Experiment 03 - Cloud Computing

December 14, 2022

Aim

Mount EFS to multiple EC2 instances in different availability zones.

Theory

Amazon Elastic File System (EFS) is a scalable cloud file storage solution for use with EC2 instances. It is elastic because it will automatically grow and shrink as you add/remove files. It has a simple interface that enables you to create and configure file systems quickly and simply. It is similar to EBS, but with EBS you can only mount your virtual disk to one EC2 instance. You can have 2 instances sharing an EFS volume.

Results

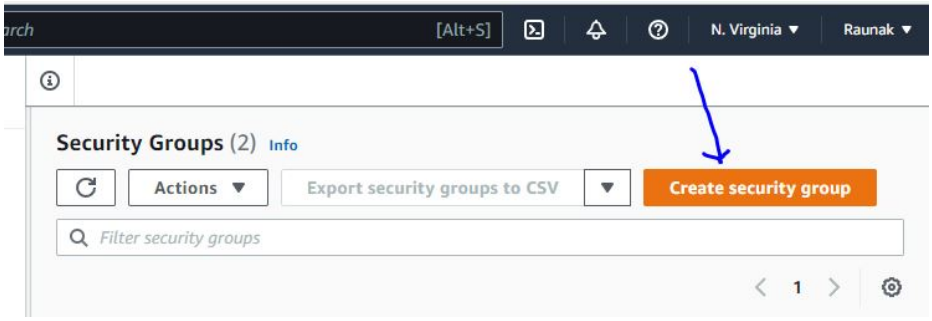

Figure 1: Start by creating a security group

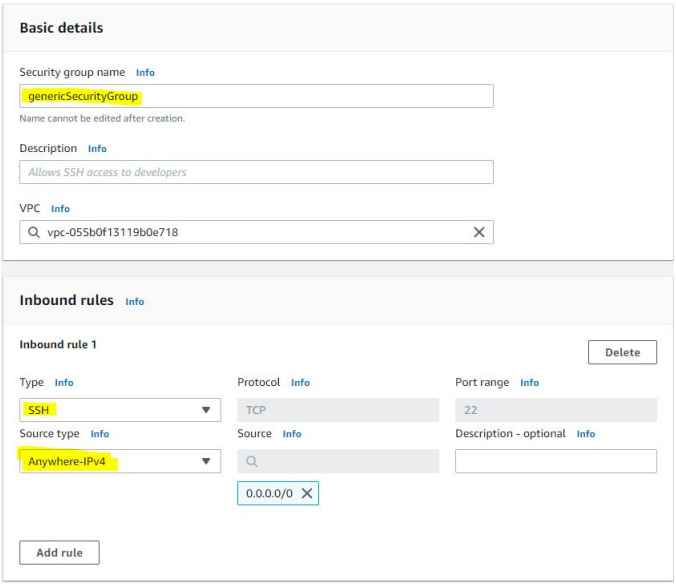

Figure 2: Select type as SSH and source type as Anywhere-IPv4

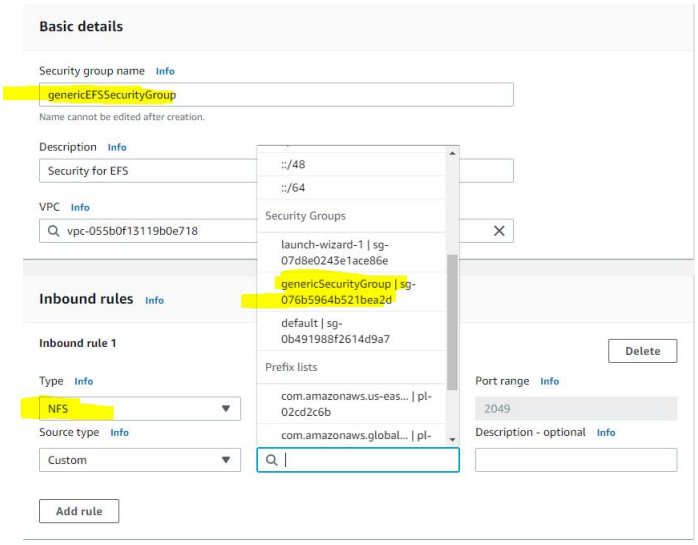

Figure 3: Create one more security group and select the inbound rule with source of first security group

