

Amazon Web Services



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Launching Instances (Tasks)

INTRODUCTION

AWS provides cloud computing platforms and API's to individuals and companies on pay-as-you-go basis.

It offers reliable, scalable and inexpensive cloud services.

AMAZON EBS

It is an Amazon Elastic Block Store (Amazon EBS) is an easy-to-use, scalable, high-performance block-storage service designed for Amazon Elastic Compute Cloud (Amazon EC2).

EBS Snapshots

EBS Snapshots are a point-in-time copy of your data, and can be used to enable disaster recovery, migrate data across regions and accounts, and improve backup compliance.

TASK GIVEN

You work for XYZ Corporation. Your corporation wants to launch a new web-based application using AWS Virtual Machines. Configure the resources accordingly with appropriate storage for the tasks.

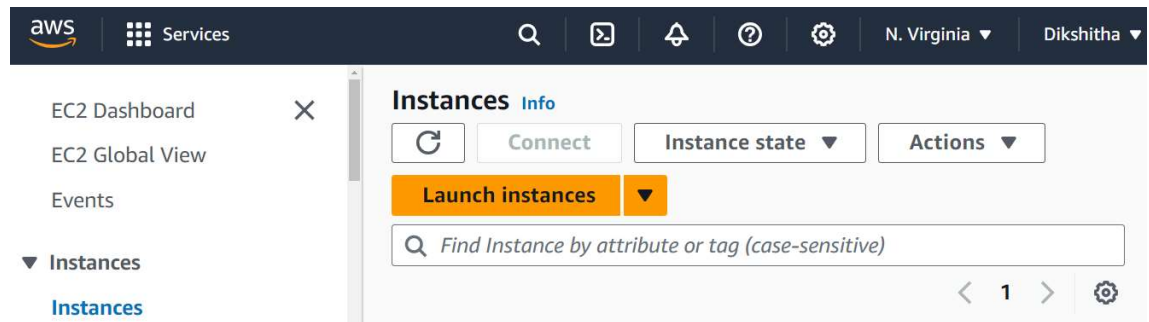
Tasks To Be Performed:

1. Launch a Linux EC2 instance.
2. Create an EBS volume with 20 GB of storage and attach it to the created EC2 instance.
3. Resize the attached volume and make sure it reflects in the connected Instance.

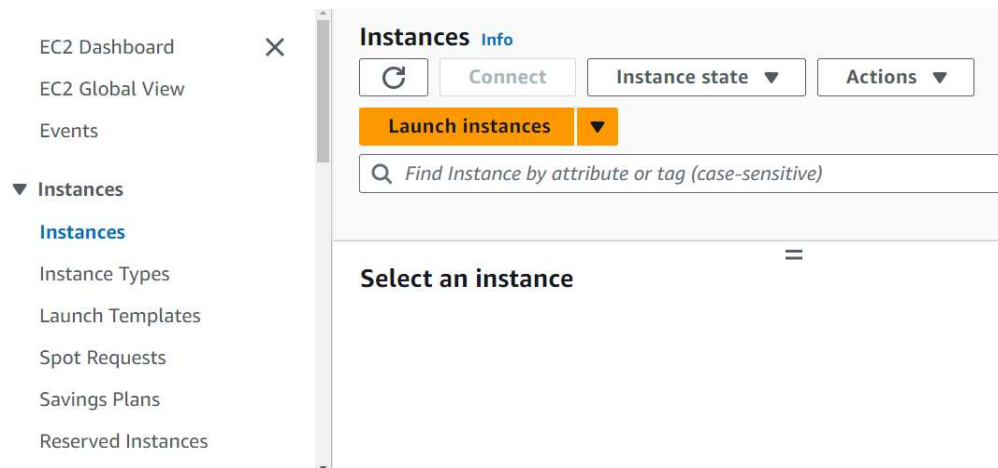
TASK 1:

Launch a Linux EC2 instance.

1. Login in the AWS account and then redirect to the EC2 dashboard.
2. Select the region in which we need to create the instance. Here I'm selecting the region US-East-1 (N. Virginia).



