

Monitoring with CloudwatchAgent

Here I am going to download the cloudwatch agent in ubuntu instance.

Why Cloudwatch Agent ?

By default, we can monitor specific types of Metrics alone

- CPU utilization
- Status checks
- Network in/out

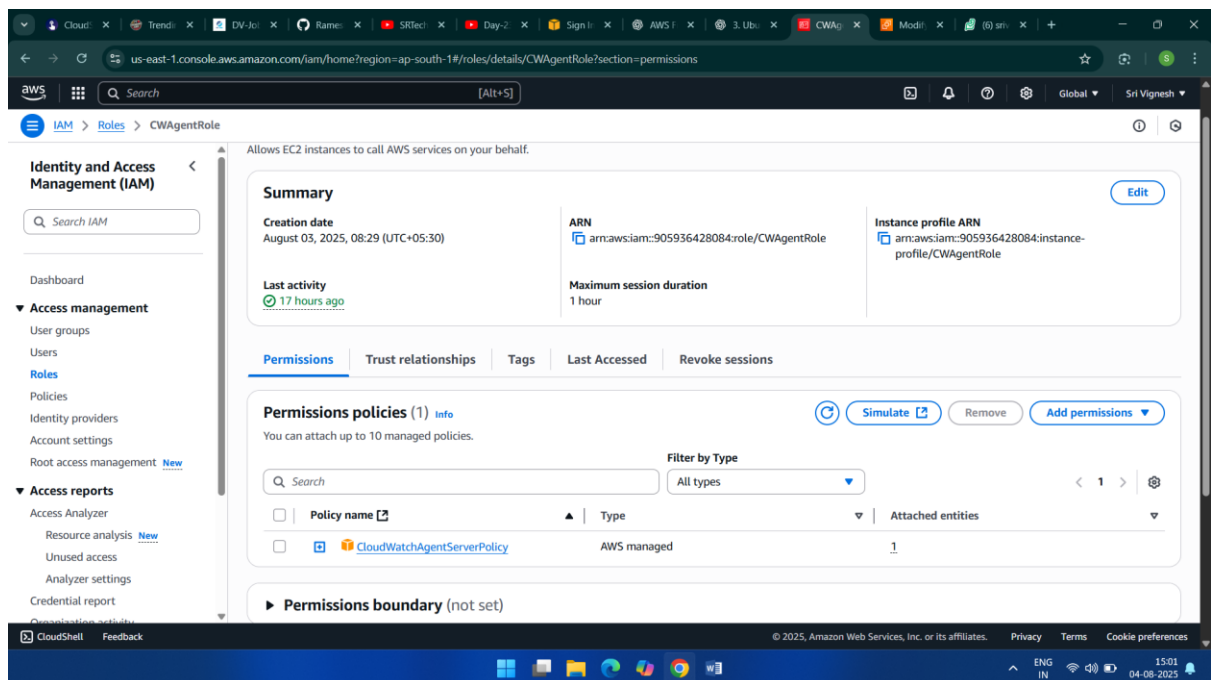
While using the agent we can also monitor the

