S3 -->Simple Storage Service part -2 discussion
==========

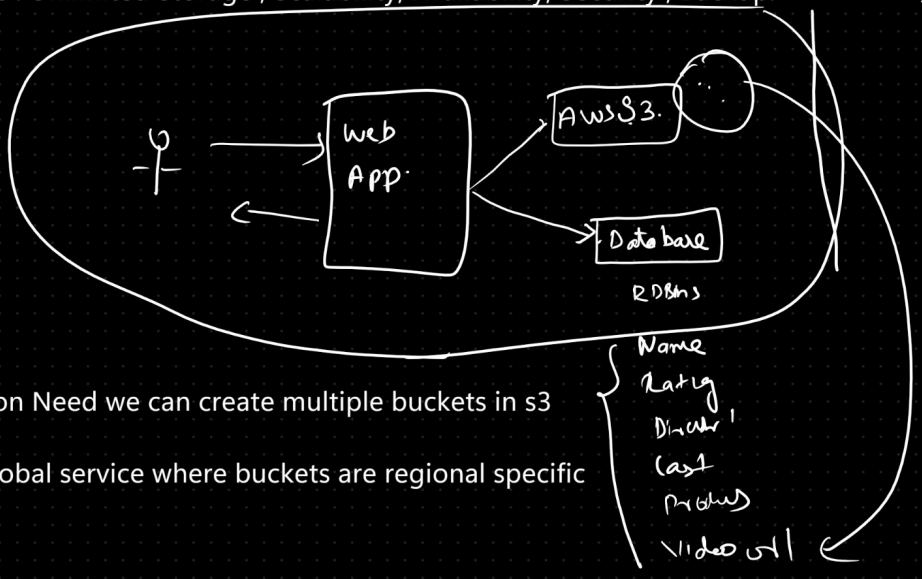
IAM

S3 is a scalable Storage service in AWS cloud which supports unlimited storage and works on Object based storage(files audio file video file image, txt pdf ....).

We create buckets to store data and every bucket should have unique name.

By default buckets and objects are private however we can make them public)

Advantages : Unlimited Storage , Scalability, Availability, Security , Backup.

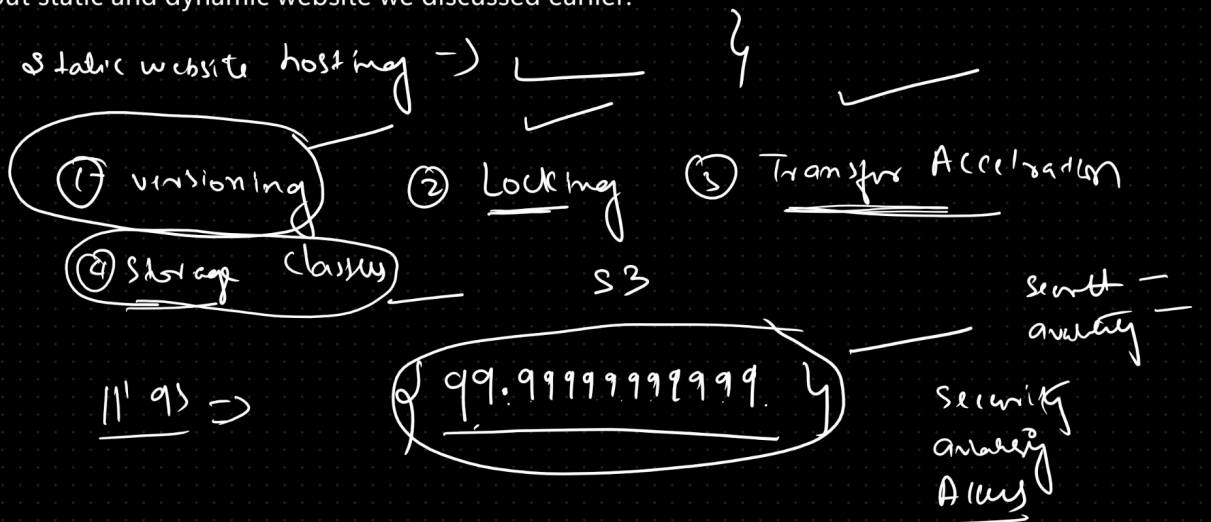


To store binary data
-> PDF file
-> audio file
-> video file
-> Image file
-> txt
-> excel file
-> log file
-> DB Backup file
-> Server Log file

--> Based on Need we can create multiple buckets in s3

--> S3 is global service where buckets are regional specific

Static Website Hosting using S3
==========
About static and dynamic website we discussed earlier:



Versioning
=======
It is used to maintain multiple variants of same file.(By default versioning is disabled for S3 Bucket) however we can enable in properties--> Bucket Versioning--enable

Since by default Versioning is disabled whenever we add new same file again in bucket it will replace or override the old one and if you don't want to replace old object with new object from bucket then go with versioning

Note : Once Versioning is enabled then we cannot disable but we can suspend it.

