Object Storage Service

# Node.js SDK Developer Guide (Ally Region)

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HUAWEI

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## Huawei Cloud Computing Technologies Co., Ltd.

Address: Huawei Cloud Data Center Jiaoxinggong Road
Qianzhong Avenue
Gui'an New District
Gui Zhou 550029
People's Republic of China

Website: https://www.huaweicloud.com/intl/en-us/

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# 1 Downloading an SDK (SDK for Node.js)

## Download

- Latest version of OBS Node.js SDK: **Download**

## Compatibility

- Recommended versions: Node 0.12.*x*, Node4.*x*, Node6.*x*, Node8.*x*, or Node10.*x*
- Interface changes: The following table describes the interfaces not completely compatible with earlier versions 2.1.*x*.

| Interface | Description |
| --- | --- |
| ObsClient.listBuckets | In the response, the data type of **InterfaceResult.Buckets** was changed to **Array**. **InterfaceResult.Buckets.Bucket** was deleted. |
| ObsClient.setBucketAcl | In the request, the data type of **Grants** was changed to **Array**. **Grants.Grant** was deleted. |
| ObsClient.getBucketAcl | In the response, the data type of **InterfaceResult.Grants** was changed to **Array**. **InterfaceResult.Grants.Grant** was deleted. |
| ObsClient.setObjectAcl | In the request, the data type of **Grants** was changed to **Array**. **Grants.Grant** was deleted. |
| ObsClient.getObjectAcl | In the response, the data type of **InterfaceResult.Grants** was changed to **Array**. **InterfaceResult.Grants.Grant** was deleted. |
| ObsClient.setBucketLogging | In the request, the data type of **LoggingEnabled.TargetGrants** was changed to **Array**. **LoggingEnabled.TargetGrants.Grant** was deleted. |
| ObsClient.getBucketLogging | In the response, the data type of **InterfaceResult.LoggingEnabled.TargetGrants** was changed to **Array**. **InterfaceResult.LoggingEnabled.TargetGrants.Grant** was deleted. |

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| Interface | Description |
| --- | --- |
| ObsClient.setBucketWebsite | In the request, the data type of **RoutingRules** was changed to **Array**. **RoutingRules.RoutingRule** was deleted. |
| ObsClient.getBucketWebsite | In the response, the data type of **InterfaceResult.RoutingRules** was changed to **Array**. **InterfaceResult.RoutingRules.RoutingRule** was deleted. |
| ObsClient.setBucketCors | In the request, **CorsRule** was renamed as **CorsRules**. |
| ObsClient.getBucketCors | In the response, **InterfaceResult.CorsRule** was renamed as **InterfaceResult.CorsRules**. |
| ObsClient.setBucketTagging | In the request, the data type of **TagSet** was changed to **Array**. **TagSet.Tag** was deleted. |
| ObsClient.getBucketTagging | In the response, the data type of **InterfaceResult.TagSet** was changed to **Array**. **InterfaceResult.TagSet.Tag** was deleted. |

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# 2 Getting Started (SDK for Node.js)

## 2.1 Before You Start (SDK for Node.js)

- You can see **General Ways to Use ObsClient (SDK for Node.js)** to learn how to call OBS Node.js SDK APIs in a general manner.
- **ObsClient** supports API calling results returned via a callback function or the **Promise** object.
- 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.

## 2.2 Creating Access Keys (SDK for Node.js)

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

- An AK is an Access Key ID on OBS. One AK maps to only one user but one user can have multiple AKs. OBS recognizes users by their AKs.
- An SK is the Secret Access Key on OBS, which is required as the key to access OBS. You can generate authentication information based on SKs and request header fields. SKs and AKs are in one-to-one mapping.

The procedure is as follows:

1. Log in to OBS Console.
2. In the upper right corner, hover the cursor over the username and choose **My Credentials**.
3. On the **My Credentials** page, select **Access Keys** in the navigation pane on the left.
4. On the **Access Keys** page, click **Create Access Key**.
5. In the **Add Access Key** dialog box that is displayed, enter the password and its verification code.

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NOTE

- If you have not bound an email address or mobile number, you need to enter only the password.
- If you have bound an email address and a mobile number, you can select the verification either by email address or mobile number.

6. Click **OK**.
7. In the **Download Access Key** dialog box that is displayed, click **OK** to save the access keys to your browser's default download path.
8. Open the downloaded **credentials.csv** file to obtain the access keys (AK and SK).

NOTE

- Each user can create up to two valid AK/SK pairs.
- To prevent the AK from being leaked, keep it secure. If you click **Cancel** in the dialog box, the AKs will not be downloaded, and you cannot download them later. You can re-create an access key if you need to use it.

