# **Object Storage Service**

# **Go SDK Developer Guide**

**Issue** 01

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# Before You Start (SDK for Go)

This section describes the version updates, compatibility, and important notes about Object Storage Service (OBS) SDK for Go.

#### **Version Updates and Compatibility**

Table 1-1 describes the version updates and compatibility of OBS SDK for Go.

Table 1-1 Version updates and compatibility of OBS SDK for Go

Version	Update	Description	Co mp ati ble or Not
3.23.4 (the latest	New features	Added obs.WithCustomHeader that allows you to add custom headers in the requests of clients interacting with OBS.	-
version)		<ul> <li>Supported custom bucket domain names, with the SetBucketCustomDomain,</li> <li>GetBucketCustomDomain, and</li> <li>DeleteBucketCustomDomain APIs added.</li> </ul>	
		<ul> <li>Supported mirroring-based back to source, with the SetBucketMirrorBackToSource, GetBucketMirrorBackToSource, and DeleteBucketMirrorBackToSource APIs added.</li> </ul>	
3.23.3	New features	Added <b>obs.WithCallbackHeader</b> that allows you to configure callback parameters in object upload requests.	Yes
3.22.11	Code optimizati on	Optimized the OBS SDK for Go code.	Yes

Version	Update	Description	Co mp ati ble or Not
3.21.12	New features	Added <b>obs.WithTrafficLimitHeader</b> that limits the bandwidth for a single connection.	Yes
Earlier than 3.21.12	-	End of matching. You are advised to upgrade the version.	-

#### **Important Notes**

- Make sure that you are familiar with basic OBS concepts, such as buckets, objects, access keys (AKs/SKs), and endpoints and domain names.
- Some features are available only for some regions. If 405 HTTP status code is returned for a certain feature API, check whether the region supports that feature. For details, refer to Function Overview or submit a service ticket to contact technical support.
- Namespace: **obs** is used as the namespace to be compatible with earlier OBS 2.0 versions (2.2.x). All data types and API definitions contained in the SDK belong to this namespace. Before using OBS SDK for Go, you need to import **obs**.
- API functions are compatible with earlier OBS 2.0 versions (2.2.x).

# 2 API Overview of OBS SDK for Go

**Table 2-1** describes the APIs provided by OBS SDK for Go. You can click an API name in the table to see its detailed information and sample code.

Table 2-1 APIs provided by OBS SDK for Go

API	Method	Function	
Creating a Bucket	obsClient.CreateBucket	Creates a bucket.	
Obtaining a Bucket List	obsClient.ListBuckets Returns a list of buckets in alphabetical order.		
Checking Whether a Bucket Exists	obsClient.HeadBucket	Determines whether a bucket exists.	
Deleting a Bucket	obsClient.DeleteBucket	Deletes an empty bucket.	
Listing Objects in a Bucket	obsClient.ListObjects	Returns some or all (up to 1,000) of the objects in a bucket.	
		Lists some or all (up to 1,000) of the object versions in a bucket.	
Obtaining Bucket Metadata	obsClient.GetBucketMet adata	Returns the metadata information of a bucket.	
Obtaining the Region of a Bucket	obsClient.GetBucketLoc ation	Returns the region where the bucket is created.	
Obtaining Storage Information of a Bucket	obsClient.GetBucketStor ageInfo	Returns the storage information of a bucket, including the number of objects and the space occupied by the objects in the bucket.	

API	Method	Function	
Configuring a Storage Quota	obsClient.SetBucketQuo ta	Sets a storage quota for a bucket.	
Obtaining a Bucket Storage Quota	obsClient.GetBucketQuo Returns the storage quota of bucket.		
Configuring Storage Class for a Bucket	obsClient.SetBucketStor agePolicy	Configures a storage class for a bucket.	
Obtaining the Storage Class of a Bucket	obsClient.GetBucketStor agePolicy Returns the storage class of a bucket.		
Configuring a Bucket ACL	obsClient.SetBucketAcl	Configures a bucket ACL.	
Obtaining the Bucket ACL	obsClient.GetBucketAcl	Obtains a bucket ACL.	
Configuring Logging for a Bucket	obsClient.SetBucketLogg ingConfiguration	Configures logging for a bucket.	
Obtaining the Logging Configuration of a Bucket	obsClient.GetBucketLog gingConfiguration	Returns the logging configuration of a bucket.	
Configuring a Bucket Policy	obsClient.SetBucketPolic y	Configures a policy for a bucket.	
Obtaining the Policy of a Bucket	obsClient.GetBucketPoli cy	Returns the policy of a bucket.	
Deleting a Bucket Policy	obsClient.DeleteBucketP olicy	Deletes the policy of a bucket.	
Configuring Lifecycle Rules for a Bucket	obsClient.SetBucketLifec ycleConfiguration	Configure lifecycle rules for a bucket to periodically transition objects between storage classes and delete objects.	
Obtaining the Lifecycle Configuration of a Bucket	obsClient.GetBucketLife cycleConfiguration	Returns the lifecycle configuration of a bucket.	
Deleting the Lifecycle Configuration of a Bucket	obsClient.DeleteBucketL ifecycleConfiguration	Deletes all lifecycle rules of a bucket.	

API	Method	Function
Configuring Static Website Hosting for a Bucket	obsClient.SetBucketWeb siteConfiguration	Configures static website hosting for a bucket.
Obtaining the Static Website Hosting Configuration of a Bucket	obsClient.GetBucketWeb siteConfiguration	Returns the static website hosting configuration of a bucket.
Deleting the Static Website Hosting Configuration of a Bucket	obsClient.DeleteBucket WebsiteConfiguration	Deletes the static website hosting configuration of a bucket.
Configuring Versioning for a Bucket	obsClient.SetBucketVersi oning	Configures versioning for a bucket.
Obtaining the Versioning Status of a Bucket	obsClient.GetBucketVers ioning	Returns the versioning status of a bucket.
Configuring CORS for a Bucket	obsClient.SetBucketCors	Configures CORS for a bucket to allow cross-origin requests.
Obtaining the CORS Configuration of a Bucket	obsClient.GetBucketCors	Returns the CORS rules of a bucket.
Deleting the CORS Configuration of a Bucket	obsClient.DeleteBucketC ors	Deletes the CORS configuration of a bucket.
Configuring Tags for a Bucket	obsClient.SetBucketTagg ing	Adds tags to a bucket.
Obtaining Bucket Tags	obsClient.GetBucketTag ging	Returns the tags of a bucket.
Deleting Bucket Tags	obsClient.DeleteBucketT agging	Deletes the tags of a bucket.
Uploading an Object	obsClient.PutObject	Uploads an object to a bucket.
Uploading a File	obsClient.PutFile	Uploads a file or folder to a bucket.

API	Method	Function
Download an Object	obsClient.GetObject	Downloads an object from a bucket.
Copying an Object	obsClient.CopyObject	Creates a copy for a specified object.
Deleting an Object	obsClient.DeleteObject	Deletes a single object from a bucket.
Batch Deleting Objects	obsClient.DeleteObjects	Delete multiple objects from a bucket in a batch.
Obtaining Object Metadata	obsClient.GetObjectMet adata	Returns the object metadata.
Configuring Object Metadata	obsClient.SetObjectMet adata	Configures the metadata for an object.
Configuring an Object ACL	obsClient.SetObjectAcl	Configures the ACL for an object.
Obtaining Object ACL Information	obsClient.GetObjectAcl	Returns the ACL of an object.
Initiating a Multipart Upload	obsClient.InitiateMultipa rtUpload	Initiates a multipart upload in a bucket.
Uploading a Part	obsClient.UploadPart	Uploads parts to a bucket by specifying the multipart upload ID.
Copying a Part	obsClient.CopyPart	Copies a part to a specified bucket.
Listing Uploaded Parts	obsClient.ListParts	Returns the uploaded parts in a bucket by specifying the multipart upload ID.
Listing Multipart Uploads	obsClient.ListMultipartU ploads	Returns the multipart uploads that are initiated but have not been assembled or aborted in a bucket.
Assembling Parts	obsClient.CompleteMult ipartUpload	Completes a multipart upload based on the multipart upload ID and information (including <b>PartNumber</b> and <b>ETag</b> ) about the uploaded parts.
Aborting a Multipart Upload	obsClient.AbortMultipar tUpload	Aborts a multipart upload in a bucket by specifying the multipart upload ID.
Restoring an Archive Object	obsClient.RestoreObject	Restores an Archive object.

API	Method	Function
Creating a Signed URL	obsClient.CreateSignedUrl	Creates a signed URL based on the specified AK and SK, HTTP method, and request parameters.
Creating Parameters for Browser-based Upload	obsClient.CreateBrowser BasedSignature	Creates request parameters for authentication to enable browser-based upload with POST.
Uploading an Object - Resumable	obsClient.UploadFile	Enables resumable uploads of objects in the event of unstable network connections or program crashes.
Downloading an Object - Resumable	obsClient.DownloadFile	Enables resumable downloads of objects in the event of unstable network connections or program crashes.

# 3 Preparations (SDK for Go)

Before using OBS SDK for Go to access Huawei Cloud OBS, you need to prepare the service and development environments. To prepare the service environment, you must get a HUAWEI ID and an access key. Both of them are necessary for interaction between OBS SDK for Python and OBS. To ensure successful SDK installation and SDK-based code development and running, you should also set up a local development environment, for example, installing dependencies and development tools.

#### Preparing a HUAWEI ID

Before using OBS, you must create a HUAWEI ID. For details, see **Creating a HUAWEI ID and Enabling Huawei Cloud Services**.

#### **Preparing Access Keys**

Access keys consist of two parts: an access key ID (AK) and a secret access key (SK). OBS uses access keys to sign requests to make sure that only authorized accounts can access specified OBS resources. Programmatic access must be enabled for an IAM user before the IAM user can get access keys. To enable programmatic access, see Viewing or Modifying IAM User Information. Access keys are explained as follows:

- One AK maps to only one user but one user can have multiple AKs. OBS authenticates users by their AKs.
- An SK is required for accessing OBS. Authentication information is generated based on the SK and request headers. AKs and SKs are in one-to-one match.

Access keys are classified into permanent access keys (AK/SK) and temporary access keys (AK/SK and security token). Each user can create at most two permanent access keys. Temporary access keys must be used within a given validity period. Once expired, they must be requested again. For security purposes, you are advised to use temporary access keys to access OBS. If you want to use permanent access keys, periodically update them. The following describes how to obtain two types of access keys.

- To get permanent access keys, do as follows:
  - a. Log in to the management console.

- b. In the upper right corner, hover over the username and choose **My Credentials**.
- c. On the **My Credentials** page, click **Access Keys** in the navigation pane.
- d. On the Access Keys page, click Create Access Key.
- e. In the displayed dialog box, enter the login password and verification code.

#### ∩ NOTE

- If you have not bound an email address or a mobile number yet, only the login password is required.
- If you have bound both an email address and a mobile number, you can use either of them for verification.
- f. Click OK.
- g. Click **Download**. The access key file is automatically saved to your browser's default download path.
- h. Open the downloaded **credentials.csv** file to obtain the access keys (AK and SK).

#### 

- Each user can create a maximum of two valid access key pairs.
- Keep AKs and SKs properly to prevent information leakage. If you click Cancel
  in the download dialog box, the access keys will not be downloaded and
  cannot be downloaded later. You can create a new AK/SK pair if needed.
- To get temporary access keys, refer to the following:

Temporary access keys are issued by the system and are only valid for 15 minutes to 24 hours. Once expired, they must be requested again. They follow the principle of least privilege. When a temporary AK/SK pair is used for authentication, a security token must be used at the same time.

To obtain them, see **Obtaining a Temporary AK/SK and a Security Token**.

#### NOTICE

OBS is a global service. When obtaining temporary access keys, set the token scope to **domain** to apply the token to global services. Global services are not differentiated by any project or region.

#### Setting Up a Development Environment

- Download a proper Go version (Go 1.14 or later recommended) from the Go official website and install it.
- (Optional) Download the latest version of GoLand from the JetBrains official website and install it.

# 4 Downloading and Installing OBS SDK for Go

This topic provides the download links and installation methods of OBS SDK for Go.

#### **Downloading OBS SDK for Go**

Source code of the latest version of OBS SDK for Go

#### Installing OBS SDK for Go

You can use the methods listed in Table 4-1 to install OBS SDK for Go.

Table 4-1 Methods of installing OBS SDK for Go

No.	Method
1	Download an installation package and use GoLand to create a go project.
2	Run the <b>go get</b> command.

#### Method 1: Downloading a Go SDK and Using GoLand to Compile It

This procedure uses the latest version as an example:

- Download the SDK package.
- Decompress the package to obtain the following files: obs (the SDK source code), main, examples (the sample code), and README.MD (the feature description file of SDK versions).
- 3. Use GoLand to create a Go project and copy the **obs**, **examples**, and **main** folders to the **src** folder of your Go project.
- 4. Right-click the Go project and choose **Build Project** from the drop-down list, and wait until the building is complete.

#### **◯** NOTE

#### Method 2: Running the go get Command

go get github.com/huaweicloud/huaweicloud-sdk-go-obs

# 5 Getting Started with OBS SDK for Go

#### **Preparing Access Keys**

OBS employs access keys (AK and SK) for signature verification to ensure that only authorized accounts can access specified OBS resources. Detailed explanations of access keys are as follows:

- AK is short for Access Key ID. One AK maps to only one user but one user can have multiple AKs. OBS authenticates users by their AKs.
- SK is short for Secret Access Key, which is used to access OBS. You can generate authentication information based on SKs and request headers. An SK maps to an AK, and they group into a pair.

Access keys are permanent. There are also temporary security credentials (consisting of an AK/SK pair and a security token). Each user can create a maximum of two valid AK/SK pairs. Temporary security credentials can only be used to access OBS within the specified validity period. Once they expire, they must be requested again. For security purposes, you are advised to use temporary security credentials to access OBS. If you want to use permanent access keys, periodically update them.

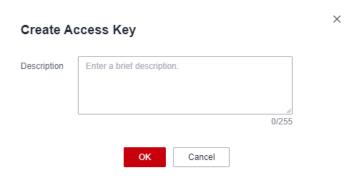
- 1. Log in to the **management console**.
- 2. In the upper right corner, hover your cursor over the username and choose **My Credentials**.
- 3. On the My Credentials page, click Access Keys in the navigation pane.
- 4. On the Access Keys page, click Create Access Key.



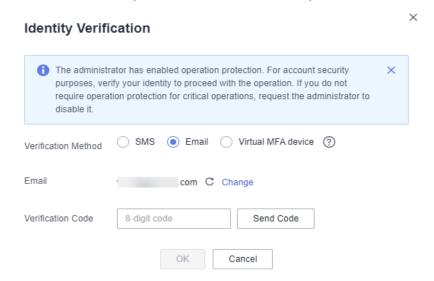
□ NOTE

Each user can create a maximum of two valid AK/SK pairs.

5. In the **Create Access Key** dialog box, enter a description (recommended), and click **OK** 



6. (Optional) In the displayed **Identity Verification** dialog box, select a verification method, enter the verification code, and click **OK**.



In the displayed dialog box, click **Download** to save the access keys to your browser's default download path.



8. Open the downloaded **credentials.csv** file to obtain the access keys (AK and SK).

#### **◯** NOTE

- In the **credentials.csv** file, the AK is the value in the **Access Key ID** column, and the SK is the one in the **Secret Access Key** column.
- Keep the access keys properly to prevent information leakage. If you click Cancel in the
  download dialog box, the access keys will not be downloaded and cannot be
  downloaded later. You can create new access keys if required.

#### **Obtaining Endpoints**

View the endpoints and regions available for OBS.

#### **NOTICE**

OBS SDK for Go allows you to pass endpoints with or without a protocol. Suppose the endpoint you obtained is **your-endpoint**. You can pass **http://your-endpoint**, **https://your-endpoint**, or **your-endpoint** when initializing an obsClient instance.

#### Initializing an obsClient Instance

Each time you want to send an HTTP or HTTPS request to OBS, you must create an ObsClient struct first. Sample code is as follows:

```
// Import the dependency package.
import (
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import the AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html. ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import it in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSignature(obs.SignatureObs)/*,
obs.WithSecurityToken(securityToken)*/)
  if err == nil {
     // Use the obsClient to access OBS.
     // Close the obsClient.
     obsClient.Close()
```

#### ∩ NOTE

- For more information, see section "Initializing OBS SDK for Go."
- To learn log configuration, see Log Initialization (SDK for Go).
- If the endpoint you specified does not contain a protocol, HTTPS is used by default.
- For the sake of high DNS resolution performance and OBS reliability, you can set **endpoint** only to an OBS domain name, instead of an IP address.

#### Creating a Bucket

A bucket is a global namespace of OBS. It is a container for storing objects and functions as a root directory of a file system.

This example creates a bucket named **examplebucket**. For bucket details, see the code comments below.

```
package main
import (
   "fmt'
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca 01 0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the region where the bucket is to be created. CN-Hong Kong is
used here as an example. Replace it with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.CreateBucketInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify the region where the bucket is to be created. The region must be the same as that in the
endpoint passed. ap-southeast-1 is used as an example.
  input.Location = "ap-southeast-1"
  // Specify the bucket ACL. obs.AclPrivate is used as an example.
  input ACL = obs.AclPrivate
  // Specify a storage class for the bucket. obs.StorageClassWarm is used as an example. If this parameter
is not specified, the created bucket is in the Standard storage class.
  input.StorageClass = obs.StorageClassWarm
  // Specify the AZ type for the bucket. 3az is used as an example. If the bucket region does not support
multi-AZ storage, single-AZ storage will be applied. If this parameter is not specified, single-AZ storage is
used by default.
  input.AvailableZone = "3az"
  // Create a bucket.
  output, err := obsClient.CreateBucket(input)
  if err == nil {
     fmt.Printf("Create bucket:%s successful!\n", input.Bucket)
     fmt.Printf("RequestId:%s\n", output.RequestId)
     return
  fmt.Printf("Create bucket:%s fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

#### 

- A bucket name must be unique across all accounts and regions.
- A bucket name:
  - Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.
  - Cannot be formatted as an IP address.
  - Cannot start or end with a hyphen (-) or period (.).
  - Cannot contain two consecutive periods (..), for example, my..bucket.
  - Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, my-bucket or my.-bucket.
- If you repeatedly create buckets of the same name, no error will be reported and the bucket attributes comply with those specified in the first creation request.
- For more information, see Creating a Bucket (SDK for Go).

#### **NOTICE**

When creating a bucket, if the endpoint you use corresponds to the default region CN North-Beijing1 (cn-north-1), specifying a region is not a must. If the endpoint you use corresponds to a region other than the default one, you must set the region to the one the used endpoint corresponds to. For details, see Creating a Bucket (SDK for Go). To learn the valid regions, see Regions and Endpoints.

#### **Uploading an Object**

After creating a bucket, you can upload objects to it.

This example uploads **localfile** to **examplebucket** as an object named **example/ objectname**.

```
package main
import (
   "fmt'
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSecurityToken(securityToken))
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.PutFileInput{}
```

```
// Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify the object (example/objectname as an example) to upload.
  input.Key = "example/objectname"
  // Specify a local file (localfile as an example).
  input.SourceFile = "localfile"
  // Perform the file-based upload.
  output, err := obsClient.PutFile(input)
  if err == nil {
     fmt.Printf("Put file(%s) under the bucket(%s) successful!\n", input.Key, input.Bucket)
     fmt.Printf("StorageClass:%s, ETag:%s\n",
        output.StorageClass, output.ETag)
     return
  fmt.Printf("Put file(%s) under the bucket(%s) fail!\n", input.Key, input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
}
```

#### □ NOTE

For more information, see Object Upload Overview (SDK for Go).

# 6 Initializing OBS SDK for Go

### 6.1 obsClient Initialization (OBS SDK for Go)

#### **Function**

**ObsClient** functions as the Go client for accessing OBS. It offers users a series of APIs for interaction with OBS. These APIs are used for managing and operating resources, such as buckets and objects, stored in OBS. To use the OBS Go SDK to send a request to OBS, you need to initialize an instance of ObsClient and modify configuration parameters of the instance based on actual needs.

#### **Initialization Method**

func New(ak, sk, endpoint string, configurers ...configurer) (\*ObsClient, error)

#### **Parameters**

Paramete r	Туре	Mandatory (Yes/No)	Description
ak	string	Yes	Access key ID (AK)
sk	string	Yes	Secret access key (SK)
endpoint	string	Yes	Endpoint for accessing OBS, which contains the protocol type, domain name (or IP address), and port ID. For example, https://your-endpoint:443. For security purposes, you are advised to use HTTPS.  To view the endpoints available for OBS, see Regions and Endpoints.
securityTo ken	string	No	The security token in temporary security credentials.

Paramete r	Туре	Mandatory (Yes/No)	Description
configurer s	configurer (private type contained in the <b>obs</b> package)	No	A group of parameters used to configure <b>ObsClient</b> , including connection timeout period, maximum retries, and maximum number of connections.

### **Available Configurers**

You can use configurers (private type provided by the **obs** namespace) to configure **ObsClient**. The following table lists available configurers:

Configurer	Description	Recommended Value
WithSslVerifyAndPem- Certs(sslVerify bool, pemCerts []byte)	Specifies whether to verify server-side certificates. Server-side certificates will not be verified by default.	N/A
WithHeaderTimeout(head erTimeout int)	Specifies the timeout period of obtaining the response headers. The default value is <b>60</b> , in seconds.	[10, 60]
WithMaxConnections(ma xIdleConns int)	Specifies the maximum number of idle HTTP connections. The default value is 1000.	N/A
WithConnectTime- out(connectTimeout int)	Specifies the timeout period for establishing an HTTP/HTTPS connection, in seconds. The default value is <b>60</b> .	[10, 60]
WithSocketTimeout(socke tTimeout int)	Specifies the timeout duration for transmitting data at the socket layer, in seconds. The default value is <b>60</b> .	[10, 60]
WithIdleConnTime- out(idleConnTimeout int)	Specifies the timeout period of an idle HTTP connection in the connection pool, in seconds. The default value is <b>30</b> .	Default
WithMaxRetryCount(max RetryCount int)	Specifies the maximum number of retries when an HTTP/HTTPS connection is abnormal. The default value is 3.	[1, 5]

Configurer	Description	Recommended Value
WithProxyUrl(proxyUrl string)	Configures the HTTP proxy.	N/A
WithCustomDomain- Name(cname bool)	Whether to use a custom domain name to access OBS. The default value is <b>false</b> .	Default
WithHttpTransport(transport *http.Transport)	Configures custom structs of the <b>Transport</b> type.	Default
WithRequestContext(ctx context.Context)	Configures the context for each HTTP request.	N/A
WithMaxRedirect- Count(maxRedirectCount int)	Specifies the maximum number of times that the HTTP/HTTPS request is redirected. The default value is 3.	[1, 5]
WithSecurityToken(securit yToken string)	Specifies security token in the temporary access keys.	N/A

#### □ NOTE

- Parameters whose recommended value is N/A need to be set according to the actual conditions.
- If the network is unstable, you are advised to set larger values for WithConnectTimeout and WithSocketTimeout.

#### **Code Examples**

 You can call New to create an instance of ObsClient. Sample code for creating an instance of ObsClient using permanent access keys (AK/SK):

```
// Import the dependency package.
import (
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import the AK/SK pair in other ways. Using
hard coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://
support.huaweicloud.com/intl/en-us/usermanual-ca/ca_01_0003.html. ak :=
os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example.
Replace it with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  obsClient, err := obs.New(ak, sk, endPoint)
  if err == nil {
     // Use the obsClient to access OBS.
     // Close the obsClient.
     obsClient.Close()
```

```
}
}
```

• Sample code for creating an ObsClient instance with a proxy:

```
// Import the dependency package.
import (
    "obs'
func main() {
  //Obtain an AK/SK pair using environment variables or import the AK/SK pair in other ways. Using
hard coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://
support.huaweicloud.com/intl/en-us/usermanual-ca/ca_01_0003.html. ak :=
os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example.
Replace it with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithProxyUrl("https://username:password!
@yourProxy"))
  if err == nil {
      // Use the obsClient to access OBS.
      // Close the obsClient.
      obsClient.Close()
  }
```

 Sample code for creating an instance of ObsClient using temporary access keys (AK/SK and security token):

```
// Import the dependency package.
import (
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import the AK/SK pair in other ways. Using
hard coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://
support.huaweicloud.com/intl/en-us/usermanual-ca/ca_01_0003.html.
os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are
advised not to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using
environment variables or import it in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example.
Replace it with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the
obs.WithSecurityToken method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSecurityToken(securityToken))
  if err == nil {
      // Use the obsClient to access OBS.
      // Close the obsClient.
      obsClient.Close()
  }
}
```

- You can also create an instance of ObsClient by using temporary access keys obtained by configuring system environment variables or by accessing an ECS.
  - Sample code for creating an instance of ObsClient using access keys obtained from environment variables:

```
// Import the dependency package.
import (
```

```
obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import the AK/SK pair in other ways.
Using hard coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://
support.huaweicloud.com/intl/en-us/usermanual-ca/ca_01_0003.html. ak :=
os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are
advised not to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using
environment variables or import it in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an
example. Replace it with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the
obs.WithSecurityToken method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint,
obs.WithSecurityProviders(obs.NewEnvSecurityProvider(""))
  if err == nil {
      // Use the obsClient to access OBS.
      // Close the obsClient.
     obsClient.Close()
  }
```

#### 

In the preceding method, access keys are searched from the environment variables in the current system. The OBS\_ACCESS\_KEY\_ID and OBS\_SECRET\_ACCESS\_KEY fields need to be defined in the corresponding environment variables. If temporary access keys are also used, the OBS SECURITY TOKEN field must also be defined in the environment variables.

 Sample code for creating an instance of ObsClient by obtaining temporary access keys from an ECS:

```
// Import the dependency package.
import (
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import the AK/SK pair in other ways.
Using hard coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://
support.huaweicloud.com/intl/en-us/usermanual-ca/ca_01_0003.html. ak :=
os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are
advised not to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using
environment variables or import it in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an
example. Replace it with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the
obs.WithSecurityToken method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint,
obs.WithSecurityProviders(obs.NewEcsSecurityProvider(1))
  if err == nil {
      // Use the obsClient to access OBS.
      // Close the obsClient.
      obsClient.Close()
```

```
}
}
```

#### 

If an application is deployed on an ECS and the ECS has relevant agencies bound, you can use the preceding method to automatically obtain temporary access keys from the ECS.

 Sample code for creating an instance of ObsClient by obtaining access keys from system environment variables or ECSs in sequence:

```
// Import the dependency package.
import (
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import the AK/SK pair in other ways.
Using hard coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://
support.huaweicloud.com/intl/en-us/usermanual-ca/ca_01_0003.html. ak :=
os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are
advised not to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using
environment variables or import it in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an
example. Replace it with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the
obs.WithSecurityToken method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint,
   obs. With Security Providers (obs. New Env Security Provider (""), obs. New Ecs Security Provider (1))\\
  if err == nil {
      // Use the obsClient to access OBS.
      // Close the obsClient.
      obsClient.Close()
  }
```

#### **Ⅲ** NOTE

In the preceding initialization process, access keys are obtained from environment variables and ECSs in sequence, and the first group of obtained access keys is used to create an ObsClient.

#### **Ⅲ** NOTE

- The project can contain one or more instances of ObsClient.
- ObsClient is thread-safe and can be simultaneously used by multiple threads.
- After you call the **ObsClient.close** method to close an instance of **ObsClient**, the instance cannot be used anymore.
- You can call WithHttpTransport to pass a user-defined Transport parameter that specifies maximum connections for a single host. The sample code is as follows:

```
// Import the dependency package.
import (
    "time"
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
)
// Create an obsClient struct.
```

```
var obsClient, err = obs.New(ak, sk, endpoint, obs.WithHttpTransport(transport))
  //Obtain an AK/SK pair using environment variables or import the AK/SK pair in other ways. Using
hard coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://
support.huaweicloud.com/intl/en-us/usermanual-ca/ca_01_0003.html. ak :=
os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are
advised not to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using
environment variables or import it in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example.
Replace it with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Initialize the user-defined transport.
  var maxIdleConns = 1000
  var maxConnsPerHost = 1000
  var idleConnTimeout = 30
  var transport = &http.Transport{
     MaxIdleConns:
                        maxIdleConns,
     MaxIdleConnsPerHost: maxIdleConns,
     MaxConnsPerHost: maxConnsPerHost,
     IdleConnTimeout:
                         time.Second * time.Duration(idleConnTimeout),
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the
obs.WithSecurityToken method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint,obs.WithHttpTransport(transport))
  if err == nil {
     // Use the obsClient to access OBS.
     // Close the obsClient.
     obsClient.Close()
```

#### **NOTICE**

- The MaxConnsPerHost parameter can be specified in the Transport struct only in Golang 1.11 and later versions.
- If a user-defined **Transport** is specified, the maximum number of idle connections and proxy can only be configured in **Transport**, rather than through the methods **WithMaxConnections** and **WithProxyUrl**.

### 6.2 Log Initialization (SDK for Go)

#### **Function**

You can enable the SDK log function to record log information generated during API calling into log files for subsequent data analysis or fault location. You can use **InitLog** to enable logging, **CloseLog** to disable logging, and **SyncLog** to synchronize log information from the cache to log files.

#### **Initialization Method**

func InitLog(logFullPath string, maxLogSize int64, backups int, level Level, logToConsole bool) error

#### **Parameters**

Parameter	Туре	Mandat ory (Yes/No )	Description
logFullPath	string	Yes	Full path to the log file
maxLogSize	int64	Yes	Log file size in bytes
backups	int	Yes	Maximum number of log files that can be retained
level	Level	Yes	Log level
logToConsole	bool	Yes	Whether to print logs to the console Value options: true or false true: Logs are printed to the console. false: Logs are not printed to the console. Default value: false

Table 6-1 Level

Constant	Default Value	Description
LEVEL_OFF	500	Close level. If this level is set, logging will be disabled.
LEVEL_ERROR	400	Error level. If this level is set, only error information will be printed.
LEVEL_WARN	300	Warning level. If this level is set, information about logs at the error level and information about partial critical events will be printed.
LEVEL_INFO	200	Information level. If this level is set, information about logs of the warning level, time consumed for each HTTP/ HTTPS request, and time consumed for calling the <b>ObsClient</b> API will be printed.
LEVEL_DEBUG	100	Debugging level. If this level is set, information about logs at the information level, HTTP/HTTPS request and response headers, and <b>stringToSign</b> information calculated by authentication algorithm will be printed.

#### **Code Examples**

```
// Import the dependency package.
import (
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
    // Set a path for saving log files.
    var logFullPath string = "./logs/OBS-SDK.log"
    // Set a size (in bytes) for each log file.
    var maxLogSize int64 = 1024 * 1024 * 10
    // Set the number of retained log files.
    var backups int = 10
    // Set a log level.
    var level = obs.LEVEL_INFO
    // Specify whether to print logs to OBS Console.
    var logToConsole bool = false
    // Enable logging.
    obs.InitLog(logFullPath, maxLogSize, backups, level, logToConsole)
    // Disable logging and synchronize cached data to log files.
    obs.CloseLog()
```

#### 

- The logging function is disabled by default. You need to enable it manually.
- For details about SDK logs, see Log Analysis.
- By default, logs are written to the cache (then written to log files after logs are accumulated to a certain amount). You can call **obs.CloseLog()** to forcibly synchronize the log information from the cache to log files.

#### 6.3 Custom Errors of OBS SDK for Go

#### **Function**

Each time you fail to call an **ObsClient** API, an SDK custom error — containing an HTTP status code, OBS error code, and error message — is returned, to help you locate and rectify the fault.

#### **Type Definition**

type ObsError struct

#### **Parameters**

Parameter Type		Description
StatusCode	int	HTTP status code
RequestId	string	Request ID returned by the OBS server
ResponseHeaders	map[string] []string	HTTP response headers
Status	string	Reason description
Code	string	Error code returned by the OBS server

Parameter	Туре	Description
Message	string	Error description returned by the OBS server
Resource	string	Bucket and object related to the error
HostId	string	Requested server ID

# Buckets (SDK for Go)

### 7.1 Bucket API Overview (SDK for Go)

OBS SDK for Go provides methods for accessing OBS using bucket-related APIs with signed URLs. Such methods may contain the following three parameters:

- A signed URL
- Headers required in a request made by using a signed URL
- Data carried in a request (optional)

For details about how to generate a signed URL, see Creating a Signed URL (SDK for Go).

### 7.2 Creating a Bucket (SDK for Go)

#### **Function**

This API creates an OBS bucket. Buckets are containers for storing objects (files uploaded to OBS) in OBS.

When creating a bucket, you can also configure parameters such as the storage class, region, and access control list (ACL) as needed.

#### Restrictions

- To create a bucket, you must have the obs:bucket:CreateBucket permission. IAM is recommended for granting permissions. For details, see IAM Custom Policies.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

When creating a bucket, if you use the endpoint **obs.myhuaweicloud.com** for client initialization, you do not have to specify a region (indicated by **location**) where the bucket will be created, because OBS automatically creates the bucket in the CN North-Beijing1 (cn-north-1) region. However, if the endpoint you use is not **obs.myhuaweicloud.com**, you must specify a region that matches the used endpoint, or status code **400** is returned.

For example, if the endpoint used for initialization is **obs.ap-southeast-1.myhuaweicloud.com**, you must set **Location** to **ap-southeast-1** when creating a bucket. Otherwise, status code **400** is returned.

- A maximum of 100 buckets (regardless of regions) can be created for an account. There is no limit on the number and size of objects in a bucket.
- A bucket name must be unique in OBS. If you repeatedly create buckets with
  the same name in the same region, an HTTP status code 200 will be returned.
  In other cases, creating a bucket with the same name as an existing bucket
  will have an HTTP status code 409 returned, indicating that such a bucket
  already exists.
- The name of a deleted bucket can be reused for another bucket or a parallel file system at least 30 minutes after the deletion.
- Not all regions support the creation of multi-AZ buckets. You can check whether a region allows you to create multi-AZ buckets by referring to Product Pricing Details.

#### Method

func (obsClient ObsClient) CreateBucket(input \*CreateBucketInput) (output
\*BaseModel, err error)

#### **Request Parameters**

**Table 7-1** List of request parameters

Parameter	Туре	Ma nda tory (Yes /No	Description
input	*CreateBucketInput	Yes	Explanation:
			Input parameters for creating a bucket. For details, see <b>Table 7-2</b> .

**Table 7-2** CreateBucketInput

Para mete	Туре	Mandator y	Description
r		(Yes/No)	
Bucke	string	Yes	Explanation:
t			Bucket name
			Restrictions:
			<ul> <li>A bucket name must be unique across all accounts and regions.</li> </ul>
			A bucket name:
			<ul> <li>Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
			<ul> <li>Cannot be formatted as an IP address.</li> </ul>
			<ul> <li>Cannot start or end with a hyphen (-) or period (.).</li> </ul>
			<ul> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> </ul>
			<ul> <li>Cannot contain a period (.) and a hyphen</li> <li>(-) adjacent to each other, for example,</li> <li>mybucket or mybucket.</li> </ul>
			<ul> <li>If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.</li> </ul>
			Default value:
			None

Para mete r	Туре	Mandator y (Yes/No)	Description	
Locat	string	Yes if the	Explanation:	
ion		region	Region where a bucket will be created	
		where the OBS	Restrictions:	
		service resides is not the	If the used endpoint is <b>obs.myhuaweicloud.com</b> , this parameter is not required. If any other endpoint is used, this parameter is required.	
		default	Value range:	
	region		To learn about valid regions and endpoints, see <b>Regions and Endpoints</b> . An endpoint is the request address for calling an API. Endpoints vary depending on services and regions. To obtain the regions and endpoints, contact the enterprise administrator.	
			Default value:	
			If <b>obs.myhuaweicloud.com</b> is used as the endpoint and no region is specified, <b>cn-north-1</b> (the CN North-Beijing1 region) is used by default.	
ACL	AclTy	No	Explanation:	
	pe		ACL that can be pre-defined when a bucket is created. For details about ACLs, see ACLs.	
			Value range:	
			For details about the ACL options, see <b>AclType</b> .	
			Default value:	
			private	
Stora	Stora	No	Explanation:	
geCla ss	geCla ssTyp	I I	Bucket storage class that can be pre-defined during bucket creation	
	e		Value range:	
			<b>StorageClassType</b> lists the available value options.	
			Default value:	
			STANDARD	

Para mete r	Туре	Mandator y (Yes/No)	Description	
Grant	string	No	Explanation:	
Readl d			ID (domain_id) of an account the <b>READ</b> permission is granted to. The account with the <b>READ</b> permission can list objects, multipart uploads, and object versions in the bucket you are creating, and can obtain bucket metadata.	
			Value range:	
			To obtain the account ID, see How Do I Get My Account ID and User ID?	
			Default value:	
			None	
Grant	string	No	Explanation:	
Write Id			ID (domain_id) of an account the <b>WRITE</b> permission is granted to. The account with the <b>WRITE</b> permission can create, delete, and overwrite objects in the bucket you are creating, and can initiate or abort multipart uploads, as well as upload, copy, and assemble parts.	
			Value range:	
			To obtain the account ID, see How Do I Get My Account ID and User ID?	
			Default value:	
			None	
Grant	string	No	Explanation:	
Read Acpld			ID (domain_id) of an account the READ_ACP permission is granted to. The account with the READ_ACP permission can read the ACL information of the bucket you are creating.	
			Value range:	
			To obtain the account ID, see How Do I Get My Account ID and User ID?	
			Default value:	
			None	

Para mete r	Туре	Mandator y (Yes/No)	Description	
Grant Write Acpld	string	No	Explanation:  ID (domain_id) of an account the WRITE_ACP permission is granted to. The account with the WRITE_ACP permission can modify the ACL information of the bucket you are creating.  Value range:  To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value:  None	
Grant FullC ontro IId	string	No	Explanation:  ID (domain_id) of an account the FULL_CONTROL permission is granted to. The account with the FULL_CONTROL permission can perform any operation on the bucket you are creating.  Value range:  To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value:  None	
Grant Read Deliv eredI d	string	No	Explanation:  ID (domain_id) of an account the READ permission is granted to. By default, this READ permission applies to all objects in the bucket.  Value range:  To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value:  None	

Para mete r	Туре	Mandator y (Yes/No)	Description	
Grant FullC ontro IDeliv eredI d	string	No	Explanation:  ID (domain_id) of an account the FULL_CONTROL permission is granted to. The account with the FULL_CONTROL permission has full control over the bucket you are creating. By default, the FULL_CONTROL permission applies to all objects in the bucket.  Value range:  To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value:	
Epid	string	No	Explanation:  Enterprise project ID that can be specified during bucket creation. If you have enabled Enterprise Project Management Service (EPS), you can obtain the project ID from the EPS console.  Restrictions:  The value of Epid is a Universally Unique Identifier (UUID). Epid is not required if you have not enabled EPS yet.  Example: 9892d768-2d13-450f-aac7-ed0e44c2585f  Default value:  None	
Avail ableZ one	string	No	Explanation: Data redundancy type that can be specified during bucket creation Restrictions: Multi-AZ redundancy is not available for Archive storage. If the region where the bucket is located does not support multi-AZ storage, single-AZ storage is used by default. Value range: To configure multi-AZ storage for the bucket, set this parameter to 3az. To configure single-AZ storage (default value assigned by OBS) for the bucket, you do not need to specify this parameter. Default value: single AZ	

Para mete r	Туре	Mandator y (Yes/No)	Description
IsFSFi leInte rface	bool	No	Explanation: Whether a parallel file system is created Value range: • true: A parallel file system is created. • false: A bucket is created. Default value: false

Table 7-3 AclType

Constant	Default Value	Description
AclPrivate	private	Private read/write A bucket or object can only be accessed by its owner.
AclPublicRead	public-read	Public read and private write  If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket.  If it is granted on an object, anyone can read the content and metadata of the object.
AclPublicReadWrit e	public-read- write	Public read/write  If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket, and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart upload tasks.  If it is granted on an object, anyone can read the content and metadata of the object.

Constant	Default Value	Description
AclPublicReadDe- livered	public-read- delivered	Public read on a bucket as well as objects in the bucket
		If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions, and read the content and metadata of objects in the bucket.  NOTE  AclPublicReadDelivered does not apply to objects.
AclPublicReadWri- teDelivered	public-read- write-delivered	Public read/write on a bucket as well as objects in the bucket
		If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket, and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart uploads. They can also read the content and metadata of objects in the bucket.  NOTE  AclPublicReadWriteDelivered does not apply to objects.
AclBucketOwnerFu llControl	bucket-owner- full-control	If this permission is granted on an object, only the bucket and object owners have the full control over the object.
		By default, if you upload an object to a bucket of any other user, the bucket owner does not have the permissions on your object. After you grant this permission to the bucket owner, the bucket owner can have full control over your object.

**Table 7-4** StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.
StorageClassWarm	WARM	OBS Infrequent Access
		Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive
		Used for storing rarely accessed (once a year) data.

**Table 7-5** List of returned results

Parameter	Туре	Description
output	*BaseModel	Explanation: Returned results. For details, see Table 7-6.
err	error	<b>Explanation:</b> Error messages returned by the API

Table 7-6 BaseModel

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None

### **Code Examples**

This example creates a bucket named **examplebucket**. For bucket details, see the code comments below.

```
package main
import (
  "fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the region where the bucket is to be created. CN-Hong Kong is
used here as an example. Replace it with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
```

```
if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.CreateBucketInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify the region where the bucket is to be created. The region must be the same as that in the
endpoint passed. ap-southeast-1 is used as an example.
  input.Location = "ap-southeast-1'
  // Specify the bucket ACL. obs.AclPrivate is used as an example.
  input.ACL = obs.AclPrivate
  // Specify a storage class for the bucket. obs.StorageClassWarm is used as an example. If this parameter
is not specified, the created bucket is in the Standard storage class.
  input.StorageClass = obs.StorageClassWarm
  // Specify the AZ type for the bucket. 3az is used as an example. If the bucket region does not support
multi-AZ storage, single-AZ storage will be applied. If this parameter is not specified, single-AZ storage is
used by default.
  input.AvailableZone = "3az"
  // Create a bucket.
  output, err := obsClient.CreateBucket(input)
  if err == nil {
     fmt.Printf("Create bucket:%s successful!\n", input.Bucket)
     fmt.Printf("RequestId:%s\n", output.RequestId)
  fmt.Printf("Create bucket:%s fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
  }
```

- Creating a Bucket
- Bucket Creation Sample Code on GitHub
- OBS Error Codes
- Why Am I Unable to Create a Bucket?

## 7.3 Obtaining a Bucket List (SDK for Go)

#### **Function**

OBS buckets are containers for storing objects you upload to OBS. This API returns a list of all buckets that meet the specified conditions in all regions of the current account. Returned buckets are listed in alphabetical order.

#### Restrictions

- To obtain a bucket list, you must have the obs:bucket:ListAllMyBuckets permission. IAM is recommended for granting permissions. For details, see IAM Custom Policies.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) ListBuckets(input \*ListBucketsInput) (output
\*ListBucketsOutput, err error)

**Table 7-7** List of request parameters

Param eter	Туре	Mandatory (Yes/No)	Description
input	*ListBucket sInput	No	Explanation: Input parameters for obtaining a bucket list. For details, see Table 7-8.

**Table 7-8** ListBucketsInput

able 7-0 Listibucketsinput			
Parameter	Туре	Mandatory (Yes/No)	Description
QueryLocat	bool	No	Explanation:
ion			Whether to query the bucket region
			Value range:
			• <b>true</b> : The bucket location is queried.
			false: The bucket location is not queried.
			Default value:
			false
BucketType	BucketT	No	Explanation:
	ype		Type of buckets to list
			Value range:
			See BucketType.
			Default value:
			If this parameter is not specified, all buckets and parallel file systems are listed.

Table 7-9 BucketType

Constant	Default Value	Description
OBJECT	OBJECT	An object bucket

Constant	Default Value	Description
POSIX	POSIX	A parallel POSIX-compatible file bucket

**Table 7-10** List of returned results

Parameter	Туре	Description
output	*ListBucke tsOutput	<b>Explanation:</b> Returned results. For details, see <b>Table 7-11</b> .
err	error	<b>Explanation:</b> Error messages returned by the API

**Table 7-11** ListBucketsOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeader	map[string]	Explanation:
S	[]string	HTTP response headers
		Default value:
		None

Parameter	Туре	Description	
Owner	Owner	Explanation:	
		The owner of the buckets listed	
		Value range:	
		See Owner.	
Buckets	[]Bucket	Explanation:	
		Bucket information list	
		Value range:	
		See <b>Bucket</b> .	

Table 7-12 Owner

Parame ter	Туре	Mandatory (Yes/No)	Description
ID	string	Yes if used as a request parameter	Explanation: Account (domain) ID of the owner Value range: To obtain the account ID, see How Do I Get My Account ID and User ID? Default value: None

Table 7-13 Bucket

Parameter	Туре	Description
Name	string	Explanation:
		Bucket name
		Restrictions:
		A bucket name must be unique across all accounts and regions.
		A bucket name:
		<ul> <li>Must be 3 to 63 characters long and start with a digit or letter.</li> <li>Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
		<ul> <li>Cannot be formatted as an IP address.</li> </ul>
		- Cannot start or end with a hyphen (-) or period (.).
		<ul> <li>Cannot contain two consecutive periods (), for example,</li> <li>mybucket.</li> </ul>
		<ul> <li>Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or my bucket.</li> </ul>
		Default value:
		None
CreationDate	time.Time	Explanation:
		Time when the bucket was created
		Default value:
		None

Parameter	Туре	Description
Location	string	Explanation:
		Region where a bucket is located
		Restrictions:
		If the used endpoint is obs.myhuaweicloud.com, this parameter is not required. If any other endpoint is used, this parameter is required.
		Value range:
		To learn about valid regions and endpoints, see <b>Regions and Endpoints</b> . An endpoint is the request address for calling an API. Endpoints vary depending on services and regions. To obtain the regions and endpoints, contact the enterprise administrator.
		Default value:
		If <b>obs.myhuaweicloud.com</b> is used as the endpoint and no region is specified, <b>cn-north-1</b> (the CN North-Beijing1 region) is used by default.
BucketType	string	Explanation:
		Bucket type
		Value range:
		Object bucket: OBJECT
		Parallel file system: POSIX
		Default value:
		None

## **Code Examples**

This example lists all buckets.

```
package main import (
    "fmt"
    "os"
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
) func main() {
    //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
    //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/intl/en-us/usermanual-ca/ca_01_0003.html.
    ak := os.Getenv("AccessKeyID")
    sk := os.Getenv("SecretAccessKey")
    // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
```

```
// securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.ListBucketsInput{}
// Specify whether Location exists in the bucket list. true is used as an example. The default value is false.
  input.QueryLocation = true
  // Specify a bucket type. obs.OBJECT is used as an example, indicating that all buckets are listed. This
parameter is not specified by default, indicating that all buckets and parallel file systems are listed.
  input.BucketType = obs.OBJECT
  // List buckets.
  output, err := obsClient.ListBuckets(input)
  if err == nil {
     fmt.Printf("List buckets successful!\n")
     fmt.Printf("RequestId:%s\n", output.RequestId)
     for index, val := range output.Buckets {
        fmt.Printf("Bucket[%d]-Name:%s,CreationDate:%s\n", index, val.Name, val.CreationDate)
     return
  fmt.Printf("List buckets fail!\n")
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

- Listing Buckets
- OBS Error Codes

## 7.4 Checking Whether a Bucket Exists (SDK for Go)

#### **Function**

This API checks whether a bucket exists. If an HTTP status code **200** is returned, the bucket exists. If **404** is returned, the bucket does not exist.

### Restrictions

- To determine whether a bucket exists, you must be the bucket owner or have the required permission (obs:bucket:HeadBucket in IAM or HeadBucket in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

**func** (obsClient ObsClient) HeadBucket(**bucketName** string) (output \*BaseModel, err error)

**Table 7-14** List of request parameters

Parameter	Туре	Mand atory (Yes/N o)	Description
bucketName	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the
			first creation request. <b>Default value</b> :  None

Table 7-15 List of returned results

Parameter	Туре	Description
output	*BaseMod el	<b>Explanation:</b> Returned results. For details, see <b>Table 7-16</b> .
err	error	<b>Explanation:</b> Error messages returned by the API

Table 7-16 BaseModel

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None

## **Code Examples**

This example checks whether bucket examplebucket exists.

```
package main
import (
    "fmt"
    "os"
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
)
func main() {
    //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
```

```
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSecurityToken(securityToken))
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  // Specify a bucket name.
  bucketname := "examplebucket"
  // Check whether the bucket exists.
  output, err := obsClient.HeadBucket(bucketname)
  if err == nil {
     fmt.Printf("Head bucket(%s) successful!\n", bucketname)
     fmt.Printf("RequestId:%s\n", output.RequestId)
     return
  fmt.Printf("Head bucket(%s) fail!\n", bucketname)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

- **Obtaining Bucket Metadata**. The same REST API is used to determine whether a bucket exists and to obtain bucket metadata.
- OBS Error Codes
- FAQ for Buckets and Objects

# 7.5 Deleting a Bucket (SDK for Go)

#### **Function**

This API deletes an empty bucket. You can delete buckets you no longer use to free up space. The name of a deleted bucket can be reused for another bucket at least 30 minutes after the deletion.

#### □ NOTE

The data you deleted from OBS cannot be recovered on Huawei Cloud. Exercise caution when using this API.

#### Restrictions

- Only empty buckets can be deleted. An empty bucket means that:
  - The bucket does not contain any object (including noncurrent versions and delete markers).
  - The bucket does not contain any fragments, which means that there are no multipart uploads that have not been completed in the bucket.
- To delete a bucket, you must be the bucket owner or have the required permission (obs:bucket:DeleteBucket in IAM or DeleteBucket in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) DeleteBucket(bucketName string) (output
\*BaseModel, err error)

**Table 7-17** List of request parameters

Parameter	Туре	Mandator y (Yes/No)	Description
bucketNa me	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:
			None

Table 7-18 List of returned results

Parameter	Туре	Description
output	*BaseModel	Explanation:  Returned results. For details, see Table
err	error	7-19.  Explanation:  Error messages returned by the API

Table 7-19 BaseModel

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None

## **Code Examples**

This example deletes bucket examplebucket.

```
package main
import (
    "fmt"
    "os"
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
)
func main() {
```

```
//Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  // Specify a bucket name.
  bucketname := "examplebucket"
  // Delete the bucket.
  output, err := obsClient.DeleteBucket(bucketname)
  if err == nil {
     fmt.Printf("Delete bucket:%s successful!\n", bucketname)
     fmt.Printf("RequestId:%s\n", output.RequestId)
  fmt.Printf("Delete bucket:%s fail!\n", bucketname)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

- Deleting an Object
- Managing Fragments
- Listing Objects and Listing Initiated Multipart Uploads in a Bucket. These two operations can help you determine whether a bucket is empty.
- Deleting Buckets
- Bucket Deletion Sample Code on GitHub
- OBS Error Codes
- Why Can't I Delete a Bucket?

# 7.6 Listing Objects in a Bucket (SDK for Go)

#### **Function**

This API lists some or all of the objects in a bucket. You can use parameters such as the prefix, number of returned objects, and start position to list objects that meet specified criteria. The listed objects are ordered alphabetically using the object name.

#### Restrictions

- A maximum of 1,000 objects can be listed for each API call.
- To list objects in a bucket, you must be the bucket owner or have the required permission (obs:bucket:ListBucket in IAM and ListBucket in a bucket policy).
   For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) ListObjects(input \*ListObjectsInput) (output
\*ListObjectsOutput, err error)

**Table 7-20** List of request parameters

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
input	*ListObjectsInput	Yes	Explanation: Input parameters for listing objects in a bucket. For details, see Table 7-21.

Table 7-21 ListObjectsInput

Paramet er	Туре	Man dator y (Yes/ No)	Description	
Bucket	string	Yes	<b>Explanation:</b> Bucket name	
			Restrictions:	
			<ul> <li>A bucket name must be unique across all accounts and regions.</li> </ul>	
			A bucket name:	
			<ul> <li>Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>	
			<ul> <li>Cannot be formatted as an IP address.</li> </ul>	
			<ul> <li>Cannot start or end with a hyphen (-) or period (.).</li> </ul>	
			<ul> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> </ul>	
			<ul> <li>Cannot contain a period (.) and a hyphen</li> <li>(-) adjacent to each other, for example,</li> <li>mybucket or mybucket.</li> </ul>	
			<ul> <li>If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.</li> </ul>	
			Default value:	
			None	
Marker	string	No	Explanation:	
			Object name to start with when listing objects in a bucket. All objects following this parameter are listed in alphabetical order.	
			Restrictions:	
			This parameter is only used for listing objects with a single version.	
			Value range:	
			The value must contain 1 to 1,024 characters.	
			Default value:	
			None	

Paramet er	Туре	Man dator y (Yes/ No)	Description
Prefix	string	No	Explanation:
			Name prefix that the objects to be listed must contain
			Assume that you have the following objects: logs/day1, logs/day2, logs/day3, and ExampleObject.jpg. If you specify logs/ as the prefix, logs/day1, logs/day2, and logs/day3 will be returned. If you leave this parameter blank, all objects in the bucket will be returned.
			Value range:
			The value must contain 1 to 1,024 characters.
			Default value:
			None
MaxKeys	int	No	Explanation:
			The maximum number of objects returned in the response in alphabetical order
			Value range:
			The value ranges from 1 to 1000. If the specified value is beyond this range, only 1,000 objects are returned.
			Default value:
			1000

Paramet er	Туре	Man dator y (Yes/ No)	Description
Delimiter	string	No	Explanation: Object names are grouped by this parameter, which is often used with Prefix. If a prefix is specified, objects with the same string from the prefix to the first delimiter are grouped into one CommonPrefixes. If no prefix is specified, objects with the same string from the first character to the first delimiter are grouped into one CommonPrefixes.  Assume that a bucket has objects abcd, abcde, and bbcde in it. If delimiter is set to d and prefix is set to a, objects abcd and abcde are grouped into a CommonPrefixes with abcd as the prefix. If only delimiter is set to d, objects abcd and abcde are grouped into a CommonPrefixes with abcd as the prefix, and bbcde is grouped separately into
			another CommonPrefixes with bbcd as the prefix.  For a parallel file system, if this parameter is not specified, all the content in the current directory is recursively listed by default, and subdirectories are also listed. In big data scenarios, parallel file systems usually have deep directory levels and each directory has a large number of files. In such case, you are advised to configure [delimiter=/] to list the content in the current directory, but not list subdirectories, thereby improving the listing efficiency.  Value range:  The value must contain 1 to 1,024 characters.  Default value:  None

Paramet er	Туре	Man dator y (Yes/ No)	Description
Encoding	string	No	Explanation:
Туре			Encoding method that is applied to some elements in the response. If <b>Delimiter</b> , <b>Marker</b> , <b>Prefix</b> , <b>CommonPrefixes</b> , <b>NextMarker</b> , and <b>Key</b> contain control characters (special characters) that are not supported by the XML 1.0 standard, set this parameter to <b>url</b> .
			Value range:
			url
			Default value:
			None. If you leave this parameter blank, encoding is not applied to elements.

**Table 7-22** List of returned results

Parameter	Туре	Description
output	*ListObjectsOutp ut	Explanation:  Returned parameters for listing objects in a bucket. For details, see Table 7-23.
err	error	Explanation: Error messages returned by the API

Table 7-23 ListObjectsOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be $2xx$ (indicating successes) or $4xx$ or $5xx$ (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string][]string	Explanation:
		HTTP response headers
		Default value:
		None

Parameter	Туре	Description
Location	string	Explanation:
		Region where a bucket is located
		Restrictions:
		If the used endpoint is obs.myhuaweicloud.com, this parameter is not required. If any other endpoint is used, this parameter is required.
		Value range:
		To learn about valid regions and endpoints, see Regions and Endpoints. An endpoint is the request address for calling an API. Endpoints vary depending on services and regions. To obtain the regions and endpoints, contact the enterprise administrator.
		Default value:
		If <b>obs.myhuaweicloud.com</b> is used as the endpoint and no region is specified, <b>cn-north-1</b> (the CN North-Beijing1 region) is used by default.

Parameter	Туре	Description
Name	string	Explanation:
		Bucket name
		Restrictions:
		A bucket name must be unique across all accounts and regions.
		A bucket name:
		<ul> <li>Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
		<ul> <li>Cannot be formatted as an IP address.</li> </ul>
		<ul> <li>Cannot start or end with a hyphen (-) or period (.).</li> </ul>
		<ul> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> </ul>
		<ul> <li>Cannot contain a period (.)         and a hyphen (-) adjacent to         each other, for example,         mybucket or mybucket.</li> </ul>
		If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.
		Value range:
		The value must contain 3 to 63 characters.

Parameter	Туре	Description
Prefix	string	Explanation:
		Object name prefix, which is consistent with that set in the request
		Assume that you have the following objects: logs/day1, logs/day2, logs/day3, and ExampleObject.jpg. If you specify logs/ as the prefix, logs/day1, logs/day2, and logs/day3 will be returned. If you leave this parameter blank, all objects in the bucket will be returned.
		Value range:
		The value must contain 1 to 1,024 characters.
		Default value:
		None
Marker	string	Explanation:
		Object name to start with for listing objects Object name to start with when listing objects in a bucket. All objects following this parameter are listed in alphabetical order.
		Restrictions:
		This parameter is only used for listing objects with a single version.
		Value range:
		The value must contain 1 to 1,024 characters.
		Default value:
		None

Parameter	Туре	Description
Delimiter	string	Explanation:
		Object names are grouped by this parameter, which is often used with <b>Prefix</b> . If a prefix is specified, objects with the same string from the prefix to the first delimiter are grouped into one <b>CommonPrefixes</b> . If no prefix is specified, objects with the same string from the first character to the first delimiter are grouped into one <b>CommonPrefixes</b> .
		Assume that a bucket has objects abcd, abcde, and bbcde in it. If delimiter is set to d and prefix is set to a, objects abcd and abcde are grouped into a CommonPrefixes with abcd as the prefix. If only delimiter is set to d, objects abcd and abcde are grouped into a CommonPrefixes with abcd as the prefix, and bbcde is grouped separately into another CommonPrefixes with bbcd as the prefix.
		For a parallel file system, if this parameter is not specified, all the content in the current directory is recursively listed by default, and subdirectories are also listed. In big data scenarios, parallel file systems usually have deep directory levels and each directory has a large number of files. In such case, you are advised to configure [delimiter=/] to list the content in the current directory, but not list subdirectories, thereby improving the listing efficiency.
		Value range:
		The value must contain 1 to 1,024 characters.
		Default value:
		None

Parameter	Туре	Description
MaxKeys	int	Explanation:
		Maximum number of listed objects, which is consistent with that set in the request The maximum number of objects returned in the response in alphabetical order
		Value range:
		The value ranges from 1 to 1000. If the specified value is beyond this range, only 1,000 objects are returned.
		Default value:
		1000
IsTruncated	bool	Explanation:
		Whether all results are returned in the response. A maximum of 1,000 objects can be listed at a time. If the number of objects is greater than 1,000, the objects beyond 1,000 cannot be returned.
		Value range:
		true: Not all results are returned.
		false: All results are returned.
		Default value:
		None
NextMarker	string	Explanation:
		Where in the bucket the next listing begins. If not all results are returned, the response contains this parameter to mark the last object listed in the request. In a subsequent request, you can set <b>Marker</b> to the value of this parameter to list the remaining objects.
		Value range:
		The value must contain 1 to 1,024 characters.
		Default value:
		None
Contents	[]Content	Explanation:
		List of objects in the bucket. For details, see <b>Content</b> .

Parameter	Туре	Description
CommonPrefixes	[]string	Explanation:
		List of object name prefixes grouped according to the <b>Delimiter</b> parameter (if specified)
		Value range:
		The value must contain 1 to 1,024 characters.
		Default value:
		None
EncodingType	string	Explanation:
		Encoding method that is applied to some elements in the response. If Delimiter, Marker, Prefix, CommonPrefixes, NextMarker, and Key contain control characters (special characters) that are not supported by the XML 1.0 standard, set this parameter to url.
		Value range:
		url
		Default value:
		None

Table 7-24 Content

Parameter	Туре	Description	
Key	string	Explanation:	
		Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.	
		For example, if the address for accessing the object is examplebucket.obs.ap-southeast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.	
		Value range:	
		The value must contain 1 to 1,024 characters.	
		Default value:	
		None	

Parameter	Туре	Description	
LastModifie d	time.Time	Explanation: Time (UTC) when an object was last modified Value range: UTC time Default value: None	
ETag	string	Explanation:  Base64-encoded, 128-bit MD5 value of an object. ETag is the unique identifier of the object content. It can be used to determine whether the object content is changed. For example, if the ETag value is A when an object is uploaded, but changes to B when the object is downloaded, it indicates that the object content has been changed. The ETag reflects changes to the object content, rather than the object metadata. An uploaded or copied object has a unique ETag after being encrypted using MD5.  Restrictions: If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object.  Value range: The value must contain 32 characters.  Default value:	
Size	int64	Explanation: Object size in bytes Value range: The value ranges from 0 TB to 48.8 TB, in bytes. Default value: None	
Owner	Owner	Explanation: Object owner. This parameter contains the domain ID and name of the object owner. For details, see Table 7-26. Default value: None	

Parameter	Туре	Description
StorageClass	string	Explanation:
		Object storage class
		Value range:
		See Table 7-25.
		Default value:
		None

 Table 7-25
 StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.
StorageClassWarm	WARM	OBS Infrequent Access Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive Used for storing rarely accessed (once a year) data.

Table 7-26 Owner

Parame ter	Туре	Mandatory (Yes/No)	Description
ID	string	Yes if used as a request parameter	Explanation: Account (domain) ID of the owner Value range: To obtain the account ID, see How Do I Get My Account ID and User ID? Default value: None

## **Listing Objects**

This example lists objects in a bucket. A maximum of 1,000 objects can be returned.

```
package main
import (
  "fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.ListObjectsInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // List objects in the bucket.
  output, err := obsClient.ListObjects(input)
  if err == nil {
     fmt.Printf("List objects under the bucket(%s) successful!\n", input.Bucket)
     fmt.Printf("RequestId:%s\n", output.RequestId)
     for index, val := range output.Contents {
        fmt.Printf("Content[%d]-OwnerId:%s, ETag:%s, Key:%s, LastModified:%s, Size:%d\n",
          index, val.Owner.ID, val.ETag, val.Key, val.LastModified, val.Size)
     }
     return
  fmt.Printf("List objects under the bucket(%s) fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

# **Listing a Specified Number of Objects**

This example lists a specified number of objects in a bucket.

```
package main
import (
    "fmt"
    "os"
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
)
```

```
func main() {
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
   // Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.ListObjectsInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify the maximum number of objects to be returned. 100 is used as an example. Returned objects
are listed in alphabetic order. The default value is 1000.
  input.MaxKeys = 100
  // List objects in the bucket.
  output, err := obsClient.ListObjects(input)
  if err == nil {
     fmt.Printf("List objects under the bucket(%s) successful!\n", input.Bucket)
     fmt.Printf("RequestId:%s\n", output.RequestId)
     for index, val := range output.Contents {
        fmt.Printf("Content[%d]-Ownerld:%s, ETag:%s, Key:%s, LastModified:%s, Size:%d\n",
          index, val.Owner.ID, val.ETag, val.Key, val.LastModified, val.Size)
     return
  fmt.Printf("List objects under the bucket(%s) fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
  }
```

# Listing Objects with a Specified Prefix

This example lists objects with a specified prefix.

```
package main import (
    "fmt"
    "os"
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
) func main() {
    // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
    // Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/intl/en-us/usermanual-ca/ca_01_0003.html.
    ak := os.Getenv("AccessKeyID")
    sk := os.Getenv("SecretAccessKey")
    // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
```

```
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
     fmt.Printf("Create obsClient error, errMsq: %s", err.Error())
  input := &obs.ListObjectsInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify an object prefix (test/ as an example). Objects whose names contain the specified prefix will
be listed.
  input.Prefix = "test/"
  // Specify the maximum number of objects to be returned. 100 is used as an example. Returned objects
are listed in alphabetic order. The default value is 1000.
  input.MaxKeys = 100
  // List objects in the bucket.
  output, err := obsClient.ListObjects(input)
  if err == nil {
     fmt.Printf("List objects under the bucket(%s) successful!\n", input.Bucket)
     fmt.Printf("RequestId:%s\n", output.RequestId)
     for index, val := range output.Contents {
        fmt.Printf("Content[%d]-Ownerld:%s, ETag:%s, Key:%s, LastModified:%s, Size:%d\n",
          index, val.Owner.ID, val.ETag, val.Key, val.LastModified, val.Size)
     }
     return
  fmt.Printf("List objects under the bucket(%s) fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
  }
```

# **Listing All Objects Using Pagination**

This example lists all objects using pagination.

```
// This example lists all files in bucket examplebucket using pagination.
package main
import (
   "fmt'
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  // Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
```

```
// Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSecurityToken(securityToken))
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.ListObjectsInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify the maximum number of objects to be returned. 100 is used as an example. Returned objects
are listed in alphabetic order. The default value is 1000.
  input.MaxKeys = 100
  // Specify an encoding type. url is used as an example. If the objects to list contain special characters,
this parameter must be passed.
  input.EncodingType = "url"
  for {
     // List objects in the bucket.
     output, err := obsClient.ListObjects(input)
     if err != nil {
        fmt.Printf("List objects under the bucket(%s) fail!\n", input.Bucket)
        if obsError, ok := err.(obs.ObsError); ok {
           fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an
           fmt.Println(obsError.Error())
        } else {
           fmt.Println("An Exception was found, which means the client encountered an internal problem
when attempting to communicate with OBS, for example, the client was unable to access the network.")
           fmt.Println(err)
        os.Exit(-1)
     // Print the listing result. By default, 100 records are returned at a time.
     fmt.Printf("List objects under the bucket(%s) successful!\n", input.Bucket)
     for index, val := range output.Contents {
        fmt.Printf("Content[%d]-Ownerld:%s, ETag:%s, Key:%s, LastModified:%s, Size:%d\n",
           index, val.Owner.ID, val.ETag, val.Key, val.LastModified, val.Size)
     if output.IsTruncated {
        input.Marker = output.NextMarker
     } else {
        break
```

## Listing All Objects with Folder Name as a Prefix

There is no concept of folders in OBS. All elements stored in OBS buckets are objects. Folders are actually objects whose sizes are 0 and whose names end with a slash (/). You can set a folder name to a prefix to list objects in this folder. Sample code is as follows:

```
package main
import (
    "fmt"
    "os"
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
)
func main() {
    // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
    // Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/intl/en-us/usermanual-ca/ca_01_0003.html.
    ak := os.Getenv("AccessKeyID")
    sk := os.Getenv("SecretAccessKey")
    // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
```

```
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
     fmt.Printf("Create obsClient error, errMsq: %s", err.Error())
  input := &obs.ListObjectsInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify the maximum number of objects to be returned. 100 is used as an example. Returned objects
are listed in alphabetic order. The default value is 1000.
  input.MaxKevs = 100
  // Specify a delimiter for grouping object names. A slash (/) is used as an example.
  input.Delimiter = "/"
  // List objects in the bucket.
  output, err := obsClient.ListObjects(input)
  if err == nil {
     fmt.Printf("List objects under the bucket(%s) successful!\n", input.Bucket)
     fmt. Printf("RequestId: \%s \n", output. RequestId)\\
     for index, val := range output.Contents {
        fmt.Printf("Content[%d]-Ownerld:%s, ETaq:%s, Key:%s, LastModified:%s, Size:%d\n",
           index, val.Owner.ID, val.ETag, val.Key, val.LastModified, val.Size)
     return
  fmt.Printf("List objects under the bucket(%s) fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
  }
```

- Listing Objects in a Bucket
- Object Listing Sample Code on GitHub
- OBS Error Codes
- FAQ for Buckets and Objects

# 7.7 Listing Object Versions in a Bucket (SDK for Go)

#### **Function**

This API returns some or all of the object versions in a bucket. You can use parameters such as the prefix, number of returned object versions, and start position to return the object versions that meet specified criteria. Returned object versions are listed in alphabetical order.

## Restrictions

- To list object versions in a bucket, you must be the bucket owner or have the required permission (obs:bucket:ListBucketVersions in IAM or ListBucketVersions in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) ListVersions(input \*ListVersionsInput) (output
\*ListVersionsOutput, err error)

## **Request Parameters**

**Table 7-27** List of request parameters

Parameter	Туре	Mandat ory (Yes/N o)	Description
input	*ListVersionsInput	Yes	Explanation: Input parameters for listing object versions in a bucket. For details, see Table 7-28.

 Table 7-28 ListVersionsInput

Parameter	Туре	Mand atory (Yes/ No)	Description
Bucket	string	Yes	Explanation: Bucket name
			Restrictions:
			A bucket name must be unique across all accounts and regions.
			A bucket name:
			<ul> <li>Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
			- Cannot be formatted as an IP address.
			- Cannot start or end with a hyphen (-) or period (.).
			- Cannot contain two consecutive periods (), for example, mybucket.
			<ul> <li>Cannot contain a period (.) and a hyphen</li> <li>(-) adjacent to each other, for example,</li> <li>mybucket or mybucket.</li> </ul>
			If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.
			Default value:
			None
KeyMarker	string	No	Explanation:
			Object name to start with when listing object versions in a bucket. All object versions following the value specified by this parameter are listed in alphabetical order by object name.
			Restrictions:
			This parameter is only used for listing objects with multiple versions.
			Value range:
			Value of <b>NextKeyMarker</b> in the response body of the last request
			Default value:
			None

Parameter	Туре	Mand atory (Yes/ No)	Description
VersionIdM	string	No	Explanation:
arker			This parameter is used together with <b>KeyMarker</b> . Version ID you want to start listing from. All object versions following the value specified by this parameter are listed in alphabetical order by object name and version ID. <b>KeyMarker</b> specifies the object name, and <b>VersionIdMarker</b> specifies the version ID of the specified object.
			Restrictions:
			This parameter is only used for listing objects with multiple versions.
			<ul> <li>If the object specified by KeyMarker does not have the version specified by VersionIdMarker, this parameter is invalid.</li> </ul>
			Value range:
			Object version ID, that is, the value of NextVersionIdMarker in the response body of the last request
			Default value:
			None
Prefix	string	No	Explanation:
			Name prefix that the objects to be listed must contain
			Assume that you have the following objects: logs/day1, logs/day2, logs/day3, and ExampleObject.jpg. If you specify logs/ as the prefix, logs/day1, logs/day2, and logs/day3 will be returned. If you leave this parameter blank, all objects in the bucket will be returned.
			Value range:
			The value must contain 1 to 1,024 characters.
			Default value:
			None

Parameter	Туре	Mand atory (Yes/ No)	Description
MaxKeys	int	No	Explanation: The maximum number of objects returned in the response in alphabetical order Value range: The value ranges from 1 to 1000. If the specified value is beyond this range, only 1,000 objects are returned.  Default value: 1000
Delimiter	string	No	Explanation:  Object names are grouped by this parameter, which is often used with Prefix. If a prefix is specified, objects with the same string from the prefix to the first delimiter are grouped into one CommonPrefixes. If no prefix is specified, objects with the same string from the first character to the first delimiter are grouped into one CommonPrefixes.  Assume that a bucket has objects abcd, abcde, and bbcde in it. If delimiter is set to d and prefix is set to a, objects abcd and abcde are grouped into a CommonPrefixes with abcd as the prefix. If only delimiter is set to d, objects abcd and abcde are grouped into a CommonPrefixes with abcd as the prefix, and bbcde is grouped separately into another CommonPrefixes with bbcd as the prefix.  For a parallel file system, if this parameter is not specified, all the content in the current directory is recursively listed by default, and subdirectories are also listed. In big data scenarios, parallel file systems usually have deep directory levels and each directory has a large number of files. In such case, you are advised to configure [delimiter=/] to list the content in the current directory, but not list subdirectories, thereby improving the listing efficiency.  Value range:  The value must contain 1 to 1,024 characters.  Default value:  None

Parameter	Туре	Mand atory (Yes/ No)	Description
EncodingTy	string	No	Explanation:  Encoding type for some elements in the response. If Delimiter, KeyMarker, Prefix, CommonPrefixes, NextKeyMarker, and Key contain control characters that are not supported by the XML 1.0 standard, you can use EncodingType to encode Delimiter, KeyMarker, Prefix, CommonPrefixes, NextKeyMarker, and Key in the response.  Value range: Value option: url Default value: None. If you leave this parameter blank, encoding is not applied to elements.

# Responses

**Table 7-29** List of returned results

Parameter	Туре	Description
output	*ListVersionsOutput	Explanation:
		Returned parameters for listing object versions in a bucket. For details, see <b>Table 7-30</b> .
err	error	Explanation:
		Error messages returned by the API

Table 7-30 ListVersionsOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be $2xx$ (indicating successes) or $4xx$ or $5xx$ (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHea	map[string]	Explanation:
ders	[]string	HTTP response headers
		Default value:
		None
Location	string	Explanation:
		Region where a bucket is located
		Restrictions:
		If the used endpoint is <b>obs.myhuaweicloud.com</b> , this parameter is not required. If any other endpoint is used, this parameter is required.
		Value range:
		To learn about valid regions and endpoints, see <b>Regions and Endpoints</b> . An endpoint is the request address for calling an API. Endpoints vary depending on services and regions. To obtain the regions and endpoints, contact the enterprise administrator.
		Default value:
		If <b>obs.myhuaweicloud.com</b> is used as the endpoint and no region is specified, <b>cn-north-1</b> (the CN North-Beijing1 region) is used by default.

Parameter	Туре	Description
Name	string	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.
		The value must contain 3 to 63 characters.
Prefix	string	Explanation: Object name prefix, which is consistent with that set in the request Assume that you have the following objects: logs/day1, logs/day2, logs/day3, and ExampleObject.jpg. If you specify logs/ as the prefix, logs/day1, logs/day2, and logs/day3 will be returned. If you leave this parameter blank, all objects in the bucket will be returned. Value range: The value must contain 1 to 1,024 characters. Default value: None

Parameter	Туре	Description
KeyMarker	string	Explanation:
		Object name to start listing from. All object versions following the value specified by this parameter are listed in alphabetical order by object name.
		Restrictions:
		This parameter is only used for listing objects with multiple versions.
		Value range:
		The value must contain 1 to 1,024 characters.
		Default value:
		None
VersionIdMark	string	Explanation:
er		Version ID of the object specified by <b>keyMarker</b> .
		This parameter is used together with <b>KeyMarker</b> . All object versions following the value specified by this parameter are listed in alphabetical order by object name and version ID. <b>KeyMarker</b> specifies the object name, and <b>VersionIdMarker</b> specifies the version ID of the specified object.
		Restrictions:
		<ul> <li>This parameter is only used for listing objects with multiple versions.</li> </ul>
		<ul> <li>If the object specified by KeyMarker does not have the version specified by VersionIdMarker, this parameter is invalid.</li> </ul>
		Value range:
		The value must contain 32 characters.
		Default value:
		None

Parameter	Туре	Description
Delimiter	string	Explanation:
		Object names are grouped by this parameter, which is often used with <b>Prefix</b> . If a prefix is specified, objects with the same string from the prefix to the first delimiter are grouped into one <b>CommonPrefixes</b> . If no prefix is specified, objects with the same string from the first character to the first delimiter are grouped into one <b>CommonPrefixes</b> .
		Assume that a bucket has objects abcd, abcde, and bbcde in it. If delimiter is set to d and prefix is set to a, objects abcd and abcde are grouped into a CommonPrefixes with abcd as the prefix. If only delimiter is set to d, objects abcd and abcde are grouped into a CommonPrefixes with abcd as the prefix, and bbcde is grouped separately into another CommonPrefixes with bbcd as the prefix.  For a parallel file system, if this parameter is not specified, all the content in the current directory is recursively listed by default, and
		subdirectories are also listed. In big data scenarios, parallel file systems usually have deep directory levels and each directory has a large number of files. In such case, you are advised to configure [delimiter=/] to list the content in the current directory, but not list subdirectories, thereby improving the listing efficiency.
		Value range:
		The value must contain 1 to 1,024 characters.
		Default value:
		None
MaxKeys	int	Explanation:
		Maximum number of objects to list The maximum number of objects returned in the response in alphabetical order
		Value range:
		The value ranges from 1 to 1000. If the specified value is beyond this range, only 1,000 objects are returned.
		Default value:
		1000

Parameter	Туре	Description
IsTruncated	bool	Explanation: Whether all results are returned in the response. A maximum of 1,000 objects can be listed at a time. If the number of objects is greater than 1,000, the objects beyond 1,000 cannot be returned.  Value range: true: Not all results are returned. false: All results are returned.  Default value: None
NextKeyMark er	string	Explanation: Object name to start with in the next request for listing object versions Key marker for the last returned object in the list. NextKeyMarker is returned when not all the objects are listed. You can set KeyMarker to this value in the next request to list the remaining objects. Restrictions: This parameter is only used for listing objects with multiple versions. Value range: The value must contain 1 to 1,024 characters. Default value: None
NextVersionId Marker	string	Explanation:  Version ID to start with in the next request for listing object versions. It must be used together with NextKeyMarker. NextVersionIdMarker is returned when not all the objects are listed. You can set VersionIdMarker to this value in the next request to list the remaining objects.  Restrictions: This parameter is only used for listing objects with multiple versions.  Value range: The value must contain 32 characters.  Default value: None
Versions	[]Version	Explanation: List of object versions in the bucket. For details, see Table 7-31.

Parameter	Туре	Description
DeleteMarkers	[]DeleteMar ker	Explanation: List of delete markers in the bucket. For details, see Table 7-32.
CommonPrefi xes	[]string	Explanation: List of object name prefixes grouped according to the Delimiter parameter (if specified) Value range: The value must contain 1 to 1,024 characters. Default value: None
EncodingType	string	Explanation:  Encoding type for some elements in the response. If Delimiter, KeyMarker, Prefix, CommonPrefixes, NextKeyMarker, and Key contain control characters that are not supported by the XML 1.0 standard, you can use EncodingType to encode Delimiter, KeyMarker, Prefix, CommonPrefixes, NextKeyMarker, and Key in the response.  Value range:  Value option: url  Default value:
		None

Table 7-31 Version

Paramet er	Туре	Description
Key	string	Explanation:
		Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.
		For example, if the address for accessing an object is examplebucket.obs.ap-southeast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.
		Value range:
		The value must contain 1 to 1,024 characters.
		Default value:
		None

Paramet er	Туре	Description	
VersionId	string	Explanation: Object version ID Value range: The value must contain 32 characters. Default value: None	
LastModif ied	time.Time	Explanation: Time (UTC) when an object was last modified Value range: UTC time Default value:	
ETag	string	None  Explanation:  Base64-encoded, 128-bit MD5 value of an object. ETag is the unique identifier of the object content. It can be used to determine whether the object content is changed. For example, if ETag value is when an object is uploaded but changes to B when the object is downloaded, it indicates that the object content is changed. The ETag reflects changes to the object content, rather than the object metadata. An uploaded object or copied object has a unique ETag.  Restrictions:  If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object.  Value range:  The value must contain 32 characters.  Default value:	
Size	int64	Explanation: Object size in bytes Value range: The value ranges from 0 TB to 48.8 TB, in bytes. Default value: None	
Owner	Owner	<b>Explanation:</b> Object owner. For details, see <b>Table 7-33</b> .	

Paramet er	Туре	Description
StorageC lass	StorageClassTy pe	Explanation: Storage class of the object. For details, see Table 7-34.
IsLatest	bool	Explanation: Whether the object is of the current version Value range: • true: The object is the latest version. • false: The object is not the latest version. Default value: false

Table 7-32 DeleteMarker

Parameter	Туре	Description
Key	string	Explanation:
		Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.
		For example, if the address for accessing the object is examplebucket.obs.ap-southeast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.
		Value range:
		The value must contain 1 to 1,024 characters.
		Default value:
		None
VersionId	string	Explanation:
		Object version ID
		Value range:
		The value must contain 32 characters.
		Default value:
		None

Parameter	Туре	Description
IsLatest	bool	Explanation:
		Whether the object is of the current version
		Value range:
		<b>true</b> : The object is the latest version.
		false: The object is not the latest version.
		Default value:
		false
LastModifi	time.Time	Explanation:
ed		Time (UTC) when an object was last modified
		Value range:
		UTC time
		Default value:
		None
Owner	Owner	Explanation:
		Object owner. This parameter contains the domain ID and name of the object owner. For details, see <b>Table 7-33</b> .
StorageCla	StorageClassTy	Explanation:
SS	pe	Object storage class
		Value range:
		For details about storage classes, see <b>Table 7-34</b> .
		Default value:
		None

Table 7-33 Owner

Parame ter	Туре	Mandatory (Yes/No)	Description
ID	string	Yes if used as a request parameter	Explanation: Account (domain) ID of the owner Value range: To obtain the account ID, see How Do I Get My Account ID and User ID? Default value: None

Table 7-34 StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.
StorageClassWarm	WARM	OBS Infrequent Access Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive Used for storing rarely accessed (once a year) data.

## **Code Examples**

This example returns object versions in bucket examplebucket.

