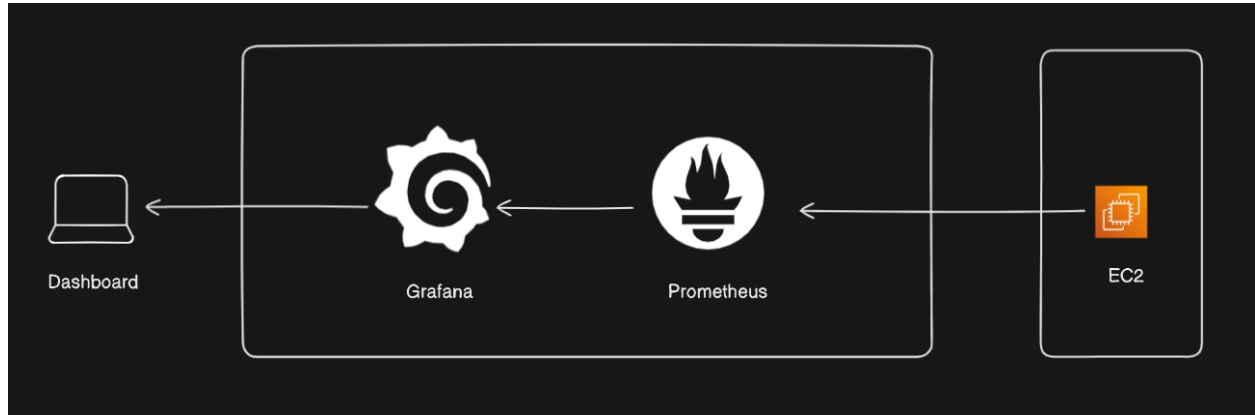
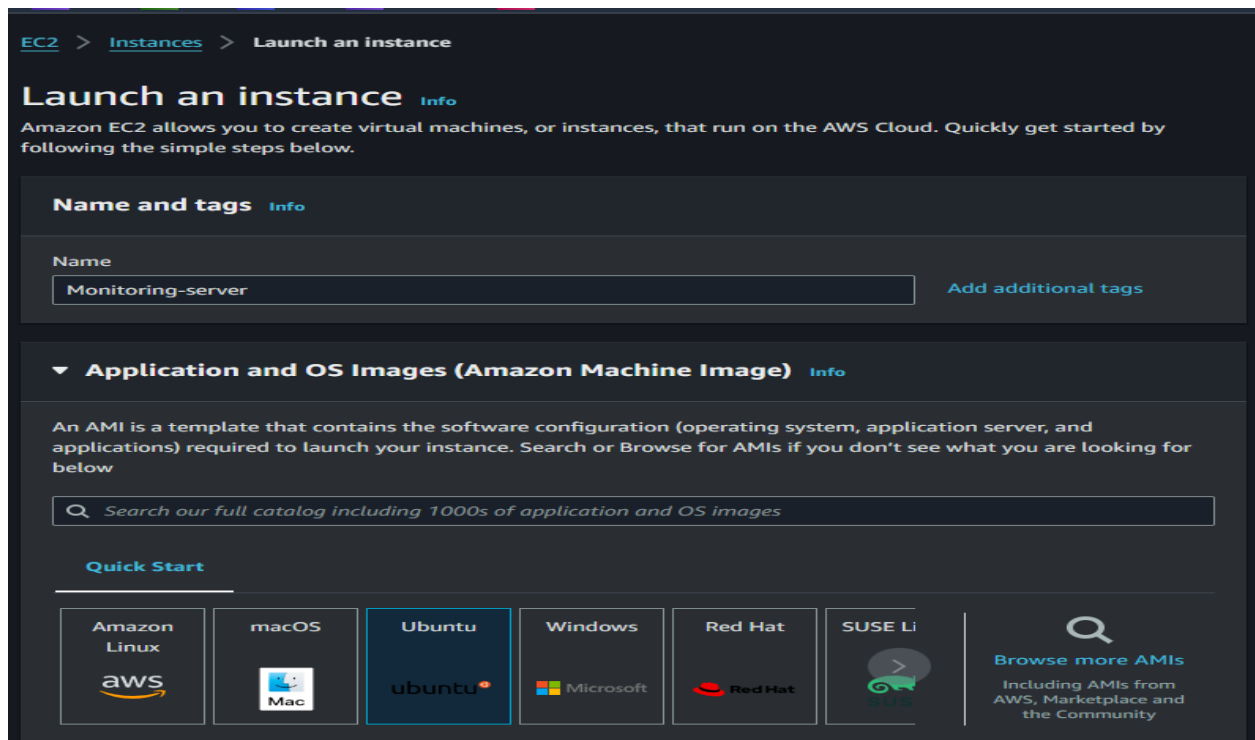
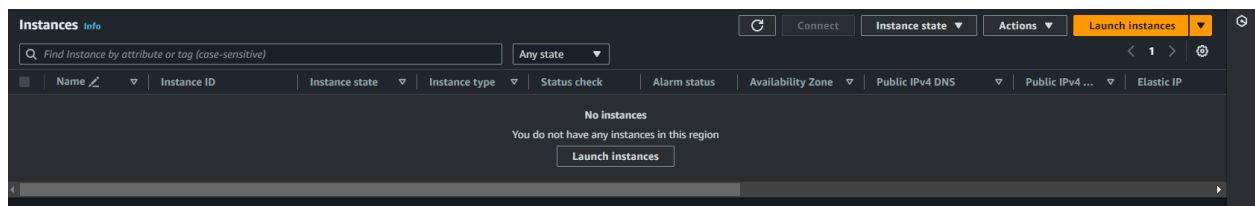


