

TASK 7: Monitor System Resources Using Netdata

Objective: Install Netdata and visualize system and app performance metrics.

Tools: Netdata (free, open-source monitoring tool), Docker

Deliverables: Screenshot of the dashboard and running metrics

Mini-Guide (Hints):

- Run via Docker: `docker run -d --name=netdata -p 19999:19999 netdata/netdata`
- Access at <http://localhost:19999>
- Monitor CPU, memory, disk, Docker containers
- Explore alerts and chart panels
- Explore logs in `/var/log/netdata`

Screenshots:

Drive URL :

https://docs.google.com/document/d/1OSVIGIGD4nEAxDT80IJnM9dSqH_Indhf9oLmGB_CeXQ/edit?usp=sharing

Jawahar [SSH: 192.168.1.3]

```
● Jawahar@Jawahar:~$ docker --version
Docker version 27.5.1, build 27.5.1-0ubuntu3~24.04.2
○ Jawahar@Jawahar:~$
```

Jawahar [SSH: 192.168.1.3]

```
Docker version 27.5.1, build 27.5.1-0ubuntu3~24.04.2
● Jawahar@Jawahar:~$ docker run -d --name=netdata \
> --pid=host \
> --network=host \
> -v netdataconfig:/etc/netdata \
> -v netdatalib:/var/lib/netdata \
> -v netdatacache:/var/cache/netdata \
> -v /:/host:/root:ro,rslave \
> -v /etc/passwd:/host/etc/passwd:ro \
c/group:/host/etc/group:ro \
> -v /etc/localtime:/ -v /etc/group:/host/etc/group:ro \
> -v /etc/localtime:/etc/localtime:ro \
> -v /proc:/host/proc:ro \
> -v /sys:/host/sys:ro \
> -v /etc/os-release:/host/etc/os-release:ro \
> -v /var/log:/var/log:ro \
> -v /var/run/docker.sock:/var/run/docker.sock:ro \
> -v /run/dbus:/run/dbus:ro \
> --cap-add SYS_PTRACE \
> --security-opt apparmor=unconfined \
> --restart unless-stopped \
> netdata/netdata
Unable to find image 'netdata/netdata:latest' locally
latest: Pulling from netdata/netdata
f014853ae203: Pull complete
614e3fbbe55b: Pull complete
50fe69cb44469: Pull complete
e19b004cccd3a: Pull complete
de5df12b5c49: Pull complete
Digest: sha256:acd0dbbc8df1ba6e24aaabbe3e7a4ab71dfac69a83a8c9f42e099fafdbeaf54
Status: Downloaded newer image for netdata/netdata:latest
2f63c4770ff3e1e416812d4509c727cdc67c4627a5d4d6c1885d5beb2da85109
○ Jawahar@Jawahar:~$
```

```

> --network=host \
> -v netdataconfig:/etc/netdata \
> -v netdatalib:/var/lib/netdata \
> -v netdatacache:/var/cache/netdata \
> -v /:/host:root,ro,rslave \
> -v /etc/passwd:/host/etc/passwd:ro \
c/group:/host/etc/group:ro \
> -v /etc/localtime:/> -v /etc/group:/host/etc/group:ro \
> -v /etc/localtime:/etc/localtime:ro \
> -v /proc:/host:proc:ro \
> -v /sys:/host:sys:ro \
> -v /etc/os-release:/host/etc/os-release:ro \
> -v /var/Log:/host/var/log:ro \
> -v /var/run/docker.sock:/var/run/docker.sock:ro \
> -v /run/dbus:/run/dbus:ro \
> --cap-add SYS_PTRACE \
> --security-opt apparmor=unconfined \
> --restart unless-stopped \
> netdata/netdata