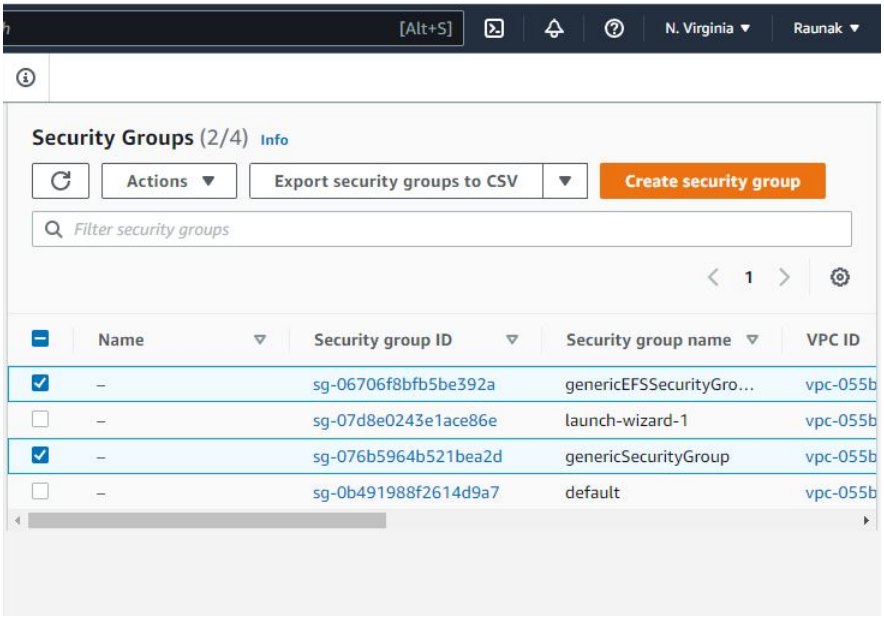

Figure 4: Successful creation of 2 security groups

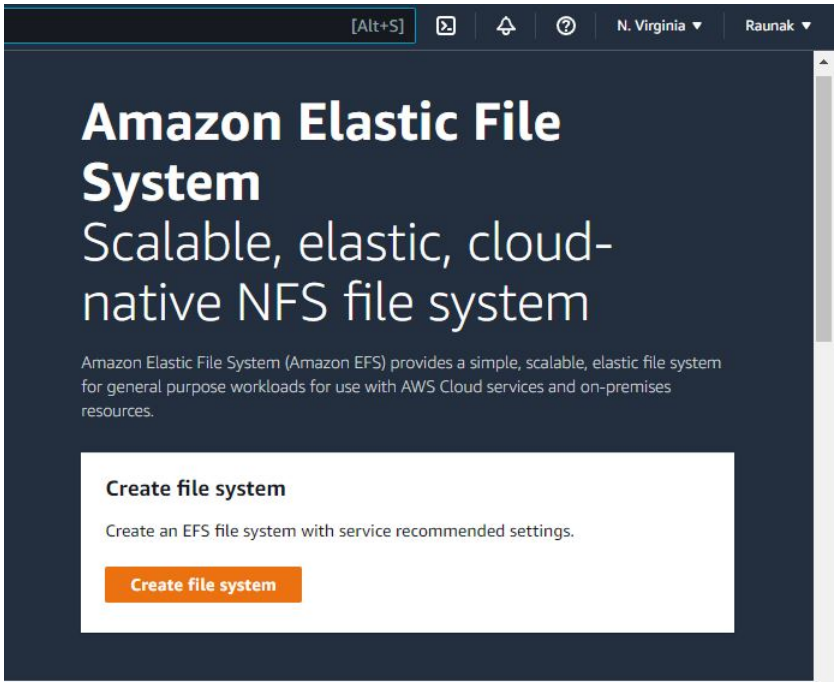

Figure 5: Create an EFS by searching for the service

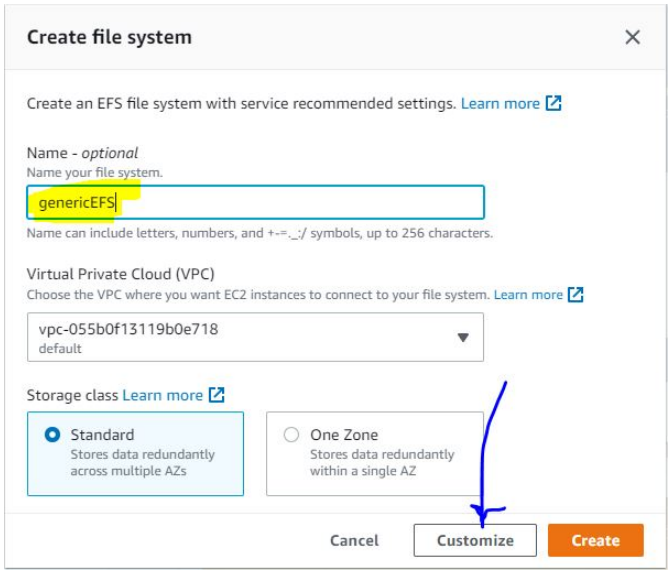

Figure 6: Name the EFS and select the customization option before creating it

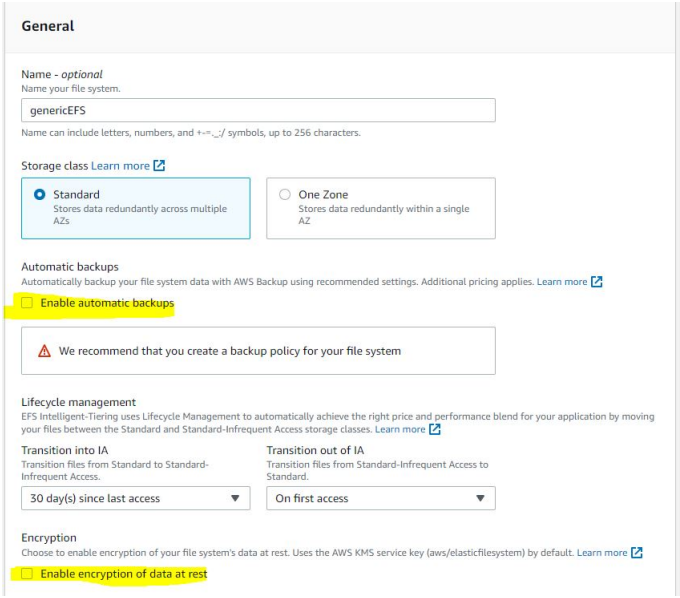

Figure 7: Uncheck the automatic backups and encryption option

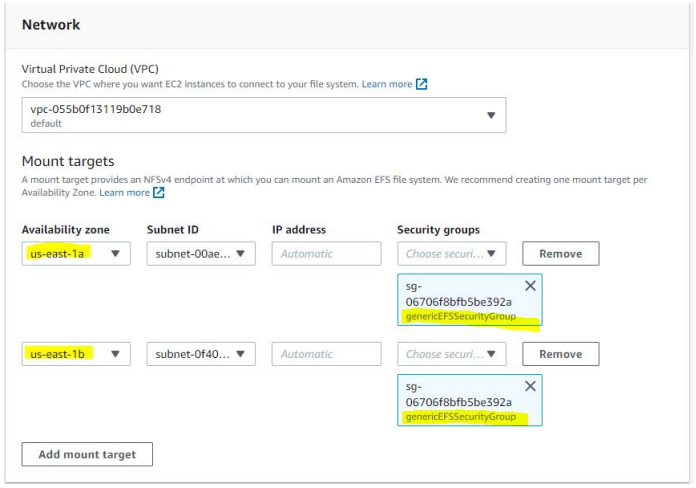

Figure 8: Delete all the availability zones except shown in image and use the security group that was created ealier

