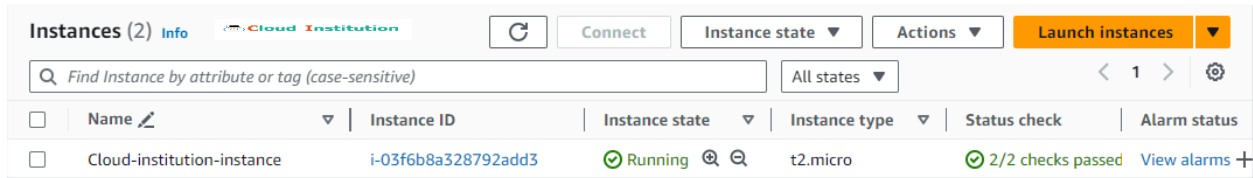


STOP EC2 INSTANCE USING LAMBDA CLOUDWATCH

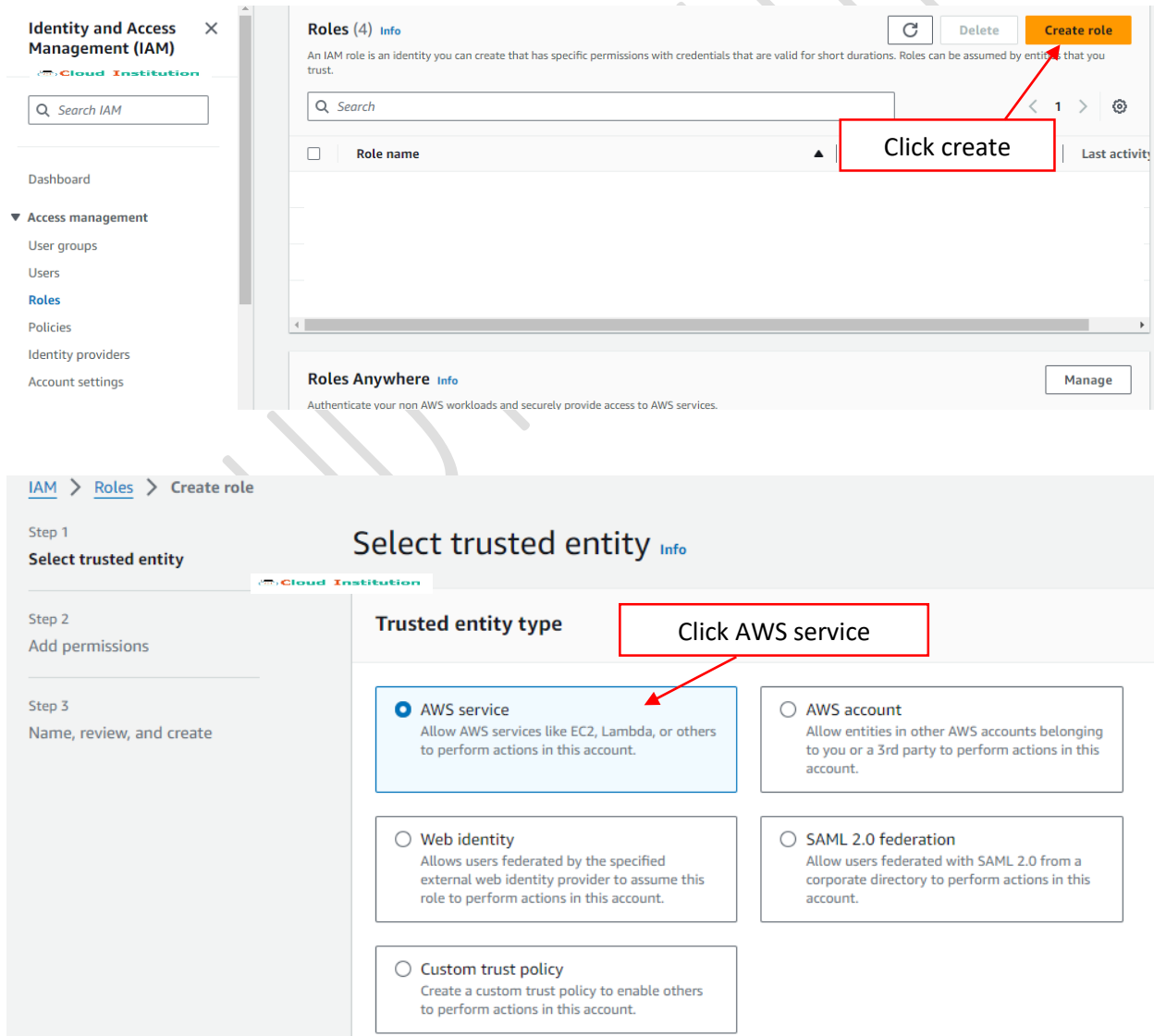
Step 1 : Create a EC2 instance



The screenshot shows the AWS Management Console 'Instances' page. At the top, there are buttons for 'Connect', 'Instance state', 'Actions', and 'Launch instances'. A search bar is present with the text 'Find Instance by attribute or tag (case-sensitive)'. Below the search bar is a table with columns: Name, Instance ID, Instance state, Instance type, Status check, and Alarm status. One instance is listed: 'Cloud-institution-instance' with ID 'i-03f6b8a328792add3', state 'Running', type 't2.micro', and status '2/2 checks passed'.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status
Cloud-institution-instance	i-03f6b8a328792add3	Running	t2.micro	2/2 checks passed	View alarms

Step 2 : Create a IAM Role



The screenshot shows the AWS IAM console 'Create role' page. The left sidebar shows the 'Identity and Access Management (IAM)' menu with options like Dashboard, Access management, User groups, Users, Roles, Policies, Identity providers, and Account settings. The main content area shows the 'Roles (4)' section with a 'Create role' button. A red box highlights the 'Create role' button with the text 'Click create'. Below this, the 'Select trusted entity' page is shown. The 'Trusted entity type' section has five options: 'AWS service' (selected), 'AWS account', 'Web identity', 'SAML 2.0 federation', and 'Custom trust policy'. A red box highlights the 'AWS service' option with the text 'Click AWS service'.

Identity and Access Management (IAM)

Search IAM

Dashboard

Access management

- User groups
- Users
- Roles**
- Policies
- Identity providers
- Account settings

Roles (4)

An IAM role is an identity you can create that has specific permissions with credentials that are valid for short durations. Roles can be assumed by entities that you trust.

Search

Role name

Create role

Click create

Roles Anywhere

Authenticate your non AWS workloads and securely provide access to AWS services.

Manage

IAM > Roles > Create role

Step 1
Select trusted entity

Step 2
Add permissions


Step 3
Name, review, and create

Select trusted entity

Trusted entity type

