

AWS ECS & EC2 CloudWatch Monitoring Report

Name: Abubakari-Sadique Hamidu

Date: August 2025

1. ECS Cluster and Running Service

ECS cluster and running service

Reason: Deployed the containerized application using ECS Fargate to run it in a scalable, serverless environment. Monitoring the cluster ensures the service is running correctly.

The screenshot shows the AWS ECS Cluster overview for the 'sadique-cluster'. The cluster is active and has one service defined. The service is currently pending, but one task is running. There are no registered container instances. The CloudWatch monitoring is set to default. The Services tab shows one service listed.

2. ECS Task Definition (CPU & Memory Settings)

Task definition showing CPU & memory

Reason: Configured CPU and memory in the task definition to allocate appropriate resources to the container, ensuring smooth performance without over-provisioning.

The screenshot shows the AWS CloudWatch ECS Task Definition Container page. The task definition is named 'sadique-task' and has revision 1. The container configuration includes:

- ARN:** arn:aws:ecs:eu-north-1:018134829131:task-definition/sadique-task:1
- Status:** ACTIVE
- Time created:** 14 August 2025 at 21:48 (UTC)
- App environment:** Fargate
- Task role:** -
- Task execution role:** ecsTaskExecutionRole
- Operating system/Architecture:** Linux/X86_64
- Network mode:** awsvpc
- Fault injection:** Turned off

The 'Containers' tab is selected, showing the task size configuration. It includes two charts:

