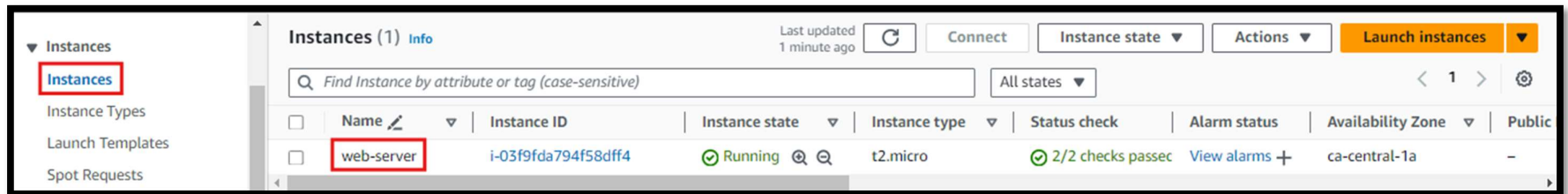


CONCAT LV



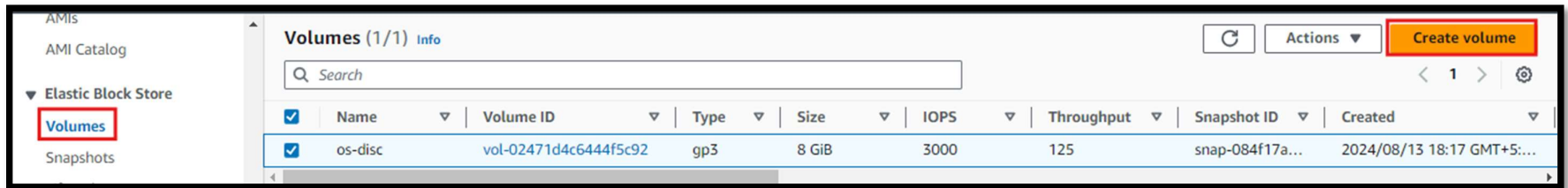
Launched instance (web server)

Instances >> web server

```
[root@ip-10-10-1-184 ~]# 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
[root@ip-10-10-1-184 ~]#
```

Can see only root disc here

CONCAT LV



Note:

- Creating **concat LV**
- For this we need **minimum one disk**
- So, here we creating a volume to attach to the instance.

CONCAT LV

EC2 > Volumes > Create volume

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 (gp3) ▼

[i](#) General Purpose SSD gp3 is now the default selection. gp3 provides up to 20% lower cost per GB than gp2. [Learn More](#)

Size (GiB) [Info](#)

1

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

IOPS [Info](#)

3000

Min: 3000 IOPS, Max: 16000 IOPS. The value must be an integer.

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

125

Min: 125 MiB, Max: 1000 MiB. Baseline: 125 MiB/s.

➤ Taken volume type = **gp3**


➤ Size = **1 GiB**

CONCAT LV

Availability Zone [Info](#)

ca-central-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


Tags - optional [Info](#)


A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

No tags associated with the resource.

[Add tag](#)

You can add 50 more tags.

Snapshot summary [Info](#) 

 Click refresh to view backup information

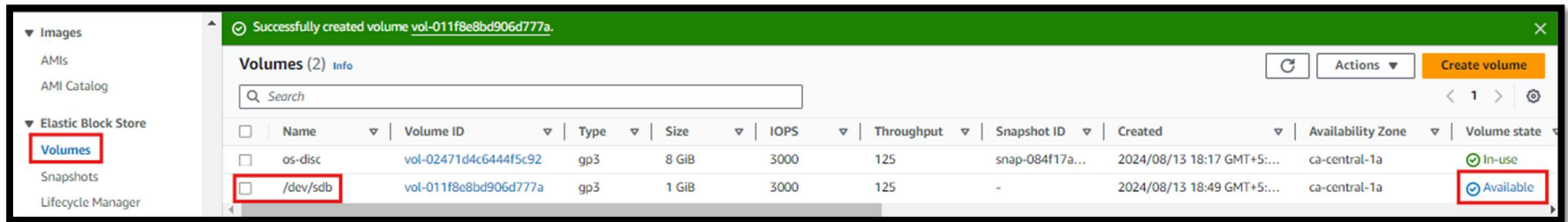
The volume type that you select and the tags that you assign determine whether the volume will be backed up by any Data Lifecycle Manager policies.

