Amazon Simple Storage Service (S3)

Storage for the Internet

Natively online, HTTP access

Storage that allows you to store and retrieve **any amount of data, any time, from anywhere on the** web

Highly scalable, reliable, fast and durable

Amazon S3 Concepts

Amazon S3 stores data as objects within buckets

An object is composed of a file and optionally any metadata that describes that file

You can have up to 100 buckets in each account

You can control access to the bucket and its objects

Amazon S3 Facts

Can store an unlimited number of objects in a bucket

Objects can be up to 5 TB; no bucket size limit

Designed for 99.999999999% durability and 99.99% availability of objects over a given year

Can use HTTP/S endpoints to store and retrieve any amount of data, at any time, from anywhere on the web

Is highly scalable, reliable, fast, and inexpensive

Can use optional server-side encryption using AWS or customer-managed provided client-side encryption

Auditing is provided by access logs

Provides standards-based REST and SOAP interfaces

Common Use Scenarios

Storage and backup

Application file hosting

Media hosting

Software delivery

Store AMIs and snapshots

Amazon S3 Security

You can control access to buckets and objects with:

- ◦ Access Control Lists (ACLs)
- ◦ Bucket policies
- ◦ Identity and Access Management (IAM) policies

You can upload or download data to Amazon S3 via SSL encrypted endpoints.

You can encrypt data using AWS SDKs.

Amazon S3 Versioning

Protects from accidental overwrites and deletes with no performance penalty.

Generates a new version with every upload.

Allows easily retrieval of deleted objects or roll back to previous versions.

Three states of an Amazon S3 bucket
- Un-versioned (default)
- Versioning-enabled
- Versioning-suspended

Amazon S3 Object Lifecycle

Lifecycle management defines how Amazon S3 manages objects during their lifetime. Some objects that you store in an Amazon S3 bucket might have a well-defined lifecycle:

- ◦ Log files
- ◦ Archive documents
- ◦ Digital media archives
- ◦ Financial and healthcare records
- ◦ Raw genomics sequence data
- ◦ Long-term database backups
- ◦ Data that must be retained
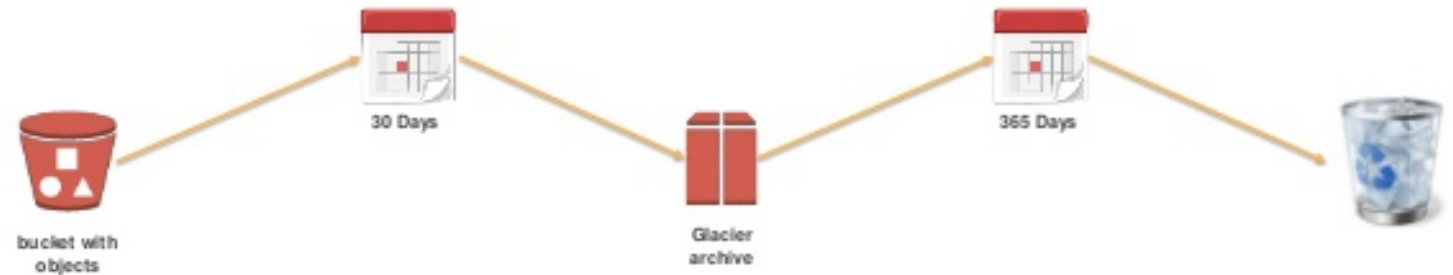
Amazon S3 Pricing

Pay only for what you use

No minimum fee

Prices based on location of your Amazon S3 bucket

Estimate monthly bill using the AWS Simple Monthly Calculator

Pricing is available as:
◦ Storage Pricing
◦ Request Pricing
◦ Data Transfer Pricing: data transferred out of Amazon S3

Amazon Glacier

A low-cost storage service for data archiving and backup

Optimized for data that is infrequently accessed

Retrieval times measured in hours

Annual durability of 99.999999999% for an archive

AES 256 data at rest encryption

Data stored as archives within a vault. Vaults are located within a specific AWS region

Amazon S3 Storage Classes

Storage Class	Durability	Availability	Other Considerations
Amazon S3 Standard	99.999999999%	99.99%	
Amazon S3 Standard - Infrequent Access (IA)	99.999999999%	99.9%	Retrieval fee associated with Objects Most suitable for infrequently accessed data
Glacier	99.999999999%	99.99% (once restored)	Not available for real-time Access Must restore objects before you can access them Restoring objects can take 3-5 Hours

Thank You