AWS Cloud Cost Optimization - Identifying Stale Resources

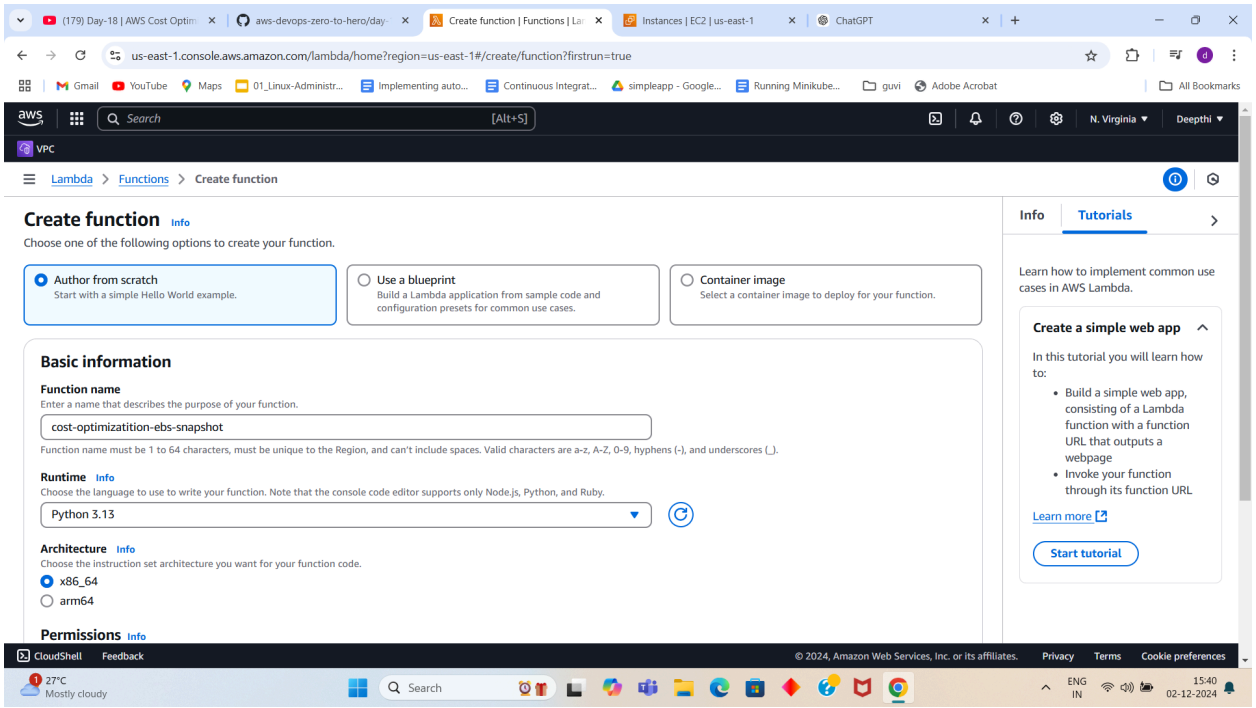
Identifying Stale EBS Snapshots

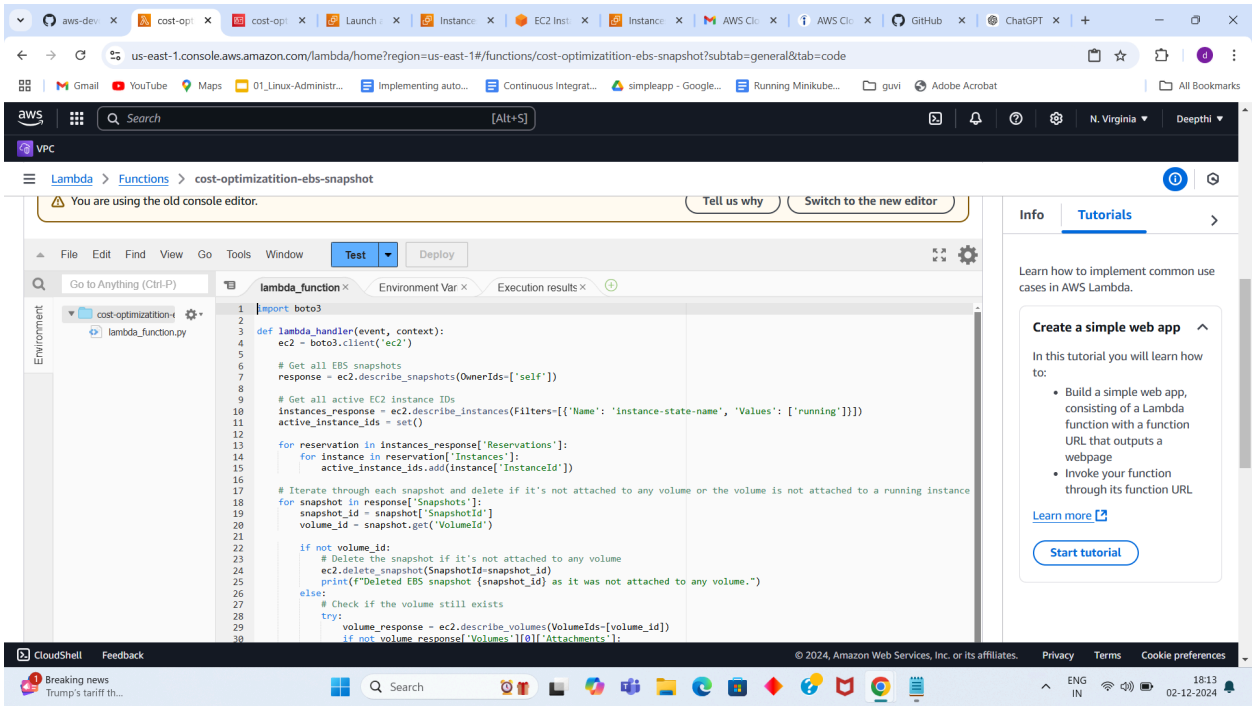
In this example, we'll create a Lambda function that identifies EBS snapshots that are no longer associated with any active EC2 instance and deletes them to save on storage costs.

Description:

The Lambda function fetches all EBS snapshots owned by the same account ('self') and also retrieves a list of active EC2 instances (running and stopped). For each snapshot, it checks if the associated volume (if exists) is not associated with any active instance. If it finds a stale snapshot, it deletes it, effectively optimizing storage costs.

Creating a lambda function




us-east-1.console.aws.amazon.com/lambda/home?region=us-east-1#/functions/cost-optimizatition-ebs-snapshot?subtab=general&tab=code
Lambda > Functions > cost-optimizatition-ebs-snapshot
You are using the old console editor.
Tell us why
Switch to the new editor
File Edit Find View Go Tools Window
Test
Deploy
lambda_function
Environment Var
Execution results
cost-optimizatition-
lambda_function.py
import boto3
def lambda_handler(event, context):
ec2 = boto3.client('ec2')
# Get all EBS snapshots
response = ec2.describe_snapshots(OwnerIds=['self'])
# Get all active EC2 instance IDs
instances_response = ec2.describe_instances(Filters=[{'Name': 'instance-state-name', 'Values': ['running']}])
active_instance_ids = set()
for reservation in instances_response['Reservations']:
for instance in reservation['Instances']:
active_instance_ids.add(instance['InstanceId'])
# Iterate through each snapshot and delete if it's not attached to any volume or the volume is not attached to a running instance
for snapshot in response['Snapshots']:
snapshot_id = snapshot['SnapshotId']
volume_id = snapshot.get('VolumeId')
if not volume_id:
# Delete the snapshot if it's not attached to any volume
ec2.delete_snapshot(SnapshotId=snapshot_id)
print(f"Deleted EBS snapshot {snapshot_id} as it was not attached to any volume.")
