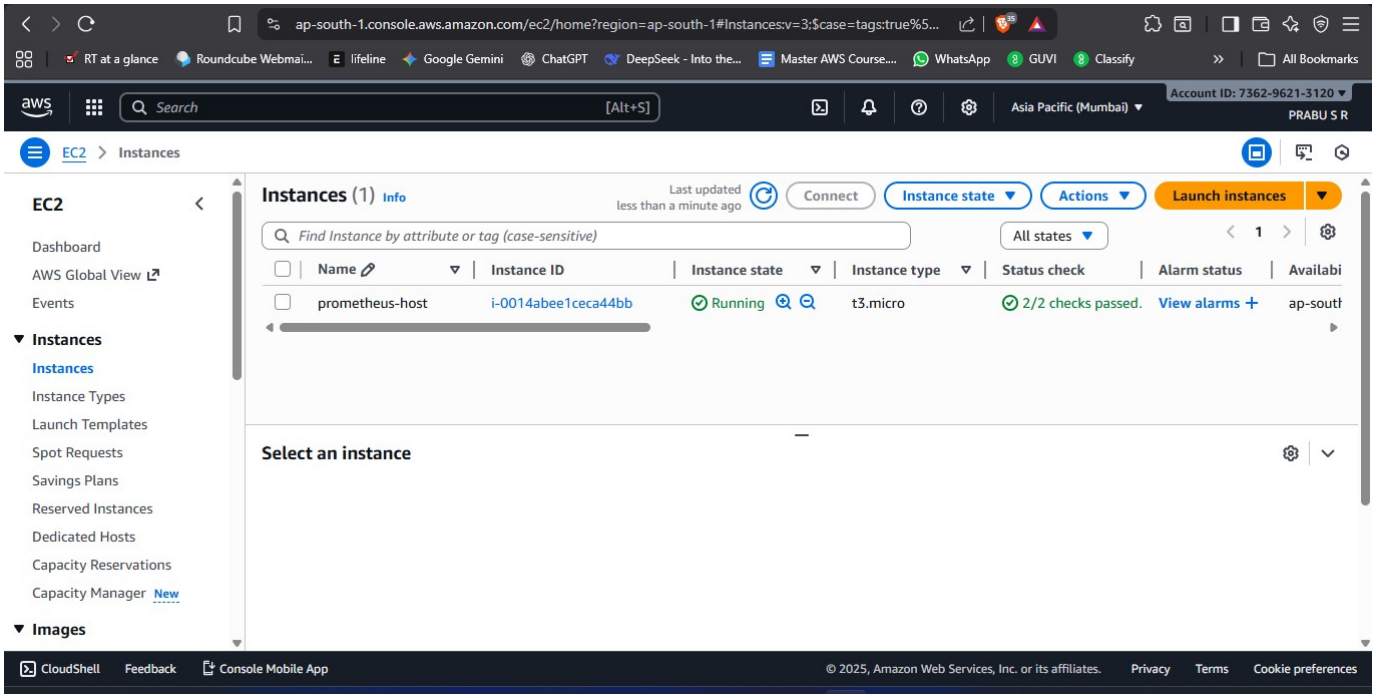
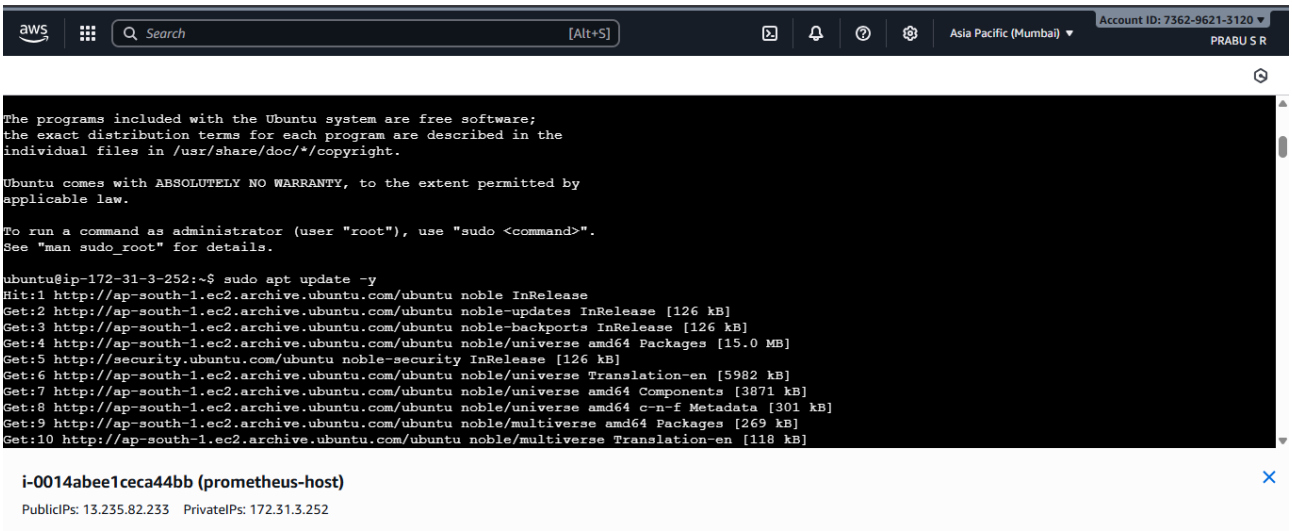
Monitoring Task

Task Description:

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

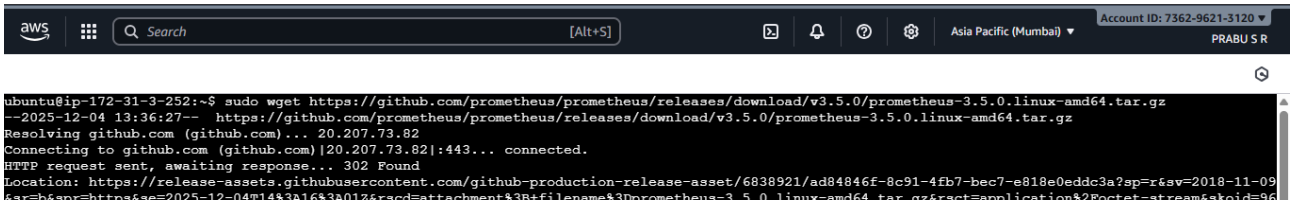




```
ubuntu@ip-172-31-3-252:~$ sudo apt upgrade -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
The following NEW packages will be installed:
  linux-aws-6.14-headers-6.14.0-1017 linux-aws-6.14-tools-6.14.0-1017 linux-headers-6.14.0-1017-aws linux-image-6.14.0-1017-aws
  linux-modules-6.14.0-1017-aws linux-tools-6.14.0-1017-aws
The following upgrades have been deferred due to phasing:
  gir1.2-glib-2.0 landscape-common libglib2.0-0t64 libglib2.0-bin libglib2.0-data
The following packages will be upgraded:
  bind9-dnsutils bind9-host bind9-libs gir1.2-packagekitglib-1.0 intel-microcode libdrm-common libdrm2 libpackagekit-glib2-18 libpython3-stdlib
  libpython3.12-minimal libpython3.12-stdlib libpython3.12t64 libssh-4 libxml2 linux-aws linux-headers-aws linux-image-aws linux-tools-common
  packagekit packagekit-tools python3 python3-minimal python3.12 python3.12-minimal snapd ubuntu-pro-client ubuntu-pro-client-l10n
27 upgraded, 6 newly installed, 0 to remove and 5 not upgraded.
