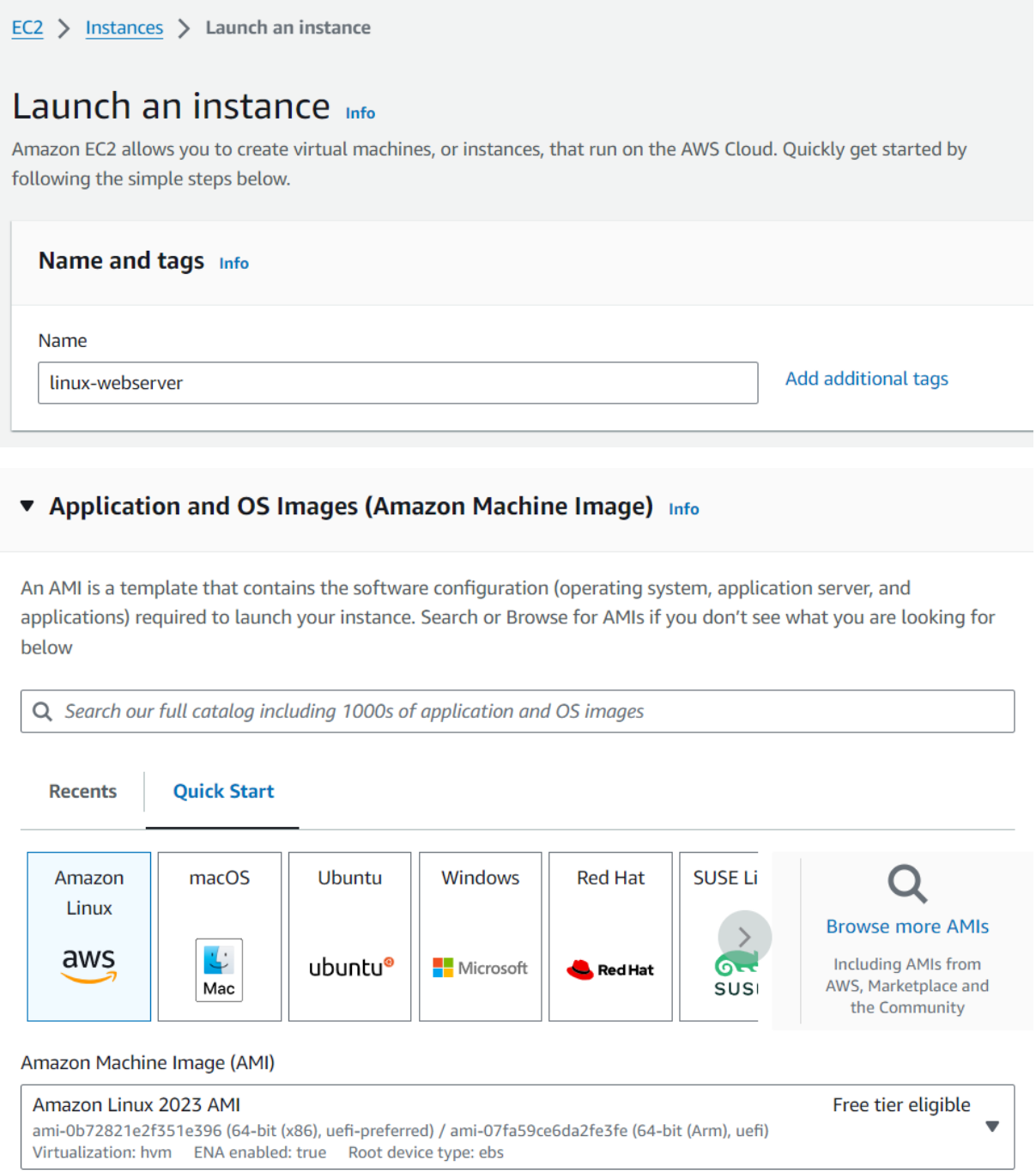
Task 13: Launch an EC2 instance (Linux and Windows) along with a web server. Then, create an EBS volume of 5 GB, attach it to an EC2 machine (Linux and Windows), and take a snapshot. Finally, create an EBS volume using the taken snapshot.

1. **<u>Launch an EC2 instance (amazon Linux) along with a web server:</u>**



Network settings Info

Network Info

vpc-0b21781614914fdfd

Subnet Info

No preference (Default subnet in any availability zone)

Auto-assign public IP Info

Enable

Additional charges apply when outside of free tier allowance

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 reac
instance.

- (●) Create security group
- ( ) Select existing security group

We'll create a new security group called '**launch-wizard-5**' with the following rules:

- [ ] Allow SSH traffic from
  Helps you connect to your instance
- [x] Allow HTTPS traffic from the internet
  To set up an endpoint, for example when creating a web server
- [ ] Allow HTTP traffic from the internet
  To set up an endpoint, for example when creating a web server

---

Edit inbound rules Info

Inbound rules control the incoming traffic that's allowed to reach the instance.

Inbound rules Info

Security group rule ID	Type Info	Protocol Info	Port range Info	Source Info		Description - optional Info	
sgr-09d0483aba8f12676	HTTPS	TCP	443	Custom	0.0.0.0/0		Delete

Inbound rules (1)

Manage tags | Edit inbound rules

Search

1

Name	Security group rule...	IP version	Type	Protocol	Port range
–	sgr-09d0483aba8f12676	IPv4	HTTPS	TCP	443

Instances (1/5) Info

Connect | Instance state | Actions | Launch instances

Find Instance by attribute or tag (case-sensitive) | All states

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4
jenkins	i-0e65afae6574dec81	Stopped	t2.micro	–	View alarms	us-east-1d	–
linux-webserver	i-0dbd32881778e7840	Running	t2.micro	Initializing	View alarms	us-east-1d	ec2-44-22

i-0dbd32881778e7840 (linux-webserver)

Details | Status and alarms | Monitoring | Security | Networking | Storage | Tags

