DevOps-Day 06 : Prometheus and Grafana

Prometheus

Command:

```
sudo useradd \
    --system \
    --no-create-home \
    --shell /bin/false Prometheus
```

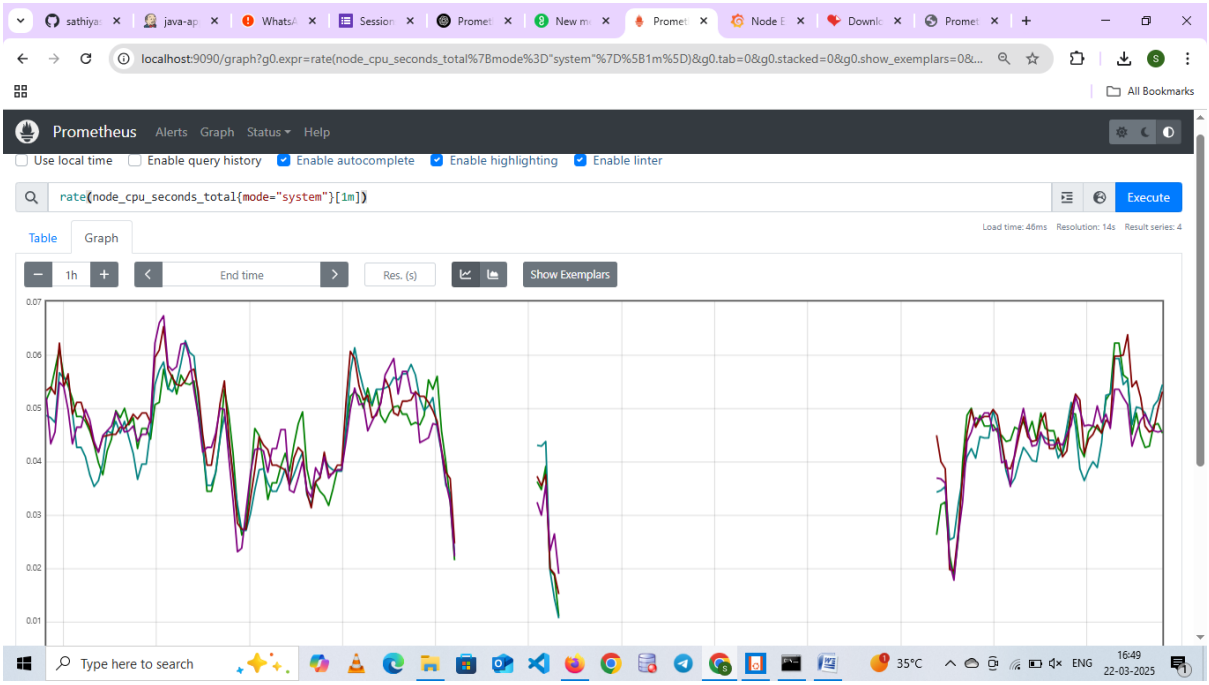
```
wget https://github.com/prometheus/prometheus/releases/download/v2.47.1/prometheus-2.47.1.linux-amd64.tar.gz
tar -xvf prometheus-2.47.1.linux-amd64.tar.gz
sudo mkdir -p /data /etc/prometheus
cd prometheus-2.47.1.linux-amd64/
sudo mv prometheus promtool /usr/local/bin/
sudo mv consoles/ console_libraries/ /etc/prometheus/
sudo mv prometheus.yml /etc/prometheus/prometheus.yml
sudo chown -R prometheus:prometheus /etc/prometheus/ /data/
```