18 standard LTS security updates
Need to get 131 MB of archives.
After this operation, 179 MB of additional disk space will be used.
Get:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 ubuntu-pro-client-l10n amd64 37.1ubuntu0~24.04 [19.8 kB]
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 ubuntu-pro-client amd64 37.1ubuntu0~24.04 [259 kB]
Get:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 python3-minimal amd64 3.12.3-0ubuntu2.1 [27.4 kB]
```

i-0014abee1ceca44bb (prometheus-host)

PublicIPs: 13.235.82.233 PrivateIPs: 172.31.3.252

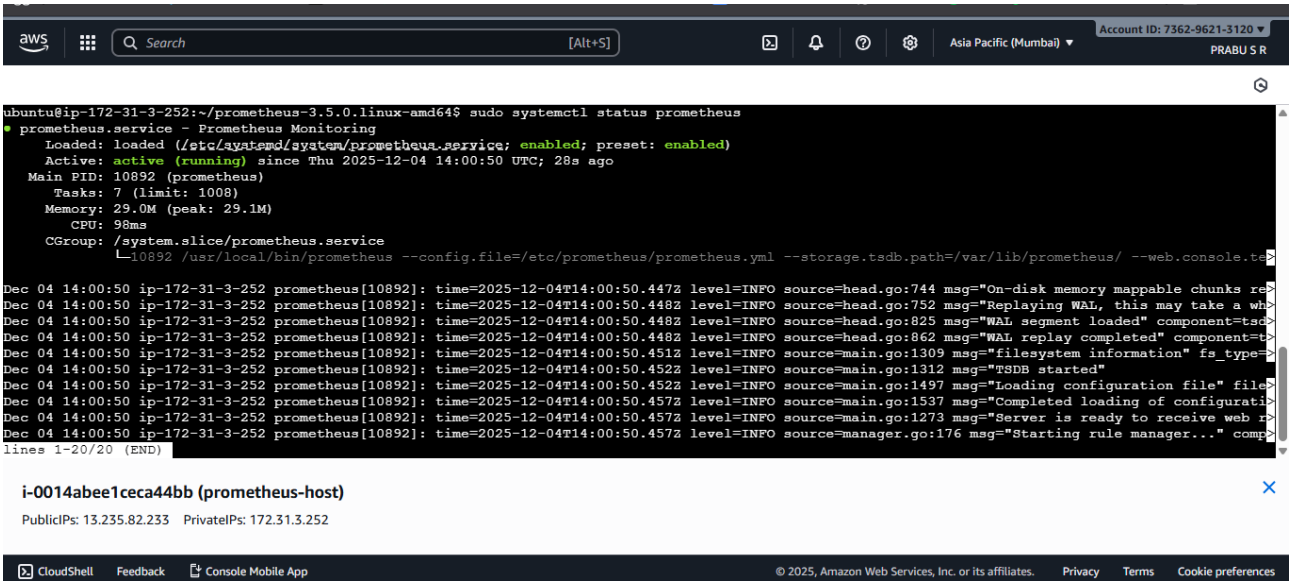



```
ubuntu@ip-172-31-3-252:~$ sudo wget https://github.com/prometheus/prometheus/releases/download/v3.5.0/prometheus-3.5.0.linux-amd64.tar.gz
--2025-12-04 13:36:27--  https://github.com/prometheus/prometheus/releases/download/v3.5.0/prometheus-3.5.0.linux-amd64.tar.gz
Resolving github.com (github.com)... 20.207.73.82
Connecting to github.com (github.com)|20.207.73.82|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://release-assets.githubusercontent.com/github-production-release-asset/6838921/ad84846f-8c91-4fb7-bec7-e818e0eddc3a?sp=r&sv=2018-11-09
```

```
ubuntu@ip-172-31-3-252:~$ ls -l
total 118296
-rw-r--r-- 1 root root 121127234 Jul 14 16:43 prometheus-3.5.0.linux-amd64.tar.gz
ubuntu@ip-172-31-3-252:~$ tar -xvf prometheus-3.5.0.linux-amd64.tar.gz
prometheus-3.5.0.linux-amd64/
prometheus-3.5.0.linux-amd64/prometheus.yml
prometheus-3.5.0.linux-amd64/prometheus
prometheus-3.5.0.linux-amd64/NOTICE
prometheus-3.5.0.linux-amd64/LICENSE
prometheus-3.5.0.linux-amd64/promtool
ubuntu@ip-172-31-3-252:~$
```

```
total 118300
drwxr-xr-x 2 ubuntu ubuntu      4096 Jul 14 16:38 prometheus-3.5.0.linux-amd64
