Object Storage Service

# PHP SDK Developer Guide

**Issue** 01

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# Security Declaration

## Vulnerability

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For vulnerability information, enterprise customers can visit the following web page:
https://securitybulletin.huawei.com/enterprise/en/security-advisory

  

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# 1 SDK Download Links

## Download Address

- Latest version of OBS PHP SDK source code: **Download**
- Earlier versions of OBS PHP SDK: **Download**

## SDK Source Code and API Documentation

- For details about the SDK source code, see **GitHub**.
- API documentation: **SDK API Reference**

## Compatibility

- Recommended PHP versions: 5.6 and 7.*x*

  **CAUTION**

  - PHP SDK 3.22.6 and later require the PHP version must not be earlier than PHP 7.1.
  - PHP SDK 3.23.11 and earlier are compatible with up to PHP 8.1. To be compatible with later PHP versions, upgrade the PHP SDK version to 3.24.9.

- Namespace: This version is incompatible with the earlier version (2.1.*x*). All public classes and functions are saved in the **obs** package.
- Interface functions: Not completely compatible with earlier versions (2.1.*x*). The following table describes the changes.

| Interface Function | Description |
| --- | --- |
| ObsClient.setBucketCors | In the request parameters, the **CorsRule** field is renamed as **CorsRules**. |
| ObsClient.getBucketCors | In the response parameters, the **CorsRule** field is renamed as **CorsRules**. |
| ObsClient.setBucketTagging | In the request parameters, the **TagSet** field is renamed as **Tags**. |

| Interface Function | Description |
| --- | --- |
| ObsClient.getBucketTagging | In the response parameters, the **TagSet** field is renamed as **Tags**. |

# 2 Example Programs

OBS PHP SDK provides abundant example programs for your reference and use.

These **programs** can be obtained from the OBS PHP SDK.

You can also click the links below to download corresponding example programs.

Example programs include:

| Sample Code | Description |
| --- | --- |
| **BucketOperationsSample** | How to use bucket-related APIs |
| **ObjectOperationsSample** | How to use object-related APIs |
| **DownloadSample** | How to download an object |
| **CreateFolderSample** | How to create a folder |
| **DeleteObjectsSample** | How to delete objects in a batch |
| **ListObjectsSample** | How to list objects |
| **ListVersionsSample** | How to list versioning objects |
| **ListObjectsInFolderSample** | How to list objects in a folder |
| **ObjectMetaSample** | How to customize object metadata |
| **SimpleMultipartUploadSample** | How to perform a multipart upload |
| **RestoreObjectSample** | How to download Archive objects |
| **ConcurrentCopyPartSample** | How to concurrently copy parts of a large object |
| **ConcurrentDownloadObjectSample** | How to concurrently download parts of a large object |
| **ConcurrentUploadPartSample** | How to concurrently upload parts of a large object |

| Sample Code | Description |
| --- | --- |
| PostObjectSample | How to perform a browser-based upload |
| TemporarySignatureSample | How to use URLs for authorized access |

# 3 Quick Start

## 3.1 Before You Start

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

- Ensure that you are familiar with OBS basic concepts, such as **buckets**, **objects**, and **access keys (AK and SK)**.
- You can see **General Examples of ObsClient** to understand how to call OBS PHP SDK APIs in a general manner.
- After an API of **ObsClient** is called, if **SDK common result objects** are returned with no exception thrown, the operation is successful. If there is an exception returned, the operation fails, and you can reference **SDK custom exceptions** to learn the reason.
- Some features are available only in some regions. If an API call returns the 405 HTTP status code, check whether the region supports this feature.

## 3.2 Setting Up an OBS Environment

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

**Step 1** Sign up for a cloud service account.

Create an account to use OBS. If you already have one, use it instead.

1. Open a browser.

2. Visit the **Huawei Cloud official website**.
3. In the upper right corner of the page, click **Register**.
4. Enter the registration information and click **Register**.

**Step 2** Enable OBS.

Top up your account before you can use OBS.

1. Log in to the **management console**.
2. Click **Billing & Costs** from the top menu bar. The **Billing Center** page is displayed.
3. Choose **Funds Management** > **Top Up**. The **Top Up** page is displayed.
4. Top up your account.
5. After the top-up is complete, close the dialog box and go back to the homepage.
6. Choose **Service List** > **Object Storage Service** to access OBS Console.

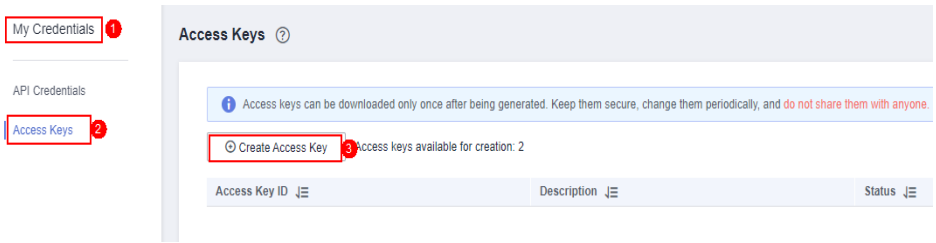
**Step 3** Create access keys.

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.

- To get permanent access keys, do as follows:
  a. Log in to the **management console**.
  b. In the upper right corner, hover your cursor 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**.

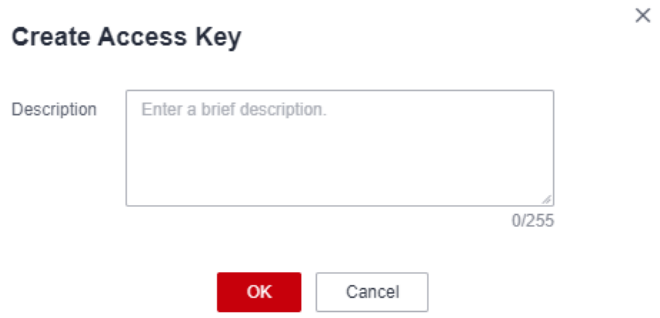


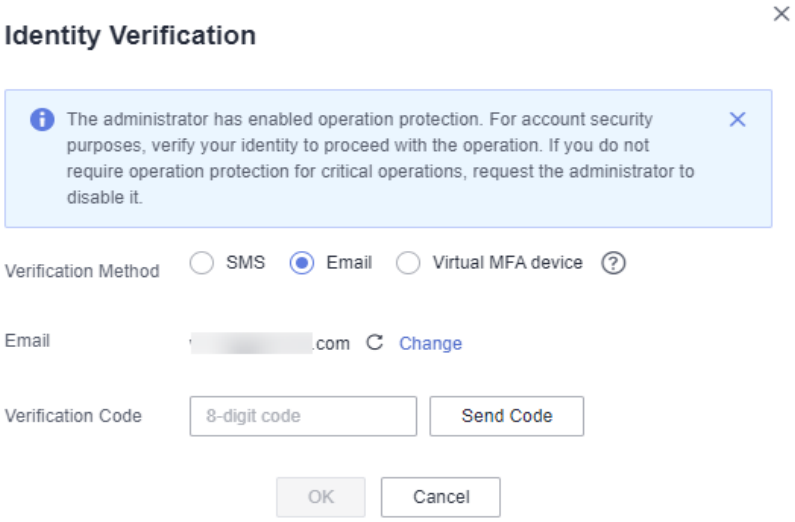
NOTE

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

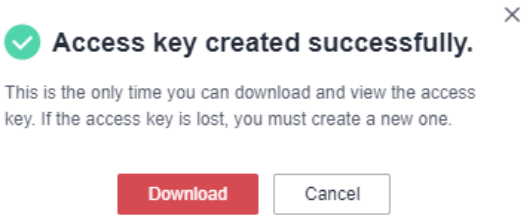
e. In the **Create Access Key** dialog box, enter a description (recommended), and click **OK**.




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




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




h. Open the downloaded file **credentials.csv** to obtain the 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.

- To get temporary security credentials, refer to the following:

  Temporary security credentials are issued by the system and are only valid for 15 minutes to 24 hours. They follow the principle of least privilege. When using temporary security credentials, you must use an AK/SK pair and a security token together.

  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.

**----End**

# 3.3 Preparing a Development Environment

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

- Download a recommended version from the **PHP official website** and install it.
- (Optional) Download the latest version of PhpStorm from the **JetBrains official website** and install it.

NOTE

After PHP is installed, you need to set the extension library parameter (**extension_dir**) in the **php.ini** file and start the cURL and OpenSSL extension libraries.

# 3.4 Installing the SDK

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

Table 3-1 shows you how to install the PHP SDK.

**Table 3-1** Installation methods

| No. | Method |
| --- | --- |
| 1 | Manually downloading and installing the source code development package |
| 2 | Using the **composer** command |

## Manually Downloading and Installing the Source Code Development Package

The following uses OBS PHP SDK of the latest version as an example:

**Step 1** Download the OBS PHP SDK development package by referring to **Downloading the SDK**.

**Step 2** Decompress the development package to obtain the following files: **examples** (the sample code), **Obs** (the SDK source code), **composer.json** (the dependency configuration file), **obs-autoloader.php** (the file for automatically loading PHP dependency libraries), and **README.txt** (the feature description file of SDK versions).

**Step 3** In the CLI, go to the directory where the SDK is decompressed and run the **composer install** command to install the dependencies. A folder named **vendor** will be generated.

**Step 4** (Optional) In the PhpStorm project, import the source code. Open PhpStorm, choose **File** > **Open**, and select the directory where the SDK is decompressed in **Open File or Project**.

**----End**

NOTE

After the installation, the directory structure is similar to the following:

```
├── examples
├── Obs
├── vendor
├── composer.json
├── obs-autoloader.php
└── README.txt
```

## (Recommended) Using the composer Command

To install the IP firewall, perform the following operations:

**Step 1** Run the **composer -V** command to check the composer version and ensure that composer is installed.

**Step 2** Run the **composer require obs/esdk-obs-php** command to start the installation.

**----End**

NOTE

- If composer has not been installed, install it by referring to the **Packagist official website**.
- On a Windows operating system, the message "Not internal or external command" is displayed when you run the composer command. In this case, add the composer installation directory (generally the directory of PHP) to the Path environment variable.
- You may need to restart the computer for the environment variables to take effect.

# 3.5 Obtaining Endpoints

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

Endpoint: OBS provides an endpoint for each region. An endpoint is a domain name used to access OBS in the corresponding region.

Bucket domain name: Each bucket in OBS has a domain name. A domain name is used to access a bucket over the Internet in scenarios such as cloud application development and data sharing. An OBS bucket domain name is in the *BucketName*.*Endpoint* format. *BucketName* indicates the name of a bucket, and *Endpoint* indicates the domain name of the region where the bucket is located.

- You can click **here** to view the endpoints and regions enabled for OBS.

NOTICE

The SDK allows you to pass endpoints with or without the protocol name. Suppose the endpoint you obtained is **your-endpoint**. The endpoint passed when initializing an instance of **ObsClient** can be **http://your-endpoint**, **https://your-endpoint**, or **your-endpoint**.

# 3.6 Initializing an Instance of ObsClient

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

Each time you want to send an HTTP/HTTPS request to OBS, you must create an instance of **ObsClient**. Sample code is as follows:

```
// Before initializing an instance of ObsClient, you must import dependencies.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';

// Declare the namespace.
use Obs\ObsClient;

// Create an ObsClient instance.
$obsClient = new ObsClient([
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
]);

// Use the instance to access OBS.

// Close ObsClient.
$obsClient -> close();
```

NOTE

For more information, see chapter "Initialization."

For details about logging configuration, see **Configuring SDK Logging**.

# 3.7 Creating a Bucket

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

A bucket is a global namespace of OBS and is a data container. It functions as a root directory of a file system and can store objects. The following code shows how to create a bucket:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;

// Create an ObsClient instance.
$obsClient = new ObsClient([
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
]);

$resp = $obsClient -> createBucket([
     'Bucket' => 'bucketname',
     // Set the access permission for the bucket to Public Read (the default value is Private).
     'ACL' => ObsClient::AclPublicRead,
```

```
    // Set the bucket storage class to Standard.
    'StorageClass' => ObsClient::StorageClassStandard,
    // Set the bucket location.
    'LocationConstraint' => 'bucketlocation'
]);

printf ("RequestId:%s\n", $resp ['RequestId']);
```

NOTE

- Bucket names are globally unique. Ensure that the bucket you create is named differently from any other bucket.
- A bucket name must comply with the following rules:
  - Contains 3 to 63 characters chosen from lowercase letters, digits, hyphens (-), and periods (.), and starts with a digit or letter.
  - Cannot be an IP-like address.
  - Cannot start or end with a hyphen (-) or period (.)
  - Cannot contain two consecutive periods (.), for example, **my..bucket**.
  - Cannot contain periods (.) and hyphens (-) adjacent to each other, for example, **my-.bucket** or **my.-bucket**.
- For more information, see **Creating a Bucket**.

NOTICE

- During bucket creation, 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 any other region, except the default one, you must set the region to the one that the used endpoint corresponds to. For more information about the valid regions, see **Regions and Endpoints**.

# 3.8 Uploading an Object

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

This example uploads string **Hello OBS** to bucket **bucketname** as object **objectname**.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;

// Create an instance of ObsClient.
$obsClient = new ObsClient([
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
]);

$resp = $obsClient -> putObject([
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     'Body' => 'Hello OBS'
]);

printf ("RequestId:%s\n", $resp ['RequestId']);
```

NOTE

For more information, see **Object Upload Overview**.

# 3.9 Downloading an Object

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

This example downloads object **objectname** from bucket **bucketname**.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;

// Create an instance of ObsClient.
$obsClient = new ObsClient([
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
]);

$resp = $obsClient -> getObject([
     'Bucket' => 'bucketname',
     'Key' => 'objectname'
]);

printf ("RequestId:%s\n", $resp ['RequestId']);
echo $resp ['Body'];
```

NOTE

For more information, see **Object Download Overview**.

# 3.10 Listing Objects

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

This example lists objects in bucket **bucketname**.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;

// Create an instance of ObsClient.
$obsClient = new ObsClient([
    //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.    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
]);

$resp = $obsClient -> listObjects([
     'Bucket' => 'bucketname'
]);

printf ("RequestId:%s\n", $resp ['RequestId']);
foreach ( $resp ['Contents'] as $index => $content ) {
    printf("Contents[$index][Key]:%s\n", $content ['Key']);
    printf("Contents[$index][LastModified]:%s\n", $content ['LastModified']);
    printf("Contents[$index][Size]:%s\n", $content ['Size']);
}
```

NOTE

- In the previous sample code, 1000 objects will be listed, by default.
- For more information, see **Listing Objects**.

# 3.11 Deleting an Object

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

This example deletes object **objectname** from bucket **bucketname**.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;

// Create an instance of ObsClient.
$obsClient = new ObsClient([
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
]);

$resp = $obsClient -> deleteObject([
     'Bucket' => 'bucketname',
     'Key' => 'objectname'
]);

printf ("RequestId:%s\n", $resp ['RequestId']);
```

NOTE

- This example only deletes a single object. To delete objects in a batch, traverse objects and list to-be-deleted objects on your own.
- For details about deletion, see **Deleting Objects**.

# 3.12 General Examples of ObsClient

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

Each time you call an API of **ObsClient**, you need to pass the associative array to the request as the input. For a bucket-related API, the **Bucket** field contained in the associative array is used to specify the bucket name (excluding **ObsClient->listBuckets**). For an object-related API, the **Bucket** field and **Key** field contained in the associative array are used to specify the bucket name and object name, respectively. **ObsClient** supports synchronous and asynchronous API callings. Examples are as follows:

## Synchronous Method Call

If any exception is thrown when an API is called by using the synchronous method, the operation fails. Otherwise, the operation succeeds.

Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
```

```
// Create an instance of ObsClient.
$obsClient = new ObsClient([
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
]);

// Construct bucket request parameters.
$requestParam1 = [
     'Bucket' => 'bucketname'
     // Other fields.
];

try{
     // Use the synchronous method to call a bucket-related API, such as the API for creating a bucket.
     $resp = $obsClient->createBucket ( $requestParam1 );
     // If the operation is successful, handle the API calling result.
     printf ( "RequestId:%s\n", $resp ['RequestId'] );
}catch (Obs\ObsException $obsException){
     // If the operation fails, obtain the exception details.
     printf("ExceptionCode:%s\n", $obsException->getExceptionCode());
     printf("ExceptionMessage:%s\n", $obsException->getExceptionMessage());
}

// Construct object request parameters.
$requestParam2 = [
     'Bucket' => 'bucketname',
     'Key' => 'objectname'
     // Other fields.
];

try{
     // Use the synchronous method to call an object-related API, such as the API for downloading an object.
     $resp = $obsClient->getObject ( $requestParam2 );
     // If the operation is successful, handle the API calling result.
     printf ( "RequestId:%s\n", $resp ['RequestId'] );
}catch (Obs\ObsException $obsException){
     // If the operation fails, obtain the exception details.
     printf("ExceptionCode:%s\n", $obsException->getExceptionCode());
     printf("ExceptionMessage:%s\n", $obsException->getExceptionMessage());
}

// Close obsClient.
$obsClient -> close();
```

## Asynchronous Method Call

In the asynchronous method call mode, the calling result is returned by the callback function. If the SDK custom exception is not null, the operation fails. Otherwise, the operation succeeds. Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient([
    //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.
```

```
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
]);

// Construct bucket request parameters.
$requestParam1 = [
     'Bucket' => 'bucketname'
     // Other fields.
];

// Use the asynchronous method to call a bucket-related API, such as the API for creating a bucket.
$promise1 = $obsClient->createBucketAsync ( $requestParam1 , function($obsException, $resp){
     if($obsException !== null){
          // If the operation fails, obtain the exception details.
          printf("ExceptionCode:%s\n", $obsException->getExceptionCode());
          printf("ExceptionMessage:%s\n", $obsException->getExceptionMessage());
     }else{
          // If the operation is successful, handle the API calling result.
          printf ( "RequestId:%s\n", $resp ['RequestId'] );
     }
});

// Wait for the result of calling bucket-related APIs.
$promise1 -> wait();

// Construct object request parameters.
$requestParam2 = [
     'Bucket' => 'bucketname',
     'Key' => 'objectname'
     // Other fields.
];

// Use the asynchronous method to call an object-related API, such as the API for downloading an object.
$promise2 = $obsClient->getObjectAsync ( $requestParam2 , function($obsException, $resp){
     if($obsException !== null){
          // If the operation fails, obtain the exception details.
          printf("ExceptionCode:%s\n", $obsException->getExceptionCode());
          printf("ExceptionMessage:%s\n", $obsException->getExceptionMessage());
     }else{
          // If the operation is successful, handle the API calling result.
          printf ( "RequestId:%s\n", $resp ['RequestId'] );
     }
});

// Wait for the result of calling object-related APIs.
$promise2 -> wait();

// Close obsClient.
$obsClient -> close();
```

# 3.13 Pre-defined Constants

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

OBS PHP SDK provides a group of pre-defined constants that can be directly used.

You can call **ObsClient** to obtain the pre-defined constants.

For details about predefined constants, see the **OBS PHP SDK API Reference**.

# 4 Initialization

## 4.1 Configuring the AK and SK

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

To use OBS, you need a valid pair of AK and SK for signature authentication.

For details, see **Setting Up an OBS Environment**.

After obtaining the AK/SK pair, you can start initialization by taking these steps:

- **Creating an Instance of ObsClient**
- **Configuring an Instance of ObsClient**
- **Configuring SDK Logging**
- **Asynchronous Method Call**

## 4.2 Creating an Instance of ObsClient

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

**ObsClient** functions as the PHP client for accessing OBS. It offers callers 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 OBS PHP SDK to send a request to OBS, you need to initialize an instance of **ObsClient** and modify parameters related to initial configurations of the instance based on actual needs.

### By Using the Constructor

```
// Declare the namespace.
use Obs\ObsClient;

// Create an instance of ObsClient.
$obsClient = new ObsClient([
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
]);

// Use the instance to access OBS.

// Close obsClient.
$obsClient -> close();
```

### By Using the Factory Method

```
// Declare the namespace.
use Obs\ObsClient;

// Create an instance of ObsClient.
$obsClient = ObsClient::factory ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
]);

// Use the instance to access OBS.

