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Lab Brief

Course: Cloud Computing on AWS

Storage | Volumes, S3, CLI

(Add volumes to EC2 instance, migrate data from one volume to the other, write a CLI to upload documents to S3 from local machine)

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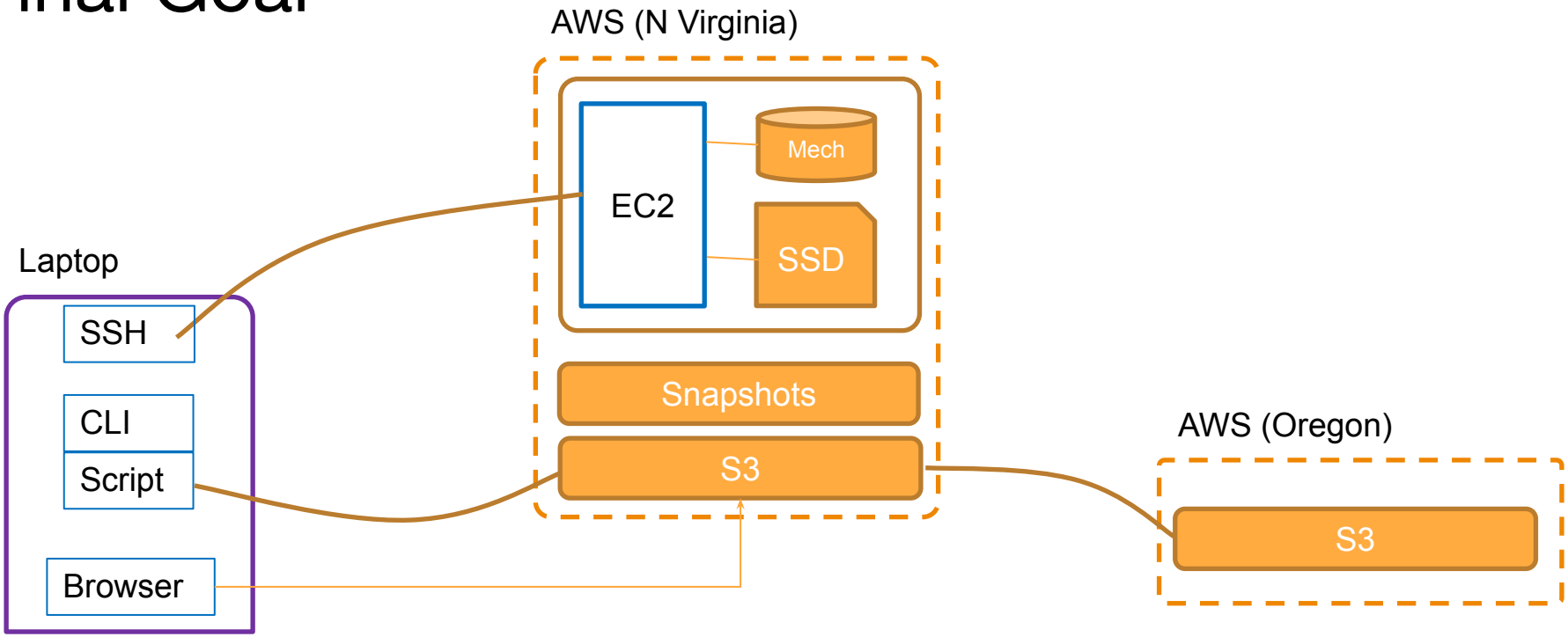
Learning Outcomes

1. Get an EC2 instance using the 7 step workflow & SSH in it
2. Grab an additional disk
3. Attach, format, mount to an EC2 instance
4. Able to create snaphots and apply to volumes
5. Use S3 using the console and via the CLI

Final Goal



What is needed?

1. AWS Account Credentials

2. EC2 Instances (Linux)

3. Shell script environment (any text editor of your choice)

4. Full access to - Volumes, Snapshots, S3, EFS, IAM

5. Access to create an S3 bucket in 1 other region (Oregon) with cross region replication access

Command reference

The "volume" lab set of commands are as follows
To elevate your privileges to root
0. sudo su

All following commands require you to be root
1. lsblk
2. file -s /dev/xvdf
3. mkfs -t ext4 /dev/xvdf
4. mkdir /appdata
5. mount /dev/xvdf /appdata
6. echo "This is a sample file" > /appdata/sample.txt
7. umount /dev/xvdf

Note - umount will not work if the pwd is /appdata.

The CLI set of commands are as follows
1. aws s3 cp [file] s3://[bucket/folder/file]
2. aws s3 ls [bucket]
3. aws s3 rm s3://[bucket/file]

How to do it? - 1

1. Ensure your region is set to "**N Virginia**"
2. Create 1 EC2 instance using the 7 step workflow
   a) Use the usual Amazon Linux AMI in AZ1
   b) Download a new PEM file and SSH to the instance
3. Volumes
   a) Use the console to get a 10G magnetic volume in the same AZ1
   b) Attach the volume to the instance
   c) Format the volume and mount it
   d) Create a sample text file in the volume to simulate data creation
   e) Unmount, detach the volume
4. Snapshot
   a) Create a snapshot of the detached volume
   b) Create a new SSD volume of 15G and apply the snapshot to it
   c) Attach, mount and check if the data is there

How to do it? - 2

1. Use the S3 browser console to create a bucket that is unique to the region
2. Use the CLI to
   a) upload a few (non sensitive) files from your local machine to S3 bucket
   b) list the buckets
   c) list the contents of a bucket
3. Enable versioning of the bucket
4. Enable cross region replication.
5. Q: State your observations of the existing objects (are they replicated?).
6. Using the CLI, upload a few new files to the same bucket

7. **Q: State your observations of the new objects**