Name: - Prajwal Patil

Task: - Monitoring Your Infrastructure with Grafana and Prometheus: A Comprehensive Guide



1) Launch Instances



Amazon Machine Image (AMI)

Ubuntu Server 22.04 LTS (HVM), SSD Volume Type

Free tier eligible

ami-03f4878755434977f (64-bit (x86)) / ami-077885f59ecb77b84 (64-bit (Arm))
Virtualization: hvm ENA enabled: true Root device type: ebs

Description

Canonical, Ubuntu, 22.04 LTS, amd64 jammy image build on 2023-12-07

Architecture

64-bit (x86)

AMI ID

ami-03f4878755434977f

Verified provider

▼ Instance type [Info](#) | [Get advice](#)

Instance type

t2.micro

Free tier eligible

Family: t2 1 vCPU 1 GiB Memory Current generation: true
On-Demand Linux base pricing: 0.0124 USD per Hour
On-Demand Windows base pricing: 0.017 USD per Hour
On-Demand RHEL base pricing: 0.0724 USD per Hour
On-Demand SUSE base pricing: 0.0124 USD per Hour

☒ All generations

[Compare instance types](#)

[Additional costs apply for AMIs with pre-installed software](#)

▼ Key pair (login) [Info](#)

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - required

Mumbai_new_AD

[Create new key pair](#)

▼ Network settings [Info](#)

[Edit](#)

Network [Info](#)

vpc-00c3ebfca0fa4dfc5

Subnet [Info](#)

No preference (Default subnet in any availability zone)

Auto-assign public IP [Info](#)

Enable

Firewall (security groups) [Info](#)

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

☒ Create security group

☐ Select existing security group

We'll create a new security group called 'launch-wizard-4' with the following rules:

☒ Allow SSH traffic from
Helps you connect to your instance

Anywhere
0.0.0.0/0

☐ Allow HTTPS traffic from the internet
To set up an endpoint, for example when creating a web server

☐ Allow HTTP traffic from the internet
To set up an endpoint, for example when creating a web server

▼ Configure storage Info

Advanced

1x 8 GiB gp2 ▼ Root volume (Not encrypted)

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage

Add new volume

The selected AMI contains more instance store volumes than the instance allows. Only the first 0 instance store volumes from the AMI will be accessible from the instance

Click refresh to view backup information

The tags that you assign determine whether the instance will be backed up by any Data Lifecycle Manager policies.

0 x File systems

Edit

► Advanced details Info

Virtual server type (instance type)

t2.micro

Firewall (security group)

launch-wizard-1

Storage (volumes)

1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Cancel

Launch instance

Review commands

2) Connect to Instance

EC2 > Instances > i-038ba582414ff5ffc > Connect to instance

Connect to instance Info

Connect to your instance i-038ba582414ff5ffc (Monitoring-server) using any of these options

EC2 Instance Connect

Session Manager

SSH client

EC2 serial console

Instance ID

i-038ba582414ff5ffc (Monitoring-server)

1. Open an SSH client.

2. Locate your private key file. The key used to launch this instance is Mumbai_new_AD.pem

3. Run this command, if necessary, to ensure your key is not publicly viewable.

chmod 400 "Mumbai_new_AD.pem"

4. Connect to your instance using its Public DNS:

ec2-43-205-229-202.ap-south-1.compute.amazonaws.com

Command copied

ssh -i "Mumbai_new_AD.pem" ubuntu@ec2-43-205-229-202.ap-south-1.compute.amazonaws.com

Note: In most cases, the guessed username is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI username.

