# Storage

* Azure Blob Storage
  + Massive data storage, unstructured data
  + Object
* Azure Disk Storage
  + For azure virtual machine
* Azure Files Storage
  + For cloud
* Azure Blob Access tiers
* queue Storage
  + For reliable messaging
* table Storage
  + Key value pair
  + No sql storage
  + Semi structured data

Types of storage

Hot

frequently

cold

data can be access regularly but we keep it for 30 days period

archive

180 days-long term backup

How to access storage

Create storage account

Azure VMs use Azure Disk Storage to store virtual disks. However, you can't use Azure Disk Storage to store a disk outside of a virtual machine.

A storage account provides a unique namespace for your Azure Storage data, that's accessible from anywhere in the world over HTTP or HTTPS. Data in this account is secure, highly available, durable, and massively scalable.

# Disk storage fundamentals

Disk Storage provides disks for Azure virtual machines.

Applications and other services can access and use these disks as needed, similar to how they would in on-premises scenarios.

Disk Storage allows data to be persistently stored and accessed from an attached virtual hard disk

Hdd

Sdd

Premium sdd

# Azure Blob storage fundamentals

A blob could contain gigabytes of binary data streamed from a scientific instrument, an encrypted message for another application, or data in a custom format for an app you're developing.

One advantage of blob storage over disk storage is that it does not require developers to think about or manage disks; data is uploaded as blobs, and Azure takes care of the physical storage needs.

Blob Storage is ideal for:

* Serving images or documents directly to a browser.
* Storing files for distributed access.
* Streaming video and audio.
* Storing data for backup and restore, disaster recovery, and archiving.
* Storing data for analysis by an on-premises or Azure-hosted service.
* Storing up to 8 TB of data for virtual machines.

Graphical user interface, text, application

Description automatically generated

# Azure Files fundamentals

Applications running in Azure virtual machines or cloud services can mount a file storage share to access file data, just as a desktop application would mount a typical SMB share.

Any number of Azure virtual machines or roles can mount and access the file storage share simultaneously.

Use Azure Files for the following situations:

* Many on-premises applications use file shares. Azure Files makes it easier to migrate those applications that share data to Azure. If you mount the Azure file share to the same drive letter that the on-premises application uses, the part of your application that accesses the file share should work with minimal changes, if any.
* Store configuration files on a file share and access them from multiple VMs. Tools and utilities used by multiple developers in a group can be stored on a file share, ensuring that everybody can find them, and that they use the same version.
* Write data to a file share, and process or analyze the data later. For example, you might want to do this with diagnostic logs, metrics, and crash dumps.

Azure Storage offers different access tiers for your blob storage, helping you store object data in the most cost-effective manner. The available access tiers include:

* **Hot access tier**: Optimized for storing data that is accessed frequently (for example, images for your website).
* **Cool access tier**: Optimized for data that is infrequently accessed and stored for at least 30 days (for example, invoices for your customers).
* **Archive access tier**: Appropriate for data that is rarely accessed and stored for at least 180 days, with flexible latency requirements (for example, long-term backups).

The following considerations apply to the different access tiers:

* Only the hot and cool access tiers can be set at the account level. The archive access tier isn't available at the account level.
* Hot, cool, and archive tiers can be set at the blob level, during upload or after upload.
* Data in the cool access tier can tolerate slightly lower availability, but still requires high durability, retrieval latency, and throughput characteristics similar to hot data. For cool data, a slightly lower availability service-level agreement (SLA) and higher access costs compared to hot data are acceptable trade-offs for lower storage costs.
* Archive storage stores data offline and offers the lowest storage costs, but also the highest costs to rehydrate and access data.