



BATCH : 149
LESSON : AWS
DATE : 8.08.2023
SUBJECT : AWS-S3-1

ZOOM GİRİŞLERİNİZİ LÜTFEN **LMS** SİSTEMİ ÜZERİNDEN YAPINIZ



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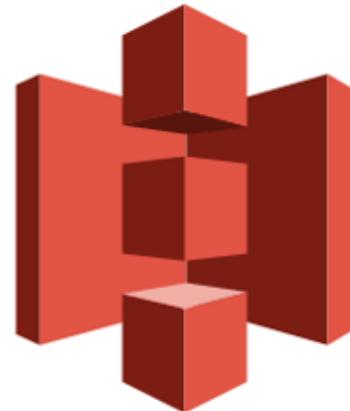
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- ▶ Bucket & Object Components
- ▶ Storage Classes
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- ▶ S3 Static Website Hosting



Simple Storage Service S3 - 1



What is Simple Storage Service(S3)?



Amazon S3

S3 was launched on **March 14, 2006 (also known as “Pi Day”)**.

Amazon Simple Storage Service (Amazon S3) is an object-based storage service that offers industry-leading scalability, data availability, security, and performance. You pay for what you use.

S3 is mainly used for

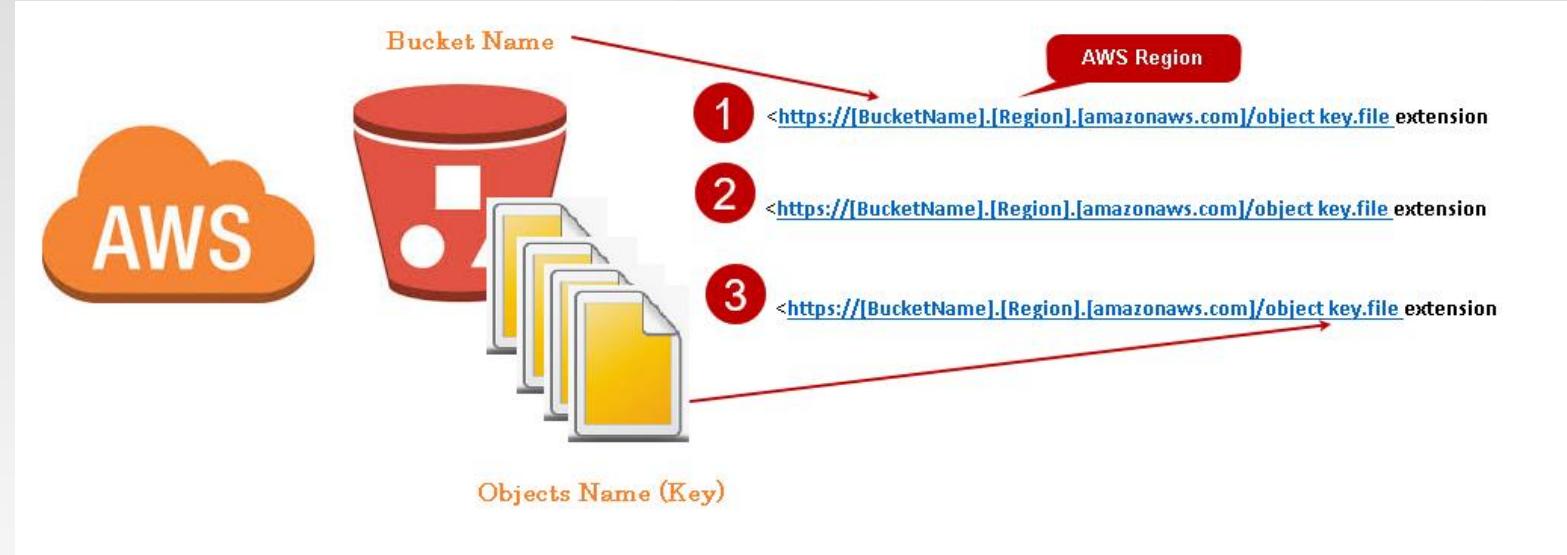
- Backup and archiving
- Content storage and distribution
- Big data analytics
- Static website hosting
- Disaster recovery

- Some of S3 Customers are Netflix, Dropbox, Siemens, GE Healthcare, Nasdaq
- S3 is one of the most favorite topics that is asked in AWS certification exams



What is S3-Bucket?