Cancel

```

Administrator@WindowsPC MINGW64 ~/Downloads (master)
$ ssh -i "Mumbai_new_AD.pem" ubuntu@ec2-43-205-229-202.ap-south-1.compute.amazonaws.com
The authenticity of host 'ec2-43-205-229-202.ap-south-1.compute.amazonaws.com (43.205.229.202)' can't be established.
ED25519 key fingerprint is SHA256:LXfsfZ/xEhB62H9Q47xGeX0zn6Ko3ovltSsxwCvYI0o.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-43-205-229-202.ap-south-1.compute.amazonaws.com' (ED25519) to the list of known hosts.
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 6.2.0-1017-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information as of Tue Jan 30 08:26:24 UTC 2024

System load:  0.0          Processes:      98
Usage of /:   16.4% of 9.51GB   Users logged in: 0
Memory usage: 21%          IPv4 address for eth0: 172.31.39.112
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-39-112:~$

```

3) Install Grafana

```

ubuntu@ip-172-31-39-112:~$ sudo -i
root@ip-172-31-39-112:~# mkdir Grafana
root@ip-172-31-39-112:~# ls
Grafana snap
root@ip-172-31-39-112:~# cd Grafana/
root@ip-172-31-39-112:~/Grafana# ls
root@ip-172-31-39-112:~/Grafana# vim Install-Grafana.sh
root@ip-172-31-39-112:~/Grafana# chmod +X Install-Grafana.sh
root@ip-172-31-39-112:~/Grafana# ls
Install-Grafana.sh

```

```

root@ip-172-31-39-112:~/Grafana# chmod +x Install-Grafana.sh
root@ip-172-31-39-112:~/Grafana# ls
Install-Grafana.sh

```

```

root@ip-172-31-39-112:~/Grafana# sudo systemctl start grafana-server
sudo systemctl enable grafana-server
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-172-31-39-112:~/Grafana#

```

4) Grafana run

```

root@ip-172-31-39-112:~/Grafana# 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 Tue 2024-01-30 08:31:14 UTC; 31s ago
     Docs: http://docs.grafana.org
   Main PID: 1345 (grafana)
      Tasks: 10 (limit: 1321)
     Memory: 76.7M
        CPU: 2.245s
     CGroup: /system.slice/grafana-server.service
             └─3343 /usr/share/grafana/bin/grafana server --config=/etc/grafana/grafana.ini --pidfile=/run/grafana/grafana-server.pid --packaging=deb cfg:default.paths.logs=/var/log/grafana cfg:default

Jan 30 08:31:20 ip-172-31-39-112 grafana[3343]: logger-ticker t-2024-01-30T08:31:20.812587943Z level=info msg=starting first tick-tick-2024-01-30T08:31:30Z
Jan 30 08:31:20 ip-172-31-39-112 grafana[3343]: logger-local-finder t-2024-01-30T08:31:20.81800960Z level=warn msg=Skipping finding plugins as directory does not exist" path=/var/lib/grafana/plugins
Jan 30 08:31:20 ip-172-31-39-112 grafana[3343]: logger-grafana-storage-logger t-2024-01-30T08:31:20.818189513Z level=info msg="storage starting"
Jan 30 08:31:20 ip-172-31-39-112 grafana[3343]: logger-grafana-apiserver t-2024-01-30T08:31:20.833020672Z level=info msg="Authentication is disabled"
Jan 30 08:31:20 ip-172-31-39-112 grafana[3343]: logger-ngalert-multiorg-alertmanager t-2024-01-30T08:31:20.839456387Z level=info msg="Starting Multiorg Alertmanager"
Jan 30 08:31:20 ip-172-31-39-112 grafana[3343]: logger-grafana-apiserver t-2024-01-30T08:31:20.858911258Z level=info msg="Adding groupVersion playlist.grafana.app v0alpha1 to the groupVersion registry"
Jan 30 08:31:20 ip-172-31-39-112 grafana[3343]: logger-http-server t-2024-01-30T08:31:20.87820957Z level=info msg="HTTP Server listen" address=[::]:3000 protocol=http suburl=/ socket=
Jan 30 08:31:20 ip-172-31-39-112 grafana[3343]: logger-grafana-update-checker t-2024-01-30T08:31:20.91691353Z level=info msg="Update check succeeded" duration=141.82237ms Go to Settings to activate Windows
Jan 30 08:31:21 ip-172-31-39-112 grafana[3343]: logger-plugins-update-checker t-2024-01-30T08:31:21.219350738Z level=info msg="Update check succeeded" duration=101.87519ms

```

5) Install Prometheus

```
root@ip-172-31-39-112:~/Grafana# sudo apt-get install prometheus
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  fonts-glyphicons-halflings javascript-common libio-pty-perl libipc-run-perl libjs-bootstrap
root@ip-172-31-39-112:~/Grafana# sudo systemctl status prometheus
● prometheus.service - Monitoring system and time series database
   Loaded: loaded (/lib/systemd/system/prometheus.service; enabled; vendor preset: enabled)
   Active: active (running) since Tue 2024-01-30 08:32:52 UTC; 22s ago
     Docs: https://prometheus.io/docs/introduction/overview/
    Main PID: 4484 (prometheus)
      Tasks: 7 (limit: 1121)
     Memory: 18.5M
        CPU: 156ms
    CGroup: /system.slice/prometheus.service
            └─4484 /usr/bin/prometheus
```

