# DAY 6 | Prometheus

Prometheus is an open-source system monitoring and alerting toolkit originally built at SoundCloud. It is now a standalone open source project . Prometheus joined the Cloud Native Computing Foundation in 2016 as the second hosted project, after Kubernetes.

**Features,**

1. a multi-dimensional data model with time series data identified by metric name and key/value pairs
2. PromQL, a flexible query language to leverage this dimensionality
3. no reliance on distributed storage; single server nodes are autonomous
4. time series collection happens via a pull model over HTTP
5. pushing time series is supported via an intermediary gateway
6. targets are discovered via service discovery or static configuration
7. multiple modes of graphing and dashboarding support

**Prometheus Installation:**

Username Creation: sudo

useradd \

--system \

--no-create-home \

--shell /bin/false Prometheus

**Command**s:

wget https://github.com/prometheus/prometheus/releases/download/v2.47.1/prometheus-2.47.1.linux-amd64.tar.gz tar -xvf

prometheus-2.47.1.linux-amd64.tar.gz sudo

mkdir -p /data /etc/prometheus cd

prometheus-2.47.1.linux-amd64/ sudo mv

prometheus promtool /usr/local/bin/ sudo

mv consoles/ console_libraries/

/etc/prometheus/ sudo mv prometheus.yml

/etc/prometheus/prometheus.yml sudo

chown -R prometheus:prometheus

/etc/prometheus/ /data/

cd rm -rf prometheus-2.47.1.linux-

amd64.tar.gz prometheus --version

sudo vim /etc/systemd/system/prometheus.service

Prometheus.sevice:

```
[Unit]
Description=Prometheus
Wants=network-online.target
After=network-online.target
StartLimitIntervalSec=500
StartLimitBurst=5
[Service]
User=prometheus
Group=prometheus
Type=simple
Restart=on-failure
RestartSec=5s
ExecStart=/usr/local/bin/prometheus \
  --config.file=/etc/prometheus/prometheus.yml \
  --storage.tsdb.path=/data \
  --web.console.templates=/etc/prometheus/consoles \
```

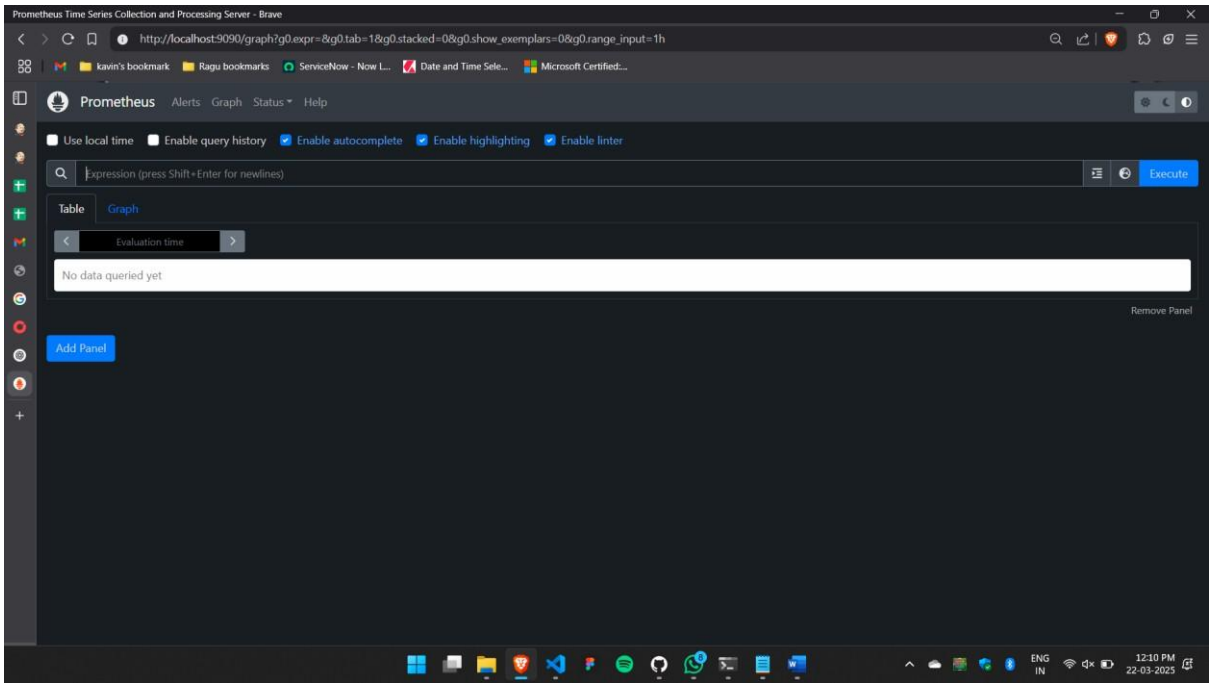
--web.console.libraries=/etc/prometheus/console_libraries \

--web.listen-address=0.0.0.0:9090 \

--web.enable-lifecycle

[Install]

WantedBy=multi-user.target




Node Exporter:

Commands for installation: sudo mv \

node_exporter-1.6.1.linux-amd64/node_exporter \

/usr/local/bin/

rm -rf node_exporter*

Node exporter file:

[Unit]

Description=Node Exporter

Wants=network-online.target

After=network-online.target

StartLimitIntervalSec=500

StartLimitBurst=5

[Service]

User=node_exporter

Group=node_exporter

Type=simple

Restart=on-failure

RestartSec=5s

ExecStart=/usr/local/bin/node_exporter \

--collector.logind

[Install]