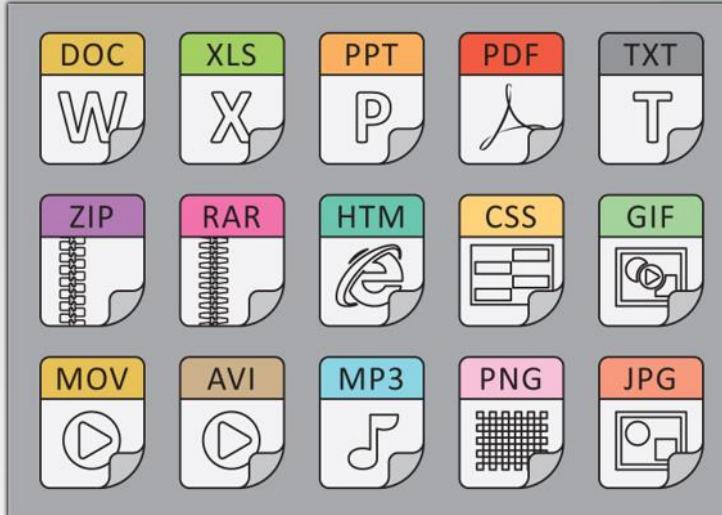
- **Bucket** is the container of objects. Each account can has 100 buckets.
- The file you store in a bucket is object. The file is replicated accross AZ's in that region.
- Object key is the name of the file
- Object value is the body of the file
- Prefix is a logical folder



- Operating system or databases can not be installed in S3 buckets
- You can not create a bucket inside a bucket
- There is no max bucket size or limit of objects you can put in a bucket
- A Bucket is regional
- A bucket must have a unique name



What is Object in S3?



- An object can be any kind of file; a text file, a photo, a video, etc. plus metadata that describes the file.
- The object size of the data can be up **to 5 TB**. Max 5 TB size is a limit for a single file. It is unlimited in terms of the number of files you can put in S3. You can put as many files as you want.
- 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 Amazon S3 REST API should be used.



What are S3 Storage Classes?

|  |  |  |  |  |  |
|---|--|---|---|---|---|
| S3 Standard | S3 Intelligent-Tiering | S3 Standard-IA | S3 One Zone-IA | S3 Glacier | S3 Glacier Deep Archive |
| Frequent | | Access frequency | | Archive | |
| <ul style="list-style-type: none">• Active, frequently accessed data• Milliseconds access• ≥ 3 AZ• \$0.0210/GB | <ul style="list-style-type: none">• Data with changing access patterns• Milliseconds access• ≥ 3 AZ• \$0.0210 to \$0.0125/GB• Monitoring fee per object• Min storage duration | <ul style="list-style-type: none">• Infrequently accessed data• Milliseconds access• ≥ 3 AZ• \$0.0125/GB• Retrieval fee per GB• Min storage duration• Min object size | <ul style="list-style-type: none">• Re-creatable, less accessed data• Milliseconds access• 1 AZ• \$0.0100/GB• Retrieval fee per GB• Min storage duration• Min object size | <ul style="list-style-type: none">• Archive data• Select minutes or hours• ≥ 3 AZ• \$0.0040/GB• Retrieval fee per GB• Min storage duration• Min object size | <ul style="list-style-type: none">• Long-term archive data• Select hours• ≥ 3 AZ• \$0.00099/GB• Retrieval fee per GB• Min storage duration |

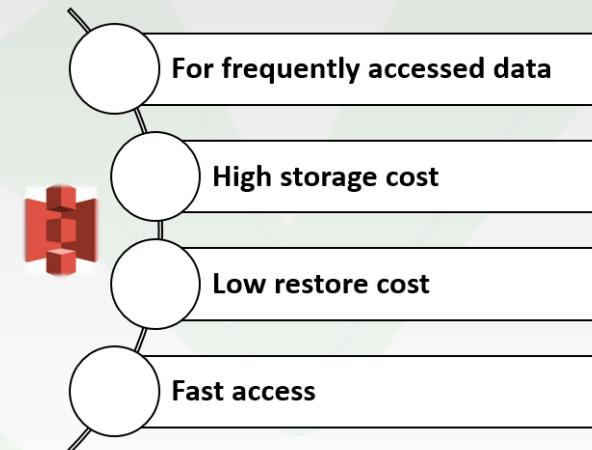
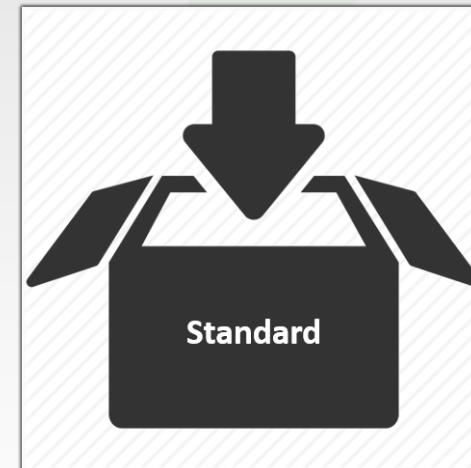
Amazon S3 offers a range of storage classes for the objects that you store.