Click AWS service

- ☒ **AWS service**
Allow AWS services like EC2, Lambda, or others to perform actions in this account.
- ☐ **AWS account**
Allow entities in other AWS accounts belonging to you or a 3rd party to perform actions in this account.
- ☐ **Web identity**
Allows users federated by the specified external web identity provider to assume this role 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 others to perform actions in this account.

Use case 

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

Service or use case

Lambda


Choose a use case for the specified service.

Use case

☒ Lambda
Allows Lambda functions to call AWS services on your behalf.

Cancel Next

IAM > Roles > Create role

Step 1 
[Select trusted entity](#)

Step 2
Add permissions

Step 3
Name, review, and create

Add permissions [Info](#)

Choose one or more policies to attach to your new role.

Permissions policies (1/924) [Info](#)


ec2fullaccess 1 match

Policy name	Type	Description
<input checked="" type="checkbox"/> AmazonEC2FullAccess	AWS managed	Provides full access to...

Set permissions boundary - optional

Cancel Previous Next

IAM > Roles > Create role

Step 1 
[Select trusted entity](#)

Step 2
[Add permissions](#)

Step 3
Name, review, and create

Role details

Role name
Enter a meaningful name to identify this role.


Role-cloud-institute

Maximum 64 characters. Use alphanumeric and '+', '@', '-' characters.

Description
Add a short explanation for this role.

Allows Lambda functions to call AWS services on your behalf.

Maximum 1000 characters. Use letters (A-Z and a-z), numbers (0-9), tabs, new lines, or any of the following characters: _+=,.,@-/\[\]!#\$%^&*{}~<>`

Add tags - optional [Info](#)
Tags are key-value pairs that you can add to AWS resources to help identify, organize, or search for resources.


No tags associated with the resource.

Add new tag

You can add up to 50 more tags.

Click create


Cancel

Previous

Create role

Role Created


Role Role-cloud-institute created. [View role](#) ×

**Roles (5)** [Info](#) ↻ Delete Create role

An IAM role is an identity you can create that has specific permissions with credentials that are valid for short durations. Roles can be assumed by entities that you trust.