```
package main
import (
   "fmt'
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.ListVersionsInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify an object prefix (test/ as an example). Objects whose names contain the specified prefix will
be listed.
  input.Prefix = "test/"
  // Specify the maximum number of objects to be returned. 100 is used as an example. Returned objects
```

```
are listed in alphabetic order. The default value is 1000.
  input.MaxKeys = 100
  // Specify the position (test/test2 as an example) where the version listing starts.
  input.KeyMarker = "test/test2"
  // VersionIdMarker must be used together with KeyMarker. If there is no VersionIdMarker mapping to
the specified KeyMarker, ignore VersionIdMarker.
  input.VersionIdMarker = "G001117FCE89978B0000401205D5DC9A"
  // Specify an encoding type. url is used as an example. If the objects to list contain special characters,
this parameter must be passed.
  input.EncodingType = "url"
  // List object versions in the bucket.
  output, err := obsClient.ListVersions(input)
  if err == nil {
     fmt.Printf("List version objects under the bucket(%s) successful!\n", input.Bucket)
     fmt.Printf("RequestId:%s\n", output.RequestId)
     for index, val := range output. Versions {
        fmt.Printf("Version[%d]-Ownerld:%s, ETag:%s, Key:%s, VersionId:%s, LastModified:%s, Size:%d\n",
          index, val.Owner.ID, val.ETag, val.Key, val.VersionId, val.LastModified, val.Size)
     for index, val := range output.DeleteMarkers {
        fmt.Printf("DeleteMarker[%d]-Ownerld:%s, Key:%s, VersionId:%s, LastModified:%s\n",
          index, val.Owner.ID, val.Key, val.VersionId, val.LastModified)
     return
  fmt.Printf("List version objects under the bucket(%s) fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
  }
```

- Listing Objects in a Bucket
- GitHub (Sample Code for Listing Object Versions)
- OBS Error Codes
- FAQ for Buckets and Objects

# 7.8 Obtaining Bucket Metadata (SDK for Go)

#### **Function**

This API returns information about a bucket, including the storage class, region, CORS rules, and redundancy policy.

#### Restrictions

- To obtain bucket metadata, you must be the bucket owner or have the required permission (obs:bucket:HeadBucket in IAM or HeadBucket in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

## Method

func (obsClient ObsClient) GetBucketMetadata(input \*GetBucketMetadataInput)
(output \*GetBucketMetadataOutput, err error)

# **Request Parameters**

**Table 7-35** List of request parameters

Parameter	Туре	Mandatory (Yes/No)	Description
input	*GetBuc ketMet adataIn put	Yes	Explanation:  Request parameters for obtaining bucket metadata. For details, see Table 7-36.

**Table 7-36** GetBucketMetadataInput

Parameter	Туре	Mandatory (Yes/No)	Description
Bucket	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:

# Responses

Table 7-37 List of returned results

Parameter	Туре	Description
output	*GetBucketMetada-	Explanation:
	taOutput	Returned results. For details, see <b>Table 7-38</b> .
err	error	Explanation:
		Error messages returned by the API

 Table 7-38 GetBucketMetadataOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be $2xx$ (indicating successes) or $4xx$ or $5xx$ (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None
Location	string	Explanation:
		Region where a bucket is located
		Restrictions:
		If the used endpoint is <b>obs.myhuaweicloud.com</b> , this parameter is not required. If any other endpoint is used, this parameter is required.
		Value range:
		To learn about valid regions and endpoints, see <b>Regions and Endpoints</b> . An endpoint is the request address for calling an API. Endpoints vary depending on services and regions. To obtain the regions and endpoints, contact the enterprise administrator.
		Default value:
		If <b>obs.myhuaweicloud.com</b> is used as the endpoint and no region is specified, <b>cn-north-1</b> (the CN North-Beijing1 region) is used by default.

Parameter	Туре	Description
Version	string	Explanation: OBS version of the bucket Value range: • 3.0 indicates the latest OBS version. • indicates any version earlier than 3.0. Default value: None
StorageClass	StorageClass Type	Explanation: Storage class of the bucket. For details, see Table 7-39. Value range: If the storage class of the bucket is Standard, leave this parameter blank.
AllowOrigin	string	Explanation:  If Origin in the request meets the CORS rules of the bucket, AllowedOrigin in the CORS rules is returned. AllowedOrigin indicates the origin from which the requests can access the bucket.  Restrictions:  Domain name of the origin. Each origin can contain only one wildcard character (*), for example, https://*.vbs.example.com.  Default value:  None
AllowHeader	string	Explanation:  If RequestHeader in the request meets the CORS rules of the bucket, AllowedHeader in the CORS rules is returned.  AllowedHeader indicates the allowed headers for cross-origin requests. Only CORS requests matching the allowed headers are valid.  Restrictions:  Each header can contain only one wildcard character (*). Spaces, ampersands (&), colons (:), and less-than signs (<) are not allowed.  Default value:  None

Parameter	Туре	Description
AllowMethod	string	Explanation: AllowedMethod in the CORS rules of the bucket. It specifies the HTTP method of cross-origin requests, that is, the operation type of buckets and objects. Value range: The following HTTP methods are supported: GET PUT HEAD POST DELETE Default value: None
ExposeHeader	string	Explanation:  ExposeHeader in the CORS rules of the bucket. It specifies the CORS-allowed additional headers in the response. These headers provide additional information to clients. By default, your browser can only access headers Content-Length and Content-Type. If your browser needs to access other headers, add them to a list of the allowed additional headers.  Restrictions:  Spaces, wildcard characters (*), ampersands (&), colons (:), and less-than signs (<) are not allowed.  Default value:  None
MaxAgeSeconds	int	Explanation:  MaxAgeSeconds in the CORS rules of the bucket. It specifies the time your client can cache the response for a cross-origin request.  Restrictions: Each CORS rule can contain only one MaxAgeSeconds.  Value range: 0 to (2 <sup>31</sup> – 1), in seconds  Default value: 100

Parameter	Туре	Description
Epid	string	Explanation:
		Enterprise project ID that can be specified during bucket creation. If you have enabled EPS, you can obtain the project ID from the EPS console.
		Restrictions:
		The value of <b>Epid</b> is a UUID. <b>Epid</b> is not required if you have not enabled EPS yet.
		Example: <b>9892d768-2d13-450f-aac7-</b> <b>ed0e44c2585f</b>
		Value range:
		To obtain the enterprise project ID, see  How Do I Obtain an Enterprise Project ID?
		Default value:
		None

**Table 7-39** StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.
StorageClassWarm	WARM	OBS Infrequent Access
		Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive
		Used for storing rarely accessed (once a year) data.

# **Code Examples**

This example returns the metadata of bucket **examplebucket**.

package main import ( "fmt"

```
obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.GetBucketMetadataInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Obtain the bucket metadata.
  output, err := obsClient.GetBucketMetadata(input)
  if err == nil {
     fmt.Printf("Get bucket(%s)'s metadata successful!\n", input.Bucket)
     fmt.Printf("Requestld:%s\n", output.Requestld)
     fmt.Printf("StorageClass:%s\n", output.StorageClass)
     fmt.Printf("Location:%s\n", output.Location)
     fmt.Printf("AZRedundancy:%s\n", output.AZRedundancy)
     fmt.Printf("Epid:%s\n", output.Epid)
     return
  fmt.Printf("Get bucket(%s)'s metadata fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
  }
```

- Obtaining Bucket Metadata
- (GitHub) Sample Code for Obtaining Bucket Metadata
- OBS Error Codes
- FAQ for Buckets and Objects

# 7.9 Obtaining the Region of a Bucket (SDK for Go)

#### **Function**

This API returns the region of a bucket.

## Restrictions

- To obtain the region of a bucket, you must be the bucket owner or have the required permission (obs:bucket:GetBucketLocation in IAM or GetBucketLocation in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) GetBucketLocation(bucketName string) (output
\*GetBucketLocationOutput, err error)

# **Request Parameters**

**Table 7-40** List of request parameters

Parameter	Туре	Mandat ory (Yes/No )	Description
bucketName	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:  None
			None

## Responses

Table 7-41 List of returned results

Parameter	Туре	Description
output	*GetBucketLocatio nOutput	Explanation: Returned results. For details, see Table 7-42.
err	error	<b>Explanation:</b> Error messages returned by the API

Table 7-42 GetBucketLocationOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None

Parameter	Туре	Description
Location	string	Explanation:
		Region where a bucket is located
		Restrictions:
		If the used endpoint is <b>obs.myhuaweicloud.com</b> , this parameter is not required. If any other endpoint is used, this parameter is required.
		Value range:
		To learn about valid regions and endpoints, see <b>Regions and Endpoints</b> . An endpoint is the request address for calling an API. Endpoints vary depending on services and regions. To obtain the regions and endpoints, contact the enterprise administrator.
		Default value:
		If <b>obs.myhuaweicloud.com</b> is used as the endpoint and no region is specified, <b>cn-north-1</b> (the CN North-Beijing1 region) is used by default.

## **Code Examples**

This example returns the region where bucket examplebucket locates.

```
package main
import (
  "fmt'
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca 01 0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  // Specify a bucket name.
  bucketname := "examplebucket"
  // Obtain the bucket region.
```

```
output, err := obsClient.GetBucketLocation(bucketname)
if err == nil {
    fmt.Printf("Get bucket(%s)'s location successful!\n", bucketname)
    fmt.Printf("RequestId:%s\n", output.RequestId)
    fmt.Printf("Location:%s\n", output.Location)
    return
    }
    fmt.Printf("Get bucket(%s)'s location fail!\n", bucketname)
    if obsError, ok := err.(obs.ObsError); ok {
        fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
        fmt.Println(obsError.Error())
    } else {
        fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
        fmt.Println(err)
    }
}
```

- Obtaining the Region of a Bucket
- (GitHub) Sample Code for Obtaining the Region of a Bucket
- OBS Error Codes
- FAQ for Buckets and Objects

# 7.10 Obtaining Storage Information of a Bucket (SDK for Go)

#### **Function**

This API returns the storage information of a bucket, including the number of objects and the space occupied by the objects in the bucket.

#### □ NOTE

OBS measures bucket storage statistics in the background and does not update the storage information in real time. So, you are advised not to perform real-time verification on the storage information.

#### Restrictions

- To obtain the storage information of a bucket, you must be the bucket owner or have the required permission (obs:bucket:GetBucketStorage in IAM or GetBucketStorage in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) GetBucketStorageInfo(bucketName string) (output
\*GetBucketStorageInfoOutput, err error)

## **Request Parameters**

Table 7-43 List of request parameters

atory (Yes/ No)	arameter
bucketName  String  Yes  Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long a start with a digit or letter. Lowerce letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hypher (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:  None	ucketName

# Responses

Table 7-44 List of returned results

Parameter	Туре	Description
output	*GetBucketStorageInfoOutput	Explanation: Returned results. For details, see Table 7-45.

Parameter	Туре	Description
err	error	Explanation:
		Error messages returned by the API

**Table 7-45** GetBucketStorageInfoOutput

Parameter	Туре	Description
StatusCode	int	Explanation: HTTP status code  Value range: A status code is a group of digits that can be 2xx (indicating successes) or 4xx or 5xx (indicating errors). It indicates the status of a response. For more information, see Status Code.  Default value: None
RequestId	string	Explanation: Request ID returned by the OBS server Default value: None
ResponseHead ers	map[stri ng] []string	Explanation: HTTP response headers Default value: None
Size	int64	Explanation: Size of the space occupied by objects in the bucket Value range: 0 to (2 <sup>63</sup> – 1), in bytes
ObjectNumber	int	Explanation:  Number of objects in the bucket  Value range:  An integer from 0 to (2 <sup>31</sup> – 1)  Default value:  None

## **Code Examples**

This example returns the storage information of bucket **examplebucket**, including the number of objects and the space occupied by objects.

```
package main
import (
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  // Specify a bucket name.
  bucketname := "examplebucket"
  // Obtain bucket storage information.
  output, err := obsClient.GetBucketStorageInfo(bucketname)
  if err == nil {
     fmt.Printf("Get bucket(%s)'s storage-info successful!\n", bucketname)
     fmt.Printf("RequestId:%s\n", output.RequestId)
     fmt.Printf("Size:%d, ObjectNumber:%d\n", output.Size, output.ObjectNumber)
     return
  fmt.Printf("Get bucket(%s)'s storage-info fail!\n", bucketname)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

- Obtaining Storage Information of a Bucket
- (GitHub) Sample Code for Obtaining Storage Information of a Bucket
- OBS Error Codes
- FAQ for Buckets and Objects

# 7.11 Configuring a Storage Quota (SDK for Go)

#### **Function**

A quota limits the maximum capacity allowed in a bucket. By default, there is no limit on the storage capacity of the entire OBS system or a single bucket, and any number of objects can be stored. You can set a storage quota to control the total

size of objects that can be uploaded to the bucket. After the storage quota has been reached, object upload will fail.

A quota limit does not apply to the objects uploaded before the quota is configured. If the specified quota is already smaller than the total size of existing objects in the bucket, the existing objects in the bucket will not be deleted, but no more object can be uploaded to the bucket later. In this case, to upload new objects, you must delete some existing objects to make the used space below the quota limit.

#### Restrictions

- A bucket storage quota must be a non-negative integer expressed in bytes. The maximum value is as follows:  $2^{63} 1$ .
- OBS does not provide an API for deleting bucket storage quotas. You can set the bucket storage quota to **0** to cancel the limit.
- To configure a storage quota for a bucket, you must be the bucket owner or have the required permission (obs:bucket:PutBucketQuota in IAM or PutBucketQuota in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) SetBucketQuota(input \*SetBucketQuotaInput)
(output \*BaseModel, err error)

**Table 7-46** List of request parameters

Parameter	Туре	Ma nd ato ry (Ye s/N o)	Description
input	*SetBucketQuo talnput	Yes	Explanation: Input parameters for configuring a storage quota. For details, see Table 7-47.

**Table 7-47** SetBucketQuotaInput

Parameter	Туре	Mandatory (Yes/No)	Description
Bucket	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.
			<b>Default value</b> : None
Quota	int64	Yes	Explanation: Bucket storage quota Value range: 0 to (2 <sup>63</sup> – 1), in bytes Default value: 0, indicating that there is no limit on the bucket quota.

# **Responses**

Table 7-48 List of returned results

Parameter	Туре	Description
output	*BaseModel	<b>Explanation:</b> Returned results. For details, see <b>Table 7-49</b> .
err	error	Explanation:
		Error messages returned by the API

Table 7-49 BaseModel

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None

# **Code Examples**

This example configures a 1 GB quota for bucket examplebucket.

```
package main
import (
    "fmt"
    "os"
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
)
func main() {
    //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
```

```
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.SetBucketQuotaInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify a 1 GB quota (measured in bytes) for the bucket.
  input.Quota = 1024 * 1024 * 1024
  // Configures a quota for the bucket.
  output, err := obsClient.SetBucketQuota(input)
  if err == nil {
     fmt.Printf("Set bucket(%s)'s quota successful!\n", input.Bucket)
     fmt.Printf("RequestId:%s\n", output.RequestId)
  fmt.Printf("Set bucket(%s)'s quota fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
  }
```

# **Helpful Links**

- Configuring a Bucket Storage
- (GitHub) Sample Code for Configuring a Storage Quota
- OBS Error Codes
- FAQ for Buckets and Objects

# 7.12 Obtaining a Bucket Storage Quota (SDK for Go)

#### **Function**

This API returns the storage quota (upper limit of the storage capacity) of a bucket. If the quota is 0, there is no upper limit on the bucket capacity.

#### Restrictions

• A bucket storage quota must be a non-negative integer expressed in bytes. The maximum value is as follows: 2<sup>63</sup> – 1.

- A frozen bucket owner (due to account in arrears) is not allowed to query the bucket storage quota.
- To obtain the storage quota of a bucket, you must be the bucket owner or have the required permission (obs:bucket:GetBucketQuota in IAM or GetBucketQuota in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) GetBucketQuota(bucketName string) (output
\*GetBucketQuotaOutput, err error)

**Table 7-50** List of request parameters

Parameter	Туре	Mandator y (Yes/No)	Description
bucketName	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:
			None

# Responses

Table 7-51 List of returned results

Parameter	Туре	Description
output	*GetBucketQuota Output	Explanation: Returned results. For details, see Table 7-52.
err	error	<b>Explanation:</b> Error messages returned by the API

Table 7-52 GetBucketQuotaOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be $2xx$ (indicating successes) or $4xx$ or $5xx$ (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None
Quota	int64	Explanation:
		Bucket storage quota
		Value range:
		0 to (2 <sup>63</sup> – 1), in bytes
		Default value:
		<b>0</b> , indicating that there is no limit on the bucket quota.

## **Code Examples**

This example returns the quota of bucket examplebucket.

```
package main
import (
  "fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  // Specify a bucket name.
  bucketname := "examplebucket"
  // Obtain the bucket quota.
  output, err := obsClient.GetBucketQuota(bucketname)
  if err == nil {
     fmt.Printf("Get bucket(%s)'s quota successful!\n", bucketname)
     fmt.Printf("RequestId:%s\n", output.RequestId)
     fmt.Printf("Quota:%d\n", output.Quota)
     return
  fmt.Printf("Get bucket(%s)'s quota fail!\n", bucketname)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

# **Helpful Links**

- Querying Bucket Storage Quota
- (GitHub) Sample Code for Obtaining Bucket Storage Quota
- OBS Error Codes
- FAQ for Buckets and Objects

# 7.13 Configuring Storage Class for a Bucket (SDK for Go)

#### **Function**

OBS offers the following storage classes: Standard, Infrequent Access, and Archive. For details, see **Storage Classes**.

This API configures a storage class for a bucket. If you do not specify a storage class when uploading or copying an object, or initiating a multipart upload, the object will inherit the bucket's storage class.

#### Restrictions

- To configure a storage class for a bucket, you must be the bucket owner or have the required permission (obs:PutBucketStoragePolicy in IAM or PutBucketStoragePolicy in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) SetBucketStoragePolicy(input
\*SetBucketStoragePolicyInput) (output \*BaseModel, err error)

**Table 7-53** List of request parameters

Param eter	Туре	Ma nda tor y (Ye s/N o)	Description
input	*SetBucketSto ragePolicyInp ut	Yes	Explanation: Input parameters for configuring a bucket storage class. For details, see Table 7-54.

**Table 7-54** SetBucketStoragePolicyInput

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
Bucket	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Value range: The value must contain 3 to 63 characters.  Default value:
StorageClas s	StorageCl assType	Yes	None  Explanation: Storage class of the bucket  Value range: For details about storage classes, see Table 7-55.  Default value: None

**Table 7-55** StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.
StorageClassWarm	WARM	OBS Infrequent Access
		Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive
		Used for storing rarely accessed (once a year) data.

# Responses

**Table 7-56** List of returned results

Parameter	Туре	Description		
output	*BaseModel	Explanation:		
		Returned results. For details, see <b>Table 7-57</b> .		
err	error	Explanation:		
		Error messages returned by the API		

Table 7-57 BaseModel

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None

# **Code Examples**

This example returns the storage class of bucket **examplebucket**.

```
package main
import (
   "fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
```

```
input := &obs.SetBucketStoragePolicyInput{}
  // Specify a bucket name.
  input.Bucket = "bucketname"
  // Specify a storage class (obs.StorageClassWarm as an example) for the bucket.
  input.StorageClass = obs.StorageClassWarm
  // Configure a storage class for the bucket.
  output, err := obsClient.SetBucketStoragePolicy(input)
  if err == nil {
     fmt.Printf("Set bucket(%s)'s storage-class successful!\n", input.Bucket)
     fmt.Printf("Set bucket storage-class successful!\n")
     fmt.Printf("RequestId:%s\n", output.RequestId)
  fmt.Printf("Set bucket(%s)'s storage-class fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
     fmt.Println(obsError.Error())
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

## **Helpful Links**

- Configuring Storage Class for a Bucket
- (GitHub) Sample Code for Configuring a Bucket Storage Class
- OBS Error Codes
- FAQ for Buckets and Objects

# 7.14 Obtaining the Storage Class of a Bucket (SDK for Go)

#### **Function**

This API returns the storage class of a bucket.

#### Restrictions

- To obtain a bucket's storage class, you must be the bucket owner or have the required permission (obs:bucket:GetBucketStoragePolicy in IAM or GetBucketStoragePolicy in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) GetBucketStoragePolicy(bucketName string) (output
\*GetBucketStoragePolicyOutput, err error)

# **Request Parameters**

**Table 7-58** List of request parameters

Parameter	Туре	Mand atory (Yes/ No)	Description
bucketNam	string	Yes	<ul> <li>Explanation: Bucket name Restrictions: <ul> <li>A bucket name must be unique across all accounts and regions.</li> <li>A bucket name: <ul> <li>Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> <li>Cannot be formatted as an IP address.</li> <li>Cannot start or end with a hyphen (-) or period (.).</li> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> <li>Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.</li> </ul> </li> <li>If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.</li> <li>Default value:</li> </ul> </li> <li>None</li> </ul>
			INOTIC

# Responses

**Table 7-59** List of returned results

Parameter	Туре	Description
output	*GetBucketStoragePoli- cyOutput	Explanation: Returned results. For details, see Table 7-60.
err	error	<b>Explanation:</b> Error messages returned by the API

 Table 7-60 GetBucketStoragePolicyOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHea	map[string]	Explanation:
ders	[]string	HTTP response headers
		Default value:
		None
StorageClass	StorageClassT	Explanation:
	ype	Storage class of the bucket
		Value range:
		For details about storage classes, see <b>Table 7-61</b> .
		Default value:
		None

 Table 7-61
 StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.

Constant	Default Value	Description
StorageClassWarm	WARM	OBS Infrequent Access Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive Used for storing rarely accessed (once a year) data.

## **Code Examples**

This example returns the storage class of bucket examplebucket.

```
package main
import (
  "fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  // Specify a bucket name.
  bucketname := "examplebucket"
  // Obtain the bucket's storage class.
  output, err := obsClient.GetBucketStoragePolicy(bucketname)
  if err == nil {
     fmt.Printf("Get bucket(%s)'s storage-class successful!\n", bucketname)
     fmt.Printf("RequestId:%s\n", output.RequestId)
     fmt.Printf("StorageClass:%s\n", output.StorageClass)
  fmt.Printf("Get bucket(%s)'s storage-class fail!\n", bucketname)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

}

## **Helpful Links**

- Obtaining a Bucket's Storage Class
- (GitHub) Sample Code for Obtaining a Bucket's Storage Class
- OBS Error Codes
- FAQ for Buckets and Objects

# 7.15 Configuring a Bucket ACL (SDK for Go)

#### **Function**

Access control lists (ACLs) allow resource owners to grant other accounts the permissions to access resources. By default, only the resource owner has full control over resources when a bucket or object is created. That is, the bucket creator has full control over the bucket, and the object uploader has full control over the object. Other accounts do not have the permissions to access resources. If resource owners want to grant other accounts the read and write permissions on resources, they can use ACLs. ACLs grant permissions to accounts. After an account is granted permissions, both the account and its IAM users can access the resources. For more information, see ACLs.

This API modifies a bucket ACL.

#### Restrictions

- A bucket can have up to 100 ACL rules.
- To configure an ACL for a bucket, you must be the bucket owner or have the required permission (obs:bucket:PutBucketAcl in IAM or PutBucketAcl in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) SetBucketAcl(input \*SetBucketAclInput) (output
\*BaseModel, err error)

**Table 7-62** List of request parameters

Parame ter	Туре	M an da tor y (Y es/No)	Description
input	*SetBucketAclInp	Yes	Explanation:
	ut		Input parameters for configuring a bucket ACL. For details, see <b>Table 7-63</b> .

Table 7-63 SetBucketAclInput

Param eter	Туре	Man dato ry (Yes/ No)	Description
Bucket	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:
ACL	AclTyp e	No	Explanation: Pre-defined ACL. Value range: See Table 7-64. Default value: None Explanation:
			ID of the bucket owner. For details, see <b>Table 7-65</b> . <b>Restrictions: Owner</b> and <b>Grants</b> must be used together and they cannot be used with <b>ACL</b> .

Param eter	Туре	Man dato ry (Yes/ No)	Description
Grants	Grant	No	Explanation: Grantees' permission information. For details, see Table 7-66.

# Table 7-64 AclType

Constant	Default Value	Description
AclPrivate	private	Private read/write
		A bucket or object can only be accessed by its owner.
AclPublicRead	public-read	Public read and private write
		If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket.
		If it is granted on an object, anyone can read the content and metadata of the object.
AclPublicReadWrit	public-read-	Public read/write
e	write	If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket, and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart upload tasks.  If it is granted on an object, anyone can read the content and metadata of the object.
AclPublicReadDe- livered	public-read- delivered	Public read on a bucket as well as objects in the bucket
		If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions, and read the content and metadata of objects in the bucket.
		NOTE AclPublicReadDelivered does not apply to objects.

Constant	Default Value	Description
AclPublicReadWri- teDelivered	public-read- write-delivered	Public read/write on a bucket as well as objects in the bucket
		If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket, and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart uploads. They can also read the content and metadata of objects in the bucket.  NOTE  AclPublicReadWriteDelivered does not apply to objects.
AclBucketOwnerFu llControl	bucket-owner- full-control	If this permission is granted on an object, only the bucket and object owners have the full control over the object.
		By default, if you upload an object to a bucket of any other user, the bucket owner does not have the permissions on your object. After you grant this permission to the bucket owner, the bucket owner can have full control over your object.

Table 7-65 Owner

Parame ter	Туре	Mandatory (Yes/No)	Description
ID	string	Yes if used as a request parameter	Explanation: Account (domain) ID of the owner Value range: To obtain the account ID, see How Do I Get My Account ID and User ID? Default value: None

Table 7-66 Grant

Param eter	Туре	Mandato ry (Yes/No)	Description
Grantee	Grant ee	Yes if used as a request paramete r	<b>Explanation:</b> Grantee information. For details, see <b>Table 7-67</b> .
Permiss ion	Permi ssionT ype	Yes if used as a request paramete r	Explanation: Granted permission Value range: See Table 7-69. Default value: None

**Table 7-67** Grantee

Param eter	Туре	Mandatory (Yes/No)	Description
Туре	Grante eType	Yes if used as a request parameter	Explanation: Grantee type Value range: See Table 7-68. Default value: None
ID	string	Yes if this parameter is used as a request parameter and <b>Type</b> is set to <b>GranteeUser</b>	Explanation: Account (domain) ID of the grantee Value range: To obtain an account ID, see Obtaining the Account ID. Default value: None

Param eter	Туре	Mandatory (Yes/No)	Description
Displa yName	string	No if used as a request parameter	Explanation: Account name of the grantee Restrictions:  Starts with a letter. Contains 6 to 32 characters. Contains only letters, digits, hyphens (-), or underscores (_).  Default value: None

## **Table 7-68** GranteeType

Constant	Default Value	Description
GranteeGroup	Group	User group
GranteeUser	CanonicalUser	Individual user

# **Table 7-69** PermissionType

Constant	Default Value	Description
PermissionRea d	READ	Read permission
PermissionWri te	WRITE	Write permission
PermissionRea dAcp	READ_ACP	Permission to read ACL configurations
PermissionWri teAcp	WRITE_AC P	Permission to modify ACL configurations
PermissionFull Control	FULL_CON TROL	Full control access, including read and write permissions for a bucket and its ACL, or for an object and its ACL.

# Responses

Table 7-70 List of returned results

Paramete r	Туре	Description
output	*BaseModel	<b>Explanation:</b> Returned results. For details, see <b>Table 7-71</b> .
err	error	<b>Explanation:</b> Error messages returned by the API

Table 7-71 BaseModel

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string] []string	Explanation:
		HTTP response headers
		Default value:
		None

# **Code Examples**

This example sets the ACL of bucket **examplebucket** to Private.

```
package main
import (
    "fmt"
    "os"
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
)
func main() {
```

```
//Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  //securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSecurityToken(securityToken))
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.SetBucketAclInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Set the bucket ACL to be private.
  input.ACL = obs.AclPrivate
  // Configure the bucket ACL
  output, err := obsClient.SetBucketAcl(input)
  if err == nil {
     fmt.Printf("Set bucket(%s)'s acl successful!\n", input.Bucket)
     fmt.Printf("RequestId:%s\n", output.RequestId)
  fmt.Printf("Set bucket(%s)'s acl fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
  }
```

# **Helpful Links**

- Configuring a Bucket ACL
- (GitHub) Sample Code for Configuring a Bucket ACL
- OBS Error Codes
- Access Control FAQ

# 7.16 Obtaining the Bucket ACL (SDK for Go)

#### **Function**

Access control lists (ACLs) allow resource owners to grant other accounts the permissions to access resources. By default, only the resource owner has full control over resources when a bucket or object is created. That is, the bucket creator has full control over the bucket, and the object uploader has full control over the object. Other accounts do not have the permissions to access resources. If resource owners want to grant other accounts the read and write permissions on

resources, they can use ACLs. ACLs grant permissions to accounts. After an account is granted permissions, both the account and its IAM users can access the resources. For more information, see ACLs.

This API returns the ACL of a bucket.

#### Restrictions

- To obtain the ACL of a bucket, you must be the bucket owner or have the required permission (obs:bucket:GetBucketAcl in IAM or GetBucketAcl in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) GetBucketAcl(bucketName string) (output
\*GetBucketAclOutput, err error)

**Table 7-72** List of request parameters

Parameter	Туре	Mandator y (Yes/No)	Description
bucketName	string	Yes	Explanation:
			Bucket name
			Restrictions:
			<ul> <li>A bucket name must be unique across all accounts and regions.</li> </ul>
			A bucket name:
			<ul> <li>Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
			<ul> <li>Cannot be formatted as an IP address.</li> </ul>
			<ul> <li>Cannot start or end with a hyphen (-) or period (.).</li> </ul>
			<ul> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> </ul>
			<ul> <li>Cannot contain a period (.)         and a hyphen (-) adjacent         to each other, for example,         mybucket or mybucket.</li> </ul>
			<ul> <li>If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.</li> </ul>
			Default value:
			None

# Responses

Table 7-73 List of returned results

Parame ter	Туре	Description
output	*GetBucketAclOu tput	<b>Explanation:</b> Returned results. For details, see <b>Table 7-74</b> .
err	error	<b>Explanation:</b> Error messages returned by the API

Table 7-74 GetBucketAclOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHead	map[string	Explanation:
ers	][]string	HTTP response headers
		Default value:
		None
Owner	Owner	Explanation:
		Bucket owner. For details, see Table 7-75.
Grants	Grant	Explanation:
		Grantees' permission information. For details, see <b>Table 7-76</b> .

Table 7-75 Owner

Parame ter	Туре	Mandatory (Yes/No)	Description
ID	string	Yes if used as a request parameter	Explanation: Account (domain) ID of the owner Value range: To obtain the account ID, see How Do I Get My Account ID and User ID? Default value: None

#### Table 7-76 Grant

Parameter	Туре	Description
Grantee	Grantee	Explanation: Grantee information. For details, see Table 7-77.
Permission	Permission Type	Explanation: Granted permission. For details, see Table 7-80.

### Table 7-77 Grantee

Parameter	Туре	Description
Туре	GranteeTy pe	Explanation:
		Grantee type
		Value range:
		See <b>Table 7-78</b> .
		Default value:
		None
ID string		Explanation:
		Account (domain) ID of the grantee
		Value range:
		To obtain the account ID, see <b>How Do I Get</b> My Account ID and User ID?
		Default value:
		None

Parameter	Туре	Description	
DisplayName	string	Explanation:	
		Account name of the grantee	
		Restrictions:	
		Starts with a letter.	
		Contains 6 to 32 characters.	
		<ul> <li>Contains only letters, digits, hyphens (-), or underscores (_).</li> </ul>	
		Default value:	
		None	
URI	GroupUriT	Explanation:	
	ype	Authorized user group	
		Value range:	
		See Table 7-79.	
		Default value:	
		None	

# **Table 7-78** GranteeType

Constant	Default Value	Description
GranteeGroup	Group	User group
GranteeUser	CanonicalUser	Individual user

# Table 7-79 GroupUriType

Constant	Default Value	Description
GroupAllUsers	AllUsers	All users

## Table 7-80 PermissionType

Constant	Default Value	Description
PermissionRea d	READ	Read permission
PermissionWri te	WRITE	Write permission

Constant	Default Value	Description	
PermissionRea dAcp	READ_ACP	Permission to read ACL configurations	
PermissionWri teAcp	WRITE_AC P	Permission to modify ACL configurations	
PermissionFull Control	FULL_CON TROL	Full control access, including read and write permissions for a bucket and its ACL, or for an object and its ACL.	

# **Code Examples**

This example shows how to obtain the ACL of the **examplebucket** bucket.

```
package main
import (
  "fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSignature(obs.SignatureObs)/*,
obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsq: %s", err.Error())
  // Specify a bucket name.
  bucketname := "examplebucket"
  // Obtain the bucket ACL.
  output, err := obsClient.GetBucketAcl(bucketname)
  if err == nil {
     fmt.Printf("Get bucket(%s)'s acl rules successful!\n", bucketname)
     fmt.Printf("RequestId:%s\n", output.RequestId)
     fmt.Printf("Owner.ID:%s\n", output.Owner.ID)
     for index, grant := range output.Grants {
        fmt.Printf("Grant[%d]-Type:%s, ID:%s, URI:%s, Permission:%s\n",
          index, grant.Grantee.Type, grant.Grantee.ID, grant.Grantee.URI, grant.Permission)
     }
     return
  fmt.Printf("Get bucket(%s)'s acl rules fail!\n", bucketname)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
```

```
fmt.Println(obsError.Error())
} else {
    fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
    fmt.Println(err)
}
```

## **Helpful Links**

- Obtaining the Bucket ACL
- (GitHub) Sample Code for Obtaining the Bucket ACL
- OBS Error Codes
- Access Control FAQ

# 7.17 Configuring Logging for a Bucket (SDK for Go)

#### **Function**

This API enables logging for a bucket (source) and configures another bucket (target) to store the log files. When a bucket is created, logging is not enabled by default. You can call this API to enable logging for the bucket. With logging enabled, a log message is generated for each operation on the bucket. Multiple log messages are packed into a file. The bucket for storing log files must be specified when logging is enabled. It can be the bucket logging is enabled for, or any other bucket you have access to. If you specify another bucket for storing logs, the bucket must be in the same region as the logged bucket. You can also configure access to log files and the name prefix of log files.

#### Restrictions

- OBS creates log files and uploads them to the bucket. Before enabling logging for a bucket, you need to create an IAM agency to delegate OBS to upload log files to the specified bucket.
- To configure logging for a bucket, you must be the bucket owner or have the required permission (obs:bucket:PutBucketLogging in IAM or PutBucketLogging in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) SetBucketLoggingConfiguration(input
\*SetBucketLoggingConfigurationInput) (output \*BaseModel, err error)

**Table 7-81** List of request parameters

Paramet er	Туре	Man dato ry (Yes /No)	Description
input	*SetBucketLoggin gConfigurationIn put	Yes	Explanation: Input parameters for configuring bucket logging. For details, see Table 7-82.

 Table 7-82
 SetBucketLoggingConfigurationInput

Parameter	Туре	Mandat ory (Yes/No )	Description
Bucket	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those
			set in the first creation request. <b>Default value</b> :  None

Parameter	Туре	Mandat ory (Yes/No )	Description
Agency	string	Yes if the paramet er is in a request to enable bucket logging	Explanation:  Name of the IAM agency created by the owner of the target bucket for OBS.  You can select an existing IAM agency or create one. For details about how to create an agency, see Creating an IAM Agency.  Restrictions:  By default, the IAM agency only requires the PutObject permission to upload logs to the target bucket. If default encryption is enabled for the target bucket, the agency also requires the KMS Administrator permission in the region where the target bucket is located.  Default value:  None

Parameter	Туре	Mandat ory (Yes/No )	Description
TargetBucket	string	Yes if you enable logging for the bucket Do not set this paramet er when you disable logging for the bucket.	<ul> <li>Explanation: Name of the bucket for storing log files</li> <li>Restrictions: <ul> <li>This bucket must be in the same region as the bucket with logging enabled.</li> <li>A bucket name must be unique across all accounts and regions.</li> <li>A bucket name: <ul> <li>Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> <li>Cannot be formatted as an IP address.</li> <li>Cannot start or end with a hyphen (-) or period (.).</li> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> <li>Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.</li> </ul> </li> <li>If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.</li> <li>Default value:</li> </ul> </li> <li>None</li> </ul>

Parameter	Туре	Mandat ory (Yes/No )	Description
TargetPrefix	string	Yes if you enable logging for the bucket Do not set this paramet er when you disable logging for the bucket.	Explanation:  Name prefix for log files stored in the log storage bucket  Value range:  The value must contain 1 to 1,024 characters.  Default value:  None
TargetGrants	[]Grant	No	Explanation:  Permission information list of grantees, which defines grantees and their permissions for log files. For details, see Table 7-83.

#### Table 7-83 Grant

Parame ter	Туре	Mandatory (Yes/No)	Description
Grantee	Grantee	Yes if used as a request parameter	Explanation: Grantee information. For details, see Table 7-84.
Permiss ion	Permissio nType	Yes if used as a request parameter	Explanation: Granted permission Value range: See Table 7-87. Default value: None

Table 7-84 Grantee

Parameter	Туре	Mandat ory (Yes/No)	Description
Туре	Grantee Type	Yes	Explanation: Grantee type Value range: See Table 7-85. Default value: None
ID	string	Yes if  Type is set to  Grantee User	Explanation: Account (domain) ID of the grantee Value range: To obtain an account ID, see Obtaining the Account ID. Default value: None
DisplayName	string	No	Explanation: Account name of the grantee Restrictions:  Starts with a letter. Contains 6 to 32 characters.  Contains only letters, digits, hyphens (-), or underscores (_).  Default value: None
URI	GroupUr iType	Yes if  Type is set to Grantee Group	Explanation: Authorized user group Value range: See Table 7-86. Default value: None

Table 7-85 GranteeType

Constant	Default Value	Description
GranteeGroup	Group	User group
GranteeUser	CanonicalUser	Individual user

Table 7-86 GroupUriType

Constant	Default Value	Description
GroupAllUsers	AllUsers	All users

**Table 7-87** PermissionType

Constant	Default Value	Description
PermissionRea d	READ	Read permission
PermissionWri te	WRITE	Write permission
PermissionRea dAcp	READ_ACP	Permission to read ACL configurations
PermissionWri teAcp	WRITE_AC P	Permission to modify ACL configurations
PermissionFull Control	FULL_CON TROL	Full control access, including read and write permissions for a bucket and its ACL, or for an object and its ACL.

Table 7-88 List of returned results

Paramet er	Туре	Description
output	*BaseModel	<b>Explanation:</b> Returned results. For details, see <b>Table 7-89</b> .
err	error	<b>Explanation:</b> Error messages returned by the API

Table 7-89 BaseModel

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string] []string	Explanation:
		HTTP response headers
		Default value:
		None

## **Code Examples**

This example configures logging for bucket **examplebucket**, with **obs\_test\_agency** as the agency, **TargetPrefixtest/** as the prefix for generated log files, and **TargetBucketname** as the bucket for storing log files.

```
package main
import (
  "fmt"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
obsClient, err := obs.New(ak, sk, endPoint, obs.WithSignature(obs.SignatureObs)/*,
```

```
obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.SetBucketLoggingConfigurationInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify an agency name (obs_test_agency as an example).
  input.Agency = "obs_test_agency
  // Specify a bucket (TargetBucketname as an example) for storing generated log files.
  input.TargetBucket = "TargetBucketname"
  // Specify a prefix (TargetPrefixtest/ as an example) for log files to be generated.
  input.TargetPrefix = "TargetPrefixtest/"
  // Configure logging for the bucket.
  output, err := obsClient.SetBucketLoggingConfiguration(input)
  if err == nil {
     fmt.Printf("Set bucket(%s)'s logging configuration successful!\n", input.Bucket)
     fmt.Printf("RequestId:%s\n", output.RequestId)
  fmt.Printf("Set bucket(%s)'s logging configuration fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

- Configuring Logging for a Bucket
- (GitHub) Sample Code for Bucket Logging Configuration
- OBS Error Codes

# 7.18 Obtaining the Logging Configuration of a Bucket (SDK for Go)

#### **Function**

This API returns the logging configuration of a bucket.

#### Restrictions

- To obtain the logging configuration of a bucket, you must be the bucket owner or have the required permission (obs:bucket:GetBucketLogging in IAM or GetBucketLogging in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) GetBucketLoggingConfiguration(bucketName string)
(output \*GetBucketLoggingConfigurationOutput, err error)

## **Request Parameters**

**Table 7-90** List of request parameters

Parameter	Туре	Mandato ry (Yes/No)	Description
bucketName	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:
			None

Table 7-91 List of returned results

Param eter	Туре	Description
output	*GetBucketLogging- ConfigurationOutput	<b>Explanation:</b> Returned results. For details, see <b>Table 7-92</b> .
err	error	<b>Explanation:</b> Error messages returned by the API

 Table 7-92
 GetBucketLoggingConfigurationOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be $2xx$ (indicating successes) or $4xx$ or $5xx$ (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeader	map[string	Explanation:
S	][]string	HTTP response headers
		Default value:
		None

Parameter	Туре	Description
Agency	string	Explanation:
		Name of the IAM agency created by the owner of the target bucket for OBS.
		You can select an existing IAM agency or create one. For details about how to create an agency, see Creating an IAM Agency.
		Restrictions:
		By default, the IAM agency only requires the <b>PutObject</b> permission to upload logs to the target bucket. If default encryption is enabled for the target bucket, the agency also requires the <b>KMS Administrator</b> permission in the region where the target bucket is located.
		Default value:
		None
TargetBucket	string	Explanation:
		Name of the bucket for storing log files
		Restrictions:
		This bucket must be in the same region as the bucket with logging enabled.
		A bucket name must be unique across all accounts and regions.
		A bucket name:
		<ul> <li>Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
		<ul> <li>Cannot be formatted as an IP address.</li> </ul>
		<ul> <li>Cannot start or end with a hyphen (-) or period (.).</li> </ul>
		<ul> <li>Cannot contain two consecutive periods         <ul> <li>(), for example, mybucket.</li> </ul> </li> </ul>
		<ul> <li>Cannot contain a period (.) and a hyphen</li> <li>(-) adjacent to each other, for example,</li> <li>mybucket or mybucket.</li> </ul>
		If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.
		Default value:
		None

Parameter	Туре	Description	
TargetPrefix	string	Explanation:	
		Name prefix for log files stored in the log storage bucket	
		Value range:	
		The value must contain 1 to 1,024 characters.	
		Default value:	
		None	
TargetGrants	[]Grant	Explanation:	
		Permission information list of grantees, which defines grantees and their permissions for log files. For details, see <b>Table 7-93</b> .	

#### Table 7-93 Grant

Parameter	Туре	Description
Grantee	Grantee	Explanation: Grantee information. For details, see Table 7-94.
Permission	Permission Type	Explanation: Granted permission
		Value range: See Table 7-97.
		<b>Default value</b> : None

## Table 7-94 Grantee

Parameter	Туре	Description
Туре	GranteeTy	Explanation:
	pe	Grantee type
		Value range:
		See Table 7-95.
		Default value:
		None

Parameter	Туре	Description
ID	string	Explanation:
		Account (domain) ID of the grantee
		Value range:
		To obtain the account ID, see How Do I Get My Account ID and User ID?
		Default value:
		None
DisplayName	string	Explanation:
		Account name of the grantee
		Restrictions:
		Starts with a letter. Contains 6 to 32 characters.
		Contains only letters, digits, hyphens (-), or underscores (_).
		Default value:
		None
URI	GroupUriT	Explanation:
	ype	Authorized user group. For details, see <b>Table 7-96</b> .

## **Table 7-95** GranteeType

Constant	Default Value	Description
GranteeGroup	Group	User group
GranteeUser	CanonicalUser	Individual user

## Table 7-96 GroupUriType

Constant	Default Value	Description
GroupAllUsers	AllUsers	All users

## **Table 7-97** PermissionType

Constant	Default Value	Description
PermissionRea d	READ	Read permission

Constant	Default Description Value		
PermissionWri te	WRITE	Write permission	
PermissionRea dAcp	READ_ACP	Permission to read ACL configurations	
PermissionWri teAcp	WRITE_AC P	Permission to modify ACL configurations	
PermissionFull Control	FULL_CON TROL	Full control access, including read and write permissions for a bucket and its ACL, or for an object and its ACL.	

## **Code Examples**

This example returns the logging configuration of bucket **examplebucket**.

```
package main
import (
  "fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSignature(obs.SignatureObs)/*,
obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  // Specify a bucket name.
  bucketname := "examplebucket"
  // Obtain the logging configuration of the bucket.
  output, err := obsClient.GetBucketLoggingConfiguration(bucketname)
  if err == nil {
     fmt.Printf("Get bucket(%s)'s BucketLoggingConfiguration successful!\n", bucketname)
     fmt.Printf("RequestId:%s\n", output.RequestId)
     fmt.Printf("TargetBucket:%s, TargetPrefix:%s\n", output.TargetBucket, output.TargetPrefix)
     for index, grant := range output.TargetGrants {
        fmt.Printf("Grant[%d]-Type:%s, ID:%s, URI:%s, Permission:%s\n",
          index, grant.Grantee.Type, grant.Grantee.ID, grant.Grantee.URI, grant.Permission)
     return
  fmt.Printf("Get bucket(%s)'s BucketLoggingConfiguration fail!\n", bucketname)
```

```
if obsError, ok := err.(obs.ObsError); ok {
    fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
    fmt.Println(obsError.Error())
} else {
    fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
    fmt.Println(err)
}
```

- Obtaining the Bucket Logging Configuration
- (GitHub) Sample Code for Obtaining the Bucket Logging Configuration
- OBS Error Codes

# 7.19 Configuring a Bucket Policy (SDK for Go)

#### **Function**

OBS provides access control over buckets. You can use an access policy to define whether a user can perform certain operations on a specific bucket. OBS access control can be implemented using IAM permissions, bucket policies, and ACLs. For more information, see Introduction to OBS Access Control.

A bucket policy is applied to a configured bucket and the objects in it. You can use a bucket policy to grant permissions for the bucket and the objects in it to IAM users or other accounts. If you want IAM users to have different permissions for different buckets, you can configure required bucket policies.

This API configures a policy for a bucket.

#### Restrictions

- Permissions for creating a bucket and obtaining a bucket list are service level and should be granted using IAM Permissions.
- Due to data caching, after a bucket policy is configured, it takes 5 minutes at most for the policy to take effect.
- To configure a bucket policy, you must be the bucket owner or have the required permission (obs:bucket:PutBucketPolicy in IAM or PutBucketPolicy in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) SetBucketPolicy(input \*SetBucketPolicyInput) (output
\*BaseModel, err error)

# **Request Parameters**

**Table 7-98** List of request parameters

Paramet er	Туре	Ma nd ato ry (Ye s/N o)	Description
input	*SetBucketPolicyIn- put	Yes	Explanation: Input parameters for configuring a bucket policy. For details, see Table 7-99.

 Table 7-99
 SetBucketPolicyInput

Paramet er	Typ e	Man dato ry (Yes /No)	Description
Bucket	strin g	Yes	<ul> <li>Explanation: Bucket name Restrictions: <ul> <li>A bucket name must be unique across all accounts and regions.</li> <li>A bucket name: <ul> <li>Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> <li>Cannot be formatted as an IP address.</li> <li>Cannot start or end with a hyphen (-) or period (.).</li> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> <li>Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.</li> </ul> </li> <li>If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.</li> </ul> </li> </ul>
Policy	strin g	Yes	Default value: None  Explanation: Policy information in JSON format Restrictions:  The bucket name contained in the Resource parameter of the policy must be the one specified for the current bucket policy.  For details about the policy format, see Bucket Policy Parameters.  Default value: None

Table 7-100 List of returned results

Paramete r	Туре	Description
output	*BaseModel	<b>Explanation:</b> Returned results. For details, see <b>Table 7-101</b> .
err	error	Explanation: Error messages returned by the API

Table 7-101 BaseModel

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None

# **Code Examples**

This example configures a policy for bucket examplebucket.

```
package main
import (
    "fmt"
    "os"
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
)
func main() {
```

```
//Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSignature(obs.SignatureObs)/*,
obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.SetBucketPolicyInput{}
  // Specify a bucket name.
  input.Bucket = "exampleBucket"
  // Create a bucket policy.
  input.Policy = "{\"Statement\":[{\"Sid\":\"Custom policy-2482\",\"Effect\":\"Allow\",\"Principal\":{\"ID\":
[\"*\"]},\"Action\":[\"*\",\"ListBucket\"],\"Resource\":[\"" + input.Bucket + "\"]}]}"
  // Configure the bucket policy.
  output, err := obsClient.SetBucketPolicy(input)
  if err == nil {
     fmt.Printf("SetBucketPolicy:%s successful!\n", input.Bucket)
     fmt.Printf("RequestId:%s\n", output.RequestId)
     return
  fmt.Printf("SetBucketPolicy:%s fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

- Configuring a Bucket Policy
- OBS Error Codes
- Access Control FAQ

# 7.20 Obtaining the Policy of a Bucket (SDK for Go)

#### **Function**

OBS provides access control over buckets. You can use an access policy to define whether a user can perform certain operations on a specific bucket. OBS access control can be implemented using IAM permissions, bucket policies, and ACLs. For more information, see Introduction to OBS Access Control.

A bucket policy is applied to a configured bucket and the objects in it. You can use a bucket policy to grant permissions for the bucket and the objects in it to IAM

users or other accounts. If you want IAM users to have different permissions for different buckets, you can configure required bucket policies.

This API returns the policy of a bucket.

#### Restrictions

- OBS returns "404 NoSuchBucketPolicy" when you call this API in the following scenarios:
  - The specified bucket policy does not exist.
  - Access to the specified bucket is denied.
- To obtain the policy of a bucket, you must be the bucket owner or have the required permission (obs:bucket:GetBucketPolicy in IAM or GetBucketPolicy in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in Regions and Endpoints.

#### Method

func (obsClient ObsClient) GetBucketPolicy(bucketName string) (output
\*GetBucketPolicyOutput, err error)

# **Request Parameters**

**Table 7-102** List of request parameters

Parameter	Туре	Mandato ry (Yes/No)	Description
bucketName	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:
			None

Table 7-103 List of returned results

Parameter	Туре	Description
output	*GetBucketPolicy Output	Explanation: Returned results. For details, see Table 7-104.
err	error	<b>Explanation:</b> Error messages returned by the API

Table 7-104 GetBucketPolicyOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be $2xx$ (indicating successes) or $4xx$ or $5xx$ (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeader	map[string	Explanation:
S	][]string	HTTP response headers
		Default value:
		None

Parameter	Туре	Description
Policy	string	Explanation:
		Policy information in JSON format
		Restrictions:
		<ul> <li>The bucket name contained in the Resource parameter of the policy must be the one specified for the current bucket policy.</li> </ul>
		<ul> <li>For details about the policy format, see Bucket Policy Parameters.</li> </ul>
		Default value:
		None

## **Code Examples**

This example returns the policy of bucket **bucketname**.

```
package main
import (
  "fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSignature(obs.SignatureObs)/*,
obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  // Specify a bucket name.
  bucketname := "examplebucket"
  // Obtain the bucket policy.
  output, err := obsClient.GetBucketPolicy(bucketname)
  if err == nil {
     fmt.Printf("Get policy successful with bucket:%s!\n", bucketname)
     fmt.Printf("RequestId:%s\n", output.RequestId)
     fmt.Printf("Policy:%s\n", output.Policy)
     return
  fmt.Printf("Get policy fail with bucket:%s!\n", bucketname)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
```

```
} else {
    fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
    fmt.Println(err)
}
```

- Obtaining the Bucket Policy
- OBS Error Codes
- Access Control FAQ

# 7.21 Deleting a Bucket Policy (SDK for Go)

#### **Function**

OBS provides access control over buckets. You can use an access policy to define whether a user can perform certain operations on a specific bucket. OBS access control can be implemented using IAM permissions, bucket policies, and ACLs. For more information, see Introduction to OBS Access Control.

A bucket policy is applied to a configured bucket and the objects in it. You can use a bucket policy to grant permissions for the bucket and the objects in it to IAM users or other accounts. If you want IAM users to have different permissions for different buckets, you can configure required bucket policies.

This API deletes the policy of a bucket. OBS returns "204 No Content" upon a successful deletion, regardless of whether the requested bucket policy exists or not.

#### Restrictions

- To delete the policy of a bucket, you must be the bucket owner or have the required permission (obs:bucket:DeleteBucketPolicy in IAM or DeleteBucketPolicy in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

**func** (obsClient ObsClient) DeleteBucketPolicy(**bucketName** string) (output \*BaseModel, err error)

# **Request Parameters**

**Table 7-105** List of request parameters

Parameter	Туре	Mandator y (Yes/No)	Description
bucketName	string	Yes	Explanation: Bucket name
			Restrictions:
			A bucket name must be unique across all accounts and regions.
			A bucket name:
			<ul> <li>Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
			<ul> <li>Cannot be formatted as an IP address.</li> </ul>
			- Cannot start or end with a hyphen (-) or period (.).
			<ul> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> </ul>
			<ul> <li>Cannot contain a period (.)         and a hyphen (-) adjacent         to each other, for example,         mybucket or mybucket.</li> </ul>
			If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.
			Default value:
			None

Table 7-106 List of returned results

Parameter	Туре	Description
output	*BaseModel	Explanation:
		Returned results. For details, see <b>Table 7-107</b> .
err	error	Explanation:
		Error messages returned by the API

Table 7-107 BaseModel

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None

# **Code Examples**

This example deletes the policy of bucket examplebucket.

```
package main
import (

"fmt"

"os"
obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
)
```

```
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient,\ err:=obs. New(ak,\ sk,\ endPoint\ /^*,\ obs. WithSecurityToken(securityToken)^*/)
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  // Specify a bucket name.
  bucketname := "examplebucket"
  // Delete the bucket policy.
  output, err := obsClient.DeleteBucketPolicy(bucketname)
     fmt.Printf("Delete policy successful with bucket:%s!\n", bucketname)
     fmt.Printf("RequestId:%s\n", output.RequestId)
  fmt.Printf("Delete policy fail with bucket:%s!\n", bucketname)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

- Deleting a Bucket Policy
- (GitHub) Sample Code for Deleting a Bucket Policy
- OBS Error Codes
- Access Control FAQ

# 7.22 Configuring Lifecycle Rules for a Bucket (SDK for Go)

#### **Function**

You can configure lifecycle rules to periodically delete objects or transition objects between storage classes. For more information, see **Lifecycle Management**.

This API configures lifecycle rules for a bucket.

#### □ NOTE

- Expired objects will be permanently deleted and cannot be recovered.
- Multi-AZ redundancy is not available for Archive storage. For this reason, buckets or
  objects with multi-AZ redundancy cannot be transitioned to the Archive storage class
  based on a lifecycle rule.
- The minimum storage duration is 30 days for Infrequent Access storage, and 90 days for Archive storage. After an object is transitioned to the Archive storage class, if it stays in this storage class for less than 90 days, you still need to pay for a full 90 days.

#### Restrictions

- There is no limit on the number of lifecycle rules in a bucket, but the total size of XML descriptions about all lifecycle rules in a bucket cannot exceed 20 KB.
- A maximum of 20 lifecycle rules can be configured for a parallel file system.
- To configure a lifecycle rule for a bucket, you must be the bucket owner or have the required permission (obs:bucket:PutLifecycleConfiguration in IAM or PutLifecycleConfiguration in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

### Method

func (obsClient ObsClient) SetBucketLifecycleConfiguration(input
\*SetBucketLifecycleConfigurationInput) (output \*BaseModel, err error)

### **Request Parameters**

**Table 7-108** List of request parameters

Parame ter	Туре	Ma nda tor y (Ye s/N o)	Description
input	*SetBucketLifecy- cleConfiguratio- nInput	Yes	Explanation: Input parameters for lifecycle configuration. For details, see Table 7-109.

 Table 7-109
 SetBucketLifecycleConfigurationInput

Parameter	Туре	Mandat ory (Yes/No)	Description
Bucket	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value: None
LifecycleRules	[]Lifecyc leRule	Yes	Explanation: Lifecycle rule information. For details, see Table 7-110.

Table 7-110 LifecycleRule

Parameter	Туре	Manda tory (Yes/N o)	Description
ID	string	No if used as a request parame ter	Explanation: Lifecycle rule ID Value range: The value must contain 1 to 255 characters. Default value: None
Prefix	string	Yes if used as a request parame ter	Explanation:  Object name prefix. It identifies the objects the rule applies to. You can leave this parameter blank to apply the rule to all objects in the bucket.  Assume that you have the following objects: logs/day1, logs/day2, logs/day3, and ExampleObject.jpg. If you set Prefix to ExampleObject.jpg only. If you set Prefix to logs/, the rule applies to object ExampleObject.jpg only. If you set Prefix to logs/, the rule applies to the three objects with name starting with logs/. If you leave Prefix blank, the rule applies to all objects in the bucket.  Value range:  The value must contain 1 to 1,024 characters.  Default value:  None
Status	RuleStatu sType	Yes if used as a request parame ter	Explanation: Whether the rule is enabled Value range: See Table 7-111. Default value: None

Parameter	Туре	Manda tory (Yes/N o)	Description
Transitions	[]Transiti on	No if used as a request parame ter	Explanation:  Policies for storage class transition, including transition time and the storage class after transition. For details, see Table 7-112.  Restrictions:  This parameter applies only to the current object version.
Expiration	Expiratio n	No if used as a request parame ter	Explanation: Object expiration time. For details, see Table 7-114. Restrictions: This parameter applies only to the current object version.
NoncurrentV ersionTransit ions	[]Noncurr entVersio nTransitio n	No if used as a request parame ter	Explanation:  Policies for storage class transition, including transition time and the storage class after transition. For details, see Table 7-115.  Restrictions:  This parameter applies only to noncurrent object versions.  Versioning is enabled (or suspended after being enabled) for the bucket.
NoncurrentV ersionExpira tion	Noncurre ntVersion Expiratio n	No if used as a request parame ter	Explanation:  Expiration time of noncurrent object versions. For details, see Table 7-116.  Restrictions:  This parameter applies only to noncurrent object versions.  Versioning is enabled (or suspended after being enabled) for the bucket.  CAUTION  This parameter is not available for parallel file systems.

## □ NOTE

 ${\bf Transitions,\,Expiration,\,Noncurrent Version Transitions,\,and\,\,Noncurrent Version Expiration\,\,cannot\,\,be\,\,all\,\,left\,\,blank.}$ 

Table 7-111 RuleStatusType

Constant	Default Value	Description
RuleStatusEnable d	Enabled	Enabled
RuleStatusDisabl ed	Disabled	Disabled

Table 7-112 Transition

Parameter	Туре	Mandator y (Yes/No)	Description
Date	time.Ti me	Yes if this parameter is used as a request parameter and <b>Days</b> is absent	Explanation:  OBS executes the lifecycle rule for objects that were modified before the specified date.  Restrictions:  The value must conform with the ISO8601 standards and indicate UTC 00:00. For example,  2018-01-01T00:00:00.000Z indicates only objects that were last modified before the specified time are transitioned to the specified storage class.  Sample code: time.Now().Add(time.Duration(24) * time.Hour)  Default value: None
Days	int	Yes if this parameter is used as a request parameter and <b>Date</b> is absent	Explanation:  Number of days (since the last update made to the current object version) after which the lifecycle rule takes effect.  Restrictions:  This parameter applies only to the current object version.  Value range:  0 to (2 <sup>31</sup> – 1), in days  Default value:  None

**Table 7-113** StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.

Constant	Default Value	Description
StorageClassWarm	WARM	OBS Infrequent Access Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive Used for storing rarely accessed (once a year) data.

Table 7-114 Expiration

Parameter	Туре	Mandatory (Yes/No)	Description
Date	time. Time	Yes if this parameter is used as a request parameter and <b>Days</b> is absent	Explanation:  OBS executes the lifecycle rule for objects that were modified before the specified date.  Restrictions:  The value must conform with the ISO8601 standards and indicate UTC 00:00. For example,  2018-01-01T00:00:00.000Z indicates only objects that were last modified before the specified time are deleted.  Sample code: time.Now().Add(time.Duration(24) * time.Hour)  Default value:  None
Days	int	Yes if this parameter is used as a request parameter and <b>Date</b> is absent	Explanation:  Number of days (since the last update was made to the object) after which the lifecycle rule takes effect  Restrictions:  This parameter applies only to the current object version.  Value range:  1 to (2 <sup>31</sup> – 1), in days  Default value:  None

 Table 7-115
 NoncurrentVersionTransition

Parameter	Туре	Manda tory (Yes/N o)	Description
NoncurrentDays	int	Yes if used as a request parame ter	Explanation:  Number of days after the object becomes a noncurrent version, when the specified rule takes effect  Restrictions:  This parameter applies only to noncurrent object versions.  Value range:  0 to (2 <sup>31</sup> – 1), in days  Default value:  None

Table 7-116 NoncurrentVersionExpiration

Parameter	Туре	Mandatory (Yes/No)	Description
NoncurrentDays	int	Yes if used as a request parameter	Explanation:  Number of days an object is noncurrent before the specified rule takes effect  Restrictions:  This parameter applies only to noncurrent object versions.  Value range:  0 to (2 <sup>31</sup> – 1), in days  Default value:  None

Table 7-117 List of returned results

Parameter	Туре	Description
output	*BaseModel	Explanation:
		Returned results. For details, see <b>Table 7-118</b> .

Parameter	Туре	Description
err	error	Explanation:
		Error messages returned by the API

Table 7-118 BaseModel

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string] []string	Explanation:
		HTTP response headers
		Default value:
		None

## **Code Examples**

This example configures a lifecycle rule for bucket examplebucket.

```
package main import (
   "fmt"
   "os"
   obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
)
func main() {
   //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
   //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/intl/en-us/usermanual-ca/ca_01_0003.html.
   ak := os.Getenv("AccessKeyID")
   sk := os.Getenv("SecretAccessKey")
   // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
   // securityToken := os.Getenv("SecurityToken")
```

```
// Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
     endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
      // Create an obsClient instance.
      // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
      obsClient, err := obs.New(ak, sk, endPoint, obs.WithSignature(obs.SignatureObs)/*,
obs.WithSecurityToken(securityToken)*/)
     if err != nil {
           fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
     input := &obs.SetBucketLifecycleConfigurationInput{}
     // Specify a bucket name.
     input.Bucket = "examplebucket"
      // Create a lifecycle rule for the bucket.
     input.LifecycleRules = []obs.LifecycleRule{
                ID:
                             "rule1".
                Prefix: "objectPrefix/",
                 Status: obs.RuleStatusEnabled,
                 Transitions: []obs.Transition{
                       {Days: 30, StorageClass: obs.StorageClassCold},
                                                                 obs.Expiration{Days: 100},
                Noncurrent Version Expiration: obs. Noncurrent Version Expiration \{Noncurrent Days: 20\}, and the property of the property of
      // Configure a lifecycle rule for the bucket.
     output, err := obsClient.SetBucketLifecycleConfiguration(input)
      if err == nil {
           fmt.Printf("Set bucket(%s)'s LifecycleConfiguration successful!\n", input.Bucket)
           fmt.Printf("RequestId:%s\n", output.RequestId)
           return
     fmt.Printf("Set bucket(%s)'s LifecycleConfiguration fail!\n", input.Bucket)
     if obsError, ok := err.(obs.ObsError); ok {
           fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
           fmt.Println(obsError.Error())
     } else {
           fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
           fmt.Println(err)
```

- Configuring Bucket Lifecycle Rules
- (GitHub) Sample Code for Configuring a Bucket Lifecycle Rule
- OBS Error Codes

# 7.23 Obtaining the Lifecycle Configuration of a Bucket (SDK for Go)

#### **Function**

You can configure lifecycle rules to periodically delete objects or transition objects between storage classes. For more information, see **Lifecycle Management**.

This API returns the lifecycle rules of a bucket.

#### Restrictions

- To obtain the lifecycle configuration of a bucket, you must be the bucket owner or have the required permission (obs:bucket:GetLifecycleConfiguration in IAM or GetLifecycleConfiguration in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in Regions and Endpoints.

#### Method

func (obsClient ObsClient) GetBucketLifecycleConfiguration(bucketName string)
(output \*GetBucketLifecycleConfigurationOutput, err error)

**Table 7-119** List of request parameters

Parameter	Туре	Mandator y (Yes/No)	Description
bucketName	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:
			None

Table 7-120 List of returned results

Paramet er	Туре	Description
output	*GetBucketLifecycleConfigurationOutput	Explanation: Returned results. For details, see Table 7-121.
err	error	<b>Explanation:</b> Error messages returned by the API

 Table 7-121 GetBucketLifecycleConfigurationOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[strin	Explanation:
	g][]string	HTTP response headers
		Default value:
		None
LifecycleRules	[]Lifecycle	Explanation:
	Rule	Lifecycle rule information. For details, see  Table 7-122.

Table 7-122 LifecycleRule

Parameter	Туре	Description
ID	string	Explanation:
		Lifecycle rule ID
		Value range:
		The value must contain 1 to 255 characters.
		Default value:
		None
Prefix	string	Explanation:
		Object name prefix. It identifies the objects the rule applies to. You can leave this parameter blank to apply the rule to all objects in the bucket.
		Assume that you have the following objects: logs/day1, logs/day2, logs/day3, and ExampleObject.jpg. If you set Prefix to ExampleObject.jpg only. If you set Prefix to logs/, the rule applies to the three objects with name starting with logs/. If you leave Prefix blank, the rule applies to all objects in the bucket.  Value range:
		The value must contain 1 to 1,024
		characters.
		Default value:
		None
Status	RuleStatus	Explanation:
	Туре	Whether the rule is enabled
		Value range:
		See Table 7-123.
		Default value:
		None
Transitions	[]Transitio	Explanation:
	n	Policies for storage class transition, including transition time and the storage class after transition. For details, see  Table 7-124.
		Restrictions:
		This parameter applies only to the current object version.

Parameter	Туре	Description
Expiration	Expiration	Explanation:
		Object expiration time. For details, see <b>Table 7-126</b> .
		Restrictions:
		This parameter applies only to the current object version.
NoncurrentVersion-	[]Noncurre	Explanation:
Transitions	ntVersionT ransition	Policies for storage class transition, including transition time and the storage class after transition. For details, see Table 7-127.
		Restrictions:
		This parameter applies only to noncurrent object versions.
		Versioning is enabled (or suspended after being enabled) for the bucket.
NoncurrentVersionEx-	Noncurren	Explanation:
piration	tVersionEx piration	Expiration time of noncurrent object versions. For details, see <b>Table 7-128</b> .
		Restrictions:
		This parameter applies only to noncurrent object versions.
		<ul> <li>Versioning is enabled (or suspended after being enabled) for the bucket.</li> </ul>
		CAUTION  This parameter is not available for parallel file systems.

### □ NOTE

Transitions, Expiration, NoncurrentVersionTransitions, and NoncurrentVersionExpiration cannot be all left blank.

Table 7-123 RuleStatusType

Constant	Default Value	Description
RuleStatusEnable d	Enabled	Enabled
RuleStatusDisabl ed	Disabled	Disabled

Table 7-124 Transition

Parameter	Туре	Description
StorageClass	StorageClass	Explanation:
	Туре	Storage class of the object after transition
		Restrictions:
		The Standard storage class is not supported.
		Restrictions on storage class transitions:
		<ul> <li>Only transitions from the Standard storage class to the Infrequent Access storage class are supported. To transition objects from Infrequent Access to Standard, you must manually do it.</li> </ul>
		<ul> <li>Only transitions from the Standard or Infrequent Access storage class to the Archive storage class are supported. To transition objects from Archive to Standard or Infrequent Access, you must restore the archived objects first and then manually transition their storage classes.</li> </ul>
		<ul> <li>Multi-AZ redundancy is not available for Archive storage. For this reason, buckets or objects with multi-AZ redundancy cannot be transitioned to the Archive storage class based on a lifecycle rule.</li> </ul>
		Value range:
		See Table 7-125.
		Default value:
		None
Date	time.Time	Explanation:
		Date when an object will be transitioned
		Restrictions:
		The value must conform with the ISO8601 standards and must be at 00:00 (UTC time). For example, 2018-01-01T00:00:00.000Z, indicating only objects that were last modified before that time are transitioned to the specified storage class.
		Sample code: time.Now().Add(time.Duration(24) * time.Hour)
		Default value:
		None

Parameter	Туре	Description
Days	int	Explanation:
		Number of days (since the last update was made to the object) after which the lifecycle rule takes effect
		Restrictions:
		This parameter applies only to the current object version.
		Value range:
		0 to (2 <sup>31</sup> – 1), in days
		Default value:
		None

**Table 7-125** StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.
StorageClassWarm	WARM	OBS Infrequent Access
		Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive
		Used for storing rarely accessed (once a year) data.