S3 Storage Classes

Standard Storage

- High capacity and low latency.
- Durability/ Reliability at 99,99999999% level (Customers run the risk of losing only one of 100 billion objects per year).
- Availability at 99,99% level (For 10 thousand hours, the data will not be available only within one hour).

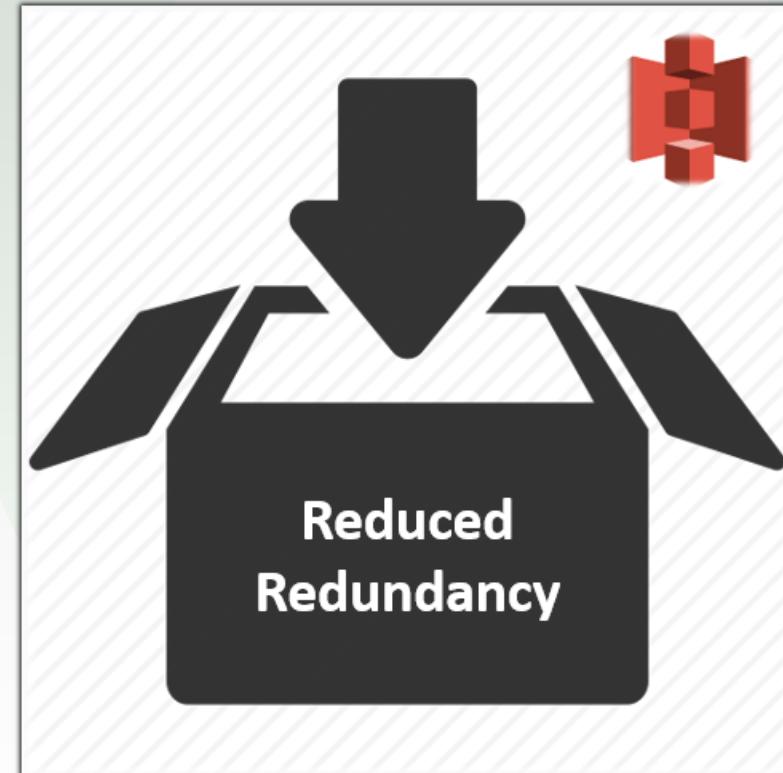




S3 Storage Classes

Reduced Redundancy Storage(RRS)

- The main difference between RRS and S3 Standard is reliability at 99,99%.
- This means that if you store 10,000 items, you run the risk of losing just one of them within a year.
- If an RRS object is lost, when requests are made to that object, Amazon S3 returns a 405 error. AWS recommends not to use this storage class because the Standard storage class is more cost-effective.

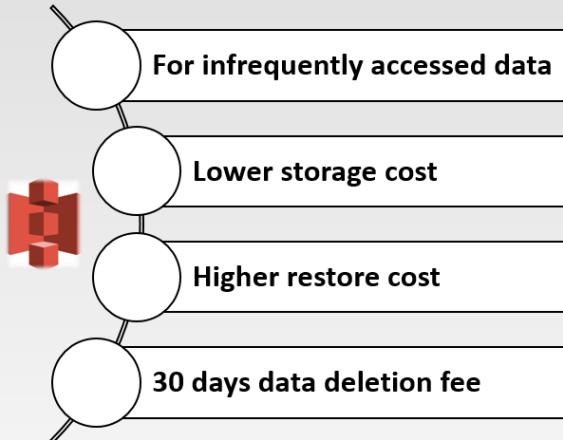
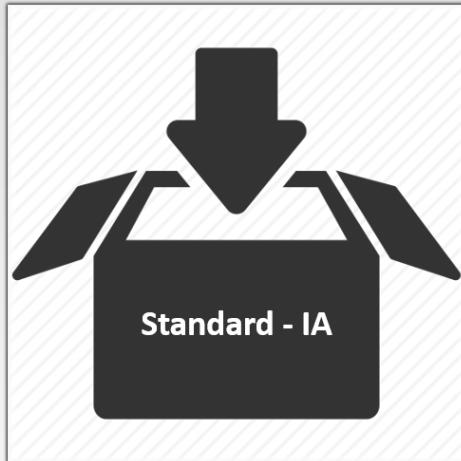


Redundant means having more than one of something in case the first instance fails. Having two disks on the same system that are regularly backed up makes them redundant, since if one fails the other can pick up the task.