Instance summary Info

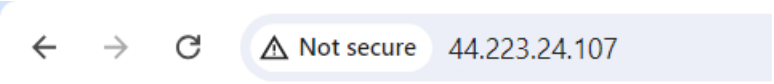
Instance ID	Public IPv4 address	Private IPv4 addresses
i-0dbd32881778e7840 (linux-webserver)	44.223.24.107 | open address	172.31.27.39

```
   ,     #_
   ~\_  ####_        Amazon Linux 2023
  ~~  \_#####\
  ~~     \###|
  ~~       \#/ ___   https://aws.amazon.com/linux/amazon-linux-2023
   ~~       V~' '->
    ~~~         /
      ~~._.   _/
         _/ _/
       _m/'
[ec2-user@ip-172-31-27-39 ~]$ sudo yum update
Last metadata expiration check: 0:06:02 ago on Thu Jul 11 09:23:42 2024.
Dependencies resolved.
Nothing to do.
Complete!
[ec2-user@ip-172-31-27-39 ~]$ sudo yum install httpd
Last metadata expiration check: 0:06:46 ago on Thu Jul 11 09:23:42 2024.
Dependencies resolved.
================================================================================================================================
 Package                         Architecture        Version                          Repository                      Size
================================================================================================================================
Installing:
 httpd                           x86_64              2.4.59-2.amzn2023                amazonlinux                     47 k
Installing dependencies:
 apr                             x86_64              1.7.2-2.amzn2023.0.2             amazonlinux                    129 k
 apr-util                        x86_64              1.6.3-1.amzn2023.0.1             amazonlinux                     98 k
 generic-logos-httpd             noarch              18.0.0-12.amzn2023.0.3           amazonlinux                     19 k
```

```
  Installing       : httpd-core-2.4.59-2.amzn2023.x86_64
  Installing       : mod_http2-2.0.27-1.amzn2023.0.2.x86_64
  Installing       : mod_lua-2.4.59-2.amzn2023.x86_64
  Installing       : generic-logos-httpd-18.0.0-12.amzn2023.0.3.noarch
  Installing       : httpd-2.4.59-2.amzn2023.x86_64
  Running scriptlet: httpd-2.4.59-2.amzn2023.x86_64
  Verifying        : apr-1.7.2-2.amzn2023.0.2.x86_64
  Verifying        : apr-util-1.6.3-1.amzn2023.0.1.x86_64
  Verifying        : apr-util-openssl-1.6.3-1.amzn2023.0.1.x86_64
  Verifying        : generic-logos-httpd-18.0.0-12.amzn2023.0.3.noarch
  Verifying        : httpd-2.4.59-2.amzn2023.x86_64
  Verifying        : httpd-core-2.4.59-2.amzn2023.x86_64
  Verifying        : httpd-filesystem-2.4.59-2.amzn2023.noarch
  Verifying        : httpd-tools-2.4.59-2.amzn2023.x86_64
  Verifying        : libbrotli-1.0.9-4.amzn2023.0.2.x86_64
  Verifying        : mailcap-2.1.49-3.amzn2023.0.3.noarch
  Verifying        : mod_http2-2.0.27-1.amzn2023.0.2.x86_64
  Verifying        : mod_lua-2.4.59-2.amzn2023.x86_64

Installed:
  apr-1.7.2-2.amzn2023.0.2.x86_64                    apr-util-1.6.3-1.amzn2023.0.1.x86_64          apr-util-openssl-1.6.3-1.amzn2023.0.1.x86_64
  generic-logos-httpd-18.0.0-12.amzn2023.0.3.noarch  httpd-2.4.59-2.amzn2023.x86_64                httpd-core-2.4.59-2.amzn2023.x86_64
  httpd-filesystem-2.4.59-2.amzn2023.noarch          httpd-tools-2.4.59-2.amzn2023.x86_64          libbrotli-1.0.9-4.amzn2023.0.2.x86_64
  mailcap-2.1.49-3.amzn2023.0.3.noarch               mod_http2-2.0.27-1.amzn2023.0.2.x86_64        mod_lua-2.4.59-2.amzn2023.x86_64

Complete!
```

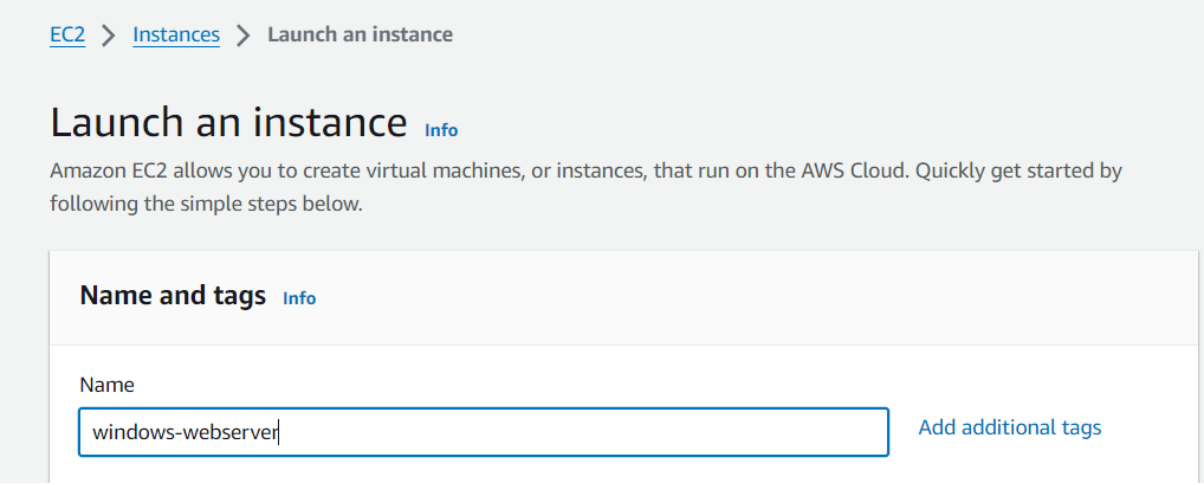
```
[ec2-user@ip-172-31-27-39 ~]$ sudo service httpd start
Redirecting to /bin/systemctl start httpd.service
```

```
[ec2-user@ip-172-31-27-39 ~]$ sudo service httpd status
Redirecting to /bin/systemctl status httpd.service
● httpd.service - The Apache HTTP Server
     Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; preset: disabled)
     Active: active (running) since Thu 2024-07-11 09:33:08 UTC; 34s ago
       Docs: man:httpd.service(8)
   Main PID: 26106 (httpd)
     Status: "Total requests: 0; Idle/Busy workers 100/0;Requests/sec: 0; Bytes served/sec:   0 B/sec"
      Tasks: 177 (limit: 1114)
     Memory: 12.9M
        CPU: 82ms
     CGroup: /system.slice/httpd.service
             ├─26106 /usr/sbin/httpd -DFOREGROUND
             ├─26133 /usr/sbin/httpd -DFOREGROUND
             ├─26135 /usr/sbin/httpd -DFOREGROUND
             ├─26136 /usr/sbin/httpd -DFOREGROUND
             └─26137 /usr/sbin/httpd -DFOREGROUND

Jul 11 09:33:08 ip-172-31-27-39.ec2.internal systemd[1]: Starting httpd.service - The Apache HTTP Server...
Jul 11 09:33:08 ip-172-31-27-39.ec2.internal systemd[1]: Started httpd.service - The Apache HTTP Server.
Jul 11 09:33:08 ip-172-31-27-39.ec2.internal httpd[26106]: Server configured, listening on: port 80
[ec2-user@ip-172-31-27-39 ~]$
```



It works!