else:
# Check if the volume still exists
try:
volume_response = ec2.describe_volumes(VolumeIds=[volume_id])
if not volume_response['Volumes'][0]['Attachments']:
Info
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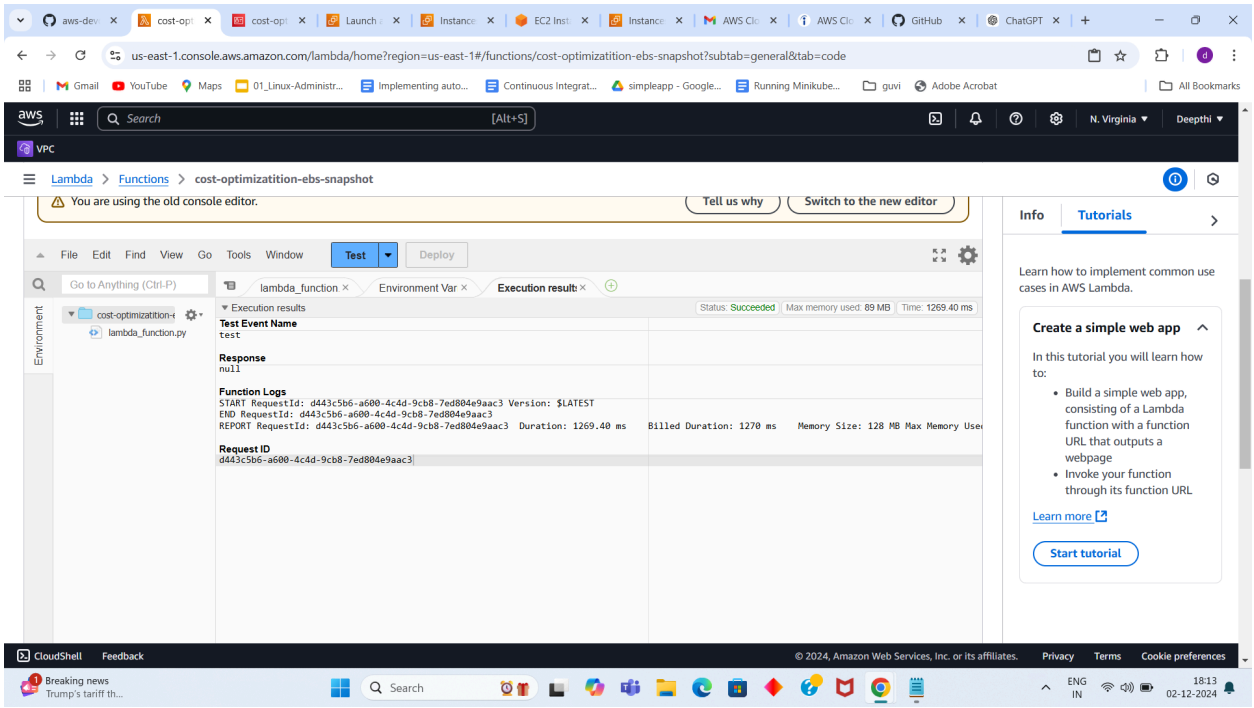
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You are using the old console editor.
Tell us why
Switch to the new editor
File Edit Find View Go Tools Window
Test
Deploy
lambda_function
Environment Var
Execution result
Execution results
Status: Succeeded
Max memory used: 89 MB
Time: 1269.40 ms
Test Event Name
test
Response
null
Function Logs
START RequestId: d443c5b6-a600-4c4d-9cb8-7ed804e9aac3 Version: $LATEST