6) Take Public IP

Instances (1/1) info

Find Instance by attribute or tag (case-sensitive) Any state

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP
Monitoring-se...	i-038ba582414ff5ffc	Running	t2.micro	2/2 checks passed	View alarms +	ap-south-1a	ec2-43-205-229-202.ap...	43.205.229.202	-

Instance: i-038ba582414ff5ffc (Monitoring-server)

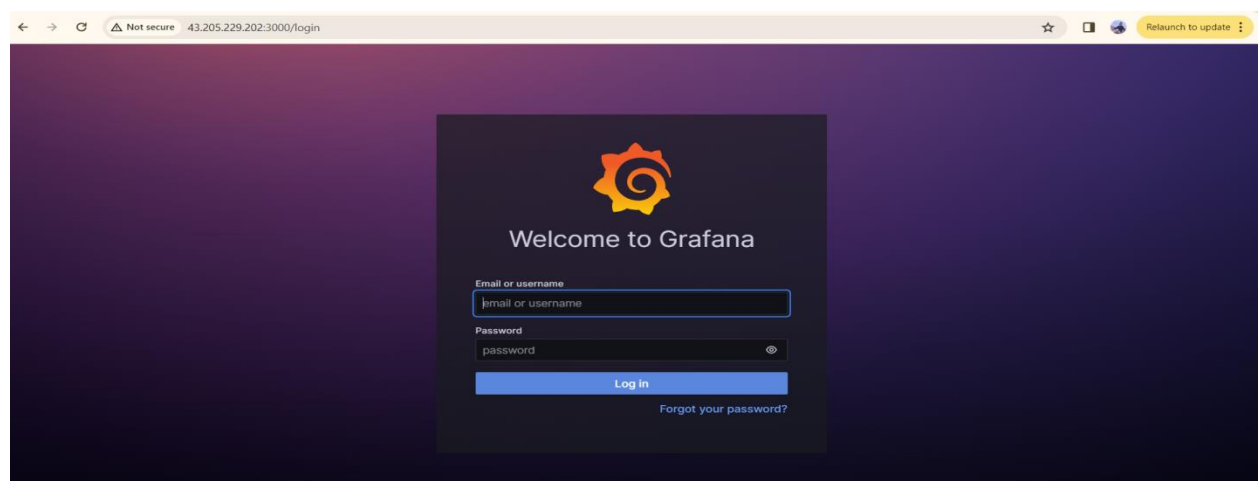
Details Status and alarms new Monitoring Security Networking Storage Tags

▼ Instance summary info

Instance ID i-038ba582414ff5ffc (Monitoring-server)	Public IPv4 address 43.205.229.202 open address	Private IPv4 addresses 172.31.39.112
IPv6 address -	Instance state Running	Public IPv4 DNS ec2-43-205-229-202.ap-south-1.compute.amazonaws.com open address
Hostname type IP name: ip-172-31-39-112.ap-south-1.compute.internal	Private IP DNS name (IPv4 only) ip-172-31-39-112.ap-south-1.compute.internal	Elastic IP addresses -
Answer private resource DNS name IPv4 (A)	Instance type t2.micro	AWS Compute Optimizer finding Opt-in to AWS Compute Optimizer for recommendations. Learn more
Auto-assigned IP address 43.205.229.202 [Public IP]	VPC ID vpc-00c3ebfca0fa4dfc5	Auto Scaling Group name -
IAM Role -	Subnet ID subnet-02a0a5a0c8d8c2f91	
IMDSv2		

Activate Windows
Go to Settings to activate Windows.

7) Open Grafana Dashboard



8) Open Prometheus

Prometheus

Alerts

Graph

Status

Help

Runtime Information

Uptime	2024-01-30 08:32:53.035747007 +0000 UTC
Working Directory	/
Configuration reload	Successful
Last successful configuration reload	2024-01-30 08:32:53 +0000 UTC
WAL corruptions	0
Goroutines	31
GOMAXPROCS	1
GOGC	
GODEBUG	
Storage Retention	15d

Build Information

Version	2.31.2+ds1
Revision	2.31.2+ds1-1ubuntu1.22.04.2
Branch	debian/sid
BuildUser	team+pkg-go@tracker.debian.org
BuildDate	20230502-12:17:56
GoVersion	go1.18.1

Alertmanagers

Endpoint	http://localhost:9091/api/v2/alerts	Activate Windows Go to Settings to activate Windows.
----------	-------------------------------------	---

9) Grafana Dashboard

G

Search or jump to...

ctrl+k

Home

Need help?

