# Cloud-Watch Custom Matrix

## Aws Documentation link:-

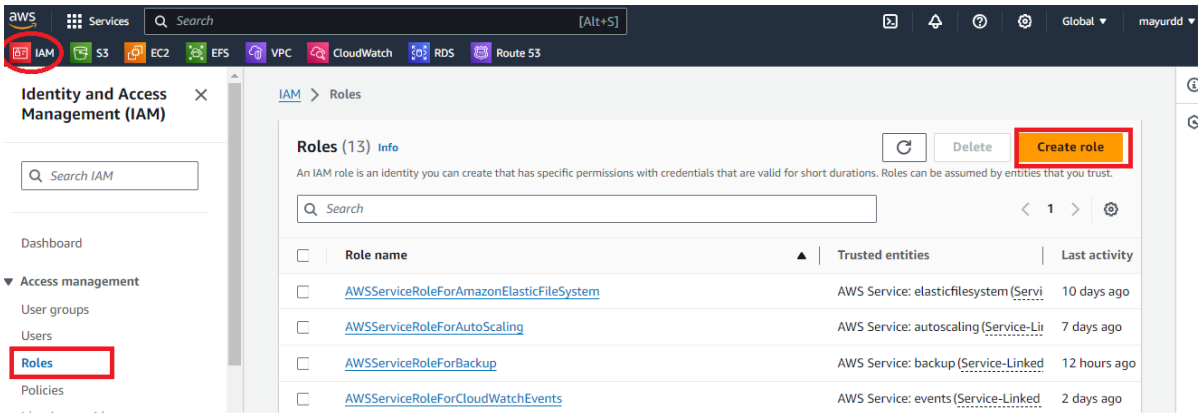
*https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/monitoring-scripts-intro.html*

## What is Cloudwatch Custom matrix ??

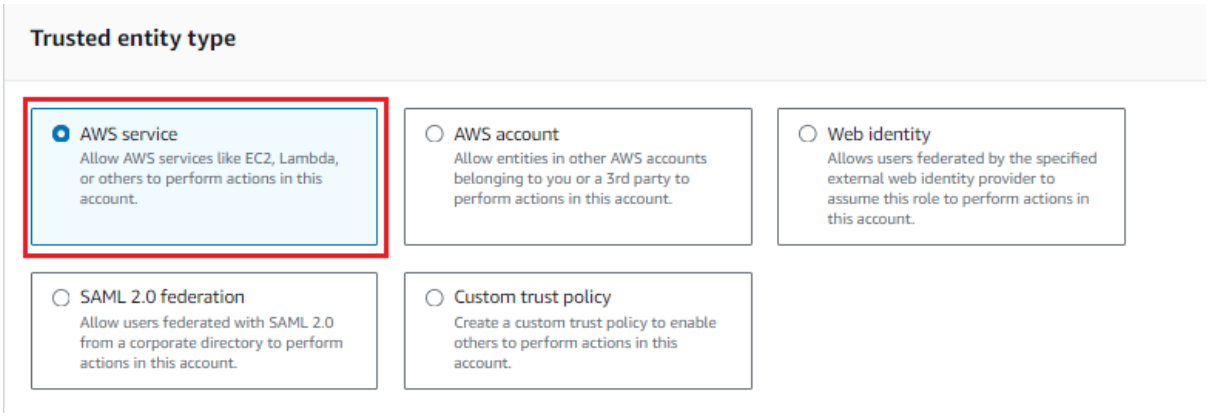
Custom metrics in CloudWatch allow you to monitor and collect data about your applications, services, and resources that are not automatically provided by AWS.

## 1. Creating role for ec2 instance

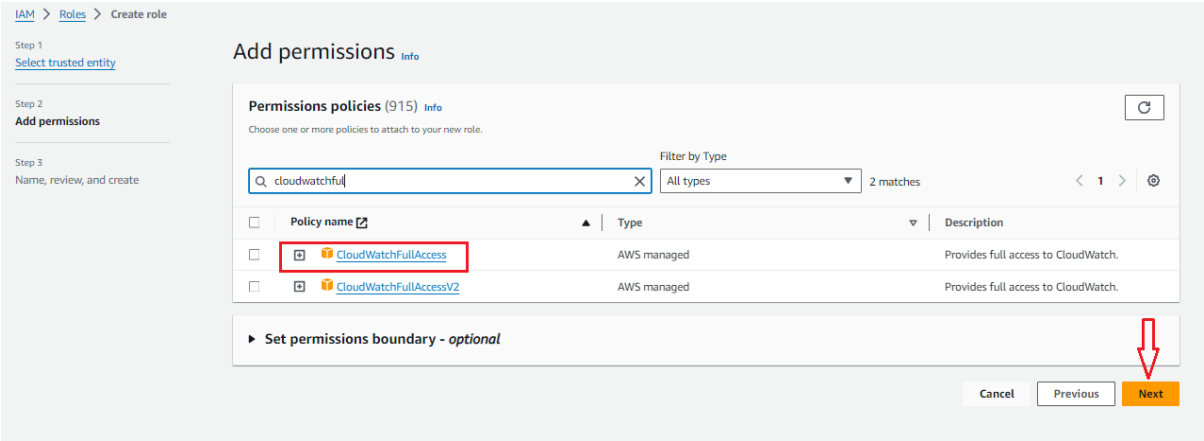
- Select IAM service & click on create role