END RequestId: d443c5b6-a600-4c4d-9cb8-7ed804e9aac3
REPORT RequestId: d443c5b6-a600-4c4d-9cb8-7ed804e9aac3 Duration: 1269.40 ms Billed Duration: 1270 ms Memory Size: 128 MB Max Memory Use
Request ID
d443c5b6-a600-4c4d-9cb8-7ed804e9aac3
Info
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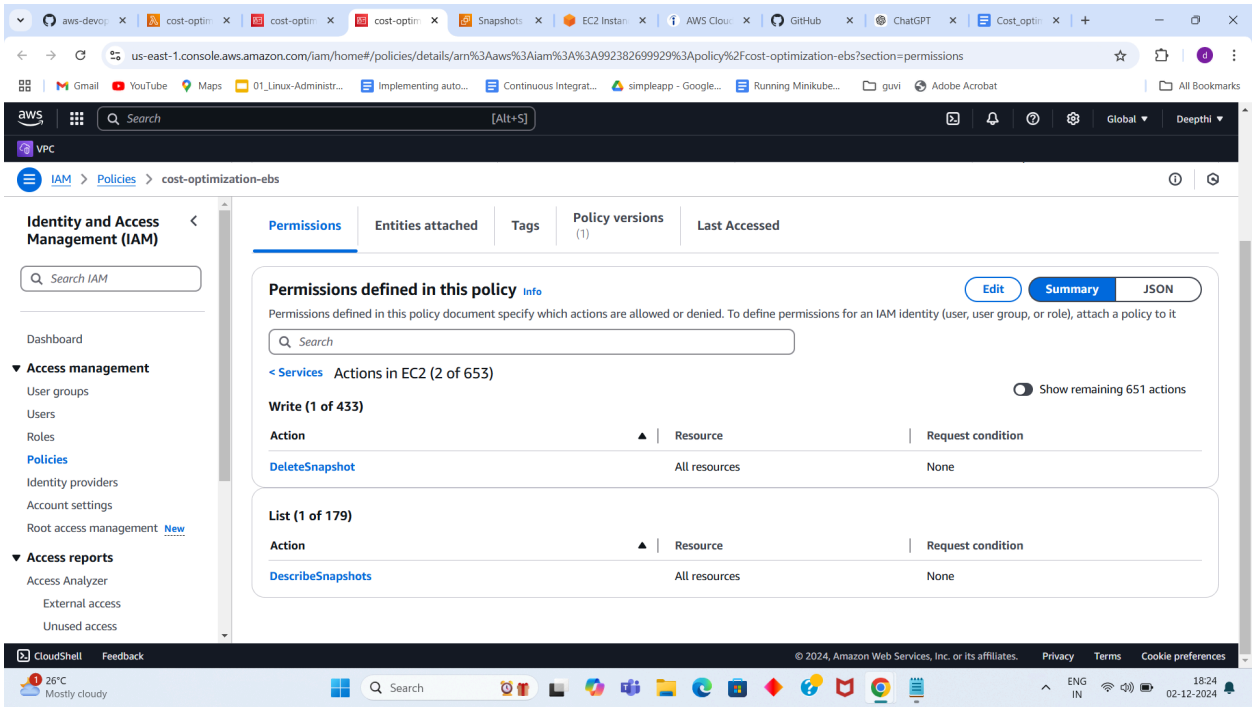
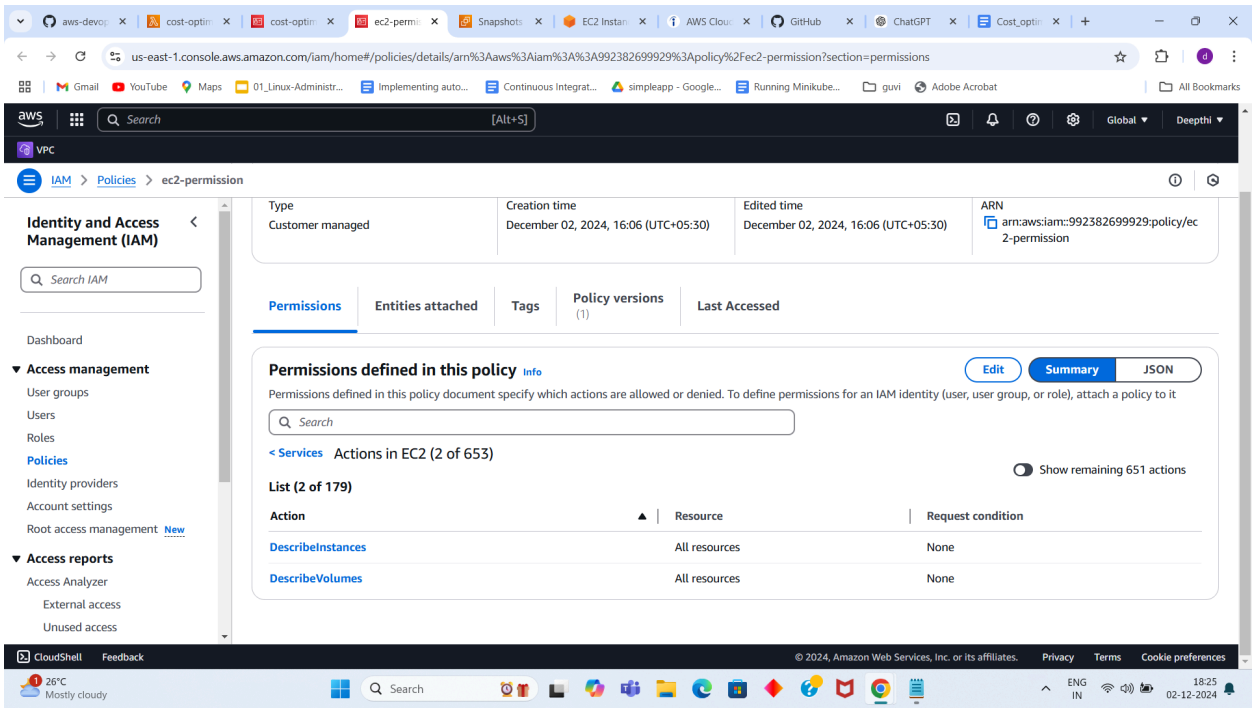
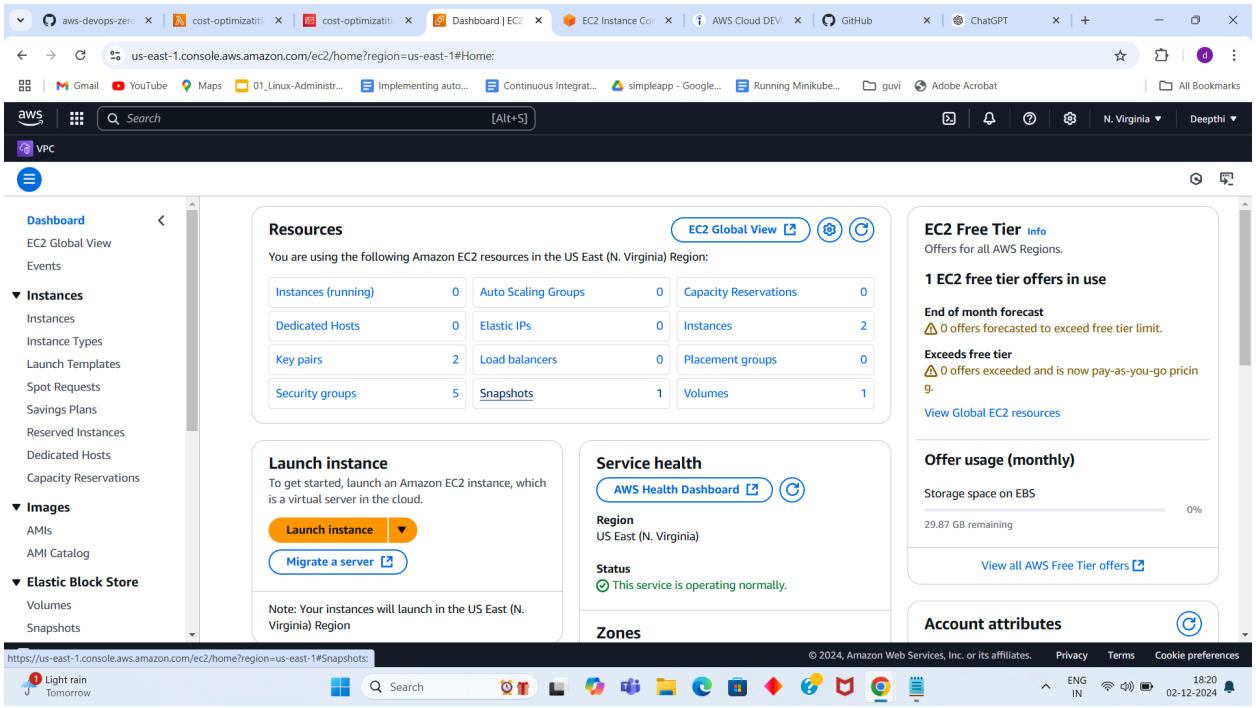
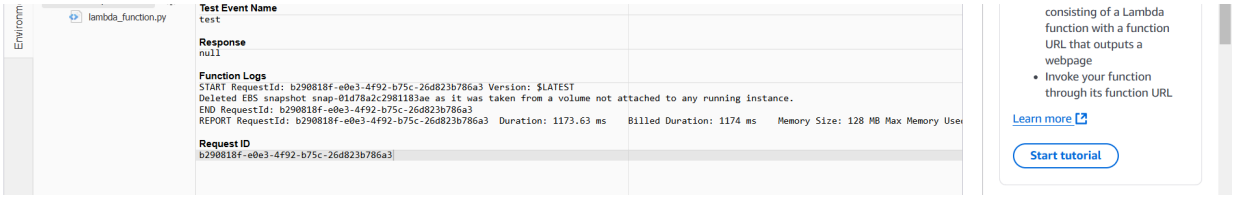
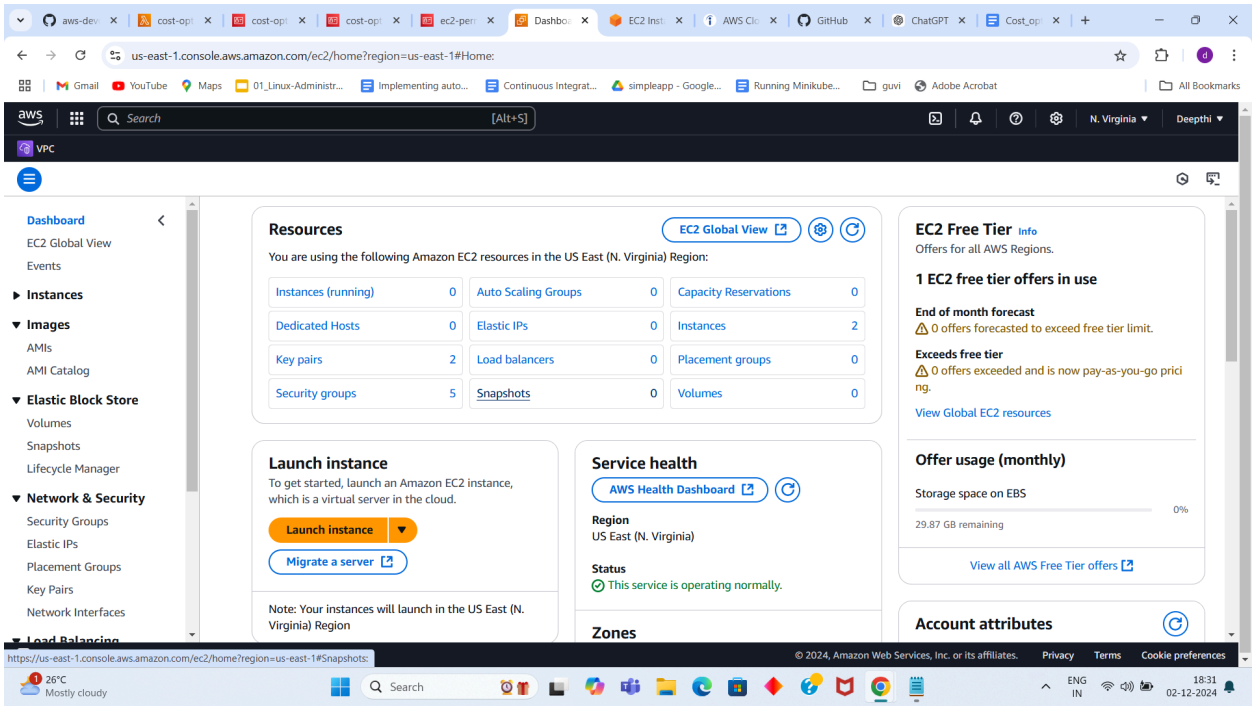






After execution the snapshot was deleted




us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Home:
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[Alt+S]
N. Virginia
Deepthi
VPC