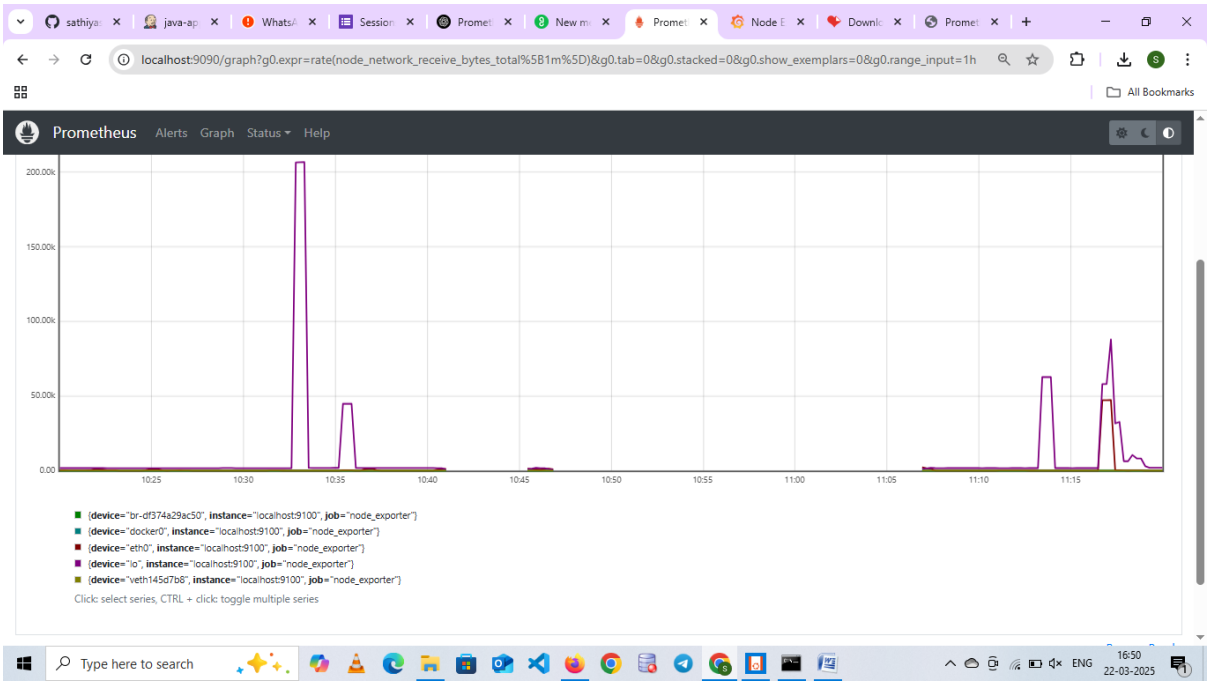
```
cd
rm -rf prometheus-2.47.1.linux-amd64.tar.gz
prometheus --version
sudo vim /etc/systemd/system/prometheus.service
```