- Select Ec2 Service & click on next



- Select The permission policy  & click on next




- Assign name and click on next

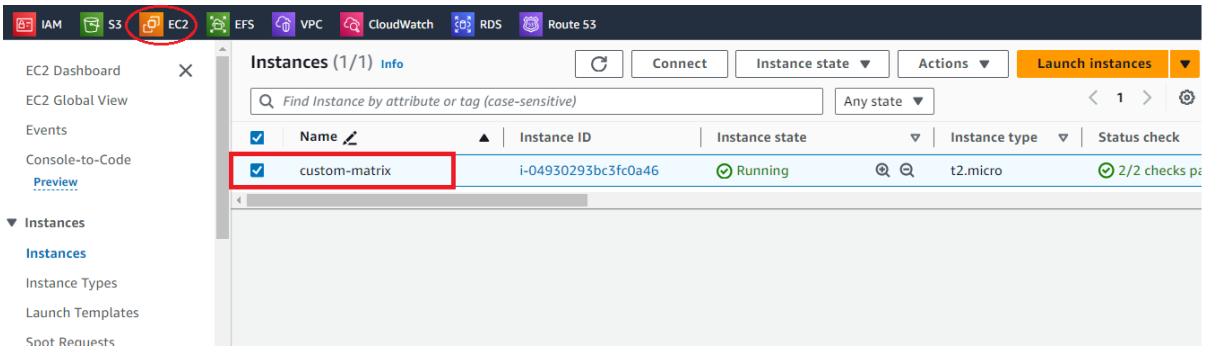
**#policy created successfully…..**

## 2. Create Ec2 Instance

Select Amazon AMI 2 machine for performing this practical because The monitoring scripts were tested on instances using the following systems……

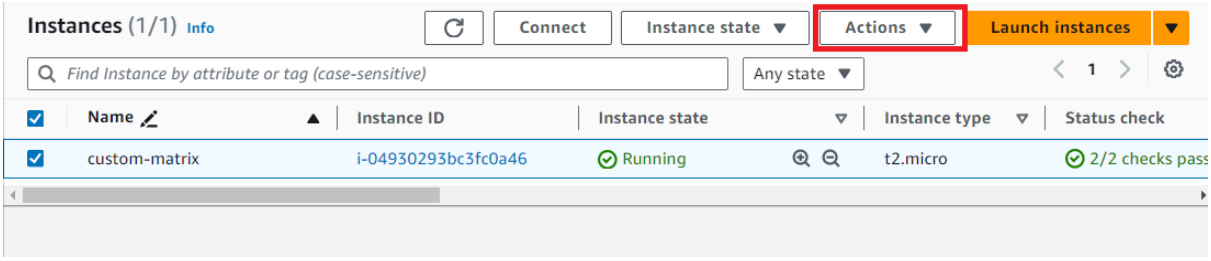
Amazon Linux 2
Amazon Linux AMI 2014.09.2 and later
Red Hat Enterprise Linux 6.9 and 7.4
SUSE Linux Enterprise Server 12
Ubuntu Server 14.04 and 16.04

