

INSTALL CLOUDWATCH AGENT ON EC2 INSTANCE FOR CUSTOM LOGS

What is CloudWatch Agent?

A Software package, automatically and continuously collects metrics and logs from servers

Where you can install CloudWatch?

- Amazon EC2
- Hybrid Environment (including other Cloud Provider)
- On-premise VMs

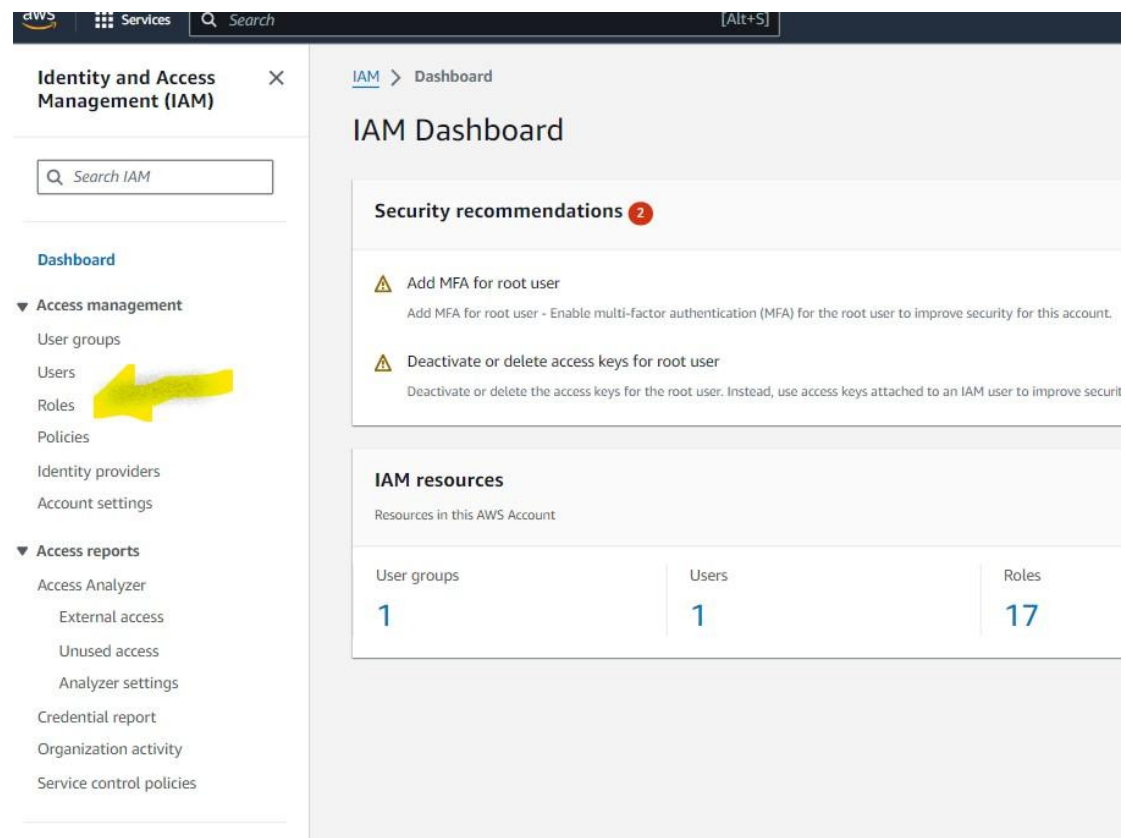
Use Cases

- ❖ Memory / Disk Space Related metrics
- ❖ Monitor Custom Log Locations
- ❖ Custom Metrics and Custom Namespaces
- ❖ Operating Systems (OS) and Application specific metrics and logs
- ❖ Collect Logs and metrics from Containerized applications and Microservices