Table 7-126 Expiration

Parameter	Туре	Mandatory (Yes/No)	Description
Date	time. Time	Yes if this parameter is used as a request parameter and <b>Days</b> is absent	Explanation:  OBS executes the lifecycle rule for objects that were modified before the specified date.  Restrictions: The value must conform with the ISO8601 standards and indicate UTC 00:00. For example, 2018-01-01T00:00:00.000Z indicates only objects that were last modified before the specified time are deleted.  Sample code: time.Now().Add(time.Duration(24) * time.Hour)  Default value:  None
Days	int	Yes if this parameter is used as a request parameter and <b>Date</b> is absent	Explanation:  Number of days (since the last update was made to the object) after which the lifecycle rule takes effect  Restrictions:  This parameter applies only to the current object version.  Value range:  1 to (2 <sup>31</sup> – 1), in days  Default value:  None

Table 7-127 NoncurrentVersionTransition

Parameter	Туре	Description
StorageClass	StorageClassT	Explanation:
	ype	Storage class of noncurrent object versions after transition
		Restrictions:
		<ul> <li>The Standard storage class is not supported.</li> </ul>
		Restrictions on storage class transitions:
		<ul> <li>Only transitions from the Standard storage class to the Infrequent Access storage class are supported. To transition objects from Infrequent Access to Standard, you must manually do it.</li> </ul>
		<ul> <li>Only transitions from the Standard or Infrequent Access storage class to the Archive storage class are supported. To transition objects from Archive to Standard or Infrequent Access, you must restore the archived objects first and then manually transition their storage classes.</li> </ul>
		<ul> <li>Multi-AZ redundancy is not available for Archive storage. For this reason, buckets or objects with multi-AZ redundancy cannot be transitioned to the Archive storage class based on a lifecycle rule.</li> </ul>
		Value range:
		See <b>Table 7-125</b> .
		Default value:
		None
NoncurrentDa	int	Explanation:
ys		Number of days an object is noncurrent before the specified rule takes effect
		Restrictions:
		This parameter applies only to noncurrent object versions.
		Value range:
		0 to (2 <sup>31</sup> – 1), in days
		Default value:
		None

<b>Table 7-128</b> NoncurrentVersionExpiration
--

Parameter	Туре	Mandatory (Yes/No)	Description
NoncurrentDays	int	Yes if used as a request parameter	Explanation:  Number of days an object is noncurrent before the specified rule takes effect
			Restrictions:
			This parameter applies only to noncurrent object versions.
			Value range:
			0 to (2 <sup>31</sup> – 1), in days
			Default value:
			None

### **Code Examples**

This example returns the lifecycle configuration of bucket examplebucket.

```
package main
import (
  "fmt"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSignature(obs.SignatureObs)/*,
obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  // Specify a bucket name.
  bucketname := "examplebucket"
  // Obtain the lifecycle configuration of the bucket.
  output, err := obsClient.GetBucketLifecycleConfiguration(bucketname)
  if err == nil {
     fmt.Printf("Get LifecycleConfiguration successful with bucket:%s!\n", bucketname)
     fmt.Printf("RequestId:%s\n", output.RequestId)
```

```
fmt.Printf("Get LifecycleConfiguration fail with bucket:%s!\n", bucketname)
if obsError, ok := err.(obs.ObsError); ok {
    fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
    fmt.Println(obsError.Error())
} else {
    fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
    fmt.Println(err)
}
```

- Obtaining Bucket Lifecycle Configuration
- (GitHub) Sample Code for Obtaining the Bucket Lifecycle Configuration
- OBS Error Codes

# 7.24 Deleting the Lifecycle Configuration of a Bucket (SDK for Go)

#### **Function**

You can configure lifecycle rules to periodically delete objects or transition objects between storage classes. For more information, see **Lifecycle Management**.

This API deletes the lifecycle configuration of a bucket.

#### Restrictions

- To delete the lifecycle configuration of a bucket, you must be the bucket owner or have the required permission (obs:bucket:PutLifecycleConfiguration in IAM or PutLifecycleConfiguration in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

**func** (obsClient ObsClient) DeleteBucketLifecycleConfiguration(**bucketName** string) (output \*BaseModel, err error)

**Table 7-129** List of request parameters

Parameter	Туре	Mandator y (Yes/No)	Description
bucketName	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:
			None

Table 7-130 List of returned results

Paramet er	Туре	Description
output	*BaseModel	<b>Explanation:</b> Returned results. For details, see <b>Table 7-131</b> .
err	error	<b>Explanation:</b> Error messages returned by the API

Table 7-131 BaseModel

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None

## **Code Examples**

This example deletes all lifecycle configurations of bucket **examplebucket**. Currently, deleting a single lifecycle rule is not supported.

```
package main
import (

"fmt"

"os"

obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
```

```
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca 01 0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
   // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSignature(obs.SignatureObs)/*,
obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsq: %s", err.Error())
  // Specify a bucket name.
  bucketname := "examplebucket"
  // Delete lifecycle configurations of the bucket.
  output, err := obsClient.DeleteBucketLifecycleConfiguration(bucketname)
  if err == nil {
     fmt.Printf("Delete LifecycleConfiguration successful with bucket:%s!\n", bucketname)
     fmt.Printf("RequestId:%s\n", output.RequestId)
  fmt.Printf("Delete LifecycleConfiguration fail with bucket:%s!\n", bucketname)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
  }
```

- Deleting Lifecycle Rules
- (GitHub) Sample Code for Deleting the Bucket Lifecycle Configuration
- OBS Error Codes

# 7.25 Configuring Static Website Hosting for a Bucket (SDK for Go)

#### **Function**

You can host static website resources such as HTML web pages, flash files, or audio and video files in an OBS bucket, so that you can access these hosted resources using the bucket's website endpoint. Typical use cases include:

- Redirecting all requests to another website
- Redirecting specific requests

This API configures static website hosting for a bucket.

#### Restrictions

- Periods (.) should be avoided in the target bucket name, or there may be certificate verification failures on the client when you use HTTPS for access.
- The request body of the website configuration cannot exceed 10 KB.
- To configure static website hosting for a bucket, you must be the bucket owner or have the required permission (obs:bucket:PutBucketWebsite in IAM or PutBucketWebsite in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) SetBucketWebsiteConfiguration(input
\*SetBucketWebsiteConfigurationInput) (output \*BaseModel, err error)

Table 7-132 List of request parameters

Paramet er	Туре	M an da tor y (Y es/No)	Description
input	*SetBucketWebsite- ConfigurationInput	Yes	Explanation: Input parameters for configuring static website hosting. For details, see Table 7-133.

**Table 7-133** SetBucketWebsiteConfigurationInput

			urationinput
Parameter	Type	Ma nd ato ry (Ye s/N o)	Description
Bucket	string	Yes	Explanation:
			Bucket name
			Restrictions:
			A bucket name must be unique across all accounts and regions.
			A bucket name:
			<ul> <li>Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
			<ul> <li>Cannot be formatted as an IP address.</li> </ul>
			<ul> <li>Cannot start or end with a hyphen</li> <li>(-) or period (.).</li> </ul>
			<ul> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> </ul>
			<ul> <li>Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or my bucket.</li> </ul>
			If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.
			Value range:
			The value must contain 3 to 63 characters.
RedirectAllR	RedirectAllR	No	Explanation:
equestsTo	equestTo		Redirection rules for all requests. For details, see <b>Table 7-134</b> .
IndexDocu	IndexDocum	No	Explanation:
ment	ent		Default page configuration. For details, see <b>Table 7-135</b> .
ErrorDocum	ErrorDocume	No	Explanation:
ent	nt		Error page configuration. For details, see  Table 7-136.

Parameter	Туре	Ma nd ato ry (Ye s/N o)	Description
RoutingRule s	[]RoutingRul e	No	Explanation: List of routing rules. For details, see Table 7-137.

#### □ NOTE

- ErrorDocument, IndexDocument, and RoutingRules must be used together and they cannot be used with RedirectAllRequestsTo.
- When ErrorDocument, IndexDocument, and RoutingRules are used together, RoutingRules can be left blank.
- You must specify either the three parameters (ErrorDocument, IndexDocument, and RoutingRules), or RedirectAllRequestsTo.

Table 7-134 RedirectAllRequestsTo

Parameter	Туре	Man dato ry (Yes /No)	Description
HostName	string	Yes if Redi rect AllR eque stsT o is specified	Explanation: Host name used for redirection, for example, www.example.com Restrictions: The host name must comply with the host name rules. Default value: None
Protocol	Protoco lType	No	Explanation: Protocol used for redirection Value range: See Table 7-140. Default value: None

Table 7-135 IndexDocument

Parameter	Туре	Mandatory (Yes/No)	Description
Suffix	string	Yes if IndexDocum ent is specified	Explanation:  Suffix that is appended to the request for a directory. For example, if the suffix is index.html and you request samplebucket/images/, the returned data will be for the object named images/index.html in the bucket samplebucket.  Value range:  This parameter can neither be left blank nor contain slashes (/).  Default value:  None

Table 7-136 ErrorDocument

Parameter	Туре	Mandatory (Yes/No)	Description
Key	string	No if ErrorDocume nt is specified	Explanation: Object name to use when a 4XX error occurs. This parameter specifies the webpage to display when an error occurs. Value range: The value must contain 1 to 1,024 characters. Default value: None

Table 7-137 RoutingRule

Parameter	Туре	Man dator y (Yes/ No)	Description
Condition	Conditi	No	Explanation: Conditions that must be met for the specified redirect to apply Value range: See Table 7-138. Default value: None
Redirect	Redirec t	Yes if Routi ngRu le is specif ied	Explanation:  Details about the redirection. For details, see Table 7-139.

Table 7-138 Condition

Parameter	Туре	Mandatory (Yes/No)	Description
KeyPrefixEqual	string	No	Explanation:
S			Object name prefix when the redirection is applied. When a request is sent for accessing an object, the redirection rule takes effect if the object name prefix matches the value specified for this parameter.
			For example, to redirect the request for object <b>ExamplePage.html</b> , set the <b>KeyPrefixEquals</b> to <b>ExamplePage.html</b> .
			Restrictions:
			This parameter cannot be used together with <b>HttpErrorCodeRetur-nedEquals</b> .
			Value range:
			The value must contain 1 to 1,024 characters.
			Default value:
			None

Parameter	Туре	Mandatory (Yes/No)	Description
HttpErrorCode ReturnedEqual s	string	No	Explanation: HTTP error codes when the redirection takes effect. The specified redirection is applied only when the error code returned equals the value specified for this parameter. For example, if you want to redirect requests to NotFound.html when HTTP error code 404 is returned, set HttpErrorCodeReturnedEquals to 404 in Condition, and set ReplaceKeyWith to NotFound.html in Redirect. Restrictions: This parameter cannot be used together with KeyPrefixEquals. Value range:
			See Error Codes.  Default value:
			None

Table 7-139 Redirect

Parameter	Туре	Mand atory (Yes/ No)	Description
Protocol	Protoc olType	No if used as a reques t param eter	Explanation: Protocol used for redirection Value range: See Table 7-140. Default value: None
HostName	string	No if used as a reques t param eter	Explanation: Host name used for redirection Default value: None

Parameter	Туре	Mand atory (Yes/ No)	Description
ReplaceKeyPrefix- With	string	No if used as a reques t param eter	Explanation: Object name prefix used for redirection Value range: The value must contain 1 to 1,024 characters. Default value: None
ReplaceKeyWith	string	No if used as a reques t param eter	Explanation: Object name used for redirection Restrictions: This parameter cannot be used together with replaceKeyPrefixWith. Value range: The value must contain 1 to 1,024 characters. Default value: None
HttpRedirectCode	string	No if used as a reques t param eter	Explanation: HTTP status code in the response to the redirect request. For details, see Status Code. Default value: None

**Table 7-140** ProtocolType

Constant	Default Value	Description
ProtocolHttp	http	HTTP protocol used for redirection
ProtocolHttps	https	HTTPS protocol used for the redirection request

Table 7-141 List of returned results

Parameter	Туре	Description
output	*BaseModel	Explanation:
		Returned results. For details, see <b>Table 7-142</b> .
err	error	Explanation:
		Error messages returned by the API

Table 7-142 BaseModel

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None

## **Code Examples**

This example configures static website hosting for bucket **examplebucket**.

```
package main
import (
    "fmt"
    "os"
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
)
func main() {
```

```
//Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSecurityToken(securityToken))
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.SetBucketWebsiteConfigurationInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify a default page (index.html as an example). This configuration indicates that when
examplebucket/images/ is requested, the content of object images/index.html in bucket samplebucket
will be returned.
  input.IndexDocument.Suffix = "index.html"
  // Specify an error page (error.html as an example).
  input.ErrorDocument.Key = "error.html"
  // Specify the list of request redirect rules.
  input.RoutingRules = []obs.RoutingRule{
     {Redirect: obs.Redirect{HostName: "www.a.com", Protocol: obs.ProtocolHttp, ReplaceKeyPrefixWith:
"prefix", HttpRedirectCode: "304"}},
     {Redirect: obs.Redirect{HostName: "www.b.com", Protocol: obs.ProtocolHttps, ReplaceKeyWith:
"replaceKey", HttpRedirectCode: "304"}},
  // Configure static website hosting for the bucket.
  output, err := obsClient.SetBucketWebsiteConfiguration(input)
  if err == nil {
     fmt.Printf("Set bucket(%s)'s website successful!\n", input.Bucket)
     fmt.Printf("RequestId:%s\n", output.RequestId)
  fmt.Printf("Set bucket(%s)'s website fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

- Configuring Static Website Hosting for a Bucket
- (GitHub) Sample Code for Configuring Static Website Hosting for a Bucket
- OBS Error Codes
- FAQ for Static Website Hosting

# 7.26 Obtaining the Static Website Hosting Configuration of a Bucket (SDK for Go)

#### **Function**

You can host static website resources such as HTML web pages, flash files, as well as audio and video files in an OBS bucket, so that you can access these hosted resources using the bucket's website endpoint. Typical use cases include:

- Redirecting all requests to another website
- Redirecting specific requests

This API returns the static website hosting configuration of the bucket.

#### Restrictions

- To obtain the static website hosting configuration of a bucket, you must be the bucket owner or have the required permission (obs:bucket:GetBucketWebsite in IAM or GetBucketWebsite in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in Regions and Endpoints.

#### Method

func (obsClient ObsClient) GetBucketWebsiteConfiguration(bucketName string)
(output \*GetBucketWebsiteConfigurationOutput, err error)

**Table 7-143** List of request parameters

Parameter	Туре	Mandato ry (Yes/No)	Description
bucketName	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:
			None

Table 7-144 List of returned results

Paramet er	Туре	Description
output	*GetBucketWebsit eConfigurationOut put	<b>Explanation:</b> Returned results. For details, see <b>Table 7-145</b> .
err	error	<b>Explanation:</b> Error messages returned by the API

 Table 7-145
 GetBucketWebsiteConfigurationOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation: Request ID returned by the OBS server Default value: None
ResponseHeaders	map[string] []string	Explanation: HTTP response headers Default value: None
RedirectAllReques tsTo	RedirectAllR equestTo	Explanation: Redirection rule of all requests For details, see Table 7-146.
IndexDocument	IndexDocum ent	Explanation: Default page configuration. For details, see Table 7-147.

Parameter	Туре	Description
ErrorDocument	ErrorDocum ent	Explanation: Error page configuration. For details, see Table 7-148.
RoutingRules	[]RoutingRu le	Explanation: Redirection rule list For details, see Table 7-149.

Table 7-146 RedirectAllRequestsTo

Parameter	Туре	Description
HostName	string	Explanation:
		Host name used for redirection, for example, www.example.com
		Restrictions:
		The host name must be in the standard host name format.
		Default value:
		None
Protocol	Protocol	Explanation:
	Туре	Protocol used for redirection
		Value range:
		See Table 7-152.
		Default value:
		None

Table 7-147 IndexDocument

Parameter	Туре	Mandatory (Yes/No)	Description
Suffix	string	Yes if IndexDocum ent is specified	Explanation:  Suffix that is appended to the request for a directory. For example, if the suffix is index.html and you request samplebucket/images/, the returned data will be for the object named images/index.html in the bucket samplebucket.  Value range:  This parameter can neither be left blank nor contain slashes (/).  Default value:  None

Table 7-148 ErrorDocument

Parameter	Туре	Mandatory (Yes/No)	Description
Key	string	No if ErrorDocume nt is specified	Explanation: Object name to use when a 4XX error occurs. This parameter specifies the webpage to display when an error occurs. Value range: The value must contain 1 to 1,024 characters. Default value: None

Table 7-149 RoutingRule

Parameter	Туре	Description
Condition	Conditi	Explanation:
	on	Conditions that must be met for the specified redirect to apply
		Value range:
		See Table 7-150.
		Default value:
		None
Redirect	Redirect	Explanation:
		Details about the redirect request. For details, see <b>Table 7-151</b> .

Table 7-150 Condition

Parameter	Туре	Mandatory (Yes/No)	Description
KeyPrefixEqual	string	No	Explanation:
S			Object name prefix when the redirection is applied. When a request is sent for accessing an object, the redirection rule takes effect if the object name prefix matches the value specified for this parameter.
			For example, to redirect the request for object <b>ExamplePage.html</b> , set the <b>KeyPrefixEquals</b> to <b>ExamplePage.html</b> .
			Restrictions:
			This parameter cannot be used together with <b>HttpErrorCodeRetur-nedEquals</b> .
			Value range:
			The value must contain 1 to 1,024 characters.
			Default value:
			None

Parameter	Туре	Mandatory (Yes/No)	Description
HttpErrorCode	string	No	Explanation:
ReturnedEqual s			HTTP error codes when the redirection takes effect. The specified redirection is applied only when the error code returned equals the value specified for this parameter.
			For example, if you want to redirect requests to <b>NotFound.html</b> when HTTP error code 404 is returned, set <b>HttpErrorCodeReturnedEquals</b> to <b>404</b> in <b>Condition</b> , and set <b>ReplaceKeyWith</b> to <b>NotFound.html</b> in <b>Redirect</b> .
			Restrictions:
			This parameter cannot be used together with <b>KeyPrefixEquals</b> .
			Value range:
			See Error Codes.
			Default value:
			None

Table 7-151 Redirect

Parameter	Туре	Description	
Protocol	Protocol	Explanation:	
	Туре	Protocol used for redirection	
		Value range:	
		See Table 7-152.	
		Default value:	
		None	
HostName	string	Explanation:	
		Host name used for redirection	
		Default value:	
		None	

Parameter	Туре	Description
ReplaceKeyPrefixWith string		Explanation:
		Object name prefix used for redirection
		Value range:
		The value must contain 1 to 1,024 characters.
		Default value:
		None
ReplaceKeyWith	string	Explanation:
		Object name used for redirection
		Restrictions:
		This parameter cannot be used together with replaceKeyPrefixWith.
		Value range:
		The value must contain 1 to 1,024 characters.
		Default value:
		None
HttpRedirectCode	string	Explanation:
		HTTP status code in the response to the redirect request. For details, see <b>Status Code</b> .
		Default value:
		None

Table 7-152 ProtocolType

Constant	Default Value	Description
ProtocolHttp	http	HTTP protocol used for redirection
ProtocolHttps	https	HTTPS protocol used for the redirection request

## **Code Examples**

This example returns the website configuration of bucket **examplebucket**.

```
package main import (
    "fmt"    "os"    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs" )
func main() {
    //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
    //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/intl/en-us/usermanual-ca/ca_01_0003.html.
```

```
ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  // Specify a bucket name.
  bucketname := "examplebucket"
  // Obtain the website configuration of the bucket.
  output, err := obsClient.GetBucketWebsiteConfiguration(bucketname)
  if err == nil {
     fmt.Printf("Get bucket(%s)'s website configuration successful!\n", bucketname)
     fmt.Printf("Get bucket metadata successful!\n")
     fmt.Printf("RequestId:%s\n", output.RequestId)
     fmt.Printf("Suffix:%s\n", output.IndexDocument.Suffix)
     fmt.Printf("Key:%s\n", output.ErrorDocument.Key)
     for index, routingRule := range output.RoutingRules {
       index, routingRule.Condition.KeyPrefixEquals,
routingRule.Condition.HttpErrorCodeReturnedEquals)
        fmt.Printf("Redirect[%d]-Protocol:%s, HostName:%s, ReplaceKeyPrefixWith:%s,
HttpRedirectCode:%s\n",
          index, routingRule.Redirect.Protocol, routingRule.Redirect.HostName,
routingRule.Redirect.ReplaceKeyPrefixWith, routingRule.Redirect.HttpRedirectCode)
     return
  fmt.Printf("Get bucket(%s)'s website configuration fail!\n", bucketname)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

- Obtaining the Static Website Hosting Configuration of a Bucket
- (GitHub) Sample Code for Obtaining the Static Website Hosting Configuration
- OBS Error Codes
- FAQ for Static Website Hosting

# 7.27 Deleting the Static Website Hosting Configuration of a Bucket (SDK for Go)

#### **Function**

You can host static website resources such as HTML web pages, flash files, as well as audio and video files in an OBS bucket, so that you can access these hosted resources using the bucket's website endpoint. Typical use cases include:

- Redirecting all requests to another website
- Redirecting specific requests

This API deletes the static website hosting configuration of the bucket.

#### Restrictions

- To delete the static website hosting configuration of a bucket, you must be the bucket owner or have the required permission (obs:bucket:DeleteBucketWebsite in IAM or DeleteBucketWebsite in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

**func** (obsClient ObsClient) DeleteBucketWebsiteConfiguration(**bucketName** string) (output \*BaseModel, err error)

**Table 7-153** List of request parameters

Parameter	Туре	Mandator y (Yes/No)	Description
bucketName	string		Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.
			<b>Default value</b> : None

Table 7-154 List of returned results

Parameter	Туре	Description
output	*BaseModel	<b>Explanation:</b> Returned results. For details, see <b>Table 7-155</b> .
err	error	Explanation: Error messages returned by the API

Table 7-155 BaseModel

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None

## **Code Examples**

This example deletes the website configuration of bucket examplebucket.

```
package main
import (
    "fmt"
    "os"
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
)
func main() {
    //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
```

```
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  // Specify a bucket name.
  bucketname := "examplebucket"
  // Deletes the website configuration of the bucket.
  output, err := obsClient.DeleteBucketWebsiteConfiguration(bucketname)
     fmt.Printf("Delete bucket(%s)'s website configuration successful!\n", bucketname)
     fmt.Printf("RequestId:%s\n", output.RequestId)
     return
  fmt.Printf("Delete bucket(%s)'s website configuration fail!\n", bucketname)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

- Deleting the Static Website Hosting Configuration of a Bucket
- (GitHub) Sample Code for Deleting the Static Website Hosting Configuration
- OBS Error Codes
- FAQ for Static Website Hosting

## 7.28 Configuring Versioning for a Bucket (SDK for Go)

#### **Function**

You can enable versioning to automatically maintain previous versions of an object. When versioning is enabled, you can access earlier versions of an object to recover your data in the event of accidental actions or application failures. For more information, see **Versioning**.

This API configures the versioning status for a bucket.

#### Restrictions

- To configure versioning for a bucket, you must be the bucket owner or have the required permission (obs:bucket:PutBucketVersioning in IAM or PutBucketVersioning in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) SetBucketVersioning(input
\*SetBucketVersioningInput) (output \*BaseModel, err error)

**Table 7-156** List of request parameters

Paramet er	Туре	Man dato ry (Yes /No)	Description
input	*SetBucketVersio- ningInput	Yes	Explanation: Input parameters for bucket versioning configuration. For details, see Table 7-157.

Table 7-157 SetBucketVersioningInput

Paramet er	Туре	Ma nda tor y (Ye s/N o)	Description
Bucket	string	Yes	<ul> <li>Explanation:</li> <li>Bucket name</li> <li>Restrictions:</li> <li>A bucket name must be unique across all accounts and regions.</li> <li>A bucket name:  <ul> <li>Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> <li>Cannot be formatted as an IP address.</li> <li>Cannot start or end with a hyphen (-) or period (.).</li> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> <li>Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.</li> </ul> </li> <li>If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.</li> <li>Default value:</li> </ul> <li>None</li>
Status	Versioning StatusTyp e	Yes	Explanation: Versioning status of the bucket Value range: See Table 7-158. Default value: None

**Table 7-158** VersioningStatusType

Constant	Default Value	Description
VersioningStatu- sEnabled	Enabled	Enabled
VersioningStatus- Suspended		Suspended

Table 7-159 List of returned results

Parameter	Туре	Description
output	*BaseModel	<b>Explanation:</b> Returned results. For details, see <b>Table 7-160</b> .
err	error	<b>Explanation:</b> Error messages returned by the API

Table 7-160 BaseModel

Parameter Type		Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId string		Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None

#### **Code Examples**

This example enables versioning for bucket examplebucket.

```
package main
import (
  "fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSignature(obs.SignatureObs)/*,
obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.SetBucketVersioningInput{}
  // Specify a bucket name.
  input.Bucket = "bucketname"
  // Specify the versioning status (obs.VersioningStatusEnabled as an example) for the bucket.
  input.Status = obs.VersioningStatusEnabled
  // Configure versioning for the bucket.
  output, err := obsClient.SetBucketVersioning(input)
  if err == nil {
     fmt.Printf("Set bucket(%s)'s versioning status successful!\n", input.Bucket)
     fmt.Printf("RequestId:%s\n", output.RequestId)
     return
  fmt.Printf("Set bucket(%s)'s versioning status fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

## **Helpful Links**

- Configuring Versioning for a Bucket
- (GitHub) Sample Code for Configuring Versioning Status for a Bucket
- OBS Error Codes
- Versioning FAQ

# 7.29 Obtaining the Versioning Status of a Bucket (SDK for Go)

#### **Function**

You can enable versioning to automatically maintain previous versions of an object. When versioning is enabled, you can access earlier versions of an object to recover your data in the event of accidental actions or application failures. For more information, see **Versioning**.

This API obtains the versioning status of a bucket.

#### Restrictions

- To obtain the versioning status of a bucket, you must be the bucket owner or have the required permission (obs:bucket:GetBucketVersioning in IAM or GetBucketVersioning in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

**func** (obsClient ObsClient) GetBucketVersioning(**bucketName** string) (output \***GetBucketVersioningOutput**, err error)

**Table 7-161** List of request parameters

Parameter	Туре	Ma nda tory (Yes /No	Description
bucketName	string	Yes	Explanation: Bucket name
			Restrictions:
			A bucket name must be unique across all accounts and regions.
			<ul> <li>A bucket name:         <ul> <li>Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> <li>Cannot be formatted as an IP address.</li> <li>Cannot start or end with a hyphen (-) or period (.).</li> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> </ul> </li> </ul>
			<ul> <li>Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.</li> <li>If you repeatedly create buckets of</li> </ul>
			<ul> <li>If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.</li> </ul>
			Default value:
			None

Table 7-162 List of returned results

Parameter	Туре	Description
output	*GetBucketVe rsioningOutp ut	Explanation: Returned results. For details, see Table 7-163.
err	error	<b>Explanation:</b> Error messages returned by the API

 Table 7-163
 GetBucketVersioningOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string] []string	Explanation:
		HTTP response headers
		Default value:
		None
Status	VersioningSt	Explanation:
	atusType	Versioning status of the bucket
		Value range:
		See <b>Table 7-164</b> .
		Default value:
		None

Table 7-164 VersioningStatusType

Constant	Default Value	Description
VersioningStatu- sEnabled	Enabled	Enabled
VersioningStatus- Suspended	Suspended	Suspended

### **Code Examples**

This example returns the versioning status of bucket **examplebucket**.

```
package main
import (
   "fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSignature(obs.SignatureObs)/*,
obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  // Specify a bucket name.
  bucketname := "examplebucket"
  // Obtain the bucket's versioning status.
  output, err := obsClient.GetBucketVersioning(bucketname)
  if err == nil {
     fmt.Printf("Get bucket(%s)'s versioning status successful!\n", bucketname)
     fmt.Printf("RequestId:%s\n", output.RequestId)
     fmt.Printf("VersioningStatus:%s\n", output.Status)
     return
  fmt.Printf("Get bucket(%s)'s versioning status fail!\n", bucketname)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

#### **Helpful Links**

- Obtaining Bucket Versioning Status
- (GitHub) Sample Code for Obtaining the Versioning Status of a Bucket
- OBS Error Codes
- Versioning FAQ

# 7.30 Configuring CORS for a Bucket (SDK for Go)

#### **Function**

Cross-origin resource sharing (CORS) is a browser-standard mechanism defined by the World Wide Web Consortium (W3C). It allows a web client in one origin to interact with resources in another one. For general web page requests, website scripts and contents in one origin cannot interact with those in another because of Same Origin Policies (SOPs). OBS supports CORS rules that allow the resources in OBS to be requested from other origins.

This API configures CORS for a bucket.

#### Restrictions

- To configure CORS for a bucket, you must be the bucket owner or have the required permission (obs:bucket:PutBucketCORS in IAM or PutBucketCORS in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) SetBucketCors(input \*SetBucketCorsInput) (output
\*BaseModel, err error)

**Table 7-165** List of request parameters

Parameter	Туре	Mand atory (Yes/ No)	Description
input	*SetBucketCorsI nput	Yes	Explanation: Input parameters for configuring CORS for a bucket. For details, see Table 7-166.

 Table 7-166
 SetBucketCorsInput

Parameter	Туре	Man dato ry (Yes /No)	Description
Bucket	string	Yes	Explanation: Bucket name Restrictions:  • A bucket name must be unique across all accounts and regions.  • A bucket name:  - Must be 3 to 63 characters long and start with a digit or
			letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  - Cannot be formatted as an IP address.  - Cannot start or end with a hyphen (-) or period (.).  - Cannot contain two consecutive periods (), for example, mybucket.  - Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.
			<ul> <li>If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.</li> <li>Default value:</li> </ul> None
CorsRules	[]CorsRule	Yes	Explanation:  CORS rule list of the bucket. For details, see Table 7-167.  Restrictions:  A list can have a maximum of 100 CORS rules.

Table 7-167 CorsRule

Parameter	Ty pe	Mand atory (Yes/ No)	Description	
ID	stri ng	No if used as a reque st para meter	Explanation: CORS rule ID Value range: The value must contain 1 to 255 characters. Default value: None	
AllowedMethod	[]st rin g	Yes if used as a reque st para meter	s if ed a request, same as the operation types of buckets and objects.  Value range:	
AllowedOrigin	[]st rin g	Yes if used as a reque st para meter	Explanation: The origin from which the requests can access the bucket. Restrictions: Domain name of the origin. Each origin can contain only one wildcard character (*), for example, https://*.vbs.example.com. Default value: None	

Parameter	Ty pe	Mand atory (Yes/ No)	Description
AllowedHeader	[]st rin g	No if used as a reque st para meter	Explanation: The allowed headers for cross-origin requests. Only CORS requests matching the allowed headers are valid.  Restrictions: Each header can contain only one wildcard character (*). Spaces, ampersands (&), colons (:), and less-than signs (<) are not allowed.  Default value: None
MaxAgeSeconds	int	No if used as a reque st para meter	Explanation: Time your client can cache the response for a cross-origin request  Restrictions: Each CORS rule can specify only one value for MaxAgeSeconds.  Value range: 0 to (2 <sup>31</sup> – 1), in seconds  Default value: 100
ExposeHeader	[]st rin g	No if used as a reque st para meter	Explanation: The CORS-allowed additional headers in the response. These headers provide additional information to clients. By default, your browser can only access headers Content-Length and Content-Type. If your browser needs to access other headers, add them to a list of the allowed additional headers.  Restrictions: Spaces, wildcard characters (*), ampersands (&), colons (:), and less-than signs (<) are not allowed.  Default value: None

Table 7-168 List of returned results

Parameter	Туре	Description	
output	*BaseModel	<b>Explanation:</b> Returned results. For details, see <b>Table 7-169</b> .	
err	error	<b>Explanation:</b> Error messages returned by the API	

Table 7-169 BaseModel

Parameter	Туре	Description	
StatusCode	int	Explanation:	
		HTTP status code	
		Value range:	
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .	
		Default value:	
		None	
RequestId	string	Explanation:	
		Request ID returned by the OBS server	
		Default value:	
		None	
ResponseHeaders	map[string]	Explanation:	
	[]string	HTTP response headers	
		Default value:	
		None	

## **Code Examples**

This example configures CORS rules for bucket examplebucket.

```
package main
import (
    "fmt"
    "os"
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
)
func main() {
    //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
```

```
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSecurityToken(securityToken))
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.SetBucketCorsInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify CORS rules.
  input.CorsRules = []obs.CorsRule{
     {
                   "rule1",
        AllowedOrigin: []string{"http://www.a.com", "http://www.b.com"},
        AllowedMethod: []string{"GET", "PUT"},
        AllowedHeader: []string{"header1", "header2"},
        MaxAgeSeconds: 1000,
        ExposeHeader: []string{"obs-1", "obs-2"},
     },
                   "rule2",
        AllowedOrigin: []string{"http://www.c.com", "http://www.d.com"}, AllowedMethod: []string{"GET", "POST"},
        AllowedHeader: []string{"header3", "header4"},
        MaxAgeSeconds: 1000,
     },
  // Configure CORS for the bucket.
  output, err := obsClient.SetBucketCors(input)
     fmt.Printf("Set bucket(%s) CORS configuration successful!\n", input.Bucket)
     fmt.Printf("Requestld:%s\n", output.Requestld)
  fmt.Printf("Set bucket(%s) CORS configuration fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

## **Helpful Links**

- Configuring Bucket CORS
- (GitHub) Sample Code for Configuring CORS for a Bucket
- OBS Error Codes

# 7.31 Obtaining the CORS Configuration of a Bucket (SDK for Go)

#### **Function**

Cross-origin resource sharing (CORS) is a browser-standard mechanism defined by the World Wide Web Consortium (W3C). It allows a web client in one origin to interact with resources in another one. For general web page requests, website scripts and contents in one origin cannot interact with those in another because of Same Origin Policies (SOPs). OBS supports CORS rules that allow the resources in OBS to be requested from other origins.

This API returns the CORS configuration of a bucket.

#### Restrictions

- To obtain the CORS configuration of a bucket, you must be the bucket owner or have the required permission (obs:bucket:GetBucketCORS in IAM or GetBucketCORS in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in Regions and Endpoints.

#### Method

func (obsClient ObsClient) GetBucketCors(bucketName string) (output
\*GetBucketCorsOutput, err error)

**Table 7-170** List of request parameters

Parameter	Туре	Ma nd ato ry (Ye s/N o)	Description
bucketNam	string	Yes	Explanation:
е			Bucket name
			Restrictions:
			<ul> <li>A bucket name must be unique across all accounts and regions.</li> </ul>
			A bucket name:
			<ul> <li>Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
			<ul> <li>Cannot be formatted as an IP address.</li> </ul>
			<ul> <li>Cannot start or end with a hyphen (-) or period (.).</li> </ul>
			<ul> <li>Cannot contain two consecutive periods         <ul> <li>(), for example, mybucket.</li> </ul> </li> </ul>
			<ul> <li>Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.</li> </ul>
			<ul> <li>If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.</li> </ul>
			Default value:
			None

**Table 7-171** List of returned results

Parameter	Туре	Description	
output	*GetBucketCors Output	Explanation: Returned results. For details, see Table 7-172.	
err	error	<b>Explanation:</b> Error messages returned by the API	

Table 7-172 GetBucketCorsOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None
CorsRules	[]CorsRule	Explanation:
		CORS rule list of the bucket. For details, see <b>Table 7-173</b> .

Table 7-173 CorsRule

Parameter	Ty pe	Mand atory (Yes/ No)	Description	
ID	stri ng	No if used as a reque st para meter	Explanation: CORS rule ID Value range: The value must contain 1 to 255 characters. Default value: None	
AllowedMethod	[]st rin g	Yes if used as a reque st para meter	used as a request, same as the operation types of buckets and objects.  Value range:	
AllowedOrigin	[]st rin g	Yes if used as a reque st para meter	Explanation: The origin from which the requests can access the bucket. Restrictions: Domain name of the origin. Each origin can contain only one wildcard character (*), for example, https://*.vbs.example.com. Default value: None	

Parameter	Ty pe	Mand atory (Yes/ No)	Description	
AllowedHeader	[]st rin g	No if used as a reque st para meter	Explanation: The allowed headers for cross-origin requests. Only CORS requests matching the allowed headers are valid.  Restrictions: Each header can contain only one wildcard character (*). Spaces, ampersands (&), colons (:), and less-than signs (<) are not allowed.  Default value: None	
MaxAgeSeconds	int	No if used as a reque st para meter	Explanation: Time your client can cache the response for a cross-origin request  Restrictions: Each CORS rule can specify only one value for MaxAgeSeconds.  Value range: 0 to (2 <sup>31</sup> – 1), in seconds  Default value: 100	
ExposeHeader	[]st rin g	No if used as a reque st para meter	Explanation: The CORS-allowed additional headers in the response. These headers provide additional information to clients. By default, your browser can only access headers Content-Length and Content-Type. If your browser needs to access other headers, add them to a list of the allowed additional headers.  Restrictions: Spaces, wildcard characters (*), ampersands (&), colons (:), and less-than signs (<) are not allowed.  Default value: None	

## **Code Examples**

This example returns the CORS configuration of bucket **examplebucket**.

```
package main
import (
  "fmt"
  "os"
  "strings"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsq: %s", err.Error())
  // Specify a bucket name.
  bucketname := "examplebucket"
  // Obtain the bucket's CORS configuration.
  output, err := obsClient.GetBucketCors(bucketname)
  if err == nil {
     fmt.Printf("Get bucket(%s) CORS configuration successful!\n", bucketname)
     fmt.Printf("Requestld:%s\n", output.Requestld)
     for _, corsRule := range output.CorsRules {
       fmt.Printf("ID:%s, AllowedOrigin:%s, AllowedMethod:%s, AllowedHeader:%s, MaxAgeSeconds:%d,
ExposeHeader:%s\n",
          corsRule.ID, strings.Join(corsRule.AllowedOrigin, "|"), strings.Join(corsRule.AllowedMethod, "|"),
          strings.Join(corsRule.AllowedHeader, "|"), corsRule.MaxAgeSeconds,
strings.Join(corsRule.ExposeHeader, "|"))
     return
  fmt.Printf("Get bucket(%s) CORS configuration fail!\n", bucketname)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

## **Helpful Links**

- Obtaining the CORS Configuration of a Bucket
- (GitHub) Sample Code for Obtaining the CORS Configuration
- OBS Error Codes

# 7.32 Deleting the CORS Configuration of a Bucket (SDK for Go)

#### **Function**

Cross-origin resource sharing (CORS) is a browser-standard mechanism defined by the World Wide Web Consortium (W3C). It allows a web client in one origin to interact with resources in another one. For general web page requests, website scripts and contents in one origin cannot interact with those in another because of Same Origin Policies (SOPs). OBS supports CORS rules that allow the resources in OBS to be requested from other origins.

This API deletes the CORS configuration of a bucket.

#### Restrictions

- To delete the CORS configuration of a bucket, you must be the bucket owner or have the required permission (obs:bucket:PutBucketCORS in IAM or PutBucketCORS in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

**func** (obsClient ObsClient) DeleteBucketCors(**bucketName** string) (output \*BaseModel. err error)

**Table 7-174** List of request parameters

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
			Bucket name  Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive
			periods (), for example, mybucket.  - Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  • If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:  None

Table 7-175 List of returned results

Parameter	Туре	Description	
output	*BaseModel	<b>Explanation:</b> Returned results. For details, see <b>Table 7-176</b> .	
err	error	Explanation: Error messages returned by the API	

Table 7-176 BaseModel

Parameter	Туре	Description	
StatusCode	int	Explanation:	
		HTTP status code	
		Value range:	
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .	
		Default value:	
		None	
RequestId	string	Explanation:	
		Request ID returned by the OBS server	
		Default value:	
		None	
ResponseHeaders	map[string]	Explanation:	
	[]string	HTTP response headers	
		Default value:	
		None	

## **Code Examples**

This example deletes CORS rules of bucket examplebucket.

```
package main
import (
    "fmt"
    "os"
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
)
func main() {
    //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
```

```
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  // Specify a bucket name.
  bucketname := "examplebucket"
  // Deletes the website configuration of the bucket.
  output, err := obsClient.DeleteBucketWebsiteConfiguration(bucketname)
     fmt.Printf("Delete bucket(%s)'s website configuration successful!\n", bucketname)
     fmt.Printf("RequestId:%s\n", output.RequestId)
     return
  fmt.Printf("Delete bucket(%s)'s website configuration fail!\n", bucketname)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

## **Helpful Links**

- Deleting the CORS Configuration of a Bucket
- (GitHub) Sample Code for Deleting the CORS Configuration
- OBS Error Codes

# 7.33 Configuring Tags for a Bucket (SDK for Go)

#### **Function**

This API adds tags to a bucket.

#### Restrictions

- A bucket can have a maximum of 10 tags.
- A tag key and its value can contain a maximum of 128 and 255 characters, respectively.
- Tag keys and key values cannot contain commas (,), asterisks (\*), vertical bars (|), slashes (/), less-than signs (<), greater-than signs (>), equal signs (=), backslashes (\), or ASCII codes (0x00 to 0x1F).

- To configure tags for a bucket, you must be the bucket owner or have the required permission (obs:bucket:PutBucketTagging in IAM or PutBucketTagging in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in Regions and Endpoints.

#### Method

func (obsClient ObsClient) SetBucketTagging(input \*SetBucketTaggingInput)
(output \*BaseModel, err error)

**Table 7-177** List of request parameters

Parameter	Туре	Man dato ry (Yes/ No)	Description
input	*SetBucketTaggin- gInput	Yes	Explanation: Input parameters for configuring tags for a bucket. For details, see Table 7-178.

**Table 7-178** SetBucketTaggingInput

Parameter	Туре	Man dato ry (Yes /No)	Description
Bucket	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:  None
			None

Parameter	Туре	Man dato ry (Yes /No)	Description
Tags	[]Tag	Yes	Explanation: Bucket tag list. For details, see Table 7-179. Restrictions:  A bucket can have a maximum of 10 tags. Each tag can have only one pair of key values.  For the same bucket, tag keys must be unique, but tag values can be duplicated or left blank.

## Table 7-179 Tag

Parameter	Туре	Mandatory (Yes/No)	Description
Key	string	Yes if used as a request parameter	<ul> <li>Explanation: Tag key Restrictions: <ul> <li>The tag key in the same bucket must be unique.</li> <li>The value of the key can be self-defined or predefined by TMS.</li> </ul> </li> <li>The key must contain 1 to 128 characters.</li> <li>Tag keys cannot start or end with a space and cannot contain commas (,), asterisks (*), vertical bars ( ), slashes (/), less-than signs (&lt;), greater-than signs (&gt;), equal signs (=), backslashes (\), or ASCII control characters (0x00 to 0x1F). Tag keys and values must be URL encoded before being sent to a server.</li> <li>The value is case-sensitive.</li> </ul> Default value: None

Parameter	Туре	Mandatory (Yes/No)	Description
Value	string	Yes if used as a request parameter	Explanation: Tag value Restrictions: Tag values can be duplicated or left blank.  • The value must contain 0 to 255 characters.  • Tag values cannot start or end with a space and cannot contain commas (,), asterisks (*), vertical bars ( ), slashes (/), less-than signs (<), greater-than signs (>), equal signs (=), backslashes (\), or ASCII control characters (0x00 to 0x1F). Tag keys and values must be URL encoded before being sent to a server.  • The value is case-sensitive.  Default value: None

Table 7-180 List of returned results

Parameter	Туре	Description
output	*BaseModel type BaseModel struct	<b>Explanation:</b> Returned results. For details, see <b>Table 7-181</b> .
err	error	<b>Explanation:</b> Error messages returned by the API

Table 7-181 BaseModel

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None

### Code Examples

This example adds tags for bucket **examplebucket**.

```
package main
import (
   "fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
```

```
input := &obs.SetBucketTaggingInput{}
  // Specify a bucket name.
  input.Bucket = "bucketname"
  // Specify tags for the bucket.
  input.Tags = []obs.Tag{
     {Key: "key0", Value: "value0"},
     {Key: "key1", Value: "value1"},
  // Configure tags for the bucket.
  output, err := obsClient.SetBucketTagging(input)
  if err == nil {
     fmt.Printf("Set bucket(%s)'s tag configuration successful!\n", input.Bucket)
     fmt.Printf("RequestId:%s\n", output.RequestId)
  fmt.Printf("Set bucket(%s)'s tag configuration fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

#### **Helpful Links**

- Configuring Tags for a Bucket
- (GitHub) Sample Code for Configuring Bucket Tags
- OBS Error Codes

# 7.34 Obtaining Bucket Tags (SDK for Go)

#### **Function**

This API returns the tags of a bucket.

#### Restrictions

- To obtain the bucket tags, you must be the bucket owner or have the required permission (obs:bucket:GetBucketTagging in IAM or GetBucketTagging in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) GetBucketTagging(bucketName string) (output
\*GetBucketTaggingOutput, err error)

**Table 7-182** List of request parameters

Parameter	Туре	Man dato ry (Yes /No)	Description
bucketName	string	Yes	Explanation:
			Bucket name
			Restrictions:
			<ul> <li>A bucket name must be unique across all accounts and regions.</li> </ul>
			A bucket name:
			<ul> <li>Must be 3 to 63 characters long and start with a digit or letter.</li> <li>Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
			<ul> <li>Cannot be formatted as an IP address.</li> </ul>
			<ul> <li>Cannot start or end with a hyphen (-) or period (.).</li> </ul>
			<ul> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> </ul>
			<ul> <li>Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.</li> </ul>
			<ul> <li>If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.</li> </ul>
			Default value:
			None

Table 7-183 List of returned results

Parameter	Туре	Description
output	*GetBucketTaggin- gOutput	Explanation: Returned results. For details, see Table 7-184.
err	error	<b>Explanation:</b> Error messages returned by the API

 Table 7-184 GetBucketTaggingOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be $2xx$ (indicating successes) or $4xx$ or $5xx$ (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[str	Explanation:
	ing] []string	HTTP response headers
	[]Jannig	Default value:
		None
Tags	[]Tag	Explanation:
		Bucket tag list. For details, see <b>Table 7-185</b> .
		Restrictions:
		<ul> <li>A bucket can have a maximum of 10 tags.</li> <li>Each tag can have only one pair of key values.</li> </ul>
		For the same bucket, tag keys must be unique, but tag values can be duplicated or left blank.

**Table 7-185** Tag

Parameter	Туре	Mandatory (Yes/No)	Description
Key	string	Yes if used as a request parameter	<ul> <li>Explanation: Tag key Restrictions: <ul> <li>The tag key in the same bucket must be unique.</li> <li>The value of the key can be self-defined or predefined by TMS.</li> <li>The key must contain 1 to 128 characters.</li> <li>Tag keys cannot start or end with a space and cannot contain commas (,), asterisks (*), vertical bars ( ), slashes (/), less-than signs (&lt;), greater-than signs (&gt;), equal signs (=), backslashes (\), or ASCII control characters (0x00 to 0x1F). Tag keys and values must be URL encoded before being sent to a server.</li> <li>The value is case-sensitive.</li> </ul> </li> <li>Default value:</li> </ul>
Value	string	Yes if used as a request parameter	Explanation: Tag value Restrictions: Tag values can be duplicated or left blank.  The value must contain 0 to 255 characters.  Tag values cannot start or end with a space and cannot contain commas (,), asterisks (*), vertical bars ( ), slashes (/), less-than signs (<), greater-than signs (>), equal signs (=), backslashes (\), or ASCII control characters (0x00 to 0x1F). Tag keys and values must be URL encoded before being sent to a server.  The value is case-sensitive.  Default value: None

#### **Code Examples**

This example returns the tag set associated with bucket **examplebucket**.

```
package main
import (
   "fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  // Specify a bucket name.
  bucketname := "examplebucket"
  // Obtain bucket tags.
  output, err := obsClient.GetBucketTagging(bucketname)
  if err == nil {
     fmt.Printf("Get bucket(%s)'s tagging configuration successful!\n", bucketname)
     fmt. Printf("RequestId: \%s \n", output. RequestId)\\
     for index, tag := range output.Tags {
       fmt.Printf("Tag[%d]-Key:%s, Value:%s\n", index, tag.Key, tag.Value)
     return
  fmt.Printf("Get bucket(%s)'s tagging configuration fail!\n", bucketname)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

## **Helpful Links**

- Obtaining Bucket Tags
- (GitHub) Sample Code for Obtaining Bucket Tags
- OBS Error Codes

# 7.35 Deleting Bucket Tags (SDK for Go)

#### **Function**

This API deletes the tags of a bucket.

#### Restrictions

- To delete bucket tags, you must be the bucket owner or have the required permission (obs:bucket:DeleteBucketTagging in IAM or DeleteBucketTagging in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) DeleteBucketTagging(bucketName string) (output
\*BaseModel, err error)

**Table 7-186** List of request parameters

Parameter	Туре	Man dator y (Yes/ No)	Description
bucketName	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:
			None

Table 7-187 List of returned results

Parameter	Туре	Description
output	*BaseModel	Explanation:
		Returned results. For details, see <b>Table 7-188</b> .
err	error	Explanation:
		Error messages returned by the API

Table 7-188 BaseModel

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None

## **Code Examples**

This example deletes the tags from bucket **examplebucket**.

```
package main
import (
    "fmt"
    "os"
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
)
func main() {
```

```
//Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  // Specify a bucket name.
  bucketname := "examplebucket"
  // Delete the tags from the bucket.
  output, err := obsClient.DeleteBucketTagging(bucketname)
  if err == nil {
     fmt.Printf("Delete bucket(%s)'s tagging configuration successful!\n", bucketname)
     fmt.Printf("RequestId:%s\n", output.RequestId)
  fmt.Printf("Delete bucket(%s)'s tagging configuration fail!\n", bucketname)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

- Deleting Bucket Tags
- (GitHub) Sample Code for Deleting Bucket Tags
- OBS Error Codes

### 7.36 Configuring Bucket Encryption (SDK for Go)

#### **Function**

After you enable encryption for a bucket, the objects you upload to this bucket will be encrypted with the specified encryption method before they are stored in OBS. When you later download these encrypted objects, OBS decrypts them first and then returns them to you.

This API configures or updates encryption for a bucket.

#### Restrictions

 To configure encryption for a bucket, you must be the bucket owner or have the required permission (obs:bucket:PutEncryptionConfiguration in IAM or **PutEncryptionConfiguration** in a bucket policy). For details, see **Introduction to OBS Access Control**, **IAM Custom Policies**, and **Creating a Custom Bucket Policy**.

• The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) SetBucketEncryption(input
\*SetBucketEncryptionInput) (output \*BaseModel, err error)

**Table 7-189** List of request parameters

Parameter	Туре	Ma nda tory (Yes /No	Description
input	*SetBucketEncryp- tionInput	Yes	Explanation: Input parameters for configuring bucket encryption. For details, see Table 7-190.

**Table 7-190** SetBucketEncryptionInput

Parameter	Туре	Man dato ry (Yes /No)	Description
Bucket	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:  None
SSEAlgorithm	string	Yes	Explanation: Objects are encrypted using serverside SSE-KMS. Value range: kms Default value: None

Parameter	Туре	Man dato ry (Yes /No)	Description
KMSMasterKeyID	string	No	Explanation:  KMS master key used for SSE-KMS  Value range:  Valid value formats are as follows:  1. regionID.domainID:key key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  If this parameter is not specified, the default master key will be used.
ProjectID	string	No	Explanation:  ID of the project where the KMS master key belongs in SSE-KMS  Restrictions:  The project ID must match KMSMasterKeyID.  Leave the project ID blank if KMSMasterKeyID is not specified.  Value range: To obtain the project ID, see How Do I Obtain a Project ID?.  Default value: None

Table 7-191 List of returned results

Parameter	Туре	Description
output	*BaseModel	Explanation:
		Returned results. For details, see <b>Table 7-192</b> .
err	error	Explanation:
		Error messages returned by the API

Table 7-192 BaseModel

Parameter	Туре	Description
StatusCode int		Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId string		Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None

#### **Code Examples**

This example configures encryption for bucket **examplebucket**, with the encryption method **kms** and key **ce706220-a1f1-4e78-9ebb-xxxxxxxxxxx32** used.

```
package main
import (
    "fmt"
    "os"
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
)
func main() {
```

```
//Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint /*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.SetBucketEncryptionInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify a server-side encryption algorithm (kms as an example).
  input.SSEAlgorithm = "kms'
  // Specify a KMS customer master key (CMK). If no CMK is specified, the default one will be used.
  input.KMSMasterKeyID = "ce706220-a1f1-4e78-9ebb-xxxxxxxxxx32"
  // Configure encryption for the bucket.
  output, err := obsClient.SetBucketEncryption(input)
  if err == nil {
     fmt.Printf("Set bucket(%s)'s encryption configuration successful!\n", input.Bucket)
     fmt.Printf("RequestId:%s\n", output.RequestId)
     return
  fmt.Printf("Set bucket(%s)'s encryption configuration fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

- Configuring Bucket Encryption
- (GitHub) Sample Code for Configuring Bucket Encryption
- OBS Error Codes
- Security FAQ

# 7.37 Obtaining the Bucket Encryption Configuration (SDK for Go)

#### **Function**

After you enable encryption for a bucket, the objects you upload to this bucket will be encrypted with the specified encryption method before they are stored in OBS. When you later download these encrypted objects, OBS decrypts them first and then returns them to you.

This API returns the encryption configuration of a bucket.

#### Restrictions

- To obtain the encryption configuration of a bucket, you must be the bucket owner or have the required permission (obs:bucket:GetEncryptionConfiguration in IAM or GetEncryptionConfiguration in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

**func** (obsClient ObsClient) GetBucketEncryption(bucketName string) (output \*GetBucketEncryptionOutput, err error)

**Table 7-193** List of request parameters

Parameter	Туре	Mandator y (Yes/No)	Description
bucketName	string	Yes	Explanation:
			Bucket name
			Restrictions:
			<ul> <li>A bucket name must be unique across all accounts and regions.</li> </ul>
			A bucket name:
			<ul> <li>Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
			<ul> <li>Cannot be formatted as an IP address.</li> </ul>
			<ul> <li>Cannot start or end with a hyphen (-) or period (.).</li> </ul>
			<ul> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> </ul>
			<ul> <li>Cannot contain a period (.)         and a hyphen (-) adjacent         to each other, for example,         mybucket or mybucket.</li> </ul>
			If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.
			Value range:
			The value must contain 3 to 63 characters.

Table 7-194 List of returned results

Parameter	Туре	Description
output	*GetBucketEncryp- tionOutput	Explanation: Returned results. For details, see Table 7-195.
err	error	<b>Explanation:</b> Error messages returned by the API

Table 7-195 GetBucketEncryptionOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders map[string]		Explanation:
	[]string	HTTP response headers
		Default value:
		None
SSEAlgorithm	string	Explanation:
		Objects are encrypted using SSE-KMS on the server side.
		Value range:
		kms
		Default value:
		None

Parameter	Туре	Description
KMSMasterKeyID	string	Explanation:
		ID of the KMS master key used for SSE-KMS
		Value range:
		Valid value formats are as follows:
		1. regionID:domainID:key key_id
		2. <i>key_id</i>
		In the preceding formats:
		<ul> <li>regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.</li> </ul>
		<ul> <li>domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?</li> </ul>
		<ul> <li>key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.</li> </ul>
		Default value:
		If this parameter is not specified, the default master key will be used.
ProjectID	string	Explanation:
		ID of the project where the KMS master key belongs in SSE-KMS
		Restrictions:
		<ul> <li>The project ID must match KMSMasterKeyID.</li> </ul>
		<ul> <li>Leave the project ID blank if KMSMasterKeyID is not specified.</li> </ul>
		Value range:
		To obtain the enterprise project ID, see <b>How Do I Obtain a Project ID?</b> .
		Default value:
		None

### **Code Examples**

This example returns the encryption configuration of bucket **examplebucket**.

```
package main
import (
    "fmt"
    "os"
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
)
func main() {
```

```
//Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  // Specify a bucket name.
  bucketname := "examplebucket"
  // Obtain the encryption configuration of the bucket.
  output, err := obsClient.GetBucketEncryption(bucketname)
  if err == nil {
     fmt.Printf("Get bucket(%s)'s encryption configuration successful!\n", bucketname)
     fmt.Printf("RequestId:%s\n", output.RequestId)
     fmt.Printf("Encryption:%s\n", output.SSEAlgorithm)
     fmt.Printf("KeyID:%s\n", output.KMSMasterKeyID)
  fmt.Printf("Get bucket(%s)'s encryption configuration fail!\n", bucketname)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
  }
```

- Obtaining Bucket Encryption Configuration
- (GitHub) Sample Code for Obtaining the Bucket Encryption Configuration
- OBS Error Codes
- Security FAQ

# 7.38 Deleting the Bucket Encryption Configuration (SDK for Go)

#### **Function**

After you enable encryption for a bucket, the objects you upload to this bucket will be encrypted with the specified encryption method before they are stored in OBS. When you later download these encrypted objects, OBS decrypts them first and then returns them to you.

This API deletes the encryption configuration of a bucket.

#### Restrictions

- To delete the encryption configuration of a bucket, you must be the bucket owner or have the required permission
   (obs:bucket:PutEncryptionConfiguration in IAM or
   PutEncryptionConfiguration in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

**func** (obsClient ObsClient) DeleteBucketEncryption(bucketName string) (output \*BaseModel, err error)

**Table 7-196** List of request parameters

Parameter	Туре	Mandator y (Yes/No)	Description
bucketName	string		Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.
			<b>Default value</b> : None

Table 7-197 List of returned results

Parameter	Туре	Description
output	*BaseModel	Explanation:
		Returned results. For details, see <b>Table 7-198</b> .
err	error	Explanation:
		Error messages returned by the API

Table 7-198 BaseModel

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId string		Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None

#### **Code Examples**

This example deletes the encryption configuration of bucket examplebucket.

```
package main
import (
    "fmt"
    "os"
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
)
func main() {
    //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
```

```
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  // Specify a bucket name.
  bucketname := "examplebucket"
  // Delete the bucket encryption configuration.
  output, err := obsClient.DeleteBucketEncryption(bucketname)
     fmt.Printf("Delete bucket(%s)'s encryption configuration successful!\n", bucketname)
     fmt.Printf("RequestId:%s\n", output.RequestId)
     return
  fmt.Printf("Delete bucket(%s)'s encryption configuration fail!\n", bucketname)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

- Deleting the Encryption Configuration of a Bucket
- (GitHub) Sample Code for Deleting the Bucket Encryption Configuration
- OBS Error Codes
- Security FAQ

# 7.39 Configuring a Custom Domain Name for a Bucket (SDK for Go)

#### **Function**

This API configures a custom domain name for a bucket.

#### Restrictions

 To configure a custom domain name for a bucket, you must be the bucket owner or have the required permission

(obs:bucket:PutBucketCustomDomainConfiguration in IAM or PutBucketCustomDomainConfiguration in a bucket policy). For details, see

Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.

• The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) SetBucketCustomDomain(input
\*SetBucketCustomDomainInput) (output \*BaseModel, err error)

**Table 7-199** List of request parameters

Parameter	Туре	Mandator y (Yes/No)	Description
input	*SetBucke tCustomD omainInp ut	Yes	Explanation: Input parameters for configuring a custom domain name for the bucket. For details, see Table 7-200.

 Table 7-200
 SetBucketCustomDomainInput

Parameter	Туре	Mandat ory (Yes/No)	Description
Bucket	string	Yes	Explanation:
			Bucket name
			Restrictions:
			A bucket name must be unique across all accounts and regions.
			A bucket name:
			<ul> <li>Must be 3 to 63 characters long and start with a digit or letter.</li> <li>Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
			<ul> <li>Cannot be formatted as an IP address.</li> </ul>
			<ul> <li>Cannot start or end with a hyphen</li> <li>(-) or period (.).</li> </ul>
			<ul> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> </ul>
			<ul> <li>Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or my bucket.</li> </ul>
			If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.
			Default value:
			None
CustomDomai	string	Yes	Explanation:
n			Custom domain name to configure
			Restrictions:
			The value must comply with the domain name rules.
			Default value:
			The value can be up to 256 bytes.
			Default value:
			None

Table 7-201 List of returned results

Parameter	Туре	Description
output	*BaseModel	Explanation:
		Returned results. For details, see <b>Table 7-202</b> .
err	error	Explanation:
		Error messages returned by the API

#### Table 7-202 BaseModel

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None

#### **Code Examples**

This example configures custom domain name **www.example.com** for bucket **examplebucket**.

```
package main
import (
    "fmt"
    "os"
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
)
func main() {
```

```
//Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSecurityToken(securityToken))
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.SetBucketCustomDomainInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify a user-defined domain name (www.example.com as an example) for the bucket.
  input.CustomDomain = "www.example.com"
  // Configure a user-defined domain name for the bucket.
  output, err := obsClient.SetBucketCustomDomain(input)
  if err == nil {
     fmt.Printf("Set bucket(%s)'s customdomain successful!\n", input.Bucket)
     fmt.Printf("RequestId:%s\n", output.RequestId)
     return
  fmt.Printf("Set bucket(%s)'s customdomain fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

- Configuring a Custom Domain Name for a Bucket
- OBS Error Codes

# 7.40 Obtaining the Custom Domain Name of a Bucket (SDK for Go)

#### **Function**

This API obtains the custom domain name of a bucket.

#### Restrictions

 To obtain the custom domain name for a bucket, you must be the bucket owner or have the required permission (obs:bucket:GetBucketCustomDomainConfiguration in IAM or GetBucketCustomDomainConfiguration in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.

• The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) GetBucketCustomDomain(bucketName string) (output
\*GetBucketCustomDomainOuput, err error)

**Table 7-203** List of request parameters

Parameter	Туре	Mandator y (Yes/No)	Description
bucketName	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:
			None

Table 7-204 List of returned results

Parameter	Туре	Description
output	*GetBucketC ustomDomai nOuput	Explanation: Returned results. For details, see Table 7-205.
err	error	<b>Explanation:</b> Error messages returned by the API

Table 7-205 GetBucketCustomDomainOuput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeader	map[string	Explanation:
S	][]string	HTTP response headers
		Default value:
		None
Domains	[]Domain	Explanation:
		Domain information. For details, see <b>Table 7-206</b> .

Table 7-206 Domain

Parameter	Туре	Description
DomainName	string	Explanation:
		User-defined domain name
		Restrictions:
		The value must comply with the domain name rules.
		Default value:
		The value can be up to 256 bytes.
		Default value:
		None
CreateTime	string	Explanation:
		Time when the custom domain name was created For example: 2019-03-13T10:22:05.912Z

#### **Code Examples**

This example returns the custom domain name of bucket examplebucket.

```
package main
import (
  "fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSecurityToken(securityToken))
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  // Specify a bucket name.
  bucketname := "examplebucket"
  // Obtain the custom domain name of the bucket.
  output, err := obsClient.GetBucketCustomDomain(bucketname)
  if err == nil {
     fmt.Printf("Get bucket(%s)'s customdomain successful!\n", bucketname)
     fmt.Printf("RequestId:%s\n", output.RequestId)
     return
```

```
fmt.Printf("Get bucket(%s)'s customdomain fail!\n", bucketname)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
     } else {
      fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
     }
}
```

- Obtaining the Custom Domain Name of a Bucket
- OBS Error Codes

# 7.41 Deleting the Custom Domain Name of a Bucket (SDK for Go)

#### **Function**

This API deletes the custom domain name of a bucket.

#### Restrictions

- To delete the custom domain name of a bucket, you must be the bucket owner or have the required permission (obs:bucket:DeleteBucketCustomDomainConfiguration in IAM or DeleteBucketCustomDomainConfiguration in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) DeleteBucketCustomDomain(input
\*DeleteBucketCustomDomainInput) (output \*BaseModel, err error)

Table 7-207 List of request parameters

Parameter	Туре	Mandator y (Yes/No)	Description
input	*DeleteBu cketCusto mDomain Input	Yes	Explanation: Input parameters for deleting the custom domain name of a bucket. For details, see Table 7-208.

 Table 7-208
 DeleteBucketCustomDomainInput

Parameter	Туре	Mandat ory (Yes/No)	Description
Bucket	string	Yes	Explanation:
			Bucket name
			Restrictions:
			A bucket name must be unique across all accounts and regions.
			A bucket name:
			<ul> <li>Must be 3 to 63 characters long and start with a digit or letter.</li> <li>Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
			<ul> <li>Cannot be formatted as an IP address.</li> </ul>
			<ul> <li>Cannot start or end with a hyphen</li> <li>(-) or period (.).</li> </ul>
			<ul> <li>Cannot contain two consecutive periods (), for example,</li> <li>mybucket.</li> </ul>
			<ul> <li>Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or my bucket.</li> </ul>
			<ul> <li>If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.</li> </ul>
			Default value:
			None
CustomDomai	string	Yes	Explanation:
n			Custom domain name to be deleted
			Restrictions:
			The value must comply with the domain name rules.
			Default value:
			The value can be up to 256 bytes.
			Default value:
			None

Table 7-209 List of returned results

Parameter	Туре	Description
output	*BaseModel	Explanation:
		Returned results. For details, see <b>Table 7-210</b> .
err	error	Explanation:
		Error messages returned by the API

#### Table 7-210 BaseModel

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None

#### **Code Examples**

This example deletes the user-defined domain name **www.example.com** bound to bucket **examplebucket**.

```
package main
import (
    "fmt"
    "os"
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
)
func main() {
```

```
//Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSecurityToken(securityToken))
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.DeleteBucketCustomDomainInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify a user-defined domain name (www.example.com as an example) for the bucket.
  input.CustomDomain = "www.example.com"
  // Delete the user-defined domain name bound to the bucket.
  output, err := obsClient.DeleteBucketCustomDomain(input)
  if err == nil {
     fmt.Printf("Delete bucket(%s)'s customdomain successful!\n", input.Bucket)
     fmt.Printf("RequestId:%s\n", output.RequestId)
  fmt.Printf("Delete bucket(%s)'s customdomain fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
  }
```

- Deleting the Custom Domain Name of a Bucket
- OBS Error Codes

# 8 Parallel File System APIs (SDK for Go)

### 8.1 Creating a Parallel File System (SDK for Go)

#### **Function**

Parallel file systems (PFSs) are containers for storing objects in OBS. Files uploaded to OBS are stored as objects in PFSs. This API creates a PFS.

When creating a PFS, you can also configure parameters such as the storage class, region, and access control as needed.

#### Restrictions

- To create a PFS, you must have the obs:bucket:CreateBucket permission. IAM is recommended for granting permissions. For details, see IAM Custom Policies.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

When creating a PFS, if you use the endpoint **obs.myhuaweicloud.com** for client initialization, you do not have to specify a region (indicated by **location**) where the PFS will be created, because OBS automatically creates the PFS in the CN North-Beijing1 (cn-north-1) region. However, if the endpoint you use is not **obs.myhuaweicloud.com**, you must specify a region that matches the used endpoint, or status code **400** is returned.

For example, if the endpoint used for initialization is **obs.ap-southeast-1.myhuaweicloud.com**, you must set **Location** to **ap-southeast-1** when creating a PFS. Otherwise, status code **400** is returned.

- A maximum of 100 PFSs (regardless of regions) can be created for an account. There is no limit on the number and size of objects in a PFS.
- The name of a PFS must be unique in OBS. If you repeatedly create PFSs with the same name in the same region, an HTTP status code 200 will be returned. In other cases, creating a PFS with the same name as an existing PFS will have an HTTP status code 409 returned, indicating that such a PFS already exists.

- The name of a deleted PFS can be reused for another PFS at least 30 minutes after the deletion.
- Not all regions support the creation of multi-AZ PFSs. You can check whether
  a region allows you to create multi-AZ PFSs by referring to Product Pricing
  Details.

#### Method

func (obsClient ObsClient) CreateBucket(input \*CreateBucketInput) (output
\*BaseModel, err error)

**Table 8-1** List of request parameters

Parameter	Туре	Ma nda tory (Yes /No	Description
input	*CreateBucketInput	Yes	Explanation:
			Input parameters for creating a PFS. For details, see <b>Table 8-2</b> .

**Table 8-2** CreateBucketInput

Table 6-2 cicatebucketinput				
Para mete	Туре	Mandator y	Description	
r		(Yes/No)		
Bucke	string	Yes	Explanation:	
t			PFS name.	
			Restrictions:	
			<ul> <li>A PFS name must be unique across all accounts and regions.</li> </ul>	
			A PFS name:	
			<ul> <li>Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>	
			<ul> <li>Cannot be formatted as an IP address.</li> </ul>	
			<ul> <li>Cannot start or end with a hyphen (-) or period (.).</li> </ul>	
			<ul> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> </ul>	
			<ul> <li>Cannot contain periods (.) and hyphens (-) adjacent to each other, for example, mybucket or mybucket.</li> </ul>	
			<ul> <li>If you repeatedly create PFSs with the same name in the same region, no error will be reported and the PFS attributes comply with those set in the first creation request.</li> </ul>	
			Default value:	
			None	

Para mete r	Туре	Mandator y (Yes/No)	Description
Locat			Explanation:
ion		region where the	Region where the PFS is to be created.
		OBS	Restrictions:
		service resides is not the default	If the specified endpoint is <b>obs.myhuaweicloud.com</b> , this parameter is not required. If any other endpoints are specified, this parameter is required.
		region	Value range:
			To learn about valid regions and endpoints, see <b>Regions and Endpoints</b> . An endpoint is the request address for calling an API. Endpoints vary depending on services and regions. To obtain the regions and endpoints, contact the enterprise administrator.
			Default value:
			If <b>obs.myhuaweicloud.com</b> is used as the endpoint and no region is specified, <b>cn-north-1</b> (the CN North-Beijing1 region) is used by default.
ACL	AclTy	No	Explanation:
	pe		Access control list (ACL) that can be pre-defined when a PFS is created. For details about ACLs, see ACLs.
			Value range:
			For details about the ACL options, see <b>AclType</b> .
			Default value:
			private
Stora	Stora	No	Explanation:
geCla ss	geCla ssTyp		PFS storage class that can be specified at PFS creation.
	е		Value range:
			See Table 8-4.
			Default value:
			STANDARD

Para mete r	Туре	Mandator y (Yes/No)	Description
Grant	string	No	Explanation:
Readl d			ID (domain_id) of an account the <b>READ</b> permission is granted to. The account with the <b>READ</b> permission can list objects, multipart uploads, and object versions in the PFS you are creating, and can obtain PFS metadata.
			Value range:
			To obtain the account ID, see <b>How Do I Get My Account ID and User ID?</b>
			Default value:
			None
Grant	string	No	Explanation:
Write   Id			ID (domain_id) of an account the <b>WRITE</b> permission is granted to. The account with the <b>WRITE</b> permission can create, delete, and overwrite objects in the PFS you are creating, and can initiate or abort multipart uploads, as well as upload, copy, and assemble parts.
			Value range:
			To obtain the account ID, see How Do I Get My Account ID and User ID?
			Default value:
			None
Grant Read Acpld	string	No	Explanation:  ID (domain_id) of an account the READ_ACP permission is granted to. The account with the READ_ACP permission can read the ACL of the PFS you are creating.
			Value range:
			To obtain the account ID, see How Do I Get My Account ID and User ID?
			Default value:
			None

Para mete r	Туре	Mandator y (Yes/No)	Description
Grant Write Acpld	string	No	Explanation:  ID (domain_id) of an account the WRITE_ACP permission is granted to. The account with the WRITE_ACP permission can modify the ACL of the PFS you are creating.  Value range:  To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value:  None
Grant FullC ontro IId	string	No	Explanation:  ID (domain_id) of an account the  FULL_CONTROL permission is granted to. The account with the FULL_CONTROL permission can perform any operation on the PFS you are creating.  Value range: To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value: None
Grant Read Deliv eredI d	string	No	Explanation:  ID (domain_id) of an account the READ permission is granted to. By default, this READ permission applies to all objects in the PFS.  Value range:  To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value:  None

Para mete r	Туре	Mandator y (Yes/No)	Description
Grant	string	No	Explanation:
FullC ontro lDeliv eredI d			ID (domain_id) of an account the <b>FULL_CONTROL</b> permission is granted to. The account with the <b>FULL_CONTROL</b> permission has full control over the PFS you are creating. By default, the <b>FULL_CONTROL</b> permission applies to all objects in the PFS.
			Value range:
			To obtain the account ID, see How Do I Get My Account ID and User ID?
			Default value:
			None
Epid	string	No	Explanation:
			Enterprise project ID that can be specified at PFS creation. If you have enabled EPS, you can obtain the project ID from the EPS console.
			Restrictions:
			The value of <b>Epid</b> is a UUID. <b>Epid</b> is not required if you have not enabled EPS.
			Example: <b>9892d768-2d13-450f-aac7-</b> <b>ed0e44c2585f</b>
			Default value:
			None
Avail	string	No	Explanation:
ableZ one			Data redundancy type that can be specified at PFS creation.
			Restrictions:
			Multi-AZ redundancy is not available for Archive storage. If the region where the PFS is to be created does not support multi-AZ storage, the PFS uses single-AZ storage by default.
			Value range:
			To configure multi-AZ storage for the PFS, set this parameter to <b>3az</b> . To configure single-AZ storage (default value assigned by OBS) for the PFS, you do not need to specify this parameter.
			Default value:
			single AZ

Para mete r	Туре	Mandator y (Yes/No)	Description
IsFSFi leInte rface	bool	No	Explanation: Whether a PFS is created Value range: • true: A PFS is created. • false: A bucket is created. Default value: false

Table 8-3 AclType

Constant	Default Value	Description
AclPrivate	private	Private read/write A bucket or object can only be accessed by its owner.
AclPublicRead	public-read	Public read and private write  If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket.  If it is granted on an object, anyone can read the content and metadata of the object.
AclPublicReadWrit e	public-read- write	Public read/write  If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket, and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart upload tasks.  If it is granted on an object, anyone can read the content and metadata of the object.

