

Promethes ,Grafana and Node_exporter

Ports number are

1)Promethes=9090

2)Grafana:-3000

3)Node_exporter:- 9100

monitoring applications..

node exports 9090 port

promethes 9100 port (data source) promql

grafana human readable form for more easier data understanding

promethes 9100 port (data source)

promql query language. to query on grafana..

node export is some what same as ansible

but here node sends data to master

we need to install nodeexporter on each

node and master also ...

promethes 9100

data flow

node export

|

promethes

|

grafana

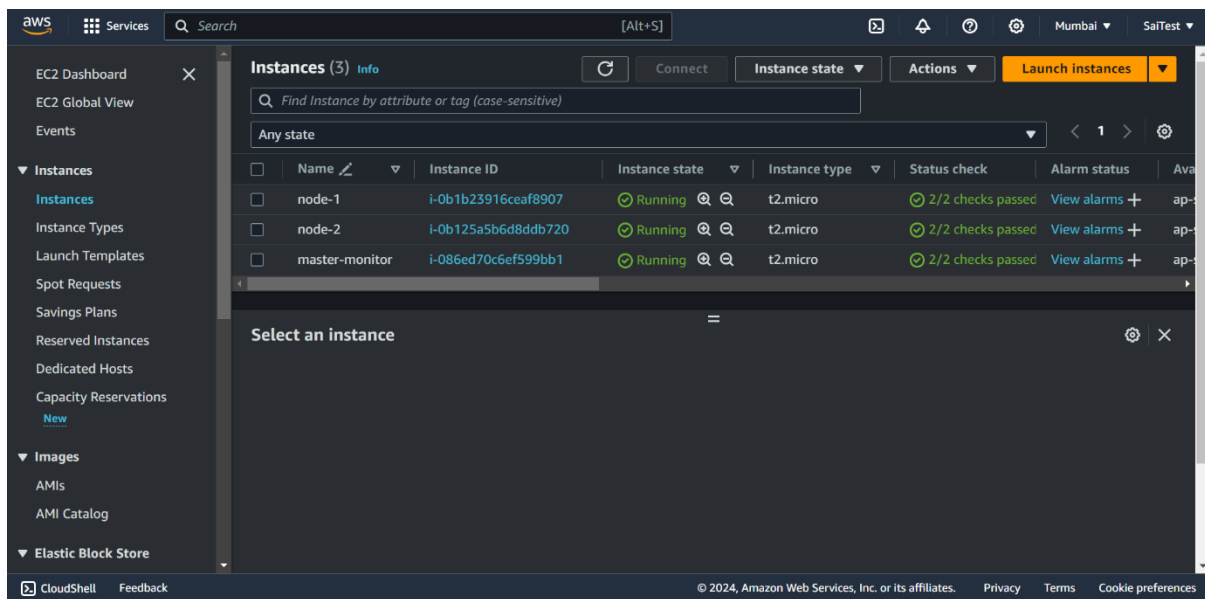
first make 1 master and 2 nodes

1 for master install node_export,promethes,grafana

2 nodes launch and install node_exporter on it ..

run 2 query..

All 3 instance should have a security group in which port 9090,3000,9100,22,80,443 are in inbound



Go in master install

- 1) Prometheus from link

Link :- <https://www.fosstechnix.com/how-to-install-prometheus-on-ubuntu-20-04-lts/>

Run all 12 steps as which are given below

- 2) Change the files **/etc/prometheus/promethes.yml**
/etc/prometheus/prometheus.yml

my global config/etc/prometheus

global:

scrape_interval: 15s # Set the scrape interval to every 15 seconds. Default is every 1 minute.

evaluation_interval: 15s # Evaluate rules every 15 seconds. The default is every 1 minute.

scrape_timeout is set to the global default (10s).

Alertmanager configuration

alerting:

alertmanagers:

- static_configs:

```

- targets:
  # - alertmanager:9093

# Load rules once and periodically evaluate them according to the global
'evaluation_interval'.
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 from this
  config.
  - job_name: 'prometheus'

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

    static_configs:
      - targets: ['localhost:9090', 'localhost:9100']

- job_name: "remote_collector"
  scrape_interval: 10s
  static_configs:
    - targets: ["13.201.16.12:9100", "3.111.157.92:9100"] ### these are public ips of node-1
    and node-2

### to add configurations
- job_name: 'jenkins'
  metrics_path: '/prometheus'
  static_configs:
    - targets: ["172.31.9.237:8080"] ##target ip of Jenkins in which node exporter is installed..