S3 Storage Classes

Standard IA



- The main difference between Standard and Standard-IA is min storage duration and retrieval fees.
- Infrequently accessed data
- High capacity and low latency.
- Reliability at 99,999999999% level
- Availability at 99,99% level



S3 Storage Classes

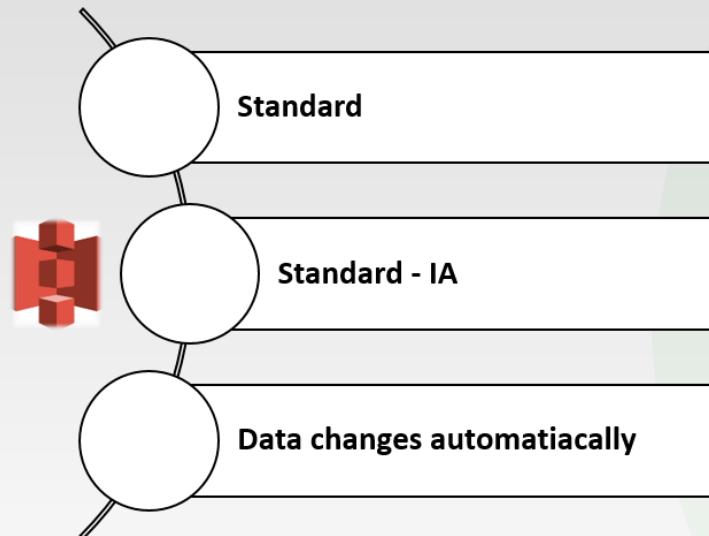
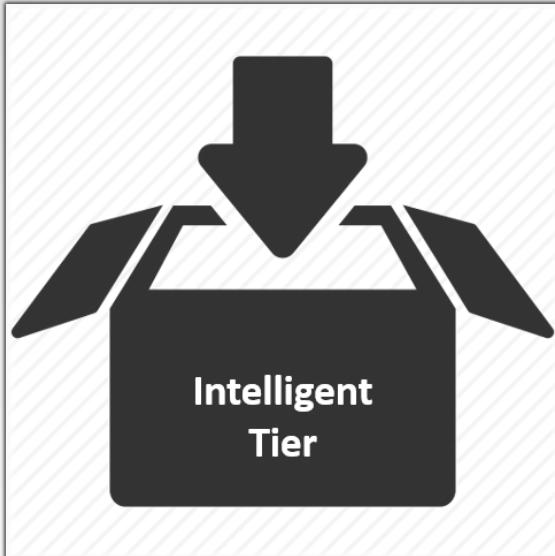
One Zone IA

- AWS introduced another Amazon S3 storage class in April 2018, One-Zone IA (Infrequent Access) which is 20 percent less expensive than Standard IA due to less availability.
- Instead of three available zones such as the other storage classes, One Zone IA only stores data in one zone.
- There is storage duration and retrieval fees.
- One-Zone IA can be considered as an affordable alternative storage class for files that are rarely used and can be afforded to lose.



S3 Storage Classes

Intelligent Tier



- The **Intelligent Tier** storage class is designed to optimize storage costs by automatically moving data to the most cost-effective storage access tier, without performance impact or operational overhead. Akıllı katma veriye ihyacım olur mu, ne kadar olur



