TRAINING CONTENT

Cloud Computing

YOUR NEXT DESTINATION

OF SOFTWARE OUTSOURCING

What is S3

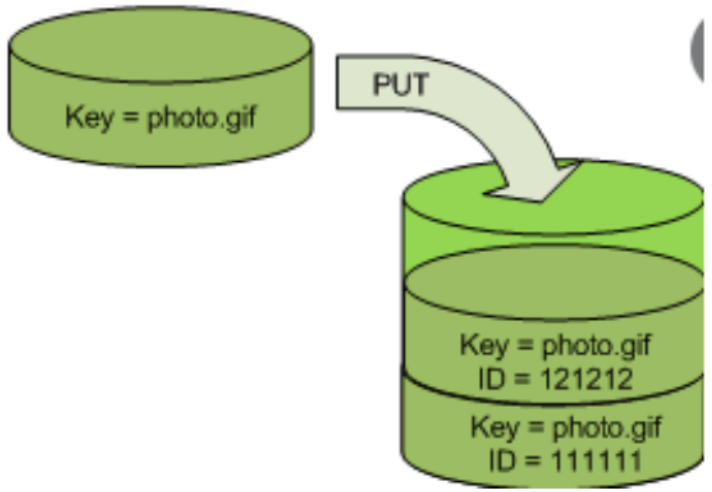
- Amazon S3 has a simple web services interface that you can use to store and retrieve any amount of data, at any time, from anywhere on the web.
- It gives any developer access to the same highly scalable, reliable, fast, inexpensive data storage infrastructure that Amazon uses to run its own global network of web sites. The service aims to maximize benefits of scale and to pass those benefits on to developers.
- The total volume of data and number of objects you can store are unlimited. Individual Amazon S3 objects can range in size from a minimum of 0 bytes to a maximum of 5 terabytes.

Comparing the Amazon S3 Storage Classes

Storage Class	Designed for	Durability	Availability	Availability Zones	Min storage duration
STANDARD	Frequently accessed data	99.999999999%	99.99%	>= 3	None
RRS (Not recommended)	Frequently accessed, non-critical data	99.99%	99.99%	>= 3	None
STANDARD_IA	Long-lived, infrequently accessed data	99.999999999%	99.9%	>= 3	30 days
ONEZONE_IA	Long-lived, infrequently accessed, non-critical data	99.999999999%	99.5%	1	30 days
INTELLIGENT_TIERING	Long-lived data with changing or unknown access patterns	99.999999999%	99.9%	>= 3	30 days
GLACIER	Long-term data archiving with retrieval times ranging from minutes to hours	99.999999999%	99.99% (after you restore objects)	>= 3	90 days
DEEP_ARCHIVE	Archiving rarely accessed data with a default retrieval time of 12 hours	99.999999999%	99.99% (after you restore objects)	>= 3	180 days

S3 Versioning

Versioning in Amazon S3 is **a means of keeping multiple variants of an object in the same bucket**. You can use the S3 Versioning feature to preserve, retrieve, and restore every version of every object stored in your buckets.
Versioning-enabled buckets can help you recover objects from accidental deletion or overwrite.



Bucket Policy

- A bucket policy is a resource-based AWS Identity and Access Management (IAM) policy. You add a bucket policy to a bucket to grant other AWS accounts or IAM users access permissions for the bucket and the objects in it. Object permissions apply only to the objects that the bucket owner creates.
- Example: Granting public access Permission to an Anonymous User

```
{
   "Version": "2012-10-17",
   "Statement": [
      {
         "Sid": "PublicReadForGetBucketObjects",
         "Effect": "Allow",
         "Principal": "*",
         "Action": "s3:GetObject",
         "Resource": "arn:aws:s3:::bucket_name/*"
      }
   ]
}
```

S3 - Hands-on

- Create a S3 bucket
- File upload and download
- Enable versioning

AWS CloudFront

Amazon CloudFront is a content delivery network operated by Amazon Web Services. Content delivery networks were created to provide a globally-distributed network of proxy servers to cache content, such as web videos or other bulky media, to improve access speed for downloading the content.

- Edge location information: https://aws.amazon.com/cloudfront/features/?whats-new-cloudfront.sort-by=item.additionalFields.postDateTime&whats-new-cloudfront.sort-order=desc

Benefits:

- 1 TB data transfer out for Free tier
- It will cache your content in edge locations and decrease the workload, thus resulting in the high availability of applications.
- It is simple to use and ensures productivity enhancement.
- It provides high security with the 'Content Privacy' feature.
- It facilitates GEO targeting services for content delivery to specific end-users.
- It uses HTTP or HTTPS protocols for quick delivery of content.
- It is less expensive, as it only charges for the data transfer.

AWS CloudFront