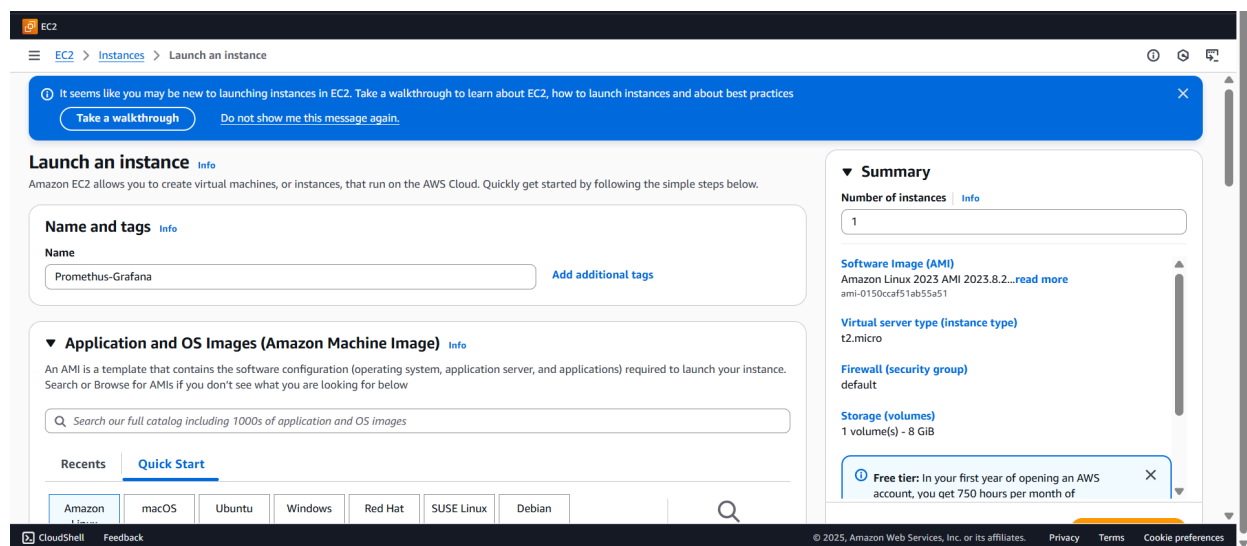


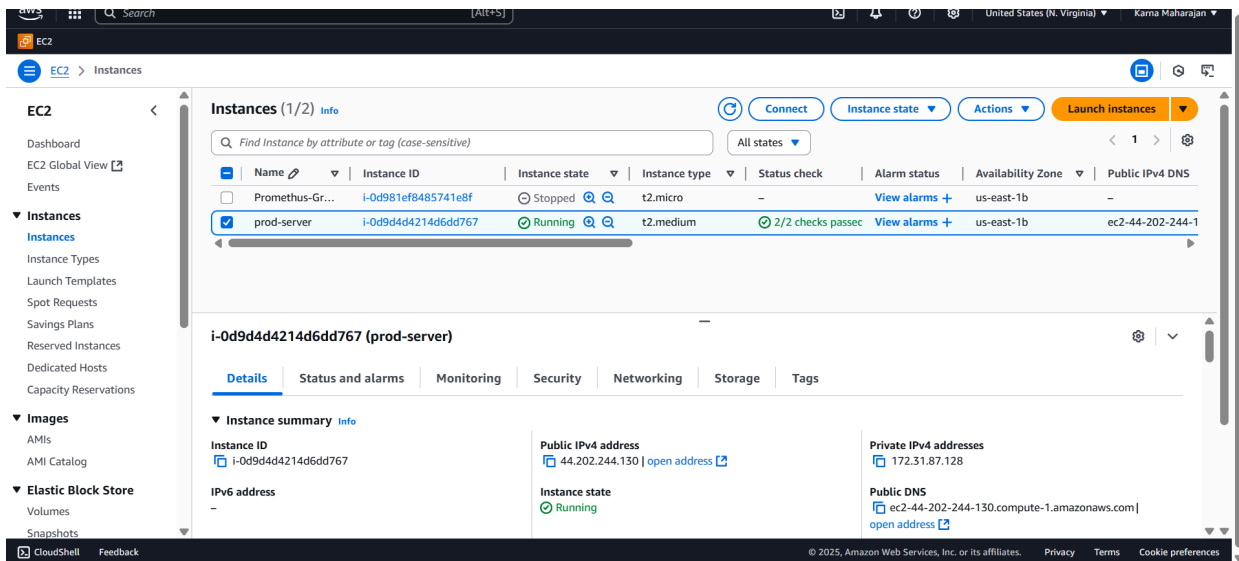
Install Prometheus and Grafana on a Linux EC2 machine, connect Prometheus to Grafana, and create a dashboard to view metrics.

How to install and configure Prometheus follow the below steps to do the configuration

https://prometheus.io/docs/introduction/first_steps/

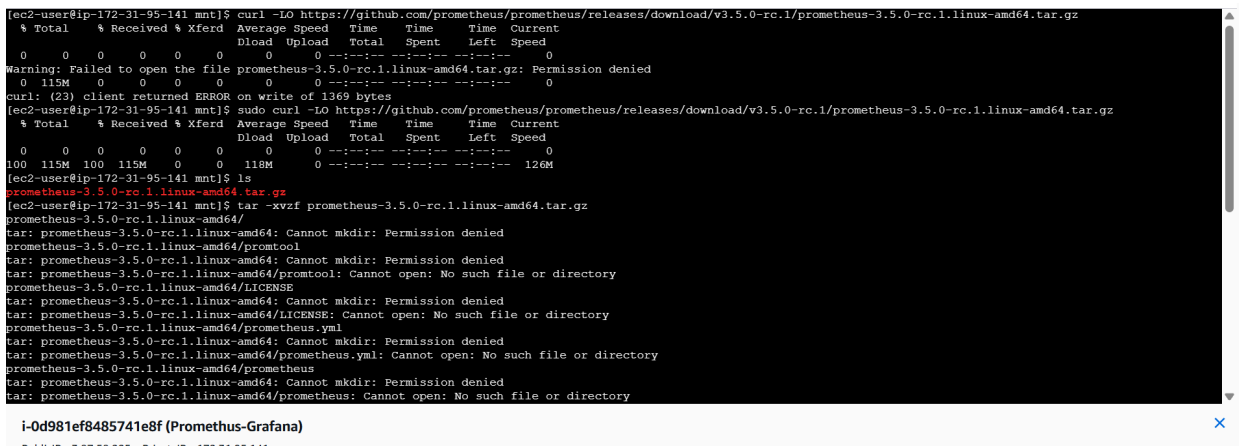
Launching two instance prometheus and node_porter