-rw-r--r-- 1 root   root   121127234 Jul 14 16:43 prometheus-3.5.0.linux-amd64.tar.gz
ubuntu@ip-172-31-3-252:~$
```

```
ubuntu@ip-172-31-3-252:~$ cd prometheus-3.5.0.linux-amd64/
ubuntu@ip-172-31-3-252:~/prometheus-3.5.0.linux-amd64$ ls -l
total 302932
-rw-r--r-- 1 ubuntu ubuntu     11357 Jul 14 16:36 LICENSE
-rw-r--r-- 1 ubuntu ubuntu      3773 Jul 14 16:36 NOTICE
-rwxr-xr-x 1 ubuntu ubuntu 159425376 Jul 14 16:17 prometheus
-rw-r--r-- 1 ubuntu ubuntu      1093 Jul 14 16:36 prometheus.yml
-rwxr-xr-x 1 ubuntu ubuntu 150746286 Jul 14 16:17 promtool
ubuntu@ip-172-31-3-252:~/prometheus-3.5.0.linux-amd64$
```


aws
Search
[Alt+S]
Asia Pacific (Mumbai)
Account ID: 7362-9621-3120
PRABU S R
ubuntu@ip-172-31-3-252:~/prometheus-3.5.0.linux-amd64$ sudo systemctl status prometheus
● prometheus.service - Prometheus Monitoring
Loaded: loaded (/etc/systemd/system/prometheus.service; enabled; preset: enabled)
Active: active (running) since Thu 2025-12-04 14:00:50 UTC; 28s ago
Main PID: 10892 (prometheus)
Tasks: 7 (limit: 1008)
Memory: 29.0M (peak: 29.1M)
CPU: 98ms
CGroup: /system.slice/prometheus.service
└─10892 /usr/local/bin/prometheus --config.file=/etc/prometheus/prometheus.yml --storage.tsdb.path=/var/lib/prometheus/ --web.console.te
Dec 04 14:00:50 ip-172-31-3-252 prometheus[10892]: time=2025-12-04T14:00:50.447Z level=INFO source=head.go:744 msg="On-disk memory mappable chunks re
Dec 04 14:00:50 ip-172-31-3-252 prometheus[10892]: time=2025-12-04T14:00:50.448Z level=INFO source=head.go:752 msg="Replaying WAL, this may take a wh
Dec 04 14:00:50 ip-172-31-3-252 prometheus[10892]: time=2025-12-04T14:00:50.448Z level=INFO source=head.go:825 msg="WAL segment loaded" component=tsd
