

EBS (ELASTIC BLOCK STORAGE)

Elastic block storage?

Elastic Block Store (EBS) is a block storage service provided by Amazon Web Services (AWS). It's designed for use with EC2 instances (Elastic Compute Cloud), allowing you to create persistent block storage volumes and attach them to your EC2 instances.

Create EBS volumes

Creating EBS volumes in AWS is a straightforward process through the AWS Management Console, AWS CLI (Command Line Interface), or AWS SDKs (Software Development Kits). Here's a basic guide on how to create EBS volumes using the AWS Management Console:

1. **Sign in to the AWS Management Console:** Go to the AWS Management Console at <https://console.aws.amazon.com/> and sign in with your AWS account credentials.
2. **Navigate to the EC2 Dashboard:** Click on "Services" in the top navigation bar and select "EC2" under the "Compute" section.

3. Create a New EBS Volume:

- In the EC2 Dashboard, find the "Elastic Block Store" section in the left sidebar and click on "Volumes."
- Click on the "Create Volume" button.
- Specify the volume settings:
 - **Volume Type:** Choose the appropriate volume type (e.g., General Purpose SSD, Provisioned IOPS SSD, etc.).
 - **Size (GiB):** Enter the size of the volume in gigabytes.
 - **Availability Zone:** Select the availability zone where you want to create the volume.
 - **Snapshot ID (optional):** You can create a volume from an existing snapshot if needed.
 - **Encryption (optional):** Choose whether to enable encryption for the volume.
- Click on the "Create Volume" button.

4. Attach the Volume to an EC2 Instance (Optional):

- After creating the volume, locate it in the Volumes list.
- Select the volume and click on the "Actions" dropdown menu.
- Choose "Attach Volume."

- Select the EC2 instance to which you want to attach the volume.
- Specify the device name (e.g., /dev/sdf) where the volume will be attached to the instance.
- Click on the "Attach" button.

Delete EBS volumes

To delete Elastic Block Store (EBS) volumes in Amazon Web Services (AWS), you can use the AWS Management Console, AWS Command Line Interface (CLI), or AWS SDKs. Here's a guide on how to delete EBS volumes using the AWS Management Console:

1. Sign in to the AWS Management Console: Go to the AWS Management Console at <https://console.aws.amazon.com/> and sign in with your AWS account credentials.

2. Navigate to the EC2 Dashboard: Click on "Services" in the top navigation bar and select "EC2" under the "Compute" section.

3. Identify the Volumes to Delete:

- In the EC2 Dashboard, find the "Elastic Block Store" section in the left sidebar and click on "Volumes."
- Locate the EBS volumes you want to delete from the list. You can use filters or search to find specific volumes.

4. Select the Volumes:

- Select the checkboxes next to the volumes you want to delete. You can select multiple volumes if you want to delete them at once.

5. Delete the Volumes:

- After selecting the volumes, click on the "Actions" dropdown menu above the list of volumes.
- Choose "Delete Volume" from the dropdown menu.

6. Confirm Deletion:

- A confirmation dialog box will appear asking you to confirm the deletion of the selected volumes.
- Review the information to ensure you're deleting the correct volumes.
- Type "delete" in the confirmation box to confirm the deletion.
- Click on the "Yes, Delete" button to proceed with the deletion.

Attach and delete EBS volumes

To attach and delete Elastic Block Store (EBS) volumes in Amazon Web Services (AWS) via the AWS Command Line Interface (CLI), you can use the `aws ec2 attach-volume` and `aws ec2 delete-volume` commands respectively. Here's a step-by-step guide:

Attach an EBS Volume to an EC2 Instance:

1. Identify the EC2 Instance and Volume Information:

You need to know the Instance ID of the EC2 instance to which you want to attach the volume.

- You also need the Volume ID of the EBS volume you want to attach.

2. Run the attach-volume Command:

- Open your terminal or command prompt.
- Use the following command syntax to attach the EBS volume to the EC2 instance:

```
aws ec2 attach-volume --volume-id <volume-id> --instance-id <instance-id> --device  
<device-name>
```

Example command:

```
aws ec2 attach-volume --volume-id vol-1234567890abcdef0 --instance-id i-  
0123456789abcdef0 --device /dev/sdf
```

Delete an EBS Volume:

1. Identify the Volume Information:

- You need to know the Volume ID of the EBS volume you want to delete.

2. Run the delete-volume Command:

- Open your terminal or command prompt.
- Use the following command syntax to delete the EBS volume:

```
aws ec2 delete-volume --volume-id <volume-id>
```

Mounting and unmounting EBS volumes

Mounting and unmounting EBS (Elastic Block Store) volumes on AWS can be essential tasks for managing storage in your EC2 instances. Here's a basic guide on how to do it:

Mounting EBS Volumes:

1. Attach the Volume:

- Go to the AWS Management Console.
- Navigate to the EC2 Dashboard.
- Select "Volumes" from the left-hand menu.
- Identify the EBS volume you want to mount.
- Click on the volume, then choose "Actions" > "Attach Volume."
- Select the instance to attach the volume to and specify the device name (e.g., /dev/xvdf). Note the device name as you'll need it for mounting.

