

Encryption (KMS-CMS)

You can enable the Encryption direct when you launch the EC2 Instance

1. Choose AMI 2. Choose instance type 3. Configure instance 4. Add storage 5. Add tags 6. Configure security group 7. Review

Step 4: Add Storage

Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. [Learn more](#) about storage options in Amazon EC2.

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encryption
Root	/dev/sda1	snap-0d725d0229207dbb1	30	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted

Add New Volume

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. [Learn more](#) about free usage tier eligibility and usage restrictions.

We will launch 2 Instance in different user and we will encrypt 1 of them, and 2 will not encrypt, and see what is the difference between the two?

Launch instance without KMS

Volumes (1/1)									
<input type="button"/> Actions <input type="button"/> Create volume									
Filter volumes									
Name	Volume ID	Type	Size	IOPS	Throughput	Availability Zone	Volume state	Volume status	Alarm status
without-kms-v	vol-08585cba66d80db19	gp2	30 GiB	100	-	us-east-2c	<input checked="" type="radio"/> In-use	No alarms	

Volume ID: vol-08585cba66d80db19 (without-kms-v)

[Details](#) [Status checks](#) [Monitoring](#) [Tags](#)

Details

Volume ID vol-08585cba66d80db19 (without-kms-v)	Size 30 GiB	Type gp2	Volume status ○ Okay
Volume state ○ In-use	IOPS 100	Throughput -	Encryption Not encrypted
KMS key ID -	KMS key alias aws/ebs	KMS key ARN -	Snapshot snap-0d725d0229207dbb1

Launch instance with KMS

Volumes (1/1)									
<input type="button"/> Actions <input type="button"/> Create volume									
Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot	Created	Volume status	Alarm status
with-kms-v	vol-05c77a59aa1bbbedab	gp2	30 GiB	100	-	snap-0d725d0...	2022/06/26 06:52 GMT+5:...	○ Okay	

Volume ID: vol-05c77a59aa1bbbedab (with-kms-v)

[Details](#) [Status checks](#) [Monitoring](#) [Tags](#)

Details

Volume ID vol-05c77a59aa1bbbedab (with-kms-v)	Size 30 GiB	Type gp2	Volume status ○ Okay
Volume state ○ In-use	IOPS 100	Throughput -	Encryption Encrypted
KMS key ID 39bb8a36-d543-47f9-aac4-b94972e2a8b2	KMS key alias aws/ebs	KMS key ARN arn:aws:kms:us-east-2:154477793701:key/39bb8a36-d543-47f9-aac4-b94972e2a8b2	Snapshot snap-0d725d0229207dbb1
Availability Zone us-east-2c	Created Sun Jun 26 2022 06:52:17 GMT+0530 (India Standard Time)	Multi-Attach enabled No	Attached Instances i-0384113c7c9b9f44f (with-kms): /dev/sda1 (attached)

Encryption (KMS-CMS)

We will launch 2 Volume in different user and we will encrypt 1 of them, and 2 will not encrypt, and see what is the difference between the two?

Without KMS configure VOLUME

Volumes (1/1)
Actions ▾ Create volume
Filter volumes

Name	Volume ID	Type	Size	IOPS	Throughput	Availability Zone	Volume state	Alarm status
without-kms-v	vol-08585cba66d80db19	gp2	30 GiB	100	-	us-east-2c	In-use	No alarms

Disable Encryption option

Volume type [Info](#)
General Purpose SSD (gp2)

Size (GiB) [Info](#)
1
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-2c

Snapshot ID - optional [Info](#)
Don't create volume from a snapshot

Encryption [Info](#)
Use Amazon EBS encryption as an encryption solution for your EBS resources associated with your EC2 instances.
 Encrypt this volume

Create successfully

Name	Volume ID	Type	Size	IOPS	Throughput	Availability Zone	Volume state	Encryption	Snapshot ID	Created	Outposts ARN
without-kms-d	vol-02b48b13907e1edee	gp2	1 GiB	100	-	us-east-2c	Available	Not encrypted	-	Sun Jun 26 2022 07:04:34 GMT+0530 (India Standard Time)	-

Configure with Encrypted

Volumes (1)
Actions ▾ Create volume
Filter volumes

Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot	Created	Encryption
with-kms-v	vol-05c77a59aa1bbbedab	gp2	30 GiB	100	-	snap-0d725d0...	2022/06/26 06:52 GMT+5...	Encrypted

Encryption (KMS-CMS)

Configuration

Volume type [Info](#)

General Purpose SSD (gp2)

Size (GiB) [Info](#)

1

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-2c

Snapshot ID - optional [Info](#)

Don't create volume from a snapshot



Enable Encryption option select default key

Encryption [Info](#)

Use Amazon EBS encryption as an encryption solution for your EBS resources associated with your EC2 instances.

Encrypt this volume

KMS key [Info](#)

(default) aws/ebs



KMS key description

Default key that protects my EBS volumes when no other key is defined

KMS key owner

154477793701 (This account)

KMS key ID

39bb8a36-d543-47f9-aac4-b94972e2a8b2

KMS key ARN

arn:aws:kms:us-east-2:154477793701:key/39bb8a36-d543-47f9-aac4-b94972e2a8b2

i Volumes that are created from encrypted snapshots are automatically encrypted using the same key as the snapshot, or using a different key that you specify. Volumes that are created from unencrypted snapshots are automatically unencrypted, but you can choose to encrypt them using a specific key. If no snapshot is selected, you can choose to encrypt the volume and specify your own key. [Learn More](#) i

Successfully create			
with-kms-d	vol-025806cb8d267ff4b	gp2	1 GiB
		100	
			2022/06/26 07:09 GMT+5:...
Volume state <input checked="" type="radio"/> Available	IOPS 100	Throughput	Encryption Encrypted
KMS key ID <input type="checkbox"/> 39bb8a36-d543-47f9-aac4-b94972e2a8b2	KMS key alias <input type="checkbox"/> aws/ebs	KMS key ARN <input type="checkbox"/> arn:aws:kms:us-east-2:154477793701:key/39bb8a36-d543-47f9-aac4-b94972e2a8b2	Snapshot
Availability Zone us-east-2c	Created <input type="checkbox"/> Sun Jun 26 2022 07:09:34 GMT+0530 (India Standard Time)	Multi-Attach enabled No	Attached Instances
Outposts ARN			

Encryption (KMS-CMS)

Attached both volume to instance and check any difference or not in inside?

