ufw status
Status: inactive
root@ip-172-31-18-44:~# cat /etc/systemd/system/node_exporter.service
[Unit]
Description=Node Exporter
Wants=network-online.target
After=network-online.target

[Service]
User=node_exporter
Group=node_exporter
Type=simple
ExecStart=/usr/local/bin/node_exporter

[Install]
WantedBy=multi-user.target
root@ip-172-31-18-44:~#
```

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

RAM	
DISK	
NET	

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.

Incident Response and Post-mortems
Response to hot fix releases; investigate why the problem arose to avoid the same situation occurring again.

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.

Capacity Planning & Monitoring & Alerting
The SRE team needs to create monitoring for new products; plan infrastructure resources based on new product rollout and usage.

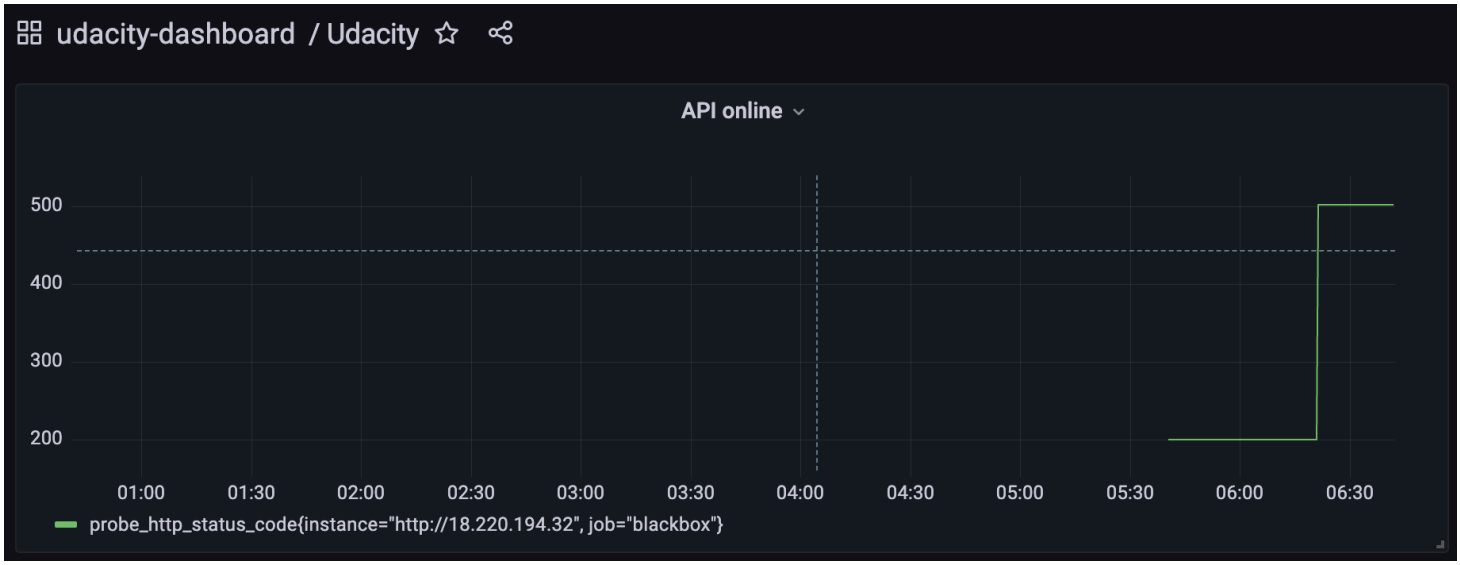
3. The emergency hotfix from question 1 was applied and is causing major issues in production. Which SRE role would primarily be involved in mitigating these issues?