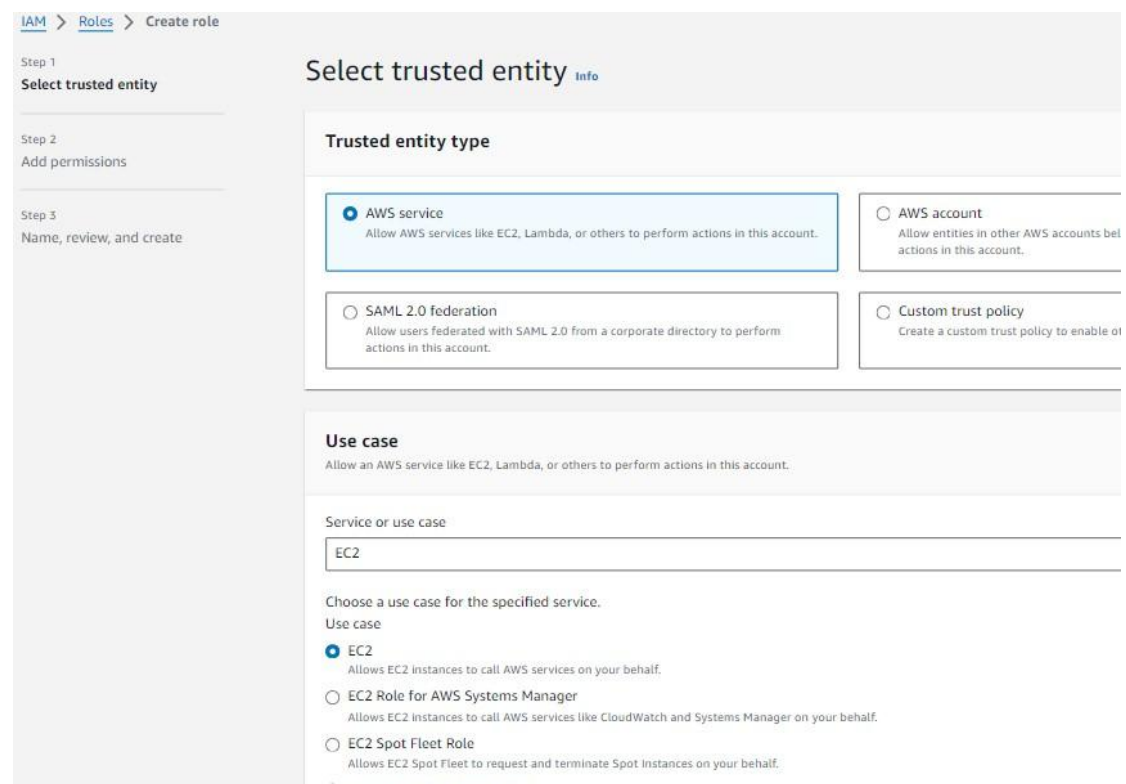
Prerequisites:

- ❖ Install CloudWatch Agent
- ❖ Privileges to communicate with CloudWatch Service
 - ❖ EC2 → IAM Instance Role
 - ❖ On-premises / Other Cloud → IAM Access key and Secret Access Key
- ❖ Security Outbound Rule Rules

STEP 1:- Creating Role for EC2 Instance.



The screenshot shows the AWS IAM Dashboard. The left sidebar contains the 'Identity and Access Management (IAM)' menu. The 'Roles' option is highlighted with a yellow arrow. The main content area displays the 'IAM Dashboard' with 'Security recommendations' (2 items) and 'IAM resources' (1 User group, 1 User, 17 Roles).



The screenshot shows the 'Create role' wizard in the AWS IAM console. The 'Trusted entity type' section shows 'AWS service' selected. The 'Use case' section shows 'EC2' selected.

Trusted entity type

- ☒ **AWS service**
Allow AWS services like EC2, Lambda, or others to perform actions in this account.
- ☐ **AWS account**
Allow entities in other AWS accounts to perform actions in this account.
- ☐ **SAML 2.0 federation**
Allow users federated with SAML 2.0 from a corporate directory to perform actions in this account.
- ☐ **Custom trust policy**
Create a custom trust policy to enable or restrict actions.





Use case
Allow an AWS service like EC2, Lambda, or others to perform actions in this account.

