Storage Types in Azure

Azure Storage Account is a storage account that is a resource that acts as a container that groups all the data services from Azure storage (Azure blobs, Azure files, Azure Queues, and Azure Tables). This helps us manage all of them as a group. The Azure Storage platform is Microsoft's cloud storage solution for modern data storage scenarios. Azure Storage offers highly available, massively scalable, durable, and secure storage for a variety of data objects in the cloud.

Benefits of Azure Storage –

1. Durable and highly available :- Data is durable due to redundancy & can be replicated across data centres or geographical regions to ensure durability. It is available from anywhere in the world over HTTP or HTTPS via a REST API.
2. Secure :- All data written to an Azure storage account is encrypted by the service.
3. Scalable :- Azure Storage is designed to be massively scalable to meet the data storage and performance needs of today's applications.
4. Managed :- Azure handles hardware maintenance, updates, and critical issues.
5. Accessible :- Data in Azure Storage is accessible from anywhere in the world over HTTP or HTTPS.

Types of storages in Azure –

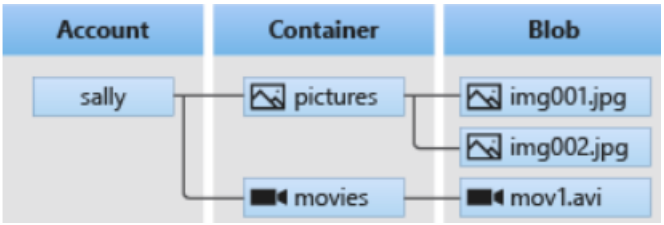
1. Blob storage
2. File storage
3. Queue storage
4. Table storage

1. Blob Storage :-

Blob Storage is optimized for storing massive amounts of unstructured data particular data model or definition, such as text, image, audio, video or binary data. Blob storage can be accessed through REST APIs or client libraries for easy integration with other applications.

Key features of blob storage –

i. It can store and serve unlimited amounts of unstructured data.
ii. Offers high durability through automatic and configurable data replication.
iii. Provides secure and fast access to data through HTTP/HTTPS and REST APIs.
iv. Supports multiple data types including block blobs, append blobs, and page blobs.
v. Pay-as-you-go pricing based on data usage and storage.
vi. Can integrate with other Azure services, such as Azure Functions and Azure Data Lake.
vii. Supports encryption of data at rest and in transit, and also role-based access control.



Blob storage resources

2. **File Storage –**
   Managed file shares for cloud or on-premises deployments. It provides a fully managed network file share that can be accessed from anywhere and by multiple concurrent clients, making it ideal for cloud and on-premises applications.

   Key features of File Storage –

   i. Easy to use:- When azure file is mounted on computer it is easier to access the data.
   ii. Shared access:- support the industry standard SMB (Server Message Block) and NFS (Network File System) protocols, meaning you can seamlessly replace your on-premises file shares with Azure file shares without worrying about application compatibility.
   iii. Fully managed:- Azure file shares can be created without the need to manage hardware or an OS.

iv. Scripting and tooling:- can use PowerShell cmdlets and Azure CLI to create, mount, and manage Azure file shares as part of the administration of Azure applications
v. Resiliency:- Azure Files is built to be always available
vi. Familiar programmability:- Applications running in Azure can access data in the share via file system I/O APIs.

3. **Queue Storage –**

Azure Queue Storage is a service for storing large numbers of messages for communication between microservices. It Allows for asynchronous message queueing between application components.

Key Features of Queue storage

i. Can store and retrieve millions of messages.
ii. Offers high durability through automatic and configurable data replication.
iii. Provides secure and fast access to messages through REST APIs or client libraries.
iv. Supports asynchronous communication between microservices to handle workloads in parallel.

4. **Table Storage –**

A NoSQL store for schemaless storage of structured and semi-structured data. Table storage in Azure is a NoSQL key-value store, designed for use with structured data that doesn't fit well into a traditional relational database. It provides a simple, scalable, and cost-effective way to store and retrieve large amounts of structured data.

Key Features of Table Storage

i. Can store and retrieve billions of entities.
ii. Supports schemaless data storage, allowing for flexible and evolving data structures.
iii. Offers fast and predictable query performance for key-value and structured data.