

Monitoring Task

Task Description:

Install Prometheus and Grafana on a Linux EC2 machine, connect Prometheus to Grafana, and create a dashboard to view metrics.

➔ Step 1: Install Prometheus

```
ubuntu@ip-172-31-41-190:~$ cd /tmp
curl -s https://api.github.com/repos/prometheus/prometheus/releases/latest \
| grep browser_download_url \
| grep linux-amd64 \
| cut -d '"' -f 4 \
| wget -i -
--2025-09-02 14:07:03-- https://github.com/prometheus/prometheus/releases/download/v3.5.0/prometheus-3.5.0.linux-amd64.tar.gz
Resolving github.com (github.com)... 20.207.73.82
Connecting to github.com (github.com)|20.207.73.82|:443... connected.
HTTP request sent, awaiting response... 302 Found
```

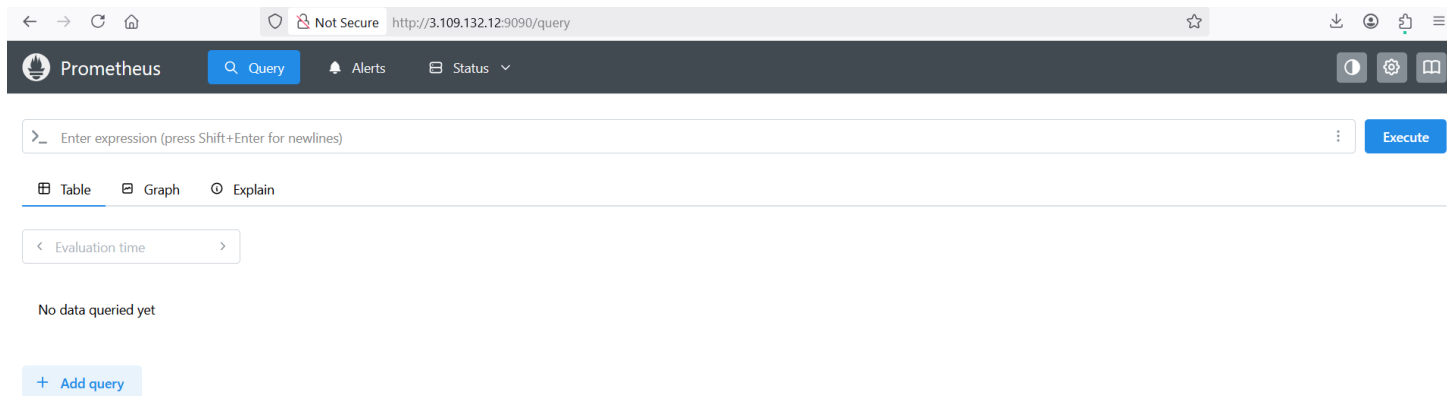
```
ubuntu@ip-172-31-41-190:/tmp/prometheus-3.5.0.linux-amd64$ ^[[200~ls /usr/local/bin/ | grep prometheus-
ls: command not found
ubuntu@ip-172-31-41-190:/tmp/prometheus-3.5.0.linux-amd64$ ls /usr/local/bin/ | grep prometheus
prometheus
ubuntu@ip-172-31-41-190:/tmp/prometheus-3.5.0.linux-amd64$ ls /etc/prometheus/
prometheus.yml
ubuntu@ip-172-31-41-190:/tmp/prometheus-3.5.0.linux-amd64$ sudo useradd --no-create-home --shell /bin/false prometheus
ubuntu@ip-172-31-41-190:/tmp/prometheus-3.5.0.linux-amd64$ sudo chown -R prometheus:prometheus /etc/prometheus /var/lib/prometheus
sudo chown prometheus:prometheus /usr/local/bin/prometheus /usr/local/bin/promtool
ubuntu@ip-172-31-41-190:/tmp/prometheus-3.5.0.linux-amd64$ sudo nano /etc/systemd/system/prometheus.service
ubuntu@ip-172-31-41-190:/tmp/prometheus-3.5.0.linux-amd64$ sudo systemctl daemon-reload
ubuntu@ip-172-31-41-190:/tmp/prometheus-3.5.0.linux-amd64$ sudo systemctl enable prometheus
Created symlink /etc/systemd/system/multi-user.target.wants/prometheus.service → /etc/systemd/system/prometheus.service.
ubuntu@ip-172-31-41-190:/tmp/prometheus-3.5.0.linux-amd64$ sudo systemctl start prometheus
ubuntu@ip-172-31-41-190:/tmp/prometheus-3.5.0.linux-amd64$ sudo systemctl status prometheus
● prometheus.service - Prometheus
   Loaded: loaded (/etc/systemd/system/prometheus.service; enabled; preset: enabled)
   Active: active (running) since Tue 2025-09-02 14:11:47 UTC; 8s ago
     Main PID: 6777 (prometheus)
       Tasks: 6 (limit: 1121)
      Memory: 15.6M (peak: 15.9M)
         CPU: 60ms
    CGroup: /system.slice/prometheus.service
            └─6777 /usr/local/bin/prometheus --config.file=/etc/prometheus/prometheus.yml --storage.tsdb.path=/var/lib/prometheus --web.console.templates=/e
```

```
ubuntu@ip-172-31-41-190:/tmp/prometheus-3.5.0.linux-amd64$ cd ~
ubuntu@ip-172-31-41-190:~$ sudo apt-get install -y software-properties-common
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
software-properties-common is already the newest version (0.99.49.3).
software-properties-common set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
ubuntu@ip-172-31-41-190:~$ sudo apt-get install -y apt-transport-https
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following NEW packages will be installed:
```