2. Launch an EC2 instance (windows) along with a web server:



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

Recents | Quick Start

Amazon Linux | macOS | Ubuntu | Windows | Red Hat | SUSE Li

Browse more AMIs

Including AMIs from AWS, Marketplace and the Community

Network Info

vpc-0b21781614914fdfd

Subnet Info

No preference (Default subnet in any availability zone)

Auto-assign public IP Info

Enable

Additional charges apply when outside of free tier allowance

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-6**' with the following rules:

- [x] Allow RDP traffic from — Anywhere 0.0.0.0/0
  Helps you connect to your instance
- [ ] Allow HTTPS traffic from the internet
  To set up an endpoint, for example when creating a web server
- [ ] Allow HTTP traffic from the internet
  To set up an endpoint, for example when creating a web server

☑	windows-webs...	i-08cf8e9693210a64a	Running	t2.micro	–	View alarms +	us-east-1d	ec2-3-88-2
☐	linux-webserver	i-0dbd32881778e7840	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1d	ec2-44-22

i-08cf8e9693210a64a (windows-webserver)

Details | Status and alarms | Monitoring | Security | Networking | Storage | Tags

▼ Instance summary Info

Instance ID
i-08cf8e9693210a64a (windows-webserver)

Public IPv4 address
3.88.216.232 | open address

Private IPv4 addresses
172.31.21.143

EC2 > Instances > i-08cf8e9693210a64a > Connect to instance

Connect to instance Info

Connect to your instance i-08cf8e9693210a64a (windows-webserver) using any of these options

Session Manager | RDP client | EC2 serial console

Instance ID
i-08cf8e9693210a64a (windows-webserver)

Connection Type

- Connect using RDP client
  Download a file to use with your RDP client and retrieve your password.
- Connect using Fleet Manager
  To connect to the instance using Fleet Manager Remote Desktop, the SSM Agent must be installed and running on the instance. For more information, see Working with SSM Agent

You can connect to your Windows instance using a remote desktop client of your choice, and by downloading and running the RDP shortcut file below:

Connect to your instance i-08cf8e9693210a64a (windows-webserver) using any of these options

Session Manager | RDP client | EC2 serial console

Instance ID
i-08cf8e9693210a64a (windows-webserver)

Connection Type

- Connect using RDP client
  Download a file to use with your RDP client and retrieve your password.

You can connect to your Windows instance using a remote d
running the RDP shortcut file below:

Download remote desktop file

Remote Desktop Connection

The publisher of this remote connection can't be identified. Do you want to connect anyway?

This remote connection could harm your local or remote computer. Do not connect unless you know where this connection came from or have used it before.

Publisher:	**Unknown publisher**
Type:	Remote Desktop Connection
Remote computer:	ec2-3-88-216-232.compute-1.amazonaws.com

☐ Don't ask me again for connections to this computer

Show Details | Connect | Cancel

When prompted, connect to your instance using the following username and password:

Public DNS
ec2-3-88-216-232.compute-1.amazonaws.com

Username Info
Administrator

Password
RuhFXPyx=*5xng!36IJFx2q!1ZDe.T;h

If you've joined your instance to a directory, you can use your directory credentials to connect to your instance.

Windows Security

Enter your credentials

These credentials will be used to connect to ec2-3-88-216-232.compute-1.amazonaws.com.

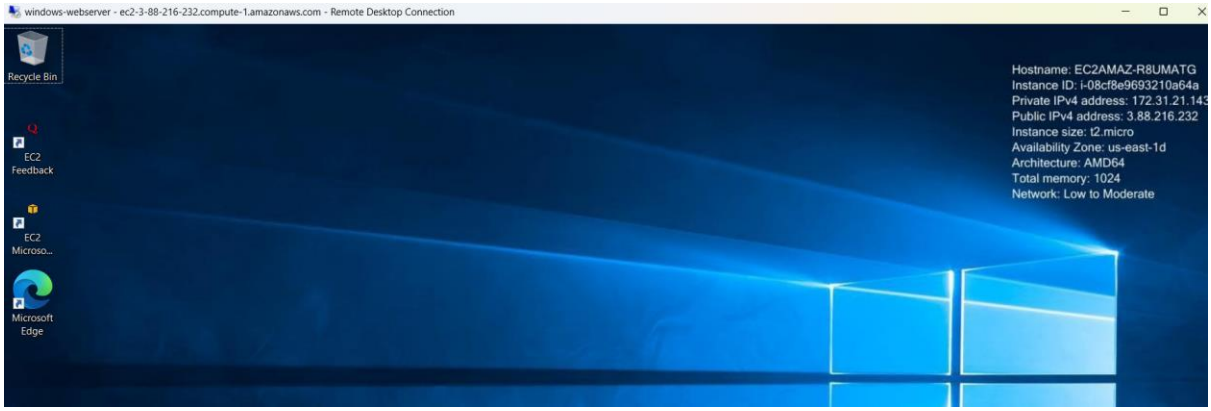
Administrator

LAPTOP-2IHS88Q4\Administrator

Remember me

More choices

OK Cancel



windows-webserver - ec2-3-88-216-232.compute-1.amazonaws.com - Remote Desktop Connection

Server Manager

Server Manager ‣ Dashboard

- Dashboard
- Local Server
- All Servers

WELCOME TO SERVER MANAGER

QUICK START

WHAT'S NEW

LEARN MORE

1 Configure this local server

2 Add roles and features

3 Add other servers to manage

4 Create a server group

5 Connect this server to cloud services

ROLES AND SERVER GROUPS

Roles: 0 | Server groups: 1 | Servers total: 1

Local Server	1	All Servers	1
Manageability		Manageability	
Events		Events	
Services		Services	
Performance		Performance	
BPA results		BPA results	

Add Roles and Features Wizard

Select server roles

Before You Begin
Installation Type
Server Selection
Server Roles
Features
Confirmation
Results

Add Roles and Features Wizard

Add features that are required for Web Server (IIS)?

The following tools are required to manage this feature, but do not have to be installed on the same server.