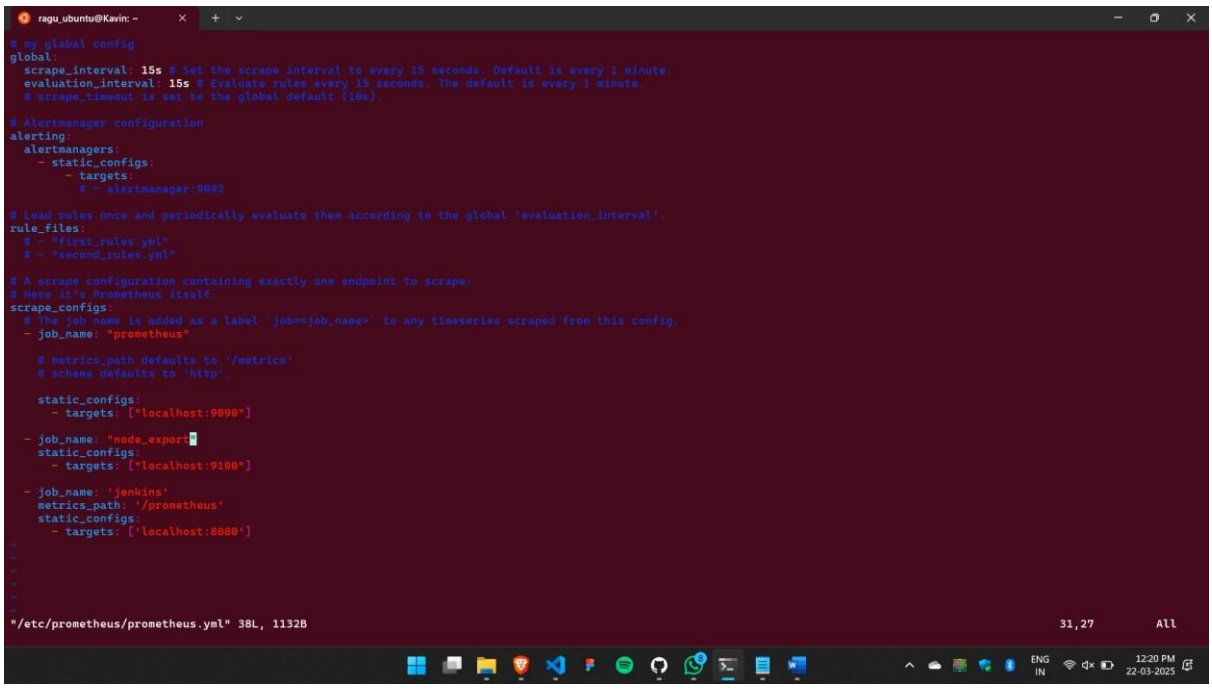
WantedBy=multi-user.target

Service check : sudo systemctl enable node_exporter

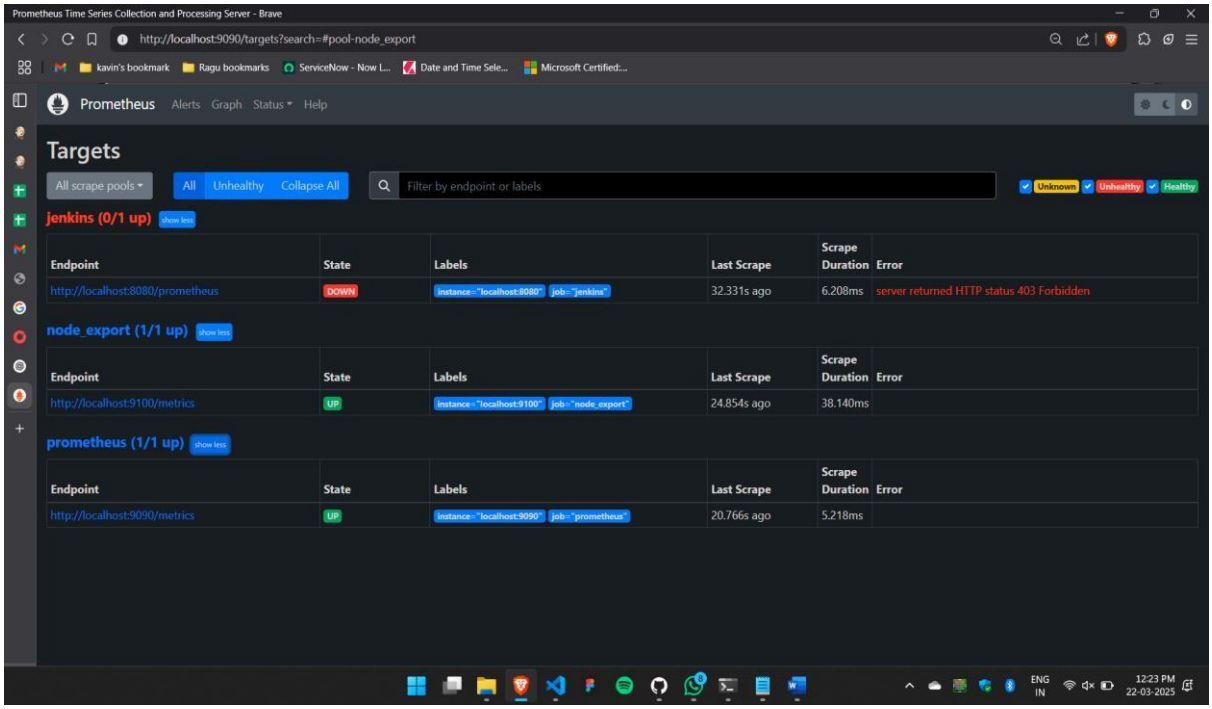
sudo systemctl start node_exporter sudo systemctl

status node_exporter journalctl -u node_exporter -f -

-no-pager




Reload Promotheus: curl -X POST http://localhost:9090/-/reload




## Grafana:

sudo apt-get install -y apt-transport-https software-properties-common

wget -q -O - https://packages.grafana.com/gpg.key | sudo apt-key add -

echo "deb https://packages.grafana.com/oss/deb stable main" | sudo tee -a /etc/apt/sources.list.d/grafana.list