Attach Without KMS

A screenshot of the AWS Cloud9 interface. At the top, there's a dark bar with the title "Encryption (KMS-CMS)". Below it, another dark bar contains the text "Attached both volume to instance and check any difference or not in inside?". The main area shows a "Volumes (1/2)" table with two rows:

Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot	Availability Zone	
without-kms-v	vol-08585cba66d80db19	gp2	30 GiB	1...	-	S...	2...	us-east-2c
without-kms-d	vol-02b48b13907e1edee	gp2	1 GiB	1...	-	-	2...	us-east-2c

The "Actions" menu on the right has several options: "Modify volume", "Create snapshot", "Create snapshot lifecycle policy", "Delete volume", "Attach volume" (which is highlighted with a red box), and "Detach volume".

Successfully added

A screenshot of the Windows File Explorer. The left sidebar shows "Videos" and "Devices and drives (2)". Under "Devices and drives", there are two entries: "Local Disk (C:)" and "without-kms (D:)". The "without-kms (D:)" drive is highlighted with a blue selection bar.

Create folder and text file

A screenshot of the Windows File Explorer. The path is "This PC > without-kms (D:) >". The contents of the folder are:

Name	Date modified	Type	Size
without kms access folder	6/26/2022 1:49 AM	File folder	
testfile	6/26/2022 1:50 AM	Text Document	0 KB

Attach with KMS

A screenshot of the AWS Cloud9 interface. The "Volumes (1/2)" table shows one row:

Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot
with-kms-d	vol-025806cb8d267ff4b	gp2	1 GiB	100	-	-

The "Actions" menu on the right includes "Attach volume" (highlighted with a red box) and "Detach volume".

Successfully added

A screenshot of the Windows File Explorer. The left sidebar shows "Devices and drives (2)". Under "Devices and drives", there are two entries: "Local Disk (C:)" and "with-kms (D:)". The "with-kms (D:)" drive is highlighted with a blue selection bar.

Create folder and text file

A screenshot of the Windows File Explorer. The path is "This PC > with-kms (D:) >". The contents of the folder are:

Name	Date modified	Type	Size
with -kms	6/26/2022 1:57 AM	File folder	
test with kms	6/26/2022 1:57 AM	Text Document	0 KB

Encryption (KMS-CMS)

Create both side snapshot and see what is difference?

Create snap without KMS

A screenshot of the AWS CloudWatch Metrics interface. At the top, there's a search bar and a dropdown menu. Below it, a table lists metrics with columns: Metric Name, Value, Unit, and Last Value. One row shows 'AWS Lambda Function Execution Duration' with a value of 1.23 ms. On the right side, there are buttons for 'Actions' (with 'Create metric filter' and 'Create alarm') and 'CloudWatch Metrics Insights'.

See status was Not Encrypted

A screenshot of the AWS Volume Snapshot creation interface. It shows a table with columns: Name, Snapshot ID, Size, Description, Storage Type, Snapshot Status, and Started. A single row is selected for 'without-kms-d'. The 'Description' field contains 'without-kms'. The 'Encryption' section at the bottom shows 'Not encrypted'.

Create successfully

A screenshot of the AWS Snapshot list. It shows a table with columns: Name, Snapshot ID, Size, Description, Storage Type, Snapshot Status, and Started. A single row is selected for 'without-kms-s...'. The 'Snapshot Status' column shows 'Completed'.

Create snap with KMS

A screenshot of the AWS Volume Snapshot creation interface. It shows a table with columns: Name, Volume ID, Type, Size, IOPS, Throughput, and Snapshot. A single row is selected for 'with-kms-d'. The 'Encryption' section at the bottom shows 'Encrypted'.

See status was Encrypted

A screenshot of the AWS Snapshot list. It shows a table with columns: Name, Snapshot ID, Size, Description, Storage Type, Snapshot Status, and Started. A single row is selected for 'with-kms-snap'. The 'Snapshot Status' column shows 'Completed'.

Create successfully

A screenshot of the AWS Snapshot list. It shows a table with columns: Name, Snapshot ID, Size, Description, Storage Type, Snapshot Status, and Started. A single row is selected for 'with-kms-snap'. The 'Snapshot Status' column shows 'Completed'.

Encryption (KMS-CMS)

Can I encrypt snapshot the non-encrypted one and make the encrypted one non-encrypted snapshot?

Can I Create without KMS snapshot to convert volume with KMS?

Create volume from snapshot

Snapshots (1/1)
Owned by me
Filter snapshots by attributes and tags

Name	Snapshot ID	Size	Description	Storage...	Snapshot
without-kms-snap	snap-0c59bc0004538117f	1 GiB	without-kms	Standard	Com

Actions ▲ Create snapshot
Create volume from snapshot
Create image from snapshot
Copy snapshot
Modify permissions

Select AZ

Snapshot ID
snap-0c59bc0004538117f (without-kms-snap)

Volume type [Info](#)
General Purpose SSD (gp2)

Size (GiB) [Info](#)
1
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-2c

Change Encrypt setting

Encryption [Info](#)
Use Amazon EBS encryption as an encryption solution for your EBS resources associated with your EC2 instances.

Encrypt this volume

KMS key [Info](#)

(default) aws/ebs



KMS key description

Default key that protects my EBS volumes when no other key is defined

KMS key owner

659202326636 (This account)

KMS key ID

73cbff3f-d51c-4895-830c-5d865aeb46e1

KMS key ARN

arn:aws:kms:us-east-2:659202326636:key/73cbff3f-d51c-4895-830c-5d865aeb46e1

Info Volumes that are created from encrypted snapshots are automatically encrypted using the same key as the snapshot, or using a different key that you specify. Volumes that are created from unencrypted snapshots are automatically unencrypted, but you can choose to encrypt them using a specific key. If no snapshot is selected, you can choose to encrypt the volume and specify your own key. [Learn More](#)

Encryption (KMS-CMS)

Convert successfully

Successfully created snapshot snap-0c59bc0004538117f from volume vol-02b48b13907e1edee. If you need your snapshot to be immediately available consider using Fast Snapshot Restore.

