**Q) What is Amazon Simple Storage Service (S3)?**

 Amazon Simple Storage Service (S3) is an object storage service provided AWS platform used to store and retrieve any amount of data at any time, from anywhere

**Q) What are Amazon S3 buckets?**

 Amazon S3 stores data as objects within buckets. An object consists of a file containing the data and optionally metadata regarding the file. The object can be any kind of file - text, photo, video, etc. You can have multiple buckets, and each bucket can have multiple objects.

**Q) How do you manage access to Amazon S3 buckets?**

There are various ways to manage access to Amazon S3 buckets.

**IAM** - Manage access to S3 resources via AWS Identity And Access Management (IAM) Users, Groups, and Roles.

**ACL** - Manage access to S3 resources and individual objects via Access Control Lists (ACL)

**S3 Access Points** - Manage access to S3 data sets via S3 Access Points specific to each application.

**S3 Bucket Policies** - Manage access to S3 resources by configuring access policies and permissions at the bucket level, which apply to all objects within that bucket.

**Q) What is Amazon S3 Replication?**

 Amazon S3 Replication enables the replication of S3 objects by automatic, asynchronous copying of objects across Amazon S3 buckets. Data can be copied across different AWS accounts, as well as across different AWS Regions.

## Q) ****What is Versioning in S3?****

**Ans:** Versioning is a feature supported by S3 buckets. Versioning is enabled globally on the bucket. With versioning, one can track various changes made into a file over a period of time. If versioning is enabled, every time a file is uploaded, every file gets a unique Version ID. Consider a bucket has a file and a user uploads a new modified copy of the same file in the bucket, both the files have their unique Version ID and the timestamps when they were uploaded. So, if one needs to go back in time to an older state of the file, it becomes easy with versioning. Please note that in different scenarios versioning can prove to be expensive.

## Q) ****Explain Lifecycle Policy in S3?****

**Ans:** Lifecycle Policy in S3 is an offering from AWS for storage cost optimization. Its actually allows one to define data retention rule for S3 Objects in a bucket. One can safely handle his data and define rules such that data dynamically transitions through various object class and gets deleted once it is no longer needed.

Lifecycle policy are defined at the level of bucket with a maximum limit of 1000 policies per bucket. Different policies can be used to apply on a collection of objects filtered with an option of ‘Prefix’.

## Q)****Explain Object Lock feature in AWS S3?****

**Ans:** S3 object lock allows us to store object using WORM model (write-once-read-many). The feature allows a S3 user to protect his data from being over-written or deleated for a certain amount of time or indefinately. S3 object lock is often implemented by various orginizations to meet regulatory requirements that needs WORM storage.

## Q) ****What are the retention options offered by S3 object lock?****

## Ans: S3 object lock offers mainly two methods for object retention:

**Retention Period:** This method allows a user to define a retention period in days, months or years, for an object uploaded in S3 bucket. During this period  one cannot over-write or delete a protected object.

**Legal Holds:** This method is similar to Retention Period, but there’s no duration defining the term for which the object will be locked in the bucket. Legal Hold configuration stays enabled until a user explicitly disabled it.

## Q) ****What are the steps to encrypt a file in S3 ?****

**Ans:** Its easy to encrypt a file in S3 bucket. While uploading a file using S3 management console, one can simply expand property option and choose if AWS Managed key should be used or Customer Managed key is to be used for file encryption. Consider if the file is already uploaded, one can easily navigate to properties of the file and enable encryption.

## Q) ****What is Static Website Hosting in S3?****

**Ans:** A static website is a simple html, css or javascript document stored in AWS S3 bucket. An S3 bucket can function as a web server to host this website. AWS has other services to host dynamic websites.

To host static website from AWS S3 bucket, one needs to upload a html document in S3 bucket. In the bucket properties, you can easily find ‘Static Website Hosting’ option. Choose Enable option and mention the index document that was uploaded to S3. Remember the index document should be uploaded in the root of S3 bucket to keep things simple.

