



# Prometheus Installation

## Step 1- Install Prometheus on Linux

Create a system user for Prometheus using below commands:

```
sudo useradd --no-create-home --shell /bin/false prometheus
```

Create the directories in which we will be storing our configuration files and libraries:

```
sudo mkdir /etc/prometheus
```

```
sudo mkdir /var/lib/prometheus
```

Set the ownership of the /var/lib/prometheus directory with below command:

```
sudo chown prometheus:prometheus /var/lib/prometheus
```

You need to inside /tmp :

```
cd /tmp/
```

Go to the [Official Page](#) downloads Prometheus:

```
wget https://github.com/prometheus/prometheus/releases/download/v2.47.2/prometheus-2.47.2.linux-amd64.tar.gz
```

Extract the files using tar :

```
sudo tar -xvf prometheus-2.47.2.linux-amd64.tar.gz
```

Move the configuration file and set the owner to the prometheus

```
cd prometheus-2.47.2.linux-amd64
```

```
sudo mv console* /etc/prometheus
```

```
sudo mv prometheus.yml /etc/prometheus
```

```
sudo chown -R prometheus:prometheus /etc/prometheus
```

### Move the binaries and set the owner:

```
sudo mv prometheus /usr/local/bin/
```

```
sudo chown prometheus:prometheus /usr/local/bin/prometheus
```

### Create the service file using below command:

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

[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

### Reload systemd:

```
sudo systemctl daemon-reload
```

### Start and enable Prometheus service:

```
sudo systemctl start prometheus
```

```
sudo systemctl enable prometheus
```

```
sudo systemctl status prometheus
```

### Output:

```
ubuntu@ip-172-31-39-186:/tmp/prometheus-2.47.1.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 2023-10-14 16:57:27 UTC; 13s ago
     Main PID: 1553 (prometheus)
        Tasks: 7 (limit: 4686)
       Memory: 16.3M
          CPU: 78ms
      CGroup: /system.slice/prometheus.service
              └─1553 /usr/local/bin/prometheus --config.file /etc/prometheus/prometheus.yml --storage.tsdb

Oct 14 16:57:27 ip-172-31-39-186 prometheus[1553]: ts=2023-10-14T16:57:27.491Z caller=tls_config.go:274
Oct 14 16:57:27 ip-172-31-39-186 prometheus[1553]: ts=2023-10-14T16:57:27.491Z caller=tls_config.go:277
Oct 14 16:57:27 ip-172-31-39-186 prometheus[1553]: ts=2023-10-14T16:57:27.492Z caller=head.go:760 level=
Oct 14 16:57:27 ip-172-31-39-186 prometheus[1553]: ts=2023-10-14T16:57:27.492Z caller=head.go:797 level=
Oct 14 16:57:27 ip-172-31-39-186 prometheus[1553]: ts=2023-10-14T16:57:27.495Z caller=main.go:1045 level=
Oct 14 16:57:27 ip-172-31-39-186 prometheus[1553]: ts=2023-10-14T16:57:27.495Z caller=main.go:1048 level=
Oct 14 16:57:27 ip-172-31-39-186 prometheus[1553]: ts=2023-10-14T16:57:27.495Z caller=main.go:1229 level=
Oct 14 16:57:27 ip-172-31-39-186 prometheus[1553]: ts=2023-10-14T16:57:27.499Z caller=main.go:1266 level=
```

Now access Prometheus in your browser

<server-ip>:9090

## Step 2: Install Node Exporter

Go to the [official release page](#) of Prometheus Node Exporter and copy the link of the latest version of the Node Exporter package according to your OS type

wget

[https://github.com/prometheus/node\\_exporter/releases/download/v1.6.1/node\\_exporter-1.6.1.linux-amd64.tar.gz](https://github.com/prometheus/node_exporter/releases/download/v1.6.1/node_exporter-1.6.1.linux-amd64.tar.gz)

Extract the file

```
sudo tar xvfz node_exporter-*.linux-amd64.tar.gz
```

Move the binary file of node exporter to /usr/local/bin location.

```
sudo mv node_exporter-*.linux-amd64/node_exporter /usr/local/bin/
```