```

Jenkins Node is adds....

Endpoint	State	Labels	Last Scrape	Scrape Duration	Error
http://localhost:9090/metrics	UP	instance="localhost:9090" job="prometheus"	5.636s ago	5.287ms	
http://localhost:9100/metrics	UP	instance="localhost:9100" job="prometheus"	13.383s ago	93.110ms	

remote_collector (0/2 up) [show less](#)

Endpoint	State	Labels	Last Scrape	Scrape Duration	Error
http://172.31.36.255:9100/metrics	DOWN	instance="172.31.36.255:9100" job="remote_collector"	5.623s ago	3.72s	Get "http://172.31.36.255:9100/metrics": dial tcp 172.31.36.255:9100: connect: no route to host
http://172.31.38.151:9100/metrics	DOWN	instance="172.31.38.151:9100" job="remote_collector"	6.79s ago	3.49s	Get "http://172.31.38.151:9100/metrics": dial tcp 172.31.38.151:9100: connect: no route to host

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

Endpoint	State	Labels	Last Scrape	Scrape Duration	Error
http://172.31.44.89:8080/prometheus	UP	instance="172.31.44.89:8080" job="remote_jenkins"	533.000ms ago	8.926ms	

3) Install node_export from official document

Link :- <https://www.fosstechnix.com/install-prometheus-node-exporter-on-linux/>

These steps should be executed properly

And the file should be modify properly which is **sudo vim**

/etc/systemd/system/node_exporter.service

sudo vim /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

Restart=always

RestartSec=10s

ExecStart=/usr/local/bin/node_exporter

--collector.mountstats \

--collector.logind \

--collector.processess \

--collector.ntp \

--collector.systemd \

--collector.tcpstat \

--collector.wifi \

[Install]

WantedBy=multi-user.target

Now we should go in node-1 and node-2 and install node_export same as above but not fully just do some steps which I have mention below

Link :- <https://www.linode.com/docs/guides/how-to-install-prometheus-and-grafana-on-ubuntu/>

Refer from **How to Install and Configure Node Exporter on the Client**

- 1) wget
https://github.com/prometheus/node_exporter/releases/download/v1.5.0/node_exporter-1.5.0.linux-amd64.tar.gz
- 2) tar xvfz node_exporter-*.tar.gz
- 3) sudo mv node_exporter-1.5.0.linux-amd64/node_exporter /usr/local/bin
- 4) rm -r node_exporter-1.5.0.linux-amd64*
- 5) node_exporter
- 6) sudo useradd -rs /bin/false node_exporter
- 7) sudo vi /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

Restart=on-failure

RestartSec=5s

ExecStart=/usr/local/bin/node_exporter

```
[Install]
WantedBy=multi-user.target
```

:wq! Save it

8) `sudo systemctl enable node_exporter`

9) `sudo systemctl daemon-reload`

10) `sudo systemctl start node_exporter`

11) `sudo systemctl status node_exporter`

http://local_ip_addr:9100 you can see node_exporter

refers only till **How to Configure Prometheus to Monitor Client Nodes**

Now Go in Master

Intsall Grafana from official document

Link:- <https://grafana.com/docs/grafana/latest/setup-grafana/installation/debian/>

