

Amazon S3

Workshop

by Daniel Aniszkiewicz

danielaniszkieicz.com

<https://github.com/Pigius/Amazon-S3-Workshop-18-08-2021>



01

Amazon S3

02

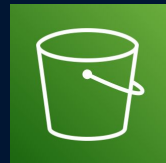
**Glacier & Deep
Archive**



Amazon S3

Cloud storage from AWS

Amazon Simple Storage Service (S3)



- *scalable storage in the cloud*
- *unlimited storage*
- *encryption*
- *bucket name is globally unique*

Free tier:

The S3 free tier allows users to store 5 GB of data with standard storage, issue 20,000 GET requests and 2,000 PUT requests, and transfer 15 GB of data out each month. Lambda provides a free tier with 1M free requests and 400,000 GB-seconds of compute time.

Storage comparison

	S3 Standard	S3 Intelligent-Tiering	S3 Standard-IA	S3 One Zone-IA	S3 Glacier	S3 Glacier Deep Archive
Durability	99.999999999 9% (11 9's)	99.999999999 9% (11 9's)	99.999999999 9% (11 9's)	99.999999999 9% (11 9's)	99.999999999 9% (11 9's)	99.999999999 9% (11 9's)
Availability Zones	≥3	≥3	≥3	1	≥3	≥3
Minimum storage duration charge	N/A	30 days	30 days	30 days	90 days	180 days
Retrieval fee	N/A	N/A	per GB retrieved	per GB retrieved	per GB retrieved	per GB retrieved

Encryption

You can set the default encryption behavior on an Amazon S3 bucket so that all objects are encrypted when they are stored in the bucket.

- *per-object encryption options*
- *S3-managed keys*
- *AWS KMS*

Reference



AWS S3 uploads using presigned URLs

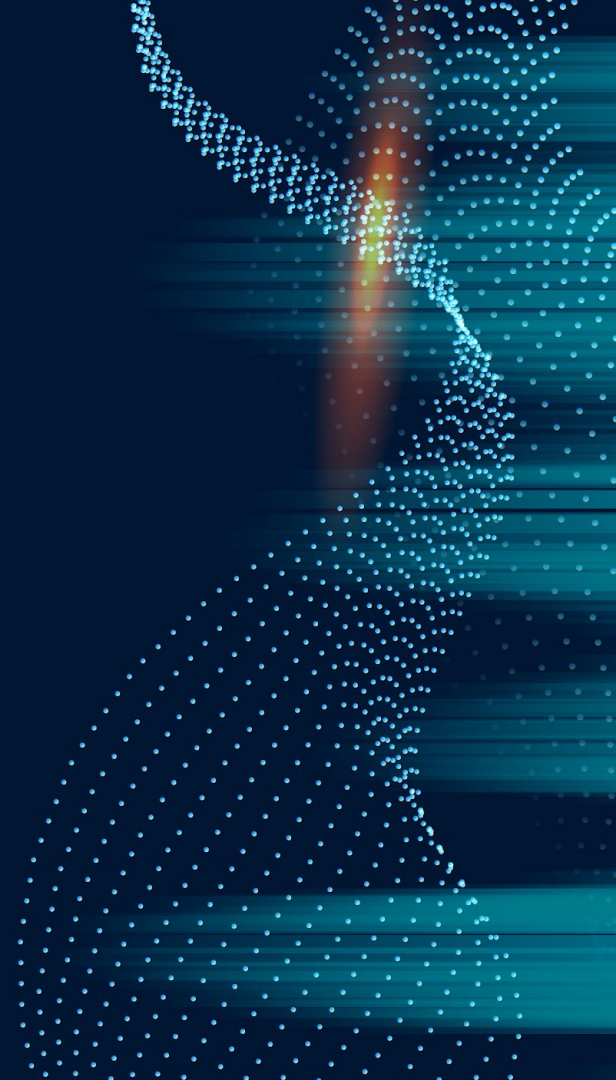
- *For interacting with objects without the need for AWS credentials or IAM permissions within buckets*
- *Granting temporary access to a specific S3 object*
- *Using the URL, a user can either READ the object or WRITE an Object.*

Example.



Pricing

Official pricing [here](#)

