

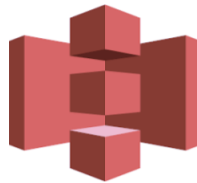


1 Introduction to S3



Introduction to S3

What is S3?



- S3 stands for **Simple Storage Service**.
- One of AWS's oldest services, Amazon S3 could be defined as AWS **object-based file storage** service.



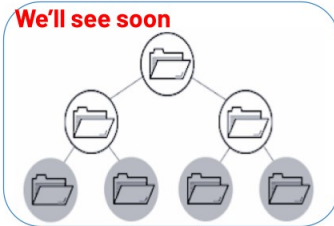
Introduction to S3

Storage Options



File Storage

We'll see soon



Amazon EFS

HTTP(S) Interface

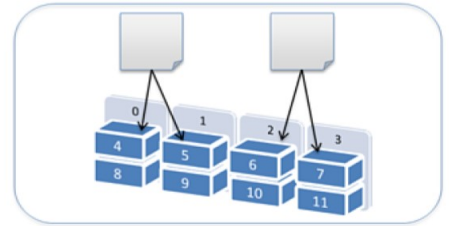
Object Storage



- Store virtually unlimited files.
- Maintain file revisions.
- HTTP(S) based interface.
- Files are distributed in different physical nodes.

Object=
File+
Unique ID+
Metadata+

Block Storage



- File is split and stored in fixed sized blocks.
- Capacity can be increased by adding more nodes.
- Suitable for applications which require high IOPS, database, transactional data.

CLARUSWAY
WAY TO REINVENT YOURSELF



Introduction to S3

What is S3 Bucket?



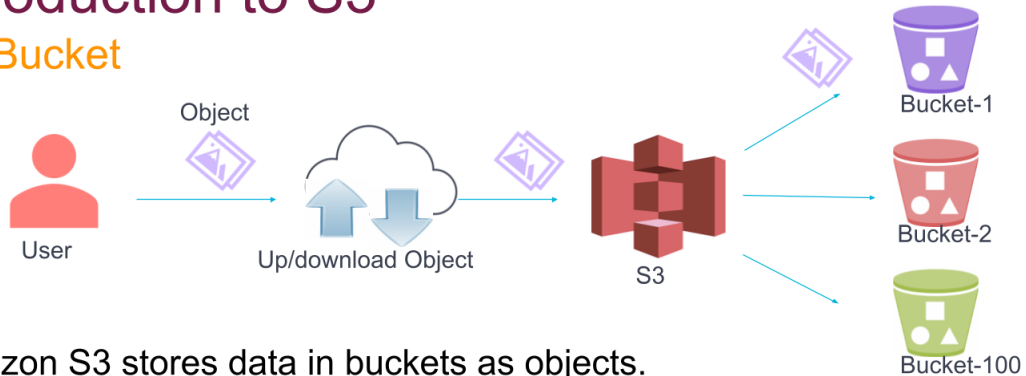
S3 Bucket

- A bucket is a logical storage unit used to store objects in AWS.
- A bucket can also be considered as a container.

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Introduction to S3

S3 Bucket

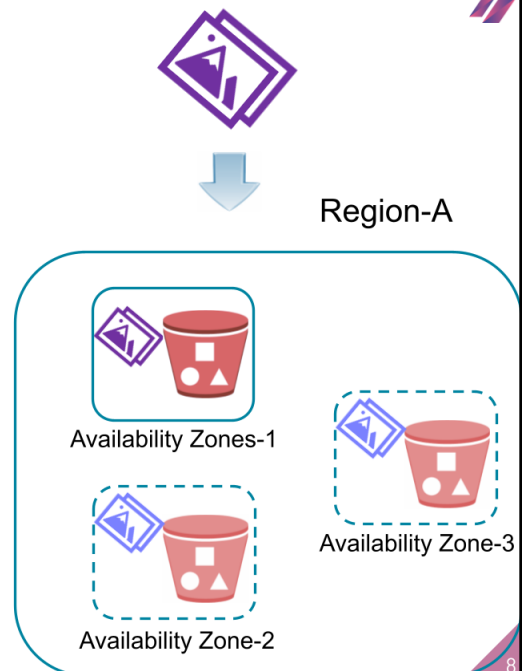


- Amazon S3 stores data in buckets as objects.
- The number of **objects** that can be stored in a bucket is **not limited**, but each AWS account can only have **100 buckets** at once.

Introduction to S3

S3 Bucket

- S3 is a global service, but a **region must be selected**
- **Bucket's name** must be **unique**.
- Objects is stored in a minimum of **3 Availability Zones** (AZs) in an Amazon S3 Region.





Introduction to S3

What is an Object in S3?



