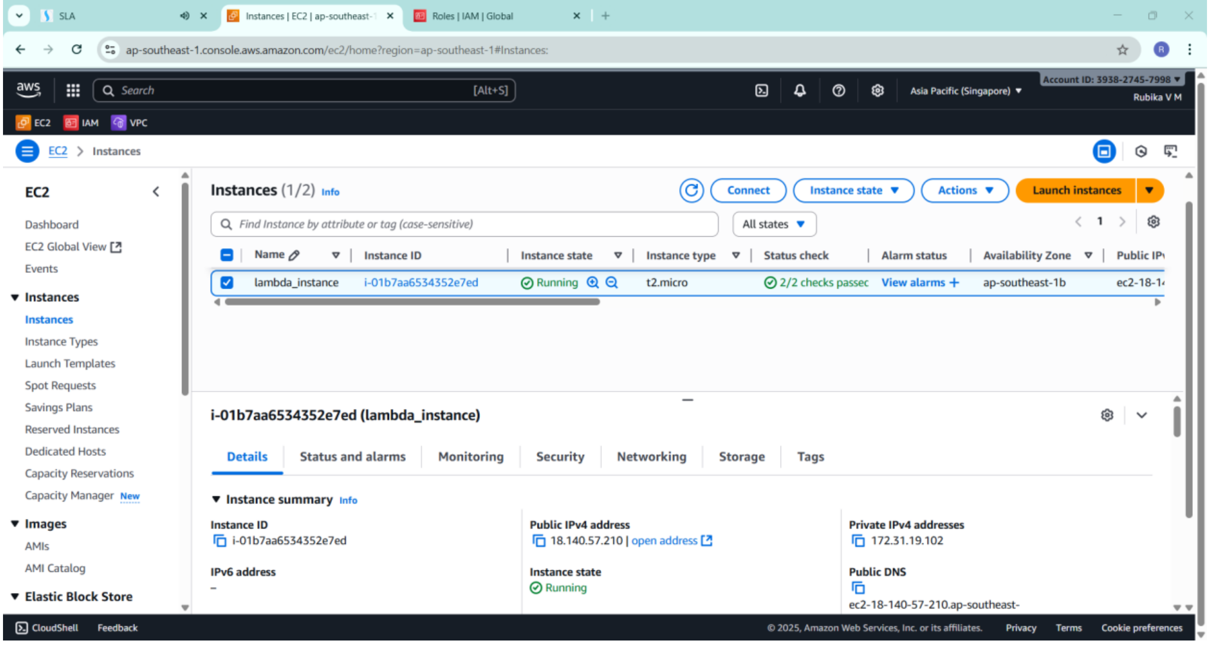
TASK – 14

Lambda

- AWS Lambda is a serverless compute service offered by Amazon Web Services (AWS) that allows users to run code without provisioning or managing servers.
- It operates on an event-driven, pay-as-you-go model.

Creation of instance and delete it making a copy through AMI



☑	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IP
☑	lambda_instance	i-01b7aa6534352e7ed	Running	t2.micro	2/2 checks passec	View alarms +	ap-southeast-1b	ec2-18-1

i-01b7aa6534352e7ed (lambda_instance)

Instance summary

Instance ID: i-01b7aa6534352e7ed

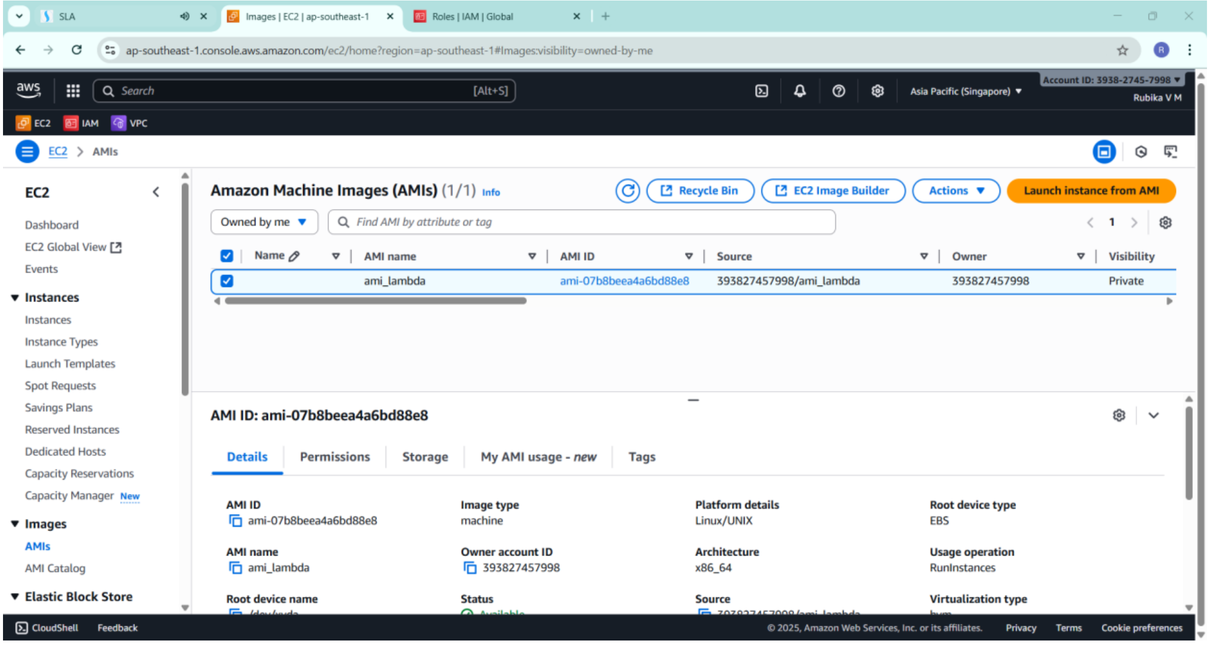
Public IPv4 address: 18.140.57.210 | open address