Service or use case
EC2

Choose a use case for the specified service.
Use case

- ☒ **EC2**
Allows EC2 instances to call AWS services on your behalf.
- ☐ **EC2 Role for AWS Systems Manager**
Allows EC2 instances to call AWS services like CloudWatch and Systems Manager on your behalf.
- ☐ **EC2 Spot Fleet Role**
Allows EC2 Spot Fleet to request and terminate Spot Instances on your behalf.
- ☐ **EC2 - Spot Fleet Auto Scaling**

<input type="checkbox"/>		CloudWatchActionsEC2Access	AWS managed
<input checked="" type="checkbox"/>		CloudWatchAgentAdminPolicy	AWS managed
<input type="checkbox"/>		CloudWatchAgentServerPolicy	AWS managed

<input type="checkbox"/>		AmazonSSMDirectoryServiceAccess
<input checked="" type="checkbox"/>		AmazonSSMFullAccess
<input type="checkbox"/>		AmazonSSMMaintenanceWindowRole
<input type="checkbox"/>		AmazonSSManagedEC2InstanceDefaultPolicy

STEP 2 :- Attach Role to Instance.

Instances (1/1) [Info](#)
Refresh
Connect
Instance state ▼
Actions ▲
Launch instance

All states ▼

<input checked="" type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status
<input checked="" type="checkbox"/>	Linux-Amazon	i-0a1cb90c4cd0e9e9a	Running	t2.micro	2/2 checks passed	View alarms

Change security groups
Get Windows password
Modify IAM role

Connect
View details
Manage instance state
Instance settings
Networking
Security
Image and templates
Monitor and troubleshoot

Modify IAM role [Info](#)

Attach an IAM role to your instance.

Instance ID

 i-0a1cb90c4cd0e9e9a (Linux-Amazon)

IAM role

Select an IAM role to attach to your instance or create a new role if you haven't created any. The role you select replaces any roles that are currently attached to your instance.

EC2_access



[Create new IAM role](#)

Cancel

Update IAM role

STEP 3 :- Take Access and Install

```
Using username "ec2-user".
Authenticating with public key "Meow"

#
~\#### Amazon Linux 2023
~~\#####\
~~\###|
~~\#/ https://aws.amazon.com/linux/amazon-linux-2023
~~V~'-'>
~~~
~~~
~~~
~~~
Last login: Mon Jul 22 07:33:12 2024 from 106.193.181.132
[ec2-user@ip-10-0-2-192 ~]$ yum install httpd -y
```

```
[root@ip-10-0-2-192 ec2-user]# echo "Hello, Mate" > /var/www/html/index.html
[root@ip-10-0-2-192 ec2-user]# cd /var/www/html
[root@ip-10-0-2-192 html]# ls
index.html
[root@ip-10-0-2-192 html]# systemctl start httpd
[root@ip-10-0-2-192 html]# systemctl enable httpd
Created symlink /etc/systemd/system/multi-user.target.wants/httpd.service → /usr
/lib/systemd/system/httpd.service.
[root@ip-10-0-2-192 html]#
```

```
yum install amazon-cloudwatch-agent
```