Incident Response

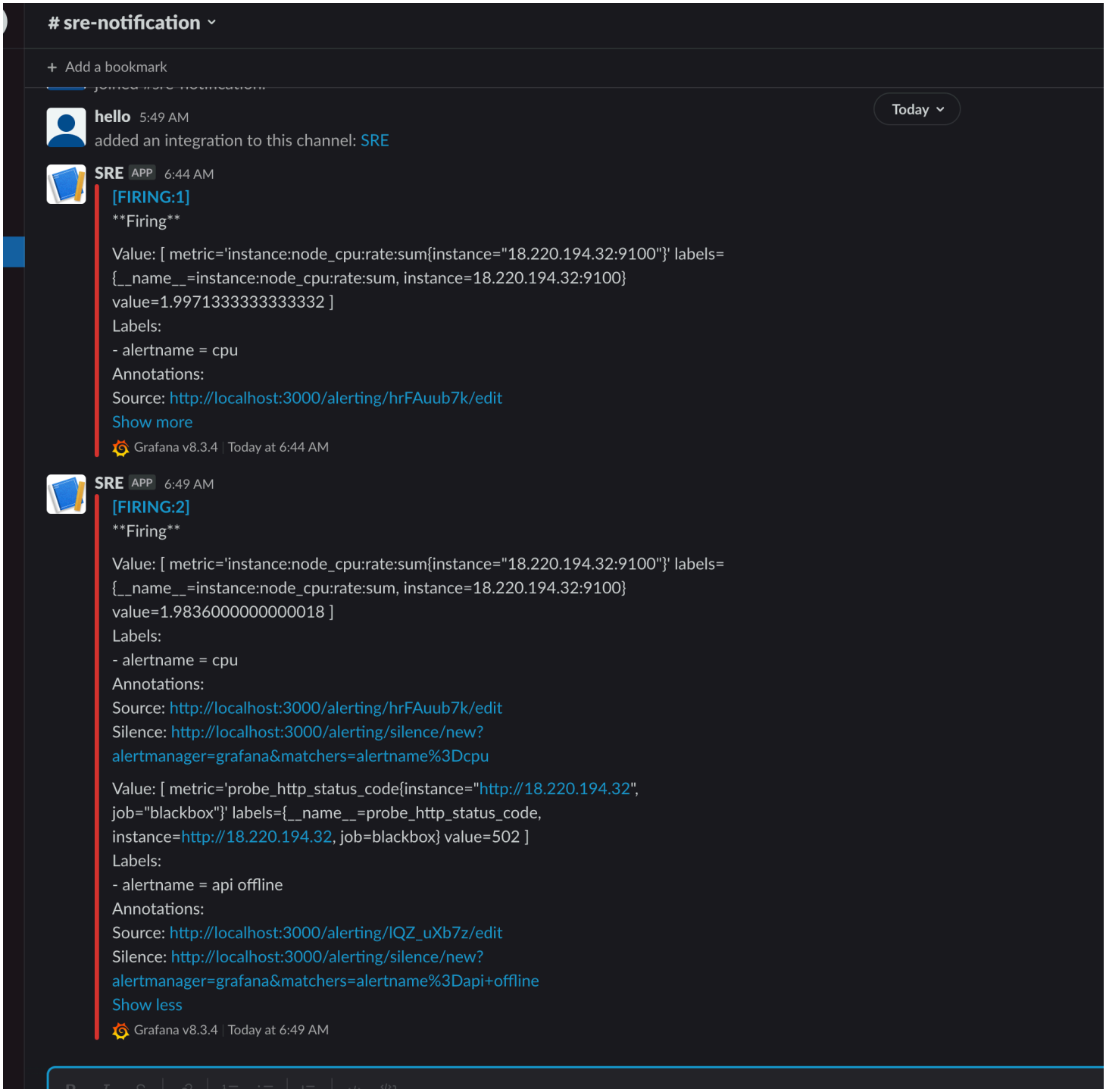
Team Formation and Workflow Identification

API Monitoring and Notifications

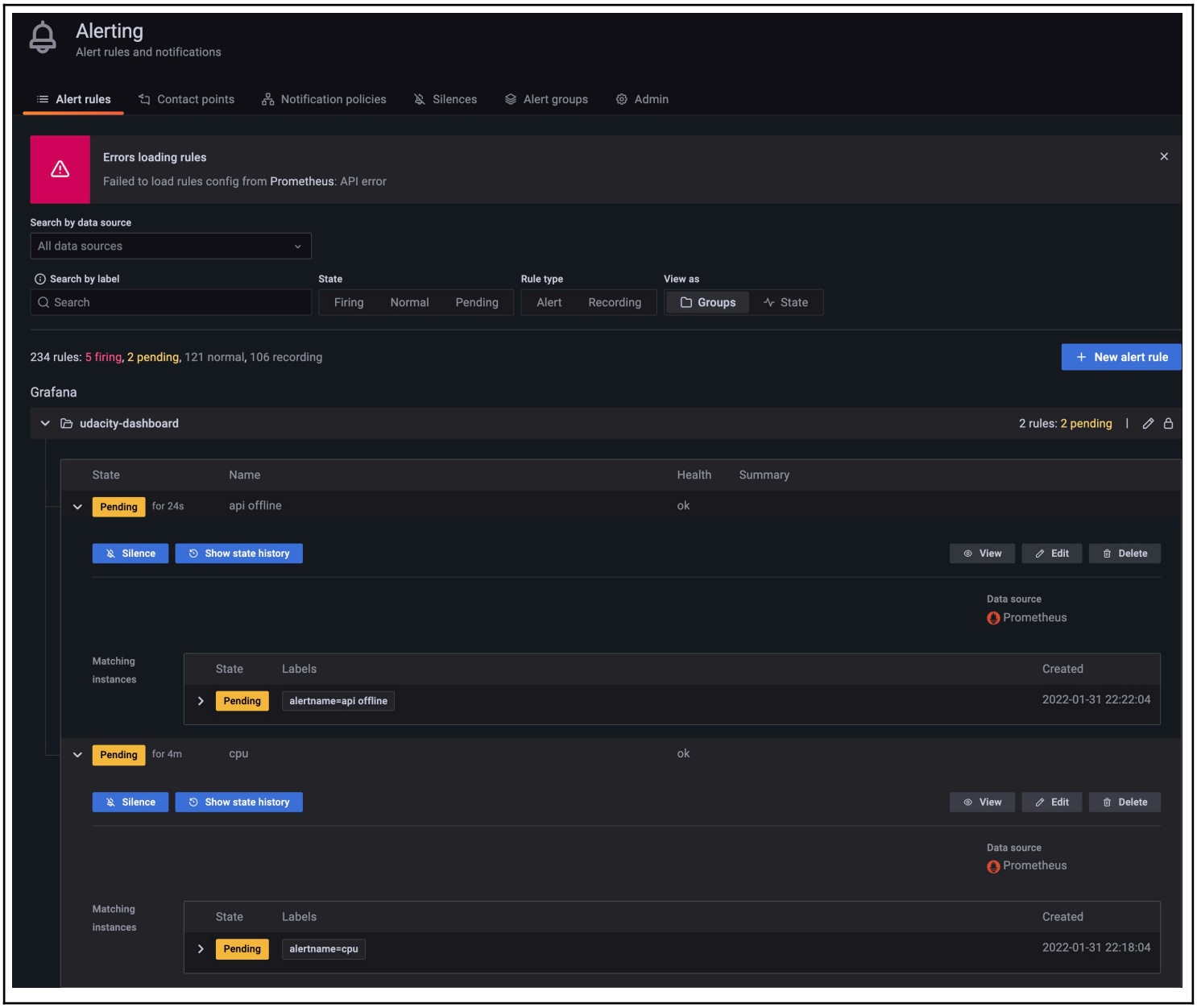
Display the status of an API endpoint: Provide a screenshot of the Grafana dashboard that will show at