

Task 21: Install Prometheus and Grafana on EC2 machine, connect Prometheus to Grafana, and create a dashboard to view metrics.

Launch an instance [Info](#)

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

Name and tags [Info](#)

Name

monitoring-server

[Add additional tags](#)

Instances (1/1) [Info](#)

Find Instance by attribute or tag (case-sensitive)

All states

Instance ID = i-05ec536d4ac392eb4 X Clear filters

< 1 > ⚙

<input checked="" type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IP
<input checked="" type="checkbox"/>	monitoring-se...	i-05ec536d4ac392eb4	Running	t2.micro	Initializing	View alarms +	ap-south-1a	ec2-13-2:

Connect that instance

1. Install Grafana:

```
#!/bin/bash
echo 'deb https://packages.grafana.com/oss/deb stable main' >> /etc/apt/sources.list
curl https://packages.grafana.com/gpg.key | sudo apt-key add -
sudo apt-get update
sudo apt-get -y install grafana

systemctl daemon-reload
systemctl start grafana-server
systemctl enable grafana-server.service
```

```
Setting up libfontconfig1:amd64 (2.13.1-4.2ubuntu5) ...
Setting up grafana (11.1.3) ...
Adding system user `grafana' (UID 115) ...
Adding new user `grafana' (UID 115) with group `grafana' ...
Not creating home directory `/usr/share/grafana'.
### NOT starting on installation, please execute the following statements to configure grafana to start automatically using systemd
  sudo /bin/systemctl daemon-reload
  sudo /bin/systemctl enable grafana-server
### You can start grafana-server by executing
  sudo /bin/systemctl start grafana-server
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for libc-bin (2.35-0ubuntu3.8) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

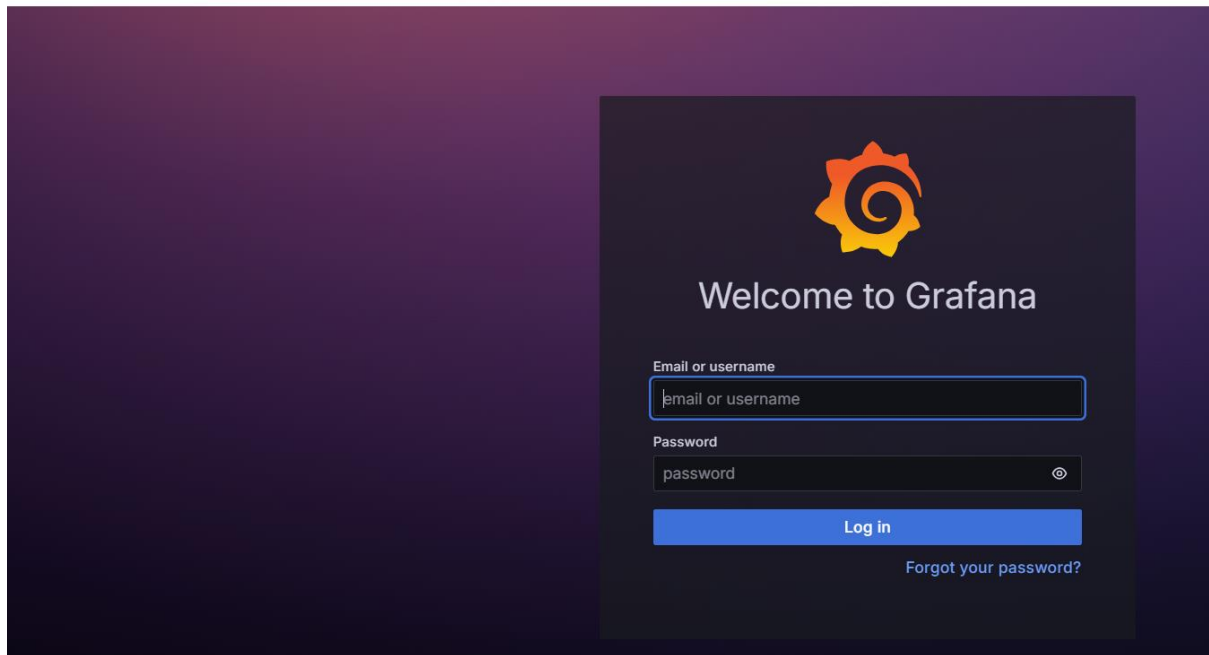
No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
Synchronizing state of grafana-server.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable grafana-server
Created symlink /etc/systemd/system/multi-user.target.wants/grafana-server.service → /lib/systemd/system/grafana-server.service.
```

```
root@ip-172-31-38-67:/home/ubuntu# sudo systemctl status grafana-server
• grafana-server.service - Grafana instance
   Loaded: loaded (/lib/systemd/system/grafana-server.service; enabled; vendor preset: enabled)
   Active: active (running) since Thu 2024-08-08 11:39:05 UTC; 1min 24s ago
     Docs: http://docs.grafana.org
   Main PID: 4125 (grafana)
    Tasks: 9 (limit: 1120)
   Memory: 170.9M
      CPU: 2.972s
   CGroup: /system.slice/grafana-server.service
           └─4125 /usr/share/grafana/bin/grafana server --config=/etc/grafana/grafana.ini --pidfil
```