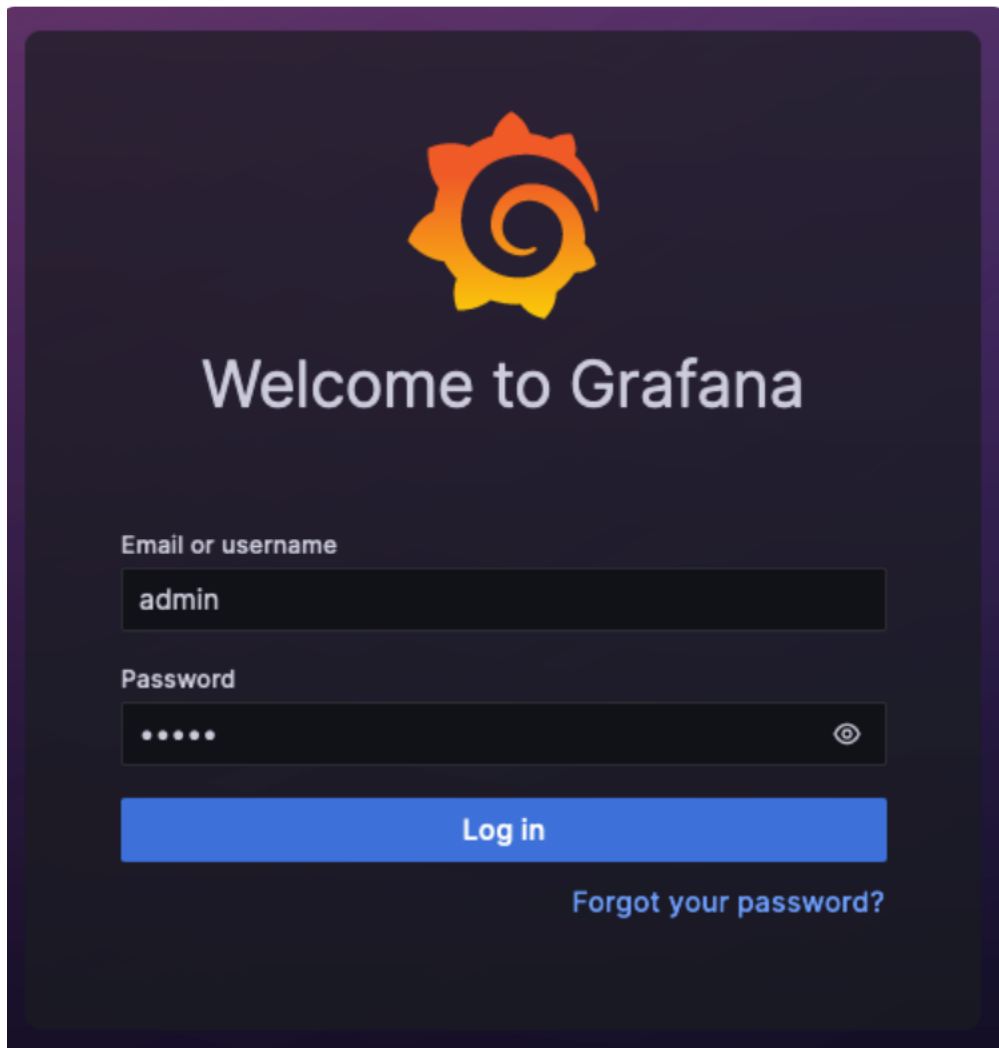
Then check Grafana is working or not

`systemctl status grafana-server.service` -> to check

`systemctl start grafana-server.service` → to start

`systemctl enable grafana-server.service` -> to enable

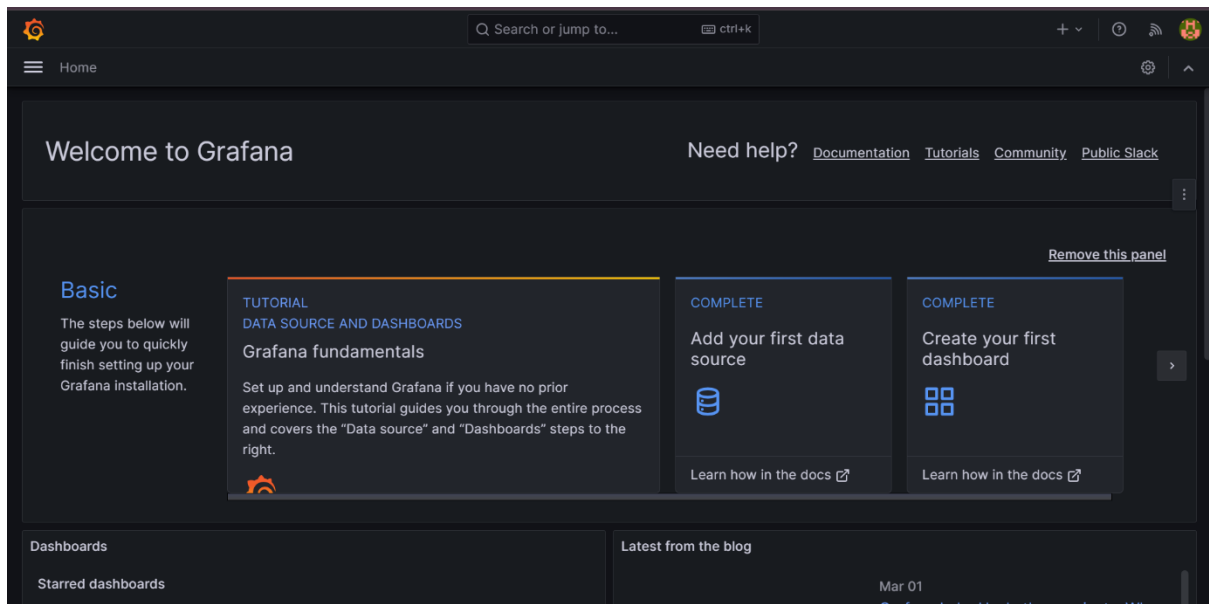
`http:<ip-address> :3000` to go in Grafana