Constant	Default Value	Description
AclPublicReadDe- livered	public-read- delivered	Public read on a bucket as well as objects in the bucket
		If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions, and read the content and metadata of objects in the bucket.  NOTE  AclPublicReadDelivered does not apply to objects.
AclPublicReadWri- teDelivered	public-read- write-delivered	Public read/write on a bucket as well as objects in the bucket
		If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket, and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart uploads. They can also read the content and metadata of objects in the bucket.  NOTE  AclPublicReadWriteDelivered does not apply to objects.
AclBucketOwnerFu llControl	bucket-owner- full-control	If this permission is granted on an object, only the bucket and object owners have the full control over the object.
		By default, if you upload an object to a bucket of any other user, the bucket owner does not have the permissions on your object. After you grant this permission to the bucket owner, the bucket owner can have full control over your object.

**Table 8-4** StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.
StorageClassWarm	WARM	OBS Infrequent Access
		Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive
		Used for storing rarely accessed (once a year) data.

**Table 8-5** List of returned results

Parameter	Туре	Description
output	*BaseModel	Explanation: Returned results. For details, see Table 8-6.
err	error	<b>Explanation:</b> Error messages returned by the API

Table 8-6 BaseModel

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None

This example creates a parallel file system.

```
package main
import (
  "fmt'
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using
environment variables or import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the region where the bucket is to be created. CN-Hong Kong is
used here as an example. Replace it with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
```

```
fmt.Printf("Create obsClient error, errMsq: %s", err.Error())
  input := &obs.CreateBucketInput{}
  // Specify the name of the PFS.
  input.Bucket = "examplebucket"
  // Specify the region where the bucket is to be created. The region must be the same as that in the
passed endpoint. ap-southeast-1 is used as an example.
  input.Location = "ap-southeast-1"
// Specify the ACL. obs.AclPrivate is used as an example.
  input.ACL = obs.AclPrivate
  // Specify the AZ type for the bucket. If this parameter is not specified, or it is specified but the involved
region does not support multi-AZ storage, single-AZ storage is applied. 3az is used as an example.
  input.AvailableZone = "3az"
  // Specify the bucket type as PFS.
  input.IsFSFileInterface = true
  // Create a bucket.
  output, err := obsClient.CreateBucket(input)
  if err == nil {
     fmt.Printf("Create bucket:%s successful!\n", input.Bucket)
     fmt.Printf("RequestId:%s\n", output.RequestId)
  fmt.Printf("Create bucket:%s fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

# 8.2 Listing Parallel File Systems (SDK for Go)

#### **Function**

Parallel file systems (PFSs) are containers for storing objects in OBS. Files uploaded to OBS are stored as objects in PFSs. This API returns a list of all PFSs that meet the specified conditions in all regions of the current account. Returned PFSs are listed in alphabetical order by PFS name.

#### Restrictions

- To list PFSs, you must have the obs:bucket:ListAllMyBuckets permission. IAM is recommended for granting permissions. For details, see IAM Custom Policies.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) ListBuckets(input \*ListBucketsInput) (output
\*ListBucketsOutput, err error)

**Table 8-7** List of request parameters

Param eter	Туре	Mandatory (Yes/No)	Description
input	*ListBucket sInput	No	Explanation: Input parameters for listing PFSs. For details, see Table 8-8.

**Table 8-8** ListBucketsInput

Parameter	Туре	Mandatory (Yes/No)	Description
QueryLocat	bool	No	Explanation:
ion			Whether to query the PFS location.
			Value range:
			• <b>true</b> : The PFS location is queried.
			false: The PFS location is not queried.
			Default value:
			false
BucketType	BucketT	No	Explanation:
	ype	ype	Type of the buckets to be listed.
			Value range:
		See Table 8-9.	
			Default value:
			If this parameter is not specified, all buckets and parallel file systems are listed.

Table 8-9 BucketType

Constant	Default Value	Description
OBJECT	OBJECT	An object bucket
POSIX	POSIX	A parallel POSIX-compatible file bucket

**Table 8-10** List of returned results

Parameter	Туре	Description
output	*ListBucke tsOutput	<b>Explanation:</b> Returned results. For details, see <b>Table 8-11</b> .
err	error	Explanation: Error messages returned by the API

 Table 8-11 ListBucketsOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeader	map[string]	Explanation:
S	[]string	HTTP response headers
		Default value:
		None
Owner	Owner	Explanation:
		PFS owner.
		Value range:
		See Table 8-12.
Buckets	[]Bucket	Explanation:
		PFS list.
		Value range:
		See Table 8-13.

Table 8-12 Owner

Parame ter	Туре	Mandatory (Yes/No)	Description
ID	string	Yes if used as a request parameter	Explanation: Account (domain) ID of the owner Value range: To obtain the account ID, see How Do I Get My Account ID and User ID? Default value: None

Table 8-13 Bucket

Parameter	Туре	Description
Name	string	Explanation:
		Bucket name
		Restrictions:
		A bucket name must be unique across all accounts and regions.
		A bucket name:
		<ul> <li>Must be 3 to 63 characters long and start with a digit or letter.</li> <li>Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
		<ul> <li>Cannot be formatted as an IP address.</li> </ul>
		<ul> <li>Cannot start or end with a hyphen</li> <li>(-) or period (.).</li> </ul>
		<ul> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> </ul>
		<ul> <li>Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or my bucket.</li> </ul>
		Default value:
		None
CreationDate	time.Time	Explanation:
		Time when the bucket was created
		Default value:
		None

Parameter	Туре	Description
Location	string	Explanation:
		Region where a bucket is located
		Restrictions:
		If the used endpoint is obs.myhuaweicloud.com, this parameter is not required. If any other endpoint is used, this parameter is required.
		Value range:
		To learn about valid regions and endpoints, see <b>Regions and Endpoints</b> . An endpoint is the request address for calling an API. Endpoints vary depending on services and regions. To obtain the regions and endpoints, contact the enterprise administrator.
		Default value:
		If <b>obs.myhuaweicloud.com</b> is used as the endpoint and no region is specified, <b>cn-north-1</b> (the CN North-Beijing1 region) is used by default.
BucketType	string	Explanation:
		Bucket type
		Value range:
		Object bucket: OBJECT
		Parallel file system: POSIX
		Default value:
		None

This example lists all PFSs.

```
package main
import (
    "fmt"
    "os"
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
)
func main() {
    //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
    //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/intl/en-us/usermanual-ca/ca_01_0003.html.
    ak := os.Getenv("AccessKeyID")
    sk := os.Getenv("SecretAccessKey")
    // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
```

```
// securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the region where the bucket is located. CN-Hong Kong is used
here as an example. Replace it with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.ListBucketsInput{}
  // Specify whether to query the PFS location in the listing. The default value is false. true is used as an
  input.QueryLocation = true
  // Specify the type of the buckets to list. By default, all buckets and PFSs are listed. obs.POSIX is used as
an example, indicating that all PFSs are listed.
  input.BucketType = obs.POSIX
  // List PFSs.
  output, err := obsClient.ListBuckets(input)
  if err == nil {
     fmt.Printf("List buckets successful!\n")
     fmt.Printf("RequestId:%s\n", output.RequestId)
     for index, val := range output.Buckets {
        fmt.Printf("Bucket[%d]-Name:%s,CreationDate:%s\n", index, val.Name, val.CreationDate)
     return
  fmt.Printf("List buckets fail!\n")
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

# 8.3 Listing Objects in a Parallel File System (SDK for Go)

#### **Function**

This API lists some or all of the objects in a parallel file system (PFS). You can configure the prefix, number, and start position to list objects that meet specified criteria. Returned objects are listed in alphabetical order by object name.

#### Restrictions

- A maximum of 1,000 objects can be listed for each API call.
- To list objects in a PFS, you must be the PFS owner or have the required permission (obs:bucket:ListBucket in IAM or ListBucket in a policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Creating a Custom Bucket Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) ListObjects(input \*ListObjectsInput) (output
\*ListObjectsOutput, err error)

**Table 8-14** List of request parameters

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
input	*ListObjectsInput	Yes	Explanation: Input parameters for listing objects in a PFS. For details, see Table 8-15.

Table 8-15 ListObjectsInput

Paramet er	Туре	Man dator y (Yes/ No)	Description
Bucket	string	Yes	Explanation:
			PFS name.
			Restrictions:
			<ul> <li>A PFS name must be unique across all accounts and regions.</li> </ul>
			A PFS name:
			<ul> <li>Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
			<ul> <li>Cannot be formatted as an IP address.</li> </ul>
			<ul> <li>Cannot start or end with a hyphen (-) or period (.).</li> </ul>
			<ul> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> </ul>
			<ul> <li>Cannot contain a period (.) and a hyphen</li> <li>(-) adjacent to each other, for example,</li> <li>mybucket or mybucket.</li> </ul>
			If you repeatedly create PFSs with the same name in the same region, no error will be reported and the PFS attributes comply with those set in the first creation request.
			Default value:
			None
Marker	string	No	Explanation:
			Object name to start with when listing objects in a bucket. Objects after the specified object are returned in alphabetical order.
			Restrictions:
			This parameter is only used for listing objects with a single version.
			Value range:
			The value can contain 1 to 1,024 characters.
			Default value:
			None

Paramet er	Туре	Man dator y (Yes/ No)	Description
Prefix	string	No	Explanation:
			Name prefix that the objects to be listed must contain
			Assume that you have the following objects: logs/day1, logs/day2, logs/day3, and ExampleObject.jpg. If you specify logs/ as the prefix, logs/day1, logs/day2, and logs/day3 will be returned. If this parameter is left blank and there are no other filter criteria, all objects in the PFS will be returned.
			Value range:
			The value can contain 1 to 1,024 characters.
			Default value:
			None
MaxKeys	int	No	Explanation:
			The maximum number of objects returned in the response in alphabetical order
			Value range:
			The value ranges from <b>1</b> to <b>1000</b> . If the specified value is greater than <b>1000</b> , only 1,000 objects are returned.
			Default value:
			1000

Paramet er	Туре	Man dator y (Yes/ No)	Description
Delimiter	string	No	Explanation:  Object names are grouped by this parameter, which is often used with Prefix. If a prefix is specified, objects with the same string from the prefix to the first delimiter are grouped into one CommonPrefixes. If no prefix is specified, objects with the same string from the first character to the first delimiter are grouped into one CommonPrefixes.
			Assume that a PFS has objects <b>abcd</b> , <b>abcde</b> , and <b>bbcde</b> in it. If <b>delimiter</b> is set to <b>d</b> and <b>prefix</b> is set to <b>a</b> , objects <b>abcd</b> and <b>abcde</b> are grouped into a <b>CommonPrefixes</b> with <b>abcd</b> as the prefix. If only <b>delimiter</b> is set to <b>d</b> , files <b>abcd</b> and <b>abcde</b> are grouped into a <b>CommonPrefixes</b> with <b>abcd</b> as the prefix, and <b>bbcde</b> is grouped separately into another <b>CommonPrefixes</b> with <b>bbcd</b> as the prefix.
			For a PFS, if this parameter is not specified, all the contents in the current directory are recursively listed by default, and subdirectories are also listed. In big data scenarios, PFSs usually have multiple directory levels and each directory level has a large number of objects. In such case, you are advised to configure [delimiter=/] to list only the content in the current directory, without the content in subdirectories, to make the listing more efficient.
			Value range: The value can contain 1 to 1,024 characters.  Default value:
- "			None
Encoding Type	string	No	Explanation:  Encoding type for some elements in the response.  If Delimiter, Marker, Prefix, CommonPrefixes, NextMarker, and Key contain control characters (special characters) that are not supported by the XML 1.0 standard, set this parameter to url.
			Value range: url
			Default value:
			None. If you leave this parameter blank, encoding is not applied.

Table 8-16 List of returned results

Parameter	Туре	Description
output	*ListObjectsOutp ut	Explanation:  Response parameters for listing objects in a PFS. For details, see Table 8-17.
err	error	Explanation: Error messages returned by the API

Table 8-17 ListObjectsOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits indicating the status of a response. It ranges from 2xx (indicating successes) to 4xx or 5xx (indicating errors). For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None

Parameter	Туре	Description
Location	string	Explanation:
		Region where the PFS is located.
		Restrictions:
		If the specified endpoint is <b>obs.myhuaweicloud.com</b> , this parameter is not required. If any other endpoints are specified, this parameter is required.
		Value range:
		To learn about valid regions and endpoints, see <b>Regions and Endpoints</b> . An endpoint is the request address for calling an API. Endpoints vary depending on services and regions. To obtain the regions and endpoints, contact the enterprise administrator.
		Default value:
		If <b>obs.myhuaweicloud.com</b> is used as the endpoint and no region is specified, <b>cn-north-1</b> (the CN North-Beijing1 region) is used by default.

Parameter	Туре	Description
Name	string	Explanation:
		PFS name.
		Restrictions:
		<ul> <li>A PFS name must be unique across all accounts and regions.</li> </ul>
		A PFS name:
		<ul> <li>Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
		<ul> <li>Cannot be formatted as an IP address.</li> </ul>
		<ul> <li>Cannot start or end with a hyphen (-) or period (.).</li> </ul>
		<ul> <li>Cannot contain two consecutive periods (), for example,</li> <li>mybucket.</li> </ul>
		<ul> <li>Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.</li> </ul>
		<ul> <li>If you repeatedly create PFSs with the same name in the same region, no error will be reported and the PFS attributes comply with those set in the first creation request.</li> </ul>
		Value range:
		The value can contain 3 to 63 characters.

Parameter	Туре	Description
Prefix	string	Explanation:
		Object name prefix, which is consistent with that set in the request.
		Assume that you have the following objects: logs/day1, logs/day2, logs/day3, and ExampleObject.jpg. If you specify logs/ as the prefix, logs/day1, logs/day2, and logs/day3 will be returned. If this parameter is left blank and there are no other filter criteria, all objects in the PFS will be returned.
		Value range:
		The value can contain 1 to 1,024 characters.
		Default value:
		None
Marker	string	Explanation:
		Object name to start with for listing objects. All objects following the specified object are returned in alphabetical order by object name.
		Restrictions:
		This parameter is only used for listing objects with a single version.
		Value range:
		The value can contain 1 to 1,024 characters.
		Default value:
		None

Parameter	Туре	Description
Delimiter	string	Explanation:
		Object names are grouped by this parameter, which is often used with <b>Prefix</b> . If a prefix is specified, objects with the same string from the prefix to the first delimiter are grouped into one <b>CommonPrefixes</b> . If no prefix is specified, objects with the same string from the first character to the first delimiter are grouped into one <b>CommonPrefixes</b> .
		Assume that a PFS has objects abcd, abcde, and bbcde in it. If delimiter is set to d and prefix is set to a, objects abcd and abcde are grouped into a CommonPrefixes with abcd as the prefix. If only delimiter is set to d, files abcd and abcde are grouped into a CommonPrefixes with abcd as the prefix, and bbcde is grouped separately into another CommonPrefixes with bbcd as the prefix.
		For a PFS, if this parameter is not specified, all the contents in the current directory are recursively listed by default, and subdirectories are also listed. In big data scenarios, PFSs usually have multiple directory levels and each directory level has a large number of objects. In such case, you are advised to configure [delimiter=/] to list only the content in the current directory, without the content in subdirectories, to make the listing more efficient.
		Value range:
		The value can contain 1 to 1,024 characters.
		Default value:
		None

Parameter	Туре	Description
MaxKeys	int	Explanation:
		The maximum number of objects returned in the response in alphabetical order.
		Value range:
		The value ranges from 1 to 1000. If the specified value is greater than 1000, only 1,000 objects are returned.
		Default value:
		1000
IsTruncated	bool	Explanation:
		Whether all results are returned in the response. A maximum of 1,000 objects can be listed at a time. If the number of objects is greater than 1,000, the objects beyond 1,000 cannot be returned.
		Value range:
		true: Not all results are returned.
		false: All results are returned.
		Default value:
		None
NextMarker	string	Explanation:
		Where in the bucket the next listing begins. If not all results are returned, the response contains this parameter to mark the last object listed in the request. In a subsequent request, you can set <b>Marker</b> to the value of this parameter to list the remaining objects.
		Value range:
		The value can contain 1 to 1,024 characters.
		Default value:
		None
Contents	[]Content	Explanation:
		List of objects in the PFS. For details, see <b>Table 8-18</b> .

Parameter	Туре	Description
CommonPrefixes	[]string	Explanation:
		List of object name prefixes grouped according to the <b>Delimiter</b> parameter (if specified)
		Value range:
		The value can contain 1 to 1,024 characters.
		Default value:
		None
EncodingType	string	Explanation:
		Encoding type for some elements in the response. If <b>Delimiter</b> , <b>Marker</b> , <b>Prefix</b> , <b>CommonPrefixes</b> , <b>NextMarker</b> , and <b>Key</b> contain control characters (special characters) that are not supported by the XML 1.0 standard, set this parameter to <b>url</b> .
		Value range:
		url
		Default value:
		None

Table 8-18 Content

Parameter	Туре	Description
Key	string	Explanation:
		Object name. An object is uniquely identified by an object name in a PFS. An object name is the complete path of the object without the PFS name.
		For example, if the address for accessing the object is examplebucket.obs.ap-southeast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.
		Value range:
		The value can contain 1 to 1,024 characters.
		Default value:
		None

Parameter	Туре	Description
LastModifie d	time.Time	Explanation: Time when the object was last modified. Value range: UTC time Default value: None
ETag	string	Explanation:  Base64-encoded, 128-bit MD5 value of an object. ETag is the unique identifier of the object contents, used to determine whether the contents of an object are changed. For example, if the ETag value is A when an object is uploaded and becomes B when the object is downloaded, this indicates the contents of the object were changed. The ETag reflects changes of an object, not of the metadata. Objects created by the upload and copy operations have unique ETags after being encrypted using MD5.  Restrictions:  If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object.  Value range: The value must contain 32 characters.  Default value: None
Size	int64	Explanation: Object size in bytes Value range: The value ranges from 0 TB to 48.8 TB, in bytes. Default value: None Explanation:
Owner	Owner	Explanation: Object owner. This parameter contains the domain ID and name of the object owner. For details, see Table 8-20. Default value: None

Parameter	Туре	Description
StorageClass	string	Explanation:
		Object storage class
		Value range:
		See Table 8-19.
		Default value:
		None

 Table 8-19
 StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.
StorageClassWarm	WARM	OBS Infrequent Access Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive Used for storing rarely accessed (once a year) data.

Table 8-20 Owner

Parame ter	Туре	Mandatory (Yes/No)	Description
ID	string	Yes if used as a request parameter	Explanation: Account (domain) ID of the owner Value range: To obtain the account ID, see How Do I Get My Account ID and User ID? Default value: None

This example lists all files in a PFS examplebucket using pagination.

```
// This example lists all files in examplebucket using pagination.
package main
import (
   'fmt'
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  // Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using
environment variables or import an AK/SK pair in other ways.
  securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the region where the bucket is located. CN-Hong Kong is used
here as an example. Replace it with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSecurityToken(securityToken))
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.ListObjectsInput{}
  // Specify the name of the PFS.
  input.Bucket = "examplebucket"
  // Specify the maximum number of objects to be returned in alphabetic order. The default value is 1000.
100 is used as an example.
  input.MaxKeys = 100
  // Specify an encoding type. url is used as an example. If the objects to list contain special characters,
this parameter must be passed.
  input.EncodingType = "url"
  for {
     // List objects in the PFS.
     output, err := obsClient.ListObjects(input)
     if err != nil {
        fmt.Printf("List objects under the bucket(%s) fail!\n", input.Bucket)
        if obsError, ok := err.(obs.ObsError); ok {
          fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an
error response.")
           fmt.Println(obsError.Error())
        } else {
          fmt.Println("An Exception was found, which means the client encountered an internal problem
when attempting to communicate with OBS, for example, the client was unable to access the network.")
          fmt.Println(err)
        os.Exit(-1)
     // Print the result. By default, 100 records are returned at a time.
     fmt.Printf("List objects under the bucket(%s) successful!\n", input.Bucket)
     for index, val := range output.Contents {
        fmt.Printf("Content[%d]-Ownerld:%s, ETag:%s, Key:%s, LastModified:%s, Size:%d\n",
          index, val.Owner.ID, val.ETag, val.Key, val.LastModified, val.Size)
     if output.IsTruncated {
        input.Marker = output.NextMarker
     } else {
        break
```

. } ነ

# 8.4 Renaming an Object (SDK for Go)

#### **Function**

This API renames an object in the parallel file system (PFS).

#### Restrictions

- To rename an object, you must be the PFS owner or have the required permission (obs:bucket:PutObject in IAM or PutObject in a policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Configuring an Object Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.
- This API is currently available only for PFSs. Object buckets do not support this API. For details about how to create a PFS, see Creating a Parallel File System (SDK for Go).

#### Method

func (obsClient ObsClient) RenameFile(input \*RenameFileInput) (output
\*RenameFileOutput, err error)

Table 8-21 List of request parameters

Parame ter	Туре	M an da tor y (Y es/No)	Description
input	*RenameFileInpu	Yes	Explanation:
	t		Request parameters for renaming an object. For details, see <b>Table 8-22</b> .

Table 8-22 RenameFileInput

Param eter	Туре	Man dato ry (Yes/ No)	Description
Bucket	string	Yes	Explanation:  PFS name.  Restrictions:  A PFS name must be unique across all accounts and regions.  A PFS name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create PFSs with the same name in the same region, no error will be reported and the PFS attributes comply with those set in the first creation request.  Default value:
Key	string	Yes	Explanation:  Directory name. It is the complete path of a directory in a PFS without the PFS name.  For example, if the access path is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.  Value range: The value can contain 1 to 1,024 characters.  Default value: None

Param eter	Туре	Man dato ry (Yes/ No)	Description
NewO	string	Yes	Explanation:
bjectK			Explanation:
ey			Name of the object after being renamed. An object is uniquely identified by an object name in a PFS. The object name does not contain the PFS name.
			For example, if the access path is examplebucket.obs.ap-southeast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.
			Value range:
			The value can contain 1 to 1,024 characters.
			Default value:
			None

Table 8-23 List of returned results

Paramete r	Туре	Description
output	*RenameFileOutpu t	<b>Explanation:</b> Returned results. For details, see <b>Table 8-24</b> .
err	error	<b>Explanation:</b> Error messages returned by the API

Table 8-24 RenameFileOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits indicating the status of a response. It ranges from 2xx (indicating successes) to 4xx or 5xx (indicating errors). For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string] []string	Explanation:
		HTTP response headers
		Default value:
		None

This example renames object **folderName/originalObjectName** in the PFS **examplebucket** to **newFolderName/newObjectName**.

```
package main
import (
   "fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using
environment variables or import an AK/SK pair in other ways.
  securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the region where the bucket is located. CN-Hong Kong is used
here as an example. Replace it with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSecurityToken(securityToken))
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
```

```
input := &obs.RenameFileInput{}
  // Specify the name of the PFS.
  input.Bucket = "examplebucket"
  // Specify the source object name. folderName/originalObjectName is used as an example.
  input.Key = "folderName/originalObjectName"
  // Specify the new object name. newFolderName/newObjectName is used as an example.
  input.NewObjectKey = "newFolderName/newObjectName"
  // Rename the object.
  output, err := obsClient.RenameFile(input)
  if err == nil {
     fmt.Printf("Rename File(%s) successful with bucket(%s)!\n", input.Key, input.Bucket)
     fmt.Printf("RequestId:%s\n", output.RequestId)
     return
  fmt.Printf("Rename File(%s) fail with bucket(%s)!\n", input.Key, input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
```

# 9 Objects (SDK for Go)

# 9.1 Object API Overview (SDK for Go)

OBS SDK for Go provides methods for accessing OBS using object-related APIs (except for resumable transfer APIs) with signed URLs. Such methods may contain the following three parameters (except for **ObsClient.PutFileWithSignedUrl**):

- A signed URL
- Headers required in a request made by using a signed URL
- Data carried in a request (optional)

For details about how to generate a signed URL, see Creating a Signed URL (SDK for Go).

# 9.2 Object Upload Overview (SDK for Go)

In OBS, objects are basic data units that you can operate. OBS Go SDK provides abundant APIs for object upload in the following methods:

- Uploading an Object Streaming (SDK for Go)
- Uploading an Object File-Based (SDK for Go)
- Uploading a Part (SDK for Go)
- Uploading an Object Resumable (SDK for Go)

SDK supports the upload of objects whose size ranges from 0 KB to 5 GB. If a file is smaller than 5 GB, streaming upload and file-based upload are applicable. If the file is larger than 5 GB, multipart upload (whose part size is smaller than 5 GB) is suitable.

If you grant anonymous users the read permission for an object during the upload, anonymous users can access the object through a URL after the upload is complete. The object URL is in the format of <a href="https://bucket name.domain name/directory levels/object name">https://bucket name.domain name/directory levels/object name</a>. If the object resides in the root directory of a bucket, its URL does not contain a directory level.

# 9.2.1 Uploading an Object - Streaming (SDK for Go)

#### **Function**

This API uploads a local file to OBS. You can upload text, videos, or any other types of files smaller than 5 GB.

Streaming upload uses **io.Reader** as the object data source. You can call **ObsClient.PutObject** to upload data streams to OBS.

#### Restrictions

- To upload an object, you must be the bucket owner or have the required permission (obs:object:PutObject in IAM or PutObject in a bucket policy).
   For details, see Introduction to OBS Access Control, IAM Custom Policies, and Configuring an Object Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.
- The object size in a single upload ranges from 0 to 5 GB.
- To upload files larger than 5 GB, multipart uploads should be used.

#### Method

func (obsClient ObsClient) PutObject(input \*PutObjectInput) (output
\*PutObjectOutput, err error)

Table 9-1 List of request parameters

Parameter	Туре	Man dato ry (Yes/ No)	Description
input	*PutObjec tInput	Yes	Explanation: Input parameters for uploading an object. For details, see Table 9-2.

Table 9-2 PutObjectInput

(Yes /No)	
Bucket  String  Yes  Explanation: Bucket name Restrictions:  A bucket name must be un across all accounts and region A bucket name:  Must be 3 to 63 character and start with a digit or Lowercase letters, digits, (-), and periods (.) are a cannot be formatted as address.  Cannot start or end with hyphen (-) or period (.).  Cannot contain two comperiods (), for example, my.bucket.  Cannot contain a period hyphen (-) adjacent to example, my-bucket.  If you repeatedly create but the same name in the same no error will be reported and bucket attributes comply we set in the first creation requipped.  Default value:  None	ers long letter. , hyphens illowed. an IP  a a secutive , (.) and a each bucket ckets of e region, and the ith those

Parameter	Туре	Man dato ry (Yes /No)	Description
Key	string	Yes	Explanation: Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name. For example, if the address for accessing the object is
			examplebucket.obs.ap- southeast-1.myhuaweicloud.com/ folder/test.txt, the object name is folder/test.txt.
			Value range:
			The value must contain 1 to 1,024 characters.
			Default value:
			None
ContentMD5	string	No	Explanation:
			Base64-encoded MD5 value of the object data to be uploaded. It is provided for the OBS server to verify data integrity.
			Value range:
			ContentMD5 contains the Base64- encoded 128-bit MD5 digest calculated according to RFC 1864.
			Example: n58IG6hfM7vqI4K0vnWpog==
			Default value:
			None
ACL	AclType	No	Explanation:
			ACL that can be pre-defined during object creation. For details about the ACL, see ACLs.
			Value range:
			For details about the ACL options, see <b>AclType</b> .
			Default value:
			None

Parameter	Туре	Man dato ry (Yes /No)	Description
WebsiteRedirectLocation	string	No	Explanation:  If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.  The request is redirected to an object anotherPage.html in the same bucket:  WebsiteRedirectLocation:/anotherPage.html  The request is redirected to an external URL http://www.example.com/:  WebsiteRedirectLocation:http://www.example.com/  OBS obtains the specified value from the header and stores it in the object metadata WebsiteRedirectLocation.  Restrictions:  The value must start with a slash (/), http://, or https:// and cannot exceed 2 KB.  OBS only supports redirection for objects in the root directory of a bucket.  Default value:
			None

Parameter	Туре	Man dato ry (Yes /No)	Description
ContentType	string	No	Explanation:  Multipurpose Internet Mail Extension (MIME) type of the object to be uploaded. MIME type is a standard way of describing a data type and is used by the browser to decide how to display object files.  Value range:  See What Is Content-Type (MIME)?  Default value:  If you do not specify this parameter
			when uploading an object, the SDK determines the object type based on the suffix of the specified object name and automatically assigns a value to this parameter.
ContentLength	int64	No	<ul> <li>Explanation:</li> <li>Size of the object to be uploaded</li> <li>Restrictions:</li> <li>The object size in a single upload ranges from 0 to 5 GB.</li> <li>To upload files larger than 5 GB, multipart uploads should be used.</li> <li>Default value:</li> <li>If this parameter is not specified, the SDK automatically calculates the size of the object.</li> </ul>
SseHeader	SseCHea der or SseKmsH eader	No	Explanation:  Server-side encryption header information. If SSE-C is used, see Table 9-4. If SSE-KMS is used, see Table 9-5.

Parameter	Туре	Man dato ry (Yes /No)	Description
StorageClass	StorageC lassType	No	Explanation: Object storage class Value range: For available storage classes, see Table 9-6. Default value: If this parameter is not specified, the object inherits the storage class of the bucket.
Metadata	map[string]string	No	<ul> <li>Explanation: Custom metadata of the object to be uploaded. You can add a header starting with x-obs-meta- in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.</li> <li>Restrictions: <ul> <li>The custom metadata cannot exceed 8 KB. To measure the custom metadata, sum the number of bytes in the UTF-8 encoding of each key and value.</li> <li>The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.</li> <li>Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are necessary, they must be encoded and decoded in URL or Base64 on the client, because the server side does not perform any decoding.</li> </ul> </li> <li>Default value: None</li> </ul>

Parameter	Туре	Man dato ry (Yes /No)	Description
Body	io.Reader	No	Explanation: Data stream of the object to be uploaded Restrictions: The object size in a single upload ranges from 0 to 5 GB. To upload files larger than 5 GB, multipart uploads should be used. Default value: None
GrantReadId	string	No	Explanation:  ID (domain_id) of an account the READ permission is granted to. The account with the READ permission can read the current object and obtain its metadata.  Value range:  To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value:  None
GrantReadAcpId	string	No	Explanation:  ID (domain_id) of an account the READ_ACP permission is granted to. The account with the READ_ACP permission can read the ACL of the current object.  Value range: To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value: None

Parameter	Туре	Man dato ry (Yes /No)	Description
GrantWriteAcpId	string	No	Explanation:  ID (domain_id) of an account the WRITE_ACP permission is granted to. The account with the WRITE_ACP permission can write the ACL of the current object.  Value range:  To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value:  None
GrantFullControlId	string	No	Explanation:  ID (domain_id) of an account the  FULL_CONTROL permission is granted to. The account with the  FULL_CONTROL permission can read the current object, obtain its metadata, and obtain and write its ACL.  Value range:  To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value:  None
Expires	int64	No	Explanation:  Expiration time of the object (calculated from the latest modification time of the object).  Expired objects are automatically deleted.  Value range: A positive integer, in days  Default value: None

Table 9-3 AclType

Constant	Default Value	Description
AclPrivate	private	Private read/write
		A bucket or object can only be accessed by its owner.
AclPublicRead	public-read	Public read and private write
		If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket.
		If it is granted on an object, anyone can read the content and metadata of the object.
AclPublicReadWrit	public-read-	Public read/write
e	write	If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket, and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart upload tasks.  If it is granted on an object, anyone can read the content and metadata of the object.
AclPublicReadDe- livered	public-read- delivered	Public read on a bucket as well as objects in the bucket
	If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions, and read the content and metadata of objects in the bucket.	
		NOTE AclPublicReadDelivered does not apply to objects.

Constant	Default Value	Description
AclPublicReadWri- teDelivered	public-read- write-delivered	Public read/write on a bucket as well as objects in the bucket
		If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket, and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart uploads. They can also read the content and metadata of objects in the bucket.  NOTE  AclPublicReadWriteDelivered does not apply to objects.
AclBucketOwnerFu llControl	bucket-owner- full-control	If this permission is granted on an object, only the bucket and object owners have the full control over the object.
		By default, if you upload an object to a bucket of any other user, the bucket owner does not have the permissions on your object. After you grant this permission to the bucket owner, the bucket owner can have full control over your object.

Table 9-4 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:
			None

Parameter	Туре	Mandatory (Yes/No)	Description
Key	string	Yes if used	Explanation:
		as a request parameter	Key for encrypting the object when SSE-C is used
			Restrictions:
			The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=.
			Default value:
			None
KeyMD5	string	No if used as a request	Explanation:
		parameter	MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.
			Restrictions:
			The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.
		Default value:	
			None

Table 9-5 SseKmsHeader

Parameter	Туре	Manda tory (Yes/N o)	Description
Encryption	string	Yes if used as a request param eter	Explanation:  SSE-KMS used for encrypting objects  Value range:  kms, indicating objects are encrypted using SSE-KMS  Default value:  None

Parameter	Туре	Manda tory (Yes/N o)	Description
Key	string	No if used as a request param eter	Explanation:  ID of the KMS master key when SSE-KMS is used  Value range:  Valid value formats are as follows:  1. regionID:domainID:key/key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  • If this parameter is not specified, the default master key will be used.  • If there is no such a default master key, OBS will create one and use it by default.

 Table 9-6
 StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.

Constant	Default Value	Description
StorageClassWarm	WARM	OBS Infrequent Access Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive Used for storing rarely accessed (once a year) data.

## Responses

Table 9-7 List of returned results

Paramete r	Туре	Description
output	*PutObjectOutput	<b>Explanation:</b> Returned results. For details, see <b>Table 9-8</b> .
err	error	<b>Explanation:</b> Error messages returned by the API

Table 9-8 PutObjectOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None

Parameter	Туре	Description
ResponseHeaders	ResponseHeaders map[strin g][]string	Explanation: HTTP response headers
	3111 3	Default value:
		None
StorageClass	StorageCl	Explanation:
StorageCtass	assType	Object storage class
		Value range:
		If the storage class is Standard, leave this parameter blank.
		• For available storage classes, see <b>Table</b> 9-6.
		Default value:
		None
VersionId	string	Explanation:
	Object version ID. If versioning is enabled for the bucket, the object version ID will be returned.	
	Value range:	
		The value must contain 32 characters.
	Default value:	
		None
ETag	string	Explanation:
		Base64-encoded, 128-bit MD5 value of the object. ETag is the unique identifier of the object content. It can be used to determine whether the object content is changed. For example, if ETag value is <b>A</b> when an object is uploaded but changes to <b>B</b> when the object is downloaded, it indicates that the object content is changed. The ETag reflects changes to the object content, rather than the object metadata. An uploaded object or copied object has a unique ETag.
		Restrictions:
	If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object.	
		Value range:
		The value must contain 32 characters.
		Default value:
		None

Parameter	Туре	Description
SseHeader	SseCHead er or SseKmsHe ader	Explanation:  Server-side encryption header information.  If SSE-C is used, see Table 9-10. If SSE-KMS is used, see Table 9-11.

**Table 9-9** StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.
StorageClassWarm	WARM	OBS Infrequent Access Used for storing data that is semi-
		frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive
		Used for storing rarely accessed (once a year) data.

Table 9-10 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:  None

Parameter	Туре	Mandatory (Yes/No)	Description
Key	string	Yes if used	Explanation:
		as a request parameter	Key for encrypting the object when SSE-C is used
			Restrictions:
			The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=.
			Default value:
			None
KeyMD5	string	No if used	Explanation:
		as a request parameter	MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.
			Restrictions:
			The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.
			Default value:
			None

Table 9-11 SseKmsHeader

Parameter	Туре	Manda tory (Yes/N o)	Description
Encryption	string	Yes if used as a request param eter	Explanation: SSE-KMS used for encrypting objects Value range: kms, indicating objects are encrypted using SSE-KMS Default value: None

Parameter	Туре	Manda tory (Yes/N o)	Description
Key	string	No if used as a request param eter	Explanation:  ID of the KMS master key when SSE-KMS is used  Value range:  Valid value formats are as follows:  1. regionID:domainID:key/key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  • If this parameter is not specified, the default master key will be used.  • If there is no such a default master key, OBS will create one and use it by default.

# **Code Examples**

This example uses streaming to upload example/objectname to examplebucket.

```
package main import (
    "fmt"
    "os"
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
) func main() {
    //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
    //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/intl/en-us/usermanual-ca/ca_01_0003.html.
    ak := os.Getenv("AccessKeyID")
    sk := os.Getenv("SecretAccessKey")
    // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
```

```
// securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.PutObjectInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify the object (example/objectname as an example) to upload.
  input.Key = "example/objectname"
  fd, _ := os.Open("localfile")
  input.Body = fd
  // Upload you local file using streaming.
  output, err := obsClient.PutObject(input)
  if err == nil {
     fmt.Printf("Put object(%s) under the bucket(%s) successful!\n", input.Key, input.Bucket)
     fmt.Printf("StorageClass:%s, ETag:%s\n",
        output.StorageClass, output.ETag)
     return
  fmt.Printf("Put object(%s) under the bucket(%s) fail!\n", input.Key, input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

### **Helpful Links**

- Uploading Objects PUT.
- (GitHub) Sample Code for Uploading an Object
- OBS Error Codes
- FAQ for Object Upload Failure

# 9.2.2 Uploading an Object - File-Based (SDK for Go)

#### **Function**

This API uploads local files to a specified bucket in OBS. These files can be texts, images, videos, or any other type of files.

#### Restrictions

- To upload an object, you must be the bucket owner or have the required permission (obs:object:PutObject in IAM or PutObject in a bucket policy).
   For details, see Introduction to OBS Access Control, IAM Custom Policies, and Configuring an Object Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

- The object size in a single upload ranges from 0 to 5 GB.
- To upload files larger than 5 GB, multipart uploads should be used.

### Method

func (obsClient ObsClient) PutFile(input \*PutFileInput) (output
\*PutObjectOutput, err error)

### **Request Parameters**

**Table 9-12** List of request parameters

Parameter	Туре	Ma nd ato ry (Ye s/ No	Description
input	*PutFileInput	Yes	Explanation:
			Input parameters for uploading a file. For details, see <b>Table 9-13</b> .

Table 9-13 PutFileInput

Parameter	Туре	Mand atory (Yes/ No)	Description
Bucket	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value: None
	[		110110

Parameter	Туре	Mand atory (Yes/ No)	Description
Key	string	Yes	Explanation:  Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.  For example, if the address for accessing
			the object is examplebucket.obs.ap- southeast-1.myhuaweicloud.com/folder/ test.txt, the object name is folder/test.txt.
			Value range:
			The value must contain 1 to 1,024 characters.
			Default value:
			None
ContentMD5	string	No	Explanation:
			Base64-encoded MD5 value of the object data to be uploaded. It is provided for the OBS server to verify data integrity.
			Value range:
			<b>ContentMD5</b> contains the Base64-encoded 128-bit MD5 digest calculated according to RFC 1864.
			Example: n58IG6hfM7vqI4K0vnWpog==
			Default value:
			None
ACL	AclType	No	Explanation:
			Access control list (ACL) that can be predefined when an object is created. For details about ACLs, see ACLs.
			Value range:
			For details about the ACL options, see <b>AclType</b> .
			Default value:
			None

Parameter	Туре	Mand atory (Yes/ No)	Description
WebsiteRedirec	string	No	Explanation:
tLocation			If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.
			The request is redirected to an object anotherPage.html in the same bucket:
			WebsiteRedirectLocation:/ anotherPage.html
			The request is redirected to an external URL http://www.example.com/:
			WebsiteRedirectLocation:http:// www.example.com/
			OBS obtains the specified value from the header and stores it in the object metadata <b>WebsiteRedirectLocation</b> .
			Restrictions:
			<ul> <li>The value must start with a slash (/), http://, or https:// and cannot exceed 2 KB.</li> </ul>
			OBS only supports redirection for objects in the root directory of a bucket.
			Default value:
			None
ContentType	string	No	Explanation:
			MIME type of the file to be uploaded. MIME type is a standard way of describing a data type and is used by the browser to decide how to display data.
			Value range:
			See What Is Content-Type (MIME)?
			Default value:
			If you do not specify this parameter when uploading an object, the SDK determines the object type based on the suffix of the specified object name and automatically assigns a value to this parameter.

Parameter	Туре	Mand atory (Yes/ No)	Description
ContentLength	int64	No	Explanation: Size of the object to be uploaded Restrictions:  The object size in a single upload ranges from 0 to 5 GB.  To upload files larger than 5 GB, multipart uploads should be used.  Default value: If this parameter is not specified, the SDK automatically calculates the size of the
SseHeader	SseCHe ader or SseKms Header	No	object.  Explanation:  Server-side encryption header information.  If SSE-C is used, see Table 9-15. If SSE-KMS is used, see Table 9-16.
StorageClass	Storage ClassTy pe	No	Explanation: Object storage class Value range: See Table 9-17. Default value: If this parameter is not specified, the object inherits the storage class of the bucket.

Parameter	Туре	Mand atory (Yes/ No)	Description
Metadata	map[stri No ng]strin g	No	Explanation:  Custom metadata of the object to be uploaded. You can add a header starting with x-obs-meta- in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.  Restrictions:
			<ul> <li>The custom metadata cannot exceed 8 KB. To measure the custom metadata, sum the number of bytes in the UTF-8 encoding of each key and value.</li> <li>The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.</li> <li>Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are necessary, they must be encoded and decoded in URL or Base64 on the client, because the server side does not perform any decoding.</li> <li>Default value:</li> <li>None</li> </ul>
SourceFile	string	No	Explanation: Source file path of the object Default value: None
GrantReadId	string	No	Explanation:  ID (domain_id) of an account the READ permission is granted to. The account with the READ permission can read the current object and obtain its metadata.  Value range:  To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value:  None

Parameter	Туре	Mand atory (Yes/ No)	Description
GrantReadAcpl	string	No	Explanation:
d			ID (domain_id) of an account the READ_ACP permission is granted to. The account with the READ_ACP permission can read the ACL of the current object.
			Value range:
			To obtain the account ID, see How Do I Get My Account ID and User ID?
			Default value:
			None
GrantWriteAcp	string	No	Explanation:
ld	Id		ID (domain_id) of an account the WRITE_ACP permission is granted to. The account with the WRITE_ACP permission can write the ACL of the current object.
			Value range:
			To obtain the account ID, see How Do I Get My Account ID and User ID?
			Default value:
			None
GrantFullContr	string	No	Explanation:
olid			ID (domain_id) of an account the <b>FULL_CONTROL</b> permission is granted to. The account with the <b>FULL_CONTROL</b> permission can read the current object, obtain its metadata, and obtain and write its ACL.
			Value range:
			To obtain the account ID, see How Do I Get My Account ID and User ID?
			Default value:
			None

Parameter	Туре	Mand atory (Yes/ No)	Description
Expires	int64	No	Explanation:
			Expiration time of the object (calculated from the latest modification time of the object). Expired objects are automatically deleted.
			Value range:
			1 to (2 <sup>63</sup> - 1), in days
			Default value:
			None

Table 9-14 AclType

Constant	Default Value	Description
AclPrivate	private	Private read/write  A bucket or object can only be accessed by its owner.
AclPublicRead	public-read	Public read and private write  If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket.  If it is granted on an object, anyone can read the content and metadata of the object.
AclPublicReadWrit e	public-read- write	Public read/write  If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket, and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart upload tasks.  If it is granted on an object, anyone can read the content and metadata of the object.

Constant	Default Value	Description
AclPublicReadDe- livered	public-read- delivered	Public read on a bucket as well as objects in the bucket
		If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions, and read the content and metadata of objects in the bucket.  NOTE  AclPublicReadDelivered does not apply to objects.
AclPublicReadWri- teDelivered	public-read- write-delivered	Public read/write on a bucket as well as objects in the bucket
		If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket, and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart uploads. They can also read the content and metadata of objects in the bucket.  NOTE  AclPublicReadWriteDelivered does not apply to objects.
AclBucketOwnerFu llControl	bucket-owner- full-control	If this permission is granted on an object, only the bucket and object owners have the full control over the object.
		By default, if you upload an object to a bucket of any other user, the bucket owner does not have the permissions on your object. After you grant this permission to the bucket owner, the bucket owner can have full control over your object.

Table 9-15 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:  None
Key	string	Yes if used as a request parameter	Explanation: Key for encrypting the object when SSE-C is used Restrictions: The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=. Default value: None
KeyMD5	string	No if used as a request parameter	Explanation:  MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.  Restrictions: The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.  Default value: None

Table 9-16 SseKmsHeader

Parameter	Туре	Manda tory (Yes/N o)	Description
Encryption	string	Yes if used as a request param eter	Explanation: SSE-KMS used for encrypting objects Value range: kms, indicating objects are encrypted using SSE-KMS Default value: None
Key	string	No if used as a request param eter	Explanation:  ID of the KMS master key when SSE-KMS is used  Value range:  Valid value formats are as follows:  1. regionID:domainID:key  key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  • If this parameter is not specified, the default master key will be used.  • If there is no such a default master key, OBS will create one and use it by default.

**Table 9-17** StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.
StorageClassWarm	WARM	OBS Infrequent Access
		Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive
		Used for storing rarely accessed (once a year) data.

# Responses

**Table 9-18** List of returned results

Param eter	Туре	Description
output	*PutObjectOu tput	<b>Explanation:</b> Returned results. For details, see <b>Table 9-19</b> .
err	error	Explanation: Error messages returned by the API

Table 9-19 PutObjectOutput

Parameter	Туре	Description
StatusCode	int	Explanation: HTTP status code
		Value range:
		A status code is a group of digits that can be 2xx (indicating successes) or 4xx or 5xx (indicating errors). It indicates the status of a response. For more information, see Status Code.
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHe	map[string][]string	Explanation:
aders		HTTP response headers
		Default value:
		None
StorageClas	StorageClassType	Explanation:
S		Object storage class
		Value range:
		If the storage class is Standard, leave this parameter blank.
		• See <b>Table 9-20</b> .
		Default value:
		None
VersionId	string	Explanation:
		Object version ID. If versioning is enabled for the bucket, the object version ID will be returned.
		Value range:
		The value must contain 32 characters.
		Default value:
		None

Parameter	Туре	Description
ETag	string	Explanation:
		Base64-encoded, 128-bit MD5 value of the object. ETag is the unique identifier of the object content. It can be used to determine whether the object content is changed. For example, if ETag value is <b>A</b> when an object is uploaded but changes to <b>B</b> when the object is downloaded, it indicates that the object content is changed. The ETag reflects changes to the object content, rather than the object metadata. An uploaded object or copied object has a unique ETag.
		Restrictions:
		If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object.
		Value range:
		The value must contain 32 characters.
		Default value:
		None
SseHeader	SseCHeader or	Explanation:
	SseKmsHeader	Server-side encryption header information. If SSE-C is used, see <b>Table 9-21</b> . If SSE-KMS is used, see <b>Table 9-22</b> .

 Table 9-20 StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.
StorageClassWarm	WARM	OBS Infrequent Access
		Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.

Constant	Default Value	Description
StorageClassCold	COLD	OBS Archive Used for storing rarely accessed (once a year) data.

Table 9-21 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:  None
Key	string	Yes if used as a request parameter	Explanation: Key for encrypting the object when SSE-C is used Restrictions: The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=. Default value: None
KeyMD5	string	No if used as a request parameter	Explanation:  MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.  Restrictions: The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.  Default value: None

Table 9-22 SseKmsHeader

Parameter	Туре	Manda tory (Yes/N o)	Description
Encryption	string	Yes if used as a request param eter	Explanation: SSE-KMS used for encrypting objects Value range: kms, indicating objects are encrypted using SSE-KMS Default value: None
Key	string	No if used as a request param eter	Explanation:  ID of the KMS master key when SSE-KMS is used  Value range:  Valid value formats are as follows:  1. regionID.domainID.key/key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  • If this parameter is not specified, the default master key will be used.  • If there is no such a default master key, OBS will create one and use it by default.

# **Code Examples**

This example uploads **localfile** to **examplebucket** as an object named **example/objectname**.

package main import (

```
"fmt'
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSecurityToken(securityToken))
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.PutFileInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify the object (example/objectname as an example) to upload.
  input.Key = "example/objectname'
  // Specify a local file (localfile as an example).
  input.SourceFile = "localfile"
  // Perform the file-based upload.
  output, err := obsClient.PutFile(input)
  if err == nil {
     fmt.Printf("Put file(%s) under the bucket(%s) successful!\n", input.Key, input.Bucket)
     fmt.Printf("StorageClass:%s, ETag:%s\n",
        output.StorageClass, output.ETag)
     return
  fmt.Printf("Put file(%s) under the bucket(%s) fail!\n", input.Key, input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

### **Helpful Links**

- Uploading Objects POST
- (GitHub) Sample Code for Object Upload
- OBS Error Codes
- FAQ for Object Upload Failure

# 9.2.3 Uploading an Object - Append (SDK for Go)

#### **Function**

This API uploads a file or folder to an existing OBS bucket. You can upload texts, videos, or any other types of files.

The **AppendObject** operation adds data to the end of an object in a specified bucket. If there is no namesake object in the bucket, a new object is created.

### Restrictions

- To upload an object, you must be the bucket owner or have the required permission (obs:object:PutObject in IAM or PutObject in a bucket policy).
   For details, see Introduction to OBS Access Control, IAM Custom Policies, and Configuring an Object Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.
- Uploaded objects are stored in buckets. Only the users who have the write permission can upload objects to buckets. The name of each object in a bucket must be unique.
- The last modification time of the object is updated each time an append upload is performed.
- If the server-side encryption (SSE-C) is used, the append upload is the same as the multipart initialization. The request header such as **x-obs-server-side-encryption** should be carried for each append upload.
- If the KMS server-side encryption (SSE-KMS) is used, the request header such as **x-obs-server-side-encryption** should be carried only when the object is uploaded for the first time and no object with the same name exists in the bucket.
- The length of each append upload cannot exceed the upper limit (5 GB) of the object length.
- The maximum number of append writes for each appendable object is 10,000.
- If the storage class is COLD (Archive), this API cannot be called.
- If cross-region replication is configured for a bucket, this API cannot be called.
- Object appending is not available for parallel file systems.

#### Method

func (obsClient ObsClient) AppendObject(input \*AppendObjectInput) (output
\*AppendObjectOutput, err error)

## **Request Parameters**

**Table 9-23** List of request parameters

Parameter	Туре	Ma nd ato ry (Ye s/N o)	Description
input	*AppendObjectIn put	Yes	Explanation:  Request parameters for an append upload. For details, see Table 9-24.

 Table 9-24 AppendObjectInput

Parameter	Туре	Mand atory (Yes/ No)	Description
Bucket	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.
			<b>Default value</b> : None

Parameter	Туре	Mand atory (Yes/ No)	Description
Key	string	Yes	Explanation: Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name. For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt. Value range: The value must contain 1 to 1,024 characters. Default value:
Position	int64	Yes	Explanation: Position where the object data is appended Restrictions: For an object to be appended, the value of position must be set to 0 when the object is uploaded for the first time. For the second append upload, the value of position should be set to the value of NextAppendPosition returned in the response when the first upload is successful.  Value range: 0 to (2 <sup>63</sup> – 1), in bytes Default value: 0

Parameter	Туре	Mand atory (Yes/ No)	Description
ContentMD5	string	No	Explanation:  Base64-encoded MD5 value of the object data to be uploaded. It is provided for the OBS server to verify data integrity.  Value range:
			ContentMD5 contains the Base64- encoded 128-bit MD5 digest calculated according to RFC 1864.
			Example: n58IG6hfM7vqI4K0vnWpog==
			Default value:
			None
ACL	AclType	No	Explanation:
			ACL that can be pre-defined during object creation. For details about the ACL, see ACLs.
			Value range:
			For details about the ACL options, see <b>AclType</b> .
			Default value:
			None

Parameter	Туре	Mand atory (Yes/ No)	Description
WebsiteRedirectLocation	string	No	Explanation:  If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.  The request is redirected to an object anotherPage.html in the same bucket:  WebsiteRedirectLocation:/anotherPage.html  The request is redirected to an external URL http://www.example.com/:  WebsiteRedirectLocation:http://www.example.com/  OBS obtains the specified value from the header and stores it in the object metadata WebsiteRedirectLocation.  Restrictions:  The value must start with a slash (/), http://, or https:// and cannot exceed 2 KB.  OBS only supports redirection for objects in the root directory of a bucket.
			<b>Default value</b> : None

Parameter	Туре	Mand atory (Yes/ No)	Description
ContentType	string	No	Explanation:  MIME type of the file to be uploaded.  MIME type is a standard way of describing a data type and is used by the browser to decide how to display data.  Value range:  See What Is Content-Type (MIME)?
			Default value:
			If you do not specify this parameter when uploading an object, the SDK determines the object type based on the suffix of the specified object name and automatically assigns a value to this parameter.
ContentLength	int64	No	Explanation:
			Size of the object to be uploaded
			Restrictions:
			The object size in a single upload ranges from 0 to 5 GB.
			<ul> <li>To upload files larger than 5 GB, multipart uploads should be used.</li> </ul>
			Default value:
			If this parameter is not specified, the SDK automatically calculates the size of the object.
SseHeader	SseCHea	No	Explanation:
	der or SseKmsH eader		Server-side encryption header information. If SSE-C is used, see Table 9-26. If SSE-KMS is used, see Table 9-27.
StorageClass	StorageC	No	Explanation:
	lassType		Object storage class
			Value range:
			See Table 9-28.
			Default value:
			If you do not specify this header, the object inherits the storage class of the bucket.

Parameter	Туре	Mand atory (Yes/ No)	Description
Metadata	map[strin	No	Explanation:
	g]string		Custom metadata of the object to be uploaded. You can add a header starting with <b>x-obs-meta-</b> in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.
			Restrictions:
			The custom metadata cannot exceed 8 KB. To measure the custom metadata, sum the number of bytes in the UTF-8 encoding of each key and value.
			The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.
			Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are required, they must be encoded and decoded in URL or Base64 on the client, because the server does not perform such operations.  Default value:
			None
Body	io.Reader	No	Explanation:
			Data stream of the object to be uploaded
			Restrictions:
			The object size in a single upload ranges from 0 to 5 GB.
			<ul> <li>To upload files larger than 5 GB, multipart uploads should be used.</li> </ul>
			Default value:
			None

Parameter	Туре	Mand atory (Yes/ No)	Description
GrantReadId	string	No	Explanation:  ID (domain_id) of an account the READ permission is granted to. The account with the READ permission can read the current object and obtain its metadata.  Value range:  To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value:  None
GrantReadAcpId	string	No	Explanation:  ID (domain_id) of an account the READ_ACP permission is granted to. The account with the READ_ACP permission can read the ACL of the current object.  Value range:  To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value: None
GrantWriteAcpId	string	No	Explanation:  ID (domain_id) of an account the WRITE_ACP permission is granted to. The account with the WRITE_ACP permission can write the ACL of the current object.  Value range: To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value: None

Parameter	Туре	Mand atory (Yes/ No)	Description
GrantFullControlId	string	No	Explanation:  ID (domain_id) of an account the FULL_CONTROL permission is granted to. The account with the FULL_CONTROL permission can read the current object, obtain its metadata, and obtain and write its ACL.  Value range: To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value: None
Expires	int64	No	Explanation:  Expiration time of the object (calculated from the latest modification time of the object).  Expired objects are automatically deleted.  Value range:  1 to (2 <sup>63</sup> - 1), in days  Default value:  None

### Table 9-25 AclType

Constant	Default Value	Description
AclPrivate	private	Private read/write  A bucket or object can only be accessed
		by its owner.
AclPublicRead	public-read	Public read and private write
		If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket.
		If it is granted on an object, anyone can read the content and metadata of the object.

Constant	Default Value	Description
AclPublicReadWrit e	public-read- write	Public read/write  If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket, and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart upload tasks.  If it is granted on an object, anyone can read the content and metadata of the object.
AclPublicReadDe- livered	public-read- delivered	Public read on a bucket as well as objects in the bucket  If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions, and read the content and metadata of objects in the bucket.  NOTE  AclPublicReadDelivered does not apply to objects.
AclPublicReadWri- teDelivered	public-read- write-delivered	Public read/write on a bucket as well as objects in the bucket  If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket, and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart uploads. They can also read the content and metadata of objects in the bucket.  NOTE  AclPublicReadWriteDelivered does not apply to objects.
AclBucketOwnerFu llControl	bucket-owner- full-control	If this permission is granted on an object, only the bucket and object owners have the full control over the object.  By default, if you upload an object to a bucket of any other user, the bucket owner does not have the permissions on your object. After you grant this permission to the bucket owner, the bucket owner can have full control over your object.

Table 9-26 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:  None
Key	string	Yes if used as a request parameter	Explanation: Key for encrypting the object when SSE-C is used Restrictions: The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=. Default value: None
KeyMD5	string	No if used as a request parameter	Explanation:  MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.  Restrictions: The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.  Default value: None

Table 9-27 SseKmsHeader

Parameter	Туре	Manda tory (Yes/N o)	Description
Encryption	string	Yes if used as a request param eter	Explanation: SSE-KMS used for encrypting objects Value range: kms, indicating objects are encrypted using SSE-KMS Default value: None
Key	string	No if used as a request param eter	Explanation:  ID of the KMS master key when SSE-KMS is used  Value range:  Valid value formats are as follows:  1. regionID.domainID.key/key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  • If this parameter is not specified, the default master key will be used.  • If there is no such a default master key, OBS will create one and use it by default.

 Table 9-28
 StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.
StorageClassWarm	WARM	OBS Infrequent Access
		Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive
		Used for storing rarely accessed (once a year) data.

## Responses

**Table 9-29** List of returned results

Parameter	Туре	Description
output	*AppendObjectO utput	<b>Explanation:</b> Returned results. For details, see <b>Table 9-30</b> .
err	error	<b>Explanation:</b> Error messages returned by the API

Table 9-30 AppendObjectOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be $2xx$ (indicating successes) or $4xx$ or $5xx$ (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHe	map[string]	Explanation:
aders	[]string	HTTP response headers
		Default value:
		None
VersionId	string	Explanation:
		Object version ID. If versioning is enabled for the bucket, the object version ID will be returned.
		Value range:
		The value must contain 32 characters.
		Default value:
		None

Parameter	Туре	Description
ETag	string	Explanation:
		Base64-encoded, 128-bit MD5 value of the object. ETag is the unique identifier of the object content. It can be used to determine whether the object content is changed. For example, if ETag value is <b>A</b> when an object is uploaded but changes to <b>B</b> when the object is downloaded, it indicates that the object content is changed. The ETag reflects changes to the object content, rather than the object metadata. An uploaded object or copied object has a unique ETag.
		Restrictions:
		If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object.
		Value range:
		The value must contain 32 characters.
		Default value:
		None
SseHeader	SseCHeader	Explanation:
	or SseKmsHeade r	Server-side encryption header information. If SSE-C is used, see <b>Table 9-31</b> . If SSE-KMS is used, see <b>Table 9-32</b> .
NextAppend	int64	Explanation:
Position		Position from which the next append upload starts
		Restrictions:
		For an object to be appended, the value of <b>position</b> must be set to <b>0</b> when the object is uploaded for the first time. For the second append upload, the value of <b>position</b> should be set to the value of <b>NextAppendPosition</b> returned in the response when the first upload is successful.
		Value range:
		0 to (2 <sup>63</sup> – 1), in bytes
		Default value:
		0

Table 9-31 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:  None
Key	string	Yes if used as a request parameter	Explanation: Key for encrypting the object when SSE-C is used Restrictions: The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=. Default value: None
KeyMD5	string	No if used as a request parameter	Explanation:  MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.  Restrictions: The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.  Default value: None

Table 9-32 SseKmsHeader

Parameter	Туре	Manda tory (Yes/N o)	Description
Encryption	string	Yes if used as a request param eter	Explanation: SSE-KMS used for encrypting objects Value range: kms, indicating objects are encrypted using SSE-KMS Default value: None
Key	string	No if used as a request param eter	Explanation:  ID of the KMS master key when SSE-KMS is used  Value range:  Valid value formats are as follows:  1. regionID:domainID:key/key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  • If this parameter is not specified, the default master key will be used.  • If there is no such a default master key, OBS will create one and use it by default.

# **Code Examples**

This example appends content to **example/objectname** in **examplebucket**.

package main import (

```
"fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSecurityToken(securityToken))
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.AppendObjectInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify the object (example/objectname as an example) to append content to.
  input.Key = "example/objectname"
  // Specify the position where content is appended. Position must be set to 0 for the first append upload.
  input.Position = 0
  // Specify data streams of the object to upload.
  input.Body = strings.NewReader("Hello OBS")
  // Append content to the object.
  output, err := obsClient.AppendObject(input)
  if err == nil {
     fmt.Printf("Append object(%s) under the bucket(%s) successful!\n", input.Key, input.Bucket)
     fmt.Printf("ETag:%s, NextAppendPosition:%d\n", output.ETag, output.NextAppendPosition)
  fmt.Printf("Append objects under the bucket(%s) fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

### **Helpful Links**

- Appending an Object
- (GitHub) Sample Code for Object Upload
- OBS Error Codes
- FAQ for Object Upload Failure

## 9.2.4 Uploading an Object - Resumable (SDK for Go)

### **Function**

The resumable upload is an encapsulated and enhanced version of the multipart upload used for dealing with possible upload failures of large files when the network connection is unstable or a program crashes. This API splits the file into multiple parts and uploads them individually. The upload result of each part is recorded in a checkpoint file in real time. A success message is returned only when all parts are uploaded. If any parts fail, an error message is returned telling you to call the API again to upload the failed parts. Since the checkpoint file contains the progress of each part, it saves you uploading all parts again in the event of an error.

You can call **ObsClient.UploadFile** to perform a resumable upload.

#### Restrictions

- To upload an object, you must be the bucket owner or have the required permission (obs:object:PutObject in IAM or PutObject in a bucket policy).
   For details, see Introduction to OBS Access Control, IAM Custom Policies, and Configuring an Object Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.
- The file uploaded by the resumable upload API must be larger than 100 KB in size.
- When the resumable upload API is used, this option should be enabled so that the progress of the last upload can be read for entering the process again.

#### Method

func (obsClient ObsClient) UploadFile(input \*UploadFileInput) (output
\*CompleteMultipartUploadOutput, err error)

### **Request Parameters**

Table 9-33 List of request parameters

Parameter	Туре	Ma nd ato ry (Ye s/N o)	Description
input	*UploadFileInp ut	Yes	Explanation: Input parameters for a resumable upload. For details, see Table 9-34.

Table 9-34 UploadFileInput

Parameter T	Гуре	Man dato ry (Yes /No)	Description
Bucket	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:  None

Parameter	Туре	Man dato ry (Yes /No)	Description
Key	string	Yes	Explanation: Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name. For example, if the address for accessing the object is examplebucket.obs.ap-
			southeast-1.myhuaweicloud.com/folder/ test.txt, the object name is folder/ test.txt.  Value range: The value must contain 1 to 1,024 characters.  Default value: None
UploadFile	string	Yes	Explanation:  Local file path of the object to be uploaded  Default value:  None
PartSize	int64	Yes	Explanation: Part size Value range: The value ranges from 100 KB to 5 GB, in bytes. Default value: 102400
TaskNum	int	No	Explanation:  Maximum number of parts that can be uploaded concurrently  Value range:  An integer from 1 to 10000  Default value:  1, indicating concurrent uploads are not used

Parameter	Туре	Man dato ry (Yes /No)	Description
EnableCheckp oint	bool	No	Explanation: Whether to enable the resumable upload Value range: true: The resumable upload mode is enabled. false: The resumable upload mode is disabled. Default value: false
CheckpointFil e	string	No	Explanation: File used to record the upload progress. This parameter is valid only in the resumable upload mode.  Default value: If this parameter is left blank, the progress file will be in the same directory as the local file to be uploaded.
ACL	AclType	No	Explanation:  ACL that can be pre-defined during object creation. For details about the ACL, see ACLs.  Value range: For details about the ACL options, see AclType.  Default value: None

Parameter	Туре	Man dato ry (Yes /No)	Description
WebsiteRedir	string	No	Explanation:
ectLocation			If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.
			The request is redirected to object anotherPage.html in the same bucket:
			WebsiteRedirectLocation:/ anotherPage.html
			The request is redirected to an external URL http://www.example.com/:
			WebsiteRedirectLocation:http:// www.example.com/
			OBS obtains the specified value from the header and stores it in the object metadata <b>WebsiteRedirectLocation</b> .
			Restrictions:
			<ul> <li>The value must start with a slash (/), http://, or https:// and cannot exceed 2 KB.</li> </ul>
			OBS only supports redirection for objects in the root directory of a bucket.
			Default value:
			None
ContentType	string	No	Explanation:
			MIME type of the file to be uploaded. MIME type is a standard way of describing a data type and is used by the browser to decide how to display data.
			Value range:
			See What Is Content-Type (MIME)?
			Default value:
			If you do not specify this parameter when uploading an object, the SDK determines the object type based on the suffix of the specified object name and automatically assigns a value to this parameter.

Parameter	Туре	Man dato ry (Yes /No)	Description
SseHeader	SseCHeade r or SseKmsHe ader	No	Explanation:  Server-side encryption header information.  If SSE-C is used, see Table 9-36. If SSE-KMS is used, see Table 9-37.
StorageClass	StorageCla ssType	No	Explanation: Object storage class Value range: See Table 9-38. Default value: If this parameter is not specified, the object inherits the storage class of the bucket.
Metadata	map[string]string	No	Explanation:  Custom metadata of the object to be uploaded. You can add a header starting with x-obs-meta- in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.  Restrictions:  The custom metadata cannot exceed 8 KB. To measure the custom metadata, sum the number of bytes in the UTF-8 encoding of each key and value.  The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.  Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are necessary, they must be encoded and decoded in URL or Base64 on the client, because the server side does not perform any decoding.  Default value:  None

Parameter	Туре	Man dato ry (Yes /No)	Description
Expires	int64	No	Explanation:  Expiration time of the object (calculated from the latest modification time of the object). Expired objects are automatically deleted.  Value range:  1 to (2 <sup>63</sup> - 1), in days  Default value:  None
GrantReadId	string	No	Explanation:  ID (domain_id) of an account the READ permission is granted to. The account with the READ permission can read the current object and obtain its metadata.  Value range:  To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value:  None
GrantReadAc pld	string	No	Explanation:  ID (domain_id) of an account the READ_ACP permission is granted to. The account with the READ_ACP permission can read the ACL of the current object.  Value range:  To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value:  None

Parameter	Туре	Man dato ry (Yes /No)	Description
GrantWriteAc pld	string	No	Explanation:  ID (domain_id) of an account the WRITE_ACP permission is granted to. The account with the WRITE_ACP permission can write the ACL of the current object. Value range: To obtain the account ID, see How Do I Get My Account ID and User ID? Default value: None
GrantFullCont rolld	string	No	Explanation:  ID (domain_id) of an account the FULL_CONTROL permission is granted to. The account with the FULL_CONTROL permission can read the current object, obtain its metadata, and obtain and write its ACL.  Value range: To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value: None
EncodingType	string	No	Explanation: Encoding type for Key in the response. If Key in the response contains control characters that are not supported by the XML 1.0 standard, you can specify this parameter to encode Key.  Value range: url  Default value: None. If you leave this parameter blank, encoding is not applied to Key.

Table 9-35 AclType

Constant	Default Value	Description
AclPrivate	private	Private read/write
		A bucket or object can only be accessed by its owner.
AclPublicRead	public-read	Public read and private write
		If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket.
		If it is granted on an object, anyone can read the content and metadata of the object.
AclPublicReadWrit	public-read-	Public read/write
e	write	If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket, and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart upload tasks.  If it is granted on an object, anyone can read the content and metadata of the object.
AclPublicReadDe- livered	public-read- delivered	Public read on a bucket as well as objects in the bucket
		If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions, and read the content and metadata of objects in the bucket.
		NOTE AclPublicReadDelivered does not apply to objects.

Constant	Default Value	Description
AclPublicReadWri- teDelivered	public-read- write-delivered	Public read/write on a bucket as well as objects in the bucket
		If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket, and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart uploads. They can also read the content and metadata of objects in the bucket.  NOTE  AclPublicReadWriteDelivered does not apply to objects.
AclBucketOwnerFu llControl	bucket-owner- full-control	If this permission is granted on an object, only the bucket and object owners have the full control over the object.
		By default, if you upload an object to a bucket of any other user, the bucket owner does not have the permissions on your object. After you grant this permission to the bucket owner, the bucket owner can have full control over your object.

Table 9-36 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:
			None

Parameter	Туре	Mandatory (Yes/No)	Description
Key	string	Yes if used	Explanation:
		as a request parameter	Key for encrypting the object when SSE-C is used
			Restrictions:
			The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=.
			Default value:
			None
KeyMD5	string	No if used	Explanation:
		as a request parameter	MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.
			Restrictions:
			The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.
			Default value:
			None

Table 9-37 SseKmsHeader

Parameter	Туре	Manda tory (Yes/N o)	Description
Encryption	string	Yes if used as a request param eter	Explanation:  SSE-KMS used for encrypting objects  Value range:  kms, indicating objects are encrypted using SSE-KMS  Default value:  None

Parameter	Туре	Manda tory (Yes/N o)	Description
Key	string	No if used as a request param eter	Explanation:  ID of the KMS master key when SSE-KMS is used  Value range:  Valid value formats are as follows:  1. regionID:domainID:key/key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  • If this parameter is not specified, the default master key will be used.  • If there is no such a default master key, OBS will create one and use it by default.

**Table 9-38** StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.

Constant	Default Value	Description
StorageClassWarm	WARM	OBS Infrequent Access Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive Used for storing rarely accessed (once a year) data.

## Responses

Table 9-39 List of returned results

Parameter	Туре	Description
output	*CompleteMultipar- tUploadOutput	Explanation: Returned results. For details, see Table 9-40.
err	error	<b>Explanation:</b> Error messages returned by the API

 Table 9-40 CompleteMultipartUploadOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be $2xx$ (indicating successes) or $4xx$ or $5xx$ (indicating errors). It indicates the status of a response. For more information, see Status Code.
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None

Parameter	Туре	Description
ResponseHeaders	map[string] []string	Explanation: HTTP response headers Default value: None
ETag	string	Explanation:  Base64-encoded, 128-bit MD5 value of the object. ETag is the unique identifier of the object content. It can be used to determine whether the object content is changed. For example, if ETag value is A when an object is uploaded but changes to B when the object is downloaded, it indicates that the object content is changed. The ETag reflects changes to the object content, rather than the object metadata. An uploaded object or copied object has a unique ETag.  Restrictions:
		If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object.
		Value range:
		The value must contain 32 characters.
		Default value:
		None

Parameter	Туре	Description
Bucket	string	Explanation: Bucket in which parts are assembled Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:  None
Key	string	Explanation: Object name obtained after part combination An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.  Value range: The value must contain 1 to 1,024 characters.  Default value: None

Parameter	Туре	Description
Location	string	Explanation:
		URL of the generated object after part assembling
		Example: https://example- Bucket.obs.regions.myhuaweicloud.com/ example-Object
		Default value:
		None
VersionId	string	Explanation:
		Version ID of the object obtained after part combination If versioning is enabled for the bucket, the object version ID will be returned.
		Value range:
		The value must contain 32 characters.
		Default value:
		None
SseHeader	SseCHeader	Explanation:
	or SseKmsHead er	Server-side encryption header information. If SSE-C is used, see <b>Table 9-41</b> . If SSE-KMS is used, see <b>Table 9-42</b> .
EncodingType	string	Explanation:
		Encoding type for some elements in the response. If <b>Key</b> contains control characters (special characters) that are not supported by the XML 1.0 standard, set this parameter to <b>url</b> .
		Value range:
		url
		Default value:
		None. If you leave this parameter blank, encoding is not applied to elements.

Table 9-41 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:  None
Key	string	Yes if used as a request parameter	Explanation: Key for encrypting the object when SSE-C is used Restrictions: The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=. Default value: None
KeyMD5	string	No if used as a request parameter	Explanation:  MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.  Restrictions: The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.  Default value: None

Table 9-42 SseKmsHeader

Parameter	Туре	Manda tory (Yes/N o)	Description
Encryption	string	Yes if used as a request param eter	Explanation: SSE-KMS used for encrypting objects Value range: kms, indicating objects are encrypted using SSE-KMS Default value: None
Key	string	No if used as a request param eter	Explanation:  ID of the KMS master key when SSE-KMS is used  Value range:  Valid value formats are as follows:  1. regionID:domainID:key key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  • If this parameter is not specified, the default master key will be used.  • If there is no such a default master key, OBS will create one and use it by default.

## **Code Examples**

This example uploads **example/objectname** to **examplebucket** in a resumable upload.

package main import (