S3 Storage classes:
============
--> Used to specify how frequently you can/ yiu want to access the objects from S3

We have multiple Storage classes in S3
Standard
Frequently accessed data (more than once a month) with milliseconds access
General purpose
≥ 3

Intelligent-Tiering
Data with changing or unknown access patterns
General purpose
≥ 3

Standard-IA
Infrequently accessed data (once a month) with milliseconds access
General purpose
≥ 3

One Zone-IA
Recreatable, infrequently accessed data (once a month) with milliseconds access
General purpose or directory
1
30 days

Glacier Instant Retrieval
Long-lived archive data accessed once a quarter with instant retrieval in milliseconds
General purpose
≥ 3
90 days

Glacier Flexible Retrieval (formerly Glacier)
Long-lived archive data accessed once a year with retrieval of minutes to hours
General purpose
≥ 3
90 days

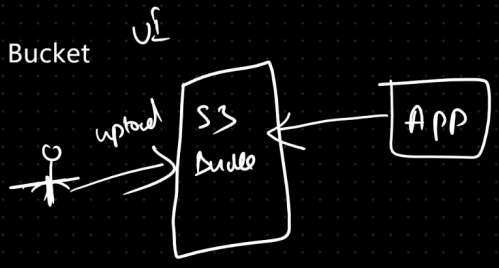
Glacier Deep Archive
Long-lived archive data accessed less than once a year with retrieval of hours
General purpose
≥ 3
180 day

Reduced redundanc
Noncritical, frequently accessed data with milliseconds access (not recommended as S3 Standard is more cos effective)

Object Lock
========

Store objects using a write-once-read-many (WORM) model to help you prevent objects from being deleted or overwritten for a fixed amount of time or indefinitely. Object Lock works only in versioned buckets

Transfer Accelaration
==========
Speed up data transfer process in S3 Bucket

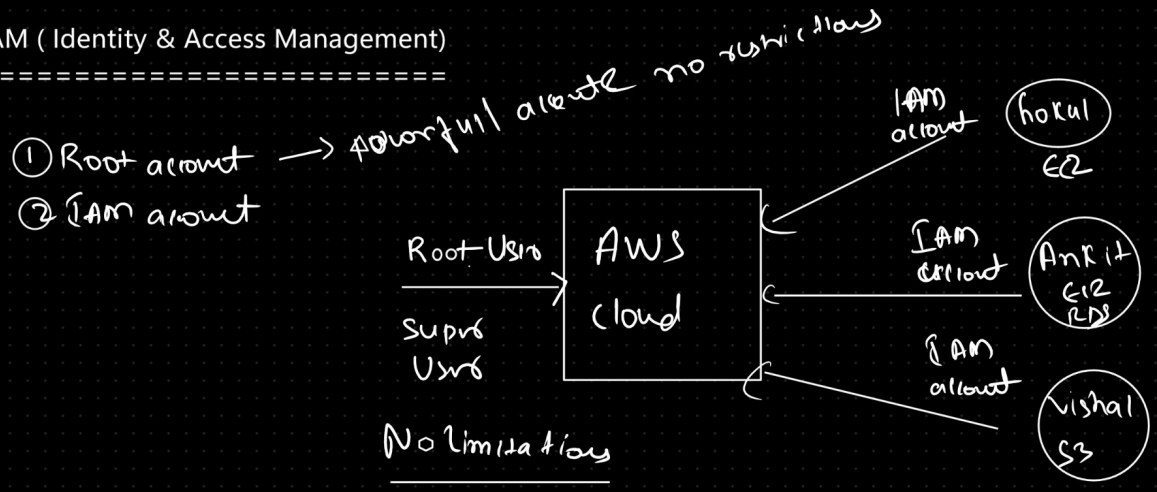


Amazon S3 Transfer Acceleration is a bucket-level feature that enables fast, easy, and secure transfers of files over long distances between your client and an S3 bucket. Transfer Acceleration is designed to optimize transfer speeds from across the world into S3 bucket

