

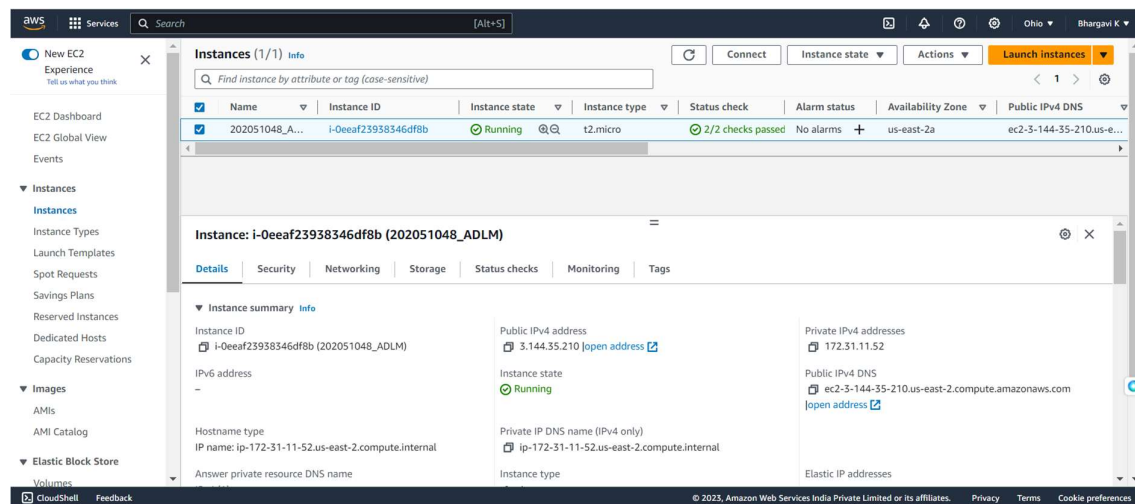
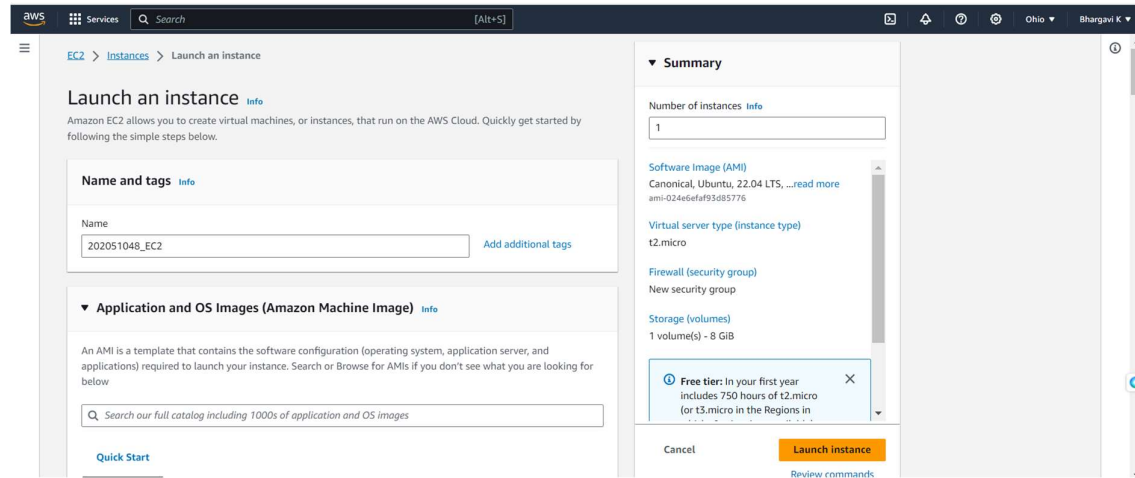
CS443: Assessment 2: EBS + ADLM

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Task 1: Create an EBS backed EC2 instance in Ohio region.

Create an EC2 instance with Ubuntu AMI.



The screenshot shows the AWS Management Console interface. On the left, the navigation menu includes 'Instances', 'Images', 'Elastic Block Store', and 'Network & Security'. The 'Volumes' page is selected under 'Elastic Block Store'. A table lists one volume: 'vol-0bd17d631c6c9ef65' of type 'gp2', size '8 GiB', and IOPS '100'. Below the table, the 'Details' tab for this volume is expanded, showing fields like 'Volume ID', 'Size', 'Type', 'Volume status' (Okay), 'Throughput', 'IOPS', 'Encryption', 'KMS key ID', 'KMS key alias', 'Availability Zone', and 'Created' date.

This is the standard volume attached to EC2.

Task 2: Attach a Throughput Optimised EBS volume of 8GB to the above EC2 instance.

Below we create a new volume of 8 GiB.