- **Amazon Linux 2 Instance created successfully……**

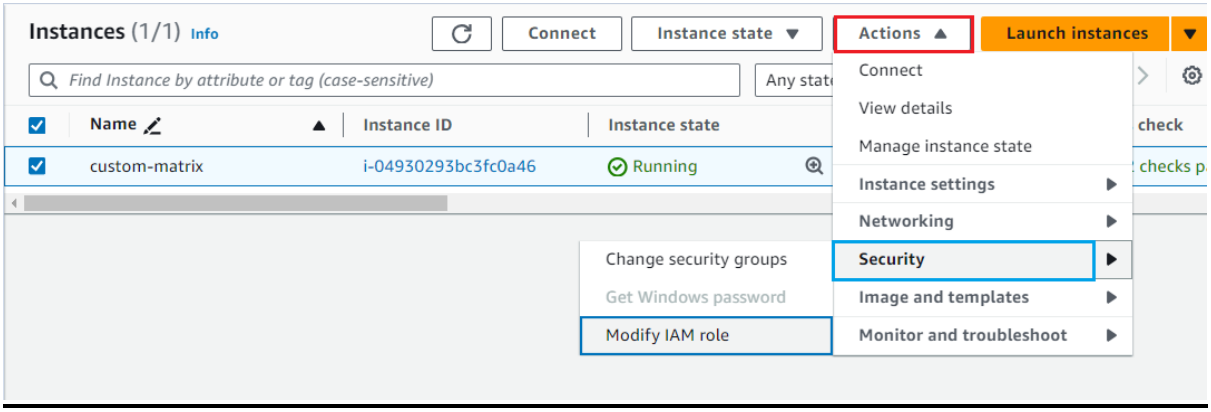


## 3. Assign role To Ec2 Instance

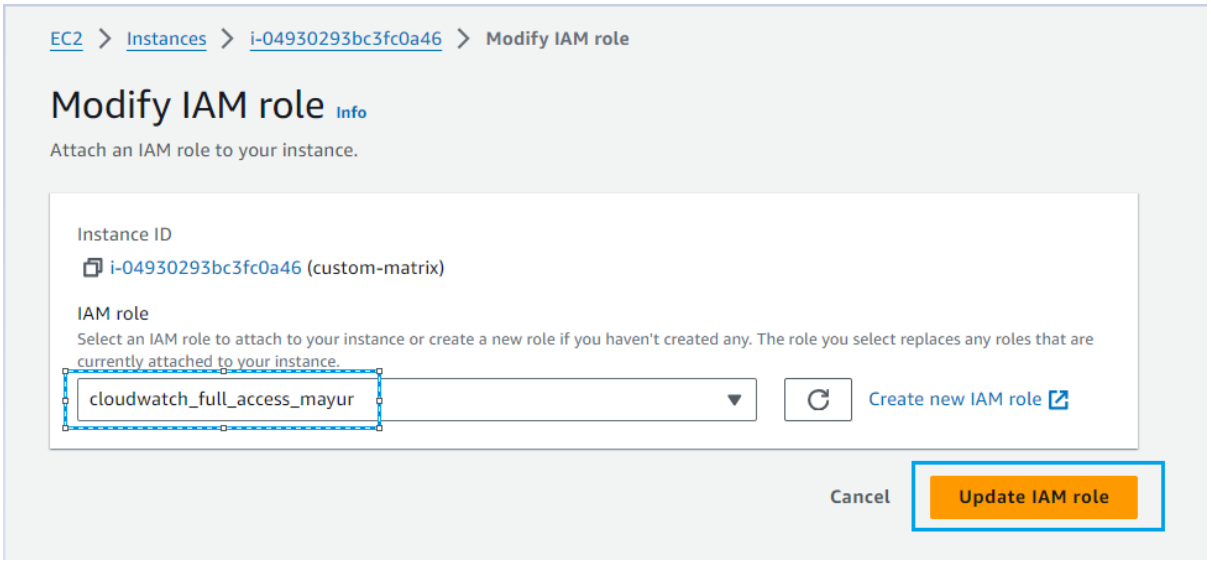
- Select the Created instance & click on Action option




- Under Security option Click on Modify IAM role




- Select The role And click on update IAM role



- **Role attached successfully…..**

  (Now we can able to perform all actions on Cloudwatch service using EC2 instance…)

## 4. Install required packages

{{ sudo  yum install -y perl-Switch perl-DateTime perl-Sys-Syslog perl-LWP-Protocol-https perl-Digest-SHA.x86_64 }}

## 5. Install monitoring scripts

**Run the following commands For installing the monitoring script**

curl https://aws-cloudwatch.s3.amazonaws.com/downloads/CloudWatchMonitoringScripts-1.2.2.zip –O

**Run the following commands to install the monitoring scripts you downloaded:**

unzip CloudWatchMonitoringScripts-1.2.2.zip && \

rm CloudWatchMonitoringScripts-1.2.2.zip && \

cd aws-scripts-mon

## 6. Run The script as per your Requirement

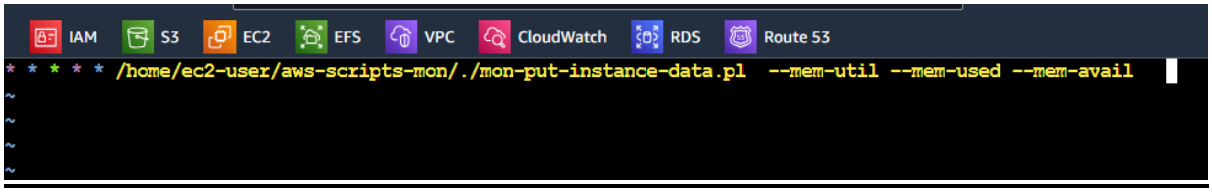
{{ ./mon-put-instance-data.pl  --mem-util --mem-used --mem-avail }}