<input type="checkbox"/>	Role name	Trusted entities	Last activity
<input type="checkbox"/>	Role-cloud-institute	AWS Service: lambda	-

Step 3 : Create a Lambda Function

**Compute**

AWS Lambda
lets you run code without thinking about servers.
You pay only for the compute time that you consume — there is no charge when your code is not running. With Lambda, you can run code for virtually any type of application or backend service, all with zero administration.

Click create

Get started
Author a Lambda function from scratch, or choose from one of many preconfigured examples.
[Create a function](#)

Lambda > Functions > Create function

Create function Info

Choose one of the following options to create your function.

☒ **Author from scratch**
Start with a simple Hello World example.

☐ **Use a blueprint**
Build a Lambda application from sample code and configuration presets for common use cases.

☐ **Container image**
Select a container image to deploy for your function.

Basic information

Function name
Enter a name that describes the purpose of your function.

Function-Cloud-institute

Use only letters, numbers, hyphens, or underscores with no spaces.

Runtime Info
Choose the language to use to write your function. Note that the console code editor supports only Node.js, Python, and Ruby.

Python 3.12

Architecture Info
Choose the instruction set architecture you want for your function code.

☒ x86_64

☐ arm64

Permissions Info
By default, Lambda will create an execution role with permissions to upload logs to Amazon CloudWatch Logs. You can customize this default role later when adding triggers.

▼ **Change default execution role**

Execution role
Choose a role that defines the permissions of your function. To create a custom role, go to the [IAM console](#).

☐ Create a new role with basic Lambda permissions

☒ Use an existing role

☐ Create a new role from AWS policy templates

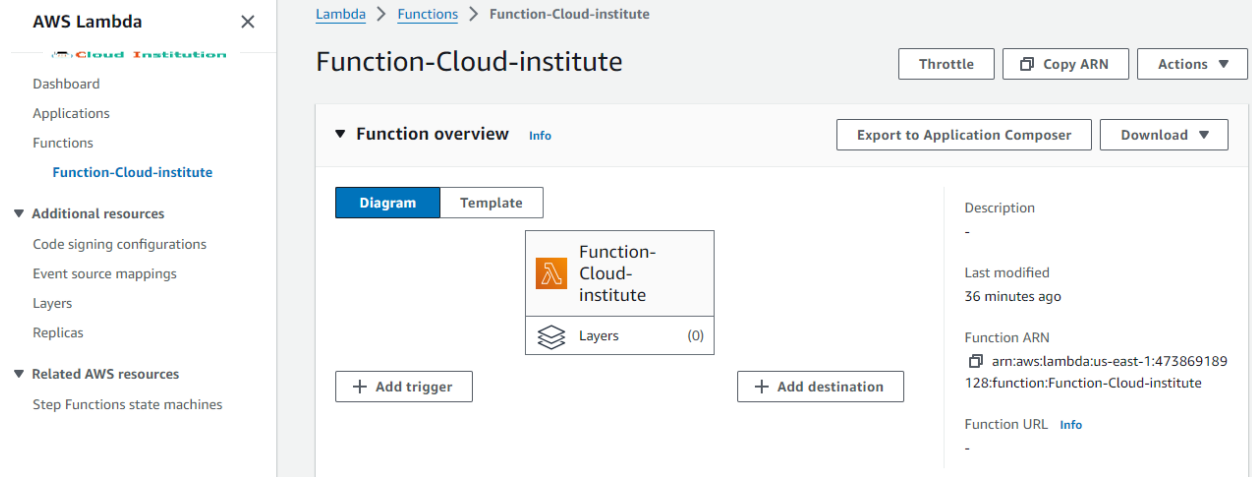
Existing role
Choose an existing role that you've created to be used with this Lambda function. The role must have permission to upload logs to Amazon CloudWatch Logs.