The screenshot shows the 'Create volume' wizard in the AWS Management Console. The 'Volume settings' section is active, showing a form with the following values: 'Volume type' set to 'General Purpose SSD (gp3)', 'Size (GiB)' set to '8', 'IOPS' set to '3000', 'Throughput (MiB/s)' set to '125', and 'Availability Zone' set to 'us-east-2a'. The wizard includes informational text for each field, such as 'Min: 1 GiB, Max: 16384 GiB' for size.

The screenshot shows the AWS Management Console after the new volume has been created. A green banner at the top states 'Successfully created volume vol-089bf08b17342c002'. The 'Volumes' table now lists two volumes: the original 'gp2' volume and the new 'gp3' volume 'vol-089bf08b17342c002'. The details for the new volume are shown below, indicating its status is 'Creating' and its IOPS/Throughput are '3000' and '125' respectively.

The screenshot shows the AWS Management Console interface. On the left, the navigation pane lists various services. The main content area displays the 'Volumes' page for the selected volume 'vol-089bf08b17342c002'. The volume details show it is a gp3 type, 8 GiB size, and is in the 'Available' state. The 'Actions' menu on the right is open, and 'Attach volume' is highlighted.

Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot
-	vol-0bd17d631c6c9ef65	gp2	8 GiB	100	-	snap-07592d6...
<input checked="" type="checkbox"/>	vol-089bf08b17342c002	gp3	8 GiB	3000	125	-

Volume ID: vol-089bf08b17342c002

Details	Status checks	Monitoring	Tags
Volume ID: vol-089bf08b17342c002	Size: 8 GiB	Type: gp3	Volume status: ✔ Okay
AWS Compute Optimizer finding: Opt-in to AWS Compute Optimizer for recommendations. Learn more	Volume state: ✔ Available	IOPS: 3000	Throughput: 125
Encryption: Not encrypted	KMS key ID: -	KMS key alias: -	KMS key ARN: -
Fast snapshot restored: No	Snapshot: -	Availability Zone: us-east-2a	Created: Mon Sep 25 2023 17:25:16 GMT+0530 (India Standard Time)

Attach the new created volume to our EC2 instance.

The screenshot shows the 'Attach volume' dialog box in the AWS Management Console. The volume 'vol-089bf08b17342c002' is selected. The 'Instance' dropdown shows 'i-Oeef23938346df8b'. The 'Device name' field contains '/dev/sdf'. A note indicates that newer Linux kernels may rename devices to /dev/xvdf or /dev/xvdp internally.

Basic details

Volume ID: vol-089bf08b17342c002

Availability Zone: us-east-2a

Instance: i-Oeef23938346df8b

Device name: /dev/sdf

Recommended device names for Linux: /dev/sda1 for root volume, /dev/sdf(-p) for data volumes.

Newer Linux kernels may rename your devices to /dev/xvdf through /dev/xvdp internally, even when the device name entered here (and shown in the details) is /dev/sdf through /dev/sdp.

Buttons: Cancel, Attach volume

Below we can see the volume has been attached.

The screenshot shows the AWS Management Console interface. On the left, the navigation pane lists various services. The main content area displays the 'Instances' page for the selected instance 'i-Oeef23938346df8b'. The instance details show it is a t2.micro type, in the 'Running' state, and has 2/2 checks passed. The 'Block devices' section shows the volume 'vol-089bf08b17342c002' attached to the device '/dev/sdf'.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
<input checked="" type="checkbox"/>	202051048_EC2	i-Oeef23938346df8b	Running	t2.micro	2/2 checks passed	No alarms	us-east-2a

Instance: i-Oeef23938346df8b (202051048_EC2)