Documentation

Tutorials

Community

Public Slack

Welcome to Grafana

Remove this panel

Basic

The steps below will guide you to quickly finish setting up your Grafana installation.

TUTORIAL

DATA SOURCE AND DASHBOARDS

Grafana fundamentals

Set up and understand Grafana if you have no prior experience. This tutorial guides you through the entire process and covers the "Data source" and "Dashboards" steps to the right.

DATA SOURCES

Add your first data source

Learn how in the docs

DASHBOARDS

Create your first dashboard

Learn how in the docs

Dashboards

Starred dashboards

Recently viewed dashboards

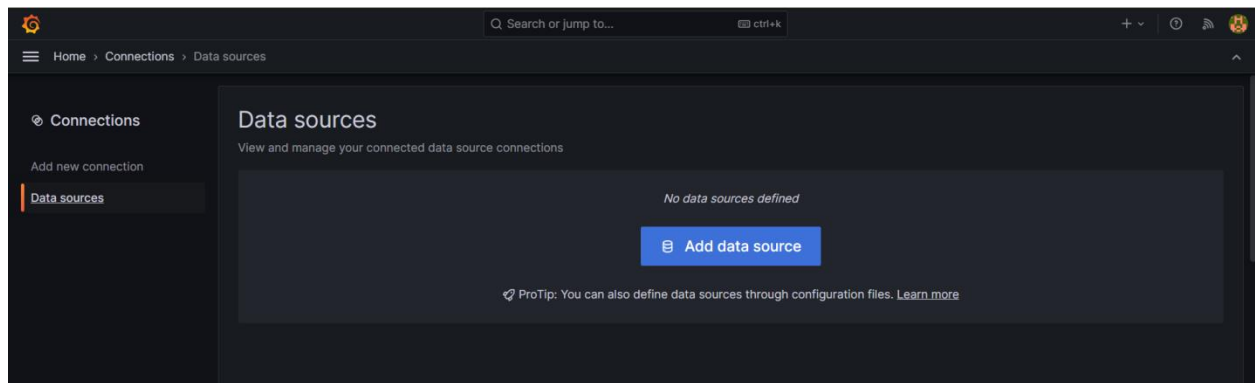
Latest from the blog

Jan 29

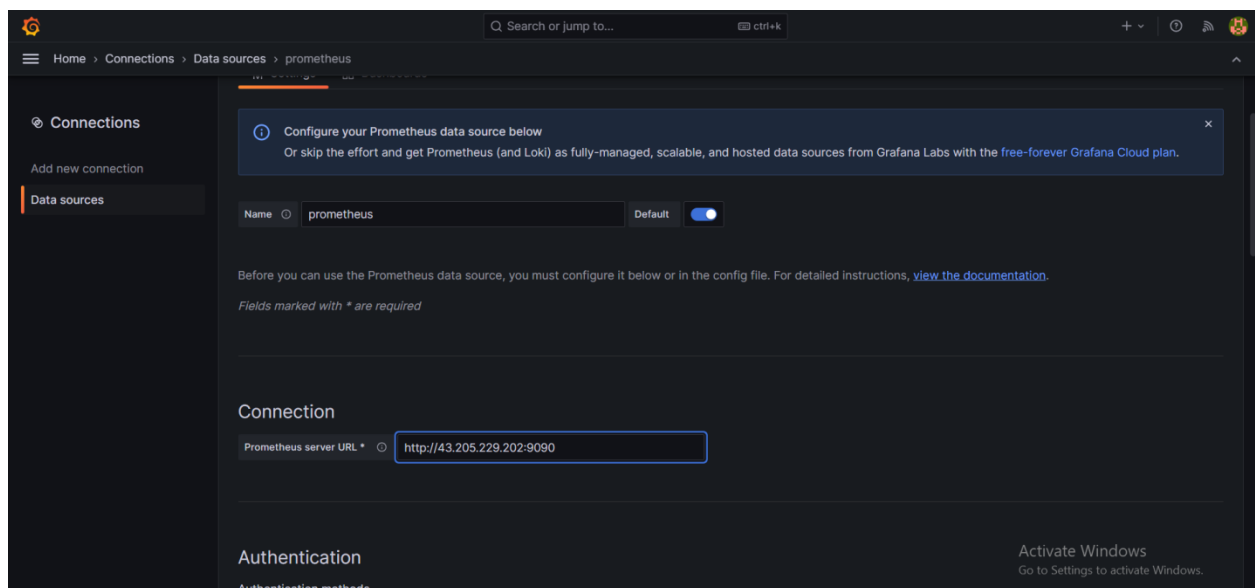
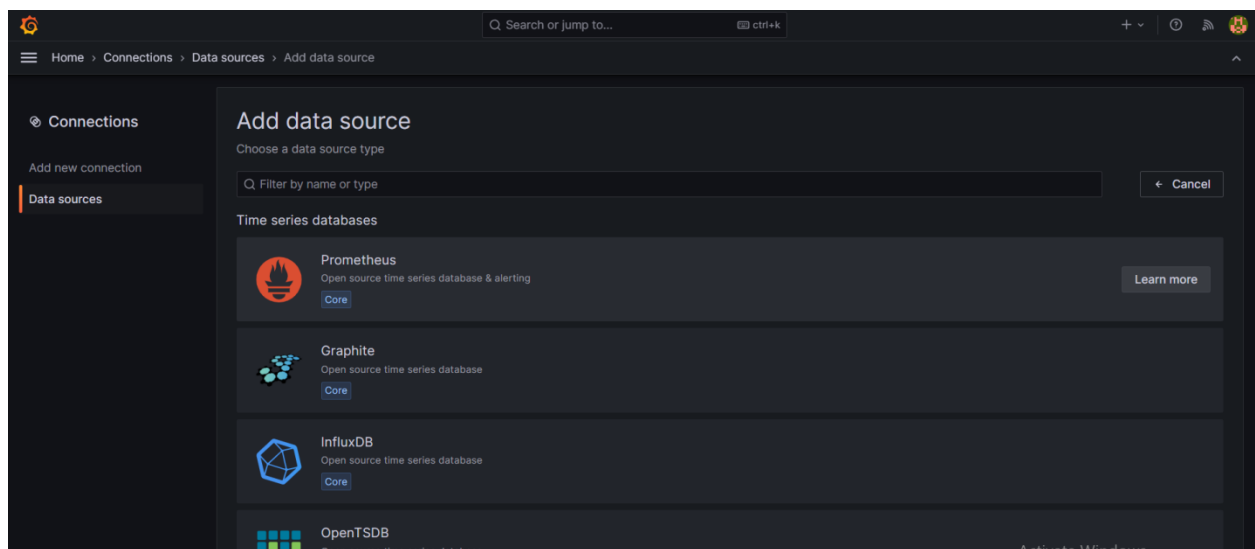
How to improve your observability strategy: Introducing the Observability Journey Maturity Model

