**What Is Amazon 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.

## Advantages to Amazon S3

**Create Buckets** – Create and name a bucket that stores data. Buckets are the fundamental container in Amazon S3 for data storage.

**Store data in Buckets** – Store an infinite amount of data in a bucket. Upload as many objects as you like into an Amazon S3 bucket. Each object can contain up to 5 TB of data.

**Download data** – Download your data or enable others to do so. Download your data any time you like or allow others to do the same.

**Permissions** – Grant or deny access to others who want to upload or download data into your Amazon S3 bucket. Grant upload and download permissions

## Amazon S3 Concepts

### Buckets

A bucket is a container for objects stored in Amazon S3. Every object is contained in a bucket.

To upload your data (photos, videos, documents etc.), you first create a bucket in one of the AWS Regions. You can then upload any number of objects to the bucket.  
  
Note: You can create upto 100 buckets in one AWS account.

### Objects

Objects are the fundamental entities stored in Amazon S3.

An object is uniquely identified within a bucket by a key (name) and a version ID.

### Keys

A key is the unique identifier for an object within a bucket. Every object in a bucket has exactly one key.

### Regions

You can choose the geographical region where Amazon S3 will store the buckets you create. You might choose a region to optimize latency, minimize costs

### Bucket Policies

Bucket policies provide centralized, access control to buckets and objects based on a variety of conditions

# Storage Classes

Each object in Amazon S3 has a storage class associated with it. There are four types:-

**STANDARD** – STANDARD is the default storage class; if you don't specify storage class at the time that you upload an object, Amazon S3 assumes the STANDARD storage class.

**STANDARD\_IA (Infrequent Access)** – This storage class (IA, for infrequent access) is optimized for long-lived and less frequently accessed data.

**GLACIER-** The GLACIER storage class is suitable for archiving data where data access is infrequent. Archived objects are not available for real-time access. You must first restore the objects before you can access them.

**REDUCED\_REDUNDANCY** – The Reduced Redundancy Storage (RRS) storage class is designed for noncritical, reproducible data stored at lower levels of redundancy than the STANDARD storage class, which reduces storage costs.

# Object Versioning

Versioning enables you to keep multiple versions of an object in one bucket, for example, my-image.jpg (version 111111) and my-image.jpg (version 222222).

You might want to enable versioning to protect yourself from **unintended overwrites and deletions** or to archive objects so that you can retrieve previous versions of them.

You must explicitly enable versioning on your bucket. By default, versioning is disabled.

# Object Lifecycle Management

Lifecycle configuration enables you to specify the lifecycle management of objects in a bucket, that how many days an object should stay or moved to another storage class or get deleted.

1. you define when objects transition to another [storage class](http://docs.aws.amazon.com/AmazonS3/latest/dev/storage-class-intro.html). For example, you may choose to transition objects to the STANDARD\_IA (IA, for infrequent access) storage class 30 days after creation, or archive objects to the GLACIER storage class one year after creation.
2. You specify when the objects expire. Then Amazon S3 deletes the expired objects on your behalf.

# Cross-Region Replication

Cross-region replication is a bucket-level feature that enables automatic, asynchronous copying of objects across buckets in different AWS regions.

To activate this feature, you add areplication configuration to your source bucket. In the configuration, you provide information such as the destination bucket where you want objects replicated to.   
  
  
  
  
Questions   
  
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what is S3? how many stroage class S3 provides? differnece between storage classes?

How many buckets can we create in s3?

what is the maximum size of the object in buckt we can upload?

What is versoining? why we should use it?

What is life cycle management.

what is bucket policy?

What is cross region replication? how to setup?  
  
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