3. We can find the Instances tab on the left menu, tap on it and then tap on “Launch Instances”.



4. Give a name to the instance, select the Application and OS Images (Amazon Machine Image) and instance type (I selected t2.micro).
5. Next comes the Key pair. If we have already created key pair values then we can select them if not we need to create the new key pair.

Create key pair

Key pair name
Key pairs allow you to connect to your instance securely.
Instance1
The name can include upto 255 ASCII characters. It can't include leading or trailing spaces.

Key pair type

☒ RSA
RSA encrypted private and public key pair

☐ ED25519
ED25519 encrypted private and public key pair

Private key file format

☒ .pem
For use with OpenSSH

☐ .ppk
For use with PuTTY

⚠ When prompted, store the private key in a secure and accessible location on your computer. You will need it later to connect to your instance. [Learn more](#)

Cancel Create key pair

6. Next is about the network settings. If we allow SSH traffic then it means it is available at port 22 and also allow http protocol to work on web servers.

Network settings Info Edit

Network Info
vpc-07c0e477c5d2fb88d

Subnet Info
No preference (Default subnet in any availability zone)

Auto-assign public IP Info
Disable

Firewall (security groups) Info
A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

☒ Create security group ☐ Select existing security group

We'll create a new security group called 'launch-wizard-1' with the following rules:

☒ Allow SSH traffic from
Helps you connect to your instance
Anywhere
0.0.0.0/0

☐ Allow HTTPS traffic from the internet
To set up an endpoint, for example when creating a web server

☐ Allow HTTP traffic from the internet
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⚠ Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

7. The further step is about the storage configuration. We can select it according to our needs.

▼ **Configure storage** [Info](#)

Advanced

1x

8

GiB

gp2

▼

Root volume (Not encrypted)

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage

×

Add new volume

The selected AMI contains more instance store volumes than the instance allows. Only the first 0 instance store volumes from the AMI will be accessible from the instance

0 x File systems

Edit

8. Once everything is done, click on launch instance.

EC2 > Instances > Launch an instance

○ Launching instance

Creating security group rules

21%

► Details

Please wait while we launch your instance.
Do not close your browser while this is loading.

✓ **Success**

Successfully initiated launch of instance ([i-026fd029403d4d12f](#))

▼ Launch log

Initializing requests

✓ Succeeded

Creating security groups

✓ Succeeded

Creating security group rules

✓ Succeeded

Launch initiation

✓ Succeeded

TASK 2:

Create an EBS volume with 20 GB of storage and attach it to the created EC2 instance.

1. To create the EBS Volume, from the left menu select
Elastic Block Store —> Volumes

Create volume [Info](#)

Create an Amazon EBS volume to attach to any EC2 instance in the same Availability Zone.

Volume settings

Volume type [Info](#)

General Purpose SSD (gp2) ▼

Size (GiB) [Info](#)

20

Min: 1 GiB, Max: 16384 GiB. The value must be an integer.

IOPS [Info](#)

100 / 3000

Baseline of 3 IOPS per GiB with a minimum of 100 IOPS, burstable to 3000 IOPS.

Throughput (MiB/s) [Info](#)

Not applicable

Availability Zone [Info](#)

us-east-1a ▼

Create a volume with 20GB space.

If we want we can edit the name of the volume

I changed it to “ebsvolume”

Volumes (1/3) [Info](#)

Search

	Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot	Create
<input type="checkbox"/>	-	vol-07f2ee851e9dac951	gp3	8 GiB	3000	125	snap-05a6245...	2023/
<input checked="" type="checkbox"/>	ebsinstance	vol-0c42d55d824848527	gp2	20 GiB	100	-	-	2023/
<input type="checkbox"/>	-	vol-0162d96a5aee96dc2	gp2	8 GiB	100	-	snap-0fe62e9...	2023/

Now select the volume and go to the actions button. Tap on attach volume

Volumes (1/3) [Info](#)

Search

	Name	Volume ID	Type	Size	IOPS	Throu
<input type="checkbox"/>	-	vol-07f2ee851e9dac951	gp3	8 GiB	3000	125
<input checked="" type="checkbox"/>	ebsinstance	vol-0c42d55d824848527	gp2	20 GiB	100	-
<input type="checkbox"/>	-	vol-0162d96a5aee96dc2	gp2	8 GiB	100	-

Actions


- Modify volume
- Create snapshot
- Create snapshot lifecycle policy
- Delete volume
- Attach volume**
- Detach volume
- Force detach volume
- Manage auto-enabled I/O

Attach the volume to the created instance within the same availability zone.