While many segments of the IT market move quickly, the observability space seems to move at lightning speed. Fueled by open source innovation, observability toolsets and best practices

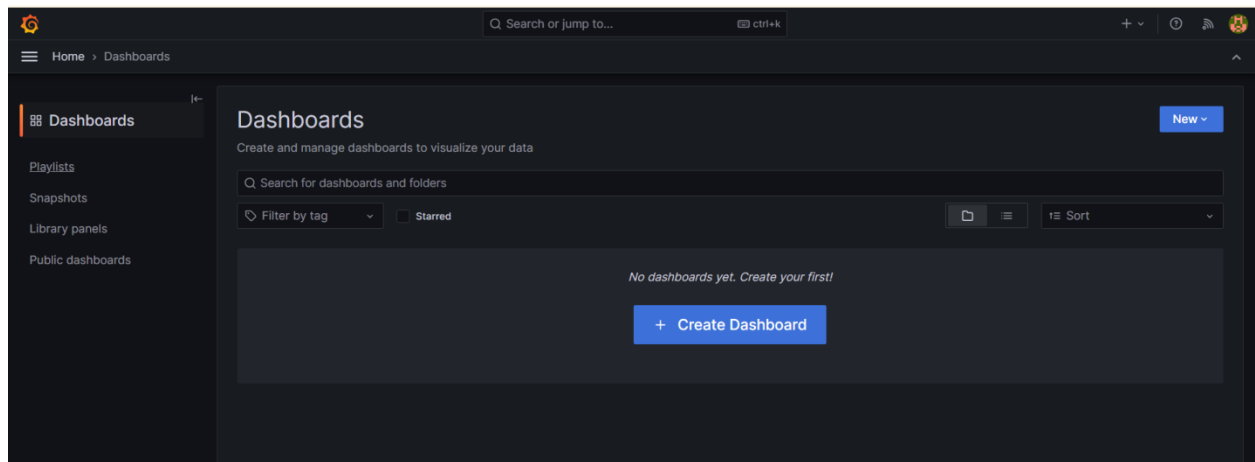
10) Add data source



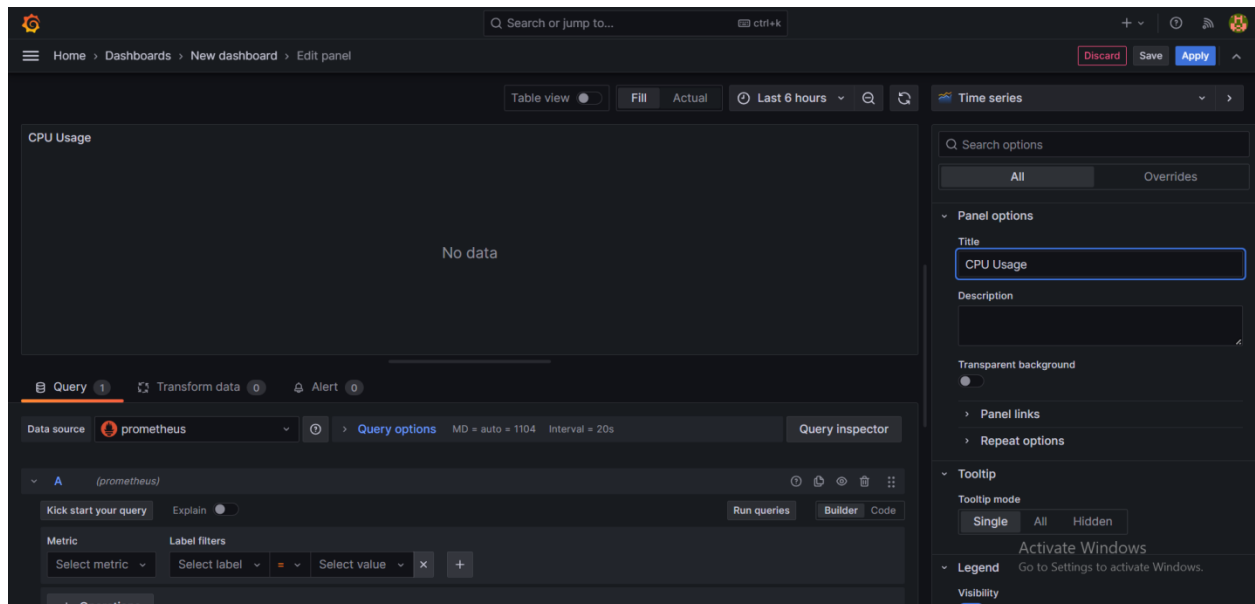
11) Integrate Prometheus



12) Create Dashboard



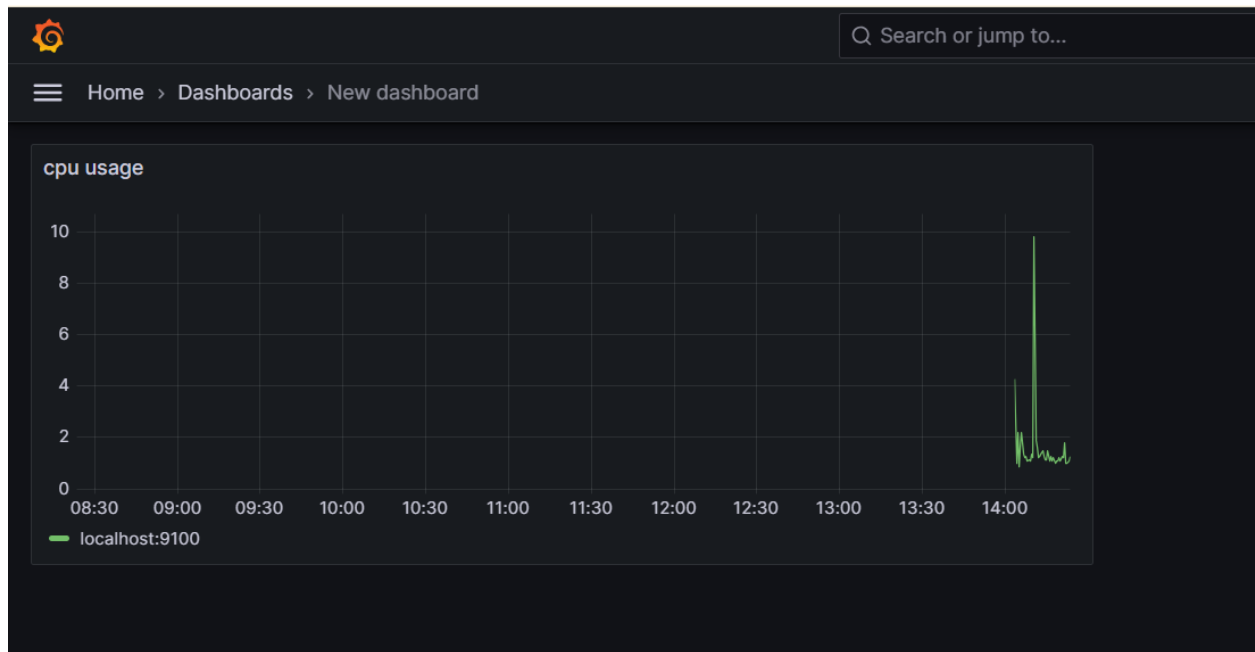
13) Create CPU Usage Dashboard