Dec 04 14:00:50 ip-172-31-3-252 prometheus[10892]: time=2025-12-04T14:00:50.448Z level=INFO source=head.go:862 msg="WAL replay completed" component=t
Dec 04 14:00:50 ip-172-31-3-252 prometheus[10892]: time=2025-12-04T14:00:50.451Z level=INFO source=main.go:1309 msg="filesystem information" fs_type=
Dec 04 14:00:50 ip-172-31-3-252 prometheus[10892]: time=2025-12-04T14:00:50.452Z level=INFO source=main.go:1312 msg="TSDB started"
Dec 04 14:00:50 ip-172-31-3-252 prometheus[10892]: time=2025-12-04T14:00:50.452Z level=INFO source=main.go:1497 msg="Loading configuration file" file
Dec 04 14:00:50 ip-172-31-3-252 prometheus[10892]: time=2025-12-04T14:00:50.457Z level=INFO source=main.go:1537 msg="Completed loading of configurati
Dec 04 14:00:50 ip-172-31-3-252 prometheus[10892]: time=2025-12-04T14:00:50.457Z level=INFO source=main.go:1273 msg="Server is ready to receive web r
Dec 04 14:00:50 ip-172-31-3-252 prometheus[10892]: time=2025-12-04T14:00:50.457Z level=INFO source=manager.go:176 msg="Starting rule manager..." comp
lines 1-20/20 (END)
i-0014abee1ceca44bb (prometheus-host)
PublicIPs: 13.235.82.233 PrivateIPs: 172.31.3.252
CloudShell
Feedback
Console Mobile App
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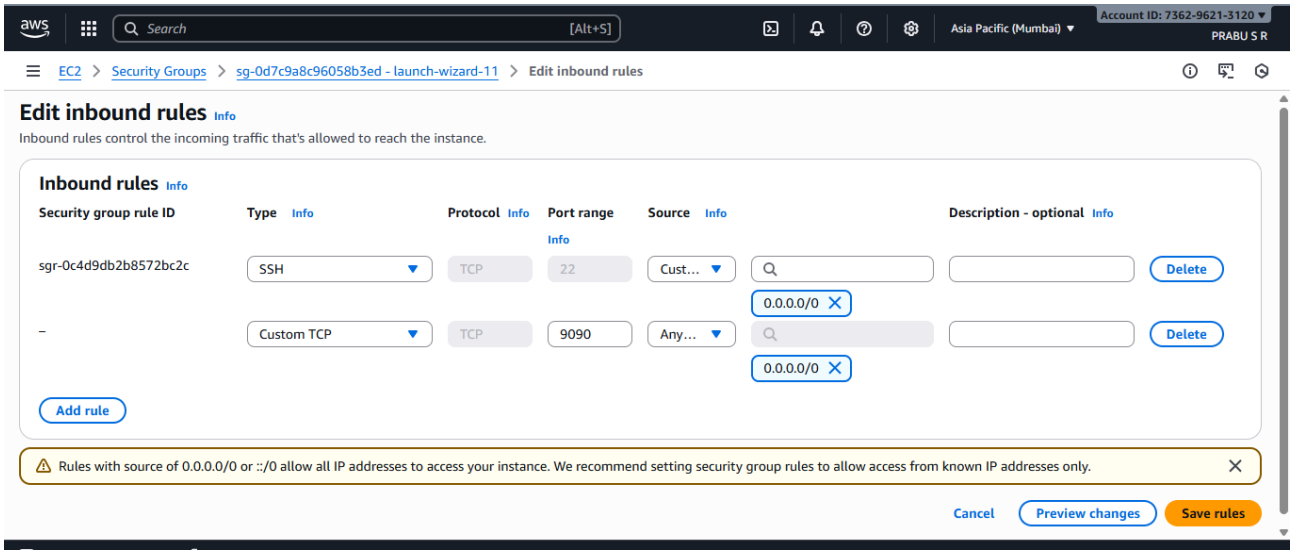
aws
Search
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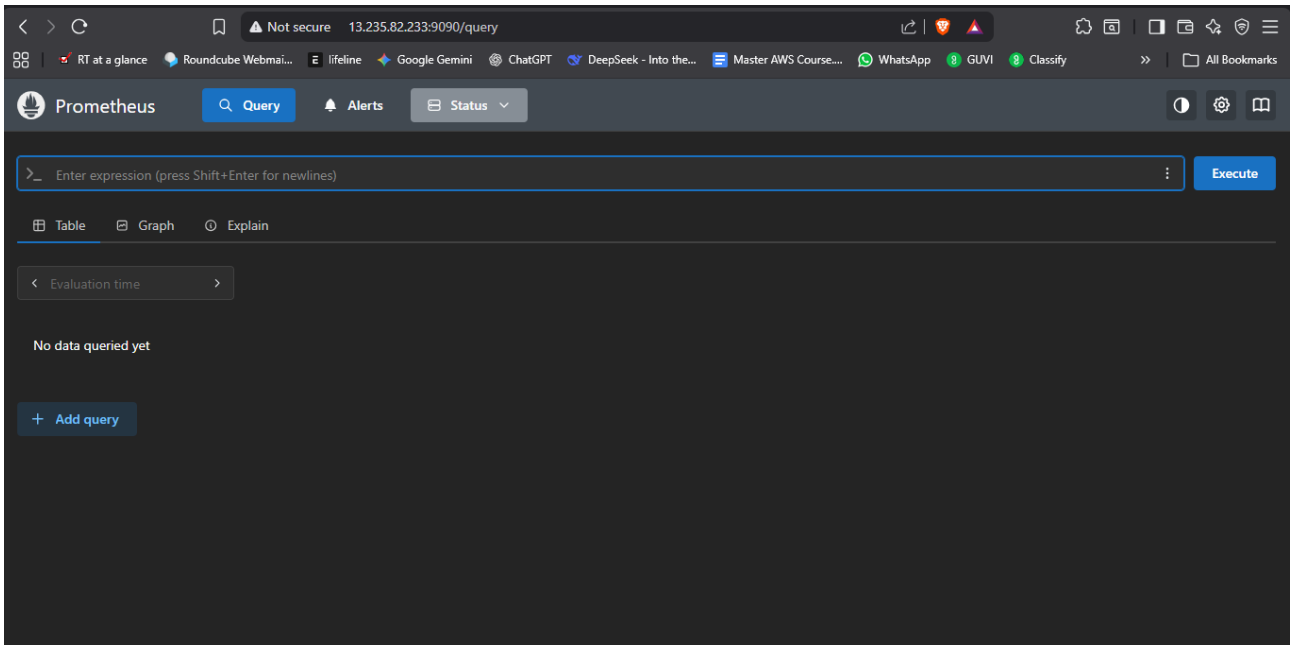
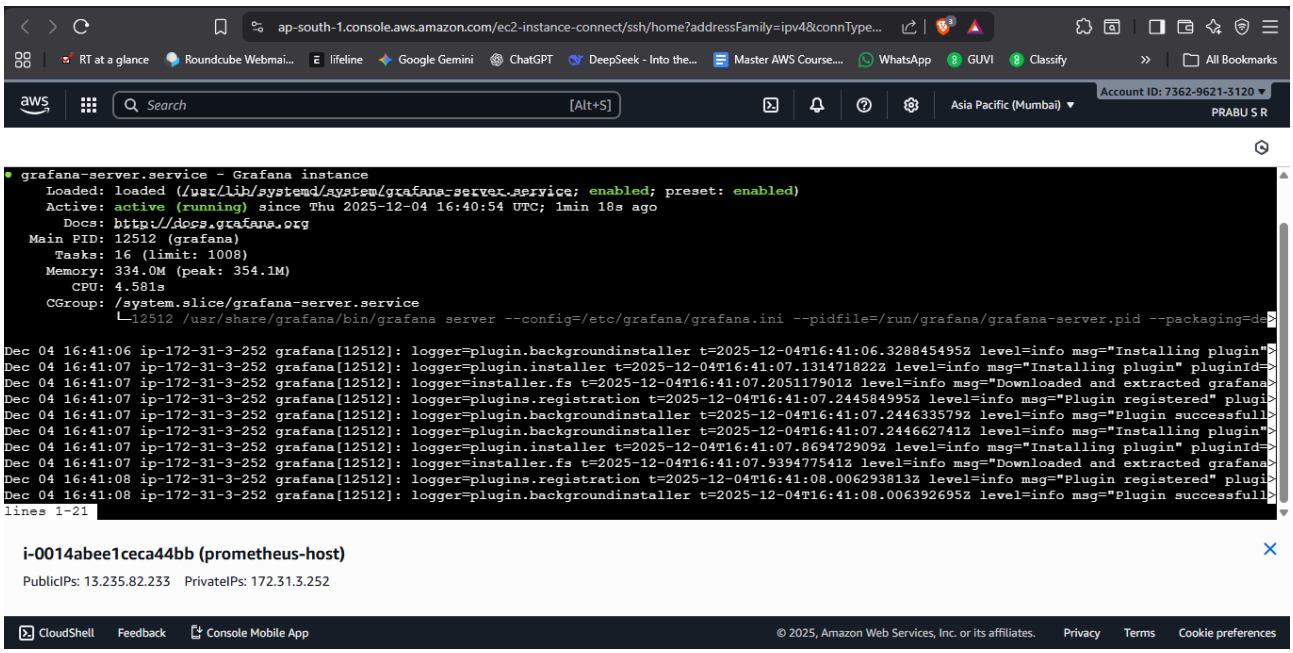
Asia Pacific (Mumbai)
Account ID: 7362-9621-3120
PRABU S R
EC2 > Security Groups > sg-0d7c9a8c96058b3ed - launch-wizard-11 > Edit inbound rules
Edit inbound rules Info
Inbound rules control the incoming traffic that's allowed to reach the instance.