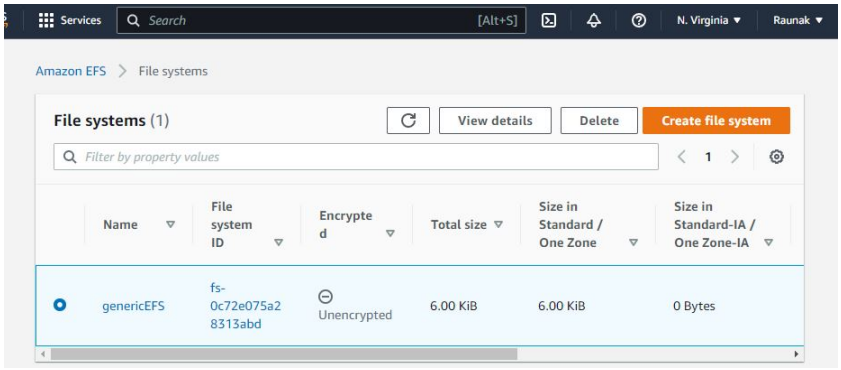

Figure 9: Successful creation of the EFS

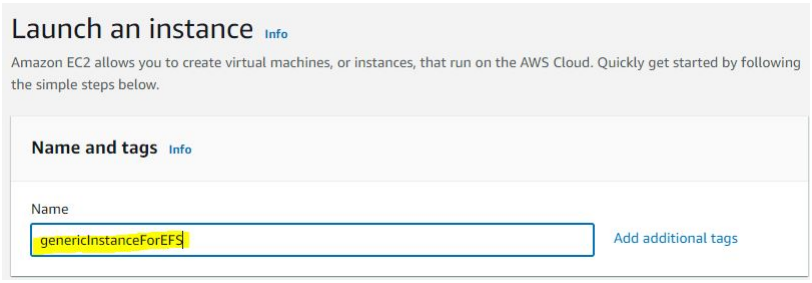

Figure 10: Launching the instance for connecting it with EFS

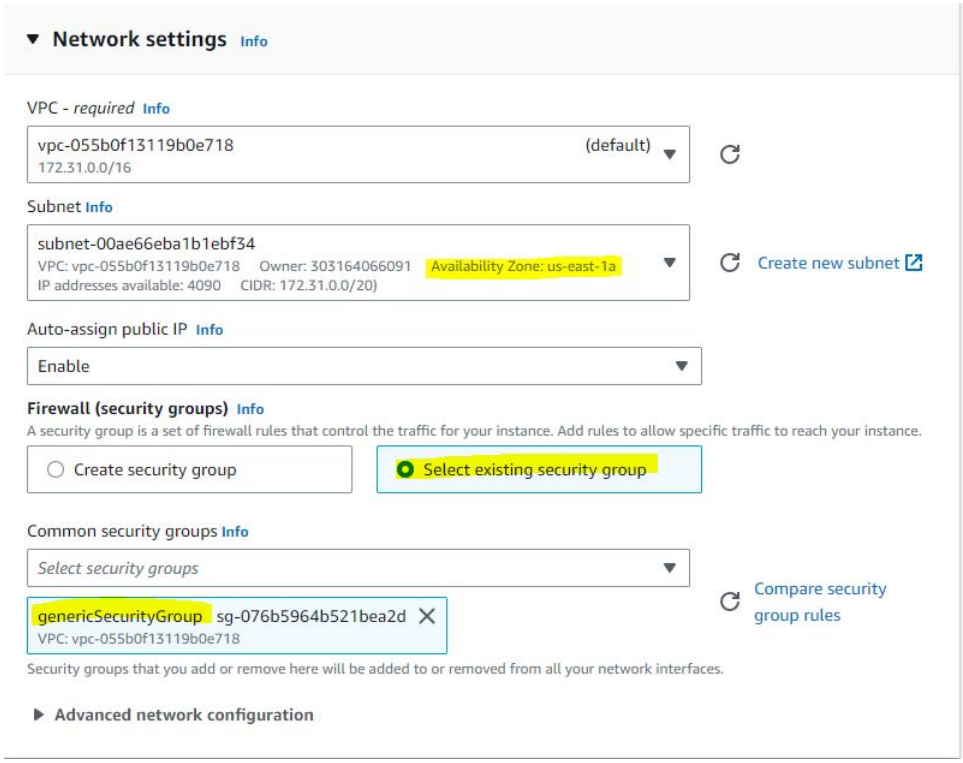

Figure 11: Select sub-net with first availability zone and select existing