➔ Step 2: Open the ports 9090(Prometheus) and 3000(Grafana)

Inbound rules Info						
Security group rule ID	Type Info	Protocol Info	Port range Info	Source Info	Description - optional Info	
sgr-0dc3b4a0106ed9871	HTTP	TCP	80	Custom	<input type="text" value="0.0.0.0"/>	<input type="text" value="0.0.0.0"/> <input type="button" value="X"/>
sgr-015ae0e48f72996ad	SSH	TCP	22	Custom	<input type="text" value="0.0.0.0"/>	<input type="text" value="0.0.0.0"/> <input type="button" value="X"/>
sgr-0dcdf4dc26a046de2	Custom TCP	TCP	9090	Custom	<input type="text" value="0.0.0.0"/>	<input type="text" value="0.0.0.0"/> <input type="button" value="X"/>
sgr-06c7e63f442f96385	HTTPS	TCP	443	Custom	<input type="text" value="0.0.0.0"/>	<input type="text" value="0.0.0.0"/> <input type="button" value="X"/>
sgr-0dde973aa34458cc9	Custom TCP	TCP	3000	Custom	<input type="text" value="0.0.0.0"/>	<input type="text" value="0.0.0.0"/> <input type="button" value="X"/>

➔ Step 3: open the port 9090 to check.



