Observing Cloud Resources

SRE Project Template

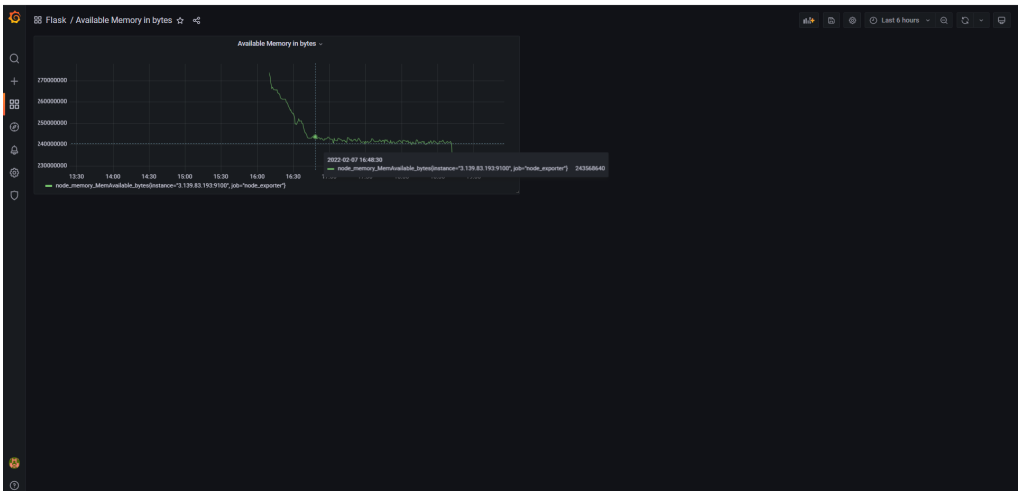
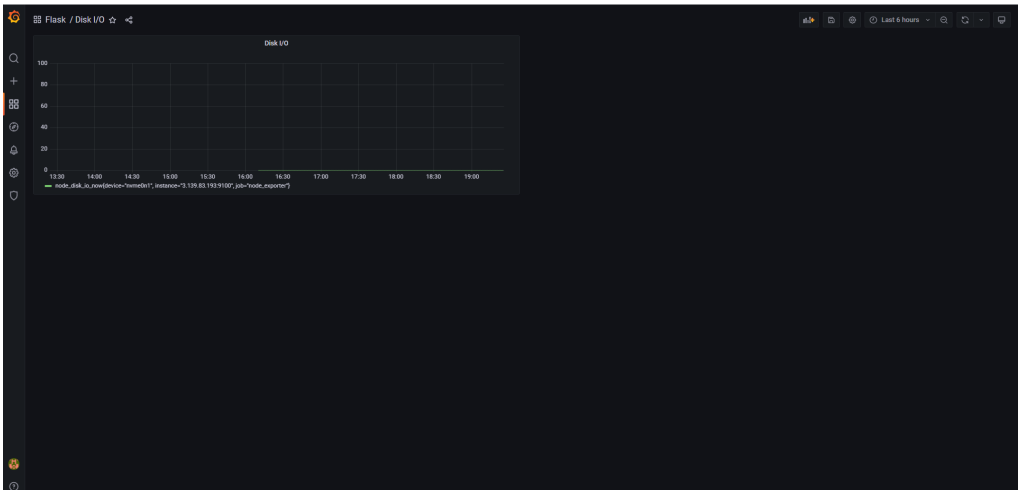
Categorize Responsibilities