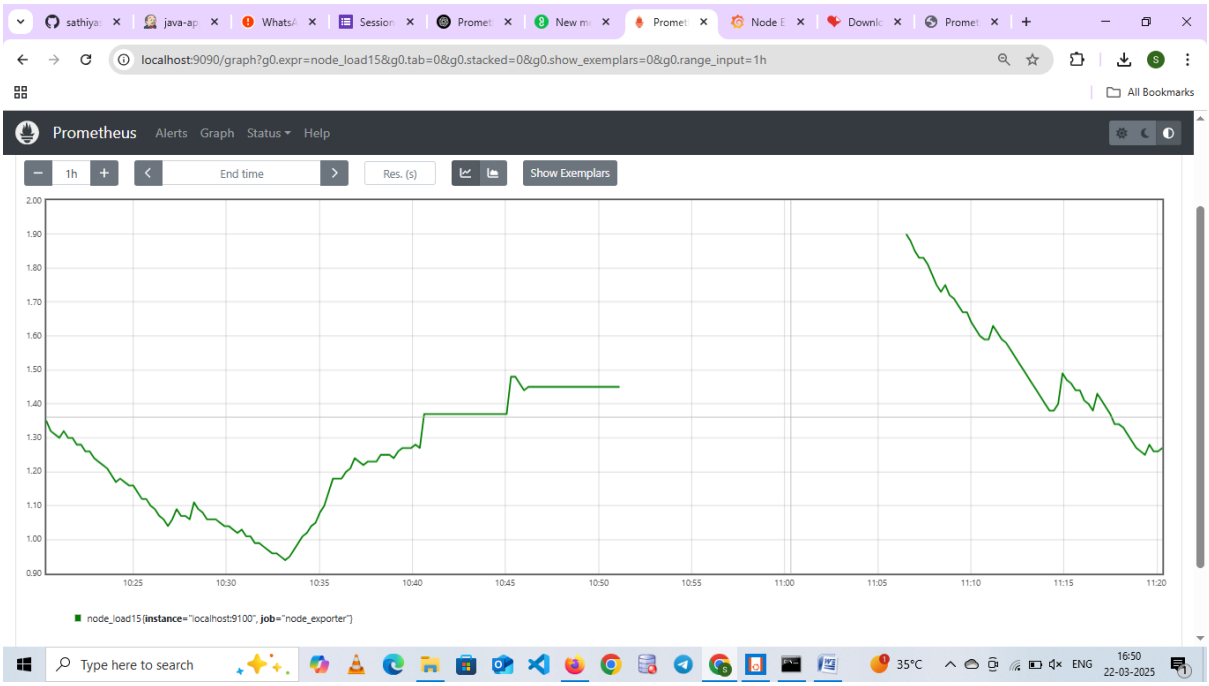
```
---
global:
  scrape_interval: 15s  # How often to scrape targets
  evaluation_interval: 15s  # How often to evaluate rules

scrape_configs:
```

```
  - job_name: "prometheus"
    static_configs:
      - targets: ["localhost:9090"]

  - job_name: "node_exporter"
    static_configs:
      - targets: ["localhost:9100"]
```

```
sudo systemctl enable prometheus
sudo systemctl start prometheus
sudo systemctl status prometheus
journalctl -u prometheus -f --no-pager
```







