

```
#####installation of prometheus and setting it up#####
export RELEASE="2.2.1"
sudo useradd --no-create-home --shell /bin/false prometheus
sudo mkdir /etc/prometheus
sudo mkdir /var/lib/prometheus
sudo chown prometheus:prometheus /etc/prometheus
sudo chown prometheus:prometheus /var/lib/prometheus
cd /opt/
wget https://github.com/prometheus/prometheus/releases/download/v2.26.0/prometheus-2.26.0.linux-amd64.tar.gz
sha256sum prometheus-2.26.0.linux-amd64.tar.gz
ls
tar -xvf prometheus-2.26.0.linux-amd64.tar.gz
cd prometheus-2.26.0.linux-amd64
ls
sudo cp /opt/prometheus-2.26.0.linux-amd64/prometheus /usr/local/bin/
sudo cp /opt/prometheus-2.26.0.linux-amd64/promtool /usr/local/bin/
sudo chown prometheus:prometheus /usr/local/bin/prometheus
sudo chown prometheus:prometheus /usr/local/bin/promtool
sudo cp -r /opt/prometheus-2.26.0.linux-amd64/consoles /etc/prometheus
sudo cp -r /opt/prometheus-2.26.0.linux-amd64/console_libraries /etc/prometheus
sudo cp -r /opt/prometheus-2.26.0.linux-amd64/prometheus.yml /etc/prometheus
sudo chown -R prometheus:prometheus /etc/prometheus/consoles
sudo chown -R prometheus:prometheus /etc/prometheus/console_libraries
sudo chown -R prometheus:prometheus /etc/prometheus/prometheus.yml
prometheus --version
promtool --version
cat /etc/prometheus/prometheus.yml
sudo -u prometheus /usr/local/bin/prometheus
--config.file /etc/prometheus/prometheus.yml
--storage.tsdb.path /var/lib/prometheus/

--web.console.templates=/etc/prometheus/consoles
--web.console.libraries=/etc/prometheus/console_libraries
sudo nano /etc/systemd/system/prometheus.service
sudo systemctl daemon-reload
sudo systemctl start prometheus
sudo systemctl enable prometheus
sudo systemctl status prometheus
```