- RAM
- Disk used and free
- Running process, etc

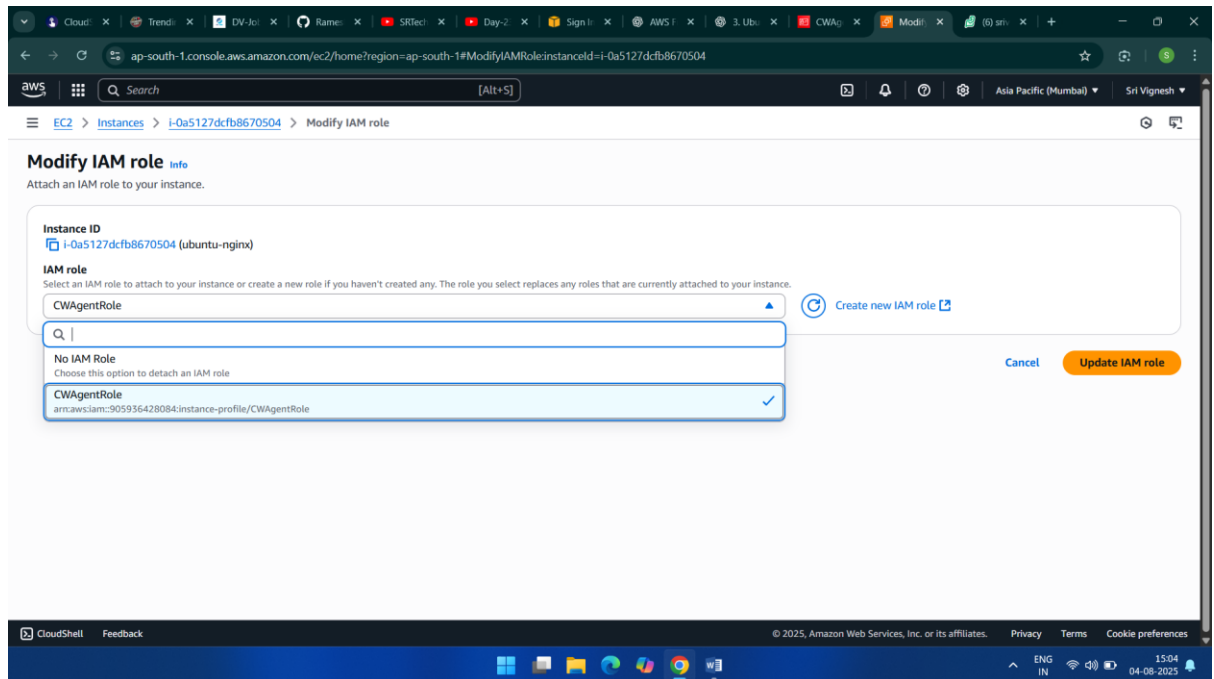
Reason: These are not collected by default, because Amazon doesn't look into your OS internals unless you explicitly install an agent that reads those details.

Step 1: Create an IAM Role with CWAgentRole Permission

- Create a new IAM role in AWS console
- Add policy CloudWatchAgentServerPolicy.
- Name this role and save this.