← → ↻ ⚠ Not secure 13.126.189.215:3000/login

🌐 Metal Weight Calcul... 🌐 minikube start | min...



2. Install Prometheus:

```
#!/bin/bash
PROMETHEUS_VERSION="2.52.0"
wget https://github.com/prometheus/prometheus/releases/download/v${PROMETHEUS_VERSION}/prometheus-${PROMETHEUS_VERSION}.linux-amd64.tar.gz
tar -xzf prometheus-${PROMETHEUS_VERSION}.linux-amd64.tar.gz
cd prometheus-${PROMETHEUS_VERSION}.linux-amd64/
# if you just want to start prometheus as root
# ./prometheus --config.file=prometheus.yml

# create user
useradd --no-create-home --shell /bin/false prometheus

# create directories
mkdir -p /etc/prometheus
mkdir -p /var/lib/prometheus

# set ownership
chown prometheus:prometheus /etc/prometheus
chown prometheus:prometheus /var/lib/prometheus

# copy binaries
cp prometheus /usr/local/bin/
cp promtool /usr/local/bin/


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

```
root@ip-172-31-38-67:/home/ubuntu# ./install-prometheus.sh
--2024-08-08 11:41:44-- https://github.com/prometheus/prometheus/releases/download/v2.52.0/prometheus-2.52.0.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
Location: https://objects.githubusercontent.com/github-production-release-asset-2e65be/6838921/768138e4-e78f-4fb9-b334-959077fdbf256?X-Amz-Credential=releaseassetproduction%2F20240808%2Fus-east-1%2F%3%2Faws4_request&X-Amz-Date=20240808T114145Z&X-Amz-Expires=30ce2b35bd70158d9ee75a2e0f3f5a40e8e7dcb8d52d590b1234&X-Amz-SignedHeaders=host&actor_id=0&key_id=0&repo_id=6838921&response-content-dame%3Dprometheus-2.52.0.linux-amd64.tar.gz&response-content-type=application%2Foctet-stream [following]
--2024-08-08 11:41:45-- https://objects.githubusercontent.com/github-production-release-asset-2e65be/6838921/768138e4-e78f-4fb9-b334-959077fdbf256?X-Amz-Credential=releaseassetproduction%2F20240808%2Fus-east-1%2F%3%2Faws4_request&X-Amz-Date=20240808T114145Z&X-Amz-Expires=30ce2b35bd70158d9ee75a2e0f3f5a40e8e7dcb8d52d590b1234&X-Amz-SignedHeaders=host&actor_id=0&key_id=0&repo_id=6838921&response-content-dame%3Dprometheus-2.52.0.linux-amd64.tar.gz&response-content-type=application%2Foctet-stream
Resolving objects.githubusercontent.com (objects.githubusercontent.com)... 185.199.110.133, 185.199.111.133, 185.199.108.133, ...
Connecting to objects.githubusercontent.com (objects.githubusercontent.com)|185.199.110.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 104659766 (100M) [application/octet-stream]
Saving to: 'prometheus-2.52.0.linux-amd64.tar.gz.1'
```