security group with created security group earlier

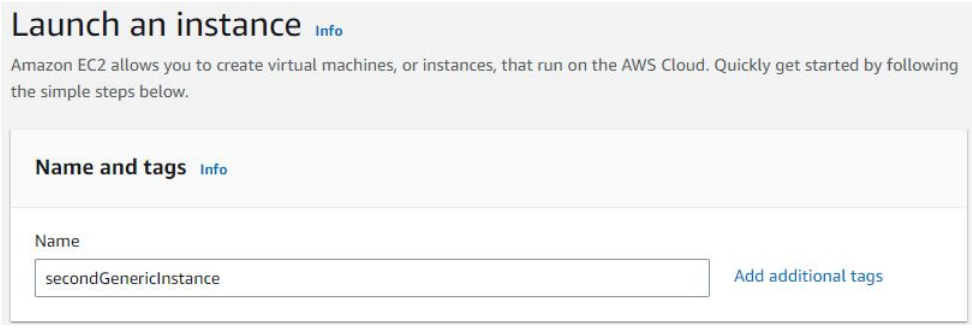

Figure 12: Launch another instance

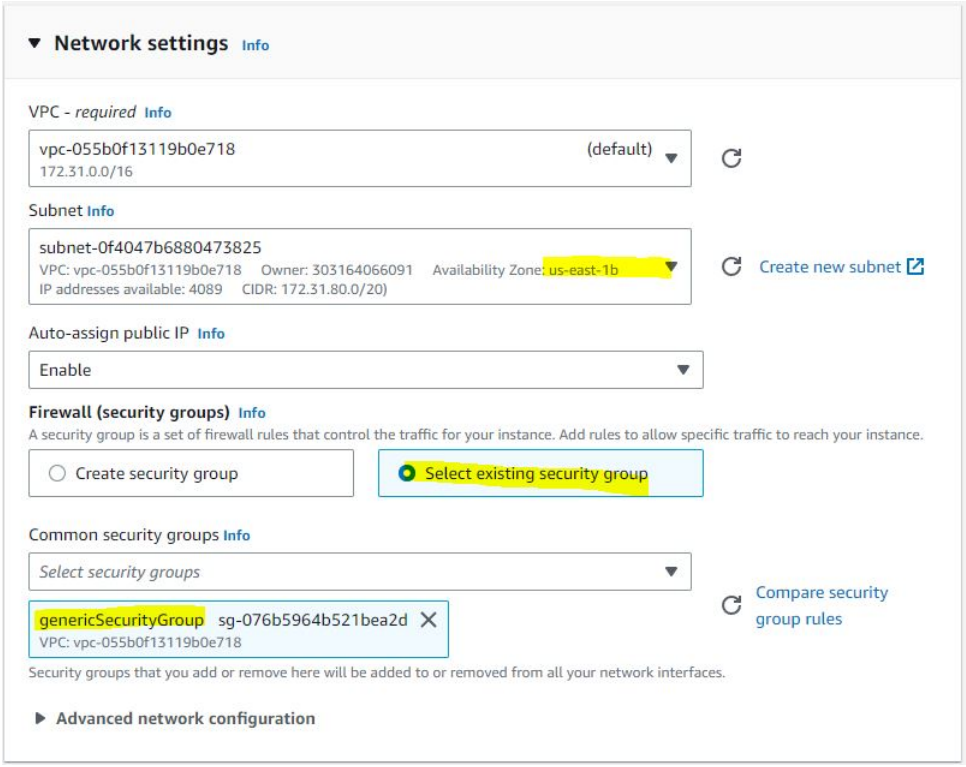

Figure 13: Select sub-net with second availability zone and select existing security group with created security group earlier