Create a node\_exporter user to run the node exporter service

```
sudo useradd -rs /bin/false node_exporter
```

Create a Custom Node Exporter Service

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

[Unit]

Description=Node Exporter

After=network.target

[Service]

User=node\_exporter

Group=node\_exporter

Type=simple

ExecStart=/usr/local/bin/node\_exporter

[Install]

WantedBy=multi-user.target

## Reload the systemd

```
sudo systemctl daemon-reload
```

## To Start, enable node exporter:

```
sudo systemctl enable node_exporter
```

```
sudo systemctl start node_exporter
```

```
sudo systemctl status node_exporter
```

## Output:

```

ubuntu@ip-172-31-39-186:~$ sudo systemctl status node_exporter
● node_exporter.service - Node Exporter
   Loaded: loaded (/etc/systemd/system/node_exporter.service; enabled; vendor preset: enabled)
   Active: active (running) since Sat 2023-10-14 17:01:49 UTC; 13s ago
     Main PID: 1663 (node_exporter)
        Tasks: 5 (limit: 4686)
       Memory: 2.6M
          CPU: 9ms
      CGroup: /system.slice/node_exporter.service
              └─1663 /usr/local/bin/node_exporter

Oct 14 17:01:49 ip-172-31-39-186 node_exporter[1663]: ts=2023-10-14T17:01:49.541Z caller=node_exporter.
Oct 14 17:01:49 ip-172-31-39-186 node_exporter[1663]: ts=2023-10-14T17:01:49.541Z caller=node_exporter.
Oct 14 17:01:49 ip-172-31-39-186 node_exporter[1663]: ts=2023-10-14T17:01:49.541Z caller=node_exporter.
Oct 14 17:01:49 ip-172-31-39-186 node_exporter[1663]: ts=2023-10-14T17:01:49.541Z caller=node_exporter.
Oct 14 17:01:49 ip-172-31-39-186 node_exporter[1663]: ts=2023-10-14T17:01:49.541Z caller=node_exporter.
Oct 14 17:01:49 ip-172-31-39-186 node_exporter[1663]: ts=2023-10-14T17:01:49.541Z caller=node_exporter.
Oct 14 17:01:49 ip-172-31-39-186 node_exporter[1663]: ts=2023-10-14T17:01:49.541Z caller=node_exporter.
Oct 14 17:01:49 ip-172-31-39-186 node_exporter[1663]: ts=2023-10-14T17:01:49.541Z caller=tl
Oct 14 17:01:49 ip-172-31-39-186 node_exporter[1663]: ts=2023-10-14T17:01:49.541Z caller=tl
lines 1-20/20 (END)
[2]+  Stopped                  sudo systemctl status node_exporter
ubuntu@ip-172-31-39-186:~$

```

Lets update our configuration file using below command:

```
sudo nano /etc/prometheus/prometheus.yml
```

```
- job_name: 'Node_Exporter'
```

```
  scrape_interval: 5s
```

```
  static_configs:
```

```
    - targets: ['<Server_IP_of_Node_Exporter_Machine>:9100']
```

Now lets Install Grafana for wonderful dashboards and data visualization for monitoring systems, servers, services, etc

Add the Grafana YUM repo using nano

```
sudo nano /etc/yum.repos.d/grafana.repo
```

Add the below Grafana OSS repo into it, if you want use Enterprise version then visit [Grafana Official Page](#)

```

[grafana]
name=grafana
baseurl=https://packages.grafana.com/enterprise/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
```

**update the system packages to take effect**

```
sudo yum update
```

**Now lets Install Grafana using below command**

```
sudo yum install grafana
```

**Now start the Grafana service using below command**

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

**Verify the Grafana Service Status using below command**

```
sudo systemctl status grafana-server
```

**Now finally enable the Grafana service which will automatically start the Grafana on boot**

```
sudo systemctl enable grafana-server.service
```

**To access Grafana Dashboard open your favorite browser, type server IP or Name followed by grafana default port 3000.**

```
http://your_ip:3000
```

Here you can see Login page of Grafana now you will have to login with below Grafana default Username and Password.