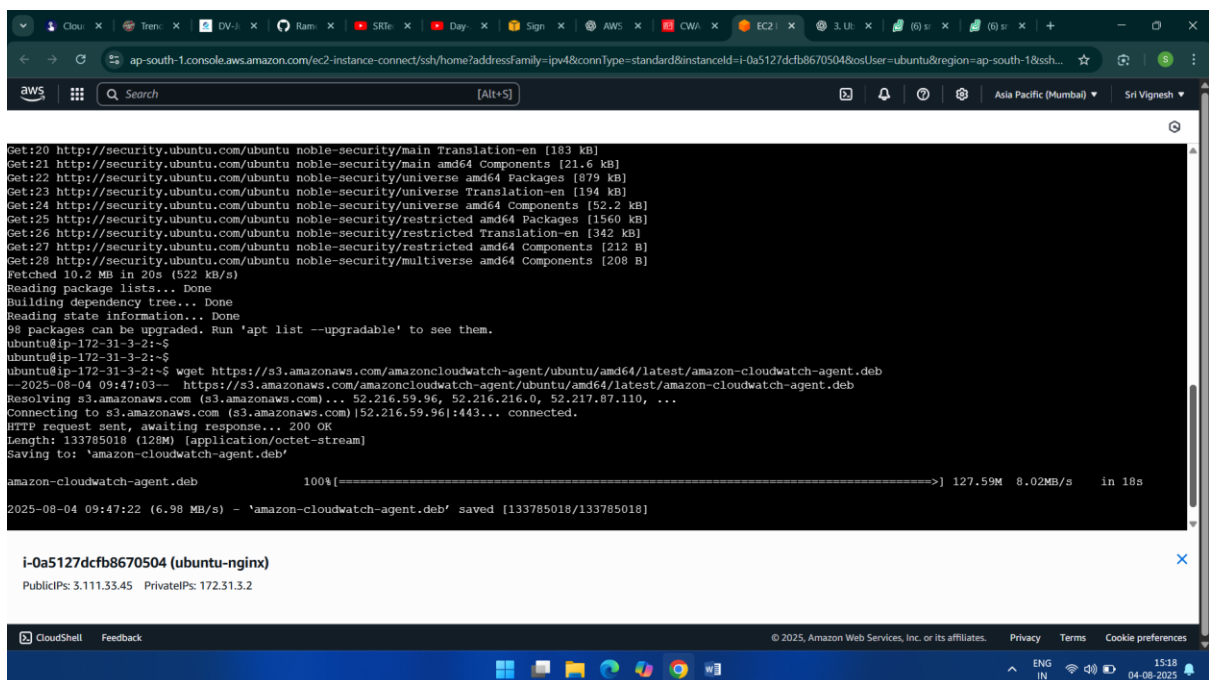


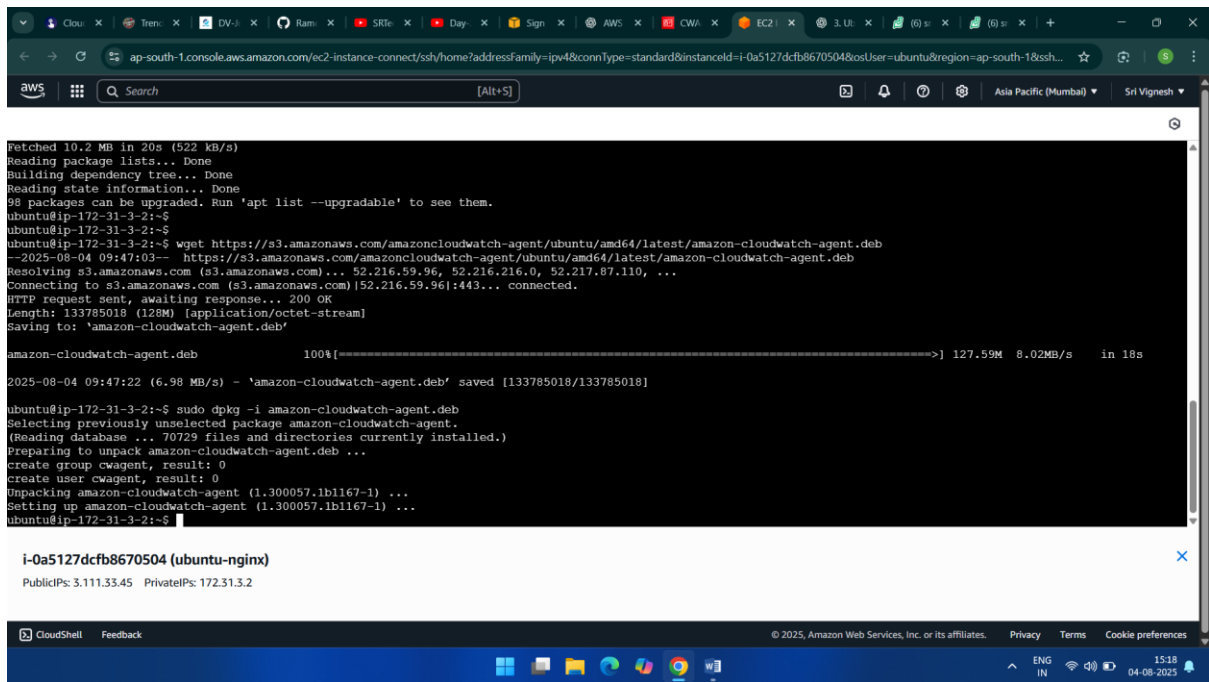
- Add this role to the instance we need to monitor using ACTION -> SECURITY -> MODIFY IAM. Then selected the newly created role and save it.



Step 2: Download the Cloudwatch agent

- wget <https://s3.amazonaws.com/amazoncloudwatch-agent/ubuntu/amd64/latest/amazon-cloudwatch-agent.deb>
 1. This will download the latest cloudwatch-agent.deb from S3.
- sudo dpkg -i amazon-cloudwatch-agent.deb
 - (1) This command will install the deb file using dpkg file.