Selecting all the Default

```
[root@ip-10-0-2-192 html]# sudo yum install amazon-linux-extras
Last metadata expiration check: 1:02:24 ago on Mon Jul 22 07:16:16 2024.
No match for argument: amazon-linux-extras
Error: Unable to find a match: amazon-linux-extras
[root@ip-10-0-2-192 html]# sudo yum install collectd
Last metadata expiration check: 1:02:38 ago on Mon Jul 22 07:16:16 2024.
Package collectd-3.12.0-16.el8.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[root@ip-10-0-2-192 html]# /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 -
- changes may apply. -
-
On which OS are you planning to use the agent?
1. linux
2. windows
3. darwin
default choice: [1]:

Trying to fetch the default region based on ec2 metadata...
(!) awscli client will retry 1 times when you using EC2 or On-Premises hosts?
1. EC2
2. On-Premises
default choice: [1]:

Which user are you planning to run the agent?
1. ec2agent
2. root
3. ec2user
default choice: [1]:

Do you want to turn on StatsD daemon?
1. yes
2. no
default choice: [1]:

Which port do you want StatsD daemon to listen to?
default choice: [8125]
8125
What is the collect interval for StatsD daemon?
1. 10s
2. 30s
3. 60s
default choice: [1]:

What is the aggregation interval for metrics collected by StatsD daemon?
1. Do not aggregate
2. 10s
3. 30s
4. 60s
default choice: [4]:

Do you want to monitor metrics from CollectD? WARNING: CollectD must be installed on the Agent will fail to start
1. yes
2. no
default choice: [1]:

Do you want to monitor any host metrics? e.g. CPU, memory, etc.
1. yes
2. no
default choice: [1]:

Do you want to monitor cpu metrics per core?
1. yes
2. no
default choice: [1]:

Do you want to add ec2 dimensions (ImageId, InstanceId, InstanceType, AutoScalingGroup) into all of your metrics if the info is available?
1. yes
2. no
default choice: [1]:

Do you want to aggregate ec2 dimensions (InstanceId)?
1. yes
2. no
default choice: [1]:

Would you like to collect your metrics at high resolution (sub-minute resolution)? This enables sub-minute resolution for all metrics, but you can customize for specific metrics in the out
put json file.
1. 1s
2. 10s
3. 30s
4. 60s
default choice: [4]:

Which default metrics config do you want?
1. Basic
2. Standard
3. Advanced
4. None
default choice: [1]:

Current config as follows:
```

Commands

1. Install CloudWatch Agent -- `sudo yum install amazon-cloudwatch-agent`
2. Install Collectd -- `sudo amazon-linux-extras install collectd`
3. Configure CloudWatch Agent Config Wizard - `/opt/aws/amazon-cloudwatch-agent/bin/amazon-cloudwatch-agent-config-wizard`
4. Run CloudWatch Agent using the Agent Config file from SSM Parameter Store -- `/opt/aws/amazon-cloudwatch-agent/bin/amazon-cloudwatch-agent-ctl -a fetch-config -m ec2 -s -c ssm:AmazonCloudWatch-linux`

```
Program exits now.
[root@ip-10-0-2-192 html]# /opt/aws/amazon-cloudwatch-agent/bin/amazon-cloudwatch-agent-ctl -a fetch-config -m ec2 -s -c ssm:AmazonCloudWatch-linux
***** processing amazon-cloudwatch-agent *****
```

CUSTOM LOGS

The screenshot shows the AWS CloudWatch Metrics console. The left sidebar contains navigation links: CloudWatch, Favorites and recents, Dashboards, Alarms (2), Logs, Metrics (All metrics, Explorer, Streams), X-Ray traces, Events, Application Signals (New), Network monitoring, Insights, Settings, Getting Started, and What's new. The main panel is titled 'CloudWatch > Metrics' and shows an 'Untitled graph' with a time range of 1h, 3h, 12h, and 1d. The graph area is empty, displaying a placeholder: 'Your CloudWatch Select some metrics'. Below the graph, there are tabs: Browse, Multi source query, Graphed metrics, Options, and Source. The 'Browse' tab is active, showing a search bar with the text 'N. Virginia' and a search prompt 'Search for any metric, dimension, resource id or account id'. Below the search bar, there are two sections: 'Custom namespaces' and 'AWS namespaces'. The 'Custom namespaces' section shows a result for 'CWAgent' with a count of 11. The 'AWS namespaces' section shows results for 'DynamoDB' (12) and 'EBS' (27). A yellow circle highlights the 'CWAgent' result in the 'Custom namespaces' section.

CloudWatch > Metrics

Untitled graph

1h 3h 12h 1d

Your CloudWatch Select some metrics

Browse Multi source query Graphed metrics Options Source

N. Virginia

Search for any metric, dimension, resource id or account id

Custom namespaces

CWAgent 11

AWS namespaces

DynamoDB 12 View automatic dashboard

EBS 27 View automatic dashboard