

## MODULE 7: Storage

Object storage : entire file must be update

Block storage , you can change or update

### 1. EBS

- Enables you to create individual storage volumes and attach them to EC2 Instances
- Offers block level storage
- Volumes are automatically replicated within its az and it can be backed up automatically to S3 through Snapshot
- Solid State Drive
- Hard Disk Drive

Features:

- Snapshot
- Elasticity
- Encryption

EBS Volume:

- Create a volume for an instance

### 2. S3

- Data is stored as objects in buckets
- You have virtually unlimited storage but a single object is limited to 5 TB.
- Granular access to buckets and objects

Classes of S3:

- S3 Standard
- S3 Intelligent tiering
- Standard Infrequent Access
- S3 OneZone IA
- S3 Glacier
- S3 glacier deep archive

Upload:

- Create bucket in AWS region
- Upload almost any number objects to the buckets
- Access the data anywhere through AWS management console, AWS CLI, SDK

Common use case:

- storing application assets
- Static web hosting
- Backup and disaster recovering
- Staging area for Big data

## Pricing

- Pay for only what you use
- GB per month
- 5 request: put, copy, post, list , get

## 3. EFS

- File storage in AWS cloud
- Shared storage
- Elastic capacity
- Supports Network File System
- Compatible with all linux based ami

## Implementation:

- Create ec2 resource and launch ec2 instance
- Create EFS
- Create mount target in appropriate subnets
- Connect your instance to mount target
- Verify the resource and the protection of your AWS account.

## 4. S3 Glacier:

- Data archiving service that is designed for security, durability, an extremely low cost data back up
- After 30 days, all data in S3 buckets transfers in this.
- After 5 years, the data will be deleted.

## 3 retrieval :

- standard: 3 to 5 h
- Bulk: 5 - 12h
- Expedited: 1-5 min

S3 lifecycle policies enable the user to delete or move objects based on age.

- S3 standard: after 30 days, it moves to StdIA, after 60 days, it moves to S3 glacier, in 365 days, data is deleted

## Security with S3 Glacier

- Control access with IAM
- S3 Glacier encrypts your data with AES-256
- Manage your keys for you