Liceria & Co.

# INTEGRATED LINUX WITH GRAFANA AND GRAPH

Grafana

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# INSTALLING GRAFANA AND MAKING GRAPH

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer nec odio. Praesent libero. Integer nec odio.

- Launch Linux Ec2 instance
- Connect with Linux instance
- Install Prometheus
- Configure Prometheus
- Create a Systemd Service for Prometheus
- Start and Enable Prometheus
- Install and Configure Node Exporter
- Create a Systemd Service for Node Exporter
- Start and Enable Node Exporter
- Install Grafana
- Configure Grafana
- Monitor High CPU Utilization
- Graph

# LAUNCH LINUX EC2 INSTANCE

1. Navigate to Ec2
2. Click on Launch Instances
3. Write Instance name
4. Select Ubuntu Linux
5. Create Key Pair(.ppk)
6. Click on Launch Instance
7. Connect to Linux with putty

# INSTALL AND CONFIGURE PROMETHEUS

1. Install Prometheus by running some commands

```
sudo useradd --no-create-home --shell /bin/false prometheus
sudo mkdir /etc/prometheus
sudo mkdir /var/lib/prometheus
sudo chown prometheus:prometheus /etc/prometheus /var/lib/prometheus

wget https://github.com/prometheus/prometheus/releases/download/v2.41.0/prometheus-2.4
tar -xvzf prometheus-2.41.0.linux-amd64.tar.gz
sudo cp prometheus-2.41.0.linux-amd64/prometheus /usr/local/bin/
sudo cp prometheus-2.41.0.linux-amd64/promtool /usr/local/bin/
sudo cp -r prometheus-2.41.0.linux-amd64/consoles /etc/prometheus
sudo cp -r prometheus-2.41.0.linux-amd64/console_libraries /etc/prometheus
sudo chown -R prometheus:prometheus /usr/local/bin/prometheus /usr/local/bin/promtool
```

# CONFIGURE PROMETHEUS

Create a configuration file at /etc/prometheus/prometheus.yml with the following content

```
global:
  scrape_interval: 15s


scrape_configs:
  - job_name: 'node'
    static_configs:
      - targets: ['localhost:9100']
```

# CREATE A SYSTEMD SERVICE FOR PROMETHEUS

```
sudo nano /etc/systemd/system/prometheus.service
```

step1 :- Add the following content to the service file

```
[Unit]
Description=Prometheus
Wants=network-online.target
After=network-online.target

[Service]
User=prometheus
Group=prometheus
Type=simple
ExecStart=/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

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

# Start and Enable Prometheus:-

```
sudo systemctl daemon-reload
sudo systemctl start prometheus
sudo systemctl enable prometheus
```

# INSTALL AND CONFIGURE NODE EXPORTER

## 1. Install Node Exporter

write some commands for installing node exporter

```
wget https://github.com/prometheus/node_exporter/releases/download/v1.4.0/node_exporte
tar -xvzf node_exporter-1.4.0.linux-amd64.tar.gz
sudo cp node_exporter-1.4.0.linux-amd64/node_exporter /usr/local/bin/
sudo useradd --no-create-home --shell /bin/false node_exporter
sudo chown node_exporter:node_exporter /usr/local/bin/node_exporter
```

## 2. Create a Systemd Service for Node Exporter

```
sudo nano /etc/systemd/system/node_exporter.service
```

# Add the following content to the service file

```
[Unit]
Description=Node Exporter
Wants=network-online.target
After=network-online.target

[Service]
User=node_exporter
Group=node_exporter
Type=simple
ExecStart=/usr/local/bin/node_exporter

