

Creating an EC2 instance

Create two EC2 instances using the following configurations:

1. **Name:** agila1 & agila2
2. **Instance type:** t2.micro
3. **AMI:** Linux
4. **Key pair:** Create a new Key Pair
 - **Key Pair name:** agila_keys
 - **Key Pair Type:** RSA
 - **Private key file format:** .pem
 - Click **Create key pair**


Review your instance configurations and click the “**Launch Instance**” button.

Creating a new EBS volume

1. On the **Volumes** listing page, make sure to take note of the **Availability Zone**:

Note: Create the volume in the same availability zone. If you do not do this, you will not be able to attach the volume.

Availability Zone ▾	Volume state ▾	Alarm status		Attached Instances ▾
us-east-1a	✓ In-use	No alarms	+	i-0417ec62e4bed3595 (agi...
us-east-1a	✓ In-use	No alarms	+	i-0417ec62e4bed3595 (agi...



2. Create a new volume, click on **Create volume**. This will take you to a **Volume setting** page and set the following values before clicking **Create volume**.

- **Volume Type:** General purpose SSD (GP2)
- **Size:** 10 GiB
- **Availability Zone:** us-east-1a (Depends on where the AZ of your EBS Volumes are)

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](#)

10

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 ▼

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

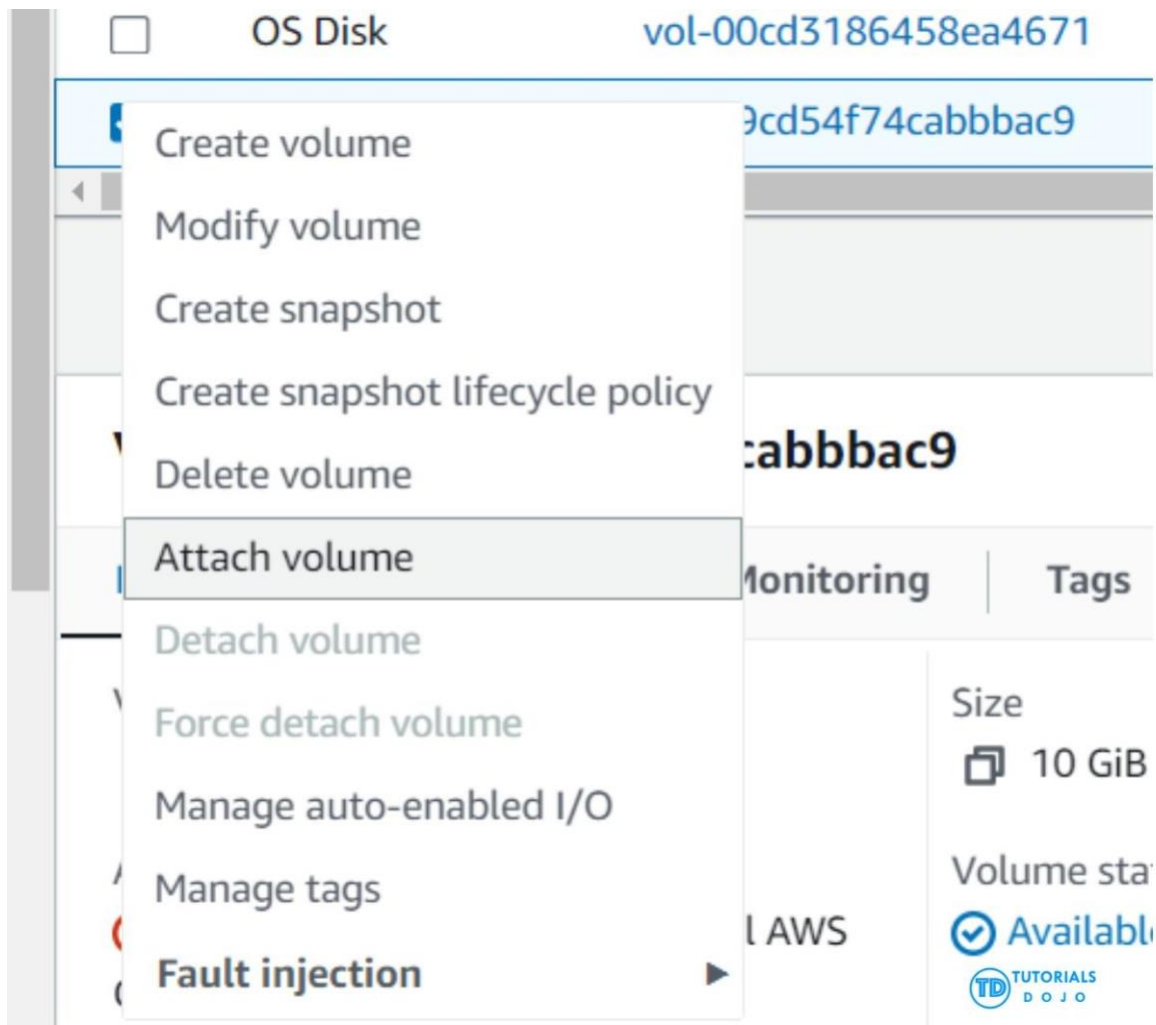
3. Wait until the **Volume state** is **Available** (refresh the page every 10/15 seconds):