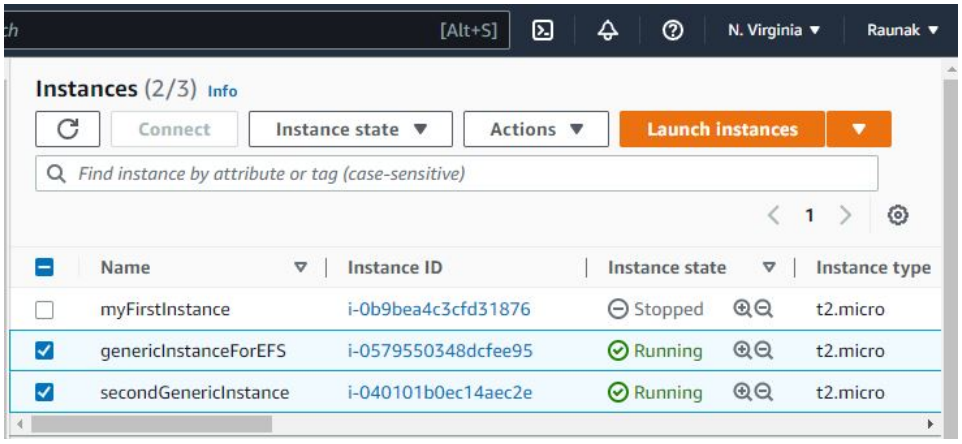

Figure 14: Successful creation of 2 Linux based instances

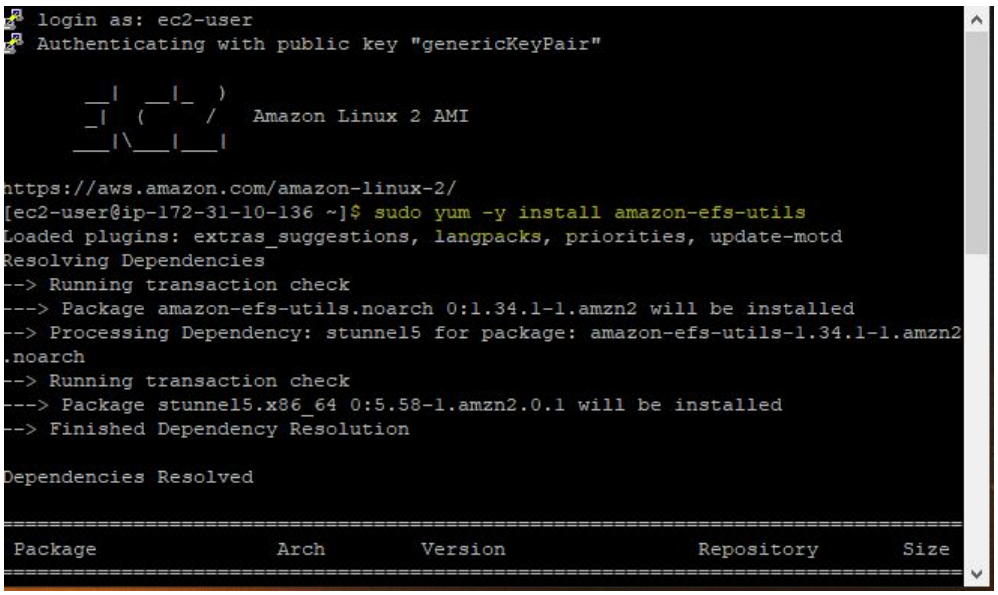

Figure 15: Connect with SSH and run `sudo yum -y install amazon-efs-utils` command