- To get temporary access keys, refer to the following:

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

# 2.3 Preparing a Development Environment (SDK for Node.js)

- Download the recommended version from the **Node.js's official website** and install it.
- Download the latest version of Eclipse IDE for JavaScript and Web Developer from **Eclipse's official website** and install it.

# 2.4 Installing the SDK (SDK for Node.js)

## (Recommended) Installing the SDK Using npm

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

**Step 2** Run the **npm install esdk-obs-nodejs** command to start the installation.

**----End**

NOTE

- On a Windows operating system, the message "Not internal or external command" is displayed when you run the npm command. In this case, add the npm installation directory (generally the installation directory of Node.js) to the Path environment variable.
- You may need to restart the computer for the environment variables to take effect.
- If you use npm to install dependencies and the network malfunctions, use proxies.

## Installing the SDK with the Source Code

The following procedures use OBS Node.js SDK of the latest version as an example.

**Step 1** Download the OBS Node.js SDK by referring to .

**Step 2** Decompress the development package to obtain folder **examples** (code examples), folder **lib** (SDK source code), file **package.json** (dependency configuration file), and file **README.txt** (feature description file of SDK versions).

**Step 3** On the command-line interface (CLI), go to the directory under which the SDK development package was decompressed, and run the **npm install** command to install dependency libraries. A **node_modules** folder will be generated.

**Step 4** (Optional) In the Eclipse JavaScript project, import the source code: Open Eclipse JavaScript IDE and choose **Import** > **Projects from Folder or Archive**. For **Import source**, select the directory under which the SDK development package is decompressed.

**----End**

NOTE

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

```
├── examples
├── lib
├── node_modules
├── package.json
└── README.txt
```

# 2.5 Initializing an Instance of ObsClient (SDK for Node.js)

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

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
```

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```
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

// Use the instance to access OBS.

// Close the ObsClient instance.
// obsClient.close();
```

**CAUTION**

- JavaScript is an asynchronous programming language. Therefore, you cannot call the close method when accessing OBS.
- An ObsClient instance cannot be used again after it is closed by calling **obsClient.close**.

**NOTE**

- For more information, see chapter "Initialization."
- For logging configuration, see **Configuring SDK Logging (SDK for Node.js)**.

# 2.6 Creating a Bucket (SDK for Node.js)

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:

**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 address.
  - Cannot start or end with a hyphen (-) or period (.).
  - Cannot contain two consecutive periods (..), for example, **my..bucket**.
  - Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, **my-.bucket** or **my.-bucket**.
- If you create buckets of the same name, no error will be reported and the bucket properties comply with those set in the first creation request.
- For more information, see **Creating a Bucket (SDK for Node.js)**.

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# 2.7 Uploading an Object (SDK for Node.js)

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

The example code is as follows:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function putObject() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify an object. example/objectname is used in this example.
      Key: "example/objectname",
      // Specify a text object.
      Body : 'Hello OBS'
    };
    // Upload the object.
    const result = await obsClient.putObject(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Put object(%s) under the bucket(%s) successful!!", params.Key, params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log("StorageClass:%s, ETag:%s", result.InterfaceResult.StorageClass, result.InterfaceResult.ETag);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

putObject();
```

**NOTE**

- For more information, see **Object Upload Overview (SDK for Node.js)**.

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# 2.8 Downloading an Object (SDK for Node.js)

This example downloads object **example/objectname** from bucket **examplebucket**.

The example code is as follows:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');
// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function getObject() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the object to download (example/objectname in this example).
      Key: 'example/objectname',
    };

    // Download the object as text.
    const result = await obsClient.getObject(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Get object(%s) under the bucket(%s) successful!", params.Key, params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log('Object Content: %s', result.InterfaceResult.Content);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

getObject();
```

**NOTE**

- For more information, see **Overview (SDK for Node.js)**.

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# 2.9 Listing Objects (SDK for Node.js)

After objects are uploaded, you may want to view the objects contained in a bucket. Sample code is as follows:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function listObjects() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
    };
    // List objects in a bucket.
    const result = await obsClient.listObjects(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("List objects under the bucket(%s) successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      for (let j = 0; j < result.InterfaceResult.Contents.length; j++) {
        const val = result.InterfaceResult.Contents[j];
        console.log('Content[%d]-OwnerId:%s, ETag:%s, Key:%s, LastModified:%s, Size:%d',
          j, val.Owner.ID, val.ETag, val.Key, val.LastModified, val.Size);
      };
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

listObjects();
```

**NOTE**

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

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# 2.10 Deleting an Object (SDK for Node.js)

This example deletes object **example/objectname** from bucket **examplebucket**.

The example code is as follows:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function deleteObject() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the object (example/objectname in this example) to delete.
      Key: 'example/objectname',
    };
    // Delete the object.
    const result = await obsClient.deleteObject(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Delete object(%s) under the bucket(%s) successful!", params.Key, params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

deleteObject();
```

**NOTE**

- For more information, see **Deleting an Object (SDK for Node.js)**.