Inbound rules Info
Security group rule ID
Type Info
Protocol Info
Port range Info
Source Info
Description - optional Info
sgr-0c4d9db2b8572bc2c
SSH
TCP
22
Cust...
0.0.0.0/0
Delete
–
Custom TCP
TCP
9090
Any...
0.0.0.0/0
Delete
Add rule
Rules with source of 0.0.0.0/0 or ::/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.
Cancel
Preview changes
Save rules


Not secure
13.235.82.233:9090/query
RT at a glance
Roundcube Webmai...
lifeline
Google Gemini
ChatGPT
DeepSeek - Into the...
Master AWS Course...
WhatsApp
GUVI
Classify
All Bookmarks
Prometheus
Query
Alerts
Status
Enter expression (press Shift+Enter for newlines)
Execute
Table
Graph
Explain
Evaluation time
No data queried yet
Add query


ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh/home?addressFamily=ipv4&connType...
Search
[Alt+S]
Asia Pacific (Mumbai)
Account ID: 7362-9621-3120
PRABU S R
grafana-server.service - Grafana instance
Loaded: loaded (/usr/lib/systemd/system/grafana-server.service; enabled; preset: enabled)
Active: active (running) since Thu 2025-12-04 16:40:54 UTC; 1min 18s ago
Docs: http://docs.grafana.org
Main PID: 12512 (grafana)
Tasks: 16 (limit: 1008)
Memory: 334.0M (peak: 354.1M)
CPU: 4.581s
CGroup: /system.slice/grafana-server.service
└─12512 /usr/share/grafana/bin/grafana server --config=/etc/grafana/grafana.ini --pidfile=/run/grafana/grafana-server.pid --packaging=de
Dec 04 16:41:06 ip-172-31-3-252 grafana[12512]: logger=plugin.backgroundinstaller t=2025-12-04T16:41:06.3288454952 level=info msg="Installing plugin"
Dec 04 16:41:07 ip-172-31-3-252 grafana[12512]: logger=plugin.installer t=2025-12-04T16:41:07.1314718222 level=info msg="Installing plugin" pluginId=