Volumes (3) Info								Actions ▼	Create volume
<input type="text" value="Search"/>									< 1 > ⚙
▼	Snapshot ▼	Created ▼	Availability Zone ▼	Volume state ▼	Alarm status	Attached resources			
	snap-07d29bb...	2024/02/01 15:29 GMT+8	us-east-1a	✔ In-use	No alarms	+ i-0c43ad935d3c777ed (agila1): /dev/xvda			
	snap-07d29bb...	2024/02/01 15:30 GMT+8	us-east-1a	✔ In-use	No alarms	+ i-063f4a08515e0631c (agila2): /dev/xvda			
	-	2024/02/01 15:38 GMT+8	us-east-1a	🔄 Available	No alarms	+ -			

Creating a change on the EBS Volumes and reattaching it to an EC2 instance

To attach the newly created EBS Volume, follow the steps below:

1. Right-click on the newly created EBS volume and select Attach Volume.



2. Select the **instance ID** of the **agila1 instance**. Then, click on the **Attach volume** button.

[EC2](#) > [Volumes](#) > [vol-0ac54320206bfe7d9](#) > [Attach volume](#)

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-0ac54320206bfe7d9](#)

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.

 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](#)

Note: The **device name** may be automatically renamed by newer Linux kernels, even when it is initially entered as `/dev/sdf`.

Format and mount an attached volume

1. Connect to the **agila1 instance** using EC2 Instance Connect.

```
[ec2-user@ip-192-168-5-26 ~]$
```

2. Check the available disk devices and their mount points using this command.

`lsblk`

```
[ec2-user@ip-192-168-5-26 ~]$ lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
xvda        202:0    0   8G  0 disk
├─xvda1     202:1    0   8G  0 part /
├─xvda127   259:0    0   1M  0 part
└─xvda128   259:1    0  10M  0 part /boot/efi
xvdf        202:80    0  10G  0 disk
```

The /dev/xvda device is the root EBS volume of the instance, which has three partitions named xvda1, xvda127, and xvda128. The EBS volume on /dev/xvdf is the new 10GB volume that we created. We have to format it first and then mount it for it to be usable.

3. Now, format the Data Volume with an ext4 file system by using this script.

```
sudo mkfs -t ext4 /dev/xvdf
```

```
[ec2-user@ip-192-168-5-26 ~]$ sudo mkfs -t ext4 /dev/xvdf
mke2fs 1.46.5 (30-Dec-2021)
Creating filesystem with 2621440 4k blocks and 655360 inodes
Filesystem UUID: 28b95382-31b4-407f-b50b-679ca9a7bfb7
Superblock backups stored on blocks:
    32768, 98304, 163840, 229376, 294912, 819200, 884736, 1605632

Allocating group tables: done
Writing inode tables: done
Creating journal (16384 blocks): done
Writing superblocks and filesystem accounting information: done
```

4. Next, create a mount point in the Data Volume. Use the **mkdir** command. The mount point is where the volume is located in the file system tree and where you read and write files after you mount the volume. In this lab, create a directory named /playcloud.

```
sudo mkdir /playcloud
```

5. Mount the volume or partition to the /playcloud mount point.

```
sudo mount /dev/xvdf /playcloud
```

6. Verify if the Data Volume is successfully mounted. Use lsblk -f command to view your available disk devices and their mount points.

```
lsblk -f
```

```
[ec2-user@ip-192-168-5-26 ~]$ lsblk -f
```

NAME	FSTYPE	FSVER	LABEL	UUID	FS-AVAIL	FS-USE%	MOUNTPOINTS
xvda							
-xvda1	xfs		/	af805cc0-8447-4b55-8c57-ea294e4bea9c	6.4G	19%	/
-xvda127							
-xvda128	vfat	FAT16		94FC-EE88	8.7M	13%	/boot/efi
xvdf	ext4	1.0		28b95382-31b4-407f-b50b-679ca9a7bfb7	9.2G	0%	/playcloud

After mounting the Data volume, we will make changes to it and reattach it to the **agila2 instance**. Finally, we will check if the changes persist after reattachment.