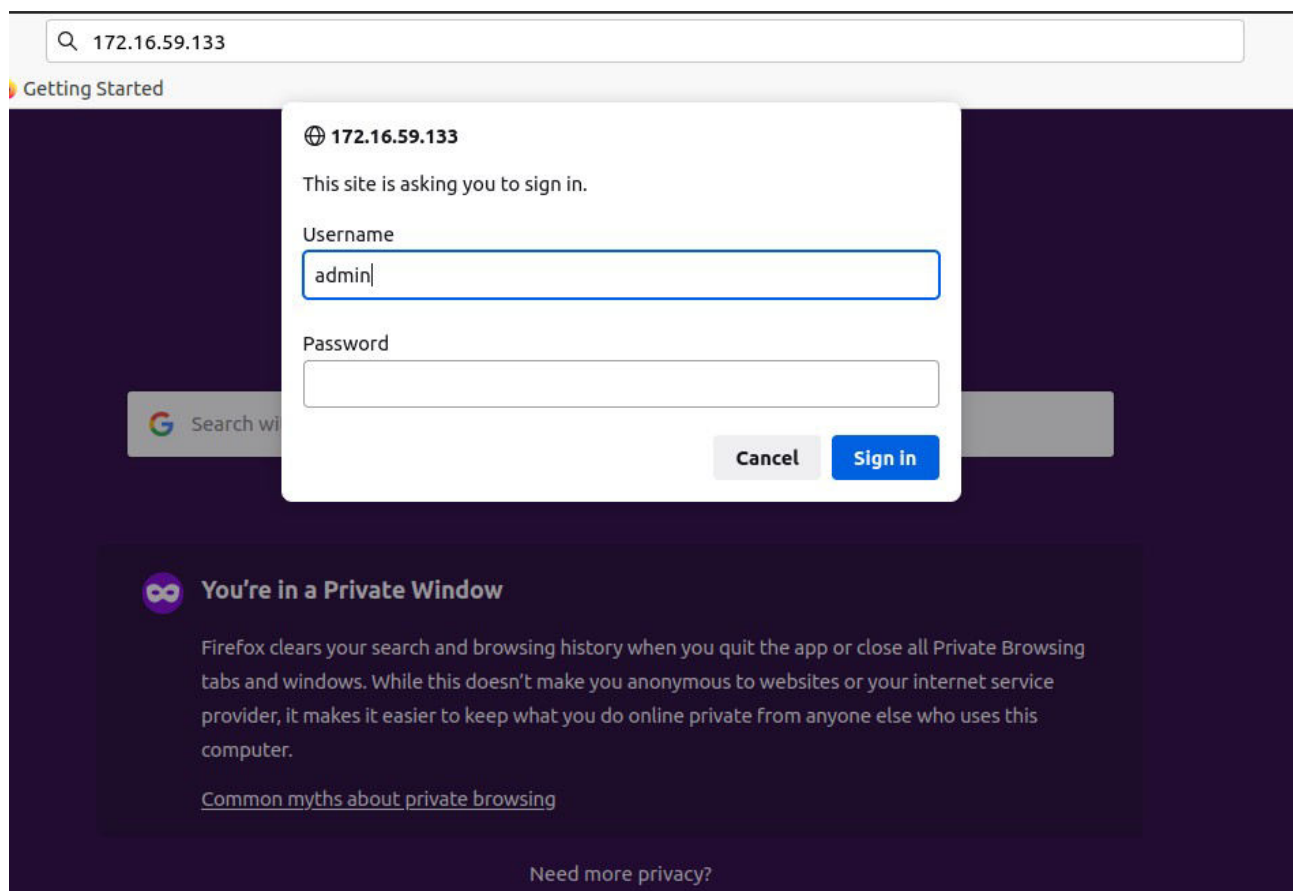
```
root@ubuntu:/opt/prometheus-2.26.0.linux-amd64# sudo systemctl status prometheus
● prometheus.service - Prometheus
   Loaded: loaded (/etc/systemd/system/prometheus.service; enabled; vendor preset: enabled)
   Active: active (running) since Sat 2021-12-04 18:27:48 PST; 34s ago
     Main PID: 5571 (prometheus)
        Tasks: 7 (limit: 2260)
      Memory: 20.0M
    CGroup: /system.slice/prometheus.service
            └─5571 /usr/local/bin/prometheus --config.file /etc/prometheus/prometheus.yml --storage.tsdb.path /var/lib/prometheus/ --web.console.templates=/etc/prometheus/consoles --web.console.libraries=/etc/prometheus/console_libraries

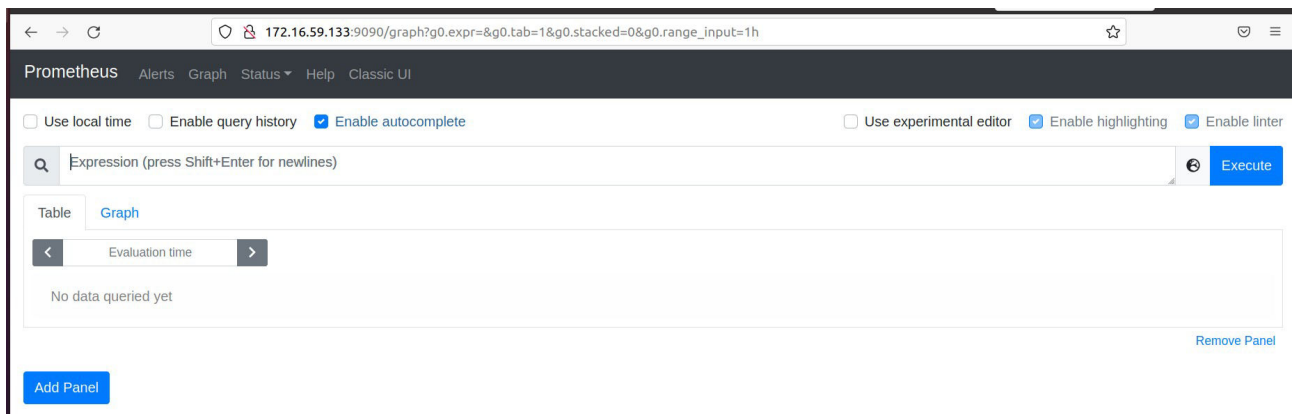
Dec 04 18:27:48 ubuntu prometheus[5571]: level=info ts=2021-12-05T02:27:48.859Z caller=head.go:716 component=tsdb msg="Replaying WAL, this may take a while"
Dec 04 18:27:48 ubuntu prometheus[5571]: level=info ts=2021-12-05T02:27:48.863Z caller=head.go:768 component=tsdb msg="WAL segment loaded" segment=0 maxSegment=1
Dec 04 18:27:48 ubuntu prometheus[5571]: level=info ts=2021-12-05T02:27:48.863Z caller=head.go:768 component=tsdb msg="WAL segment loaded" segment=1 maxSegment=1
Dec 04 18:27:48 ubuntu prometheus[5571]: level=info ts=2021-12-05T02:27:48.863Z caller=head.go:773 component=tsdb msg="WAL replay completed" checkpoint_replay_duration=1.0001s
Dec 04 18:27:48 ubuntu prometheus[5571]: level=info ts=2021-12-05T02:27:48.865Z caller=main.go:815 fs_type=EXT4_SUPER_MAGIC
Dec 04 18:27:48 ubuntu prometheus[5571]: level=info ts=2021-12-05T02:27:48.865Z caller=main.go:818 msg="TSDB started"
Dec 04 18:27:48 ubuntu prometheus[5571]: level=info ts=2021-12-05T02:27:48.865Z caller=main.go:944 msg="Loading configuration file" filename=/etc/prometheus/prometheus.yml
Dec 04 18:27:48 ubuntu prometheus[5571]: level=info ts=2021-12-05T02:27:48.867Z caller=main.go:975 msg="Completed loading of configuration file" filename=/etc/prometheus/prometheus.yml
Dec 04 18:27:48 ubuntu prometheus[5571]: level=info ts=2021-12-05T02:27:48.867Z caller=main.go:767 msg="Server is ready to receive web requests."
Dec 04 18:28:10 ubuntu systemd[1]: /etc/systemd/system/prometheus.service:14: Unknown key name '--web.listen-address' in section 'Service', ignoring.
lines 1-19/19 (END)
```

```
sudo ufw allow 9090/tcp
ufw reload
ufw status
ufw enable
```

```
ufw disable
ufw status verbose
ufw enable
ufw status
ufw allow 22/tcp
ufw reload
ufw status
ip a
```

```
#####Configuration basic authentication username/password#####
sudo apt-get update
sudo apt-get install nginx -y
sudo apt-get install apache2-utils
sudo htpasswd -c /etc/nginx/.htpasswd admin
sudo cp /etc/nginx/sites-available/default /etc/nginx/sites-available/prometheus
sudo nano /etc/nginx/sites-available/prometheus
sudo rm /etc/nginx/sites-enabled/default
sudo ln -s /etc/nginx/sites-available/prometheus /etc/nginx/sites-enabled/
sudo nginx -t
sudo systemctl reload nginx
sudo systemctl status nginx
```