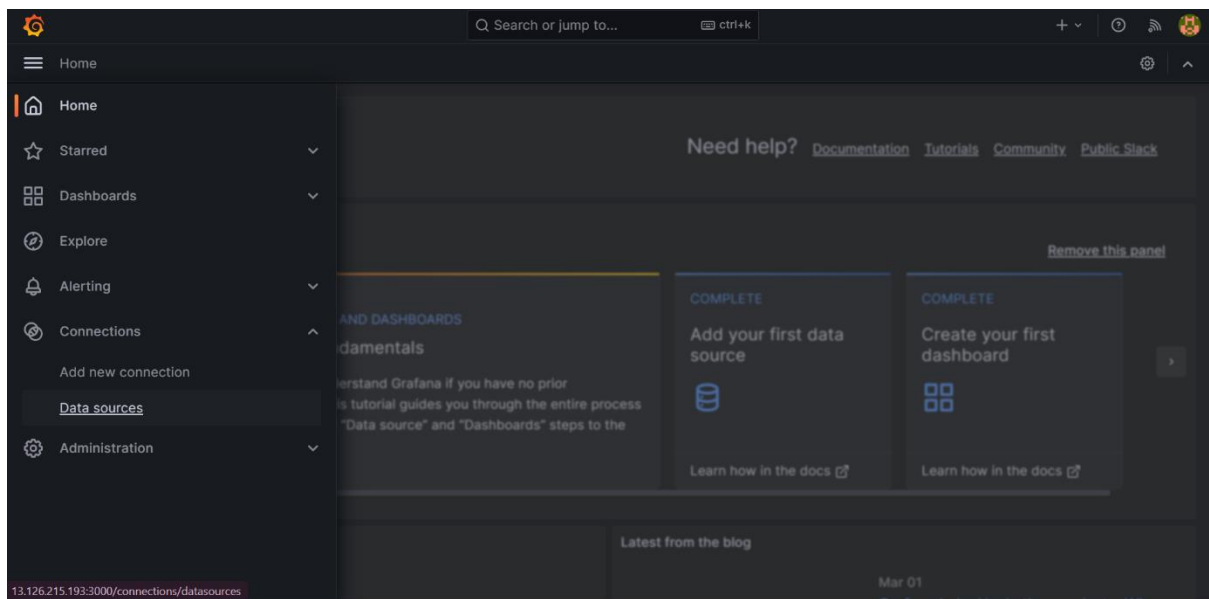
First time insert “**admin**” as username and password ...