Step 3: Create an Agent configuration file

It saves in the form of JSON. The location the config file is **/opt/aws/amazon-cloudwatch-agent/bin/config.json**

For generating the config file use the below command

- `sudo /opt/aws/amazon-cloudwatch-agent/bin/amazon-cloudwatch-agent-config-wizard`

This command will ask a set of questions for building the CloudWatch Agent.

At the end this will create an Agent config file.

```
Saving to: 'amazon-cloudwatch-agent.deb'
amazon-cloudwatch-agent.deb      100%[=====] 127.59M  8.02MB/s   in 18s

2025-08-04 09:47:22 (6.98 MB/s) - 'amazon-cloudwatch-agent.deb' saved [133785018/133785018]

ubuntu@ip-172-31-3-2:~$ sudo dpkg -i amazon-cloudwatch-agent.deb
Selecting previously unselected package amazon-cloudwatch-agent.
(Reading database ... 70729 files and directories currently installed.)
Preparing to unpack amazon-cloudwatch-agent.deb ...
create group cwagent, result: 0
create user cwagent, result: 0
Unpacking amazon-cloudwatch-agent (1.300057.1b1167-1) ...
Setting up amazon-cloudwatch-agent (1.300057.1b1167-1) ...
ubuntu@ip-172-31-3-2:~$ sudo /opt/aws/amazon-cloudwatch-agent/bin/amazon-cloudwatch-agent-config-wizard

=====
Welcome to the Amazon CloudWatch Agent Configuration Manager
=====
CloudWatch Agent allows you to collect metrics and logs from
- your host and send them to CloudWatch. Additional CloudWatch
- charges may apply.
=====

On which OS are you planning to use the agent?
1. linux
2. windows
3. darwin
default choice: [1]:
```

i-0a5127dcfb8670504 (ubuntu-nginx)
PublicIPs: 3.111.33.45 PrivateIPs: 172.31.3.2

CloudShell Feedback

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```
Saved config file to /opt/aws/amazon-cloudwatch-agent/bin/config.json successfully.
Current config as follows:
{
  "agent": {
    "metrics_collection_interval": 60,
    "run_as_user": "cwagent"
  },
  "metrics": {
    "aggregation_dimensions": [
      {
        "InstanceId"
      }
    ],
    "append_dimensions": {
      "AutoScalingGroupName": "${aws:AutoScalingGroupName}",
      "ImageId": "${aws:ImageId}",
      "InstanceId": "${aws:InstanceId}",
      "InstanceType": "${aws:InstanceType}"
    },
    "metrics_collected": {
      "collectd": {
        "metrics_aggregation_interval": 60
      },
      "disk": {
        "measurement": [
          "used_percent"
        ],
        "metric_collection_interval": 60,
        "resources": [
          "*"
        ]
      },
      "mem": {
        "measurement": [
          "mem_used_percent"
        ],
        "metric_collection_interval": 60
      },
      "statd": {
        "metrics_aggregation_interval": 60,

```

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Step 4: Start the CloudWatch Agent

- `sudo /opt/aws/amazon-cloudwatch-agent/bin/amazon-cloudwatch-agent-ctl \-a fetch-config \-m ec2 \-c file:/opt/aws/amazon-cloudwatch-agent/bin/config.json \-s`
This command will Load the config file and start the CloudWatch Agent.