Attach volume [Info](#)

Attach a volume to an instance to use it as you would a regular physical hard disk drive.

Basic details

Volume ID
 [vol-0c42d55d824848527 \(ebsinstance\)](#)

Availability Zone
us-east-1a

Instance [Info](#)
 

Only instances in the same Availability Zone as the selected volume are displayed.

Device name [Info](#)

Recommended device names for Linux: /dev/sda1 for root volume. /dev/sd[f-p] for data volumes.

We can check it by redirecting to the instances page and selecting the instance. In the storage tab we can see the attached volumes.

Instances (1/3) [Info](#)

Find Instance by attribute or tag (case-sensitive)

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
<input checked="" type="checkbox"/> ebsinstance	i-0aef06a291dbd85fa	Running	t2.micro	2/2 checks passed	No alarms	us-east-1a
<input type="checkbox"/> Instance1	i-026fd029403d4d12f	Terminated	t2.micro	-	No alarms	us-east-1b
<input type="checkbox"/> test instance	i-022c6b0a6f5314ef4	Running	t2.micro	2/2 checks passed	No alarms	us-east-1b

Instance: i-0aef06a291dbd85fa (ebsinstance)

Volume ID	Device name	Volume size (GiB)	Attachment status	Attachment time	Encrypted	KMS key ID
vol-07f2ee851e9dac951	/dev/xvda	8	Attached	2023/11/08 18:24 GMT+5:30	No	-
vol-0c42d55d824848527	/dev/sdf	20	Attached	2023/11/08 18:31 GMT+5:30	No	-

TASK 3:

Resize the attached volume and make sure it reflects in the connected Instance.

Go to the EBS Volume and select the volume for which the storage size to be resized.

[EC2](#) > [Volumes](#) > vol-0c42d55d824848527

vol-0c42d55d824848527 (ebsinstance)

Actions Delete Modify

Volume ID vol-0c42d55d824848527 (ebsinstance)	Size 20 GiB	Type gp2	Volume status Okay
AWS Compute Optimizer finding Opt-in to AWS Compute Optimizer for recommendations. Learn more	Volume state In-use	IOPS 100	Throughput -
Encryption Not encrypted	KMS key ID -	KMS key alias -	KMS key ARN -
Fast snapshot restored No	Snapshot -	Availability Zone us-east-1a	Created Wed Nov 08 2023 18:27:28 GMT+0530 (India Standard Time)

Tap on modify

Modify volume [Info](#)

Modify the type, size, and performance of an EBS volume.

Volume details

Volume ID
[vol-0c42d55d824848527](#) (ebsinstance)