```

Unable to find image 'netdata/netdata:latest' locally
latest: Pulling from netdata/netdata
f014853aae203: Pull complete
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50f59cb44469: Pull complete
e19b004cccd3a: Pull complete
de5df12b5c49: Pull complete
Digest: sha256:ac0dbbc8df1ba6e24aaabbe3e7a44abd71df69a83a8c9f42e099fafdbeaf54
Status: Downloaded newer image for netdata/netdata:latest
2f63c4770ff3ele416812d4509c727cd67c4627a5d4d6c1885d5beb2d85109

```

Jawahar@Jawahar:~$ docker ps --format "table {{.Names}}\t{{.Status}}\t{{.Ports}}"

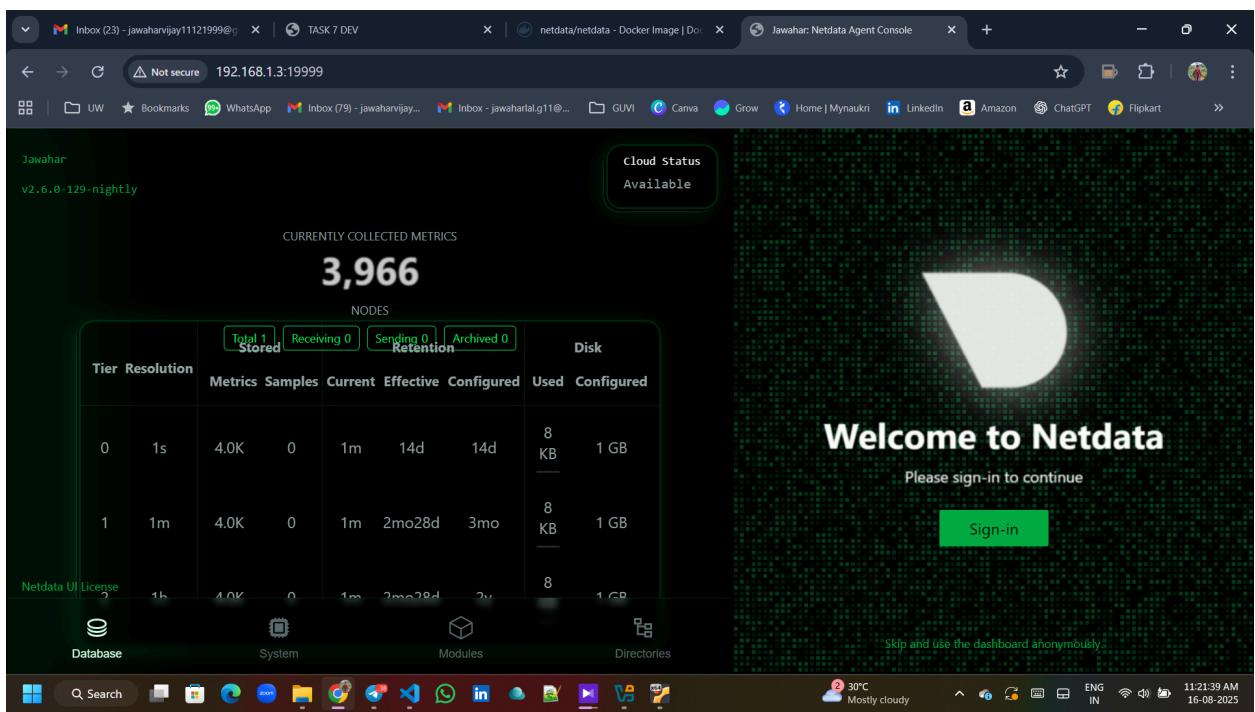
```

