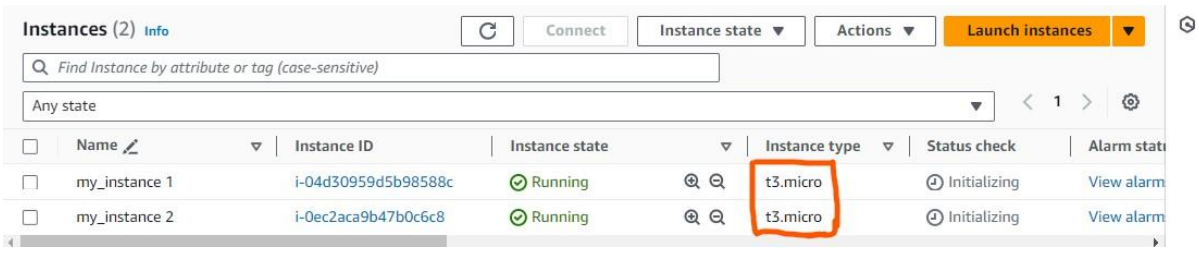
Assigning single volume to multiple instances:-

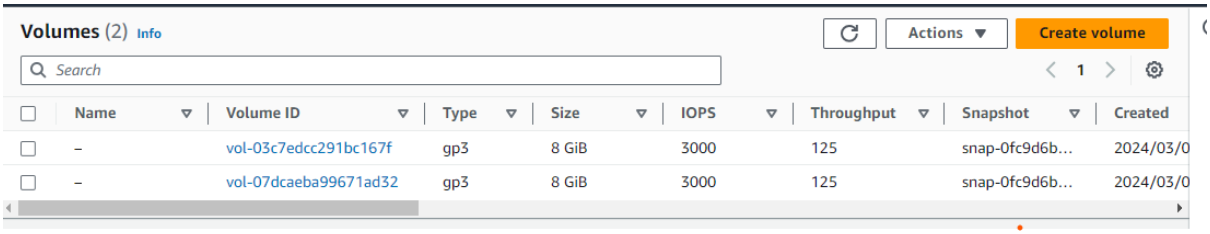
Theory:-

- t2.micro and all t2 series doesn't support multi attach support volumes, because it uses **Xen hypervisor**.
- t3.micro , t3.small and all t3 series uses **nitro hypervisor**.
- That's why, for performing this practical we are using t3 series instances.