// Close obsClient.
$obsClient -> close();
```

NOTE

- The project can contain one or more instances of **ObsClient**.
- After you call the **ObsClient -> close** method to close an instance of **ObsClient**, the instance cannot be used any more.

## 4.3 Configuring an Instance of ObsClient

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can set the following initialization parameters to configure an instance of **ObsClient**:

| Parameter | Description | Recommended Value |
| --- | --- | --- |
| key | AK | N/A |
| secret | SK | N/A |
| endpoint | Endpoint for accessing OBS, which contains the protocol type, domain name (or IP address), and port name. For example, https://your-endpoint:443. For security purposes, you are advised to use HTTPS. | N/A |
| ssl_verify | Whether to verify server-side certificates. Possible values are:<br>● Path to the server-side root certificate file in **.pem** format<br>● **true**: The default CAs are used to verify the server-side certificate.<br>● **false**: The server-side certificates will not be verified.<br>The default value is **false**. | N/A |
| max_retry_count | Maximum number of retries when an HTTP/HTTPS connection is abnormal. The default value is **3**. | [1, 5] |
| socket_timeout | Timeout duration for transmitting data at the socket layer, in seconds. The default value is **60**. | [10, 60] |
| connect_timeout | Timeout period for establishing an HTTP/HTTPS connection, in seconds. The default value is **60**. | [10, 60] |
| chunk_size | Block size for reading socket streams, in bytes. The default value is **65536**. | Default value |
| is_cname | Whether to use self-defined domain names to access OBS. The default value is **false**. | 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 **socket_timeout** and **connect_timeout**.
- If the value of **endpoint** does not contain any protocol, HTTPS is used by default.

**NOTICE**

- After using an instance of **ObsClient**, you can call **ObsClient -> close** to close the instance explicitly to reclaim connection resources.
- If you do not call **ObsClient -> close**, it will be called by the destructor of **ObsClient** to reclaim connection resources.
- For the sake of high DNS resolution performance and OBS reliability, you can set **endpoint** only to the domain name of OBS, instead of the IP address.

# 4.4 Configuring SDK Logging

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

OBS PHP SDK provides the logging function based on the monolog log library. You can call **ObsClient->initLog** to enable and configure logging. Sample code is as follows:

```
$obsClient -> initLog ([
    'FilePath' => './logs', // Set the log folder.
    'FileName' => 'eSDK-OBS-PHP.log', // Set the name for the log file.
    'MaxFiles' => 10, // Set the maximum number of log files that can be retained.
    'Level' => WARN  // Set the log level.
]);
```

**NOTE**

- The logging function is disabled by default. You need to enable it if needed.
- For details about SDK logs, see **Log Analysis**.

# 4.5 Asynchronous Method Call

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

All bucket- and object-related APIs provided by OBS PHP SDK can be called by asynchronous methods whose names end with **Async** (such as **ObsClient->putObjectAsync** if the synchronous method is named **ObsClient->putObject**). The returned result will be output to a callback function. A callback function contains an **SDK custom exception** and an **SDK common result object** in sequence. If the **SDK common result object** is not null, the operation fails. Otherwise, the operation succeeds.

The following code shows how to upload an object in asynchronous method call mode:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

// Upload the object in asynchronous method call mode.
$promise = $obsClient->putObjectAsync ( [
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     'Body' => 'Hello OBS'
], function ($obsException, $resp) {
     if ($obsException === null) {
          printf ( "RequestId:%s\n", $resp ['RequestId'] );
     } else {
          printf ( "ExceptionCode:%s\n", $obsException->getExceptionCode () );
          printf ( "ExceptionMessage:%s\n", $obsException->getExceptionMessage () );
     }
} );
$promise->wait ();
```

**NOTE**

A result object (**GuzzleHttp\Promise\Promise**) will be returned upon an asynchronous method call. You need to call the **wait** method of the object to wait until the asynchronous method call is complete.

# 5 Bucket Management

## 5.1 Creating a Bucket

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->createBucket** to create a bucket. Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

// Create a bucket.
$resp = $obsClient->createBucket([
     'Bucket' => 'bucketname',
     // Set the access permission for the bucket to Public Read (the default value is Private).
     'ACL' => ObsClient::AclPublicRead,
     // Set the bucket storage class to Standard.
     'StorageClass' => ObsClient::StorageClassStandard,
     // Set the bucket location.
     'LocationConstraint' => 'bucketlocation'
]);
printf("RequestId:%s\n", $resp['RequestId']);
```

NOTE

- Bucket names are globally unique. Ensure that the bucket you create is named differently from any other bucket.
- A bucket name must comply with the following rules:
  - Contains 3 to 63 characters chosen from lowercase letters, digits, hyphens (-), and periods (.), and starts with a digit or letter.
  - Cannot be an IP-like address.
  - Cannot start or end with a hyphen (-) or period (.)
  - Cannot contain two consecutive periods (.), for example, **my..bucket**.
  - Cannot contain periods (.) and hyphens (-) adjacent to each other, for example, **my-.bucket** or **my.-bucket**.
- If you create buckets of the same name in a region, no error will be reported and the bucket properties comply with those set in the first creation request.
- The bucket created in the previous example is of the default **ACL** (**private**), in the OBS Standard storage class, and in the default region where the global domain resides.
- You can use parameter **ACL** to specify the bucket access permission, use **StorageClass** to specify the storage class of the bucket, and use **LocationConstraint** to specify the bucket location.

NOTICE

- During bucket creation, 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 any other region, except the default one, you must set the region to the one the used endpoint corresponds to. To view the valid regions, see **Regions and Endpoints**. For example, if the endpoint used for initialization is **obs.ap-southeast-1.myhuaweicloud.com**, you must set **Location** to **ap-southeast-1** when you create a bucket. Otherwise, status code 400 will be returned.

# 5.2 Listing Buckets

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->listBuckets** to list buckets. Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.      'key' =>
getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->listBuckets([
      'QueryLocation' => true
]);

printf("RequestId:%s\n", $resp['RequestId']);
printf("Owner[ID]:%s\n", $resp['Owner']['ID']);
foreach ($resp['Buckets'] as $index => $bucket){
    printf("Buckets[%d]\n", $index + 1);
    printf("Name:%s\n", $bucket['Name']);
    printf("CreationDate:%s\n", $bucket['CreationDate']);
    printf("Location:%s\n", $bucket['Location']);
}
```

NOTE

- Obtained bucket names are listed in the lexicographical order.
- Set **QueryLocation** to **true** and then you can query the bucket location when listing buckets.

# 5.3 Deleting a Bucket

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->deleteBucket** to delete a bucket. Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.      'key' =>
getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

// Delete a bucket.
$resp = $obsClient->deleteBucket([
      'Bucket' => 'bucketname'
]);

printf("RequestId:%s\n", $resp['RequestId']);
```

NOTE

- Only empty buckets (without objects and part fragments) can be deleted.
- Bucket deletion is a non-idempotence operation and an error will be reported if the to-be-deleted bucket does not exist.

# 5.4 Identifying Whether a Bucket Exists

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->headBucket** to identify whether a bucket exists.

This example checks whether bucket **bucketname** exists.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

try{
     $resp = $obsClient->headBucket([
          'Bucket' => 'bucketname'
     ]);
     printf("Bucket exists");
}catch (\Obs\Common\ObsException $obsException){
     if($obsException->getStatusCode() === 404){
          printf("Bucket does not exist");
     }else{
          printf("ExceptionCode:%s\n", $obsException->getExceptionCode());
          printf("getExceptionMessage:%s\n", $obsException->getExceptionMessage());
     }
}
```

NOTE

- If an exception is thrown and the returned HTTP status code is **404**, the bucket does not exist.

# 5.5 Obtaining Bucket Metadata

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->getBucketMetadata** to obtain the metadata of a bucket.

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

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->getBucketMetadata([
     'Bucket' => 'bucketname',
     'Origin' => 'http://www.a.com'
]);

printf("RequestId:%s\n",$resp['RequestId']);
printf("StorageClass:%s\n",$resp['StorageClass']);
printf("AllowOrigin:%s\n",$resp['AllowOrigin']);
printf("MaxAgeSeconds:%s\n",$resp['MaxAgeSeconds']);
printf("ExposeHeader:%s\n",$resp['ExposeHeader']);
printf("AllowMethod:%s\n",$resp['AllowMethod']);
```

**NOTE**

- To handle the error codes possibly returned during the operation, see **OBS Server-Side Error Codes**.

# 5.6 Managing Bucket ACLs

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

A bucket **ACL** can be configured in any of the following ways:

1. Specify a pre-defined access policy during bucket creation.
2. Call **ObsClient->setBucketAcl** to specify a pre-defined access policy.
3. Call **ObsClient->setBucketAcl** to set the ACL directly.

The following table lists the five permission types supported by OBS.

| Permission | Description | Value in OBS PHP SDK |
| --- | --- | --- |
| READ | A grantee with this permission for a bucket can obtain the list of objects in the bucket and the metadata of the bucket.<br>A grantee with this permission for an object can obtain the object content and metadata. | ObsClient::PermissionRead |
| WRITE | A grantee with this permission for a bucket can upload, overwrite, and delete any object in the bucket.<br>This permission is not applicable to objects. | ObsClient::PermissionWrite |
| READ_ACP | A grantee with this permission can obtain the ACL of a bucket or object.<br>A bucket or object owner has this permission permanently. | ObsClient::PermissionReadAcp |
| WRITE_ACP | A grantee with this permission can update the ACL of a bucket or object.<br>A bucket or object owner has this permission permanently.<br>A grantee with this permission can modify the access control policy and thus the grantee obtains full access permissions. | ObsClient::PermissionWriteAcp |
| FULL_CONTROL | A grantee with this permission for a bucket has **READ**, **WRITE**, **READ_ACP**, and **WRITE_ACP** permissions for the bucket.<br>A grantee with this permission for an object has **READ**, **READ_ACP**, and **WRITE_ACP** permissions for the object. | ObsClient::PermissionFullControl |

There are five access control policies pre-defined in OBS, as described in the following table:

| Policy | Description | Value in OBS PHP SDK |
| --- | --- | --- |
| private | Indicates that the owner of a bucket or object has the **FULL_CONTROL** permission for the bucket or object. Other users have no permission to access the bucket or object. | ObsClient::AclPrivate |
| public-read | If this permission is set for a bucket, everyone can obtain the list of objects, multipart uploads, and object versions in the bucket, as well as metadata of the bucket.<br>If this permission is set for an object, everyone can obtain the content and metadata of the object. | ObsClient::AclPublicRead |
| public-read-write | If this permission is set for a bucket, everyone can obtain the object list in the bucket, multipart uploads in the bucket, metadata of the bucket; upload objects; delete objects; initialize multipart uploads; upload parts; combine parts; copy parts; and abort multipart uploads.<br>If this permission is set for an object, everyone can obtain the content and metadata of the object. | ObsClient::AclPublicReadWrite |
| public-read-delivered | If this permission is set for a bucket, everyone can obtain the object list, multipart uploads, and bucket metadata in the bucket, and obtain the content and metadata of the objects in the bucket.<br>This permission cannot be set for objects. | ObsClient::AclPublicReadDelivered |

| Policy | Description | Value in OBS PHP SDK |
| --- | --- | --- |
| public-read-write-delivered | If this permission is set for a bucket, everyone can obtain the object list in the bucket, multipart tasks in the bucket, metadata of the bucket; upload objects; delete objects; initialize multipart uploads; upload parts; combine parts; copy parts; abort multipart uploads; and obtain content and metadata of objects in the bucket.<br>This permission cannot be set for objects. | ObsClient::AclPublicReadWriteDelivered |

## Specifying a Pre-defined Access Control Policy During Bucket Creation

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

// Create a bucket.
$resp = $obsClient->createBucket([
     'Bucket' => 'bucketname',
     // Set the bucket ACL to public-read-write.
     'ACL' => ObsClient::AclPublicReadWrite
]);

printf("RequestId:%s\n",$resp['RequestId']);
```

## Setting a Pre-defined Access Control Policy for a Bucket

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.     'key' =>
getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

// Use a pre-specified access policy to set the bucket ACL.
$resp = $obsClient->setBucketAcl([
     'Bucket' => 'bucketname',
     // Set the bucket ACL to private.
     'ACL' => ObsClient::AclPrivate
]);

printf("RequestId:%s\n",$resp['RequestId']);
```

NOTE

Use the **ACL** parameter to specify the ACL for a bucket.

## Directly Setting a Bucket ACL

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.     'key' =>
getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

// Directly set the bucket ACL.
$resp = $obsClient->setBucketAcl([
     'Bucket' => 'bucketname',
     // Set the bucket owner.
     'Owner' => [
          'ID' => 'ownerid'
     ],
     'Grants' => [
          // Grant all permissions to a specified user.
          ['Grantee' => ['Type' => 'CanonicalUser', 'ID' => 'userid'], 'Permission' =>
ObsClient::PermissionFullControl],
          // Grant the READ permission to all users.
          ['Grantee' => ['Type' => 'Group', 'URI' => ObsClient::GroupAllUsers], 'Permission' =>
ObsClient::PermissionRead],
    ]
]);

printf("RequestId:%s\n",$resp['RequestId']);
```

NOTE

- Use the **Owner** parameter to specify the bucket owner and the **Grants** parameter to specify the information about authorized users.
- The owner or grantee ID required in the ACL indicates an account ID, which can be viewed on the **My Credentials** page of OBS Console.
- OBS buckets support the following grantee group:
  - All users: ObsClient::GroupAllUsers

## Obtaining a Bucket ACL

You can call **ObsClient->getBucketAcl** to obtain the bucket ACL. Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->getBucketAcl([
     'Bucket' => 'bucketname'
]);

printf ("RequestId:%s\n", $resp ['RequestId']);
printf ("Owner[ID]:%s\n", $resp ['Owner']['ID']);
foreach ( $resp ['Grants'] as $index => $grant ) {
     printf ("Grants[%d]\n", $index + 1);
     printf ("Grantee[ID]:%s\n", $grant['Grantee']['ID']);
     printf ("Grantee[URI]:%s\n", $grant['Grantee']['URI']);
     printf ("Permission:%s\n", $grant['Permission']);
}
```

# 5.7 Managing Bucket Policies

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

Besides bucket ACLs, bucket owners can use bucket policies to centrally control access to buckets and objects in buckets.

For more information, see **Bucket Policy**.

## Setting a Bucket Policy

You can call **ObsClient->setBucketPolicy** to set a bucket policy. Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$bucketName = "bucketname";
$policy = "{\"Statement\":[{\"Principal\":\"*\",\"Effect\":\"Allow\",\"Action\":\"ListBucket\",\"Resource\":\"" .$bucketName. "\"}]}";

$resp = $obsClient->setBucketPolicy([
     'Bucket' => $bucketName,
     'Policy' => $policy
]);

printf("RequestId:%s\n",$resp['RequestId']);
```

NOTE

For details about the bucket policies in JSON format, see **OBS PHP SDK API Reference**.

## Obtaining a Bucket Policy

You can call **ObsClient->getBucketPolicy** to obtain a bucket policy. Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->getBucketPolicy([
     'Bucket' => 'bucketname'
]);

printf("RequestId:%s\n",$resp['RequestId']);
printf("Policy:%s\n",$resp['Policy']);
```

### Deleting a Bucket Policy

You can call **ObsClient->deleteBucketPolicy** to delete a bucket policy. Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->deleteBucketPolicy([
     'Bucket' => 'bucketname'
]);

printf("RequestId:%s\n",$resp['RequestId']);
```

# 5.8 Obtaining a Bucket Location

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->getBucketLocation** to obtain the location of a bucket.

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

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.     'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->getBucketLocation([
     'Bucket' => 'bucketname'
]);
```

```
printf("RequestId:%s\n",$resp['RequestId']);
printf("Location:%s\n",$resp['Location']);
```

NOTE

- When creating a bucket, you can specify its location. For details, see **Creating a Bucket**.
- To handle the error codes possibly returned during the operation, see **OBS Server-Side Error Codes**.

# 5.9 Obtaining Storage Information About a Bucket

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

The storage information about a bucket includes the used capacity of and the number of objects in the bucket.

You can call **ObsClient->getBucketStorageInfo** to obtain the bucket storage information.

This example returns the storage information of bucket **bucketname**.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->getBucketStorageInfo([
     'Bucket' => 'bucketname'
]);

printf("RequestId:%s\n",$resp['RequestId']);
printf("Size:%s\n",$resp['Size']);
printf("ObjectNumber:%s\n",$resp['ObjectNumber']);
```

NOTE

- To handle the error codes possibly returned during the operation, see **OBS Server-Side Error Codes**.

# 5.10 Setting or Obtaining a Bucket Quota

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

## Setting a Bucket Quota

You can call **ObsClient->setBucketQuota** to set the bucket quota. Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->setBucketQuota([
     'Bucket' => 'bucketname',
     'StorageQuota' => 1024 * 1024 * 100
]);

printf("RequestId:%s\n",$resp['RequestId']);
```

**NOTE**

- Use the **StorageQuota** parameter to specify the bucket quota.
- A bucket quota must be a non-negative integer expressed in bytes. The maximum value is $2^{63}$ - 1.

## Obtaining a Bucket Quota

You can call **ObsClient->getBucketQuota** to obtain the bucket quota. Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.    'key' =>
```

```
getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->getBucketQuota([
     'Bucket' => 'bucketname'
]);

printf("RequestId:%s\n",$resp['RequestId']);
printf("StorageQuota:%s\n",$resp['StorageQuota']);
```

# 5.11 Storage Class

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

OBS allows you to set storage classes for buckets. The storage class of an object defaults to be that of its residing bucket. Different storage classes meet different needs for storage performance and costs. There are three types of storage class for buckets, as described in the following table:

| Storage Class | Description | Value in OBS PHP SDK |
| --- | --- | --- |
| OBS Standard | Features low access latency and high throughput and is applicable to storing frequently-accessed (multiple times per month) hotspot or small objects (< 1 MB) requiring quick response. | ObsClient::StorageClassStandard |
| OBS Infrequent Access | Is applicable to storing semi-frequently accessed (less than 12 times a year) data requiring quick response. | ObsClient::StorageClassWarm |
| OBS Archive | Is applicable to archiving rarely-accessed (once a year) data. | ObsClient::StorageClassCold |

For more information, see **Bucket Storage Classes**.

## Setting the Storage Class for a Bucket

You can call **ObsClient->setBucketStoragePolicy** to set the storage class for a bucket. Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
```

```
// Declare the namespace.
use Obs\ObsClient;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->setBucketStoragePolicy([
     'Bucket' => 'bucketname',
     'StorageClass' => ObsClient::StorageClassWarm
]);

printf("RequestId:%s\n",$resp['RequestId']);
```

NOTE

Use the **StorageClass** parameter to set the storage class for a bucket.

## Obtaining the Storage Class of a Bucket

You can call **ObsClient->getBucketStoragePolicy** to obtain the storage class of a bucket. Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->getBucketStoragePolicy([
     'Bucket' => 'bucketname'
]);

printf("RequestId:%s\n",$resp['RequestId']);
printf("StorageClass:%s\n",$resp['StorageClass']);
```

# 6 Object Upload

## 6.1 Object Upload Overview

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

In OBS, objects are basic data units that users can perform operations on. OBS PHP SDK provides abundant APIs for object upload in the following methods:

- **Performing a Text-Based Upload**
- **Performing a Streaming Upload**
- **Performing a File-Based Upload**
- **Performing a Multipart Upload**
- **Performing a Browser-Based Upload**

The 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. Browser-based upload supports the file to be uploaded through a browser.

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 **https://*bucket name.domain name*/*directory levels*/*object name***. If the object resides in the root directory of the bucket, its URL does not contain directory levels.

# 6.2 Performing a Text-Based Upload

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

Text-based upload is used to directly upload character strings. You can call **ObsClient->putObject** to upload character strings to OBS.

This example uploads string **Hello OBS** to bucket **bucketname** as object **objectname**.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->putObject([
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     'Body' => 'Hello OBS'
]);

printf("RequestId:%s\n",$resp['RequestId']);
```

**NOTE**

Use the **Body** parameter to specify the character string to be uploaded.

# 6.3 Performing a Streaming Upload

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

Streaming upload uses **resource** or **GuzzleHttp\Psr7\StreamInterface** as the data source of an object. Sample code is as follows:

## Uploading a Network Stream

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->putObject([
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     // Create network streams.
     'Body' => fopen('http://www.a.com','r')
]);

printf("RequestId:%s\n",$resp['RequestId']);
```

## Uploading a File Stream

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->putObject([
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     'Body' => fopen('localfile', 'r')
]);

printf("RequestId:%s\n",$resp['RequestId']);
```

**NOTICE**

- If the **Body** parameter is used to specify the to-be-uploaded streaming data, its value must be a **resource** or **GuzzleHttp\Psr7\StreamInterface** object.
- To upload a large file, you are advised to use **multipart upload**.

# 6.4 Performing a File-Based Upload

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

File-based upload uses local files as the data source of objects. Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->putObject([
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     'SourceFile' => 'localfile'  // Path of the local file to be uploaded. The file name must be specified.
]);

printf("RequestId:%s\n",$resp['RequestId']);
```

NOTE

- Use the **SourceFile** parameter to specify the path to the to-be-uploaded file.
- **SourceFile** and **Body** cannot be used together.
- The content to be uploaded cannot exceed 5 GB.