Volumes (1/3)										Actions	Create volume
Name	Volume ID	T..	Size	Availability Zone	Volume state	Alarm status					
without-kms-v	vol-08585cba66d80db19	gp2	30 GiB	1...	-	s...	2...	us-east-2c	In-use	No alarms	
without-kms-d	vol-02b48b13907e1edee	gp2	1 GiB	1...	-	-	2...	us-east-2c	In-use	No alarms	
with-kms-e	vol-020e2b6071c580434	gp2	1 GiB	1...	-	s...	2...	us-east-2c	Available	No alarms	

Volume state: Available IOPS: 100 Throughput: Encryption: Encrypted

KMS key ID: 73cbff3f-d51c-4895-830c-5d865aeb46e1 KMS key alias: aws/eks KMS key ARN: arn:aws:kms:us-east-2:659202326636:key/73cbff3f-d51c-4895-830c-5d865aeb46e1 Snapshot: snap-0c59bc0004538117f

Availability Zone: us-east-2c Created: Sun Jun 26 2022 07:43:28 GMT+0530 (India Standard Time) Multi-Attach enabled: No Attached Instances: -

Now I will Attach the encrypted volume with the Instance and create a folder in the encrypted volume, and copy and paste it into the non-encrypted volume. If the folder is pasted in a non-encrypted one, will it allow me to access it or not?

Attach volume

Volumes (1/3)

Name	Volume ID	T..	Size	Availability Zone	Actions	Create volume			
without-kms-v	vol-08585cba66d80db19	gp2	30 GiB	1...	-	s...	2...	us-east-2c	Modify volume
without-kms-d	vol-02b48b13907e1edee	gp2	1 GiB	1...	-	-	2...	us-east-2c	Create snapshot
with-kms-e	vol-020e2b6071c580434	gp2	1 GiB	1...	-	s...	2...	us-east-2c	Create snapshot lifecycle policy

Actions ▲ Create volume

- Modify volume
- Create snapshot
- Create snapshot lifecycle policy
- Delete volume
- Attach volume**
- Detach volume

Successfully add

Devices and drives (3)

- Local Disk (C): 13.3 GB free of 29.9 GB
- without-kms (D): 0.98 GB free of 0.99 GB
- with-kms (E): 0.98 GB free of 0.99 GB**

In Encrypted volume create volume and copy

> This PC > with-kms (E:)

Name	Date modified	Type	Size
with kms	6/26/2022 1:49 AM	File folder	
testfile with kms	6/26/2022 1:50 AM	Text Document	0 KB

Successfully paste and read all files

> This PC > without-kms (D:)

Name	Date modified	Type	Size
without kms access folder	6/26/2022 1:49 AM	File folder	
testfile	6/26/2022 1:50 AM	Text Document	0 KB
testfile with kms	6/26/2022 1:50 AM	Text Document	0 KB
with kms	6/26/2022 1:49 AM	File folder	

Encryption (KMS-CMS)

Can I make an encrypted volume non-encrypted?

Encrypted snap to create volume and convert to non Encrypted

The screenshot shows the AWS EBS Snapshots console with one item listed:

Name	Snapshot ID	Size	Description	Storage...	Snapshot st...
with-kms-snap	snap-045023faea3ca553e	1 GiB	with - kms	Standard	Complete

Actions menu options include: Create volume from snapshot, Create image from snapshot, Copy snapshot, and Modify permissions.

I cannot convert encrypted to non-encrypted

The screenshot shows the "Create volume" wizard step 1 of 3. It includes fields for:

- Encryption: Encrypt this volume
- KMS key: (default) aws/ebs
- KMS key description: Default key that protects my EBS volumes when no other key is defined
- KMS key owner: 154477793701 (This account)
- KMS key ID: 39bb8a36-d543-47f9-aac4-b94972e2a8b2
- KMS key ARN: arn:aws:kms:us-east-2:154477793701:key/39bb8a36-d543-47f9-aac4-b94972e2a8b2

A callout box provides information about volume encryption:

i Volumes that are created from encrypted snapshots are automatically encrypted using the same key as the snapshot, or using a different key that you specify. Volumes that are created from unencrypted snapshots are automatically unencrypted, but you can choose to encrypt them using a specific key. If no snapshot is selected, you can choose to encrypt the volume and specify your own key. [Learn More](#)

Encryption (KMS-CMS)

How to configure CMS (Customer Managed Keys)

Search option KMS

The screenshot shows the AWS search interface with a search bar containing 'kms'. Below the search bar, there's a sidebar with 'Services 11', 'Features 13', 'Blogs 385', 'Documentation 54,432', and 'Knowledge Articles 30'. The main area displays search results for 'kms', with the 'Key Management Service' card being highlighted. The card includes the text 'Securely Generate and Manage AWS Encryption Keys' and 'Top features: AWS managed keys, Customer managed keys, Custom key stores'. A link 'See all 11 results' is also present.

AWS free key provide default

The screenshot shows the AWS KMS service page under 'AWS managed keys'. It lists one key named 'aws/ebs' with the status 'Enabled'. The left sidebar shows navigation options: 'Key Management Service (KMS)', 'AWS managed keys' (which is selected), 'Customer managed keys', and 'Custom key stores'.

Click to customer managed keys and create key

The screenshot shows the AWS KMS service page under 'Customer managed keys'. It displays a table with zero resources, indicating 'Empty Resources' and 'No resources to display'. The right side of the screen shows a 'Key actions' dropdown and a prominent orange 'Create key' button, which is highlighted with a red box.

no changes only click next

Configure key

The screenshot shows the 'Configure key' wizard, Step 1: Configure key. On the left, a sidebar lists steps: Step 1 Configure key (selected), Step 2 Add labels, Step 3 Define key administrative permissions, Step 4 Define key usage permissions, and Step 5 Review. The main area is titled 'Configure key' and contains two sections: 'Key type' and 'Key usage'. Under 'Key type', 'Symmetric' is selected (radio button is checked). Under 'Key usage', 'Encrypt and decrypt' is selected. At the bottom, there's an 'Advanced options' section and a 'Next' button, which is highlighted with a red box.

Encryption (KMS-CMS)

Add name and description

Step 1 Configure key

Step 2 Add labels

Step 3 Define key administrative permissions

Step 4 Define key usage permissions

Step 5 Review

Add labels

Alias
You can change the alias at any time. [Learn more](#)

Alias: devOps-key

Description - optional
You can change the description at any time.

Description - optional
Description of the key

Enable option to allow key

Step 1 Configure key

Step 2 Add labels

Step 3 Define key administrative permissions

Step 4 Define key usage permissions

Step 5 Review

Define key administrative permissions

Key administrators
Choose the IAM users and roles who can administer this key through the KMS API. You may need to add additional permissions for the users or roles to administer this key from this console. [Learn more](#)

Name	Path	Type
AWSServiceRoleForSupport	/aws-service-role/support.amazonaws.com	Role
AWSServiceRoleForTrustedAdvisor	/aws-service-role/trustedadvisor.amazonaws.com/	Role

Key deletion

Allow key administrators to delete this key.