[Cancel](#) [Create volume](#)

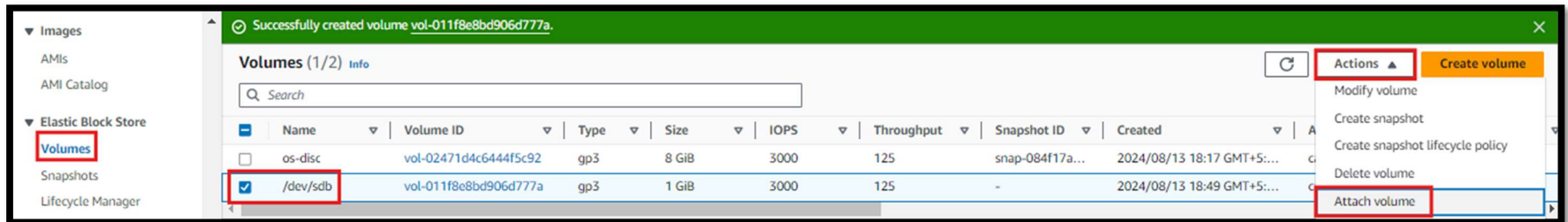
Availability Zone = ca-central-1a

Finally, create the volume

CONCAT LV



Volumes >> select the volume created (/dev/sdb)



Volumes >> select the volume created (/dev/sdb) >> Actions >> Attach volume

CONCAT LV

EC2 > Volumes > vol-011f8e8bd906d777a > 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-011f8e8bd906d777a (/dev/sdb)

Availability Zone
ca-central-1a

Instance Info
i-03f9fda794f58dff4

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

Device name Info
/dev/sdb

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

- Can see the **volume ID**
- Select the **instance (we-server)** seeing the instance ID.
- Select the **device name (/dev/sdb)**.

CONCAT LV

```
[root@ip-10-10-1-184 ~]# 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
xvdb         202:16   0    1G  0 disk
[root@ip-10-10-1-184 ~]# pvcreate /dev/xvdb
-bash: pvcreate: command not found
[root@ip-10-10-1-184 ~]#
```

Created **physical volume** on the added volume

As **lvm package** was **not installed** it is showing as command not found.

CONCAT LV

```
[root@ip-10-10-1-184 ~]#  
[root@ip-10-10-1-184 ~]# yum clean all  
17 files removed
```

```
[root@ip-10-10-1-184 ~]# yum repolist
```

repo id	repo name
amazonlinux	Amazon Linux 2023 repository
kernel-livepatch	Amazon Linux 2023 Kernel Livepatch repository

```
[root@ip-10-10-1-184 ~]#
```

```
[root@ip-10-10-1-184 ~]#
```

```
[root@ip-10-10-1-184 ~]# yum install lvm2 -y
```



Installing LVM package (lvm2) using yum command.

CONCAT LV

```
[root@ip-10-10-1-184 ~]# pvcreate /dev/xvdb
Physical volume "/dev/xvdb" successfully created.
[root@ip-10-10-1-184 ~]#
[root@ip-10-10-1-184 ~]# vgcreate vg1 /dev/xvdb
Volume group "vg1" successfully created
[root@ip-10-10-1-184 ~]#
[root@ip-10-10-1-184 ~]# pvs
PV          VG  Fmt  Attr  PSize    PFree
/dev/sdb    vg1 lvm2 a--  1020.00m 1020.00m
[root@ip-10-10-1-184 ~]#
[root@ip-10-10-1-184 ~]# vgs
VG  #PV #LV #SN Attr   VSize    VFree
vg1   1   0   0 wz--n- 1020.00m 1020.00m
[root@ip-10-10-1-184 ~]#
```

Created **physical volume** on the added volume

Creating volume group (vg)

Checking the physical volume status.