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

# Start and Enable Node Exporter

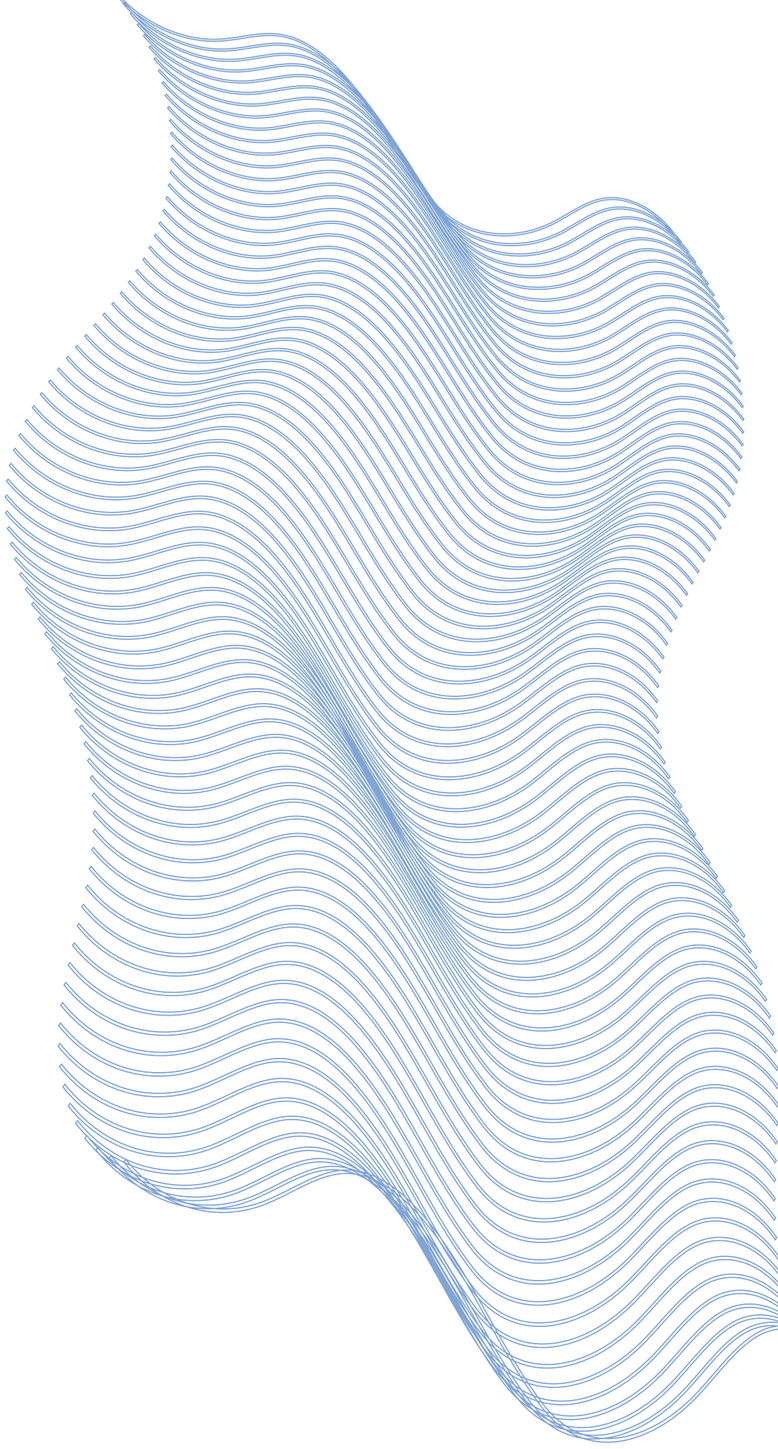
```
sudo systemctl daemon-reload
sudo systemctl start node_exporter
sudo systemctl enable node_exporter
```

# INSTALL GRAFANA

## 1. Add Grafana Repository

```
sudo tee /etc/yum.repos.d/grafana.repo<<EOF
[grafana]
name=grafana
baseurl=https://packages.grafana.com/oss/rpm
repo_gpgcheck=1
enabled=1
gpgcheck=1
gpgkey=https://packages.grafana.com/gpg.key
sslverify=1
sslcacert=/etc/pki/tls/certs/ca-bundle.crt
EOF
```

```
sudo yum install grafana -y
```