(note: for every time we need to push the data from our instance to cloudwatch service. For avoiding this issue we use crontab tool for automation….*)*

## 7. Automation using Crontab

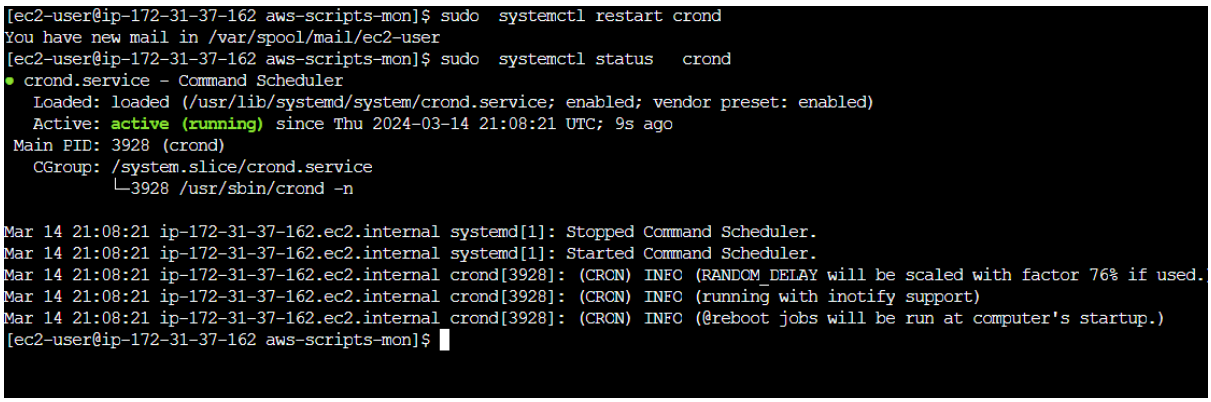
- Add this script in crontab using (Crontab –e )

* * * * * /home/ec2-user/aws-scripts-mon/./mon-put-instance-data.pl --mem-util --mem-used --mem-avail