Cancel Previous Next

Not change and next

Step 1 Configure key

Step 2 Add labels

Step 3 Define key administrative permissions

Step 4 Define key usage permissions

Step 5 Review

Define key usage permissions

This account
Select the IAM users and roles that can use the KMS key in cryptographic operations. [Learn more](#)

Name	Path	Type
AWSServiceRoleForSupport	/aws-service-role/support.amazonaws.com	Role
AWSServiceRoleForTrustedAdvisor	/aws-service-role/trustedadvisor.amazonaws.com/	Role

Other AWS accounts

Specify the AWS accounts that can use this key. Administrators of the accounts you specify are responsible for managing the permissions that allow their IAM users and roles to use this key. [Learn more](#)

Add another AWS account

Create successfully CMS

Success
Your AWS KMS key was created with alias **devOps-key** and key ID **bcd04607-74c2-41bb-9c49-d16570f15755**.

KMS > Customer managed keys

Customer managed keys (1)

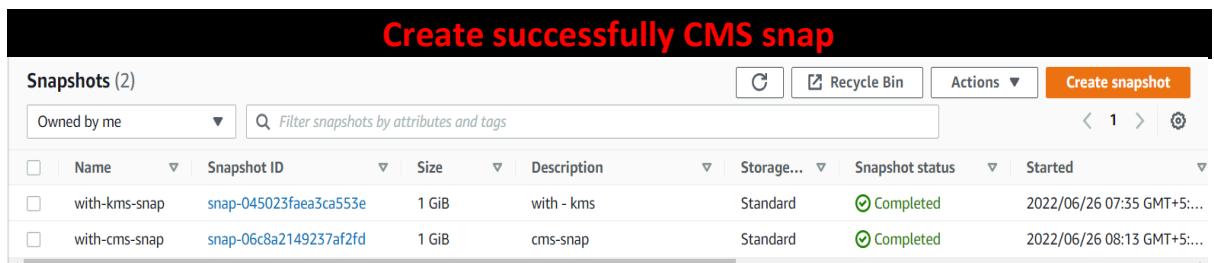
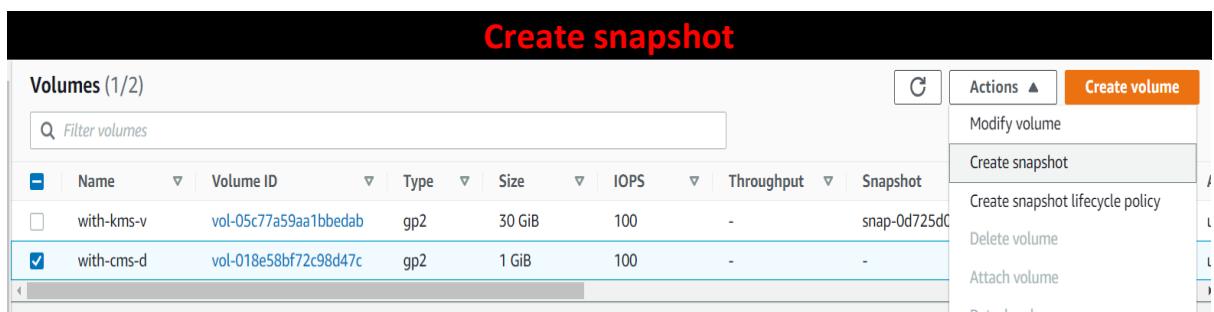
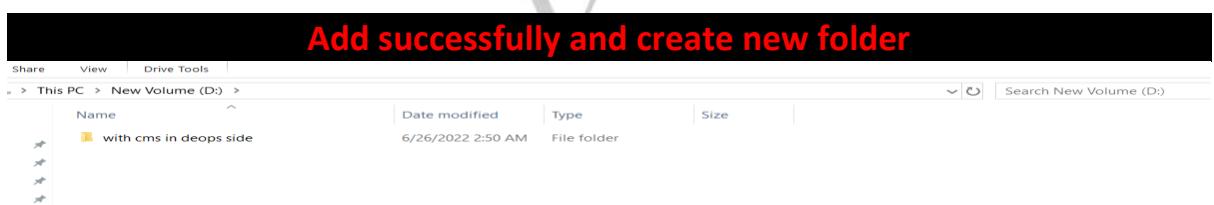
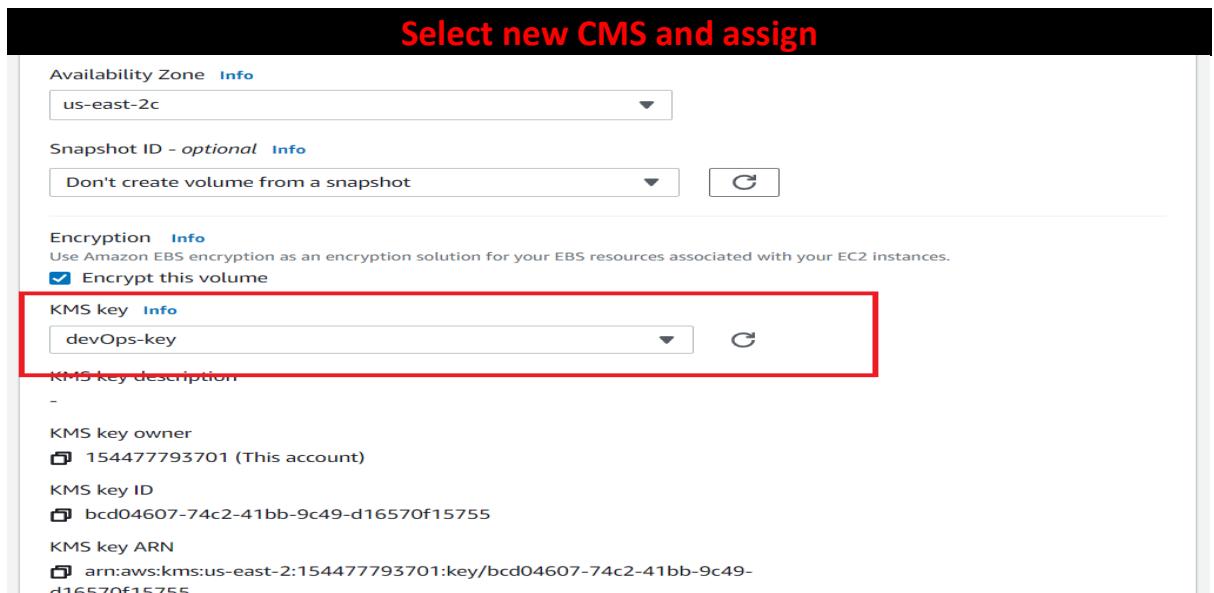
Key actions ▾ Create key

Filter keys by properties or tags

Aliases	Key ID	Status	Key spec	Key usage
devOps-key	bcd04607-74c2-41bb-9c49-d16570f15755	Enabled	SYMMETRIC_DEFAULT	Encrypt and decrypt

Encryption (KMS-CMS)

Now I create a new volume, put new encrypted in it and create a folder in it and extract its snapshot.