```
"fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.UploadFileInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify the object (example/objectname as an example) to upload.
  input.Key = "example/objectname'
  // Specify your local file (/tmp/objectname as an example) to upload.
  input.UploadFile = "/tmp/objectname"
  // Specify whether to enable resumable upload (true as an example). The default value is false,
indicating that resumable upload is disabled.
  input.EnableCheckpoint = true
  // Specify a part size, in bytes. This example sets each part to 9 MB.
  input.PartSize = 9 * 1024 * 1024
  // Specify the maximum number of parts that can be concurrently uploaded. 5 is used as an example.
  input.TaskNum = 5
  // Upload the object using resumable upload.
  output, err := obsClient.UploadFile(input)
  if err == nil {
     fmt.Printf("Upload file(%s) under the bucket(%s) successful!\n", input.UploadFile, input.Bucket)
     fmt.Printf("ETag:%s\n", output.ETag)
  fmt.Printf("Upload file(%s) under the bucket(%s) fail!\n", input.UploadFile, input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
  }
```

### **Helpful Links**

- (GitHub) Sample Code for Object Upload
- OBS Error Codes
- FAQ for Object Upload Failure

# 9.3 Object Download Overview (SDK for Go)

OBS Go SDK provides abundant APIs for object download in the following methods:

- Downloading an Object Streaming (SDK for Go)
- Downloading an Object Range-Based (SDK for Go)
- Downloading an Object Conditional (SDK for Go)
- Downloading an Object Resumable (SDK for Go)

## 9.3.1 Downloading an Object - Streaming (SDK for Go)

#### **Function**

This API downloads a file using streaming from OBS to your local computer.

#### Restrictions

- To download an object, you must be the bucket owner or have the required permission (obs:object:GetObject in IAM or GetObject in a bucket policy).
   For details, see Introduction to OBS Access Control, IAM Custom Policies, and Configuring an Object Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in Regions and Endpoints.
- Objects in the Archive storage class can be downloaded only when they are in the **Restored** status.

#### Method

func (obsClient ObsClient) GetObject(input \*GetObjectInput) (output
\*GetObjectOutput, err error)

### **Request Parameters**

**Table 9-43** List of request parameters

Parame ter	Туре	Ma nd ato ry (Ye s/N o)	Description
input	*GetObjectInp	Yes	Explanation:
	ut		Input parameters for a streaming download. For details, see <b>Table 9-44</b> .

Table 9-44 GetObjectInput

Parameter	Туре	Ma nd ato ry (Ye s/N o)	Description
Bucket	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value: None

Parameter	Туре	Ma nd ato ry (Ye s/N o)	Description
Key	string	Yes	Explanation: Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name. For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.  Value range: The value must contain 1 to 1,024 characters.  Default value: None
ResponseCacheCon trol	string	No	Explanation: Cache-Control header in the response. It specifies the cache behavior of the web page when the object is downloaded. Default value: None
ResponseContent- Disposition	string	No	Explanation: Content-Disposition header in the response. It specifies the name of the object when it is downloaded. Default value: None
ResponseContentE ncoding	string	No	Explanation: Content-Encoding header in the response. It specifies the content encoding format when an object is downloaded. Default value: None

Parameter	Туре	Ma nd ato ry (Ye s/N o)	Description
ResponseContentL anguage	string	No	Explanation: Content-Language header in the response. It specifies the content language format when an object is downloaded. Default value: None
ResponseContent- Type	string	No	Explanation: Content-Type header in the response. It specifies the object file type. Default value: None
ResponseExpires	string	No	Explanation: Expires header in the response. It specifies the cache expiration time of the web page when the object is downloaded.  Default value: None
VersionId	string	No	Explanation: Object version ID, for example, G001117FCE89978B0000401205D5DC9 Value range: The value must contain 32 characters. Default value: None. If this parameter is left blank, the latest version of the object is obtained.

Parameter	Туре	Ma nd ato ry (Ye s/N o)	Description
ImageProcess	string	No	Explanation: Image processing command or style. Example for resizing and rotating an image: image/ resize,m_fixed,w_100,h_100/rotate,90 Value range: Command format: image/commands Style format: style/style name For details about image processing parameters, see Processing Images. Default value: If no commands are entered, the original image is returned.
RangeStart	int64	No	Explanation: Start position for object download Value range: 0 to the object length, in bytes. Default value: 0, indicating the download starts from the first byte of the object.
RangeEnd	int64	No	Explanation: End position for object download Value range:  The value must be greater than that of RangeStart.  The upper limit of the value is the object length minus 1, in bytes.  Default value: None

Parameter	Туре	Ma nd ato ry (Ye s/N o)	Description
IfMatch	string	No	Explanation:  Preset ETag. If the ETag of the object to be downloaded is the same as the preset ETag, the object is returned.  Otherwise, an error is returned.  Value range:  The value must contain 32 characters.  Default value:  None
IfNoneMatch	string	No	Explanation:  Preset ETag. If the ETag of the object to be downloaded is different from the preset ETag, the object is returned.  Otherwise, an error is returned.  Value range:  The value must contain 32 characters.  Default value:  None
IfModifiedSince	time.Time	No	Explanation:  The object is returned if it has been modified since the specified time; otherwise, an error is returned.  Restrictions:  The time must be in the ISO8601 format, for example, 2018-01-01T00:00:00.000Z.  Sample code: time.Now().Add(time.Duration(24) * time.Hour)  Default value: None

Parameter	Туре	Ma nd ato ry (Ye s/N o)	Description
IfUnmodifiedSince	time.Time	No	Explanation:
			The object is returned if it has not been modified since the specified time; otherwise, an error is returned.
			Restrictions:
			The time must be in the ISO8601 format, for example, <b>2018-01-01T00:00:00.000Z</b> .
			Sample code: time.Now().Add(time.Duration(24) * time.Hour)
			Default value:
			None
SseHeader	SseCHea	No	Explanation:
der		Server-side decryption headers. For details, see <b>Table 9-45</b> .	
			Restrictions:
			If the object uploaded to a server is encrypted with the key provided by the client, the key must also be provided in the message for downloading the object.

Table 9-45 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:  None

Parameter	Туре	Mandatory (Yes/No)	Description
Key	string	Yes if used	Explanation:
		as a request parameter	Key for encrypting the object when SSE-C is used
			Restrictions:
			The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=.
			Default value:
			None
KeyMD5	string	No if used	Explanation:
		as a request parameter	MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.
			Restrictions:
			The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.
			Default value:
			None

## Responses

**Table 9-46** List of returned results

Paramete r	Туре	Description
output	*GetObjectOut put	<b>Explanation:</b> Returned results. For details, see <b>Table 9-47</b> .
err	error	<b>Explanation:</b> Error messages returned by the API

Table 9-47 GetObjectOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be $2xx$ (indicating successes) or $4xx$ or $5xx$ (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string	Explanation:
	][]string	HTTP response headers
		Default value:
		None
Body	io.ReadClo	Explanation:
	ser	Object data stream to download
		Default value:
		None
StorageClass	StorageCl	Explanation:
	assType	Object storage class
		Value range:
		See <b>Table 9-48</b> .
		Default value:
		None

AllowOrigin    String   Explanation: If Origin in the request meets the CORS rules of the bucket, AllowedOrigin in the CORS rules is returned, AllowedOrigin indicates the origin from which the requests can access the bucket.   Restrictions: Domain name of the origin. Each origin can contain only one wildcard character (*), for example, https://*.vbs.example.com.   Default value: None   Explanation: If RequestHeader in the request meets the CORS rules of the bucket, AllowedHeader in the CORS rules is returned.   AllowedHeader indicates the allowed headers for cross-origin requests. Only CORS requests matching the allowed headers are valid.   Restrictions: Each header can contain only one wildcard character (*). Spaces, ampersands (&), colons (:), and less-than signs (<) are not allowed.   Default value: None   Explanation: AllowedMethod in the CORS rules of the bucket. It specifies the HTTP method of cross-origin requests, that is, the operation type of buckets and objects.   Value range: The following HTTP methods are supported: GET   PUT   HEAD   POST   DELETE   Default value: None   Default value: None	Parameter	Туре	Description
rules of the bucket, AllowedOrigin in the CORS rules is returned. AllowedOrigin indicates the origin from which the requests can access the bucket.  Restrictions:  Domain name of the origin. Each origin can contain only one wildcard character (*), for example, https://*.vbs.example.com.  Default value: None  AllowHeader  string  Explanation:  If RequestHeader in the request meets the CORS rules of the bucket, AllowedHeader in the CORS rules is returned.  AllowedHeader indicates the allowed headers for cross-origin requests. Only CORS requests matching the allowed headers are valid.  Restrictions:  Each header can contain only one wildcard character (*). Spaces, ampersands (&), colons (:), and less-than signs (<) are not allowed.  Default value: None  AllowedMethod in the CORS rules of the bucket. It specifies the HTTP method of cross-origin requests, that is, the operation type of buckets and objects.  Value range: The following HTTP methods are supported:  GET PUT HEAD POST DELETE Default value:	AllowOrigin	string	Explanation:
Domain name of the origin. Each origin can contain only one wildcard character (*), for example, https://*.vbs.example.com.  Default value: None  String  Explanation:  If RequestHeader in the request meets the CORS rules of the bucket, AllowedHeader in the CORS rules is returned. AllowedHeader indicates the allowed headers for cross-origin requests. Only CORS requests matching the allowed headers are valid.  Restrictions: Each header can contain only one wildcard character (*). Spaces, ampersands (&), colons (:), and less-than signs (<) are not allowed.  Default value: None  AllowMethod  string  Explanation: AllowedMethod in the CORS rules of the bucket. It specifies the HTTP method of cross-origin requests, that is, the operation type of buckets and objects.  Value range: The following HTTP methods are supported:  GET PUT HEAD POST DELETE Default value:			rules of the bucket, <b>AllowedOrigin</b> in the CORS rules is returned. <b>AllowedOrigin</b> indicates the origin from which the requests can access the bucket.
contain only one wildcard character (*), for example, https://*.vbs.example.com.  Default value: None  String  Explanation:  If RequestHeader in the request meets the CORS rules of the bucket, AllowedHeader in the CORS rules is returned.  AllowedHeader indicates the allowed headers for cross-origin requests. Only CORS requests matching the allowed headers are valid.  Restrictions: Each header can contain only one wildcard character (*). Spaces, ampersands (&), colons (:), and less-than signs (<) are not allowed.  Default value: None  AllowMethod  string  Explanation: AllowedMethod in the CORS rules of the bucket. It specifies the HTTP method of cross-origin requests, that is, the operation type of buckets and objects.  Value range: The following HTTP methods are supported:  GET PUT HEAD POST DELETE Default value:			
AllowHeader string Explanation:  If RequestHeader in the request meets the CORS rules of the bucket, AllowedHeader in the CORS rules is returned.  AllowedHeader indicates the allowed headers for cross-origin requests. Only CORS requests matching the allowed headers are valid.  Restrictions:  Each header can contain only one wildcard character (*). Spaces, ampersands (&), colons (:), and less-than signs (<) are not allowed.  Default value: None  AllowedMethod in the CORS rules of the bucket. It specifies the HTTP method of cross-origin requests, that is, the operation type of buckets and objects.  Value range: The following HTTP methods are supported:  • GET • PUT • HEAD • POST • DELETE Default value:			contain only one wildcard character (*), for example, https://*.vbs.example.com.
AllowHeader  String  Explanation:  If RequestHeader in the request meets the CORS rules of the bucket, AllowedHeader in the CORS rules is returned.  AllowedHeader indicates the allowed headers for cross-origin requests. Only CORS requests matching the allowed headers are valid.  Restrictions:  Each header can contain only one wildcard character (*). Spaces, ampersands (&), colons (:), and less-than signs (<) are not allowed.  Default value: None  AllowedMethod in the CORS rules of the bucket. It specifies the HTTP method of cross-origin requests, that is, the operation type of buckets and objects.  Value range:  The following HTTP methods are supported:  GET  PUT  HEAD  POST  DELETE  Default value:			
If RequestHeader in the request meets the CORS rules of the bucket, AllowedHeader in the CORS rules is returned.  AllowedHeader indicates the allowed headers for cross-origin requests. Only CORS requests matching the allowed headers are valid.  Restrictions:  Each header can contain only one wildcard character (*). Spaces, ampersands (&), colons (:), and less-than signs (<) are not allowed.  Default value: None  AllowedMethod in the CORS rules of the bucket. It specifies the HTTP method of cross-origin requests, that is, the operation type of buckets and objects.  Value range: The following HTTP methods are supported:  • GET  • PUT  • HEAD  • POST  • DELETE  Default value:			None
CORS rules of the bucket, AllowedHeader in the CORS rules is returned.  AllowedHeader indicates the allowed headers for cross-origin requests. Only CORS requests matching the allowed headers are valid.  Restrictions:  Each header can contain only one wildcard character (*). Spaces, ampersands (&), colons (:), and less-than signs (<) are not allowed.  Default value: None  AllowedMethod in the CORS rules of the bucket. It specifies the HTTP method of cross-origin requests, that is, the operation type of buckets and objects.  Value range: The following HTTP methods are supported:  GET PUT HEAD POST DELETE Default value:	AllowHeader	string	•
Each header can contain only one wildcard character (*). Spaces, ampersands (&), colons (:), and less-than signs (<) are not allowed.  Default value: None  AllowMethod  string  Explanation:  AllowedMethod in the CORS rules of the bucket. It specifies the HTTP method of cross-origin requests, that is, the operation type of buckets and objects.  Value range: The following HTTP methods are supported:  GET  PUT  HEAD  POST  DELETE  Default value:			CORS rules of the bucket, AllowedHeader in the CORS rules is returned. AllowedHeader indicates the allowed headers for cross-origin requests. Only CORS requests matching the allowed
character (*). Spaces, ampersands (&), colons (:), and less-than signs (<) are not allowed.  Default value: None  AllowMethod  string  Explanation:  AllowedMethod in the CORS rules of the bucket. It specifies the HTTP method of cross-origin requests, that is, the operation type of buckets and objects.  Value range: The following HTTP methods are supported:  GET  PUT  HEAD  POST  DELETE  Default value:			Restrictions:
AllowMethod  string  Explanation:  AllowedMethod in the CORS rules of the bucket. It specifies the HTTP method of cross-origin requests, that is, the operation type of buckets and objects.  Value range:  The following HTTP methods are supported:  GET  PUT  HEAD  POST  DELETE  Default value:			character (*). Spaces, ampersands (&), colons (:), and less-than signs (<) are not
AllowMethod  string  Explanation:  AllowedMethod in the CORS rules of the bucket. It specifies the HTTP method of cross-origin requests, that is, the operation type of buckets and objects.  Value range:  The following HTTP methods are supported:  GET  PUT  HEAD  POST  DELETE  Default value:			Default value:
AllowedMethod in the CORS rules of the bucket. It specifies the HTTP method of cross-origin requests, that is, the operation type of buckets and objects.  Value range: The following HTTP methods are supported:  GET  PUT  HEAD  POST  DELETE  Default value:			None
bucket. It specifies the HTTP method of cross-origin requests, that is, the operation type of buckets and objects.  Value range: The following HTTP methods are supported:  GET  PUT  HEAD  POST  DELETE  Default value:	AllowMethod	string	Explanation:
The following HTTP methods are supported:  • GET  • PUT  • HEAD  • POST  • DELETE  Default value:			bucket. It specifies the HTTP method of cross-origin requests, that is, the operation
<ul> <li>GET</li> <li>PUT</li> <li>HEAD</li> <li>POST</li> <li>DELETE</li> <li>Default value:</li> </ul>			
<ul> <li>PUT</li> <li>HEAD</li> <li>POST</li> <li>DELETE</li> <li>Default value:</li> </ul>			
<ul> <li>HEAD</li> <li>POST</li> <li>DELETE</li> <li>Default value:</li> </ul>			
<ul><li>POST</li><li>DELETE</li><li>Default value:</li></ul>			
DELETE     Default value:			
Default value:			
1 1 1 1 T			

Parameter	Туре	Description
ExposeHeader	string	Explanation:
		<b>ExposeHeader</b> in the CORS rules of the bucket. It specifies the CORS-allowed additional headers in the response. These headers provide additional information to clients. By default, your browser can only access headers <b>Content-Length</b> and <b>Content-Type</b> . If your browser needs to access other headers, add them to a list of the allowed additional headers.
		Restrictions:
		Spaces, wildcard characters (*), ampersands (&), colons (:), and less-than signs (<) are not allowed.
		Default value:
		None
MaxAgeSeconds	int	Explanation:
		<b>MaxAgeSeconds</b> in the CORS rules of the bucket. It specifies the time your client can cache the response for a cross-origin request.
		Restrictions: Each CORS rule can specify only one value
		for MaxAgeSeconds.  Value range:
		0 to (2 <sup>31</sup> – 1), in seconds
		Default value:
		100
ContentLength	int64	Explanation:
		Object size in bytes
		Value range:
		The value ranges from 0 TB to 48.8 TB, in bytes.
		Default value:
		None
CacheControl	string	Explanation:
		<b>Cache-Control</b> header in the response. It specifies cache behaviors of the web page when an object is downloaded.
		Default value:
		None

Parameter	Туре	Description
ContentDisposition	string	Explanation: Content-Disposition header in the response Default value: None
ContentEncoding	string	Explanation: Content-Encoding header in the response Default value: None
ContentLanguage	string	Explanation: Content-Language header in the response Default value: None
ContentType	string	Explanation:  MIME type of the file to be downloaded.  MIME type is a standard way of describing a data type and is used by the browser to decide how to display data.  Value range:  See What Is Content-Type (MIME)?  Default value:  If you do not specify this parameter when uploading an object, the SDK determines the object type based on the suffix of the specified object name and automatically assigns a value to this parameter.
Expires	string	Explanation: Expires header in the response Default value: None
LastModified	time.Time	Explanation: Time when the last modification was made to the object Restrictions: The time must be in the ISO8601 format, for example, 2018-01-01T00:00:00.000Z. Default value: None

Parameter	Туре	Description
ETag	string	Explanation:
		Base64-encoded, 128-bit MD5 value of an object. ETag is the unique identifier of the object content. It can be used to determine whether the object content is changed. For example, if the ETag value is <b>A</b> when an object is uploaded, but changes to <b>B</b> when the object is downloaded, it indicates that the object content has been changed. The ETag reflects changes to the object content, rather than the object metadata. An uploaded or copied object has a unique ETag after being encrypted using MD5.
		Restrictions:
		If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object.
		Value range:
		The value must contain 32 characters.
		Default value:
		None
VersionId	string	Explanation:
		Object version ID
		Value range:
		The value must contain 32 characters.
		Default value:
		None
Restore	string	Explanation:
		Restore status of an object. For an Archive object that is being restored or has been restored, this header is returned.
		For example, ongoing-request="true" indicates that the object is being restored. ongoing-request="false", expiry-date="Wed, 7 Nov 2012 00:00:00 GMT" indicates that the object has been restored. expiry-date indicates when the restored object expires.
		Restrictions:
		This parameter is only available for Archive objects.
		Default value:
		None

Parameter	Туре	Description
Expiration	string	Explanation: Expiration details of the object. Example: "expiry-date=\"Mon, 11 Sep 2023 00:00:00 GMT\"" Default value: None
SseHeader	SseCHead er or SseKmsHe ader	Explanation:  Server-side encryption header information.  If SSE-C is used, see Table 9-49. If SSE-KMS is used, see Table 9-50.
WebsiteRedirectLocation	string	Explanation:  If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL. This parameter specifies the address the request for the object is redirected to.  The request is redirected to object anotherPage.html in the same bucket:  WebsiteRedirectLocation:/anotherPage.html The request is redirected to an external URL http://www.example.com/:  WebsiteRedirectLocation:http://www.example.com/ OBS obtains the specified value from the header and stores it in the object metadata WebsiteRedirectLocation.  Restrictions:  The value must start with a slash (/), http://, or https:// and cannot exceed 2 KB.  OBS only supports redirection for objects in the root directory of a bucket.  Default value: None

Parameter	Туре	Description
Metadata	map[string]string	Explanation:  Custom object metadata. You can add a header starting with x-obs-meta- in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.  Restrictions:  The custom metadata cannot exceed 8 KB. To measure the custom metadata, sum the number of bytes in the UTF-8 encoding of each key and value.  The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.  Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are required, they must be encoded and decoded in URL or Base64 on the client, because the server does not perform such operations.  Default value:
		None

 Table 9-48 StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.
StorageClassWarm	WARM	OBS Infrequent Access
		Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive
		Used for storing rarely accessed (once a year) data.

Table 9-49 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:  None
Key	string	Yes if used as a request parameter	Explanation: Key for encrypting the object when SSE-C is used Restrictions: The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=. Default value: None
KeyMD5	string	No if used as a request parameter	Explanation:  MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.  Restrictions: The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.  Default value: None

Table 9-50 SseKmsHeader

Parameter	Туре	Manda tory (Yes/N o)	Description
Encryption	string	Yes if used as a request param eter	Explanation: SSE-KMS used for encrypting objects Value range: kms, indicating objects are encrypted using SSE-KMS Default value: None
Key	string	No if used as a request param eter	Explanation:  ID of the KMS master key when SSE-KMS is used  Value range:  Valid value formats are as follows:  1. regionID.domainID.key/key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  • If this parameter is not specified, the default master key will be used.  • If there is no such a default master key, OBS will create one and use it by default.

# **Code Examples**

This example downloads **example/objectname** from **examplebucket** using streaming.

package main import (

```
"fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.GetObjectInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify the object (example/objectname as an example) to download.
  input.Key = "example/objectname"
  // Download the object using streaming.
  output, err := obsClient.GetObject(input)
  if err == nil {
     // Close output.Body after using it, to avoid connection leakage.
     defer output.Body.Close()
     fmt.Printf("Get object(%s) under the bucket(%s) successful!\n", input.Key, input.Bucket)
     fmt.Printf("StorageClass:%s, ETag:%s, ContentType:%s, ContentLength:%d, LastModified:%s\n",
        output.StorageClass, output.ETag, output.ContentType, output.ContentLength, output.LastModified)
     // Read the object content.
     p := make([]byte, 1024)
     var readErr error
     var readCount int
     for {
       readCount, readErr = output.Body.Read(p)
       if readCount > 0 {
           fmt.Printf("%s", p[:readCount])
       if readErr != nil {
          break
     }
     return
  fmt.Printf("List objects under the bucket(%s) fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
  }
```

#### NOTICE

Readable streams obtained by **GetObjectOutput.Body** must be closed explicitly. Otherwise, resource leakage occurs.

### **Helpful Links**

- Downloading Objects
- (GitHub) Sample Code for Object Download
- OBS Error Codes
- FAQ for Object Download Failure

## 9.3.2 Downloading an Object - Range-Based (SDK for Go)

### **Function**

This API downloads partial data of an object by specifying a range. If the specified range is from 0 to 1,000, data at the 0th to the 1,000th bytes, 1,001 bytes in total, will be returned. If the specified range is invalid, the whole object data will be returned.

### Restrictions

- To download an object, you must be the bucket owner or have the required permission (**obs:object:GetObject** in IAM or **GetObject** in a bucket policy).
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.
- Objects in the Archive storage class can be downloaded only when they are in the **Restored** status.
- If the specified range is invalid (for example, the start or end position is set to a negative integer or the range is larger than the object length), the whole object data will be returned.
- This download method also can be used to concurrently download parts of a large object. For details about the sample code, see concurrent\_download\_object\_sample.

#### Method

func (obsClient ObsClient) GetObject(input \*GetObjectInput) (output
\*GetObjectOutput, err error)

# **Request Parameters**

**Table 9-51** List of request parameters

Parameter	Туре	Man dato ry (Yes /No)	Description
input	*GetObjectInp ut	Yes	Explanation: Input parameters for a partial download. For details, see Table 9-52.

Table 9-52 GetObjectInput

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
Bucket	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:
			None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
Key	string	Yes	Explanation: Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name. For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.  Value range: The value must contain 1 to 1,024 characters.  Default value: None
ResponseCacheCon trol	string	No	Explanation: Cache-Control header in the response. It specifies the cache behavior of the web page when the object is downloaded. Default value: None
ResponseContent- Disposition	string	No	Explanation: Content-Disposition header in the response. It specifies the name of the object when it is downloaded. Default value: None
ResponseContentE ncoding	string	No	Explanation: Content-Encoding header in the response. It specifies the content encoding format when an object is downloaded. Default value: None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
ResponseContentL anguage	string	No	Explanation: Content-Language header in the response. It specifies the content language format when an object is downloaded. Default value: None
ResponseContent- Type	string	No	Explanation: Content-Type header in the response. It specifies the object file type. Default value: None
ResponseExpires	string	No	Explanation: Expires header in the response. It specifies the cache expiration time of the web page when the object is downloaded.  Default value: None
VersionId	string	No	Explanation: Object version ID. Example: G001117FCE89978B0000401205D5DC9 Value range: The value must contain 32 characters. Default value: None. If this parameter is left blank, the latest version of the object is obtained.

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
ImageProcess	string	No	Explanation: Image processing command or style. Example for resizing and rotating an image: image/ resize,m_fixed,w_100,h_100/rotate,90 Value range: Command format: image/commands Style format: style/style name For details about image processing parameters, see Processing Images. Default value: If no commands are entered, the original image is returned.
RangeStart	int64	No	Explanation: Start position for object download Value range: 0 to the object length, in bytes. Default value: 0, indicating the download starts from the first byte of the object.
RangeEnd	int64	No	Explanation: End position for object download Value range:  • The value must be greater than that of RangeStart.  • The upper limit of the value is the object length minus 1, in bytes.  Default value: None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
IfMatch	string	No	Explanation:  Preset ETag. If the ETag of the object to be downloaded is the same as the preset ETag, the object is returned.  Otherwise, an error is returned.  Value range:  The value must contain 32 characters.  Default value:  None
IfNoneMatch	string	No	Explanation:  Preset ETag. If the ETag of the object to be downloaded is different from the preset ETag, the object is returned.  Otherwise, an error is returned.  Value range:  The value must contain 32 characters.  Default value:  None
IfModifiedSince	time.Time	No	Explanation: The object is returned if it has been modified since the specified time; otherwise, an error is returned.  Restrictions: The time must be in the ISO8601 format, for example, 2018-01-01T00:00:00.000Z.  Sample code: time.Now().Add(time.Duration(24) * time.Hour)  Default value: None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
IfUnmodifiedSince	time.Time	No	Explanation:
			The object is returned if it has not been modified since the specified time; otherwise, an error is returned.
			Restrictions:
			The time must be in the ISO8601 format, for example, <b>2018-01-01T00:00:00.000Z</b> .
			Sample code: time.Now().Add(time.Duration(24) * time.Hour)
			Default value:
			None
SseHeader	SseCHea	No	Explanation:
	der		Server-side decryption headers. For details, see <b>Table 9-53</b> .
			Restrictions:
			If the object uploaded to a server is encrypted with the key provided by the client, the key must also be provided in the message for downloading the object.

Table 9-53 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:  None

Parameter	Туре	Mandatory (Yes/No)	Description
Key	string	Yes if used	Explanation:
		as a request parameter	Key for encrypting the object when SSE-C is used
			Restrictions:
			The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=.
			Default value:
			None
KeyMD5	string	No if used	Explanation:
		as a request parameter	MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.
		Restrictions:	
			The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.
			Default value:
			None

## Responses

**Table 9-54** List of returned results

Parameter	Туре	Description
output	*GetObjectOut put	<b>Explanation:</b> Returned results. For details, see <b>Table 9-55</b> .
err	error	<b>Explanation:</b> Error messages returned by the API

Table 9-55 GetObjectOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string	Explanation:
	][]string	HTTP response headers
		Default value:
		None
Body	io.ReadClo	Explanation:
	ser	Object data stream to download
		Default value:
		None
DeleteMarker	bool	Explanation:
		Whether the deleted object is a delete marker
		Value range:
		true: The deleted object is a delete marker.
		false: The deleted object is not a delete marker.
		Default value:
		false
StorageClass	StorageCl	Explanation:
	assType	Object storage class
		Value range:
		See <b>Table 9-56</b> .
		Default value:
		None

Parameter	Туре	Description
AllowOrigin	string	Explanation:  If Origin in the request meets the CORS rules of the bucket, AllowedOrigin specified in the CORS rules is returned.  AllowedOrigin indicates the origin from which the requests can access the bucket.  Restrictions:  Domain name of the origin. Each origin can contain only one wildcard character (*), for example, https://*.vbs.example.com.  Default value:  None
AllowHeader	string	Explanation:  If RequestHeader in the request meets the CORS rules of the bucket, AllowedHeader specified in the CORS rules is returned.  AllowedHeader indicates the allowed headers for cross-origin requests. Only CORS requests matching the allowed headers are valid.  Restrictions:  Each header can contain only one wildcard character (*). Spaces, ampersands (&), colons (:), and less-than signs (<) are not allowed.  Default value:  None
AllowMethod	string	Explanation: AllowedMethod in the CORS rules of the bucket. It specifies the HTTP method of cross-origin requests, that is, the operation type of buckets and objects.  Value range: The following HTTP methods are supported: GET PUT HEAD POST DELETE Default value: None

Parameter	Туре	Description
ExposeHeader	string	Explanation:
		<b>ExposeHeader</b> in the CORS rules of the bucket. It specifies the CORS-allowed additional headers in the response. These headers provide additional information to clients. By default, your browser can only access headers <b>Content-Length</b> and <b>Content-Type</b> . If your browser needs to access other headers, add them to a list of the allowed additional headers.
		Restrictions:
		Spaces, wildcard characters (*), ampersands (&), colons (:), and less-than signs (<) are not allowed.
		Default value:
		None
MaxAgeSeconds	int	Explanation:
		<b>MaxAgeSeconds</b> in the CORS rules of the bucket. It specifies the time your client can cache the response for a cross-origin request.
		Restrictions:  Each CORS rule can specify only one value for MaxAgeSeconds.
		Value range:
		0 to (2 <sup>31</sup> – 1), in seconds
		Default value:
		100
ContentLength	int64	Explanation:
		Object size in bytes
		Value range:
		The value ranges from 0 TB to 48.8 TB, in bytes.
		Default value:
		None
CacheControl	string	Explanation:
		<b>Cache-Control</b> header in the response. It specifies cache behaviors of the web page when an object is downloaded.
		Default value:
		None

Parameter	Туре	Description
ContentDisposition	string	Explanation:
		<b>Content-Disposition</b> header in the response
		Default value:
		None
ContentEncoding	string	Explanation:
		Content-Encoding header in the response
		Default value: None
6		113.13
ContentLanguage	string	Explanation: Content-Language header in the response
		Default value:
		None
ContentType	string	Explanation:
		MIME type of the file to be downloaded.
		MIME type is a standard way of describing a data type and is used by the browser to
		decide how to display data.
		Value range:
		See What Is Content-Type (MIME)?
		Default value:
		If you do not specify this parameter when uploading an object, the SDK determines
		the object type based on the suffix of the
		specified object name and automatically assigns a value to this parameter.
Expires	string	Explanation:
,		<b>Expires</b> header in the response
		Default value:
		None
LastModified	time.Time	Explanation:
		Time when the last modification was made to the object
		Restrictions:
		The time must be in the ISO8601 format, for example, 2018-01-01T00:00:00.000Z.
		Default value:
		None

Parameter	Туре	Description	
ETag	string	Explanation:	
		Base64-encoded, 128-bit MD5 value of an object. ETag is the unique identifier of the object content. It can be used to determine whether the object content is changed. For example, if the ETag value is <b>A</b> when an object is uploaded, but changes to <b>B</b> when the object is downloaded, it indicates that the object content has been changed. The ETag reflects changes to the object content, rather than the object metadata. An uploaded or copied object has a unique ETag after being encrypted using MD5.	
		Restrictions:	
		If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object.	
		Value range:	
		The value must contain 32 characters.	
		Default value:	
		None	
VersionId	string	Explanation:	
		Object version ID	
		Value range:	
		The value must contain 32 characters.	
		Default value:	
		None	
Restore	string	Explanation:	
		Restore status of an object. For an Archive object that is being restored or has been restored, this header is returned.	
		For example, ongoing-request="true" indicates that the object is being restored. ongoing-request="false", expiry-date="Wed, 7 Nov 2012 00:00:00 GMT" indicates that the object has been restored. expiry-date indicates when the restored object expires.	
		Restrictions:	
		This parameter is only available for Archive objects.	
		Default value:	
		None	

Parameter	Туре	Description
Expiration	string	Explanation: Expiration details of the object. Example:
		"expiry-date=\"Mon, 11 Sep 2023 00:00:00 GMT\""
		Default value:
		None
SseHeader	SseCHead	Explanation:
	er or SseKmsHe ader	Server-side encryption header information. If SSE-C is used, see <b>Table 9-57</b> . If SSE-KMS is used, see <b>Table 9-58</b> .
WebsiteRedirectLo-	string	Explanation:
cation		If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL. This parameter specifies the address the request for the object is redirected to.
		The request is redirected to object anotherPage.html in the same bucket:
		WebsiteRedirectLocation:/anotherPage.html
		The request is redirected to an external URL http://www.example.com/:
		WebsiteRedirectLocation:http:// www.example.com/
		OBS obtains the specified value from the header and stores it in the object metadata <b>WebsiteRedirectLocation</b> .
		Restrictions:
		<ul> <li>The value must start with a slash (/), http://, or https:// and cannot exceed 2 KB.</li> </ul>
		OBS only supports redirection for objects in the root directory of a bucket.
		Default value:
		None

Parameter	Туре	Description
Metadata	map[string]string	Explanation:  Custom object metadata. You can add a header starting with x-obs-meta- in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.  Restrictions:  The custom metadata cannot exceed 8 KB. To measure the custom metadata, sum the number of bytes in the UTF-8 encoding of each key and value.  The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.  Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are required, they must be encoded and decoded in URL or Base64 on the client, because the server does not perform such operations.  Default value:
		None

 Table 9-56
 StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.
StorageClassWarm	WARM	OBS Infrequent Access
		Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive
		Used for storing rarely accessed (once a year) data.

Table 9-57 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:  None
Key	string	Yes if used as a request parameter	Explanation: Key for encrypting the object when SSE-C is used Restrictions: The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=. Default value: None
KeyMD5	string	No if used as a request parameter	Explanation:  MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.  Restrictions: The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.  Default value: None

Table 9-58 SseKmsHeader

Parameter	Туре	Manda tory (Yes/N o)	Description
Encryption	string	Yes if used as a request param eter	Explanation: SSE-KMS used for encrypting objects Value range: kms, indicating objects are encrypted using SSE-KMS Default value: None
Key	string	No if used as a request param eter	Explanation:  ID of the KMS master key when SSE-KMS is used  Value range:  Valid value formats are as follows:  1. regionID:domainID:key key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  • If this parameter is not specified, the default master key will be used.  • If there is no such a default master key, OBS will create one and use it by default.

# **Code Examples**

This example downloads part (length range: 0-1,000 bytes) of **example/objectname** from **examplebucket**.

package main import (

```
"fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  // Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.GetObjectInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify the object (example/objectname as an example) to download.
  input.Key = "example/objectname'
  // Specify a range.
  input.RangeStart = 0
  input.RangeEnd = 1000
  // Download the specified part of the object.
  output, err := obsClient.GetObject(input)
  if err == nil {
     // Close output.Body after using it, to avoid connection leakage.
     defer output.Body.Close()
     fmt.Printf("Get object(%s) under the bucket(%s) successful!\n", input.Key, input.Bucket)
     fmt.Printf("StorageClass:%s, ETag:%s, ContentType:%s, ContentLength:%d, LastModified:%s\n",
        output.StorageClass, output.ETag, output.ContentType, output.ContentLength, output.LastModified)
     // Read the object content.
     p := make([]byte, 1024)
     var readErr error
     var readCount int
     for {
       readCount, readErr = output.Body.Read(p)
       if readCount > 0 {
          fmt.Printf("%s", p[:readCount])
       if readErr != nil {
          break
     }
     return
  fmt.Printf("List objects under the bucket(%s) fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

### **Helpful Links**

- Downloading Objects
- (GitHub) Sample Code for Object Download
- OBS Error Codes
- FAQ for Object Download Failure

# 9.3.3 Downloading an Object - Conditional (SDK for Go)

### **Function**

When downloading an object, you can specify one or more conditions. Only when the conditions are met, the object will be downloaded. Otherwise, an error code will be returned and the download will fail.

### Restrictions

- To download an object, you must be the bucket owner or have the required permission (obs:object:GetObject in IAM or GetObject in a bucket policy).
   For details, see Introduction to OBS Access Control, IAM Custom Policies, and Configuring an Object Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.
- Objects in the Archive storage class can be downloaded only when they are in the **Restored** status.

#### Method

func (obsClient ObsClient) GetObject(input \*GetObjectInput) (output
\*GetObjectOutput, err error)

### **Request Parameters**

**Table 9-59** List of request parameters

Parameter	Туре	Man dato ry (Yes /No)	Description
input	*GetObjectInpu t	Yes	Explanation:
			Input parameters for a conditional download. For details, see <b>Table 9-60</b> .

Table 9-60 GetObjectInput

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
Bucket	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value: None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
Key	string	Yes	Explanation:
			Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.
			For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.
			Value range:
			The value must contain 1 to 1,024 characters.
			Default value:
			None
ResponseCacheCon trol	string	No	Explanation: Cache-Control header in the response. It specifies the cache behavior of the web page when the object is downloaded. Default value: None
ResponseContent-	string	No	Explanation:
Disposition	J		Content-Disposition header in the response. It specifies the name of the object when it is downloaded.  Default value:  None
ResponseContentE	string	No	Explanation:
ncoding			Content-Encoding header in the response. It specifies the content encoding format when an object is downloaded.
			Default value:
			None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
ResponseContentL anguage	string	No	Explanation: Content-Language header in the response. It specifies the content language format when an object is downloaded. Default value: None
ResponseContent- Type	string	No	Explanation: Content-Type header in the response. It specifies the object file type. Default value: None
ResponseExpires	string	No	Explanation: Expires header in the response. It specifies the cache expiration time of the web page when the object is downloaded.  Default value: None
VersionId	string	No	Explanation: Object version ID. Example: G001117FCE89978B0000401205D5DC9 Value range: The value must contain 32 characters. Default value: None. If this parameter is left blank, the latest version of the object is obtained.

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
ImageProcess	string	No	Explanation: Image processing command or style. Example for resizing and rotating an image: image/ resize,m_fixed,w_100,h_100/rotate,90 Value range: Command format: image/commands Style format: style/style name For details about image processing parameters, see Processing Images. Default value: If no commands are entered, the original image is returned.
RangeStart	int64	No	Explanation: Start position for object download Value range: 0 to the object length, in bytes. Default value: 0, indicating the download starts from the first byte of the object.
RangeEnd	int64	No	Explanation: End position for object download Value range:  • The value must be greater than that of RangeStart.  • The upper limit of the value is the object length minus 1, in bytes.  Default value: None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
IfMatch	string	No	Explanation:  Preset ETag. If the ETag of the object to be downloaded is the same as the preset ETag, the object is returned.  Otherwise, an error is returned.  Value range:  The value must contain 32 characters.  Default value:  None
IfNoneMatch	string	No	Explanation:  Preset ETag. If the ETag of the object to be downloaded is different from the preset ETag, the object is returned.  Otherwise, an error is returned.  Value range:  The value must contain 32 characters.  Default value:  None
IfModifiedSince	time.Time	No	Explanation:  The object is returned if it has been modified since the specified time; otherwise, an error is returned.  Restrictions:  The time must be in the ISO8601 format, for example, 2018-01-01T00:00:00.000Z.  Sample code: time.Now().Add(time.Duration(24) * time.Hour)  Default value: None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
IfUnmodifiedSince	time.Time	No	Explanation:
			The object is returned if it has not been modified since the specified time; otherwise, an error is returned.
			Restrictions:
			The time must be in the ISO8601 format, for example, <b>2018-01-01T00:00:00.000Z</b> .
			Sample code: time.Now().Add(time.Duration(24) * time.Hour)
			Default value:
			None
SseHeader	SseCHea	No	Explanation:
der	der		Server-side decryption headers. For details, see <b>Table 9-61</b> .
			Restrictions:
			If the object uploaded to a server is encrypted with the key provided by the client, the key must also be provided in the message for downloading the object.

Table 9-61 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation: SSE-C used for encrypting objects Value range: AES256, indicating objects are encrypted using SSE-C Default value: None

Parameter	Туре	Mandatory (Yes/No)	Description
Key	string	Yes if used	Explanation:
		as a request parameter	Key for encrypting the object when SSE-C is used
			Restrictions:
			The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=.
			Default value:
			None
KeyMD5	string	No if used	Explanation:
		as a request parameter	MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.
			Restrictions:
			The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.
			Default value:
			None

## Responses

Table 9-62 List of returned results

Parameter	Туре	Description
output	*GetObjectOutp ut	<b>Explanation:</b> Returned results. For details, see <b>Table 9-63</b> .
err	error	<b>Explanation:</b> Error messages returned by the API

Table 9-63 GetObjectOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:  Request ID returned by the OBS server  Default value:  None
ResponseHeaders	map[string	Explanation:
Responser reducts	][]string	HTTP response headers
		Default value:
		None
Body	io.ReadClo	Explanation:
	ser	Object data stream to download
		Default value:
		None
DeleteMarker	bool	Explanation:
		Whether the deleted object is a delete marker
		Value range:
		true: The deleted object is a delete marker.
		false: The deleted object is not a delete marker.
		Default value:
		false
StorageClass	StorageCl	Explanation:
assType	Object storage class	
		Value range:
		See <b>Table 9-64</b> .
		Default value:
		None

Parameter	Туре	Description
AllowOrigin	string	Explanation:  If Origin in the request meets the CORS rules of the bucket, AllowedOrigin specified in the CORS rules is returned.  AllowedOrigin indicates the origin from which the requests can access the bucket.  Restrictions:  Domain name of the origin. Each origin can contain only one wildcard character (*), for example, https://*.vbs.example.com.  Default value:  None
AllowHeader	string	Explanation:  If RequestHeader in the request meets the CORS rules of the bucket, AllowedHeader specified in the CORS rules is returned.  AllowedHeader indicates the allowed headers for cross-origin requests. Only CORS requests matching the allowed headers are valid.  Restrictions:  Each header can contain only one wildcard character (*). Spaces, ampersands (&), colons (:), and less-than signs (<) are not allowed.  Default value:  None
AllowMethod	string	Explanation: AllowedMethod in the CORS rules of the bucket. It specifies the HTTP method of cross-origin requests, that is, the operation type of buckets and objects.  Value range: The following HTTP methods are supported: GET PUT HEAD POST DELETE Default value: None

Parameter	Туре	Description
ExposeHeader	string	Explanation:
		<b>ExposeHeader</b> in the CORS rules of the bucket. It specifies the CORS-allowed additional headers in the response. These headers provide additional information to clients. By default, your browser can only access headers <b>Content-Length</b> and <b>Content-Type</b> . If your browser needs to access other headers, add them to a list of the allowed additional headers.
		Restrictions:
		Spaces, wildcard characters (*), ampersands (&), colons (:), and less-than signs (<) are not allowed.
		Default value:
		None
MaxAgeSeconds	int	Explanation:
		<b>MaxAgeSeconds</b> in the CORS rules of the bucket. It specifies the time your client can cache the response for a cross-origin request.
		Restrictions:  Each CORS rule can specify only one value for MaxAgeSeconds.
		Value range:
		0 to (2 <sup>31</sup> – 1), in seconds
		Default value:
		100
ContentLength	int64	Explanation:
		Object size in bytes
		Value range:
		The value ranges from 0 TB to 48.8 TB, in bytes.
		Default value:
		None
CacheControl	string	Explanation:
		<b>Cache-Control</b> header in the response. It specifies cache behaviors of the web page when an object is downloaded.
		Default value:
		None

Parameter	Туре	Description
ContentDisposition	string	Explanation:
		Content-Disposition header in the
		response  Default value:
		None
Contouting		
ContentEncoding	string	Explanation: Content-Encoding header in the response
		Default value:
		None
ContentLanguage	string	Explanation:
	509	Content-Language header in the response
		Default value:
		None
ContentType	string	Explanation:
		MIME type of the file to be downloaded.
		MIME type is a standard way of describing a data type and is used by the browser to
		decide how to display data.
		Value range:
		See What Is Content-Type (MIME)?
		Default value:
		If you do not specify this parameter when uploading an object, the SDK determines
		the object type based on the suffix of the
		specified object name and automatically
		assigns a value to this parameter.
Expires	string	Explanation:
		<b>Expires</b> header in the response
		Default value:
		None
LastModified	time.Time	Explanation:
		Time when the last modification was made to the object
		Restrictions:
		The time must be in the ISO8601 format, for example, <b>2018-01-01T00:00:00.000Z</b> .
		Default value:
		None

Parameter	Туре	Description
ETag	string	Explanation:
		Base64-encoded, 128-bit MD5 value of an object. ETag is the unique identifier of the object content. It can be used to determine whether the object content is changed. For example, if the ETag value is <b>A</b> when an object is uploaded, but changes to <b>B</b> when the object is downloaded, it indicates that the object content has been changed. The ETag reflects changes to the object content, rather than the object metadata. An uploaded or copied object has a unique ETag after being encrypted using MD5.
		Restrictions:
		If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object.
		Value range:
		The value must contain 32 characters.
		Default value:
		None
VersionId	string	Explanation:
		Object version ID
		Value range:
		The value must contain 32 characters.
		Default value:
		None
Restore	string	Explanation:
		Restore status of an object. For an Archive object that is being restored or has been restored, this header is returned.
		For example, ongoing-request="true" indicates that the object is being restored. ongoing-request="false", expiry-date="Wed, 7 Nov 2012 00:00:00 GMT" indicates that the object has been restored. expiry-date indicates when the restored object expires.
		Restrictions:
		This parameter is only available for Archive objects.
		Default value:
		None

Parameter	Туре	Description
Expiration	string	Explanation:  Expiration details of the object. Example:  "expiry-date=\"Mon, 11 Sep 2023  00:00:00 GMT\""  Default value:  None
SseHeader	SseCHead er or SseKmsHe ader	Explanation:  Server-side encryption header information.  If SSE-C is used, see Table 9-65. If SSE-KMS is used, see Table 9-66.
WebsiteRedirectLocation	string	Explanation:  If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL. This parameter specifies the address the request for the object is redirected to.  The request is redirected to object anotherPage.html in the same bucket:  WebsiteRedirectLocation:/anotherPage.html  The request is redirected to an external URL http://www.example.com/:  WebsiteRedirectLocation:http://www.example.com/  OBS obtains the specified value from the header and stores it in the object metadata WebsiteRedirectLocation.  Restrictions:  The value must start with a slash (/), http://, or https:// and cannot exceed 2 KB.  OBS only supports redirection for objects in the root directory of a bucket.  Default value:  None

Parameter	Туре	Description
Metadata	map[string]string	Explanation: Custom object metadata. You can add a header starting with x-obs-meta- in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.  Restrictions:  The custom metadata cannot exceed 8 KB. To measure the custom metadata, sum the number of bytes in the UTF-8 encoding of each key and value.  The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.  Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are required, they must be encoded and decoded in URL or Base64 on the client, because the server does not perform such operations.
		<b>Default value</b> : None

 Table 9-64
 StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.
StorageClassWarm	WARM	OBS Infrequent Access
		Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive
		Used for storing rarely accessed (once a year) data.

Table 9-65 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:  None
Key	string	Yes if used as a request parameter	Explanation: Key for encrypting the object when SSE-C is used Restrictions: The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=. Default value: None
KeyMD5	string	No if used as a request parameter	Explanation:  MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.  Restrictions: The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.  Default value: None

Table 9-66 SseKmsHeader

Parameter	Туре	Manda tory (Yes/N o)	Description
Encryption	string	Yes if used as a request param eter	Explanation: SSE-KMS used for encrypting objects Value range: kms, indicating objects are encrypted using SSE-KMS Default value: None
Key	string	No if used as a request param eter	Explanation:  ID of the KMS master key when SSE-KMS is used  Value range:  Valid value formats are as follows:  1. regionID:domainID:key/key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  • If this parameter is not specified, the default master key will be used.  • If there is no such a default master key, OBS will create one and use it by default.

### **Code Examples**

This example downloads **example/objectname** from **examplebucket** based on a specific condition. In this example, **example/objectname** can be downloaded only when it is modified after 00:00:00 on December 31, 2022.

```
package main
import (
   "fmt"
  "os"
  "time"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  // Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsq: %s", err.Error())
  input := &obs.GetObjectInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify the object (example/objectname as an example) to download.
  input.Key = "example/objectname"
  // Define the IfModifiedSince time.
  layout := "2006/01/02 15:04:05"
  t, err := time.Parse(layout, "2022/12/31 00:00:00")
  if err != nil {
     fmt.Printf("Parse time error, errMsq: %s", err.Error())
  // The object can be downloaded only when it is modified after the specified time. Otherwise, a 304
response without a message subject is returned.
  input.lfModifiedSince = t
  // Download the object.
  output, err := obsClient.GetObject(input)
  if err == nil {
     // Close output.Body to avoid connection leakage.
     defer output.Body.Close()
     fmt.Printf("Get object(%s) under the bucket(%s) successful!\n", input.Key, input.Bucket)
     fmt.Printf("StorageClass:%s, ETag:%s, ContentType:%s, ContentLength:%d, LastModified:%s\n",
       output.StorageClass, output.ETag, output.ContentType, output.ContentLength, output.LastModified)
     return
  fmt.Printf("List objects under the bucket(%s) fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

### **Helpful Links**

- Downloading Objects
- (GitHub) Sample Code for Object Download

- OBS Error Codes
- FAQ for Object Download Failure

## 9.3.4 Downloading an Object - Resumable (SDK for Go)

#### **Function**

Downloading large files often fails due to poor network conditions or program breakdowns. It is a waste of resources to restart the download process upon a download failure, and the restarted download process may still suffer from the unstable network. To resolve such issues, the resumable download API splits the file to be downloaded into multiple parts and downloads them separately. The download result of each part is recorded in a checkpoint file in real time. Only when all parts are successfully downloaded, the result indicating a successful download is returned. Otherwise, an error message is returned to remind you of calling the API again for re-downloading. Based on the download status of each part recorded in the checkpoint file, the re-downloading will download the parts failed to be downloaded previously, instead of downloading all parts. By virtue of this, resources are saved and efficiency is improved.

This API calls **ObsClient.DownloadFile** to perform a resumable download.

### Restrictions

- To download an object, you must be the bucket owner or have the required permission (obs:object:GetObject in IAM or GetObject in a bucket policy).
   For details, see Introduction to OBS Access Control, IAM Custom Policies, and Configuring an Object Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.
- The resumable download API, which is implemented based on partial download, is an encapsulated and enhanced version of partial download.
- This API saves resources and improves efficiency upon the re-download, and speeds up the download process by concurrently downloading parts. Because this API is invisible to users, users are unaware of internal service details, such as the creation and deletion of checkpoint files, division of objects, and concurrent download of parts.
- **EnableCheckpoint**: The default value is **False**, indicating that resumable download is disabled. In this case, the resumable download API is a simple encapsulation of the partial download API, and no checkpoint file will be generated.
- CheckpointFile: This parameter is effective only when EnableCheckpoint is True.

#### Method

func (obsClient ObsClient) DownloadFile(input \*DownloadFileInput) (output
\*GetObjectMetadataOutput, err error)

## **Request Parameters**

**Table 9-67** List of request parameters

Parameter	Туре	Ma nda tory (Yes /No	Description
input	*DownloadFileInp ut	Yes	Explanation: Input parameters for a resumable download. For details, see Table 9-68.

Table 9-68 DownloadFileInput

Parameter	Туре	Man dato ry (Yes /No)	Description
Bucket	string	Yes	<ul> <li>Explanation: Bucket name Restrictions: <ul> <li>A bucket name must be unique across all accounts and regions.</li> <li>A bucket name: <ul> <li>Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> <li>Cannot be formatted as an IP address.</li> <li>Cannot start or end with a hyphen (-) or period (.).</li> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> <li>Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.</li> </ul> </li> <li>If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.</li> </ul> </li> <li>Default value:</li> </ul>
			None

Parameter	Туре	Man dato ry (Yes /No)	Description
Key	string	Yes	Explanation:  Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.  For example, if the address for accessing the object is
			examplebucket.obs.ap- southeast-1.myhuaweicloud.com/ folder/test.txt, the object name is folder/test.txt.
			Value range: The value must contain 1 to 1,024 characters.
			Default value:
			None
VersionId	string	No	Explanation:
			Object version ID, for example, <b>G001117FCE89978B0000401205D5DC</b> 9
			Value range:
			The value must contain 32 characters. <b>Default value</b> :
			None. If this parameter is left blank, the latest version of the object is obtained.
DownloadFile	string	No	<b>Explanation:</b> Full path of the local directory to
			which the object is downloaded.
			Default value:
			If the parameter is left blank, the downloaded object is saved in the directory where the program is executed.

Parameter	Туре	Man dato ry (Yes /No)	Description
PartSize	int64	No	Explanation: Part size Value range: The value must be greater than 0 but less than the object size, in bytes. Default value:
TaskNum	int	No	<ul> <li>9437184, indicating 9 MB for each part</li> <li>Explanation: Maximum number of parts that can be downloaded concurrently Value range: The value must be greater than 0 but not exceed the result of the file size divided by the part size (rounded up). Default value: <ol> <li>indicating concurrent downloads are not used.</li> </ol> </li> </ul>
EnableCheckpoint	bool	No	Explanation: Whether to enable the resumable download Value range: • true: The resumable download mode is enabled. • false: The resumable download mode is disabled.  Default value: false
CheckpointFile	string	No	Explanation: File used to record the download progress. This parameter is valid only in a resumable download.  Default value: If the parameter is left blank, the file is in the same local directory as the downloaded object.

Parameter	Туре	Man dato ry (Yes /No)	Description
SseHeader	SseCHea der	No	<b>Explanation:</b> Server-side decryption headers. For details, see <b>Table 9-69</b> .
IfMatch	string	No	Explanation:  Preset ETag. If the ETag of the object to be downloaded is the same as the preset ETag, the object is returned.  Otherwise, an error is returned.  Value range:  The value must contain 32 characters.  Default value:  None
IfNoneMatch	string	No	Explanation:  Preset ETag. If the ETag of the object to be downloaded is different from the preset ETag, the object is returned.  Otherwise, an error is returned.  Value range:  The value must contain 32 characters.  Default value:  None
IfModifiedSince	time.Time	No	Explanation: The object is returned if it has been modified since the specified time; otherwise, an error is returned.  Restrictions: The time must be in the ISO8601 format, for example, 2018-01-01T00:00:00.000Z.  Sample code: time.Now().Add(time.Duration(24) * time.Hour)  Default value: None

Parameter	Туре	Man dato ry (Yes /No)	Description
IfUnmodifiedSince	time.Time	No	Explanation:
			The object is returned if it has not been modified since the specified time; otherwise, an error is returned.
			Restrictions:
			The time must be in the ISO8601 format, for example, <b>2018-01-01T00:00:00.000Z</b> .
			Sample code: time.Now().Add(time.Duration(24) * time.Hour)
			Default value:
			None

Table 9-69 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:
			None
Key	string	Yes if used as a request parameter	Explanation: Key for encrypting the object when SSE-C is used Restrictions: The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=. Default value: None

Parameter	Туре	Mandatory (Yes/No)	Description
KeyMD5	string	No if used as a request parameter	Explanation:  MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.
			Restrictions: The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.  Default value: None

## Responses

Table 9-70 List of returned results

Parameter	Туре	Description
output	*GetObjectMetada taOutput	Explanation: Returned results. For details, see Table 9-71.
err	error	<b>Explanation:</b> Error messages returned by the API

Table 9-71 GetObjectMetadataOutput

Parameter	Туре	Description	
StatusCode	int	Explanation:	
		HTTP status code	
		Value range:	
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .	
		Default value:	
		None	

Parameter	Туре	Description
RequestId	string	Explanation: Request ID returned by the OBS server Default value: None
ResponseHeaders	map[strin g][]string	Explanation: HTTP response headers Default value: None
StorageClass	StorageCl assType	Explanation: Object storage class Value range: See Table 9-72. Default value: None
AllowOrigin	string	Explanation:  If Origin in the request meets the CORS rules of the bucket, AllowedOrigin specified in the CORS rules is returned.  AllowedOrigin indicates the origin from which the requests can access the bucket.  Restrictions:  Domain name of the origin. Each origin can contain only one wildcard character (*), for example, https://*.vbs.example.com.  Default value:  None
AllowHeader	string	Explanation:  If RequestHeader in the request meets the CORS rules of the bucket, AllowedHeader specified in the CORS rules is returned.  AllowedHeader indicates the allowed headers for cross-origin requests. Only CORS requests matching the allowed headers are valid.  Restrictions:  Each header can contain only one wildcard character (*). Spaces, ampersands (&), colons (:), and less-than signs (<) are not allowed.  Default value:  None

Parameter	Туре	Description		
AllowMethod	string	Explanation:		
		AllowedMethod in the CORS rules of the bucket. It specifies the HTTP method of cross-origin requests, that is, the operation type of buckets and objects.		
		Value range:		
		The following HTTP methods are supported:		
		• GET		
		• PUT		
		HEAD		
		POST		
		DELETE		
		Default value:		
		None		
ExposeHeader	string	Explanation:		
		<b>ExposeHeader</b> in the CORS rules of the bucket. It specifies the CORS-allowed additional headers in the response. These headers provide additional information to clients. By default, your browser can only access headers <b>Content-Length</b> and <b>Content-Type</b> . If your browser needs to access other headers, add them to a list of the allowed additional headers.		
		Restrictions:		
		Spaces, wildcard characters (*), ampersands (&), colons (:), and less-than signs (<) are not allowed.		
		Default value:		
		None		

Parameter	Туре	Description
MaxAgeSeconds	int	Explanation:
		MaxAgeSeconds in the CORS rules of the bucket. It specifies the time your client can cache the response for a cross-origin request.
		Restrictions:
		Each CORS rule can specify only one value for <b>MaxAgeSeconds</b> .
		Value range:
		0 to (2 <sup>31</sup> – 1), in seconds
		Default value:
		100
ContentLength	int64	Explanation:
		Object size in bytes
		Value range:
		The value ranges from 0 TB to 48.8 TB, in bytes.
		Default value:
		None
ContentType	string	Explanation:
		MIME type of the file to be downloaded. MIME type is a standard way of describing a data type and is used by the browser to decide how to display data.
		Value range:
		See What Is Content-Type (MIME)?
		Default value:
		If you do not specify this parameter when uploading an object, the SDK determines the object type based on the suffix of the specified object name and automatically assigns a value to this parameter.
LastModified	time.Time	Explanation:
		Time when the last modification was made to the object
		Restrictions:
		The time must be in the ISO8601 format, for example, <b>2018-01-01T00:00:00.000Z</b> .
		Default value:
		None

Parameter	Туре	Description		
ETag	string	Explanation:		
		Base64-encoded, 128-bit MD5 value of an object. ETag is the unique identifier of the object content. It can be used to determine whether the object content is changed. For example, if the ETag value is <b>A</b> when an object is uploaded, but changes to <b>B</b> when the object is downloaded, it indicates that the object content has been changed. The ETag reflects changes to the object content, rather than the object metadata. An uploaded or copied object has a unique ETag after being encrypted using MD5.		
		Restrictions:		
		If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object.		
		Value range:		
		The value must contain 32 characters.		
		Default value:		
		None		
VersionId	string	Explanation:		
		Object version ID		
		Value range:		
		The value must contain 32 characters.		
		Default value:		
		None		
Restore	string	Explanation:		
		Restore status of an object. For an Archive object that is being restored or has been restored, this header is returned.		
		For example, ongoing-request="true" indicates that the object is being restored. ongoing-request="false", expiry-date="Wed, 7 Nov 2012 00:00:00 GMT" indicates that the object has been restored. expiry-date indicates when the restored object expires.		
		Restrictions:		
		This parameter is only available for Archive objects.		
		Default value:		
		None		

Parameter	Туре	Description
Expiration	string	Explanation: Expiration details of the object. Example: "expiry-date=\"Mon, 11 Sep 2023 00:00:00 GMT\"" Default value: None
SseHeader	SseCHead er or SseKmsHe ader	Explanation:  Server-side encryption header information.  If SSE-C is used, see Table 9-73. If SSE-KMS is used, see Table 9-74.
WebsiteRedirectLo- cation	string	Explanation:  If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL. This parameter specifies the address the request for the object is redirected to.  The request is redirected to object anotherPage.html in the same bucket:  WebsiteRedirectLocation:/anotherPage.html The request is redirected to an external URL http://www.example.com/:  WebsiteRedirectLocation:http://www.example.com/ OBS obtains the specified value from the header and stores it in the object metadata WebsiteRedirectLocation.  Restrictions:  The value must start with a slash (/), http://, or https:// and cannot exceed 2 KB.  OBS only supports redirection for objects in the root directory of a bucket.  Default value: None

Parameter	Туре	Description
Metadata	map[strin g]string	<ul> <li>Explanation: Custom object metadata. You can add a header starting with x-obs-meta- in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.</li> <li>Restrictions: <ul> <li>The custom metadata cannot exceed 8 KB. To measure the custom metadata, sum the number of bytes in the UTF-8 encoding of each key and value.</li> <li>The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.</li> <li>Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are required, they must be encoded and decoded in URL or Base64 on the client, because the server does not perform such operations.</li> </ul> </li> <li>Default value:</li> </ul>
		None

 Table 9-72 StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.
StorageClassWarm	WARM	OBS Infrequent Access
		Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive
		Used for storing rarely accessed (once a year) data.

Table 9-73 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:  None
Key	string	Yes if used as a request parameter	Explanation: Key for encrypting the object when SSE-C is used Restrictions: The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=. Default value: None
KeyMD5	string	No if used as a request parameter	Explanation:  MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.  Restrictions: The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.  Default value: None

Table 9-74 SseKmsHeader

Parameter	Туре	Manda tory (Yes/N o)	Description
Encryption	string	Yes if used as a request param eter	Explanation: SSE-KMS used for encrypting objects Value range: kms, indicating objects are encrypted using SSE-KMS Default value: None
Key	string	No if used as a request param eter	Explanation:  ID of the KMS master key when SSE-KMS is used  Value range:  Valid value formats are as follows:  1. regionID:domainID:key/key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  • If this parameter is not specified, the default master key will be used.  • If there is no such a default master key, OBS will create one and use it by default.

## **Code Examples**

This example downloads **example/objectname** from **examplebucket** in a resumable download.

package main import (

```
"fmt'
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.DownloadFileInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify the object (example/objectname as an example) to download.
  input.Key = "example/objectname"
  // Specify a local full path (/tmp/objectname as an example) for the specified object. If the path is left
blank, the current working directory will be used by default.
  input.DownloadFile = "/tmp/objectname"
  // Specify whether to enable resumable download. Value true is used as an example. The default value is
false, indicating that resumable download is disabled.
  input.EnableCheckpoint = true
  // Specify a part size, in bytes. This example sets each part to 9 MB.
  input.PartSize = 9 * 1024 * 1024
  // Specify the maximum number of parts that can be concurrently downloaded. 5 is used as an example.
  input.TaskNum = 5
  // Download the object using resumable download.
  output, err := obsClient.DownloadFile(input)
  if err == nil {
     fmt.Printf("Download file(%s) under the bucket(%s) successful!\n", input.Key, input.Bucket)
     fmt.Printf("StorageClass:%s, ETag:%s, ContentType:%s, ContentLength:%d, LastModified:%s\n",
        output.StorageClass, output.ETaq, output.ContentType, output.ContentLength, output.LastModified)
     return
  fmt.Printf("Download file(%s) under the bucket(%s) fail!\n", input.Key, input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

### **Helpful Links**

- Downloading Objects
- (GitHub) Sample Code for Object Download
- OBS Error Codes
- FAQ for Object Download Failure

# 9.4 Creating a Folder (SDK for Go)

### **Function**

This API creates a folder in a bucket created to manage data in OBS.

OBS does not involve folders like in a file system. All elements in buckets are objects. To create a folder in OBS is essentially to create an object whose size is 0 and whose name ends with a slash (/). Such objects have no difference from other objects and can be downloaded and deleted, except that they are displayed as folders in OBS Console.

### Restrictions

- To create a folder, you must be the bucket owner or have the required permission (obs:object:PutObject in IAM or PutObject in a bucket policy).
   For details, see Introduction to OBS Access Control, IAM Custom Policies, and Configuring an Object Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in Regions and Endpoints.
- To create a folder in OBS is essentially to create an object whose size is 0 and whose name ends with a slash (/).
- To create a multi-level folder, you only need to create the folder with the last level. For example, if you want to create a folder named src1/src2/src3/, create it directly, no matter whether the src1/ and src1/src2/ folders exist.

#### Method

func (obsClient ObsClient) PutObject(input \*PutObjectInput) (output
\*PutObjectOutput, err error)

### **Request Parameters**

Table 9-75 List of request parameters

Parameter	Туре	Ma nda tory (Yes /No	Description
input	*PutObjectInpu	Yes	Explanation:
	t		Input parameters for creating a folder. For details, see <b>Table 9-76</b> .

Table 9-76 PutObjectInput

Bucket string Yes Explanation: Bucket name Restrictions:  • A bucket name must be unique across all accounts and regions.  • A bucket name:  - Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  - Cannot be formatted as an IP address.  - Cannot start or end with a hyphen (-) or period (.).  - Cannot contain two consecutive periods (), for example, mybucket.  - Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  • If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:	Parameter	Туре	Man dato ry (Yes /No)	Description
None	Bucket	string	Yes	Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:

Parameter	Туре	Man dato ry (Yes /No)	Description
Key	string	Yes	Explanation:  Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.
			For example, if the address for accessing the object is examplebucket.obs.ap-southeast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.
			Value range:
			The value must contain 1 to 1,024 characters.
			Default value:
			None
ContentMD5	string	No	Explanation:
			Base64-encoded MD5 value of the object data to be uploaded. It is provided for the OBS server to verify data integrity.
			Value range:
			ContentMD5 contains the Base64- encoded 128-bit MD5 digest calculated according to RFC 1864.
			Example: n58IG6hfM7vqI4K0vnWpog==
			Default value:
			None
ACL	AclType	No	Explanation:
			ACL that can be pre-defined during object creation. For details about the ACL, see ACLs.
			Value range:
			For details about the ACL options, see <b>AclType</b> .
			Default value:
			None

Parameter	Туре	Man dato ry (Yes /No)	Description
WebsiteRedirectLocation	string	No	Explanation:  If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.  The request is redirected to an object anotherPage.html in the same bucket:  WebsiteRedirectLocation:/anotherPage.html  The request is redirected to an external URL http://www.example.com/:  WebsiteRedirectLocation:http://www.example.com/  OBS obtains the specified value from the header and stores it in the object metadata WebsiteRedirectLocation.  Restrictions:  The value must start with a slash (/), http://, or https:// and cannot exceed 2 KB.  OBS only supports redirection for objects in the root directory of a bucket.  Default value:  None

Parameter	Туре	Man dato ry (Yes /No)	Description
ContentType	string	No	Explanation:  Multipurpose Internet Mail Extension (MIME) type of the object to be uploaded. MIME type is a standard way of describing a data type and is used by the browser to decide how to display object files.  Value range:  See What Is Content-Type (MIME)?  Default value:
			If you do not specify this parameter when uploading an object, the SDK determines the object type based on the suffix of the specified object name and automatically assigns a value to this parameter.
ContentLength	int64	No	<ul> <li>Explanation:</li> <li>Size of the object to be uploaded</li> <li>Restrictions:</li> <li>The object size in a single upload ranges from 0 to 5 GB.</li> <li>To upload files larger than 5 GB, multipart uploads should be used.</li> <li>Default value:</li> <li>If this parameter is not specified, the SDK automatically calculates the size of the object.</li> </ul>
SseHeader	SseCHea der or SseKmsH eader	No	Explanation:  Server-side encryption header information. If SSE-C is used, see Table 9-4. If SSE-KMS is used, see Table 9-5.

Parameter	Туре	Man dato ry (Yes /No)	Description
StorageClass	StorageC lassType	No	Explanation: Object storage class Value range: For available storage classes, see Table 9-6. Default value: If this parameter is not specified, the object inherits the storage class of the bucket.
Metadata	map[string]string	No	<ul> <li>Explanation: Custom metadata of the object to be uploaded. You can add a header starting with x-obs-meta- in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.</li> <li>Restrictions: <ul> <li>The custom metadata cannot exceed 8 KB. To measure the custom metadata, sum the number of bytes in the UTF-8 encoding of each key and value.</li> <li>The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.</li> <li>Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are necessary, they must be encoded and decoded in URL or Base64 on the client, because the server side does not perform any decoding.</li> </ul> </li> <li>Default value: None</li> </ul>

Parameter	Туре	Man dato ry (Yes /No)	Description
Body	io.Reader	No	Explanation:  Data stream of the object to be uploaded  Restrictions:  The object size in a single upload ranges from 0 to 5 GB.  To upload files larger than 5 GB, multipart uploads should be used.  Default value:  None
GrantReadId	string	No	Explanation:  ID (domain_id) of an account the READ permission is granted to. The account with the READ permission can read the current object and obtain its metadata.  Value range:  To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value:  None
GrantReadAcpId	string	No	Explanation:  ID (domain_id) of an account the READ_ACP permission is granted to. The account with the READ_ACP permission can read the ACL of the current object.  Value range: To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value: None

Parameter	Туре	Man dato ry (Yes /No)	Description
GrantWriteAcpId	string	No	Explanation:  ID (domain_id) of an account the WRITE_ACP permission is granted to. The account with the WRITE_ACP permission can write the ACL of the current object.  Value range:  To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value:  None
GrantFullControlId	string	No	Explanation:  ID (domain_id) of an account the FULL_CONTROL permission is granted to. The account with the FULL_CONTROL permission can read the current object, obtain its metadata, and obtain and write its ACL.  Value range:  To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value:  None
Expires	int64	No	Explanation:  Expiration time of the object (calculated from the latest modification time of the object). Expired objects are automatically deleted.  Value range: A positive integer, in days  Default value: None

Table 9-77 AclType

Constant	Default Value	Description
AclPrivate	private	Private read/write
		A bucket or object can only be accessed by its owner.
AclPublicRead	public-read	Public read and private write
		If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket.
		If it is granted on an object, anyone can read the content and metadata of the object.
AclPublicReadWrit	public-read-	Public read/write
e	write	If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket, and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart upload tasks.  If it is granted on an object, anyone can read the content and metadata of the object.
AclPublicReadDe- livered	public-read- delivered	Public read on a bucket as well as objects in the bucket
		If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions, and read the content and metadata of objects in the bucket.
		NOTE AclPublicReadDelivered does not apply to objects.

Constant	Default Value	Description
AclPublicReadWri- teDelivered	public-read- write-delivered	Public read/write on a bucket as well as objects in the bucket
		If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket, and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart uploads. They can also read the content and metadata of objects in the bucket.  NOTE  AclPublicReadWriteDelivered does not apply to objects.
AclBucketOwnerFu llControl	bucket-owner- full-control	If this permission is granted on an object, only the bucket and object owners have the full control over the object.
		By default, if you upload an object to a bucket of any other user, the bucket owner does not have the permissions on your object. After you grant this permission to the bucket owner, the bucket owner can have full control over your object.

Table 9-78 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:  None

Parameter	Туре	Mandatory (Yes/No)	Description
Key	string	Yes if used	Explanation:
		as a request parameter	Key for encrypting the object when SSE-C is used
			Restrictions:
			The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=.
			Default value:
			None
KeyMD5	string	No if used as a request	Explanation:
		parameter	MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.
			Restrictions:
			The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.
			Default value:
			None

Table 9-79 SseKmsHeader

Parameter	Туре	Manda tory (Yes/N o)	Description
Encryption	string	Yes if used as a request param eter	Explanation:  SSE-KMS used for encrypting objects  Value range:  kms, indicating objects are encrypted using SSE-KMS  Default value:  None

Parameter	Туре	Manda tory (Yes/N o)	Description
Key	string	No if used as a request param eter	Explanation:  ID of the KMS master key when SSE-KMS is used  Value range:  Valid value formats are as follows:  1. regionID.domainID.key/key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  • If this parameter is not specified, the default master key will be used.  • If there is no such a default master key, OBS will create one and use it by default.

 Table 9-80 StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.

Constant	Default Value	Description
StorageClassWarm	WARM	OBS Infrequent Access Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive Used for storing rarely accessed (once a year) data.

### Responses

Table 9-81 List of returned results

Parameter	Туре	Description
output	*PutObjectOutp ut	<b>Explanation:</b> Returned results. For details, see <b>Table 9-82</b> .
err	error	<b>Explanation:</b> Error messages returned by the API

Table 9-82 PutObjectOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None

Parameter	Туре	Description
ResponseHeaders	map[strin g][]string	Explanation:
	91[]5611119	HTTP response headers  Default value:
		None
StorageClass	StorageCl assType	Explanation:
	uss type	See Table 9-83.
		Value range:
		If the storage class is Standard, leave this parameter blank.
VersionId	string	Explanation:
		Object version ID
		Value range:
		The value must contain 32 characters.
		Default value:
		None
ETag string		Explanation:
		Base64-encoded, 128-bit MD5 value of an object. ETag is the unique identifier of the object content. It can be used to determine whether the object content is changed. For example, if ETag value is <b>A</b> when an object is uploaded but changes to <b>B</b> when the object is downloaded, it indicates that the object content is changed. The ETag reflects changes to the object content, rather than the object metadata. An uploaded object or copied object has a unique ETag.
		Restrictions:
		If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object.
		Value range:
		The value must contain 32 characters.
		Default value:
		None
SseHeader	SseCHead	Explanation:
er or SseKmsHe ader		Server-side encryption header information. If SSE-C is used, see <b>Table 9-84</b> . If SSE-KMS is used, see <b>Table 9-85</b> .

 Table 9-83
 StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.
StorageClassWarm	WARM	OBS Infrequent Access
		Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive
		Used for storing rarely accessed (once a year) data.

Table 9-84 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:  None
Key	string	Yes if used as a request parameter	Explanation: Key for encrypting the object when SSE-C is used Restrictions: The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=. Default value: None

Parameter	Туре	Mandatory (Yes/No)	Description
KeyMD5	string	No if used as a request parameter	Explanation:  MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.  Restrictions:
			The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.
			<b>Default value</b> : None

Table 9-85 SseKmsHeader

Parameter	Туре	Manda tory (Yes/N o)	Description
Encryption	string	Yes if used as a request param eter	Explanation:  SSE-KMS used for encrypting objects  Value range:  kms, indicating objects are encrypted using SSE-KMS  Default value:  None

Parameter	Туре	Manda tory (Yes/N o)	Description
Key	string	No if used as a request param eter	Explanation:  ID of the KMS master key when SSE-KMS is used  Value range:  Valid value formats are as follows:  1. regionID:domainID:key/key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  • If this parameter is not specified, the default master key will be used.  • If there is no such a default master key, OBS will create one and use it by default.

### **Code Examples**

This example creates a folder in examplebucket.

```
package main import (
   "fmt"
   "os"
   obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
) func main() {
   // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
   // Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/intl/en-us/usermanual-ca/ca_01_0003.html.
   ak := os.Getenv("AccessKeyID")
   sk := os.Getenv("SecretAccessKey")
   // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
```

```
// securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.PutObjectInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify a folder (parent_directory as an example).
  input.Key = "parent_directory/"
  // Upload you local file using streaming.
  output, err := obsClient.PutObject(input)
  if err == nil {
     fmt.Printf("Put object(%s) under the bucket(%s) successful!\n", input.Key, input.Bucket)
     fmt.Printf("RequestId:%s, ETag:%s\n",
        output.RequestId, output.ETag)
     return
  fmt.Printf("Put object(%s) under the bucket(%s) fail!\n", input.Key, input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
  }
```

### **Helpful Links**

OBS Error Codes

# 9.5 Copying an Object (SDK for Go)

#### **Function**

This API copies an object stored in OBS to another path, with a copy created during the process. You can create a copy of an object up to 5 GB in a single operation.

#### Restrictions

- To copy an object, you must be the bucket owner or have the required permission (obs:object:PutObject in IAM or PutObject in a bucket policy).
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.
- The object copy request carries the information about the source bucket and object to be copied in the header field. The message body cannot be carried.
- The target object size ranges from 0 to 5 GB. If the source object size exceeds
   5 GB, you can only copy some objects using Multipart Uploads (SDK for Go).