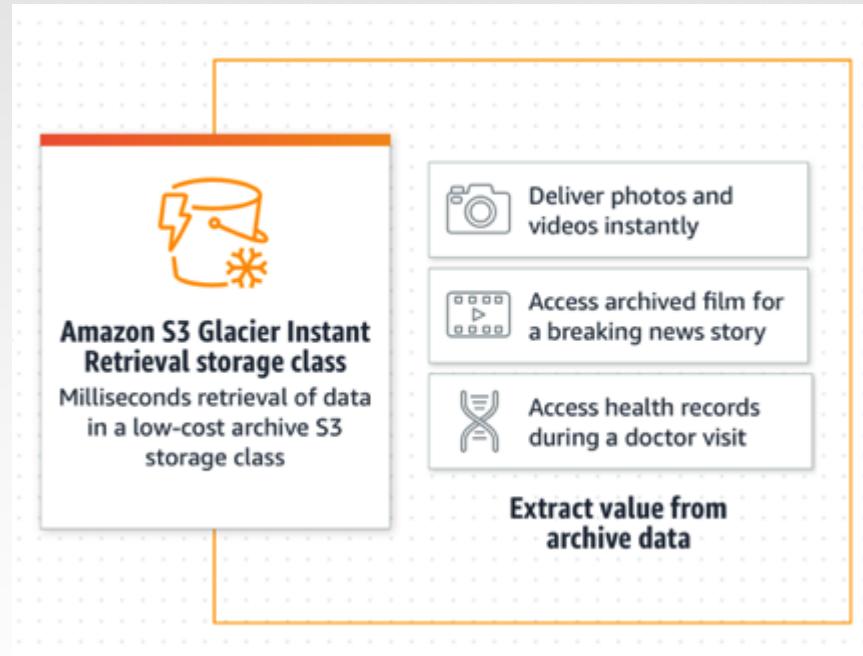
S3 Glacier Storage Classes





S3 Storage Classes

S3 Glacier Instant Retrieval

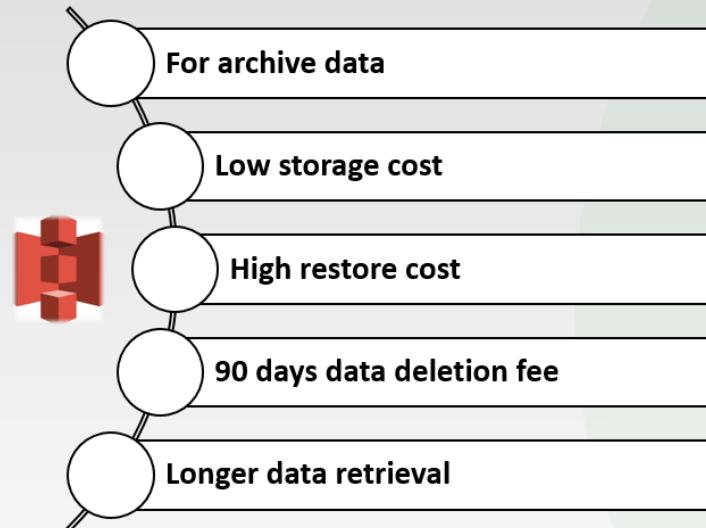


- S3 Glacier classes are for archiving
- Amazon S3 Glacier Instant Retrieval is a perfect solution for long-term storage and provides milliseconds access time.
- Multi AZ



S3 Storage Classes

S3 Glacier Flexible Retrieval

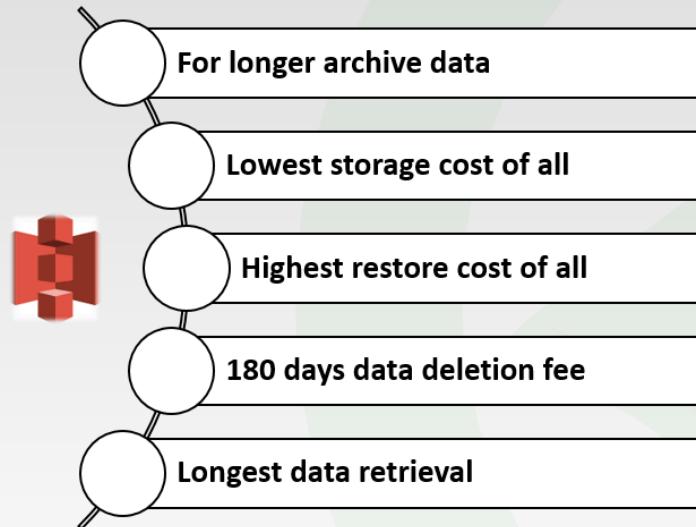


- S3 Glacier Flexible Retrieval is a perfect solution for long-term storage and data archiving that doesn't require instant access.
- Multi AZ
- Retrieval time goes from minutes to 12 hours.



S3 Storage Classes

S3 Glacier Deep Archive



- Amazon Glacier Deep Archive is the lowest cost storage option in AWS. Storage costs for DEEP ARCHIVE is less expensive than using the Glacier storage class.
- Multi AZ
- Data retrieval is from 12 to 48 hours.