# 6.5 Creating a Folder

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

There is no folder concept in OBS. 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.

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->putObject([
     'Bucket' => 'bucketname',
     'Key' => 'parent_directory/'
]);

printf("RequestId:%s\n",$resp['RequestId']);
// Create an object in the folder.
$resp = $obsClient->putObject([
     'Bucket' => 'bucketname',
     'Key' => 'parent_directory/objectname',
     'Body' => 'Hello OBS',
]);

printf("RequestId:%s\n",$resp['RequestId']);
```

NOTE

- To create a folder in OBS is to create an object whose size is 0 and whose name ends with a slash (/), in essential.
- 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.

# 6.6 Setting Object Properties

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can set properties for an object when uploading it. Object properties include the object length, MIME type, MD5 value (for verification), storage class, and customized metadata. You can set properties for an object that is being uploaded in text-based, streaming, file-based, or multipart mode or when **copying the object**.

The following table describes object properties.

| Property Name | Description | Default Value |
| --- | --- | --- |
| Content-Length | Indicates the object length. If the object length exceeds the flow or file length, the object will be truncated. | Actual length of the stream or file |
| Content-Type | Indicates the MIME type of the object, which defines the type and network code of the object as well as in which mode and coding will the browser read the object. | binary/octet-stream |
| Content-MD5 | Indicates the base64-encoded digest of the object data. It is provided to the OBS server to verify data integrity. | None |
| Storage class | Indicates the storage class of the object. Different storage classes meet different needs for storage performance and costs. The value defaults to be the same as the object's residing bucket and can be changed. | None |
| Customized metadata | Indicates the user-defined description of the object. It is used to facilitate the customized management on the object. | None |

## Setting the Length for an Object

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->putObject([
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     'SourceFile' => 'localfile',   // Path of the local file to be uploaded. The file name must be specified.
     'ContentLength' => 1024 * 1024 // 1 MB
```

```
]);

printf("RequestId:%s\n",$resp['RequestId']);
```

NOTE

Use the **ContentLength** parameter to specify the object length.

## Setting the MIME Type for an Object

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->putObject([
     'Bucket' => 'bucketname',
     'Key' => 'objectname.jpg',
     'SourceFile' => 'localimage.jpg',
     'ContentType' => 'image/jpeg'
]);

printf("RequestId:%s\n",$resp['RequestId']);
```

NOTE

- Use the **ContentType** parameter to set the MIME type for an object.
- If this property is not specified, SDK will automatically identify the MIME type according to the name suffix of the uploaded object. For example, if the name suffix of an object is **.xml** (**.html**), the object will be identified as an application/xml (text/html) file.

## Setting the MD5 Value for an Object

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->putObject([
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     'Body' => 'Hello OBS'
     // your md5 which should be encoded by base64
```

```
    'ContentMD5' => base64_encode(hash("md5", "Hello OBS!", true))
]);

printf("RequestId:%s\n",$resp['RequestId']);
```

NOTE

- Use the **ContentMD5** parameter to specify the MD5 value for an object.
- The MD5 value of an object must be a base64-encoded digest.
- The OBS server will compare this MD5 value with the MD5 value obtained by object data calculation. If the two values are not the same, the upload fails with an HTTP **400** error returned.
- If the MD5 value is not specified, the OBS server will skip MD5 value verification.

## Setting the Storage Class for an Object

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->putObject([
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     'SourceFile' => 'localfile',
     // Set the storage class to Archive.
     'StorageClass' => ObsClient::StorageClassCold
]);

printf("RequestId:%s\n",$resp['RequestId']);
```

NOTE

- Use the **StorageClass** parameter to set the storage class for an object.
- If you do not set the storage class for an object, the storage class of the object will be the same as that of its residing bucket.
- OBS provides objects with three storage classes which are consistent with **those** provided for buckets.
- Before downloading an Archive object, you must restore it.

## Customizing Metadata for an Object

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->putObject([
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     'SourceFile' => 'localfile',
          'Metadata' => ['property1' => 'property-value1', 'property2' => 'property-value2']
]);

printf("RequestId:%s\n",$resp['RequestId']);
```

NOTE

- Use the **Metadata** parameter to specify the customized metadata for an object.
- In the preceding code, two pieces of metadata named **property1** and **property2** are customized and their respective values are set to **property-value1** and **property-value2**.
- An object can have multiple pieces of metadata whose size cannot exceed 8 KB.
- The customized object metadata can be obtained by using **ObsClient->getObjectMetadata**. For details, see **Obtaining Object Metadata**.
- When you call **ObsClient->getObject** to download an object, its customized metadata will also be downloaded.

# 6.7 Performing a Multipart Upload

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

To upload a large file, multipart upload is recommended. 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.

Multipart upload consists of three phases:

**Step 1** Initialize a multipart upload (**ObsClient->initiateMultipartUpload**).

**Step 2** Upload parts one by one or concurrently (**ObsClient->uploadPart**).

**Step 3** Combine parts (**ObsClient->completeMultipartUpload**) or abort the multipart upload (**ObsClient->abortMultipartUpload**).

**----End**

## Initiating a Multipart Upload

Before using a multipart upload, you need to first let OBS initiate it. This operation will return an upload ID (globally unique identifier) created by the OBS server to identify the multipart upload. You can use this upload ID to initiate related operations, such as aborting a multipart upload, listing multipart uploads, and listing uploaded parts.

You can call **ObsClient->initiateMultipartUpload** to initialize a multipart upload.

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->initiateMultipartUpload([
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     'ContentType' => 'text/plain',
     'Metadata' => ['property' => 'property-value']
]);

printf("RequestId:%s\n",$resp['RequestId']);
printf("UploadId:%s\n",$resp['UploadId']);
```

NOTE

- When initializing a multipart upload, you can use the **ContentType** and **Metadata** parameters to respectively set the MIME type and customize the metadata of an object, besides the object name and owning bucket.
- After the API for initializing a multipart upload is called, the upload ID will be returned. This ID will be used in follow-up operations.

## Uploading a Part

After initializing a multipart upload, you can specify the object name and upload ID to upload a part. Each part has a part number (ranging from 1 to 10000). For parts with the same upload ID, their part numbers are unique and identify their comparative locations in the object. If you use the same part number to upload two parts, the latter one being uploaded will overwrite the former. The last part uploaded ranges from 0 to 5 GB in size, and **each of the other parts ranges from 100 KB to 5 GB**. Parts are uploaded in random order and can be uploaded through different processes or machines. OBS will combine them into the object based on their part numbers.

You can call **ObsClient->uploadPart** to upload a part.

```
// Import the dependency library.
require 'vendor/autoload.php';
```

```
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->uploadPart([
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     // Set the part number, which ranges from 1 to 10000.
     'PartNumber' => 1,
     // Set the upload ID.
     'UploadId' => 'upload id from initiateMultipartUpload',
// Set the large file to be uploaded. localfile is the path of the local file to be uploaded. You need to specify the file name.
     'SourceFile' => 'localfile',
     // Set the part size.
     'PartSize' => 5 * 1024 * 1024,
     // Set the start offset.
     'Offset' => 0
]);

printf("RequestId:%s\n",$resp['RequestId']);
printf("ETag:%s\n",$resp['ETag']);
```

NOTE

- Use the **PartNumber** parameter to specify the part number, the **UploadId** parameter to specify the globally unique ID, the **SourceFile** parameter to specify the to-be-uploaded file, the **PartSize** parameter to set the part size, and the **Offset** parameter to set the start offset of a part.
- Except the part last uploaded, other parts must be larger than 100 KB. Part sizes will not be verified during upload because which one is last uploaded is not identified until parts are combined.
- OBS will return ETags (MD5 values) of the received parts to users.
- You can use the **ContentMD5** parameter to set the MD5 value of the uploaded data.
- Part numbers range from 1 to 10000. If the part number you set is out of this range, OBS will return error **400 Bad Request**.
- The minimum part size supported by an OBS 3.0 bucket is 100 KB, and the minimum part size supported by an OBS 2.0 bucket is 5 MB. You are advised to perform multipart upload to OBS 3.0 buckets.

## Combining Parts

After all parts are uploaded, call the API for combining parts to generate the object. Before this operation, valid part numbers and ETags of all parts must be sent to OBS. After receiving this information, OBS verifies the validity of each part one by one. After all parts pass the verification, OBS combines these parts to form the final object.

You can call **ObsClient->completeMultipartUpload** to combine parts.

```
// Import the dependency library.
require 'vendor/autoload.php';
```

```
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->completeMultipartUpload([
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     // Set the upload ID.
     'UploadId' => 'upload id from initiateMultipartUpload',
     'Parts' => [
                ['PartNumber' => 1, 'ETag' => 'etag value from uploadPart']
     ]
]);

printf("RequestId:%s\n",$resp['RequestId']);
```

**CAUTION**

- If the size of a part other than the last part is smaller than 100 KB, OBS returns **400 Bad Request**.

**NOTE**

- Use the **UploadId** parameter to specify the globally unique identifier for the multipart upload and the **Parts** parameter to specify the list of part numbers and ETags. Content in the list is displayed in the ascending order by part number.
- Part numbers can be inconsecutive.

## Aborting a Multipart Upload

After a multipart upload is aborted, you cannot use its upload ID to perform any operation and the uploaded parts will be deleted by OBS.

When an object is being uploaded in multi-part mode or an object fails to be uploaded, parts generated in the bucket. These parts occupy your storage space. You can cancel the multi-part uploading task to delete unnecessary parts, thereby saving the storage space.

You can call **ObsClient->abortMultipartUpload** to abort a multipart upload.

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->abortMultipartUpload([
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     // Set the upload ID.
     'UploadId' => 'upload id from initiateMultipartUpload'
]);

printf("RequestId:%s\n",$resp['RequestId']);
```

## Listing Uploaded Parts

You can call **ObsClient->listParts** to list successfully uploaded parts of a multipart upload.

The following table describes the parameters involved in this API.

| Parameter | Description |
| --- | --- |
| UploadId | Upload ID, which globally identifies a multipart upload. The value is in the returned result of **ObsClient->initiateMultipartUpload**. |
| MaxParts | Maximum number of parts that can be listed per page. |
| PartNumberMarker | Part number after which listing uploaded parts begins. Only parts whose part numbers are larger than this value will be listed. |

- Listing parts in simple mode

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->listParts ( [
    'Bucket' => 'bucketname',
    'Key' => 'objectname',
    'UploadId' => 'upload id from initiateMultipartUpload'
] );

printf ( "RequestId:%s\n", $resp ['RequestId'] );
foreach ( $resp ['Parts'] as $index => $part ) {
    printf ( "Parts[%d]\n", $index + 1 );
```

```
        // Part number, specified upon uploading
        printf ( "PartNumber:%s\n", $part ['PartNumber'] );
        // Time when the part was last uploaded
        printf ( "LastModified:%s\n", $part ['LastModified'] );
        // Part ETag
        printf ( "ETag:%s\n", $part ['ETag'] );
        // Part size
        printf ( "Size:%s\n", $part ['Size'] );
}
```

**NOTE**

- A maximum of 1,000 parts can be listed each time. If the upload of a specified ID contains more than 1,000 parts, **IsTruncated** in the response is **true**, indicating not all parts were listed. In such case, you can use **NextPartNumberMarker** to obtain the start position for next listing.
- If you want to obtain all parts involved in a specific upload ID, you can use the paging mode for listing.

- Listing all parts

If the number of parts of a multipart upload is larger than 1000, you can use the following sample code to list all parts.

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$partNumberMarker = null;
$index = 1;
do{
    $resp = $obsClient->listParts ( [
        'Bucket' => 'bucketname',
        'Key' => 'objectname',
        'UploadId' => 'upload id from initiateMultipartUpload',
        'PartNumberMarker' => $partNumberMarker
    ] );

    printf ( "RequestId:%s\n", $resp ['RequestId'] );
    foreach ( $resp ['Parts'] as $part ) {
        printf ( "Parts[%d]\n", $index );
        // Part number, specified upon uploading
        printf ( "PartNumber:%s\n", $part ['PartNumber'] );
        // Time when the part was last uploaded
        printf ( "LastModified:%s\n", $part ['LastModified'] );
        // Part ETag
        printf ( "ETag:%s\n", $part ['ETag'] );
        // Part size
        printf ( "Size:%s\n", $part ['Size'] );
        $index ++;
    }

    $partNumberMarker = $resp['NextPartNumberMarker'];

}while($resp['IsTruncated']);
```

## Listing Multipart Uploads

You can call **ObsClient->listMultipartUploads** to list multipart uploads. The following table describes related parameters.

| Parameter | Description |
| --- | --- |
| Prefix | Prefix that the object names in the multipart uploads to be listed must contain |
| Delimiter | Character used to group object names involved in multipart uploads. If the object name contains the **Delimiter** parameter, the character string from the first character to the first delimiter in the object name is grouped under a single result element, **CommonPrefix**. (If a prefix is specified in the request, the prefix must be removed from the object name.) |
| MaxUploads | Maximum number of listed multipart uploads. The value ranges from 1 to 1000. If the value is not in this range, 1000 parts are listed by default. |
| KeyMarker | Object name to start with when listing multipart uploads |
| UploadIdMarker | Upload ID after which the multipart upload listing begins. It is effective only when used with **KeyMarker** so that multipart uploads after **UploadIdMarker** of **KeyMarker** will be listed. |

- Listing multipart uploads in simple mode

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->listMultipartUploads ( [
    'Bucket' => 'bucketname'
] );

printf ( "RequestId:%s\n", $resp ['RequestId'] );
foreach ( $resp ['Uploads'] as $index => $upload ) {
    printf ( "Uploads[%d]\n", $index + 1 );
    printf ( "Key:%s\n", $upload ['Key'] );
    printf ( "UploadId:%s\n", $upload ['UploadId'] );
    printf ( "Initiated:%s\n", $upload ['Initiated'] );
    printf ( "Owner[ID]:%s\n", $upload ['Owner'] ['ID'] );
    printf ( "StorageClass:%s\n", $upload ['StorageClass'] );
}
```

NOTE

- Information about a maximum of 1000 multipart uploads can be listed each time. If a bucket contains more than 1000 multipart uploads and **IsTruncated** is **true** in the returned result, not all uploads are listed. In such cases, you can use **NextKeyMarker** and **NextUploadIdMarker** to obtain the start position for next listing.
- If you want to obtain all multipart uploads in a bucket, you can list them in paging mode.

- Listing all multipart uploads

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$keyMarker = null;
$uploadIdMarker = null;
$index = 1;
do{
    $resp = $obsClient->listMultipartUploads ( [
        'Bucket' => 'bucketname',
        'KeyMarker' => $keyMarker,
        'UploadIdMarker' => $uploadIdMarker
    ] );

    printf ( "RequestId:%s\n", $resp ['RequestId'] );
    foreach ( $resp ['Uploads'] as $index => $upload ) {
        printf ( "Uploads[%d]\n", $index );
        printf ( "Key:%s\n", $upload ['Key'] );
        printf ( "UploadId:%s\n", $upload ['UploadId'] );
        printf ( "Initiated:%s\n", $upload ['Initiated'] );
        printf ( "Owner[ID]:%s\n", $upload ['Owner'] ['ID'] );
        printf ( "StorageClass:%s\n", $upload ['StorageClass'] );
        $index ++;
    }
    $keyMarker = $resp['NextKeyMarker'];
    $uploadIdMarker = $resp['NextUploadIdMarker'];
}while ($resp['IsTruncated']);
```

# 6.8 Performing a Multipart Copy

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

As a special case of multipart upload, multipart copy implements multipart upload by copying the whole or partial object in a bucket.

You can call **ObsClient->copyPart** to copy parts.

This example copies object **sourceobjectname** from bucket **sourcebucketname** to bucket **destbucketname** as object **destobjectname**.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$destBucketName = 'destbucketname';
$destObjectKey = 'destobjectname';
$sourceBucketName = 'sourcebucketname';
$sourceObjectKey = 'sourceobjectname';

// Initiate a multipart upload.
$resp = $obsClient->initiateMultipartUpload ( [
    'Bucket' => $destBucketName,
    'Key' => $destObjectKey
] );
$uploadId = $resp ['UploadId'];
printf ( "UploadId:%s\n\n", $uploadId );

// Obtain information about the large object.
$resp = $obsClient->getObjectMetadata ( [
    'Bucket' => $sourceBucketName,
    'Key' => $sourceObjectKey
]);

// Set the part size to 100 MB.
$partSize = 100 * 1024 * 1024;

$objectSize = $resp ['ContentLength'];

// Calculate the number of parts to be copied.
$partCount = $objectSize % $partSize === 0 ? intval ( $objectSize / $partSize ) : intval ( $objectSize / $partSize ) + 1;

// Start copying parts concurrently.
$promise = null;
$parts = [];
for($i = 0; $i < $partCount; $i ++) {
    $rangeStart = $i * $partSize;
    $rangeEnd = ($i + 1 === $partCount) ? $objectSize - 1 : $rangeStart + $partSize - 1;
    $partNumber = $i + 1;
    $p = $obsClient->copyPartAsync ( [
        'Bucket' => $destBucketName,
        'Key' => $destObjectKey,
        'UploadId' => $uploadId,
        'PartNumber' => $partNumber,
        'CopySource' => sprintf ( '%s/%s', $sourceBucketName, $sourceObjectKey ),
        'CopySourceRange' => sprintf ( 'bytes=%d-%d', $rangeStart, $rangeEnd )
    ], function ($exception, $resp) use (&$parts, $partNumber) {
        $parts [] = [
            'PartNumber' => $partNumber,
            'ETag' => $resp ['ETag']
        ];
```

```
            printf ( "Part#" . strval ( $partNumber ) . " done\n\n" );
        } );

        if ($promise === null) {
            $promise = $p;
        }
}

// Wait until the copy is complete.
$promise->wait ();

usort ( $parts, function ($a, $b) {
        if ($a ['PartNumber'] === $b ['PartNumber']) {
            return 0;
        }
        return $a ['PartNumber'] > $b ['PartNumber'] ? 1 : - 1;
} );


// Combine parts.
$resp = $obsClient->completeMultipartUpload ( [
        'Bucket' => $destBucketName,
        'Key' => $destObjectKey,
        'UploadId' => $uploadId,
        'Parts' => $parts
] );

printf("Complete to upload multiparts finished, RequestId:%s\n", $resp['RequestId']);
```

NOTE

Use the **PartNumber** parameter to specify the part number, the **UploadId** parameter to specify the globally unique ID for the multipart upload, the **CopySource** parameter to specify the information about the source object, and the **CopySourceRange** parameter to specify the copy range.

# 6.9 Performing a Browser-Based Upload

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

Performing a browser-based upload is to upload objects to a specified bucket in HTML form. The maximum size of an object is 5 GB.

You can call **ObsClient->createPostSignature** to generate request parameters for browser-based upload. You can also perform a browser-based according to the following procedure:

**Step 1** Call **ObsClient->createPostSignature** to generate request parameters for authentication.

**Step 2** Prepare an HTML form page.

**Step 3** Enter the request parameters in the HTML page.

**Step 4** Select a local file and upload it in browser-based mode.

**----End**

**NOTE**

There are two request parameters generated:

- **Policy**, which corresponds to the **policy** field in the form
- **Signature**: which corresponds to the **signature** field in the form

The following sample code shows how to generate the parameters in a browser-based upload request.

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

$resp = $obsClient->createPostSignature([
     // Set the validity period for the browser-based upload request, in seconds.
     'Expires' => 3600,
     // Fill in parameters in the form.
     'FormParams' => [
          // Set the object ACL to public-read.
          'x-obs-acl' => ObsClient::AclPublicRead,
          // Set the MIME type for the object.
          'content-type' => 'text/plain',
     ]
]);

// Obtain the request parameters.
printf("Policy:%s\n", $resp['Policy']);
printf("Signature:%s\n", $resp['Signature']);
```

Code of an HTML form example is as follows:

```
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
</head>
<body>

<form action="http://bucketname.your-endpoint/" method="post" enctype="multipart/form-data">
Object key
<!-- Object name -->
<input type="text" name="key" value="objectname" />
<p>
ACL
<!-- Object ACL -->
<input type="text" name="x-obs-acl" value="public-read" />
<p>
Content-Type
<!-- Object MIME type -->
<input type="text" name="content-type" value="text/plain" />
<p>
<!-- Base64 code of the policy -->
<input type="hidden" name="policy" value="*** Provide your policy ***" />
<!-- AK -->
```

```
<input type="hidden" name="AccessKeyId" value="*** Provide your access key ***"/>
<!-- Signature information -->
<input type="hidden" name="signature" value="*** Provide your signature ***"/>

<input name="file" type="file" />
<input name="submit" value="Upload" type="submit" />
</form>
</body>
</html>
```

**NOTE**

- Values of **policy** and **signature** in the HTML form are obtained from the value returned by **ObsClient.createPostSignatureSync**.
- You can directly download the HTML form example: **PostDemo**.