➔ Step 4: Install Grafana

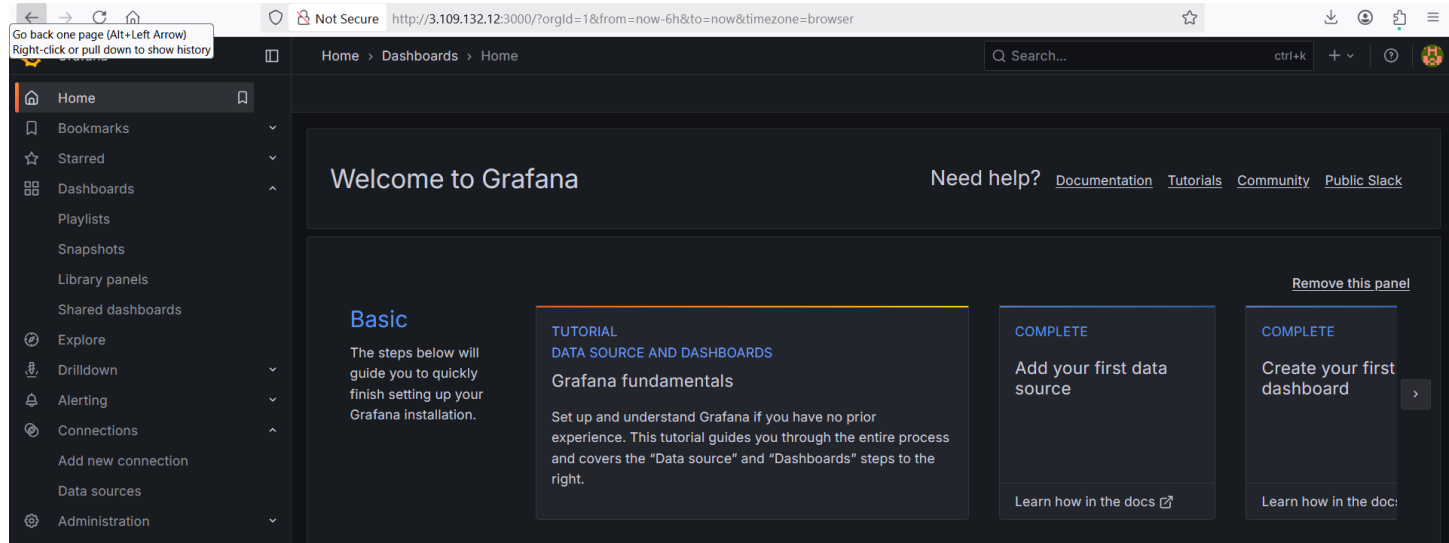
```
ubuntu@ip-172-31-41-190:~$ wget -q -O - https://packages.grafana.com/gpg.key | sudo apt-key add -
echo "deb https://packages.grafana.com/oss/deb stable main" | sudo tee /etc/apt/sources.list.d/grafana.list
Warning: apt-key is deprecated. Manage keyring files in trusted.gpg.d instead (see apt-key(8)).
OK
deb https://packages.grafana.com/oss/deb stable main
ubuntu@ip-172-31-41-190:~$ sudo apt-get update
Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease
Get:4 https://packages.grafana.com/oss/deb stable InRelease [7660 B]
Hit:5 http://security.ubuntu.com/ubuntu noble-security InRelease
Get:6 https://packages.grafana.com/oss/deb stable/main amd64 Packages [431 kB]
Fetched 439 kB in 3s (155 kB/s)
Reading package lists... Done
W: https://packages.grafana.com/oss/deb/dists/stable/InRelease: Key is stored in legacy trusted.gpg keyring (/etc/apt/trusted.gpg), see the DEPRECATION section in apt-key(8) for details.
ubuntu@ip-172-31-41-190:~$ sudo apt-get install grafana -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  musl
The following NEW packages will be installed:
```

```

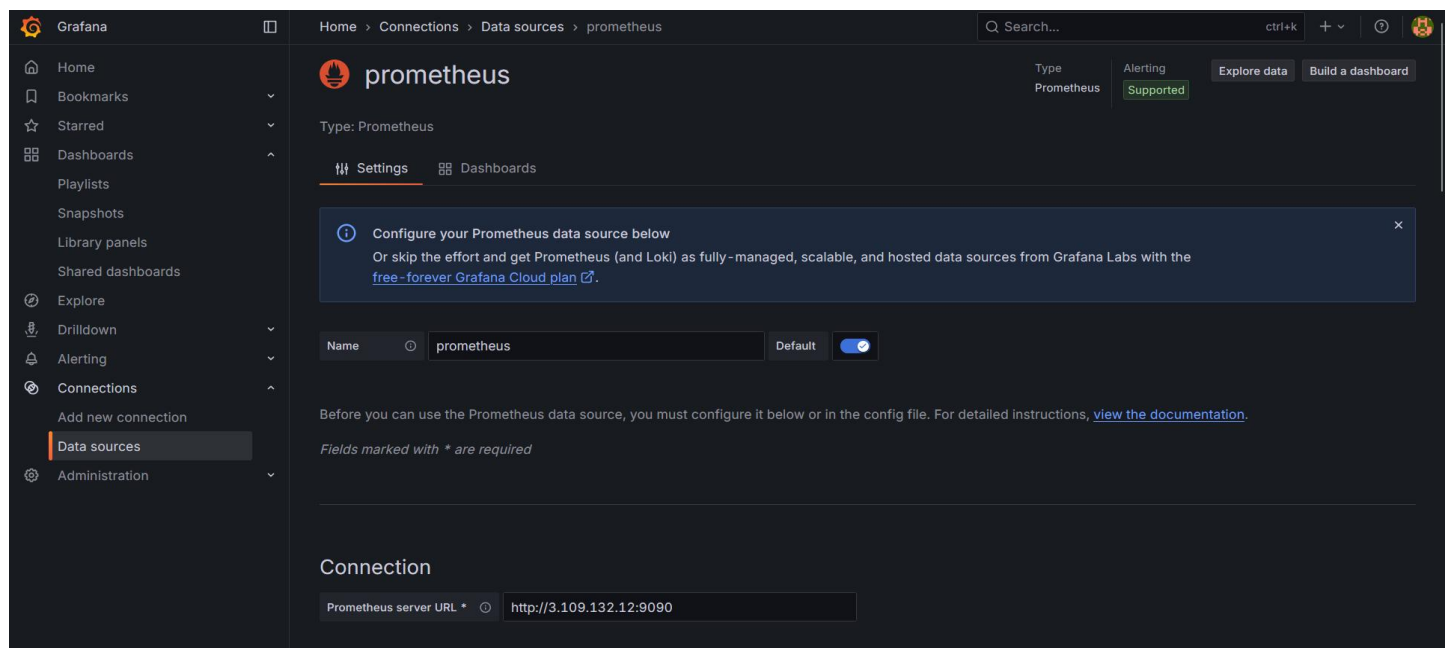
ubuntu@ip-172-31-41-190:~$ sudo systemctl daemon-reload
ubuntu@ip-172-31-41-190:~$ sudo systemctl enable grafana-server
Synchronizing state of grafana-server.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable grafana-server
Created symlink /etc/systemd/system/multi-user.target.wants/grafana-server.service → /usr/lib/systemd/system/grafana-server.service.
ubuntu@ip-172-31-41-190:~$ sudo systemctl start grafana-server
ubuntu@ip-172-31-41-190:~$ sudo systemctl status grafana-server
● grafana-server.service - Grafana instance
   Loaded: loaded (/usr/lib/systemd/system/grafana-server.service; enabled; preset: enabled)
   Active: active (running) since Tue 2025-09-02 14:20:49 UTC; 6s ago
     Docs: http://docs.grafana.org
   Main PID: 7812 (grafana)
    Tasks: 7 (limit: 1121)
  Memory: 223.3M (peak: 223.7M)
     CPU: 1.942s
  CGroup: /system.slice/grafana-server.service
          └─7812 /usr/share/grafana/bin/grafana server --config=/etc/grafana/grafana.ini --pidfile=/run/grafana/grafana-server.pid --packaging=deb cfg:de