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# 2.11 General Ways to Use ObsClient (SDK for Node.js)

## Result Returned via a Callback Function

**ObsClient** returns the results by using a callback function that contains two parameters in sequence: the exception information parameter and the **SDK common result object** parameter. If the exception information parameter in the callback function is not null, an error occurs during the API calling. Otherwise, the API is called. In such conditions, you need to obtain the HTTP status code from the **SDK common result object** parameter to check whether the operation is successful. Sample code:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

// Construct request parameters for bucket operations.
var requestParam1 = {
      Bucket : 'bucketname'
      // Other fields.
};

var callback1 = (err, result) => {
      // Process the result of a bucket-related API call.
};

// Call the APIs for bucket operations, such as creating a bucket.
obsClient.createBucket(requestParam1, callback1);

// Construct request parameters for object operations.
var requestParam2 = {
      Bucket : 'bucketname',
      Key : 'objectname'
      // Other fields.
};

var callback2 = (err, result) => {
      // Process the result of an object-related API call.
};

// Call an object-related API, such as the API for downloading an object.
obsClient.getObject(requestParam2, callback2);
```

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> **NOTE**
>
> For APIs used for bucket operations, the **Bucket** parameter contained in the request object indicates the bucket name. For APIs used for object operations, the **Bucket** and **Key** parameters contained in the request object specify the bucket name and object name, respectively.

Sample code:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

// Call APIs to perform operations, such as uploading an object.
obsClient.putObject({
      Bucket : 'bucketname',
      Key : 'objectname',
      Body : 'Hello OBS'
}, (err, result) => {
      // If the err parameter is not null, an error occurs during the API calling.
      if(err){
            console.log('Error-->' + err);
      }else{
            // If the exception information is null, the API call is complete. In such conditions, you need to check the HTTP status code.
            if(result.CommonMsg.Status < 300){// The operation is successful.
                  if(result.InterfaceResult){
                        // Process the business logic after the operation is successful.
                  };
            }else{// The operation fails. Obtain details about the exception.
                  console.log('Code-->' + result.CommonMsg.Code);
                  console.log('Message-->' + result.CommonMsg.Message);
                  console.log('HostId-->' + result.CommonMsg.HostId);
                  console.log('RequestId-->' + result.CommonMsg.RequestId);
            };
      };
});
```

## Result Returned via the Promise Object

**ObsClient** supports results returned via the **Promise** object. If no exception is caught by the **catch** method of the **Promise** object, the API calling is complete. In such conditions, you need to obtain the HTTP status code from the **SDK Common Result Object** to check whether the operation is successful. The following is a code sample:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
```

```
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});


// Construct request parameters for bucket operations.
var requestParam1 = {
      Bucket : 'bucketname'
      // Other fields.
};

// Call the APIs for bucket operations, such as creating a bucket.
var promise1 = obsClient.createBucket(requestParam1);
promise1.then((result) => {
   // Process the API call result.
}).catch((err)=>{
   // Rectify the fault.
});

// Construct request parameters for object operations.
var requestParam2 = {
      Bucket : 'bucketname',
      Key : 'objectname'
      // Other fields.
};

// Call an object-related API, such as the API for downloading an object.
var promise2 = obsClient.getObject(requestParam2);
promise2.then((result) => {
   // Process the API call result.
}).catch((err)=>{
   // Rectify the fault.
});
```

NOTE

For APIs used for bucket operations, the **Bucket** parameter contained in the request object indicates the bucket name. For APIs used for object operations, the **Bucket** and **Key** parameters contained in the request object specify the bucket name and object name, respectively.

Sample code:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
```

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```
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