Q2))#####Installation of Nodeexporter in server1#####

```
sudo useradd --no-create-home --shell /bin/false node_exporter
wget https://github.com/prometheus/node_exporter/releases/download/v1.2.0/node_exporter-1.2.0.linux-amd64.tar.gz
sudo tar xvzf node_exporter-1.2.0.linux-amd64.tar.gz
cd node_exporter-1.2.0.linux-amd64
sudo cp node_exporter /usr/local/bin
sudo chown node_exporter:node_exporter /usr/local/bin/node_exporter
cd /lib/systemd/system
sudo nano node_exporter.service
rm -rf node_exporter-0.15.1.linux-amd64.tar.gz node_exporter-0.15.1.linux-amd64
sudo nano /etc/systemd/system/node_exporter.service
cd /lib/systemd/system
sudo nano node_exporter.service
sudo systemctl daemon-reload
sudo systemctl start node_exporter
sudo systemctl status node_exporter
sudo nano node_exporter.service
sudo nano /etc/systemd/system/node_exporter.service
sudo systemctl daemon-reload
sudo systemctl start node_exporter
sudo systemctl status node_exporter
```

```

er.service
aroj@ubuntu-serv1:/lib/systemd/system$ sudo systemctl daemon-reload
aroj@ubuntu-serv1:/lib/systemd/system$ sudo systemctl start node_exporter
aroj@ubuntu-serv1:/lib/systemd/system$ sudo systemctl status node_exporter
node_exporter.service - Node Exporter
  Loaded: loaded (/etc/systemd/system/node_exporter.service; enabled; vendor>
  Active: active (running) since Sun 2021-12-05 03:23:16 PST; 3s ago
  Main PID: 3581 (node_exporter)
  Tasks: 4 (limit: 2260)
  Memory: 2.4M
  CGroup: /system.slice/node_exporter.service
          └─3581 /usr/local/bin/node_exporter

ec 05 03:23:16 ubuntu-serv1 node_exporter[3581]: level=info ts=2021-12-05T11:2>
ec 05 03:23:16 ubuntu-serv1 node_exporter[3581]: level=info ts=2021-12-05T11:2>
ec 05 03:23:16 ubuntu-serv1 node_exporter[3581]: level=info ts=2021-12-05T11:2>
ec 05 03:23:16 ubuntu-serv1 node_exporter[3581]: level=info ts=2021-12-05T11:2>
ec 05 03:23:16 ubuntu-serv1 node_exporter[3581]: level=info ts=2021-12-05T11:2>
ec 05 03:23:16 ubuntu-serv1 node_exporter[3581]: level=info ts=2021-12-05T11:2>
ec 05 03:23:16 ubuntu-serv1 node_exporter[3581]: level=info ts=2021-12-05T11:2>
ec 05 03:23:16 ubuntu-serv1 node_exporter[3581]: level=info ts=2021-12-05T11:2>
ec 05 03:23:16 ubuntu-serv1 node_exporter[3581]: level=info ts=2021-12-05T11:2>
ec 05 03:23:16 ubuntu-serv1 node_exporter[3581]: level=info ts=2021-12-05T11:2>
lines 1-19/19 (END)