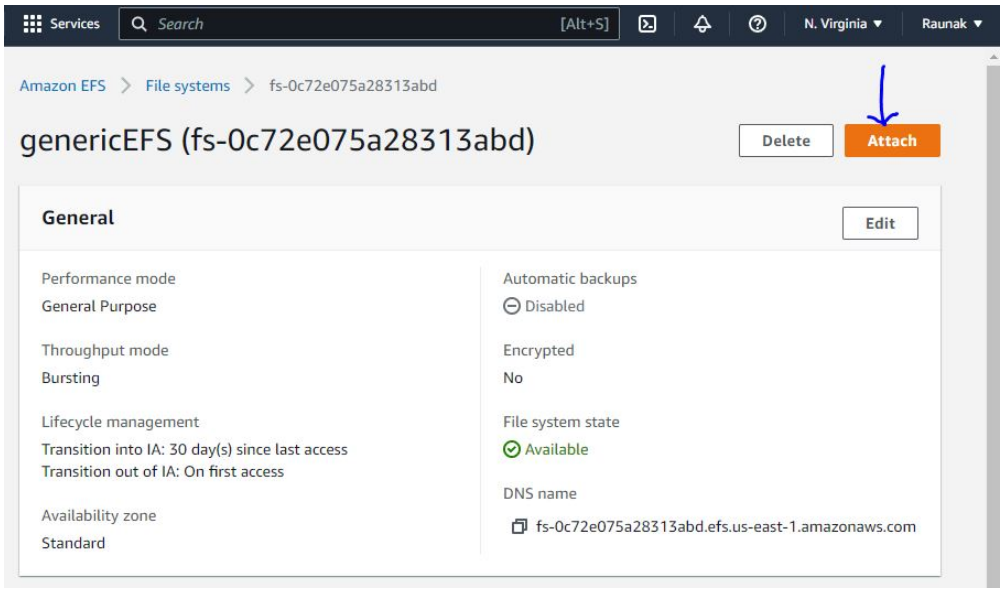

Figure 16: Attach the EFS by selecting the option

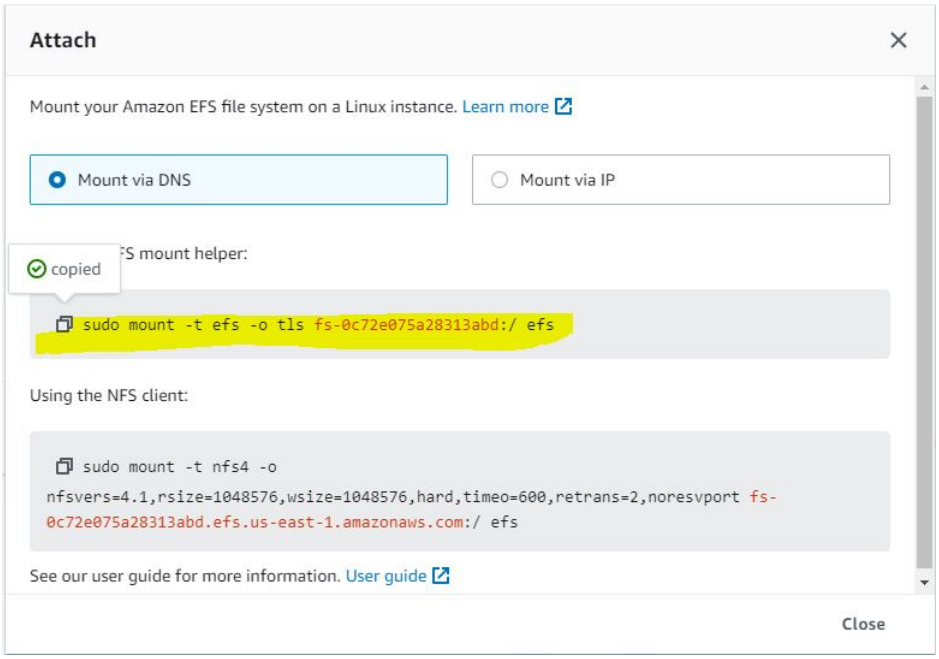

Figure 17: Copy the mounting command of the EFS

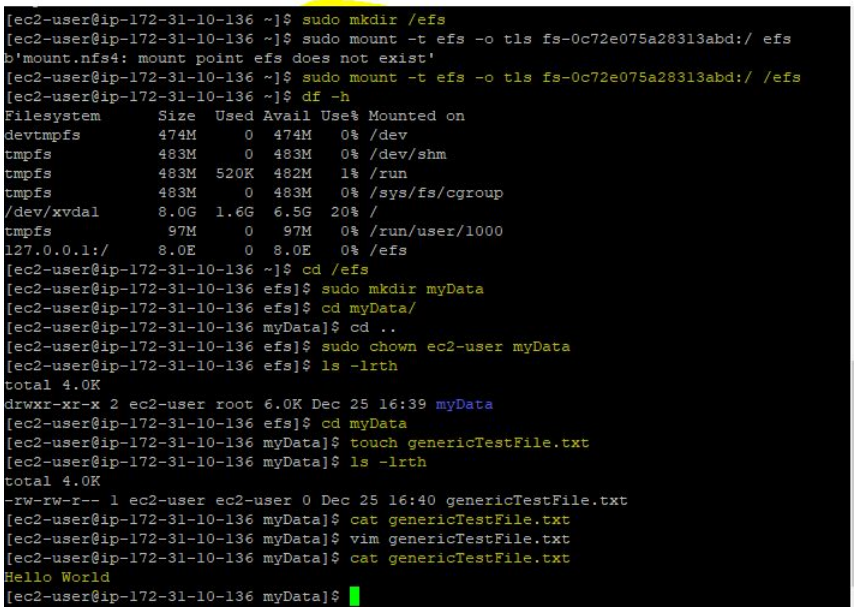

Figure 18: Follow all the commands that are highlighted in yellow