Installing the prometheus

Wget <https://prometheus.io/download/prometheus-3.5.0-rc.1.linux-amd64.tar.gz>



Untar the tar file using `tar -xvzf`

Run the `./prometheus.yml` the installation

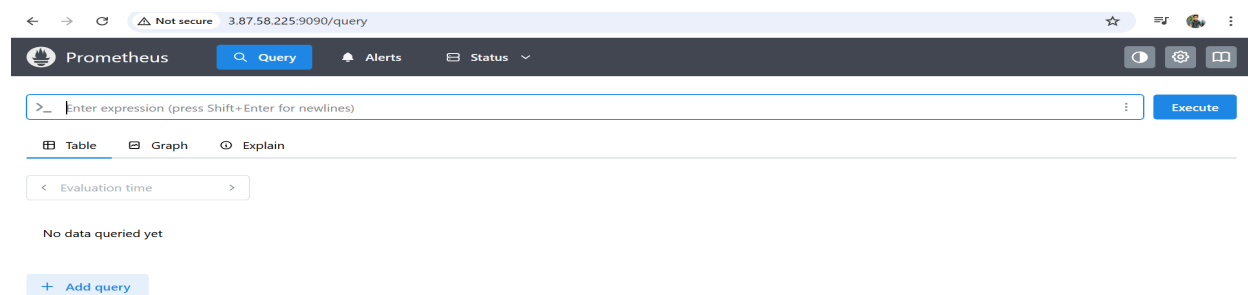
```
prometheus-3.5.0-rc.1.linux-amd64.tar.gz
[ec2-user@ip-172-31-95-141 mnt]$ sudo tar -xvzf prometheus-3.5.0-rc.1.linux-amd64.tar.gz
prometheus-3.5.0-rc.1.linux-amd64/
prometheus-3.5.0-rc.1.linux-amd64/promtool
prometheus-3.5.0-rc.1.linux-amd64/LICENSE
prometheus-3.5.0-rc.1.linux-amd64/prometheus.yml
prometheus-3.5.0-rc.1.linux-amd64/prometheus
prometheus-3.5.0-rc.1.linux-amd64/NOTICE
[ec2-user@ip-172-31-95-141 mnt]$ ls
prometheus-3.5.0-rc.1.linux-amd64  prometheus-3.5.0-rc.1.linux-amd64.tar.gz
[ec2-user@ip-172-31-95-141 mnt]$ cd prometheus-3.5.0-rc.1.linux-amd64
[ec2-user@ip-172-31-95-141 prometheus-3.5.0-rc.1.linux-amd64]$ ls
LICENSE  NOTICE  prometheus  prometheus.yml  promtool
[ec2-user@ip-172-31-95-141 prometheus-3.5.0-rc.1.linux-amd64]$ ./prometheus --config.file=prometheus.yml
time=2025-07-13T07:24:12.673Z level=ERROR source=main.go:638 msg="Error loading config (--config.file=prometheus.yml)" file=/mnt/prometheus-3.5.0-rc.1.linux-amd64/prometheus.y
ml err="open prmetheus.yml: no such file or directory"
[ec2-user@ip-172-31-95-141 prometheus-3.5.0-rc.1.linux-amd64]$ sudo chmod +x prom
prometheus
prometheus  prometheus.yml  promtool
[ec2-user@ip-172-31-95-141 prometheus-3.5.0-rc.1.linux-amd64]$ sudo chmod +x prometheus.yml
[ec2-user@ip-172-31-95-141 prometheus-3.5.0-rc.1.linux-amd64]$ ls
LICENSE  NOTICE  prometheus  prometheus.yml  promtool
[ec2-user@ip-172-31-95-141 prometheus-3.5.0-rc.1.linux-amd64]$ ./prometheus --config.file=prometheus.yml
```

i-0d981ef8485741e8f (Prometheus-Grafana)

PublicIPs: 3.87.58.225 PrivateIPs: 172.31.95.141

Once the installation is done go to localhost:9090

Now check the prometheus is visible in browser



Download Node Exporter

Installing the node_exporter

<https://prometheus.io/docs/guides/node-exporter/>

wget

https://github.com/prometheus/node_exporter/releases/download/v1.8.0/node_exporter-1.8.0.linux-amd64.tar.gz

```
cannot write to 'node_exporter-1.8.0.linux-amd64.tar.gz' (permission denied).
[ec2-user@ip-172-31-87-128 opt]$ sudo wget https://github.com/prometheus/node_exporter/releases/download/v1.8.0/node_exporter-1.8.0.linux-amd64.tar.gz
--2025-07-13 08:28:46-- https://github.com/prometheus/node_exporter/releases/download/v1.8.0/node_exporter-1.8.0.linux-amd64.tar.gz
Resolving github.com (github.com)... 140.82.112.3
Connecting to github.com (github.com)|140.82.112.3|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://objects.githubusercontent.com/github-production-release-asset-2e65be/9524057/1db6b1dc-654d-4b8f-917f-9dcf28d6b3da?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=releaseassetproduction%2F20250713%2Fus-east-1%2F%3A2Faws4_request%26X-Amz-Date=20250713T082836Z%26X-Amz-Expires=1800&X-Amz-Signature=605d7ae9e5117d7335796f74a7c16a902415b7f4807c4db36229bf6da9cbd2c&X-Amz-SignedHeaders=host&response-content-disposition=attachment%3B%20filename%3Dnode_exporter-1.8.0.linux-amd64.tar.gz&response-content-type=application%2Foctet-stream (following)
--2025-07-13 08:28:46-- https://objects.githubusercontent.com/github-production-release-asset-2e65be/9524057/1db6b1dc-654d-4b8f-917f-9dcf28d6b3da?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=releaseassetproduction%2F20250713%2Fus-east-1%2F%3A2Faws4_request%26X-Amz-Date=20250713T082836Z%26X-Amz-Expires=1800&X-Amz-Signature=605d7ae9e5117d7335796f74a7c16a902415b7f4807c4db36229bf6da9cbd2c&X-Amz-SignedHeaders=host&response-content-disposition=attachment%3B%20filename%3Dnode_exporter-1.8.0.linux-amd64.tar.gz&response-content-type=application%2Foctet-stream
Resolving objects.githubusercontent.com (objects.githubusercontent.com)... 185.199.108.133, 185.199.109.133, 185.199.110.133, ...
Connecting to objects.githubusercontent.com (objects.githubusercontent.com)|185.199.108.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 10675730 (10M) [application/octet-stream]
Saving to: 'node_exporter-1.8.0.linux-amd64.tar.gz'

node_exporter-1.8.0.linux-amd64.tar.gz      100%[=====>] 10.18M  45.9MB/s   in 0.2s

2025-07-13 08:28:47 (45.9 MB/s) - 'node_exporter-1.8.0.linux-amd64.tar.gz' saved [10675730/10675730]

[ec2-user@ip-172-31-87-128 opt]$ ls
aws  containerd  node_exporter-1.8.0.linux-amd64.tar.gz
[ec2-user@ip-172-31-87-128 opt]$
```