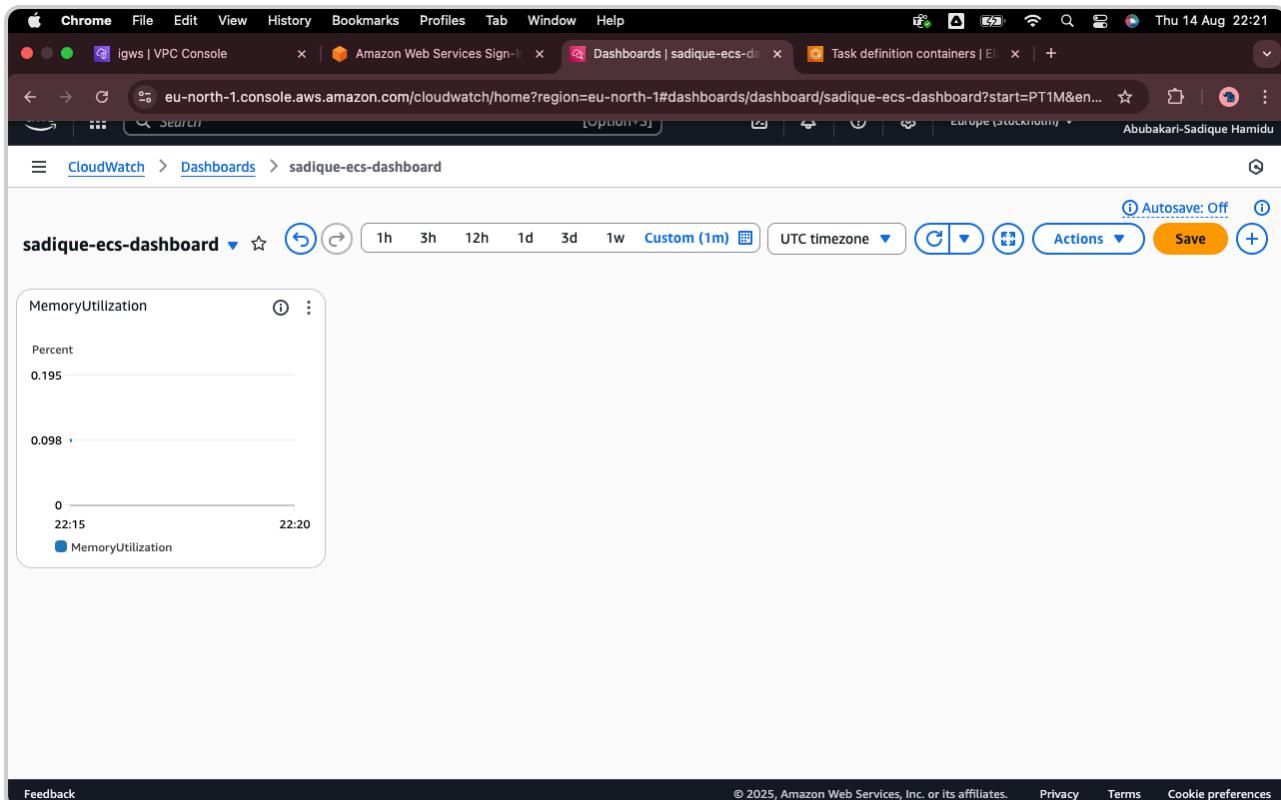
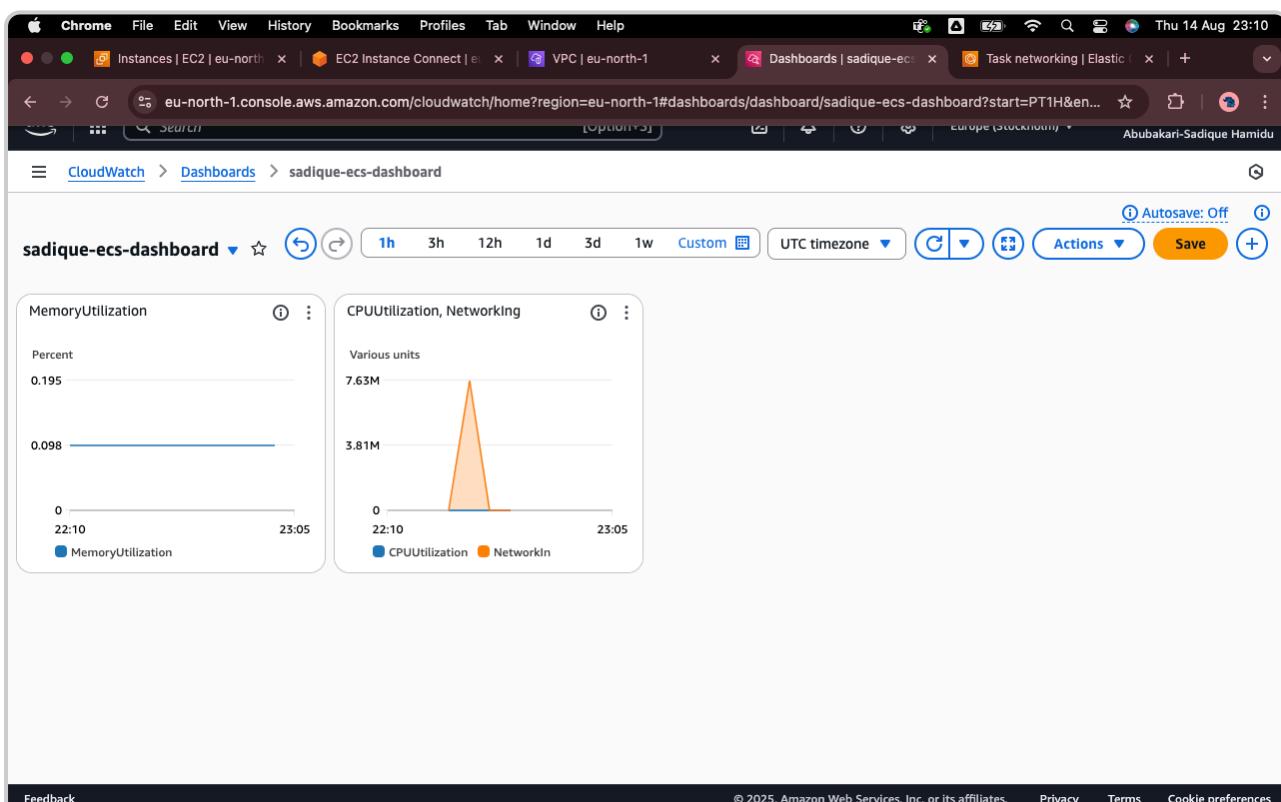
- Task CPU:** 1,024 units (1 vCPU).
- Task memory:** 3,072 MiB (3 GB).
- Task CPU maximum allocation for containers:** A bar chart for the 'nginx-container' showing it uses approximately 1,024 units.
- Task memory maximum allocation for container memory reservation:** A stacked bar chart for the 'nginx-container' showing it uses approximately 3,072 MiB, with a significant portion being 'Shared task memory'.