```

```

sudo systemctl enable node_exporter
sudo ufw allow 9100/tcp
sudo ufw reload

```

← → ↺ 172.16.59.133:9090/targets ☆ 📌 ☰

Prometheus Alerts Graph Status ▾ Help Classic UI

Targets

All Unhealthy Collapse All

node_exporter (1/1 up) [show less](#)

Endpoint	State	Labels	Last Scrape	Scrape Duration	Error
http://172.16.59.130:9100/metrics	UP	instance="172.16.59.130:9100" job="node_exporter"	346.000ms ago	10.087ms	

prometheus (1/1 up) [show less](#)

Endpoint	State	Labels	Last Scrape	Scrape Duration	Error
http://localhost:9090/metrics	UP	instance="localhost:9090" job="prometheus"	6.629s ago	15.937ms	

← → ↺ 172.16.59.133:9090/graph?g0.expr=node_memory_MemAvailable_bytes&g0.tab=1&g0.stacked=0&g0.range_input=1h&g0.end_input=2021-12-05T11:43:48 ☆ 📌 ☰

Prometheus Alerts Graph Status ▾ Help Classic UI

☐ Use local time ☐ Enable query history ☒ Enable autocomplete ☐ Use experimental editor ☒ Enable highlighting ☒ Enable linter

🔍 node_memory_MemAvailable_bytes [🔄](#) [Execute](#)

