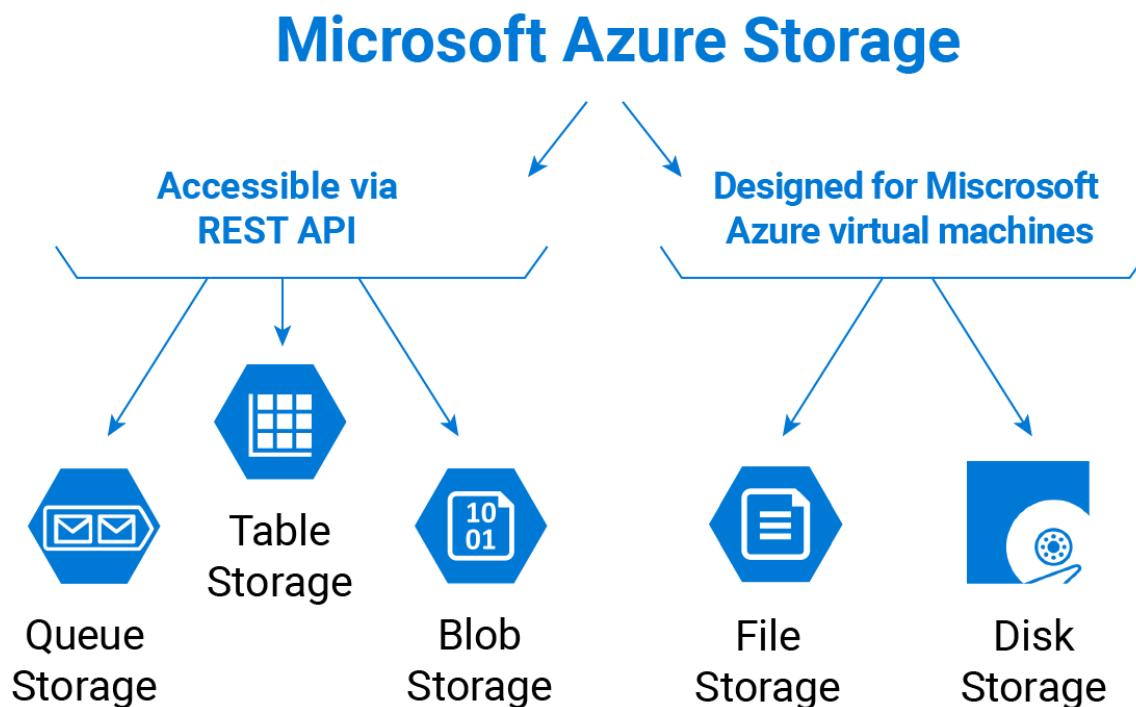


TYPES OF STORAGE IN AZURE

Microsoft Azure provides a variety of storage services to meet the needs of modern applications. These services allow organizations to store and manage different kinds of data — such as unstructured files, structured databases, messages, and shared files — in a secure, scalable, and cost-effective way.

The main storage options offered in [Azure Storage Account](#) are:

1. [Blob Storage](#)
2. [File Storage](#)
3. [Table Storage](#)
4. [Queue Storage](#)