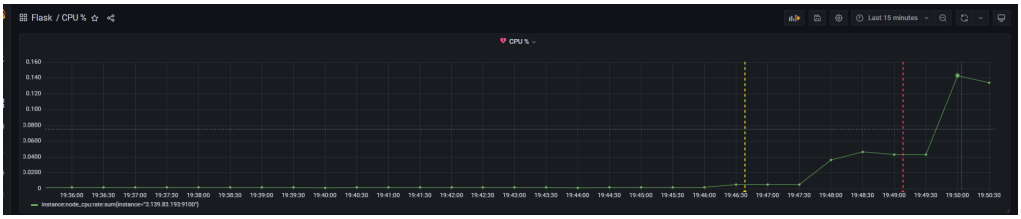
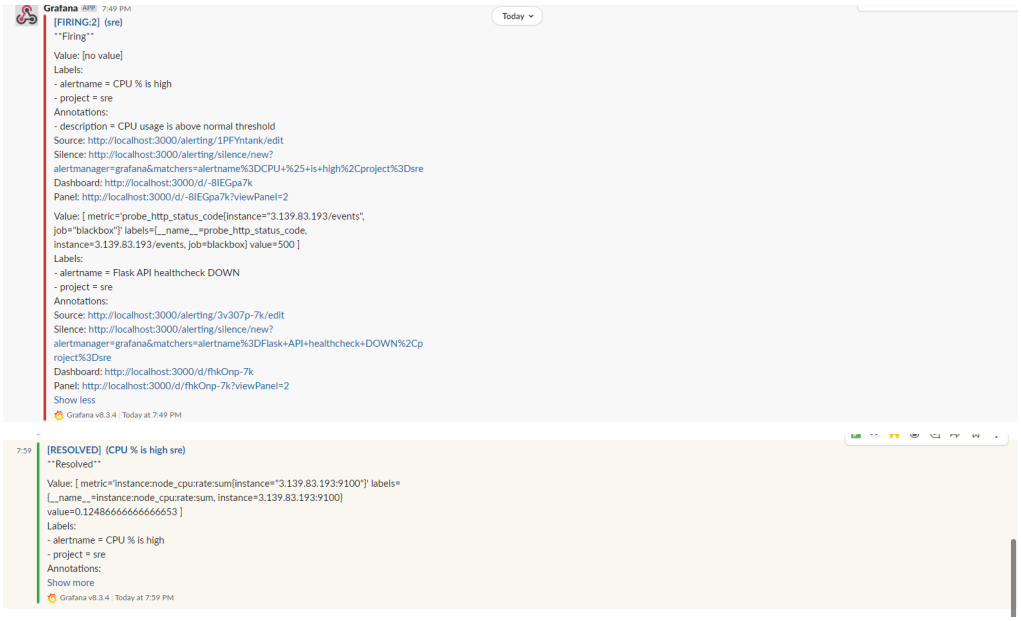
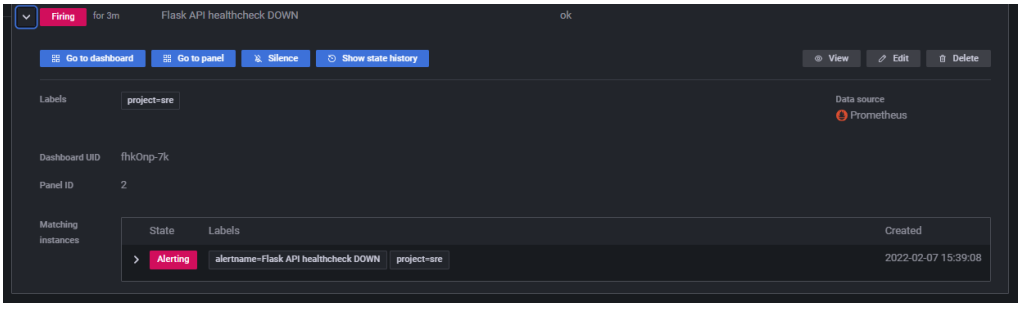
Prometheus and Grafana Screenshots
Provide a screenshot of the Prometheus node_exporter service running on the EC2 instance. Use the following command to show that the system is running: `sudo systemctl status node_exporter`