Dec 04 16:41:07 ip-172-31-3-252 grafana[12512]: logger=installer.fs t=2025-12-04T16:41:07.2051179012 level=info msg="Downloaded and extracted grafana
Dec 04 16:41:07 ip-172-31-3-252 grafana[12512]: logger=plugins.registration t=2025-12-04T16:41:07.2445849952 level=info msg="Plugin registered" plugi
Dec 04 16:41:07 ip-172-31-3-252 grafana[12512]: logger=plugin.backgroundinstaller t=2025-12-04T16:41:07.2446335792 level=info msg="Plugin successfull
Dec 04 16:41:07 ip-172-31-3-252 grafana[12512]: logger=plugin.backgroundinstaller t=2025-12-04T16:41:07.2446627412 level=info msg="Installing plugin"
Dec 04 16:41:07 ip-172-31-3-252 grafana[12512]: logger=plugin.installer t=2025-12-04T16:41:07.8694729092 level=info msg="Installing plugin" pluginId=
Dec 04 16:41:07 ip-172-31-3-252 grafana[12512]: logger=installer.fs t=2025-12-04T16:41:07.9394775412 level=info msg="Downloaded and extracted grafana
Dec 04 16:41:08 ip-172-31-3-252 grafana[12512]: logger=plugins.registration t=2025-12-04T16:41:08.0062938132 level=info msg="Plugin registered" plugi
Dec 04 16:41:08 ip-172-31-3-252 grafana[12512]: logger=plugin.backgroundinstaller t=2025-12-04T16:41:08.0063926952 level=info msg="Plugin successfull
lines 1-21
i-0014abee1ceca44bb (prometheus-host)
PublicIPs: 13.235.82.233 PrivateIPs: 172.31.3.252
CloudShell
Feedback
Console Mobile App
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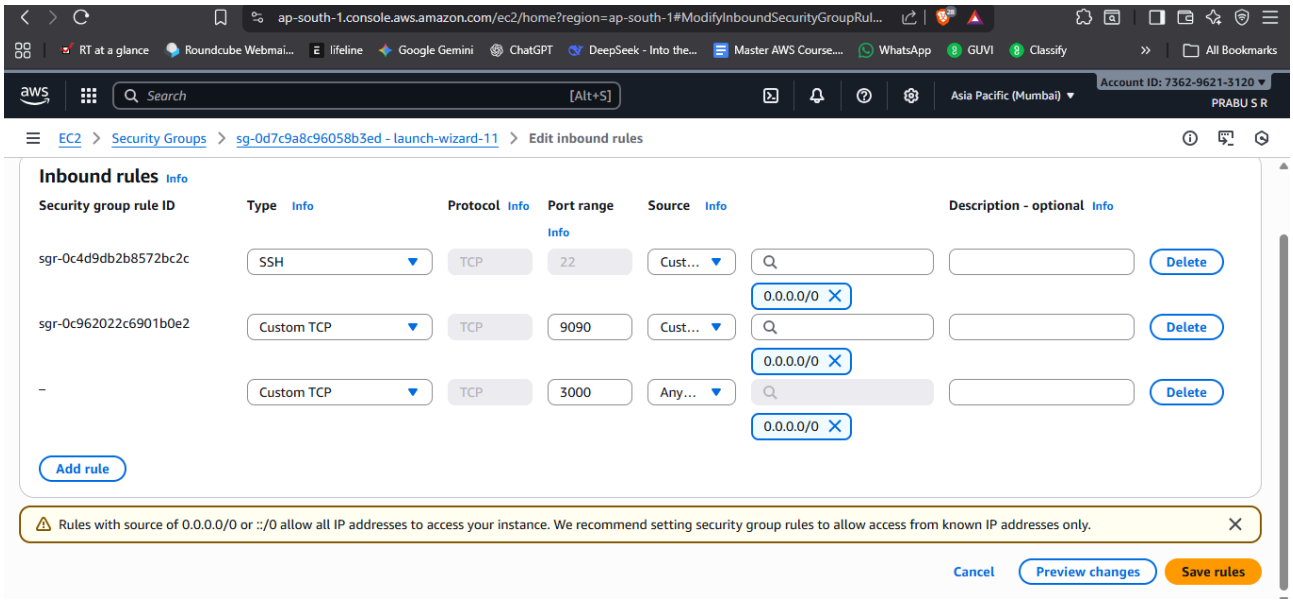
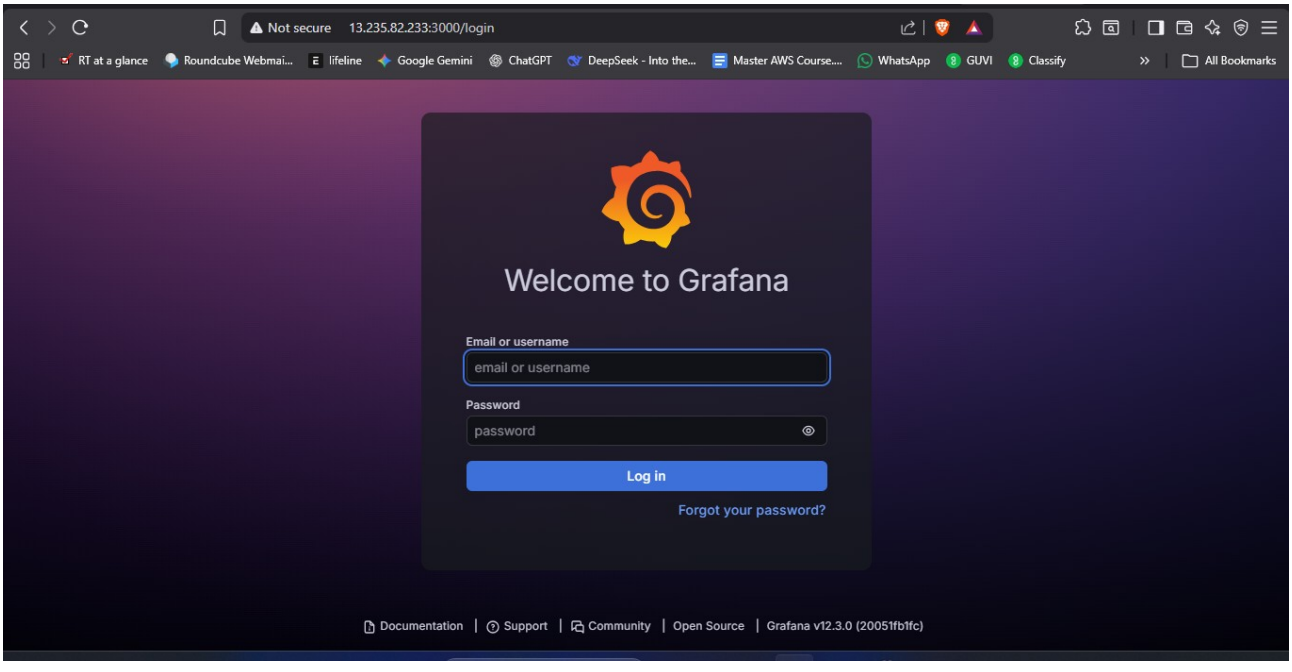
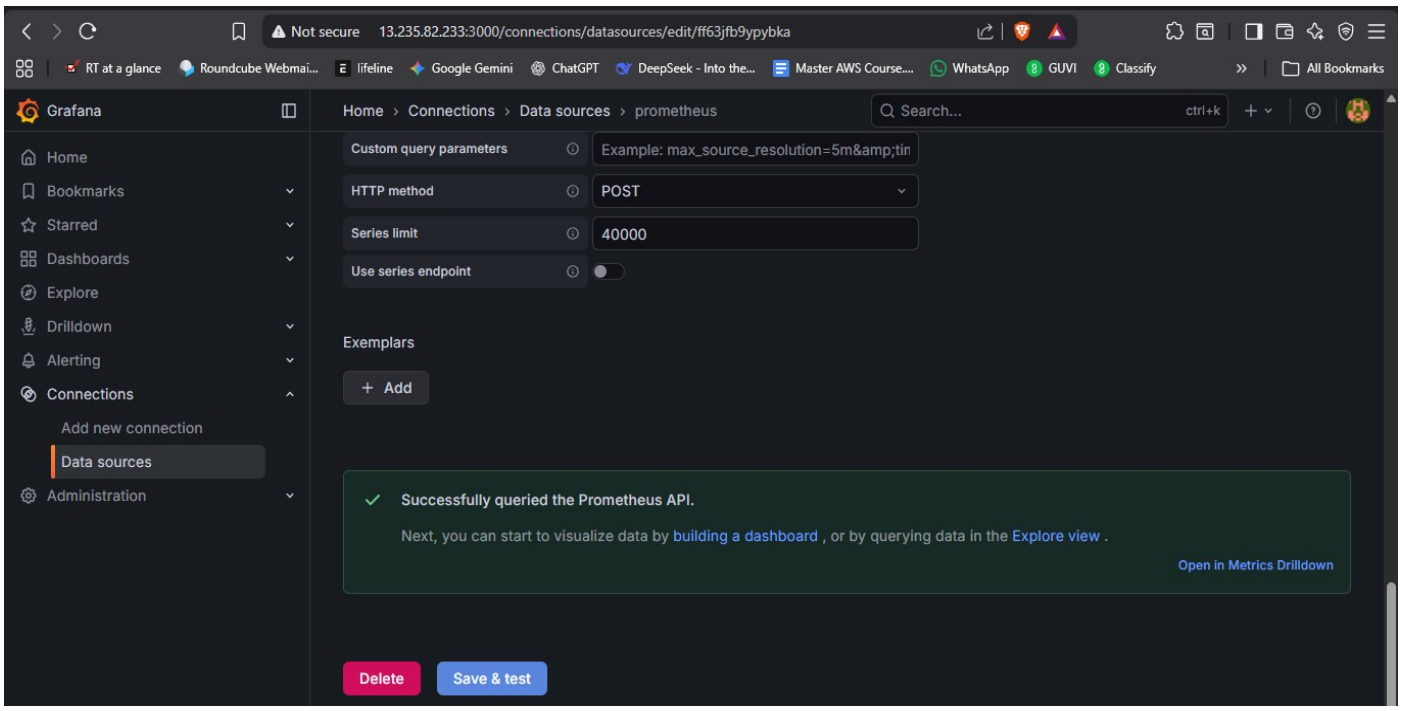