#### Method

func (obsClient ObsClient) CopyObject(input \*CopyObjectInput) (output
\*CopyObjectOutput, err error)

### **Request Parameters**

**Table 9-86** List of request parameters

Parameter	Туре	Ma nd ato ry (Ye s/N o)	Description
input	*CopyObjectIn put	Yes	<b>Explanation:</b> Input parameters for copying an object. For details, see <b>Table 9-87</b> .

Table 9-87 CopyObjectInput

	Parameter	Type Mne at ry (\forall s/N)	
(-) or period (.).  - Cannot contain two consecutive periods (), for example, mybucket.  - Cannot contain a period (.) and a	Bucket	string	Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:

Parameter	Туре	Ma nd ato ry (Ye s/ No	Description
Key	string	Yes	Explanation:
			Target object name An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.
			For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.
			Value range:
			The value must contain 1 to 1,024 characters.
			Default value:
			None

Parameter	Туре	Ma nd ato ry (Ye s/ No	Description
CopySourceBucket	string	Yes	Explanation:  Source bucket name  Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:
			None

Parameter	Туре	Ma nd ato ry (Ye s/ No	Description
CopySourceKey	string	Yes	Explanation:  Source object name An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.  For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.  Value range:  The value must contain 1 to 1,024 characters.  Default value:  None
CopySourceVersio- nId	string	No	Explanation:  Version ID of the source object, for example, G001117FCE89978B0000401205D5DC9 A  Value range: The value must contain 32 characters.  Default value: If this parameter is left blank, the latest version of the source object is copied.
ACL	AclType	No	Explanation:  ACL that can be pre-defined during object copying. For details about the ACL, see ACLs.  Value range:  For details about the ACL options, see AclType.  Default value:  None

Parameter	Туре	Ma nd ato ry (Ye s/ No	Description
MetadataDirective	Metadat aDirectiv eType	No	Explanation: Policy for copying the source object's properties Value range: See Table 9-89. Default value: None
CopySourceIfMatc h	string	No	Explanation: Copies the source object if its ETag is the same as the one specified by this parameter; otherwise, an error is returned.  Default value: None
CopySourcelfNone- Match	string	No	Explanation: Copies the source object if its ETag is different from the one specified by this parameter; otherwise, an error is returned.  Default value: None
CopySourceIfUnmo difiedSince	time.Time	No	Explanation: Copies the source object if it has not been modified since the specified time; otherwise, an exception is thrown.  Default value: None
CopySourceIfModi- fiedSince	time.Time	No	Explanation: Copies the source object if it has been modified since the specified time; otherwise, an exception is thrown.  Default value: None

Parameter	Туре	Ma nd ato ry (Ye s/ No	Description
WebsiteRedirectLocation	string	No	Explanation:  If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.  The request is redirected to object anotherPage.html in the same bucket:  WebsiteRedirectLocation:/anotherPage.html  The request is redirected to an external URL http://www.example.com/:  WebsiteRedirectLocation:http://www.example.com/  OBS obtains the specified value from the header and stores it in the object metadata WebsiteRedirectLocation.  Restrictions:  The value must start with a slash (/), http://, or https:// and cannot exceed 2 KB.  OBS only supports redirection for objects in the root directory of a bucket.  Default value:  None
SseHeader	SseCHea der or SseKmsH eader	No	Explanation: Server-side header used for encrypting the target object. If SSE-C is used, see SseCHeader. If SSE-KMS is used, see SseKmsHeader.
SourceSseHeader	SseCHea der	No	Explanation: Server-side header used for decrypting the source object. For details, see SseCHeader.

Parameter	Туре	Ma nd ato ry (Ye s/ No	Description
CacheControl	string	No	Explanation: Cache-Control is rewritten in the response. Default value: None
ContentDisposition	string	No	Explanation: Rewrites the Content-Disposition header in the response.  Default value: None
ContentEncoding	string	No	Explanation: Rewrites the Content-Encoding header in the response.  Default value: None
ContentLanguage	string	No	Explanation: Content-Language is rewritten in the response. Default value: None
ContentType	string	No	Explanation: Content-Type is rewritten in the response. Default value: None
Expires	string	No	Explanation: Expires is rewritten in the response. Default value: None

Parameter	Туре	Ma nd ato ry (Ye s/ No	Description
StorageClass	StorageCl assType	No	Explanation: Object storage class Value range: See Table 9-92. Default value: None. If this parameter is not specified, the storage class of the bucket is used as that of the object.
Metadata	map[string]string	No	<ul> <li>Explanation: Custom metadata of the target object. You can add a header starting with x- obs-meta- in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.</li> <li>Restrictions: <ul> <li>The custom metadata cannot exceed 8 KB. To measure the custom metadata, sum the number of bytes in the UTF-8 encoding of each key and value.</li> <li>The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.</li> <li>Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are necessary, they must be encoded and decoded in URL or Base64 on the client, because the server side does not perform any decoding.</li> </ul> </li> <li>Default value: None</li> </ul>

Parameter	Туре	Ma nd ato ry (Ye s/ No	Description
GrantReadId	string	No	Explanation:  ID (domain_id) of an account the READ permission is granted to. The account with the READ permission can read the object to copy and obtain its metadata.  Value range:  To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value:  None
GrantReadAcpId	string	No	Explanation:  ID (domain_id) of an account the READ_ACP permission is granted to. The account with the READ_ACP permission can read the ACL of the object to copy.  Value range:  To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value:  None
GrantWriteAcpId	string	No	Explanation:  ID (domain_id) of an account the WRITE_ACP permission is granted to. The account with the WRITE_ACP permission can write the ACL of the object to copy.  Value range: To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value: None

Parameter	Туре	Ma nd ato ry (Ye s/ No	Description
GrantFullControlId	string	No	Explanation:  ID (domain_id) of an account the FULL_CONTROL permission is granted to. The account with the FULL_CONTROL permission can read the object to copy, obtain its metadata, and obtain and write its ACL.  Value range:  To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value:  None
SuccessActionRe- direct	string	No	Explanation:  Address (URL) to which a successfully answered request is redirected  If the value is valid and the request is successful, OBS returns status code 303.  Location contains SuccessActionRedirect as well as the bucket name, object name, and object ETag.  If the value is invalid, OBS ignores this parameter. In such case, the Location header is the object address, and OBS returns a status code based on whether the operation succeeds or fails.  Default value:  None

### Table 9-88 AclType

Constant	Default Value	Description
AclPrivate	private	Private read/write  A bucket or object can only be accessed by its owner.

Constant	Default Value	Description
AclPublicRead	public-read	Public read and private write  If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket.  If it is granted on an object, anyone can read the content and metadata of the object.
AclPublicReadWrit e	public-read- write	Public read/write  If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket, and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart upload tasks.  If it is granted on an object, anyone can read the content and metadata of the object.
AclPublicReadDe- livered	public-read- delivered	Public read on a bucket as well as objects in the bucket  If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions, and read the content and metadata of objects in the bucket.  NOTE  AclPublicReadDelivered does not apply to objects.
AclPublicReadWri- teDelivered	public-read- write-delivered	Public read/write on a bucket as well as objects in the bucket  If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket, and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart uploads. They can also read the content and metadata of objects in the bucket.  NOTE  AclPublicReadWriteDelivered does not apply to objects.

Constant	Default Value	Description
AclBucketOwnerFu llControl	bucket-owner- full-control	If this permission is granted on an object, only the bucket and object owners have the full control over the object.
		By default, if you upload an object to a bucket of any other user, the bucket owner does not have the permissions on your object. After you grant this permission to the bucket owner, the bucket owner can have full control over your object.

### **Table 9-89** MetadataDirectiveType

Constant	Default Value	Description
CopyMetadata	COPY	When copying an object, the object's properties are also copied.
ReplaceMetadata	REPLACE	When copying an object, the object's properties are replaced.

#### Table 9-90 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:  None

Parameter	Туре	Mandatory (Yes/No)	Description
Key	string	Yes if used	Explanation:
		as a request parameter	Key for encrypting the object when SSE-C is used
			Restrictions:
			The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=.
			Default value:
			None
KeyMD5	string	No if used	Explanation:
		as a request parameter	MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.
			Restrictions:
			The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.
			Default value:
			None

Table 9-91 SseKmsHeader

Parameter	Туре	Manda tory (Yes/N o)	Description
Encryption	string	Yes if used as a request param eter	Explanation:  SSE-KMS used for encrypting objects  Value range:  kms, indicating objects are encrypted using SSE-KMS  Default value:  None

Parameter	Туре	Manda tory (Yes/N o)	Description
Key	string	No if used as a request param eter	Explanation:  ID of the KMS master key when SSE-KMS is used  Value range:  Valid value formats are as follows:  1. regionID:domainID:key/key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  • If this parameter is not specified, the default master key will be used.  • If there is no such a default master key, OBS will create one and use it by default.

 Table 9-92
 StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.

Constant	Default Value	Description
StorageClassWarm	WARM	OBS Infrequent Access Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive Used for storing rarely accessed (once a year) data.

### Responses

Table 9-93 List of returned results

Paramete r	Туре	Description
output	*CopyObjectOutp ut	<b>Explanation:</b> Messages returned by the API See <b>Table 9-94</b> .
err	error	<b>Explanation:</b> Error messages returned by the API

Table 9-94 CopyObjectOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None

Parameter	Туре	Description	
ResponseHeaders	map[strin	Explanation:	
	g][]string	HTTP response headers	
		Default value:	
		None	
LastModified	time.Time	Explanation:	
		Time when the last modification was made to the target object	
		Value range:	
		UTC time	
		Default value:	
		None	
ETag	string	Explanation:	
		ETag of the target object. Base64-encoded, 128-bit MD5 value of an object. ETag is the unique identifier of the object content. It can be used to determine whether the object content is changed. For example, if the ETag value is <b>A</b> when an object is uploaded, but changes to <b>B</b> when the object is downloaded, it indicates that the object content has been changed. The ETag reflects changes to the object content, rather than the object metadata. An uploaded or copied object has a unique ETag after being encrypted using MD5. <b>Restrictions:</b>	
		If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object.	
		Value range:	
		The value must contain 32 characters.	
		Default value:	
		None	
CopySourceVersionId	string	Explanation:	
copysodice versionia 30	July 19	Version ID of the source object	
		Value range:	
		The value must contain 32 characters.	
		Default value:	
		None	
		1.10.10	

Parameter	Туре	Description
VersionId	string	Explanation:
		Version ID of the target object
		Value range:
		The value must contain 32 characters.
		Default value:
		None
SseHeader	SseCHead	Explanation:
	er or SseKmsHe ader	Server-side encryption header information. If SSE-C is used, see <b>Table 9-95</b> . If SSE-KMS is used, see <b>Table 9-96</b> .

Table 9-95 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation: SSE-C used for encrypting objects Value range: AES256, indicating objects are encrypted using SSE-C Default value: None
Key	string	Yes if used as a request parameter	Explanation: Key for encrypting the object when SSE-C is used Restrictions: The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=. Default value: None

Parameter	Туре	Mandatory (Yes/No)	Description
KeyMD5	string	No if used as a request parameter	Explanation:  MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.  Restrictions:
			The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.  Default value: None

Table 9-96 SseKmsHeader

Parameter	Туре	Manda tory (Yes/N o)	Description
Encryption	string	Yes if used as a request param eter	Explanation:  SSE-KMS used for encrypting objects  Value range:  kms, indicating objects are encrypted using SSE-KMS  Default value:  None

Parameter	Туре	Manda tory (Yes/N o)	Description
Key	string	No if used as a request param eter	Explanation:  ID of the KMS master key when SSE-KMS is used  Value range:  Valid value formats are as follows:  1. regionID:domainID:key/key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  • If this parameter is not specified, the default master key will be used.  • If there is no such a default master key, OBS will create one and use it by default.

### **Code Examples**

This example copies an object from one bucket to another.

```
package main import (
    "fmt"
    "os"
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
) func main() {
    //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
    //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/intl/en-us/usermanual-ca/ca_01_0003.html.
    ak := os.Getenv("AccessKeyID")
    sk := os.Getenv("SecretAccessKey")
    // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
```

```
// securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.CopyObjectInput{}
  // Specify the source bucket name.
  input.Bucket = "examplebucket"
  // Specify a source object (example/objectname as an example).
  input.Key = "example/objectname"
  // Specify a source bucket (sourcebucketname as an example).
  input.CopySourceBucket = "sourcebucketname"
  // Specify an object to copy (sourceobjectkey as an example) in the source bucket.
  input.CopySourceKey = "sourceobjectkey"
  // Copy the object.
  output, err := obsClient.CopyObject(input)
  if err == nil {
     fmt.Printf("Copy part(bucket:%s, object: %s) successful from bucket:%s's object: %s!\n",
        input.Bucket, input.Key, input.CopySourceBucket, input.CopySourceKey)
     fmt.Printf("ETag:%s, LastModified:%s\n", output.ETag, output.LastModified)
     return
  fmt.Printf("Copy part(bucket:%s, object: %s) fail from bucket:%s's object: %s!\n",
     input.Bucket, input.Key, input.CopySourceBucket, input.CopySourceKey)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

### **Helpful Links**

- Copying Objects
- (GitHub) Sample Code for Object Copy
- OBS Error Codes
- FAQ for Object Copy

# 9.6 Deleting an Object (SDK for Go)

#### **Function**

This API deletes an object in the specified bucket to save space and costs.

#### Restrictions

- To delete an object, you must be the bucket owner or have the required permission (obs:object:DeleteObject in IAM or DeleteObject in a bucket policy).
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

• If versioning is not enabled for a bucket, deleted objects cannot be recovered.

#### Method

func (obsClient ObsClient) DeleteObject(input \*DeleteObjectInput) (output
\*DeleteObjectOutput, err error)

### **Request Parameters**

Table 9-97 List of request parameters

Parameter	Туре	Man dat ory (Yes /No	Description
input	*DeleteObjectI nput	Yes	Request parameters for deleting an object

Table 9-98 DeleteObjectInput

Bucket  String  Yes  Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:	Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
None	Bucket	string	Yes	<ul> <li>Restrictions:</li> <li>A bucket name must be unique across all accounts and regions.</li> <li>A bucket name:  - Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> <li>- Cannot be formatted as an IP address.</li> <li>- Cannot start or end with a hyphen (-) or period (.).</li> <li>- Cannot contain two consecutive periods (), for example, mybucket.</li> <li>- Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.</li> <li>If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.</li> <li>Default value:</li> </ul>

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
Key	string	Yes	Explanation:  Target object name An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.  For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.  Value range:  The value must contain 1 to 1,024 characters.  Default value:  None
VersionId	string	No	Explanation:  ID of the object version to delete, for example, G001117FCE89978B0000401205D5DC9  Value range: The value must contain 32 characters.  Default value: None. If this parameter is left blank, the latest version of the object is deleted.

## Responses

**Table 9-99** List of returned results

Parameter	Туре	Description
output	*DeleteObjectOut put	Explanation:  Returned results. For details, see Table 9-100.
err	error	<b>Explanation:</b> Error messages returned by the API

Table 9-100 DeleteObjectOutput

Parameter	Туре	Description		
StatusCode	int	Explanation:		
		HTTP status code		
		Value range:		
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .		
		Default value:		
		None		
RequestId	string	Explanation:		
		Request ID returned by the OBS server		
		Default value:		
		None		
ResponseHeaders	map[strin	Explanation:		
	g][]string	HTTP response headers		
		Default value:		
		None		
DeleteMarker	bool	Explanation:		
		Whether the deleted object is a delete marker		
		Value range:		
		true: The deleted object is a delete marker.		
		false: The deleted object is not a delete marker.		
		Default value:		
		false		
VersionId	string	Explanation:		
		ID of the object version to delete, for		
		example, G001117FCE89978B0000401205D5DC9		
		Value range:		
		The value must contain 32 characters.		
		Default value:		
		None. If this parameter is left blank, the latest version of the object is deleted.		

This example deletes object example/objectname from bucket examplebucket.

```
package main
import (
   "fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.DeleteObjectInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify the object (example/objectname as an example) to delete.
  input.Key = "example/objectname"
  // Delete the object.
  output, err := obsClient.DeleteObject(input)
     fmt.Printf("Delete object(%s) under the bucket(%s) successful!\n", input.Key, input.Bucket)
     fmt.Printf("Requestld:%s\n", output.Requestld)
  fmt.Printf("Delete object(%s) under the bucket(%s) fail!\n", input.Key, input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

## **Helpful Links**

- Deleting an Object
- (GitHub) Sample Code for Object Deletion
- OBS Error Codes

# 9.7 Batch Deleting Objects (SDK for Go)

#### **Function**

This API deletes objects in batches from a specific bucket. Deleted objects cannot be recovered.

In a batch delete operation, OBS concurrently deletes the specified objects and returns the deletion result of each object.

#### Restrictions

- To delete objects in a batch, you must be the bucket owner or have the required permission (obs:object:DeleteObject in IAM or DeleteObject in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Configuring an Object Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.
- If versioning is not enabled for a bucket, deleted objects cannot be recovered.
- A maximum of 1,000 objects can be deleted at a time. If you send a request for deleting more than 1,000 objects, OBS returns an error message.
- After concurrent tasks are assigned, OBS may encounter an internal error during cyclic deletion of multiple objects. In that case, the metadata still exists when the object index data is deleted, which means data inconsistency.

#### Method

func (obsClient ObsClient) DeleteObjects(input \*DeleteObjectsInput) (output \*DeleteObjectsOutput, err error)

#### **Request Parameters**

**Table 9-101** List of request parameters

Parameter	Туре	Man dato ry (Yes/ No)	Description
input	*DeleteObjectsIn- put	Yes	Explanation: Input parameters for batch deleting objects. For details, see Table 9-102.

Table 9-102 DeleteObjectsInput

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
Bucket	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value: None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
Quiet	bool	No	Explanation: Response to the request for deleting objects in a batch Value range: • false: The detailed mode. Results of both successful and failed deletions are returned. • true: The quiet mode. Only results of failed deletions are returned.  Default value: false
Objects	[]Object ToDelete	Yes	Explanation: List of objects to be deleted. For details, see Table 9-103.
EncodingType	string	No	Explanation: Encoding type for Key in the response. If Key in the response contains control characters that are not supported by the XML 1.0 standard, you can specify this parameter to encode Key.  Value range: url  Default value: None. If you leave this parameter blank, encoding is not applied to Key.

Table 9-103 ObjectToDelete

Parameter	Туре	Mandatory (Yes/No)	Description
Key	string	Yes	Explanation:
			Object name An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.
			For example, if the address for accessing the object is examplebucket.obs.ap-southeast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.
			Value range:
			The value must contain 1 to 1,024 characters.
			Default value:
			None
VersionId	string	No	Explanation:
			ID of the object version to delete, for example, G001117FCE89978B0000401205D5D C9
			Value range:
			The value must contain 32 characters.
			Default value:
			None. If this parameter is left blank, the latest version of the object is deleted.

# Responses

Table 9-104 List of returned results

Parameter	Туре	Description
output	*DeleteObjectsO utput	Explanation: Returned results. For details, see Table 9-105.
err	error	<b>Explanation:</b> Error messages returned by the API

Table 9-105 DeleteObjectsOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None
Deleteds	[]Deleted	Explanation:
		List of objects that are successfully deleted. For details, see <b>Table 9-106</b> .
Errors	[]Error	Explanation:
		List of objects that fail to be deleted. For details, see <b>Table 9-107</b> .
EncodingType	string	Explanation:
		Encoding type for <b>Key</b> in the response. If <b>Key</b> in the response contains control characters that are not supported by the XML 1.0 standard, you can specify this parameter to encode <b>Key</b> .
		Value range:
		url
		Default value:
		None. If you leave this parameter blank, encoding is not applied to <b>Key</b> .

Table 9-106 Deleted

Parameter	Туре	Description
Key	string	Explanation:
		Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.
		For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.
		Value range:
		The value must contain 1 to 1,024 characters.
		Default value:
		None
VersionId	string	Explanation:
		ID of the object version to delete, for example, G001117FCE89978B0000401205D5DC9
		Value range:
		The value must contain 32 characters.
		Default value:
		None. If this parameter is left blank, the latest version of the object is deleted.
DeleteMarker	bool	Explanation:
		Whether the deleted object is a delete marker
		Value range:
		true: The deleted object is a delete marker.
		false: The deleted object is not a delete marker.
		Default value:
		false

Parameter	Туре	Description
DeleteMarkerVersio- nId	string	Explanation:  Version ID of the delete marker to create or delete.  If the request either creates or deletes a delete marker, OBS returns this element in response with the version ID of the delete marker. This element will be returned in either of the following cases:
		You send a delete request with no version ID specified. In this case, OBS creates the delete marker and returns its version ID in the response.
		You send a delete request with an object name and a version ID specified, but this version ID represents a delete marker. In this case, OBS deletes the delete marker and returns its version ID in the response.
		Default value:
		None

Table 9-107 Error

Parameter	Туре	Description
Key	string	Explanation:
		Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.
		For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.
		Value range:
		The value must contain 1 to 1,024 characters.
		Default value:
		None

Parameter	Туре	Description	
VersionId	string	Explanation:	
		ID of the object version to delete, for example, G001117FCE89978B0000401205D5DC9	
		Value range:	
		The value must contain 32 characters.	
		Default value:	
		None. If this parameter is left blank, the latest version of the object is deleted.	
Code	string	Explanation:	
		Error code of the deletion failure. For details, see OBS Error Codes.	
Message	string	Explanation:	
		Error message of the deletion failure. For details, see OBS Error Codes.	

This example deletes objects **key1**, **key2**, and **key3** from bucket **examplebucket** in a batch.

```
package main
import (
  "fmt"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.DeleteObjectsInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify the list of objects to delete.
  var objects [3]obs.ObjectToDelete
  objects[0] = obs.ObjectToDelete{Key: "key1", VersionId: ""}
```

```
objects[1] = obs.ObjectToDelete{Key: "key2", VersionId: ""}
  objects[2] = obs.ObjectToDelete{Key: "key3", VersionId: ""}
  input.Objects = objects[:]
  // Batch delete the objects.
  output, err := obsClient.DeleteObjects(input)
  if err == nil {
     fmt.Printf("Delete objects under the bucket(%s) successful!\n", input.Bucket)
     for index, deleted := range output.Deleteds {
        fmt.Printf("Deleted[%d]-Key:%s, VersionId:%s\n", index, deleted.Key, deleted.VersionId)
     for index, err := range output.Errors {
        fmt.Printf("Error[%d]-Key:%s, Code:%s\n", index, err.Key, err.Code)
     }
     return
  fmt.Printf("Delete objects under the bucket(%s) fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

## **Helpful Links**

- Deleting Objects
- (GitHub) Sample Code for Object Batch Deletion
- OBS Error Codes

# 9.8 Configuring Object Metadata (SDK for Go)

#### **Function**

Object metadata is a set of name-value pairs that describe the object and is used for object management.

Currently, only the metadata defined by the system is supported.

There are two kinds of metadata: system-controlled metadata and user-controlled metadata. For example, metadata such as **Last-Modified** is controlled by the system and cannot be modified. You can modify the metadata such as **ContentLanguage** through the API.

This API sends a HEAD request to configure the metadata of an object in a specified bucket.

#### Restrictions

- To configure object metadata, you must be the bucket owner or have the required permission (obs:object:ModifyObjectMetaData in IAM or ModifyObjectMetaData in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Configuring an Object Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

- When versioning is enabled for a bucket, you can set metadata for objects of the latest version, but cannot set metadata for objects of historical versions.
- You cannot set metadata for Archive objects.

#### Method

func (obsClient ObsClient) SetObjectMetadata(input \*SetObjectMetadataInput)
(output \*SetObjectMetadataOutput, err error)

## **Request Parameters**

**Table 9-108** List of request parameters

Parameter	Туре	M an da tor y (Y es/No)	Description
input	*SetObjectMetada- taInput	Yes	Explanation: Input parameters for configuring object metadata. For details, see Table 9-109.

Table 9-109 SetObjectMetadataInput

Parameter	Туре	Ma nd ato ry (Ye s/N o)	Description
Bucket	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, my.bucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, my-bucket or my-bucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Value range: The value must contain 3 to 63 characters.

Parameter	Туре	Ma nd ato ry (Ye s/N o)	Description
Key	string	Yes	Explanation: Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name. For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.  Value range: The value must contain 1 to 1,024 characters.  Default value: None
VersionId	string	No	Explanation: Object version ID, for example, G001117FCE89978B0000401205D5DC9 A Value range: The value must contain 32 characters. Default value: None
CacheControl	string	No	Explanation: Cache-Control header in the response. It specifies cache behaviors of the web page when an object is downloaded. Default value: None
ContentDisposition	string	No	Explanation: Content-Disposition header in the response. It specifies the name of the object when it is downloaded. Default value: None

Parameter	Туре	Ma nd ato ry (Ye s/N o)	Description
ContentEncoding	string	No	Explanation: Content-Encoding header in the response. It specifies the content encoding format when an object is downloaded. Default value: None
ContentLanguage	string	No	Explanation: Content-Language header in the response. It specifies the content language format when an object is downloaded. Default value: None
ContentType	string	No	Explanation: Content-Type header in the response. It specifies the object file type. Default value: None
Expires	string	No	Explanation: Expires header in the response. It specifies the cache expiration time of the web page when the object is downloaded.  Default value: None

Parameter	Туре	Ma nd ato ry (Ye s/N o)	Description
WebsiteRedirectLocation	string	No	Explanation:  If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.  The request is redirected to object anotherPage.html in the same bucket:  WebsiteRedirectLocation:/ anotherPage.html  The request is redirected to an external URL http://www.example.com/:  WebsiteRedirectLocation:http://www.example.com/  OBS obtains the specified value from the header and stores it in the object metadata WebsiteRedirectLocation.  Restrictions:  The value must start with a slash (/), http://, or https:// and cannot exceed 2 KB.  OBS only supports redirection for objects in the root directory of a bucket.  Default value:  None
StorageClass	StorageC lassType	No	Explanation: Storage class of an object. Value range: See Table 9-110. Default value: None

Parameter	Туре	Ma nd ato ry (Ye s/N o)	Description
Metadata	map[stri ng]string	No	<ul> <li>Explanation: Custom metadata of the object. You can add a header starting with x-obs-meta-in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata. Restrictions: <ul> <li>The custom metadata cannot exceed 8 KB. To measure the custom metadata, sum the number of bytes in the UTF-8 encoding of each key and value.</li> <li>The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.</li> <li>Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are required, they must be encoded and decoded in URL or Base64 on the client, because the server does not perform such operations. </li> <li>Default value:</li> <li>None</li> </ul></li></ul>

**Table 9-110** StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.

Constant	Default Value	Description
StorageClassWarm	WARM	OBS Infrequent Access Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive Used for storing rarely accessed (once a year) data.

## Responses

Table 9-111 List of returned results

Parameter	Туре	Description
output	*SetObjectMetada taOutput	Explanation:  Returned results. For details, see Table 9-112.
err	error	Explanation: Error messages returned by the API

 Table 9-112
 SetObjectMetadataOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None

Parameter	Туре	Description
ResponseHeaders	map[strin	Explanation:
	g][]string	HTTP response headers
		Default value:
		None
MetadataDirective	Metadata	Explanation:
	Directive Type	Policy for copying the source object's properties
		Value range:
		See Table 9-113.
		Default value:
		None
CacheControl	string	Explanation:
		Cache-Control header in the response. It specifies cache behaviors of the web page when an object is downloaded.
		Default value:
		None
ContentDisposition	string	Explanation:
		<b>Content-Disposition</b> header in the response. It specifies the name of the object when it is downloaded.
		Default value:
		None
ContentEncoding	string	Explanation:
		Content-Encoding header in the response. It specifies the content encoding format when an object is downloaded.
		Default value:
		None
ContentLanguage	string	Explanation: Content-Language header in the response. It specifies the content language format when an object is downloaded. Default value:
		None

Parameter	Туре	Description
ContentType	string	Explanation: Content-Type header in the response. It specifies the object file type. Default value: None
Expires	string	Explanation: Expires header in the response. It specifies the cache expiration time of the web page when the object is downloaded.  Default value: None
WebsiteRedirectLocation	string	Explanation:  If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.  The request is redirected to object anotherPage.html in the same bucket:  WebsiteRedirectLocation:/anotherPage.html  The request is redirected to an external URL http://www.example.com/:  WebsiteRedirectLocation:http://www.example.com/  OBS obtains the specified value from the header and stores it in the object metadata WebsiteRedirectLocation.  Restrictions:  The value must start with a slash (/), http://, or https:// and cannot exceed 2 KB.  OBS only supports redirection for objects in the root directory of a bucket.  Default value:  None

Parameter	Туре	Description				
StorageClass	StorageCl	Explanation:				
	assType	Object storage class. If you do not specify this header, the object inherits the storage class of the bucket.				
		Value range:				
		See Table 9-114.				
		Default value:				
		None				
Metadata	map[strin	Explanation:				
g]string	Custom metadata of the object. You can add a header starting with <b>x-obs-meta-</b> in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.					
		Restrictions:				
		The custom metadata cannot exceed 8     KB. To measure the custom metadata,     sum the number of bytes in the UTF-8     encoding of each key and value.				
						The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.
		Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are required, they must be encoded and decoded in URL or Base64 on the client, because the server does not perform such operations.				
		Default value:				
		None				

**Table 9-113** MetadataDirectiveType

Constant	Default Value	Description
CopyMetadata	COPY	When copying an object, the object's properties are also copied.
ReplaceMetadata	REPLACE	When copying an object, the object's properties are replaced.

Table 9-114 StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.
StorageClassWarm	WARM	OBS Infrequent Access Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive Used for storing rarely accessed (once a year) data.

This example configures metadata for object **example/objectname** in bucket **examplebucket**. The MIME type of the object is set to image/jpeg, the storage class is set to Archive, and custom metadata is also configured for the object.

```
package main
import (
  "fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint /*, obs.WithSecurityToken(securityToken)*/)
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.SetObjectMetadataInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify an object (example/objectname as an example).
  input.Key = "example/objectname"
```

```
// Specify a MIME type (image/jpeg as an example) for the object.
  input.ContentType = "image/jpeg"
  // Specify a storage class (obs.StorageClassCold as an example) for the object.
  input.StorageClass = obs.StorageClassCold
  // Specify custom metadata.
  input.Metadata = map[string]string["property1": "property-value1", "property2": "property-value2"}
  // Configure metadata for the object.
  output, err := obsClient.SetObjectMetadata(input)
  if err == nil {
     fmt.Printf("Set Object(%s)'s metadata successful with bucket(%s)!\n", input.Key, input.Bucket)
     fmt.Printf("RequestId:%s\n", output.RequestId)
  fmt.Printf("Set Object(%s)'s metadata fail with bucket(%s)!\n", input.Key, input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
     fmt.Println(obsError.Error())
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

### **Helpful Links**

- Modifying Object Metadata
- (GitHub) Sample Code for Configuring Object Metadata
- OBS Error Codes

# 9.9 Obtaining Object Metadata (SDK for Go)

#### **Function**

Object metadata is a set of name-value pairs that describe the object and is used for object management.

Currently, only the metadata defined by the system is supported. There are two kinds of metadata: system-controlled metadata and user-controlled metadata.

You can use this API to send a HEAD request to the object of a specified bucket to obtain its metadata.

#### Restrictions

- To obtain object metadata, you must be the bucket owner or have the required permission (obs:object:GetObject in IAM or GetObject in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Configuring an Object Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.
- Users with the read permission on an object can perform the HEAD operation to obtain the object metadata. The object metadata is included in the response.

#### Method

func (obsClient ObsClient) GetObjectMetadata(input \*GetObjectMetadataInput)
(output \*GetObjectMetadataOutput, err error)

## **Request Parameters**

**Table 9-115** List of request parameters

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
input	*GetObjectMetada talnput	Yes	Explanation: Input parameters for obtaining object metadata. For details, see Table 9-116.

 Table 9-116
 GetObjectMetadataInput

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
Bucket	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value: None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
Key	string	Yes	Explanation: Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name. For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt. Value range: The value must contain 1 to 1,024 characters. Default value: None
VersionId	string	No	Explanation: Object version ID, for example, G001117FCE89978B0000401205D5DC9 A Value range: The value must contain 32 characters. Default value: None
SseHeader	SseCHea der	No	<b>Explanation:</b> Server-side decryption headers. For details, see <b>Table 9-117</b> .

Table 9-117 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:  None
Key	string	Yes if used as a request parameter	Explanation: Key for encrypting the object when SSE-C is used Restrictions: The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=. Default value: None
KeyMD5	string	No if used as a request parameter	Explanation:  MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.  Restrictions: The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.  Default value: None

# Responses

Table 9-118 List of returned results

Parameter	Туре	Description
output	*GetObjectMetada taOutput	Explanation: Returned results. For details, see Table 9-119.

Parameter	Туре	Description
err	error	Explanation:
		Error messages returned by the API

 Table 9-119 GetObjectMetadataOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders map[strin	Explanation:	
	g][]string	HTTP response headers
		Default value:
		None
StorageClass	StorageCl	Explanation:
	assType	Object storage class. If you do not specify this header, the object inherits the storage class of the bucket.
		Value range:
		See Table 9-120.
		Default value:
		None

Parameter	Туре	Description
AllowOrigin	string	Explanation:
		If Origin in the request meets the CORS rules of the bucket, AllowedOrigin specified in the CORS rules is returned. AllowedOrigin indicates the origin from which the requests can access the bucket. Restrictions: Domain name of the origin. Each origin can
		contain only one wildcard character (*), for example, https://*.vbs.example.com.  Default value:
		None
AllowHeader	string	Explanation:
		If RequestHeader in the request meets the CORS rules of the bucket, AllowedHeader specified in the CORS rules is returned. AllowedHeader indicates the allowed headers for cross-origin requests. Only CORS requests matching the allowed headers are valid.
		Restrictions:
		Each header can contain only one wildcard character (*). Spaces, ampersands (&), colons (:), and less-than signs (<) are not allowed.
		Default value:
		None
AllowMethod	string	Explanation:
		<b>AllowedMethod</b> in the CORS rules of the bucket. It specifies the HTTP method of cross-origin requests, that is, the operation type of buckets and objects.
		Value range:
		The following HTTP methods are supported:
		• GET
		• PUT
		HEAD     POST
		DELETE
		Default value:
		None

Parameter	Туре	Description
ExposeHeader	string	Explanation:
		ExposeHeader in the CORS rules of the bucket. It specifies the CORS-allowed additional headers in the response. These headers provide additional information to clients. By default, your browser can only access headers Content-Length and Content-Type. If your browser needs to access other headers, add them to a list of the allowed additional headers.
		Restrictions:
		Spaces, wildcard characters (*), ampersands (&), colons (:), and less-than signs (<) are not allowed.
		Default value:
		None
MaxAgeSeconds	int	Explanation:
		MaxAgeSeconds in the CORS rules of the bucket. It specifies the time your client can cache the response for a cross-origin request.
		Restrictions:
		Each CORS rule can specify only one value for <b>MaxAgeSeconds</b> .
		Value range:
		0 to (2 <sup>31</sup> – 1), in seconds
		Default value:
		100
ContentLength	int64	Explanation:
		Object size in bytes
		Value range:
		0 to (2 <sup>63</sup> – 1), in bytes
		Default value:
		None

Parameter	Туре	Description
ContentType	string	Explanation:
	Č	MIME type of the object file. MIME type is a standard way of describing a data type and is used by the browser to decide how to display data.
		Value range:
		See What Is Content-Type (MIME)?
		Default value:
		If you do not specify this parameter when uploading an object, the SDK determines the object type based on the suffix of the specified object name and automatically assigns a value to this parameter.
LastModified	time.Time	Explanation:
		Time when the last modification was made to the object
		Restrictions:
		The time must be in the ISO8601 format, for example, <b>2018-01-01T00:00:00.000Z</b> .
		Default value:
		None
ETag	string	Explanation:
		ETag of the object Base64-encoded, 128-bit MD5 value of an object. ETag is the unique identifier of the object content. It can be used to determine whether the object content is changed. For example, if ETag value is <b>A</b> when an object is uploaded but changes to <b>B</b> when the object is downloaded, it indicates that the object content is changed. The ETag reflects changes to the object content, rather than the object metadata. An uploaded object or copied object has a unique ETag.
		Restrictions:
		If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object.
		Value range:
		The value must contain 32 characters.
		Default value:
		None

Parameter	Туре	Description
VersionId	string	Explanation:
		Object version ID
		Value range:
		The value must contain 32 characters.
		Default value:
		None
Restore	string	Explanation:
		Restore status of an object. For an Archive object that is being restored or has been restored, this header is returned.
		For example, ongoing-request="true" indicates that the object is being restored. ongoing-request="false", expiry-date="Wed, 7 Nov 2012 00:00:00 GMT" indicates that the object has been restored. expiry-date indicates when the restored object expires.
		Restrictions:
		This parameter is only available for Archive objects.
		Default value:
		None
Expiration	string	Explanation:
		Expiration details of the object. Example: "expiry-date=\"Mon, 11 Sep 2023 00:00:00 GMT\""
		Default value:
		None
SseHeader	SseCHead	Explanation:
	er or SseKmsHe ader	Server-side encryption header information. If SSE-C is used, see <b>Table 9-121</b> . If SSE-KMS is used, see <b>Table 9-122</b> .

Parameter	Туре	Description
WebsiteRedirectLo-	string	Explanation:
cation		If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.
		The request is redirected to object anotherPage.html in the same bucket:
		WebsiteRedirectLocation:/anotherPage.html
		The request is redirected to an external URL http://www.example.com/:
		WebsiteRedirectLocation:http:// www.example.com/
		OBS obtains the specified value from the header and stores it in the object metadata <b>WebsiteRedirectLocation</b> .
		Restrictions:
		The value must start with a slash (/), http://, or https:// and cannot exceed 2 KB.
		OBS only supports redirection for objects in the root directory of a bucket.
		Default value:
		None

Parameter	Туре	Description
Metadata	map[strin g]string	<ul> <li>Explanation: Custom metadata of the object. You can add a header starting with x-obs-meta- in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.</li> <li>Restrictions: <ul> <li>The custom metadata cannot exceed 8 KB. To measure the custom metadata, sum the number of bytes in the UTF-8 encoding of each key and value.</li> <li>The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.</li> <li>Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are necessary, they must be encoded and decoded in URL or Base64 on the client, because the server side does not perform any decoding.</li> </ul> </li> <li>Default value:</li> </ul>
		INOTIC

 Table 9-120 StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.
StorageClassWarm	WARM	OBS Infrequent Access Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.

Constant	Default Value	Description
StorageClassCold	COLD	OBS Archive Used for storing rarely accessed (once a year) data.

Table 9-121 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation: SSE-C used for encrypting objects Value range: AES256, indicating objects are encrypted using SSE-C Default value: None
Key	string	Yes if used as a request parameter	Explanation: Key for encrypting the object when SSE-C is used Restrictions: The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=. Default value: None
KeyMD5	string	No if used as a request parameter	Explanation:  MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.  Restrictions: The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.  Default value: None

Table 9-122 SseKmsHeader

Parameter	Туре	Manda tory (Yes/N o)	Description
Encryption	string	Yes if used as a request param eter	Explanation: SSE-KMS used for encrypting objects Value range: kms, indicating objects are encrypted using SSE-KMS Default value: None
Key	string	No if used as a request param eter	Explanation:  ID of the KMS master key when SSE-KMS is used  Value range:  Valid value formats are as follows:  1. regionID:domainID:key/key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  • If this parameter is not specified, the default master key will be used.  • If there is no such a default master key, OBS will create one and use it by default.

This example returns the metadata of object **example/objectname**.

package main import (

```
"fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSignature(obs.SignatureObs)/*,
obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.GetObjectMetadataInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify an object (example/objectname as an example).
  input.Key = "example/objectname"
  // Obtain the custom metadata of the object.
  output, err := obsClient.GetObjectMetadata(input)
  if err == nil {
     fmt.Printf("Get object(%s)'s metadata successful with bucket(%s)!\n", input.Key, input.Bucket)
     fmt.Printf("StorageClass:%s, ETag:%s, ContentType:%s, ContentLength:%d, LastModified:%s\n",
        output.StorageClass, output.ETag, output.ContentType, output.ContentLength, output.LastModified)
     // Obtain the custom metadata of the object.
     fmt.Printf("Metadata:%v\n", output.Metadata)
     return
  fmt.Printf("Get object(%s)'s metadata fail with bucket(%s)!\n", input.Key, input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

## **Helpful Links**

- Querying Object Metadata
- (GitHub) Sample Code for Obtaining Object Metadata
- OBS Error Codes

# 9.10 Configuring an Object ACL (SDK for Go)

#### **Function**

Access control lists (ACLs) allow resource owners to grant other accounts the permissions to access resources. By default, only the resource owner has full control over resources when a bucket or object is created. That is, the bucket creator has full control over the bucket, and the object uploader has full control over the object. Other accounts do not have the permissions to access resources. If resource owners want to grant other accounts the read and write permissions on resources, they can use ACLs. ACLs grant permissions to accounts. After an account is granted permissions, both the account and its IAM users can access the resources. For more information, see ACLs. Even if an ACL is set for an object encrypted using SSE-KMS, the cross-tenant access is unavailable.

You can set an ACL when uploading an object or call an ACL API to modify or obtain the ACL of an existing object.

#### Restrictions

- To configure object ACL, you must be the bucket owner or have the required permission (obs:object:PutObjectAcl in IAM or PutObjectAcl in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Configuring an Object Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.
- An object can have a maximum of 100 rules in its ACL.

### Method

func (obsClient ObsClient) SetObjectAcl(input \*SetObjectAclInput) (output
\*BaseModel, err error)

### **Request Parameters**

Table 9-123 List of request parameters

Parameter	Туре	Ma nd ato ry (Ye s/N o)	Description
input	*SetObjectAclIn put	Yes	Explanation: Input parameters for configuring an ACL for the object. For details, see Table 9-124.

Table 9-124 SetObjectAclInput

Bucket  String  Yes  Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or my bucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:	Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
None	Bucket	string	Yes	Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
Key	string	Yes	Explanation: Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name. For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.
			Value range: The value must contain 1 to 1,024 characters.  Default value: None
VersionId	string	No	Explanation: Object version ID, for example, G001117FCE89978B0000401205D5DC9 A Value range: The value must contain 32 characters. Default value: None
ACL	AclType	No	Explanation: Pre-defined ACL. Value range: See Table 9-125. Default value: None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
Owner	Owner	No	Explanation:
			Account ID of the object owner. For details, see <b>Table 9-126</b> .
			Restrictions:
			Owner and Grants must be used together and they cannot be used with ACL.
Grants	[]Grant	No	Explanation:
			Grantees' permission information. For details, see <b>Table 9-127</b> .
			Default value:
			None

# Table 9-125 AclType

Constant	Default Value	Description
AclPrivate	private	Private read/write A bucket or object can only be accessed by its owner.
AclPublicRead	public-read	Public read and private write  If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket.
		If it is granted on an object, anyone can read the content and metadata of the object.

Constant	Default Value	Description
AclPublicReadWrit e	public-read- write	Public read/write  If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket, and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart upload tasks.  If it is granted on an object, anyone can read the content and metadata of the object.
AclPublicReadDe- livered	public-read- delivered	Public read on a bucket as well as objects in the bucket  If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions, and read the content and metadata of objects in the bucket.  NOTE  AclPublicReadDelivered does not apply to objects.
AclPublicReadWri- teDelivered	public-read- write-delivered	Public read/write on a bucket as well as objects in the bucket  If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket, and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart uploads. They can also read the content and metadata of objects in the bucket.  NOTE  AclPublicReadWriteDelivered does not apply to objects.
AclBucketOwnerFu llControl	bucket-owner- full-control	If this permission is granted on an object, only the bucket and object owners have the full control over the object.  By default, if you upload an object to a bucket of any other user, the bucket owner does not have the permissions on your object. After you grant this permission to the bucket owner, the bucket owner can have full control over your object.

Table 9-126 Owner

Parame ter	Туре	Mandatory (Yes/No)	Description
ID	string	Yes if used as a request parameter	Explanation: Account (domain) ID of the owner Value range: To obtain the account ID, see How Do I Get My Account ID and User ID? Default value: None

Table 9-127 Grant

Parameter	Туре	Manda tory (Yes/N o)	Description
Grantee	Grantee	Yes if used as a request parame ter	Explanation: Grantee information. For details, see Table 9-128.
Permission	Permissio nType	Yes if used as a request parame ter	Explanation: Granted permission Value range: See Table 9-129. Default value: None

Table 9-128 Grantee

Parameter	Туре	Mandat ory (Yes/No)	Description
Туре	Grantee Type	Yes if used as a request paramet er	Explanation: Grantee type Value range: See Table 9-130. Default value: None
ID	string	Yes if this paramet er is used as a request paramet er and Type is set to Grantee User	Explanation: Account (domain) ID of the grantee Value range: To obtain the account ID, see How Do I Get My Account ID and User ID? Default value: None
DisplayName	string	No if used as a request paramet er	Explanation: Account name of the grantee Restrictions:  Starts with a letter. Contains 6 to 32 characters. Contains only letters, digits, hyphens (-), or underscores (_).  Default value: None
URI	GroupUr iType	Yes if this paramet er is used as a request paramet er and Type is set to Grantee Group	Explanation: Authorized user group Value range: See Table 9-131. Default value: None

Table 9-129 PermissionType

Constant	Default Value	Description
PermissionRea d	READ	Read permission
PermissionWri te	WRITE	Write permission
PermissionRea dAcp	READ_ACP	Permission to read ACL configurations
PermissionWri teAcp	WRITE_AC P	Permission to modify ACL configurations
PermissionFull Control	FULL_CON TROL	Full control access, including read and write permissions for a bucket and its ACL, or for an object and its ACL.

Table 9-130 GranteeType

Constant	Default Value	Description
GranteeGroup	Group	User group
GranteeUser	CanonicalUser	Individual user

Table 9-131 GroupUriType

Constant	Default Value	Description
GroupAllUsers	AllUsers	All users

## Responses

Table 9-132 List of returned results

Parameter	Туре	Description
output	*BaseModel	Explanation:
		Returned results. For details, see <b>Table 9-133</b> .
err	error	Explanation:
		Error messages returned by the API

Table 9-133 BaseModel

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None

### Code Examples

This example sets the ACL of object example/objectname to Private.

```
package main
import (
   "fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSecurityToken(securityToken))
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
```

```
input := &obs.SetObjectAclInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify an object (example/objectname as an example).
  input.Key = "example/objectname"
  // Set the object ACL to Private.
  input.ACL = obs.AclPrivate
  // Configure the object ACL.
  output, err := obsClient.SetObjectAcl(input)
  if err == nil {
     fmt.Printf("Set Object(%s)'s acl successful with Bucket(%s)!\n", input.Key, input.Bucket)
     fmt.Printf("RequestId:%s\n", output.RequestId)
     return
  fmt.Printf("Set Object(%s)'s acl fail with Bucket(%s)!\n", input.Key, input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

### **Helpful Links**

- Configuring an Object ACL
- (GitHub) Sample Code for Configuring Object ACL
- OBS Error Codes

# 9.11 Obtaining Object ACL Information (SDK for Go)

### **Function**

Access control lists (ACLs) allow resource owners to grant other accounts the permissions to access resources. By default, only the resource owner has full control over resources when a bucket or object is created. That is, the bucket creator has full control over the bucket, and the object uploader has full control over the object. Other accounts do not have the permissions to access resources. If resource owners want to grant other accounts the read and write permissions on resources, they can use ACLs. ACLs grant permissions to accounts. After an account is granted permissions, both the account and its IAM users can access the resources. For more information, see ACLs.

This API returns information about the ACL of an object.

### Restrictions

- To obtain an object ACL, you must be the bucket owner or have the required permission (obs:object:GetObjectAcl in IAM or GetObjectAcl in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Configuring an Object Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.
- You can perform this operation to view the ACL of an object, as long as you
  have the READ\_ACP permission for the object.

### Method

func (obsClient ObsClient) GetObjectAcl(input \*GetObjectAclInput) (output
\*GetObjectAclOutput, err error)

# Method (with a Signed URL Used)

**func** (obsClient ObsClient) GetObjectAclWithSignedUrl(signedUrl string, actualSignedRequestHeaders http.Header) (output \*GetObjectAclOutput, err error)

### **Request Parameters**

Table 9-134 List of request parameters

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
input	*GetObjectAclI nput	Yes	Explanation: Input parameters for obtaining the ACL of an object. For details, see Table 9-135.

Table 9-135 GetObjectAclInput

Bucket  String  Yes  Explanation: Bucket name  Restrictions:  • A bucket name must be unique across all accounts and regions.  • A bucket name:  - Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  - Cannot be formatted as an IP address.  - Cannot start or end with a hyphen (-) or period (.).  - Cannot contain two consecutive periods (), for example, mybucket.  - Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  • If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:	Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
None	Bucket	string	Yes	<ul> <li>Restrictions:</li> <li>A bucket name must be unique across all accounts and regions.</li> <li>A bucket name:  <ul> <li>Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> <li>Cannot be formatted as an IP address.</li> <li>Cannot start or end with a hyphen (-) or period (.).</li> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> <li>Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.</li> </ul> </li> <li>If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.</li> </ul>

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
Key	string	Yes	Explanation: Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name. For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.  Value range: The value must contain 1 to 1,024 characters.  Default value: None
VersionId	string	No	Explanation: Object version ID, for example, G001117FCE89978B0000401205D5DC9 A Value range: The value must contain 32 characters. Default value: None

# Responses

Table 9-136 List of returned results

Parameter	Туре	Description
output	*GetObjectAclOut put	<b>Explanation:</b> Returned results. For details, see <b>Table 9-137</b> .
err	error	<b>Explanation:</b> Error messages returned by the API

Table 9-137 GetObjectAclOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[strin	Explanation:
	g][]string	HTTP response headers
		Default value:
		None
VersionId	string	Explanation:
		Object version ID, for example, G001117FCE89978B0000401205D5DC9A
		Value range:
		The value must contain 32 characters.
		Default value:
		None
Owner	Owner	Explanation:
		Account ID of the object owner. For details, see <b>Table 9-138</b> .
		Restrictions:
		Owner and Grants must be used together and they cannot be used with ACL.
Grants	[]Grant	Explanation:
		Grantees' permission information. For details, see <b>Table 9-139</b> .
		Default value:
		None

Table 9-138 Owner

Parame ter	Туре	Mandatory (Yes/No)	Description
ID	string	Yes if used as a request parameter	Explanation: Account (domain) ID of the owner Value range: To obtain the account ID, see How Do I Get My Account ID and User ID? Default value: None

### Table 9-139 Grant

Parameter	Туре	Manda tory (Yes/N o)	Description
Grantee	Grantee	Yes if used as a request parame ter	Explanation: Grantee information. For details, see Table 9-140.
Permission	Permissio nType	Yes if used as a request parame ter	Explanation: Granted permission Value range: See Table 9-141. Default value: None

### Table 9-140 Grantee

Parameter	Туре	Mandat ory (Yes/No)	Description
Туре	Grantee Type	Yes if used as a request paramet er	Explanation: Grantee type. For details, see Table 9-142.

Parameter	Туре	Mandat ory (Yes/No)	Description
ID	string	Yes if this paramet er is used as a request paramet er and Type is set to Grantee User	Explanation: Account (domain) ID of the grantee Value range: To obtain the account ID, see How Do I Get My Account ID and User ID? Default value: None
DisplayName	string	No if used as a request paramet er	Explanation: Account name of the grantee Restrictions:  Starts with a letter.  Contains 6 to 32 characters.  Contains only letters, digits, hyphens (-), or underscores (_).  Default value: None
URI	GroupUr iType	Yes if this paramet er is used as a request paramet er and Type is set to Grantee Group	Explanation: Authorized user group Value range: See Table 9-143. Default value: None

Table 9-141 PermissionType

Constant	Default Value	Description
PermissionRea d	READ	Read permission
PermissionWri te	WRITE	Write permission

Constant	Default Value	Description
PermissionRea dAcp	READ_ACP	Permission to read ACL configurations
PermissionWri teAcp	WRITE_AC P	Permission to modify ACL configurations
PermissionFull Control	FULL_CON TROL	Full control access, including read and write permissions for a bucket and its ACL, or for an object and its ACL.

#### Table 9-142 GranteeType

Constant	Default Value	Description
GranteeGroup	Group	User group
GranteeUser	CanonicalUser	Individual user

#### Table 9-143 GroupUriType

Constant	Default Value	Description
GroupAllUsers	AllUsers	All users

### **Code Examples**

This example shows how to obtain the ACL of object **example/objectname** in bucket **examplebucket**.

```
package main
import (
  "fmt"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
```

```
if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.GetObjectAclInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify an object (example/objectname as an example).
  input.Key = "example/objectname"
  // Obtain the object ACL.
  output, err := obsClient.GetObjectAcl(input)
  if err == nil {
     fmt.Printf("Get object(%s)'s acl successful with bucket(%s)!\n", input.Key, input.Bucket)
     fmt.Printf("Owner.ID:%s\n", output.Owner.ID)
     for index, grant := range output.Grants {
        fmt.Printf("Grant[%d]-Type:%s, ID:%s, URI:%s, Permission:%s\n",
          index, grant.Grantee.Type, grant.Grantee.ID, grant.Grantee.URI, grant.Permission)
     }
     return
  fmt.Printf("Get object(%s)'s acl fail with bucket(%s)!\n", input.Key, input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
  }
package main
import (
  "fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.GetObjectAclInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify an object (example/objectname as an example).
  input.Key = "example/objectname"
  // Obtain the object ACL.
  output, err := obsClient.GetObjectAcl(input)
  if err == nil {
     fmt.Printf("Get object(%s)'s acl successful with bucket(%s)!\n", input.Key, input.Bucket)
     fmt.Printf("Owner.ID:%s\n", output.Owner.ID)
     for index, grant := range output.Grants {
        fmt.Printf("Grant[%d]-Type:%s, ID:%s, URI:%s, Permission:%s\n",
```

```
index, grant.Grantee.Type, grant.Grantee.ID, grant.Grantee.URI, grant.Permission)
}
return
}
fmt.Printf("Get object(%s)'s acl fail with bucket(%s)!\n", input.Key, input.Bucket)
if obsError, ok := err.(obs.ObsError); ok {
    fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error response.")
    fmt.Println(obsError.Error())
} else {
    fmt.Println("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.")
    fmt.Println(err)
}
```

### **Helpful Links**

- Obtaining Object ACL Configuration
- (GitHub) Sample Code for Obtaining Object ACL
- OBS Error Codes

# 9.12 Rewriting Response Headers (SDK for Go)

#### **Function**

This API rewrites some HTTP/HTTPS response headers when downloading an object. The following table lists rewritable response headers.

Parameter	Description
GetObjectInput.ResponseCont entType	Rewrites <b>Content-Type</b> in HTTP/HTTPS responses.
GetObjectInput.ResponseCont entLanguage	Rewrites <b>Content-Language</b> in HTTP/HTTPS responses.
GetObjectInput.ResponseExpir es	Rewrites <b>Expires</b> in HTTP/HTTPS responses.
GetObjectInput.ResponseCach eControl	Rewrites <b>Cache-Control</b> in HTTP/HTTPS responses.
GetObjectInput.ResponseCont entDisposition	Rewrites <b>Content-Disposition</b> in HTTP/HTTPS responses.
GetObjectInput.ResponseCont entEncoding	Rewrites <b>Content-Encoding</b> in HTTP/HTTPS responses.

#### Restrictions

- To rewrite response headers, you must have the **obs:object:GETObject** permission. For details, see **Typical Permission Control Scenarios**.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

### Method

func (obsClient ObsClient) GetObject(input \*GetObjectInput) (output
\*GetObjectOutput, err error)

## **Request Parameters**

**Table 9-144** List of request parameters

Parameter	Туре	Ma nda tory (Yes /No	Description
input	*GetObjectInp ut	Yes	Explanation: Input parameters for rewriting object headers. For details, see Table 9-145.

Table 9-145 GetObjectInput

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
Bucket	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value: None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
Key	string	Yes	Explanation: Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket
			name. For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.
			Value range: The value must contain 1 to 1,024 characters.  Default value: None
ResponseCacheCon trol	string	No	Explanation: Cache-Control header in the response. It specifies the cache behavior of the web page when the object is downloaded. Default value: None
ResponseContent- Disposition	string	No	Explanation: Content-Disposition header in the response. It specifies the name of the object when it is downloaded. Default value: None
ResponseContentE ncoding	string	No	Explanation: Content-Encoding header in the response. It specifies the content encoding format when an object is being downloaded. Default value: None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
ResponseContentL anguage	string	No	Explanation: Content-Language header in the response. It specifies the content language format when an object is downloaded. Default value: None
ResponseContent- Type	string	No	Explanation: Content-Type header in the response. It specifies the object file type. Default value: None
ResponseExpires	string	No	Explanation: Expires header in the response. It specifies the cache expiration time of the web page when the object is downloaded.  Default value: None
VersionId	string	No	Explanation: Object version ID, for example, G001117FCE89978B0000401205D5DC9 Value range: The value must contain 32 characters. Default value: None. If this parameter is left blank, the latest version of the object is specified.

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
ImageProcess	string	No	Explanation: Image processing command or style. Example for resizing and rotating an image: image/ resize,m_fixed,w_100,h_100/rotate,90 Value range: Command format: image/commands Style format: style/style name For details about image processing parameters, see Processing Images. Default value: If no commands are entered, the original image is returned.
RangeStart	int64	No	Explanation: Start position for object download. Value range: 0 to the object length, in bytes. Default value: 0, indicating the download starts from the first byte of the object.
RangeEnd	int64	No	Explanation: End position for object download Value range:  • The value must be greater than that of RangeStart.  • The upper limit of the value is the object length minus 1, in bytes.  Default value: None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
IfMatch	string	No	Explanation:  Preset ETag. If the ETag of the object to be downloaded is the same as the preset ETag, the object is returned.  Otherwise, an error is returned.  Value range:  The value must contain 32 characters.  Default value:  None
IfNoneMatch	string	No	Explanation:  Preset ETag. If the ETag of the object to be downloaded is different from the preset ETag, the object is returned.  Otherwise, an error is returned.  Value range:  The value must contain 32 characters.  Default value:  None
IfModifiedSince	time.Time	No	Explanation:  The object is returned if it has been modified since the specified time; otherwise, an error is returned.  Restrictions:  The time must be in the ISO8601 format, for example, 2018-01-01T00:00:00.000Z.  Sample code: time.Now().Add(time.Duration(24) * time.Hour)  Default value: None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
IfUnmodifiedSince	time.Time	No	Explanation: The object is returned if it has not been modified since the specified time; otherwise, an error is returned.  Restrictions: The time must be in the ISO8601 format, for example, 2018-01-01T00:00:00.000Z.  Sample code: time.Now().Add(time.Duration(24) * time.Hour)  Default value:
Origin	string	No	Explanation: Origin (usually a domain name) specified in the pre-request Restrictions: Each origin can contain only one wildcard character (*). Default value: None
RequestHeader	string	No	Explanation: HTTP headers in a cross-origin request. Only CORS requests matching the allowed headers are valid. Restrictions: Each header can contain only one wildcard character (*). Spaces, ampersands (&), colons (:), and lessthan signs (<) are not allowed. Default value: None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
SseHeader	SseCHea der	No	Explanation: Server-side decryption header. For details, see Table 9-146. Restrictions:
			If the object uploaded to a server is encrypted with the key provided by the client, the key must also be provided in the message for downloading the object.

Table 9-146 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used	Explanation:
		as a request parameter	SSE-C used for encrypting objects
		parameter	Value range:
			<b>AES256</b> , indicating objects are encrypted using SSE-C
			Default value:
			None
Key	string	Yes if used	Explanation:
		as a request parameter	Key for encrypting the object when SSE-C is used
			Restrictions:
			The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=.
			Default value:
			None

Parameter	Туре	Mandatory (Yes/No)	Description
KeyMD5	string	No if used as a request parameter	Explanation:  MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.
			Restrictions:  The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.
			<b>Default value</b> : None

## Responses

Table 9-147 List of returned results

Parameter	Туре	Description
output	*GetObjectOutp ut	Explanation: Returned results. For details, see Table 9-148.
err	error	<b>Explanation:</b> Error messages returned by the API

Table 9-148 GetObjectOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None

Parameter	Туре	Description
RequestId	string	Explanation: Request ID returned by the OBS server Default value: None
ResponseHeaders	map[string ][]string	Explanation: HTTP response headers Default value: None
Body	io.ReadClo ser	<ul> <li>Explanation: Object data stream</li> <li>Restrictions: <ul> <li>The object size in a single upload ranges from 0 to 5 GB.</li> </ul> </li> <li>To upload files larger than 5 GB, multipart uploads should be used.</li> <li>Default value:</li> </ul> <li>None</li>
StorageClass	StorageCl assType	Explanation: Storage class of the object. For details, see Table 9-149. Value range: If the storage class is Standard, leave this parameter blank.
AllowOrigin	string	Explanation:  If Origin in the request meets the CORS rules of the bucket, AllowedOrigin specified in the CORS rules is returned.  AllowedOrigin indicates the origin from which the requests can access the bucket.  Restrictions:  Domain name of the origin. Each origin can contain only one wildcard character (*), for example, https://*.vbs.example.com.  Default value:  None

Parameter	Туре	Description
AllowHeader	string	Explanation:
		If RequestHeader in the request meets the CORS rules of the bucket, AllowedHeader specified in the CORS rules is returned. AllowedHeader indicates the allowed headers for cross-origin requests. Only CORS requests matching the allowed headers are valid.
		Restrictions:
		Each header can contain only one wildcard character (*). Spaces, ampersands (&), colons (:), and less-than signs (<) are not allowed.
		Default value:
		None
AllowMethod	string	Explanation:
		<b>AllowedMethod</b> in the CORS rules of the bucket. It specifies the HTTP method of cross-origin requests, that is, the operation type of buckets and objects.
		Value range:
		The following HTTP methods are supported:
		• GET
		• PUT
		HEAD
		POST
		DELETE
		Default value:
		None

Parameter	Туре	Description
ExposeHeader	string	Explanation:
		<b>ExposeHeader</b> in the CORS rules of the bucket. It specifies the CORS-allowed additional headers in the response. These headers provide additional information to clients. By default, your browser can only access headers <b>Content-Length</b> and <b>Content-Type</b> . If your browser needs to access other headers, add them to a list of the allowed additional headers.
		Restrictions:
		Spaces, wildcard characters (*), ampersands (&), colons (:), and less-than signs (<) are not allowed.
		Default value:
		None
MaxAgeSeconds	int	Explanation:
		<b>MaxAgeSeconds</b> in the CORS rules of the bucket. It specifies the time your client can cache the response for a cross-origin request.
		Restrictions:
		Each CORS rule can specify only one value for <b>MaxAgeSeconds</b> .
		Value range:
		0 to (2 <sup>31</sup> – 1), in seconds
		Default value:
		100
ContentLength	int64	Explanation:
		Object size in bytes
		Value range:
		0 to (2 <sup>63</sup> – 1), in bytes
		Default value:
		None
CacheControl	string	Explanation:
		<b>Cache-Control</b> header in the response. It specifies cache behaviors of the web page when an object is downloaded.
		Default value:
		None

Parameter	Туре	Description
ContentDisposition	string	Explanation:
		<b>Content-Disposition</b> header in the response. It specifies the name of the object when it is downloaded.
		Default value:
		None
ContentEncoding	string	Explanation:
		Content-Encoding header in the response. It specifies the content encoding format when an object is being downloaded.
		Default value:
		None
ContentLanguage	string	Explanation:
		Content-Language header in the response. It specifies the content language format when an object is downloaded.
		Default value:
		None
ContentType	string	Explanation:
		MIME type of the object file. MIME type is a standard way of describing a data type and is used by the browser to decide how to display data.
		Value range:
		See What Is Content-Type (MIME)?
		Default value:
		If you do not specify Content-Type when uploading an object, the SDK determines the object type based on the suffix of the specified object name and automatically assigns a value to Content-Type.
Expires	string	Explanation:
		<b>Expires</b> header in the response
		Default value:
		None

Parameter	Туре	Description
LastModified	time.Time	Explanation:
		Last modification time of the object
		Restrictions:
		The time must be in the ISO8601 format, for example, <b>2018-01-01T00:00:00.000Z</b> .
		Default value:
		None
ETag	string	Explanation:
		Base64-encoded, 128-bit MD5 value of an object. ETag is the unique identifier of the object content. It can be used to determine whether the object content is changed. For example, if ETag value is <b>A</b> when an object is uploaded but changes to <b>B</b> when the object is downloaded, it indicates that the object content is changed. The ETag reflects changes to the object content, rather than the object metadata. An uploaded object or copied object has a unique ETag.
		Restrictions:
		If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object.
		Value range:
		The value must contain 32 characters.
		Default value:
		None
VersionId	string	Explanation:
		Object version ID
		Value range:
		The value must contain 32 characters.
		Default value:
		None

Parameter	Туре	Description
Restore	string	Explanation:
		Restore status of an object. For an Archive object that is being restored or has been restored, this header is returned.
		For example, ongoing-request="true" indicates that the object is being restored. ongoing-request="false", expiry-date="Wed, 7 Nov 2012 00:00:00 GMT" indicates that the object has been restored. expiry-date indicates when the restored object expires.
		Restrictions:
		This parameter is only available for Archive objects.
		Default value:
		None
Expiration	string	Explanation:
		Expiration details of the object, for example, "expiry-date=\"Mon, 11 Sep 2023 00:00:00 GMT\""
		Default value:
		None
SseHeader	SseCHead	Explanation:
	er or SseKmsHe ader	Server-side encryption header. If SSE-C is used, see <b>Table 9-150</b> . If SSE-KMS is used, see <b>Table 9-151</b> .

Parameter	Туре	Description
WebsiteRedirectLo-	string	Explanation:
cation		If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.
		The request is redirected to object anotherPage.html in the same bucket:
		WebsiteRedirectLocation:/ anotherPage.html
		The request is redirected to an external URL http://www.example.com/:
		WebsiteRedirectLocation:http:// www.example.com/
		OBS obtains the specified value from the header and stores it in the object metadata <b>WebsiteRedirectLocation</b> .
		Restrictions:
		The value must start with a slash (/), http://, or https:// and cannot exceed 2 KB.
		OBS only supports redirection for objects in the root directory of a bucket.
		Default value:
		None

Parameter	Туре	Description
Metadata	map[string]string	Explanation: Custom metadata of the object. You can add a header starting with x-obs-meta- in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.  Restrictions: The custom metadata cannot exceed 8 KB. To measure the custom metadata, sum the number of bytes in the UTF-8 encoding of each key and value. The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive. Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are required, they must be encoded and decoded in URL or Base64 on the client, because the server does not perform such operations.  Default value:
		None

 Table 9-149
 StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.
StorageClassWarm	WARM	OBS Infrequent Access
		Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive
		Used for storing rarely accessed (once a year) data.

Table 9-150 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:  None
Key	string	Yes if used as a request parameter	Explanation: Key for encrypting the object when SSE-C is used Restrictions: The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=. Default value: None
KeyMD5	string	No if used as a request parameter	Explanation:  MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.  Restrictions: The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.  Default value: None

Table 9-151 SseKmsHeader

Parameter	Туре	Manda tory (Yes/N o)	Description
Encryption	string	Yes if used as a request param eter	Explanation: SSE-KMS used for encrypting objects Value range: kms, indicating objects are encrypted using SSE-KMS Default value: None
Key	string	No if used as a request param eter	Explanation:  ID of the KMS master key when SSE-KMS is used  Value range:  Valid value formats are as follows:  1. regionID:domainID:key/key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  • If this parameter is not specified, the default master key will be used.  • If there is no such a default master key, OBS will create one and use it by default.