Encryption (KMS-CMS)

Now I will give the new CMS key of this account the permission of another account, and I will check in another account.

If I used the default key, then I would not get the modification option at all, so we have made the second CMS, in which we will give the option of modification.

See, not modification option in default KMS key

Snapshots (1/1)

Name	Snapshot ID	Size	Description	Storage...	Snapshot status	Started
with-kms-snap	snap-045023faea3ca553e	1 GiB	with - kms	Standard	Completed	2022/06/26 07:35 GMT+5...

Snapshot ID: snap-045023faea3ca553e (with-kms-snap)

Details Permissions Storage tier Tags

Snapshot share permissions
Private
The snapshot is shared only with AWS accounts that you specified.
You can only share snapshots that are encrypted with a customer managed key.

No first check without CMS system snapshot option not any created s

Snapshots

Name	Snapshot ID	Size	Description	Storage...	Snapshot status	Started
You currently have no snapshots in this Region.						

Now this instance(CMS KEY USED) will be given permission for another account→ click modify permission

Snapshots (1/1)

Name	Snapshot ID	Size	Description	Storage...	Snapshot status	Started
cms-snap	snap-0154ebc2bd0b1bbd4	1 GiB	cms-devOps-snap	Standard	Completed	2022/06/26 08:21 GMT+5...

Snapshot ID: snap-0154ebc2bd0b1bbd4 (cms-snap)

Details Permissions Storage tier Tags

Snapshot share permissions
Private
The snapshot is shared only with AWS accounts that you specified.

Shared accounts (0)
The snapshot is shared with the following AWS accounts.
Add account ID

Find shared accounts

Encryption (KMS-CMS)

It is written in it that if you do an ad account, then you have to add it in KMS/CMS too, so let's see what happens if I don't add an account IN CMS?

Click private

The screenshot shows the 'Settings' tab for a CloudWatch Metrics Insights snapshot. A red box highlights the 'This snapshot is encrypted' message, which states: 'When you share an encrypted snapshot with another account, you must also share the KMS key associated with the snapshot using KMS.' Below this, another red box highlights the 'Snapshot availability' section where the 'Private (current setting)' option is selected.

Click add account option

The screenshot shows the 'Shared accounts' section of the CloudWatch Metrics Insights settings. It displays a table with one row for 'AWS account ID'. A red box highlights the 'Add account' button at the top right of the table. At the bottom right of the page, there are 'Cancel' and 'Save changes' buttons.

Add another account ID

The screenshot shows the 'Add account' dialog box. It has a title 'Add account' and a sub-instruction 'Add the AWS accounts with which to share.' Below this is a 'AWS account ID' field with the placeholder 'Enter account ID'. At the bottom right are 'Cancel' and 'Add' buttons.

Check another account ID copy

The screenshot shows the 'Account' page of CloudWatch Metrics Insights. It displays account information: 'Account ID: 6592-0232-6636' and 'IAM user: admin1'. There are 'Recycle Bin' and 'Account' buttons at the bottom.

Encryption (KMS-CMS)

Paste another account ID

Add account
Add the AWS accounts with which to share.

AWS account ID
Enter the account ID without hyphens.
659202326636

Cancel Add

Click to save changes

Shared accounts (1)
Find shared accounts

AWS account ID
659202326636

Cancel Save changes

Check another account side

Snapshots
Owned by me
Owned by me
Private snapshots
Public snapshots

Filter snapshots by attributes and tags

Actions Create snapshot

See available option here successfully share snapshot

Snapshots (1/1)
Private snapshots

Name	Snapshot ID	Size	Description	Storage...	Snapshot status	Started
cms-devops-snap	snap-0154ebc2bd0b1bbd4	1 GiB	cms-devOps-snap	Standard	Completed	2022/06/26 08:21 GM

Snapshot ID: snap-0154ebc2bd0b1bbd4 (cms-devops-snap)
Owner: 154477793701
Encryption: Encrypted
Fast snapshot restore: -
Size: 1 GiB
Volume ID: vol-018e58bf72c98d47c
KMS key ID: bcd04607-74c2-41bb-9c49-d16570f15755
Description: cms-devOps-snap
Progress: Available (100%)
Started: Sun Jun 26 2022 08:21:43 GMT+0530 (India Standard Time)
KMS key alias: -
KMS key ARN: arn:aws:kms:us-east-2:154477793701:key/bcd04607-74c2-41bb-9c49-d16570f15755
Snapshot status: Completed

Create volume from CMS snapshot

Snapshots (1/1)
Actions Create snapshot

Create volume from snapshot
Create image from snapshot
Copy snapshot
Modify permissions

Encryption (KMS-CMS)

See, here no any option non encrypted option

Encryption [Info](#)
Use Amazon EBS encryption as an encryption solution for your EBS resources associated with your EC2 instances.

Encrypt this volume

KMS key [Info](#)
alias/aws/ebs

KMS key description
 Default key that protects my EBS volumes when no other key is defined

KMS key owner
 659202326636 (This account)

KMS key ID
 73cbff3f-d51c-4895-830c-5d865aeb46e1

KMS key ARN
 arn:aws:kms:us-east-2:659202326636:key/73cbff3f-d51c-4895-830c-5d865aeb46e1

i Volumes that are created from encrypted snapshots are automatically encrypted using the same key as the snapshot, or using a different key that you specify. Volumes that are created from unencrypted snapshots are automatically unencrypted, but you can choose to encrypt them using a specific key. If no snapshot is selected, you can choose to encrypt the volume and specify your own key. [Learn More](#)

See here notify successfully add volume

Successfully created volume vol-0cd2ce7b964225617.

Snapshots (1)

Name	Snapshot ID	Size	Description	Storage...	Snapshot status	Started
cms-devops-snap	snap-0154ebc2bd0b1bbd4	1 GiB	cms-devOps-snap	Standard	Completed	2022/06/26 08:21 GMT+!

Volume not showing

Volumes (1)

Name	Volume ID	T..	Size	Availability Zone	Volume state	Alarm status
without-kms-v	vol-08585cba66d80db19	gp2	30 GiB	1...	In-use	No alarms

Volume is not showing here because we have not given permission to other accounts in CMS, we have given permission only to snapshot, so now we will give permission in CMS and check whether we will see volume after giving permission in CMS or not?