# 7 Object Download

## 7.1 Object Download Overview

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

OBS PHP SDK provides abundant APIs for object download in the following modes:

- **Performing a Text-Based Download**
- **Performing a Streaming Download**
- **Performing a File-Based Download**
- **Performing a Partial Download**
- **Performing a Conditioned Download**

You can call **ObsClient->getObject** to download an object.

## 7.2 Performing a Text-Based Download

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

This example downloads object **objectname** from bucket **bucketname**.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
```

```
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

$resp = $obsClient -> getObject([
     'Bucket' => 'bucketname',
     'Key' => 'objectname'
]);

printf("RequestId:%s\n", $resp['RequestId']);
printf("Object Content:\n");
// Obtain the object content.
echo $resp ['Body'];
```

NOTE

- When this download mode is adopted, **Body** in the returned result is an instance of **GuzzleHttp\Psr7\StreamInterface**, which contains text content.
- To handle the error codes possibly returned during the operation, see **OBS Server-Side Error Codes**.

# 7.3 Performing a Streaming Download

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

$resp = $obsClient -> getObject([
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
```

```
    'SaveAsStream' => true
]);

printf("RequestId:%s\n", $resp['RequestId']);
printf("Object Content:\n");
while(!$resp['Body'] -> eof()){
    echo $resp['Body'] -> read(65536);
}
```

NOTE

- Use the **SaveAsStream** parameter to specify the download mode to streaming download.
- **Body** in the returned result is a readable **GuzzleHttp\Psr7\StreamInterface** object and can be used to save the object to a local directory or to the memory.

# 7.4 Performing a File-Based Download

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

This example downloads object **objectname** from bucket **bucketname** as **localfile**.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

$resp = $obsClient -> getObject([
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     'SaveAsFile' => 'localfile',
]);

printf("RequestId:%s\n", $resp['RequestId']);
```

NOTE

- Use the **SaveAsFile** parameter to specify the path for saving the to-be-downloaded file.
- To handle the error codes possibly returned during the operation, see **OBS Server-Side Error Codes**.

# 7.5 Performing a Partial Download

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

When only partial data of an object is required, you can download data falling within a specific range. If the specified range is from 0 to 1,000, data from byte 0 to byte 1,000, 1,001 bytes in total, are returned. If the specified range is invalid, data of the whole object will be returned. Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

$resp = $obsClient -> getObject([
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     'Range' => 'bytes=0-1000'
]);

printf("RequestId:%s\n", $resp['RequestId']);
printf("Object Content:\n");
echo $resp ['Body'];
```

**NOTE**

- Use the **Range** parameter to specify the download range in the format of "bytes=*x-y*."
- If the specified range is invalid (because the start or end position is set to a negative integer or the range is larger than the object length), data of the whole object 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 **ConcurrentDownloadObjectSample**.

# 7.6 Performing a Conditioned Download

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

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.

You can set the following conditions:

| Parameter | Description | Format |
| --- | --- | --- |
| IfModifiedSince | Returns the object if it has been modified since the specified time; otherwise, an error is returned. | This parameter must conform to the HTTP time format specified in http://www.ietf.org/rfc/rfc2616.txt. |
| IfUnmodifiedSince | Returns the object if it has not been modified since the specified time; otherwise, an error is returned. | This parameter must conform to the HTTP time format specified in http://www.ietf.org/rfc/rfc2616.txt. |
| IfMatch | Returns the source object if its ETag is the same as the one specified by this parameter; otherwise, an exception is thrown. | Character string |
| IfNoneMatch | Returns the source object if its ETag is different from the one specified by this parameter; otherwise, an exception is thrown. | Character string |

**NOTE**

- The ETag of an object is the MD5 check value of the object.
- If a request includes **IfUnmodifiedSince** or **IfMatch** and the specified condition is not met, the object download will fail and an exception will be thrown with error code **412 Precondition Failed** returned.
- If a request includes **IfModifiedSince** or **IfNoneMatch** and the specified condition is not met, the object download will fail and an exception will be thrown with error code **304 Not Modified** returned.

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
```

```
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

$resp = $obsClient -> getObject([
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     'IfModifiedSince' => 'Thu, 31 Dec 2015 16:00:00 GMT'
]);

printf("RequestId:%s\n", $resp['RequestId']);
printf("Object Content:\n");
echo $resp ['Body'];
```

# 7.7 Rewriting Response Headers

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

When downloading an object, you can rewrite some HTTP/HTTPS response headers. The following table lists rewritable response headers.

| Parameter | Description |
| --- | --- |
| ResponseContentType | Rewrites **Content-Type** in HTTP/HTTPS responses. |
| ResponseContentLanguage | Rewrites **Content-Language** in HTTP/HTTPS responses. |
| ResponseExpires | Rewrites **Expires** in HTTP/HTTPS responses. |
| ResponseCacheControl | Rewrites **Cache-Control** in HTTP/HTTPS responses. |
| ResponseContentDisposition | Rewrites **Content-Disposition** in HTTP/HTTPS responses. |
| ResponseContentEncoding | Rewrites **Content-Encoding** in HTTP/HTTPS responses. |

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
```

```
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

$resp = $obsClient -> getObject([
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     'ResponseContentType' => 'image/jpeg'
]);

printf("RequestId:%s\n", $resp['RequestId']);
// Obtain the rewritten response headers.
printf("ContentType:%s\n", $resp['ContentType']);
```

# 7.8 Obtaining Customized Metadata

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

After an object is successfully downloaded, its customized data is returned.

This example downloads object **objectname** from **bucketname** and returns the custom metadata of the object.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

$resp = $obsClient -> getObject([
     'Bucket' => 'bucketname',
     'Key' => 'objectname'
]);

printf("RequestId:%s\n", $resp['RequestId']);
printf("Metadata:%s\n", print_r($resp['Metadata'], true));
```

NOTE

- If **Metadata** is left blank, the object has no custom metadata configured.
- To handle the error codes possibly returned during the operation, see **OBS Server-Side Error Codes**.

# 7.9 Downloading an Archive Object

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

Before you can download an Archive object, you must restore it. Archive objects can be restored in either of the following ways.

| Option | Description | Value on the OBS Server |
| --- | --- | --- |
| Expedited restore | Data can be restored within 1 to 5 minutes. | ObsClient::RestoreTierExpedited |
| Standard restore | Data can be restored within 3 to 5 hours. This is the default option. | ObsClient::RestoreTierStandard |

CAUTION

To prolong the validity period of the Archive data restored, you can repeatedly restore the Archive 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.

You can call **ObsClient->restoreObject** to restore an Archive object. Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );
```

```
// Restore an object in the Archive storage class.
$resp = $obsClient -> restoreObject([
    'Bucket' => 'bucketname',
    'Key' => 'objectname',
    'Days' => 1,
    'Tier' => ObsClient::RestoreTierExpedited
]);

printf("RequestId:%s\n", $resp['RequestId']);

// Wait for the object to be restored.
sleep(6 * 60);

$resp = $obsClient -> getObject([
    'Bucket' => 'bucketname',
    'Key' => 'objectname'
]);

printf("RequestId:%s\n", $resp['RequestId']);
printf("Object Content:\n");
// Obtain the object content.
echo $resp ['Body'];
```

NOTE

- The object specified in **ObsClient->restoreObject** must be in the OBS Archive storage class. Otherwise, an error will be reported when you call this API.
- Use the **Days** parameter to specify the retention period (from 1 to 30 days) of the restored objects and the **Tier** parameter to specify the time spent on restoring the objects.

# 7.10 Processing an Image

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

OBS can be used to process images in a stable, secure, efficient, easy-of-use, and cost-efficient manner. If the object to be downloaded is an image, you can pass the image processing parameters to operate it, including cutting and resizing it as well as putting a watermark and converting the format.

For more information, see **Image Processing Feature Guide**.

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
```

```
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

$resp = $obsClient -> getObject([
      'Bucket' => 'bucketname',
      'Key' => 'objectname.jpg',
      // Resize and rotate the image in sequence.
      'ImageProcess' => 'image/resize,m_fixed,w_100,h_100/rotate,90',
      'SaveAsStream' => true
]);

printf("RequestId:%s\n",$resp['RequestId']);
```

**NOTE**

- Use the **ImageProcess** parameter 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.

# 8 Object Management

## 8.1 Obtaining Object Properties

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->getObjectMetadata** to obtain properties of an object, including the length, MIME type, customized metadata.

This example obtains the metadata of **objectname** in **bucketname**.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient([
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
]);

$resp = $obsClient -> getObjectMetadata([
     'Bucket' => 'bucketname',
     'Key' => 'objectname'
]);

printf("RequestId:%s\n", $resp['RequestId']);
printf("ContentType:%s\n", $resp['ContentType']);
printf("ContentLength:%s\n", $resp['ContentLength']);
printf("Metadata:%s\n", print_r($resp['Metadata'], true));
```

NOTE

- To handle the error codes possibly returned during the operation, see **OBS Server-Side Error Codes**.

# 8.2 Managing Object ACLs

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

Object ACLs, similar to bucket ACLs, support pre-defined access control policies and direct configuration. For details, see **Managing Bucket ACLs**.

An object **ACL** can be configured in any of the following ways:

1. Specify a pre-defined access control policy during object upload.
2. Call **ObsClient->setObjectAcl** to specify a pre-defined access control policy.
3. Call **ObsClient->setObjectAcl** to set the ACL directly.

## Specifying a Pre-defined Access Control Policy During Object Upload

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

$resp = $obsClient -> putObject([
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     'Body' => 'Hello OBS',
     // Set the object ACL to public-read.
     'ACL' => ObsClient::AclPublicRead
]);

printf("RequestId:%s\n", $resp['RequestId']);
```

## Setting a Pre-defined Access Control Policy for an Object

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

$resp = $obsClient -> setObjectAcl([
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     // Set the object ACL to private.
     'ACL' => ObsClient::AclPrivate
]);

printf("RequestId:%s\n", $resp['RequestId']);
```

NOTE

Use the **ACL** parameter to specify the ACL for an object.

## Directly Setting an Object ACL

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

$resp = $obsClient -> setObjectAcl([
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     // Set the object owner.
     'Owner' => ['ID' => 'ownerid'],
     'Grants' => [
          // Grant all permissions to a specified user.
          ['Grantee' => ['Type' => 'CanonicalUser', 'ID' => 'userid'], 'Permission' => ObsClient::PermissionFullControl],
          // Grant the READ permission to all users.
          ['Grantee' => ['Type' => 'Group', 'URI' => ObsClient::AllUsers], 'Permission' => ObsClient::PermissionRead],
     ]
]);

printf("RequestId:%s\n", $resp['RequestId']);
```

NOTE

- Use the **Owner** parameter to specify the object owner and the **Grants** parameter to specify information about the authorized users.
- The owner or grantee ID required in the ACL indicates an account ID, which can be viewed on the **My Credentials** page of OBS Console.
- OBS buckets support the following grantee group:
  - All users: ObsClient::GroupAllUsers

## Obtaining an Object ACL

You can call **ObsClient->getObjectAcl** to obtain an object ACL. Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

$resp = $obsClient->getObjectAcl ( [
     'Bucket' => 'bucketname',
     'Key' => 'objectname'
] );

printf ( "RequestId:%s\n", $resp ['RequestId'] );
printf ( "Owner[ID]:%s\n", $resp ['Owner'] ['ID'] );
foreach ( $resp ['Grants'] as $index => $grant ) {
     printf ( "Grants[%d]\n", $index + 1 );
     printf ( "Grantee[ID]:%s\n", $grant ['Grantee'] ['ID'] );
     printf ( "Grantee[URI]:%s\n", $grant ['Grantee'] ['URI'] );
     printf ( "Permission:%s\n", $grant ['Permission'] );
}
```

# 8.3 Listing Objects

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->listObjects** to list objects in a bucket.

The following table describes the parameters involved in this API.

| Parameter | Description |
| --- | --- |
| Prefix | Name prefix that the objects to be listed must contain |
| Marker | Object name to start with when listing objects in a bucket. All objects are listed in the lexicographical order. |
| MaxKeys | Maximum number of objects listed in the response. The value ranges from 1 to 1000. If the value is not in this range, 1000 objects are listed by default. |
| Delimiter | Character used to group object names. If the object name contains the **Delimiter** parameter, the character string from the first character to the first delimiter in the object name is grouped under a single result element, **CommonPrefix**. (If a prefix is specified in the request, the prefix must be removed from the object name.)<br>For a parallel file system, if this parameter is not specified, all the content in the 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. |

## Listing Objects in Simple Mode

The following sample code shows how to list objects in simple mode. A maximum of 1000 objects can be listed.

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

$resp = $obsClient->listObjects ( [
     'Bucket' => 'bucketname'
] );

printf ( "RequestId:%s\n", $resp ['RequestId'] );
foreach ( $resp ['Contents'] as $index => $content ) {
     printf ( "Contents[%d]\n", $index + 1 );
     printf ( "Key:%s\n", $content ['Key'] );
     printf ( "LastModified:%s\n", $content ['LastModified'] );
     printf ( "ETag:%s\n", $content ['ETag'] );
     printf ( "Size:%s\n", $content ['Size'] );
```

```
    printf ( "Owner[ID]:%s\n", $content ['Owner'] ['ID'] );
    printf ( "StorageClass:%s\n", $content ['StorageClass'] );
}
```

NOTE

- A maximum of 1,000 objects can be listed each time. If a bucket contains more than 1,000 objects, **IsTruncated** in the response is **true**, indicating not all objects were listed. In such case, you can use **NextMarker** to obtain the start position for next listing.
- If you want to obtain all objects in a specified bucket, you can use the paging mode for listing objects.

## Listing Objects by Specifying the Number

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

$resp = $obsClient->listObjects ( [
     'Bucket' => 'bucketname',
     // Specify the number of objects to be listed to 100.
     'MaxKeys' => 100
] );

printf ( "RequestId:%s\n", $resp ['RequestId'] );
foreach ( $resp ['Contents'] as $index => $content ) {
     printf ( "Contents[%d]\n", $index + 1 );
     printf ( "Key:%s\n", $content ['Key'] );
     printf ( "LastModified:%s\n", $content ['LastModified'] );
     printf ( "ETag:%s\n", $content ['ETag'] );
     printf ( "Size:%s\n", $content ['Size'] );
     printf ( "Owner[ID]:%s\n", $content ['Owner'] ['ID'] );
     printf ( "StorageClass:%s\n", $content ['StorageClass'] );
}
```

## Listing Objects by Specifying a Prefix

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.    'key' =>
```

```
getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

$resp = $obsClient->listObjects ( [
     'Bucket' => 'bucketname',
     // Set the prefix to prefix and the number of objects to be listed to 100.
     'MaxKeys' => 100,
     'Prefix' => 'prefix'
] );

printf ( "RequestId:%s\n", $resp ['RequestId'] );
foreach ( $resp ['Contents'] as $index => $content ) {
     printf ( "Contents[%d]\n", $index + 1 );
     printf ( "Key:%s\n", $content ['Key'] );
     printf ( "LastModified:%s\n", $content ['LastModified'] );
     printf ( "ETag:%s\n", $content ['ETag'] );
     printf ( "Size:%s\n", $content ['Size'] );
     printf ( "Owner[ID]:%s\n", $content ['Owner'] ['ID'] );
     printf ( "StorageClass:%s\n", $content ['StorageClass'] );
}
```

## Listing Objects by Specifying the Start Position

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.     'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

$resp = $obsClient->listObjects ( [
     'Bucket' => 'bucketname',
     // Set that 100 objects whose names follow test in lexicographical order will be listed.
     'MaxKeys' => 100,
     'Marker' => 'test'
] );

printf ( "RequestId:%s\n", $resp ['RequestId'] );
foreach ( $resp ['Contents'] as $index => $content ) {
     printf ( "Contents[%d]\n", $index + 1 );
     printf ( "Key:%s\n", $content ['Key'] );
     printf ( "LastModified:%s\n", $content ['LastModified'] );
     printf ( "ETag:%s\n", $content ['ETag'] );
     printf ( "Size:%s\n", $content ['Size'] );
     printf ( "Owner[ID]:%s\n", $content ['Owner'] ['ID'] );
     printf ( "StorageClass:%s\n", $content ['StorageClass'] );
}
```

## Listing All Objects in Paging Mode

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

$marker = null;
$index = 1;
do {

    $resp = $obsClient->listObjects ( [
        'Bucket' => 'bucketname',
        // Set the number of parts displayed per page to 100.
        'MaxKeys' => 100,
        'Marker' => $marker
    ] );

    printf ( "RequestId:%s\n", $resp ['RequestId'] );
    foreach ( $resp ['Contents'] as $content ) {
        printf ( "Contents[%d]\n", $index );
        printf ( "Key:%s\n", $content ['Key'] );
        printf ( "LastModified:%s\n", $content ['LastModified'] );
        printf ( "ETag:%s\n", $content ['ETag'] );
        printf ( "Size:%s\n", $content ['Size'] );
        printf ( "Owner[ID]:%s\n", $content ['Owner'] ['ID'] );
        printf ( "StorageClass:%s\n", $content ['StorageClass'] );
        $index ++;
    }
    $marker = $resp['NextMarker'];
}while($resp['IsTruncated']);
```

## Listing All Objects in a Folder

There is no folder concept in OBS. All elements in buckets are objects. Folders are actually objects whose sizes are 0 and whose names end with a slash (/). When you set a folder name as the prefix, objects in this folder will be listed. Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );
```

```
$marker = null;
$index = 1;
do {

    $resp = $obsClient->listObjects ( [
        'Bucket' => 'bucketname',
        'MaxKeys' => 1000,
        // Set the prefix of the folders to dir/.
        'Prefix' => 'dir/',
        'Marker' => $marker
    ] );

    printf ( "RequestId:%s\n", $resp ['RequestId'] );
    foreach ( $resp ['Contents'] as $content ) {
        printf ( "Contents[%d]\n", $index );
        printf ( "Key:%s\n", $content ['Key'] );
        printf ( "LastModified:%s\n", $content ['LastModified'] );
        printf ( "ETag:%s\n", $content ['ETag'] );
        printf ( "Size:%s\n", $content ['Size'] );
        printf ( "Owner[ID]:%s\n", $content ['Owner'] ['ID'] );
        printf ( "StorageClass:%s\n", $content ['StorageClass'] );
        $index ++;
    }
    $marker = $resp['NextMarker'];
}while($resp['IsTruncated']);
```

## Listing All Objects According to Folders in a Bucket

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

function listObjectsByPrefix($commonPrefiexes){
    global $obsClient;
    foreach ($commonPrefiexes as $commonPrefiex){
        $resp = $obsClient->listObjects ( [
                'Bucket' => 'bucketname',
                // Set folder isolators to slashes (/).
                'Delimiter' => '/',
                'Prefix' => $commonPrefiex['Prefix']
        ] );
        printf("Objects in folder [%s]:\n", $commonPrefiex['Prefix']);
        foreach ( $resp ['Contents'] as $index => $content ) {
            printf ( "Contents[%d]\n", $index );
            printf ( "Key:%s\n", $content ['Key'] );
            printf ( "LastModified:%s\n", $content ['LastModified'] );
            printf ( "ETag:%s\n", $content ['ETag'] );
            printf ( "Size:%s\n", $content ['Size'] );
            printf ( "Owner[ID]:%s\n", $content ['Owner'] ['ID'] );
            printf ( "StorageClass:%s\n", $content ['StorageClass'] );
        }
        printf("\n");
        listObjectsByPrefix($resp['CommonPrefixes']);
```

```
    }
}

$resp = $obsClient->listObjects ( [
    'Bucket' => 'bucketname',
    // Set folder isolators to slashes (/).
    'Delimiter' => '/'
] );

printf( "Objects in the root directory:\n");
foreach ( $resp ['Contents'] as $index => $content ) {
    printf ( "Contents[%d]\n", $index );
    printf ( "Key:%s\n", $content ['Key'] );
    printf ( "LastModified:%s\n", $content ['LastModified'] );
    printf ( "ETag:%s\n", $content ['ETag'] );
    printf ( "Size:%s\n", $content ['Size'] );
    printf ( "Owner[ID]:%s\n", $content ['Owner'] ['ID'] );
    printf ( "StorageClass:%s\n", $content ['StorageClass'] );
}
printf("\n");
listObjectsByPrefix($resp['CommonPrefixes']);
```

NOTE

- The sample code does not apply to scenarios where the number of objects in a folder exceeds 1000.
- Because objects and sub-folders in a folder are to be listed and all the objects end with a slash (/), **Delimiter** is always a slash (/).
- In the returned result of each recursion, **Contents** includes the objects in the folder and **CommonPrefixes** includes the sub-folders in the folder.

# 8.4 Deleting Objects

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

NOTE

Exercise caution when performing this operation. If the versioning function is disabled for the bucket where the object is located, the object cannot be restored after being deleted.

## Deleting a Single Object

You can call **ObsClient->deleteObject** to delete a single object. Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
```

```
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

$resp = $obsClient->deleteObject ( [
     'Bucket' => 'bucketname',
     'Key' => 'objectname'
] );
printf("RequestId:%s\n", $resp['RequestId']);
```

## Batch Deleting Objects

You can call **ObsClient->deleteObjects** to delete objects in a batch.