And after that Grafana asks for password that we can set anything we want

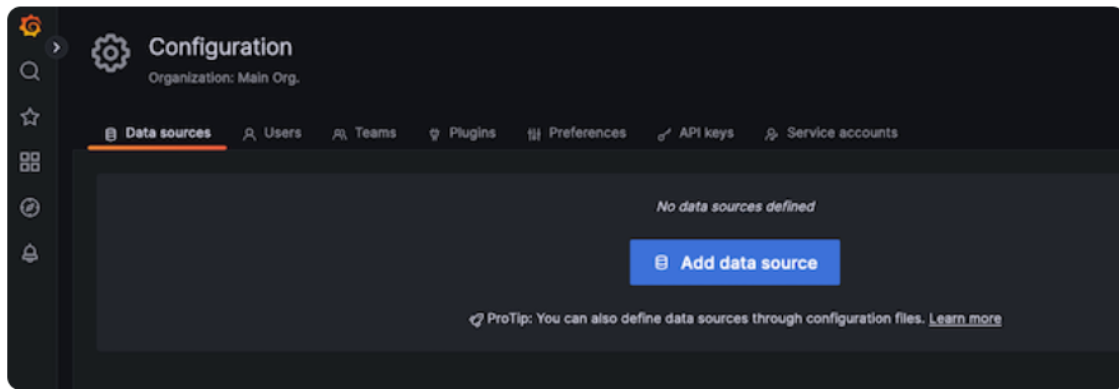
Home page of Grafana is



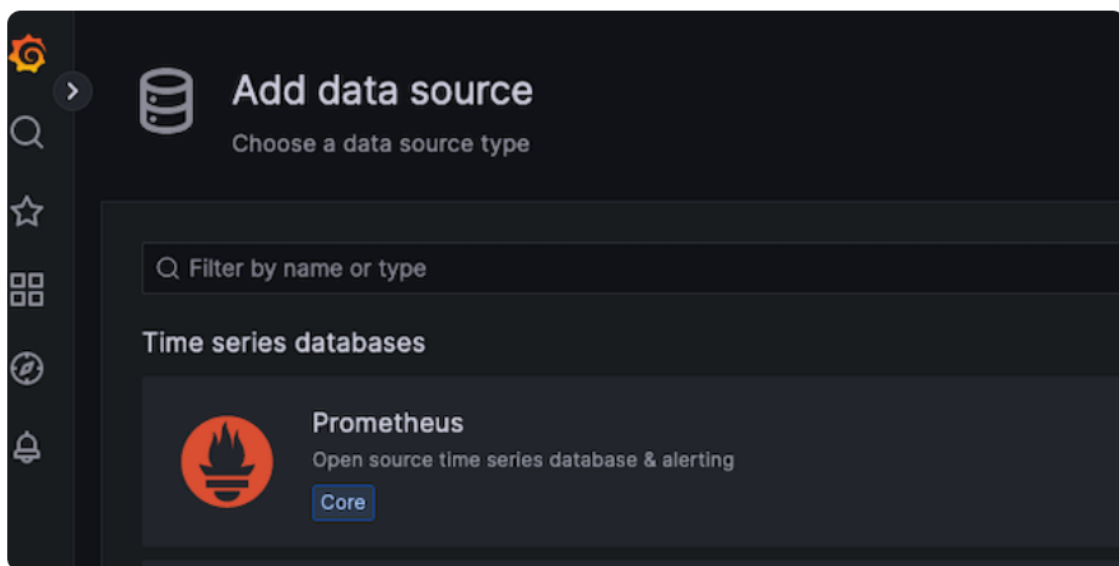
Choose datasource



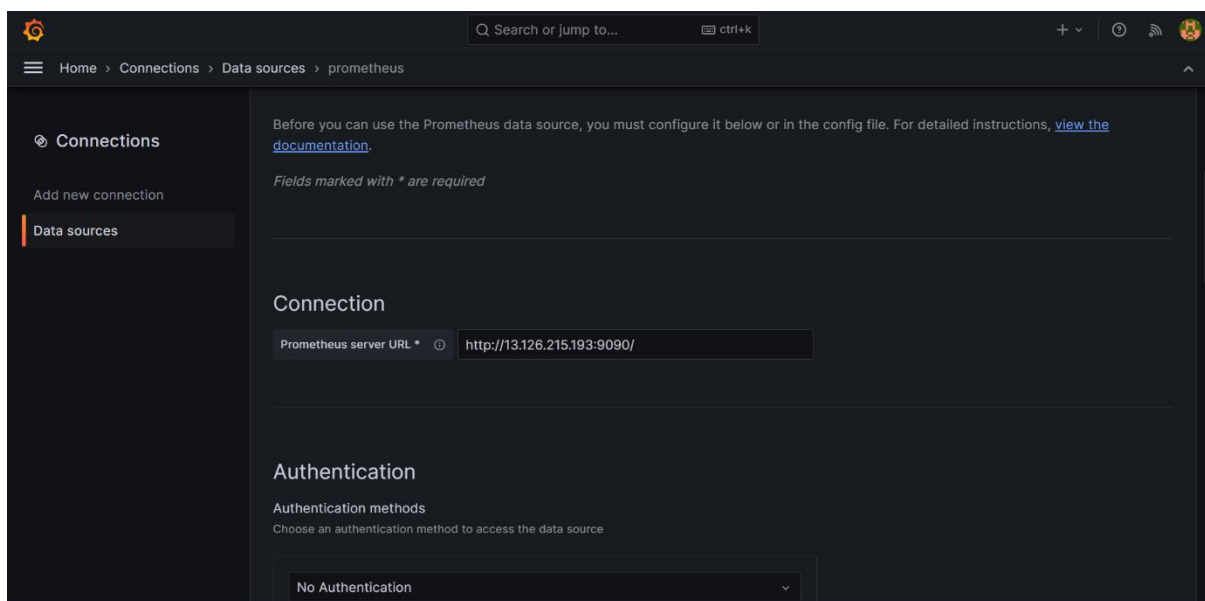
Next choose Prometheus



5. Choose Prometheus as the data source.