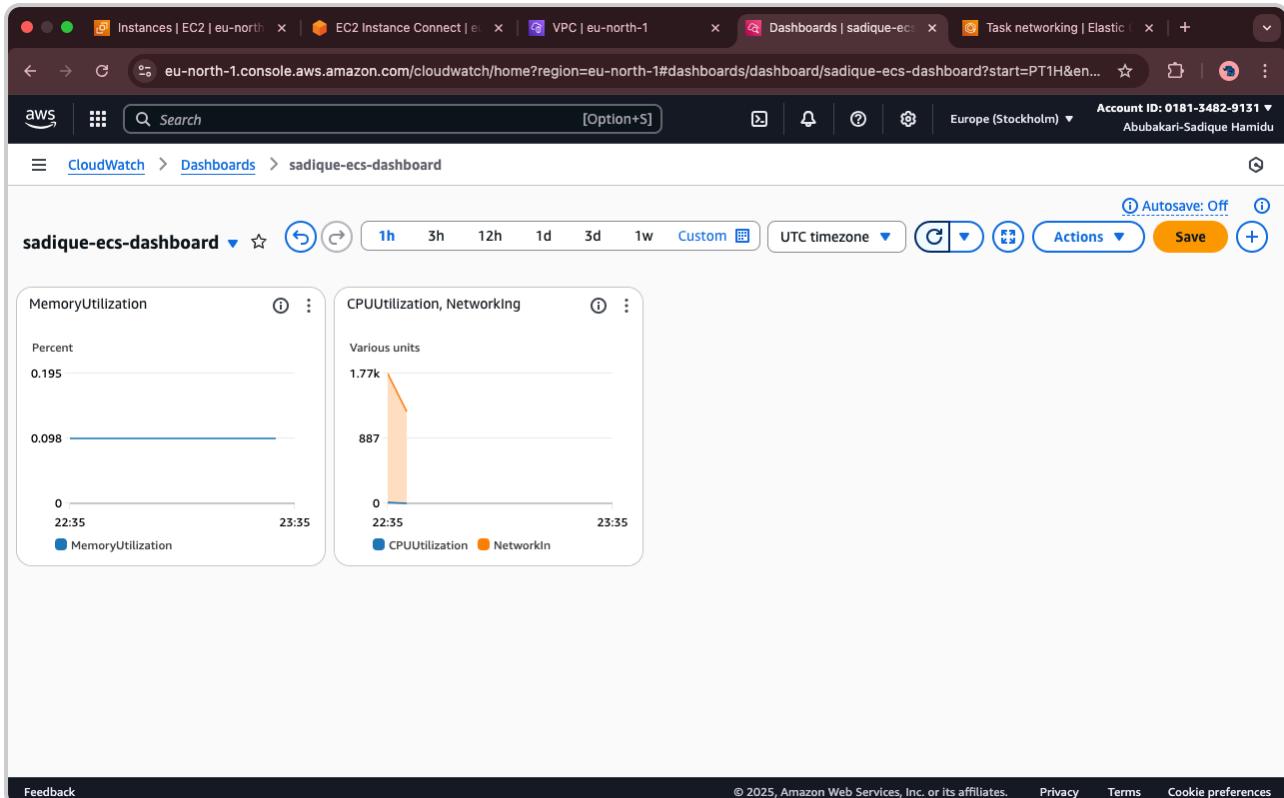
3. CloudWatch Dashboard - ECS & EC2 Monitoring

CloudWatch dashboard showing CPUUtilization and MemoryUtilization for ECS and EC2

Reason: Used CloudWatch dashboards to monitor ECS and EC2 metrics in real-time. This helps verify that resources are functioning properly and observe the impact of load tests.