Private IPv4 addresses: 172.31.19.102

IPv6 address: –

Instance state: Running

Public DNS: ec2-18-140-57-210.ap-southeast-

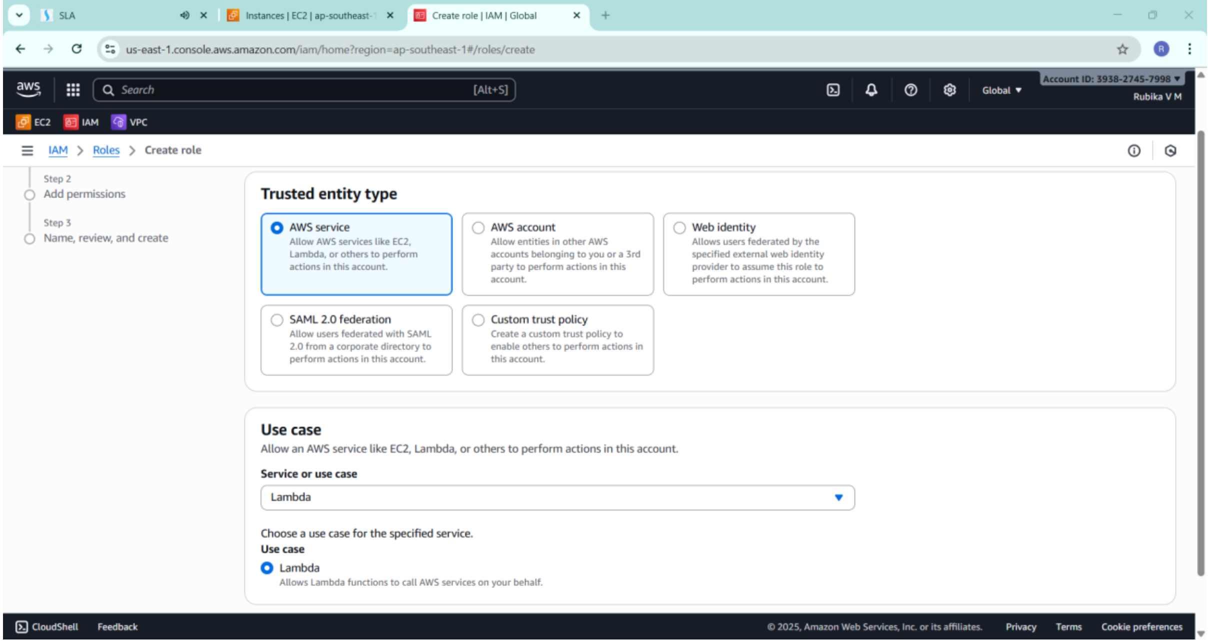


☑	Name	AMI name	AMI ID	Source	Owner	Visibility
☑		ami_lambda	ami-07b8beea4a6bd88e8	393827457998/ami_lambda	393827457998	Private

AMI ID: ami-07b8beea4a6bd88e8

AMI ID	Image type	Platform details	Root device type
ami-07b8beea4a6bd88e8	machine	Linux/UNIX	EBS
AMI name	**Owner account ID**	**Architecture**	**Usage operation**
ami_lambda	393827457998	x86_64	RunInstances
Root device name	**Status**	**Source**	**Virtualization type**
/dev/xvda	Available	393827457998/ami_lambda	hvm

Creation of IAM role


SLA
Instances | EC2 | ap-southeast-1
Create role | IAM | Global
us-east-1.console.aws.amazon.com/iam/home?region=ap-southeast-1#/roles/create
aws
Search
[Alt+S]
Global
Account ID: 3938-2745-7998
Rubika V M
EC2
IAM
VPC
IAM > Roles > Create role
CloudShell
Feedback
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Step 2
Add permissions

Step 3
Name, review, and create

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 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

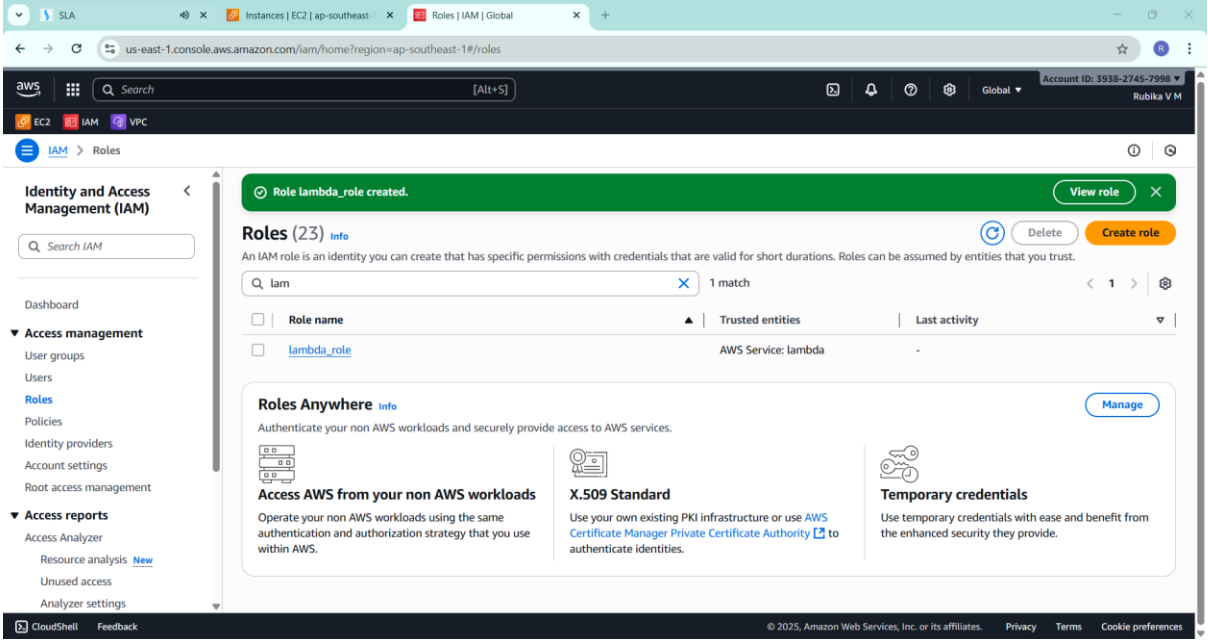
Allow an AWS service like EC2, Lambda, or others to perform actions in this account.