Dashboard
EC2 Global View
Events
Instances
Images
AMIs
AMI Catalog
Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
Network & Security
Security Groups
Elastic IPs
Placement Groups
Key Pairs
Network Interfaces
Resources
EC2 Global View
You are using the following Amazon EC2 resources in the US East (N. Virginia) Region:
Instances (running) 0
Auto Scaling Groups 0
Capacity Reservations 0
Dedicated Hosts 0
Elastic IPs 0
Instances 2
Key pairs 2
Load balancers 0
Placement groups 0
Security groups 5
Snapshots 0
Volumes 0
Launch instance
To get started, launch an Amazon EC2 instance, which is a virtual server in the cloud.
Launch instance
Migrate a server
Note: Your instances will launch in the US East (N. Virginia) Region
Service health
AWS Health Dashboard
Region
US East (N. Virginia)
Status
This service is operating normally.
Zones
EC2 Free Tier Info
Offers for all AWS Regions.
1 EC2 free tier offers in use
End of month forecast
0 offers forecasted to exceed free tier limit.
Exceeds free tier
0 offers exceeded and is now pay-as-you-go pricing.
View Global EC2 resources
Offer usage (monthly)
Storage space on EBS
0%
29.87 GB remaining
View all AWS Free Tier offers
Account attributes
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https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Snapshots:
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