5 TB

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9



Introduction to S3

Object in S3-Upload



Up to 160 GB



CLI



API



SDK

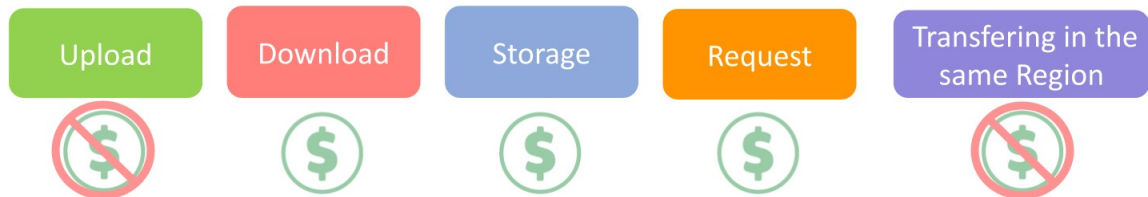
Over 160 GB

- The max. size of an object you can upload via **AWS Management Console** is **160 GB**.
- For uploading a file **greater than 160 GB**, the AWS CLI, AWS SDK, or API is needed to be used



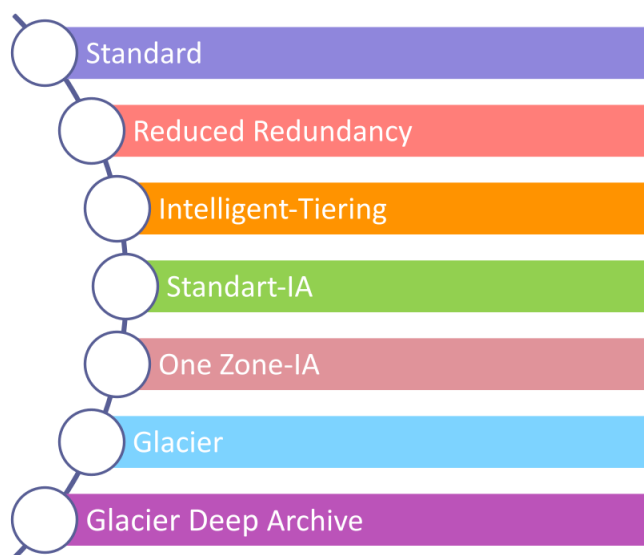
Introduction to S3

S3 Object Pricing



Storage Classes

Types of Storage Classes



Storage Classes

Standard Class



Cloud Applications



Mobile Games



Website Hosting



- Standard is the **default** storage class unless you change
- This is the basic storage solution for **frequently accessed** data
- Reliability at **99,99999999%**
- Availability at **99,99%**
- Cloud applications and web-services, mobile games and website hosting are some example of use case

Storage Classes

Reduced Redundancy (RRS)

Non critical Data



- RRS class offering **less redundancy** is a **modified version of Standard** storage class
- It is designed for **non critical** and reproducible data
- The main difference between RRS and Standard class is **reliability**
- While reliability of **Standard** storage class is **99,99999999%**,
reliability of **RRS** class is **99,99 %**
- It provides **cost saving** compare to Standard class **for the non critical data**.

Storage Classes

Standard IA (Infrequent Access)

Infrequently
Accessed Data



- Standard IA (Infrequent Access) is a convenient for infrequently accessed files
- Less frequent access, but longer storage time than the Standard class
- It is cheaper than Standard

Storage Classes

One Zone IA (Infrequent Access)

Infrequently Accessed
& Non Critical Data



- One Zone IA class is a modified version of Standard IA.
- It is 20 percent cheaper than Standard IA due to less availability.
- Unlike others, One Zone IA stores data only in one availability zone, instead of three availability zones
- One-Zone IA can be preferred when you have infrequently accessed and noncritical files

Storage Classes

Intelligent Tier

Unpredictable
Access Patterns



Infrequent
Access Tier



Frequent
Access Tier

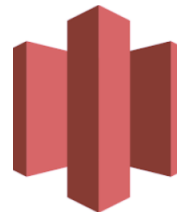


- It is designed to optimize storage costs by automatically **moving data to the most cost-effective storage access tier**.
- There are **two access tiers**: one tier that is optimized for **frequent access** and another lower-cost tier is optimized for **infrequently access**
- It is ideal, if your access **patterns are unknown or unpredictable**.

Storage Classes

Amazon Glacier

Archives & Backup
Copies of Databases



- It is a perfect solution for **long-term storage** and data archiving that doesn't require instant access.
- Minimum storage duration period is **90 days** and can be accessed at least **in 1-5 minutes**
- If you have deleted, overwritten, or transitioned to a different **storage class an object before the 90-day minimum, you are** charged for 90 days.