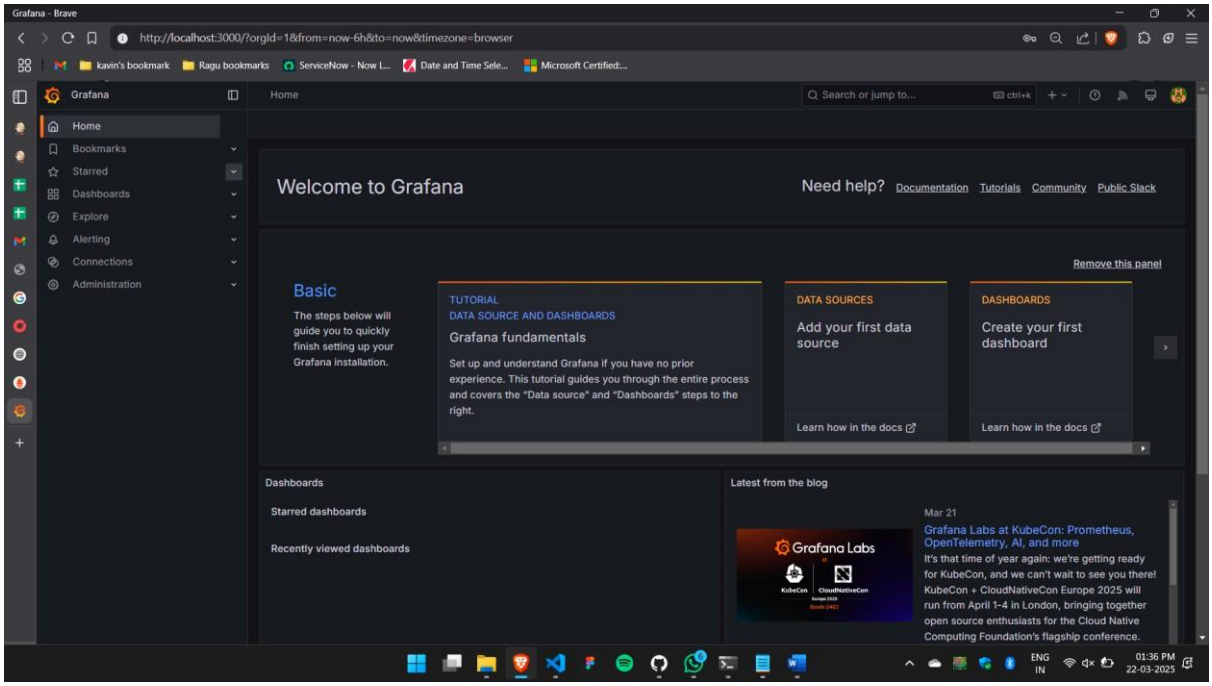
sudo apt-get update sudo apt-get -y

install grafana sudo systemctl enable

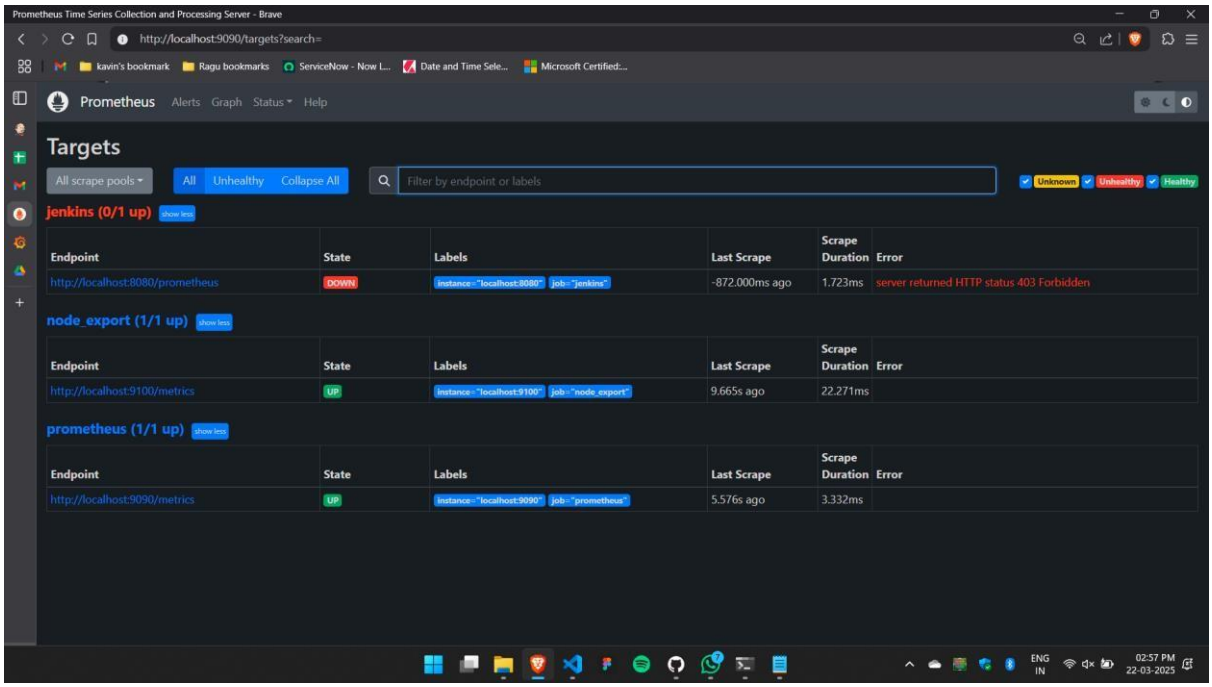
