

Alibaba Cloud Object Storage Service

Product Introduction

Issue: 20190815

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Generic conventions

Table -1: Style conventions

| Style | Description | Example |
|---|--|--|
|  | This warning information indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results. |  Danger: Resetting will result in the loss of user configuration data. |
|  | This warning information indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results. |  Warning: Restarting will cause business interruption. About 10 minutes are required to restore business. |
|  | This indicates warning information, supplementary instructions, and other content that the user must understand. |  Notice: Take the necessary precautions to save exported data containing sensitive information. |
| | This indicates supplemental instructions, best practices, tips, and other content that is good to know for the user. |  Note: You can use Ctrl + A to select all files. |
| > | Multi-level menu cascade. | Settings > Network > Set network type |
| Bold | It is used for buttons, menus, page names, and other UI elements. | Click OK . |
| Courier font | It is used for commands. | Run the <code>cd / d C :/ windows</code> command to enter the Windows system folder. |
| <i>Italics</i> | It is used for parameters and variables. | <code>bae log list --instanceid <i>Instance_ID</i></code> |
| [] or [a b] | It indicates that it is an optional value, and only one item can be selected. | <code>ipconfig [-all -t]</code> |

| Style | Description | Example |
|---------------------------------------|--|------------------------------------|
| <code>{}</code> or <code>{a b}</code> | It indicates that it is a required value, and only one item can be selected. | <code>swich {stand slave}</code> |

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1 What is OSS?

Alibaba Cloud Object Storage Service (OSS) is a storage service that enables you to store, back up, and archive any amount of data in the cloud. OSS is a cost-effective, highly secure, and highly reliable cloud storage solution. It uses RESTful APIs and is designed for 99.999999999% (12 nines) durability and 99.995% availability (service continuity). Using OSS, you can store and retrieve any type of data at any time, from anywhere on the web.

You can use API and SDK interfaces provided by Alibaba Cloud or OSS migration tools to transfer massive amounts of data into or out of Alibaba Cloud OSS. You can use the Standard storage class of OSS to store image, audio, and video files for apps and large websites. You can use the Infrequent Access (IA) or Archive storage class as a low-cost solution for backup and archiving of infrequently accessed data.

Concepts

- Storage Class

OSS provides three storage classes: Standard, Infrequent Access, and Archive. These storage classes cover various data storage scenarios from hot data to cold data. For more information, see [Introduction to storage classes](#).

- Bucket

A bucket is a container for objects stored in OSS. Every object is contained in a bucket. The data model structure of Alibaba Cloud OSS is flat instead of hierarchical.

- Objects

Objects, also known as files, are the fundamental entities stored in OSS. An object is composed of metadata, data, and key. The key is the unique object name in a bucket. Metadata defines the attributes of an object, such as the time last modified and the object size. You can also specify custom metadata of an object.

- Region

A region represents the physical location of an OSS data center. You can choose the region where OSS will store the buckets you create. You may choose a region that has the least latency, lowest costs, or that meets certain regulatory requirements.

Generally, the closer the user is in proximity to a region, the faster the access speed is. For more information, see [OSS regions and endpoints](#).

- Endpoint

An endpoint is the domain name used to access the OSS. OSS provides external services through HTTP RESTful APIs. Different regions use different endpoints. For the same region, access through an intranet or through the Internet also uses different endpoints. For more information, see [OSS regions and endpoints](#).

- AccessKey

An AccessKey (AK) is composed of an AccessKeyId and an AccessKeySecret. They work in pairs to perform access identity verification. OSS verifies the identity of a request sender by using the AccessKeyId/AccessKeySecret symmetric encryption method. The AccessKeyId is used to identify a user. The AccessKeySecret is used for the user to encrypt the signature and for OSS to verify the signature. The AccessKeySecret must be kept confidential.

Related services

After you load your data to OSS, you can use it with other Alibaba Cloud products and services.

The following services are frequently used with OSS:

- Elastic Compute Service (ECS)

An online computing service that offers elastic and secure virtual cloud servers to cater for all your cloud hosting needs. See the [ECS product details page](#).

- Alibaba Cloud CDN

A scalable and high-performance content delivery service for accelerated distribution of content to users across the globe. See the [CDN product details page](#).

- E-MapReduce

A Big Data service that uses Apache Hadoop and Spark to process and analyze data. See the [E-MapReduce product details page](#).