i-0d9d4d4214d6dd767 (prod-server)
PublicIPs: 13.222.234.14 PrivateIPs: 172.31.87.128

Untar the tar file using tar -xvzf

Run the ./node_exporter the installation

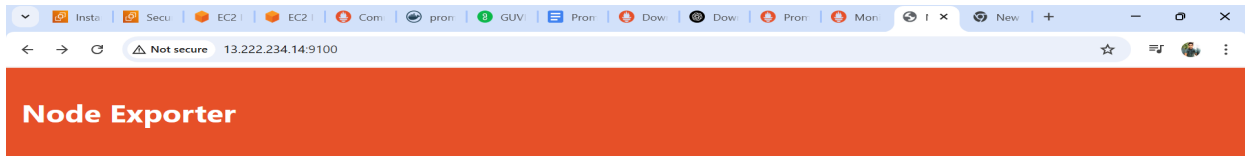
```
aws
Q Search [Alt+S]
United States (N. Virginia) Karla Maharajan
EC2

[ec2-user@ip-172-31-87-128 opt]$ ls
aws  containerd  node_exporter-1.8.0.linux-amd64  node_exporter-1.8.0.linux-amd64.tar.gz
[ec2-user@ip-172-31-87-128 opt]$ cd node_exporter-1.8.0.linux-amd64/
[ec2-user@ip-172-31-87-128 node_exporter-1.8.0.linux-amd64]$ ls
LICENSE  NOTICE  node_exporter
[ec2-user@ip-172-31-87-128 node_exporter-1.8.0.linux-amd64]$ ./node_exporter
ts=2025-07-13T08:31:37.774Z caller=node_exporter.go:193 level=info msg="Starting node_exporter" version="(version=1.8.0, branch=HEAD, revision=cadb1d1190ad95c6b951758f01ff4c94e55e6ce)"
ts=2025-07-13T08:31:37.774Z caller=node_exporter.go:194 level=info msg="Build context" build_context="(go=go1.22.2, platform=linux/amd64, user=root@587d3f12650c, date=20240424-13:15:48, tags=unknown)"
ts=2025-07-13T08:31:37.775Z caller=filesystem_common.go:111 level=info collector=filesystem msg="Parsed flag --collector.filesystem.mount-points-exclude" flag="/(dev|proc|run|credentials|/sys|var/lib/docker|/var/lib/containers/storage/.+)" ($1/)
ts=2025-07-13T08:31:37.775Z caller=filesystem_common.go:113 level=info collector=filesystem msg="Parsed flag --collector.filesystem.fs-types-exclude" flag="(autofs|binfmt_misc|bpf|cgroup2|configs|debugfs|devpts|devtmpfs|fusectl|hugetlbfs|iso9660|loop|nsfs|overlay|proc|procfs|pstore|rpc_pipefs|securityfs|selinuxfs|squashfs|sysfs|tracefs)" ($1)
ts=2025-07-13T08:31:37.775Z caller=diskstats_common.go:111 level=info collector=diskstats msg="Parsed flag --collector.diskstats.device-exclude" flag="(zram|loop|fd|(|h|s|v|kv)d(a-z)|nvme\d+n(d+p)\d+)"
ts=2025-07-13T08:31:37.776Z caller=node_exporter.go:111 level=info msg="Enabled collectors"
ts=2025-07-13T08:31:37.776Z caller=node_exporter.go:118 level=info collector=arp
ts=2025-07-13T08:31:37.776Z caller=node_exporter.go:118 level=info collector=bcache
ts=2025-07-13T08:31:37.776Z caller=node_exporter.go:118 level=info collector=bonding
ts=2025-07-13T08:31:37.776Z caller=node_exporter.go:118 level=info collector=btrfs
ts=2025-07-13T08:31:37.776Z caller=node_exporter.go:118 level=info collector=conntrack
ts=2025-07-13T08:31:37.776Z caller=node_exporter.go:118 level=info collector=cpu
ts=2025-07-13T08:31:37.776Z caller=node_exporter.go:118 level=info collector=cpufreq
ts=2025-07-13T08:31:37.776Z caller=node_exporter.go:118 level=info collector=diskstats
ts=2025-07-13T08:31:37.776Z caller=node_exporter.go:118 level=info collector=dmidec
ts=2025-07-13T08:31:37.776Z caller=node_exporter.go:118 level=info collector=edac
ts=2025-07-13T08:31:37.776Z caller=node_exporter.go:118 level=info collector=entropy
ts=2025-07-13T08:31:37.776Z caller=node_exporter.go:118 level=info collector=fibrechannel
```

i-0d9d4d4214d6dd767 (prod-server)
PublicIPs: 13.222.234.14 PrivateIPs: 172.31.87.128

Once the installation is done go to localhost:9100

Now check the node_exporter is visible in browser



Integrate Node Exporter with Prometheus

Add Node Exporter to Prometheus Config

Edit your Prometheus config (`prometheus.yml`)

```
# Load rules once and periodically evaluate them according to the global 'evaluation_interval'.
rule_files:
  # - "first_rules.yml"
  # - "second_rules.yml"

# A scrape configuration containing exactly one endpoint to scrape:
# Here it's Prometheus itself.
scrape_configs:
  # The job name is added as a label `job=<job_name>` to any timeseries scraped from this config.
  - job_name: "prometheus"

    # metrics_path defaults to '/metrics'
    # scheme defaults to 'http'.

    static_configs:
      - targets: ["localhost:9090"]
        # The label name is added as a label `label_name=<label_value>` to any timeseries scraped from this config.
        labels:
          app: "prometheus"

  - job_name: "node_exporter"

    static_configs:
      - targets: ["13.222.234.14:9100"]
        labels:
          app: "node_exporter"
```