```
root@ip-172-31-38-67:/home/ubuntu# sudo systemctl status prometheus
● prometheus.service - Prometheus
   Loaded: loaded (/etc/systemd/system/prometheus.service; enabled; vendor preset: enabled)
   Active: active (running) since Thu 2024-08-08 11:41:54 UTC; 36s ago
     Main PID: 4424 (prometheus)
        Tasks: 6 (limit: 1120)
       Memory: 76.2M
          CPU: 123ms
```

← → ↺ ⚠ Not secure 13.126.189.215:9090/graph?g0.expr=&g0.tab=1&g0.display_mode=lines&g0.show_exemplars=0&g0.range_input=1h

🔍 Metal Weight Calcul... 🌐 minikube start | min...

 Prometheus Alerts Graph Status ▾ Help

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

🔍 Expression (press Shift+Enter for newlines)

Table Graph

◀ Evaluation time ▶

No data queried yet

Add Panel

3. Install node exporter:

```
# /bin/bash
NODE_EXPORTER_VERSION="1.8.1"
wget https://github.com/prometheus/node_exporter/releases/download/v${NODE_EXPORTER_VERSION}/node_exporter-${NODE_EXPORTER_VERSION}.linux-amd64.tar.gz
tar -xzf node_exporter-${NODE_EXPORTER_VERSION}.linux-amd64.tar.gz
cd node_exporter-${NODE_EXPORTER_VERSION}.linux-amd64
cp node_exporter /usr/local/bin

# create user
useradd --no-create-home --shell /bin/false node_exporter

chown node_exporter:node_exporter /usr/local/bin/node_exporter

echo '[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' > /etc/systemd/system/node_exporter.service
```