- ApsaraVideo for Media Processing

A cloud service for transcoding multimedia data into various output resolutions, bit rates, and formats for unhindered playback. See the [ApsaraVideo for Media Processing product details page](#).

Use OSS

Alibaba Cloud provides an intuitive operation interface for you to manage your OSS resources. You can log on to the OSS console to operate your buckets and objects. For more information, see the *OSS Console User Guide*.

You can also use APIs and SDKs to manage your OSS resources. For more information, see [OSS API Reference](#) and [OSS SDK Reference](#).

OSS pricing

Traditional storage providers require you to purchase a predetermined amount of storage and network transfer capacity. If you exceed the capacity, your service is shut off or you are charged excess fees. If you do not use the full capacity, you still pay as though you have used it all.

OSS charges you only for what you actually use, without excess fees. As your business grows, you can enjoy the cost advantages of the flexible infrastructure from Alibaba Cloud, which adapts to meet your ever-changing requirements.

For more information about OSS pricing, see the [OSS Pricing page](#).

Learning path

Visit the [OSS Learning Path](#) for the knowledge you need to become an OSS expert!

Video

You can view the following video to quickly get familiar with OSS:

2 Benefits

Alibaba Cloud Object Storage Service (OSS) is a storage service that enables you to store, back up, and archive any amount of data in the cloud. OSS is a cost-effective, highly secure, and highly reliable cloud storage solution. This topic compares OSS with the traditional storage to help you better understand Alibaba Cloud OSS.

Benefits of OSS over traditional storage

| Item | OSS | Traditional storage |
|-------------|---|--|
| Reliability | <ul style="list-style-type: none"> Guarantees 99.995 % designed service availability. Offers automatic scaling without affecting external services. Guarantees 99.999999999% (12 nines) designed durability. Offers automatic redundant data backup. | <ul style="list-style-type: none"> Depends on hardware reliability. Traditional storage has a relatively high failure rate. If a disk has bad sectors, data may be lost and cannot be recovered. Manual data recovery is complex and involves a lot of time and technical resources. |
| Security | <ul style="list-style-type: none"> Provides enterprise-grade, multilevel security. Supports multi-user resource isolation and remote disaster recovery. Provides authentication, authorization, IP address blacklist/whitelist, anti-leeching, and RAM account features. | <ul style="list-style-type: none"> Traffic cleaning service and black hole service must be purchased separately. Security must be implemented independently. |

| Item | OSS | Traditional storage |
|----------------------------|--|--|
| Cost | <ul style="list-style-type: none"> · BGP backbone network without bandwidth restrictions. Upstream traffic is free of charge. · No maintenance staff or hosting fees required. | <ul style="list-style-type: none"> · Storage space is limited by hardware capacity · Manual scaling is required. · Access speeds are slow during single or double-line access. Bandwidth restrictions are imposed · Manual scaling is required during peak traffic periods. · Requires professional maintenance staff and high costs. |
| Data processing capability | Provides image processing , audio/video transcoding, accelerated content delivery, archive services, and other value-added data services. | Must be purchased and deployed separately. |

More benefits of OSS

- Easy to use
 - Provides standard RESTful API interface, a wide range of SDKs, client tools, and a web-based console. You can easily upload, download, retrieve, and manage massive amounts of data for websites and applications in the same way as for regular files in Windows.
 - Sets no limit on the number and size of files. Unlike the traditional hardware storage, OSS enables you to easily scale up (expand) your storage space as needed.
 - Supports streaming upload and download, which is suitable for business scenarios where you need to simultaneously read and write videos and other large files.
 - Offers lifecycle management. You can delete expired data in batches or transition the data to low-cost archive services.

- **Powerful and flexible security**
 - Provides flexible authentication and authorization, including STS, URL, IP address blacklist/whitelist, anti-leeching, and RAM account features
 - Offers user-level resource isolation. You can also use the multi-cluster synchronization service (optional).
- **Data redundancy mechanism**

OSS uses a data redundancy storage mechanism to store redundant data of each object on multiple devices of different facilities in the same area, ensuring data reliability and availability in case of hardware failure.