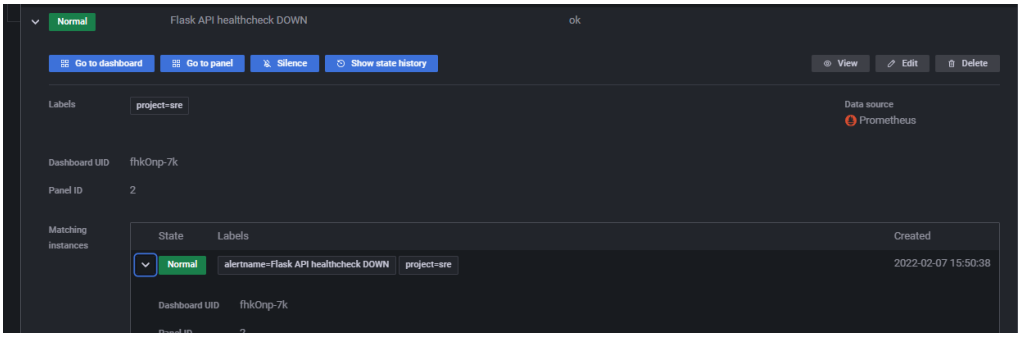
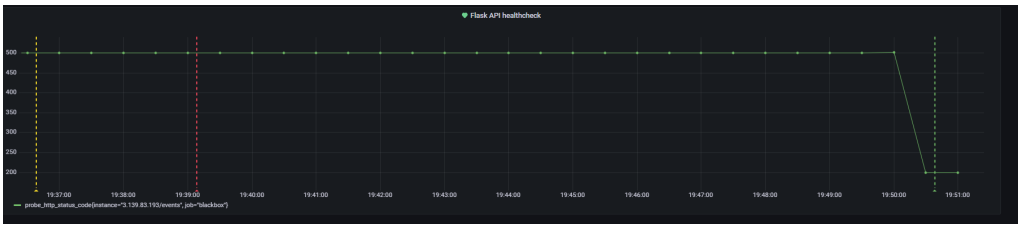
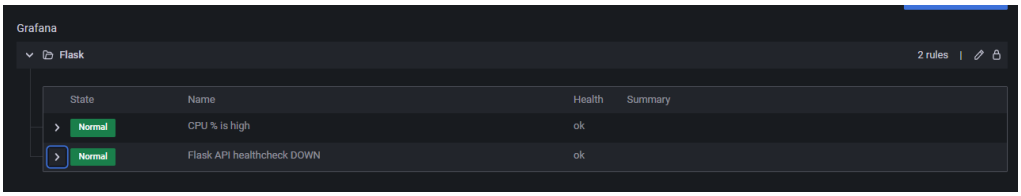
```
ubuntu@ip-10-100-10-171:~$ systemctl status node_exporter
● node_exporter.service - Node Exporter
   Loaded: loaded (/etc/systemd/system/node_exporter.service; enabled; vendor preset: enabled)
   Active: active (running) since Mon 2022-02-07 11:37:24 UTC; 3h 4min ago
 Main PID: 24277 (node_exporter)
    Tasks: 7 (limit: 1109)
   CGroup: /system.slice/node_exporter.service
           └─24277 /usr/local/bin/node_exporter

Feb 07 11:37:24 ip-10-100-10-171 node_exporter[24277]: ts=2022-02-07T11:37:24.758Z caller=node_exporter.go:115 level=info collector=thermal_zone
Feb 07 11:37:24 ip-10-100-10-171 node_exporter[24277]: ts=2022-02-07T11:37:24.758Z caller=node_exporter.go:115 level=info collector=time
Feb 07 11:37:24 ip-10-100-10-171 node_exporter[24277]: ts=2022-02-07T11:37:24.758Z caller=node_exporter.go:115 level=info collector=timex
Feb 07 11:37:24 ip-10-100-10-171 node_exporter[24277]: ts=2022-02-07T11:37:24.758Z caller=node_exporter.go:115 level=info collector=udp_queues
Feb 07 11:37:24 ip-10-100-10-171 node_exporter[24277]: ts=2022-02-07T11:37:24.758Z caller=node_exporter.go:115 level=info collector=uname
Feb 07 11:37:24 ip-10-100-10-171 node_exporter[24277]: ts=2022-02-07T11:37:24.758Z caller=node_exporter.go:115 level=info collector=vmstat
Feb 07 11:37:24 ip-10-100-10-171 node_exporter[24277]: ts=2022-02-07T11:37:24.758Z caller=node_exporter.go:115 level=info collector=xfs
Feb 07 11:37:24 ip-10-100-10-171 node_exporter[24277]: ts=2022-02-07T11:37:24.758Z caller=node_exporter.go:115 level=info collector=zfs
Feb 07 11:37:24 ip-10-100-10-171 node_exporter[24277]: ts=2022-02-07T11:37:24.758Z caller=node_exporter.go:199 level=info msg="Listening on" address=:9100
Feb 07 11:37:24 ip-10-100-10-171 node_exporter[24277]: ts=2022-02-07T11:37:24.759Z caller=tls_config.go:195 level=info msg="TLS is disabled." http2=false
ubuntu@ip-10-100-10-171:~$
```

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

Available Memory in bytes	
Disk I/O	
Network Received in bytes	

Blackbox exporter dashboard	
CPU dashboard showing alert	
Slack CPU usage alert	
Alert showing flask is offline	

	
Alert showing flask is back online	 
List of alerting rules	

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 - he will need to identify the risks that the new hotfix poses to the environment and all required steps to achieve deployment*
- *Monitoring engineer - could you specific dashboards to monitor the deployed application*

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.