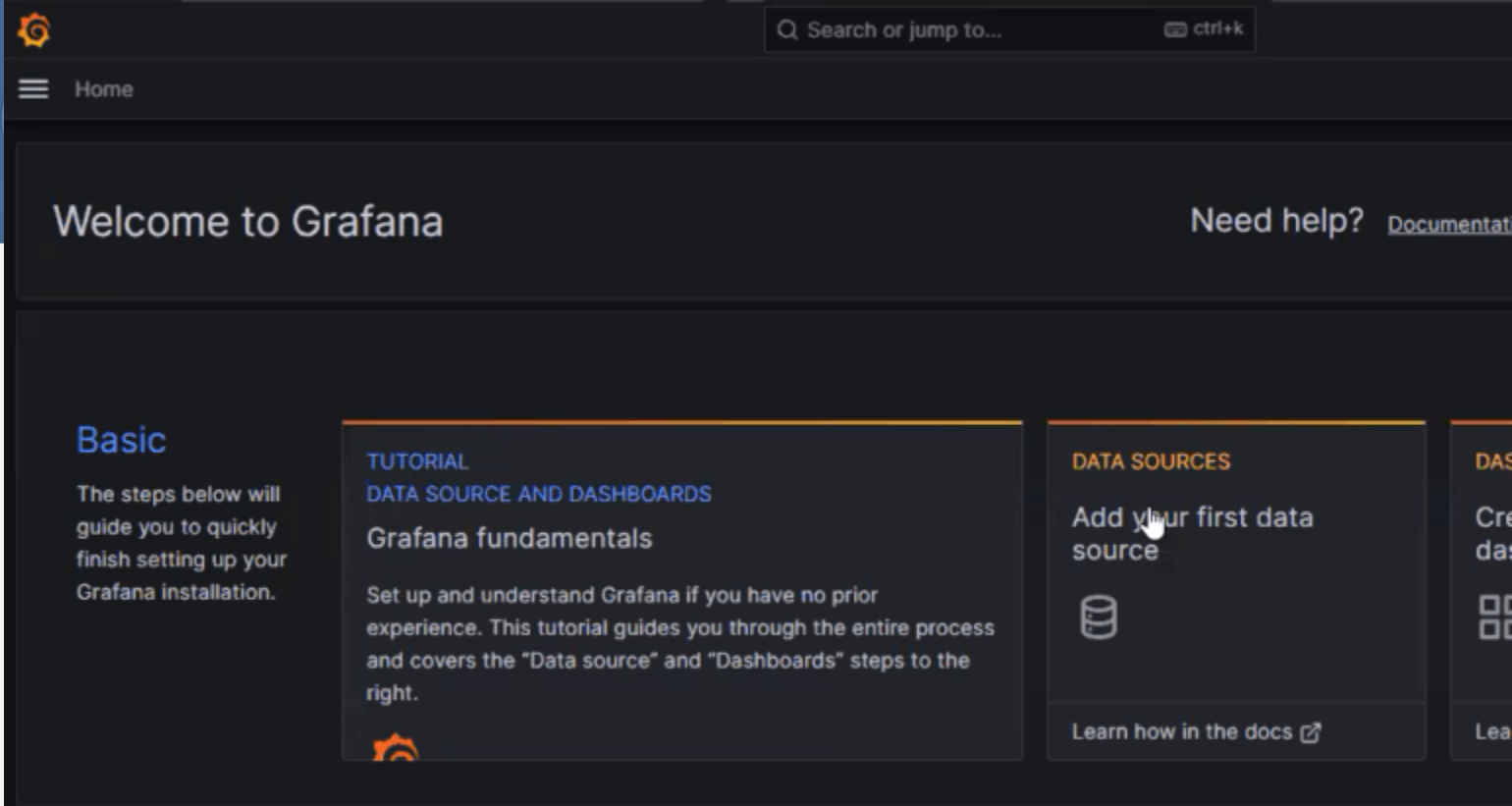
Username - **admin**

Password - **admin**

**After changes any configuration file we need to restart our prometheus**

```
sudo systemctl restart prometheus.service
```

**To visualize metrics, you need to add a data source first.**



Click Add data source and select Prometheus

For the URL, enter <http://localhost:9090> and click Save and test. You can see Data source is working.

