AWS Storage, Database and Migration services

Storage services:
Object storage
Block storage services
File storage services

Object storage	**Block storage**	**File Storage**
S3 -> Simple Storage Service	EBS -> Elastic Block Store	EFS -> Elastic File Store -> linux based workloads FSx -> File Store for windows -> Windows based workloads
Object -> Data stored -> Image, video, audio, text, html Bucket -> virtual folder/holder	Volume -> external hard disk	File system -> logical folder
Global accessibility -> Creating the bucket, you will specify a region -> Data will be stored in that specified region You can access it from anywhere across the globe Data will be replicated across all the Azs within that region Backup: Replication rules: Replicate your objects in one region to another Pri Bucket -> replicated to the sec bucket Sec Bucket -> replicated to the pri bucket	AZ specific service AZ of instance = AZ of volume Backup: Snapshots	Regional service File system -> Mumbai Shared file access Single File system can be mounted on the instance present in all the Azs within mumbai region Backup: Snapshots

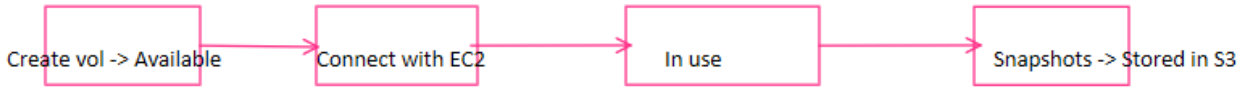
S3:
Simple Storage Service
Storage classes: Based on data access patterns
S3 standard -> Freq accessed data, replication across multi AZ occurs, retrieval time -> ms, costliest
S3 standard IA -> Infreq accessed data, replication across multi AZ occurs, critical, retrieval time -> ms
S3 one Zone IA -> Infreq accessed data, No replication occurs, non-critical, retrieval time -> ms
S3 glacier instant retrieval -> Rarely accessed data, retrieval time -> ms, replication across multi AZ occurs
S3 glacier flexible retrieval -> Rarely accessed data, retrieval time -> mins to hours, replication across multi AZ occurs
S3 glacier deep archive -> Rarely accessed data, retrieval time -> hours, replication across multi AZ occurs, cheapest
S3 Intelligent tiering -> 3 tiers: freq accessed, infreq accessed, archive data.
As soon as the user uploads the data into S3 bucket, initially that data it will be placed under under freq accessed tier. After that S3 will monitor your data access pattern. Based on which it will automatically move data from one tier to another

Uploaded a txt file today -> V1
After 3 days -> updating the same txt doc -> V2
Versioning -> To be enabled explicitly
Retain all the versions of a specific file

S3 lifecycle rules:
Today you are uploading a doc. You will be accessing it freq for first 40 days. After that you will be accessing it very rarely and you are fine, even if it takes hours to retrieve your data.
You can schedule the movement of data from on Storage class to another

EBS:
Elastic Block Store
Persistent block storage
EBS volume will be retained -> even after deletion of your EC2 instance
One volume can be attached with only one instance at a time
Snapshots -> incremental backup
Create Amazon EBS snapshots - Amazon Elastic Compute Cloud
Delete an Amazon EBS snapshot - Amazon Elastic Compute Cloud

To use the same vol in diff AZ:
Create a snapshot -> from that SS you can create a new volume in a diff AZ -> attach it with your instance



Data lifecycle manager -> automate/schedule the creation/deletion of SS
SS1 **SS2** **SS3** SS4 SS5 SS6 SS7 SS8

SS1 -> Hello
Vol -> Hello have a nice day
SS2 -> **Hello** have a nice day
Vol -> Hello have a nice day. Bye.

SS2 -> Hello have a nice day
Vol -> Hello have a nice day. Bye.

SS3 -> **Hello have a nice day** . Bye.

EFS:
Elastic file storage/ system
Storage classes:
Standard -> data stored will be replicated across all the AZ in that region
One zone -> Data will be stored only in one AZ

EFS demo steps:
Created a file system in mumbai region
Created an instance in same region (1a)
Connected with that instance
Installed efs utils packages and libraries
Created a directory with mkdir cmd
Mount the file system on top of this instance
Change directory to efs
Create a file (vi demo.txt)
Shared file access:
Created an instance in same region but in diff AZ (1b)
Connected with that instance
Installed efs utils packages and libraries
Created a directory with mkdir cmd
Mount the file system on top of this instance
Change directory to efs
If you give the list cmd -> you will see the file that you created in your prev instance

FSx demo - **Youtube link**

Additional references:
Complete certification preparation journey for external AWS and GCP certificates - Blog
AWS Skill Builder
AWS Pricing calculator
AWS Certification details
AWS cloud practitioner course – Skill Builder
Get Certification Voucher -> Works only when connected to VPN
Cloud Channel | Lex (infosysapps.com) -> For AWS and GCP full stacks and internal certification links
A cloud services cheat sheet for AWS, Azure and Google Cloud | TechTarget