// Call APIs to perform operations, such as uploading an object.
obsClient.putObject({
        Bucket : 'bucketname',
        Key : 'objectname',
        Body : 'Hello OBS'
}).then((result) => {
    // If no exception occurs and the API call is complete, check the HTTP status code.
    if(result.CommonMsg.Status < 300){// Operation succeeded
        if(result.InterfaceResult){
            // Process the business logic after the operation is successful.
        };
}else{// The operation fails. Obtain details about the exception.
        console.log('Code-->' + result.CommonMsg.Code);
        console.log('Message-->' + result.CommonMsg.Message);
        console.log('HostId-->' + result.CommonMsg.HostId);
        console.log('RequestId-->' + result.CommonMsg.RequestId);
    };
}).catch((err) => {
    // An exception occurred after the API is called.
    console.error('Error-->' + err);
});
```

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# 3 Initialization (SDK for Node.js)

## 3.1 Configuring Access Keys (SDK for Node.js)

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

After obtaining the AK and SK, you can create an instance of ObsClient to call SDK APIs.

For details, see **Creating Access Keys (SDK for Node.js)**.

After obtaining the AK and SK, you can follow these steps to start initialization:

- **Creating an Instance of ObsClient (SDK for Node.js)**
- **Configuring an Instance of ObsClient (SDK for Node.js)**
- **Configuring SDK Logging (SDK for Node.js)**

## 3.2 Creating an Instance of ObsClient (SDK for Node.js)

**ObsClient** functions as the Node.js client for accessing OBS. It offers callers a series of APIs for interaction with OBS and is used for managing and operating resources, such as buckets and objects, stored in OBS. To use OBS Node.js 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

- Sample code for creating an ObsClient instance using permanent access keys (AKs/SKs):

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
```

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```
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

// Use the instance to access OBS.

// Close the ObsClient instance.
// obsClient.close();
```

- Sample code for creating an ObsClient instance using temporary security credentials (AKs/SKs and security tokens):

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

// Use the instance to access OBS.

// Close the ObsClient instance.
// obsClient.close();
```

## By Using the Factory Method

- Sample code for creating an ObsClient instance using permanent access keys (AKs/SKs):

```
// Import the OBS library.
// Use npm to install the client.
var ObsClient = require('esdk-obs-nodejs');
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Initialize an ObsClient instance by using the factory method.
var obsClient = new ObsClient();
obsClient.factory({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

// Use the instance to access OBS.

// Close the ObsClient instance.
// obsClient.close();
```

- Sample code for creating an ObsClient instance using temporary security credentials (AKs/SKs and security tokens):

```
// Import the OBS library.
// Use npm to install the client.
```

```
var ObsClient = require('esdk-obs-nodejs');
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Initialize an ObsClient instance by using the factory method.
var obsClient = new ObsClient();
obsClient.factory({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

// Use the instance to access OBS.

// Close the ObsClient instance.
// obsClient.close();
```

NOTE

- The project can contain one or more ObsClient instances.
- An ObsClient instance cannot be used again after it is closed by calling the close method.

# 3.3 Configuring an Instance of ObsClient (SDK for Node.js)

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

| Parameter | Description | Recommended Value |
| --- | --- | --- |
| access_key_id | AK | N/A |
| secret_access_key | SK | N/A |
| server | Endpoint for accessing OBS, which contains the protocol type, domain name (or IP address), and port number. For example, https://your-endpoint:443. For security purposes, you are advised to use HTTPS. | N/A |
| max_retry_count | Maximum number of retries when an HTTP/HTTPS connection is abnormal. The default value is **3**. | [1, 5] |
| timeout | Timeout period (in seconds) of an HTTP/HTTPS request. The default value is **60**. | [10, 60] |

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| Parameter | Description | Recommended Value |
| --- | --- | --- |
| 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 |
| long_conn_param | Persistent connection mode (in seconds). If the value is equal to or larger than **0**, the persistent connection mode is enabled and this value is used as the **initial delay** of the TCP Keep-Alive packets.<br>By default, this parameter is left blank, which indicates that persistent connection mode is disabled. | N/A |
| is_cname | Whether to use self-defined domain name 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 a larger value for **timeout**.
- If the value of **server** does not contain any protocol, HTTPS is used by default.

NOTICE

- If the persistent connection mode is enabled, you must call **ObsClient.close** to close **ObsClient** explicitly to reclaim connection resources.
- For the sake of high DNS resolution performance and OBS reliability, you can set **server** only to the domain name of OBS, instead of the IP address.

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# 3.4 Configuring SDK Logging (SDK for Node.js)

OBS Node.js SDK provides the logging function based on Log4js. You can call **ObsClient.initLog** to enable and configure logging. The following is a code sample:

```
obsClient.initLog({
file_full_path:'./logs/OBS-SDK.log', //Set the path to the log file.
      max_log_size:20480, //Set the size of the log file, in bytes.
      backups:10, //Set the maximum number of log files that can be stored.
      level:'warn', //Set the log level.
      log_to_console:true //Set whether to print the log to console.
});
```

NOTE

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

# 4 Bucket Management (SDK for Node.js)

## 4.1 Creating a Bucket (SDK for Node.js)

### Function

OBS buckets are containers for storing objects you upload to OBS. This API creates a bucket.