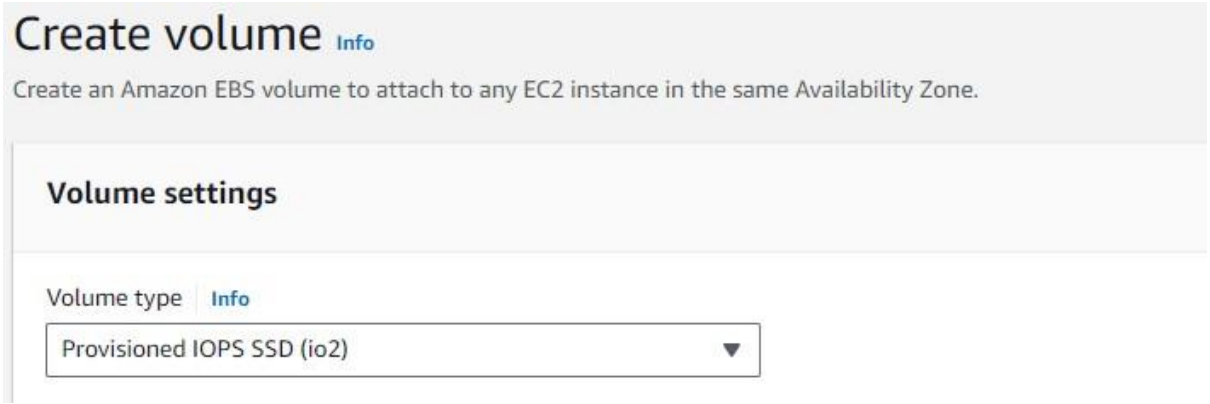
1. Create two t3.micro instances



2. Create a new SSD(io2) volume (**this volume supports multi attach**) (Click on create volume option)



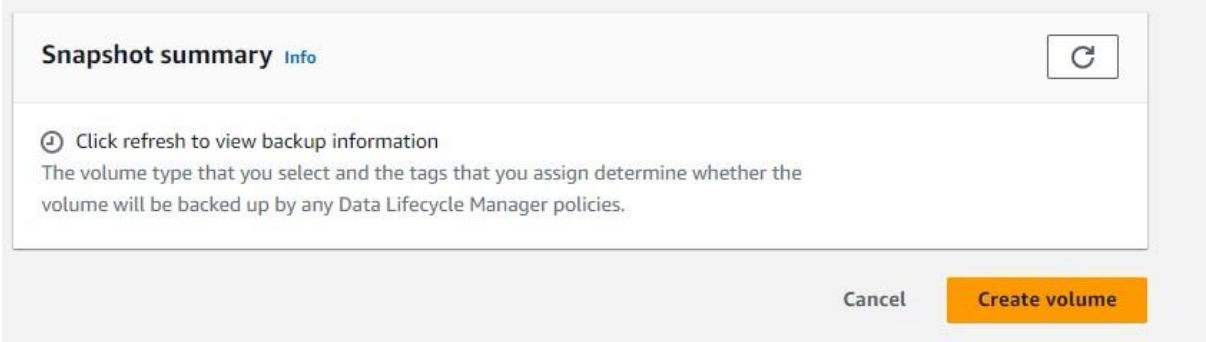
3. Select the **volume type**
   (In this case we are selected io2 which supports the multi attaching)



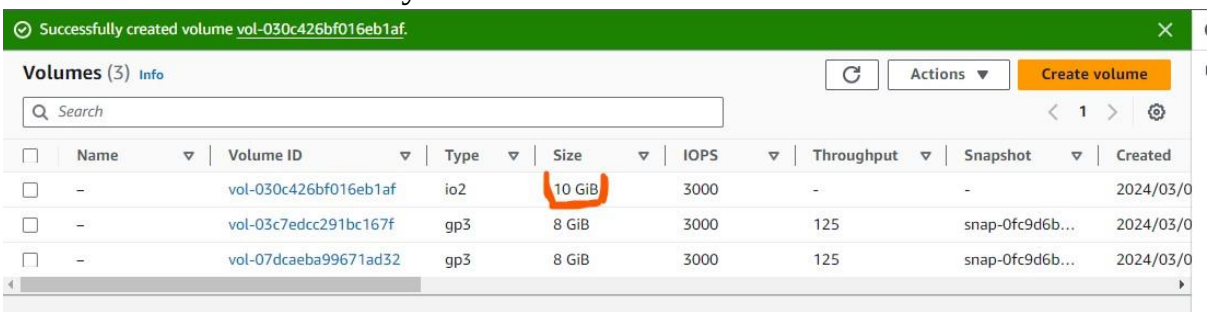
4. Specify the size of volume

5. Select zone carefully because its Availability zone specific service

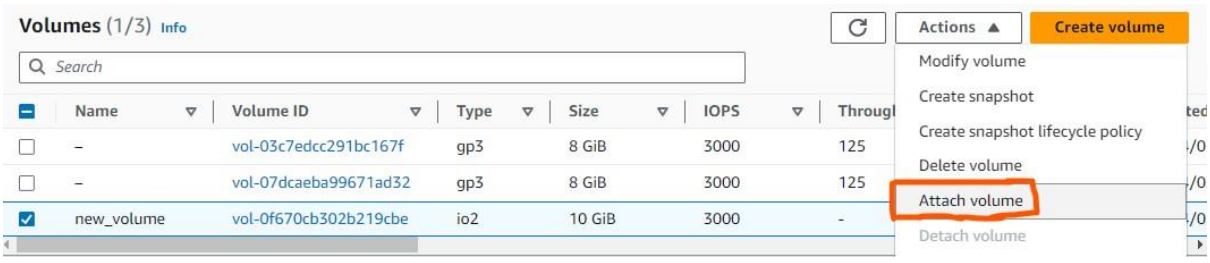
6. Scroll down and click on create volume option



