



**AWS Certified Solutions**  
**Architect - Associate**

# **Module 6**

# **Simple Storage**

# **Service**

# Agenda

- **What is AWS s3**
- **Advantages**
- **S3 Buckets**
- **S3 Object**
- **Data Consistency & Transfer Acceleration**
- **S3 Features**
- **S3 Storage Type**
- **S3 Cross-Region Replication**
- **Hands-on lab**

# What is S3

- **Amazon Simple Storage Service is storage for the Internet.**
- **Amazon S3 has a simple web services interface that you can use to store and retrieve any amount of data, at any time, from anywhere on the web.**
- **Accessible via simple web service interface.**
- **Use alone or with other service of AWS services.**
- **Amazon S3 provide 99.999999999% [eleven 9's] durability. If you store 10,000 objects, on average you may lose one of them every 10 million years or so.**

# Advantages

Create  
Buckets

Store data in  
Buckets

Download  
Data

Permissions

Standard  
Interfaces

Transfer  
Acceleration

# S3 Core Concepts: Buckets ?

- **A bucket is a container for objects stored in Amazon S3.**
- **Every object is contained in a bucket.**
- **Organise the AWS S3 namespace at the highest level.**
- **Each object in Amazon S3 has a unique HTTP URL.**
- **For example, if the object named awsdoc.txt is stored in the “awss3” bucket, then it is addressable using the URL**  
**<https://s3.amazonaws.com/awss3/awsdoc.txt>**
- **You can choose any AWS region that is geographically close to you to optimize latency, minimize costs, or address regulatory requirements.**

# S3 Core Concepts: Object

- **Objects are fundamental entities stored in S3.**
- **Object is uniquely identified within a bucket by key(name) and a version ID.**
- **Each object in Amazon S3 has a unique HTTP URL.**
- **Objects can be 1 byte to 5 terabytes (TiB).**
- **Objects of differing storage classes can exist in the same bucket**

# Data Consistency

- **Amazon S3 provides read-after-write consistency for PUTS of new objects in your S3 bucket.**
- **Amazon S3 offers eventual consistency for overwrite PUTS and DELETES.**



# S3: Transfer Acceleration

- **Amazon S3 Transfer Acceleration enables fast, easy, and secure transfers of files taking advantages of Amazon CloudFront and Edge locations.**
- **When using Transfer Acceleration, additional data transfer charges may apply.**
- **After enabling Amazon S3 Transfer Acceleration feature a new name will be generated.**








**For Example,**

- If the bucket's initial name was **mybucket.s3.amazonaws.com**
- The new one will be **mybucket.s3-accelerate.amazonaws.com**

# S3 Versioning

- **When you PUT an object in a versioning-enabled bucket, the noncurrent version is not overwritten.**
- **When a new version of photo.gif is PUT into a bucket that already contains an object with the same name, the original object(ID = 111111) remains in the bucket, Amazon S3 generates a new version ID (121212), and adds the newer version to the bucket.**

# S3 Storage Class

Storage class	Designed for	Availability Zones	Min storage duration	Min billable object size	Monitoring and automation fees	Retrieval fees
 Standard	Frequently accessed data	$\geq 3$	-	-	-	-
 Intelligent-Tiering	Long-lived data with changing or unknown access patterns	$\geq 3$	30 days	-	Per-object fees apply	-
 Standard-IA	Long-lived, infrequently accessed data	$\geq 3$	30 days	128KB	-	Per-GB fees apply
 One Zone-IA	Long-lived, infrequently accessed, non-critical data	$\geq 1$	30 days	128KB	-	Per-GB fees apply
 Glacier	Archive data with retrieval times ranging from minutes to hours	$\geq 3$	90 days	40KB	-	Per-GB fees apply
 Glacier Deep Archive	Archive data that rarely, if ever, needs to be accessed with retrieval times in hours	$\geq 3$	180 days	40KB	-	Per-GB fees apply
 Reduced Redundancy (Not recommended)	Frequently accessed, non-critical data	$\geq 3$	-	-	-	-

# S3 Cross Region Replication

- **Cross-region replication is a bucket-level feature that enables automatic, asynchronous copying of objects across buckets in different AWS regions.**
- **Amazon S3 replicates the new objects created after enabling the replication configuration.**
- **Amazon S3 does not replicate objects in the source bucket for which the bucket owner does not have permissions.**
- **Objects in the source bucket that are replicas, created by another cross-region replication, are not replicated.**

# Hands-on Lab