S3 Storage Classes

Storage Classes Comparison

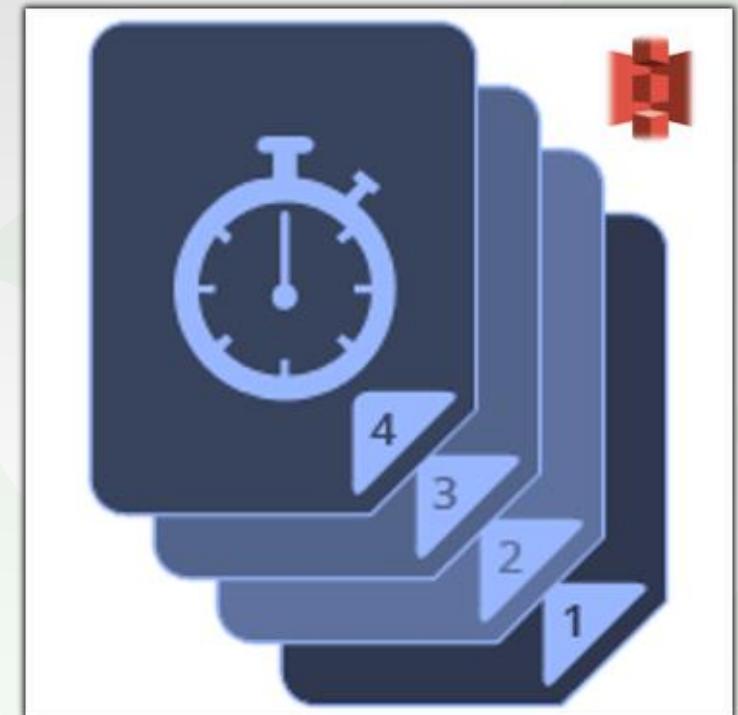
| | S3 Standard | S3 Intelligent-Tiering | S3 Standard-IA | S3 One Zone-IA | S3 Glacier Instant Retrieval | S3 Glacier Flexible Retrieval | S3 Glacier Deep Archive |
|--------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|------------------------------|-------------------------------|---------------------------|
| Durability | 99.999999999% (11 9's) | 99.999999999% (11 9's) | 99.999999999% (11 9's) | 99.999999999% (11 9's) | 99.999999999% (11 9's) | 99.999999999% (11 9's) | 99.999999999% (11 9's) |
| Availability | 99.99% (4 9's) | 99.99% (4 9's) | 99.99% (4 9's) |
| AZ's | >=3 | >=3 | >=3 | 1 | >=3 | >=3 | >=3 |
| Min capacity charge per object | NA | NA | 128 KB | 128 KB | 128 KB | 40 KB | 40 KB |
| Min storage duration charge | NA | NA | 30 days | 30 days | 90 days | 90 days | 180 days |
| Retrieval charge | NA | NA | per GB | per GB | per GB | per GB | per GB |
| First byte latency | milliseconds | milliseconds | milliseconds | milliseconds | milliseconds | minutes or hours | hours |

AWS Simple Monthly Calculator resides on S3. [Give it a try.](#)



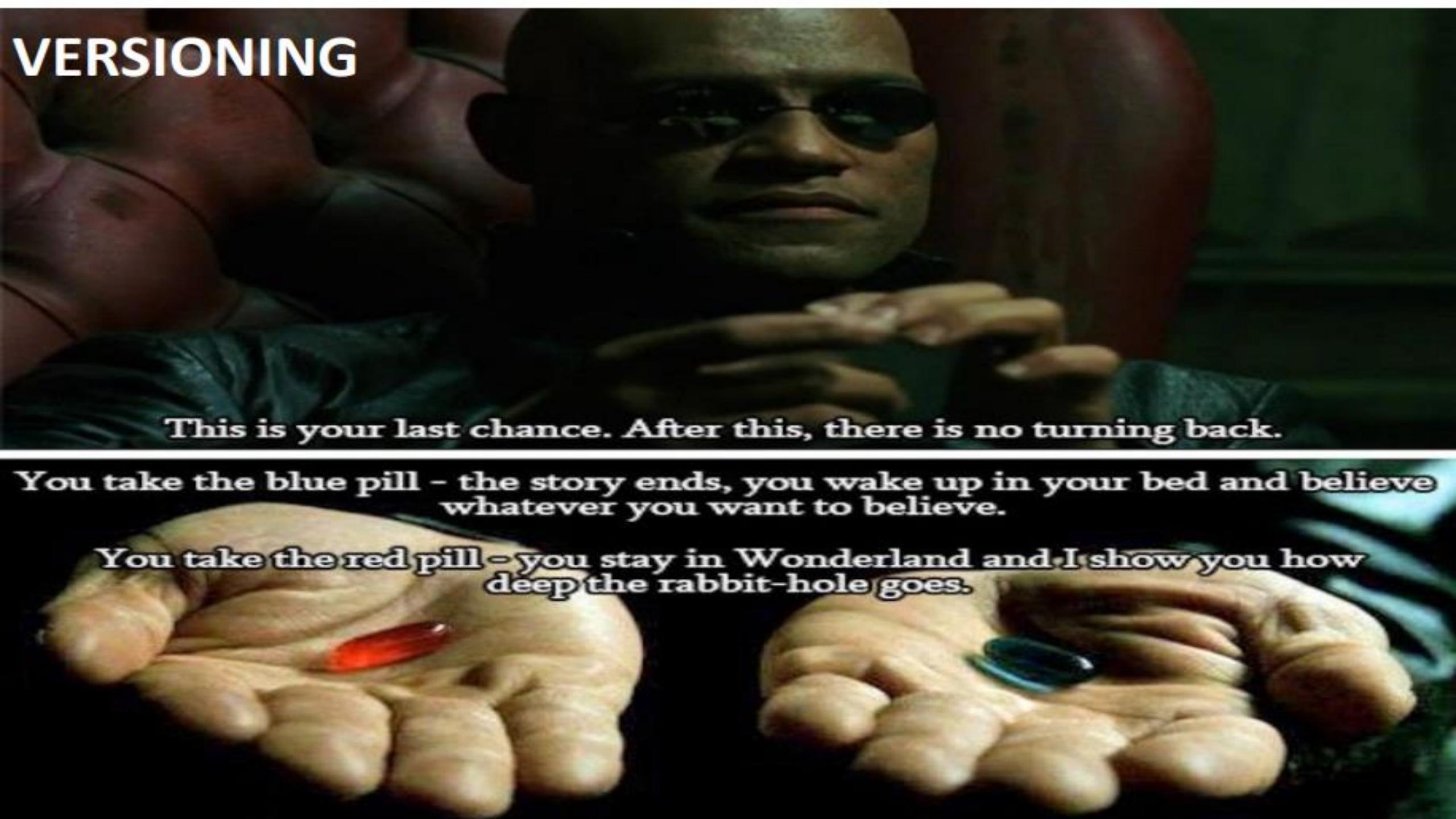
S3 Versioning?