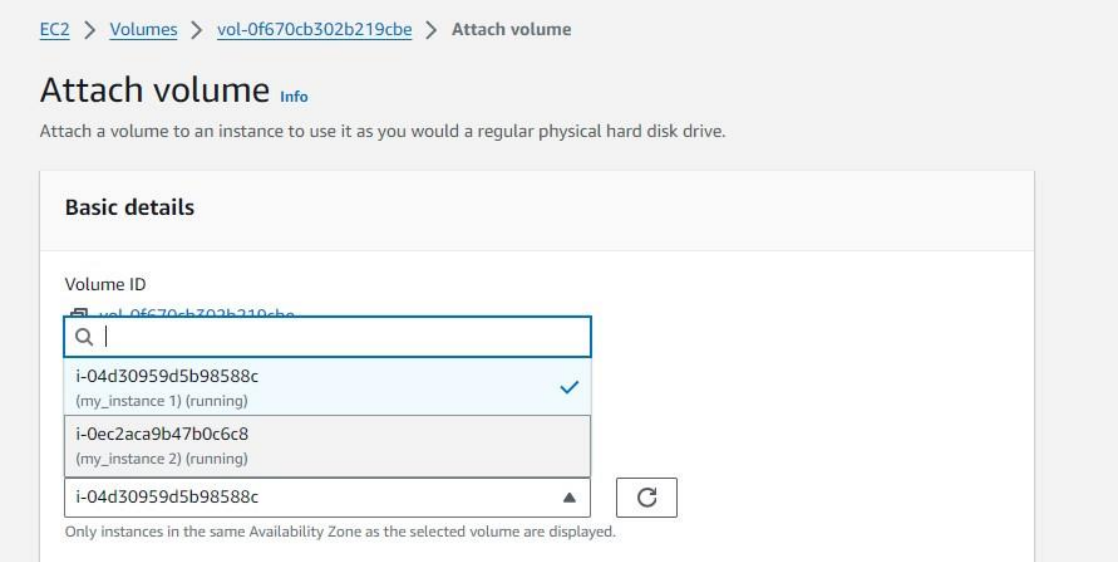
7. Volume created successfully



8. Select the newly created volume and click on **attach volume** option



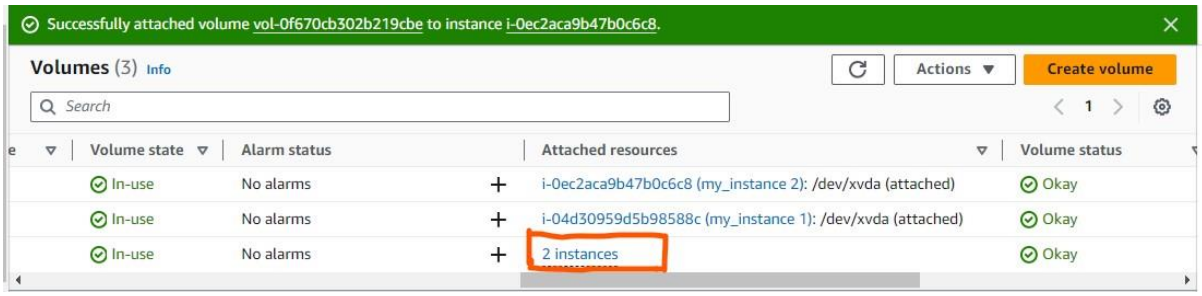
9. Select the instance



10. Click on **Enable Multi-Attach** button….

11. Scroll down and click on **attach volume** option

12. **We successfully attached the new volume to one instance.....**



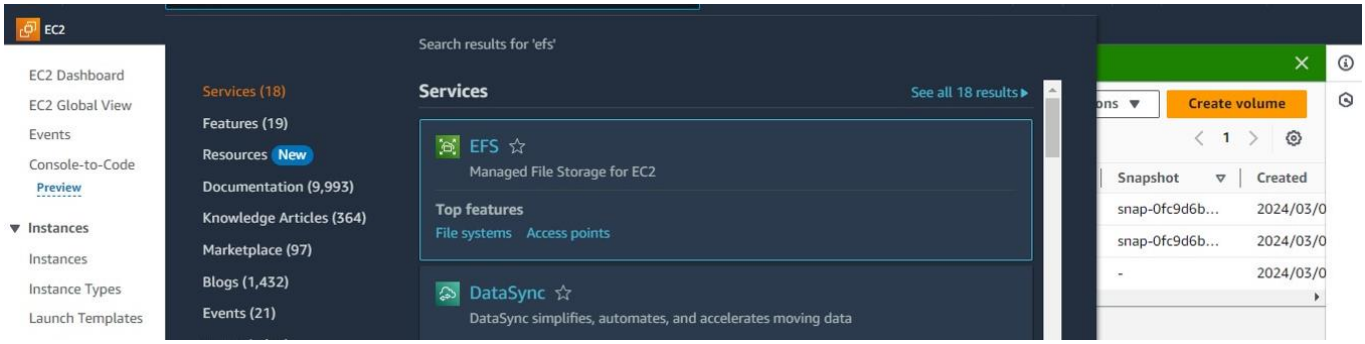
13. Follow the same steps, and attach the volume to **another instance**….