Enter Url for Promethes server

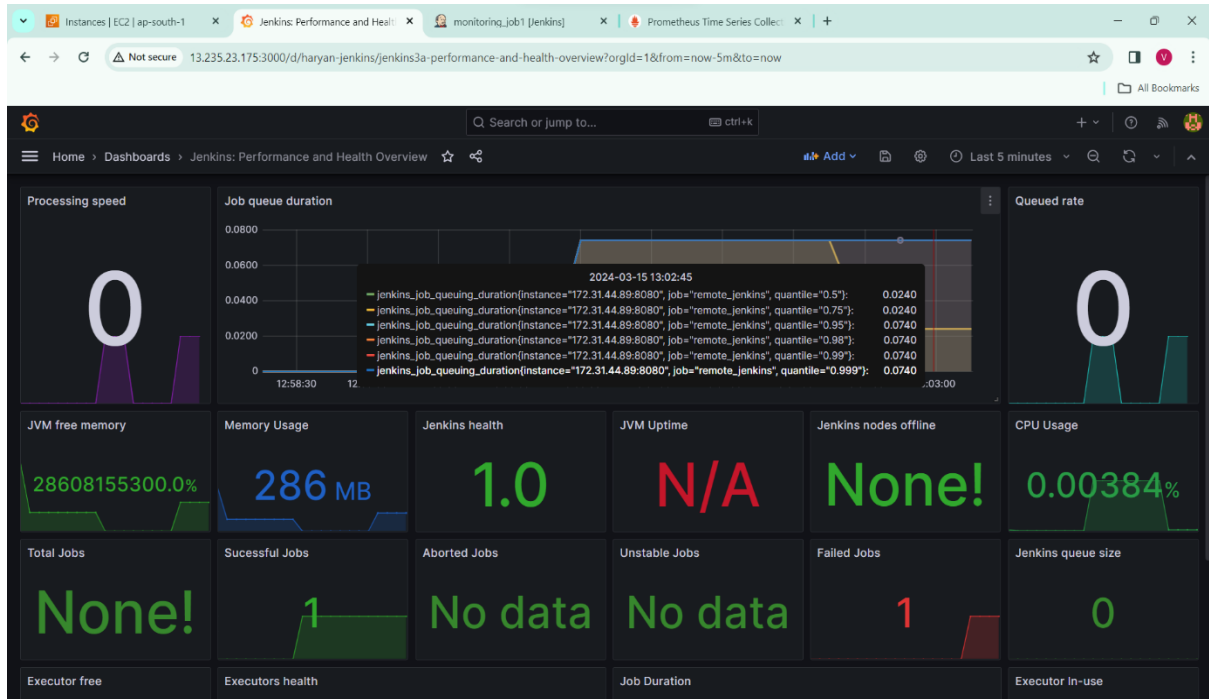


After that let all settings be default bro and click on save and test button

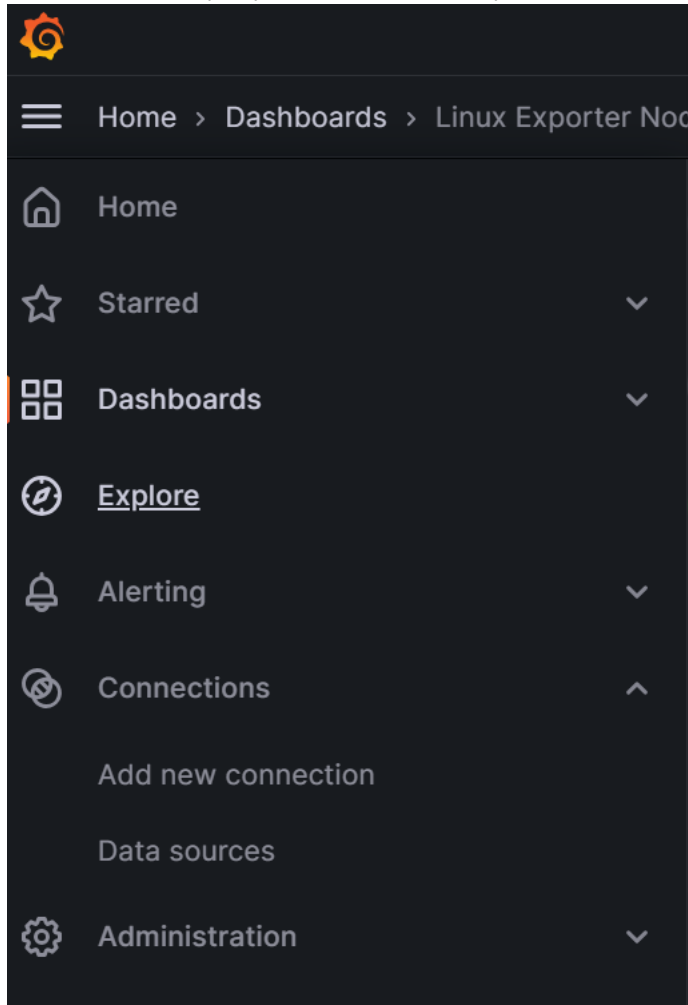
Now we can see our Grafana Dashboard... it is for our localhost means it is basically monitoring the Master .