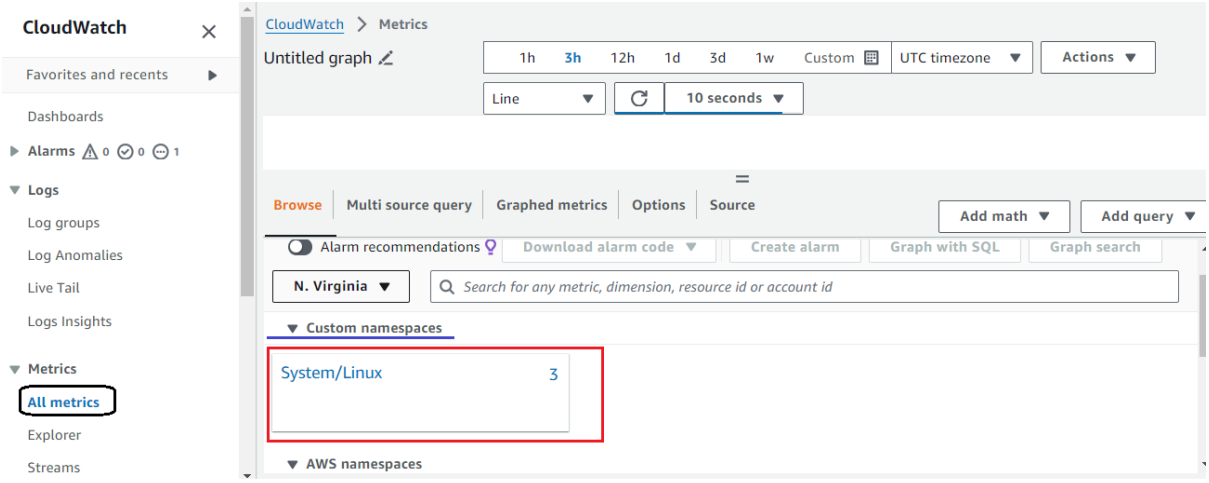

- Save & restart the **crond** service

sudo systemctl restart crond

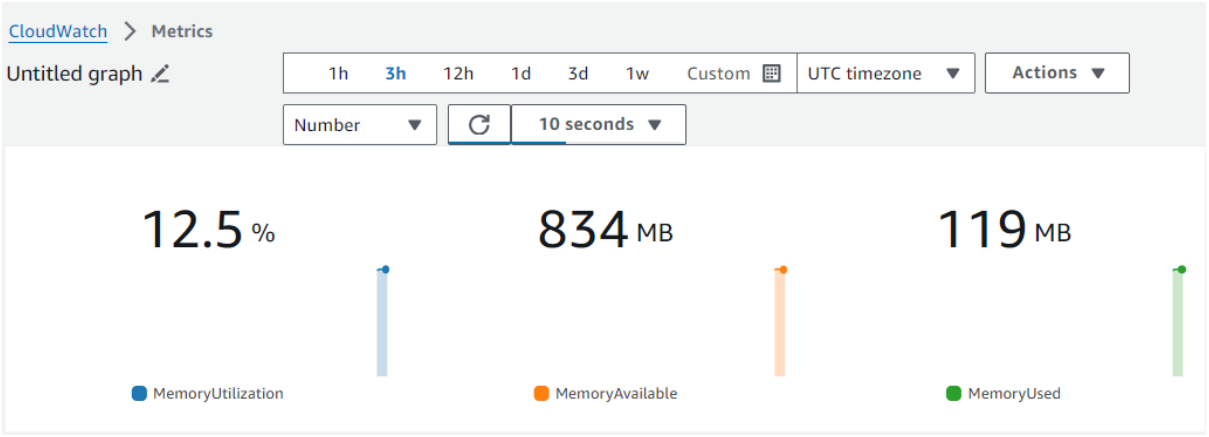


## 8. Result

- Successfully pushed the data from Ec2 instance to cloudwatch service….




- Result is shown in numbers



# CloudWatch Agent on Our servers

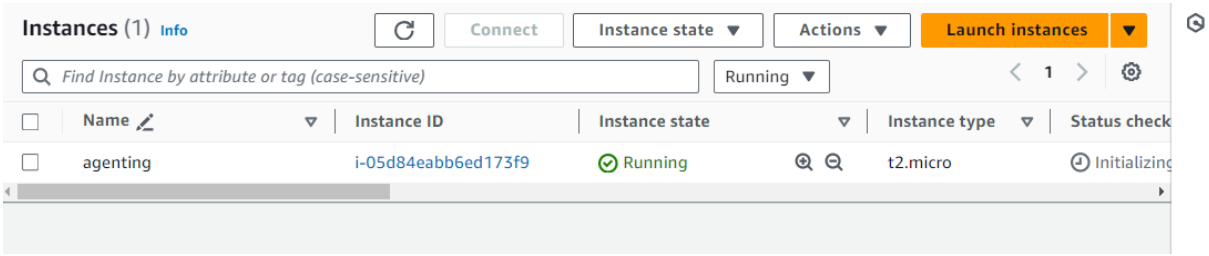
## **Configuring Cloudwatch agent on Ubuntu  operation system**

### 1. Launch  the Ubuntu  instance

While launching the instance add this user-data script or we can do after installing as well….
&& make sure to add http port (80) in security group

```
#!/bin/bash
sudo apt install apache2 -y
sudo systemctl  start apache2
sudo systemctl  enable  apache2
```

**Successfully launch the Ubuntu instance….**



## 2. Configuration on Ubuntu instance

- Downloading amazon cloudwatch agent

  sudo wget https://s3.amazonaws.com/amazoncloudwatch-agent/debian/amd64/latest/amazon-cloudwatch-agent.deb

- Install the agent

  sudo dpkg -i -E ./amazon-cloudwatch-agent.deb

- Start Configuring the agent

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

- Some important options we need to assign

  "default_user": "root"

  "file_path": "/var/log/apache2/access.log",

  "log_group_class": "STANDARD",

  "log_group_name": "demo-ec2-apache.logs",

  "log_stream_name": "apache.access.log",

  "retention_in_days": -1

- Result is stored here

  Go through all the steps in the wizard (The result is saved here: /opt/aws/amazon-cloudwatch-agent/bin/config.json)

- For checking configuration

  cat  /opt/aws/amazon-cloudwatch-agent/bin/config.jso

- Installing collectd

    - sudo apt-get update -y
    - sudo apt-get install collectd
    - 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
    - sudo /opt/aws/amazon-cloudwatch-agent/bin/amazon-cloudwatch-agent-ctl -a status ----------> to check status

## 3. Result

- After successfully completing the configuration we get the access.log file in Log Group section ….