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.



Role lambda_role created.

Roles (23) Info

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.

lam — 1 match

□	Role name	Trusted entities	Last activity
□	lambda_role	AWS Service: lambda	-

Roles Anywhere Info

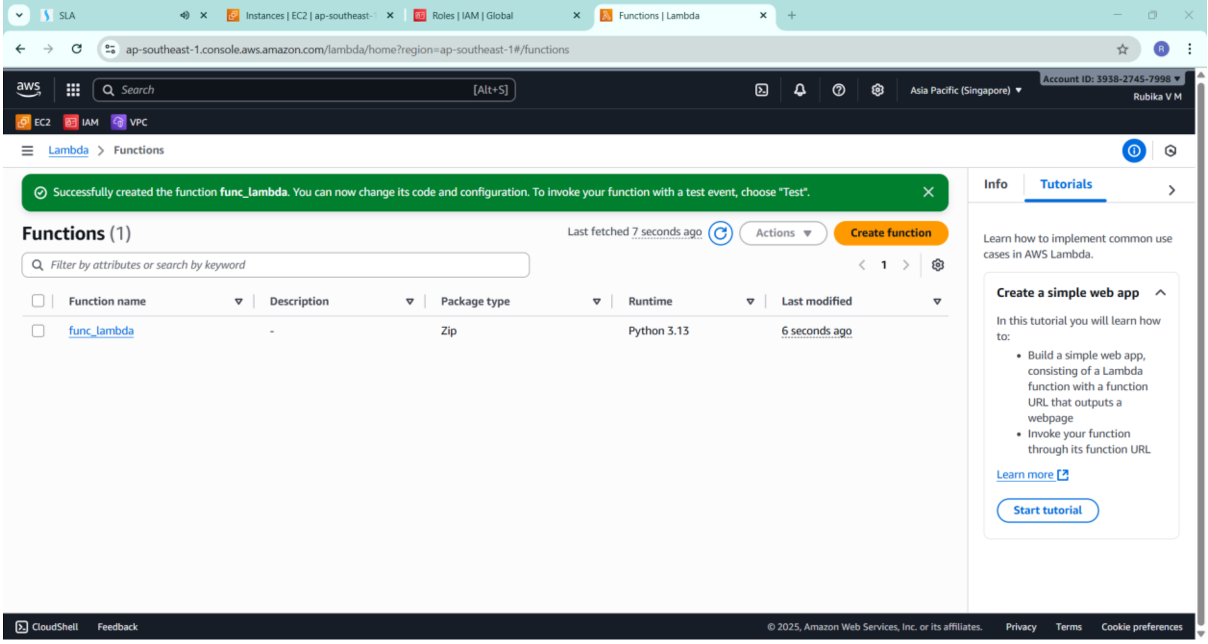
Authenticate your non AWS workloads and securely provide access to AWS services.

Access AWS from your non AWS workloads
Operate your non AWS workloads using the same authentication and authorization strategy that you use within AWS.

X.509 Standard
Use your own existing PKI infrastructure or use AWS Certificate Manager Private Certificate Authority to authenticate identities.

Temporary credentials
Use temporary credentials with ease and benefit from the enhanced security they provide.

Creation of Lambda function



Successfully created the function **func_lambda**. You can now change its code and configuration. To invoke your function with a test event, choose "Test".

Functions (1)

Last fetched 7 seconds ago

Filter by attributes or search by keyword

□	Function name	Description	Package type	Runtime	Last modified
□	func_lambda	-	Zip	Python 3.13	6 seconds ago

Learn how to implement common use cases in AWS Lambda.