Enable CMS Key

Customer managed keys (1/1)

Aliases	Key ID	Status	Key spec
<input checked="" type="checkbox"/> devOps-key	bcd04607-74c2-41bb-9c49-d16570f15755	Enabled	SYMMETRIC_DEFAULT

Key actions ▾ Create key

- Enable
- Disable
- Schedule key deletion
- Cancel key deletion
- Delete key material
- Decrypt
- Add or edit tags

Encryption (KMS-CMS)

Click to key

Aliases	Key ID	Status	Key spec	Key usage
devOps-key	bcd04607-74c2-41bb-9c49-d16570f15755	Enabled	SYMMETRIC_DEFAULT	Encrypt and decrypt

Click to add other aws account

Name	Path
	Empty Resources No resources to display

Add another account ID

Specify the AWS accounts that can use this key. Administrators of the accounts you specify are responsible for managing the permissions that allow their IAM users and roles to use this key. [Learn more](#)

arn:aws:iam:: 659202326636 :root Remove

Add another AWS account

Cancel Save changes

ADD SUCCESSFULLY

Other AWS accounts

- arn:aws:iam::659202326636:root

[Add other AWS accounts](#)

After giving permission in the CMS, we will see again by converting the snapshot to volume

Create volume from snapshot

Name	Snapshot ID	Size	Description	Storage...	Snapshot
cms-dev-ops-snap	snap-0154ebc2bd0b1bbd4	1 GiB	cms-devOps-snap	Standard	Create volume from snapshot

Encryption (KMS-CMS)

See successfully add volume

The screenshot shows the AWS EBS console with the 'Volumes' table. A red box highlights the details for the 'cms-devOps-d' volume:

Volume state	IOPS	Throughput	Encryption
Available	100	-	Encrypted
KMS key ID 73cbff3f-d51c-4895-830c-5d865aeb46e1	KMS key alias aws/ebs	KMS key ARN arn:aws:kms:us-east-2:659202326636:key/73cbff3f-d51c-4895-830c-5d865aeb46e1	Snapshot snap-0154ebc2bd0b1bbd4
Availability Zone us-east-2c	Created Sun Jun 26 2022 08:41:47 GMT+0530 (India Standard Time)	Multi-Attach enabled No	Attached Instances -
Outposts ARN -			

Attach volume

The screenshot shows the AWS EBS console with the 'Volumes' table. A red box highlights the 'Actions' dropdown menu, which includes the option 'Attach volume'.

Successfully attach and see CMS folder access

The screenshot shows a Windows File Explorer window. The left sidebar shows 'This PC' and 'New Volume (D:)'. The main area shows a folder named 'with cms in deops side' under 'This PC'. The folder was created on 6/26/2022 at 2:50 AM.

Encryption (KMS-CMS)

If I copy the snapshot from one account to another, then in that too I get the option to change the key.

Copy snapshot option

The screenshot shows a table of snapshots with one entry: 'cms-snap'. In the 'Actions' menu, the 'Copy snapshot' option is highlighted with a red box.

See available option to change key

The 'Encryption' section is highlighted with a red box. It shows a dropdown menu for selecting a KMS key, with options like 'devOps-key (source snapshot's key)', '(default) aws/ebs', and 'devOps-key (source snapshot's key)' selected. The 'Encrypt this snapshot' checkbox is checked.

We can never give public permission to KMS/CMS Key

A modal dialog box contains the following text:
This snapshot is encrypted
When you share an encrypted snapshot with another account, you must also share the KMS key associated with the snapshot using KMS. [Learn more](#)

Snapshot ID: snap-0154ebc2bd0b1bbd4 (cms-snap)

Snapshot availability:
 Public: Share the snapshot publicly with all AWS users.
 Private (current setting): Share the snapshot with specific accounts.

Share snapshot publicly
Sharing a snapshot publicly shares the snapshot and its contents with all AWS users in this Region.

✖ OperationNotPermitted: Encrypted snapshots cannot be shared publicly.

Cancel **Save changes**

Encryption (KMS-CMS)

We can give public permission to normal snapshot

Click to normal snapshot

Snapshots (1/1)

Name	Snapshot ID	Size	Description	Storage...	Snapshot status	Started
without-encrypted	snap-0dabfe1f51a01234e	1 GiB	without encrypted	Standard	Completed	2022/06/26 08:56 GMT+

Snapshot ID: snap-0dabfe1f51a01234e (without-encrypted)

Details Permissions Storage tier Tags

Snapshot share permissions

Private
The snapshot is shared only with AWS accounts that you specified.

Click to public to save

This snapshot is unencrypted
When you share an unencrypted snapshot, you give the specified accounts permission to copy the snapshot and to create volumes from it.

Snapshot ID

Snapshot availability
 Public Share the snapshot publicly with all AWS users.
 Private (current setting) Share the snapshot with specific accounts.

Share snapshot publicly
Sharing a snapshot publicly shares the snapshot and its contents with all AWS users in this Region.

Check another account to check

Snapshots (1/1)

Name	Snapshot ID	Size	Description	Storage...	Snapshot status	Started
unencrypted-vivek...	snap-0dabfe1f51a01234e	1 GiB	without encrypted	Standard	Completed	2022/06/26 08:56 GM

Encryption (KMS-CMS)

Same assign to permission private and add another account

Normal snapshot to click modify option

Snapshots (1/1)

Owned by me	Snapshot ID	Size	Description	Storage...	Snapshot status
<input checked="" type="checkbox"/> without-encrypted	snap-0dabfe1f51a01234e	1 GiB	without encrypted	Standard	Completed

Snapshot ID: snap-0dabfe1f51a01234e (without-encrypted)

Details Permissions Storage tier Tags

Snapshot share permissions

Public
This snapshot is currently shared with all AWS accounts.

Select private option

Settings

i This snapshot is unencrypted
When you share an unencrypted snapshot, you give the specified accounts permission to copy the snapshot and to create volumes from it.

Snapshot ID
 snap-0dabfe1f51a01234e (without-encrypted)

Snapshot availability

Public (current setting)
Share the snapshot publicly with all AWS users.

Private
Share the snapshot with specific accounts.

Add another account ID

Add account

Add the AWS accounts with which to share.

AWS account ID
Enter the account ID without hyphens.

COPY ANOTHER ACCOUNT ID

la01234e;visibility=public

Account ID: 1544-7779-3701

Recycle Bin

Account

Encryption (KMS-CMS)

Past another account ID

Add account

Add the AWS accounts with which to share.