- Versioning is a way to keep multiple versions of an object in a bucket.
- It is used to manage, delete, and restore any version of any object saved in an S3 bucket.
- Each time an object in a bucket changed, a new version of the object would be created and act as a new current version.
- By using versioning, all unwanted user behavior and program errors can be quickly recovered



**Once you enable versioning on a bucket, it can never return to an unversioned state.
You can, however, suspend versioning on that bucket.**

VERSIONING

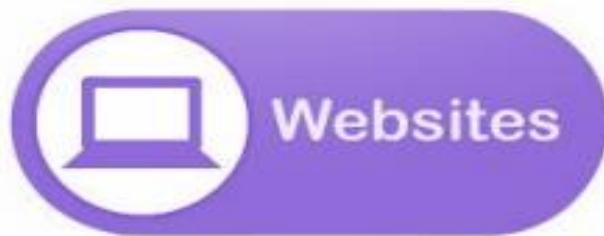
A dramatic scene from The Matrix. Neo, played by Keanu Reeves, is shown from the chest up, wearing his signature black sunglasses and leather jacket. He is looking directly at the viewer with a serious, contemplative expression. His hands are held out in front of him, palms up, each holding a single, glowing blue rectangular tablet. The background is dark and moody, with a faint green glow visible behind him.

This is your last chance. After this, there is no turning back.

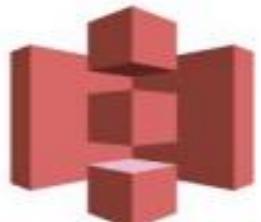
You take the blue pill - the story ends, you wake up in your bed and believe whatever you want to believe.

You take the red pill - you stay in Wonderland and I show you how deep the rabbit-hole goes,

What is Static and Dynamic Website Hosting?