1. Azure Blob Storage

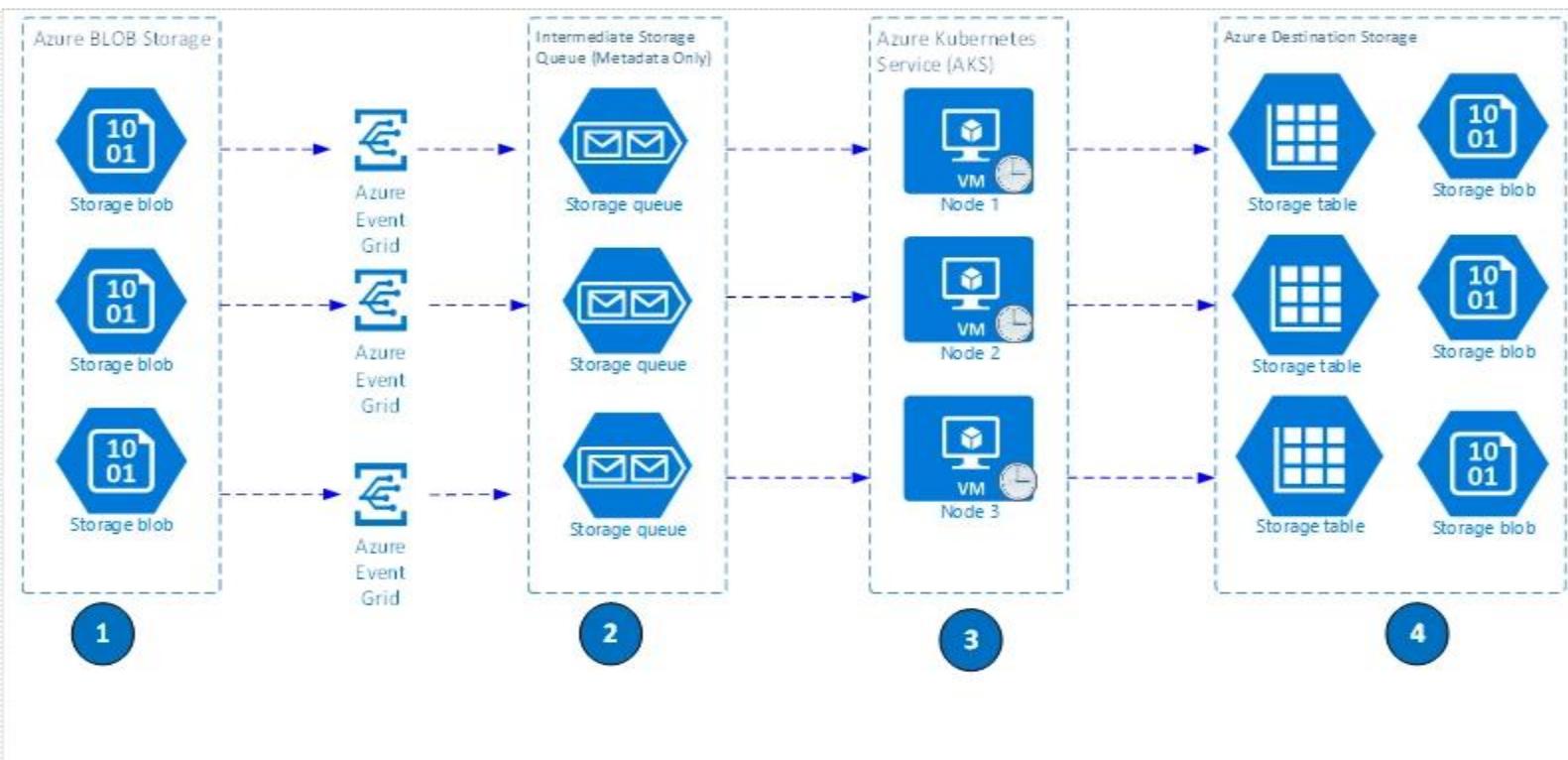
Blob (Binary Large Object) storage is designed for **storing large amounts of unstructured data** such as text, images, videos, documents, backups, and logs.

Key Points

- Stores unstructured data (data without a fixed format).
- Highly scalable for storing massive amounts of data.
- Accessed over HTTP/HTTPS using REST APIs, SDKs, or Azure portal.
- Supports different types of blobs:
 - **Block blobs** – Store files like documents, images, videos.
 - **Append blobs** – Optimized for logs where data is added continuously.
 - **Page blobs** – Used for virtual hard disks (VM storage).

Example

An e-commerce company stores product images, user-uploaded photos, and video demos in **Azure Blob Storage** for easy global access.