which point the API is unhealthy (non-200 HTTP code), and when it becomes healthy again (200 HTTP code).



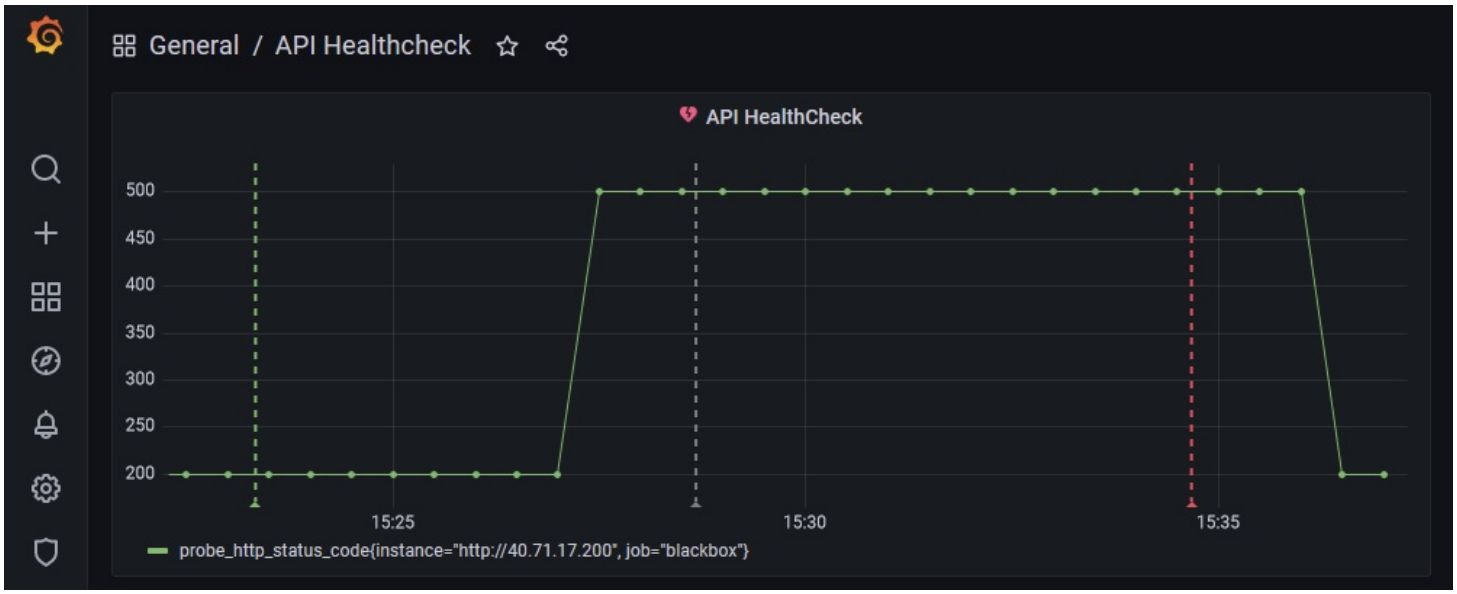
Create a notification channel: Provide a screenshot of the Grafana notification which shows the summary of the issue and when it occurred.