For seeing the node-1 and node-2 select the data source = Prometheus , job = remote-controller (name) ,

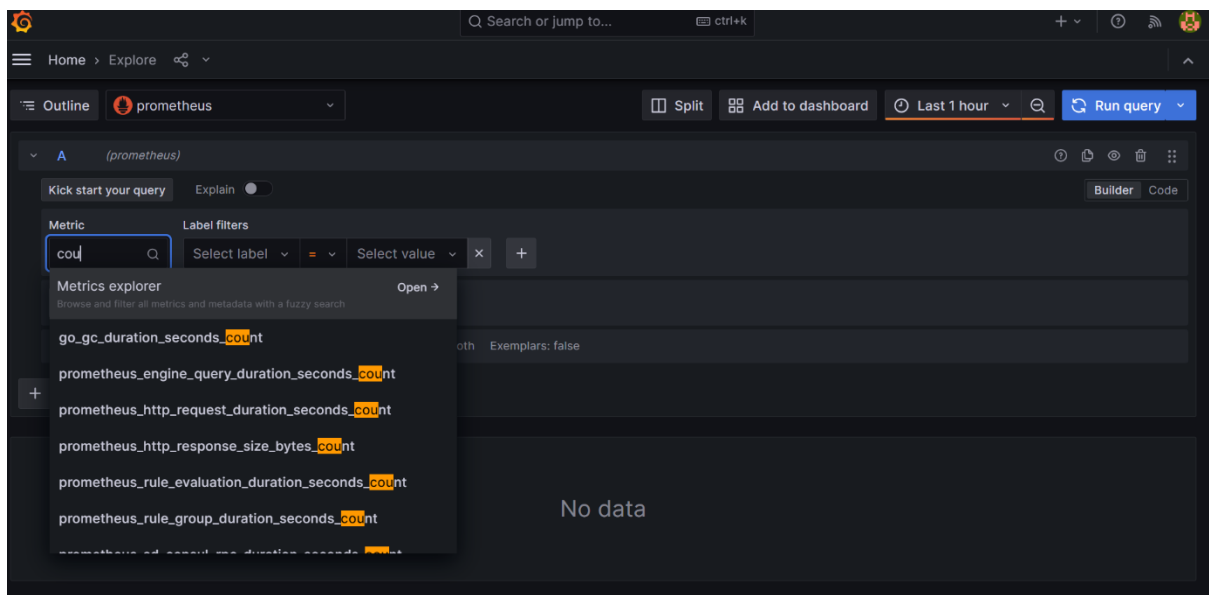
host : 13.201.16.12 (node-1 public ip) , 3.111.157.92 (node-2 public ip)