"prometheus.yml" 40L, 1233B 40, 0-1 Bot

i-0d981ef8485741e8f (Prometheus-Grafana) X

PublicIPs: 3.87.58.225 PrivateIPs: 172.31.95.141

Restart the prometheus

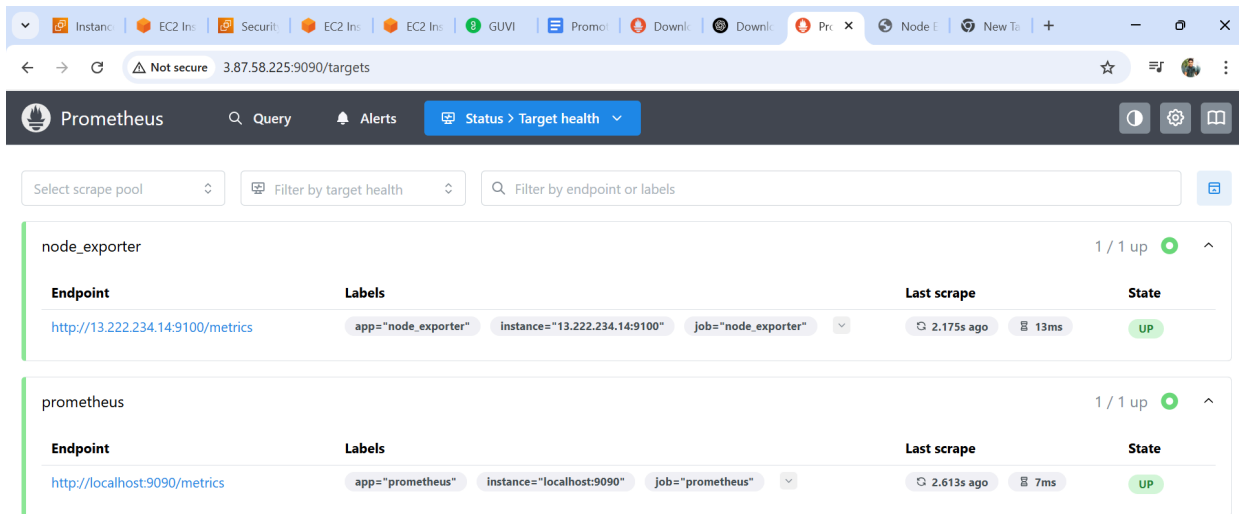
```
EC2

[1]+ Exit 2 sudo ./prometheus --config.file=prometheus.yml
[ec2-user@ip-172-31-95-141 prometheus-3.5.0-rc.1.linux-amd64]$ ps aux | grep prometheus
ec2-user  9690  0.0  0.1  3336 1028 pts/1    R+   09:50   0:00 grep --color=auto prometheus
[ec2-user@ip-172-31-95-141 prometheus-3.5.0-rc.1.linux-amd64]$ sudo ./prometheus --config.file=prometheus.yml &
[1] 9691
[ec2-user@ip-172-31-95-141 prometheus-3.5.0-rc.1.linux-amd64]$ time-2025-07-13T09:50:40.588Z level=INFO source=main.go:1544 msg="updated GOGC" old=100 new=75
time-2025-07-13T09:50:40.589Z level=INFO source=main.go:676 msg="Leaving GOMAXPROCS=1: CPU quota undefined" component=automaxprocs
time-2025-07-13T09:50:40.589Z level=INFO source=memlimit.go:198 msg="GOMEMLIMIT is updated" component=automemlimit package=github.com/KimMachineGun/automemlimit/memlimit GOM
EMLIMIT=895957401 previous=9223372036854775807
time-2025-07-13T09:50:40.589Z level=INFO source=main.go:718 msg="No time or size retention was set so using the default time retention" duration=15d
time-2025-07-13T09:50:40.590Z level=INFO source=main.go:769 msg="Starting Prometheus Server" mode=server version="(version=3.5.0-rc.1, branch=HEAD, revision=eea203702ce26d89
495b96db2498e582a7695fa)"
time-2025-07-13T09:50:40.590Z level=INFO source=main.go:774 msg="operational information" build_context="(go=go1.24.5, platform=linux/amd64, user=root@b378dd651276, date=202
50711-08:55:06, tags=netgo,builtinassets)" host_details="(Linux 6.1.141-165.249.amzn2023.x86_64 #1 SMP PREEMPT_DYNAMIC Tue Jul 1 18:01:09 UTC 2025 x86_64 ip-172-31-95-141.e
c2.internal (none))" fd_limits="(soft=65535, hard=65535)" vm_limits="(soft=unlimited, hard=unlimited)"
time-2025-07-13T09:50:40.593Z level=INFO source=web.go:656 msg="Start listening for connections" component=web address=0.0.0.0:9090
time-2025-07-13T09:50:40.593Z level=INFO source=main.go:1288 msg="Starting TSDB ..."
time-2025-07-13T09:50:40.604Z level=INFO source=tls_config.go:347 msg="Listening on" component=web address=[::]:9090
time-2025-07-13T09:50:40.604Z level=INFO source=tls_config.go:350 msg="TLS is disabled." component=web http2=false address=[::]:9090
time-2025-07-13T09:50:40.604Z level=INFO source=head.go:657 msg="Replaying on-disk memory mappable chunks if any" component=tsdb
time-2025-07-13T09:50:40.604Z level=INFO source=head.go:744 msg="On-disk memory mappable chunks replay completed" component=tsdb duration=9.887µs
time-2025-07-13T09:50:40.604Z level=INFO source=head.go:752 msg="Replaying WAL, this may take a while" component=tsdb
time-2025-07-13T09:50:40.605Z level=INFO source=head.go:825 msg="WAL segment loaded" component=tsdb segment=0 maxSegment=0 duration=121.717µs
time-2025-07-13T09:50:40.605Z level=INFO source=head.go:862 msg="WAL replay completed" component=tsdb checkpoint_replay_duration=37.448µs wal_replay_duration=230.958µs wbl_r
eplay_duration=760ns chunk_snapshot_load_duration=0s mmap_chunk_replay_duration=9.887µs total_replay_duration=571.362µs
time-2025-07-13T09:50:40.608Z level=INFO source=main.go:1309 msg="filesystem information" fs_type=XFS_SUPER_MAGIC
time-2025-07-13T09:50:40.608Z level=INFO source=main.go:1312 msg="TSDB started"
time-2025-07-13T09:50:40.608Z level=INFO source=main.go:1497 msg="Loading configuration file" filename=prometheus.yml

i-0d981ef8485741e8f (Prometheus-Grafana)
PublicIPs: 3.87.58.225 PrivateIPs: 172.31.95.141
```