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

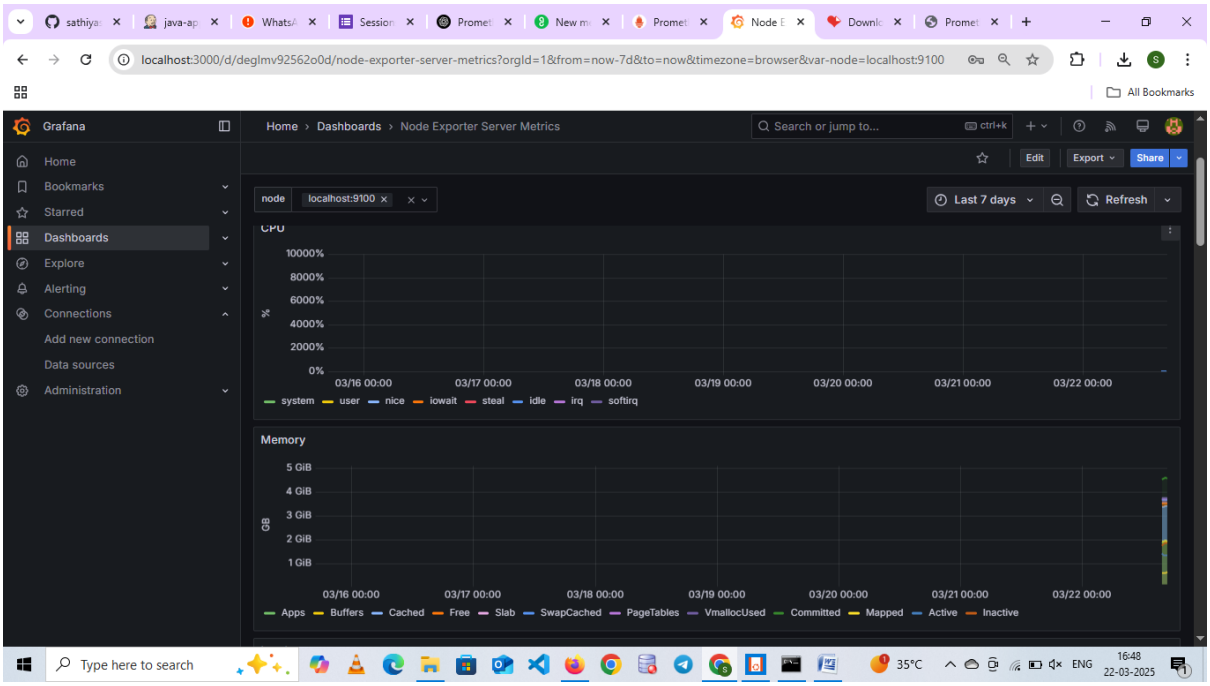
sudo apt-get update

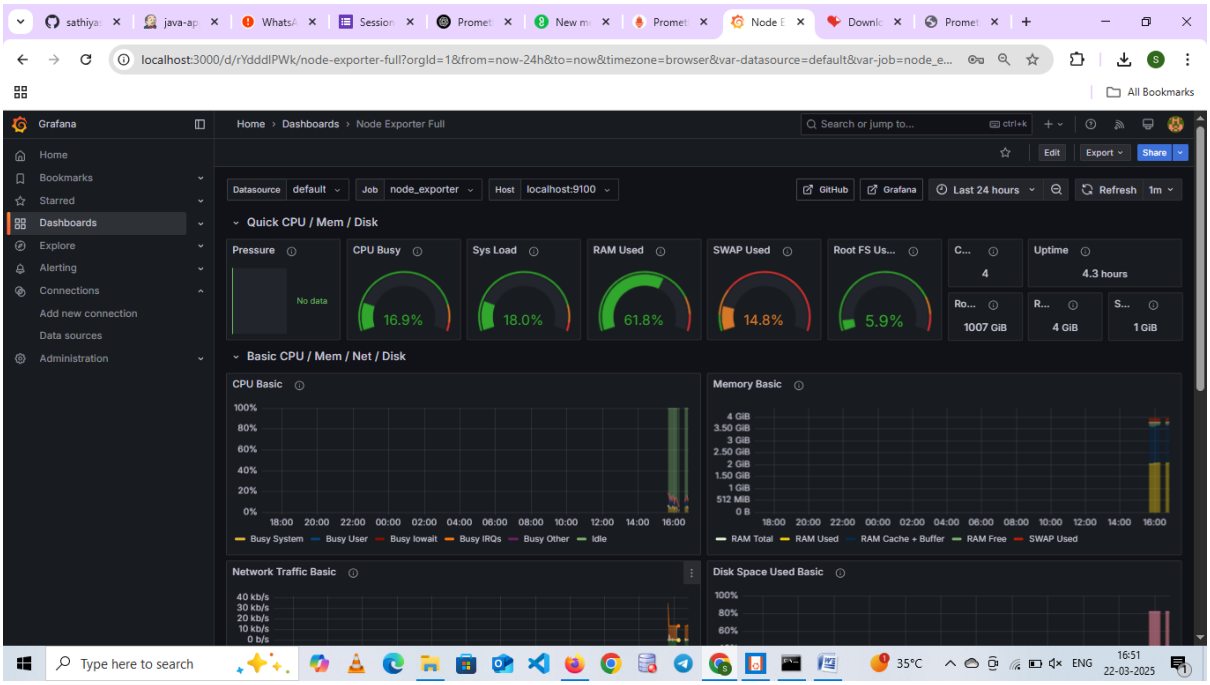
sudo apt-get -y install grafana

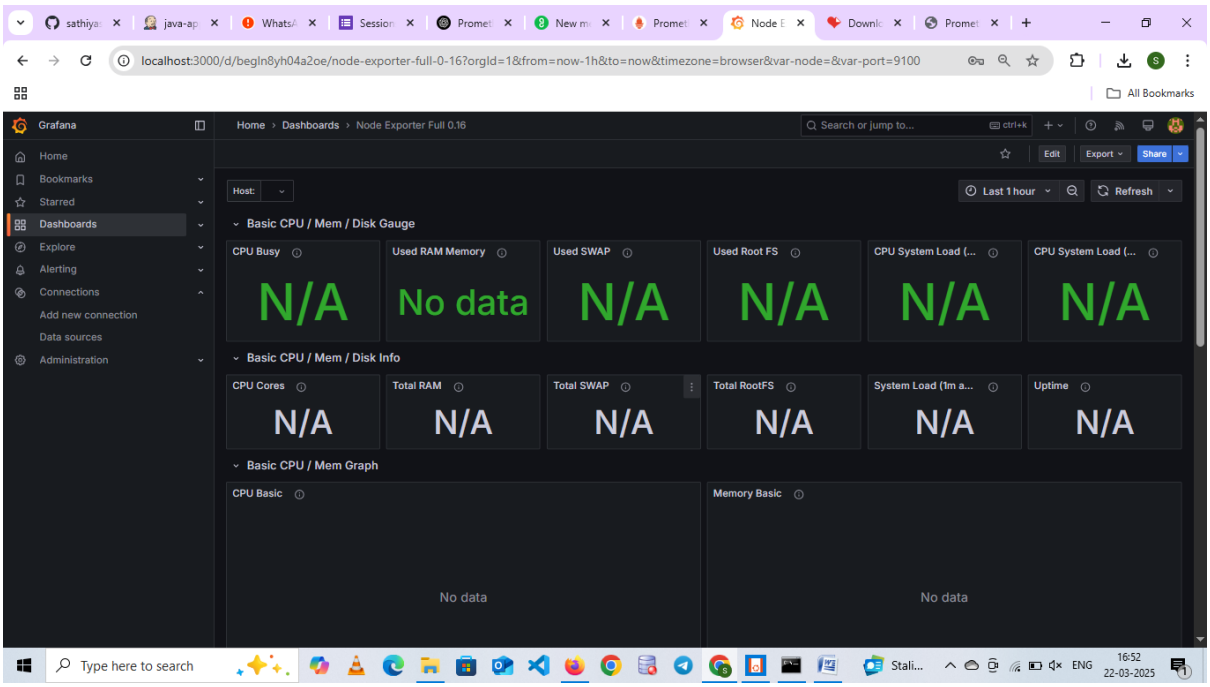
sudo systemctl enable grafana-server

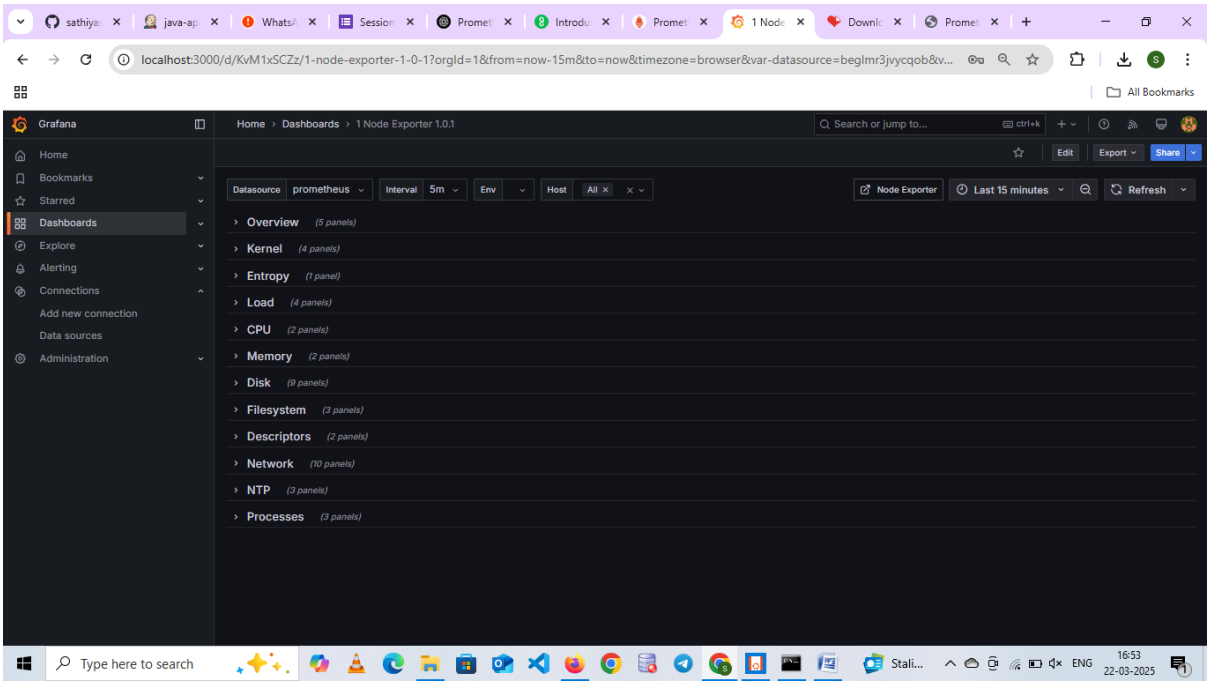
sudo systemctl start grafana-server

sudo systemctl status grafana-server




localhost:3000/d/rYdddlPWk/node-exporter-full?orgId=1&from=now-24h&to=now&timezone=browser&var-datasource=default&var-job=node_e...
Grafana
Home › Dashboards › Node Exporter Full
Search or jump to...
Edit
Export
Share
Home
Bookmarks
Starred
Dashboards
Explore
Alerting
Connections
Add new connection