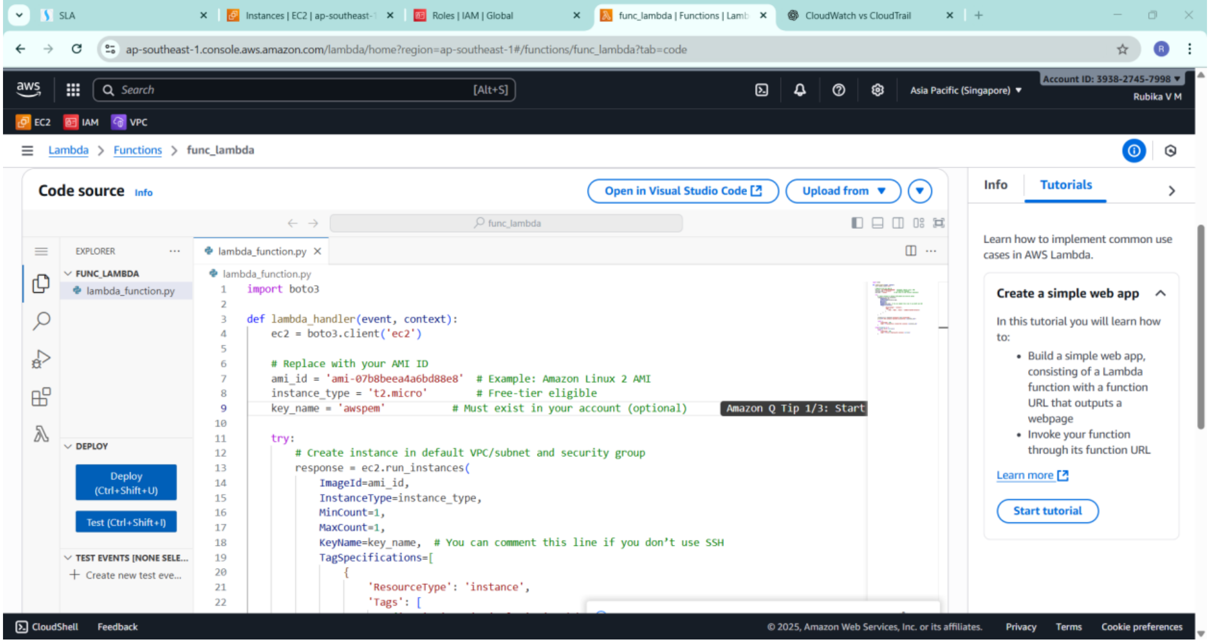
Create a simple web app

In this tutorial you will learn how to:

- Build a simple web app, consisting of a Lambda function with a function URL that outputs a webpage
- Invoke your function through its function URL

Learn more

Start tutorial



lambda_function.py

```python
import boto3

def lambda_handler(event, context):
    ec2 = boto3.client('ec2')

    # Replace with your AMI ID
    ami_id = 'ami-07b8beea4a6bd88e8'  # Example: Amazon Linux 2 AMI
    instance_type = 't2.micro'        # Free-tier eligible
    key_name = 'awspem'             # Must exist in your account (optional)

    try:
        # Create instance in default VPC/subnet and security group
        response = ec2.run_instances(
            ImageId=ami_id,
            InstanceType=instance_type,
            MinCount=1,
            MaxCount=1,
            KeyName=key_name,  # You can comment this line if you don't use SSH
            TagSpecifications=[
                {
                    'ResourceType': 'instance',
                    'Tags': [
```

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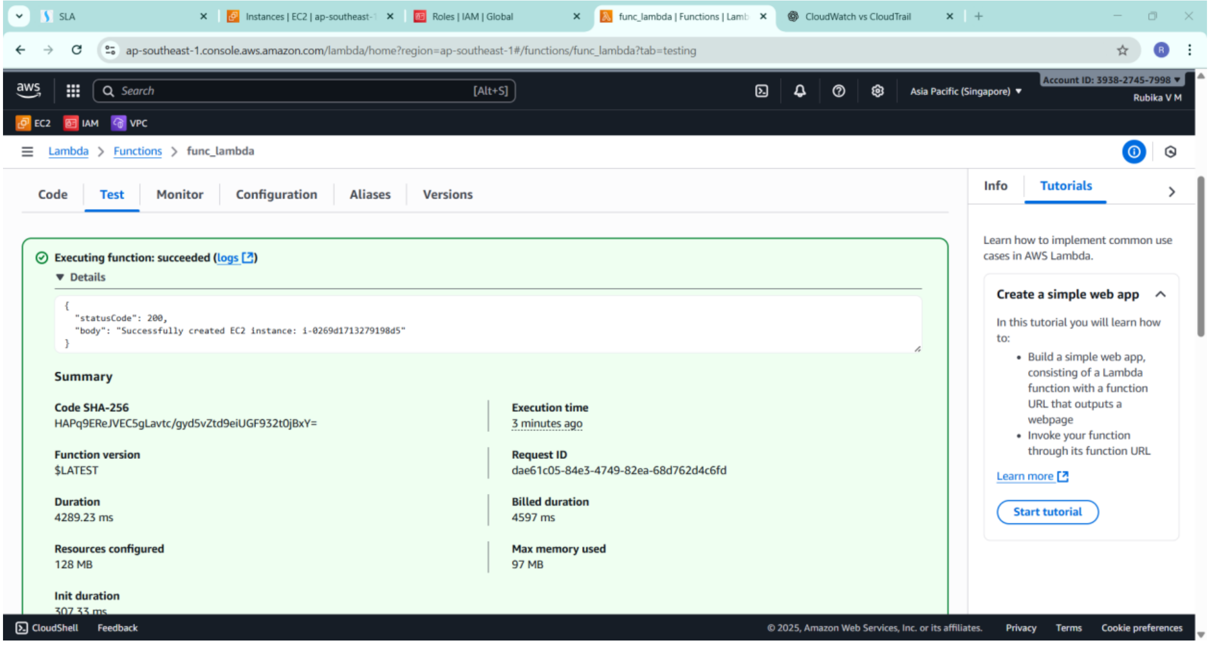


ap-southeast-1.console.aws.amazon.com/lambda/home?region=ap-southeast-1#/functions/func_lambda?tab=testing

Lambda > Functions > func_lambda

Executing function: succeeded (logs)

▼ Details

```
{
  "statusCode": 200,
  "body": "Successfully created EC2 instance: i-0269d1713279198d5"
}
```