Once the server is restart

Go to browser we can see the node_porter is added in prometheus



Installing Grafana

Follow the same procedure like prometheus and node_exprter

wget <https://dl.grafana.com/enterprise/release/grafana-enterprise-11.5.2.linux-amd64.tar.gz>

tar -zxvf [grafana-enterprise-11.5.2.linux-amd64.tar.gz](https://dl.grafana.com/enterprise/release/grafana-enterprise-11.5.2.linux-amd64.tar.gz)

cd grafana-enterprise-11.5.2

./bin/grafana-server web

```
grafana-v11.5.2/storybook/3275.165163ec.iframe.bundle.js
grafana-v11.5.2/storybook/8768.380748c6.iframe.bundle.js.LICENSE.txt
grafana-v11.5.2/storybook/magn-tag-story.b407b191.iframe.bundle.js
grafana-v11.5.2/storybook/SecretTextArea-SecretTextArea-story.396e4775.iframe.bundle.js
grafana-v11.5.2/storybook/2509.9dc74e62.iframe.bundle.js
grafana-v11.5.2/storybook/7426.e73fe239.iframe.bundle.js
grafana-v11.5.2/storybook/7662.0bc47f54.iframe.bundle.js
grafana-v11.5.2/storybook/main.2162c046.iframe.bundle.js.LICENSE.txt
grafana-v11.5.2/storybook/8917.22108e73.iframe.bundle.js
grafana-v11.5.2/storybook/7080.25ac42b9.iframe.bundle.js.LICENSE.txt
grafana-v11.5.2/storybook/3505.f3079359.iframe.bundle.js
grafana-v11.5.2/storybook/2227.db88e5ba.iframe.bundle.js
grafana-v11.5.2/storybook/7445.c061637d.iframe.bundle.js.LICENSE.txt
grafana-v11.5.2/storybook/2227.db88e5ba.iframe.bundle.js.LICENSE.txt
grafana-v11.5.2/storybook/2459.5861460d.iframe.bundle.js.LICENSE.txt
grafana-v11.5.2/storybook/Alert-InlineBanner-story.80a45277.iframe.bundle.js
grafana-v11.5.2/storybook/9957.402ea1e.iframe.bundle.js.LICENSE.txt
grafana-v11.5.2/storybook/2487.9f2b8616.iframe.bundle.js.LICENSE.txt
grafana-v11.5.2/storybook/9391.80cacb60.iframe.bundle.js
grafana-v11.5.2/storybook/8704.f68918bf.iframe.bundle.js
grafana-v11.5.2/storybook/DateTimePickers-DatePicker-DatePicker-story.1ce5db9b.iframe.bundle.js
grafana-v11.5.2/plugins-bundled/
grafana-v11.5.2/plugins-bundled/external.json
grafana-v11.5.2/plugins-bundled/README.md
grafana-v11.5.2/plugins-bundled/.gitignore
[root@ip-172-31-95-141 opt]# ls
aws grafana-enterprise-11.5.2.linux-amd64.tar.gz grafana-v11.5.2 prometheus-3.5.0-xc.1.linux-amd64 prometheus-3.5.0-xc.1.linux-amd64.tar.gz
[root@ip-172-31-95-141 opt]# tar -xvzf grafana-enterprise-11.5.2.linux-amd64.tar.gz
```

i-Od981ef8485741e8f (Prometheus-Grafana)

