Storage account overview

An Azure storage account contains all of your Azure Storage data objects: blobs, files, queues, tables, and disks. The storage account provides a unique namespace for your Azure Storage data that is accessible from anywhere in the world over HTTP or HTTPS. Data in your Azure storage account is durable and highly available, secure, and massively scalable.

To learn how to create an Azure storage account, see [Create a storage account](#).

Types of storage accounts

Azure Storage offers several types of storage accounts. Each type supports different features and has its own pricing model. Consider these differences before you create a storage account to determine the type of account that is best for your applications. The types of storage accounts are:

- **General-purpose v2 accounts**: Basic storage account type for blobs, files, queues, and tables. Recommended for most scenarios using Azure Storage.

- **General-purpose v1 accounts**: Legacy account type for blobs, files, queues, and tables. Use general-purpose v2 accounts instead when possible.

- **BlockBlobStorage accounts**: Storage accounts with premium performance characteristics for block blobs and append blobs. Recommended for scenarios with high transactions rates, or scenarios that use smaller objects or require consistently low storage latency.

- **FileStorage accounts**: Files-only storage accounts with premium performance characteristics. Recommended for enterprise or high performance scale applications.

- **BlobStorage accounts**: Legacy Blob-only storage accounts. Use general-purpose v2 accounts instead when possible.

The following table describes the types of storage accounts and their capabilities:

TABLE 1

Storage account type	Supported services	Supported performance tiers	Supported access tiers	Replication options [1]	Deployment model	Encryption [2]
General-purpose V2	Blob, File, Queue, Table, Disk, and Data Lake Gen2 [6]	Standard, Premium [5]	Hot, Cool, Archive [3]	LRS, GRS, RA-GRS, ZRS, GZRS (preview), RA-GZRS (preview) [4]	Resource Manager	Encrypted

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TABLE 1

Storage account type	Supported services	Supported performance tiers	Supported access tiers	Replication options	Deployment model [1]	Encryption [2]
General-purpose V1	Blob, File, Queue, Table, and Disk	Standard, Premium [5]	N/A	LRS, GRS, RA-GRS	Resource Manager, Classic	Encrypted
BlockBlobStorage	Blob (block blobs and append blobs only)	Premium	N/A	LRS, ZRS [4]	Resource Manager	Encrypted
FileStorage	File only	Premium	N/A	LRS, ZRS [4]	Resource Manager	Encrypted
BlobStorage	Blob (block blobs and append blobs only)	Standard	Hot, Cool, Archive [3]	LRS, GRS, RA-GRS	Resource Manager	Encrypted

[1]Using the Azure Resource Manager deployment model is recommended. Storage accounts using the classic deployment model can still be created in some locations, and existing classic accounts continue to be supported. For more information, see Azure Resource Manager vs. classic deployment: Understand deployment models and the state of your resources.

[2]All storage accounts are encrypted using Storage Service Encryption (SSE) for data at rest. For more information, see Azure Storage Service Encryption for Data at Rest.

[3] Archive storage and blob-level tiering only support block blobs. The Archive tier is available at the level of an individual blob only, not at the storage account level. For more information, see Azure Blob storage: Hot, Cool, and Archive storage tiers.

[4]Zone-redundant storage (ZRS) and geo-zone-redundant storage (GZRS/RA-GZRS) (preview) are available only for standard general-purpose V2, BlockBlobStorage, and FileStorage accounts in certain regions. For more information about Azure Storage redundancy options, see [Azure Storage redundancy](#).

[5]Premium performance for general-purpose v2 and general-purpose v1 accounts is available for disk and page blob only. Premium performance for block or append blobs are only available on BlockBlobStorage accounts. Premium performance for files are only available on FileStorage accounts.

[6]Azure Data Lake Storage Gen2 is a set of capabilities dedicated to big data analytics, built on Azure Blob storage. Data Lake Storage Gen2 is only supported on General-purpose V2 storage accounts with Hierarchical namespace enabled.

General-purpose v2 accounts

General-purpose v2 storage accounts support the latest Azure Storage features and incorporate all of the functionality of general-purpose v1 and Blob storage accounts. General-purpose v2 accounts deliver the lowest per-gigabyte capacity prices for Azure Storage, as well as industry-competitive transaction prices. General-purpose v2 storage accounts support these Azure Storage services:

- Blobs (all types: Block, Append, Page)

- Data Lake Gen2

- Files

- Disks

- Queues

- Tables

 Note

Microsoft recommends using a general-purpose v2 storage account for most scenarios. You can easily upgrade a general-purpose v1 or Blob storage account to a general-purpose v2 account with no downtime and without the need to copy data.

For more information on upgrading to a general-purpose v2 account, see **[Upgrade to a general-purpose v2 storage account](#)**.

General-purpose v2 storage accounts offer multiple access tiers for storing data based on your usage patterns. For more information, see [Access tiers for block blob data](#).

General-purpose v1 accounts

General-purpose v1 storage accounts provide access to all Azure Storage services, but may not have the latest features or the lowest per gigabyte pricing. General-purpose v1 storage accounts support these Azure Storage services:

- Blobs (all types)

- Files

- Disks

- Queues

- Tables

You should use general-purpose v2 accounts in most cases. You can use general-purpose v1 accounts for these scenarios:

- Your applications require the Azure classic deployment model. General-purpose v2 accounts and Blob storage accounts support only the Azure Resource Manager deployment model.