Summary

Code SHA-256
HAPq9EReJVEC5gLavtc/gyd5vZtd9eiUGF932t0jBxY=

Execution time
3 minutes ago

Function version
$LATEST

Request ID
dae61c05-84e3-4749-82ea-68d762d4c6fd

Duration
4289.23 ms

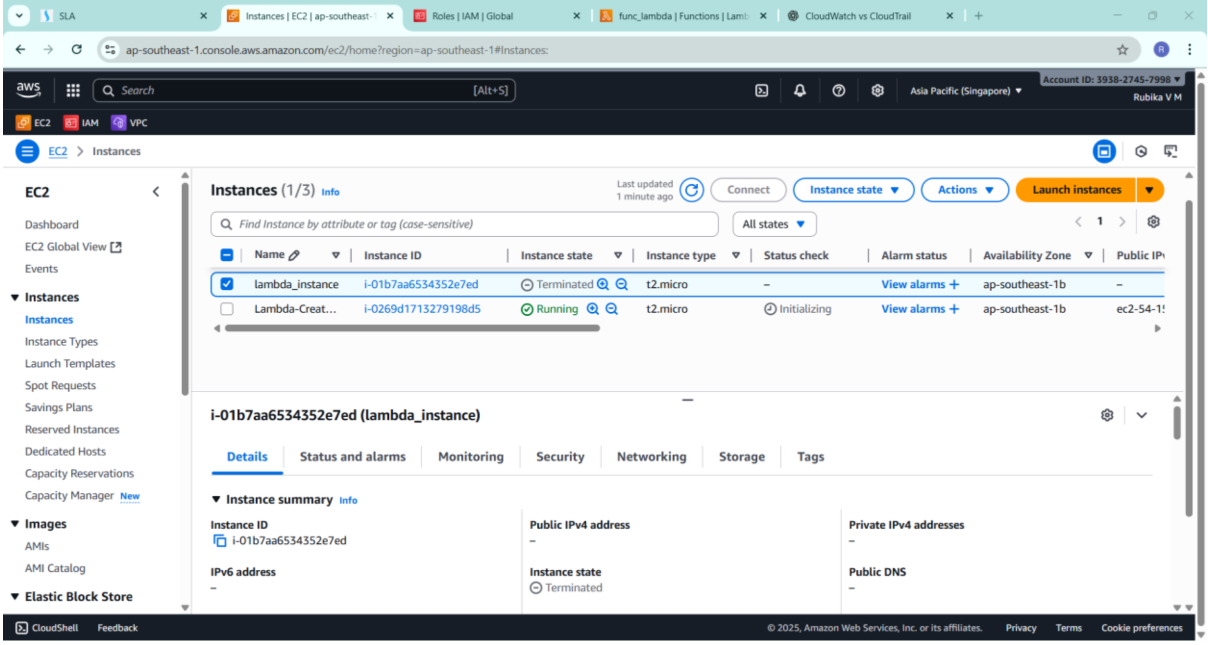
Billed duration
4597 ms

Resources configured
128 MB

Max memory used
97 MB

Init duration
307.33 ms

Code
Test
Monitor
Configuration
Aliases
Versions
Info
Tutorials
Learn how to implement common use cases in AWS Lambda.
Create a simple web app
In this tutorial you will learn how to:
Build a simple web app, consisting of a Lambda function with a function URL that outputs a webpage
Invoke your function through its function URL
Learn more
Start tutorial



ap-southeast-1.console.aws.amazon.com/ec2/home?region=ap-southeast-1#Instances:

EC2 > Instances

Instances (1/3)

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IP
☑	lambda_instance	i-01b7aa6534352e7ed	Terminated	t2.micro	–	View alarms +	ap-southeast-1b	–
□	Lambda-Creat...	i-0269d1713279198d5	Running	t2.micro	Initializing	View alarms +	ap-southeast-1b	ec2-54-1!

i-01b7aa6534352e7ed (lambda_instance)