## Start and Enable Grafana

```
sudo systemctl start grafana-server
sudo systemctl enable grafana-server
```

# 5. Configure grafana

## * Access Grafana

1. Open your web browser and navigate to http://<your-ec2-public-ip>:3000

2. Log in with the default username and password (admin for both).

*Add Prometheus Data Source

*Create a Dashboard

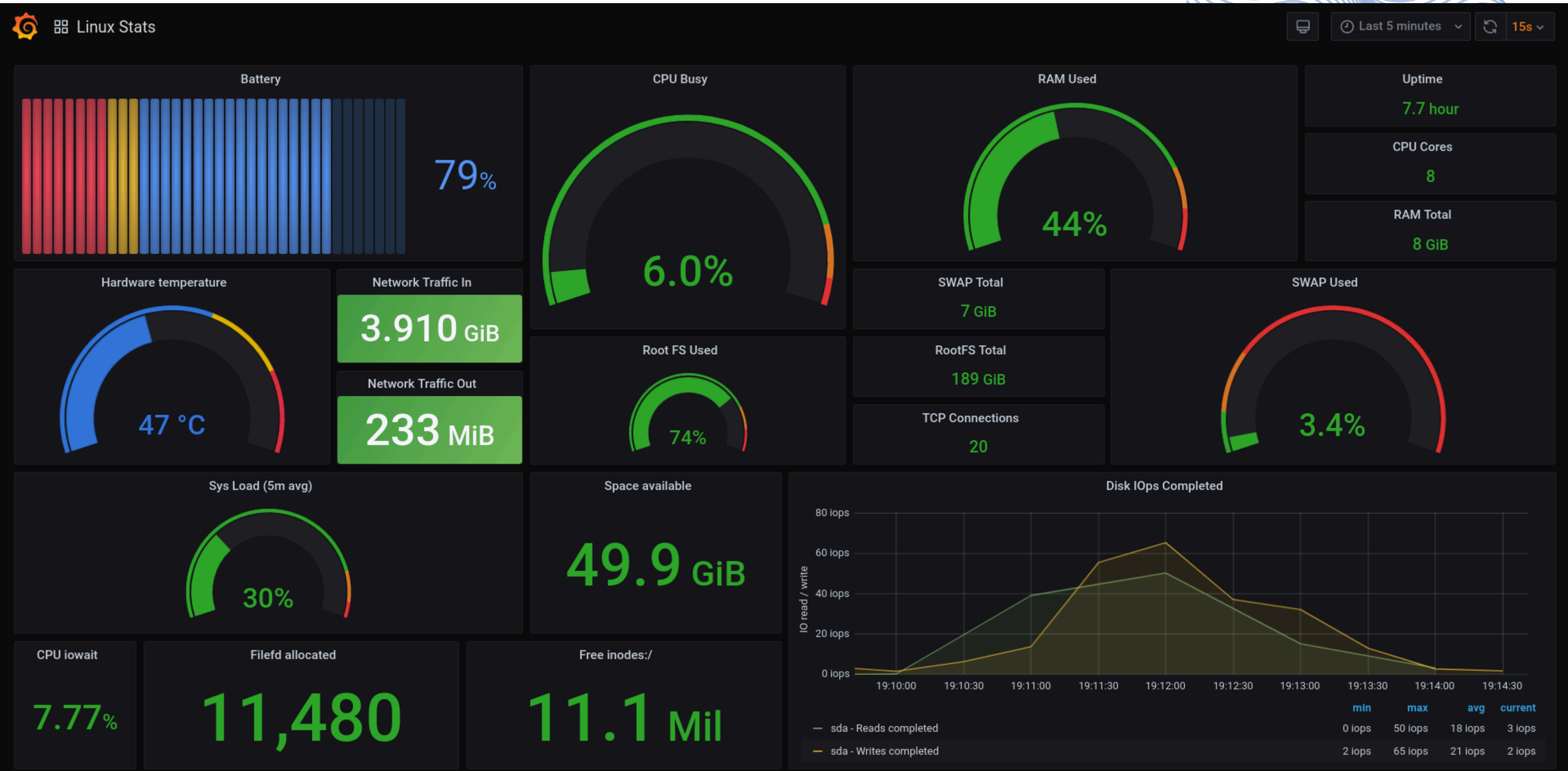
*node_cpu_seconds_total{mode="idle"}

# 6. Monitor High CPU Utilization

## -> Set Up Alerts (Optional)

**In the Grafana panel settings, you can set up alerts to notify you when CPU utilization exceeds a certain threshold.**

# Result :-


Linux Stats
Last 5 minutes
15s
Battery
79%
CPU Busy
6.0%
RAM Used
44%
Uptime
7.7 hour
CPU Cores
8
RAM Total
8 GiB
Hardware temperature
47 °C
Network Traffic In
3.910 GiB
Network Traffic Out
233 MiB
Root FS Used
74%
SWAP Total
7 GiB
RootFS Total
189 GiB
TCP Connections
20
SWAP Used
3.4%
Sys Load (5m avg)
30%
Space available
49.9 GiB
Disk IOps Completed
80 iops
60 iops
40 iops
20 iops
0 iops
IO read / write
19:10:00
19:10:30
19:11:00
19:11:30
19:12:00
19:12:30
19:13:00
19:13:30
19:14:00
19:14:30
min
max
avg
current
sda - Reads completed
0 iops
50 iops
18 iops
3 iops
sda - Writes completed
2 iops
65 iops
21 iops
2 iops
CPU iowait
7.77%
Filefd allocated
11,480
Free inodes:/
11.1 Mil

# LET'S CONNECT WITH ME!

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# THANK YOU!