- Object operations in OSS are strongly consistent. For example, once a user receives an upload or copy success response, the object can be read immediately, and the redundant data has already been written to multiple devices.
- To ensure complete data transmission, OSS checks whether an error occurs when packets are transmitted between the client and the server by calculating the checksum of the network traffic packets.
- The redundant storage mechanism of OSS can avoid data loss if two storage facilities are damaged at the same time.
 - After data is stored in OSS, OSS checks whether redundant data is lost. If yes, OSS recovers the lost redundant data to ensure data reliability and availability.
 - OSS periodically checks the integrity of data through verification to discover data damage caused by factors such as hardware failure. If data is partially damaged or lost, OSS reconstructs and repairs the damaged data by using redundant data.

- **Rich and powerful value-added services**
 - **Image processing:** Supports format conversion, thumbnails, cropping, watermarks, scaling, and other operations with a wide variety of file formats including jpg, png, bmp, gif, webp, and tiff.
 - **Audio/video transcoding:** Provides high-quality, high-speed, parallel audio/video transcoding capabilities for audio/video files stored in OSS. You can easily make your audio/video files compatible for different types of devices.
 - **Accelerated content delivery:** Content Delivery Network (CDN) can be used with OSS to speed up the delivery of content stored in OSS. This service features high stability, unlimited origin bandwidth, and easy configuration.

3 Basic concepts

Before you use OSS, we recommend that you have a basic understanding of the following concepts.

Bucket

A bucket is a container for objects stored in OSS. Every object is contained in a bucket. The data model structure of Alibaba Cloud OSS is flat instead of hierarchical.

- All objects (files) are directly related to their corresponding buckets. Therefore, OSS lacks the hierarchical structure of directories and subfolders as in a file system.
- A user can have multiple buckets.
- A bucket name must be globally unique within OSS and cannot be changed once a bucket is created.
- A bucket can contain an unlimited number of objects.

The naming conventions for buckets are as follows:

- The bucket names must contain only lower case letters, numbers, and hyphens (-).
- The bucket names must start and end with a lower-case letter or number.
- The bucket names must be at least 3 bytes and no more than 63 bytes in length.

Object

Objects, also known as files, are the fundamental entities stored in OSS. An object is composed of metadata, data, and key. The key is the unique object name in a bucket. Metadata defines the attributes of an object, such as the time last modified and the object size. You can also specify custom metadata of an object.

The lifecycle of an object starts when it is uploaded, and ends when it is deleted. During the lifecycle, the object content cannot be changed. If you want to modify an object, you must upload a new object with the same name as the existing one to replace it. Therefore, unlike the file system, OSS does not allow users to modify objects directly.

OSS provides the Append Upload function, which allows you to continually append data to the end of an object.

The naming conventions for objects are as follows:

- The object names must use UTF-8 encoding.
- The object names must be at least 1 byte and no more than 1023 bytes.
- The object names cannot start with a backslash (\) or a forward slash (/).



Note:

Object names are case sensitive. Unless otherwise stated, objects and files mentioned in OSS documents are collectively called objects.

Region

A region represents the physical location of an OSS data center. You can choose the region where OSS will store the buckets you create. You may choose a region to optimize latency, minimize costs, or address regulatory requirements. Generally, the closer the user is in proximity to a region, the faster the access speed is. For more information, see [OSS regions and endpoints](#).

Regions are configured at bucket level instead of object level. Therefore, all objects contained in a bucket are stored in the same region. A region is specified when a bucket is created, and cannot be changed once it is created.

Endpoint

An endpoint is the domain name used to access the OSS. OSS provides external services through HTTP RESTful APIs. Different regions use different endpoints. For the same region, access through an intranet or through the Internet also uses different endpoints. For example, regarding the Hangzhou region, its Internet endpoint is `oss-cn-hangzhou.aliyuncs.com`, and its intranet endpoint is `oss-cn-hangzhou-internal.aliyuncs.com`. For more information, see [OSS regions and endpoints](#).

AccessKey

An AccessKey (AK) is composed of an AccessKeyId and an AccessKeySecret. They work in pairs to perform access identity verification. OSS verifies the identity of a request sender by using the AccessKeyId/AccessKeySecret symmetric encryption method. The AccessKeyId is used to identify a user. The AccessKeySecret is used for the user to encrypt the signature and for OSS to verify the signature. The AccessKeySecret must be kept confidential. In OSS, AccessKeys are generated by the following three methods:

- The bucket owner applies for AccessKeys.