Screenshot 1: ECS only

**Screenshot 2: ECS + EC2 after stress****Screenshot 3: ECS + EC2 after stress**

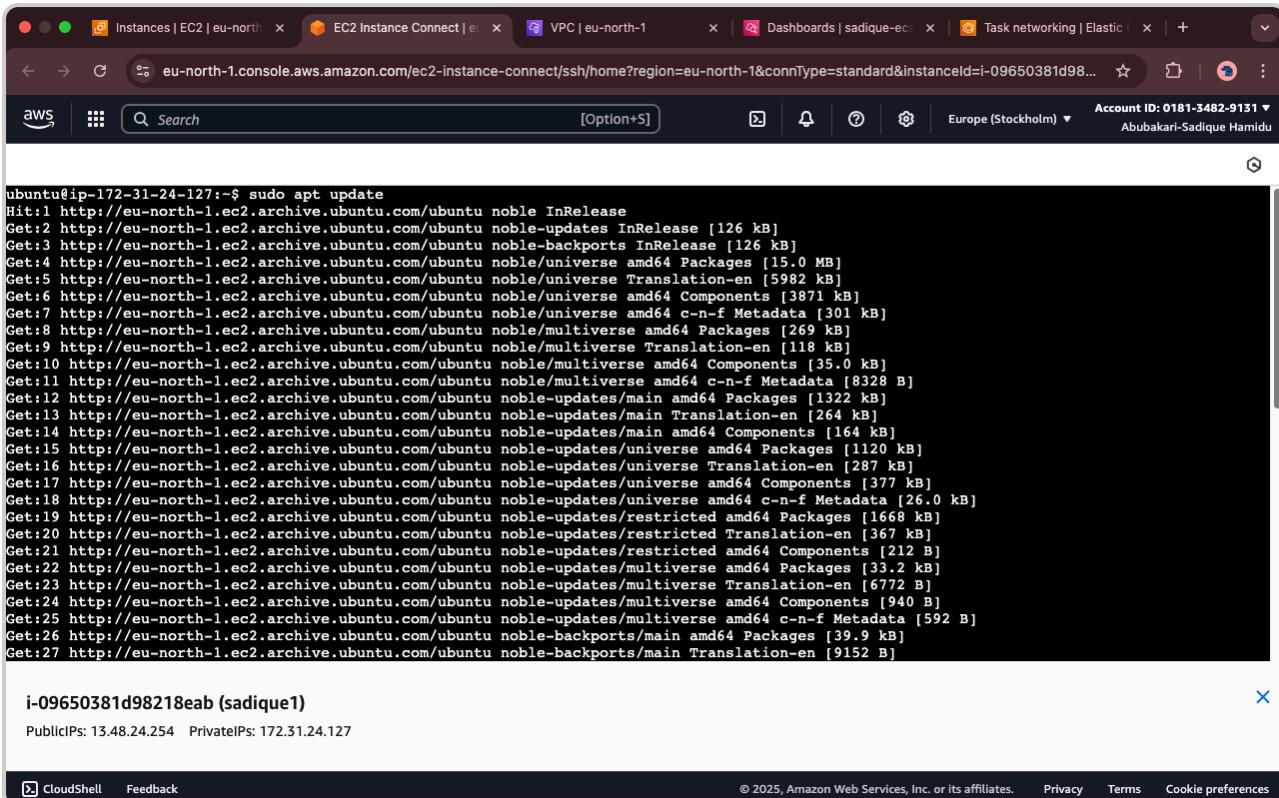


4. EC2 Stress Test Commands

Simulating CPU load on EC2 instance

Reason: Installed and ran the stress tool to simulate CPU load on the EC2 instance. This allows us to see how CloudWatch metrics respond under increased workload, verifying monitoring effectiveness.