2. Azure File Storage

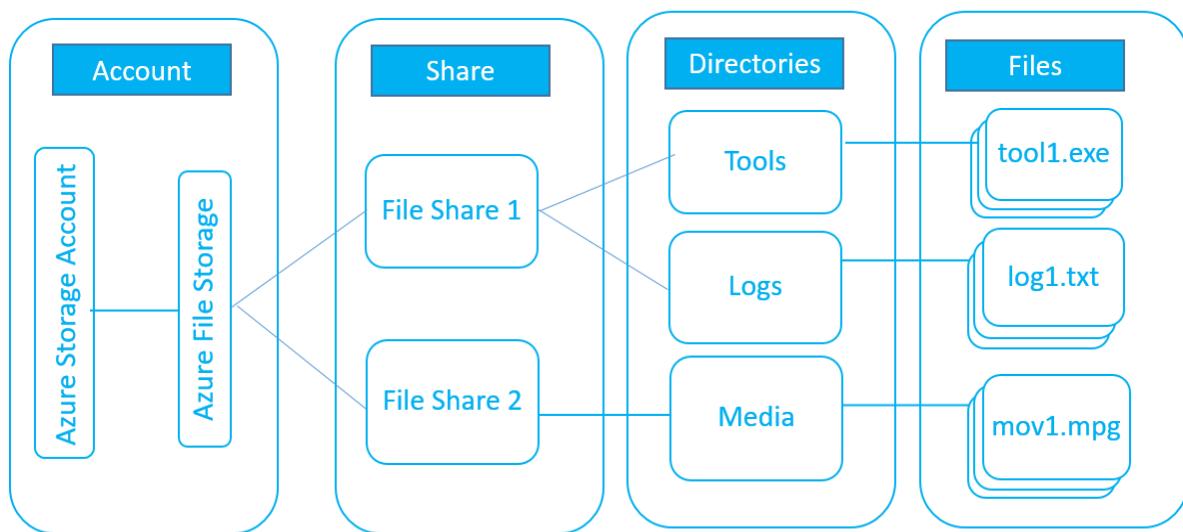
Azure File Storage provides **fully managed file shares in the cloud** that can be accessed using the Server Message Block (SMB) protocol. It is similar to a traditional file server, but hosted on Azure.

Key Points

- Stores files in a hierarchical structure (folders, directories).
- Can be mounted directly on Windows, Linux, and macOS systems.
- Supports SMB protocol, so apps and VMs can use it like a normal file share.
- Good for replacing on-premises file servers with a cloud-based alternative.

Example

A company migrates its shared documents (used by employees across offices) to **Azure File Storage**, so employees can access them from anywhere without maintaining local file servers.



3. Azure Table Storage

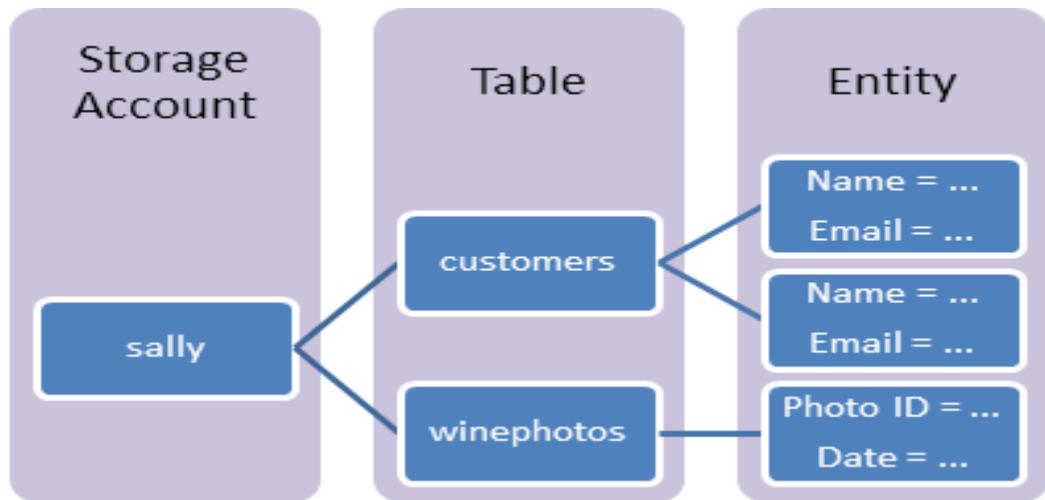
Table Storage is a **NoSQL key-value store** for structured but non-relational data. It allows storing data in rows and columns but without relationships like in SQL databases.

Key Points

- Schema-less: flexible structure (each row can have different properties).
- Stores massive amounts of structured data at a low cost.
- Data is indexed by **Partition Key** and **Row Key**, enabling fast lookups.
- Ideal for scenarios where you need quick access to large datasets without complex joins or queries.

Example

An IoT application stores sensor reading (device ID, timestamp, value) in **Azure Table Storage** for quick access and analytics.



4. Azure Queue Storage

Queue Storage provides **message queuing for communication between application components**. It enables decoupled and scalable distributed systems.