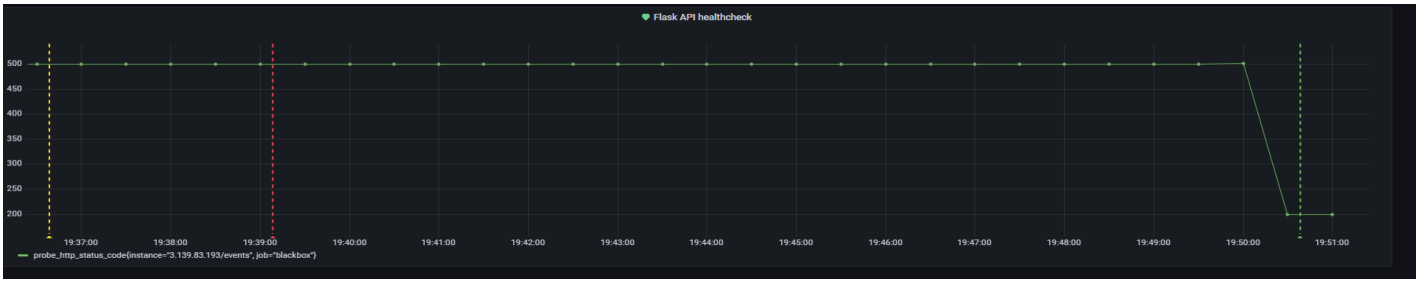
- *System architect - one who would be able to advice on the technologies used and infrastructure for the product*

- *Team lead - one who can also give its propositions on IT infrastructure, and how the team can be integrated into the project*
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 - one who controls the deployment and rollback procedures*

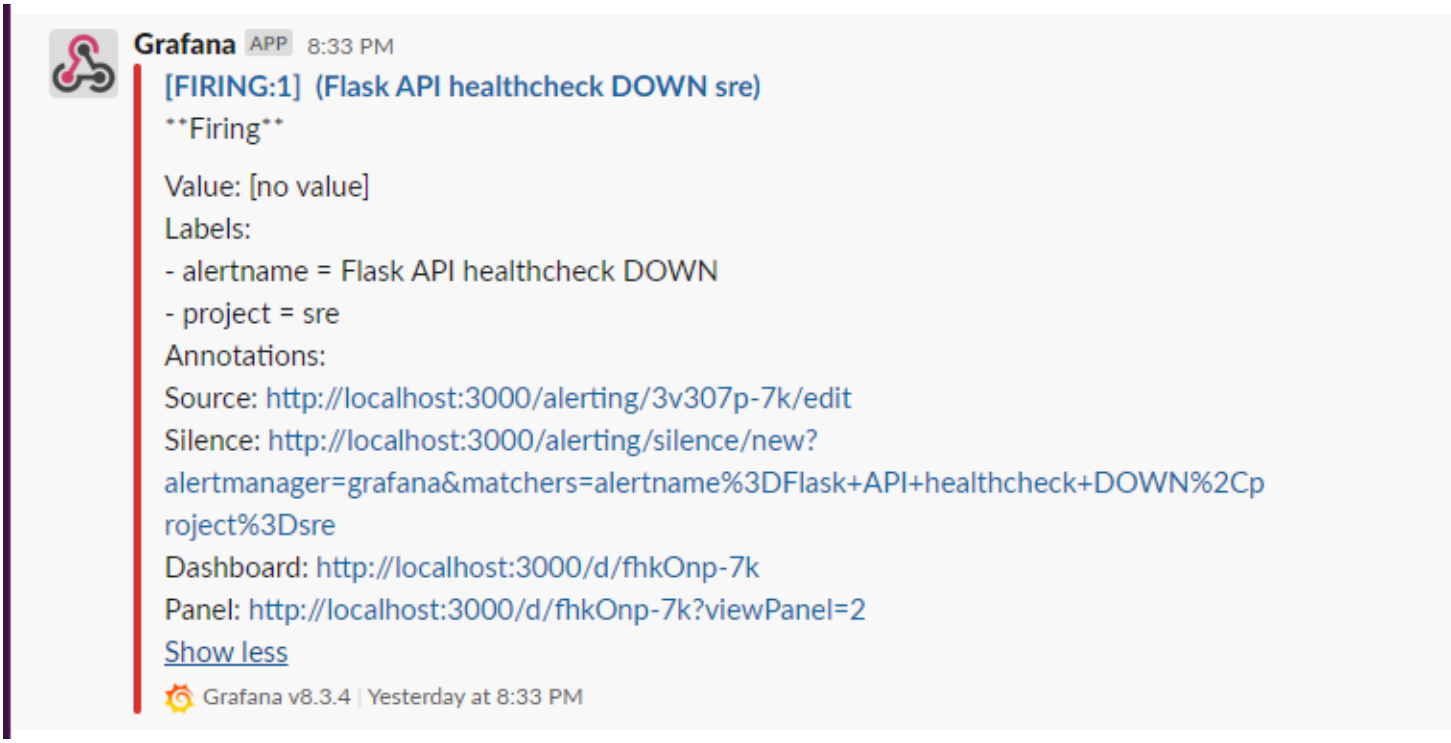
Team Formation and Workflow Identification