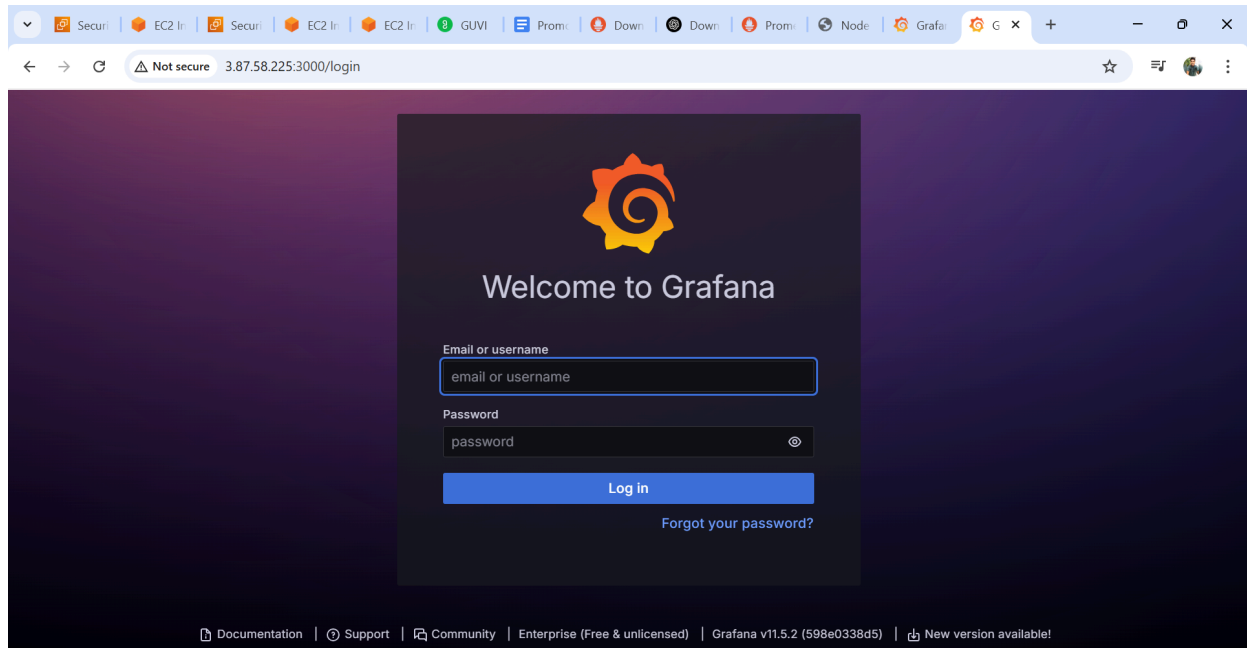
PublicIPs: 3.87.58.225 PrivateIPs: 172.31.95.141

```
[root@ip-172-31-95-141 grafana-v11.5.2]# ls
Dockerfile LICENSE NOTICE.md README.md VERSION bin conf docs npm-artifacts packaging plugins-bundled public storybook tools
[root@ip-172-31-95-141 grafana-v11.5.2]# cd bin/
[root@ip-172-31-95-141 bin]# ls
id: no input files
[root@ip-172-31-95-141 bin]#
[root@ip-172-31-95-141 bin]# ls
grafana grafana-cli grafana-server
[root@ip-172-31-95-141 bin]# sudo ./grafana-server
Deprecation warning: The standalone 'grafana-server' program is deprecated and will be removed in the future. Please update all uses of 'grafana-server' to 'grafana server'
Grafana server is running with elevated privileges. This is not recommended
INFO [07-13|10:19:23] Starting Grafana logger=settings version=11.5.2 commit=598e0338d5374d6bc404b02a58094132c5eeceb8 branch=HEAD compiled=2025-07-13
TIO:19:23Z
INFO [07-13|10:19:23] Config loaded from logger=settings file=/opt/grafana-v11.5.2/conf/defaults.ini
INFO [07-13|10:19:23] Target logger=settings target=[all]
INFO [07-13|10:19:23] Path Home logger=settings path=/opt/grafana-v11.5.2
INFO [07-13|10:19:23] Path Data logger=settings path=/opt/grafana-v11.5.2/data
INFO [07-13|10:19:23] Path Logs logger=settings path=/opt/grafana-v11.5.2/data/log
INFO [07-13|10:19:23] Path Plugins logger=settings path=/opt/grafana-v11.5.2/data/plugins
INFO [07-13|10:19:23] Path Provisioning logger=settings path=/opt/grafana-v11.5.2/conf/provisioning
INFO [07-13|10:19:23] App mode production logger=settings
INFO [07-13|10:19:23] FeatureToggles logger=featuremgmt logsContextDatasourceUI=true addFieldFromCalculationStatFunctions=true logRowsPopoverMenu=true
newDashboardSharingComponent=true cloudWatchRoundUpEndTime=true dashboardSceneForViewers=true LokiQueryHints=true azureMonitorEnableUserAuth=true dashboardSceneSolo=true
dashboardScene=true onPremToCloudMigrations=true influxdbBackendMigration=true accessControlOnCall=true newPDFRendering=true dashbp=true alertingApiServer=true lokiQuerySp
litting=true prometheusAuroraOverrideAudience=true alertingsimplifiedRendering=true lokiLabelNamesQueryApi=true cloudWatchNewLabelParsing=true lokiStructuredMetadata=true acces
sions=true useSessionStorageForRedirect=true useStoragePit=true kubernetes=true correlations=true transformationsPreset=true transformationsVariableSupport=true
zipkinBackendMigration=true alertingUIOptimizeReducer=true logsExploreTableVisualisation=true alertinginsights=true managedPluginsInstall=true publicDashboardsScene=true n
estedFolders=true ssoSettingsApi=true recoveryThreshold=true preinstallAutoUpdate=true newFiltersUI=true angularDeprecationUI=true tlsMemoCached=true logsInfiniteScrolling=true
dataplaneFrontendFallback=true exploreMetrics=true unifiedRequestLog=true annotationPermissionUpdate=true alertingNoDataErrorExecution=true promQLScope=true reportingUse8
```

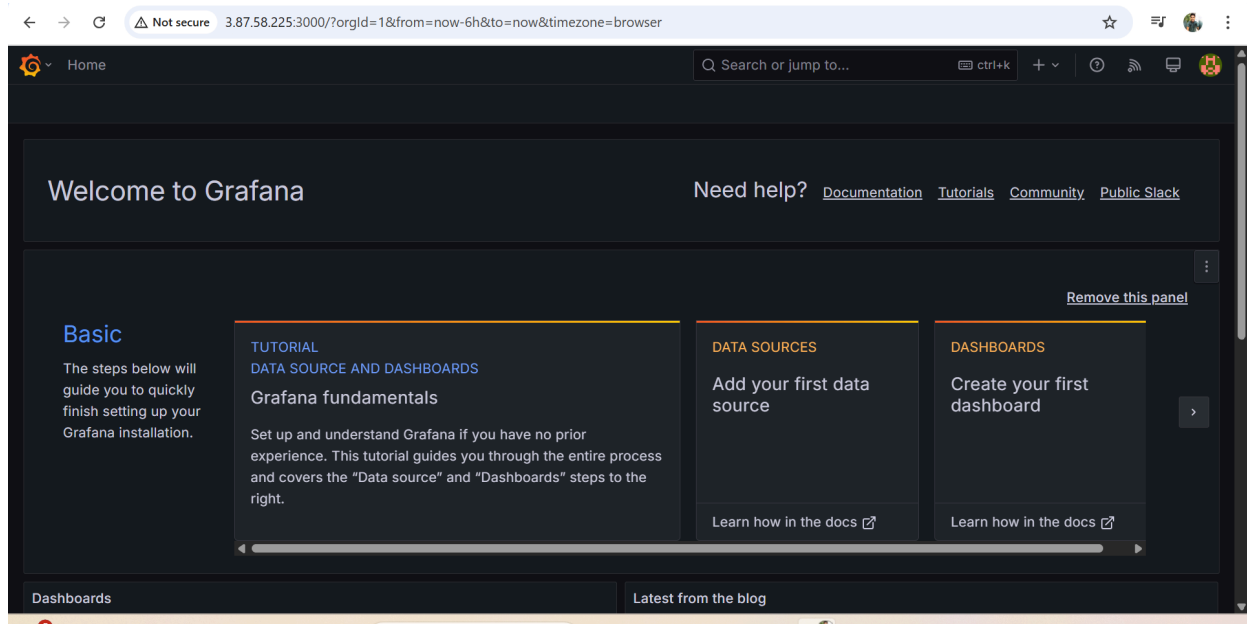
i-Od981ef8485741e8f (Prometheus-Grafana)