```

root@ip-172-31-38-67:/home/ubuntu# 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 Thu 2024-08-08 11:45:49 UTC; 7min ago
     Main PID: 4639 (node_exporter)
        Tasks: 3 (limit: 1120)
       Memory: 2.0M
          CPU: 8ms
      CGroup: /system.slice/node_exporter.service
              └─4639 /usr/local/bin/node_exporter

```

← → ↻ ⚠ Not secure 13.126.189.215:9100

🔍 Metal Weight Calcul... 🌐 minikube start | min...

Node Exporter

Prometheus Node Exporter

Version: (version=1.8.1, branch=HEAD, revision=400c3979931613db930ea035f39ce7b377cddb5b)

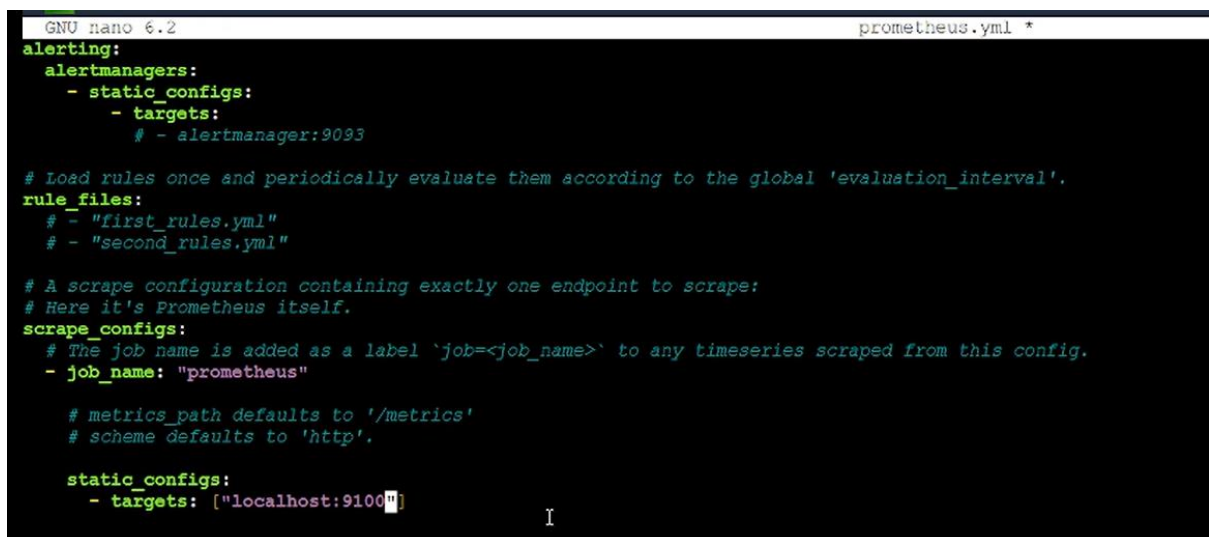
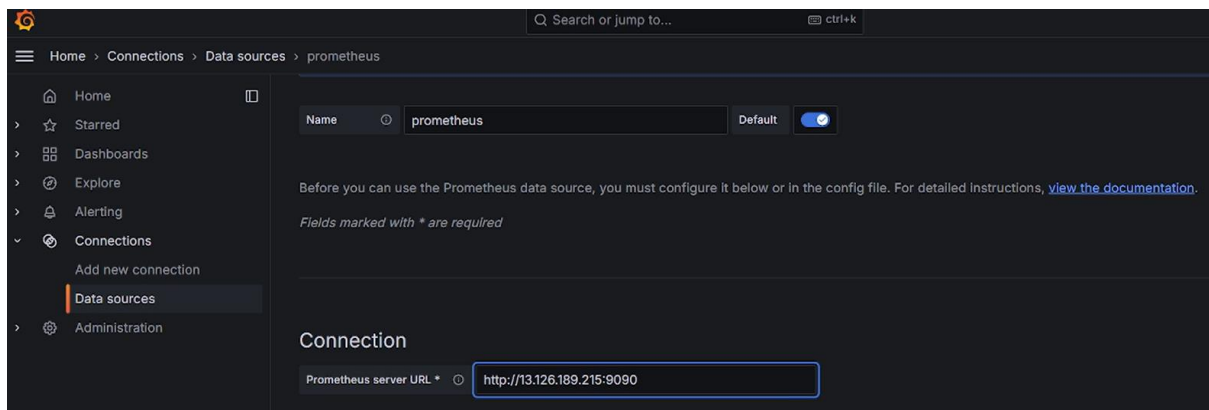
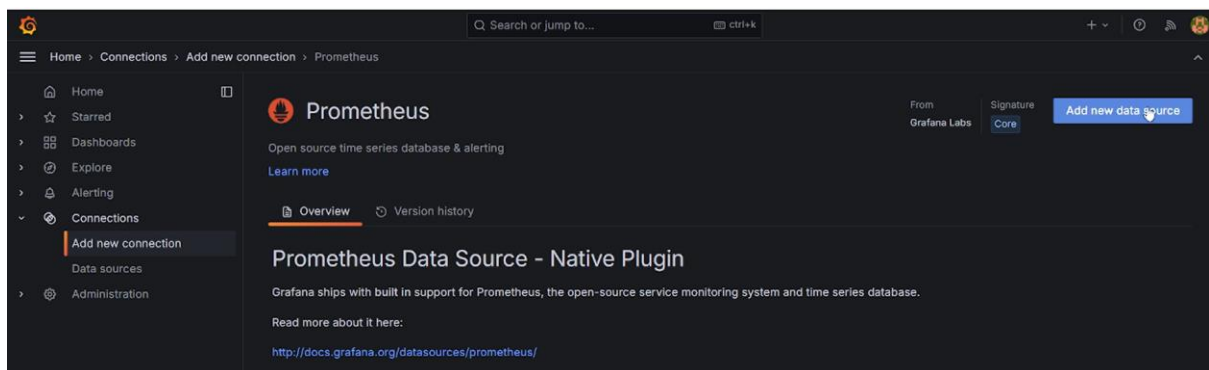
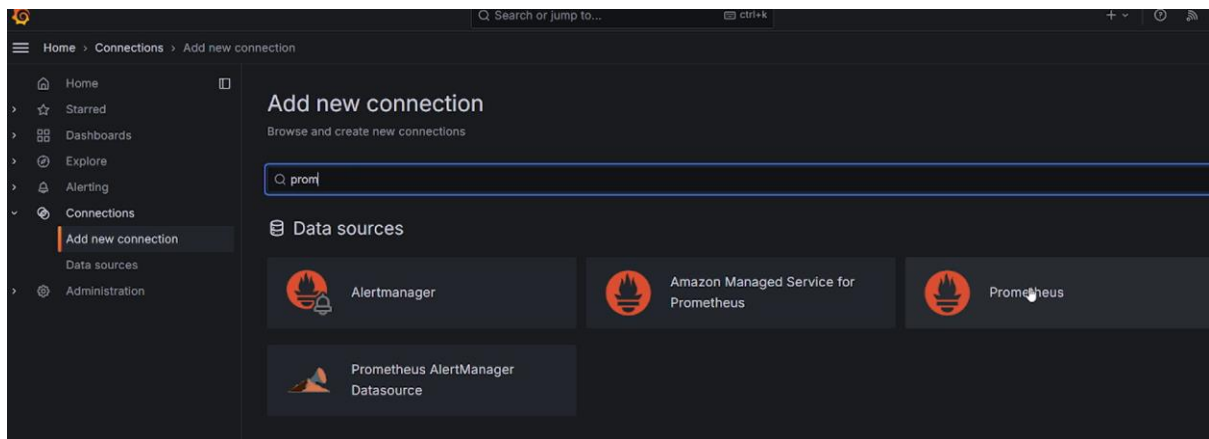
- [Metrics](#)

Add port number for all

Inbound rules (4)								🔄	Manage tags	Edit inbound rules
🔍 Search								< 1 > ⚙		
<input type="checkbox"/>	Name	Security group rule...	IP version	Type	Protocol	Port range				
<input type="checkbox"/>	-	sgr-01af647996f785443	IPv4	Custom TCP	TCP	9090				
<input type="checkbox"/>	-	sgr-0e259dbff6083e66	IPv4	SSH	TCP	22				
<input type="checkbox"/>	-	sgr-0913d13b7b7ba6...	IPv4	Custom TCP	TCP	9100				
<input type="checkbox"/>	-	sgr-0d7f555340f72d62d	IPv4	Custom TCP	TCP	3000				

4. create a dashboard to view metrics:

add source [Prometheus] in Grafana:



Targets

All scrape pools All Unhealthy Collapse All

filter by endpoint or labels


Unknown Unhealthy Healthy

prometheus (1/1 up) show less

Endpoint	State	Labels	Last Scrape	Scrape Duration	Error