Role-cloud-institute

Advanced settings

Cancel Create function

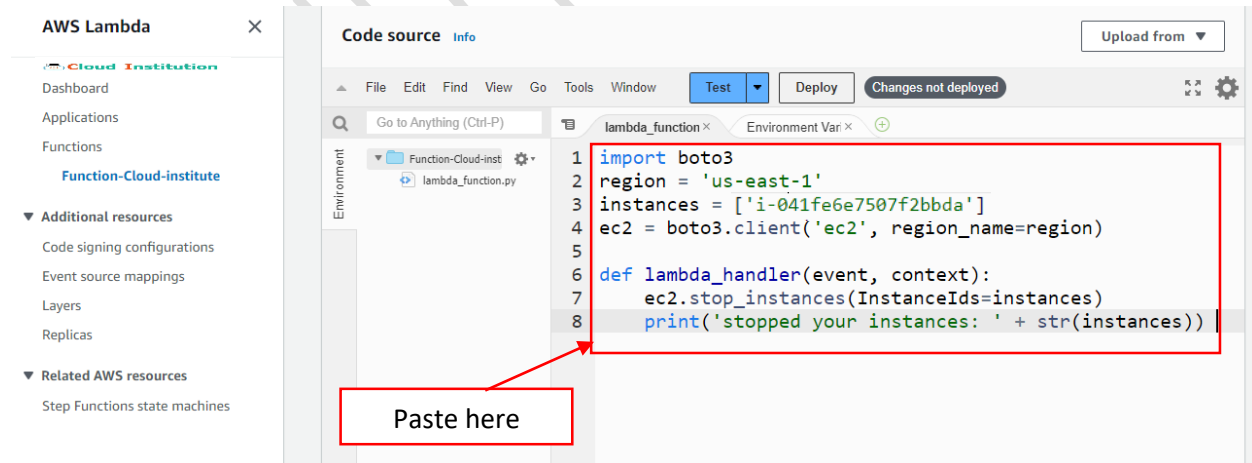
Function created



The screenshot shows the AWS Lambda console for a function named 'Function-Cloud-institute'. The left sidebar shows the 'Functions' section. The main area displays the 'Function overview' with tabs for 'Diagram' and 'Template'. The 'Diagram' tab shows a visual representation of the function with a box labeled 'Function-Cloud-institute' and 'Layers (0)'. There are buttons for '+ Add trigger' and '+ Add destination'. On the right, the 'Info' tab shows details: Description, Last modified (36 minutes ago), Function ARN (arn:aws:lambda:us-east-1:473869189:128:function:Function-Cloud-institute), and Function URL.

Step 4 : Copy the code

```
import boto3
region = 'us-west-1'
instances = ['i-12345cb6de4f78g9h', 'i-08ce9b2d7eccf6d26']
ec2 = boto3.client('ec2', region_name=region)
def lambda_handler(event, context):
    ec2.stop_instances(InstanceIds=instances)
    print('stopped your instances: ' + str(instances))
```



The screenshot shows the 'Code source' tab for the 'Function-Cloud-institute' function. The code editor displays the same Python code as in the previous block. A red box highlights the code, and a red arrow points to a 'Paste here' box below it. The 'Test' and 'Deploy' buttons are visible at the top of the code editor.

AWS Lambda X

Cloud Institution

Dashboard

Applications

Functions

Function-Cloud-institute

▼ Additional resources

Code signing configurations

Event source mappings

Layers

Replicas

▼ Related AWS resources

Step Functions state machines

Code source Info

File Edit Find View Go Tools Window Test Deploy Cha

Go to Anything (Ctrl-P)

Environment

Function-Cloud-inst

lambda_function.py

```
1 import boto3
2 region = 'us-east-1'
3 instances = ['i-041fe6e7507f2bbda']
4 ec2 = boto3.client('ec2', region_name=region)
5
6 def lambda_handler(event, context):
7     ec2.stop_instances(InstanceIds=instances)
8     print('stopped your instances: ' + str(instances))
```

Enter the region where you have created the instance

Enter the created instance ID

Code **Test** Monitor Configuration Aliases Versions

Test event Info

Save Test

To invoke your function without saving an event, configure the JSON event, then choose Test.

Test event action

Create new event Edit saved event

Click create

Event name

EC2stop-cloud-institute

Maximum of 25 characters consisting of letters, numbers, dots, hyphens and underscores.

Event sharing settings

Private

Give an event name

This event is only available in the Lambda console and to the event creator. You can configure a total of 10. [Learn more](#)

Shareable

This event is available to IAM users within the same account who have permissions to access and use shareable events. [Learn more](#)

[Code](#) | [Test](#) | [Monitor](#) | [Configuration](#) | [Aliases](#) | [Versions](#)

Test event [Info](#)

Save

Test

To invoke your function without saving an event, configure the JSON event, then choose Test

Test event action

☒ Create new event

☐ Edit saved event

Event name

EC2stop-cloud-institute

Maximum of 25 characters consisting of letters, numbers, dots, hyphens and underscores.