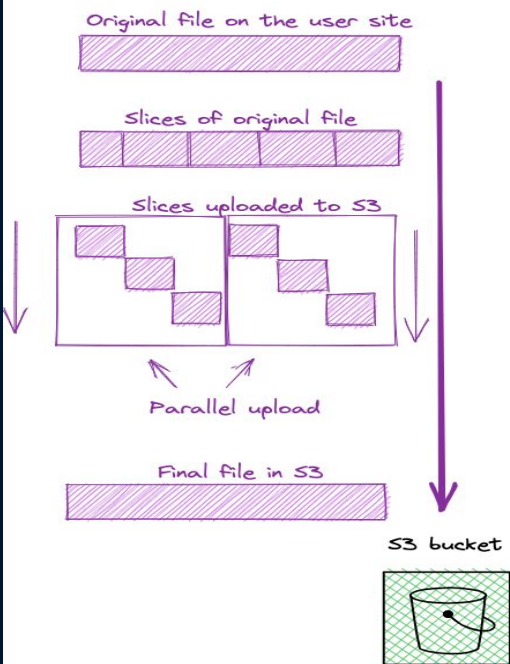




**Cool
features**

Multipart upload

Process



Phase I

Multipart upload initiation

Phase II

Parts upload

Phase III

Multipart upload completion

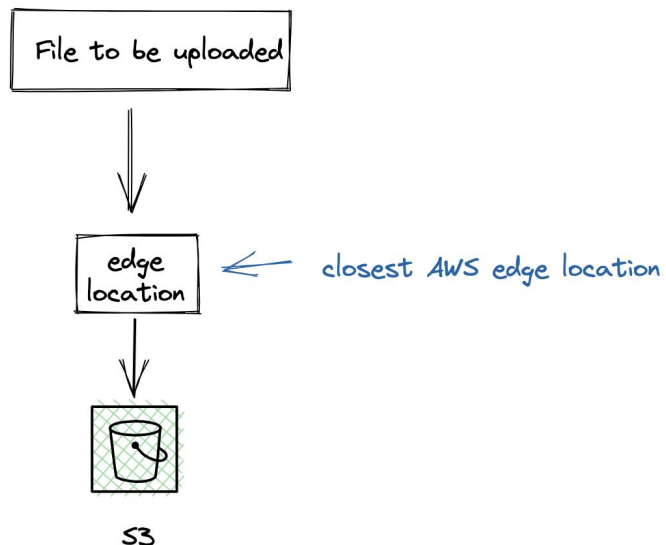
Reference

Limits

Item	Specification
Maximum object size	5 TB
Maximum number of parts per upload	10,000
Part numbers	1 to 10,000 (inclusive)
Part size	5 MB to 5 GiB. There is no size limit on the last part of your multipart upload.
The maximum number of parts returned for a list parts request	1000
Maximum number of multipart uploads returned in a list multipart uploads request	1000

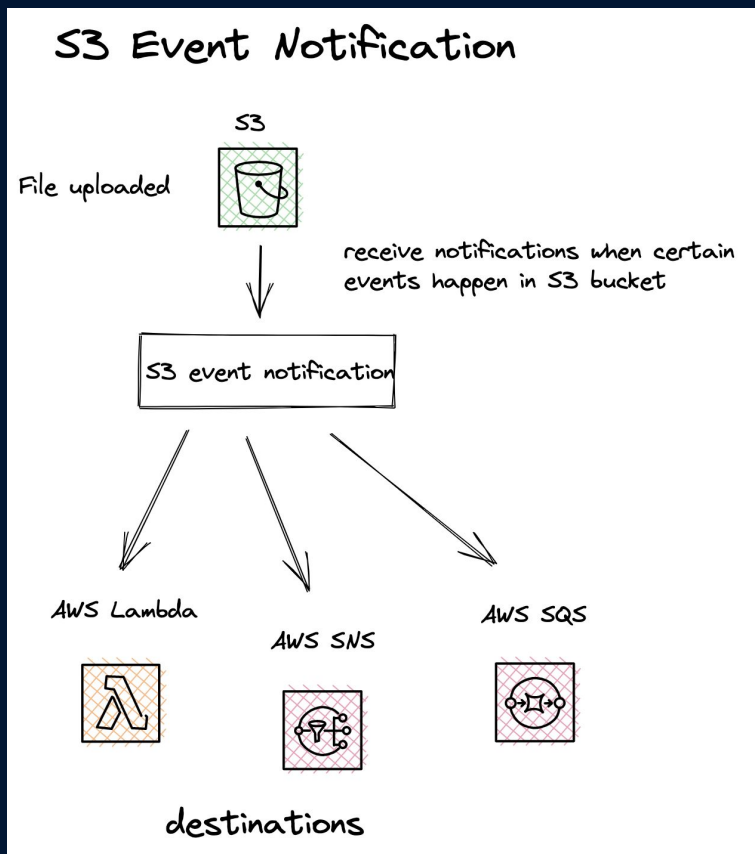
S3 Transfer Acceleration (upload only)

S3 Transfer Acceleration



Perfect comparison
here.

S3 Event Notification



Reference

How to create bucket?



**AWS
Dashboard**



AWS CLI



IaC

Serverless
Framework / AWS
CDK

Create bucket with AWS Dashboard

Amazon S3 > Create bucket

Create bucket [Info](#)

Buckets are containers for data stored in S3. [Learn more](#) [↗](#)

General configuration

Bucket name

Bucket name must be unique and must not contain spaces or uppercase letters. [See rules for bucket naming](#) [↗](#)


AWS Region

Copy settings from existing bucket - *optional*

Only the bucket settings in the following configuration are copied.