14. **We are successfully able to attach one volume to 2 instances….**

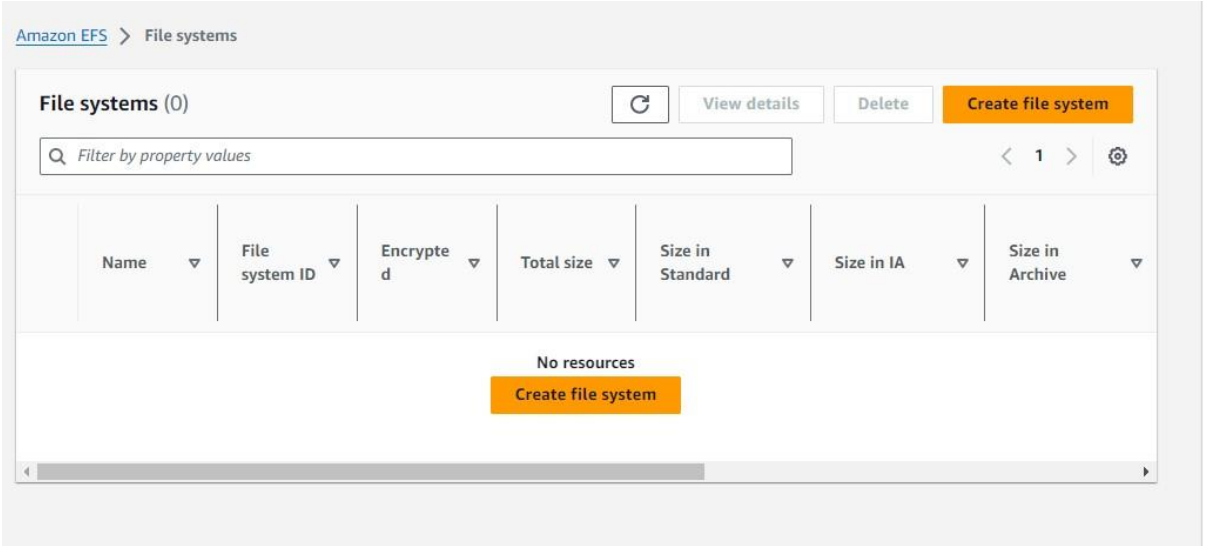
EFS (Elastic file system)

In AWS, EFS stands for Elastic File System. Imagine it as a digital filing cabinet in the cloud that multiple computers can access at the same time. It's easy to set up and grows automatically as you need more space for your files. You only pay for the storage you use, making it cost-effective. Think of it as a shared drive for your cloud applications.
(pay as you use)