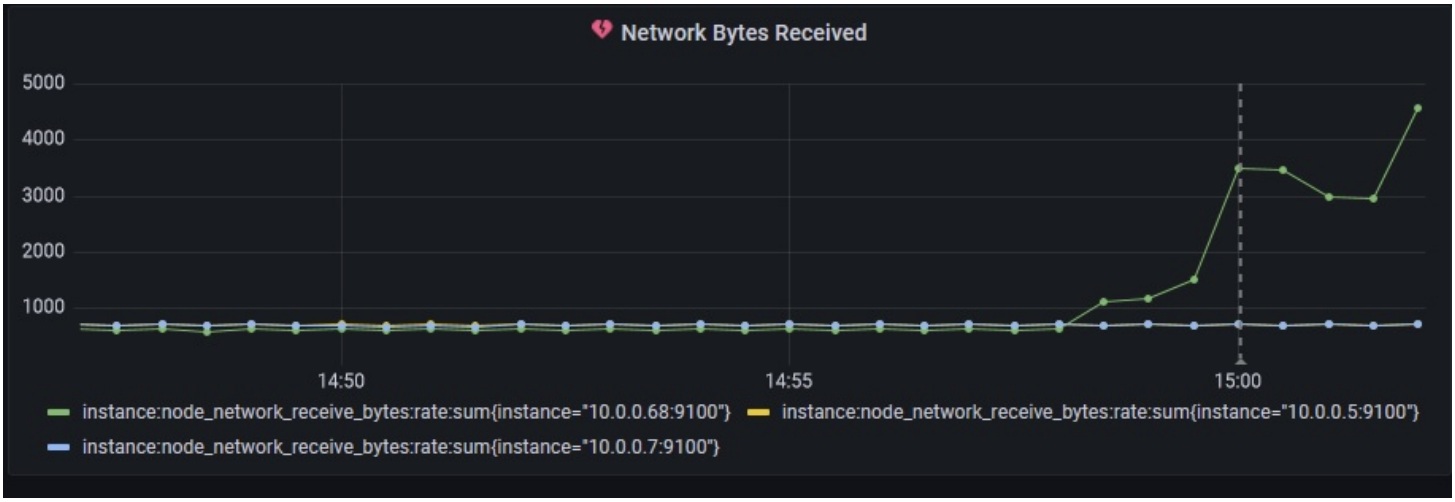
Configure alert rules: Provide a screenshot of the alert rules list in Grafana.


Alerting
Alert rules and notifications
Alert rules
Contact points
Notification policies
Silences
Alert groups
Admin
Errors loading rules
Failed to load rules config from Prometheus: API error
Search by data source
All data sources
Search by label
Search
State
Firing
Normal
Pending
Rule type
Alert
Recording
View as
Groups
State
234 rules: 5 firing, 2 pending, 121 normal, 106 recording
New alert rule
Grafana
udacity-dashboard
2 rules: 2 pending
State
Name
Health
Summary
Pending
for 24s
api offline
ok
Silence
Show state history
View
Edit
Delete
Data source
Prometheus
Matching instances
State
Labels
Created
Pending
alertname=api offline
2022-01-31 22:22:04
Pending
for 4m
cpu
ok
Silence
Show state history
View
Edit
Delete
Data source
Prometheus
Matching instances
State
Labels
Created
Pending
alertname=cpu
2022-01-31 22:18:04

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?
15:27 down, status code to 500. 15:37 online, status back to 200.
4b. If there was no SRE team, how would this outage affect customers?
Customers cannot use the functions related to this API.
4c. What could be put in place so that the SRE team could know of the outage before the customer does?
Monitoring

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, like 4800 bytes

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

Incident Response: Investigate why there is a sudden spike in traffic (For example, marketing campaigns, or attacks) and response.
Capacity Planning: If this is the result of a proliferation of users, additional infrastructure resources are required.