```

➔ Step 5: Hit the port 3000 to check if its running



➔ Step 6: Connect the Prometheus port to Grafana



➔ Step 7: Run queries to check the visualization

The screenshot displays the Grafana dashboard editor interface. On the left is a sidebar with navigation options: Home, Bookmarks, Starred, Dashboards (selected), Playlists, Snapshots, Library panels, Shared dashboards, Explore, Drilldown, Alerting, Connections, Add new connection, Data sources, and Administration. The main area shows a 'New panel' configuration. At the top, there's a 'Table view' toggle and a time range selector set to 'Last 6 hours'. Below this is a line graph visualization with a y-axis from 0 to 2 and an x-axis from 14:30 to 20:00. A single data series is plotted, showing a sharp increase at the end of the time range. The query editor at the bottom shows the data source set to 'prometheus' and the query 'up'. The 'Query inspector' tab is active, displaying the query details. On the right side, there are configuration panels for 'Visualization' (set to 'Time series'), 'Panel options' (Title: 'New panel', Description: empty), 'Transparent background' (toggle off), 'Panel links' (empty), 'Repeat options' (empty), and 'Tooltip' (mode: 'Single', hover proximity: 'How close the cursor must be to a point to trigger the tooltip, in pixels').

Home > Dashboards > Demo > Edit panel

Search...

Back to dashboard Discard panel changes Save dashboard

Table view Last 6 hours Refresh

New panel

2
1.5
1
0.5
0

14:30 15:00 15:30 16:00 16:30 17:00 17:30 18:00 18:30 19:00 19:30 20:00

— {__name__="up", app="prometheus", instance="localhost:9090", job="prometheus"}

Queries 1 Transformations 0 Alert 0

Data source prometheus Query opt... MD = auto = 874 Interval = 20s Query inspector

A (prometheus)

Kick start your query Explain Run queries Builder Code

Metrics browser > up

> Options Legend: Auto Format: Time series Step: auto Type: Range Exemplars: false

Visualization Time series

Panel options

Title New panel

Description

Transparent background

Panel links

Repeat options

Tooltip

Tooltip mode Single All Hidden

Hover proximity How close the cursor must be to a point to trigger the tooltip, in pixels