`apt update`

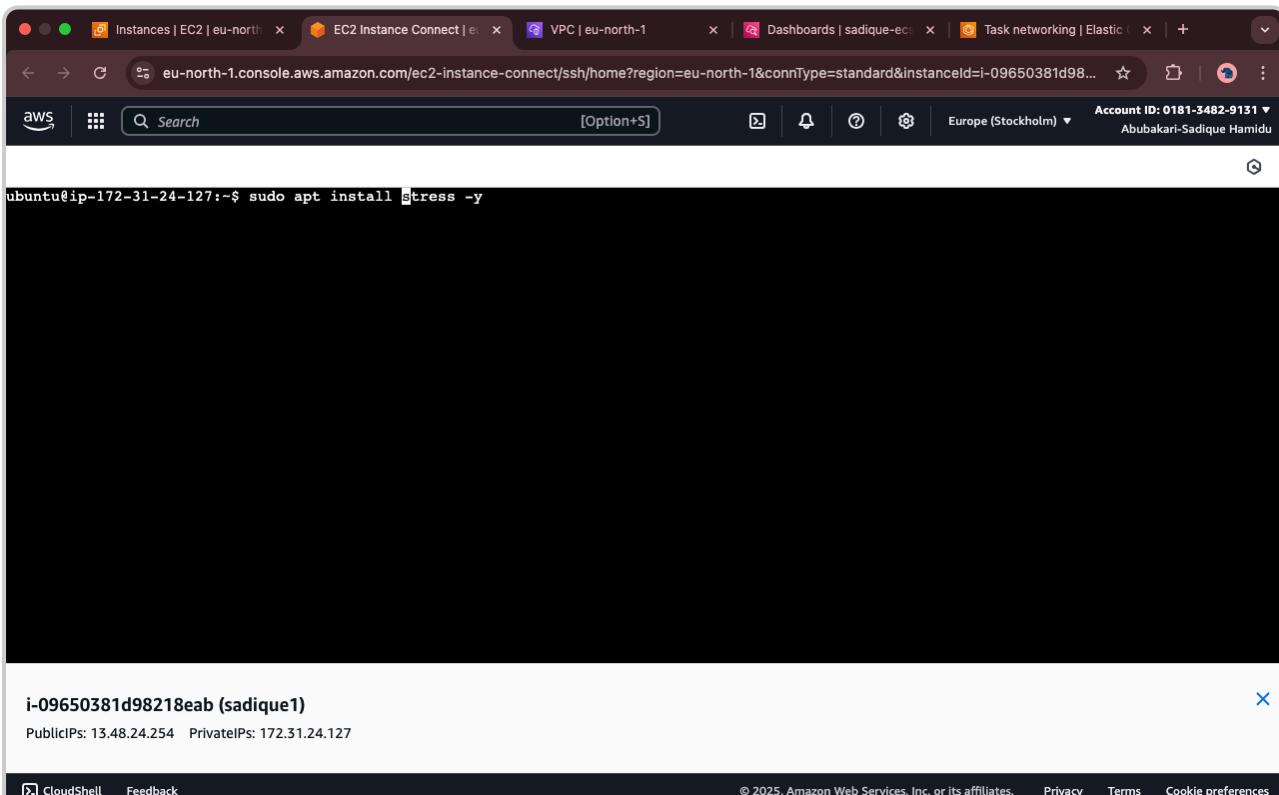


```
ubuntu@ip-172-31-24-127:~$ sudo apt update
Hit:1 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:4 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
Get:5 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble/universe Translation-en [5982 kB]
Get:6 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Components [3871 kB]
Get:7 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 c-n-f Metadata [301 kB]
Get:8 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Packages [269 kB]
Get:9 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse Translation-en [118 kB]
Get:10 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Components [35.0 kB]
Get:11 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 c-n-f Metadata [8328 B]
Get:12 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [1322 kB]
Get:13 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main Translation-en [264 kB]
Get:14 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [164 kB]
Get:15 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [1120 kB]
Get:16 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [287 kB]
Get:17 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [377 kB]
Get:18 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 c-n-f Metadata [26.0 kB]
Get:19 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Packages [1668 kB]
Get:20 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted Translation-en [367 kB]
Get:21 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]
Get:22 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Packages [33.2 kB]
Get:23 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse Translation-en [6772 B]
Get:24 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [940 B]
Get:25 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 c-n-f Metadata [592 B]
Get:26 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-backports/main amd64 Packages [39.9 kB]
Get:27 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-backports/main Translation-en [9152 B]
```

i-09650381d98218eab (sadique1)

PublicIPs: 13.48.24.254 PrivateIPs: 172.31.24.127

Install stress



```
ubuntu@ip-172-31-24-127:~$ sudo apt install stress -y
```

i-09650381d98218eab (sadique1)

PublicIPs: 13.48.24.254 PrivateIPs: 172.31.24.127

Stress run (1)

```
ubuntu@ip-172-31-24-127:~$ while true; do curl http:13.48.24.254 done
```

i-09650381d98218eab (sadique1)
PublicIPs: 13.48.24.254 PrivateIPs: 172.31.24.127

Stress run (2)

```
ubuntu@ip-172-31-27-182:~$ stress --cpu 4 --timeout
stress: FAIL: [2020] (157) missing argument to option '--timeout'
ubuntu@ip-172-31-27-182:~$ stress --cpu 4 --timeout 60
stress: info: [2021] dispatching hogs: 4 cpu, 0 io, 0 vm, 0 hdd
```

i-08727e7ad0e257e02 (sadique)
PublicIPs: 51.20.34.123 PrivateIPs: 172.31.27.182

AWS ECS & EC2 Monitoring Report — Prepared by Abubakari-Sadique Hamidu, August 2025