Data sources
Administration
Datasource default
Job node_exporter
Host localhost:9100
GitHub
Grafana
Last 24 hours
Refresh 1m
Quick CPU / Mem / Disk
Pressure
No data
CPU Busy
16.9%
Sys Load
18.0%
RAM Used
61.8%
SWAP Used
14.8%
Root FS Us...
5.9%
C...
4
Uptime
4.3 hours
Ro...
1007 GiB
R...
4 GiB
S...
1 GiB
Basic CPU / Mem / Net / Disk
CPU Basic
Busy System
Busy User
Busy Iowait
Busy IRQs
Busy Other
Idle
Memory Basic
RAM Total
RAM Used
RAM Cache + Buffer
RAM Free
SWAP Used
Network Traffic Basic
Disk Space Used Basic
Type here to search
35°C
ENG
16:51
22-03-2025


localhost:3000/d/begln8yh04a2oe/node-exporter-full-0-16?orgId=1&from=now-1h&to=now&timezone=browser&var-node=&var-port=9100
Grafana
Home › Dashboards › Node Exporter Full 0.16
Search or jump to...
Edit
Export
Share
Home
Bookmarks
Starred
Dashboards
Explore
Alerting
Connections
Add new connection
Data sources
Administration
Host:
Last 1 hour
Refresh
Basic CPU / Mem / Disk Gauge
CPU Busy
N/A
Used RAM Memory
No data
Used SWAP
N/A
Used Root FS
N/A
CPU System Load (...
N/A
CPU System Load (...
N/A
Basic CPU / Mem / Disk Info
CPU Cores
N/A
Total RAM
N/A
Total SWAP
N/A
Total RootFS
N/A
System Load (1m a...
N/A
Uptime
N/A
Basic CPU / Mem Graph
CPU Basic
No data
Memory Basic
No data
Type here to search
ENG
16:52
22-03-2025



http://localhost:9090/metrics

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