A maximum of 1000 objects can be deleted each time. Two response modes are supported: **verbose** (detailed) and **quiet** (brief).

- In verbose mode (default mode), the returned response includes the deletion result of each requested object.
- In quiet mode, the returned response includes only results of objects failed to be deleted.

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

$resp = $obsClient->deleteObjects ( [
            'Bucket' => 'bucketname',
            // Set the response mode to verbose.
            'Quiet' => false,
            'Objects' => [
                        [
                                    'Key' => 'objectname1',
                                    'VersionId' => null
                        ],
                        [
                                    'Key' => 'objectname2',
                                    'VersionId' => null
                        ]
            ]
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
// Obtain the successfully deleted objects.
printf ( "Deleteds:\n" );
foreach ( $resp ['Deleteds'] as $index => $deleted ) {
     printf ( "Deleteds[%d]", $index + 1 );
     printf ( "Key:%s\n", $deleted ['Key'] );
```

```
        printf ( "VersionId:%s\n", $deleted ['VersionId'] );
        printf ( "DeleteMarker:%s\n", $deleted ['DeleteMarker'] );
        printf ( "DeleteMarkerVersionId:%s\n", $deleted ['DeleteMarkerVersionId'] );
}
// Obtain the objects failed to be deleted.
printf ( "Errors:\n" );
foreach ( $resp ['Errors'] as $index => $error ) {
        printf ( "Errors[%d]", $index + 1 );
        printf ( "Key:%s\n", $error ['Key'] );
        printf ( "VersionId:%s\n", $$error ['VersionId'] );
        printf ( "Code:%s\n", $error ['Code'] );
        printf ( "Message:%s\n", $error ['Message'] );
}
```

NOTE

Use the **Quiet** parameter to specify the response mode and the **Objects** parameter to specify the to-be-deleted objects.

# 8.5 Copying an Object

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

The object copy operation can create a copy for an existing object in OBS.

You can call **ObsClient->copyObject** to copy an object. When copying an object, you can rewrite properties and ACL for it, as well as set restriction conditions.

NOTE

- If the source object to be copied is in the Archive storage class, you must restore it first.

## Copying an Object in Simple Mode

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

$resp = $obsClient->copyObject ( [
    'Bucket' => 'destbucketname',
    'Key' => 'destobjectname',
```

```
    'CopySource' => 'sourcebucketname/sourceobjectname'
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
```

NOTE

Use the **CopySource** parameter to specify the information about the source object.

## Rewriting Object Properties

The following sample code shows how to rewrite object properties.

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

$resp = $obsClient->copyObject ( [
     'Bucket' => 'destobjectname',
     'Key' => 'destobjectname',
     'CopySource' => 'sourcebucketname/soureobjectname',
     'ContentType' => 'image/jpeg',
     'StorageClass' => ObsClient::StorageClassWarm,
     'Metadata' => ['property' => 'property-value'],
     'MetadataDirective' => ObsClient::ReplaceMetadata
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
```

NOTE

Use the **Metadata** parameter to specify the object's customized metadata to be rewritten and the **MetadataDirective** parameter to specify the rewrite mode, which can be **ObsClient::ReplaceMetadata** (rewrite) or **ObsClient::CopyMetadata** (copy from the source object).

## Copying an Object by Specifying Conditions

When copying an object, you can specify one or more restriction conditions. If the conditions are met, the object will be copied. Otherwise, an exception will be thrown.

You can set the following conditions:

| Parameter | Description | Format |
| --- | --- | --- |
| CopySourceIfModified-Since | Copies the source object if it has been modified since the specified time; otherwise, an exception is thrown. | This parameter must conform to the HTTP time format specified in http://www.ietf.org/rfc/rfc2616.txt. |
| CopySourceIfUnmodi-fiedSince | Copies the source object if it has not been modified since the specified time; otherwise, an exception is thrown. | This parameter must conform to the HTTP time format specified in http://www.ietf.org/rfc/rfc2616.txt. |
| CopySourceIfMatch | Copies the source object if its ETag is the same as the one specified by this parameter; otherwise, an exception is thrown. | Character string |
| CopySourceIfNoneMatch | Copies the source object if its ETag is different from the one specified by this parameter; otherwise, an exception is thrown. | Character string |

**NOTE**

- The ETag of the source object is the MD5 check value of the source object.
- If the object copy request includes **CopySourceIfUnmodifiedSince**, **CopySourceIfMatch**, **CopySourceIfModifiedSince**, or **CopySourceIfNoneMatch**, and the specified condition is not met, the copy will fail and an exception will be thrown with HTTP status code **412 Precondition Failed** returned.
- **CopySourceIfModifiedSince** and **CopySourceIfNoneMatch** can be used together. So do **CopySourceIfUnmodifiedSince** and **CopySourceIfMatch**.

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

$resp = $obsClient->copyObject ( [
     'Bucket' => 'destobjectname',
```

```
    'Key' => 'destobjectname',
    'CopySource' => 'sourcebucketname/soureobjectname',
    'CopySourceIfModifiedSince' => 'Thu, 31 Dec 2015 16:00:00 GMT',
    'CopySourceIfNoneMatch' => 'none-match-etag'
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
```

## Rewriting an Object ACL

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

$resp = $obsClient->copyObject ( [
    'Bucket' => 'destobjectname',
    'Key' => 'destobjectname',
    'CopySource' => 'sourcebucketname/soureobjectname',
    // Rewrite the object ACL to public-read.
    'ACL' => ObsClient::AclPublicRead
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
```

**NOTE**

Use the **ACL** parameter to modify the object ACL.

# 9 Temporarily Authorized Access

## 9.1 Using a Temporary URL for Authorized Access

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

**ObsClient** allows you to create 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.

The following table lists operations can be performed through a signed URL.

| Operation | HTTP Method | Special Operator (Sub-resource) | Bucket Name Required | Object Name Required |
| --- | --- | --- | --- | --- |
| PUT Bucket | PUT | N/A | Yes | No |
| GET Buckets | GET | N/A | No | No |
| DELETE Bucket | DELETE | N/A | Yes | No |
| GET Objects | GET | N/A | Yes | No |
| GET Object versions | GET | versions | Yes | No |
| List Multipart uploads | GET | uploads | Yes | No |

| Operation | HTTP Method | Special Operator (Sub-resource) | Bucket Name Required | Object Name Required |
|---|---|---|---|---|
| Obtain Bucket Metadata | HEAD | N/A | Yes | No |
| GET Bucket location | GET | location | Yes | No |
| GET Bucket storageinfo | GET | storageinfo | Yes | No |
| PUT Bucket quota | PUT | quota | Yes | No |
| GET Bucket quota | GET | quota | Yes | No |
| Set Bucket storagePolicy | PUT | storagePolicy | Yes | No |
| GET Bucket storagePolicy | GET | storagePolicy | Yes | No |
| PUT Bucket acl | PUT | acl | Yes | No |
| GET Bucket acl | GET | acl | Yes | No |
| PUT Bucket logging | PUT | logging | Yes | No |
| GET Bucket logging | GET | logging | Yes | No |
| PUT Bucket policy | PUT | policy | Yes | No |
| GET Bucket policy | GET | policy | Yes | No |
| DELETE Bucket policy | DELETE | policy | Yes | No |
| PUT Bucket lifecycle | PUT | lifecycle | Yes | No |
| GET Bucket lifecycle | GET | lifecycle | Yes | No |
| DELETE Bucket lifecycle | DELETE | lifecycle | Yes | No |
| PUT Bucket website | PUT | website | Yes | No |
| GET Bucket website | GET | website | Yes | No |
| DELETE Bucket website | DELETE | website | Yes | No |
| PUT Bucket versioning | PUT | versioning | Yes | No |
| GET Bucket versioning | GET | versioning | Yes | No |
| PUT Bucket cors | PUT | cors | Yes | No |

| Operation | HTTP Method | Special Operator (Sub-resource) | Bucket Name Required | Object Name Required |
|---|---|---|---|---|
| GET Bucket cors | GET | cors | Yes | No |
| DELETE Bucket cors | DELETE | cors | Yes | No |
| OPTIONS Bucket | OPTIONS | N/A | Yes | No |
| PUT Bucket tagging | PUT | tagging | Yes | No |
| GET Bucket tagging | GET | tagging | Yes | No |
| DELETE Bucket tagging | DELETE | tagging | Yes | No |
| PUT Object | PUT | N/A | Yes | Yes |
| GET Object | GET | N/A | Yes | Yes |
| PUT Object - Copy | PUT | N/A | Yes | Yes |
| DELETE Object | DELETE | N/A | Yes | Yes |
| DELETE Objects | POST | delete | Yes | Yes |
| Obtain Object Metadata | HEAD | N/A | Yes | Yes |
| PUT Object acl | PUT | acl | Yes | Yes |
| GET Object acl | GET | acl | Yes | Yes |
| Initiate Multipart Upload | POST | uploads | Yes | Yes |
| PUT Part | PUT | N/A | Yes | Yes |
| PUT Part - Copy | PUT | N/A | Yes | Yes |
| List Parts | GET | N/A | Yes | Yes |
| Complete Multipart Upload | POST | N/A | Yes | Yes |
| DELETE Multipart upload | DELETE | N/A | Yes | Yes |
| OPTIONS Object | OPTIONS | N/A | Yes | Yes |
| POST Object restore | POST | restore | Yes | Yes |

To access OBS using a temporary URL generated by the OBS PHP SDK, perform the following steps:

**Step 1** Call **ObsClient->createSignedUrl** to generate a signed URL.

**Step 2** Use any HTTP library to make an HTTP/HTTPS request to OBS.

**----End**

**CAUTION**

If a CORS or signature mismatch error occurs, refer to the following steps to troubleshoot the issue:

1. If CORS was not configured, you need to configure CORS rules on OBS Console. For details, see **Configuring CORS**.
2. If the signatures do not match, check whether signature parameters are correct by referring to **Authentication of Signature in a URL**. For example, during an object upload, if the backend uses **Content-Type** to calculate the signature and generate an authorized URL, but the frontend does not pass **Content-Type** or passes an incorrect value when using the URL, a CORS error occurs. To resolve this issue, ensure that **Content-Type** fields of the frontend and backend are consistent.

The following content provides examples of accessing OBS using a temporary URL, including bucket creation, as well as object upload, download, listing, and deletion.

## Creating a Bucket

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
use GuzzleHttp\Client;
use GuzzleHttp\Exception\ClientException;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

// Set the validity period of the URL to 3600 seconds.
$expires = 3600;
// Create a bucket.
$resp = $obsClient->createSignedUrl( [
            'Method' => 'PUT',
            'Bucket' => 'bucketname',
            'Expires' => $expires
] );
printf("SignedUrl:%s\n", $resp ['SignedUrl']);

$httpClient = new Client(['verify' => false ]);
$content = '<CreateBucketConfiguration><LocationConstraint>your-location</LocationConstraint></CreateBucketConfiguration>';
$url = $resp['SignedUrl'];
try{
    $response = $httpClient -> request('PUT', $url, ['body' => $content, 'headers'=> $resp['ActualSignedRequestHeaders']]);
    printf("%s using temporary signature url:\n", 'Create bucket');
```

```
    printf("\t%s successfully.\n", $url);
    printf("\tStatus:%d\n", $response -> getStatusCode());
    printf("\tContent:%s\n", $response -> getBody() -> getContents());
    $response -> getBody()-> close();
}catch (ClientException $ex){
    printf("%s using temporary signature url:\n", 'Create bucket');
    printf("\t%s failed!\n", $url);
    printf('Exception message:%s', $ex ->getMessage());
}
```

## Uploading an Object

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
use GuzzleHttp\Client;
use GuzzleHttp\Exception\ClientException;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

// Set the validity period of the URL to 3600 seconds.
$expires = 3600;
// Upload an object.
$resp = $obsClient->createSignedUrl( [
            'Method' => 'PUT',
            'Bucket' => 'bucketname',
            'Key' => 'objectname',
            'Expires' => $expires
] );
printf("SignedUrl:%s\n", $resp ['SignedUrl']);
$url = $resp['SignedUrl'];
$httpClient = new Client(['verify' => false ]);
$content = 'Hello OBS';
try{
    $response = $httpClient -> request('PUT', $url, ['body' => $content, 'headers'=> $resp['ActualSignedRequestHeaders']]);
    printf("%s using temporary signature url:\n", 'Put object');
    printf("\t%s successfully.\n", $url);
    printf("\tStatus:%d\n", $response -> getStatusCode());
    printf("\tContent:%s\n", $response -> getBody() -> getContents());
    $response -> getBody()-> close();
}catch (ClientException $ex){
    printf("%s using temporary signature url:\n", 'Put object');
    printf("\t%s failed!\n", $url);
    printf('Exception message:%s', $ex ->getMessage());
}
```

## Downloading an Object

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
use GuzzleHttp\Client;
use GuzzleHttp\Exception\ClientException;
```

```
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

// Set the validity period of the URL to 3600 seconds.
$expires = 3600;
// Download an object.
$resp = $obsClient->createSignedUrl( [
            'Method' => 'GET',
            'Bucket' => 'bucketname',
            'Key' => 'objectname',
            'Expires' => $expires
] );
printf("SignedUrl:%s\n", $resp ['SignedUrl']);
$url = $resp['SignedUrl'];
$httpClient = new Client(['verify' => false ]);

try{
    $response = $httpClient -> request('GET', $url, ['headers'=> $resp['ActualSignedRequestHeaders']]);
    printf("%s using temporary signature url:\n", 'Get object');
    printf("\t%s successfully.\n", $url);
    printf("\tStatus:%d\n", $response -> getStatusCode());
    printf("\tContent:%s\n", $response -> getBody() -> getContents());
    $response -> getBody()-> close();
}catch (ClientException $ex){
    printf("%s using temporary signature url:\n", 'Get object');
    printf("\t%s failed!\n", $url);
    printf('Exception message:%s', $ex ->getMessage());
}
```

## Listing Objects

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
use GuzzleHttp\Client;
use GuzzleHttp\Exception\ClientException;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

// Set the validity period of the URL to 3600 seconds.
$expires = 3600;
// List objects.
$resp = $obsClient->createSignedUrl( [
            'Method' => 'GET',
            'Bucket' => 'bucketname',
            'Expires' => $expires
] );
printf("SignedUrl:%s\n", $resp ['SignedUrl']);
```

```
$url = $resp['SignedUrl'];
$httpClient = new Client(['verify' => false ]);

try{
    $response = $httpClient -> request('GET', $url, ['headers'=> $resp['ActualSignedRequestHeaders']]);
    printf("%s using temporary signature url:\n", 'List objects');
    printf("\t%s successfully.\n", $url);
    printf("\tStatus:%d\n", $response -> getStatusCode());
    printf("\tContent:%s\n", $response -> getBody() -> getContents());
    $response -> getBody()-> close();
}catch (ClientException $ex){
    printf("%s using temporary signature url:\n", 'List objects');
    printf("\t%s failed!\n", $url);
    printf('Exception message:%s', $ex ->getMessage());
}
```

## Deleting an Object

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
use GuzzleHttp\Client;
use GuzzleHttp\Exception\ClientException;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
    'signature' => 'obs'
] );

// Set the validity period of the URL to 3600 seconds.
$expires = 3600;
// Delete an object.
$resp = $obsClient->createSignedUrl( [
            'Method' => 'DELETE',
            'Bucket' => 'bucketname',
            'Key' => 'objectname',
            'Expires' => $expires
] );
printf("SignedUrl:%s\n", $resp ['SignedUrl']);
$url = $resp['SignedUrl'];
$httpClient = new Client(['verify' => false ]);

try{
    $response = $httpClient -> request('DELETE', $url, ['headers'=> $resp['ActualSignedRequestHeaders']]);
    printf("%s using temporary signature url:\n", 'Delete object');
    printf("\t%s successfully.\n", $url);
    printf("\tStatus:%d\n", $response -> getStatusCode());
    printf("\tContent:%s\n", $response -> getBody() -> getContents());
    $response -> getBody()-> close();
}catch (ClientException $ex){
    printf("%s using temporary signature url:\n", 'Delete object');
    printf("\t%s failed!\n", $url);
    printf('Exception message:%s', $ex ->getMessage());
}
```

NOTE

Use the **Method** parameter to specify the HTTP request method, the **Expires** parameter to specify the validity period of the URL, the **Headers** parameter to specify the request headers, the **SpecialParam** parameter to specify the special operator, and the **QueryParams** parameter to specify the request parameters.

# 10 Versioning Management

## 10.1 Versioning Overview

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can use versioning to store multiple versions of an object in a bucket.

When versioning is enabled for a bucket, OBS keeps multiple versions of an object in the bucket, allowing you to easily retrieve and restore historical versions or recover data in the event of accidental changes or application failures.

By default, versioning is disabled for new OBS buckets. In this case, if a newly uploaded object is using the name of the previously uploaded one, the new object will overwrite the previous one.

For details, see **Versioning**.

## 10.2 Setting Versioning Status for a Bucket

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->setBucketVersioning** to set the versioning status for a bucket. OBS supports two versioning statuses.

| Versioning Status | Description | Value on the OBS Server |
| --- | --- | --- |
| Enabled | 1. OBS creates a unique version ID for each uploaded object. Namesake objects are not overwritten and are distinguished by their own version IDs.<br>2. Objects can be downloaded by specifying the version ID. By default, the object of the latest version is downloaded if no version ID is specified.<br>3. Objects can be deleted by specifying the version ID. If an object is deleted with no version ID specified, the object will generate a delete marker with a unique version ID but is not physically deleted.<br>4. Objects of the latest version in a bucket are returned by default after **ObsClient->listObjects** is called. You can call **ObsClient->listVersions** to list a bucket's objects with all version IDs.<br>5. Except for delete markers, storage space occupied by objects with all version IDs is billed. | Enabled |
| Suspended | 1. Noncurrent object versions are not affected.<br>2. OBS creates version ID **null** to an uploaded object and the object will be overwritten after a namesake one is uploaded.<br>3. Objects can be downloaded by specifying the version ID. By default, the object of the latest version is downloaded if no version ID is specified.<br>4. Objects can be deleted by specifying version IDs. If an object is deleted with no version ID specified, the object is only attached with a delete marker whose version ID is **null**. Objects with version ID **null** are physically deleted.<br>5. Except for delete markers, storage space occupied by objects with all version IDs is billed. | Suspended |

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
```

```
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

// Enable versioning.
$resp = $obsClient->setBucketVersioning([
     'Bucket' => 'bucketname',
     'Status' => 'Enabled'
]);

printf ("RequestId:%s\n", $resp ['RequestId']);

// Suspend versioning.
$resp = $obsClient->setBucketVersioningConfiguration([
            'Bucket' => 'bucketname',
            'Status' => 'Suspended'
]);

printf ("RequestId:%s\n", $resp ['RequestId']);
```

NOTE

Use the **Status** parameter to specify the versioning status of a bucket.

# 10.3 Viewing Versioning Status of a Bucket

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->getBucketVersioning** to view the versioning status of a bucket.

This example obtains the versioning status of bucket **bucketname**.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->getBucketVersioning([
```

```
    'Bucket' => 'bucketname'
]);

printf ("RequestId:%s\n", $resp ['RequestId']);
printf ("Status:%s\n", $resp ['Status']);
```

NOTE

- To handle the error codes possibly returned during the operation, see **OBS Server-Side Error Codes**.