http://localhost:9100/metrics	UP	instance="localhost:9100" job="prometheus"	6.895s ago	28.846ms	

Import dashboard

Import dashboard from file or Grafana.com



Upload dashboard JSON file

Drag and drop here or click to browse

Accepted file types: .json, .txt

Find and import dashboards for common applications at grafana.com/dashboards

Load

Import via dashboard JSON model

```
{
  "title": "Example - Repeating Dictionary variables",
  "uid": "_OHnEoN4z",
  "panels": [...]
  ...
}
```

Importing dashboard from Grafana.com

Published by

rfmoz

Updated on

2024-05-22 21:37:35

Options

Name

Node Exporter Full

Folder

Dashboards

Unique identifier (UID)

The unique identifier (UID) of a dashboard can be used for uniquely identify a dashboard between multiple Grafana installs. The UID allows having consistent URLs for accessing dashboards so changing the title of a dashboard will not break any bookmarked links to that dashboard.

rYdddIPWk

Change uid

Prometheus



prometheus

The screenshot shows the Grafana web interface. On the left is a sidebar with navigation links: Home, Starred, Dashboards (selected), Explore, Alerting, and Connections. Below these are links for 'Add new connection', 'Data sources', and 'Administration'. The main panel is titled 'Dashboards' and contains a search bar, a 'Filter by tag' dropdown, and a 'Starred' checkbox. A table lists the dashboards:

Name	Tags
Host Dashboard - System	
Node Exporter Full	linux

A 'New' button is visible in the top right corner of the main panel.