- The bucket owner uses RAM to authorize a third party to apply for AccessKeys.
- The bucket owner uses STS to authorize a third party to apply for AccessKeys.

For more information about AccessKeys, see [Access control](#).

Strong consistency

In OSS, object operations are atomic, which means operations are either successful or failed without an intermediate state. OSS will never write corrupted or partial data.

Object operations in OSS are strongly consistent. For example, once a user receives an upload (PUT) success response, the object can be read immediately, and the data has already been written in triplicate. Therefore, OSS provides strong consistency for read-after-write. The same is true for the delete operations. Once a user deletes an object, the object becomes nonexistent immediately.

Data redundancy mechanism

OSS uses a data redundancy storage mechanism to store redundant data of each object on multiple devices of different facilities in the same area, ensuring data reliability and availability in case of hardware failure.

- Object operations in OSS are strongly consistent. For example, once a user receives an upload or copy success response, the object can be read immediately, and the redundant data has already been written to multiple devices.
- To ensure complete data transmission, OSS checks whether an error occurs when packets are transmitted between the client and the server by calculating the checksum of the network traffic packets.
- The redundant storage mechanism of OSS can avoid data loss if two storage facilities are damaged at the same time.
 - After data is stored in OSS, OSS checks whether redundant data is lost. If yes, OSS recovers the lost redundant data to ensure data reliability and availability.
 - OSS periodically checks the integrity of data through verification to discover data damage caused by factors such as hardware failure. If data is partially damaged or lost, OSS reconstructs and repairs the damaged data by using redundant data.

Comparison between OSS and file systems

| Comparison item | OSS | File system |
|-----------------|--|--|
| Data model | OSS is a distributed object storage service that uses a key-value pair format. | The file system is a hierarchical tree structure of directories that contain files. |
| Data retrieval | <p>Objects are retrieved based on unique object names (keys).</p> <p>Although users can use names like test1/test.jpg , this does not indicate that the object test.jpg is saved in a directory named test1. For OSS, test1/test.jpg and a.jpg have no essential difference . Similar amounts of resources are consumed during access to objects of different names.</p> | Files are retrieved based on their locations in directories. |
| Advantage | OSS supports massive concurrent accesses , which means large volumes of unstructured data (such as images, videos, and documents) can be stored and retrieved without excessive use of resources. | Folder operations such as renaming, moving, and deleting directories are quite easy, because data does not need to be copied and replaced. |

| Comparison item | OSS | File system |
|-----------------|--|---|
| Disadvantage | The stored objects cannot be modified directly. If you want to modify an object, you must upload the new object of the same name to replace the existing one. | System performance depends on the capacity of a single device. The more files and directories that are created in the file system, the more resources are consumed, and the lengthier the user process becomes. |

As a result, mapping OSS to a file system is not a recommended practice. When you use OSS, we recommend that you make full use of its advantages, including its massive data processing capabilities to store massive volumes of unstructured data, such as images, videos, and documents.

The mapping between OSS concepts and file system concepts is as follows:

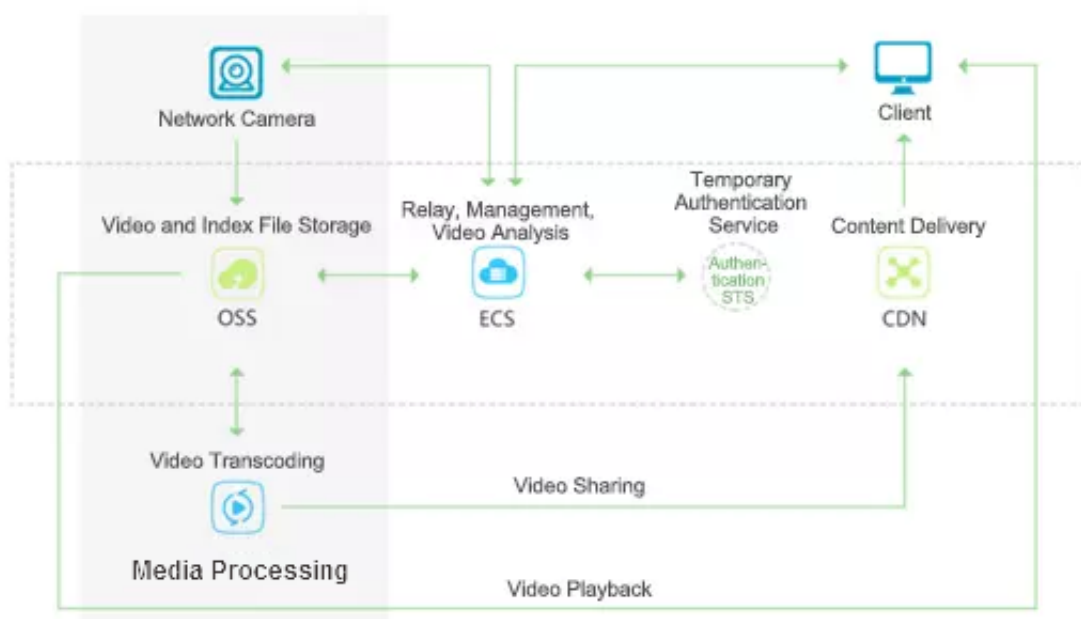
| OSS | File system |
|-------------------------------------|---|
| Object | File |
| Bucket | Home directory |
| Region | NA |
| Endpoint | NA |
| AccessKey | NA |
| NA | Multilevel directory |
| GetService | Retrieving the list of home directories |
| GetBucket | Retrieving the list of files |
| PutObject | Writing a file |
| AppendObject | Appending data to an existing file |
| GetObject | Reading a file |
| DeleteObject | Deleting an object |
| NA | Modifying file content |
| CopyObject (same target and source) | Modifying file attributes |
| CopyObject | Copying a file |
| NA | Renaming a file |

4 Scenarios

OSS can make an impact in the following scenarios:

Massive-scale storage for image and audio/video applications

OSS can be used to store massive-scale data, such as images, audios, videos, and logs . It supports various devices and direct data read/write to and from OSS by websites and apps. OSS supports file and streaming uploads.

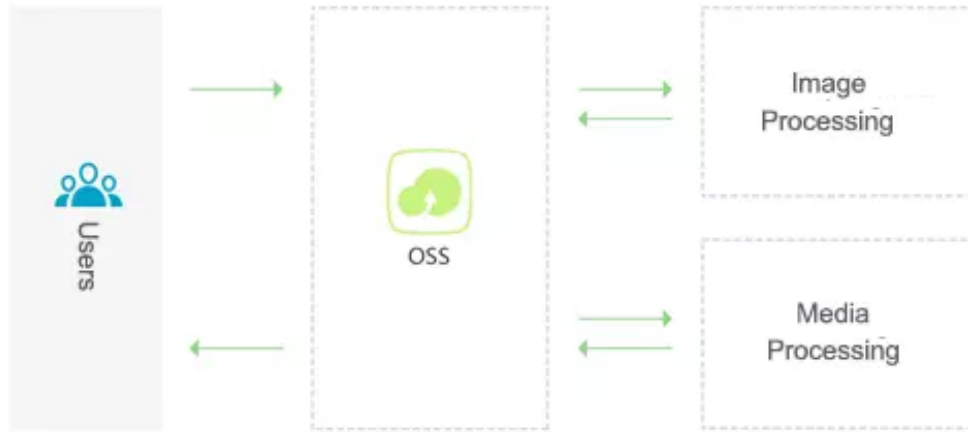


Static/dynamic resource separation for web pages and apps

OSS uses the BGP bandwidth to achieve ultra-low latency of direct data download. In addition, OSS can be used with Alibaba Cloud CDN to speed up the delivery of images , audios, videos, and app files. This enhances user experience.

Media file processing in the cloud

After you upload files to OSS, you can use the Image Processing service and Media Processing service to process them in the cloud.



5 Functions

This topic describes common OSS functions.

Before you start to use OSS, we recommend that you get familiar with some important OSS concepts, including buckets, objects, regions, endpoints, and AccessKey. For more information about these concepts, see [Basic concepts](#).