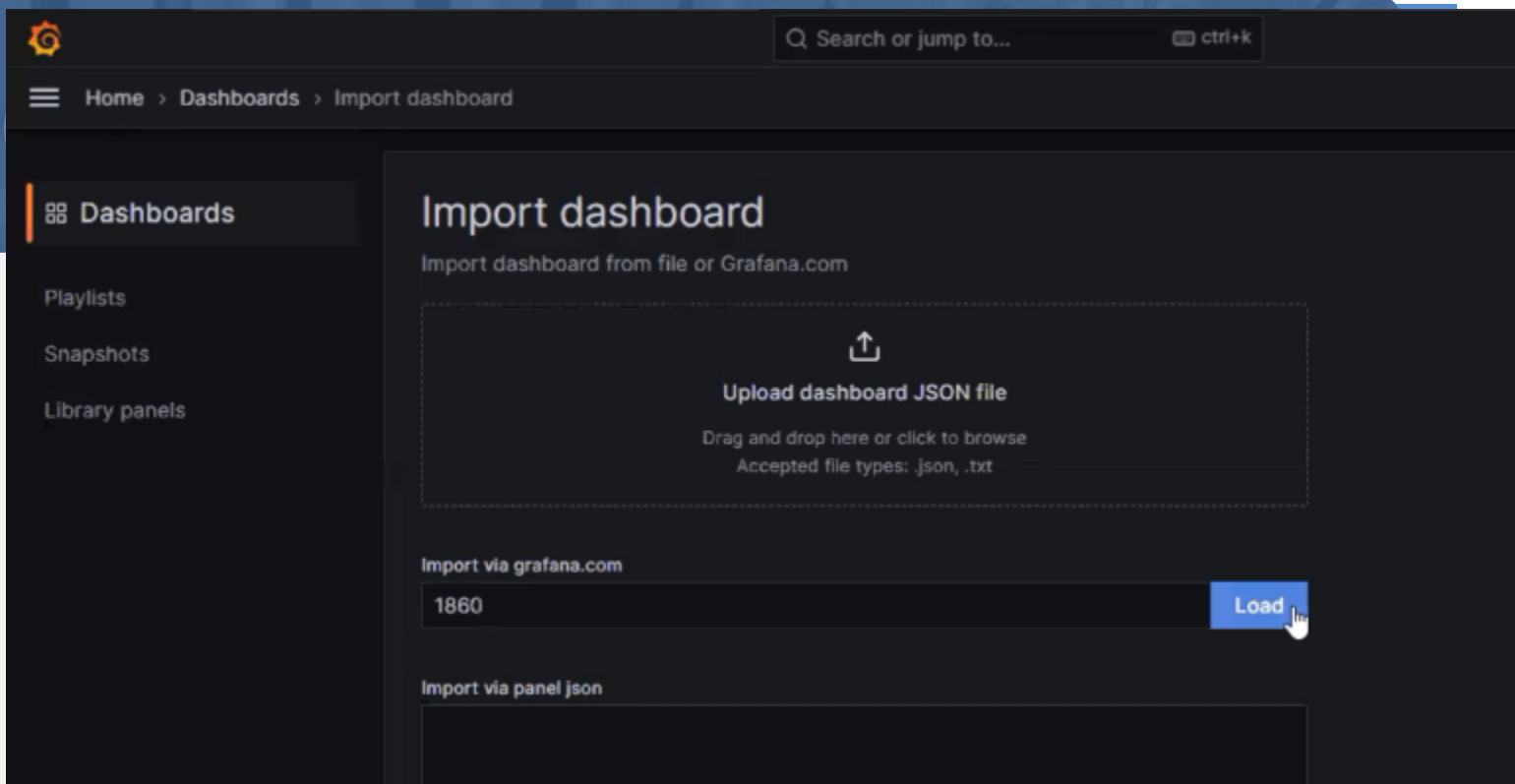
Click on Save and Test.

Let's add Dashboard for a better view in Grafana

Click On Dashboard → + symbol → Import Dashboard

Click on Import Dashboard paste this code 1860 and click on load





You will see this output