▼ Instance summary

Instance ID
i-01b7aa6534352e7ed

Public IPv4 address
–

Private IPv4 addresses
–

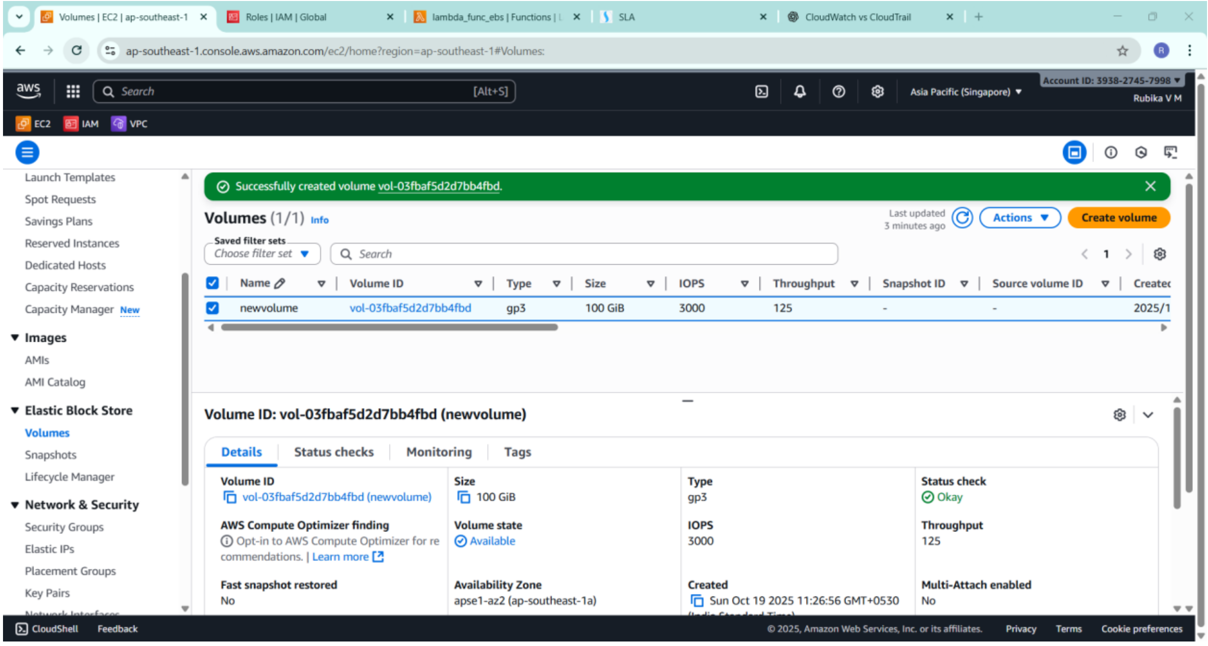
IPv6 address
–

Instance state
Terminated

Public DNS
–

Delete the unused EBS Volume through lambda

In AWS, EBS stands for Elastic Block Store, which is a service that provides persistent, block-level storage volumes for use with Amazon EC2 instances.



Successfully created volume vol-03fbaf5d2d7bb4fbd.

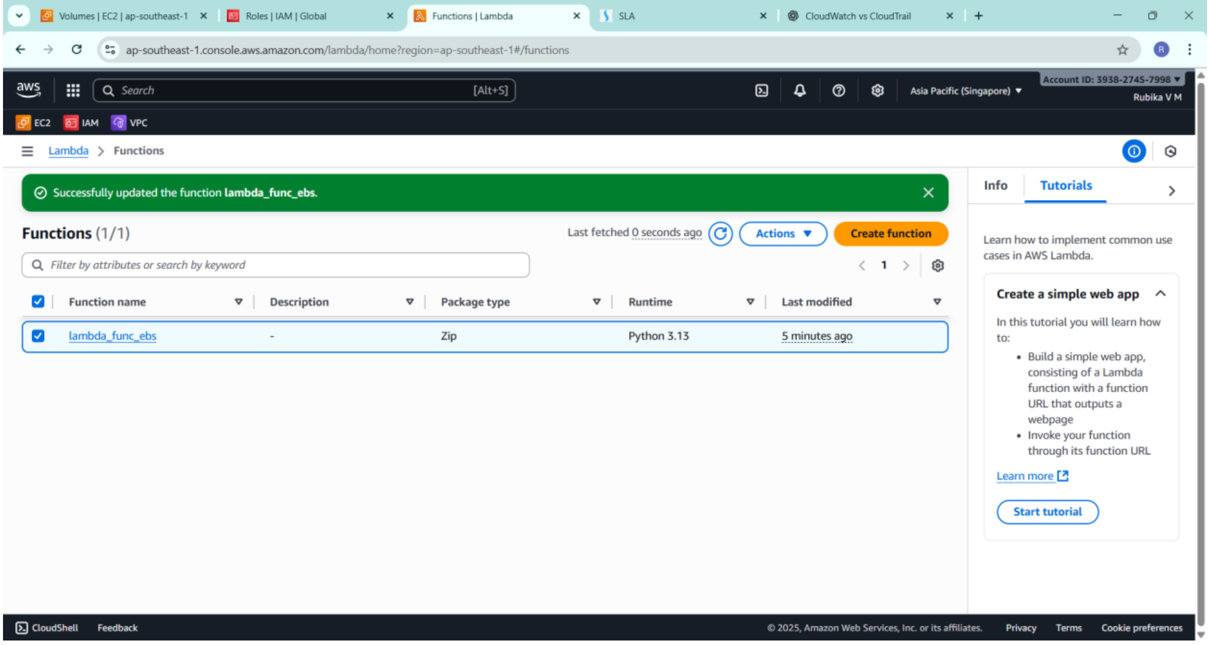
Volumes (1/1) Info

☑	Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot ID	Source volume ID	Createc
☑	newvolume	vol-03fbaf5d2d7bb4fbd	gp3	100 GiB	3000	125	-	-	2025/1

Volume ID: vol-03fbaf5d2d7bb4fbd (newvolume)

Details | Status checks | Monitoring | Tags

Volume ID vol-03fbaf5d2d7bb4fbd (newvolume)	**Size** 100 GiB	**Type** gp3	**Status check** ✓ Okay
AWS Compute Optimizer finding Opt-in to AWS Compute Optimizer for recommendations. | Learn more	**Volume state** Available	**IOPS** 3000	**Throughput** 125
Fast snapshot restored No	**Availability Zone** apse1-az2 (ap-southeast-1a)	**Created** Sun Oct 19 2025 11:26:56 GMT+0530	**Multi-Attach enabled** No



Volumes | EC2 | ap-southeast-1
Roles | IAM | Global
Functions | Lambda
SLA
CloudWatch vs CloudTrail
ap-southeast-1.console.aws.amazon.com/lambda/home?region=ap-southeast-1#/functions
Search [Alt+S]
Asia Pacific (Singapore)
Account ID: 3938-2745-7998
Rubika V M
EC2 IAM VPC
Lambda > Functions
Last fetched 0 seconds ago
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Create function
Filter by attributes or search by keyword
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Successfully updated the function **lambda_func_ebs**.