# 10.4 Obtaining a Versioning Object

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->getObject** to obtain an object version by specifying the version ID (**VersionId**).

This example downloads object **objectname** from bucket **bucketname** by specifying **VersionId**.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->getObject([
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     'VersionId' => 'versionid'
]);

printf ("RequestId:%s\n", $resp ['RequestId']);
printf("Object Content:\n");
// Obtain the object content.
echo $resp ['Body'];
```

NOTE

- If **VersionId** is not specified, the object of the latest version will be downloaded.
- To handle the error codes possibly returned during the operation, see **OBS Server-Side Error Codes**.

# 10.5 Copying a Versioning Object

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->copyObject** to copy an object version by specifying its **versionId** in the **CopySource** parameter.

This example specifies **versionId** to copy **sourceobjectname** of the specified version from **sourcebucketname** to **destbucketname** as **destobjectname**.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->copyObject([
     'Bucket' => 'destbucketname',
     'Key' => 'destobjectname',
     // Set the version ID of the object to be copied.
     'CopySource' => 'sourcebucket/sourceobjectname?versionId=versionid'
]);

printf ("RequestId:%s\n", $resp ['RequestId']);
```

**NOTE**

- To handle the error codes possibly returned during the operation, see **OBS Server-Side Error Codes**.

# 10.6 Restoring a Specific Archive Object Version

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->restoreObject** to restore an Archive object version by specifying **VersionId**.

This example specifies **versionId** to restore Archive object **destobjectname** in **destbucketname** as a Standard object.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->restoreObject([
     'Bucket' => 'destbucketname',
     'Key' => 'destobjectname',
     'VersionId' => 'versionid',
     'Days' => 1,
     // Restore a versioned object at an expedited speed.
     'Tier' => ObsClient::RestoreTierExpedited
]);

printf ("RequestId:%s\n", $resp ['RequestId']);
```

**CAUTION**

To prolong the validity period of the Archive data restored, you can repeatedly restore the Archive 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.

# 10.7 Listing Versioning Objects

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->listVersions** to list versioning objects.

The following table describes the parameters involved in this API.

| Parameter | Description |
| --- | --- |
| Prefix | Name prefix that the objects to be listed must contain |

| Parameter | Description |
| --- | --- |
| KeyMarker | Object name to start with when listing versioning objects in a bucket. All versioning objects whose names follow this parameter are listed in the lexicographical order. |
| MaxKeys | Maximum number of versioning objects returned. The value ranges from 1 to 1000. If the value is not in this range, 1000 versioning objects are returned by default. |
| Delimiter | Character used to group object names. If the object name contains the **Delimiter** parameter, the character string from the first character to the first delimiter in the object name is grouped under a single result element, **CommonPrefix**. (If a prefix is specified in the request, the prefix must be removed from the object name.) |
| VersionIdMarker | Object name to start with when listing versioning objects in a bucket. All versioning objects are listed in the lexicographical order by object name and version ID. This parameter must be used together with **KeyMarker**. |

NOTE

- If the value of **VersionIdMarker** is not a version ID specified by **KeyMarker**, **VersionIdMarker** is ineffective.
- The returned result of **ObsClient->listVersions** includes the versioning objects and delete markers.

## Listing Versioning Objects in Simple Mode

The following sample code shows how to list versioning objects in simple mode. A maximum of 1000 versioning objects can be listed.

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->listVersions ( [
     'Bucket' => 'bucketname'
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
// Obtain versioning objects.
printf ( "Versions:\n" );
foreach ( $resp ['Versions'] as $index => $version ) {
```

```
    printf ( "Versions[%d]\n", $index + 1 );
    printf ( "Key:%s\n", $version ['Key'] );
    printf ( "VersionId:%s\n", $version ['VersionId'] );
    printf ( "IsLatest:%s\n", $version ['IsLatest'] );
    printf ( "LastModified:%s\n", $version ['LastModified'] );
    printf ( "ETag:%s\n", $version ['ETag'] );
    printf ( "Size:%s\n", $version ['Size'] );
    printf ( "Owner[ID]:%s\n", $version ['Owner'] ['ID'] );
    printf ( "StorageClass:%s\n", $version ['StorageClass'] );
}
// Obtain delete markers.
printf ( "DeleteMarkers:\n" );
foreach ( $resp ['DeleteMarkers'] as $index => $deleteMarker ) {
    printf ( "DeleteMarkers[%d]\n", $index + 1 );
    printf ( "Key:%s\n", $deleteMarker ['Key'] );
    printf ( "VersionId:%s\n", $deleteMarker ['VersionId'] );
    printf ( "LastModified:%s\n", $deleteMarker ['LastModified'] );
    printf ( "Owner[ID]:%s\n", $deleteMarker ['Owner'] ['ID'] );
}
```

NOTE

- Information about a maximum of 1000 versioning objects can be listed each time. If a bucket contains more than 1000 objects and **IsTruncated** is **true** in the returned result, not all versioning objects are listed. In such cases, you can use **NextKeyMarker** and **NextVersionIdMarker** to obtain the start position for next listing.
- If you want to obtain all versioning objects in a specified bucket, you can use the paging mode for listing objects.

## Listing Versioning Objects by Specifying the Number

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

// List 100 versioning objects.
$resp = $obsClient->listVersions ( [
     'Bucket' => 'bucketname',
     'MaxKeys' => 100
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
// Obtain versioning objects.
printf ( "Versions:\n" );
foreach ( $resp ['Versions'] as $index => $version ) {
     printf ( "Versions[%d]\n", $index + 1 );
     printf ( "Key:%s\n", $version ['Key'] );
     printf ( "VersionId:%s\n", $version ['VersionId'] );
     printf ( "IsLatest:%s\n", $version ['IsLatest'] );
     printf ( "LastModified:%s\n", $version ['LastModified'] );
     printf ( "ETag:%s\n", $version ['ETag'] );
     printf ( "Size:%s\n", $version ['Size'] );
     printf ( "Owner[ID]:%s\n", $version ['Owner'] ['ID'] );
     printf ( "StorageClass:%s\n", $version ['StorageClass'] );
```

```
}
// Obtain delete markers.
printf ( "DeleteMarkers:\n" );
foreach ( $resp ['DeleteMarkers'] as $index => $deleteMarker ) {
    printf ( "DeleteMarkers[%d]\n", $index + 1 );
    printf ( "Key:%s\n", $deleteMarker ['Key'] );
    printf ( "VersionId:%s\n", $deleteMarker ['VersionId'] );
    printf ( "LastModified:%s\n", $deleteMarker ['LastModified'] );
    printf ( "Owner[ID]:%s\n", $deleteMarker ['Owner'] ['ID'] );
}
```

## Listing Versioning Objects by Specifying a Prefix

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

// Set the prefix to prefix and the number to 100.
$resp = $obsClient->listVersions ( [
    'Bucket' => 'bucketname',
    'MaxKeys' => 100,
    'Prefix' => 'prefix'
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
// Obtain versioning objects.
printf ( "Versions:\n" );
foreach ( $resp ['Versions'] as $index => $version ) {
    printf ( "Versions[%d]\n", $index + 1 );
    printf ( "Key:%s\n", $version ['Key'] );
    printf ( "VersionId:%s\n", $version ['VersionId'] );
    printf ( "IsLatest:%s\n", $version ['IsLatest'] );
    printf ( "LastModified:%s\n", $version ['LastModified'] );
    printf ( "ETag:%s\n", $version ['ETag'] );
    printf ( "Size:%s\n", $version ['Size'] );
    printf ( "Owner[ID]:%s\n", $version ['Owner'] ['ID'] );
    printf ( "StorageClass:%s\n", $version ['StorageClass'] );
}
// Obtain delete markers.
printf ( "DeleteMarkers:\n" );
foreach ( $resp ['DeleteMarkers'] as $index => $deleteMarker ) {
    printf ( "DeleteMarkers[%d]\n", $index + 1 );
    printf ( "Key:%s\n", $deleteMarker ['Key'] );
    printf ( "VersionId:%s\n", $deleteMarker ['VersionId'] );
    printf ( "LastModified:%s\n", $deleteMarker ['LastModified'] );
    printf ( "Owner[ID]:%s\n", $deleteMarker ['Owner'] ['ID'] );
}
```

## Listing Versioning Objects by Specifying the Start Position

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
```

```
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

// List 100 versioning objects whose names are following test in lexicographical order.
$resp = $obsClient->listVersions ( [
     'Bucket' => 'bucketname',
     'MaxKeys' => 100,
     'Marker' => 'test'
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
// Obtain versioning objects.
printf ( "Versions:\n" );
foreach ( $resp ['Versions'] as $index => $version ) {
     printf ( "Versions[%d]\n", $index + 1 );
     printf ( "Key:%s\n", $version ['Key'] );
     printf ( "VersionId:%s\n", $version ['VersionId'] );
     printf ( "IsLatest:%s\n", $version ['IsLatest'] );
     printf ( "LastModified:%s\n", $version ['LastModified'] );
     printf ( "ETag:%s\n", $version ['ETag'] );
     printf ( "Size:%s\n", $version ['Size'] );
     printf ( "Owner[ID]:%s\n", $version ['Owner'] ['ID'] );
     printf ( "StorageClass:%s\n", $version ['StorageClass'] );
}
// Obtain delete markers.
printf ( "DeleteMarkers:\n" );
foreach ( $resp ['DeleteMarkers'] as $index => $deleteMarker ) {
     printf ( "DeleteMarkers[%d]\n", $index + 1 );
     printf ( "Key:%s\n", $deleteMarker ['Key'] );
     printf ( "VersionId:%s\n", $deleteMarker ['VersionId'] );
     printf ( "LastModified:%s\n", $deleteMarker ['LastModified'] );
     printf ( "Owner[ID]:%s\n", $deleteMarker ['Owner'] ['ID'] );
}
```

## Listing All Versioning Objects in Paging Mode

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$keyMarker = null;
$versionIdMarker = null;
```

```
do {
    $resp = $obsClient->listVersions ( [
        'Bucket' => 'bucketname',
        'MaxKeys' => 100,
        'Marker' => $keyMarker,
        'VersionIdMarker' => $versionIdMarker
    ] );
    printf ( "RequestId:%s\n", $resp ['RequestId'] );
    // Obtain versioning objects.
    printf ( "Versions:\n" );
    foreach ( $resp ['Versions'] as $index => $version ) {
        printf ( "Versions[%d]\n", $index + 1 );
        printf ( "Key:%s\n", $version ['Key'] );
        printf ( "VersionId:%s\n", $version ['VersionId'] );
        printf ( "IsLatest:%s\n", $version ['IsLatest'] );
        printf ( "LastModified:%s\n", $version ['LastModified'] );
        printf ( "ETag:%s\n", $version ['ETag'] );
        printf ( "Size:%s\n", $version ['Size'] );
        printf ( "Owner[ID]:%s\n", $version ['Owner'] ['ID'] );
        printf ( "StorageClass:%s\n", $version ['StorageClass'] );
    }
    // Obtain delete markers.
    printf ( "DeleteMarkers:\n" );
    foreach ( $resp ['DeleteMarkers'] as $index => $deleteMarker ) {
        printf ( "DeleteMarkers[%d]\n", $index + 1 );
        printf ( "Key:%s\n", $deleteMarker ['Key'] );
        printf ( "VersionId:%s\n", $deleteMarker ['VersionId'] );
        printf ( "LastModified:%s\n", $deleteMarker ['LastModified'] );
        printf ( "Owner[ID]:%s\n", $deleteMarker ['Owner'] ['ID'] );
    }

    $keyMarker = $resp['NextKeyMarker'];
    $versionIdMarker = $resp['NextVersionIdMarker'];
}while($resp['IsTruncated']);
```

## Listing All Versioning Objects in a Folder

There is no folder concept in OBS. All elements in buckets are objects. Folders are actually objects whose sizes are 0 and whose names end with a slash (/). When you set a folder name as the prefix, objects in this folder will be listed. Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$keyMarker = null;
$versionIdMarker = null;

do {
    $resp = $obsClient->listVersions ( [
        'Bucket' => 'bucketname',
        'MaxKeys' => 100,
        'Marker' => $keyMarker,
        'VersionIdMarker' => $versionIdMarker,
```

```
            // Set the prefix of the folders to dir/.
            'Prefix' => 'dir/'
        ] );
        printf ( "RequestId:%s\n", $resp ['RequestId'] );
        // Obtain versioning objects.
        printf ( "Versions:\n" );
        foreach ( $resp ['Versions'] as $index => $version ) {
            printf ( "Versions[%d]\n", $index + 1 );
            printf ( "Key:%s\n", $version ['Key'] );
            printf ( "VersionId:%s\n", $version ['VersionId'] );
            printf ( "IsLatest:%s\n", $version ['IsLatest'] );
            printf ( "LastModified:%s\n", $version ['LastModified'] );
            printf ( "ETag:%s\n", $version ['ETag'] );
            printf ( "Size:%s\n", $version ['Size'] );
            printf ( "Owner[ID]:%s\n", $version ['Owner'] ['ID'] );
            printf ( "StorageClass:%s\n", $version ['StorageClass'] );
        }
        // Obtain delete markers.
        printf ( "DeleteMarkers:\n" );
        foreach ( $resp ['DeleteMarkers'] as $index => $deleteMarker ) {
            printf ( "DeleteMarkers[%d]\n", $index + 1 );
            printf ( "Key:%s\n", $deleteMarker ['Key'] );
            printf ( "VersionId:%s\n", $deleteMarker ['VersionId'] );
            printf ( "LastModified:%s\n", $deleteMarker ['LastModified'] );
            printf ( "Owner[ID]:%s\n", $deleteMarker ['Owner'] ['ID'] );
        }

        $keyMarker = $resp['NextKeyMarker'];
        $versionIdMarker = $resp['NextVersionIdMarker'];
}while($resp['IsTruncated']);
```

## Listing All Versioning Objects According to Folders in a Bucket

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.     'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

function listVersionsByPrefix($commonPrefixes){
    global $obsClient;
    foreach ($commonPrefixes as $commonPrefix){
        $resp = $obsClient->listVersions ( [
                'Bucket' => 'bucketname',
                // Set folder isolators to slashes (/).
                'Delimiter' => '/',
                'Prefix' => $commonPrefix['Prefix']
        ] );
        printf ( "Objects in folder [%s]:\n ", $commonPrefix['Prefix']);
        // Obtain versioning objects.
        printf ( "Versions:\n" );
        foreach ( $resp ['Versions'] as $index => $version ) {
            printf ( "Versions[%d]\n", $index + 1 );
            printf ( "Key:%s\n", $version ['Key'] );
            printf ( "VersionId:%s\n", $version ['VersionId'] );
        }
```

```
            // Obtain delete markers.
            printf ( "DeleteMarkers:\n" );
            foreach ( $resp ['DeleteMarkers'] as $index => $deleteMarker ) {
                printf ( "DeleteMarkers[%d]\n", $index + 1 );
                printf ( "Key:%s\n", $deleteMarker ['Key'] );
                printf ( "VersionId:%s\n", $deleteMarker ['VersionId'] );
            }
            printf("\n");
            listVersionsByPrefix($resp['CommonPrefixes']);
        }
}

$resp = $obsClient->listVersions ( [
        'Bucket' => 'bucketname',
        // Set folder isolators to slashes (/).
        'Delimiter' => '/'
] );
printf ( "Objects in the root directory:\n ");
// Obtain versioning objects.
printf ( "Versions:\n" );
foreach ( $resp ['Versions'] as $index => $version ) {
        printf ( "Versions[%d]\n", $index + 1 );
        printf ( "Key:%s\n", $version ['Key'] );
        printf ( "VersionId:%s\n", $version ['VersionId'] );
}
            // Obtain delete markers.
printf ( "DeleteMarkers:\n" );
foreach ( $resp ['DeleteMarkers'] as $index => $deleteMarker ) {
        printf ( "DeleteMarkers[%d]\n", $index + 1 );
        printf ( "Key:%s\n", $deleteMarker ['Key'] );
        printf ( "VersionId:%s\n", $deleteMarker ['VersionId'] );
}
printf("\n");

listVersionsByPrefix($resp['CommonPrefixes']);
```

NOTE

- The previous sample code does not include scenarios where the number of objects in a folder exceeds 1000.
- Because objects and sub-folders in a folder are to be listed and all the objects end with a slash (/), **Delimiter** is always a slash (/).
- In the returned result of each recursion, **Versions** includes the versioning objects in the folder, **DeleteMarkers** includes the delete markers in the folder, and **CommonPrefixes** includes the sub-folders in the folder.

# 10.8 Setting or Obtaining a Versioning Object ACL

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

## Directly Setting a Versioning Object ACL

You can call **ObsClient->setObjectAcl** to set the ACL for a versioning object by specifying the version ID (**VersionId**). Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
```

```
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient -> setObjectAcl([
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     'VersionId' => 'versionid',
     // Set the versioning object ACL to public-read by specifying the pre-defined access control policy.
     'ACL' => ObsClient::AclPublicRead
]);

printf("RequestId:%s\n", $resp['RequestId']);

$resp = $obsClient -> setObjectAcl([
            'Bucket' => 'bucketname',
            'Key' => 'objectname',
            'VersionId' => 'versionid',
            // Set the object owner.
            'Owner' => ['ID' => 'ownerid'],
            'Grants' => [
                  // Grant the READ permission to all users.
                  ['Grantee' => ['Type' => 'Group', 'URI' => ObsClient::GroupAllUsers], 'Permission' => ObsClient::PermissionRead],
            ]
]);

printf("RequestId:%s\n", $resp['RequestId']);
```

NOTE

- Use the **Owner** parameter to specify the object owner and the **Grants** parameter to specify information about the authorized users.
- The owner or grantee ID required in the ACL indicates an account ID, which can be viewed on the **My Credentials** page of OBS Console.
- OBS buckets support the following grantee group:
  - All users: ObsClient::GroupAllUsers

## Obtaining a Versioning Object ACL

You can call **ObsClient->getObjectAcl** to obtain the ACL of a versioning object by specifying the version ID (**VersionId**). Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
```

```
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->getObjectAcl ( [
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     'VersionId' => 'versionid'
] );

printf ( "RequestId:%s\n", $resp ['RequestId'] );
printf ( "Owner[ID]:%s\n", $resp ['Owner'] ['ID'] );
foreach ( $resp ['Grants'] as $index => $grant ) {
     printf ( "Grants[%d]\n", $index + 1 );
     printf ( "Grantee[ID]:%s\n", $grant ['Grantee'] ['ID'] );
     printf ( "Grantee[URI]:%s\n", $grant ['Grantee'] ['URI'] );
     printf ( "Permission:%s\n", $grant ['Permission'] );
}
```

# 10.9 Deleting Versioning Objects

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

## Deleting a Single Versioning Object

You can call **ObsClient->deleteObject** to delete an object version by specifying the version ID (**VersionId**).