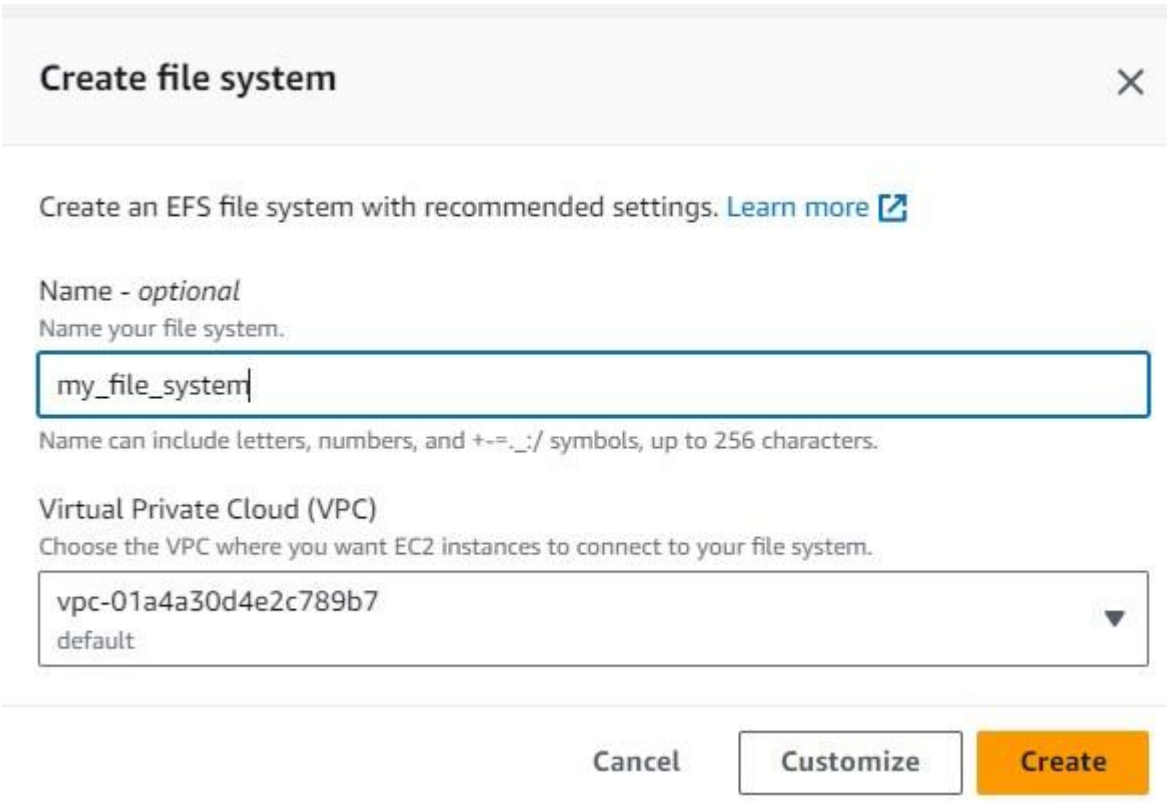
1. Search EFS in search bar and click on it