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

### Restrictions

- To create a bucket, you must have the **obs:bucket:CreateBucket** permission.
- A maximum of 100 buckets (regardless of regions) can be created for an account. There is no limit on the number and size of objects in a bucket.
- A bucket name must be unique in OBS. If you repeatedly create buckets with the same name in the same region, an HTTP status code **200** will be returned. In other cases, creating a bucket with the same name as an existing bucket will have an HTTP status code **409** returned, indicating that such a bucket already exists.
- The name of a deleted bucket can be reused for another bucket or a parallel file system at least 30 minutes after the deletion.

### Method

```
ObsClient.createBucket(params)
```

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## Request Parameters

**Table 4-1** List of request parameters

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Bucket | string | Yes | **Explanation:**<br>Bucket name.<br>**Restrictions**:<br>● A bucket name must be unique across all accounts and regions.<br>● A bucket name:<br>– Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.<br>– Cannot be formatted as an IP address.<br>– Cannot start or end with a hyphen (-) or period (.).<br>– Cannot contain two consecutive periods (..), for example, **my..bucket**.<br>– Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, **my-.bucket** or **my.-bucket**.<br>● If you repeatedly create buckets with the same name in the same region, no error will be reported, and the bucket attributes comply with those set in the first creation request.<br>**Value range**:<br>The value can contain 3 to 63 characters.<br>**Default value**:<br>None |
| Location | string | Yes if the OBS service region is not the default region | **Explanation:**<br>Region where a bucket is located. |

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ACL | AclType | No | **Explanation:**<br>ACL that can be pre-defined when a bucket is created.<br>**Restrictions**:<br>None<br>**Value range**:<br>For details about the ACL options, see **AclType**.<br>**Default value**:<br>private |
| Storage Class | StorageClassType | No | **Explanation:**<br>Bucket storage class that can be specified at bucket creation.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **StorageClassType**.<br>**Default value**:<br>STANDARD |
| GrantRead | string | No | **Explanation:**<br>ID (domain_id) of an account the **READ** permission is granted to. The account with the **READ** permission can list objects, multipart uploads, and object versions in the bucket you are creating, as well as obtain bucket metadata.<br>**Restrictions**:<br>None<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| GrantWrite | string | No | **Explanation:**<br>ID (domain_id) of an account the **WRITE** permission is granted to. The account with the **WRITE** permission can create, delete, and overwrite objects in the bucket you are creating; initiate or abort multipart uploads; and upload, copy, and assemble parts.<br>**Restrictions**:<br>None<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**.<br>**Default value**:<br>None |
| GrantReadACP | string | No | **Explanation:**<br>ID (domain_id) of an account the **READ_ACP** permission is granted to. The account with the **READ_ACP** permission can read the ACL of the bucket you are creating.<br>**Restrictions**:<br>None<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**.<br>**Default value**:<br>None |
| GrantWriteACP | string | No | **Explanation:**<br>ID (domain_id) of an account the **WRITE_ACP** permission is granted to. The account with the **WRITE_ACP** permission can modify the ACL of the bucket you are creating.<br>**Restrictions**:<br>None<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| GrantFullControl | string | No | **Explanation:**<br>ID (domain_id) of an account the **FULL_CONTROL** permission is granted to. The account with the **FULL_CONTROL** permission can perform any operation on the bucket you are creating.<br>**Restrictions**:<br>None<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**.<br>**Default value**:<br>None |
| GrantReadDelivered | string | No | **Explanation:**<br>ID (domain_id) of an account the **READ** permission is granted to. By default, this **READ** permission applies to all objects in the bucket.<br>**Restrictions**:<br>None<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**.<br>**Default value**:<br>None |
| GrantFullControlDelivered | string | No | **Explanation:**<br>ID (domain_id) of an account the **FULL_CONTROL** permission is granted to. The account with the **FULL_CONTROL** permission has full control over the bucket you are creating. By default, the **FULL_CONTROL** permission applies to all objects in the bucket.<br>**Restrictions**:<br>None<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| MultiEnterprise | string | No | **Explanation:**<br>Enterprise project ID that can be specified during bucket creation. If you have enabled EPS, you can obtain the project ID from the EPS console.<br>**Restrictions**:<br>The value of **epid** is a UUID. **epid** is not required if you have not enabled EPS yet.<br>Example: **9892d768-2d13-450f-aac7-ed0e44c2585f**<br>**Default value**:<br>None |