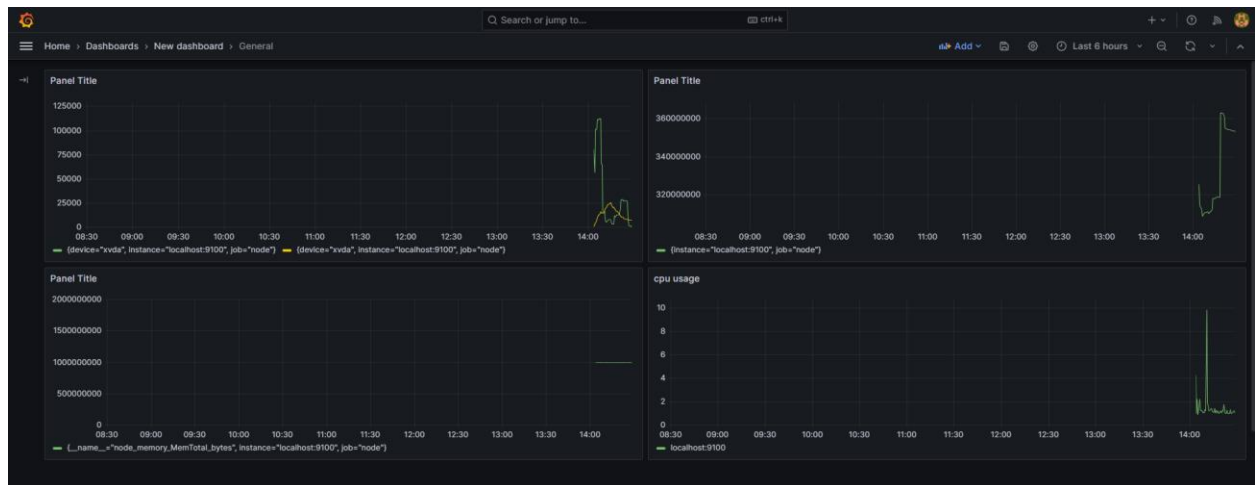
14) Set up CPU metrics



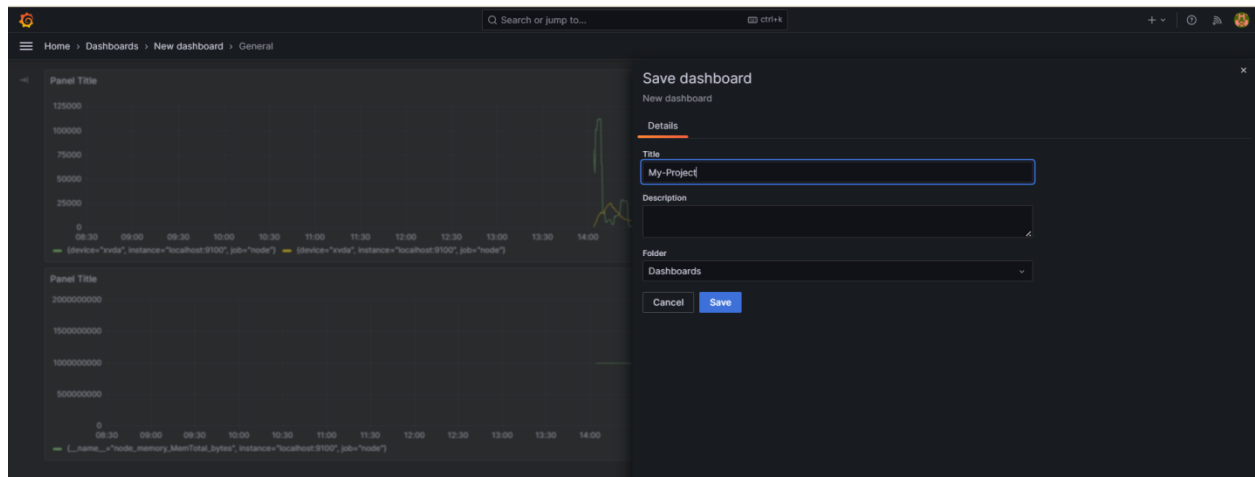
15) Run CPU queries



16) Add more Dashboard



17) Save Dashboard



18) Install Stress

```
root@ip-172-31-39-112:~# sudo apt-get install stress
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following NEW packages will be installed:
 stress
0 upgraded, 1 newly installed, 0 to remove and 55 not upgraded.
Need to get 18.4 kB of archives.
After this operation, 52.2 kB of additional disk space will be used.
Get:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 stress amd64 1.0.5-1 [18.4 kB]
Fetched 18.4 kB in 0s (45.3 kB/s)
Selecting previously unselected package stress.
(Reading database ... 76102 files and directories currently installed.)
```

19) Resource Monitoring