7. Now, go to the /playcloud directory and create a file inside.

#Switch your user account

```
sudo su
```

#Create a file txt

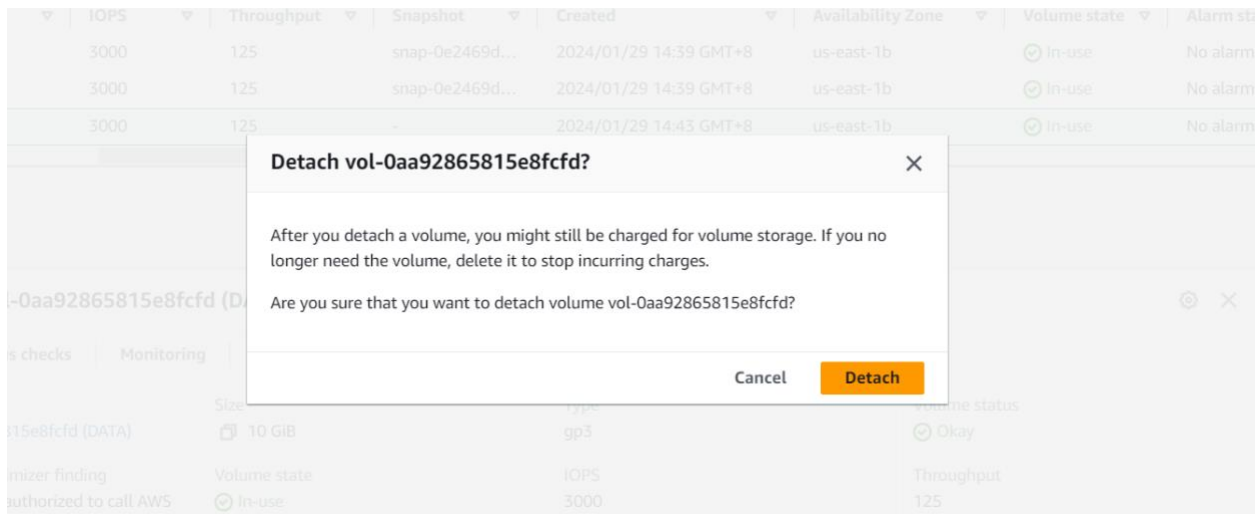
```
echo "Welcome Tutorials Dojo! Happy Learning!" > message.txt
```

#Check the if the file is created

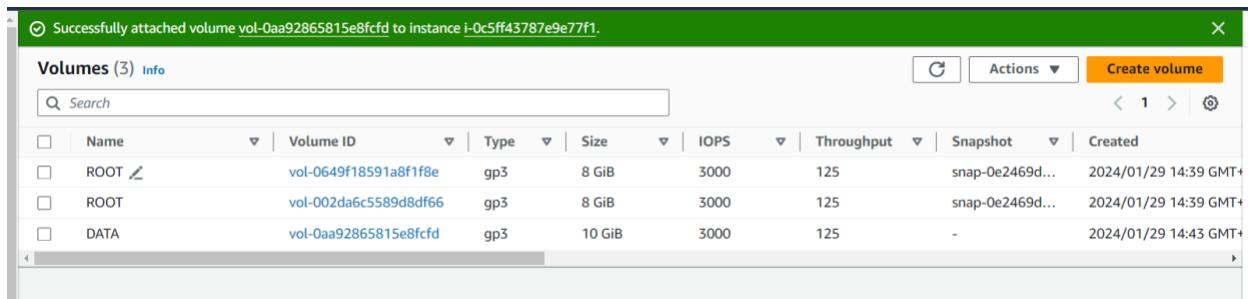
```
ls
```

```
[ec2-user@ip-192-168-5-26 playcloud]$ sudo su
[root@ip-192-168-5-26 playcloud]# echo "Welcome to Tutorials Dojo! Happy Learning!" > message.txt
[root@ip-192-168-5-26 playcloud]# ls
lost+found message.txt
[root@ip-192-168-5-26 playcloud]#
```

8. Go back to the Volumes listing page. Right-click on the **Data Volume** → select the **Detach volume** action and click **Detach** in the confirmation dialogue box.



9. Now, attach the **Data Volume** to the **agila2 instance**.



10. Next, connect to your **agila2 instance** using EC2 Instance Connect. Check the available disk device and their mount points.

```
[ec2-user@ip-192-168-5-29 ~]$ lsblk -f
NAME        FSTYPE FSVER LABEL UUID                               FSAVAIL FSUSE% MOUNTPOINTS
xvda
├─xvda1     xfs           /      af805cc0-8447-4b55-8c57-ea294e4bea9c    6.4G    19% /
├─xvda127
└─xvda128   vfat    FAT16      94FC-EE88                        8.7M    13% /boot/efi
xvdf        ext4      1.0      28b95382-31b4-407f-b50b-679ca9a7bfb7
```

11. Since we have already formatted the Data Volume, we only need to create a directory and mount it again to the **agila2 instance**.

#Add a directory

```
sudo mkdir /playcloud
```

#Mounting the EBS Volume

```
sudo mount /dev/xvdf /playcloud
```

12. Verify if the file added earlier exists.

```
cd /playcloud
```

```
ls
```

```
[ec2-user@ip-192-168-5-29 ~]$ cd /playcloud/  
[ec2-user@ip-192-168-5-29 playcloud]$ ls  
lost+found message.txt  
[ec2-user@ip-192-168-5-29 playcloud]$
```

That's it!