Checking the volume group status.

CONCAT LV

```
[root@ip-10-10-1-184 ~]#  
[root@ip-10-10-1-184 ~]# vgdisplay vg1  
--- Volume group ---  
VG Name                vg1  
System ID  
Format                 lvm2  
Metadata Areas         1  
Metadata Sequence No   1  
VG Access              read/write  
VG Status               resizable  
MAX LV                 0  
Cur LV                0  
Open LV                0  
Max PV                 0  
Cur PV                1  
Act PV                 1  
VG Size                1020.00 MiB  
PE Size                4.00 MiB  
Total PE               255  
Alloc PE / Size        0 / 0  
Free PE / Size          255 / 1020.00 MiB  
VG UUID                4mby8y-6xRm-ZDek-u8TA-OBcF-eokh-fvGx7f
```

Can see complete information of the volume group.

Can see VG size and physical extends (PE) (Total, allocated and Free).

Based on this we will create logical volume.

CONCAT LV

```
[root@ip-10-10-1-184 ~]#  
[root@ip-10-10-1-184 ~]# # lvcreate -L +1020M -n lv1 vg1  
[root@ip-10-10-1-184 ~]#  
[root@ip-10-10-1-184 ~]#  
[root@ip-10-10-1-184 ~]# # lvcreate -l 255 -n lv1 vg1
```

Can create logical volume both in **human readable format** and physical extents (**PE**)

```
[root@ip-10-10-1-184 ~]#  
[root@ip-10-10-1-184 ~]# lvcreate -L +1020M -n lv1 vg1  
Logical volume "lv1" created.  
[root@ip-10-10-1-184 ~]#  
[root@ip-10-10-1-184 ~]# lvscan  
ACTIVE                '/dev/vg1/lv1' [1020.00 MiB] inherit
```

Creating logical volume both in **human readable format**.

Check the LV created using **lvscan** command

CONCAT LV

```
[root@ip-10-10-1-184 ~]# mkfs -t ext4 /dev/vg1/lv1
mke2fs 1.46.5 (30-Dec-2021)
Creating filesystem with 261120 4k blocks and 65280 inodes
Filesystem UUID: 2298bb93-e75c-4bf9-bc60-9af34af8cc52
Superblock backups stored on blocks:
    32768, 98304, 163840, 229376

Allocating group tables: done
Writing inode tables: done
Creating journal (4096 blocks): done
Writing superblocks and filesystem accounting information: done

[root@ip-10-10-1-184 ~]# mkdir /data
[root@ip-10-10-1-184 ~]#
[root@ip-10-10-1-184 ~]#
[root@ip-10-10-1-184 ~]# mount -t ext4 /dev/vg1/lv1 /data
```

Creating **file system** on the created LV.

Creating **mount point**.

Temporary mounting of the file system

CONCAT LV

```
[root@ip-10-10-1-184 ~]#  
[root@ip-10-10-1-184 ~]# df -h  
Filesystem      Size  Used Avail Use% Mounted on  
devtmpfs        4.0M   0    4.0M   0% /dev  
tmpfs           475M   0    475M   0% /dev/shm  
tmpfs           190M  452K   190M   1% /run  
/dev/xvda1      8.0G  1.6G   6.4G  20% /  
tmpfs           475M   0    475M   0% /tmp  
/dev/xvda128    10M   1.3M   8.7M  13% /boot/efi  
tmpfs           95M    0     95M   0% /run/user/1000  
/dev/mapper/vg1-lv1 986M   24K   919M   1% /data  
[root@ip-10-10-1-184 ~]#  
[root@ip-10-10-1-184 ~]#  
[root@ip-10-10-1-184 ~]# lvs -a -o +devices  
  LV   VG   Attr       LSize   Pool Origin Data%  Meta%  Move Log Cpy%Sync Convert Devices  
  lv1  vg1 -wi-ao---- 1020.00m  
[root@ip-10-10-1-184 ~]#
```

Checking mounted file system information.

Checking how many disks participated in the logical volume.

Devices
/dev/sdb (0)