- Web Server (IIS)
  - Management Tools
    - [Tools] IIS Management Console

☑ Include management tools (if applicable)

Add Features | Cancel

Add Roles and Features Wizard

Select server roles

DESTINATION SERVER
EC2AMAZ-R8UMATG

Before You Begin
Installation Type
Server Selection
Server Roles
Features
Web Server Role (IIS)
Role Services
Confirmation
Results

Select one or more roles to install on the selected server.

Roles

- ☐ Active Directory Domain Services
- ☐ Active Directory Federation Services
- ☐ Active Directory Lightweight Directory Services
- ☐ Active Directory Rights Management Services
- ☐ Device Health Attestation
- ☐ DHCP Server
- ☐ DNS Server
- ☐ Fax Server
- ▷ ■ File and Storage Services (1 of 12 installed)
- ☐ Host Guardian Service
- ☐ Hyper-V
- ☐ Network Controller
- ☐ Network Policy and Access Services
- ☐ Print and Document Services
- ☐ Remote Access
- ☐ Remote Desktop Services
- ☐ Volume Activation Services
- ☑ Web Server (IIS)
- ☐ Windows Deployment Services
- ☐ Windows Server Update Services

Description

Web Server (IIS) provides a reliable, manageable, and scalable Web application infrastructure.

Add Roles and Features Wizard

Confirm installation selections

DESTINATION SERVER
EC2AMAZ-R8UMATG

- Before You Begin
- Installation Type
- Server Selection
- Server Roles
- Features
- Web Server Role (IIS)
  - Role Services
- Confirmation
- Results

To install the following roles, role services, or features on selected server, click Install.

☐ Restart the destination server automatically if required

Optional features (such as administration tools) might be displayed on this page because they have been selected automatically. If you do not want to install these optional features, click Previous to clear their check boxes.

- Web Server (IIS)
  - Web Server
    - Common HTTP Features
      - Static Content
      - Default Document
      - Directory Browsing
      - HTTP Errors
    - Security
      - Request Filtering
    - Health and Diagnostics
      - HTTP Logging

Export configuration settings
Specify an alternate source path

< Previous | Next > | Install | Cancel

Add Roles and Features Wizard

Installation progress

DESTINATION SERVER
EC2AMAZ-R8UMATG

- Before You Begin
- Installation Type
- Server Selection
- Server Roles
- Features
- Web Server Role (IIS)
  - Role Services
- Confirmation
- Results

View installation progress

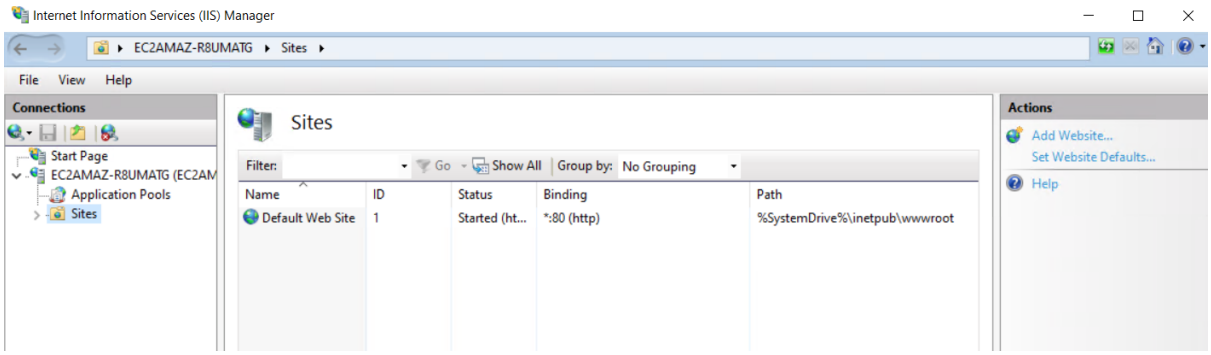
Feature installation

Installation succeeded on EC2AMAZ-R8UMATG.

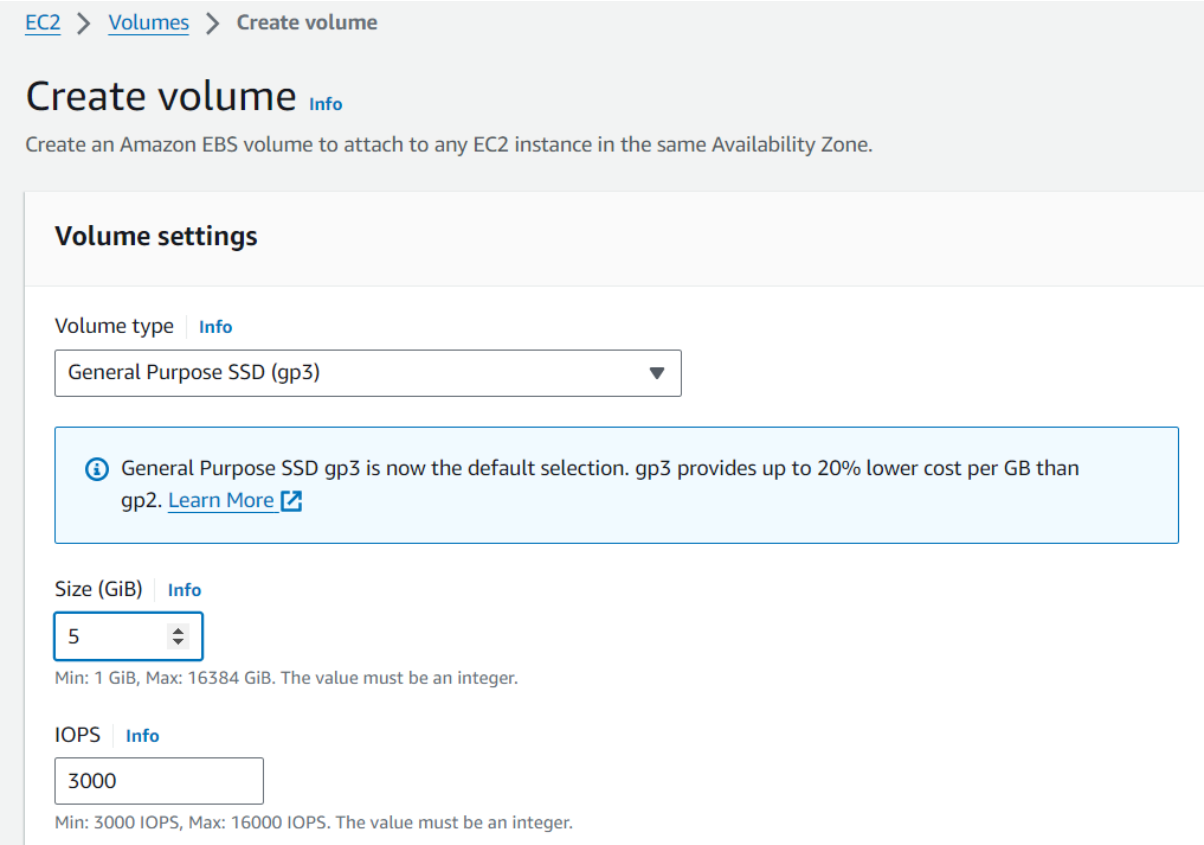
- Web Server (IIS)
  - Web Server
    - Common HTTP Features
      - Static Content
      - Default Document
      - Directory Browsing
      - HTTP Errors
    - Security
      - Request Filtering
    - Health and Diagnostics
      - HTTP Logging