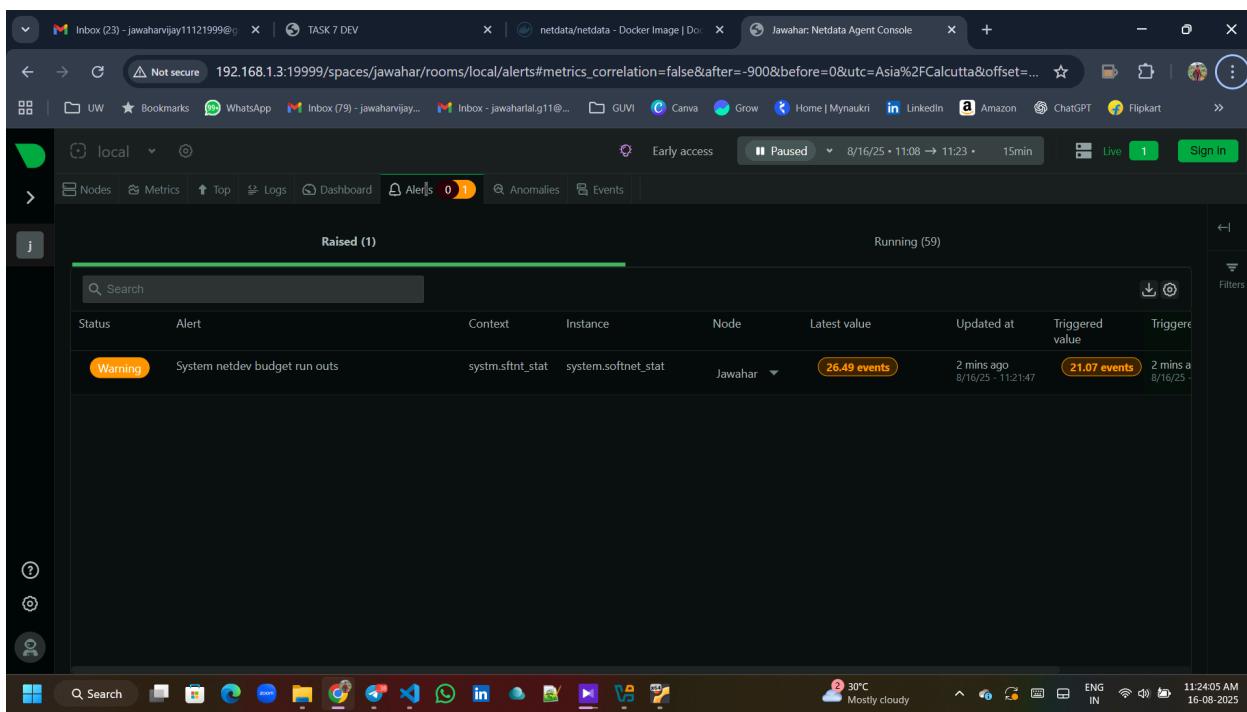
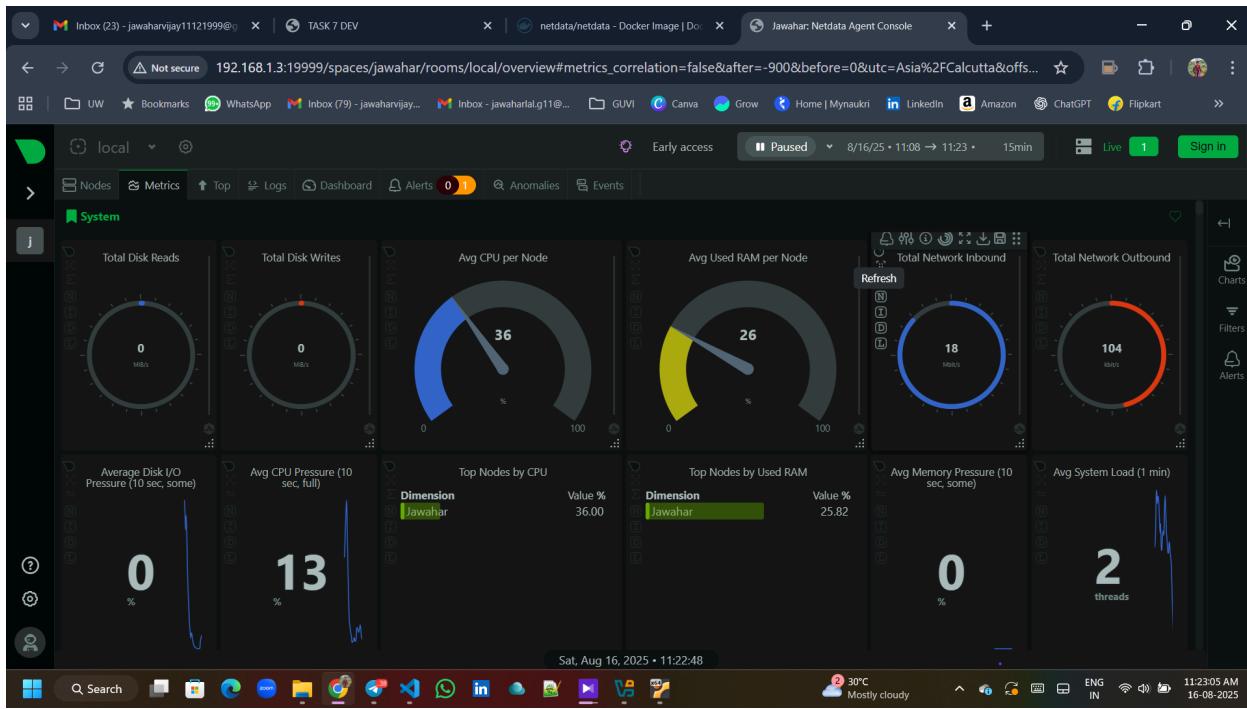
NAME	STATUS	PORTS
netdata	Up 20 seconds (health: starting)	

```

Jawahar@Jawahar:~$ 