**Table 4-2** AclType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPrivate | private | Private read and write<br>A bucket or object can only be accessed by its owner. |
| ObsClient.enums.AclPublicRead | public-read | Public read and private write<br>If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket.<br>If this permission is granted on an object, everyone can obtain the content and metadata of the object. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPublicReadWrite | public-read-write | Public read and write<br>If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart upload tasks.<br>If this permission is granted on an object, everyone can obtain the content and metadata of the object. |
| ObsClient.enums.AclPublicReadDelivered | public-read-delivered | Public read on a bucket as well as the objects in the bucket.<br>If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions and read the content and metadata of objects in the bucket.<br>**NOTE**<br>**AclPublicReadDelivered** does not apply to objects. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPublicReadWriteDelivered | public-read-write-delivered | Public read and write on a bucket as well as the objects in the bucket.<br>If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart uploads. They can also read the content and metadata of objects in the bucket.<br>**NOTE**<br>**AclPublicReadWriteDelivered** does not apply to objects. |
| ObsClient.enums.AclBucketOwnerFullControl | bucket-owner-full-control | If this permission is granted on an object, only the bucket and object owners have the full control over the object.<br>By default, if you upload an object to a bucket of any other user, the bucket owner does not have the permissions on your object. After you grant this policy to the bucket owner, the bucket owner can have full control over your object. For example, if user A uploads object **x** to user B's bucket, user B does not have the control over object **x**. If user A sets the **bucket-owner-full-control** policy for object **x**, user B then has the control over object **x**. |

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**Table 4-3** StorageClassType

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

## Responses

**Table 4-4** Responses

| Type | Description |
| --- | --- |
| Table 4-5<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 4-5. |

**Table 4-5** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 4-6. |

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| Parameter | Type | Description |
| --- | --- | --- |
| InterfaceResult | BaseResponse Ouput | **Explanation:**<br>Results outputted for a successful call. For details, see Table 4-7.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 4-6** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 4-7** BaseResponseOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

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## Code Examples

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

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an ObsClient instance.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function createBucket() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the region where the bucket is to be created. The region must be the same as that in the passed endpoint.
      // Location: "region",
      // Specify the bucket ACL. The following uses obs.AclPrivate as an example.
      ACL: obsClient.enums.AclPrivate,
      // Specify the storage class of the bucket. **obs.StorageClassWarm** () is used as an example. If this parameter is not specified, the bucket is created with the Standard storage class.
      StorageClass: obsClient.enums.StorageClassWarm,
    };
    // Create a bucket.
    const result = await obsClient.createBucket(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Create bucket(%s) successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

createBucket();
```

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# 4.2 Listing Buckets (SDK for Node.js)

## Function

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

## Restrictions

- To list buckets, you must have the **obs:bucket:ListAllMyBuckets** permission.

## Method

```
ObsClient.listBuckets(params)
```

## Request Parameters

**Table 4-8** List of request parameters

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| QueryLocation | boolean | No | **Explanation:**<br>Whether to query the bucket location<br>**Restrictions**:<br>None<br>**Value range**:<br>• **true**: The bucket location is queried.<br>• **false**: The bucket location is not queried.<br>**Default value**:<br>false |

**Table 4-9** BucketType

| Constant | Description |
| --- | --- |
| OBJECT | An object bucket |
| POSIX | A parallel file system (POSIX) |

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## Responses

**Table 4-10** Responses

| Type | Description |
| --- | --- |
| Table 4-11<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 4-11. |

**Table 4-11** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 4-12. |
| InterfaceResult | ListBucketsOutput | **Explanation:**<br>Results outputted for a successful call. For details, see Table 4-13.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 4-12** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |

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| | | |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 4-13** ListBucketsOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server<br>**Default value**:<br>None |
| Owner | **Owner** | **Explanation:**<br>Bucket owner<br>**Value range**:<br>See **Table 4-14**. |
| Buckets | **Bucket**[] | **Explanation:**<br>Bucket information list<br>**Value range**:<br>See **Table 4-15**. |

**Table 4-14** Owner

| Parameter | Type | Mandatory (Yes/No) | Description |
|---|---|---|---|
| ID | string | Yes if used as a request parameter | **Explanation:**<br>Account (domain) ID of the owner<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Display Name | string | No | **Explanation:**<br>Account name of the owner<br>**Default value**:<br>None |

**Table 4-15** Bucket

| Parameter | Type | Description |
| --- | --- | --- |
| BucketName | string | **Explanation:**<br>Bucket name.<br>**Restrictions**:<br>• A bucket name must be unique across all accounts and regions.<br>• A bucket name:<br>– Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.<br>– Cannot be an IP address.<br>– Cannot start or end with a hyphen (-) or period (.).<br>– Cannot contain two consecutive periods (..), for example, **my..bucket**.<br>– Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, **my-.bucket** or **my.-bucket**.<br>**Default value**:<br>None |
| CreationDate | string | **Explanation:**<br>When the bucket was created.<br>**Default value**:<br>None |
| Location | string | **Explanation:**<br>Where a bucket is located. |

## Code Examples

You can call **ObsClient.listBuckets** to list buckets. This example lists all buckets.

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```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function listBuckets() {
  try {
    const params = {
      // Specify whether to query the bucket location in the listing. The default value is false. true is used in this example.
      QueryLocation: true,
      // Specify a bucket type (object buckets in this example). If this parameter is not specified, object buckets and parallel file systems are listed by default.
      BucketType: "OBJECT",
    };
    // List buckets.
    const result = await obsClient.listBuckets(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("List buckets successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log('Owner:');
      console.log('ID: %s', result.InterfaceResult.Owner.ID);
      console.log('Name: %s', result.InterfaceResult.Owner.Name);
      console.log('Buckets:');
      for (let i = 0; i < result.InterfaceResult.Buckets.length; i++) {
          const val = result.InterfaceResult.Buckets[i];
          console.log("Bucket[%d]-Name:%s,CreationDate:%s,Location: %s",
            i, val.BucketName, val.CreationDate, val.Location);
      };
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

listBuckets();
```