- Your applications are transaction-intensive or use significant geo-replication bandwidth, but don't require large capacity. In this case, general-purpose v1 may be the most economical choice.

- You use a version of the Storage Services REST API that is earlier than 2014-02-14 or a client library with a version lower than 4.x. You can't upgrade your application.

BlockBlobStorage accounts

A BlockBlobStorage account is a specialized storage account in the premium performance tier for storing unstructured object data as block blobs or append blobs. Compared with general-purpose v2 and BlobStorage accounts, BlockBlobStorage accounts provide low, consistent latency and higher transaction rates.

BlockBlobStorage accounts don't currently support tiering to hot, cool, or archive access tiers. This type of storage account does not support page blobs, tables, or queues.

FileStorage accounts

A FileStorage account is a specialized storage account used to store and create premium file shares. This storage account kind supports files but not block blobs, append blobs, page blobs, tables, or queues.

FileStorage accounts offer unique performance dedicated characteristics such as IOPS bursting. For more information on these characteristics, see the File share storage tiers section of the Files planning guide.

Naming storage accounts

When naming your storage account, keep these rules in mind:

- Storage account names must be between 3 and 24 characters in length and may contain numbers and lowercase letters only.

- Your storage account name must be unique within Azure. No two storage accounts can have the same name.

Performance tiers

Depending on the type of storage account you create, you can choose between standard and premium performance tiers.

General-purpose storage accounts

General-purpose storage accounts may be configured for either of the following performance tiers:

- A standard performance tier for storing blobs, files, tables, queues, and Azure virtual machine disks. For more information about scalability targets for standard storage accounts, see [Scalability targets for standard storage accounts](#).

- A premium performance tier for storing unmanaged virtual machine disks. Microsoft recommends using managed disks with Azure virtual machines instead of unmanaged disks. For more information about scalability targets for the premium performance tier, see [Scalability targets for premium page blob storage accounts](#).

BlockBlobStorage storage accounts

BlockBlobStorage storage accounts provide a premium performance tier for storing block blobs and append blobs. For more information, see [Scalability targets for premium block blob storage accounts](#).

FileStorage storage accounts

FileStorage storage accounts provide a premium performance tier for Azure file shares. For more information, see [Azure Files scalability and performance targets](#).

Access tiers for block blob data

Azure Storage provides different options for accessing block blob data based on usage patterns. Each access tier in Azure Storage is optimized for a particular pattern of data usage. By selecting the right access tier for your needs, you can store your block blob data in the most cost-effective manner.

The available access tiers are:

- The **Hot** access tier. This tier is optimized for frequent access of objects in the storage account. Accessing data in the hot tier is most cost-effective, while storage costs are higher. New storage accounts are created in the hot tier by default.

- The **Cool** access tier. This tier is optimized for storing large amounts of data that is infrequently accessed and stored for at least 30 days. Storing data in the cool tier is more

cost-effective, but accessing that data may be more expensive than accessing data in the hot tier.

- The **Archive** tier. This tier is available only for individual block blobs. The archive tier is optimized for data that can tolerate several hours of retrieval latency and that will remain in the archive tier for at least 180 days. The archive tier is the most cost-effective option for storing data. However, accessing that data is more expensive than accessing data in the hot or cool tiers.

If there's a change in the usage pattern of your data, you can switch between these access tiers at any time. For more information about access tiers, see Azure Blob storage: hot, cool, and archive access tiers.

 Important

Changing the access tier for an existing storage account or blob may result in additional charges. For more information, see the **Storage account billing section**.

Redundancy

Redundancy options for a storage account include:

- Locally redundant storage (LRS): A simple, low-cost redundancy strategy. Data is copied synchronously three times within the primary region.

- Zone-redundant storage (ZRS): Redundancy for scenarios requiring high availability. Data is copied synchronously across three Azure availability zones in the primary region.

- Geo-redundant storage (GRS): Cross-regional redundancy to protect against regional outages. Data is copied synchronously three times in the primary region, then copied asynchronously to the secondary region. For read access to data in the secondary region, enable read-access geo-redundant storage (RA-GRS).

- Geo-zone-redundant storage (GZRS) (preview): Redundancy for scenarios requiring both high availability and maximum durability. Data is copied synchronously across three Azure availability zones in the primary region, then copied asynchronously to the secondary region. For read access to data in the secondary region, enable read-access geo-zone-redundant storage (RA-GZRS).

For more information about redundancy options in Azure Storage, see Azure Storage redundancy.

Encryption

All data in your storage account is encrypted on the service side. For more information about encryption, see Azure Storage Service Encryption for data at rest.

Storage account endpoints

A storage account provides a unique namespace in Azure for your data. Every object that you store in Azure Storage has an address that includes your unique account name. The combination of the account name and the Azure Storage service endpoint forms the endpoints for your storage account.

For example, if your general-purpose storage account is named *mystorageaccount*, then the default endpoints for that account are:

- Blob storage: https://*mystorageaccount*.blob.core.windows.net

- Table storage: https://*mystorageaccount*.table.core.windows.net

- Queue storage: https://*mystorageaccount*.queue.core.windows.net

- Azure Files: https://*mystorageaccount*.file.core.windows.net

Note

Block blob and blob storage accounts expose only the Blob service endpoint.

Construct the URL for accessing an object in a storage account by appending the object's location in the storage account to the endpoint. For example, a blob address might have this format: http://*mystorageaccount*.blob.core.windows.net/*mycontainer*/*myblob*.