```







Jawahar [SSH: 192.168.1.3]

```

File Edit Selection View Go Run ...
PROBLEMS OUTPUT TERMINAL ...
● Jawahar@Jawahar:~$ sudo apt-get install -y 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 89 not upgraded.
Need to get 18.1 kB of archives.
After this operation, 52.2 kB of additional disk space will be used.
Get:1 http://in.archive.ubuntu.com/ubuntu noble/universe amd64 stress amd64 1.0.7-1 [18.1 kB]
Fetched 18.1 kB in 1s (18.9 kB/s)
Selecting previously unselected package stress.
(Reading database ... 165009 files and directories currently installed.)
Preparing to unpack .../stress_1.0.7-1_amd64.deb ...
Unpacking stress (1.0.7-1) ...
Setting up stress (1.0.7-1) ...
Processing triggers for man-db (2.12.0-4build2) ...
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.
○ Jawahar@Jawahar:~$ stress --cpu 4 --timeout 30s
stress: info: [8350] dispatching hogs: 4 cpu, 0 io, 0 vm, 0 hdd

```



```

File Edit Selection View Go Run ...
Jawahar [SSH: 192.168.1.3]
PROBLEMS OUTPUT TERMINAL ...
Reading state information... Done
The following NEW packages will be installed:
  stress
0 upgraded, 1 newly installed, 0 to remove and 89 not upgraded.
Need to get 18.1 kB of archives.
After this operation, 52.2 kB of additional disk space will be used.
Get:1 http://in.archive.ubuntu.com/ubuntu noble/universe amd64 stress amd64 1.0.7-1 [18.1 kB]
Fetched 18.1 kB in 1s (18.9 kB/s)
Selecting previously unselected package stress.
(Reading database ... 165000 files and directories currently installed.)
Preparing to unpack .../stress_1.0.7-1_amd64.deb ...
Unpacking stress (1.0.7-1) ...
Setting up stress (1.0.7-1) ...
Processing triggers for man-db (2.12.0-4build2) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

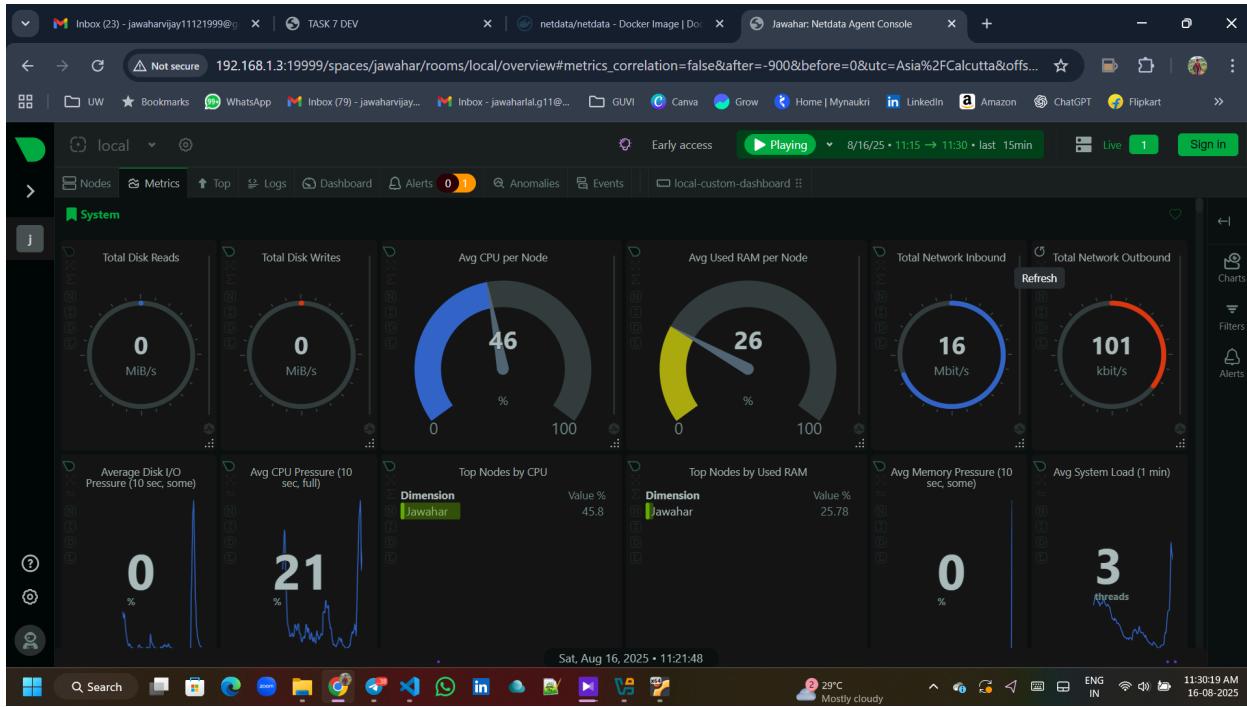
No services need to be restarted.

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.
● Jawahar@Jawahar:~$ stress --cpu 4 --timeout 30s
stress: info: [8350] dispatching hogs: 4 cpu, 0 io, 0 vm, 0 hdd
stress: info: [8350] successful run completed in 30s
○ Jawahar@Jawahar:~$ stress --vm 2 --vm-bytes 512M --timeout 30s
stress: info: [8546] dispatching hogs: 0 cpu, 0 io, 2 vm, 0 hdd

