

AWS S3

- AWS S3 allows people to store objects (files) in “buckets” (directories)
- Buckets must have a globally unique name (across all regions all accounts) and are defined at the region level
- AWS S3 looks like a global service but buckets are created in a region
- Naming convention
 - No uppercase, No underscore
 - 3-63 characters long
 - Not an IP
 - Must start with lowercase letter or number

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Used cases

- Backup and storage
- Disaster Recovery
- Archive
- Hybrid Cloud storage
- Application hosting
- Static website hosting

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- Each Object (file) have a Key
- The key is composed of **prefix** + **object name**
s3://my-bucket/**my_folder1/another_folder/my_file.txt**
- There's no concept of “directories” within buckets (although the UI will trick you to think otherwise)

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- Object values are the content of the body (Object Size is 5TB (5000GB))
- Metadata (list of text key / value pairs – system or user metadata)
- Version ID (if versioning is enabled)
- Provides unlimited storage:
 - (S3 storage class) 99.99% availability & (11 9's - 99.999999999) durability
 - Objects are replicated in a single region (across multiple AZs)

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Static website hosting

- Use S3 to host a static website using a bucket
- Step 1 : Upload website content
- Step 2 : Enable Static website hosting
- Step 3 : Disable "Block public access"
- Step 4 : Configure "Bucket policy" to enable public read access

And add the bucket policy as below

- <https://docs.aws.amazon.com/AmazonS3/latest/userguide/example-bucket-policies.html#example-bucket-policies-use-case-2>

Bucket Policy sample

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "PublicRead",
      "Effect": "Allow",
      "Principal": "*",
      "Action": [
        "s3:GetObject",
        "s3:GetObjectVersion"
      ],
      "Resource": "arn:aws:s3:::mybucketvinom/html/*"
    }
  ]
}
```

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- How to share access to specific people
- We can use policy generator and generate a policy for S3 Specific bucket and add it in IAM Policies, And create user and attached the policy to it

<https://awspolicygen.s3.us-east-1.amazonaws.com/policygen.html>

We need to select the ARN from the S3 bucket details sections

Amazon S3 Storage Classes

Storage Class	Scenario	Azs
Standard	Frequently accessed data	>=3
Standard-IA	Long-lived, infrequently accessed data (backups for disaster recovery)	>=3
One Zone-IA	Long-lived, infrequently accessed, non-critical data (Easily re-creatable data - thumbnails for images)	1
Intelligent-Tiering	Long-lived data with changing or unknown access patterns	>=3
Glacier	Archive data with retrieval times ranging from minutes to hours	>=3
Glacier Deep Archive	Archive data that rarely, if ever, needs to be accessed with retrieval times in hours	>=3