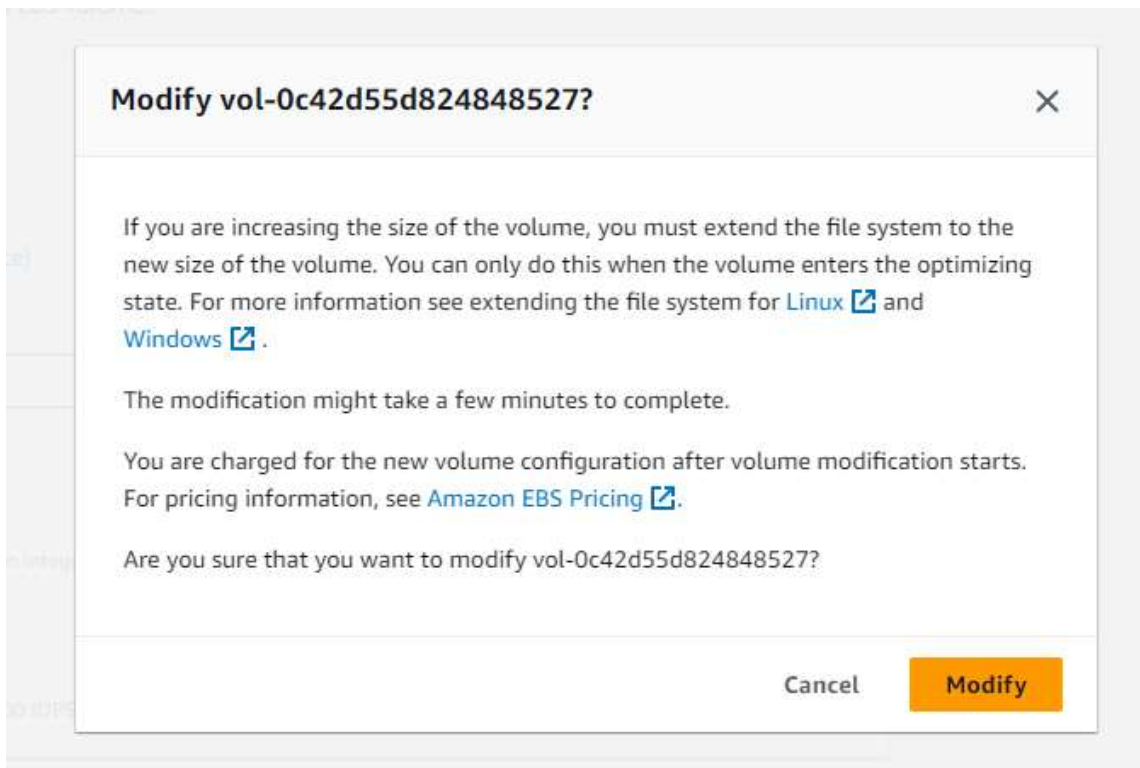
Volume type
General Purpose SSD (gp2)

Size (GiB)
30
Min: 1 GiB, Max: 16384 GiB. The value must be an integer.

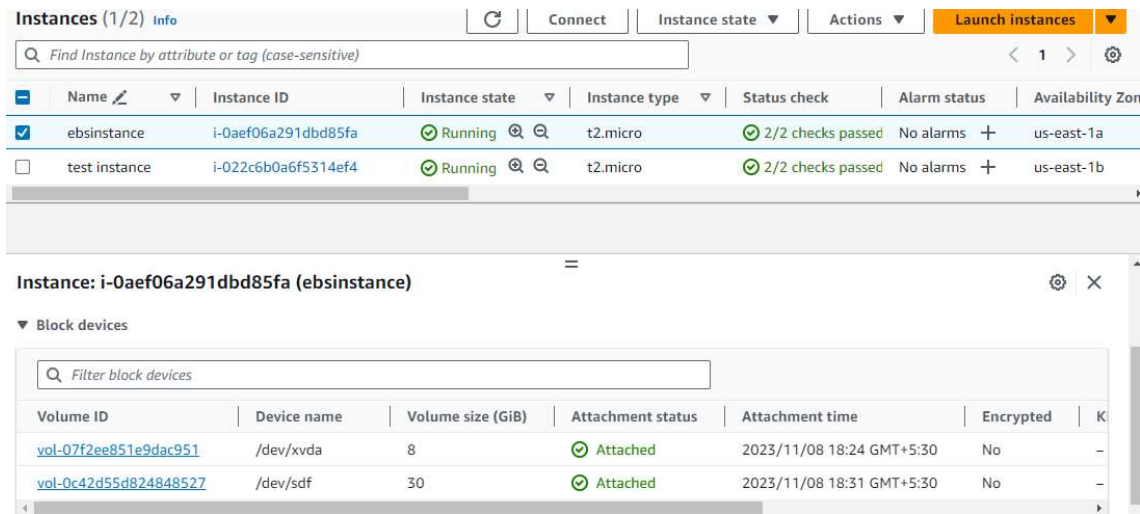
IOPS
100/3000
Baseline of 3 IOPS per GiB with a minimum of 100 IOPS, burstable to 3000 IOPS.

Cancel Modify

I changed it to 30GB.



The modified volume reflected in the instance storage



Conclusion:

I launched the instance and created an EBS volume within the same availability zone. And even modified the volume storage and checked if it has been reflected in the instance.