# 4.3 Checking Whether a Bucket Exists (SDK for Node.js)

## Function

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

## Restrictions

- To check whether a bucket exists, you must be the bucket owner or have the required permission (**obs:bucket:HeadBucket** in IAM or **HeadBucket** in a bucket policy).

## Method

```
ObsClient.headBucket(params)
```

## Request Parameters

**Table 4-16** BucketRequestInput

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

## Responses

**Table 4-17** Responses

| Type | Description |
| --- | --- |
| Table 4-18<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 4-18. |

**Table 4-18** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 4-19. |
| InterfaceResult | BaseResponse Ouput | **Explanation:**<br>Results outputted for a successful call. For details, see Table 4-20.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 4-19** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |

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| | | |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 4-20** BaseResponseOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

## Code Examples

You can call **ObsClient.headBucket** to check for a bucket. Sample code is as follows:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  //Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function headBucket() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket"
    };
    // Check whether the bucket exists.
    const result = await obsClient.headBucket(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Head bucket(%s) successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
```

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```
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

headBucket();
```

# 4.4 Deleting a Bucket (SDK for Node.js)

## Function

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

## Restrictions

- Only empty buckets can be deleted. An empty bucket means that:
  - The bucket does not contain any objects (including historical versions and delete markers).
  - The bucket does not contain any fragments, which means that there are no multipart uploads that have not been completed in the bucket.
- Bucket deletion is a non-idempotence operation and will fail if the to-be-deleted bucket does not exist.
- To delete a bucket, you must be the bucket owner or have the required permission (**obs:bucket:DeleteBucket** in IAM or **DeleteBucket** in a bucket policy).

## Method

```
ObsClient.deleteBucket(params)
```

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## Request Parameters

**Table 4-21** BucketRequestInput

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

## Responses

**Table 4-22** Responses

| Type | Description |
| --- | --- |
| Table 4-23<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 4-23. |

**Table 4-23** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 4-24. |
| InterfaceResult | BaseResponse Ouput | **Explanation:**<br>Results outputted for a successful call. For details, see Table 4-25.<br>**Restrictions**:<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 4-24** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |

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| | | |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 4-25** BaseResponseOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

## Code Examples

You can call **ObsClient.deleteBucket** to delete a bucket. This example deletes bucket **examplebucket**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function deleteBucket() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket"
    };
    // Delete a bucket.
    const result = await obsClient.deleteBucket(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Delete bucket(%s) successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
```

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```
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

deleteBucket();
```

# 4.5 Obtaining Bucket Metadata (SDK for Node.js)

## Function

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

## Restrictions

- To obtain bucket metadata, you must be the bucket owner or have the required permission (**obs:bucket:HeadBucket** in IAM or **HeadBucket** in a bucket policy).

