

File Storage

This lesson will help you understand file storage.

We'll cover the following

- What is file storage?
- Upsides of using the file storage mechanism to store data
- Cloud file storage

There are three main types of data storage:

- File storage
- Block storage
- Object storage

Let's discuss what they are starting with file storage.

What is file storage?

File storage is a hierarchical storage methodology where the data is stored in files, the files are stored in folders, and the folders are stored in directories.

This storage mechanism is primarily used in *DAS* and *NAS*. The data in our desktops, laptops, and smartphones is stored using the file storage mechanism. To locate and access files in storage, we just need the complete path to the file.

However, this storage methodology is only good for a limited amount of data, primarily structured data. As the size of the data grows beyond a certain point, using this storage mechanism becomes a hassle. Retrieving files from a large amount of unstructured data takes a long time via this approach.

To tackle this scenario, we leverage other types of storage mechanisms such as *block* and *object* storage. There will be more on that in the upcoming lessons.

Upsides of using the file storage mechanism to store data

File storage is best suited for simple data storage use cases. If we need an easy-to-access, affordable, and centralized location to store our data, file storage is a good pick.

Leveraging this storage mechanism, we can also share files in a local area network. We do this all the time, especially on a university campus where a system in the network hosts the data and all the other systems can download that data facilitated by the file storage mechanism.

We can also set up a small storage environment for ourselves using file storage on a *NAS* device. This allows us to take backups of data on separate storage devices connected to the *LAN*.

Cloud file storage

All the major cloud providers provide the managed file storage service in the cloud. The primary difference between setting up our own on-prem file storage and using the cloud file storage is that when using the cloud file storage our data is hosted by the cloud data centers, and we can leverage all the features that are typically offered by the cloud environment, such as *disaster recovery*, *backup*, *elasticity*, *scalability*, *redundancy*, *high availability*, and so on.

[*Google Cloud Filestore*](#) and [*AWS Elastic File System*](#) are examples of cloud-based file storage services.

These services are completely managed services providing *low latency* and *high throughput* operations for file-based workloads.

Some of the typical use cases for file storage are:

- Sharing files among the team members, enabling the developers to work on the same file in collaboration. Files can be hosted using cloud file stores and can be shared with anyone in the team securely.
- Delivering static file-based web content like graphics, videos, images, and other types of media with minimal latency to the end-users
- Processing and conversion of media files from one format to another. File stores come in handy when building a system that takes one form of media

file as input and converts it into another form of media. Image conversions and rendering of animation are good examples of this.

Well, this is pretty much it on file storage. In the next lesson, you'll learn what *block storage* is?