/dev/sda1 EBS disabled

Block devices

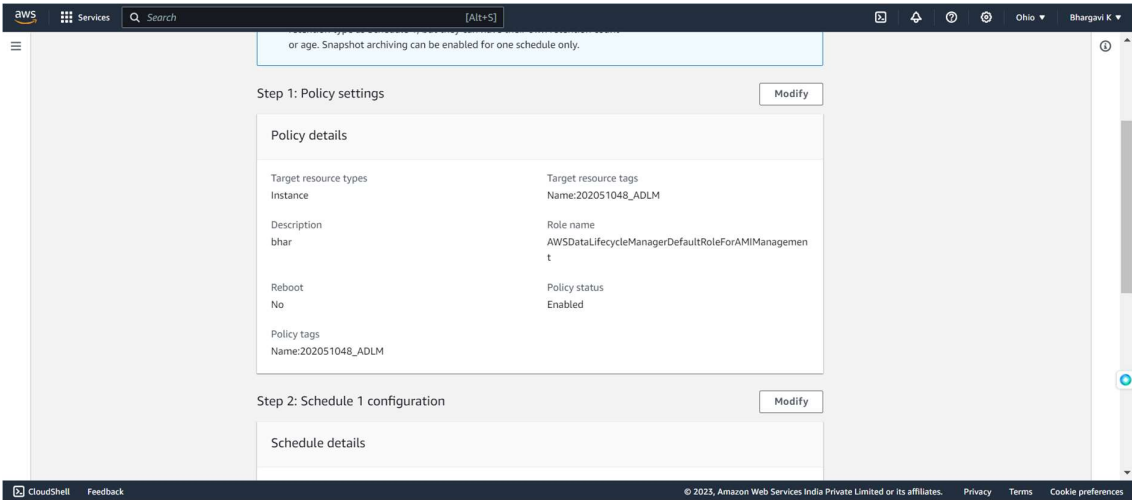
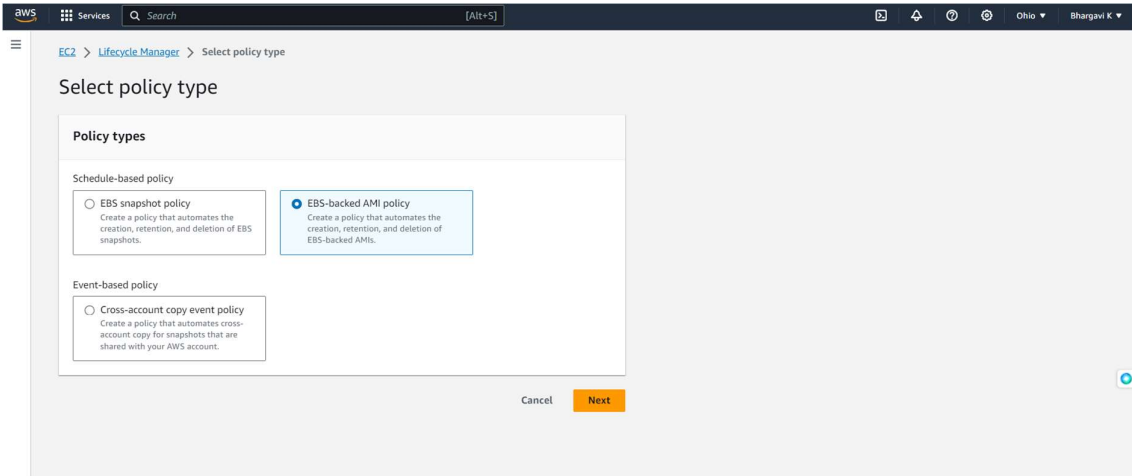
Volume ID	Device name	Volume size (GiB)	Attachment status	Attachment time	Encrypted	KMS key ID
vol-0bd17d631c6c9ef65	/dev/sda1	8	Attached	2023/09/25 15:43 GMT+5:30	No	-
vol-089bf08b17342c002	/dev/sdf	8	Attached	2023/09/25 17:33 GMT+5:30	No	-

Recent root volume replacement tasks

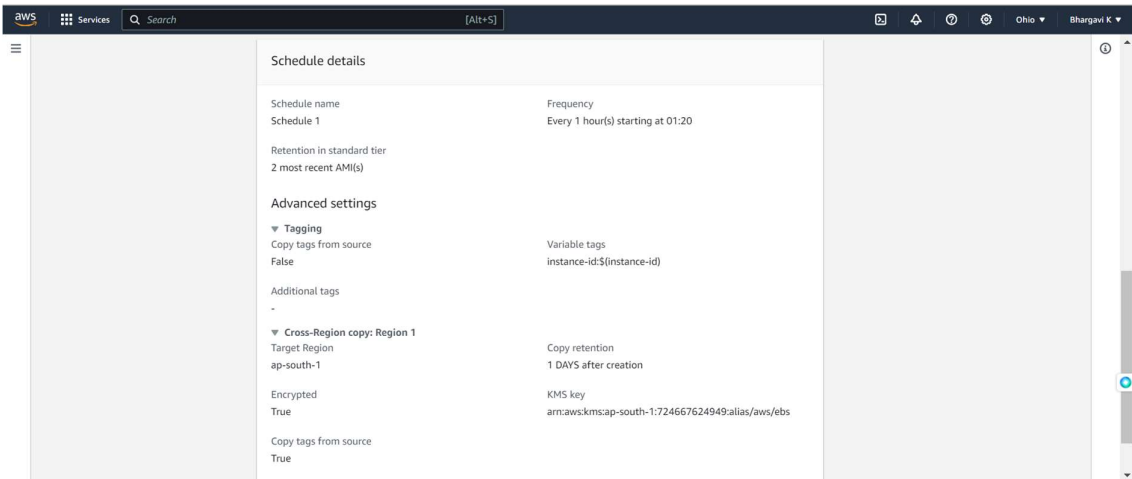
Replace root volume

Task 3: Using ADLM replicate this EC2 instance in Mumbai region.