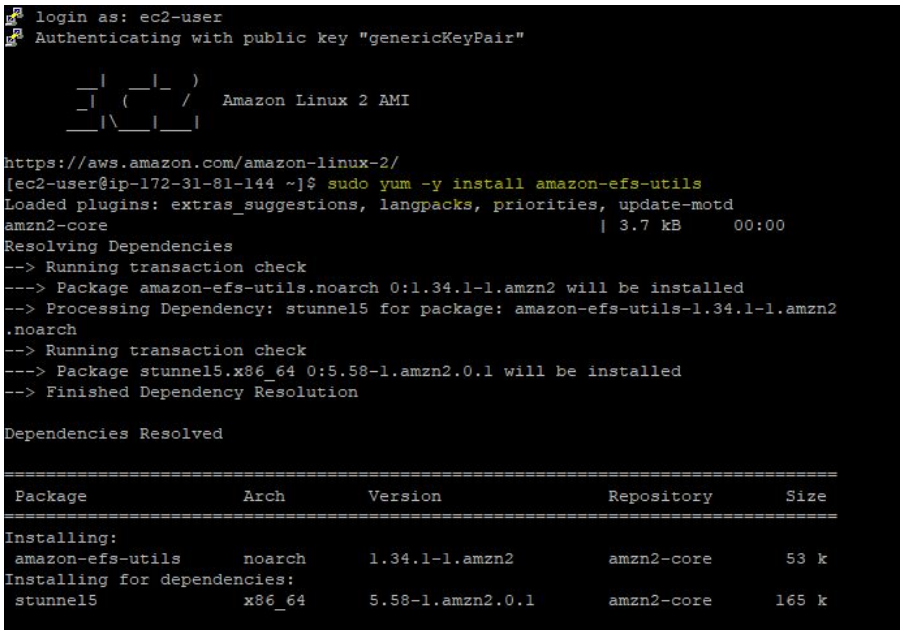

Figure 19: Connect the second EC2 via SSH and install the amazon utils using yum command

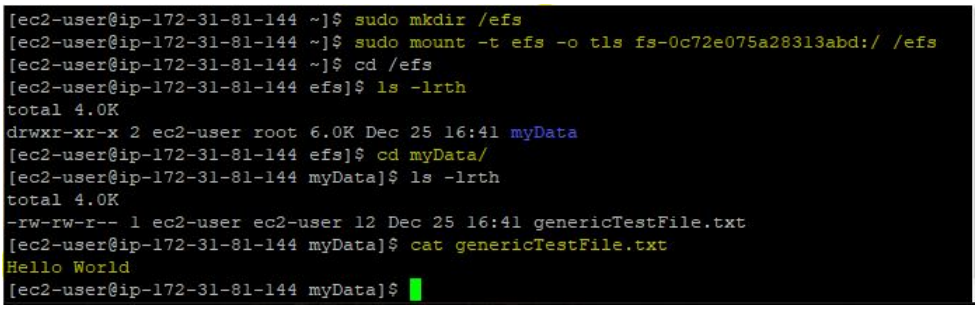

Figure 20: Follow the highlighted commands as given and are similar to last process