Choose bucket

Create bucket with AWS CLI



```
aws s3api create-bucket --bucket my-lovely-unique-bucket-name --region eu-central-1
```

Reference [here](#)

Create bucket with Serverless Framework

- Easier approach with Lift plugin.

```
service: s3-service
provider:
  name: aws

constructs:
  memes:
    type: storage

plugins:
  - serverless-lift
```

Create bucket with CDK

Version for JS

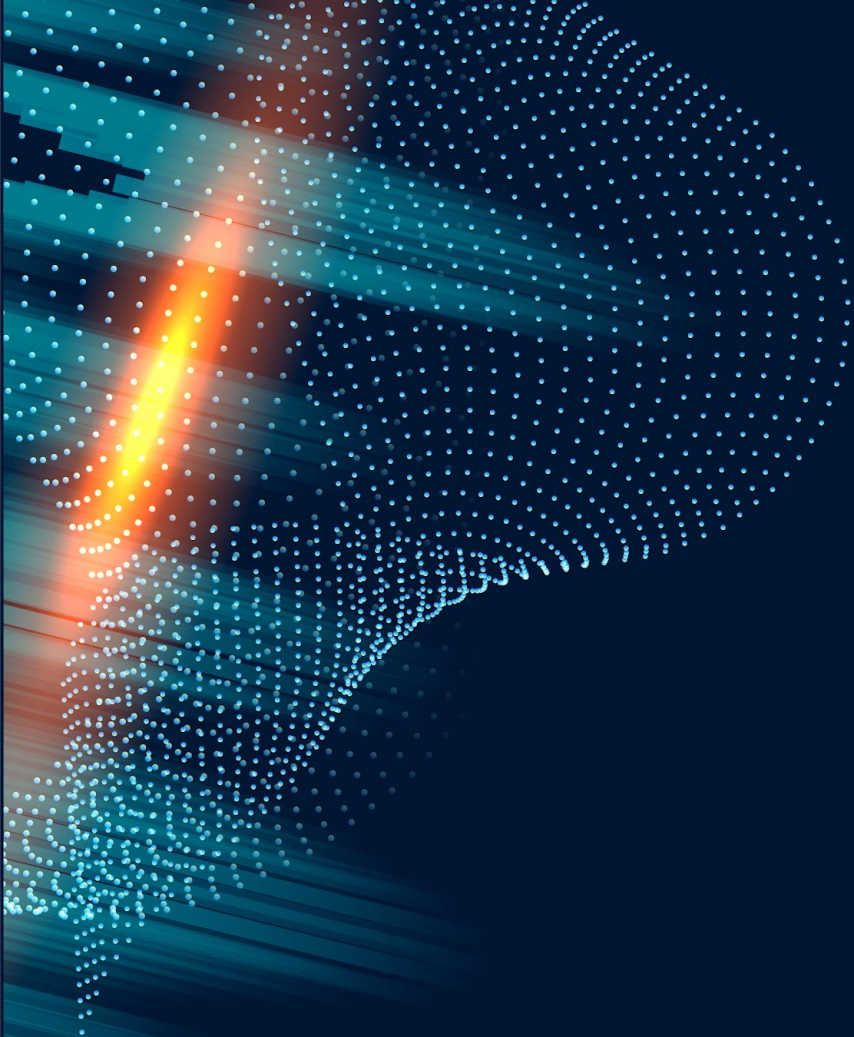
Reference

```
const cdk = require('@aws-cdk/core');
const s3 = require('@aws-cdk/aws-s3');

class HelloCdkStack extends cdk.Stack {
  constructor(scope, id, props) {
    super(scope, id, props);

    new s3.Bucket(this, 'MyLovelyS3Bucket', {
      versioned: true
    });
  }
}

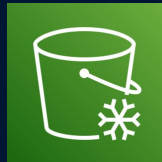
module.exports = { HelloCdkStack }
```



S3 Glacier and S3 Glacier Deep Archive

Backup and archival storage service

S3 Glacier

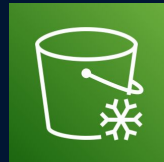


Use Amazon S3 Glacier to provide durable and extremely low-cost storage for infrequently used data with security features for data archiving and backup.

- *Cost effectively for months, years, or even decades*
- *RESTful web service*
- *Vaults (containers for storing archives)*
- *cheaper than S3, but it doesn't offer immediate access to the files*
- *Perfect for files you don't need very often*

Reference

S3 Glacier Deep Archive

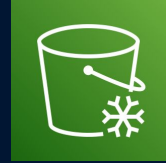


The new Glacier Deep Archive storage class is designed to provide durable and secure long-term storage for large amounts of data at a price that is competitive with off-premises tape archival services.

Data is stored across 3 or more AWS Availability Zones and can be retrieved in 12 hours or less. You no longer need to deal with expensive and finicky tape drives, arrange for off-premises storage, or worry about migrating data to newer generations of media.

- [Reference](#)

S3 Glacier tutorials



- First tutorial
- Second tutorial with more information included

THANKS!

danielaniskiewicz.com

CREDITS: This presentation template was created by Slidesgo, including icons by Flaticon, and infographics & images by Freepik.