grafana-server sudo systemctl start

grafana-server sudo systemctl status

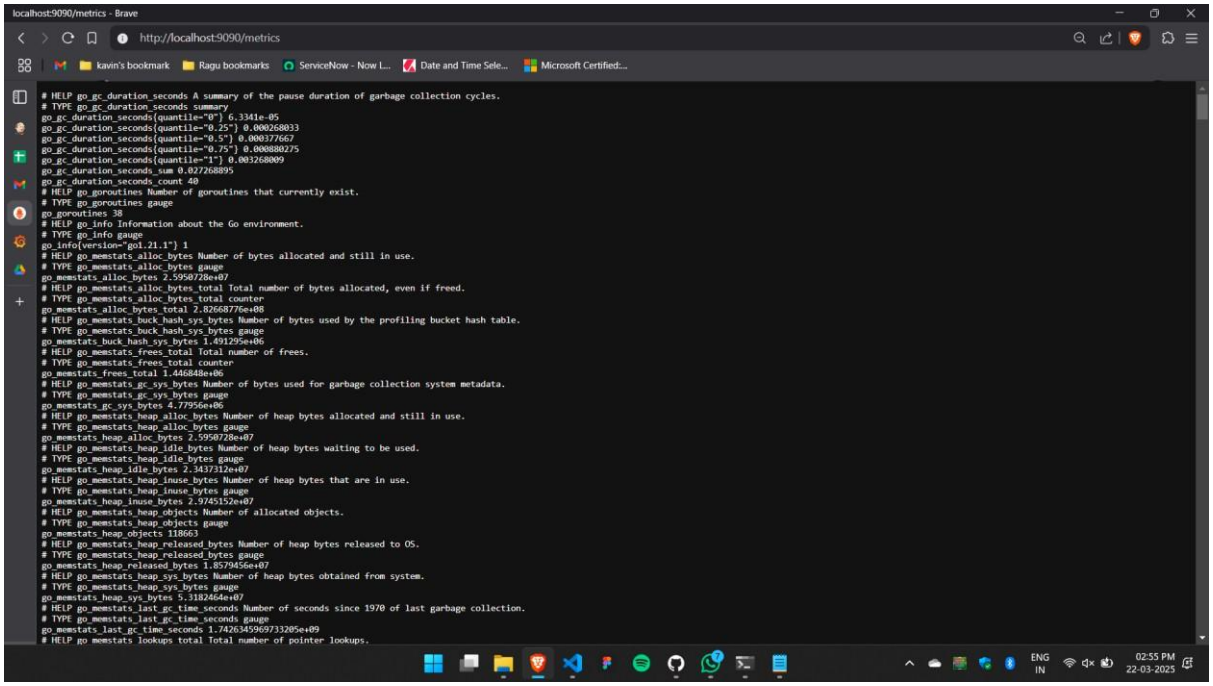
grafana-server Grafana UI:



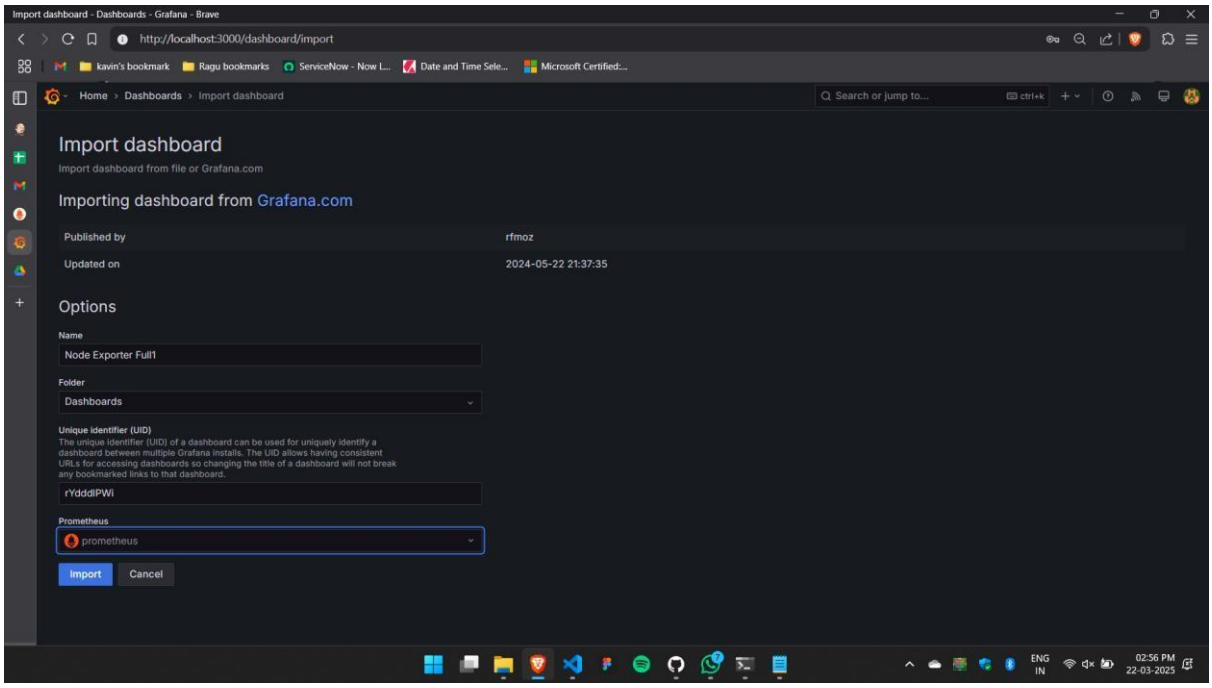

**Status in promethues:**



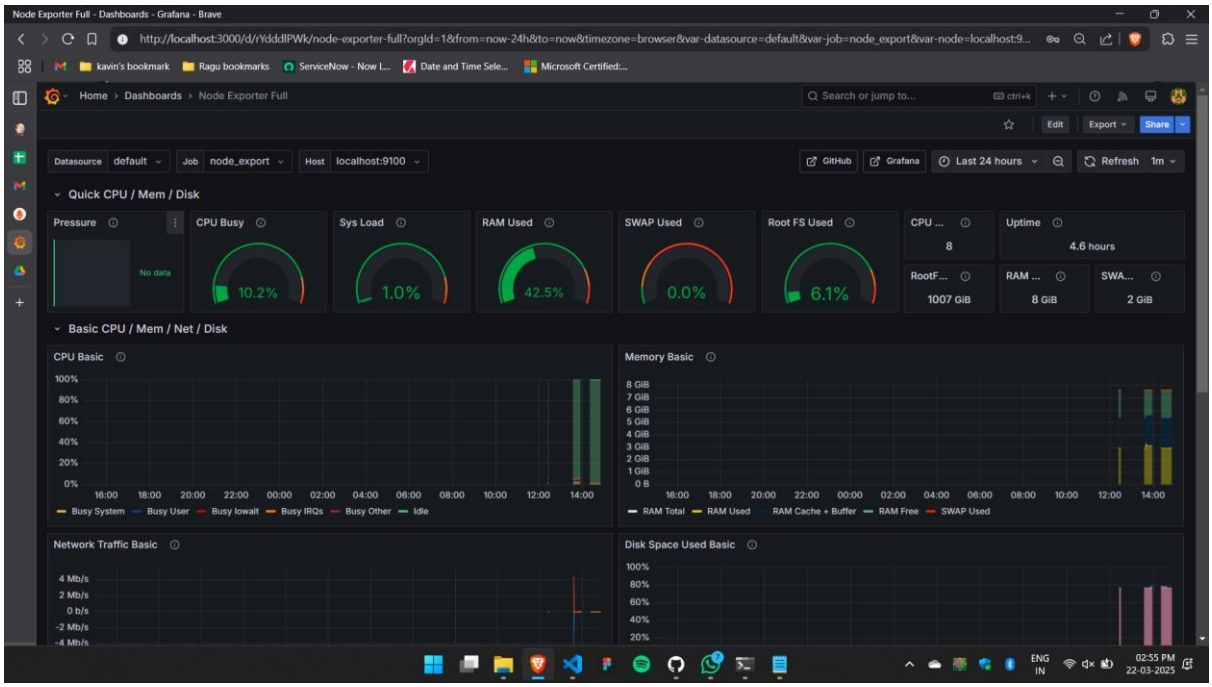
**Metrics in Prometheus:**

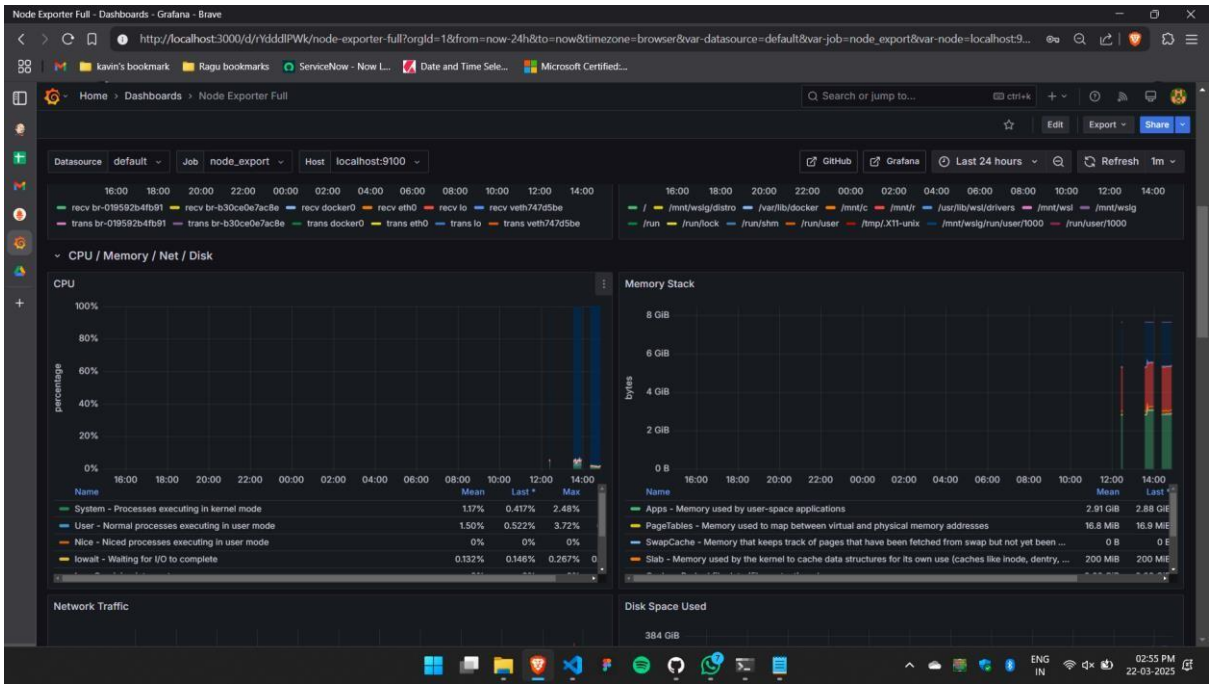



Node Exporter:

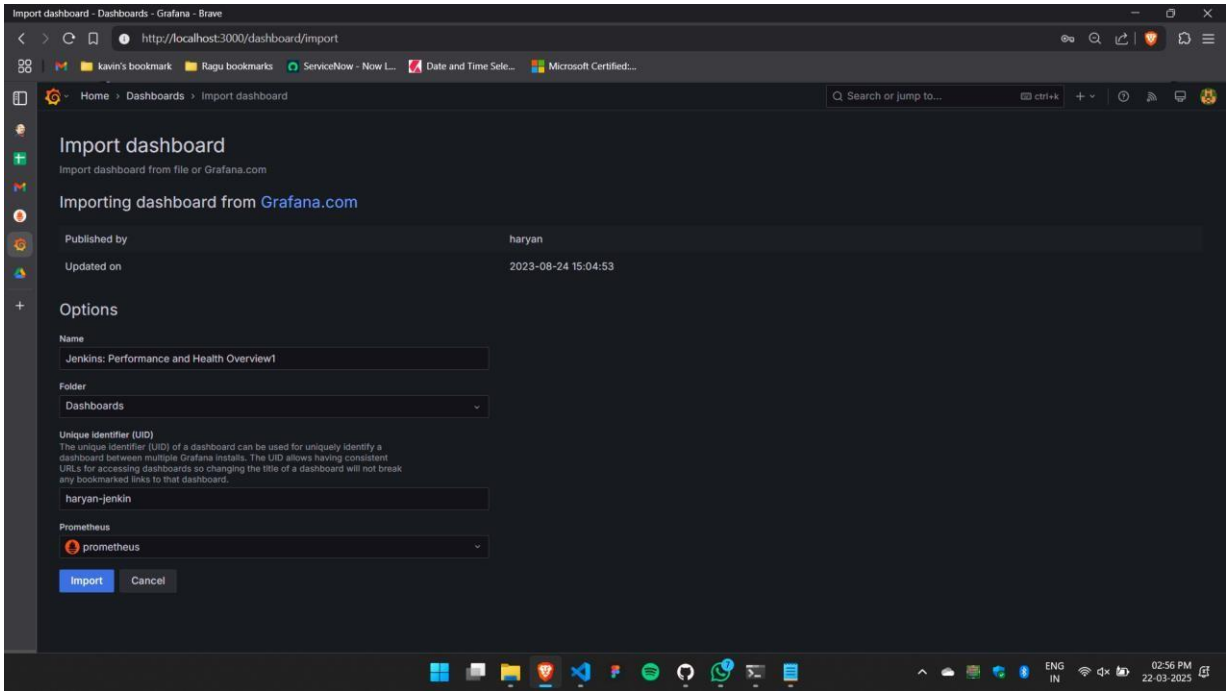



Dashboard:

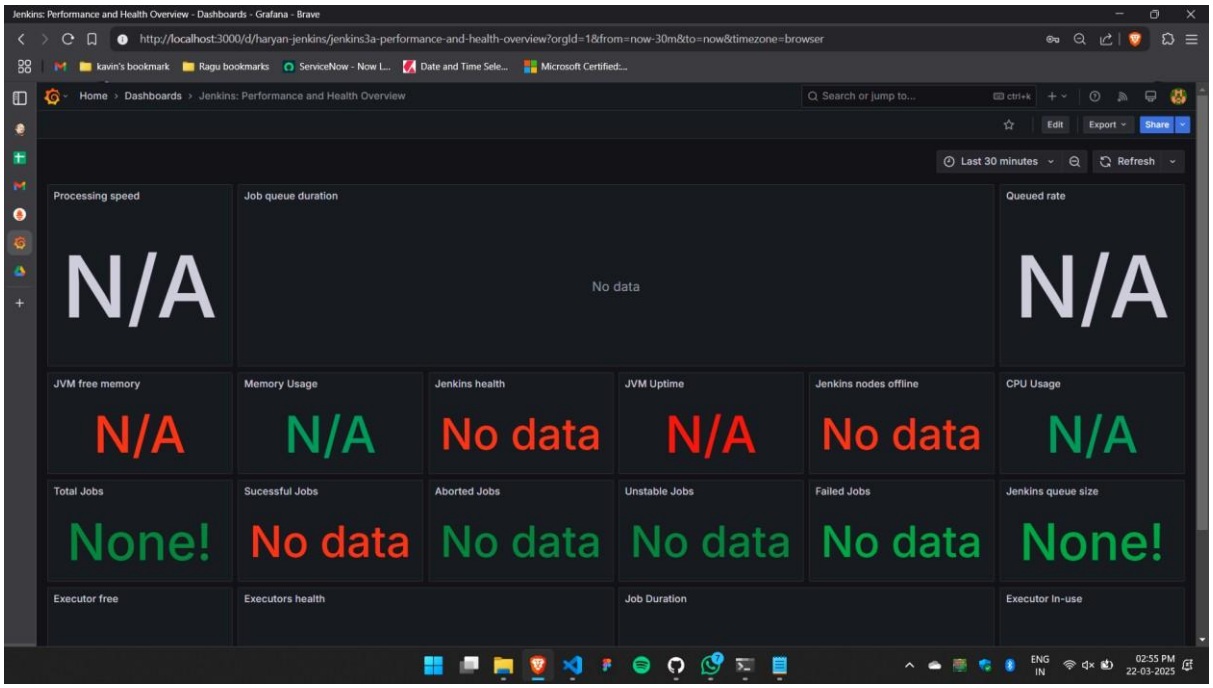



Jenkins Overview:

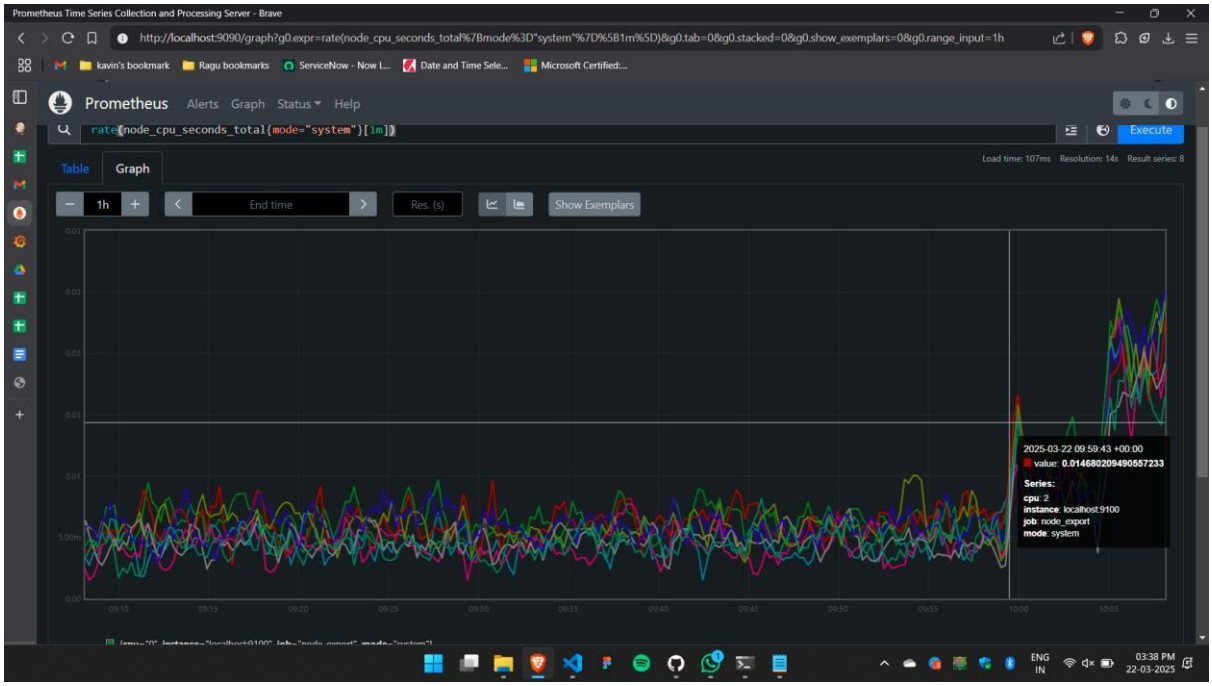



Dashboard:

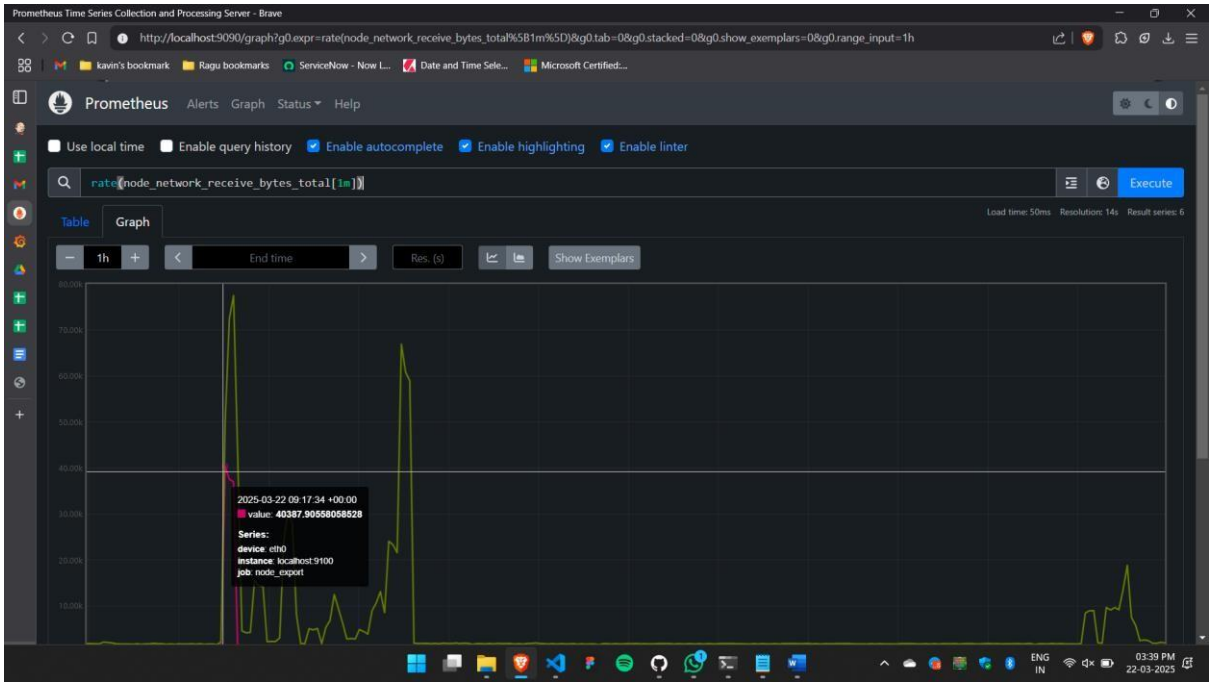



Prometheus analysis:

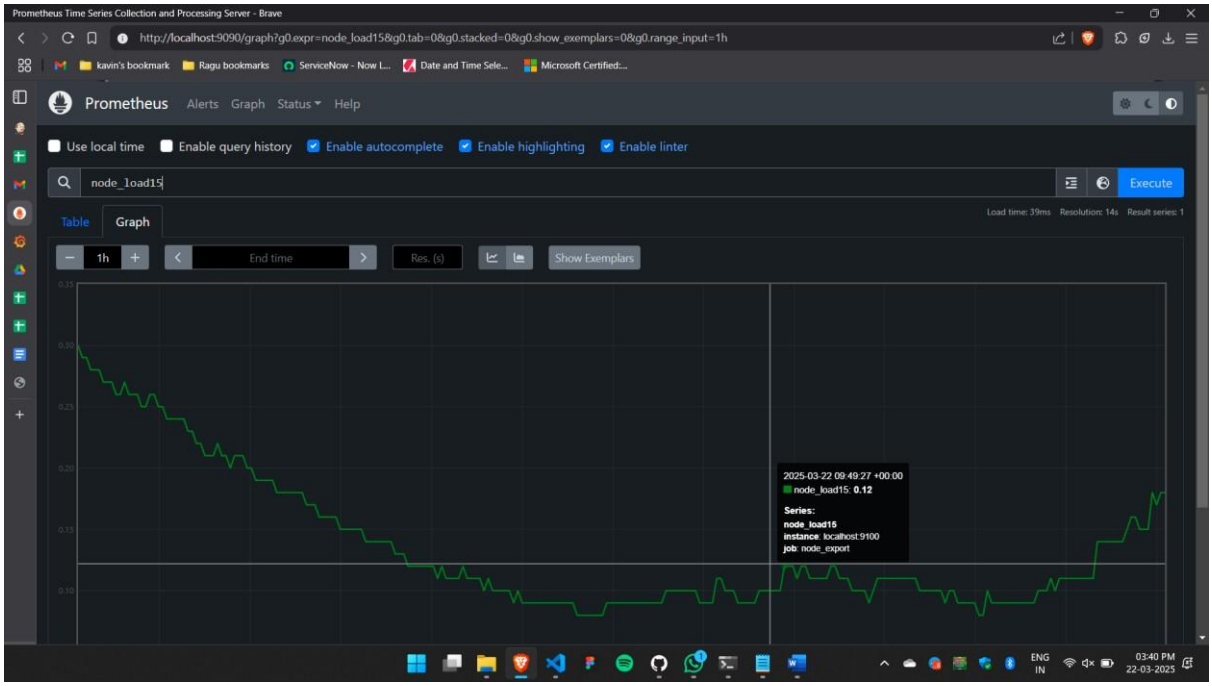
rate(node_cpu_seconds_total{mode="system"}[1m])




rate(node_network_receive_bytes_total[1m])