You can close this wizard without interrupting running tasks. View task progress or open this page again by clicking Notifications in the command bar, and then Task Details.

Export configuration settings



3. **create an EBS volume of 5 GB, attach it to an EC2 machine (Linux):**



Basic details

Volume ID

vol-08a9de9926fbdd498 (linux-volume)

Availability Zone

us-east-1d

Instance Info

i-0dbd32881778e7840

ved.

i-0fd57259ae191de36
(Devops) (stopped)

i-0e65afae6574dec81
(jenkins) (stopped)

] for data volumes.

i-08cf8e9693210a64a
(windows-webserver) (running)

through

i-0dbd32881778e7840
(linux-webserver) (running)

ere (and shown in

Cancel Attach volume

Basic details

Volume ID

vol-08a9de9926fbdd498 (linux-volume)

Availability Zone

us-east-1d

Instance Info

i-0dbd32881778e7840

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

Device name Info

/dev/sdf

Recommended device names for Linux: /dev/xvda for root volume. /dev/sd[f-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.**

Cancel Attach volume

Successfully attached volume vol-08a9de9926fbdd498 to instance i-0dbd32881778e7840.

Volumes (6) Info

Actions | Create volume

Search

Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot	Created
linux-volume	vol-08a9de9926fbdd498	gp3	5 GiB	3000	125	-	2024/07/11 15:57 GMT+5:...

Successfully attached volume vol-08a9de9926fbdd498 to instance i-0dbd32881778e7840.

Volumes (1/6) Info

Actions | Create volume

Search

Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot	Created
linux-volume	vol-08a9de9926fbdd498	gp3	5 GiB	3000	125	-	2024/07/11 15:57 GMT+5:...
–	vol-0481b84e759ba9bba	gp2	30 GiB	100	-	snap-0c38d2a...	2024/07/11 15:10 GMT+5:...
–	vol-086ed71342274a451	gp3	8 GiB	3000	125	snap-053c517...	2024/06/26 14:03 GMT+5:...
–	vol-023b2b974e68fdac1	gp3	8 GiB	3000	125	snap-0422742...	2024/07/11 14:52 GMT+5:...
–	vol-084d9e452adbe583c	gp3	8 GiB	3000	125	snap-053c517...	2024/07/02 18:48 GMT+5:...

Volume ID: vol-08a9de9926fbdd498 (linux-volume)

Details | Status checks | Monitoring | Tags

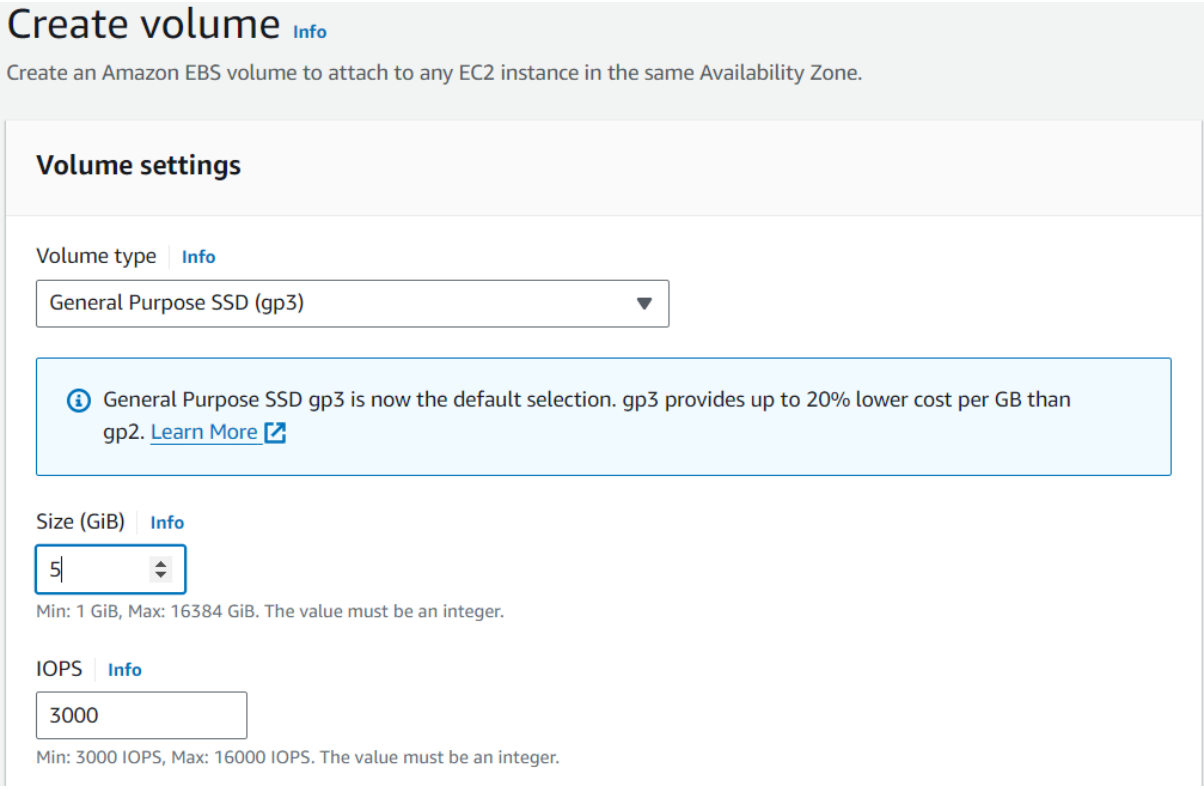
Volume ID	Size	Type	Volume status
vol-08a9de9926fbdd498 (linux-volume)	5 GiB	gp3	Okay