Static Website



or



Amazon S3

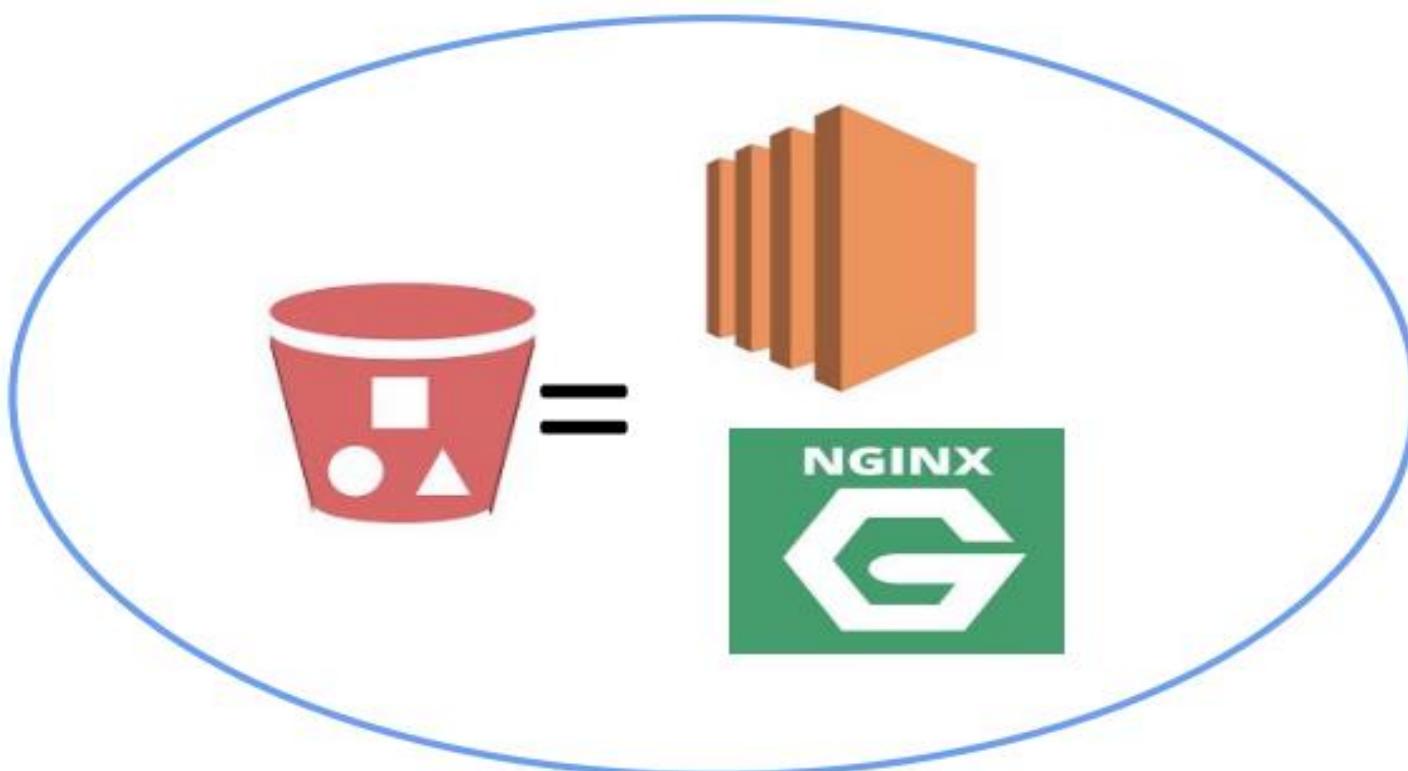
Dynamic Website



Database



Static Website Hosting



Introduction to S3

S3 Object Pricing

Upload



Download



Storage



Request



Transferring in the
same Region



Hands on Blueprint



Creating First Bucket

Console tour



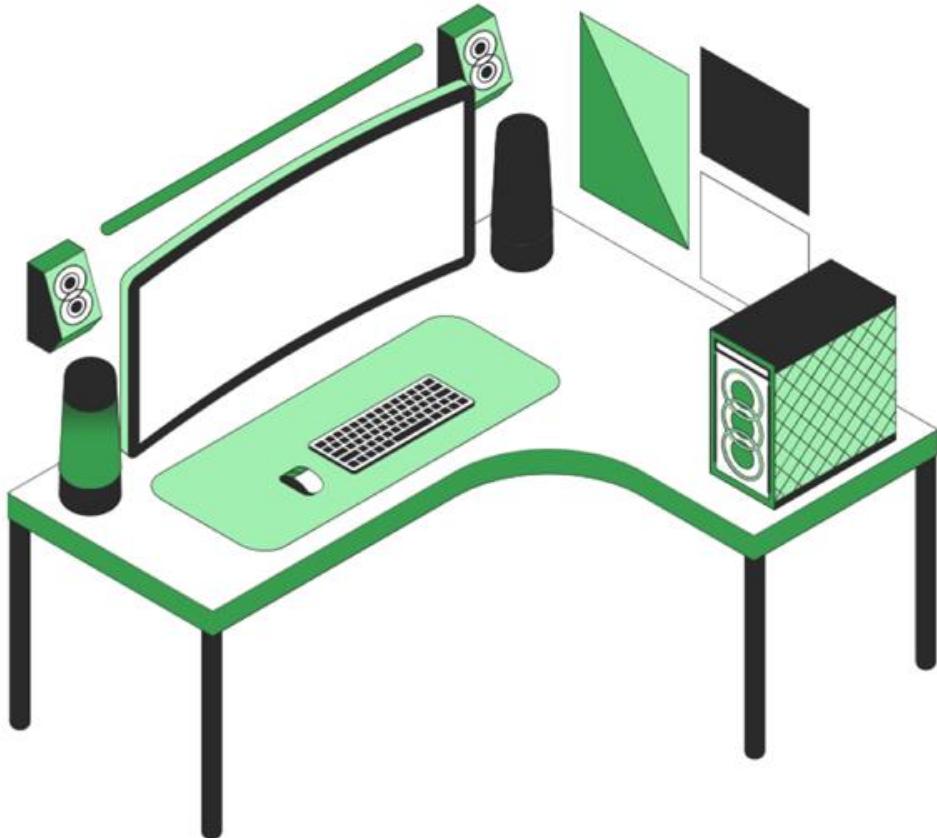
Basic Operations



Static Web Hosting



Versioning



Do you
have any
questions?

Send it to us! We hope you learned
something new.