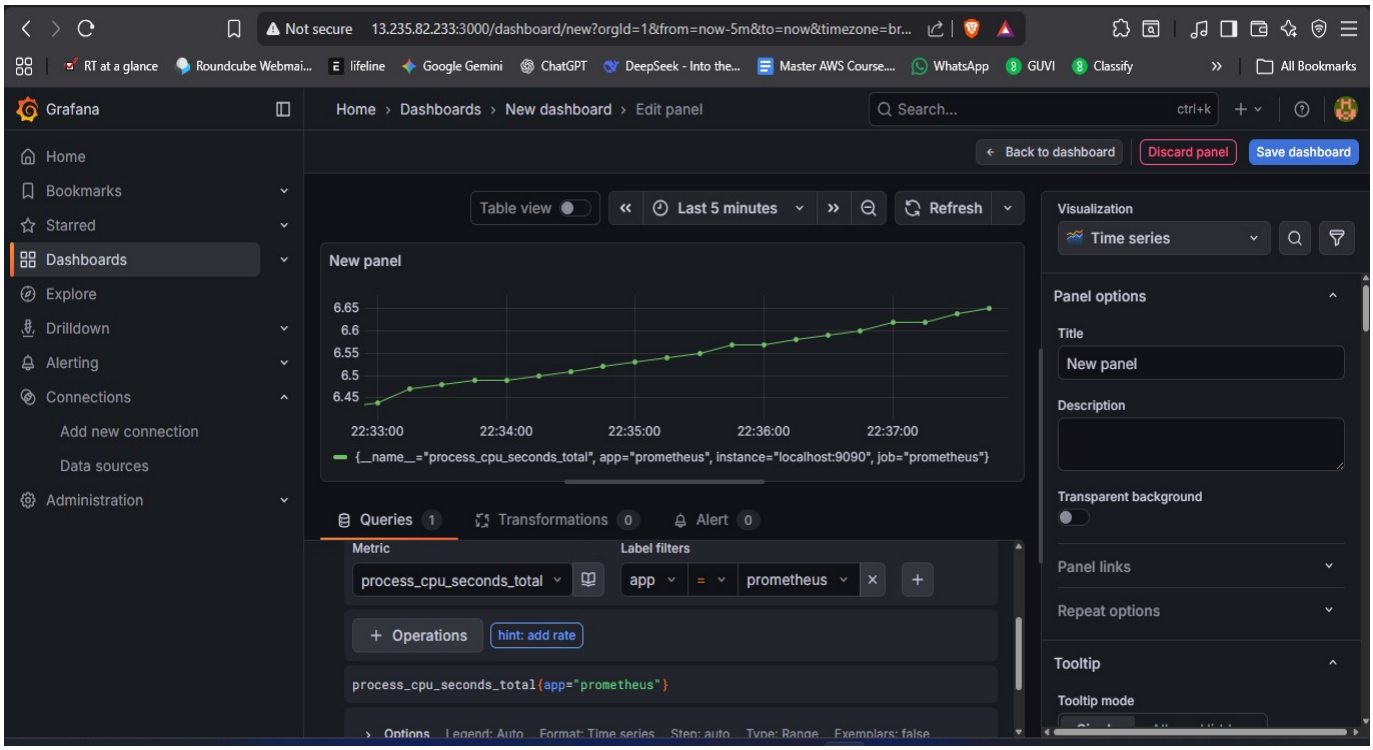
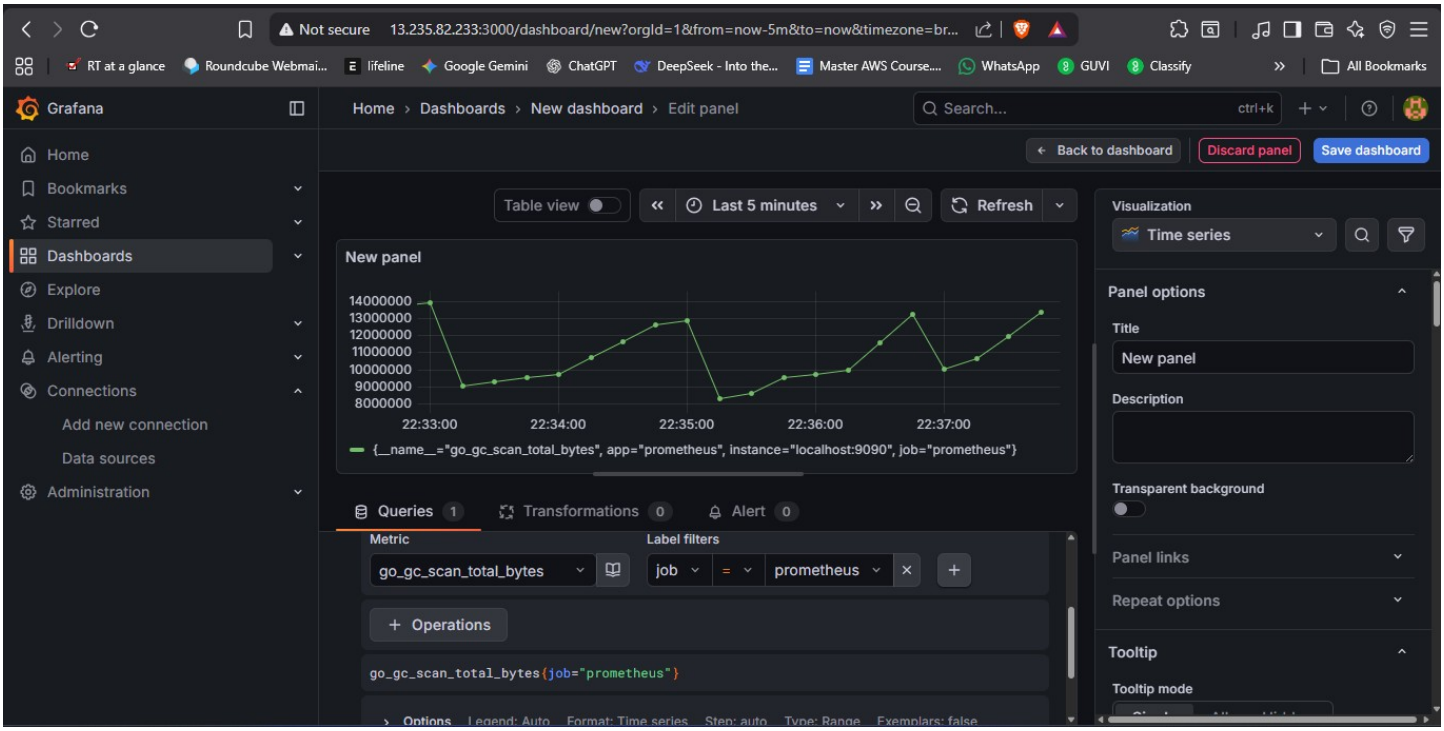

ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#ModifyInboundSecurityGroupRul...
Search
[Alt+S]
Asia Pacific (Mumbai)
Account ID: 7362-9621-3120
PRABU S R
EC2 > Security Groups > sg-0d7c9a8c96058b3ed - launch-wizard-11 > Edit inbound rules
Inbound rules Info
Security group rule ID
Type Info
Protocol Info
Port range Info
Source Info
Description - optional Info
sgr-0c4d9db2b8572bc2c
SSH
TCP
22
Cust...
0.0.0.0/0
Delete
sgr-0c962022c6901b0e2
Custom TCP
TCP
9090
Cust...
0.0.0.0/0
Delete
-
Custom TCP
TCP
3000
Any...
0.0.0.0/0
Delete
Add rule
Rules with source of 0.0.0.0/0 or ::/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.
Cancel
Preview changes
Save rules


Not secure 13.235.82.233:3000/login
Welcome to Grafana
Email or username
email or username
Password
password
Log in
Forgot your password?
Documentation
Support
Community
Open Source
Grafana v12.3.0 (20051fb1fc)


Not secure 13.235.82.233:3000/connections/datasources/edit/ff63jfb9ypybka
Grafana
Home › Connections › Data sources › prometheus
Search... ctrl+k
Home
Bookmarks
Starred
Dashboards
Explore
Drilldown
Alerting
Connections
Add new connection
Data sources
Administration
Custom query parameters
Example: max_source_resolution=5m&tin
HTTP method
POST
Series limit
40000
Use series endpoint
Exemplars
+ Add
Successfully queried the Prometheus API.
Next, you can start to visualize data by building a dashboard , or by querying data in the Explore view .
Open in Metrics Drilldown
Delete
Save & test


Not secure 13.235.82.233:3000/dashboard/new?orgId=1&from=now-5m&to=now&timezone=br...
