

0- intro on storage_account

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- storage accounts
 - containers
 - File shares
 - Queues
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Storage accounts are the management service that serves five different azure storage services.

Creating a storage account

- Basic tab
 - Instance details
 - storage account name
 - Region
 - performance
 - Standard

- Premium
 - Redundancy
 - LRS
 - GRS
 - ZRS
 - GZRS
-

Access Level

- can change the **access level** to a particular container.
 - private (no anonymous access)
 - Blob (anonymous access)
 - Container (anonymous read access for containers and blobs)
-

Pricing

Depends on multiple factors

- Volume of data stored per month.
 - Quantity and types of operations performed, along with any data transfer costs.
 - Data redundancy option selected.
-

Access tiers

- Hot
 - accessed more frequently
 - high storage costs
 - lower access costs
 - can set hot access tier at the storage level
- cool
 - accesses or modified infrequently
 - lower storage costs
 - higher access costs compared to hot tier
 - data needs to be stored for at-least **30 days**

- can set cool access tier at the storage level
- archive
 - rarely accessed
 - lower storage costs
 - higher access costs compared to cool access tier
 - data needs to be stored at-least **180 days**
 - can set archive access tier at the blob level
- default tier of a blob in a container is blob.
- **!** This default hot tier can be changed to cool tier in the storage account configuration.
- existing files with default hot tier will change to cool tier.
- **!** Changing the default **hot or cold** tier will change the existing **hot (inferred)** or **cold (inferred)** , but it will not change the **hot** and **cold** blobs tier which are selected specifically during the upload.
- new blobs will default come under cool tier.
- **early deletion penalty** if it's deleted or moved to a different tier before 30 days has elapsed.
- For a blob in the cold tier, the deletion penalty applies if it's deleted or moved to a different tier before 90 days has elapsed.
- For example, if a blob is moved to the cool tier and then deleted after 21 days, you'll be charged an early deletion fee equivalent to 9 (30 minus 21) days of storing that blob in the cool tier.
- changing tier at blob level will give an additional tier called archive tier.
- **!** Setting the access tier to "Archive" will make your blob inaccessible until it is rehydrated back to "Hot" or "Cool", which may take several hours.

Access tiers for premium block blobs storage

Important

Data stored in a premium block blob storage account cannot be tiered to hot, cool, cold or archive.

- [source](#)

Life cycle management rules

for general storage account

Add a rule

✓ Details

2 Base blobs

Lifecycle management uses your rules to automatically move blobs to cooler tiers or to delete them. If you create multiple rules, the associated actions must be implemented in tier order (from hot to cool storage, then archive, then deletion).

If

Base blobs were *

☒ Last modified

☐ Created

More than (days ago) *

1

Then

Delete the blob

Move to cool storage
For infrequently accessed data that you want to keep on cool storage for at least 30 days.

Move to cold storage
For rarely accessed data that you want to keep for at least 90 days.

Move to archive storage
Use if you don't need online access and want to keep the object for 180 days or longer.

Delete the blob
Deletes the object per the specified conditions.

Note

- The general storage account allows to change tier of the blobs between hot, cool and archive.
- So the lifecycle management shows all the changing options depending on the conditions

for premium Storage account

Add a rule

✓ Details **2 Base blobs**

Lifecycle management uses your rules to automatically move blobs to cooler tiers or to delete them. If you create multiple rules, the associated actions must be implemented in tier order (from hot to cool storage, then archive, then deletion).

If

Base blobs were *

☐ Last modified
☒ Created

More than (days ago) *

30

Then

Delete the blob

Delete the blob

Deletes the object per the specified conditions.

+ Add conditions

Previous **Add**

Note

- The premium storage account does not directly allow to change tiers for the block blobs.
- • So the lifecycle management does not show all the tier change options except the delete option.