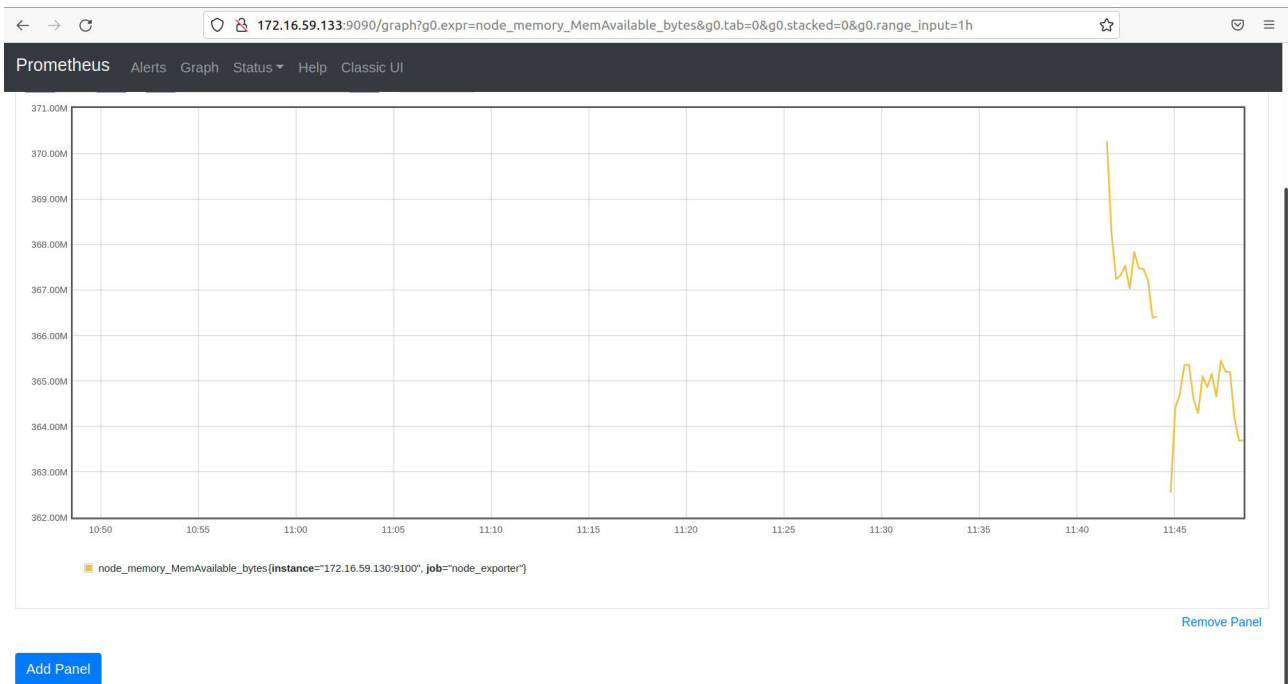
Table [Graph](#) Load time: 11ms Resolution: 14s Result series: 1

< 2021-12-05 11:43:48 × >

node_memory_MemAvailable_bytes(instance="172.16.59.130:9100", job="node_exporter")	366399488
--	-----------

[Remove Panel](#)