API Monitoring and Notifications

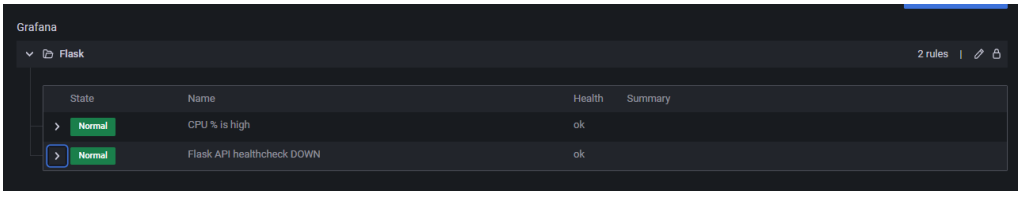
Display the status of an API endpoint: Provide a screenshot of the Grafana dashboard that will show at which point the API is unhealthy (non-200 HTTP code), and when it becomes healthy again (200 HTTP code).



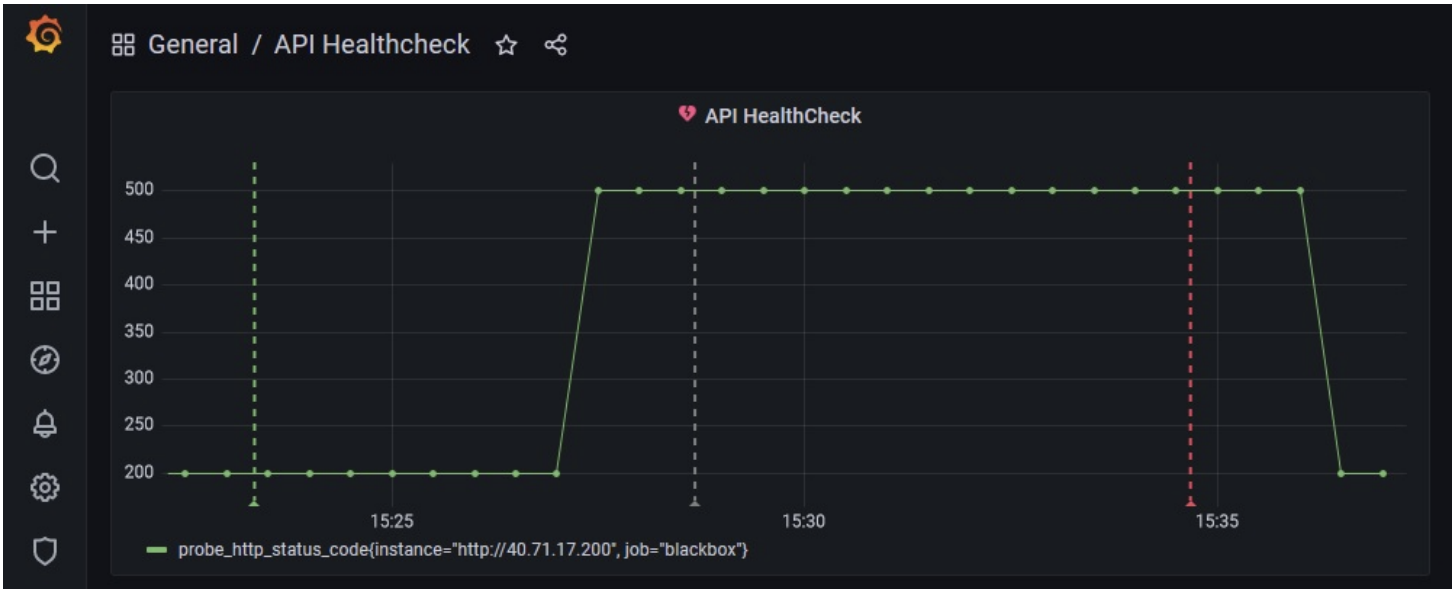
Create a notification channel: Provide a screenshot of the Grafana notification which shows the summary of the issue and when it occurred.