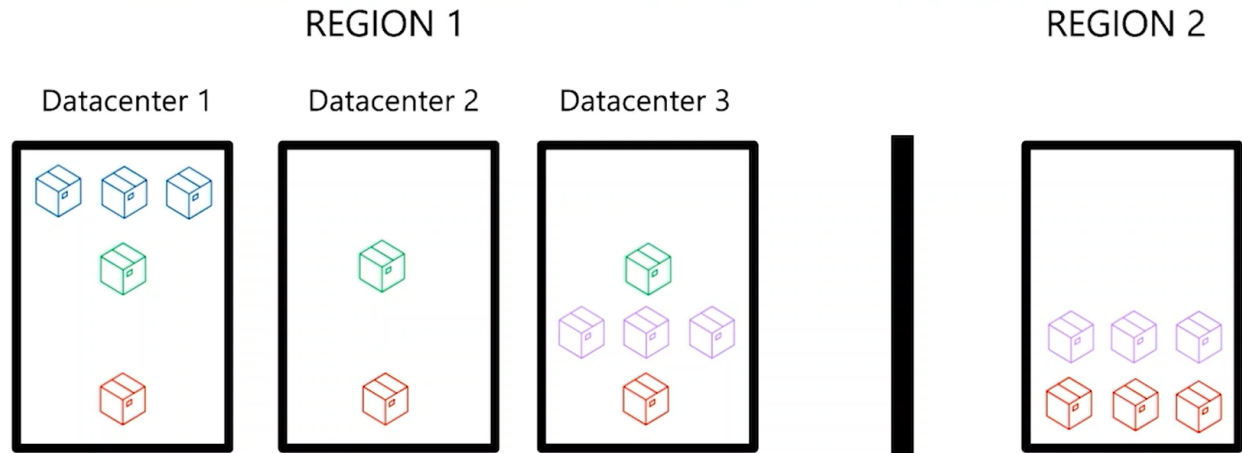
- You can't rehydrate an archived blob to an online tier by using lifecycle management policies.

Redundancy

Data redundancy

Redundancy configuration	Deployment
LRS	Single Datacenter in the primary region
ZRS	Three Availability zones in the primary region
GRS	Single datacenter in primary and secondary regions
GZRS	3 availability zones in the primary region and single datacenter in secondary region

Storage redundancy



why do we need a read only access after any kind of crash **read only GRS**.

Difference between Availability and Durability

- Durability refers to how safe data is from being lost.
- While data availability refers to how often you can access your stored data.

Premium performance

premium account type

1. Block blobs
 2. File share
 3. page blobs
- only **LRS** and **ZRS**

Azure Files

- [definition](#)
- You can access the files from anywhere in the world using a URL that points to the file
- And includes a shared access signature (SAS) token.

- You can generate SAS tokens. they allow specific access to a private asset for a specific amount of time.
- Configuration files can be stored on a file share and accessed 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.
- SMB Azure file shares are accessible from Windows, Linux, and macOS clients.
- NFS Azure file shares are accessible from Linux clients

Azure files deployment

2 ways

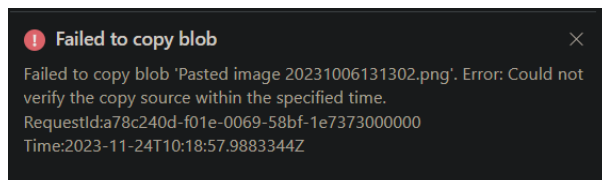
1. Directly mounting the serverless azure **file shares**
2. Caching Azure file shares on-premises using Azure **File sync**

Blob rehydration from Archive tier

[source](#)

2 options to access the archived blob

1. copy the archived blob to a new blob in the hot or cold tier
 2. rehydrating the archived blob to the online tier using *set Blob Tier* operation
- rehydration of an archive blob may take several hours to complete
 - archiving the larger blobs for best optimal performance when rehydrating
 - rehydrating large number of small blob may require extra time due to processing overhead on each blob.
 - while rehydration, source and destination names should be different
 - copying of archived blobs will only happen when *the destination and source account must be in the same region.*



- After the copy operation is complete, the destination blob appears in the archive tier.
- The destination blob is then rehydrated to the online tier that you specified in the copy operation.
- When the destination blob is fully rehydrated, it becomes available in the new online tier.

