Assignment -5

1. Explain MFA (Multifactor Authentication)?

MFA is basically use for the provide a better protection for the user account

Steps to create a MFA

First, we need select the Security Tab and generate a QR code to connect with Authenticator app with mobile or any applicable device.

Then Scan the code with authenticator app you downloaded in mobile Sync with user then it will auto generate codes every time when user try to login, he needs to enter the code generated by the Authenticator app.

1. Steps to create Roles.

Step 1: - Login to AWS root user then select the IAM services

Step 2: - Select the Option ROLE and click on create role option

Step 3: - Select the required entity, required case and required AWS service and add the required Permissions.

Step 4: - Review and Create the role.

1. Why we need cloud storage?

Using the cloud for storage gives you access to your files from anywhere that has an internet connection. In the event of a hard drive failure or other hardware malfunction, you can access your files on the cloud. It acts as a backup solution for your local storage on physical drives.

1. What is cloud storage?

Cloud storage is a cloud computing model that stores data on the Internet through a cloud computing provider who manages and operates data storage as a service. It's delivered on demand with just-in-time capacity and costs, and eliminates buying and managing your own data storage infrastructure.

1. What are the advantages of cloud storage?

* Backup your data to the cloud
* No more external hard drives
* Remotely update & sync your files
* Share files easily
* Remote work made easy
* Keep your files encrypted
* Storage for a lifetime

1. What are the types of storage? Explain

There are three types of cloud data storage: object storage, file storage, and block storage. Each offers their own advantages and have their own use cases:

* [Object Storage](https://aws.amazon.com/what-is-cloud-object-storage/) - Applications developed in the cloud often take advantage of object storage's vast scalability and metadata characteristics. Object storage solutions like [Amazon Simple Storage Service (S3)](https://aws.amazon.com/s3/) are ideal for building modern applications from scratch that require scale and flexibility, and can also be used to import existing data stores for analytics, backup, or archive.
* [File Storage](https://aws.amazon.com/what-is-cloud-file-storage/) - Some applications need to access shared files and require a file system. This type of storage is often supported with a Network Attached Storage (NAS) server. [File storage](https://aws.amazon.com/what-is-cloud-file-storage/) solutions like [Amazon Elastic File System (EFS)](https://aws.amazon.com/efs/) are ideal for use cases like large content repositories, development environments, media stores, or user home directories.
* Block Storage - Other enterprise applications like databases or ERP systems often require dedicated, low latency storage for each host. This is analogous to direct-attached storage (DAS) or a Storage Area Network (SAN). Block-based cloud storage solutions like [Amazon Elastic Block Store (EBS)](https://aws.amazon.com/ebs/) are provisioned with each virtual server and offer the ultra-low latency required for high performance workloads.

1. What is EBS?

An Elastic Block Storage (EBS) Volume hosts virtual data in segments. It's like a storage disk with the ability to contain various sizes of data. These virtual storage devices usually replicate within one AWS region to increase their availability.

1. Explain instance store volume?

Instance store volumes accesses storage from disks that are physically attached to the host computer. When an Instance stored volume is launched, the image that is used to boot the instance is copied to the root volume (typically sda1). Instance store provides temporary block-level storage for launched instances.

1. Explain the steps to create EBS volume and attach it to instance.

* Open the Amazon EC2 console
* In the navigation pane, choose Volumes.
* Choose Create volume.
* For Volume type, choose the type of volume to create.
* For Size, enter the size of the volume, in GiB.
* For Availability Zone, choose the Availability Zone in which to create the volume. A volume can be attached only to an instance that is in the same Availability Zone.
* Create volume
* Select the volume to attach and choose Actions, Attach volume.
* For Instance, enter the ID of the instance or select the instance from the list of options.
* Choose Attach volume.

1. What are snapshots?

Snapshots are a point-in-time copy of your data, and can be used to enable disaster recovery, migrate data across regions and accounts, and improve backup compliance.

1. Explain the difference between EBS volumes and snapshot?

EBS Snapshots are copy of the one of the EBS volume and can be used to enable disaster recovery, migrate data across regions and accounts, and improve backup compliance. We can create and manage your EBS Snapshots through the AWS Management Console, AWS Command Line Interface (CLI).

A block-level storage device that we can attach to our instances. After we attach a volume to an instance, we can use it as a physical hard drive. EBS volumes are flexible. For current-generation volumes attached to current-generation instance types and change volume type on live production volumes.

1. Explain the lifecycle of AMI - Handson.

* Create Snapshot by using Volume
* Select Volume
* Actions
* Create Snapshot
* EBS
* Snapshots
* Select Snapshot
* Actions
* Create Image
* Select under Image
* Select AMI
* Launch the Instance using Selected AMI

1. Explain the steps to create bucket

Step 1: - Open Amazon Console and select S3 service.

Step 2: - Click on Create bucket and give a bucket name (should be unique).

Step 3: - Select the object ownership of bucket.

Step 4: - If ACL enabled, we need to uncheck the box for block all public access.

Step 5: - Enable Bucket version to create a version of file and click to create bucket.