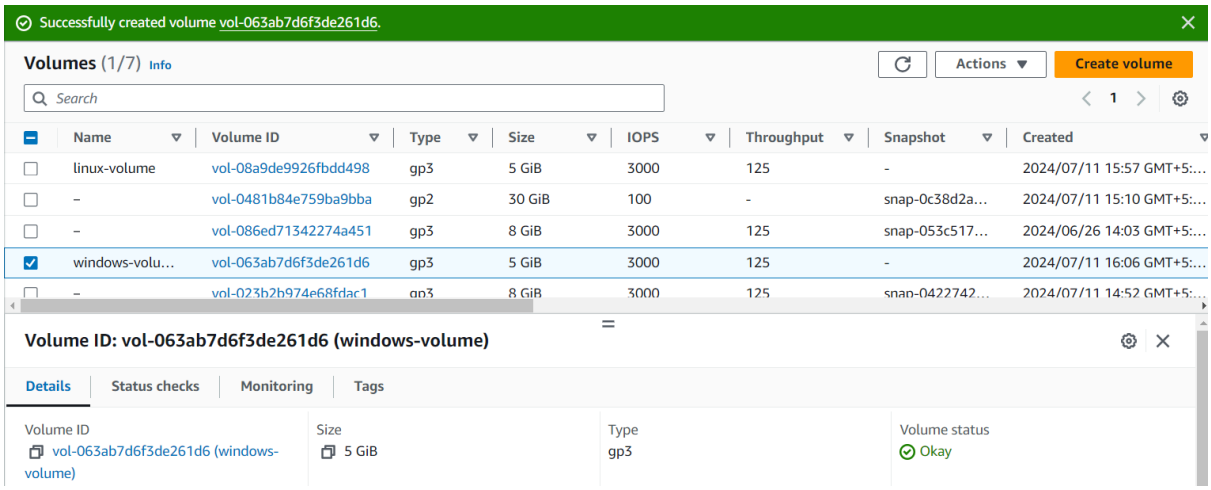
linux-webserver	i-0dbd32881778e7840	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1d	ec2-44-...

i-0dbd32881778e7840 (linux-webserver)

vol-08a9de9926fbdd498	/dev/sdf	5	Attached	2024/07/11 15:59 GMT+5:30	No	–

4. **create an EBS volume of 5 GB, attach it to an EC2 machine (windows):**





EC2 > Volumes > vol-063ab7d6f3de261d6 > Attach volume

Attach volume Info

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

i-0fd57259ae191de36
(Devops) (stopped)

i-0e65afae6574dec81
(jenkins) (stopped)

i-08cf8e9693210a64a
(windows-webserver) (running)

i-0dbd32881778e7840
(linux-webserver) (running)

i-08cf8e9693210a64a

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

Successfully attached volume vol-063ab7d6f3de261d6 to instance i-08cf8e9693210a64a.

Volumes (7) Info

Actions | Create volume

Search

Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot	Created
linux-volume	vol-08a9de9926fbdd498	gp3	5 GiB	3000	125	-	2024/07/11 15:57 GMT+5:...
-	vol-0481b84e759ba9bba	gp2	30 GiB	100	-	snap-0c38d2a...	2024/07/11 15:10 GMT+5:...
-	vol-086ed71342274a451	gp3	8 GiB	3000	125	snap-053c517...	2024/06/26 14:03 GMT+5:...
windows-volu...	vol-063ab7d6f3de261d6	gp3	5 GiB	3000	125	-	2024/07/11 16:06 GMT+5:...
-	vol-023b2b974e68fdac1	gp3	8 GiB	3000	125	snap-0422742...	2024/07/11 14:52 GMT+5:...

EC2 > Volumes > vol-063ab7d6f3de261d6

vol-063ab7d6f3de261d6 (windows-volume)

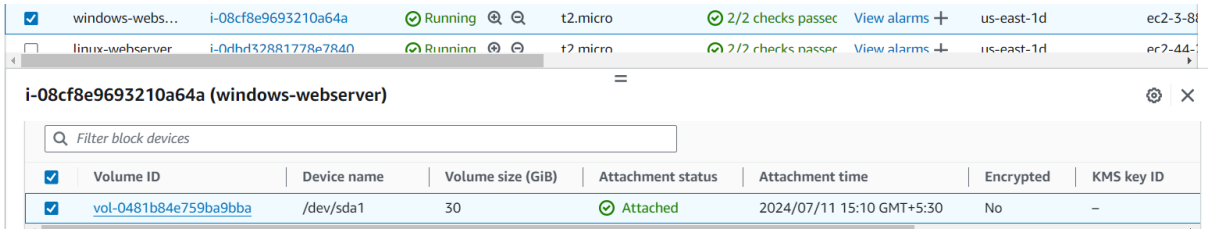
Actions | Delete | Modify

Volume ID	Size	Type	Volume status
vol-063ab7d6f3de261d6 (windows-volume)	5 GiB	gp3	Okay
AWS Compute Optimizer finding	**Volume state**	**IOPS**	**Throughput**
Opt-in to AWS Compute Optimizer for recommendations. | Learn more	In-use	3000	125

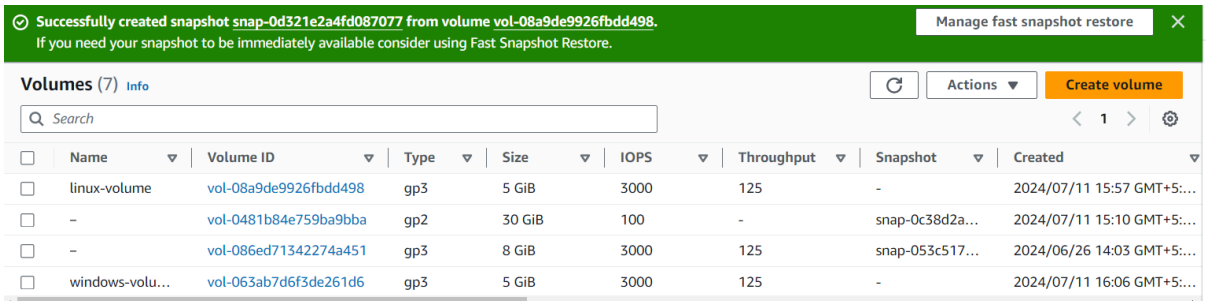
Volume ID: vol-063ab7d6f3de261d6 (windows-volume)