Grafana
Home › Dashboards › New dashboard › Edit panel
Search... ctrl+k
Back to dashboard
Discard panel
Save dashboard
Table view
Last 5 minutes
Refresh
New panel
6.65
6.6
6.55
6.5
6.45
22:33:00
22:34:00
22:35:00
22:36:00
22:37:00
{__name__="process_cpu_seconds_total", app="prometheus", instance="localhost:9090", job="prometheus"}
Queries 1
Transformations 0
Alert 0
Metric
Label filters
process_cpu_seconds_total
app
prometheus
+ Operations
hint: add rate
process_cpu_seconds_total{app="prometheus"}
Visualization
Time series
Panel options
Title
New panel
Description
Transparent background
Panel links
Repeat options
Tooltip
Tooltip mode


Not secure
13.235.82.233:3000/dashboard/new?orgId=1&from=now-5m&to=now&timezone=br...
RT at a glance
Roundcube Webmai...
lifeline
Google Gemini
ChatGPT
DeepSeek - Into the...
Master AWS Course....
WhatsApp
GUVI
Classify
All Bookmarks
Grafana
Home
Bookmarks
Starred
Dashboards
Explore
Drilldown
Alerting
Connections
Add new connection
Data sources
Administration
Home › Dashboards › New dashboard › Edit panel
Search...
ctrl+k
Back to dashboard
Discard panel
Save dashboard
Table view
Last 5 minutes
Refresh
New panel
14000000
13000000
12000000
11000000
10000000
9000000
8000000
22:33:00
22:34:00
22:35:00
22:36:00
22:37:00
{__name__="go_gc_scan_total_bytes", app="prometheus", instance="localhost:9090", job="prometheus"}
Queries 1
Transformations 0
Alert 0
Metric
Label filters
go_gc_scan_total_bytes
job
=
prometheus
Operations
go_gc_scan_total_bytes{job="prometheus"}
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