



AWS Storage

INTRODUCTION

Cloud storage enables storing data & files on the internet through cloud computing provider.

Types:

1. Block storage
2. File storage
3. Object storage

Block Storage

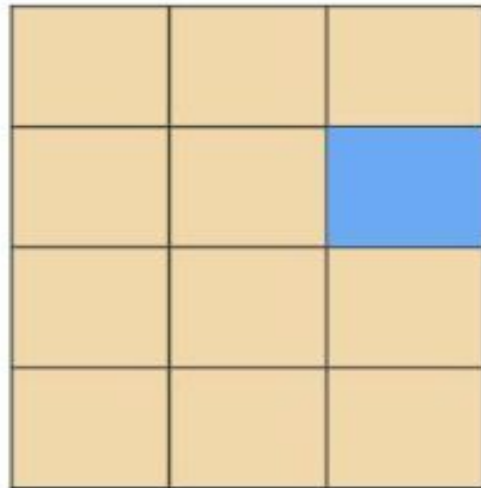
File storage treats files as a singular unit, block storage splits files into fixed-size chunks of data called blocks that have their own addresses.

When we want to change a character in a file, we just change the block that contains the character.

PROS:

1. It is choice for high-performance enterprise workloads.
2. Optimal for low-latency operations.

What if you want to **change** one character in a 1-GB file?



Block Storage

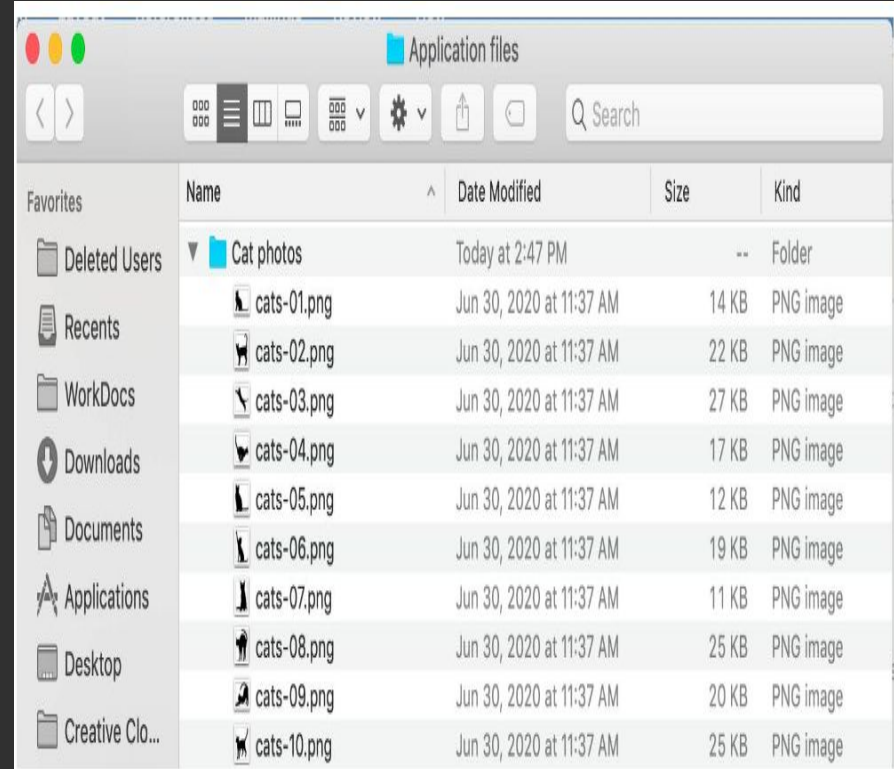
Change one block (piece of the file)
that contains the character

File Storage

Key element that is unique to file storage is its hierarchical model.

For instance, you have a folder called “Employee Details”, then within this folder, you can have multiple other folders like “salary details”, “perks”, “bonus”, etc.

Every file gets stored as one single piece.



Object Storage

Objects, much like files are also treated as a single unit of data when stored.

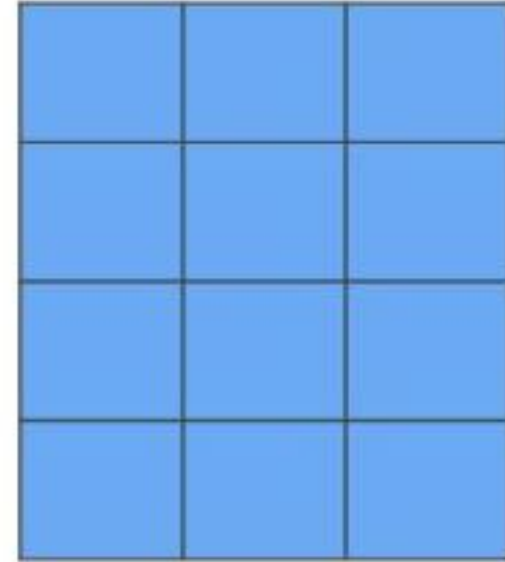
Each object has a unique identifier.

Changing just one character in an object make you change the entire file.

PROS:

1. We can store any type of data i.e, unstructured files, large data sets, etc.
2. No limits on the number of objects stored.

What if you want to **change** one character in a 1-GB file?



Object Storage

Entire file must be updated

Question 1

Let's say you're a developer and you plan to build out an application to transcode large media files, like videos. You'll be using an AWS Lambda function to perform the transcoding, but you need a place to store both the original media files and the transcoded media files. Due to regulations, you need to store these files for at least a year.

Answer :

Amazon S3

Object storage

Question 2

You're an architect for an ecommerce company that wants to run their MySQL database on an EC2 instance. This database needs a storage layer to store their order and customer information. The database will be frequently accessed and updated, so the storage layer needs to respond quickly. It's important that the storage is fast and durable.

Answer

Amazon EBS

Block Storage

Question 3

You have a web application that needs to write to disk in order to perform certain calculations. The application will store temporary data during the calculation. The most important aspects of this architecture are speed and cost.

Answer

EC2 instance store Block Storage

Question 4

Let's say you're creating a WordPress site on multiple instances. By default, WordPress stores user uploads on the local file system. Since you want to use multiple instances, you'll need to move the WordPress installation and all user customizations into a shared storage platform.

Answer

Amazon Elastic File System (EFS)

File Storage