[Add Panel](#)



```
saroj@ubuntu-serv1: /lib/systemd/syst... x saroj@ubuntu: ~ x ▾
GNU nano 4.8 /etc/prometheus/prometheus.yml
rule_files:
# - "first_rules.yml"
# - "second_rules.yml"

# A scrape configuration containing exactly one endpoint to scrape:
# Here it's Prometheus itself.
scrape_configs:
# The job name is added as a label `job=<job_name>` to any timeseries scraped
- job_name: 'prometheus'

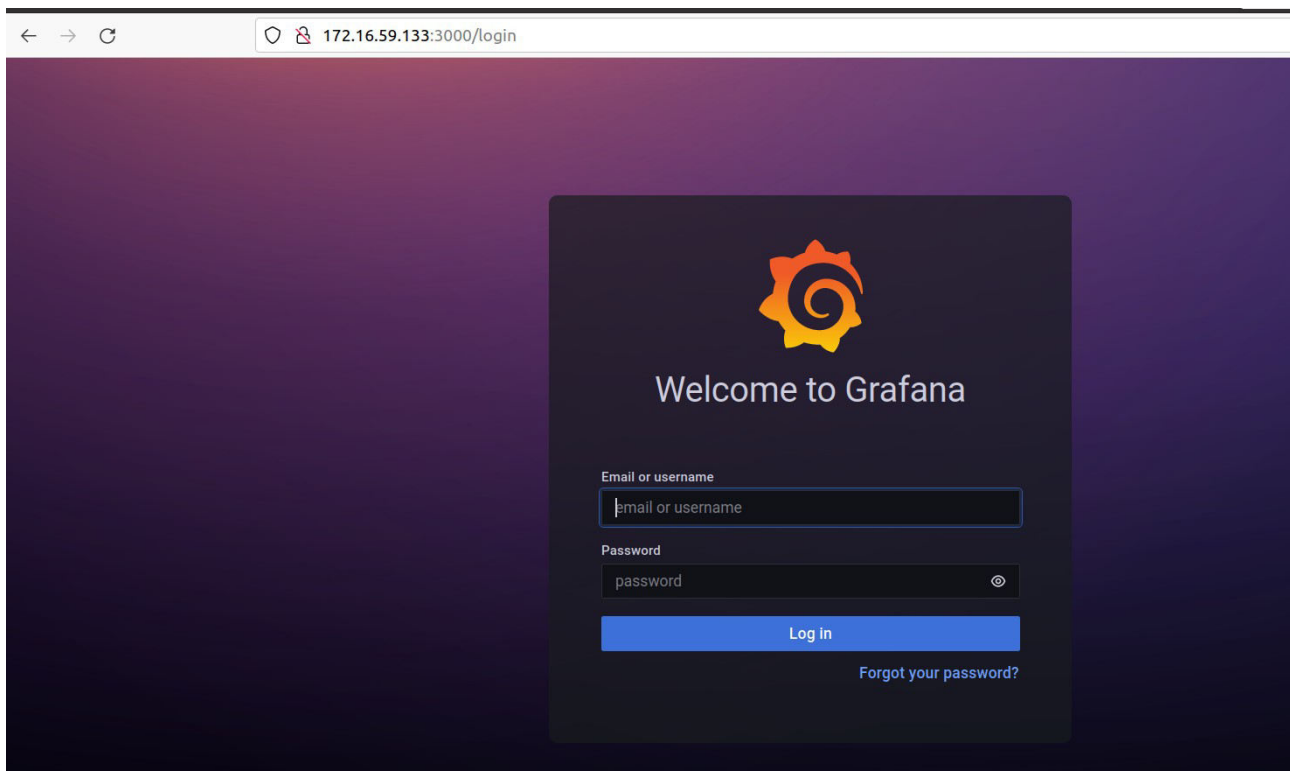
# metrics_path defaults to '/metrics'
# scheme defaults to 'http'.

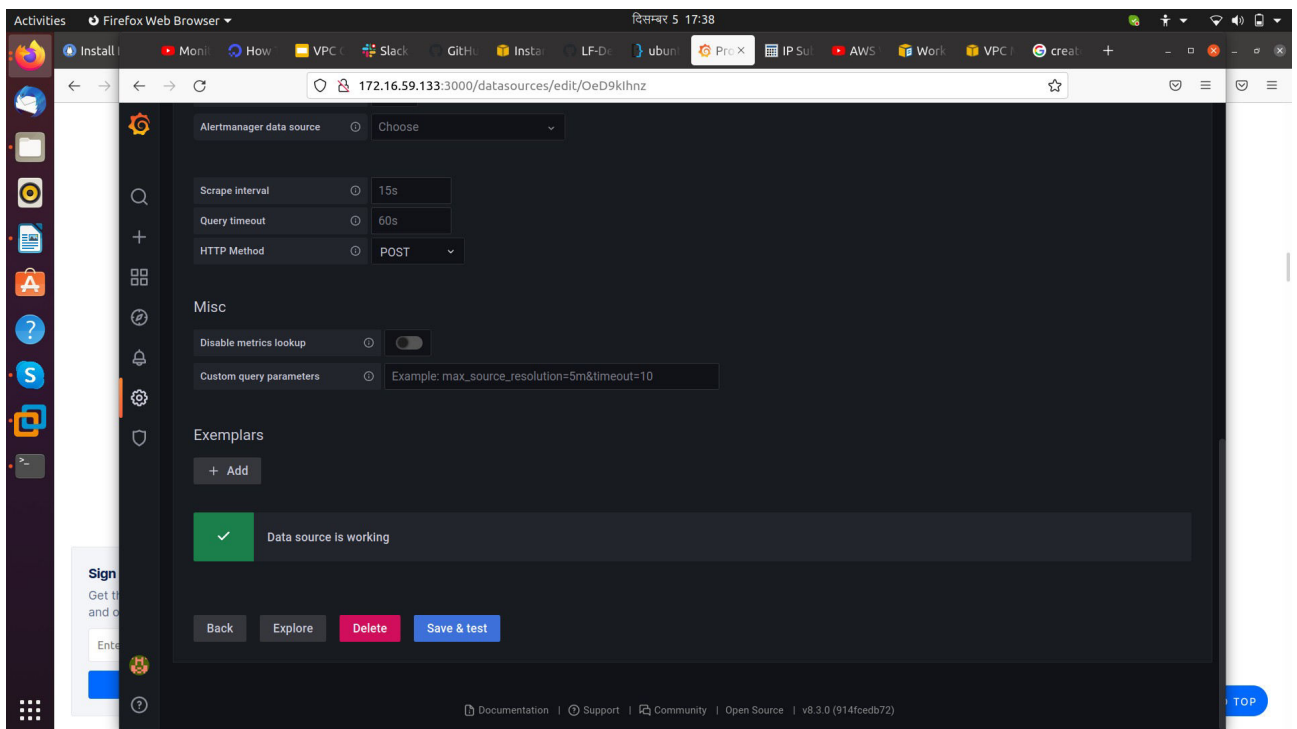