```



The terminal window title is 'Jawahar [SSH: 192.168.1.3]'. The left sidebar shows a file tree with directories like '.cache', '.dotnet', '.gnupg', '.kube', '.local', '.minikube', '.ssh', '.terraform.d', '.vscode-server', 'aws', 'Elevate-Labs-Projects', 'Elevate-Labs-Projects-Task05', 'Elevate-Labs-Projects-Task07', 'kubernetes', 'snap', 'Terraform-Task-02', '.bash_history', '.bash_logout', '.bashrc', '.gitconfig', '.lessht', '.profile', '.sudo_as_admin_successful', and '.wget-hsts'. The right pane displays the terminal session output:

```

0 upgraded, 1 newly installed, 0 to remove and 89 not upgraded.
Need to get 18.1 kB of archives.
After this operation, 52.2 kB of additional disk space will be used.
Get:1 http://in.archive.ubuntu.com/ubuntu noble/universe amd64 stress amd64 1.0.7-1 [18.1 kB]
Fetched 18.1 kB in 1s (18.9 kB/s)
Selecting previously unselected package stress.
(Reading database ... 165009 files and directories currently installed.)
Preparing to unpack .../stress_1.0.7-1_amd64.deb ...
Unpacking stress (1.0.7-1) ...
Setting up stress (1.0.7-1) ...
Processing triggers for man-db (2.12.0-4build2) ...
Scanning processes...
Scanning linux images...
Running kernel seems to be up-to-date.

No services need to be restarted.

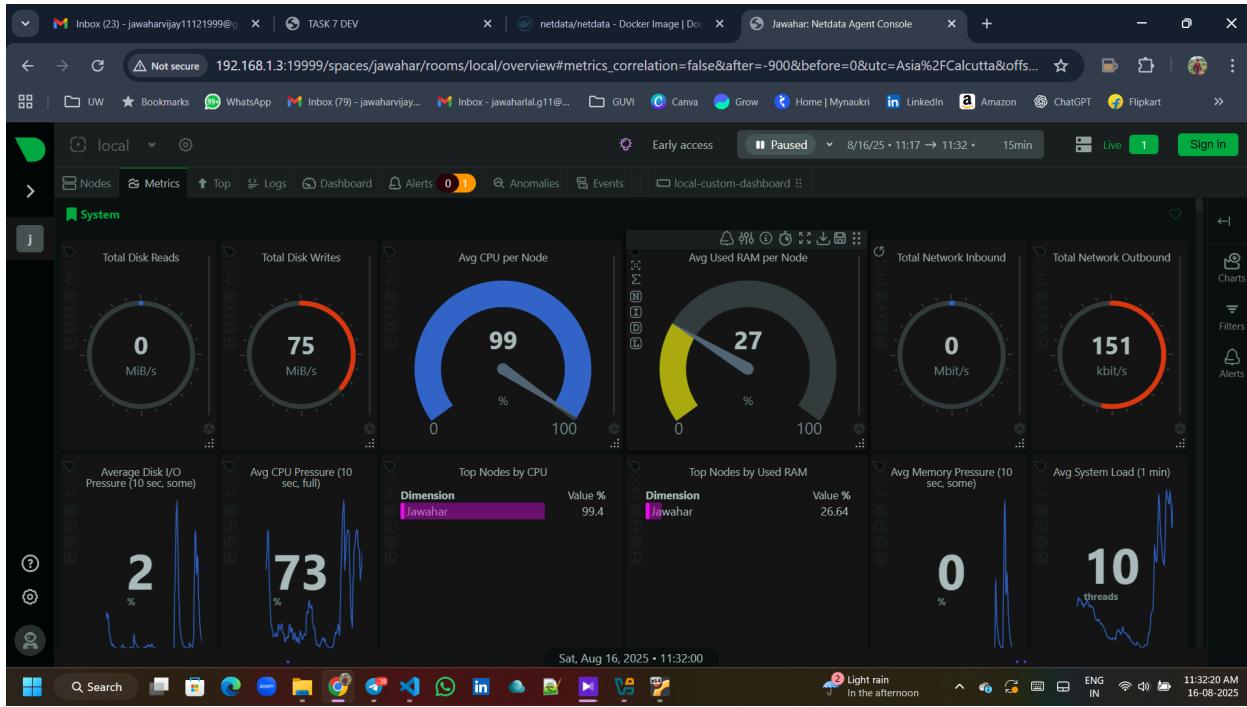
No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
● Jawahar@Jawahar:~$ stress --cpu 4 --timeout 30s
stress: info: [8350] dispatching hogs: 4 cpu, 0 io, 0 vm, 0 hdd
stress: info: [8350] successful run completed in 30s
● Jawahar@Jawahar:~$ stress --vm 2 --vm-bytes 512M --timeout 30s
stress: info: [8546] dispatching hogs: 0 cpu, 2 io, 2 vm, 0 hdd
stress: info: [8546] successful run completed in 30s
○ Jawahar@Jawahar:~$ stress --hdd 2 --hdd-bytes 1G --timeout 30s
stress: info: [8851] dispatching hogs: 0 cpu, 0 io, 0 vm, 2 hdd