We create an EBS-based AMI policy and attach the tag as 202051048_ADLM similarly add these tags to the instance and volumes too. We create the cron jobs and schedule it to run for every 1 hour.



Here we have enabled the schedule to make a copy in mumbai region.



Data Lifecycle Manager (1/1) Info

Name	Policy ID	Description	Policy type	State
202051048_A...	policy-0f77bcbf6b90831d1	bhar	EBS-backed AMI policy	Enabled

Policy: policy-0f77bcbf6b90831d1

Details	Schedules	Monitoring	Tags
Policy ID policy-0f77bcbf6b90831d1 (202051048_ADLM) State Enabled Target instances with these tags Name:202051048_ADLM	Description bhar IAM role arn:aws:iam::724667624949:role/service-role/AWSDataLifecycleManagerDefaultRoleForAMIManagement Reboot instances No	Resource type Instance Date created Mon Sep 25 2023 18:48:20 GMT+0530 (India Standard Time)	Policy type EBS-backed AMI policy Date modified Mon Sep 25 2023 18:48:20 GMT+0530 (India Standard Time)

We can observe that after significant time an image due to the policy has been created in Mumbai region.

Amazon Machine Images (AMIs) (1/1) Info

Name	AMI ID	AMI name	Source	Owner	Visibility	Status
202051048_A...	ami-07d26f3dedb001b56	DLM_policy-0f77bcbf6b90831d1...	724667624949/DLM_policy-0f77bcbf6...	724667624949	Private	Available

AMI ID: ami-07d26f3dedb001b56 (202051048_ADLM)

Details	Permissions	Storage	Tags
AMI ID ami-07d26f3dedb001b56 (202051048_ADLM) AMI name DLM_policy-0f77bcbf6b90831d1_j-0eeaf23938346df8b_09.25.2023T13.54.38.869 UTC Root device name /dev/sda1 Boot mode -	Image type machine Owner account ID 724667624949 Status Available State reason -	Platform details Linux/UNIX Architecture x86_64 Source 724667624949/DLM_policy-0f77bcbf6b90831d1_j-0eeaf23938346df8b_09.25.2023T13.54.38.869 UTC Creation date Mon Sep 25 2023 19:28:08 GMT+0530 (India Standard Time)	Root device type EBS Usage operation RunInstances Virtualization type hvm Kernel ID -

We now launch the instance with the created AMI.

Name
202051048_EC2

Application and OS Images (Amazon Machine Image) Info

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below.

Search our full catalog including 1000s of application and OS images

AMI from catalog | Recents | My AMIs | Quick Start

Amazon Machine Image (AMI)
DLM_policy-0f77bcbf6b90831d1_j-0eeaf23938346df8b_09.25.2023T13.54.38.869 UTC
ami-07d26f3dedb001b56

Published
2023-09-25T13:58:08.00Z

Architecture
x86_64

Virtualization
hvm

Root device type
ebs

ENA Enabled
Yes

Summary

Number of instances
1

Software Image (AMI)
Copied from us-east-2 i-0eeaf2...read more
ami-07d26f3dedb001b56

Virtual server type (instance type)
t2.micro

Firewall (security group)
New security group

Storage (volumes)
2 volume(s) - 16 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs

Launch instance

We can see that the EC2 instance has been replicated with the volumes as similar to the EC2 instances in Ohio region.

New EC2 Experience

EC2 Dashboard

EC2 Global View

Events

Instances

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts

Capacity Reservations

Images

AMIs

AMI Catalog

Elastic Block Store

Volumes

Snapshots

Instances (1/1) Info

Find instance by attribute or tag (case-sensitive)

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4
202051048_EC2	i-0fd809410ae47f3cd	Running	t2.micro		No alarms	ap-south-1b	ec2-13-126-4-111.ap-s...	13.126.4.11

Instance: i-0fd809410ae47f3cd (202051048_EC2)

DetailsSecurityNetworkingStorageStatus checksMonitoringTags

Root device details

Root device name
/dev/sda1

Root device type
EBS

EBS optimization
disabled

Block devices

Filter block devices

Volume ID	Device name	Volume size (GiB)	Attachment status	Attachment time	Encrypted	KMS key ID	Delet
vol-0062a7ccaed54f3e0	/dev/sda1	8	Attached	2023/09/25 19:55 GMT+5:30	Yes	852cca70-e6e0-4954-998f-a3ce25acca7e	Yes
vol-07c793c1901378901	/dev/sdf	8	Attached	2023/09/25 19:55 GMT+5:30	Yes	852cca70-e6e0-4954-998f-a3ce25acca7e	No

CloudShell

Feedback

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