## Q)****Explain the steps of creating S3 Buckets.****

**Ans:** When you login to AWS Management Console, navigate to S3. In the S3 Console you will find the create bucket option. Click on it. This should start the create bucket wizard. Type in your desired bucket name. Remember the name to be configured is to be unique. Choose upon a region where you want to create the desired bucket. Next option allows us to select a bucket from which you want to copy the settings. Next option allows to configure Public Access settings. We can choose to enable Bucket Versioning and configure Encryption in the next options. In the last option of Advance Settings, Object Lock can be Enabled. Remenber, in order to enable Object Lock, we need to enable Versioning first. Finally ‘Create Bucket’ button can be clicked to create the bucket.

## Q) ****What are steps of uploading a file in S3 Bucket?****

**Ans:** Navigate to the bucket where you want to upload the file. Click on upload button to start the ‘upload file’ wizard. Next click on ‘Add Files’ button and select the file to be uploaded. Once the file got selected, other settings such as permissions and object storage class can be choosen. Finally we can click the ‘upload’ button to upload the file. Also please note, files larger that 160GB cannot be uploaded through the console. For files larger that 160GB , AWS CLI, AWS REST API or AWS SDK can be used.

## Q) ****What is a object URL and how is it constructed ?****

**Ans:** Any file uploaded in S3 is reffered as ‘object’ in AWS terminology. Every object stored in S3 bucket has a unique url assigned to it. This url is simply the address of the object and it can be used to access the object if it is public, over the internet. Object url is constructed with ‘https://’ and the bucket name, then ‘s3-’ region API name and then ‘.amazonaws.com/’ then the file name with extensionand then ‘?versionId=’ the Version ID followed.

**Q) what is maximum size of s3 bucket?**

In S3 bucket you can store unlimited volume of data and number of objects. A single Amazon S3 objects can be a size of range 0 bytes to 5 terabytes. In single upload request You can put an object of around 5 GB but you must have to enable Multipart Upload capability

**Q) what are features of aws**

The features of AWS S3 are as follows -

* Storage management and monitoring
* Storage analytics and insights
* Access management and security
* Data processing
* Query in place
* Data transfer

**Q) how to delete aws s3 bucket**

Here are steps to delete an S3 bucket:-

* **Step1:** Login to AWS Management Console.
* **Step2:** Select S3 from services.
* **Step3:** Check the bucket you want to delete.
* **Step4:** Click on the delete button. As confirmation Aws ask you to type the bucket name to delete.
* **Step5**: Type bucket name and click on the Confirm button.

**Q) how to configure versioning in bucket**

* **Step1:** Login to your AWS console.
* **Step2:** From services choose S3.
* **Step3:** Select a bucket for which you want to enable versioning.
* **Step4:** Click on the properties tab.
* **Step5:** Choose versioning from properties.
* **Step6:** Choose to enable versioning and click on the Ok button.

**Q) explain s3 versioning and its benefits**

**Versioning** allows us to keep multiple variants of an object in a bucket. Versioning helps us to restore an object to a previous or specific version of an object. You can take advantage of versioning to recover a deleted or mistakenly overwritten object.

**Q) what is aws s3fs?**

It is a FUSE filesystem. Amazon web services simple storage service supports it. It can be operated with two different methods

**1.Command method-**

In this type of mode, s3fs is eligible for managing Amazon s3 buckets in several efficient methods.

**2. Mount method-**

It is used to mount the Amazon s3 bucket as a local file system.

### Q) What is Bucket Policy?

Bucket policies allow you to grant access permissions to objects within your bucket by using [AWS IAM](https://thinkcloudly.com/iam-101-an-introductory-guide-to-aws-iam/) policies. A bucket policy can only be associated with the bucket owner. An owner of a bucket can assign permissions to any object in the bucket that is attached to the bucket.

### Q) Is Simple Storage Service considered as DFS?

Simple Storage Service is not a distributed file system, but rather a binary object store. It is structured like a filesystem and is often used like one. Each bucket is a new database (meaning, folder), with keys as folder paths and values as binary objects (i.e. files).

**Q) what are the storage classes of s3**

S3 standard

S3 intelligence tiering

S3 standard IA

S3 one zone IA

S3 glacier instant extraction

S3 glacier flexible extraction

S3 glacier deep archieving

S3 outposts