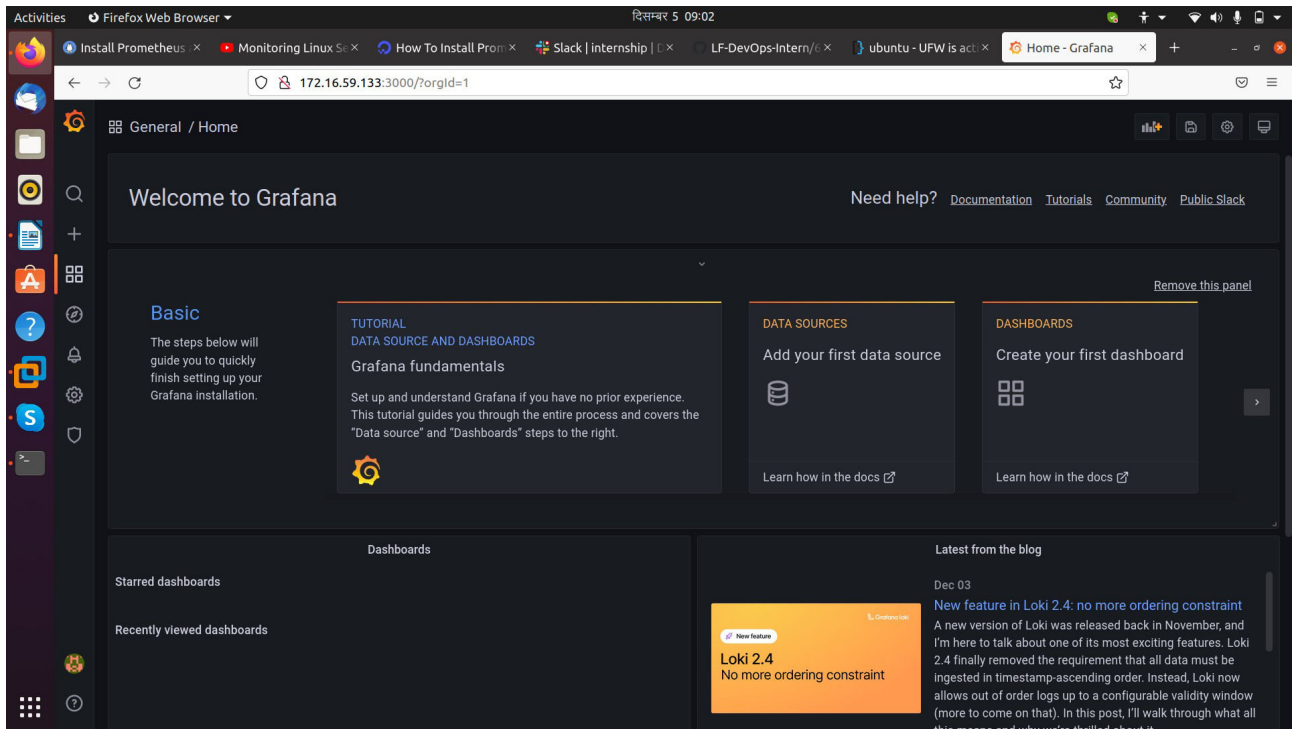
static_configs:
- targets: ['localhost:9090']
- job_name: 'node_exporter'
  scrape_interval: 5s
  static_configs:
  - targets: ['172.16.59.130:9100']

^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos
```

Q3)) ##Installation of GRAFANA#####

```
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 install grafana  
sudo systemctl start grafana-server  
sudo systemctl status grafana-server  
sudo systemctl enable grafana-server.service  
ufw allow 3000/tcp  
ufw reload
```





Add node exporter id and add it to grafana