```

The bottom status bar shows the date and time: 11:30:19 AM 16-08-2025.



```

File Edit Selection View Go Run ...
Jawahar [SSH: 192.168.1.3] PROBLEMS OUTPUT TERMINAL ...
EXPLORER JAWAHAR [SSH: 192.168.1.3]
> .cache
> .dotnet
> .gnupg
> .kube
> .local
> .minikube
> .ssh
> .terraform.d
> .vscode-server
> aws
> Elevate-Labs-Projects
> Elevate-Labs-Projects-Task05
> Elevate-Labs-Projects-Task07
> kubernetes
> snap
> Terraform-Task-02
⌘ .bash_history
$ .bash_logout
$ .bashrc
$ .gitconfig
⌘ .lessht
$ .profile
$ .sudo_as_admin_successful
$ wget-hsts
> OUTLINE
> TIMELINE
Show All Commands Ctrl + Shift + P
Go to File Ctrl + P
Open Chat Ctrl + Alt + I
Toggle Terminal Ctrl + T
Find in Files Ctrl + Shift + F
b779-ae6b-45e1-946d-30cea622b006&nodes=&instances=&dimensions=some+10&labels=&group_by%5B0%5D=avg"
o Jawahar@Jawahar:~$ docker logs --tail 200 netdata | more
time=2025-08-16T06:03:03.086Z comm=netdata source=access level=info tid=3871 thread=WEB[3
] role=any permissions=0x8 src_port=56513 req_method=GET code=200 conn=0 transaction=c7bc
3ab62a6340cbb2558ffd43c75c3d sent_bytes=3133 size_bytes=11673 prep_ut=20322 sent_ut=9394
total_ut=29716 request="/api/v3/data?points=276&format=json&time_group=average&time_resa
mpling=&after=1755323299&before=1755324199&options=jsonwrap%7Cnonzero%7Cflip%7Cms%7Cjw-a
normally-rates%7Cminify&contexts=&scope_contexts=system.cpu_some_pressure&scope_nodes=df51
b779-ae6b-45e1-946d-30cea622b006&nodes=&instances=&dimensions=some+10&labels=&group_by
%5B0%5D=dimension&group_by_label%5B0%5D=aggregation%5B0%5D=avg"
time=2025-08-16T06:03:03.108Z comm=netdata source=access level=info tid=3873 thread=WEB[5
] role=any permissions=0x8 src_port=63955 req_method=GET code=200 conn=0 transaction=c7c9
3aa8d586494fa22ca103a356a991 sent_bytes=3726 size_bytes=12987 prep_ut=5591 sent_ut=30863
total_ut=36454 request="/api/v3/data?points=276&format=json&time_group=average&time_resa
mpling=&after=1755323299&before=1755324199&options=percentage%7Csonwrap%7Cnonzero%7Cflip
%7Cms%7Cjw-anomaly-rates%7Cminify&contexts=&scope_contexts=system.ram&scope_nodes=df51b
779-ae6b-45e1-946d-30cea622b006&nodes=&instances=&dimensions=used%7Cbuffers%7Cwired
labels=&group_by%5B0%5D=percentage-of-instance&group_by_label%5B0%5D=aggregation%5B0%5D=su
m&group_by_label%5B1%5D=aggregation%5B1%5D=avg"
y=580%5D=group_by_label%5B1%5D=aggregation%5B1%5D=avg"
time=2025-08-16T06:03:03.104Z comm=netdata source=access level=info tid=3867 thread=WEB[2
] role=any permissions=0x8 src_port=50287 req_method=GET code=200 conn=0 transaction=eaac
774957dc4bfabbee4cecee387a2f sent_bytes=3999 size_bytes=13512 prep_ut=38591 sent_ut=7686
total_ut=46277 request="/api/v3/data?points=276&format=json&time_group=average&time_resa
mpling=&after=1755323299&before=1755324199&options=jsonwrap%7Cnonzero%7Cflip%7Cms%7Cjw-a
normally-rates%7Cminify&contexts=&scope_contexts=system.cpu_scope_nodes=df51b779-ae6b-45e1
-946d-30cea622b006&nodes=&instances=&dimensions=&labels=&group_by%5B0%5D=node&group_b
y_label%5B0%5D=aggregation%5B0%5D=sum"
time=2025-08-16T06:03:03.119Z comm=netdata source=access level=info tid=3874 thread=WEB[6
] role=any permissions=0x8 src_port=57537 req_method=GET code=200 conn=0 transaction=e4e
d77c815646cfaad2761c3f4c7e28 sent_bytes=2957 size_bytes=11500 prep_ut=7758 sent_ut=30112
total_ut=37870 request="/api/v3/data?points=276&format=json&time_group=average&time_resa
mpling=&after=1755323299&before=1755324199&options=jsonwrap%7Cnonzero%7Cflip%7Cms%7Cjw-a

```

```
Jawahar@Jawahar:~$ docker exec -it netdata bash
root@Jawahar:/# ls -1 /var/log/netdata
access.log
aclk.log
collector.log
daemon.log
debug.log
error.log
health.log
otel
```

```
Jawahar@Jawahar:~$ docker stop netdata
netdata
Jawahar@Jawahar:~$
```