```
D! [EC2] Found active network interface
! I! imds retry client will retry 1 times
/opt/aws/amazon-cloudwatch-agent/bin/amazon-cloudwatch-agent -schematest -config /opt/aws/amazon-cloudwatch-agent/etc/amazon-cloudwatch-agent.toml
Configuration validation second phase failed
Error Log
2025-08-04T10:08:03Z E! Error running agent: Error loading config file /opt/aws/amazon-cloudwatch-agent/etc/amazon-cloudwatch-agent.toml: error parsing socket_listener
, open /usr/share/collectd/types.db: no such file or directory
ubuntu@ip-172-31-3-2:~$ sudo nano /opt/aws/amazon-cloudwatch-agent/bin/config.json
ubuntu@ip-172-31-3-2:~$ sudo /opt/aws/amazon-cloudwatch-agent/bin/amazon-cloudwatch-agent-ctl -a fetch-config -m ec2 -c file:/opt/aws/amazon-cloudwatch-agent/bin/config
g.json -s
***** processing amazon-cloudwatch-agent *****
! I! Trying to detect region from ec2 D! [EC2] Found active network interface ! I! imds retry client will retry 1 timesSuccessfully fetched the config and saved in /opt/aw
s/amazon-cloudwatch-agent/etc/amazon-cloudwatch-agent.d/file_config.json.tmp
Start configuration validation...
2025/08/04 10:10:23 Reading json config file path: /opt/aws/amazon-cloudwatch-agent/etc/amazon-cloudwatch-agent.d/file_config.json.tmp ...
2025/08/04 10:10:23 ! I! Valid Json input schema.
2025/08/04 10:10:23 D! ec2tagger processor required because append_dimensions is set
2025/08/04 10:10:23 D! ec2tagger processor required because append_dimensions is set
2025/08/04 10:10:23 Configuration validation first phase succeeded
! I! Detecting run as user...
! I! Trying to detect region from ec2
D! [EC2] Found active network interface
! I! imds retry client will retry 1 times
/opt/aws/amazon-cloudwatch-agent/bin/amazon-cloudwatch-agent -schematest -config /opt/aws/amazon-cloudwatch-agent/etc/amazon-cloudwatch-agent.toml
Configuration validation second phase succeeded
Configuration validation succeeded
amazon-cloudwatch-agent has already been stopped
Created symlink /etc/systemd/system/multi-user.target.wants/amazon-cloudwatch-agent.service → /etc/systemd/system/amazon-cloudwatch-agent.service.
```

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To verify its running use the below command

- `sudo /opt/aws/amazon-cloudwatch-agent/bin/amazon-cloudwatch-agent-ctl -a status -m ec2`
by using this you can see the status of CloudAgent is running

```
ubuntu@ip-172-31-3-2:~$ sudo /opt/aws/amazon-cloudwatch-agent/bin/amazon-cloudwatch-agent-ctl -a status -m ec2
***** processing amazon-cloudwatch-agent *****
! I! Trying to detect region from ec2 D! [EC2] Found active network interface ! I! imds retry client will retry 1 timesSuccessfully fetched the config and saved in /opt/aw
s/amazon-cloudwatch-agent/etc/amazon-cloudwatch-agent.d/file_config.json.tmp
Start configuration validation...
2025/08/04 10:10:23 Reading json config file path: /opt/aws/amazon-cloudwatch-agent/etc/amazon-cloudwatch-agent.d/file_config.json.tmp ...
2025/08/04 10:10:23 ! I! Valid Json input schema.
2025/08/04 10:10:23 D! ec2tagger processor required because append_dimensions is set
2025/08/04 10:10:23 D! ec2tagger processor required because append_dimensions is set
2025/08/04 10:10:23 Configuration validation first phase succeeded
! I! Detecting run as user...
! I! Trying to detect region from ec2
D! [EC2] Found active network interface
! I! imds retry client will retry 1 times
/opt/aws/amazon-cloudwatch-agent/bin/amazon-cloudwatch-agent -schematest -config /opt/aws/amazon-cloudwatch-agent/etc/amazon-cloudwatch-agent.toml
Configuration validation second phase succeeded
Configuration validation succeeded
amazon-cloudwatch-agent has already been stopped
Created symlink /etc/systemd/system/multi-user.target.wants/amazon-cloudwatch-agent.service → /etc/systemd/system/amazon-cloudwatch-agent.service.
ubuntu@ip-172-31-3-2:~$ sudo /opt/aws/amazon-cloudwatch-agent/bin/amazon-cloudwatch-agent-ctl -a status -m ec2
{
  "status": "running",
  "starttime": "2025-08-04T10:24:00:00",
  "configstatus": "configured",
  "version": "1.300057.1b1167"
}
ubuntu@ip-172-31-3-2:~$
```

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Step 5: Verify this in AWS console

Go to CloudWatch -> All metrics -> CWAgent -> See the metrics with the instanced.

You should see the Graph over there. You can select metrics by filtering and even alarm creation is also possible.