This example deletes object **objectname** from bucket **bucketname** by specifying **VersionId**.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->deleteObject ( [
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     'VersionId' => 'versionid'
] );

printf ( "RequestId:%s\n", $resp ['RequestId'] );
```

## Batch Deleting Versioning Objects

You can call **ObsClient->deleteObjects** to batch delete specific versions of an object by passing the **VersionId** value of each version to delete.

This example deletes objects **objectname1** and **objectname2** from bucket **bucketname** in a batch by specifying their version IDs.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->deleteObjects ( [
            'Bucket' => 'bucketname',
            // Set the response mode to verbose.
            'Quiet' => false,
            'Objects' => [
                        [
                                    'Key' => 'objectname1',
                                    'VersionId' => 'versionid1'
                        ],
                        [
                                    'Key' => 'objectname2',
                                    'VersionId' => 'versionid2'
                        ]
            ]
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
// Obtain the successfully deleted objects.
printf ( "Deleteds:\n" );
foreach ( $resp ['Deleteds'] as $index => $deleted ) {
      printf ( "Deleteds[%d]", $index + 1 );
      printf ( "Key:%s\n", $deleted ['Key'] );
      printf ( "VersionId:%s\n", $deleted ['VersionId'] );
      printf ( "DeleteMarker:%s\n", $deleted ['DeleteMarker'] );
      printf ( "DeleteMarkerVersionId:%s\n", $deleted ['DeleteMarkerVersionId'] );
}
// Obtain the objects that failed to be deleted.
printf ( "Errors:\n" );
foreach ( $resp ['Errors'] as $index => $error ) {
      printf ( "Errors[%d]", $index + 1 );
      printf ( "Key:%s\n", $error ['Key'] );
      printf ( "VersionId:%s\n", $$error ['VersionId'] );
      printf ( "Code:%s\n", $error ['Code'] );
      printf ( "Message:%s\n", $error ['Message'] );
}
```

# 11 Lifecycle Management

## 11.1 Lifecycle Management Overview

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

OBS allows you to set lifecycle rules for buckets to automatically transition the storage class of an object and delete expired objects, to effectively use storage features and optimize the storage space. You can set multiple lifecycle rules based on the prefix. A lifecycle rule must contain:

- Rule ID, which uniquely identifies the rule
- Prefix of objects that are under the control of this rule
- Transition policy of an object of the latest version, which can be specified in either mode:
  a. How many days after the object is created
  b. Transition date
- Expiration time of an object of the latest version, which can be specified in either mode:
  a. How many days after the object is created
  b. Expiration date
- Transition policy of a noncurrent object version, which can be specified in the following mode:
  – How many days after the object becomes a noncurrent object version
- Expiration time of a noncurrent object version, which can be specified in the following mode:
  – How many days after the object becomes a noncurrent object version
- Identifier specifying whether the setting is effective

For more information, see **Lifecycle Management**.

NOTE

- An object will be automatically deleted by the OBS server once it expires.
- The time set in the transition policy of an object must be earlier than its expiration time, and the time set in the transition policy of a noncurrent object version must be earlier than its expiration time.
- The configured expiration time and transition policy for a noncurrent object version will take effect only when the versioning is enabled or suspended for a bucket.

# 11.2 Setting Lifecycle Rules

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->setBucketLifecycle** to set lifecycle rules for a bucket.

## Setting an Object Transition Policy

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';

// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'

] );

$resp = $obsClient->setBucketLifecycle ( [
     'Bucket' => 'bucketname',
     'Rules' => [
                [
                    'ID' => 'rule1',
                    'Prefix' => 'prefix1',
                    'Status' => 'Enabled',
                    // Specify that objects whose names contain the specified prefix will be transitioned to OBS Infrequent Access 30 days after creation.
                    'Transitions' => [
                        [
                            'StorageClass' => ObsClient::StorageClassWarm,
                            'Days' => 30
                        ]
                    ],
                    // Specify that objects whose names contain the specified prefix will be transitioned to OBS Archive after being noncurrent for 30 days.
                    'NoncurrentVersionTransitions' => [
                        [
                            'StorageClass' => ObsClient::StorageClassCold,
```

```
                        'NoncurrentDays' => 30
                    ]
                ]
            ],
            [
                'ID' => 'rule2',
                'Prefix' => 'prefix2',
                'Status' => 'Enabled',
                // Specify the date when objects whose names contain the specified prefix will be
transitioned to OBS Infrequent Access.
                'Transitions' => [
                    [
                        'StorageClass' => ObsClient::StorageClassWarm,
                        'Date' => '2018-12-31T00:00:00Z'
                    ]
                ]
            ]
    ]
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
```

## Setting an Object Expiration Time

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.     'key' =>
getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint',
] );

$resp = $obsClient->setBucketLifecycle ( [
     'Bucket' => 'bucketname',
     'Rules' => [
            [
                'ID' => 'rule1',
                'Prefix' => 'prefix1',
                'Status' => 'Enabled',
                // Specify that objects whose names contain the prefix will expire after being created for
60 days.
                'Expiration' => [
                        'Days' => 60
                ],
                // Specify that objects whose names contain the prefix will expire after becoming
noncurrent versions for 60 days.
                'NoncurrentVersionExpiration' => [
                        'NoncurrentDays' => 60
                ]
            ],
            [
                'ID' => 'rule2',
                'Prefix' => 'prefix2',
                'Status' => 'Enabled',
                // Specify a date when the objects whose name contain the prefix will expire. The value
must conform to the ISO8601 standards and must be at 00:00 (UTC time).
                'Expiration' => [
                        'Date' => '2018-12-31T00:00:00Z'
                ]
```

```
                ]
    ]
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
```

NOTE

Use the **Rules** parameter to specify the lifecycle rules for a bucket.

# 11.3 Viewing Lifecycle Rules

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->getBucketLifecycle** to view lifecycle rules of a bucket.

This example views the lifecycle configuration of bucket **bucketname**.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'

] );

$resp = $obsClient->getBucketLifecycle ( [
     'Bucket' => 'bucketname'
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
foreach ($resp['Rules'] as $index => $rule) {
    printf("Rules[%d]\n", $index + 1);
    printf("ID:%s\n", $rule['ID']);
    printf("Prefix:%s\n", $rule['Prefix']);
    printf("Status:%s\n", $rule['Status']);
    foreach ($rule['Transitions'] as $i => $transition) {
        printf("[Transitions][$i][Date]:%s,[Transitions][$i][StorageClass]:%s\n", $transition['Date'], $transition['StorageClass']);
    }
    printf("Expiration[Days]:%s\n", $rule['Expiration']['Days']);
    printf("Expiration[Date]:%s\n", $rule['Expiration']['Date']);
    foreach ($rule['NoncurrentVersionTransitions'] as $i => $noncurrentVersionTransition) {
        printf("[NoncurrentVersionTransitions][$i][NoncurrentDays]:%d,[NoncurrentVersionTransitions][$i][StorageClass]:%s\n", $noncurrentVersionTransition['NoncurrentDays'], $noncurrentVersionTransition['StorageClass']);
    }
    printf("NoncurrentVersionExpiration[NoncurrentDays]:%s\n", $rule['NoncurrentVersionExpiration']['NoncurrentDays']);
}
```

NOTE

- To handle the error codes possibly returned during the operation, see **OBS Server-Side Error Codes**.

# 11.4 Deleting Lifecycle Rules

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->deleteBucketLifecycle** to delete lifecycle rules of a bucket.

This example deletes the lifecycle configuration of bucket **bucketname**.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->deleteBucketLifecycle ( [
     'Bucket' => 'bucketname'
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
```

NOTE

- To handle the error codes possibly returned during the operation, see **OBS Server-Side Error Codes**.

# 12 CORS

## 12.1 CORS Overview

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

Cross-origin access refers to access between different domains. Restricting cross-origin access is a browser policy for security purposes, that is, the same-origin policy.

Due to this same-origin policy, JavaScript in origin A cannot operate objects in origin B or C.

The same-origin policy requires the protocols, domain names (or IP addresses), and ports are all the same. If the protocols, domain names, and ports (if specified) of the two web pages are the same, the two web pages are in the same origin.

CORS allows web application programs in one origin to access resources in another. OBS provides developers with APIs for facilitating cross-origin resource access.

For more information, see **CORS**.

## 12.2 Setting CORS Rules

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->setBucketCors** to set CORS rules for a bucket. If the bucket is configured with CORS rules, the newly set ones will overwrite the existing ones. Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->setBucketCors ( [
     'Bucket' => 'bucketname',
     'CorsRules' => [
                [
                    'ID' => 'rule1',
                    //Specify the request method, which can be GET, PUT, DELETE, POST, or HEAD.
                    'AllowedMethod' => [ 'GET','HEAD','PUT'],
                    //Specify the origin of the cross-domain request.
                    'AllowedOrigin' => ['http://www.a.com', 'http://www.b.com'],
                    // Specify whether headers specified in Access-Control-Request-Headers in the OPTIONS request can be used.
                    'AllowedHeader' => [ 'x-obs-header'],
                    // Specify response headers that users can access using application programs.
                    'ExposeHeader' => ['x-obs-expose-header'],
                    // Specify the browser's cache time of the returned results of OPTIONS requests for specific resources, in seconds.
                    'MaxAgeSeconds' => 60
                ]
    ]
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
```

NOTE

- Use the **CorsRules** parameter to set CORS rules for a bucket.
- Both **AllowedOrigin** and **AllowedHeader** can contain one wildcard character (*). The wildcard character (*) indicates that all origins or headers are allowed.

# 12.3 Viewing CORS Rules

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->getBucketCors** to view CORS rules of a bucket.

This example views the CORS rule of bucket **bucketname**.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->getBucketCors ( [
     'Bucket' => 'bucketname'
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
foreach ( $resp ['CorsRules'] as $index => $rule ) {
     printf ( "CorsRule[%d]\n", $index + 1 );
     printf ( "ID:%s\n", $rule ['ID'] );
     printf ( "MaxAgeSeconds:%s\n", $rule ['MaxAgeSeconds'] );
     printf ( "AllowedMethod:%s\n", print_r ( $rule ['AllowedMethod'], true ) );
     printf ( "AllowedOrigin:%s\n", print_r ( $rule ['AllowedOrigin'], true ) );
     printf ( "AllowedHeader:%s\n", print_r ( $rule ['AllowedHeader'], true ) );
     printf ( "ExposeHeader:%s\n", print_r ( $rule ['ExposeHeader'], true ) );
}
```

NOTE

- To handle the error codes possibly returned during the operation, see **OBS Server-Side Error Codes**.

# 12.4 Deleting CORS Rules

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->deleteBucketCors** to delete CORS rules of a bucket.

This example deletes the CORS rule of bucket **bucketname**.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
```

```
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->deleteBucketCors ( [
     'Bucket' => 'bucketname'
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
```

NOTE

- To handle the error codes possibly returned during the operation, see **OBS Server-Side Error Codes**.

# 13 Access Logging

## 13.1 Logging Overview

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

OBS allows you to configure access logging for buckets. After the configuration, access to buckets will be recorded in the format of logs. These logs will be saved in specific buckets in OBS.

You can enable OBS logging for bucket analysis or audit purposes. With access logs, a bucket owner can analyze the characteristics, types, or trends of requests sent to the bucket.

With logging enabled, OBS automatically logs access requests for the bucket and writes the generated log files into a specified bucket.

You need to specify a bucket for storing log files when enabling logging for a bucket. Log files can be stored in any bucket you own in the region where the logged bucket is, including the logged bucket itself.

For more information, see **Logging**.

## 13.2 Enabling Bucket Logging

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->setBucketLogging** to enable bucket logging.

NOTE

- The source bucket and target bucket of logging must be in the same region.
- If the bucket is in the OBS Infrequent Access or Archive storage class, it cannot be used as the target bucket.

## Enabling Bucket Logging

Sample code:

```
// Import the dependency library.
require'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
useObs\ObsClient;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );
$targetBucketName = 'targetbucketname';
// Configure logging for the bucket.
$resp = $obsClient -> setBucketLogging( [
    'Bucket' => 'bucketname',
    // Name of the OBS agency created by the owner of the target bucket on IAM.
    'Agency' => 'Agency name',
    'LoggingEnabled'=> [
        'TargetBucket' => $targetBucketName,
        'TargetPrefix '=> 'prefix',
    ]
] );
printf("RequestId:%s\n", $resp['RequestId']);
```

NOTE

Use the **LoggingEnabled** parameter to configure logging for a bucket.

## Setting ACLs for Objects to Be Logged

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during the installation with source code.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an ObsClient instance.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );
;

$targetBucketName = 'targetbucketname';
```

```
// Configure logging for the bucket.
$resp = $obsClient->setBucketLogging ( [
      'Bucket' => 'bucketname',
      // Name of the OBS agency created by the owner of the target bucket on IAM.
      'Agency' => 'Agency name',
      'LoggingEnabled' => [
            'TargetBucket' => $targetBucketName,
            'TargetPrefix' => 'prefix',
            'TargetGrants' => [
                        // Grant all users the READ permission on the logs.
                        [
                              'Grantee' => [
                                          'URI' => ObsClient::GroupAllUsers,
                                          'Type' => 'Group'
                              ],
                              'Permission' => ObsClient::PermissionRead
                        ],
            ]
      ]
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
```

# 13.3 Viewing Bucket Logging Settings

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->getBucketLogging** to view the logging settings of a bucket.

This example views the logging configuration of bucket **bucketname**.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
      //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.
      'key' => getenv('ACCESS_KEY_ID'),
      'secret' => getenv('SECRET_ACCESS_KEY'),
      'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->getBucketLogging ( [
       'Bucket' => 'bucketname'
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
printf ( "LoggingEnabled[TargetBucket]:%s\n", $resp ['LoggingEnabled'] ['TargetBucket'] );
printf ( "LoggingEnabled[TargetPrefix]:%s\n", $resp ['LoggingEnabled'] ['TargetPrefix'] );
if (is_array ( $resp ['LoggingEnabled'] ['TargetGrants'] )) {
      foreach ( $resp ['LoggingEnabled'] ['TargetGrants'] as $index => $grant ) {
            printf ( "TargetGrants[%d]", $index + 1 );
```

```
            printf ( "Grantee[ID]:%s\n", $grant ['Grantee'] ['ID'] );
            printf ( "Grantee[URI]:%s\n", $grant ['Grantee'] ['URI'] );
            printf ( "Permission:%s\n", $grant ['Permission'] );
        }
}
```

NOTE

- To handle the error codes possibly returned during the operation, see **OBS Server-Side Error Codes**.

# 13.4 Disabling Bucket Logging

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

To disable logging for a bucket is to call **ObsClient->setBucketLogging** to delete the logging configuration.

This example disables logging for bucket **bucketname**.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->setBucketLogging ( [
     'Bucket' => 'bucketname',
     'LoggingEnabled' => []
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
```

NOTE

- To handle the error codes possibly returned during the operation, see **OBS Server-Side Error Codes**.

# 14 Static Website Hosting

## 14.1 Static Website Hosting Overview

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

Static websites typically only contain static web pages and some scripts that can run on clients (such as JavaScript and Flash). In contrast, dynamic websites depend on scripts that need to be processed on the server side, including PHP, JSP, and ASP.Net.

To host your static website on OBS, you can upload static website files to your bucket as objects, configure the public read permission for the objects, and then configure static website hosting for your bucket.

After this, when third-party users access your websites, they actually access the objects in your bucket in OBS.

When using static website hosting, you can configure request redirection to redirect specific or all requests.

For more information, see **Static Website Hosting**.

## 14.2 Website File Hosting

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can perform the following to implement website file hosting:

**Step 1** Upload a website file to your bucket in OBS as an object and set the MIME type for the object.

**Step 2** Set the object ACL to **public-read**.

**Step 3** Access the object using a browser.

**----End**

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.     'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

// Upload an object.
$resp = $obsClient->putObject ( [
     'Bucket' => 'bucketname',
     'Key' => 'test.html',
     'Body' => '<html><header></header><body><h1>Hello OBS</h1></body></html>',
     // Set the MIME type for the object.
     'ContentType' => 'text/html',
     // Set the object ACL to public-read.
     'ACL' => ObsClient::AclPublicRead
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
```

**NOTE**

You can use **http://***bucketname.your-endpoint***/test.html** in a browser to access files hosted using the sample code.

# 14.3 Setting Website Hosting

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->setBucketWebsite** to set website hosting for a bucket.

## Configuring the Default Homepage and Error Pages

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
```

```
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->setBucketWebsite( [
     'Bucket' => 'bucketname',
     // Configure the default homepage.
     'IndexDocument' => ['Suffix' => 'index.html'],
     // Configure the error pages.
     'ErrorDocument' => ['Key' => 'error.html']
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
```

## Configuring Redirection Rules

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->setBucketWebsite( [
     'Bucket' => 'bucketname',
     // Configure the default homepage.
     'IndexDocument' => ['Suffix' => 'index.html'],
     // Configure the error pages.
     'ErrorDocument' => ['Key' => 'error.html'],
     // Set redirection rules.
     'RoutingRules' => [
                ['Condition' => ['HttpErrorCodeReturnedEquals' => 404], 'Redirect' => ['Protocol' => 'http', 'ReplaceKeyWith' => 'NotFound.html']],
                ['Condition' => ['HttpErrorCodeReturnedEquals' => 404], 'Redirect' => ['Protocol' => 'https', 'ReplaceKeyWith' => 'test.html']]
     ]
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
```

NOTE

Use the **RoutingRules** parameter to specify redirection rules for a bucket.

## Configuring Redirection for All Requests

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->setBucketWebsite( [
     'Bucket' => 'bucketname',
     'RedirectAllRequestsTo' => ['HostName' => 'www.example.com', 'Protocol' => 'http']
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
```

NOTE

Use the **RedirectAllRequestsTo** parameter to set redirection rules for all requests for accessing a bucket.

# 14.4 Viewing Website Hosting Settings

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->getBucketWebsite** to view the hosting settings of a bucket.

This example views the hosting configuration of bucket **bucketname**.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->getBucketWebsite ( [
     'Bucket' => 'bucketname'
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
```

```
printf ( "IndexDocument[Suffix]:%s\n", $resp ['IndexDocument'] ['Suffix'] );
printf ( "ErrorDocument[Key]:%s\n", $resp ['ErrorDocument'] ['Key'] );
foreach ( $resp ['RoutingRules'] as $index => $routingRule ) {
    printf ( "RoutingRules[%d]\n", $index + 1 );
    printf ( "Condition[HttpErrorCodeReturnedEquals]:%s\n", $routingRule ['Condition']
['HttpErrorCodeReturnedEquals'] );
    printf ( "Condition[KeyPrefixEquals]:%s\n", $routingRule ['Condition'] ['KeyPrefixEquals'] );
    printf ( "Redirect[HostName]:%s\n", $routingRule ['Redirect'] ['HostName'] );
    printf ( "Redirect[Protocol]:%s\n", $routingRule ['Redirect'] ['Protocol'] );
    printf ( "Redirect[HttpRedirectCode]:%s\n", $routingRule ['Redirect'] ['HttpRedirectCode'] );
    printf ( "Redirect[ReplaceKeyPrefixWith]:%s\n", $routingRule ['Redirect'] ['ReplaceKeyPrefixWith'] );
    printf ( "Redirect[ReplaceKeyWith]:%s\n", $routingRule ['Redirect'] ['ReplaceKeyWith'] );
}
```

NOTE

- To handle the error codes possibly returned during the operation, see **OBS Server-Side Error Codes**.

# 14.5 Deleting Website Hosting Settings

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->deleteBucketWebsite** to delete the hosting settings of a bucket.

This example deletes the hosting configuration of bucket **bucketname**.

The example code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.     'key' =>
getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->deleteBucketWebsite ( [
     'Bucket' => 'bucketname'
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
```

NOTE

- To handle the error codes possibly returned during the operation, see **OBS Server-Side Error Codes**.

# 15 Tag Management

## 15.1 Tagging Overview

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

Tags are used to identify and classify OBS buckets or objects.

To configure tags for a bucket on OBS Console, see **Configuring Tags for a Bucket**.

For more information, see **Tags**.