OSS provides the following functions to address your business needs in different scenarios.

| How do I...? | Function | Reference |
|----------------------------|---|--|
| Upload files | Before you can upload any data to OSS, you must create a bucket in an Alibaba Cloud region to store your data. After you create a bucket, you can upload an unlimited number of data objects to the bucket. | <ul style="list-style-type: none">• Create a bucket• Create a folder• Simple upload |
| Search for objects | You can search for objects in buckets or folders. | Search for objects |
| View and download objects | You can use the URL of an object to view and download the object, or share the object with others. | Obtain the object URL |
| Delete objects and folders | You can delete a single or multiple objects and folders. You can also delete fragments generated by multipart upload to save your storage space. | <ul style="list-style-type: none">• Delete objects• Delete folders• Manage fragments |

| How do I...? | Function | Reference |
|---|--|---|
| Control access permissions for my OSS resources | <p>You can use one of the following three methods to manage the access permissions for OSS resources:</p> <ul style="list-style-type: none"> · ACL: Access Control Lists (ACLs) are access policies that grant access permissions to buckets and objects. You can configure the ACL when creating a bucket or uploading an object, and modify the ACL anytime after the bucket is created or the object is uploaded. · Bucket policy: You can grant the access permissions for your OSS resources to other users such as RAM users in the console. For example, you can grant the permissions to anonymous users who access OSS resources from specified IP addresses · RAM policy: You can create RAM policies to manage the access permissions for your buckets and folders in OSS. OSS provides the RAM policy editor to help you create RAM policies. For more information, see RAM policy editor. | <ul style="list-style-type: none"> · Set the bucket for a bucket · Change object ACL · Bucket policy · RAM policy |
| Record the detailed information of requests made to my bucket | You can enable logging to automatically record the detailed information of requests made to a bucket. | Real-time log query |
| Prevent data on OSS from being stolen by others | You can configure a referer whitelist for a bucket and configure whether to allow access requests with an empty referer field. | Set anti-leech |

| How do I...? | Function | Reference |
|---|---|---|
| Use my own domain to access the data stored in my OSS bucket | You can attach a custom domain to your OSS bucket. Then you can use the custom domain to access data stored in the bucket. You can also enable Alibaba Cloud CDN to speed up the access to the data stored in the bucket. If your domain accesses OSS by using HTTPS, you can host your certificate in OSS. | <ul style="list-style-type: none"> · Attach a custom domain name · Attach a CDN acceleration domain name · Certificate hosting |
| Use static web pages to access my bucket | You can set your bucket to the static website hosting mode and then use the domain associated with your bucket to access the static web pages. | Configure static website hosting |
| Enable my client web applications that are loaded in one domain to interact with resources in another domain | OSS provides Cross-Origin Resource Sharing (CORS) settings in the HTML5 protocol. CORS allows client web applications that are loaded in one domain to interact with resources in another domain. | Configure CORS rules |
| Automatically delete objects in batches at specific time | You can configure lifecycle rules to define actions you want OSS to take during the lifetime of specific objects , for example, transition objects to another storage class, archive them , or delete them after a specified period of time. | Manage object lifecycle |
| Synchronize newly created objects, object updates, and object deletions from one bucket to another bucket in a different region | Cross-region replication is the automatic, asynchronous copying of objects across buckets in different regions. It replicates changes (creation, update, and deletion) to objects in the source bucket to the target bucket across different regions . | Create cross-region replication rules |
| Fetch content from the origin store | You can create back-to-origin rules to define whether to fetch origin data by mirroring or redirection. Back-to-origin rules are usually used for hot migration of data and redirection of specific requests. | Create back-to-origin rules |

| How do I...? | Function | Reference |
|--|---|--|
| Encrypt the data to be stored | You can use the encryption function provided by the server to encrypt data and saves the encrypted data to OSS. | Server-side encryption |
| Create data retention policies | You can create data retention policies and specify a data retention period . Your data cannot be deleted by any users within this period. | Introduction |
| Configure the zone -disaster recovery solution | You can store your data in the three multiple availability zones (AZs) of your region. You can still access your data in the case that one AZ becomes faulty. This enables OSS to provide 99.999999999% data reliability and 99.995% data availability. | Redundant storage across zones |
| Modify HTTP headers | You can set HTTP headers to customize HTTP request policies , such as cache and forced file download policies. | Set object HTTP headers |
| View resource usage | You can view real-time information about OSS service usage, such as the status and performance of basic system operations. | Monitoring service overview |
| Process images stored in OSS | You can perform different operations on the images stored in OSS, such as format conversion, cropping, scaling , rotation, watermarks, and style encapsulation. | Image processing |
| Use tools to manage OSS resources | OSS provides a wide range of tools such as graphical, CLI, file mounting , and FTP file transfer tools to help you manage OSS resources. | OSS tools |
| Use APIs and SDKs to manage OSS resources | OSS provides RESTful APIs and SDKs for the most popular programming languages to help you with secondary development. | <ul style="list-style-type: none"> · API Reference · SDK reference |

6 Overview

OSS provides three storage classes: Standard, infrequent access (IA), and Archive, to cover various data storage scenarios from hot data to cold data.