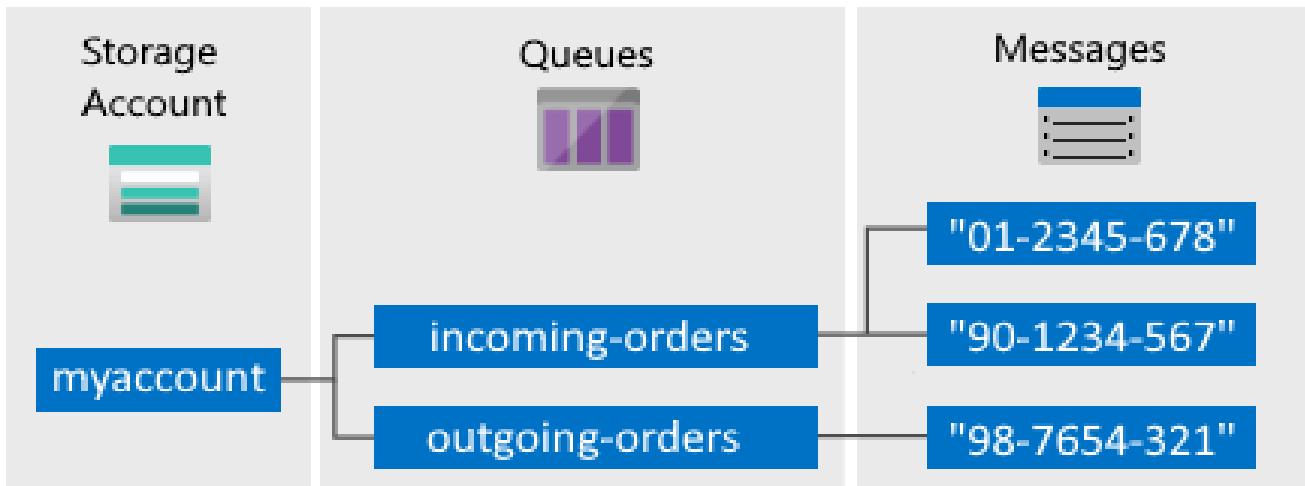
Key Points

- Stores messages (up to 64 KB each) in a queue.
- Used for asynchronous communication between services.
- Supports millions of messages in a queue.

- Reliable and durable – messages stay in the queue until processed.

Example

An online shopping app places customer order details in **Azure Queue Storage**. A background service then processes these orders one by one, ensuring smooth handling even when many users order at the same time.



Conclusion

Azure offers different storage types to handle different needs:

- **Blob Storage** → Best for unstructured data like images, videos, documents.
- **File Storage** → Best for file sharing across machines and applications.
- **Table Storage** → Best for storing structured but non-relational (NoSQL) data.
- **Queue Storage** → Best for message passing and decoupling between application components.

By choosing the right storage type, organizations can optimize performance, scalability, and cost for their applications.

Azure Storage Types Comparison

Storage Type	What it Stores	Best For	Think of it as	Example Use Case
Blob Storage	Unstructured data (images, videos, documents, backups)	Storing large files and media	Online hard disk	Store product images, app logs, videos
File Storage	Files & folders, hierarchical structure	Shared file access across systems	Cloud file server / shared drive	Team documents accessible by all employees
Table Storage	Structured, NoSQL key-value data	Simple, scalable databases	Cloud-based Excel sheet	IoT sensor data (device ID, timestamp, value)
Queue Storage	Messages (up to 64 KB)	Communication between app components	Waiting line of tasks	Online store orders queued for processing

👉 Quick Memory Hack:

- **Blob = Big files**
- **File = Shared folders**
- **Table = Key-value data**
- **Queue = Message line**

In simple terms,

1. Azure Blob Storage

- **What it is:** Stores large unstructured data like files, images, and videos.
- **Think of it as:** A big online hard disk.
- **Example:** Storing product images, user documents, or app logs.

2. Azure File Storage

- **What it is:** Cloud-based file shares that work like normal folders on your computer.
- **Think of it as:** A shared drive, but hosted in Azure.
- **Example:** Employees in different locations accessing the same shared documents.

3. Azure Table Storage

- **What it is:** A NoSQL database for storing structured data (rows & columns) but without relationships.
- **Think of it as:** A simple, flexible Excel sheet in the cloud.
- **Example:** Saving IoT device readings like device ID, time, and value.

4. Azure Queue Storage

- **What it is:** A message queue that stores tasks or messages between apps.
- **Think of it as:** A waiting line where requests stay until processed.
- **Example:** An online shop puts orders in a queue, and a worker app processes them one by one.

✍ Easy way to remember:

- **Blob = Files & Media**
- **File = Shared Folders**
- **Table = Simple Database**
- **Queue = Message Line**