## 15.2 Setting Bucket Tags

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->setBucketTagging** to set bucket tags. Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.      'key' =>
getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->setBucketTagging ( [
     'Bucket' => 'bucketname',
     'Tags' => [
          [
               'Key' => 'tag1',
               'Value' => 'value1'
          ],
          [
               'Key' => 'tag2',
               'Value' => 'value2'
          ]
    ]
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
```

NOTE

- Use the **TagSet** parameter to specify tags for a bucket.
- A bucket can have up to 10 tags.
- The key and value of a tag can be composed of Unicode characters.

# 15.3 Viewing Bucket Tags

NOTICE

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->getBucketTagging** to view bucket tags. Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.      'key' =>
getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->getBucketTagging ( [
     'Bucket' => 'bucketname'
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
foreach ( $resp ["Tags"] as $tag ) {
     printf ( "Tag[%s:%s]\n", $tag ["Key"], $tag ["Value"] );
}
```

# 15.4 Deleting Bucket Tags

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

You can call **ObsClient->deleteBucketTagging** to delete bucket tags. Sample code is as follows:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->deleteBucketTagging ( [
     'Bucket' => 'bucketname'
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
```

# 16 Server-Side Encryption

## 16.1 Server-Side Encryption Overview

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

OBS supports server-side encryption.

For more information, see **Server-Side Encryption**.

## 16.2 Encryption Description

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

The following table lists APIs related to server-side encryption:

| Method in OBS PHP SDK | Description | Supported Encryption Type |
| --- | --- | --- |
| ObsClient->putObject<br>ObsClient->putObjectAsync | Sets the encryption algorithm and key during object upload to enable server-side encryption. | SSE-KMS<br>SSE-C |
| ObsClient->getObject<br>ObsClient->getObjectAsync | Sets the decryption algorithm and key during object download to decrypt the object. | SSE-C |

| Method in OBS PHP SDK | Description | Supported Encryption Type |
| --- | --- | --- |
| ObsClient->copyObject<br>ObsClient->copyObjectAsync | 1. Sets the decryption algorithm and key for decrypting the source object during object copy.<br>2. Sets the encryption algorithm and key during object copy to enable the encryption algorithm for the target object. | SSE-KMS<br>SSE-C |
| ObsClient->getObjectMetadata<br>ObsClient->getObjectMetadataAsync | Sets the decryption algorithm and key when obtaining the object metadata to decrypt the object. | SSE-C |
| ObsClient->initiateMultipartUpload<br>ObsClient->initiateMultipartUploadAsync | Sets the encryption algorithm and key when initializing a multipart upload to enable server-side encryption for the final object generated. | SSE-KMS<br>SSE-C |
| ObsClient->uploadPart<br>ObsClient->uploadPartAsync | Sets the encryption algorithm and key during multipart upload to enable server-side encryption for parts. | SSE-C |
| ObsClient->copyPart<br>ObsClient->copyPartAsync | 1. Sets the decryption algorithm and key for decrypting the source object during multipart copy.<br>2. Sets the encryption algorithm and key during multipart copy to enable the encryption algorithm for the target part. | SSE-C |

OBS PHP SDK supports the following two types of encryption/decryption mode:

| Encryption / Decryption Type | Request Parameter | Description |
| --- | --- | --- |
| SSE-KMS | SseKms | Indicates that SSE-KMS mode is used. Currently, only **kms** is supported. |
| | SseKmsKey | Indicates the master key used in SSE-KMS mode. The value can be null. |

| Encryption / Decryption Type | Request Parameter | Description |
| --- | --- | --- |
| SSE-C | SseC | Indicates that SSE-C mode is used. Currently, only **AES256** is supported. |
| | SseCKey | Indicates the key in SSE-C mode. It is calculated using the AES256 algorithm. This parameter can be used to encrypt an object to be uploaded and decrypt an object to be downloaded. |
| | CopySourceSseC | Indicates the algorithm used to decrypt the source object in SSE-C mode. Currently, only **AES256** is supported. This parameter is applicable to **ObsClient->copyObject**, **ObsClient->copyObjectAsync**, **ObsClient->copyPart** and **ObsClient->copyPartAsync**. |
| | CopySourceSseCKey | Indicates the key used to decrypt the source object in SSE-C mode. It is calculated using the AES256 algorithm. This parameter is applicable to **ObsClient->copyObject**, **ObsClient->copyObjectAsync**, **ObsClient->copyPart** and **ObsClient->copyPartAsync**. |

# 16.3 Example of Encryption

**NOTICE**

If you have any questions during development, post them on the **Issues** page of GitHub. For details about parameters and usage of each API, see **API Reference**.

## Encrypting an Object to Be Uploaded

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->putObject ( [
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     'SourceFile' => 'localfile',
      // Set the SSE-C encryption algorithm.
     'SseC' => 'AES256',
     'SseCKey' => 'your sse-c key generated by AES-256 algorithm'
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );

$resp = $obsClient->putObject ( [
     'Bucket' => 'bucketname',
     'Key' => 'objectname2',
     'SourceFile' => 'localfile2',
     // Set the SSE-KMS encryption algorithm.
     'SseKms' => 'kms'
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
```

## Decrypting a Downloaded Object

Sample code:

```
// Import the dependency library.
require 'vendor/autoload.php';
// Import the SDK code library during source code installation.
// require 'obs-autoloader.php';
// Declare the namespace.
use Obs\ObsClient;
// Create an instance of ObsClient.
$obsClient = new ObsClient ( [
    //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.
    'key' => getenv('ACCESS_KEY_ID'),
    'secret' => getenv('SECRET_ACCESS_KEY'),
    'endpoint' => 'https://your-endpoint'
] );

$resp = $obsClient->getObject ( [
     'Bucket' => 'bucketname',
     'Key' => 'objectname',
     // Set the SSE-C decryption algorithm.
     'SseC' => 'AES256',
      // The key used here must be the one used for uploading the object.
     'SseCKey' => 'your sse-c key generated by AES-256 algorithm'
] );
printf ( "RequestId:%s\n", $resp ['RequestId'] );
printf("Object Content:\n");
// Obtain the object content.
echo $resp ['Body'];
```

# 17 Troubleshooting

## 17.1 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.

| Error Code | Description | HTTP Status Code |
| --- | --- | --- |
| AccessDenied | Access denied. | 403 Forbidden |
| AccessForbidden | Insufficient permission. | 403 Forbidden |
| AccountProblem | Your account is abnormal (for example, it has been expired or frozen). | 403 Forbidden |
| AllAccessDisabled | You have no permission to perform the operation. | 403 Forbidden |
| AmbiguousGrantByEmailAddress | The provided email address is associated with more than one account. | 400 Bad Request |
| BadDigest | The specified value of Content-MD5 does not match the value received by OBS. | 400 Bad Request |
| BadDomainName | Invalid domain name. | 400 Bad Request |
| BadRequest | Invalid request parameters. | 400 Bad Request |

| Error Code | Description | HTTP Status Code |
| --- | --- | --- |
| BucketAlreadyExists | The requested bucket name already exists. The bucket namespace is shared by all users of OBS. Specify a different name and retry. | 409 Conflict |
| BucketAlreadyOwnedByYou | Your previous request for creating the named bucket succeeded and you already own it. | 409 Conflict |
| BucketNotEmpty | The bucket that you tried to delete is not empty. | 409 Conflict |
| CredentialsNotSupported | This request does not support security credentials. | 400 Bad Request |
| CustomDomainAreadyExist | The configured domain already exists. | 400 Bad Request |
| CustomDomainNotExist | The domain to be operated does not exist. | 400 Bad Request |
| DeregisterUserId | The user has been deregistered. | 403 Forbidden |
| EntityTooSmall | The size of the object to be uploaded is smaller than the lower limit. | 400 Bad Request |
| EntityTooLarge | The size of the object to be uploaded exceeds the upper limit. | 400 Bad Request |
| FrozenUserId | The user has been frozen. | 403 Forbidden |
| IllegalVersioningConfigurationException | The **Versioning** configuration specified in the request is invalid. | 400 Bad Request |
| IllegalLocationConstraintException | The configured region limitation is inconsistent with the region where it resides. | 400 Bad Request |
| InArrearOrInsufficientBalance | The user has no permission to perform some operations due to being in arrears or insufficient funds. | 403 Forbidden |

| Error Code | Description | HTTP Status Code |
| --- | --- | --- |
| IncompleteBody | Incomplete request body. | 400 Bad Request |
| IncorrectNumberOfFilesInPostRequest | Each POST request must contain one file to be uploaded. | 400 Bad Request |
| InlineDataTooLarge | The size of inline data exceeds the upper limit. | 400 Bad Request |
| InsufficientStorageSpace | Insufficient storage space. | 403 Forbidden |
| InternalError | An internal error occurs. Retry later. | 500 Internal Server Error |
| InvalidAccessKeyId | The access key ID provided by the customer does not exist in the system. | 403 Forbidden |
| InvalidAddressingHeader | The anonymous role must be specified. | N/A |
| InvalidArgument | Invalid parameter. | 400 Bad Request |
| InvalidBucketName | The specified bucket name in the request is invalid. | 400 Bad Request |
| InvalidBucket | The bucket to be accessed does not exist. | 400 Bad Request |
| InvalidBucketState | Invalid bucket status. | 409 Conflict |
| InvalidBucketStoragePolicy | An invalid new policy is specified during bucket policy modification. | 400 Bad Request |
| InvalidDigest | The specified **Content-MD5** in the HTTP header is invalid. | 400 Bad Request |
| InvalidEncryptionAlgorithmError | Incorrect encryption algorithm. | 400 Bad Request |
| InvalidLocationConstraint | The location specified during bucket creation is invalid. | 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. | 400 Bad Request |

| Error Code | Description | HTTP Status Code |
| --- | --- | --- |
| InvalidPartOrder | Parts are not listed in ascending order by part number. | 400 Bad Request |
| InvalidPayer | All accesses to this object are disabled. | 403 Forbidden |
| InvalidPolicyDocument | The content of the form does not meet the conditions specified in the policy document. | 400 Bad Request |
| InvalidRange | The requested range is invalid. | 416 Client Requested Range Not Satisfiable |
| InvalidRedirectLocation | Invalid redirect location. | 400 Bad Request |
| InvalidRequest | Invalid request. | 400 Bad Request |
| InvalidRequestBody | Invalid POST request body. | 400 Bad Request |
| InvalidSecurity | Invalid security credentials. | 403 Forbidden |
| InvalidStorageClass | The specified storage class is invalid. | 400 Bad Request |
| InvalidTargetBucketForLogging | The delivery group has no ACL permission for the target bucket. | 400 Bad Request |
| InvalidURI | Cannot resolve the specified uniform resource identifier (URI). | 400 Bad Request |
| KeyTooLong | The provided key is too long. | 400 Bad Request |
| MalformedACLError | The provided XML has bad syntax or does not meet the format requirements. | 400 Bad Request |
| MalformedError | The XML format in the request is incorrect. | 400 Bad Request |
| MalformedLoggingStatus | The XML format of **Logging** is incorrect. | 400 Bad Request |
| MalformedPolicy | The bucket policy failed the check. | 400 Bad Request |

| Error Code | Description | HTTP Status Code |
| --- | --- | --- |
| MalformedPOSTRequest | The body of the POST request is in an incorrect format. | 400 Bad Request |
| MalformedQuotaError | The Quota XML format is incorrect. | 400 Bad Request |
| MalformedXML | This error code is returned after you send an XML file in incorrect format, stating "The XML you provided was not well-formed or did not validate against our published schema." | 400 Bad Request |
| MaxMessageLengthExceeded | The request is too long. | 400 Bad Request |
| MaxPostPreDataLengthExceededError | The POST request fields prior to the file to be uploaded are too large. | 400 Bad Request |
| MetadataTooLarge | The size of the metadata header has exceeded the upper limit. | 400 Bad Request |
| MethodNotAllowed | The specified method is not allowed against the requested resource. | 405 Method Not Allowed |
| MissingContentLength | The HTTP header **Content-Length** is not provided. | 411 Length Required |
| MissingRegion | No region in the request and no default region in the system. | 400 Bad Request |
| MissingRequestBodyError | This error code is returned after you send an empty XML file, stating "Request body is empty." | 400 Bad Request |
| MissingRequiredHeader | Required headers missing in the request. | 400 Bad Request |
| MissingSecurityHeader | A required header is not provided. | 400 Bad Request |
| NoSuchBucket | The specified bucket does not exist. | 404 Not Found |
| NoSuchBucketPolicy | No bucket policy exists. | 404 Not Found |

| Error Code | Description | HTTP Status Code |
| --- | --- | --- |
| NoSuchCORSConfiguration | No CORS configuration exists. | 404 Not Found |
| NoSuchCustomDomain | The requested user domain does not exist. | 404 Not Found |
| NoSuchKey | The specified key does not exist. | 404 Not Found |
| NoSuchLifecycleConfiguration | The requested **Lifecycle** does not exist. | 404 Not Found |
| NoSuchPolicy | The specified policy name does not exist. | 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. | 404 Not Found |
| NoSuchVersion | The specified version ID does not match any existing version. | 404 Not Found |
| NoSuchWebsiteConfiguration | The requested website does not exist. | 404 Not Found |
| NotImplemented | The provided header implies a function that is unavailable. | 501 Not Implemented |
| NotSignedUp | Your account has not registered in the system. | 403 Forbidden |
| OperationAborted | A conflicting operation is being performed on this resource. Retry later. | 409 Conflict |
| PermanentRedirect | The requested bucket has been permanently redirected to a new URL. All future requests must be sent to the new URL. | 301 Moved Permanently |
| PreconditionFailed | At least one of the specified preconditions is not met. | 412 Precondition Failed |
| Redirect | The request is temporarily redirected. | 307 Moved Temporarily |

| Error Code | Description | HTTP Status Code |
| --- | --- | --- |
| RequestIsNotMultiPartContent | A bucket POST request must contain an enclosure-type multipart or the form-data. | 400 Bad Request |
| RequestTimeout | The socket connection to the server has no reads or writes within the timeout period. | 400 Bad Request |
| RequestTimeTooSkewed | The request time and the server's time differ a lot. | 403 Forbidden |
| RequestTorrentOfBucketError | Requesting the bucket's torrent file is not allowed. | 400 Bad Request |
| ServiceNotImplemented | The request method is not implemented by the server. | 501 Not Implemented |
| ServiceNotSupported | The request method is not supported by the server. | 409 Conflict |
| ServiceUnavailable | The server is overloaded or has internal errors. | 503 Service Unavailable |
| SignatureDoesNotMatch | The provided signature does not match the signature calculated by OBS. Check your AK and SK and signature calculation method. | 403 Forbidden |
| SlowDown | Too frequent requests. Reduce your request frequency. | 503 Service Unavailable |
| System Capacity Not enough | Insufficient system space. | 403 Forbidden |
| TooManyCustomDomains | Too many user domains are configured. | 400 Bad Request |
| TemporaryRedirect | The request is redirected to the bucket while the domain name server (DNS) is being updated. | 307 Moved Temporarily |
| TooManyBuckets | You have attempted to create more buckets than allowed. | 400 Bad Request |
| TooManyObjectCopied | The number of copied users' objects exceeds the upper limit. | 400 Bad Request |

| Error Code | Description | HTTP Status Code |
| --- | --- | --- |
| TooManyWrongSignature | The request is rejected due to high-frequency errors. | 400 Bad Request |
| UnexpectedContent | This request does not support content. | 400 Bad Request |
| UnresolvableGrantByEmailAddress | The provided email address does not match any recorded accounts. | 400 Bad Request |
| UserKeyMustBeSpecified | The user's AK is not carried in the request. | 400 Bad Request |
| WebsiteRedirect | The website request lacks **bucketName**. | 301 Moved Permanently |
| KMS.DisabledException | The master key is disabled in server-side encryption with KMS-managed keys (SSE-KMS) mode. | 400 Bad Request |
| KMS.NotFoundException | The master key does not exist in SSE-KMS mode. | 400 Bad Request |
| RestoreAlreadyInProgress | The archive objects are being restored. The request conflicts with another one. | 409 Conflict |
| ObjectHasAlreadyRestored | The objects have been restored and the retention period of the objects cannot be shortened. | 409 Conflict |
| InvalidObjectState | The restored object is not an Archive object. | 403 Forbidden |
| InvalidTagError | An invalid tag is provided when configuring the bucket tag. | 400 Bad Request |
| NoSuchTagSet | The specified bucket is not configured with a tag. | 404 Not Found |

# 17.2 SDK Custom Exceptions

SDK custom exceptions (**Obs\ObsException**), thrown by **ObsClient**, are inherited from class **\RuntimeException**. Exceptions are usually OBS server errors, including **OBS error codes** and error information. This facilitates users to locate problems and troubleshot faults.

**Obs\ObsException** contains the following error information:

- **ObsException->getStatusCode**: HTTP status code
- **ObsException->getExceptionCode**: Error code returned by the OBS server
- **ObsException->getExceptionMessage**: Error description returned by the OBS server
- **ObsException->getRequestId**: Request ID returned by the OBS server
- **ObsException->getHostId**: Requested server ID.
- **ObsException->getResponse**: HTTP response object
- **ObsException->getRequest**: HTTP request object

# 17.3 SDK Common Result Objects

After an API is called using an instance of **ObsClient**, view whether an exception is thrown. If no, an SDK common result object will be returned, indicating that the operation is successful. The following table lists the object content:

| Field | Storage Class | Description |
| --- | --- | --- |
| HttpStatusCode | integer | HTTP status code |
| Reason | string | Reason description |
| RequestId | string | Request ID returned by the OBS server |
| Other fields | See the **OBS PHP SDK API Reference**. | |

# 17.4 Log Analysis

## Log Configuration

OBS PHP SDK provides the logging function based on the monolog log library. You can call **ObsClient->initLog** to enable and configure logging. Sample code is as follows:

```
$obsClient -> initLog ([
    'FilePath' => './logs', // Set the log folder.
    'FileName' => 'eSDK-OBS-PHP.log', // Set the name for the log file.
    'MaxFiles' => 10, // Set the maximum number of log files that can be retained.
    'Level' => WARN  // Set the log level.
]);
```

NOTE

- The logging function is disabled by default. You need to enable it if needed.
- Use the **FilePath** parameter to specify the log file path. The path can be an absolute path or a relative path.

## Log Format

The SDK log format is "Log time|Log level|Number of code lines of the printed log|Log content". The following are example logs:

```
[2017-11-17 11:46:24][INFO][SendRequestTrait.php:376]: enter method createBucketAsync...
[2017-11-17 11:46:24][INFO][SendRequestTrait.php:525]: http request cost 97 ms
[2017-11-17 11:46:24][INFO][SendRequestTrait.php:538]: obsclient cost 155 ms to execute
createBucketAsync
```

### Log Level

When current logs cannot be used to troubleshoot system faults, you can change the log level to obtain more information. SDK defines four types of integer constant corresponding to different log levels. You can obtain the most information in **DEBUG** logs and the least information in **ERROR** logs.

Log level description:

- **DEBUG** (100): Debugging level. If this level is set, all logs will be printed.
- **INFO** (200): Information level. If this level is set, logs at the **WARN** level and the time consumed for each HTTP/HTTPS request will be printed.
- **WARN** (300): Warning level. If this level is set, logs at the **ERROR** level and some critical events will be printed.
- **ERROR** (400): Error level. If this level is set, only error information will be printed.

## 17.5 Lack of Classes

If an error indicating the lack of a class (such as **Class 'Monolog\Logger' not found in *xxx***) is displayed when you are using OBS PHP SDK for secondary development, ensure that the dependent libraries are properly installed. For details, see **Installing the SDK**.

## 17.6 Connection Timeout

A connection times out when error **Exceeded retry limitation, xxx Failed to connect to xxx** is returned by **ObsException->getExceptionMessage**. Such an error is often caused by an incorrect endpoint or network disconnection. Check whether the endpoint is correct or whether the network connection is normal.

## 17.7 Unmatched Signatures

If the HTTP status code obtained from **ObsException** is **403** and the OBS server-side error code is **SignatureDoesNotMatch**, check whether the AK/SK is correct.

## 17.8 Time Zone Configuration Failure

If an error (such as **Uncaught exception 'Exception' with message 'DateTime::__construct():**) is displayed when you use OBS PHP SDK for secondary development, the time zone configuration is incorrect. You can configure the time zone using either of the following methods:

1. Modify the **php.ini** file by adding **date.timezone = xxx** in the **[date]** tag, for example, **date.timezone = UTC**.

2. Call **date_default_timezone_set('xxx')** in the program to directly set the time zone.

# 18 FAQs

## 18.1 What Should I Do If the HTTP Status Code 405 Is Reported?

If an API calling fails and the HTTP status code is 405, check whether the region supports the called API.

## 18.2 How Do I Resolve "Declaration of xxxx must be compatible with xxxx problem"?

Such an error happens typically when versions are incompatible, given that dependencies for open-source software in the community are updated irregularly. The following gives an example error:

```
Declaration of Obs\Internal\Common\CheckoutStream::read($length) must be compatible with Psr\Http
\Message\StreamInterface::read(int $length)
```

This error says that **CheckoutStream::read($length)** does not declare the **int** type. A possible reason is that **psr/http-message** has a newer version, the number of which can be obtained from **composer.lock**. GitHub also shows that **psr/http-message** has been upgraded from version 1.1 to 2.0, with the **int** type declared in 2.0. To resolve this error, you can downgrade **psr/http-message** to version 1.1.