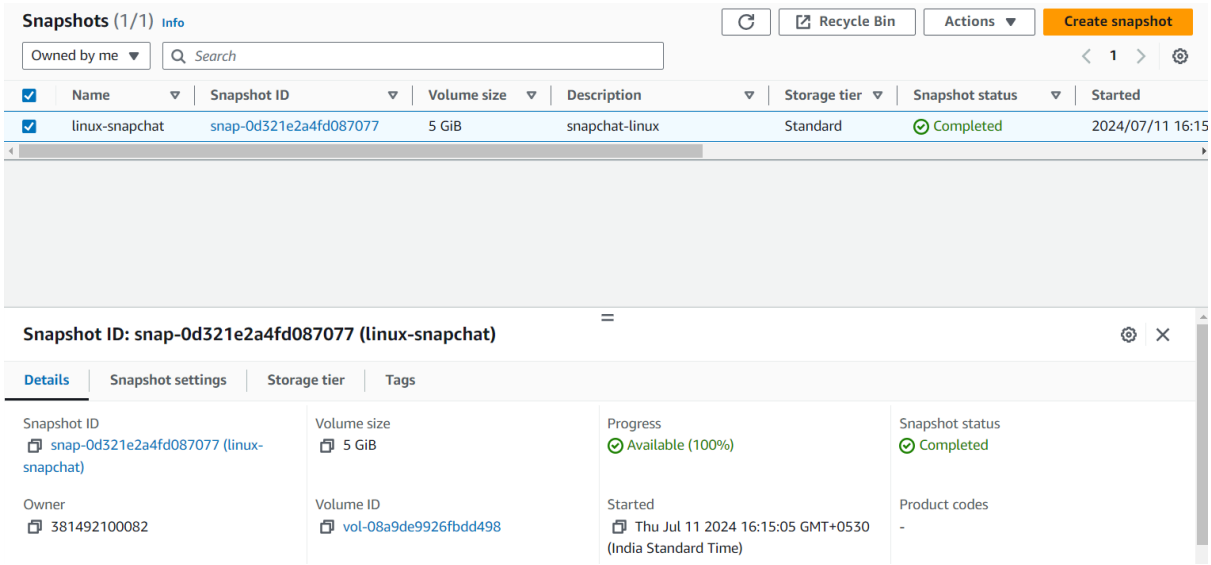
Details | Status checks | Monitoring | Tags

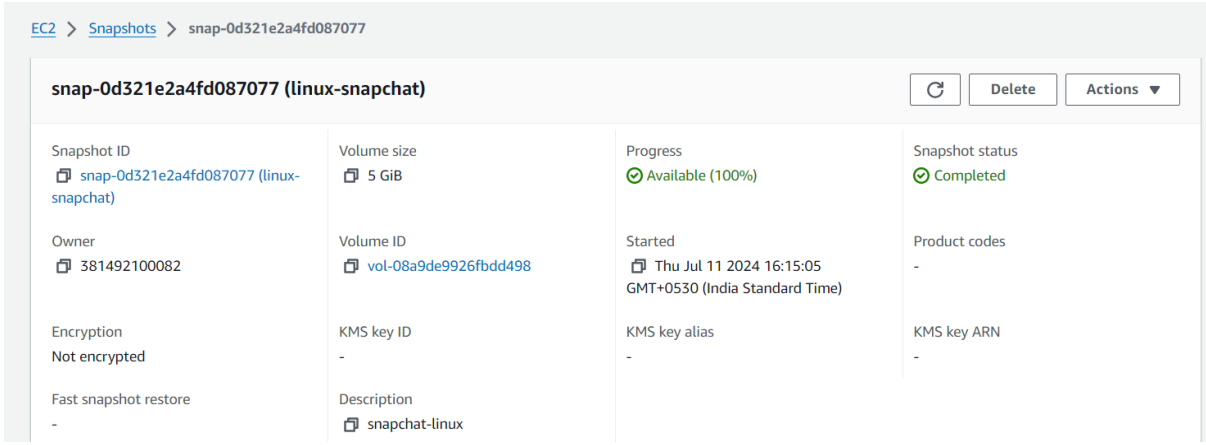
Volume ID	Size	Type
vol-063ab7d6f3de261d6 (windows-volume)	5 GiB	gp3



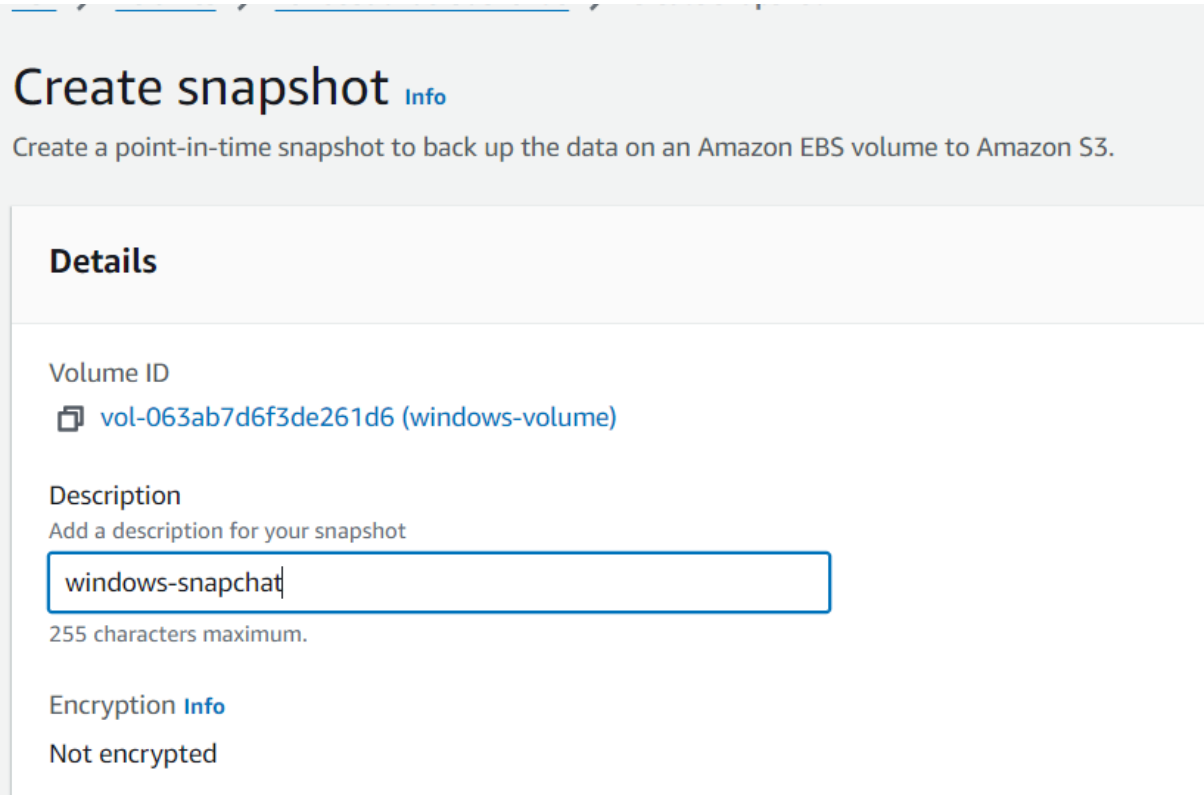
5. snapshot for Linux:

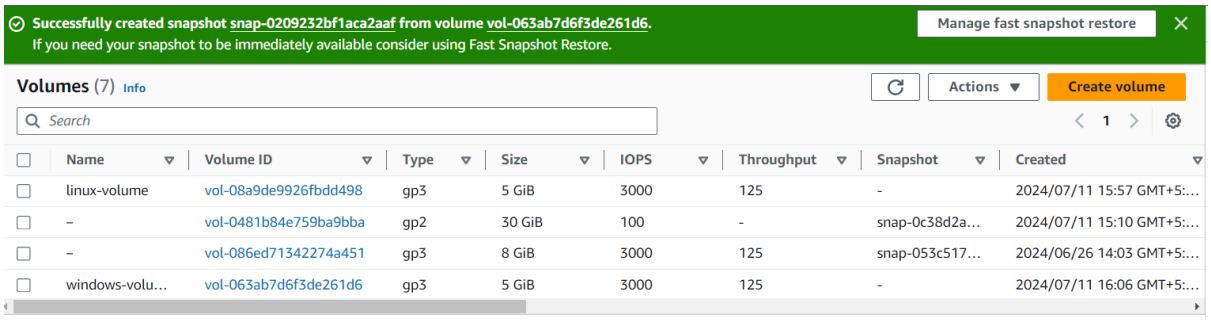


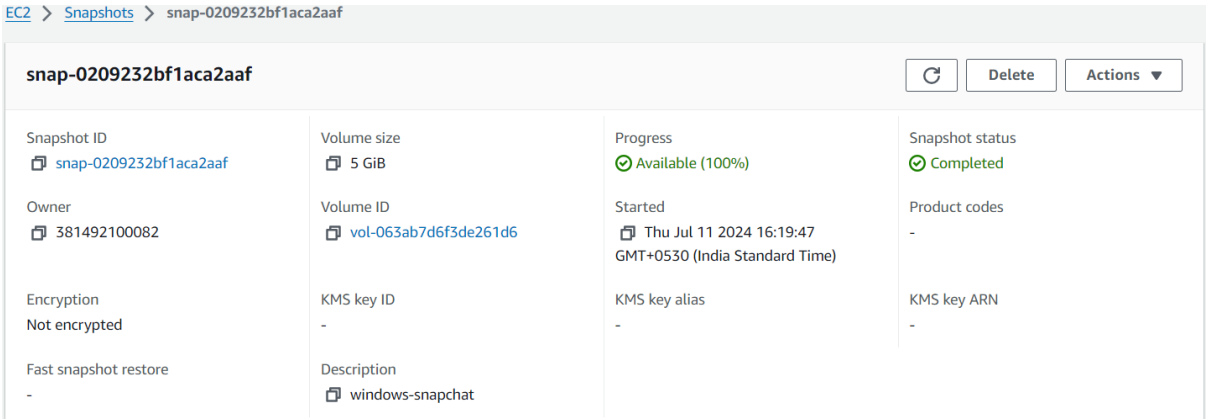


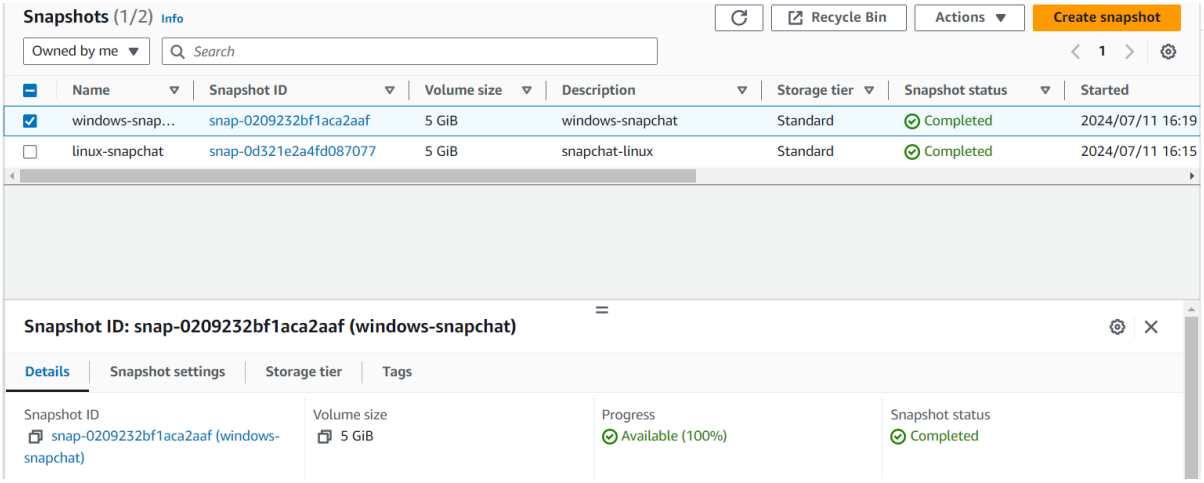


6. **snapshot for windows:**








Snapshots (1/2) Info
Recycle Bin
Actions
Create snapshot
Owned by me
Search
1
Name
Snapshot ID
Volume size
Description
Storage tier
Snapshot status
Started
windows-snap...
snap-0209232bf1aca2aaf
5 GiB
windows-snapchat
Standard
Completed
2024/07/11 16:19
linux-snapchat
snap-0d321e2a4fd087077
5 GiB
snapchat-linux
Standard
Completed
2024/07/11 16:15
Snapshot ID: snap-0209232bf1aca2aaf (windows-snapchat)
Details
Snapshot settings
Storage tier
Tags
Snapshot ID
snap-0209232bf1aca2aaf (windows-snapchat)
Volume size
5 GiB
Progress
Available (100%)
Snapshot status
Completed