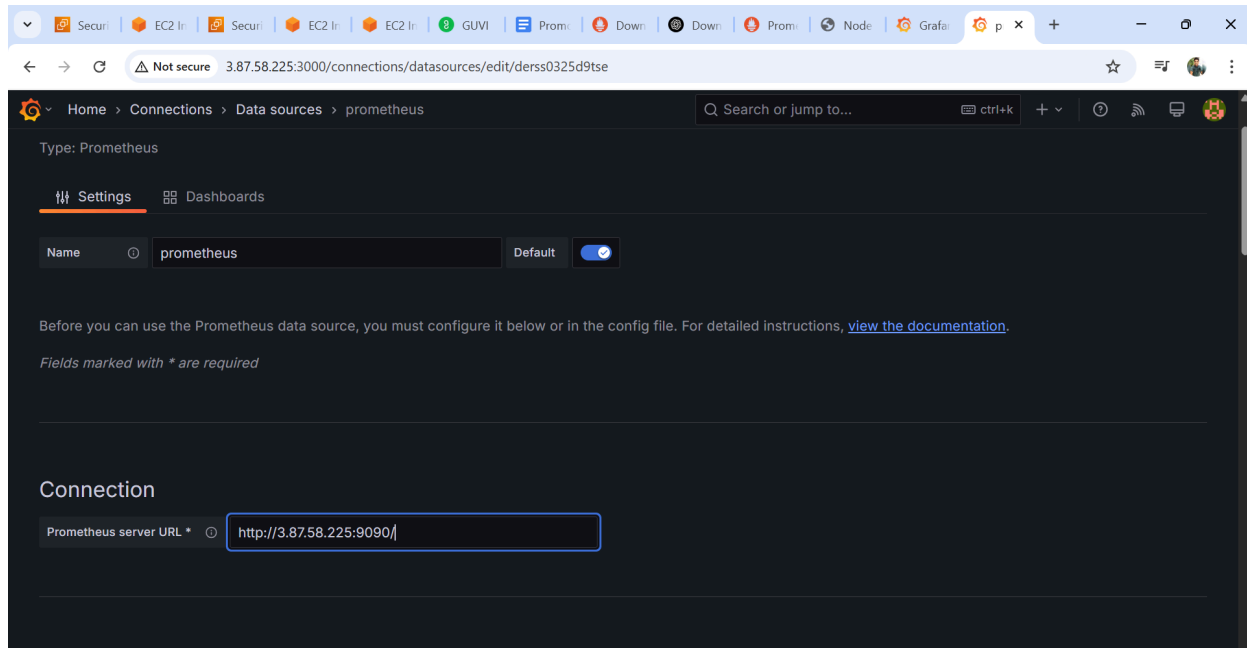
PublicIPs: 3.87.58.225 PrivateIPs: 172.31.95.141

Login username(admin) and password (admin)