Standard

OSS Standard storage provides highly reliable, highly available, and high-performance object storage services that support frequent data access. The high-throughput and low-latency service response capability of OSS can effectively support access to hotspot data. Standard storage is the right choice for storing various images for social networking and sharing, and storing data for audio and video applications, large websites, and big data analysis.

The Standard storage class has the following features:

- Designed for 99.999999999% data reliability.
- Designed for 99.995% service availability.
- Delivers high-throughput and low-latency access performance.
- Supports HTTPS-based transmission.
- Supports Image Processing.

IA

OSS IA storage is suitable for storing long-lived, but less-frequently accessed data (an average of once or twice per month). With a storage unit price lower than Standard storage, IA storage is suitable for long-term backup of various mobile applications, smart device data, and enterprise data. It also supports real-time data access. Objects of the IA storage class have a minimum storage duration. OSS charges a fee if you delete objects that are stored for less than 30 days. Objects of the IA storage class have a minimum billable size. Objects smaller than 64 KB are charged as 64 KB. Data retrieval incurs charges.

The IA storage class has the following features:

- Designed for 99.999999999% data reliability.
- Designed for 99.995% service availability.
- Supports real-time access.
- Supports HTTPS-based transmission.

- Supports Image Processing.
- Requires a minimum storage duration and minimum billable size.

Archive

OSS Archive storage has the lowest price among the three storage classes. It is suitable for storing archival data for a long time (more than half a year recommended), such as medical images, scientific materials, and video footage. The data is infrequently accessed during the storage period. It takes about 1 minute to restore the data from the frozen status to the readable status. Objects of the Archive storage class have a minimum storage duration. OSS charges a fee if you delete objects that are stored for less than 60 days. Objects of the Archive storage class have a minimum billable size. Objects smaller than 64 KB are charged as 64 KB. Data retrieval incurs charges.

The Archive storage class has the following features:

- Designed for 99.999999999% data reliability.
- Designed for 99.99% service availability.
- Takes about 1 minute to restore the stored data from the frozen status to the readable status.
- Supports HTTPS-based transmission.
- Supports Image Processing, but data needs to be restored first.
- Requires a minimum storage duration and minimum billable size.

Comparison of storage classes

| Item | Standard | IA | Archive |
|----------------------------------|------------------------|--|---|
| Data reliability | 99.999999999% | 99.999999999% | 99.999999999% |
| Service availability | 99.995% | 99.995% | 99.99% (restored data) |
| Minimum billable size of objects | Actual size of objects | 64 KB | 64 KB |
| Minimum storage duration | N/A | 30 days | 60 days |
| Data retrieval fee | No data retrieval fee | Charged by the size of retrieved data. Unit: GB | Charged by the size of restored data. Unit: GB |

| Item | Standard | IA | Archive |
|------------------|---|---|---|
| Data access | Real-time access with a latency in milliseconds | Real-time access with a latency in milliseconds | One minute after data is restored from the frozen status to the readable status |
| Image Processing | Supported | Supported | Supported after data is restored from the frozen status to the readable status |



Note:

OSS charges a data retrieval fee based on the size of data read from the underlying distributed storage system. The data transmitted on the Internet is billed as part of the outbound traffic.

Supported APIs

| API | Standard | IA | Archive |
|---|-----------|-----------|---------------|
| Bucket creation, deletion, and query | | | |
| PutBucket | Supported | Supported | Supported |
| GetBucket | Supported | Supported | Supported |
| DeleteBucket | Supported | Supported | Supported |
| Bucket ACL | | | |
| PutBucketAcl | Supported | Supported | Supported |
| GetBucketAcl | Supported | Supported | Supported |
| Bucket logging | | | |
| PutBucketLogging | Supported | Supported | Supported |
| GetBucketLogging | Supported | Supported | Supported |
| Bucket static website hosting | | | |
| PutBucketWebsite | Supported | Supported | Not supported |
| GetBucketWebsite | Supported | Supported | Not supported |
| Bucket hotlinking protection | | | |