Functions (1/1)

☑	Function name	Description	Package type	Runtime	Last modified
☑	lambda_func_ebs	-	Zip	Python 3.13	5 minutes ago

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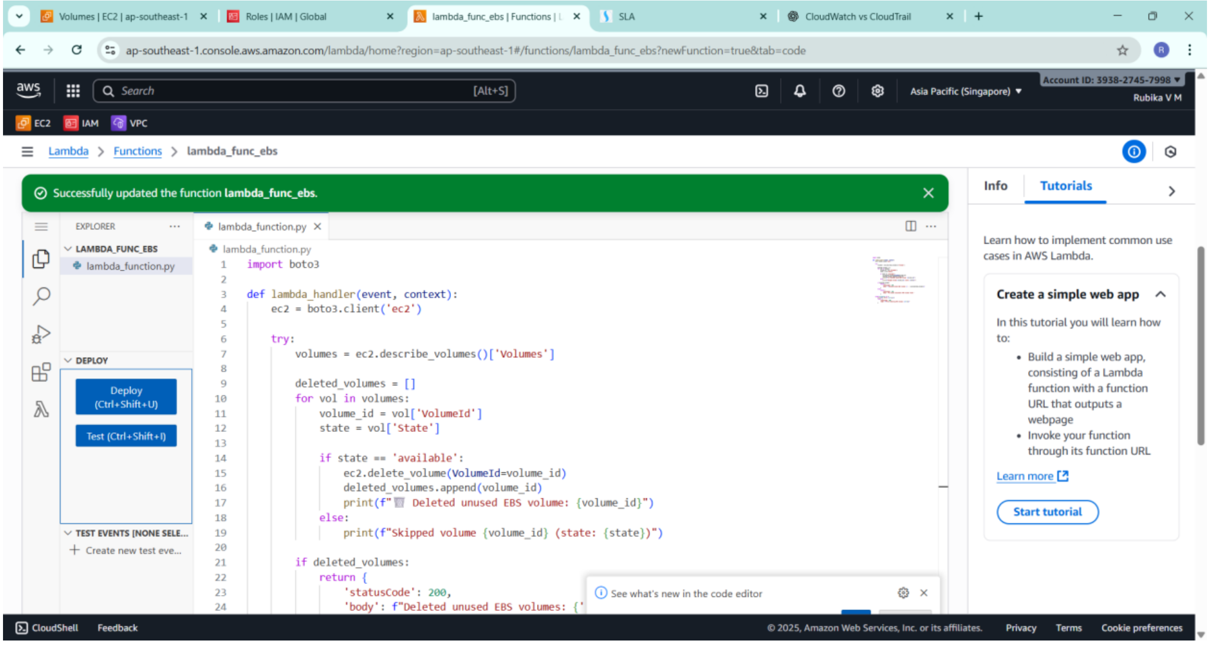
Learn more



Volumes | EC2 | ap-southeast-1
Roles | IAM | Global
lambda_func_ebs | Functions | L
SLA
CloudWatch vs CloudTrail
ap-southeast-1.console.aws.amazon.com/lambda/home?region=ap-southeast-1#/functions/lambda_func_ebs?newFunction=true&tab=code
Search [Alt+S]
Asia Pacific (Singapore)
Account ID: 3938-2745-7998
Rubika V M
EC2
IAM
VPC
Lambda > Functions > lambda_func_ebs
EXPLORER
LAMBDA_FUNC_EBS
lambda_function.py
DEPLOY
Deploy (Ctrl+Shift+U)
Test (Ctrl+Shift+I)
TEST EVENTS [NONE SELE...
Create new test eve...
Info
Tutorials
See what's new in the code editor
CloudShell
Feedback
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Successfully updated the function **lambda_func_ebs**.

lambda_function.py

```python
import boto3

def lambda_handler(event, context):
    ec2 = boto3.client('ec2')

    try:
        volumes = ec2.describe_volumes()['Volumes']

        deleted_volumes = []
        for vol in volumes:
            volume_id = vol['VolumeId']
            state = vol['State']

            if state == 'available':
                ec2.delete_volume(VolumeId=volume_id)
                deleted_volumes.append(volume_id)
                print(f"🗑 Deleted unused EBS volume: {volume_id}")
            else:
                print(f"Skipped volume {volume_id} (state: {state})")

        if deleted_volumes:
            return {
                'statusCode': 200,
                'body': f"Deleted unused EBS volumes: {'
```

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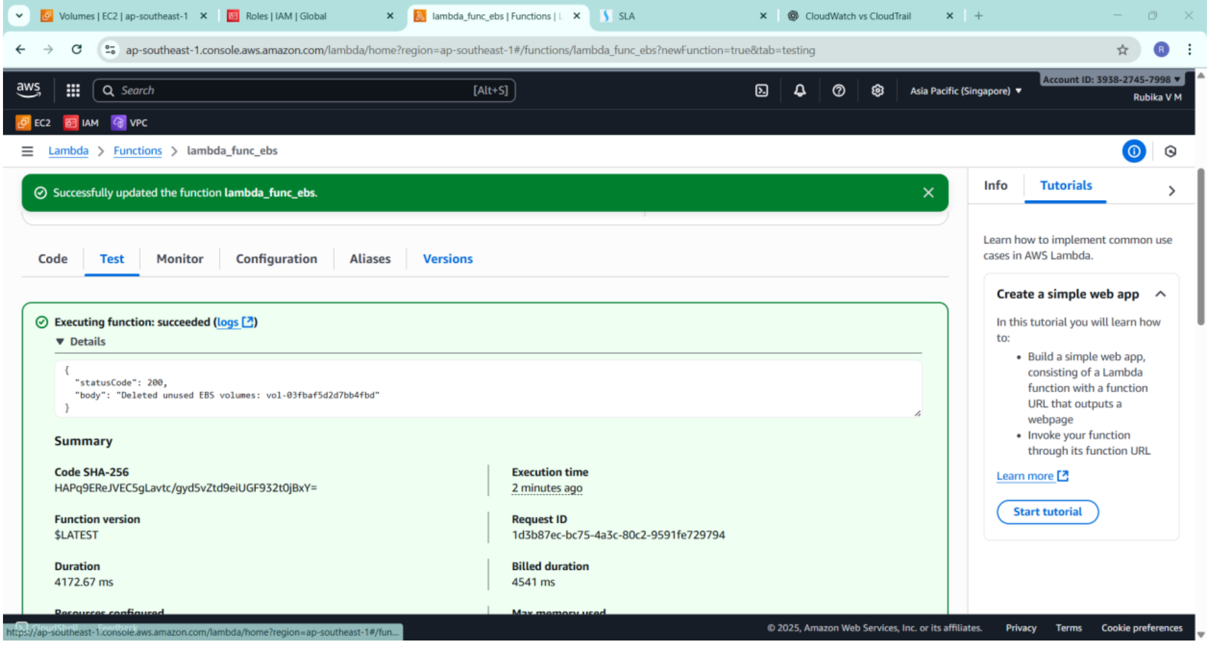