AWS account ID

Enter the account ID without hyphens.

154477793701

Cancel Add

Filter snapshot to private see available option

Name	Snapshot ID	Size	Description	Storage...	Snapshot status	Started
unencrypted-vivekside	snap-0dabfe1f51a01234e	1 GiB	without encrypted	Standard	Completed	2022/06/26 08:56 GM
cms-snap	snap-0154ebc2bd0b1bbd4	1 GiB	cms-devOps-snap	Standard	Completed	2022/06/26 08:21 GM

we can also modify C drive(non-encrypted to encrypted)

First, create snapshot C drive

Create snapshot

Create snapshot lifecycle policy

Delete volume

Then stop instance

Stop instance

Start instance

Reboot instance

Hibernate instance

Terminate instance

Then detach volume c drive

Detach volume

Force detach volume

Encryption (KMS-CMS)

Delete volume

Volumes (1/1)

Name	Volume ID	T..	Size	Availability Zone
without-kms-v	vol-08585cba66d80db19	gp2	30 GiB	1... - s... 2... us-east-2c

Actions ▾ **Create volume**

- Modify volume
- Create snapshot
- Create snapshot lifecycle policy
- Delete volume**
- Attach volume

Create volume from snapshot

Snapshots (1/1)

Name	Snapshot ID	Size	Description	Storage...	Snapshot...
C-UN-EN	snap-009664202d54649cb	30 GiB	C drive change kms	Standard	Com...

Actions ▾ **Create snapshot**

- Create volume from snapshot
- Create image from snapshot
- Copy snapshot
- Modify permissions

Configuration

Snapshot ID: snap-009664202d54649cb (C-UN-EN)

Volume type: General Purpose SSD (gp2)

Size (GiB): 30

IOPS: 100 / 3000

Throughput (MiB/s): Not applicable

Availability Zone: us-east-2c

Fast snapshot restore: Not enabled for selected snapshot

Modify non-Encrypted to convert Encrypted

Encryption: Encrypt this volume (checked)

KMS key: (default) aws/ebs

KMS key description: Default key that protects my EBS volumes when no other key is defined

KMS key owner: 659202326636 (This account)

KMS key ID: 73cbff3f-d51c-4895-830c-5d865aeb46e1

KMS key ARN: arn:aws:kms:us-east-2:659202326636:key/73cbff3f-d51c-4895-830c-5d865aeb46e1

Then attach volume

Volumes (1/1)

Name	Volume ID	T..	Size	Availability Zone
-	vol-07917528e398b7ac8	gp2	30 GiB	1... - s... 2... us-east-2c

Actions ▾ **Create volume**

- Modify volume
- Create snapshot
- Create snapshot lifecycle policy
- Delete volume
- Attach volume**
- Detach volume

Encryption (KMS-CMS)

Add name compulsory /dev/sda(root)

Volume ID
 vol-07917528e398b7ac8

Availability Zone
us-east-2c

Instance [Info](#)

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

Device name [Info](#)

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

Successfully Add

Volumes (1/1)

<input checked="" type="checkbox"/>	Name	Volume ID	T..	Size	Availability Zone	Volume state	Alarm status
<input checked="" type="checkbox"/>	C-UN-EN	vol-07917528e398b7ac8	gp2	30 GiB	1... - s... 2...	us-east-2c	In-use No alarms

In-use	100	Encrypted
KMS key ID <input type="checkbox"/> 73cbff3f-d51c-4895-830c-5d865aeb46e1	KMS key alias <input type="checkbox"/> aws/ebs	KMS key ARN <input type="checkbox"/> arn:aws:kms:us-east-2:659202326636:key/73cbff3f-d51c-4895-830c-5d865aeb46e1
Availability Zone us-east-2c	Created <input type="checkbox"/> Sun Jun 26 2022 09:15:47 GMT+0530 (India Standard Time)	Multi-Attach enabled No
Outposts ARN		Attached Instances i-0375d98e639beabe7 (without-kms): /dev/sda1 (attached)

Encryption (KMS-CMS)

Delete custom key

Disable key

Customer managed keys (1/1)

Aliases	Key ID	Status	Key spec	Action
<input checked="" type="checkbox"/> devOps-key	bcd04607-74c2-41bb-9c49-d16570f15755	Enabled	SYMMETRIC_DEFAULT	<input style="border: none; background-color: transparent; padding: 0; margin-right: 10px;" type="button" value="Key actions"/> <input style="background-color: orange; color: white; border: none; padding: 2px 10px;" type="button" value="Create key"/> <input checked="" style="border: 2px solid red; border-radius: 5px; padding: 2px 10px;" type="button" value="Enable"/> <input style="border: 1px solid #ccc; border-radius: 5px; padding: 2px 10px;" type="button" value="Disable"/> <input style="border: 1px solid #ccc; border-radius: 5px; padding: 2px 10px;" type="button" value="Schedule key deletion"/> <input style="border: 1px solid #ccc; border-radius: 5px; padding: 2px 10px;" type="button" value="Cancel key deletion"/> <input style="border: 1px solid #ccc; border-radius: 5px; padding: 2px 10px;" type="button" value="Delete key material"/> <input style="border: 1px solid #ccc; border-radius: 5px; padding: 2px 10px;" type="button" value="Add or edit tags"/>

Click to disable option

Disable key

Disabling a key prevents you from using it in any cryptographic operations. Also, disabling might prevent you from accessing resources in AWS services that use this key.

To monitor attempts to use the key while it is disabled, create an Amazon CloudWatch alarm. [Learn more](#)

To make the key usable again, enable the key.

Alias	Key ID
devOps-key	bcd04607-74c2-41bb-9c49-d16570f15755

Confirm that you want to disable this key.