Event sharing settings

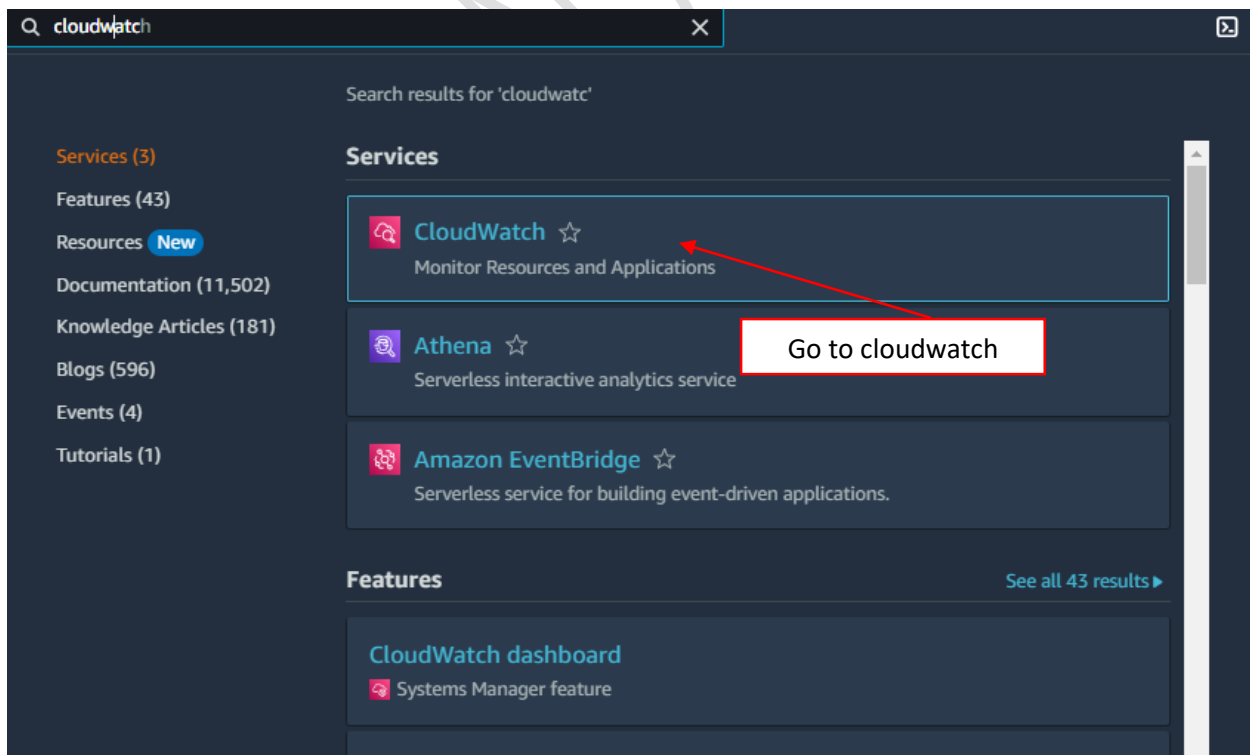
☒ Private

This event is only available in the Lambda console and to the event creator. You can configure a total of 10. [Learn more](#)

☐ Shareable

This event is available to IAM users within the same account who have permissions to access and use shareable events. [Learn more](#)

Step 5 : Go to Cloudwatch



CloudWatch X

Favorites and recents ▶

Dashboards

▶ Alarms 0 0 0 0

▶ Logs

▶ Metrics

▶ X-Ray traces

▼ Events

Rules

Event Buses

CloudWatch

Overview info

1h 3h 12h 1d 1w Custom info

Overview Filter by resource group info

Click rules

Set alarms on any of your metrics to receive notification when your metric crosses your specified threshold. [Create alarms](#)

Create and name any CloudWatch dashboard **CloudWatch-Default** to display it here. [Create a default dashboard](#)

Monitor using your existing system, application and custom log files. [View logs](#)

▼ Developer resources

Learn **New**

Sandbox

Quick starts

▼ Buses

Event buses

Rules

Global endpoints

Archives

Replays

▼ Pipes

Pipes

▼ Scheduler

Schedules

Schedule groups

Select event bus

Event bus

Select or enter event bus name

default

Rules (0) [Refresh](#) [Delete](#) [Enable](#) [Edit](#) CloudFormation Template [Create rule](#)

Any status

Name	Status	Type	ARN	Description
No rules No rules to display. Create rule				

Click create

Name

Rule-cloud-institute

Maximum of 64 characters consisting of numbers, lower/upper case letters, -, _, .