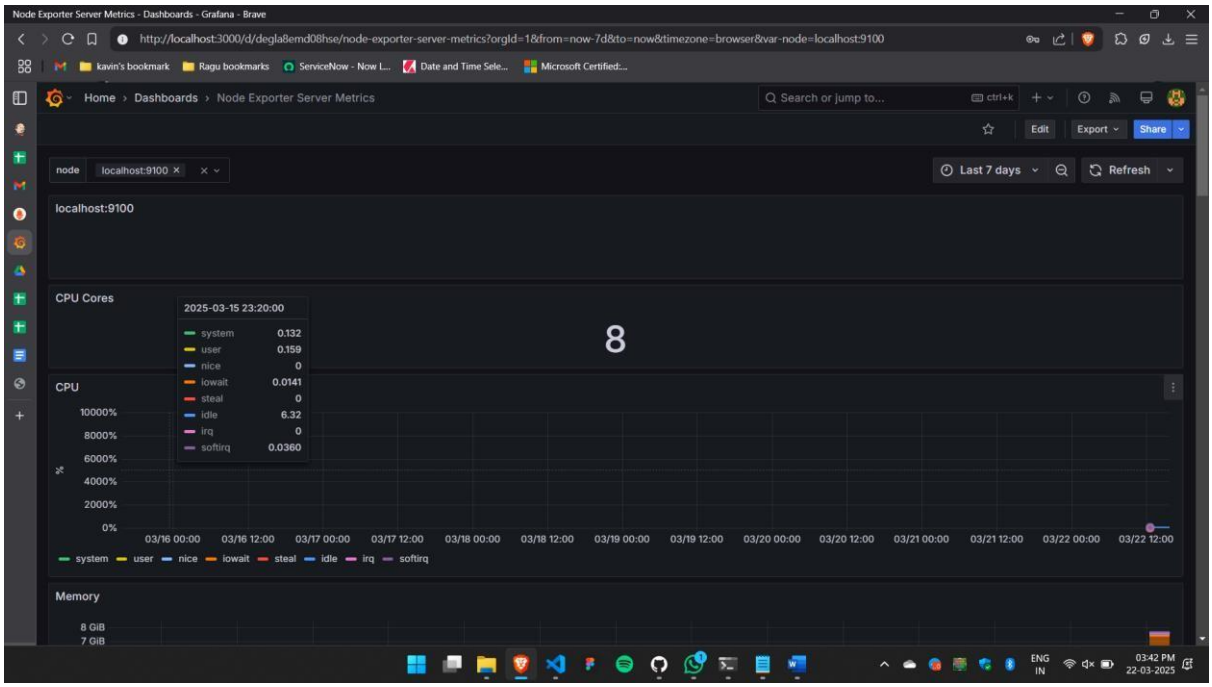



node_load15



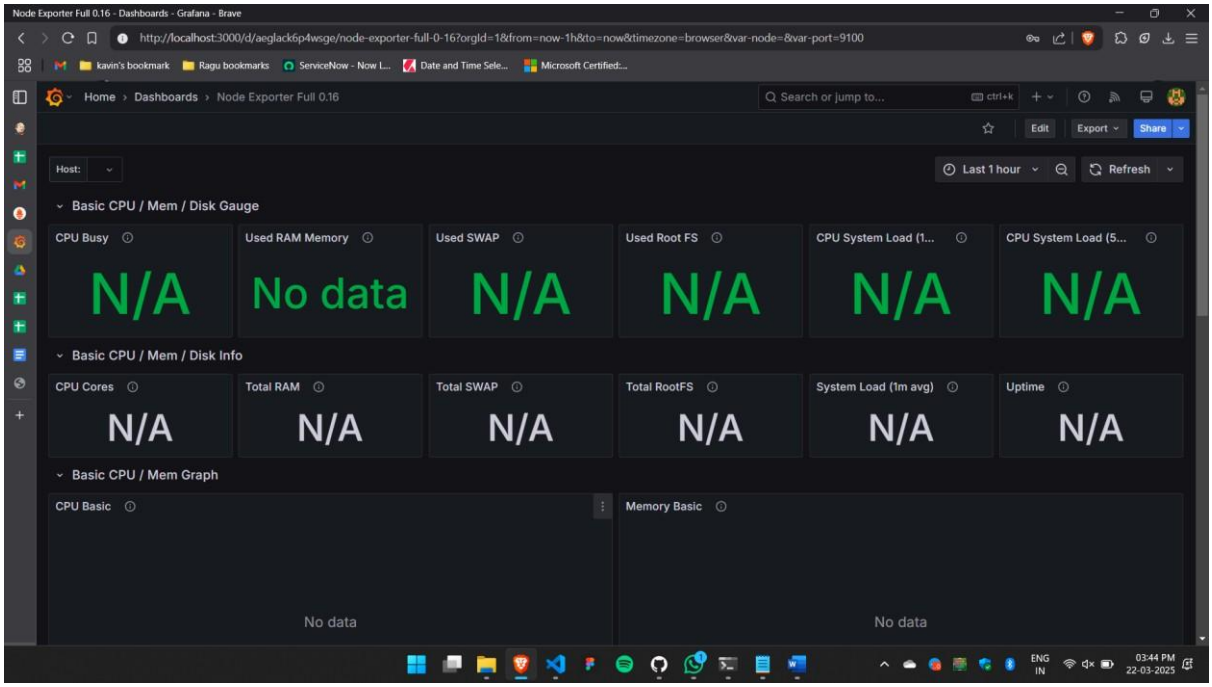

Dashboard: (405)

Node Exporter Service metrics,



Dashboard (5174):

Node Exporter Full 0.16,




Dashboard (9096):

1 Node Exporter 1.0.1