Then click schedule key detetion

Customer managed keys (1/1)

Aliases	Key ID	Status	Key spec	Action
<input checked="" type="checkbox"/> devOps-key	bcd04607-74c2-41bb-9c49-d16570f15755	Disabled	SYMMETRIC_DEFAULT	<input style="border: none; background-color: transparent; padding: 0; margin-right: 10px;" type="button" value="Key actions"/> <input style="background-color: orange; color: white; border: none; padding: 2px 10px;" type="button" value="Create key"/> <input style="border: 1px solid #ccc; border-radius: 5px; padding: 2px 10px;" type="button" value="Enable"/> <input checked="" style="border: 2px solid red; border-radius: 5px; padding: 2px 10px;" type="button" value="Disable"/> <input style="border: 1px solid #ccc; border-radius: 5px; padding: 2px 10px;" type="button" value="Schedule key deletion"/> <input style="border: 1px solid #ccc; border-radius: 5px; padding: 2px 10px;" type="button" value="Cancel key deletion"/> <input style="border: 1px solid #ccc; border-radius: 5px; padding: 2px 10px;" type="button" value="Delete key material"/> <input style="border: 1px solid #ccc; border-radius: 5px; padding: 2px 10px;" type="button" value="Add or edit tags"/>

7 day insert and save

Schedule key deletion

⚠ Deleting a key makes all data encrypted under that key unrecoverable. [Learn more](#)
You can create an Amazon CloudWatch alarm that alerts you about any attempts to use the key(s) during the waiting period. [Learn more](#)

Waiting period
You can cancel deletion any time before the waiting period ends. After the waiting period ends, AWS KMS deletes the key(s). [Learn more](#)

Waiting period (in days)

Enter a waiting period between 7 and 30 days.

Keys to delete
The following keys will be scheduled for deletion.

Aliases	Key ID	Key usage	Regionality
devOps-key	bcd04607-74c2-41bb-9c49-d16570f15755	Encrypt and decrypt	Single Region

Confirmation

Confirm that you want to schedule these keys for deletion after a 7 day waiting period.

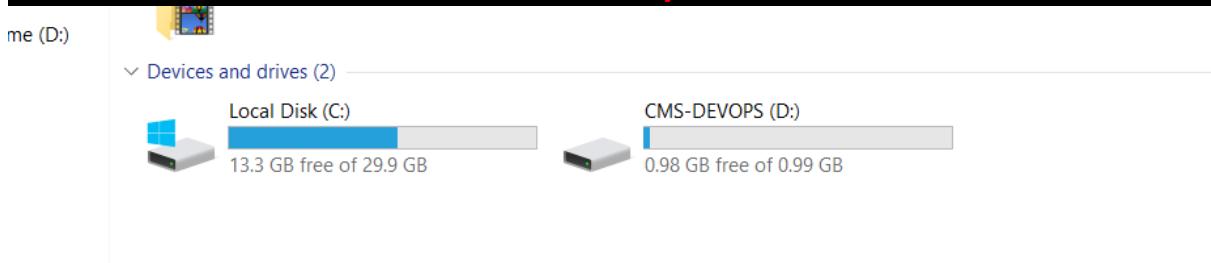
Encryption (KMS-CMS)

Even if the key is deleted, the volume that is doing it will not fail.

See not remove volume										
Volumes (1/2)										
<input type="button" value="C"/> Actions ▾ <input type="button" value="Create volume"/>										
	Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot	Created		
<input type="checkbox"/>	with-kms-v	vol-05c77a59aa1bbbedab	gp2	30 GiB	100	-	snap-0d725d0...	2022/06/26 06:52 GMT+5:		
<input checked="" type="checkbox"/>	with-cms-d	vol-018e58bf72c98d47c	gp2	1 GiB	100	-	-	2022/06/26 08:11 GMT+5:		

Volume state In-use	IOPS 100	Throughput -	Encryption Encrypted
KMS key ID bcd04607-74c2-41bb-9c49-d16570f15755	KMS key alias devOps-key	KMS key ARN arn:aws:kms:us-east-2:15447793701:key/bcd04607-74c2-41bb-9c49-d16570f15755	Snapshot -
Availability Zone us-east-2c	Created Sun Jun 26 2022 08:11:18 GMT+0530 (India Standard Time)	Multi-Attach enabled No	Attached Instances i-0384113c7c9b9f44f (with-kms): xvdf (attached)
Outposts ARN -			

See in instance not any volume failed



Encryption (KMS-CMS)

If the key is deleted, its snapshots will not be deleted but it will not be able to convert the snapshot to your volume.

You can still take a snapshot of the volume if the key is deleted

Volumes (1/2)

Name	Volume ID	Type	Size	IOPS	Throughput	Snapshots
with-kms-v	vol-05c77a59aa1bbbedab	gp2	30 GiB	100	-	snap-0d7
with-cms-d	vol-018e58bf72c98d47c	gp2	1 GiB	100	-	-

Actions ▾ Create volume

Modify volume

Create snapshot

Create snapshot lifecycle policy

Delete volume

Attach volume

Create successfully snapshot

Snapshots (1/2)

Name	Snapshot ID	Size	Description	Storage...	Snapshot status	Started
AFTER DELETE KEY	snap-017b9a4ed76ee110e	1 GiB	AFTER DELETE KEY	Standard	Completed	2022/06/26 09:27 GM

Snapshot ID: snap-017b9a4ed76ee110e (AFTER DELETE KEY)

Owner: 154477793701

Encryption: Encrypted

Volume ID: vol-018e58bf72c98d47c

KMS key ID: bcd04607-74c2-41bb-9c49-d16570f15755

Progress: Available (100%)

Snapshot status: Completed

Started: Sun Jun 26 2022 09:27:40 GMT+0530 (India Standard Time)

KMS key alias: devOps-key

KMS key ARN: arn:aws:kms:us-east-2:154477793701:key/bcd04607-74c2-41bb-9c49-d16570f15755

Create volume from snapshot

Snapshots (1/2)

Name	Snapshot ID	Size	Description	Storage...	Snapshot status	Started
AFTER DELETE KEY	snap-017b9a4ed76ee110e	1 GiB	AFTER DELETE KEY	Standard	Completed	2022/06/26 09:27 GM

Actions ▾ Create snapshot

Create volume from snapshot

Create image from snapshot

Copy snapshot

Modify permissions

Key was still show

Availability Zone: us-east-2c

Fast snapshot restore: Not enabled for selected snapshot

Encryption: Use Amazon EBS encryption as an encryption solution for your EBS resources associated with your EC2 instances.

KMS key: devOps-key

KMS key description:

KMS key owner: 154477793701 (This account)

KMS key ID: bcd04607-74c2-41bb-9c49-d16570f15755

KMS key ARN: arn:aws:kms:us-east-2:154477793701:key/bcd04607-74c2-41bb-9c49-d16570f15755

Encryption (KMS-CMS)

See successfully create but noe showing in volume because delete key

Volumes (2)											Actions	Create volume
	Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot	Created				
<input type="checkbox"/>	with-kms-v	vol-05c77a59aa1bbbedab	gp2	30 GiB	100	-	snap-0d725d0...	2022/06/26 06:52 GMT+5...				
<input type="checkbox"/>	with-cms-d	vol-018e58bf72c98d47c	gp2	1 GiB	100	-	-	2022/06/26 08:11 GMT+5...				