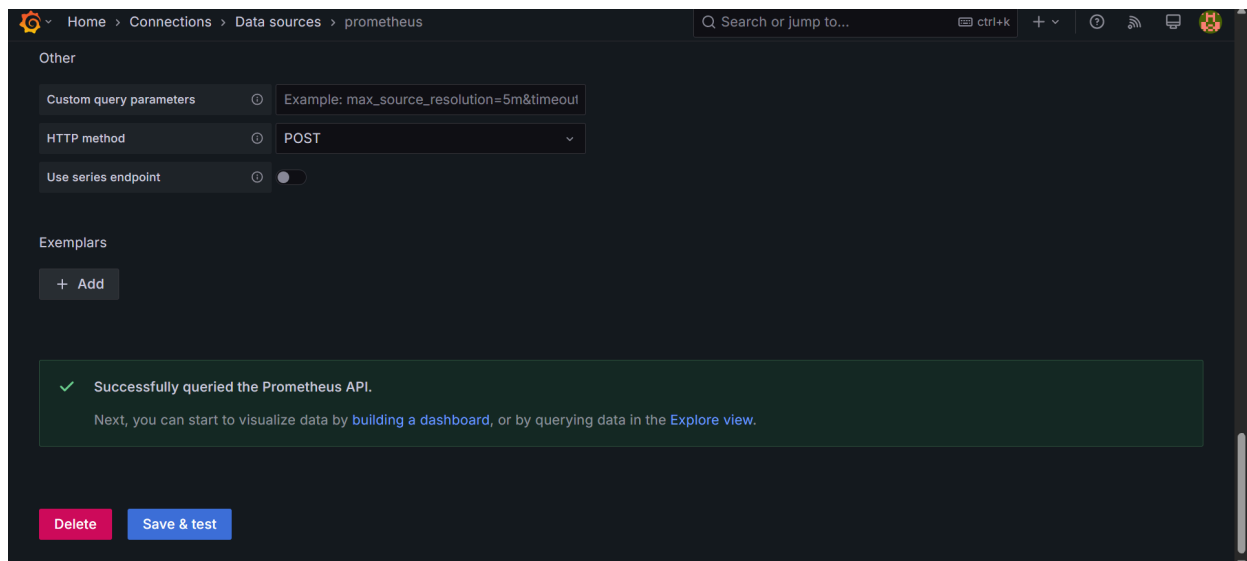


Add datasource as Prometheus server ip

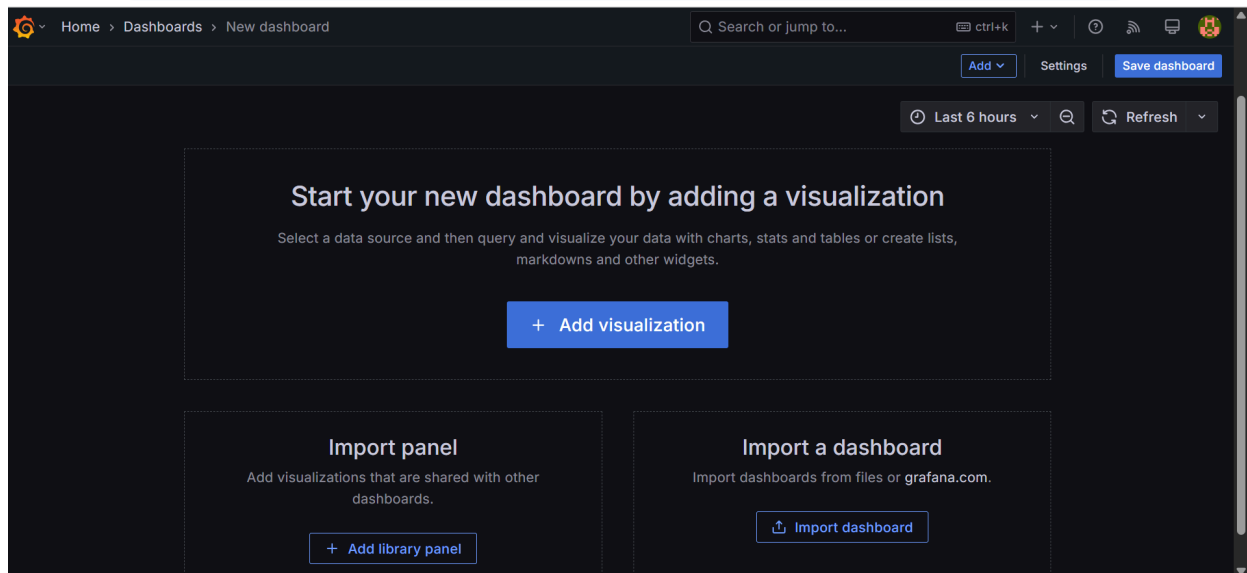
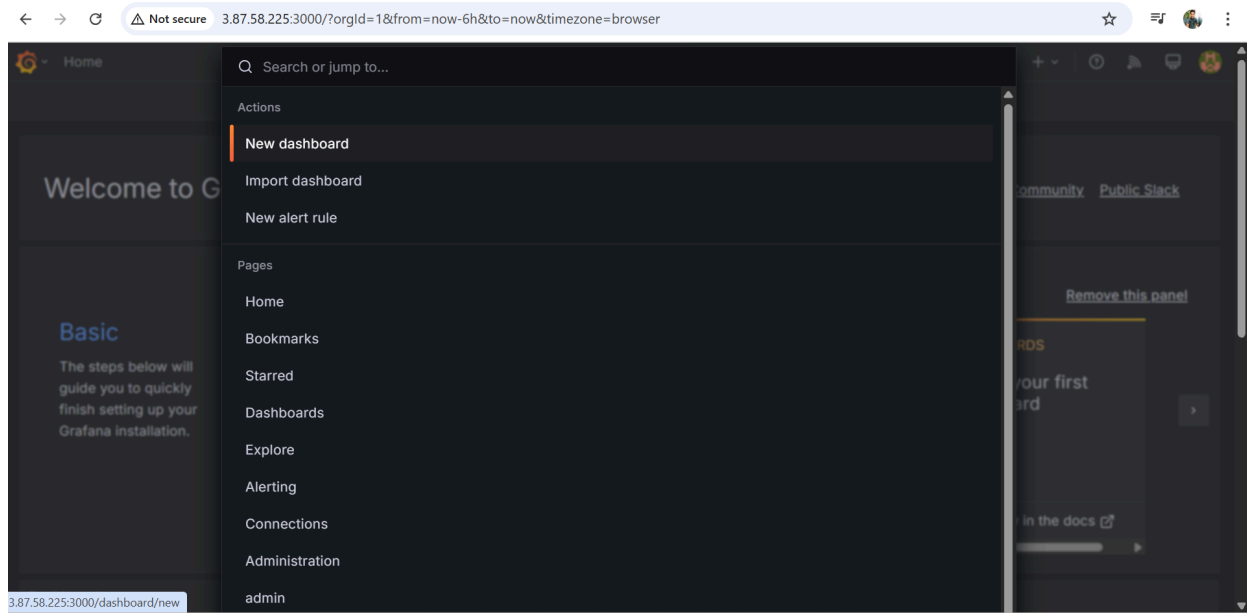




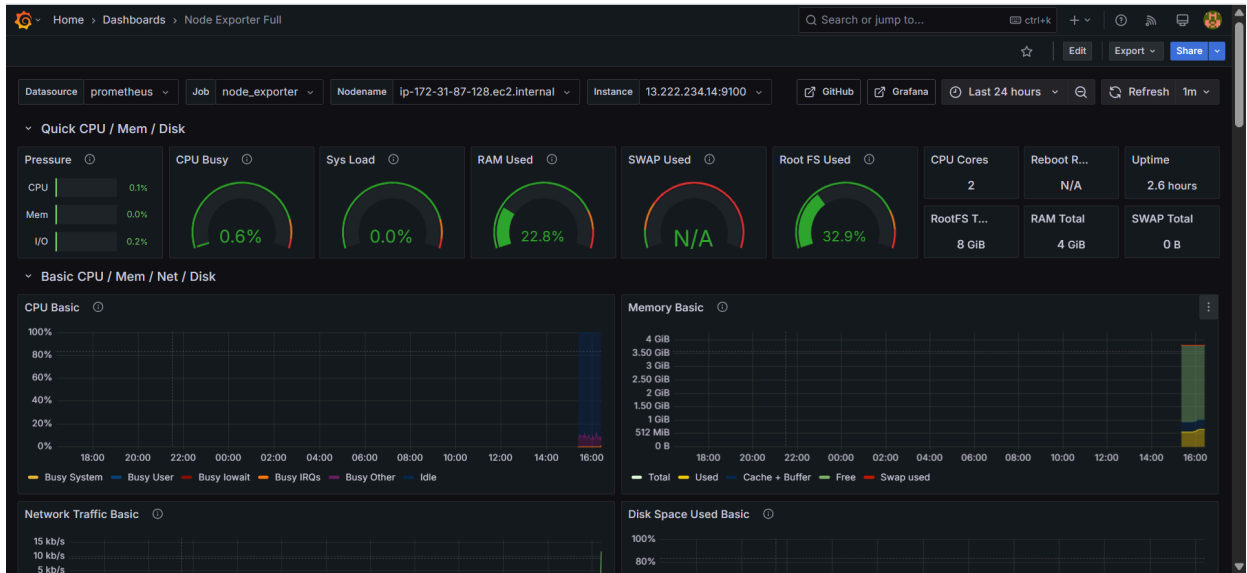
Finally save it



Set the metric to monitor the server activity



Here we can see the node_exporter server utilization and metric



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