2. SSH into your EC2 Instance:

- Use SSH to connect to your EC2 instance.

3. Create a Mount Point:

- Decide where you want to mount the volume. Common locations include /mnt, /media, or a custom directory.
- Create the directory if it doesn't exist: `sudo mkdir /mnt/my_volume`.

4. Mount the Volume:

- Use the mount command along with the device name and mount point
- Replace /dev/xvdf with the actual device name you noted during attachment.

5. Verify Mounting:

- You can verify that the volume has been mounted by listing the contents of the mount point: `ls /mnt/my_volume`.

Unmounting EBS Volumes:

1. Unmount the Volume:

- Before detaching the volume, ensure that no processes are actively using it.
- Unmount the volume using the `umount` command:

2. Detach the Volume:

- In the AWS Management Console:

- Go to the EC2 Dashboard > Volumes.
- Right-click the volume and select "Detach Volume."

3. Confirm Detachment:

- Verify that the volume is no longer attached to any instance.

4. Optional: Delete the Volume:

- If you no longer need the volume, you can delete it in the AWS Management Console. Be cautious, as this action is irreversible.

Creating and deleting snapshots in EBS

In Amazon Web Services (AWS), Elastic Block Store (EBS) volumes can be snapshotted to create backups of your data, providing a point-in-time copy of your EBS volume. Here's how you can create and delete snapshots in EBS:

Creating Snapshots:

1. Navigate to the Amazon EC2 Dashboard: Sign in to your AWS Management Console and open the Amazon EC2 console.
2. Locate the Volumes Section: In the navigation pane, choose "Volumes" under the "Elastic Block Store" section.
3. Select the Volume: Choose the volume for which you want to create a snapshot.
4. Create Snapshot: Right-click on the volume and select "Create Snapshot". Alternatively, you can click on the volume and then click on the "Actions" dropdown menu and select "Create Snapshot".
5. Enter Snapshot Details: Provide a name and description for the snapshot. These details will help you identify the snapshot later.
6. Create Snapshot: Click on "Create Snapshot" to initiate the snapshot creation process.
7. Monitor Progress: You can monitor the progress of the snapshot creation in the "Snapshots" section of the EC2 console.

Deleting Snapshots:

1. Navigate to the Amazon EC2 Dashboard: Sign in to your AWS Management Console and open the Amazon EC2 console.

2. Locate the Snapshots Section: In the navigation pane, choose "Snapshots" under the "Elastic Block Store" section.
3. Select the Snapshot: Choose the snapshot you want to delete by clicking on it.
4. Delete Snapshot: Right-click on the snapshot and select "Delete Snapshot". Alternatively, you can click on the snapshot and then click on the "Actions" dropdown menu and select "Delete Snapshot".
5. Confirm Deletion: Confirm the deletion when prompted.
6. Monitor Deletion: The snapshot will be deleted, and you can monitor the progress in the console.

Creating volumes from snapshot S3

In AWS, Elastic Block Store (EBS) snapshots are stored in Amazon S3 (Simple Storage Service). You can create EBS volumes from these snapshots easily. Here's how you can do it:

Creating Volumes from Snapshots:

1. Navigate to the Amazon EC2 Dashboard: Sign in to your AWS Management Console and open the Amazon EC2 console.
2. Locate the Snapshots Section: In the navigation pane, choose "Snapshots" under the "Elastic Block Store" section.
3. Select the Snapshot: Choose the snapshot from which you want to create a volume by clicking on it.
4. Create Volume: Right-click on the snapshot and select "Create Volume". Alternatively, you can click on the snapshot and then click on the "Actions" dropdown menu and select "Create Volume".
5. Enter Volume Details: Specify the details for the new volume, including the availability zone, volume type, size, and any other settings you require.
6. Create Volume: Click on "Create Volume" to initiate the volume creation process. This will create a new EBS volume based on the selected snapshot.
7. Monitor Progress: You can monitor the progress of the volume creation in the "Volumes" section of the EC2 console.
8. Attaching the Volume to an Instance: Once the volume is created, you can attach it to an EC2 instance as needed:

9.Navigate to the Volumes Section: In the EC2 console, go to the "Volumes" section under the "Elastic Block Store" category.

10.Select the Volume: Click on the newly created volume.

11.Attach Volume: Click on "Actions" and select "Attach Volume".

12.Select Instance: Choose the EC2 instance to which you want to attach the volume.

13.Device: Specify the device name for the volume on the instance. For example, /dev/sdf.

14.Attach: Click on "Attach" to attach the volume to the instance.

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