| API | Standard | IA | Archive |
|--------------------------------------|-----------|-----------|--|
| PutBucketReferer | Supported | Supported | Supported |
| GetBucketReferer | Supported | Supported | Supported |
| Bucket lifecycle | | | |
| PutBucketLifecycle | Supported | Supported | Supported for data deletion only |
| GetBucketLifecycle | Supported | Supported | Supported |
| DeleteBucketLifecycle | Supported | Supported | Supported |
| Cross-region replication | | | |
| PutBucketReplication | Supported | Supported | Supported |
| Cross-origin resource sharing (CORS) | | | |
| PutBucketCors | Supported | Supported | Supported |
| GetBucketCors | Supported | Supported | Supported |
| DeleteBucketCors | Supported | Supported | Supported |
| Object operations | | | |
| PutObject | Supported | Supported | Supported |
| PutObjectACL | Supported | Supported | Supported |
| GetObject | Supported | Supported | Supported after data is restored from the frozen state to the readable state |
| GetObjectACL | Supported | Supported | Supported |
| GetObjectMeta | Supported | Supported | Supported |
| HeadObject | Supported | Supported | Supported |
| CopyObject | Supported | Supported | Supported |
| OptionObject | Supported | Supported | Supported |
| DeleteObject | Supported | Supported | Supported |
| DeleteMultipleObjects | Supported | Supported | Supported |
| PostObject | Supported | Supported | Supported |

| API | Standard | IA | Archive |
|-----------------------------|---------------|---------------|-----------|
| PutSymlink | Supported | Supported | Supported |
| GetSymlink | Supported | Supported | Supported |
| RestoreObject | Not supported | Not supported | Supported |
| Multipart operations | | | |
| InitiateMultipartUpload | Supported | Supported | Supported |
| UploadPart | Supported | Supported | Supported |
| UploadPartCopy | Supported | Supported | Supported |
| CompleteMultipartUpload | Supported | Supported | Supported |
| AbortMultipartUpload | Supported | Supported | Supported |
| ListMultipartUpload | Supported | Supported | Supported |
| ListParts | Supported | Supported | Supported |
| Image Processing | Supported | Supported | Supported |

7 Limits

OSS has the following restrictions for use:

| Restricted item | Description |
|--------------------------|---|
| Archive storage | It takes about one minute to restore data from the frozen state to the readable state. |
| Bucket | <ul style="list-style-type: none">• You can create a maximum of 30 buckets in a region.• The name, region, and storage class of a bucket cannot be modified.• The capacity of each bucket is unlimited. |
| File upload and download | <ul style="list-style-type: none">• The size of each file uploaded by console upload, simple upload, form upload, and append upload cannot be greater than 5 GB. To upload a file greater than 5 GB, you must use multipart upload.• The size of each file uploaded by multipart upload cannot be greater than 48.8 TB.• The default bandwidth throttling of upload and download is 10 Gbit/s in Mainland China regions and 5 Gbit/s for International regions, China (Hong Kong), China (Macau), and China (Taiwan). Once the throttling is reached, the <code>DownloadTrafficRateLimitExceeded</code> or <code>UploadTrafficRateLimitExceeded</code> error response is returned. If you need a higher bandwidth, contact your local technical support.• If you upload a file with same name as an existing file, the original file is overwritten. |

| Restricted item | Description |
|---------------------|--|
| Deleting a file | <ul style="list-style-type: none"> · Deleted files cannot be restored. · You can delete up to 1,000 files in batches in the console. To delete more files in batches, you must use APIs or SDKs. |
| Domain name binding | <ul style="list-style-type: none"> · You must apply for an ICP license for your bound domain name to direct your website to servers located in Mainland China for public visits. · You can bind up to 100 domain names for each bucket. |
| Lifecycle | You can configure up to 1,000 lifecycle rules for each bucket. |
| Image processing | <p>For the original image:</p> <ul style="list-style-type: none"> · Only jpg, png, bmp, gif, webp, and tiff formats are supported. · File size cannot exceed 20 MB. · For the image rotation, the width or height of the image cannot exceed 4096. · The size of a single side cannot exceed 30,000. <p>For a thumbnail:</p> <ul style="list-style-type: none"> · The product of the width and height cannot exceed 4096 x 4096. · The length of each side cannot exceed 4096. |