Multi-Region Access Points (0)
==========
All AWS Regions

Create Multi-Region Access Point
Multi-Region Access Points offer a global S3 hostname that provides access to multiple S3 buckets across AWS Regions with automatic routing and failover between buckets

IAM (Identity & Access Management)
==========



It is used to manage users, groups, policies and roles

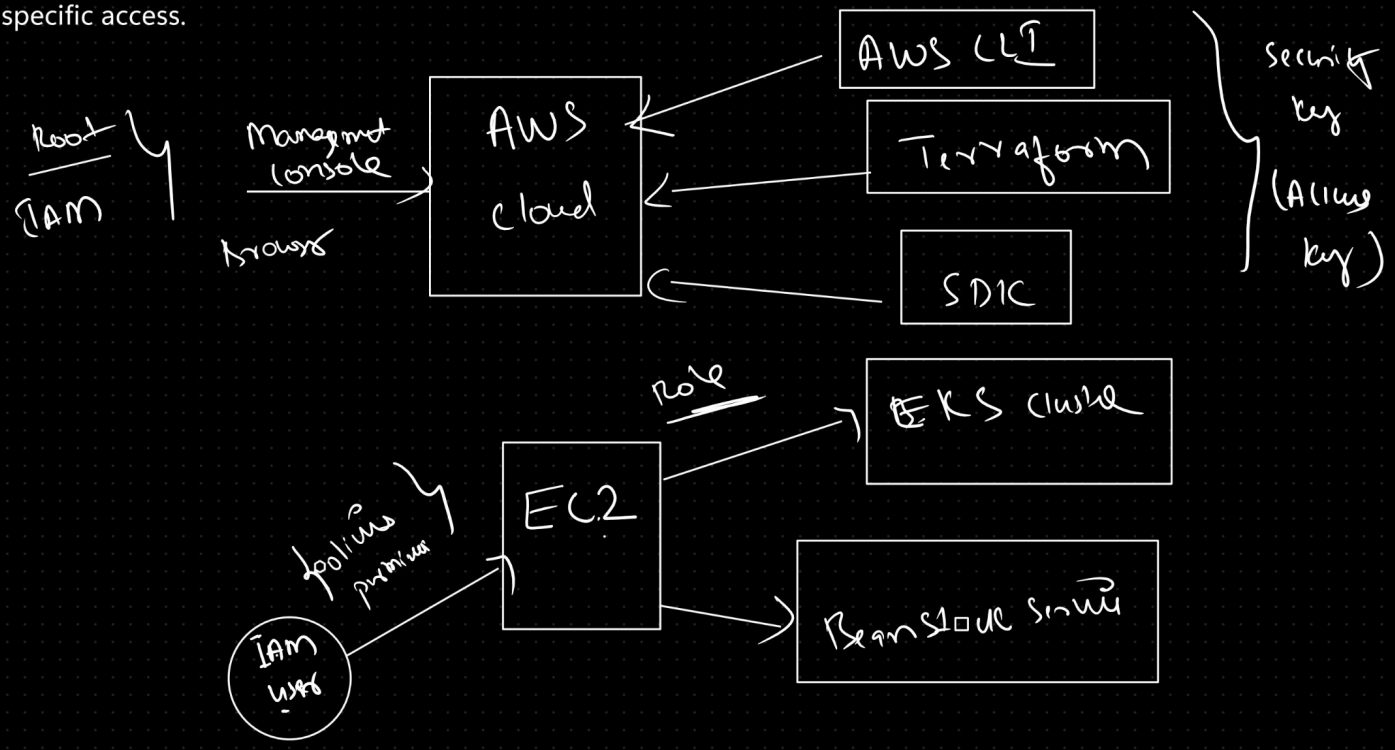
IAM is free service.

Root account is very powerful account with no restrictions and we can access everything in AWS Acloud

Key Points to be considered for root account

We shouldn't use root account for daily task also we shouldn't share root account credentials with anyone.
(It also highly recommended to enable high security by enabling MFA(Multifactor Authentication) for root user account).

As a part of a project or team we will not be getting root account credentials rather we will IAM account credentials with specific access.



{ Users, Users group, policies (permissions)
AWS managed policies, Customer managed policies,
Roles, Access key (CLI, terraform, SDK) }

Elastic Beanstack

1. IaaS → Infrastructure as a Service ex:- EC2, VPC, S3, RDS
2. PaaS → Platform as a Service ex:- Elastic Beanstalk
3. SaaS → Software as a service