Description - optional

Enter description

Give a name

Event bus [Info](#)

Select the event bus this rule applies to, either the default event bus or a custom or partner event bus.

default

☒ Enable the rule on the selected event bus

Click schedule

Rule type [Info](#)

☐ Rule with an event pattern
A rule that runs when an event matches the defined event pattern. EventBridge sends the event to the specified target.

☒ Schedule
A rule that runs on a schedule

EventBridge Scheduler - A new AWS scheduling capability! [New](#)

A new EventBridge scheduling functionality that provides one-time and recurring scheduling functionality independent of Event buses and rules. You can create a schedule to invoke targets such as a Lambda function.

[Learn More](#)

Click here

Continue to create rule

Cancel

Continue in EventBridge Scheduler

Schedule pattern

Schedule pattern

Choose the schedule type that best meets your needs.

- ☒ A fine-grained schedule that runs at a specific time, such as 8:00 a.m. PST on the first Monday of every month.

Select fine-grained

- ☐ A schedule that runs at a regular rate, such as every 10 minutes.

Cron expression [Info](#)

Define the cron expression for the schedule

 cron ()

Minutes Hours Day of month Month Day of week Year

Next 10 trigger date(s)

Local time zone ▼

Thu, May 9, 2024, 11:05 AM GMT+5:30
Fri, May 10, 2024, 11:05 AM GMT+5:30
Sat, May 11, 2024, 11:05 AM GMT+5:30
Sun, May 12, 2024, 11:05 AM GMT+5:30
Mon, May 13, 2024, 11:05 AM GMT+5:30
Tue, May 14, 2024, 11:05 AM GMT+5:30
Wed, May 15, 2024, 11:05 AM GMT+5:30
Thu, May 16, 2024, 11:05 AM GMT+5:30
Fri, May 17, 2024, 11:05 AM GMT+5:30
Sat, May 18, 2024, 11:05 AM GMT+5:30

Mention the cron expression at what time you need to stop the instance and click next

Cancel

Previous

Next

Target 1

Select AWS service

Target types
Select an EventBridge event bus, EventBridge API destination (SaaS partner), or another AWS service as a target.
☐ EventBridge event bus
☐ EventBridge API destination
☒ AWS service

Select a target [Info](#)
Select target(s) to invoke when an event matches your event pattern or when schedule is triggered (limit of 5 targets per rule)
Lambda function

Function
Function-cloud-institute

▶ Configure version/alias

Select the function and click next

▶ Additional settings

Add another target

Cancel

Skip to Review and update

Previous

Next

Amazon EventBridge > Rules > Create rule

Step 1
[Define rule detail](#)

Step 2
[Define schedule](#)

Step 3
[Select target\(s\)](#)

Step 4 - optional
Configure tags

Step 5
Review and create

Configure tags - optional [Info](#)

Tags
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

No tags associated with the resource.

Add new tag

You can add 50 more tags


Click next

Cancel

Previous

Next

Targets

Details	Target Name	Type	Arn	Input	Role
▼	Function-cloud-institute 🔗	Lambda function	 arn:aws:lambda:us-east-1:473869189128:function:Function-cloud-institute	Matched event	-

Input to target: Matched event

Additional parameters: --

Dead-letter queue (DLQ): -

Step 4: Configure tag(s) Edit

Tags (0)

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key	Value
No tags associated with this resource.	

Click create

Cancel Previous Create rule

Rules (1) Refresh Delete Enable Edit CloudFormation Template Create rule

Rule created

<input type="checkbox"/>	Name	Status	Type	ARN	Description
<input type="checkbox"/>	CW-Rule-cloud-institute	Enabled	Scheduled Standard	arn:aws:events:us-east-1:473869189128:rule/CW-Rule-cloud-institute	-

Step 6:

Instances (3) Info Refresh Connect Instance state Actions Launch instances

All states

<input type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
<input type="checkbox"/>	Cloud-institution-instance	i-041fe6e7507f2bbda	Stopping	t2.micro	-	View alarms	us-east-1b

Select an instance

The instance is stopping by 11:05 AM

© 2024, Amazon Web Services, Inc. or its affiliates. [Privacy](#) [Terms](#) [Cookie preferences](#)

Air: Moderate 11:05 AM 5/9/2024