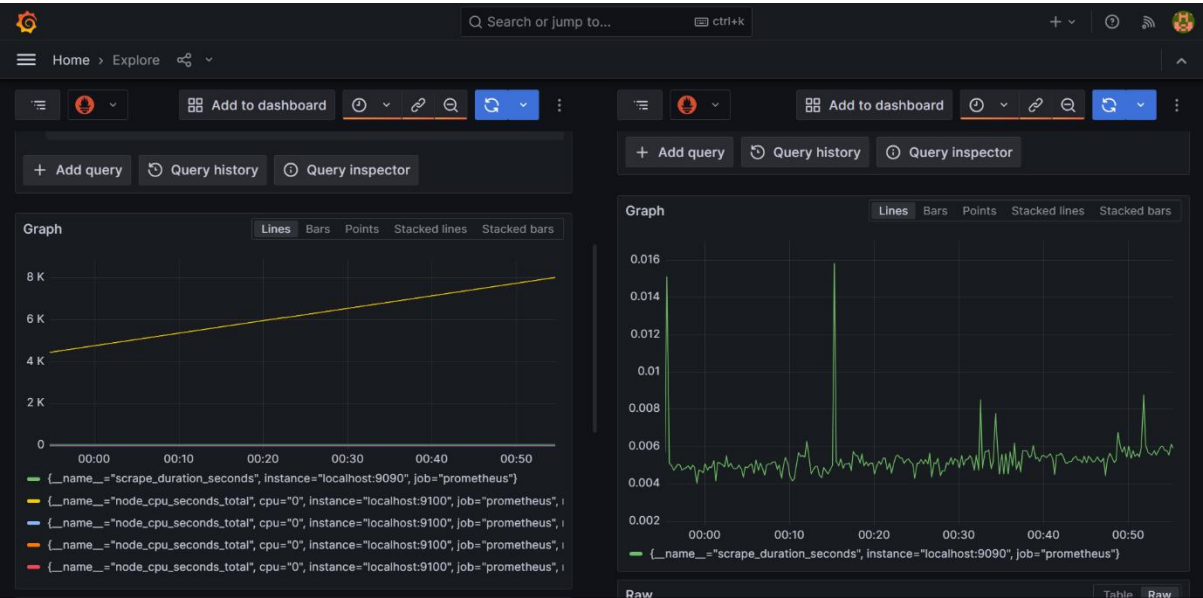
You can also run query in Grafana select Explore



can run any command using the Grafana metric eg cpu

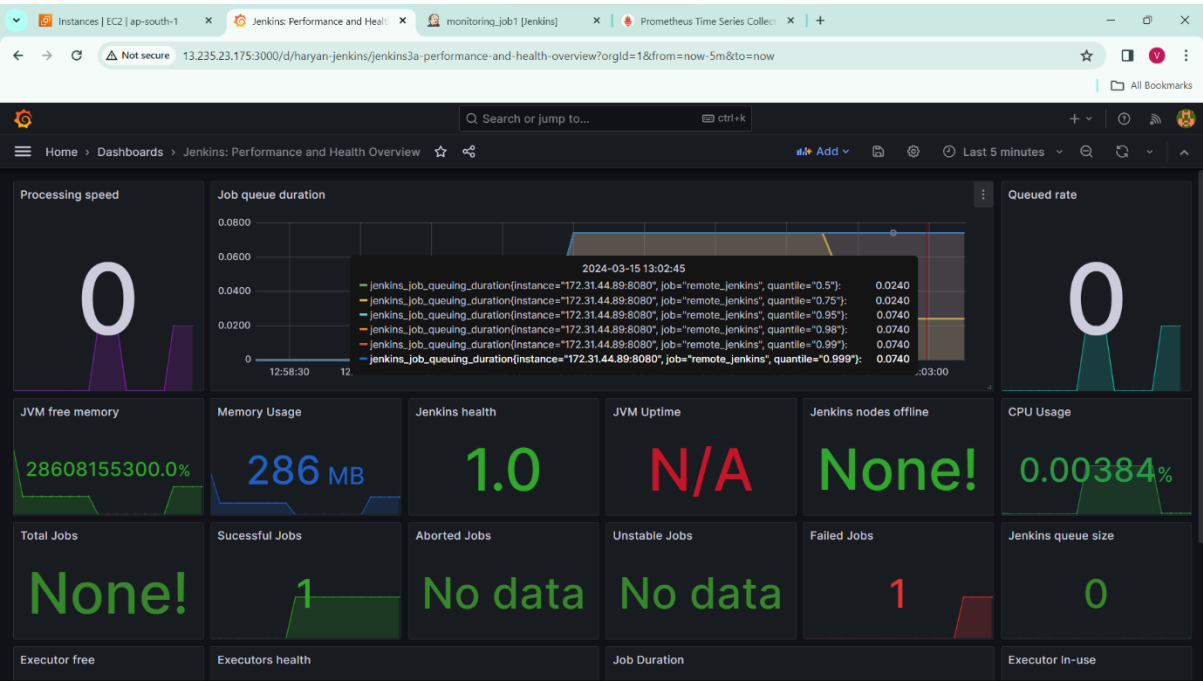


We can also run two commands parallelly using spilt feature of Grafana



Left side is some disk command

right side is some cpu command



Jenkins dashboard

Dashboard id for Jenkins is “ 9966 ”

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