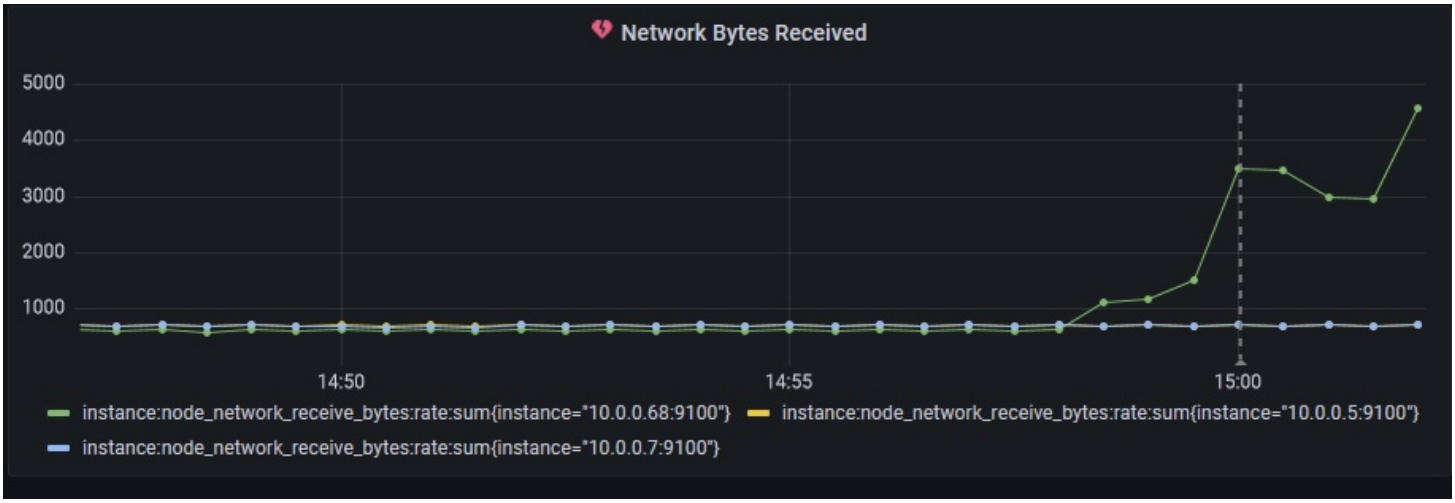
Configure alert rules: Provide a screenshot of the alert rules list in Grafana.



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?
The outage according to api health check endpoint happens at approximately 15:27. The alert is pending at 15:28 and fired at ~15:35
4b. If there was no SRE team, how would this outage affect customers?
The whole service would be unavailable(if it is customer facing) or if it is an internally used service, it will degrade or even stop the services that are customer related and rely on this one,
4c. What could be put in place so that the SRE team could know of the outage before the customer does?
Firstly a healthcheck monitoring dashboard. One could also monitor application logs for any ERRORs or Exceptions, in order to be aware of any problem as soon as the number of logged Errors increases

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 with IP 10.0.0.68 at port 9100. It received ~3500 bytes at 15:00 and more

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

Release managers could compare this graph with any recent release and check whether timings of those might be related.