2. Click on create file system

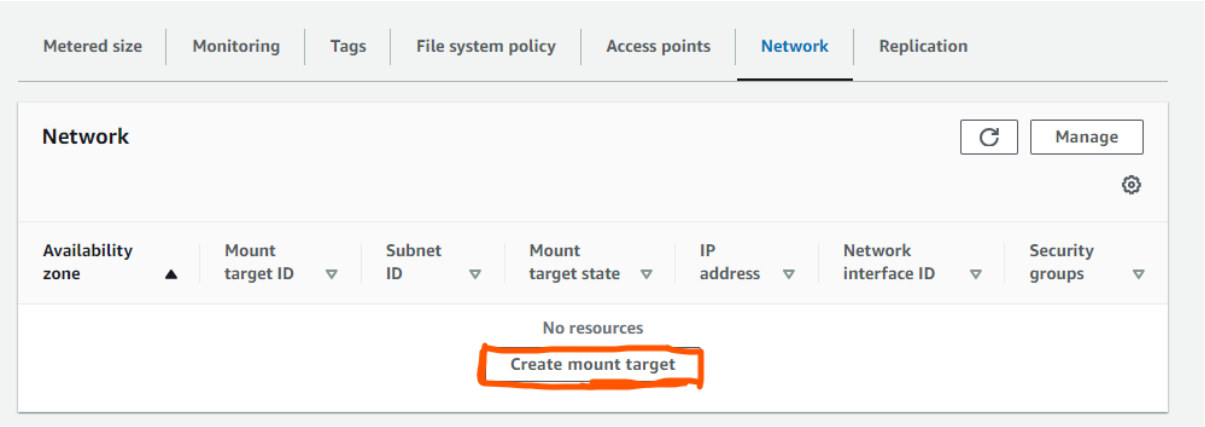


3. Specify name and click on create

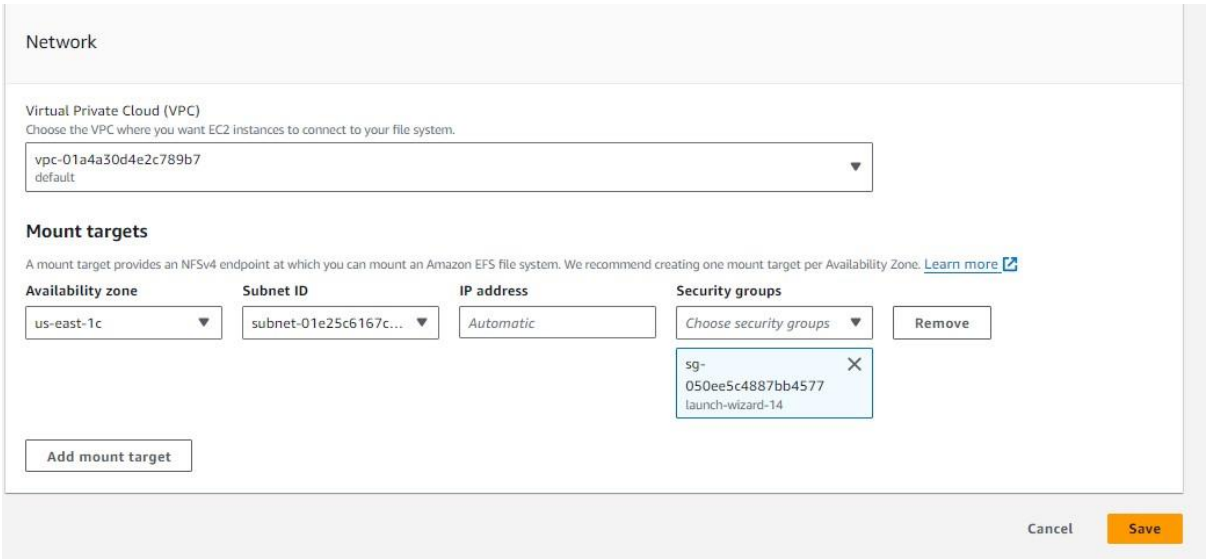


4. After creating EFS file system click on it….

5. Scroll down and click on **network tab** under network tab click on **Create mount Target** (note: remove all unwanted zones)



6. Select the preferred options and click on **Save** option



Note:- this is availability zone specific service as a reason we required our instances and EFS volumes in same zone…..
Also select the same security group which is given to the instance….

7. File system created successfully now click on attach option

8. Copy the path of efs volumes……

9. Connect to the instance and edit **/etc/fstab** file for **permanent mounting….**

```
#
UUID=81e4e009-191b-464c-8cc3-22de217d1136     /           xfs
UUID=EA7D-FA7D          /boot/efi       vfat    defaults,noatime,
172.31.14.105:/    /mnt   nfs4   defaults   0 0
~
~
```

10. **We successfully able to access the efs file system through our instance……**

```
[root@ip-172-31-6-123 ec2-user]# mount -a
[root@ip-172-31-6-123 ec2-user]# df -hT
Filesystem       Type      Size  Used Avail Use% Mounted on
devtmpfs         devtmpfs  4.0M     0  4.0M   0% /dev
tmpfs            tmpfs     453M     0  453M   0% /dev/shm
tmpfs            tmpfs     182M  440K  181M   1% /run
/dev/nvme0n1p1   xfs       8.0G  1.6G  6.4G  20% /
tmpfs            tmpfs     453M     0  453M   0% /tmp
/dev/nvme0n1p128 vfat       10M  1.3M  8.7M  13% /boot/efi
tmpfs            tmpfs      91M     0   91M   0% /run/user/1000
172.31.14.105:/  nfs4      8.0E     0  8.0E   0% /mnt
[root@ip-172-31-6-123 ec2-user]#
```