This example rewrites response header **ContentType** to **image/jpeg** during an object download.

package main import (

```
"fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSecurityToken(securityToken))
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.GetObjectInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify the object (example/objectname as an example) to download.
  input.Key = "example/objectname'
  // Rewrite a response header (ContentType as an example).
  input.ResponseContentType = "image/jpeg"
  // Download the object using streaming.
  output, err := obsClient.GetObject(input)
  if err == nil {
     // Close output.Body after using it, to avoid connection leakage.
     defer output.Bodv.Close()
     fmt.Printf("Get object(%s) under the bucket(%s) successful!\n", input.Key, input.Bucket)
     // Obtain the response header that was rewritten.
     fmt.Printf("ContentType:%s\n", output.ContentType)
     return
  fmt.Printf("List objects under the bucket(%s) fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

## **Helpful Links**

- Downloading Objects
- (GitHub) Sample Code for Downloading an Object
- OBS Error Codes
- FAQ for Object Download Failure

# 9.13 Processing an Image (SDK for Go)

#### **Function**

This API processes images in a stable, secure, efficient, easy to use, and cost-effective manner. If the object to be downloaded is an image, you can input the image processing parameters to process the image, including cutting and resizing it as well as putting a watermark and converting the format.

#### Restrictions

- To process images, you must have the **obs:object:PutObject** permission. For details, see **Typical Permission Control Scenarios**.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.
- All image processing operations do not modify the original image.
- Archive storage does not support image processing.
- The processed image is directly returned to the browser for display. It is not stored in OBS, does not occupy storage space, and does not incur storage fees.

#### Method

func (obsClient ObsClient) GetObject(input \*GetObjectInput) (output
\*GetObjectOutput, err error)

### **Request Parameters**

Table 9-152 List of request parameters

Parameter	Type	M an da to ry (Y es /N o)	Description
input	*GetObjectInp ut	Ye s	Explanation: Input parameters for processing images. For details, see Table 9-153.

Table 9-153 GetObjectInput

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
Bucket	string	Yes	Explanation:
			Bucket name
			Restrictions:
			<ul> <li>A bucket name must be unique across all accounts and regions.</li> </ul>
			A bucket name:
			<ul> <li>Must be 3 to 63 characters long and start with a digit or letter.</li> <li>Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
			<ul> <li>Cannot be formatted as an IP address.</li> </ul>
			<ul> <li>Cannot start or end with a hyphen</li> <li>(-) or period (.).</li> </ul>
			<ul> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> </ul>
			<ul> <li>Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or my bucket.</li> </ul>
			If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.
			Default value:
			None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
Key	string	Yes	Explanation: Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name. For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.  Value range: The value must contain 1 to 1,024 characters.  Default value: None
ResponseCacheCon trol	string	No	Explanation: Cache-Control header in the response. It specifies the cache behavior of the web page when the object is downloaded. Default value: None
ResponseContent- Disposition	string	No	Explanation: Content-Disposition header in the response. It specifies the name of the object when it is downloaded. Default value: None
ResponseContentE ncoding	string	No	Explanation: Content-Encoding header in the response. It specifies the content encoding format when an object is being downloaded. Default value: None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
ResponseContentL anguage	string	No	Explanation: Content-Language header in the response. It specifies the content language format when an object is downloaded. Default value: None
ResponseContent- Type	string	No	Explanation: Content-Type header in the response. It specifies the object file type. Default value: None
ResponseExpires	string	No	Explanation: Expires header in the response. It specifies the cache expiration time of the web page when the object is downloaded.  Default value: None
VersionId	string	No	Explanation: Object version ID, for example, G001117FCE89978B0000401205D5DC9 Value range: The value must contain 32 characters. Default value: None. If this parameter is left blank, the latest version of the object is specified.

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
ImageProcess	string	No	Explanation: Image processing command or style. Example for resizing and rotating an image: image/ resize,m_fixed,w_100,h_100/rotate,90 Value range: Command format: image/commands Style format: style/stylename For details about image processing parameters, see Processing Images. Default value: If no commands are entered, the original image is returned.
RangeStart	int64	No	Explanation: Start position for object download Value range: 0 to the object length, in bytes Default value: 0, indicating the download starts from the first byte of the object
RangeEnd	int64	No	Explanation: End position for object download Value range:  • The value must be greater than that of RangeStart.  • The upper limit of the value is the object length minus 1, in bytes.  Default value: None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
IfMatch	string	No	Explanation:  Preset ETag. If the ETag of the object to be downloaded is the same as the preset ETag, the object is returned.  Otherwise, an error is returned.  Value range:  The value must contain 32 characters.  Default value:  None
IfNoneMatch	string	No	Explanation:  Preset ETag. If the ETag of the object to be downloaded is different from the preset ETag, the object is returned.  Otherwise, an error is returned.  Value range:  The value must contain 32 characters.  Default value:  None
IfModifiedSince	time.Time	No	Explanation:  The object is returned if it has been modified since the specified time; otherwise, an error is returned.  Restrictions:  The time must be in the ISO8601 format, for example, 2018-01-01T00:00:00.000Z.  Sample code: time.Now().Add(time.Duration(24) * time.Hour)  Default value: None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
IfUnmodifiedSince	time.Time	No	Explanation:
			The object is returned if it has not been modified since the specified time; otherwise, an error is returned.
			Restrictions:
			The time must be in the ISO8601 format, for example, <b>2018-01-01T00:00:00.000Z</b> .
			Sample code: time.Now().Add(time.Duration(24) * time.Hour)
			Default value:
			None
SseHeader	SseCHea	No	Explanation:
	der		Server-side decryption headers. For details, see <b>Table 9-154</b> .
			Restrictions:
			If the object uploaded to a server is encrypted with the key provided by the client, the key must also be provided in the message for downloading the object.

Table 9-154 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:  None

Parameter	Туре	Mandatory (Yes/No)	Description
Key	string	Yes if used	Explanation:
		as a request parameter	Key for encrypting the object when SSE-C is used
			Restrictions:
			The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=.
			Default value:
			None
KeyMD5	string	No if used as a request parameter	Explanation:
			MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.
			Restrictions:
			The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.
			Default value:
			None

## Responses

Table 9-155 List of returned results

Parameter	Туре	Description
output	*GetObjectOut put	Explanation:
	put	Returned results. For details, see <b>Table 9-156</b> .
err	error	Explanation:
		Error messages returned by the API

Table 9-156 GetObjectOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be $2xx$ (indicating successes) or $4xx$ or $5xx$ (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders map[string		Explanation:
	][]string	HTTP response headers
		Default value:
		None
Body	io.ReadClo	Explanation:
	ser	Object data stream to download
		Default value:
		None
StorageClass	StorageCl	Explanation:
	assType	Object storage class
		Value range:
		See <b>Table 9-157</b> .
		Default value:
		None

Parameter	Туре	Description
AllowOrigin	string	Explanation:  If Origin in the request meets the CORS rules of the bucket, AllowedOrigin specified in the CORS rules is returned.  AllowedOrigin indicates the origin from which the requests can access the bucket.  Restrictions:  Domain name of the origin. Each origin can contain only one wildcard character (*), for example, https://*.vbs.example.com.  Default value:  None
AllowHeader	string	Explanation:  If RequestHeader in the request meets the CORS rules of the bucket, AllowedHeader specified in the CORS rules is returned.  AllowedHeader indicates the allowed headers for cross-origin requests. Only CORS requests matching the allowed headers are valid.  Restrictions:  Each header can contain only one wildcard character (*). Spaces, ampersands (&), colons (:), and less-than signs (<) are not allowed.  Default value:  None
AllowMethod	string	Explanation: AllowedMethod in the CORS rules of the bucket. It specifies the HTTP method of cross-origin requests, that is, the operation type of buckets and objects.  Value range: The following HTTP methods are supported: GET PUT HEAD POST DELETE Default value: None

Parameter	Туре	Description
ExposeHeader	string	Explanation:
		<b>ExposeHeader</b> in the CORS rules of the bucket. It specifies the CORS-allowed additional headers in the response. These headers provide additional information to clients. By default, your browser can only access headers <b>Content-Length</b> and <b>Content-Type</b> . If your browser needs to access other headers, add them to a list of the allowed additional headers.
		Restrictions:
		Spaces, wildcard characters (*), ampersands (&), colons (:), and less-than signs (<) are not allowed.
		Default value:
		None
MaxAgeSeconds	int	Explanation:
		<b>MaxAgeSeconds</b> in the CORS rules of the bucket. It specifies the time your client can cache the response for a cross-origin request.
		Restrictions:
		Each CORS rule can specify only one value for <b>MaxAgeSeconds</b> .
		Value range:
		0 to (2 <sup>31</sup> – 1), in seconds
		Default value:
		100
ContentLength	int64	Explanation:
		Object size in bytes
		Value range:
		0 to (2 <sup>63</sup> – 1), in bytes
		Default value:
		None
CacheControl	string	Explanation:
		<b>Cache-Control</b> header in the response. It specifies cache behaviors of the web page when an object is downloaded.
		Default value:
		None

Parameter	Туре	Description
ContentDisposition	string	Explanation: Content-Disposition header in the response. It specifies the name of the object
		when it is downloaded.
		Default value: None
ContentEncoding	string	Explanation:
J		Content-Encoding header in the response. It specifies the content encoding format when an object is being downloaded.
		Default value:
		None
ContentLanguage	string	Explanation:
		Content-Language header in the response. It specifies the content language format when an object is downloaded.
		Default value:
		None
ContentType	string	Explanation:
		MIME type of the object file. MIME type is a standard way of describing a data type and is used by the browser to decide how to display data.
		Value range:
		See What Is Content-Type (MIME)?
		Default value:
		If you do not specify this parameter when uploading an object, the SDK determines the object type based on the suffix of the specified object name and automatically assigns a value to this parameter.
Expires	string	Explanation:
		<b>Expires</b> header in the response
		Default value:
		None

Parameter	Туре	Description	
LastModified	time.Time	Explanation:	
		Last modification time of the object	
		Restrictions:	
		The time must be in the ISO8601 format, for example, <b>2018-01-01T00:00:00.000Z</b> .	
		Default value:	
		None	
ETag	string	Explanation:	
		Base64-encoded, 128-bit MD5 value of an object. ETag is the unique identifier of the object content. It can be used to determine whether the object content is changed. For example, if the ETag value is <b>A</b> when an object is uploaded, but changes to <b>B</b> when the object is downloaded, it indicates that the object content has been changed. The ETag reflects changes to the object content, rather than the object metadata. An uploaded or copied object has a unique ETag after being encrypted using MD5.	
		Restrictions:	
		If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object.	
		Value range:	
		The value must contain 32 characters.	
		Default value:	
		None	
VersionId	string	Explanation:	
		Object version ID	
		Value range:	
		The value must contain 32 characters.	
		Default value:	
		None	

Parameter	Туре	Description
Restore	string	Explanation:
		Restore status of an object. For an Archive object that is being restored or has been restored, this header is returned.
		For example, ongoing-request="true" indicates that the object is being restored. ongoing-request="false", expiry-date="Wed, 7 Nov 2012 00:00:00 GMT" indicates that the object has been restored. expiry-date indicates when the restored object expires.
		Restrictions:
		This parameter is only available for Archive objects.
		Default value:
		None
Expiration	string	Explanation:
		Expiration details of the object, for example, "expiry-date=\"Mon, 11 Sep 2023 00:00:00 GMT\""
		Default value:
		None
SseHeader	SseCHead	Explanation:
	er or SseKmsHe ader	Server-side encryption header. If SSE-C is used, see <b>Table 9-158</b> . If SSE-KMS is used, see <b>Table 9-159</b> .

Parameter	Туре	Description
WebsiteRedirectLo-	string	Explanation:
cation		If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.
		The request is redirected to object anotherPage.html in the same bucket:
		WebsiteRedirectLocation:/anotherPage.html
		The request is redirected to an external URL http://www.example.com/:
		WebsiteRedirectLocation:http://www.example.com/
		OBS obtains the specified value from the header and stores it in the object metadata <b>WebsiteRedirectLocation</b> .
		Restrictions:
		<ul> <li>The value must start with a slash (/), http://, or https:// and cannot exceed 2 KB.</li> </ul>
		OBS only supports redirection for objects in the root directory of a bucket.
		Default value:
		None

Parameter	Туре	Description
Metadata	map[string]string	Explanation: Custom metadata of the object. You can add a header starting with x-obs-meta- in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.  Restrictions: The custom metadata cannot exceed 8 KB. To measure the custom metadata, sum the number of bytes in the UTF-8 encoding of each key and value. The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive. Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are required, they must be encoded and decoded in URL or Base64 on the client, because the server does not perform such operations.  Default value:
		None

 Table 9-157
 StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.
StorageClassWarm	WARM	OBS Infrequent Access
		Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive
		Used for storing rarely accessed (once a year) data.

Table 9-158 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:  None
Key	string	Yes if used as a request parameter	Explanation: Key for encrypting the object when SSE-C is used Restrictions: The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=. Default value: None
KeyMD5	string	No if used as a request parameter	Explanation:  MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.  Restrictions: The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.  Default value: None

Table 9-159 SseKmsHeader

Parameter	Туре	Manda tory (Yes/N o)	Description
Encryption	string	Yes if used as a request param eter	Explanation: SSE-KMS used for encrypting objects Value range: kms, indicating objects are encrypted using SSE-KMS Default value: None
Key	string	No if used as a request param eter	Explanation:  ID of the KMS master key when SSE-KMS is used  Value range:  Valid value formats are as follows:  1. regionID:domainID:key/key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  • If this parameter is not specified, the default master key will be used.  • If there is no such a default master key, OBS will create one and use it by default.

This example processes the image **example/objectname** in **examplebucket**.

package main import (

```
"fmt'
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  // Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.GetObjectInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify the object (example/objectname as an example) to download.
  input.Key = "example/objectname'
  // Resize and then rotate the image.
  input.ImageProcess = "image/resize,m_fixed,w_100,h_100/rotate,90"
  // Perform image processing.
  output, err := obsClient.GetObject(input)
  if err == nil {
     // Close output.Body to avoid connection leakage.
     defer output.Body.Close()
     fmt.Printf("Get object(%s) under the bucket(%s) successful!\n", input.Key, input.Bucket)
     fmt.Printf("ContentType:%s\n", output.ContentType)
     fmt.Printf("StorageClass:%s, ETag:%s, ContentType:%s, ContentLength:%d, LastModified:%s\n",
       output.StorageClass, output.ETag, output.ContentType, output.ContentLength, output.LastModified)
     return
  fmt.Printf("List objects under the bucket(%s) fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

#### 

- Use GetObjectInput.ImageProcess to specify the image processing parameters.
- Image processing parameters can be processed in cascading mode. This indicates that
  multiple commands can be performed on an image in sequence.

## **Helpful Links**

- Image Processing
- (GitHub) Sample Code for Image Processing
- OBS Error Codes

FAQ for Image Processing

# 9.14 Restoring an Archive Object (SDK for Go)

#### **Function**

To obtain the content of an object in the Archive storage class, you need to restore the object first and then you can download it. After an object is restored, a copy of the object is saved in the Standard storage class. By doing so, the object in the Archive storage class and its copy in the Standard storage class co-exist in the bucket. The copy will be automatically deleted once its retention period expires.

This API is used to restore Archive objects in a specified bucket.

#### Restrictions

- To restore an Archive object, you must be the bucket owner or have the required permission (obs:object:RestoreObject in IAM or RestoreObject in a bucket policy.) For details, see Introduction to OBS Access Control, IAM Custom Policies, and Configuring an Object Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.
- To prolong the validity period of the Archive data restored, you can repeatedly restore the data, but you will be billed for each restore. After a second restore, the validity period of Standard object copies will be prolonged, and you need to pay for storing these copies during the prolonged period.

#### Method

func (obsClient ObsClient) RestoreObject(input \*RestoreObjectInput) (output
\*BaseModel, err error)

## Request Parameters

**Table 9-160** List of request parameters

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
input	*RestoreObjectI nput	Yes	Explanation: Input parameters for restoring an Archive object. For details, see Table 9-161.

Table 9-161 RestoreObjectInput

Param eter	Туре	Mandatory (Yes/No)	Description
Bucket	string	Yes	Explanation:
			Bucket name
			Restrictions:
			A bucket name must be unique across all accounts and regions.
			A bucket name:
			<ul> <li>Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
			<ul> <li>Cannot be formatted as an IP address.</li> </ul>
			<ul> <li>Cannot start or end with a hyphen (-) or period (.).</li> </ul>
			<ul> <li>Cannot contain two consecutive periods (), for example,</li> <li>mybucket.</li> </ul>
			<ul> <li>Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or my bucket.</li> </ul>
			If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.
			Default value:
			None

Param eter	Туре	Mandatory (Yes/No)	Description
Key	string	Yes	Explanation:
			Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.
			For example, if the address for accessing the object is examplebucket.obs.ap-southeast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.
			Value range:
			The value must contain 1 to 1,024 characters.
			Default value:
			None
Version	string	No	Explanation:
Id			Version ID of the Archive object to be restored
			Default value:
			None. If this parameter is left blank, the latest version of the object is specified.
Days	int	Yes	Explanation:
			After an object is restored, a Standard copy of it is generated. This parameter specifies how long the Standard copy can be retained, that is, the validity period of the restored object.
			Value range:
			The value ranges from 1 to 30, in days. <b>Default value</b> :
			None
Tier	RestoreTier	No	Explanation:
	Туре		Retrieval speed tiers. You can select a suitable tier based on your requirements for retrieval speed.
			Value range:
			For details, see <b>Table 9-162</b> .
			Default value:
			Standard

**Table 9-162** RestoreTierType

Constant	Default Value	Description
RestoreTierExpedi- ted	Expedited	Objects can be quickly restored from Archive storage within 1 to 5 minutes.
RestoreTierStan- dard	Standard	Objects can be restored from Archive storage within 3 to 5 hours.

## Responses

Table 9-163 List of returned results

Parameter	Туре	Description
output	*BaseModel	<b>Explanation:</b> Returned results. For details, see <b>Table 9-164</b> .
err	error	<b>Explanation:</b> Error messages returned by the API

Table 9-164 BaseModel

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None

Parameter	Туре	Description
ResponseHeaders	map[string] []string	Explanation: HTTP response headers
		Default value:
		None

This example restores the Archive object **example/objectname** in bucket **examplebucket**.

```
package main
import (
  "fmt"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKevID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.RestoreObjectInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify the object (example/objectname in this example).
  input.Key = "example/objectname"
  // Specify the version ID of the object to be restored.
  input.VersionId = "G001117FCE89978B0000401205D5DC9A"
  // Specify how long the restored object will be retained, in days. 1 is used as an example, which can be
any value from 1 to 30.
  input.Days = 1
  // Specify the restore speed (obs.RestoreTierExpedited as an example). By default, the object is restored
at a standard speed.
  input.Tier = obs.RestoreTierExpedited
  // Restore the Archive object.
  output, err := obsClient.RestoreObject(input)
  if err == nil {
     fmt.Printf("Restore object(%s) under the bucket(%s) successful!\n", input.Key, input.Bucket)
     fmt.Printf("Requestld:%s\n", output.Requestld)
     return
  fmt.Printf("Restore object(%s) under the bucket(%s) fail!\n", input.Key, input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
```

```
} else {
    fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
    fmt.Println(err)
}
```

#### 

- The object specified in **ObsClient.RestoreObject** must be in the Archive storage class. Otherwise, an error will be reported.
- RestoreObjectInput.Days is used to specify how long (1 to 30 days) the restored object
  will be retained and RestoreObjectInput.Tier is used to specify how fast the object will
  be restored.

### **Helpful Links**

- Restoring Archive Objects
- (GitHub) Sample Code for Restoring an Archive Object
- OBS Error Codes

# 9.15 Modifying an Object (SDK for Go)

#### **Function**

This API modifies the content of an object in a parallel file system from the specified position.

#### Restrictions

- This API is currently available only for parallel file systems, not for object buckets. For details about how to create a parallel file system, see Creating a Bucket (SDK for Go).
- To modify an object, you must have the obs:object:PutObject permission. For details, see Typical Permission Control Scenarios.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) ModifyObject(input \*ModifyObjectInput) (output
\*ModifyObjectOutput, err error)

## **Request Parameters**

**Table 9-165** List of request parameters

Parameter	Туре	Mand atory (Yes/ No)	Description
input	*ModifyObj ectInput	Yes	Explanation: Input parameters for modifying an object. For details, see Table 9-166.

Table 9-166 ModifyObjectInput

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
Bucket	string	Yes	Explanation:
			Bucket name
			Restrictions:
			<ul> <li>A bucket name must be unique across all accounts and regions.</li> </ul>
			A bucket name:
			<ul> <li>Must be 3 to 63 characters long and start with a digit or letter.</li> <li>Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
			<ul> <li>Cannot be formatted as an IP address.</li> </ul>
			<ul> <li>Cannot start or end with a hyphen</li> <li>(-) or period (.).</li> </ul>
			<ul> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> </ul>
			<ul> <li>Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or my bucket.</li> </ul>
			If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.
			Default value:
			None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
Key	string	Yes	Explanation: Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name. For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.  Value range: The value must contain 1 to 1,024 characters.  Default value: None
Position	int64	Yes	Explanation:  Position from which the object is modified  Value range:  1 to (2 <sup>63</sup> – 1), in bytes  Default value:  1, indicating the modification starts from the first byte of the object
ContentLength	int64	No	Explanation: Size of the object to be modified Value range: 1 to (2 <sup>63</sup> – 1), in bytes Default value: None
Body	io.Reader	No	Explanation:  Data stream of the object to be modified  Default value:  None

## Responses

Table 9-167 List of returned results

Parameter	Туре	Description
output	*ModifyObjectO utput	<b>Explanation:</b> Returned results. For details, see <b>Table 9-168</b> .
err	error	<b>Explanation:</b> Error messages returned by the API

Table 9-168 ModifyObjectOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[strin g][]string	Explanation:
		HTTP response headers
		Default value:
		None

Parameter	Туре	Description
ETag	string	Explanation:  Base64-encoded, 128-bit MD5 value of an object. ETag is the unique identifier of the object content. It can be used to determine whether the object content is changed. For example, if the ETag value is A when an object is uploaded, but changes to B when the object is downloaded, it indicates that the object content has been changed. The ETag reflects changes to the object content, rather than the object metadata. An uploaded or copied object has a unique ETag after being encrypted using MD5.
		Restrictions:
		If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object.
		Value range:
		The value must contain 32 characters.
		Default value:
		None

This example modifies object example/objectname in bucket examplebucket.

```
package main
import (
   "fmt"
  "os"
  "strings"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
```

```
input := &obs.ModifyObjectInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify an object (example/objectname as an example). input.Key = "example/objectname"
  input.Position = 0
  input.Body = strings.NewReader("Modify Hello OBS")
  // Modify the object.
  output, err := obsClient.ModifyObject(input)
  if err == nil {
     fmt.Printf("Modify object(%s) under the bucket(%s) successful!\n", input.Key, input.Bucket)
     fmt.Printf("ETag:%s\n", output.ETag)
     return
  fmt.Printf("Modify object(%s) under the bucket(%s) fail!\n", input.Key, input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

## **Helpful Links**

- Modifying an Object
- (GitHub) Sample Code for Modifying an Object
- OBS Error Codes
- FAQ for Object Modification

# 10 Multipart Uploads (SDK for Go)

# 10.1 Multipart Upload Overview (SDK for Go)

You can upload large files using multipart upload. Multipart upload is applicable to many scenarios, including:

- Files to be uploaded are larger than 100 MB.
- The network condition is poor. Connection to the OBS server is constantly down
- Sizes of files to be uploaded are uncertain.

A multipart upload consists of the following steps:

- Initiate a multipart upload (ObsClient.InitiateMultipartUpload).
- Upload parts one by one or concurrently (ObsClient.UploadPart).
- Assemble parts (ObsClient.CompleteMultipartUpload) or abort the multipart upload (ObsClient.AbortMultipartUpload).

The following code shows how to perform a multipart upload:

```
// Import a dependency.
import (
  "fmt"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
//Obtain an AK/SK pair using environment variables or import the AK/SK pair in other ways. Using hard
coding may result in leakage.
//Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.ak := os.Getenv("AccessKeyID")
sk := os.Getenv("SecretAccessKey")
// (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to
use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import it in other ways.
// securityToken := os.Getenv("SecurityToken")
// Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
// Create an obsClient instance.
// If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
obsClient, _:= obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
```

```
func main() {
    var uploadId = ""
     var eTag1 = ""
    var eTag2 = ""
     var partNumber1= 1
     var partNumber2= 2
     // Initiate a multipart upload.
     inputInit := &obs.InitiateMultipartUploadInput{}
     inputInit.Bucket = "bucketname"
     inputInit.Key = "objectkey"
     outputInit, err := obsClient.InitiateMultipartUpload(inputInit)
     if err == nil {
         fmt.Printf("RequestId:%s\n", outputInit.RequestId) fmt.Printf("UploadId:%s\n", outputInit.UploadId)
         uploadId = outputInit.UploadId
    } else {
         if obsError, ok := err.(obs.ObsError); ok {
              fmt.Println(obsError.Code)
              fmt.Println(obsError.Message)
         } else {
              fmt.Println(err)
    }
     // Upload a part.
     inputUploadPart := &obs.UploadPartInput{}
     inputUploadPart.Bucket = "bucketname"
     inputUploadPart.Key = "objectkey"
     inputUploadPart.UploadId = uploadId
     inputUploadPart.PartNumber = partNumber1
     inputUploadPart.SourceFile = "localFilePath"
     outputUploadPart, err := obsClient.UploadPart(inputUploadPart)
     if err == nil {
         fmt.Printf("RequestId:%s\n", outputUploadPart.RequestId)
         fmt.Printf("ETag:%s\n", outputUploadPart.ETag)
         eTag1 = outputUploadPart.ETag
    } else {
         if obsError, ok := err.(obs.ObsError); ok {
              fmt.Println(obsError.Code)
              fmt.Println(obsError.Message)
         } else {
              fmt.Println(err)
     inputUploadPart = &obs.UploadPartInput{}
     inputUploadPart.Bucket = "bucketname"
     inputUploadPart.Key = "objectkey"
     inputUploadPart.UploadId = uploadId
     inputUploadPart.PartNumber = partNumber2
     inputUploadPart.SourceFile = "localFilePath"
     outputUploadPart, err = obsClient.UploadPart(inputUploadPart)
    if err == nil {
         fmt.Printf("RequestId:%s\n", outputUploadPart.RequestId)
         fmt.Printf("ETag:%s\n", outputUploadPart.ETag)
         eTag2 = outputUploadPart.ETag
    } else {
         if obsError, ok := err.(obs.ObsError); ok {
              fmt.Println(obsError.Code)
              fmt.Println(obsError.Message)
         } else {
              fmt.Println(err)
    }
     // Assemble parts.
     inputCompleteMultipart := &obs.CompleteMultipartUploadInput{}
     inputCompleteMultipart.Bucket = "bucketname"
```

```
inputCompleteMultipart.Key = "objectkey"
inputCompleteMultipart.UploadId = uploadId
inputCompleteMultipart.Parts = []obs.Part{
        obs.Part{PartNumber: partNumber1, ETag: eTag1},
        obs.Part{PartNumber: partNumber2, ETag: eTag2},
}

outputCompleteMultipart, err := obsClient.CompleteMultipartUpload(inputCompleteMultipart)
if err == nil {
        fmt.Printf("RequestId:%s\n", outputCompleteMultipart.RequestId)
        fmt.Printf("Location:%s, Bucket:%s, Key:%s, ETag:%s\n", outputCompleteMultipart.Location,
outputCompleteMultipart.Bucket, outputCompleteMultipart.Key, outputCompleteMultipart.ETag)
} else {
        if obsError, ok := err.(obs.ObsError); ok {
            fmt.Println(obsError.Code)
            fmt.Println(obsError.Message)
} else {
            fmt.Println(err)
        }
}
```

Below lists other multipart upload operations:

- Listing Multipart Uploads (SDK for Go)
- Listing Uploaded Parts (SDK for Go)
- Copying a Part (SDK for Go)

# 10.2 Initiating a Multipart Upload (SDK for Go)

#### **Function**

This API initiates a multipart upload and returns a globally unique upload ID. You can use this upload ID in your subsequent requests including **UploadPart**, **CompleteMultipartUpload**, and **ListParts**. There can be more than one multipart upload for the same object. Each multipart upload initiation request can contain headers such as **Content-Type**, **Content-Encoding**, and the headers for ACL and user-defined metadata. These headers are recorded in the multipart upload metadata.

### Restrictions

- To initiate a multipart upload, you must be the bucket owner or have the required permission (obs:object:PutObject in IAM or PutObject in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Configuring an Object Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in Regions and Endpoints.
- After initiating a multipart upload and uploading one or more parts, you must assemble the parts or abort the multipart upload. Only after that can OBS stops billing you for storing the uploaded parts.

#### Method

func (obsClient ObsClient) InitiateMultipartUpload(input
\*InitiateMultipartUploadInput) (output \*InitiateMultipartUploadOutput, err
error)

## **Request Parameters**

**Table 10-1** List of request parameters

Paramete r	Туре	Ma nda tory (Yes /No	Description
input	*InitiateMultip artUploadInput	Yes	Explanation: Input parameters for initiating a multipart upload. For details, see Table 10-2.

Table 10-2 InitiateMultipartUploadInput

Bucket  String  Yes  Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region	Parameter	Туре	Ma nd at ory (Ye s/ No	Description
no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:  None	Bucket	string	Yes	<ul> <li>Restrictions:</li> <li>A bucket name must be unique across all accounts and regions.</li> <li>A bucket name:  - Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> <li>- Cannot be formatted as an IP address.</li> <li>- Cannot start or end with a hyphen (-) or period (.).</li> <li>- Cannot contain two consecutive periods (), for example, mybucket.</li> <li>- Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.</li> <li>If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.</li> <li>Default value:</li> </ul>

Parameter	Туре	Ma nd at ory (Ye s/ No	Description
Key	string	Yes	Explanation:
			Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name. For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.  Value range:  The value must contain 1 to 1,024 characters.  Default value:  None
ACL	AclType	No	Explanation:
	· ·		ACL that can be pre-defined when a bucket is created. For details about ACLs, see ACLs.
			Value range:
			For details about the ACL options, see AclType.
			Default value:
			private

Parameter	Туре	Ma nd at ory (Ye s/ No	Description
WebsiteRedirectLo-	string	No	Explanation:
cation			If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.
			The request is redirected to object anotherPage.html in the same bucket:
			WebsiteRedirectLocation:/ anotherPage.html
			The request is redirected to an external URL http://www.example.com/:
			WebsiteRedirectLocation:http:// www.example.com/
			OBS obtains the specified value from the header and stores it in the object metadata <b>WebsiteRedirectLocation</b> .
			Restrictions:
			<ul> <li>The value must start with a slash (/), http://, or https:// and cannot exceed 2 KB.</li> </ul>
			<ul> <li>OBS only supports redirection for objects in the root directory of a bucket.</li> </ul>
			Default value:
			None

Parameter	Туре	Ma nd at ory (Ye s/ No	Description
ContentType	string	No	Explanation:  MIME type of the file to be uploaded.  MIME type is a standard way of describing a data type and is used by the browser to decide how to display data.  Value range: See What Is Content-Type (MIME)?  Default value:  If you do not specify this parameter when uploading an object, the SDK determines the object type based on the suffix of the specified object name and automatically assigns a value to this parameter.
SseHeader	SseCHea der or SseKmsH eader	No	Explanation: Server-side encryption header. If SSE-C is used, see Table 10-4. If SSE-KMS is used, see Table 10-5.
StorageClass	StorageC lassType	No	Explanation: Object storage class If this parameter is not set, the object inherits the storage class of its bucket. Value range: StorageClassType lists the available value options. Default value: STANDARD

Parameter	Туре	Ma nd at ory (Ye s/ No	Description
Metadata	map[string]string	No	<ul> <li>Explanation: Custom metadata of the object to be uploaded. You can add a header starting with x-obs-meta- in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata. Restrictions: <ul> <li>The custom metadata cannot exceed 8 KB. To measure the custom metadata, sum the number of bytes in the UTF-8 encoding of each key and value.</li> <li>The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.</li> <li>Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are necessary, they must be encoded and decoded in URL or Base64 on the client, because the server side does not perform any decoding. </li> <li>Default value:</li> <li>None</li> </ul></li></ul>
GrantReadId	string	No	Explanation:  ID (domain_id) of an account the READ permission is granted to. The account with the READ permission can read the current object and obtain its metadata.  Value range:  To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value:  None

Parameter	Туре	Ma nd at ory (Ye s/ No	Description
GrantReadAcpId	string	No	Explanation:  ID (domain_id) of an account the READ_ACP permission is granted to. The account with the READ_ACP permission can read the ACL of the current object.  Value range:  To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value:  None
GrantWriteAcpId	string	No	Explanation:  ID (domain_id) of an account the WRITE_ACP permission is granted to. The account with the WRITE_ACP permission can write the ACL of the current object.  Value range:  To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value:  None
GrantFullControlId	string	No	Explanation:  ID (domain_id) of an account the FULL_CONTROL permission is granted to. The account with the FULL_CONTROL permission can read the current object, obtain its metadata, and obtain and write its ACL.  Value range:  To obtain the account ID, see How Do I Get My Account ID and User ID?  Default value:  None

Parameter	Туре	Ma nd at ory (Ye s/ No	Description
Expires	int64	No	Explanation:
			Expiration time of the object (calculated from the latest modification time of the object). Expired objects are automatically deleted.
			Restrictions:
			This parameter can be configured only during object upload and cannot be modified by calling a metadata API.
			Value range:
			1 to (2 <sup>63</sup> - 1), in days
			Default value:
			None
EncodingType	string	No	Explanation:
			Encoding type for <b>Key</b> in the response. If <b>Key</b> in the response contains control characters that are not supported by the XML 1.0 standard, you can specify this parameter to encode <b>Key</b> .
			Value range:
			url
			Default value:
			None. If you leave this parameter blank, encoding is not applied to <b>Key</b> .

Table 10-3 AclType

Constant	Default Value	Description
AclPrivate	private	Private read/write  A bucket or object can only be accessed by its owner.

Constant	Default Value	Description
AclPublicRead	public-read	Public read and private write  If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket.  If it is granted on an object, anyone can read the content and metadata of the object.
AclPublicReadWrit e	public-read- write	Public read/write  If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket, and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart upload tasks.  If it is granted on an object, anyone can read the content and metadata of the object.
AclPublicReadDe- livered	public-read- delivered	Public read on a bucket as well as objects in the bucket  If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions, and read the content and metadata of objects in the bucket.  NOTE  AclPublicReadDelivered does not apply to objects.
AclPublicReadWri- teDelivered	public-read- write-delivered	Public read/write on a bucket as well as objects in the bucket  If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket, and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart uploads. They can also read the content and metadata of objects in the bucket.  NOTE  AclPublicReadWriteDelivered does not apply to objects.

Constant	Default Value	Description
AclBucketOwnerFu llControl	bucket-owner- full-control	If this permission is granted on an object, only the bucket and object owners have the full control over the object.
		By default, if you upload an object to a bucket of any other user, the bucket owner does not have the permissions on your object. After you grant this permission to the bucket owner, the bucket owner can have full control over your object.

Table 10-4 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used	Explanation:
		as a request	SSE-C used for encrypting objects
		parameter	Value range:
			<b>AES256</b> , indicating objects are encrypted using SSE-C
			Default value:
			None
Key	string	Yes if used	Explanation:
		as a request parameter	Key for encrypting the object when SSE-C is used
			Restrictions:
			The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=.
			Default value:
			None

Parameter	Туре	Mandatory (Yes/No)	Description
KeyMD5	string	No if used as a request parameter	Explanation:  MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.  Restrictions:
			The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.  Default value: None

Table 10-5 SseKmsHeader

Parameter	Туре	Manda tory (Yes/N o)	Description
Encryption	string	Yes if used as a request param eter	Explanation: SSE-KMS used for encrypting objects Value range: kms, indicating objects are encrypted using SSE-KMS Default value: None

Parameter	Туре	Manda tory (Yes/N o)	Description
Key	string	No if used as a request param eter	Explanation:  ID of the KMS master key when SSE-KMS is used  Value range:  Valid value formats are as follows:  1. regionID:domainID:key/key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  • If this parameter is not specified, the default master key will be used.  • If there is no such a default master key, OBS will create one and use it by default.

**Table 10-6** StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.

Constant	Default Value	Description
StorageClassWarm	WARM	OBS Infrequent Access Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive Used for storing rarely accessed (once a year) data.

# Responses

Table 10-7 List of returned results

Paramet er	Туре	Description
output	*InitiateMultipartU- ploadOutput	Explanation: Returned results. For details, see Table 10-8.
err	error	<b>Explanation:</b> Error messages returned by the API

 Table 10-8 InitiateMultipartUploadOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None

Parameter	Туре	Description
ResponseHeader s	map[string] []string	Explanation: HTTP response headers Default value: None
Bucket	string	Explanation: Name of the bucket involved in the multipart upload Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:  None

Parameter	Туре	Description
Key	string	Explanation:
		Name of the object to be uploaded. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.
		For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.
		Value range:
		The value must contain 1 to 1,024 characters.
		Default value:
		None
UploadId	string	Explanation:
		Multipart upload ID, for example, 000001648453845DBB78F2340DD460D8
		Value range:
		The value must contain 1 to 32 characters.
		Default value:
		None
SseHeader	SseCHeader	Explanation:
	or SseKmsHeade r	Server-side encryption header. If SSE-C is used, see Table 10-9. If SSE-KMS is used, see Table 10-10.
EncodingType	string	Explanation:
		Encoding type for <b>Key</b> in the response. If <b>Key</b> in the response contains control characters that are not supported by the XML 1.0 standard, you can specify this parameter to encode <b>Key</b> .
		Value range:
		url
		Default value:
		None. If you leave this parameter blank, encoding is not applied to <b>Key</b> .

Table 10-9 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:  None
Key	string	Yes if used as a request parameter	Explanation: Key for encrypting the object when SSE-C is used Restrictions: The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=. Default value: None
KeyMD5	string	No if used as a request parameter	Explanation:  MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.  Restrictions: The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.  Default value: None

Table 10-10 SseKmsHeader

Parameter	Туре	Manda tory (Yes/N o)	Description
Encryption	string	Yes if used as a request param eter	Explanation: SSE-KMS used for encrypting objects Value range: kms, indicating objects are encrypted using SSE-KMS Default value: None
Key	string	No if used as a request param eter	Explanation:  ID of the KMS master key when SSE-KMS is used  Value range:  Valid value formats are as follows:  1. regionID:domainID:key/key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  • If this parameter is not specified, the default master key will be used.  • If there is no such a default master key, OBS will create one and use it by default.

# **Code Examples**

This example initiates a multipart upload.

package main import ( "fmt"

```
obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.InitiateMultipartUploadInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify an object name (example/objectname as an example).
  input.Key = "example/objectname"
  // Initiate a multipart upload.
  output, err := obsClient.InitiateMultipartUpload(input)
  if err == nil {
     fmt.Printf("Initiate multipart upload successful with bucket(%s) and object(%s)!\n", input.Bucket,
input.Key)
     fmt.Printf("UploadId:%s\n", output.UploadId)
     return
  fmt.Printf("Initiate multipart upload fail with bucket(%s) and object(%s)!\n", input.Bucket, input.Key)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

## **Helpful Links**

- Initiating a Multipart Upload
- (GitHub) Sample Code for Multipart Uploads
- OBS Error Codes

# 10.3 Uploading a Part (SDK for Go)

### **Function**

After a multipart upload is initiated, this API uploads a part to a specified bucket. In the upload request, the multipart upload ID must be included. Except for the part lastly being uploaded whose size ranges from 0 to 5 GB, sizes of the other

parts range from 100 KB to 5 GB. Part numbers can be any number from 1 to 10,000.

When uploading a part, you must specify its upload ID and part number. A part number uniquely identifies a part and its position in the object you are uploading. If you upload a new part with the same part number as that of a previous part, the previously uploaded part will be overwritten. Whenever you upload a part, OBS returns the ETag header in the response. For each part upload task, you must record the part number and ETag value. These values are required in subsequent requests for you to complete a multipart upload.

#### Restrictions

- To upload a part, you must be the bucket owner or have the required permission (obs:object:PutObject in IAM or PutObject in a bucket policy).
   For details, see Introduction to OBS Access Control, IAM Custom Policies, and Configuring an Object Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.
- After initiating a multipart upload and uploading one or more parts, you must assemble the parts or abort the multipart upload. Only after that can OBS stops billing you for storing the uploaded parts.
- partNumber in a multipart upload must be unique. When the same
  partNumber of the same object is concurrently uploaded, last write wins
  policy is applied. The time of last write is defined as the time when the part
  metadata is created. To ensure data accuracy, the client must be locked to
  ensure concurrent uploads of the same part of the same object. Concurrent
  uploads for different parts of the same object do not need to be locked.

### Method

func (obsClient ObsClient) UploadPart(input \*UploadPartInput) (output
\*UploadPartOutput, err error)

### **Request Parameters**

**Table 10-11** List of request parameters

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
input	*UploadPartIn put	Yes	Explanation: Input parameters for uploading a part. For details, see Table 10-12.

Table 10-12 UploadPartInput

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
Bucket	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value:
			None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
Key	string	Yes	Explanation:  Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.  For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.  Value range:  The value must contain 1 to 1,024
			characters.  Default value:  None
PartNumber	int	Yes	Explanation: Part number Value range: An integer ranging from 1 to 10000 Default value: None
UploadId	string	Yes	Explanation:  Multipart upload ID which can be returned by initiating a multipart upload  Restrictions:  Value range:  The value must contain 32 characters.  Example:  000001648453845DBB78F2340DD460  D8  Default value:  None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
ContentMD5	string	No	Explanation:  Base64-encoded MD5 value of the object data to be uploaded. It is provided for the OBS server to verify data integrity.  Value range:  Base64-encoded 128-bit MD5 value of the request body calculated according to RFC 1864  Example: n58IG6hfM7vqI4K0vnWpog==  Default value: None
SseHeader	SseCHea der	No	Explanation: Server-side encryption header. If SSE-C is used, see Table 10-13.
Body	io.Reader	No	Explanation:  Data stream of the object to be uploaded  Value range:  The value ranges from 0 TB to 48.8 TB, in bytes.  Default value:  None
SourceFile	string	No	Explanation: Source file path of the object to be uploaded Default value: None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
Offset	int64	No	Explanation: Start offset of a part in the source file Value range: A non-negative integer smaller than the size of the object to be uploaded, in bytes Default value: 0
PartSize	int64	No	Explanation: Part size Restrictions:  Except for the last uploaded part, all parts must be larger than 100 KB. Part sizes will not be verified during upload because whether an uploaded part is the last one cannot be determined. Their sizes will be verified when being assembled.  The minimum part size supported by an OBS 3.0 bucket is 100 KB, and that supported by an OBS 2.0 bucket is 5 MB.  Value range: The value ranges from 100 KB to 5 GB, in bytes.  Default value: 102400

Table 10-13 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation: SSE-C used for encrypting objects Value range: AES256, indicating objects are encrypted using SSE-C Default value: None
Key	string	Yes if used as a request parameter	Explanation: Key for encrypting the object when SSE-C is used Restrictions: The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=. Default value: None
KeyMD5	string	No if used as a request parameter	Explanation:  MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.  Restrictions: The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.  Default value: None

# Responses

Table 10-14 List of returned results

Parameter	Туре	Description
output	*UploadPartOutput	Explanation: Returned results. For details, see Table 10-15.

Parameter	Туре	Description
err	error	Explanation:
		Error messages returned by the API

Table 10-15 UploadPartOutput

Parameter	Туре	Description
StatusCode	int	Explanation: HTTP status code Value range: A status code is a group of digits that can be 2xx (indicating successes) or 4xx or 5xx (indicating errors). It indicates the status of a response. For more information, see Status Code. Default value:
RequestId	string	None  Explanation: Request ID returned by the OBS server  Default value: None
ResponseHeader s	map[string] []string	Explanation: HTTP response headers Default value: None
PartNumber	int	Explanation: Part number Value range: An integer ranging from 1 to 10000 Default value: None

Parameter	Туре	Description
ETag	string	Explanation:
		Base64-encoded, 128-bit MD5 value of an object. ETag is the unique identifier of the object content. It can be used to determine whether the object content is changed. For example, if the ETag value is <b>A</b> when an object is uploaded, but changes to <b>B</b> when the object is downloaded, it indicates that the object content has been changed. The ETag reflects changes to the object content, rather than the object metadata. An uploaded or copied object has a unique ETag after being encrypted using MD5.
		Restrictions:
		If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object.
		Value range:
		The value must contain 32 characters.
		Default value:
		None
SseHeader	SseCHeader or SseKmsHeade r	Explanation: Server-side encryption header. If SSE-C is used, see Table 10-16. If SSE-KMS is used, see Table 10-17.

Table 10-16 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation: SSE-C used for encrypting objects Value range: AES256, indicating objects are encrypted using SSE-C Default value: None

Parameter	Туре	Mandatory (Yes/No)	Description
Key	string	Yes if used	Explanation:
		as a request parameter	Key for encrypting the object when SSE-C is used
			Restrictions:
			The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=.
			Default value:
			None
KeyMD5	string	No if used	Explanation:
		as a request parameter	MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.
			Restrictions:
			The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.
			Default value:
			None

Table 10-17 SseKmsHeader

Parameter	Туре	Manda tory (Yes/N o)	Description
Encryption	string	Yes if used as a request param eter	Explanation:  SSE-KMS used for encrypting objects  Value range:  kms, indicating objects are encrypted using SSE-KMS  Default value:  None

Parameter	Туре	Manda tory (Yes/N o)	Description
Key	string	No if used as a request param eter	Explanation:  ID of the KMS master key when SSE-KMS is used  Value range:  Valid value formats are as follows:  1. regionID:domainID:key/key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  • If this parameter is not specified, the default master key will be used.  • If there is no such a default master key, OBS will create one and use it by default.

# **Code Example**

This example uploads a part to bucket **examplebucket** by specifying a multipart upload ID.

```
package main
import (
    "fmt"
    "os"
    "strings"
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
)
func main() {
    //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
    //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/intl/en-us/usermanual-ca/ca_01_0003.html.
    ak := os.Getenv("AccessKeyID")
    sk := os.Getenv("SecretAccessKey")
```

```
// (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
     fmt.Printf("Create obsClient error, errMsq: %s", err.Error())
  input := &obs.UploadPartInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify an object name (example/objectname as an example).
  input.Key = "example/objectname"
  // Specify the multipart upload ID (00000188677110424014075CC4A77xxx as an example).
  input.UploadId = "00000188677110424014075CC4A77xxx"
  // Specify the part number (1 as an example) of part to upload. The part number can be any integer
from 1 to 10,000.
  input.PartNumber = 1
  // Specify the source file path (localfile as an example) of the part to upload.
  input.SourceFile = "localfile"
  // Upload the part.
  output, err := obsClient.UploadPart(input)
  if err == nil {
     input.Bucket, input.Key)
     fmt.Printf("ETag:%s\n", output.ETag)
  fmt.Printf("Upload part(%d) fail with bucket(%s) and object(%s)!!\n", input.PartNumber, input.Bucket,
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

## **Helpful Links**

- Uploading a Part
- (GitHub) Sample Code for Multipart Uploads
- OBS Error Codes

# 10.4 Assembling Parts (SDK for Go)

### **Function**

This API assembles the uploaded parts to complete the multipart upload. Before performing this operation, you cannot download the uploaded data. When assembling parts, you need to copy the additional message header information recorded during the multipart upload initiation to the object metadata. Such information is processed the same way the information in a common object upload is processed. In the case of assembling parts concurrently, last write wins is

applied, but the time of last write is defined as the time when a multipart upload was initiated.

As long as the multipart upload is not aborted, all uploaded parts occupy the space. However, after you assembled the specified parts, those uploaded but not assembled will be deleted to free up space.

When assembling parts, OBS creates an object by putting part numbers in ascending order. If any object metadata is provided in the initiation of the multipart upload, OBS will associate the metadata with the object. After the multipart upload is complete, the parts will no longer exist. A part assembling request must contain the upload ID, part numbers, and a list of corresponding ETag values. In response to the request, the ETag that uniquely identifies the assembled parts is contained. This ETag is not the MD5 hash value of the entire object.

#### Restrictions

- To assemble parts, you must be the bucket owner or have the required permission (obs:object:PutObject in IAM or PutObject in a bucket policy).
   For details, see Introduction to OBS Access Control, IAM Custom Policies, and Configuring an Object Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.
- After a multipart upload is complete, the uploaded parts that are not assembled will be automatically deleted and cannot be recovered. Before assembling parts, use the API for listing uploaded parts to check all parts to ensure that no part is missed.

#### Method

func (obsClient ObsClient) CompleteMultipartUpload(input
\*CompleteMultipartUploadInput) (output \*CompleteMultipartUploadOutput,
err error)

### **Request Parameters**

**Table 10-18** List of request parameters

Paramet er	Туре	Man dato ry (Yes /No)	Description
input	*CompleteMultipar-	Yes	Explanation:
tUploadInput			Input parameters for assembling parts. For details, see <b>Table 10-19</b> .

Table 10-19 CompleteMultipartUploadInput

Parameter	Туре	Mandatory (Yes/No)	Description
Bucket	string	Yes	Explanation:
			Bucket name
			Restrictions:
			A bucket name must be unique across all accounts and regions.
			A bucket name:
			<ul> <li>Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
			<ul> <li>Cannot be formatted as an IP address.</li> </ul>
			<ul> <li>Cannot start or end with a hyphen (-) or period (.).</li> </ul>
			<ul> <li>Cannot contain two consecutive periods (), for example,</li> <li>mybucket.</li> </ul>
			<ul> <li>Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or my bucket.</li> </ul>
			If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.
			Default value:
			None

Parameter	Туре	Mandatory (Yes/No)	Description
Key	string	Yes	Explanation:
			Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.
			For example, if the address for accessing the object is examplebucket.obs.ap-southeast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.
			Value range:
			The value must contain 1 to 1,024 characters.
			Default value:
			None
UploadId	string	Yes	Explanation:
			Multipart upload ID, for example, 000001648453845DBB78F2340DD460 D8
			Value range:
			The value must contain 32 characters.
			Default value:
			None
Parts	[]Part	Yes	Explanation:
			List of parts to be assembled. For details, see <b>Table 10-20</b> .
EncodingTy	string	No	Explanation:
pe			Encoding type for <b>Key</b> in the response. If <b>Key</b> in the response contains control characters that are not supported by the XML 1.0 standard, you can specify this parameter to encode <b>Key</b> .
			Value range:
			url
			Default value:
			None. If you leave this parameter blank, encoding is not applied to <b>Key</b> .

Table 10-20 Part

Parameter	Туре	Description
PartNumber	int	Explanation:
		Part number
		Value range:
		An integer ranging from 1 to 10000
		Default value:
		None
ETag	string	Explanation:
		Part ETag, which is a Base64-encoded, 128- bit MD5 value
		Value range:
		The value must contain 32 characters.
		Default value:
		None

## Responses

Table 10-21 List of returned results

Parameter	Туре	Description
output	*CompleteMultipartU- ploadOutput	Explanation: Returned results. For details, see Table 10-22.
err	error	<b>Explanation:</b> Error messages returned by the API

**Table 10-22** CompleteMultipartUploadOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None
ETag	string	Explanation:
		ETag calculated based on the ETags of all assembled parts, which is a Base64-encoded, 128-bit MD5 value of an object. ETag is the unique identifier of the object content. It can be used to determine whether the object content is changed. For example, if the ETag value is <b>A</b> when an object is uploaded, but changes to <b>B</b> when the object is downloaded, it indicates that the object content has been changed. The ETag reflects changes to the object content, rather than the object metadata. An uploaded or copied object has a unique ETag after being encrypted using MD5.
		Restrictions:
		Restrictions:  If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object.  Value range:
		Restrictions:  If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object.
		Restrictions:  If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object.  Value range:

Parameter	Туре	Description
Bucket	string	Explanation:
		Name of the bucket in which parts are assembled
		Restrictions:
		<ul> <li>A bucket name must be unique across all accounts and regions.</li> </ul>
		A bucket name:
		<ul> <li>Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
		<ul> <li>Cannot be formatted as an IP address.</li> </ul>
		<ul> <li>Cannot start or end with a hyphen (-) or period (.).</li> </ul>
		<ul> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> </ul>
		<ul> <li>Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.</li> </ul>
		If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.
		Default value:
		None
Key	string	Explanation:
Titley Stilling	-	Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.
		For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.
		Value range:
		The value must contain 1 to 1,024 characters.
		Default value:
		None

Parameter	Туре	Description
Location	string	Explanation:
		URL of the generated object after part assembling
		Example: https://example- Bucket.obs.regions.myhuaweicloud.com/ example-Object
		Default value:
		None
VersionId	string	Explanation:
		Version ID of the object obtained after part assembling. If versioning is enabled for the bucket, the object version ID will be returned.
		Value range:
		The value must contain 32 characters.
		Default value:
		None
SseHeader	SseCHeader	Explanation:
	or SseKmsHead er	Server-side encryption header. If SSE-C is used, see <b>Table 10-23</b> . If SSE-KMS is used, see <b>Table 10-24</b> .
EncodingType	string	Explanation:
		Encoding type for <b>Key</b> in the response. If <b>Key</b> in the response contains control characters that are not supported by the XML 1.0 standard, you can specify this parameter to encode <b>Key</b> .
		Value range:
		url
		Default value:
		None. If you leave this parameter blank, encoding is not applied to <b>Key</b> .

Table 10-23 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:  None
Key	string	Yes if used as a request parameter	Explanation: Key for encrypting the object when SSE-C is used Restrictions: The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=. Default value: None
KeyMD5	string	No if used as a request parameter	Explanation:  MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.  Restrictions: The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.  Default value: None

Table 10-24 SseKmsHeader

Parameter	Туре	Manda tory (Yes/N o)	Description
Encryption	string	Yes if used as a request param eter	Explanation:  SSE-KMS used for encrypting objects  Value range:  kms, indicating objects are encrypted using SSE-KMS  Default value:  None
Key	string	No if used as a request param eter	Explanation:  ID of the KMS master key when SSE-KMS is used  Value range:  Valid value formats are as follows:  1. regionID:domainID:key/key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  • If this parameter is not specified, the default master key will be used.  • If there is no such a default master key, OBS will create one and use it by default.

## **Code Example**

This example assembles the parts previously uploaded to bucket **examplebucket**.

package main import (

```
"fmt'
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.CompleteMultipartUploadInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify an object name (example/objectname as an example).
  input.Key = "example/objectname"
  // Specify the multipart upload ID (00000188677110424014075CC4A77xxx as an example).
  input.UploadId = "00000188677110424014075CC4A77xxx"
  // Specify the list of parts to be assembled.
  input.Parts = []obs.Part{
     {PartNumber: 1, ETag: "etag1"},
{PartNumber: 2, ETag: "etag2"},
     {PartNumber: 3, ETag: "etag3"},
  // Complete the multipart upload.
  output, err := obsClient.CompleteMultipartUpload(input)
  if err == nil {
     fmt.Printf("Complete multipart upload successful with bucket(%s) and object(%s)!\n", input.Bucket,
     fmt.Printf("Location:%s, Bucket:%s, Key:%s, ETag:%s\n", output.Location, output.Bucket, output.Key,
output.ETag)
     return
  fmt.Printf("Complete multipart upload(%s) fail with bucket(%s) and object(%s)!\n", input.Bucket,
input.Key)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

## **Helpful Links**

- Completing a Multipart Upload
- (GitHub) Sample Code for Multipart Uploads
- OBS Error Codes

# 10.5 Listing Multipart Uploads (SDK for Go)

#### **Function**

This API lists ongoing multipart uploads.

Ongoing multipart uploads are the multipart uploads that have been initiated but have not been completed or aborted. A maximum of 1,000 multipart uploads can be returned in a response. If there are over 1,000 ongoing tasks satisfying the list criteria, you need to send more requests to guery additional multipart uploads.

#### Restrictions

- To list multipart uploads, you must be the bucket owner or have the required permission (obs:bucket:ListBucketMultipartUploads in IAM or ListBucketMultipartUploads in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Configuring an Object Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.
- To list ongoing multipart uploads in a bucket, you must have the ListBucketMultipartUploads permission.
- The bucket owner can grant others the **ListBucketMultipartUploads** permission.

#### Method

func (obsClient ObsClient) ListMultipartUploads(input
\*ListMultipartUploadsInput) (output \*ListMultipartUploadsOutput, err error)

## **Request Parameters**

**Table 10-25** List of request parameters

Parameter	Туре	Man dato ry (Yes /No	Description
input	*ListMultipart	Yes	Explanation:
	UploadsInput		Input parameters for listing multipart uploads. For details, see <b>Table 10-26</b> .

 Table 10-26 ListMultipartUploadsInput

Parameter	Туре	Manda tory (Yes/N o)	Description
Bucket	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.
			<b>Default value</b> : None

Parameter	Туре	Manda tory (Yes/N o)	Description
Prefix	string	No	Explanation:
			Name prefix that the objects in the multipart uploads to be listed must contain
			Assume that you have the following objects: logs/day1, logs/day2, logs/day3, and ExampleObject.jpg. If you specify logs/ as the prefix, the multipart uploads of logs/day1, logs/day2, and logs/day3 will be returned. If you leave this parameter blank, all multipart uploads in the bucket will be returned.
			Restrictions:
			The value must contain 1 to 1,024 characters.
			Default value:
			None
MaxUploads	int	No	Explanation:
			Maximum number of listed multipart uploads
			Restrictions:
			If the specified value is greater than <b>1000</b> , only 1,000 multipart uploads are returned.
			Value range:
			An integer from <b>1</b> to <b>1000</b>
			Default value:
			1000

Parameter	Туре	Manda tory (Yes/N o)	Description
Delimiter	string	No	Explanation: Object names are grouped by this parameter, which is often used with Prefix. If a prefix is specified, objects with the same string from the prefix to the first delimiter are grouped into one CommonPrefixes. If no prefix is specified, objects with the same string from the first character to the first delimiter are grouped into one CommonPrefixes.
			Assume that a bucket has objects abcd, abcde, and bbcde in it. If delimiter is set to d and prefix is set to a, objects abcd and abcde are grouped into a CommonPrefixes with abcd as the prefix. If only delimiter is set to d, objects abcd and abcde are grouped into a CommonPrefixes with abcd as the prefix, and bbcde is grouped separately into another CommonPrefixes with bbcd as the prefix.
			Value range: The value must contain 1 to 1,024 characters.  Default value: None
KeyMarker	string	No	Explanation: Object name after which multipart upload listing begins Value range: Value of NextKeyMarker in the response body of the last request Default value: None

Parameter	Туре	Manda tory (Yes/N o)	Description
UploadIdMarker	string	No	Explanation: Upload ID after which the multipart upload listing begins
			Restrictions:
			This parameter is valid only when used with <b>KeyMarker</b> . If both parameters are specified, multipart uploads with IDs greater than the specified <b>UploadIdMarker</b> for the specified <b>KeyMarker</b> are listed.
			Value range:
			The value of <b>NextUploadIdMarker</b> in the response body of the last request
			Default value:
			None
EncodingType	string	No	Explanation:
			Encoding type for <b>Key</b> in the response. If <b>Key</b> in the response contains control characters that are not supported by the XML 1.0 standard, you can specify this parameter to encode <b>Key</b> .
			Value range:
			url
			Default value:
			None. If you leave this parameter blank, encoding is not applied to <b>Key</b> .

## Responses

Table 10-27 List of returned results

Paramet er	Туре	Description
output	*ListMultipartUpload- sOutput	Explanation: Returned results. For details, see Table 10-28.
err	error	<b>Explanation:</b> Error messages returned by the API

Table 10-28 ListMultipartUploadsOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be $2xx$ (indicating successes) or $4xx$ or $5xx$ (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None

Parameter	Туре	Description
Bucket	string	Explanation:
		Bucket name
		Restrictions:
		<ul> <li>A bucket name must be unique across all accounts and regions.</li> </ul>
		A bucket name:
		<ul> <li>Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
		<ul> <li>Cannot be formatted as an IP address.</li> </ul>
		<ul> <li>Cannot start or end with a hyphen (-) or period (.).</li> </ul>
		<ul> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> </ul>
		<ul> <li>Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.</li> </ul>
		If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.
		Value range:
		The value must contain 3 to 63 characters.
KeyMarker	string	Explanation:
		Object name after which multipart upload listing begins. This parameter is consistent with that set in the request.
		Value range:
		The value must contain 1 to 1,024 characters.
		Default value:
		None
UploadIdMarker	string	Explanation:
·		Upload ID after which the multipart upload listing begins, which is consistent with that set in the request
		Value range:
		The value must contain 1 to 32 characters.
		Default value:
		None

Parameter	Туре	Description
NextKeyMarker	string	Explanation:
		Object name to start with for the next multipart upload listing request.  NextKeyMarker is returned when not all the objects are listed. You can set  KeyMarker to this value in the next request to list the remaining multipart uploads.
		Value range:
		The value must contain 1 to 1,024 characters.
		Default value:
		None
NextUploadIdMark	string	Explanation:
er		Upload ID to start with for the next multipart upload listing request. This parameter is used together with <b>NextKeyMarker</b> . <b>NextVersionIdMarker</b> is returned when not all the objects are listed. You can set <b>NextKeyMarker</b> to this value in the next request to list the remaining multipart uploads.
		Value range:
		The value must contain 1 to 32 characters.
		Default value:
		None
MaxUploads	int	Explanation:
		Maximum number of listed multipart uploads, which is consistent with the same parameter in the request
		Restrictions:
		If the specified value is greater than <b>1000</b> , only 1,000 multipart uploads are returned.
		Value range:
		An integer from 1 to 1000
		Default value:
		1000

Parameter	Туре	Description
IsTruncated	bool	Explanation:
		Whether all results are returned in the response
		Value range:
		true: Not all results are returned.
		• false: All results are returned.
		Default value:
		None
Prefix	string	Explanation:
		Prefix that the object names in the multipart uploads to be listed must contain. This parameter is consistent with that set in the request.
		Assume that you have the following objects: logs/day1, logs/day2, logs/day3, and ExampleObject.jpg. If you specify logs/ as the prefix, the multipart uploads of logs/day1, logs/day2, and logs/day3 will be returned. If you leave this parameter blank, all multipart uploads in the bucket will be returned.
		Restrictions:
		The value must contain 1 to 1,024 characters.
		Default value:
		None

Parameter	Туре	Description
Delimiter	string	Explanation:
		A character used to group object names in multipart uploads, which is consistent with that set in the request. This parameter is often used with Prefix. If a prefix is specified, objects with the same string from the prefix to the first delimiter are grouped into one CommonPrefixes. If no prefix is specified, objects with the same string from the first character to the first delimiter are grouped into one CommonPrefixes.  Assume that a bucket has objects abcd, abcde, and bbcde in it. If delimiter is set to d and prefix is set to a, objects abcd and abcde are grouped into a CommonPrefixes with abcd as the prefix. If only delimiter is set to d, objects abcd and abcde are grouped into a CommonPrefixes with abcd as the prefix, and bbcde is grouped separately into another CommonPrefixes with bbcd as the prefix.
		Value range:
		The value must contain 1 to 1,024 characters.
		Default value:
		None
Uploads	[]Upload	Explanation:
		List of multipart uploads. For details, see Table 10-29.
CommonPrefixes	[]string	Explanation:
		List of object name prefixes grouped according to the <b>Delimiter</b> parameter (if specified)
		Value range:
		The value must contain 1 to 1,024 characters.
		Default value:
		None

Parameter	Туре	Description
EncodingType	string	Explanation:
		Encoding type for <b>Key</b> in the response. If <b>Key</b> in the response contains control characters that are not supported by the XML 1.0 standard, you can specify this parameter to encode <b>Key</b> .
		Value range:
		url
		Default value:
		None. If you leave this parameter blank, encoding is not applied to <b>Key</b> .

Table 10-29 Upload

Parameter	Туре	Description
Key	string	Explanation:
		Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.
		For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.
		Value range:
		The value must contain 1 to 1,024 characters.
		Default value:
		None
UploadId	string	Explanation:
		Multipart upload ID, for example, 000001648453845DBB78F2340DD460D8
		Value range:
		The value must contain 1 to 32 characters.
		Default value:
		None
Initiator	Initiator	Explanation:
		Initiator of the multipart upload. For details, see <b>Table 10-30</b> .

Parameter	Туре	Description
Owner	Owner	Explanation:
		Account ID of the object owner. For details, see <b>Table 10-31</b> .
StorageClass	StorageClassTy	Explanation:
	pe	Storage class of the object to be uploaded
		Value range:
		See Table 10-32.
		Default value:
		None
Initiated	time.Time	Explanation:
		Time when the multipart upload is initiated
		Restrictions:
		The time must be in the ISO8601 format, for example, <b>2018-01-01T00:00:00.000Z</b> .
		Sample code: time.Now().Add(time.Duration(24) * time.Hour)
		Default value:
		None

Table 10-30 Initiator

Parame ter	Typ e	Mandato ry (Yes/No)	Description
ID	strin g	Yes if used as a request paramete r	Explanation: Account (domain) ID of the initiator Value range: To obtain the account ID, see How Do I Get My Account ID and User ID? Default value: None

Parame ter	Typ e	Mandato ry (Yes/No)	Description
Display	strin	No	Explanation:
Name	g		Account name of the initiator
			Restrictions:
			The account name can contain 6 to 32 characters and must start with a letter. Only letters, digits, hyphens (-), and underscores (_) are allowed.
			Default value:
			None

Table 10-31 Owner

Parame ter	Туре	Mandatory (Yes/No)	Description
ID	string	Yes if used as a request parameter	Explanation: Account (domain) ID of the owner Value range: To obtain the account ID, see How Do I Get My Account ID and User ID? Default value: None

**Table 10-32** StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.
StorageClassWarm	WARM	OBS Infrequent Access
		Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.

Constant	Default Value	Description
StorageClassCold	COLD	OBS Archive Used for storing rarely accessed (once a year) data.

## Code Examples

This example lists all initiated multipart uploads (that have not yet been completed or aborted) in bucket **examplebucket**.

```
package main
import (
  "fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKev")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.ListMultipartUploadsInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify the maximum number of multipart uploads that can be listed. 10 is used as an example.
  input.MaxUploads = 10
  // List initiated multipart uploads in the bucket.
  output, err := obsClient.ListMultipartUploads(input)
  if err == nil {
     fmt.Printf("List multipart uploads successful with bucket(%s) !\n", input.Bucket)
     for index, upload := range output.Uploads {
        fmt.Printf("Upload[%d]-OwnerId:%s, UploadId:%s, Key:%s, Initiated:%s\n",
          index, upload.Owner.ID, upload.UploadId, upload.Key, upload.Initiated)
     return
  fmt.Printf("List multipart uploads fail with bucket(%s) !\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
  }
```

## **Helpful Links**

- Listing Initiated Multipart Uploads in a Bucket
- (GitHub) Sample Code for Multipart Uploads
- OBS Error Codes

# 10.6 Listing Uploaded Parts (SDK for Go)

#### **Function**

This API lists the uploaded parts in a specified bucket. This request must contain the multipart upload ID.

You can list the uploaded parts of a specified multipart upload or of all ongoing multipart uploads. A maximum of 1,000 uploaded parts can be returned in a response. If your multipart upload has more than 1,000 parts, you need to send multiple requests to list all uploaded parts. Assembled parts will not be listed.

#### Restrictions

- To list uploaded parts, you must be the bucket owner or have the required permission (obs:object:ListMultipartUploadParts in IAM or ListMultipartUploadParts in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Configuring an Object Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) ListParts(input \*ListPartsInput) (output
\*ListPartsOutput, err error)

## **Request Parameters**

Table 10-33 List of request parameters

Parameter	Туре	Man dato ry (Yes /No)	Description
input	*ListPartsIn	Yes	Explanation:
	put		Input parameters for listing uploaded parts. For details, see <b>Table 10-34</b> .

Table 10-34 ListPartsInput

Parameter	Туре	Mandatory (Yes/No)	Description
Bucket	string	Yes	Explanation:
			Bucket name
			Restrictions:
			A bucket name must be unique across all accounts and regions.
			A bucket name:
			<ul> <li>Must be 3 to 63 characters long and start with a digit or letter.</li> <li>Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
			<ul> <li>Cannot be formatted as an IP address.</li> </ul>
			<ul> <li>Cannot start or end with a hyphen (-) or period (.).</li> </ul>
			<ul> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> </ul>
			<ul> <li>Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or my bucket.</li> </ul>
			If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.
			Default value:
			None

Parameter	Туре	Mandatory (Yes/No)	Description
Key	string	Yes	Explanation:
			Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.
			For example, if the address for accessing the object is examplebucket.obs.ap-southeast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.
			Value range:
			The value must contain 1 to 1,024 characters.
			Default value:
			None
UploadId	string	Yes	Explanation: Multipart upload ID, for example, 000001648453845DBB78F2340DD460 D8
			Value range:
			The value must contain 1 to 32 characters.
			Default value:
			None
PartNumbe	int	No	Explanation:
rMarker			Part number after which uploaded parts listing begins
			Restrictions:
			OBS lists only parts with greater numbers than that specified by this parameter.
			Default value:
			None

Parameter	Туре	Mandatory (Yes/No)	Description
MaxParts	int	No	Explanation:
			Maximum number of parts that can be listed per page
			Restrictions:
			If the specified value is greater than <b>1000</b> , only 1,000 parts are returned.
			Value range:
			The value ranges from <b>1</b> to <b>1000</b> .
			Default value:
			1000
EncodingTy	string	No	Explanation:
pe			Encoding type for <b>Key</b> in the response. If <b>Key</b> in the response contains control characters that are not supported by the XML 1.0 standard, you can specify this parameter to encode <b>Key</b> .
			Value range:
			url
			Default value:
			None. If you leave this parameter blank, encoding is not applied to <b>Key</b> .

## Responses

Table 10-35 List of returned results

Parameter	Туре	Description
output	*ListPartsOut	Explanation:
	put	Returned results. For details, see <b>Table 10-36</b> .
err	error	Explanation:
		Error messages returned by the API

Table 10-36 ListPartsOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None

Parameter	Туре	Description
Bucket	string	Explanation:
		Bucket name
		Restrictions:
		A bucket name must be unique across all accounts and regions.
		A bucket name:
		<ul> <li>Must be 3 to 63 characters long and start with a digit or letter.</li> <li>Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
		<ul> <li>Cannot be formatted as an IP address.</li> </ul>
		<ul> <li>Cannot start or end with a hyphen (-) or period (.).</li> </ul>
		<ul> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> </ul>
		<ul> <li>Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.</li> </ul>
		If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.
		Value range:
		The value must contain 3 to 63 characters.

Parameter	Туре	Description
Key	string	Explanation:
		Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.
		For example, if the address for accessing the object is examplebucket.obs.ap-southeast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.
		Value range:
		The value must contain 1 to 1,024 characters.
		Default value:
		None
UploadId	string	Explanation:
		Multipart upload ID, for example, 000001648453845DBB78F2340DD460 D8
		Value range:
		The value must contain 32 characters. <b>Default value</b> :
		None
Initiator	Initiator	Explanation:
		Initiator of the multipart upload. For details, see <b>Table 10-37</b> .
Owner	Owner	Explanation:
		Owner of the multipart upload, which is consistent with <b>Initiator</b>
StorageClass	StorageClassTyp	Explanation:
	e	Object storage class
		Value range:
		See Table 10-40.
		Default value:
		None

Parameter	Туре	Description
PartNumberMarke	int	Explanation:
r		Part number to start with for listing parts, which is consistent with that set in the request
		Value range:
		A non-negative integer
		Default value:
		None
NextPartNumberM	int	Explanation:
arker		Part number to start with for the next part listing request.  NextPartNumberMarker is returned when not all the parts are listed. You can set PartNumberMarker to this value in the next request to list the remaining parts.
		Value range:
		A non-negative integer
		Default value:
		None
MaxParts	int	Explanation:
		Maximum number of listed parts that can be listed per page. This parameter is consistent with that set in the request.
		Restrictions:
		If the specified value is greater than <b>1000</b> , only 1,000 parts are returned.
		Value range:
		The value ranges from <b>1</b> to <b>1000</b> .
		Default value:
		1000
IsTruncated	bool	Explanation:
		Whether all results are returned in the response
		Value range:
		• <b>true</b> : Not all results are returned.
		false: All results are returned.
		Default value:
		None

Parameter	Туре	Description
Parts	[]Part	Explanation:
		List of uploaded parts. For details, see Table 10-39.
EncodingType	string	Explanation:
		Encoding type for <b>Key</b> in the response. If <b>Key</b> in the response contains control characters that are not supported by the XML 1.0 standard, you can specify this parameter to encode <b>Key</b> .
		Value range:
		url
		Default value:
		None. If you leave this parameter blank, encoding is not applied to <b>Key</b> .

Table 10-37 Initiator

Parame ter	Typ e	Mandato ry (Yes/No)	Description
ID	strin g	Yes if used as a request paramete r	Explanation: Account (domain) ID of the initiator Value range: To obtain the account ID, see How Do I Get My Account ID and User ID? Default value: None
Display Name	strin g	No	Explanation: Account name of the initiator Restrictions: The account name can contain 6 to 32 characters and must start with a letter. Only letters, digits, hyphens (-), and underscores (_) are allowed.  Default value: None

Table 10-38 Owner

Parame ter	Туре	Mandatory (Yes/No)	Description
ID	string	Yes if used as a request parameter	Explanation: Account (domain) ID of the owner Value range: To obtain the account ID, see How Do I Get My Account ID and User ID? Default value: None

#### Table 10-39 Part

Parameter	Туре	Description
PartNumber	int	Explanation:
		Part number
		Value range:
		An integer ranging from 1 to 10000
		Default value:
		None
ETag	string	Explanation:
		Part ETag, which is a Base64-encoded, 128- bit MD5 value
		Value range:
		The value must contain 32 characters.
		Default value:
		None

 Table 10-40
 StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.

Constant	Default Value	Description
StorageClassWarm	WARM	OBS Infrequent Access Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive Used for storing rarely accessed (once a year) data.

## **Code Examples**

This example lists the parts that have been uploaded for a multipart upload.

```
import (
  "fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.ListPartsInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify an object name (example/objectname as an example).
  input.Key = "example/objectname"
  // Specify the multipart upload ID (00000188677110424014075CC4A77xxx as an example).
  input.UploadId = "00000188677110424014075CC4A77xxx"
  // List the uploaded parts.
  output, err := obsClient.ListParts(input)
  if err == nil {
     fmt.Printf("List part successful with bucket(%s) and object(%s)!\n", input.Bucket, input.Object)
     for index, part := range output.Parts {
        fmt.Printf("Part[%d]-ETag:%s, PartNumber:%d, LastModified:%s, Size:%d\n", index, part.ETag,
          part.PartNumber, part.LastModified, part.Size)
     }
     return
  fmt.Printf("List part fail with bucket(%s) and object(%s)!\n", input.Bucket, input.Object)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
```

```
response.")

fmt.Println(obsError.Error())
} else {

fmt.Println("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.")

fmt.Println(err)
}
```

## **Helpful Links**

- Listing Uploaded Parts
- (GitHub) Sample Code for Multipart Uploads
- OBS Error Codes

# 10.7 Copying a Part (SDK for Go)

#### **Function**

This API copies a part to a specified bucket. This request must contain the multipart upload ID.

After creating a multipart upload, you can specify the upload ID and upload parts for the multipart upload. Alternatively, you can call this API to copy all or part of an uploaded object as a part.

Assume that you copy a source object and save it as **part1**. If there is already a **part1** before the copy, the new **part1** will overwrite the existing **part1**. Then, only the new **part1** can be listed and the old **part1** is deleted. Therefore, when using this API, ensure that the target part does not exist or is no longer used, to avoid accidental deletion. The source object keeps unchanged in the entire copy process.

#### Restrictions

- To copy a part, you must be the bucket owner or have the required permission (obs:object:PutObject in IAM or PutObject in a bucket policy).
   For details, see Introduction to OBS Access Control, IAM Custom Policies, and Configuring an Object Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.
- You cannot determine whether a part copy is successful only based on status\_code in the HTTP header returned. A 200 response indicates that the server has received the request and starts to process the request. Only when the response body contains ETag, the copy is successful, or the copy fails.

### Method

func (obsClient ObsClient) CopyPart(input \*CopyPartInput) (output
\*CopyPartOutput, err error)

## **Request Parameters**

**Table 10-41** List of request parameters

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
input	*CopyPartInpu	Yes	Explanation:
	τ		Input parameters for copying a part. For details, see <b>Table 10-42</b> .

Table 10-42 CopyPartInput

Parameter	Туре	Ma nda tory (Yes /No	Description
Bucket	string	Yes	Explanation:  Target bucket name  Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those
			set in the first creation request. <b>Default value</b> :  None

Parameter	Туре	Ma nda tory (Yes /No )	Description
Key	string	Yes	Explanation: Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name. For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.  Value range: The value must contain 1 to 1,024 characters.  Default value: None
PartNumber	int	Yes	Explanation: Part number Value range: An integer ranging from 1 to 10000 Default value: None
UploadId	string	Yes	Explanation:  Multipart upload ID, for example, 000001648453845DBB78F2340DD460D 8  Value range: The value must contain 32 characters.  Default value: None

Parameter	Туре	Ma nda tory (Yes /No	Description
CopySourceBucket	string	Yes	Explanation:  Source bucket name  Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.
			<b>Default value</b> : None

Parameter	Туре	Ma nda tory (Yes /No	Description
CopySourceKey	string	Yes	Explanation:  Source object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.  For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.  Value range:  The value must contain 1 to 1,024 characters.  Default value:  None
CopySourceRangeS tart	int64	No	Explanation: Start position from which a part copy begins Value range: A non-negative integer, in bytes Default value: 0
CopySourceRangeE	int64	No	Explanation: End position at which a part copy ends Restrictions: The value must be greater than that of RangeStart. The upper limit of the value is the object length minus 1, in bytes. Value range: A non-negative integer, in bytes Default value: None

Parameter	Туре	Ma nda tory (Yes /No	Description
SseHeader	SseCHea	No	Explanation:
	der		Server-side encryption header used for encrypting the target object. For details, see Table 10-43.
			Restrictions:
			If the object is encrypted with the key provided by you during the upload, that key must also be provided in the request message when downloading the object.
SourceSseHeader	SseCHea	No	Explanation:
	der		Server-side decryption header used for decrypting the source object. For details, see Table 10-43.

Table 10-43 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:  None
Key	string	Yes if used as a request parameter	Explanation: Key for encrypting the object when SSE-C is used Restrictions: The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=. Default value: None

Parameter	Туре	Mandatory (Yes/No)	Description
KeyMD5	string	No if used as a request parameter	Explanation:  MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.
			Restrictions: The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.  Default value: None

#### Responses

Table 10-44 List of returned results

Parameter	Туре	Description
output	*CopyPartOutp ut type CopyPartOutput struct	Explanation: Returned results. For details, see Table 10-45.
err	error	<b>Explanation:</b> Error messages returned by the API

Table 10-45 CopyPartOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None

Parameter	Туре	Description
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeader	map[string]	Explanation:
S	[]string	HTTP response headers
		Default value:
		None
ETag	string	Explanation:
		Base64-encoded, 128-bit MD5 value of an object. ETag is the unique identifier of the object content. It can be used to determine whether the object content is changed. For example, if the ETag value is <b>A</b> when an object is uploaded, but changes to <b>B</b> when the object is downloaded, it indicates that the object content has been changed. The ETag reflects changes to the object content, rather than the object metadata. An uploaded or copied object has a unique ETag after being encrypted using MD5. <b>Restrictions:</b> If an object is encrypted using server-side
		encryption, the ETag is not the MD5 value of the object.
		Value range:
		The value must contain 32 characters.
		Default value:
		None
LastModified	time.Time	Explanation:
		Time when the last modification was made to the target object
		Restrictions:
		The time must be in the ISO8601 format, for example, <b>2018-01-01T00:00:00.000Z</b> .
		Sample code: time.Now().Add(time.Duration(24) * time.Hour)
		Default value:
		None

Parameter	Туре	Description
SseHeader	SseCHeader Or SseKmsHeade r struct SseCHeader type type SseKmsHeader struct	Explanation: Server-side encryption header. If SSE-C is used, see Table 10-46. If SSE-KMS is used, see Table 10-47.
PartNumber	int	Explanation: Part number Value range: An integer ranging from 1 to 10000 Default value: None

Table 10-46 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used	Explanation:
		as a request	SSE-C used for encrypting objects
		parameter	Value range:
			<b>AES256</b> , indicating objects are encrypted using SSE-C
			Default value:
			None
Key	string	Yes if used	Explanation:
		as a request parameter	Key for encrypting the object when SSE-C is used
			Restrictions:
			The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=.
			Default value:
			None

Parameter	Туре	Mandatory (Yes/No)	Description
KeyMD5	string	No if used as a request parameter	Explanation:  MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.  Restrictions:
			The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.
			<b>Default value</b> : None

Table 10-47 SseKmsHeader

Parameter	Туре	Manda tory (Yes/N o)	Description
Encryption	string	Yes if used as a request param eter	Explanation:  SSE-KMS used for encrypting objects  Value range:  kms, indicating objects are encrypted using SSE-KMS  Default value:  None

Parameter	Туре	Manda tory (Yes/N o)	Description
Key	string	No if used as a request param eter	Explanation:  ID of the KMS master key when SSE-KMS is used  Value range:  Valid value formats are as follows:  1. regionID:domainID:key  key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  • If this parameter is not specified, the default master key will be used.  • If there is no such a default master key, OBS will create one and use it by default.