Storage Classes

Amazon Glacier Deep Archive

Infrequently Accessed
& Non Critical Data

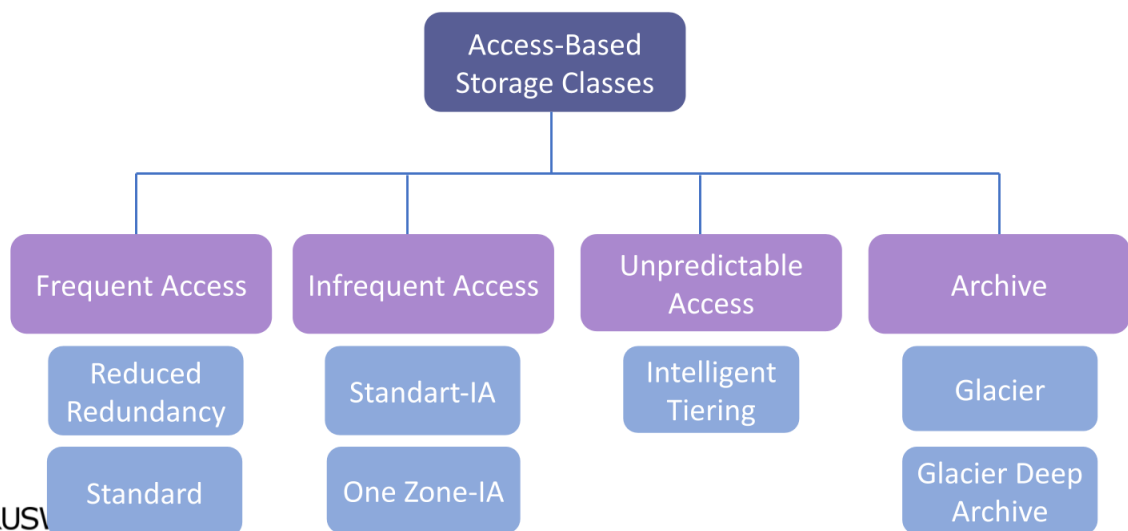


- It is used for archiving data that **rarely need to be accessed**.
- It is the **lowest cost storage option** in AWS.
- The retrieval time is **12-48 hours**
- Minimum storage **duration period is 180 days** and a default **retrieval time of 12 hours**. If you interact with the object in 180 you'll be charged for 180 days.



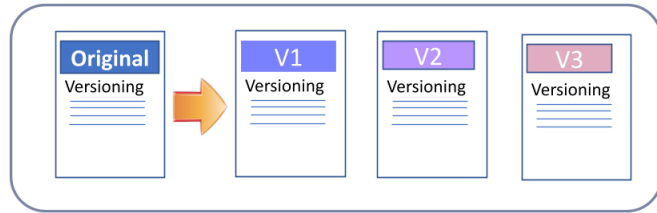
Storage Classes

Summary of Storage Classes



Versioning

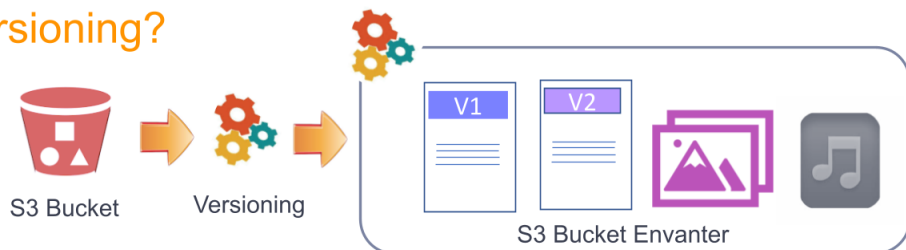
What is Versioning?



- Versioning is a way to **keep multiple versions** (deleted and changed versions) of an object in a bucket.
- By using versioning, all **unwanted user behavior and program errors** can be quickly recovered.

Versioning

What is Versioning?

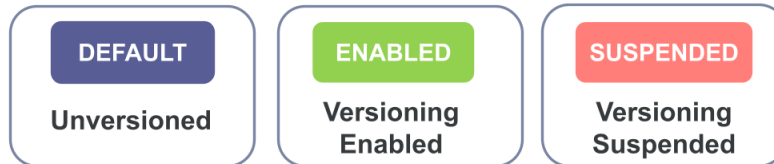


- Versioning is **bucket-based** feature



Versioning

States of Versioning

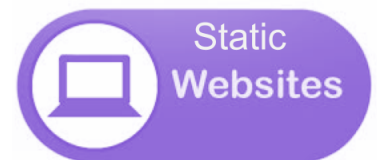


It is not possible to return to an unversioned state, however, you can make suspend versioning on that bucket.



S3 Static Website Hosting

What is Static Website Hosting?



- Static Website Hosting is a website that contains **simple web components**.
- Uses HTML, CSS, images, etc.
- No **server, database** or any **application code**.



S3 Static Website Hosting

Static Website Enabling Options

Static



S3 Static Website Hosting

Static Website Hosting - With Policy