Volumes | EC2 | ap-southeast-1
Roles | IAM | Global
lambda_func_ebs | Functions | L
SLA
CloudWatch vs CloudTrail
ap-southeast-1.console.aws.amazon.com/lambda/home?region=ap-southeast-1#/functions/lambda_func_ebs?newFunction=true&tab=testing
Search [Alt+S]
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Rubika V M
EC2
IAM
VPC
Lambda > Functions > lambda_func_ebs
Code
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https://ap-southeast-1.console.aws.amazon.com/lambda/home?region=ap-southeast-1#/fun...
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Successfully updated the function **lambda_func_ebs**.

Executing function: succeeded (logs)

▼ Details

```
{
  "statusCode": 200,
  "body": "Deleted unused EBS volumes: vol-03fbaf5d2d7bb4fbd"
}
```

Summary

Code SHA-256 HAPq9EReJVEC5gLavtc/gyd5vZtd9eiUGF932t0jBxY=	**Execution time** 2 minutes ago
Function version $LATEST	**Request ID** 1d3b87ec-bc75-4a3c-80c2-9591fe729794
Duration 4172.67 ms	**Billed duration** 4541 ms
Resources configured	**Max memory used**

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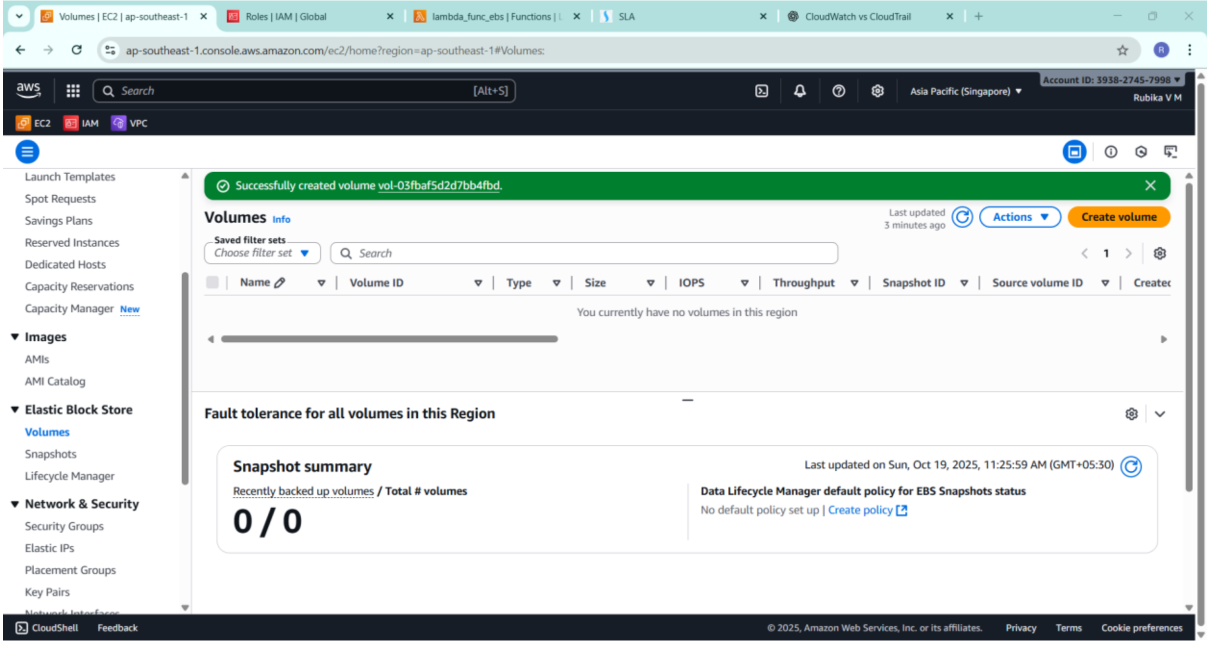

Successfully created volume vol-03fbaf5d2d7bb4fbd.

Volumes Info

Last updated 3 minutes ago

Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot ID	Source volume ID	Createc

You currently have no volumes in this region

Fault tolerance for all volumes in this Region

Snapshot summary

Last updated on Sun, Oct 19, 2025, 11:25:59 AM (GMT+05:30)

Recently backed up volumes / **Total # volumes**

0 / 0

Data Lifecycle Manager default policy for EBS Snapshots status

No default policy set up | Create policy