#### **Code Example**

This example copies parts from one bucket to another.

```
package main
import (
    "fmt"
    "os"
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
)
func main() {
    //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
    //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/intl/en-us/usermanual-ca/ca_01_0003.html.
    ak := os.Getenv("AccessKeyID")
    sk := os.Getenv("SecretAccessKey")
    // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
```

```
// securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.CopyPartInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify an object (example/objectname as an example).
  input.Key = "example/objectname"
  // Specify a source bucket (sourcebucketname as an example).
  input.CopySourceBucket = "sourcebucketname"
  // Specify an object to copy (example/sourceobjectname as an example) in the source bucket.
  input.CopySourceKey = "example/sourceobjectname"
  // Specify the number (1 as an example) of the part to upload.
  input.PartNumber = 1
  // Copy the part.
  output, err := obsClient.CopyPart(input)
  if err == nil {
     fmt.Printf("Copy part(bucket:%s, object: %s) successful from bucket:%s's object: %s!\n",
        input.Bucket, input.Key, input.CopySourceBucket, input.CopySourceKey)
     fmt.Printf("ETag:%s, LastModified:%s\n", output.ETag, output.LastModified)
  fmt.Printf("Copy part(bucket:%s, object: %s) fail from bucket:%s's object: %s!\n",
        input.Bucket, input.Key, input.CopySourceBucket, input.CopySourceKey)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

#### **Helpful Links**

- Copying a Part
- (GitHub) Sample Code for Multipart Uploads
- OBS Error Codes

#### 10.8 Aborting a Multipart Upload (SDK for Go)

#### **Function**

This API aborts a multipart upload using the multipart upload ID.

After a multipart upload is aborted, the upload ID cannot be used to upload any part. The storage occupied by any uploaded parts will be released. If any part uploads are in progress, aborting the multipart upload might or might not make the uploads successful. To release the storage occupied by all uploaded parts, abort the multipart upload only after all parts have been uploaded.

#### Restrictions

- To abort a multipart upload, you must be the bucket owner or have the required permission (obs:object:AbortMultipartUpload in IAM or AbortMultipartUpload in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Configuring an Object Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) AbortMultipartUpload(input
\*AbortMultipartUploadInput) (output \*BaseModel, err error)

#### **Request Parameters**

**Table 10-48** List of request parameters

Parameter	Туре	Man dato ry (Yes /No)	Description
input	*AbortMultipartU ploadInput	Yes	Explanation: Input parameters for aborting a multipart upload. For details, see Table 10-49.

 Table 10-49
 AbortMultipartUploadInput

Parameter	Туре	Mandatory (Yes/No)	Description
Bucket	string	Yes	Explanation:
			Bucket name
			Restrictions:
			A bucket name must be unique across all accounts and regions.
			A bucket name:
			<ul> <li>Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
			<ul> <li>Cannot be formatted as an IP address.</li> </ul>
			<ul> <li>Cannot start or end with a hyphen (-) or period (.).</li> </ul>
			<ul> <li>Cannot contain two consecutive periods (), for example,</li> <li>mybucket.</li> </ul>
			<ul> <li>Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or my bucket.</li> </ul>
			If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.
			Default value:
			None

Parameter	Туре	Mandatory (Yes/No)	Description
Key	string	Yes	Explanation:
			Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.
			For example, if the address for accessing the object is examplebucket.obs.ap-southeast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.
			Value range:
			The value must contain 1 to 1,024 characters.
			Default value:
			None
UploadId	string	Yes	Explanation:
			Multipart upload ID, for example, 000001648453845DBB78F2340DD460 D8
			Value range:
			The value must contain 32 characters.
			Default value:
			None

#### Responses

Table 10-50 List of returned results

Parameter	Туре	Description
output	*BaseModel	<b>Explanation:</b> Returned results. For details, see <b>Table 10-51</b> .
err	error	<b>Explanation:</b> Error messages returned by the API

Table 10-51 BaseModel

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string]	Explanation:
	[]string	HTTP response headers
		Default value:
		None

#### **Code Example**

This example aborts a multipart upload.

```
package main
import (
  "fmt'
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
```

```
input := &obs.AbortMultipartUploadInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify the object (example/objectname as an example) to upload.
  input.Key = "example/objectname"
  // Specify the multipart upload ID (00000188677110424014075CC4A77xxx as an example).
  input.UploadId = "00000188677110424014075CC4A77xxx"
  // Abort the multipart upload.
  output, err := obsClient.AbortMultipartUpload(input)
  if err == nil {
     fmt.Printf("Abort multipart upload successful!\n")
     fmt.Printf("RequestId:%s\n", output.RequestId)
  fmt.Printf("Abort multipart upload fail!\n")
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

#### **Helpful Links**

- Aborting a Multipart Upload
- (GitHub) Sample Code for Multipart Uploads
- OBS Error Codes

## 1 1 Other APIs (SDK for Go)

#### 11.1 Creating a Signed URL (SDK for Go)

#### **Function**

This API creates a URL whose **Query** parameters are carried with authentication information by specifying the AK and SK, HTTP method, and request parameters. You can provide other users with this URL for temporary access. When generating a URL, you need to specify the validity period of the URL to restrict the access duration of visitors.

If you want to grant other users the permission to perform other operations on buckets or objects (for example, upload or download objects), generate a URL with the corresponding request (for example, to upload an object using the URL that generates the PUT request) and provide the URL for other users.

#### Restrictions

- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.
- If a CORS or signature mismatch error occurs, refer to the following steps to troubleshoot the issue:
  - a. If CORS is not configured, you need to configure CORS rules on OBS Console. For details, see **Configuring CORS**.
  - b. If the signatures do not match, check whether signature parameters are correct. For details, see Authentication of Signature in a URL. For example, during an object upload, the backend uses Content-Type to calculate the signature and generate an authorized URL, but if Content-Type is not set or is set to an incorrect value when the frontend uses the authorized URL, a CORS error occurs. To avoid this issue, ensure that Content-Type fields at both the frontend and backend are kept consistent.

#### Method

func (obsClient ObsClient) CreateSignedUrl(input \*CreateSignedUrlInput)
(output \*CreateSignedUrlOutput, err error)

#### **Request Parameters**

**Table 11-1** List of request parameters

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
input	*CreateSignedUrl Input	Yes	Explanation: Input parameters for creating a signed URL. For details, see Table 11-2.

**Table 11-2** CreateSignedUrlInput

Paramete r	Туре	Man dato ry (Yes/ No)	Description
Method	HttpMethodTyp e	Yes	Explanation: HTTP method. For details, see Table 11-3.

Paramete r	Туре	Man dato ry (Yes/ No)	Description
Bucket	string	No	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or my-bucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value: None

Paramete r	Туре	Man dato ry (Yes/ No)	Description
Key	string	No	Explanation: Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name. For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.  Value range: The value must contain 1 to 1,024 characters.  Default value: None
SubResou rce	SubResourceTyp e	No	Explanation:  Type of the subresource to access. For details, see Table 11-4.
Expires	int	No	Explanation: Expiration time of the signed URL  Value range:  • The value of this parameter for temporary credentials ranges from 0 to 86400, in seconds.  • The value of this parameter for permanent keys ranges from 0 to 630720000, in seconds.  Default value: 300
Headers	map[string]string	No	Explanation: Headers in the request Default value: None

Paramete r	Туре	Man dato ry (Yes/ No)	Description
QueryPar ams	map[string]string	No	Explanation: Query parameters in the request Default value: None

**Table 11-3** HttpMethodType

Constant	Default Value	Description
HttpMethodGet	GET	HTTP GET request
HttpMethodPut	POST	HTTP POST request
HttpMethodPost	PUT	HTTP PUT request
HttpMethodDelete	DELETE	HTTP DELETE request
HttpMethodHead	HEAD	HTTP HEAD request
HttpMethodOptions	OPTIONS	HTTP OPTIONS request

**Table 11-4** SubResourceType

Constant	Default Value	Applicable API
SubResourceStor- agePolicy	storagePolicy	Sets or obtains bucket storage classes.
SubResourceQuo ta	quota	Sets or obtains bucket quotas.
SubResourceStor- ageInfo	storageinfo	Obtains bucket storage information.
SubResourceLoca tion	location	Obtains bucket locations.
SubResourceAcl	acl	Sets or obtains bucket ACLs or object ACLs.
SubResourcePoli- cy	policy	Sets, obtains, or deletes bucket policies.
SubResourceCors	cors	Sets, obtains, or deletes bucket CORS configurations.

Constant	Default Value	Applicable API
SubResourceVersi oning	versioning	Sets or obtains bucket version statuses.
SubResourceWeb site	website	Sets, obtains, or deletes bucket website configurations.
SubResourceLogg ing	logging	Sets or obtains bucket logging settings.
SubResourceLife- cycle	lifecycle	Sets, obtains, or deletes lifecycle rules of buckets.
SubResourceNotif ication	notification	Sets or obtains the notification configuration of buckets.
SubResourceTagg ing	tagging	Sets, obtains, or deletes bucket tags.
SubResourceDele te	delete	Batch deletes objects.
SubResourceVersi ons	versions	Lists versioning objects in buckets.
SubResourceUplo ads	uploads	Lists or initializes multipart uploads in buckets.
SubResourceRest ore	restore	Restores Archive objects.

#### Responses

Table 11-5 List of returned results

Parameter	Туре	Description
output	*CreateSignedUrl	Explanation:
	Output	Returned results. For details, see <b>Table 11-6</b> .
err	error	Explanation:
		Error messages returned by the API

Table 11-6 CreateSignedUrlOutput

Parameter	Туре	Description	
SignedUrl	string	Explanation:	
		Signed URL	
		Default value:	
		None	
ActualSignedReq	http.Header	Explanation:	
uestHeaders		Actual headers in the request initiated by using the signed URL	
		Default value:	
		None	

#### **Code Example**

This example creates a signed URL for uploading an object.

```
package main
import (
  "fmt"
  "net/http"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  putObjectInput := &obs.CreateSignedUrlInput{}
  putObjectInput.Method = obs.HttpMethodPut
  putObjectInput.Bucket = "examplebucket"
  putObjectInput.Key = "example/objectname"
  putObjectInput.Expires = 3600
  // Create a signed URL for uploading an object.
  putObjectOutput, err := obsClient.CreateSignedUrl(putObjectInput)
  if err != nil {
     fmt.Println(err)
     return
  fmt.Printf("SignedUrl:%s\n", putObjectOutput.SignedUrl)
  fmt.Printf("ActualSignedRequestHeaders:%v\n", putObjectOutput.ActualSignedRequestHeaders)
  // Call the signed URL.
  payload := strings.NewReader("hello OBS!")
```

```
reg, err := http.NewRequest("PUT", putObjectOutput.SignedUrl, payload)
  req.Header = putObjectOutput.ActualSignedRequestHeaders
     fmt.Printf("Create request error, errMsg: %s", err.Error())
     return
  response, err := http.DefaultClient.Do(req)
  if err == nil {
     fmt.Printf("Use signed-url successful!\n")
     fmt.Printf("Status:%s,Etag:%s\n", response.Status, response.Header.Get("Etag"))
  fmt.Printf("Use signed-url successful!\n")
  fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
  fmt.Println(err)
This example creates a signed URL for downloading an object.
package main
import (
   "fmt'
  "net/http"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  // Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsq: %s", err.Error())
  getObjectInput := &obs.CreateSignedUrlInput{}
  getObjectInput.Method = obs.HttpMethodGet
  getObjectInput.Bucket = "examplebucket"
  getObjectInput.Key = "example/objectname"
  getObjectInput.Expires = 3600
  // Create a signed URL for downloading an object.
  getObjectOutput, err := obsClient.CreateSignedUrl(getObjectInput)
  if err != nil {
     fmt.Println(err)
     return
  fmt.Printf("SignedUrl:%s\n", getObjectOutput.SignedUrl)
  fmt.Printf("ActualSignedRequestHeaders:%v\n", getObjectOutput.ActualSignedRequestHeaders)
  // Call the signed URL.
  req, err := http.NewRequest("GET", getObjectOutput.SignedUrl, nil)
  req.Header = getObjectOutput.ActualSignedRequestHeaders
  if err != nil {
     fmt.Printf("Create request error, errMsg: %s", err.Error())
     return
  response, err := http.DefaultClient.Do(req)
  if err == nil {
     fmt.Printf("Use signed-url successful!\n")
```

```
fmt.Printf("Status:%s,Etaq:%s\n", response.Status, response.Header.Get("Etaq"))
     p := make([]byte, 1024)
     var readErr error
     var readCount int
     // Read the object content.
     for {
        readCount, readErr = response.Body.Read(p)
        if readCount > 0 {
          fmt.Printf("%s", p[:readCount])
        if readErr != nil {
          break
     }
     return
  fmt.Printf("Use signed-url successful!\n")
  fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
  fmt.Println(err)
```

This example creates a signed URL for deleting an object.

```
package main
import (
  "fmt"
  "net/http"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  // Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsq: %s", err.Error())
  // Create a signed URL for deleting an object.
  deleteObjectInput := &obs.CreateSignedUrlInput{}
  deleteObjectInput.Method = obs.HttpMethodDelete
  deleteObjectInput.Bucket = "examplebucket"
  deleteObjectInput.Key = "example/objectname"
  deleteObjectInput.Expires = 3600
  deleteObjectOutput,\ err:=obsClient.CreateSignedUrl(deleteObjectInput)
  if err != nil {
     fmt.Println(err)
     return
  fmt.Printf("SignedUrl:%s\n", deleteObjectOutput.SignedUrl)
  fmt.Printf("ActualSignedRequestHeaders:%v\n", deleteObjectOutput.ActualSignedRequestHeaders)
  // Call the signed URL.
  req, err := http.NewRequest("DELETE", deleteObjectOutput.SignedUrl, nil)
  req.Header = deleteObjectOutput.ActualSignedRequestHeaders
  if err != nil {
     fmt.Printf("Create request error, errMsg: %s", err.Error())
```

```
return
}
response, err := http.DefaultClient.Do(req)
if err == nil {
    fmt.Printf("Use signed-url successful!\n")
    fmt.Printf("Status:%s\n", response.Status)
    return
}
fmt.Printf("Use signed-url successful!\n")
fmt.Println("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.")
fmt.Println(err)
}
```

### 11.2 Creating Authentication Parameters for a Browser-based Upload (SDK for Go)

#### **Function**

This API generates parameters for authentication. The parameters can be used to upload data through POST operations based on a browser.

#### □ NOTE

There are two request parameters generated:

- Policy, which corresponds to the policy parameter in the form
- **Signature**, which corresponds to the **x-obs-signature** parameter in the form

#### Restrictions

- To upload an object, you must be the bucket owner or have the required permission (obs:object:PutObject in IAM or PutObject in a bucket policy). For details, see Introduction to OBS Access Control, IAM Custom Policies, and Configuring an Object Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) CreateBrowserBasedSignature(input

\*CreateBrowserBasedSignatureInput) (output

\*CreateBrowserBasedSignatureOutput, err error)

#### **Request Parameters**

**Table 11-7** List of request parameters

Parame ter	Туре	M an da tor y (Y es/No)	Description
input	*CreateBrowserBased- SignatureInput	Yes	Explanation: Input parameters for creating authentication parameters for a browser-based upload. For details, see Table 11-8.

 Table 11-8 CreateBrowserBasedSignatureInput

Parame ter	Туре	Mandato ry (Yes/No)	Description
Bucket	string	No	Explanation:
			Bucket name
			Restrictions:
			<ul> <li>A bucket name must be unique across all accounts and regions.</li> </ul>
			A bucket name:
			<ul> <li>Must be 3 to 63 characters long and start with a digit or letter.</li> <li>Lowercase letters, digits, hyphens (-), and periods (.) are allowed.</li> </ul>
			<ul> <li>Cannot be formatted as an IP address.</li> </ul>
			<ul> <li>Cannot start or end with a hyphen</li> <li>(-) or period (.).</li> </ul>
			<ul> <li>Cannot contain two consecutive periods (), for example, mybucket.</li> </ul>
			<ul> <li>Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or my bucket.</li> </ul>
			<ul> <li>If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.</li> </ul>
			Default value:
			None

Parame ter	Туре	Mandato ry (Yes/No)	Description
Key	string	No	Explanation:
			Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.
			For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.
			Value range:
			The value must contain 1 to 1,024 characters.
			Default value:
			None
Expires	int	No	Explanation:
			Expiration time of authentication for a browser-based upload
			Value range:
			0 to (2 <sup>63</sup> – 1), in seconds
			Default value:
			300
FormPar	map[string]str	No	Explanation:
ams	ing		Parameters of a browser-based upload, not including <b>key</b> , <b>policy</b> , and <b>signature</b> .
			Value range:
			acl, cache-control, content-type, content-disposition, content-encoding, and expires
			Default value:
			None

#### Responses

Table 11-9 List of returned results

Paramet er	Туре	Description
output	*CreateBrowserBa- sedSignatureOutput	Explanation: Returned results. For details, see Table 11-10.
err	error	<b>Explanation:</b> Error messages returned by the API

 Table 11-10
 CreateBrowserBasedSignatureOutput

Parameter	Туре	Description
OriginPolicy	string	Explanation:
		<b>policy</b> not encoded by Base64. This parameter can only be used for verification.
		Example: {"expiration":"2023-09-12T12:52:59Z","co nditions":[{"content-type":"text/plain"}, {"bucket":"examplebucket"}, {"key":"example/objectname"},]}"
		Default value:
		None
Policy	string	Explanation:
		Base64-encoded value of <b>policy</b> in the form
		Example: eyJleHBpcmF0aW9uIjoiMjAyMy0wOS0xM lQxMjo1Mjo1OVoiLCJjb25kaXRpb25zIjpbe yJjb250ZW50LXR5cGUiOiJ0ZXh0L3BsYWl uIn0seyJidWNrZXQiOiJleGFtcGxlYnV- ja2V0In0seyJrZXkiOiJleGFtcGxlL29iamVjd G5hbWUifSxdfQ==
		Default value:
		None
Signature	string	Explanation:
		signature in the form
		Example: g0jQr4v9VWd1Q2FOFDG6LGfV9Cw=
		Default value:
		None

#### Code Example

This example creates a signed URL for uploading an object using POST.

```
package main
import (
   "fmt'
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  // Create a signed URL for uploading an object.
  input := &obs.CreateBrowserBasedSignatureInput{}
  input.Bucket = "examplebucket"
  input.Key = "example/objectname"
  input.FormParams = map[string]string{
     "content-type": "text/plain",
      "success_action_redirect": "https://www.example.com",
     "x-obs-acl": "public-read",
  output, err := obsClient.CreateBrowserBasedSignature(input)
if err == nil {
     fmt.Printf("Policy:%s\n", output.Policy)
     fmt.Printf("Signature:%s\n", output.Signature)
  } else {
     fmt.Println(err)
     return
  requestBody := &bytes.Buffer{}
  writer := multipart.NewWriter(requestBody)
  writer.WriteField("key", input.Key)
  writer.WriteField("AccessKeyId", ak)
  writer.WriteField("policy", output.Policy)
  writer.WriteField("signature", output.Signature)
  writer.WriteField("success_action_redirect", "https://www.example.com")
  // writer.WriteField("token", obs.WithSecurityToken(securityToken))
  writer.WriteField("Content-Type", "text/plain")
  formFile, _ := writer.CreateFormFile("file", "filename")
  io.Copy(formFile, strings.NewReader("hello OBS!"))
  writer(Close()
  url := "https://" + input.Bucket + "." + strings.Replace(endPoint, "https://", "", 1)
  request, err := http.NewRequest("POST", url, requestBody)
  if err != nil {
     fmt.Println(err)
     return
  request.Header.Set("Content-Type", writer.FormDataContentType())
  client := &http.Client{}
  response, err := client.Do(request)
```

```
if err != nil {
    fmt.Println(err)
    return
}
defer response.Body.Close()
if err == nil {
    fmt.Printf("Use signed-url successful!\n")
    fmt.Printf("Status:%s,Etag:%s\n", response.Status, response.Header.Get("Etag"))
    return
}
fmt.Printf("Use signed-url successful!\n")
fmt.Printf("Use signed-url successful!\n")
fmt.Println("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.")
fmt.Println(err)
}
```

#### 11.3 Server-Side Encryption (SDK for Go)

#### **Function**

This API configures server-side encryption for objects, so that they will be encrypted or decrypted when you upload them to or download them from a bucket.

The encryption and decryption happen on the server side.

There are different encryption methods for you to choose from. Available encryption methods include server-side encryption with KMS-managed keys (SSE-KMS) and server-side encryption with customer-provided keys (SSE-C). Both of the two methods use the AES-256 algorithm.

With SSE-KMS, OBS uses the keys provided by KMS for server-side encryption.

With SSE-C, OBS uses the keys and MD5 values provided by customers for serverside encryption.

When server-side encryption is used, the returned ETag value is not the object's MD5 value. OBS will verify the object's MD5 value as long as the upload request includes the **Content-MD5** header, no matter whether server-side encryption is used or not.

For more information, see **Server-Side Encryption**.

#### Restrictions

- To upload an object, you must be the bucket owner or have the required permission (obs:object:PutObject in IAM or PutObject in a bucket policy).
   For details, see Introduction to OBS Access Control, IAM Custom Policies, and Configuring an Object Policy.
- The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

**func** (obsClient ObsClient) PutFile(input \*PutFileInput) (output \*PutObjectOutput, err error)

#### **Supported APIs**

The following table lists APIs related to server-side encryption:

Method in OBS SDK for Go	Description	Supported Encryption Method
ObsClient.PutObject	Sets the encryption algorithm and key during object upload to enable server-side encryption.	SSE-KMS SSE-C
ObsClient.PutFile	Sets the encryption algorithm and key during file upload to enable server-side encryption.	SSE-KMS SSE-C
ObsClient.GetObject	Sets the decryption algorithm and key during object download to decrypt the object.	SSE-C
ObsClient.CopyObject	<ol> <li>Sets the decryption algorithm and key for decrypting the source object during object copy.</li> <li>Sets the encryption algorithm and key during object copy to enable the encryption algorithm for the target object.</li> </ol>	SSE-KMS SSE-C
ObsClient.GetObjectMet adata	Sets the decryption algorithm and key when obtaining the object metadata to decrypt the object.	SSE-C
ObsClient.InitiateMultipa rtUpload	Sets the encryption algorithm and key when initializing a multipart upload task to enable server-side encryption for the final object generated.	SSE-KMS SSE-C
ObsClient.UploadPart	Sets the encryption algorithm and key during multipart upload to enable server-side encryption for parts.	SSE-C
ObsClient.CopyPart	<ol> <li>Sets the decryption algorithm and key for decrypting the source object during multipart copy.</li> <li>Sets the encryption algorithm and key during multipart copy to enable the encryption algorithm for the target part.</li> </ol>	SSE-C

#### **Code Examples**

This example encrypts object **example/objectname** that is uploaded using streaming.

```
package main
import (
   "crypto/md5"
  "encoding/base64"
  "fmt"
  "os"
  "strings"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca 01 0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.PutObjectInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify the object (example/objectname as an example) to upload.
  input.Key = "example/objectname"
  // Specify the content to upload.
  input.Body = strings.NewReader("Hello OBS")
  // Specify a server-side encryption header (obs.SseCHeader as an example).
  key := os.Getenv("Key")
  digest := md5.New()
  digest.Write([]byte(key))
  bodyHash := digest.Sum(nil)
  input.SseHeader = obs.SseCHeader{
     Encryption: "AES256",
              base64.StdEncoding.EncodeToString([]byte(key)), // 32byteslongsecretkeymustprovided
     KeyMD5: base64.StdEncoding.EncodeToString(bodyHash),
  // Upload you local file using streaming.
  output, err := obsClient.PutObject(input)
  if err == nil {
     fmt.Printf("Put object(%s) under the bucket(%s) successful!\n", input.Key, input.Bucket)
     fmt.Printf("Requestld:%s\n", output.Requestld)
     fmt.Printf("StorageClass:%s, ETag:%s\n",
       output.StorageClass, output.ETag)
     return
  fmt.Printf("Put object(%s) under the bucket(%s) fail!\n", input.Key, input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
  } else {
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
```

```
fmt.Println(err)
}
```

#### This example downloads the encrypted object **example/objectname** using streaming.

```
package main
import (
   "crypto/md5"
  "encoding/base64"
  "fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  // Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.GetObjectInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify the object (example/objectname as an example) to download.
  input.Key = "example/objectname"
  // Specify a server-side encryption header (obs.SseCHeader as an example).
  key := os.Getenv("Key")
  digest := md5.New()
  digest.Write([]byte(key))
  bodyHash := digest.Sum(nil)
  input.SseHeader = obs.SseCHeader{
     Encryption: "AES256",
             base64.StdEncoding.EncodeToString([]byte(key)), // 32byteslongsecretkeymustprovided
                base64.StdEncoding.EncodeToString(bodyHash),
     KeyMD5:
  // Download the object using streaming.
  output, err := obsClient.GetObject(input)
  if err == nil {
     // Close output.Body after using it, to avoid connection leakage.
     defer output.Body.Close()
     fmt.Printf("Get object(%s) under the bucket(%s) successful!\n", input.Key, input.Bucket)
     fmt.Printf("StorageClass:%s, ETag:%s, ContentType:%s, ContentLength:%d, LastModified:%s\n",
        output.StorageClass, output.ETag, output.ContentType, output.ContentLength, output.LastModified)
     // Read the object content.
     p := make([]byte, 1024)
     var readErr error
     var readCount int
     for {
       readCount, readErr = output.Body.Read(p)
       if readCount > 0 {
          fmt.Printf("%s", p[:readCount])
       if readErr != nil {
          break
```

```
}
return

fmt.Printf("List objects under the bucket(%s) fail!\n", input.Bucket)
if obsError, ok := err.(obs.ObsError); ok {
    fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error response.")
    fmt.Println(obsError.Error())
} else {
    fmt.Println("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.")
    fmt.Println(err)
}
```

#### **Helpful Links**

- Server-Side Encryption
- (GitHub) Sample Code for Server-Side Encryption
- OBS Error Codes

# 12 Single-Connection Bandwidth Throttling (SDK for Go)

#### **Function**

A client will use a large amount of bandwidth when it accesses OBS objects. This impacts the normal use of other applications. To resolve this problem, you can use the single-connection bandwidth throttling.

#### NOTICE

This API currently supports only the **GetObject** method.

#### Restrictions

• The mapping between OBS regions and endpoints must comply with what is listed in **Regions and Endpoints**.

#### Method

func (obsClient ObsClient) GetObject(input \*GetObjectInput,
 obs.WithTrafficLimitHeader(traffic \*int64)) (output \*GetObjectOutput, err error)

#### **Request Parameters**

Table 12-1 List of request parameters

Parameter	Туре	Mandatory (Yes/No)	Description
input	*GetObjectIn put	Yes	Explanation: Input parameters for downloading an object. For details, see Table 12-2.

Parameter	Туре	Mandatory (Yes/No)	Description
traffic	*int64	Yes	Explanation: Bandwidth limit for a download request Value range: 819200 to 838860800, in bit/s Default value: None

Table 12-2 GetObjectInput

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
Bucket	string	Yes	Explanation: Bucket name Restrictions:  A bucket name must be unique across all accounts and regions.  A bucket name:  Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.  Cannot be formatted as an IP address.  Cannot start or end with a hyphen (-) or period (.).  Cannot contain two consecutive periods (), for example, mybucket.  Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, mybucket or mybucket.  If you repeatedly create buckets of the same name in the same region, no error will be reported and the bucket attributes comply with those set in the first creation request.  Default value: None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
Key	string	Yes	Explanation: Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name. For example, if the address for accessing the object is examplebucket.obs.apsoutheast-1.myhuaweicloud.com/folder/test.txt, the object name is folder/test.txt.  Value range: The value must contain 1 to 1,024 characters.  Default value: None
ResponseCacheCon trol	string	No	Explanation: Cache-Control header in the response. It specifies the cache behavior of the web page when the object is downloaded. Default value: None
ResponseContent- Disposition	string	No	Explanation: Cache-Control header in the response. It specifies the name of the object when it is downloaded. Default value: None
ResponseContentE ncoding	string	No	Explanation: Content-Encoding header in the response. It specifies the content encoding format when an object is downloaded. Default value: None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
ResponseContentL anguage	string	No	Explanation: Content-Language header in the response. It specifies the content language format when an object is downloaded. Default value: None
ResponseContent- Type	string	No	Explanation: Content-Type header in the response. It specifies the object file type. Default value: None
ResponseExpires	string	No	Explanation: Expires header in the response. It specifies the cache expiration time of the web page when the object is downloaded.  Default value: None
VersionId	string	No	Explanation: Object version ID, for example, G001117FCE89978B0000401205D5DC9 Value range: The value must contain 32 characters. Default value: None. If this parameter is left blank, the latest version of the object is obtained.

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
ImageProcess	string	No	Explanation: Image processing command or style. Example for resizing and rotating an image: image/ resize,m_fixed,w_100,h_100/rotate,90 Value range: Command format: image/commands Style format: style/style name For details about image processing parameters, see Processing Images. Default value: If no commands are entered, the original image is returned.
RangeStart	int64	No	Explanation: Start position for object download Value range: 0 to the object length, in bytes Default value: 0, indicating the download starts from the first byte of the object
RangeEnd	int64	No	Explanation: End position for object download Value range:  • The value must be greater than that of RangeStart.  • The upper limit of the value is the object length minus 1, in bytes.  Default value: None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
IfMatch	string	No	Explanation:  Preset ETag. If the ETag of the object to be downloaded is the same as the preset ETag, the object is returned.  Otherwise, an error is returned.  Value range:  The value must contain 16 bytes.  Default value:  None
IfNoneMatch	string	No	Explanation:  Preset ETag. If the ETag of the object to be downloaded is different from the preset ETag, the object is returned.  Otherwise, an error is returned.  Value range:  The value must contain 32 characters.  Default value:  None
IfModifiedSince	time.Time	No	Explanation: The object is returned if it has been modified since the specified time; otherwise, an error is returned.  Restrictions: The time must be in the ISO8601 format, for example, 2018-01-01T00:00:00.000Z.  Sample code: time.Now().Add(time.Duration(24) * time.Hour)  Default value: None

Parameter	Туре	Ma nda tor y (Ye s/N o)	Description
IfUnmodifiedSince	time.Time	No	Explanation:
			The object is returned if it has not been modified since the specified time; otherwise, an error is returned.
			Restrictions:
			The time must be in the ISO8601 format, for example, <b>2018-01-01T00:00:00.000Z</b> .
			Sample code: time.Now().Add(time.Duration(24) * time.Hour)
			Default value:
			None
SseHeader	SseCHea	No	Explanation:
der	der		Server-side decryption headers. For details, see <b>Table 12-7</b> .
			Restrictions:
			If the object uploaded to a server is encrypted with the key provided by the client, the key must also be provided in the message for downloading the object.

Table 12-3 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:  None

Parameter	Туре	Mandatory (Yes/No)	Description
Key	string	Yes if used	Explanation:
		as a request parameter	Key for encrypting the object when SSE-C is used
			Restrictions:
			The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=.
			Default value:
			None
KeyMD5	string	No if used as a request parameter	Explanation:  MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.
			Restrictions:
			The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.
			Default value:
			None

#### List of returned results

**Table 12-4** List of returned results

Parameter	Туре	Description
output	*GetObjectOutput	Explanation:
		Returned results. For details, see <b>Table 12-5</b> .
err	error	Explanation:
		Error messages returned by the API

Table 12-5 GetObjectOutput

Parameter	Туре	Description
StatusCode	int	Explanation:
		HTTP status code
		Value range:
		A status code is a group of digits that can be <b>2</b> xx (indicating successes) or <b>4</b> xx or <b>5</b> xx (indicating errors). It indicates the status of a response. For more information, see <b>Status Code</b> .
		Default value:
		None
RequestId	string	Explanation:
		Request ID returned by the OBS server
		Default value:
		None
ResponseHeaders	map[string	Explanation:
	][]string	HTTP response headers
		Default value:
		None
Body	io.ReadClo	Explanation:
	ser	Object data stream to download
		Default value:
		None
StorageClass	StorageCl	Explanation:
assType	Object storage class	
		Value range:
		See <b>Table 12-6</b> .
		Default value:
		None

Parameter	Туре	Description
AllowOrigin	string	Explanation:  If Origin in the request meets the CORS rules of the bucket, AllowedOrigin specified in the CORS rules is returned.  AllowedOrigin indicates the origin from which the requests can access the bucket.  Restrictions:  Domain name of the origin. Each origin can contain only one wildcard character (*), for example, https://*.vbs.example.com.  Default value:  None
AllowHeader	string	Explanation:  If RequestHeader in the request meets the CORS rules of the bucket, AllowedHeader in the CORS rules is returned.  AllowedHeader indicates the allowed headers for cross-origin requests. Only CORS requests matching the allowed headers are valid.  Restrictions:  Each header can contain only one wildcard character (*). Spaces, ampersands (&), colons (:), and less-than signs (<) are not allowed.  Default value:  None
AllowMethod	string	Explanation: AllowedMethod in the CORS rules of the bucket. It specifies the HTTP method of cross-origin requests, that is, the operation type of buckets and objects.  Value range: The following HTTP methods are supported: GET PUT HEAD POST DELETE Default value: None

Parameter	Туре	Description
ExposeHeader	string	Explanation:
		ExposeHeader in the CORS rules of the bucket. It specifies the CORS-allowed additional headers in the response. These headers provide additional information to clients. By default, your browser can only access headers Content-Length and Content-Type. If your browser needs to access other headers, add them to a list of the allowed additional headers.
		Restrictions:
		Spaces, wildcard characters (*), ampersands (&), colons (:), and less-than signs (<) are not allowed.
		Default value:
		None
MaxAgeSeconds	int	Explanation:
		<b>MaxAgeSeconds</b> in the CORS rules of the bucket. It specifies the time your client can cache the response for a cross-origin request.
		Restrictions:
		Each CORS rule can contain only one MaxAgeSeconds.
		Value range:
		0 to (2 <sup>31</sup> – 1), in seconds
		Default value:
		100
ContentLength	int64	Explanation:
		Object size in bytes
		Value range:
		0 to (2 <sup>63</sup> – 1), in bytes
		Default value:
		None
CacheControl	string	Explanation:
		<b>Cache-Control</b> header in the response. It specifies the cache behavior of the web page when an object is downloaded.
		Default value:
		None

Parameter	Туре	Description
ContentDisposition	string	Explanation:
		Content-Disposition header in the
		response  Default value:
		None
Contouting		110110
ContentEncoding	string	Explanation: Content-Encoding header in the response
		Default value:
		None
ContentLanguage	string	Explanation:
Contentialiguage	July	Content-Language header in the response
		Default value:
		None
ContentType	string	Explanation:
	_	MIME type of the object file. MIME type is
		a standard way of describing a data type
		and is used by the browser to decide how to display data.
		Value range:
		See What Is Content-Type (MIME)?
		Default value:
		If you do not specify this parameter when uploading an object, the SDK determines
		the object type based on the suffix of the
		specified object name and automatically
		assigns a value to this parameter.
Expires	string	Explanation:
		Expires header in the response
		Default value:
		None
LastModified	time.Time	Explanation:
		Time when the last modification was made to the object
		Restrictions:
		The time must be in the ISO8601 format, for example, <b>2018-01-01T00:00:00.000Z</b> .
		Default value:
		None

Parameter	Туре	Description
ETag	string	Explanation:
		Base64-encoded, 128-bit MD5 value of an object. ETag is the unique identifier of the object content. It can be used to determine whether the object content is changed. For example, if the ETag value is <b>A</b> when an object is uploaded, but changes to <b>B</b> when the object is downloaded, it indicates that the object content has been changed. The ETag reflects changes to the object content, rather than the object metadata. An uploaded or copied object has a unique ETag after being encrypted using MD5.
		Restrictions:
		If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object.
		Value range:
		The value must contain 32 characters.
		Default value:
		None
VersionId	string	Explanation:
		Object version ID
		Value range:
		The value must contain 32 characters.
		Default value:
		None
Restore	string	Explanation:
		Restore status of an object. For an Archive object that is being restored or has been restored, this header is returned.
		For example, ongoing-request="true" indicates that the object is being restored. ongoing-request="false", expiry-date="Wed, 7 Nov 2012 00:00:00 GMT" indicates that the object has been restored. expiry-date indicates when the restored object expires.
		Restrictions:
		This parameter is only available for Archive objects.
		Default value:
		None

Parameter	Туре	Description
Expiration	string	Explanation:
		Expiration details of the object. Example: "expiry-date=\"Mon, 11 Sep 2023 00:00:00 GMT\""
		Default value:
		None
SseHeader	SseCHead	Explanation:
	er or SseKmsHe ader	Server-side encryption header information. If SSE-C is used, see <b>Table 12-7</b> . If SSE-KMS is used, see <b>Table 12-8</b> .
WebsiteRedirectLo-	string	Explanation:
cation		If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL. This parameter specifies the address the request for the object is redirected to.
		The request is redirected to object anotherPage.html in the same bucket:
		WebsiteRedirectLocation:/ anotherPage.html
		The request is redirected to an external URL http://www.example.com/:
		WebsiteRedirectLocation:http:// www.example.com/
		OBS obtains the specified value from the header and stores it in the object metadata <b>WebsiteRedirectLocation</b> .
		Restrictions:
		The value must start with a slash (/), http://, or https:// and cannot exceed 2 KB.
		OBS only supports redirection for objects in the root directory of a bucket.
		Default value:
		None

Parameter	Туре	Description
Metadata	map[string]string	Explanation:  Custom object metadata. You can add a header starting with x-obs-meta- in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.  Restrictions:  The custom metadata cannot exceed 8 KB. To measure the custom metadata, sum the number of bytes in the UTF-8 encoding of each key and value.  The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.  Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are required, they must be encoded and decoded in URL or Base64 on the client, because the server does not perform such operations.  Default value:
		None

**Table 12-6** StorageClassType

Constant	Default Value	Description
StorageClassStandard	STANDARD	OBS Standard
		Features low access latency and high throughput and is used for storing massive, frequently accessed (multiple times a month) or small objects (< 1 MB) requiring quick response.
StorageClassWarm	WARM	OBS Infrequent Access
		Used for storing data that is semi- frequently accessed (fewer than 12 times a year) but is instantly available when needed.
StorageClassCold	COLD	OBS Archive
		Used for storing rarely accessed (once a year) data.

Table 12-7 SseCHeader

Parameter	Туре	Mandatory (Yes/No)	Description
Encryption	string	Yes if used as a request parameter	Explanation:  SSE-C used for encrypting objects  Value range:  AES256, indicating objects are encrypted using SSE-C  Default value:  None
Key	string	Yes if used as a request parameter	Explanation: Key for encrypting the object when SSE-C is used Restrictions: The value is a Base64-encoded 256-bit key, for example, K7QkYpBkM5+hca27fsNkUnNVaobn cnLht/rCB2o/9Cw=. Default value: None
KeyMD5	string	No if used as a request parameter	Explanation:  MD5 value of the key for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.  Restrictions: The value is encrypted by MD5 and then encoded by Base64, for example, 4XvB3tbNTN+tIEVa0/fGaQ==.  Default value: None

Table 12-8 SseKmsHeader

Parameter	Туре	Manda tory (Yes/N o)	Description
Encryption	string	Yes if used as a request param eter	Explanation: SSE-KMS used for encrypting objects Value range: kms, indicating objects are encrypted using SSE-KMS Default value: None
Key	string	No if used as a request param eter	Explanation:  ID of the KMS master key when SSE-KMS is used  Value range:  Valid value formats are as follows:  1. regionID:domainID:key/key_id  2. key_id  In the preceding formats:  • regionID indicates the ID of the region where the key is used. You can obtain it from Regions and Endpoints.  • domainID indicates the ID of the account where the key is used. To obtain it, see How Do I Get My Account ID and User ID?  • key_id indicates the ID of the key created on Data Encryption Workshop (DEW). To obtain it, see Viewing a CMK.  Default value:  • If this parameter is not specified, the default master key will be used.  • If there is no such a default master key, OBS will create one and use it by default.

## **Code Examples**

This example downloads **example/objectname** from **examplebucket** at a limited rate.

package main import (

```
"fmt"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  // Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  // securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint/*, obs.WithSecurityToken(securityToken)*/)
  if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.GetObjectInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify the object (example/objectname as an example) to download.
  input.Key = "example/objectname'
  // Define a download limit rate, in bit/s. 819200 is used as an example, indicating that the download
request is limited to 100 KB/s.
  var traffic int64 = 819200
  // Limit the object download rate using obs.WithTrafficLimitHeader.
  output, err := obsClient.GetObject(input, obs.WithTrafficLimitHeader(traffic))
  if err == nil {
     fmt.Printf("Get object(%s) under the bucket(%s) successful!\n", input.Key, input.Bucket)
     fmt.Printf("StorageClass:%s, ETag:%s, ContentType:%s, ContentLength:%d, LastModified:%s\n",
        output.StorageClass, output.ETag, output.ContentType, output.ContentLength, output.LastModified)
     // Close output.Body after using it, to avoid connection leakage.
     defer output.Body.Close()
     // Read the object content.
     p := make([]byte, 1024)
     var readErr error
     var readCount int
     for {
       readCount, readErr = output.Body.Read(p)
       if readCount > 0 {
          fmt.Printf("%s", p[:readCount])
       if readErr != nil {
          break
     }
     return
  fmt.Printf("List objects under the bucket(%s) fail!\n", input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

## **Helpful Links**

OBS Error Codes

# 13 Troubleshooting (SDK for Go)

## 13.1 OBS Server-Side Error Codes

If the OBS server encounters an error when processing a request, a response containing the error code and error description is returned. The following table lists details about each error code and HTTP status code:

HTTP Status Code	Error Code	Error Message	Solution
301 Moved Permanently	PermanentRedirec t	The requested bucket can be accessed only through the specified address. Send subsequent requests to the address.	Send the request to the returned redirection address.
301 Moved Permanently	WebsiteRedirect	The website request lacks bucketName.	Put the bucket name in the request and try again.
307 Moved Temporarily	TemporaryRedirec t	Temporary redirection. If the DNS is updated, the request is redirected to the bucket.	The system automatically redirects the request or sends the request to the redirection address.

HTTP Status Code	Error Code	Error Message	Solution
400 Bad Request	BadDigest	The specified value of <b>Content-MD5</b> does not match the value received by OBS.	Check whether the MD5 value carried in the header is the same as that calculated by the message body.
400 Bad Request	BadDomainName	Invalid domain name.	Use a valid domain name.
400 Bad Request	BadRequest	Invalid request parameter.	Modify the parameter according to the error details returned in the message body.
400 Bad Request	CustomDomainAr eadyExist	The configured domain already exists.	It has been configured and does not need to be configured again.
400 Bad Request	CustomDomainNo tExist	Delete the domain that does not exist.	It is not configured or has been deleted. You do not need to delete it.
400 Bad Request	EntityTooLarge	The size of the object uploaded using the POST method exceeds the upper limit.	Modify the conditions specified in the policy when posting the object or reduce the object size.
400 Bad Request	EntityTooSmall	The size of the object uploaded using the POST method does not reach the lower limit.	Modify the conditions specified in the policy when posting the object or increase the object size.

HTTP Status Code	Error Code	Error Message	Solution
400 Bad Request	IllegalLocation- ConstraintExcep- tion	A request without <b>Location</b> is sent for creating a bucket in a nondefault region.	Send the bucket creation request to the default region, or send the request with the <b>Location</b> of the non-default region.
400 Bad Request	IncompleteBody	No complete request body is received due to network or other problems.	Upload the object again.
400 Bad Request	IncorrectNumber- OfFilesInPost Request	Each POST request must contain one file to be uploaded.	Carry a file to be uploaded.
400 Bad Request	InvalidArgument	Invalid parameter.	Modify the parameter according to the error details returned in the message body.
400 Bad Request	InvalidBucket	The bucket to be accessed does not exist.	Try another bucket name.
400 Bad Request	InvalidBucketNam e	The bucket name specified in the request is invalid, which may have exceeded the maximum length, or contain special characters that are not allowed.	Try another bucket name.

HTTP Status Code	Error Code	Error Message	Solution
400 Bad Request	InvalidEncryptio- nAlgorithmError	Incorrect encryption algorithm. The object cannot be decrypted due to incorrect encryption header carried when downloading the SSE-C encrypted object.	Carry the correct encryption header when downloading the object.
400 Bad Request	InvalidLocation- Constraint	The specified Location in the bucket creation request is invalid or does not exist.	Correct the <b>Location</b> in the bucket creation request.
400 Bad Request	InvalidPart	One or more specified parts are not found. The parts may not be uploaded or the specified entity tags (ETags) do not match the parts' ETags.	Specify the correct parts and entity tags.
400 Bad Request	InvalidPartOrder	Parts are not listed in ascending order by part number.	Sort the parts in ascending order and merge them again.
400 Bad Request	InvalidPolicyDocu- ment	The content of the form does not meet the conditions specified in the policy document.	Modify the policy in the constructed form according to the error details in the message body and try again.
400 Bad Request	InvalidRedirectLo- cation	Invalid redirect location.	Specify the correct IP address.
400 Bad Request	InvalidRequest	Invalid request.	Modify the parameter according to the error details returned in the message body.

HTTP Status Code	Error Code	Error Message	Solution
400 Bad Request	InvalidRequestBod y	The request body is invalid. The request requires a message body but no message body is uploaded.	Upload the message body in the correct format.
400 Bad Request	InvalidTargetBuck- etForLogging	The delivery group has no ACL permission for the target bucket.	Configure the target bucket ACL and try again.
400 Bad Request	KeyTooLongError	The provided key is too long.	Use a shorter key.
400 Bad Request	KMS.DisabledExce ption	The master key is disabled in the SSE-KMS mode.	Replace the key and try again, or contact the technical support.
400 Bad Request	KMS.NotFoundExc eption	The customer master key (CMK) does not exist in SSE-KMS mode.	Retry with the correct master key.
400 Bad Request	MalformedACLErr or	The provided XML file has syntax errors or does not meet the format requirements.	Use the correct XML format to retry.
400 Bad Request	MalformedError	The XML format in the request is incorrect.	Use the correct XML format to retry.
400 Bad Request	MalformedLoggin gStatus	The XML format of <b>Logging</b> is incorrect.	Use the correct XML format to retry.
400 Bad Request	MalformedPolicy	The bucket policy does not pass.	Modify the bucket policy according to the error details returned in the message body.
400 Bad Request	MalformedQuota Error	The Quota XML format is incorrect.	Use the correct XML format to retry.

HTTP Status Code	Error Code	Error Message	Solution
400 Bad Request	MalformedXML	An XML file of a configuration item is in incorrect format.	Use the correct XML format to retry.
400 Bad Request	MaxMessageLeng thExceeded	Copying an object does not require a message body in the request.	Remove the message body and retry.
400 Bad Request	MetadataTooLarg e	The size of the metadata header has exceeded the upper limit.	Reduce the size of the metadata header.
400 Bad Request	MissingRegion	The region information is missing in the request, and the default region is required in the system.	Carry the region information in the request.
400 Bad Request	MissingRequestBo dyError	This error code is returned after you send an empty XML file.	Provide the correct XML file.
400 Bad Request	MissingRequired- Header	A required header is missing in the request.	Provide the required header.
400 Bad Request	MissingSecurity- Header	A required header is missing in the request.	Provide the required header.
400 Bad Request	TooManyBuckets	You have attempted to create more buckets than allowed.	Delete some buckets and try again.
400 Bad Request	TooManyCustomD omains	Too many user accounts are configured.	Delete some user accounts and try again.
400 Bad Request	TooManyWrongSi gnature	The request is rejected due to high-frequency errors.	Replace AK and try again.

HTTP Status Code	Error Code	Error Message	Solution
400 Bad Request	UnexpectedConte nt	The request requires a message body which is not carried by the client, or the request does not require a message body but the client carries the message body.	Try again according to the instruction.
400 Bad Request	UserKeyMustBeSp ecified	This operation is only available to special users.	Contact the technical support.
403 Forbidden	AccessDenied	Access denied, because the request does not carry a date header or the header format is incorrect.	Provide a correct date header in the request.
403 Forbidden	AccessForbidden	Insufficient permissions. No CORS rule is configured for the bucket, or the CORS rule is not matched.	Modify the CORS configuration of the bucket or send the matched OPTIONS request based on the CORS configuration of the bucket.
403 Forbidden	AllAccessDisabled	The user has no permission to perform a specific operation. The bucket name is forbidden.	Try another bucket name.
403 Forbidden	DeregisterUserId	The user has been deregistered.	Top up or re- register.
403 Forbidden	InArrearOrInsuffi- cientBalance	The user account is in arrears, or the account balance insufficient.	Top up the account.

HTTP Status Code	Error Code	Error Message	Solution
403 Forbidden	InsufficientStora- geSpace	Insufficient storage space.	If the quota is exceeded, increase quota or delete some objects.
403 Forbidden	InvalidAccessKeyl d	The access key ID provided by the customer does not exist in the system.	Provide correct access key ID.
403 Forbidden	NotSignedUp	You have not registered with the system.	Register OBS.
403 Forbidden	RequestTimeTooS kewed	The request time and the server's time differ a lot.	Check whether the difference between the client time and the current time is too large.
403 Forbidden	SignatureDoesNot Match	The provided signature in the request does not match the signature calculated by OBS.	Check your secret access key and signature calculation method.
403 Forbidden	Unauthorized	You have not been authenticated in real name.	Authenticate your real name and try again.
404 Not Found	NoSuchBucket	The bucket does not exist.	Create a bucket and perform the operation again.
404 Not Found	NoSuchBucketPoli cy	No bucket policy exists.	Configure a bucket policy.
404 Not Found	NoSuchCORSConfi guration	No CORS configuration exists.	Configure CORS first.
404 Not Found	NoSuchCustomDo main	The requested user domain does not exist.	Set a user domain first.
404 Not Found	NoSuchKey	The specified key does not exist.	Upload the object first.

HTTP Status Code	Error Code	Error Message	Solution
404 Not Found	NoSuchLifecycle- Configuration	The requested <b>Lifecycle</b> does not exist.	Configure a lifecycle rule first.
404 Not Found	NoSuchUpload	The specified multipart upload does not exist. The upload ID does not exist or the multipart upload has been aborted or completed.	Use the existing part or reinitialize the part.
404 Not Found	NoSuchVersion	The specified version ID does not match any existing version.	Use a correct version ID.
404 Not Found	NoSuchWebsiteCo nfiguration	The requested website does not exist.	Configure the website first.
405 Method Not Allowed	MethodNotAllowe d	The specified method is not allowed against the requested resource.  The message "Specified method is not supported." is returned.	The method is not allowed.
408 Request Timeout	RequestTimeout	The socket connection to the server has no read or write operations within the timeout period.	Check the network and try again, or contact technical support.
409 Conflict	BucketAlreadyEx- ists	The requested bucket name already exists. The bucket namespace is shared by all users of OBS. Try again with another bucket name.	Try another bucket name.

HTTP Status Code	Error Code	Error Message	Solution
409 Conflict	BucketAlreadyOw nedByYou	Your previous request for creating the named bucket succeeded and you already own it.	You do not need to create the bucket again.
409 Conflict	BucketNotEmpty	The bucket that you tried to delete is not empty.	Delete the objects in the bucket and then delete the bucket.
409 Conflict	InvalidBucketState	Invalid bucket status. After cross-region replication is configured, bucket versioning cannot be disabled.	Enable bucket versioning or cancel cross- region replication.
409 Conflict	OperationAborted	A conflicting operation is being performed on this resource. Try again later.	Try again later.
409 Conflict	ServiceNotSuppor ted	The request method is not supported by the server.	Not supported by the server. Contact technical support.
411 Length Required	MissingContentLe ngth	The HTTP header Content-Length is not provided.	Provide the Content-Length header.
412 Precondition Failed	PreconditionFailed	At least one of the specified preconditions is not met.	Modify according to the condition prompt in the returned message body.
416 Client Requested Range Not Satisfiable	InvalidRange	The requested range cannot be obtained.	Replace the range value and try again.
500 Internal Server Error	InternalError	An internal error occurs. Try again later.	Contact the technical support.

HTTP Status Code	Error Code	Error Message	Solution
501 Not Implemented	ServiceNotImple- mented	The request method is not implemented by the server.	Not supported currently. Contact the technical support.
503 Service Unavailable	ServiceUnavaila- ble	The server is overloaded or has internal errors.	Try again later or contact the technical support.
503 Service Unavailable	SlowDown	Reduce your request frequency.	Reduce your request frequency.

## 13.2 SDK Custom Errors

Each time you fail to call an **ObsClient** API, an SDK custom error — containing an HTTP status code, OBS error code, and error message — is returned, to help you locate and rectify the fault. The struct is defined as follows:

### **Type Definition**

type ObsError struct

## **Parameter Description**

Field	Туре	Description
StatusCode	int	HTTP status code
RequestId	string	Request ID returned by the OBS server
ResponseHeaders	map[string] []string	HTTP response headers
Status	string	Reason description
Code	string	Error code returned by the OBS server
Message	string	Error description returned by the OBS server
Resource	string	Bucket and object related to the error
HostId	string	Requested server ID

## 13.3 Log Analysis

#### Log Configuration

OBS Go SDK provides the logging function based on the **log** standard library. You can use **InitLog** to enable logging, **CloseLog** to disable logging, and synchronize log information in the cache to log files. Sample code:

```
// Import the dependency package.
import (
    obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func main() {
    // Set the path for saving log files.
    var logFullPath string = "./logs/OBS-SDK.log"
    // Set the size (in bytes) for each log file.
    var maxLogSize int64 = 1024 * 1024 * 10
    // Set the number of retained log files.
    var backups int = 10
    // Set the log level.
    var level = obs.LEVEL_INFO
    // Specify whether to print logs to the console.
    var logToConsole bool = false
    // Enable logging.
    obs.InitLog(logFullPath, maxLogSize, backups, level, logToConsole)
    // Disable logging.
    obs.CloseLog()
```

#### 

- The logging function is disabled by default. You need to enable it manually.
- By default, logs are written to the cache (then written to log files after logs are accumulated to a certain amount). You can call **obs.CloseLog()** to forcibly synchronize the log information from the cache to log files.

#### Log Format

The SDK log format is: Log time|file saving the printed log: row number|log level| log content The following are example logs:

```
2018/03/13 16:21:50 [INFO]: http.go:79|Enter method ListBuckets...
2018/03/13 16:21:52 [INFO]: http.go:287|Do http request cost 2597 ms
```

### Log Levels

When current logs cannot be used to troubleshoot system faults, you can change the log level to obtain more information. The following table lists the enumeration constants provided by OBS Go SDK of supported log levels:

Constant	Default Value	Description
LEVEL_OFF	500	Close level. If this level is set, logging will be disabled.

Constant	Default Value	Description
LEVEL_ERROR	400	Error level. If this level is set, only error information will be printed.
LEVEL_WARN	300	Warning level. If this level is set, information about logs at the error level and information about partial critical events will be printed.
LEVEL_INFO	200	Information level. If this level is set, information about logs of the warning level, time consumed for each HTTP/HTTPS request, and time consumed for calling the <b>ObsClient</b> API will be printed.
LEVEL_DEBUG	100	Debugging level. If this level is set, information about logs at the information level, HTTP/HTTPS request and response headers, and <b>stringToSign</b> information calculated by authentication algorithm will be printed.

## 14 FAQ (SDK for Go)

## 14.1 How Do I Get My Account ID and User ID?

#### Obtaining Account, IAM User, and Project Information

- Using the console
  - a. On the Huawei Cloud homepage, click **Console** in the upper right corner.
  - In the upper right corner, hover over the username and choose My Credentials from the drop-down list.

Basic Information Security Settings More Center Hello! Q My Credentials Identity and Access Management 39 Switch Role 0 Tag Management Orders to Expire in 7 Operation Log 3 Log Out Tutorial

Figure 14-1 My Credentials

c. On the **API Credentials** page, view the account name, account ID, IAM user name, IAM user ID, project name, and project ID.

The project ID varies depending on the region where your service is located.

Figure 14-2 Viewing the account, user, and project information



#### Calling an API

- To obtain a user ID, see Listing IAM Users.
- To obtain a project ID, see Querying Project Information.

#### **Obtaining User Group Information**

- **Step 1** Log in to the Huawei Cloud console, access the IAM console, and choose **User Groups** in the navigation pane.
- **Step 2** Expand the details of the desired user group and view its name and ID.

----End

#### **Obtaining Region Information**

- **Step 1** Log in to the Huawei Cloud console, access the IAM console, and choose **Projects** in the navigation pane.
- **Step 2** View the content in the **Project Name** column. The content in this column indicates the ID of the region where the project belongs.

----End

#### **Obtaining Agency Information**

- **Step 1** Log in to the Huawei Cloud console, access the IAM console, and choose **Agencies** in the navigation pane.
- **Step 2** Hover over the desired agency to view its name (in the first line) and ID (in the second line) in the dark pop-up box.

----End

## 14.2 What Is Content-Type (MIME)?

Multipurpose Internet Mail Extensions (MIME) type is a standard way of describing a data type. The MIME type is passed in the Content-Type header.

**◯** NOTE

If you do not specify Content-Type when uploading an object, the SDK determines the object type based on the suffix of the specified object name and automatically assigns a value to Content-Type.

#### **Content-Type**

**Content-Type** indicates the type of data to send or receive and determine the form and encoding method browsers will use to display data (mainly custom

client files or media files). If no content type is specified, the type will be generated based on the file name extension. If there is no extension, the content type is **application/octet-stream** by default.

## **Common Content Types**

The commonly used content types are given in the table below.

**Table 14-1** List of common content types

File Name Extension	Content- Type(Mime- Type)	File Name Extension	Content- Type(Mime- Type)
.* (binary stream, unknown file type)	application/octet- stream	.tif	image/tiff
.a11	application/x-a11	.acp	audio/x-mei-aac
.ai	application/ postscript	.aif	audio/aiff
.aifc	audio/aiff	.aiff	audio/aiff
.anv	application/x-anv	.apk	application/ vnd.android.packa ge-archive
.asa	text/asa	.asf	video/x-ms-asf
.asp	text/asp	.asx	video/x-ms-asf
.au	audio/basic	.avi	video/avi
.awf	application/ vnd.adobe.workflo w	.biz	text/xml
.bmp	application/x-bmp	.bot	application/x-bot
.c4t	application/x-c4t	.c90	application/x-c90
.cal	application/x-cals	.cat	application/ vnd.ms-pki.seccat
.cdf	application/x- netcdf	.cdr	application/x-cdr
.cel	application/x-cel	.cer	application/x- x509-ca-cert
.cg4	application/x-g4	.cgm	application/x-cgm
.cit	application/x-cit	.class	java/
.cml	text/xml	.cmp	application/x-cmp

File Name Extension	Content- Type(Mime- Type)	File Name Extension	Content- Type(Mime- Type)
.cmx	application/x-cmx	.cot	application/x-cot
.crl	application/pkix- crl	.crt	application/x- x509-ca-cert
.csi	application/x-csi	.css	text/css
.CSV	text/csv	.cut	application/x-cut
.dbf	application/x-dbf	.dbm	application/x-dbm
.dbx	application/x-dbx	.dcd	text/xml
.dcx	application/x-dcx	.der	application/x- x509-ca-cert
.dgn	application/x-dgn	.dib	application/x-dib
.dll	application/x- msdownload	.doc	application/ msword
.docx	application/ vnd.openxmlform ats- officedocument.w ordprocessingml.d ocument	.dot	application/ msword
.dotx	application/ vnd.openxmlform ats- officedocument.w ordprocessingml.t emplate	.drw	application/x-drw
.dtd	text/xml	.dwf	Model/vnd.dwf
.dwf	application/x-dwf	.dwg	application/x-dwg
.dxb	application/x-dxb	.dxf	application/x-dxf
.edn	application/ vnd.adobe.edn	.emf	application/x-emf
.eml	message/rfc822	.ent	text/xml
.epi	application/x-epi	.eps	application/x-ps
.eps	application/ postscript	.etd	application/x-ebx
.exe	application/x- msdownload	.fax	image/fax

File Name Extension	Content- Type(Mime- Type)	File Name Extension	Content- Type(Mime- Type)
.fdf	application/ vnd.fdf	.fif	application/ fractals
.fo	text/xml	.frm	application/x-frm
.g4	application/x-g4	.gbr	application/x-gbr
	application/x-	.gif	image/gif
.gl2	application/x-gl2	.gp4	application/x-gp4
.hgl	application/x-hgl	.hmr	application/x-hmr
.hpg	application/x-hpgl	.hpl	application/x-hpl
.hqx	application/mac- binhex40	.hrf	application/x-hrf
.hta	application/hta	.htc	text/x-component
.htm	text/html	.html	text/html
.htt	text/webviewhtml	.htx	text/html
.icb	application/x-icb	.ico	image/x-icon
.ico	application/x-ico	.iff	application/x-iff
.ig4	application/x-g4	.igs	application/x-igs
.iii	application/x- iphone	.img	application/x-img
.ins	application/x- internet-signup	.ipa	application/ vnd.iphone
.isp	application/x- internet-signup	.IVF	video/x-ivf
.java	java/*	.jfif	image/jpeg
.jpe	image/jpeg	.jpe	application/x-jpe
.jpeg	image/jpeg	.jpg	image/jpeg
.jpg	application/x-jpg	.js	application/x- javascript
.jsp	text/html	.la1	audio/x-liquid-file
.lar	application/x- laplayer-reg	.latex	application/x- latex
.lavs	audio/x-liquid- secure	.lbm	application/x-lbm

File Name Extension	Content- Type(Mime- Type)	File Name Extension	Content- Type(Mime- Type)
.lmsff	audio/x-la-lms	.ls	application/x- javascript
.ltr	application/x-ltr	.m1v	video/x-mpeg
.m2v	video/x-mpeg	.m3u	audio/mpegurl
.m4e	video/mpeg4	.mac	application/x-mac
.man	application/x- troff-man	.math	text/xml
.mdb	application/ msaccess	.mdb	application/x-mdb
.mfp	application/x- shockwave-flash	.mht	message/rfc822
.mhtml	message/rfc822	.mi	application/x-mi
.mid	audio/mid	.midi	audio/mid
.mil	application/x-mil	.mml	text/xml
.mnd	audio/x-musicnet- download	.mns	audio/x-musicnet- stream
.mocha	application/x- javascript	.mov	video/quicktime
.movie	video/x-sgi-movie	mp1	audio/mp1
.mp2	audio/mp2	.mp2v	video/mpeg
.mp3	audio/mp3	.mp4	video/mp4
.mpa	video/x-mpg	.mpd	application/ vnd.ms-project
.mpe	video/x-mpeg	.mpeg	video/mpg
.mpg	video/mpg	.mpga	audio/rn-mpeg
.трр	application/ vnd.ms-project	.mps	video/x-mpeg
.mpt	application/ vnd.ms-project	.mpv	video/mpg
.mpv2	video/mpeg	.mpw	application/ vnd.ms-project
.mpx	application/ vnd.ms-project	.mtx	text/xml

File Name Extension	Content- Type(Mime- Type)	File Name Extension	Content- Type(Mime- Type)
.тхр	application/x- mmxp	.net	image/pnetvue
.nrf	application/x-nrf	.nws	message/rfc822
.odc	text/x-ms-odc	.out	application/x-out
.p10	application/ pkcs10	.p12	application/x- pkcs12
.p7b	application/x- pkcs7-certificates	.p7c	application/pkcs7- mime
.p7m	application/pkcs7- mime	.p7r	application/x- pkcs7-certreqresp
.p7s	application/pkcs7- signature	.pc5	application/x-pc5
.pci	application/x-pci	.pcl	application/x-pcl
.рсх	application/x-pcx	.pdf	application/pdf
.pdb	chemical/x-pdb	.pdx	application/ vnd.adobe.pdx
.pfx	application/x- pkcs12	.pgl	application/x-pgl
.pic	application/x-pic	.pko	application/ vnd.ms-pki.pko
.pl	application/x-perl	.plg	text/html
.pls	audio/scpls	.plt	application/x-plt
.png	image/png	.png	application/x-png
.pot	application/ vnd.ms- powerpoint	.potx	application/ vnd.openxmlform ats- officedocument.pr esentationml.tem plate
.ppa	application/ vnd.ms- powerpoint	.ppm	application/x-ppm

File Name Extension	Content- Type(Mime- Type)	File Name Extension	Content- Type(Mime- Type)
.pps	application/ vnd.ms- powerpoint	.ppsx	application/ vnd.openxmlform ats- officedocument.pr esentationml.slide show
.ppt	application/ vnd.ms- powerpoint	.ppt	application/x-ppt
. pptx	application/ vnd.openxmlform ats- officedocument.pr esentationml.pres entation	.pr	application/x-pr
.prf	application/pics- rules	.prn	application/x-prn
.prt	application/x-prt	.ps	application/x-ps
.ps	application/ postscript	.ptn	application/x-ptn
.pwz	application/ vnd.ms- powerpoint	.r3t	text/vnd.rn- realtext3d
.ra	audio/vnd.rn- realaudio	.ram	audio/x-pn- realaudio
.ras	application/x-ras	.rat	application/rat- file
.rdf	text/xml	.rec	application/ vnd.rn-recording
.red	application/x-red	.rgb	application/x-rgb
.rjs	application/ vnd.rn- realsystem-rjs	.rjt	application/ vnd.rn- realsystem-rjt
.rlc	application/x-rlc	.rle	application/x-rle
.rm	application/ vnd.rn-realmedia	.rmf	application/ vnd.adobe.rmf
.rmi	audio/mid	.rmj	application/ vnd.rn- realsystem-rmj

File Name Extension	Content- Type(Mime- Type)	File Name Extension	Content- Type(Mime- Type)
.rmm	audio/x-pn- realaudio	.rmp	application/ vnd.rn- rn_music_package
.rms	application/ vnd.rn-realmedia- secure	.rmvb	application/ vnd.rn-realmedia- vbr
.rmx	application/ vnd.rn- realsystem-rmx	.rnx	application/ vnd.rn-realplayer
.rp	image/vnd.rn- realpix	.rpm	audio/x-pn- realaudio-plugin
.rsml	application/ vnd.rn-rsml	.rt	text/vnd.rn- realtext
.rtf	application/ msword	.rtf	application/x-rtf
.rv	video/vnd.rn- realvideo	.sam	application/x-sam
.sat	application/x-sat	.sdp	application/sdp
.sdw	application/x-sdw	.sis	application/ vnd.symbian.instal l
.sisx	application/ vnd.symbian.instal l	.sit	application/x- stuffit
.slb	application/x-slb	.sld	application/x-sld
.sldx	application/ vnd.openxmlform ats- officedocument.pr esentationml.slide	.slk	drawing/x-slk
.smi	application/smil	.smil	application/smil
.smk	application/x-smk	.snd	audio/basic
.sol	text/plain	.sor	text/plain
.spc	application/x- pkcs7-certificates	.spl	application/ futuresplash
.spp	text/xml	.ssm	application/ streamingmedia

File Name Extension	Content- Type(Mime- Type)	File Name Extension	Content- Type(Mime- Type)
.sst	application/ vnd.ms- pki.certstore	.stl	application/ vnd.ms-pki.stl
.stm	text/html	.sty	application/x-sty
.svg	image/svg+xml	.swf	application/x- shockwave-flash
.tdf	application/x-tdf	.tg4	application/x-tg4
.tga	application/x-tga	.tif	image/tiff
.tif	application/x-tif	.tiff	image/tiff
.tld	text/xml	.top	drawing/x-top
.torrent	application/x- bittorrent	.tsd	text/xml
.txt	text/plain	.uin	application/x-icq
.uls	text/iuls	.vcf	text/x-vcard
.vda	application/x-vda	.vdx	application/ vnd.visio
.vml	text/xml	.vpg	application/x- vpeg005
.vsd	application/ vnd.visio	.vsd	application/x-vsd
.VSS	application/ vnd.visio	.vst	application/ vnd.visio
.vst	application/x-vst	.VSW	application/ vnd.visio
.VSX	application/ vnd.visio	.vtx	application/ vnd.visio
.vxml	text/xml	.wav	audio/wav
.wax	audio/x-ms-wax	.wb1	application/x-wb1
.wb2	application/x-wb2	.wb3	application/x-wb3
.wbmp	image/ vnd.wap.wbmp	.wiz	application/ msword
.wk3	application/x-wk3	.wk4	application/x-wk4
.wkq	application/x-wkq	.wks	application/x-wks

File Name Extension	Content- Type(Mime- Type)	File Name Extension	Content- Type(Mime- Type)
.wm	video/x-ms-wm	.wma	audio/x-ms-wma
.wmd	application/x-ms- wmd	.wmf	application/x-wmf
.wml	text/vnd.wap.wml	.wmv	video/x-ms-wmv
.wmx	video/x-ms-wmx	.wmz	application/x-ms- wmz
.wp6	application/x-wp6	.wpd	application/x-wpd
.wpg	application/x-wpg	.wpl	application/ vnd.ms-wpl
.wq1	application/x-wq1	.wr1	application/x-wr1
.wri	application/x-wri	.wrk	application/x-wrk
.ws	application/x-ws	.ws2	application/x-ws
.wsc	text/scriptlet	.wsdl	text/xml
.wvx	video/x-ms-wvx	.хар	application/x- silverlight-app
.x_b	application/x-x_b	.xdp	application/ vnd.adobe.xdp
.xdr	text/xml	.xfd	application/ vnd.adobe.xfd
.xfdf	application/ vnd.adobe.xfdf	.xhtml	text/html
.xls	application/ vnd.ms-excel	.xls	application/x-xls
.xlsx	application/ vnd.openxmlform ats- officedocument.sp readsheetml.sheet	.xltx	application/ vnd.openxmlform ats- officedocument.sp readsheetml.temp late
.xlw	application/x-xlw	.xml	text/xml
.xpl	audio/scpls	.xq	text/xml
.xql	text/xml	.xquery	text/xml
.xsd	text/xml	.xsl	text/xml
.xslt	text/xml	.xwd	application/x-xwd

File Name Extension	Content- Type(Mime- Type)	File Name Extension	Content- Type(Mime- Type)
.x_t	application/x-x_t	.yaml	text/vnd.yaml
.yml	text/vnd.yml	.webp	image/webp
.tar	application/x-tar	.zip	application/zip

## 14.3 How Do I Specify Content-SHA256?

You can upload the **x-obs-content-sha256** header when uploading an object or a part. The value of this header is the hexadecimal value converted from the SHA256 value of the request body and is calculated from

**Hex(SHA256Hash(<payload>)**. The server calculates and verifies the SHA256 value of the message body in the request with **x-obs-content-sha256** included, which may make performance deteriorate, but is recommended for security purposes. Sample code is as follows:

This example deletes the asynchronous fetch policy of bucket examplebucket.

```
package main
import (
  "crypto/sha256"
  "fmt"
  "io"
  "os"
  obs "github.com/huaweicloud/huaweicloud-sdk-go-obs/obs"
func sha256File(path string) string {
  file, err := os.Open(path) // Open the file for reading
  if err != nil {
     panic(err)
  defer file.Close() // Be sure to close your file!
  hash := sha256.New() // Use the Hash in crypto/sha256
  if _, err := io.Copy(hash, file); err != nil {
     panic(err)
  return fmt.Sprintf("%x", hash.Sum(nil))
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  //Obtain an AK/SK pair on the management console. For details, see https://support.huaweicloud.com/
intl/en-us/usermanual-ca/ca_01_0003.html.
  ak := os.Getenv("AccessKeyID")
  sk := os.Getenv("SecretAccessKey")
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not
to use hard coding to reduce leakage risks. You can obtain an AK/SK pair using environment variables or
import an AK/SK pair in other ways.
  securityToken := os.Getenv("SecurityToken")
  // Enter the endpoint corresponding to the bucket. CN-Hong Kong is used here as an example. Replace it
with the one currently in use.
  endPoint := "https://obs.ap-southeast-1.myhuaweicloud.com"
  // Create an obsClient instance.
  // If you use a temporary AK/SK pair and a security token to access OBS, use the obs.WithSecurityToken
method to specify a security token when creating an instance.
  obsClient, err := obs.New(ak, sk, endPoint, obs.WithSecurityToken(securityToken),
obs.WithSignature(obs.SignatureObs))
```

```
if err != nil {
     fmt.Printf("Create obsClient error, errMsg: %s", err.Error())
  input := &obs.PutObjectInput{}
  // Specify a bucket name.
  input.Bucket = "examplebucket"
  // Specify the object (example/objectname as an example) to download.
  input.Key = "example/objectname"
  filePath := "localfile"
  fd, _ := os.Open(filePath)
  defer fd.Close()
  input.Body = fd
  // Upload you local file using streaming.
  output, err := obsClient.PutObject(input, obs.WithCustomHeader("x-obs-content-sha256",
sha256File(filePath)))
  if err == nil {
     fmt.Printf("Put object(%s) under the bucket(%s) successful!\n", input.Key, input.Bucket)
     fmt.Printf("StorageClass:%s, ETag:%s\n",
        output.StorageClass, output.ETag)
     return
  fmt.Printf("Put object(%s) under the bucket(%s) fail!\n", input.Key, input.Bucket)
  if obsError, ok := err.(obs.ObsError); ok {
     fmt.Println("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
     fmt.Println(obsError.Error())
     fmt.Println("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
     fmt.Println(err)
```

#### **NOTICE**

OBS SDK for Go supports integrity check with both MD5 and SHA256 (SHA256 is recommended for security purposes).

## 14.4 Why Does the SDK Source Code Contain acs.amazonaws.com?

To be compatible with AWS S3, the OBS SDK source code contains **acs.amazonaws.com** as a fixed format.

The SDK neither processes nor accesses this keyword and only takes it as a constant.

You can ignore this keyword. The figure below gives an example. For details, see **SDK for Go**.

```
func prepareGrantURI(grant Grant) string {
    if grant.Grantee.URI == GroupAllUsers || grant.Grantee.URI == GroupAuthenticatedUsers {
        return fmt.Sprintf("<URI>%s%s</URI>", "http://acs.amazonaws.com/groups/global/", grant.Grantee.URI)
    }
    if grant.Grantee.URI == GroupLogDelivery {
        return fmt.Sprintf("<URI>%s%s</URI>", "http://acs.amazonaws.com/groups/s3/", grant.Grantee.URI)
    }
    return fmt.Sprintf("<URI>%s</URI>", grant.Grantee.URI)
}
```