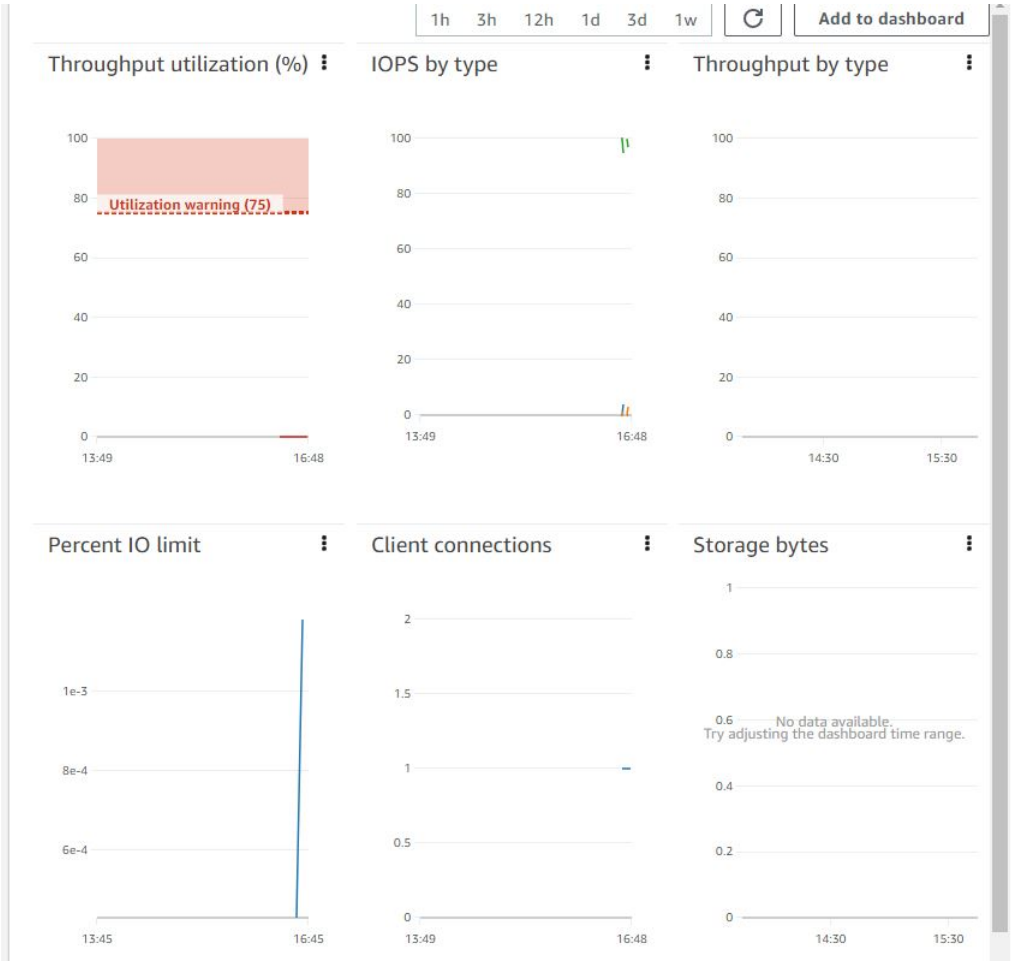

Figure 21: Monitoring the currently used EFS can be seen on its dashboard

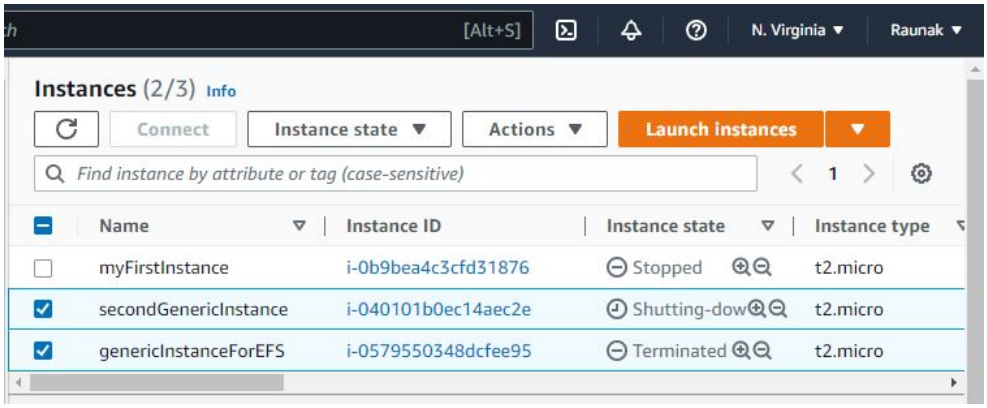

Figure 22: Stopping and terminating both the instances

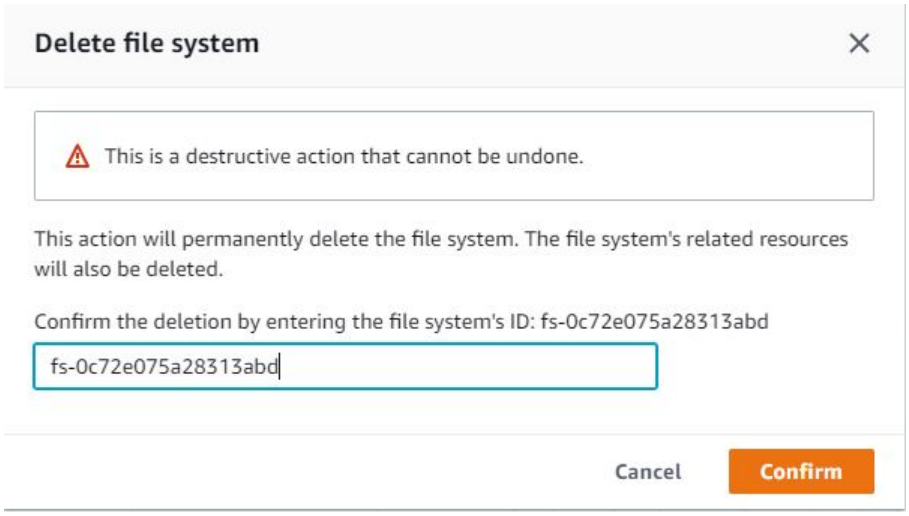

Figure 23: Deletion of the created EFS after successful experimentation

Conclusion

This experiment is successful implementation of creating an Amazon Elastic File System and connecting it with two separate EC2 instances. The motive of entire experiment was to prove that EFS can be connected simultaneously to different machine unlike EBS which connects to a single instance. The experiment gives comprehensive outlook towards the creation to termination process in a seamless manner.