## Method

```
ObsClient.getBucketMetadata(params)
```

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## Request Parameters

**Table 4-26** BucketRequestInput

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

## Responses

**Table 4-27** Responses

| Type | Description |
| --- | --- |
| Table 4-28<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 4-28. |

**Table 4-28** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 4-29. |
| InterfaceResult | GetBucketMetadataOutput | **Explanation:**<br>Results outputted for a successful call. For details, see Table 4-30.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 4-29** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |

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| | | |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 4-30** GetBucketMetadataOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server<br>**Default value**:<br>None |
| StorageClass | StorageClassType | **Explanation:**<br>Storage class of the bucket.<br>**Value range**:<br>See Table 4-31.<br>**Default value**:<br>If the storage class of the bucket is Standard, this parameter is not specified. |
| Location | string | **Explanation:**<br>Region where a bucket is located. |
| ObsVersion | string | **Explanation:**<br>OBS version of the bucket.<br>**Value range**:<br>• **3.0** indicates the latest OBS version.<br>• **--** indicates any version earlier than 3.0.<br>**Default value**:<br>None |

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| Parameter | Type | Description |
| --- | --- | --- |
| AllowOrigin | string | **Explanation:**<br>If **Origin** in the request meets the CORS rules of the bucket, **AllowedOrigin** specified in the CORS rules is returned. **AllowedOrigin** indicates the origin from which requests can access the bucket.<br>**Restrictions**:<br>Domain name of the origin. Each origin can contain at most one wildcard character (*). Example: **https://*.vbs.example.com**<br>**Default value**:<br>None |
| AllowHeader | string | **Explanation:**<br>If **RequestHeader** in the request meets the CORS rules of the bucket, **AllowedHeader** specified in the CORS rules is returned. **AllowedHeader** indicates the allowed headers for cross-origin requests. Only CORS requests matching the allowed headers are valid.<br>**Restrictions**:<br>Each header can contain at most one wildcard character (*). Spaces, ampersands (&), colons (:), less-than signs (<), and full-width characters are not allowed.<br>**Default value**:<br>None |
| AllowMethod | string | **Explanation:**<br>**AllowedMethod** in the CORS rules of the bucket. It specifies the HTTP method allowed for cross-origin requests, that is, the operation type of buckets and objects.<br>**Value range**:<br>The following HTTP methods are supported:<br>• GET<br>• PUT<br>• HEAD<br>• POST<br>• DELETE<br>**Default value**:<br>None |

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| Parameter | Type | Description |
| --- | --- | --- |
| ExposeHeader | string | **Explanation:**<br>**ExposeHeader** in the CORS rules of the bucket. It specifies the CORS-allowed additional headers in the response. These headers provide additional information to clients. By default, your browser can only access headers **Content-Length** and **Content-Type**. If your browser needs to access other headers, add them to a list of the allowed additional headers.<br>**Restrictions**:<br>Spaces, asterisks (*), ampersands (&), colons (:), less-than signs (<), and full-width characters are not allowed.<br>**Default value**:<br>None |
| MaxAgeSeconds | number | **Explanation:**<br>**MaxAgeSeconds** in the CORS rules of the bucket. It specifies the time your client can cache the response for a cross-origin request.<br>**Restrictions**:<br>Each CORS rule can contain at most one **MaxAgeSeconds**.<br>**Value range**:<br>0 to ($2^{31}$ – 1), in seconds<br>**Default value**:<br>100 |
| MultiEnterprise | string | **Explanation:**<br>Enterprise project ID that can be specified during bucket creation. If you have enabled EPS, you can obtain the project ID from the EPS console.<br>**Restrictions**:<br>The value of **epid** is a UUID. **epid** is not required if you have not enabled EPS yet.<br>Example: **9892d768-2d13-450f-aac7-ed0e44c2585f**<br>**Default value**:<br>None |

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**Table 4-31** StorageClassType

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

## Code Examples

You can call **ObsClient.getBucketMetadata** to obtain the metadata of a bucket. This example uses bucket **examplebucket**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function getBucketMetadata() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket"
    };
    // Obtain the bucket metadata.
    const result = await obsClient.getBucketMetadata(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Delete bucket(%s)'s metadata successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log('StorageClass: %s', result.InterfaceResult.StorageClass);
```

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```
    console.log('Location: %s', result.InterfaceResult.Location);
    console.log('Epid: %s', result.InterfaceResult.Epid);
    return;
  };
  console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
  console.log("Status: %d", result.CommonMsg.Status);
  console.log("Code: %s", result.CommonMsg.Code);
  console.log("Message: %s", result.CommonMsg.Message);
  console.log("RequestId: %s", result.CommonMsg.RequestId);
 } catch (error) {
  console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
  console.log(error);
 };
};
getBucketMetadata();
```

# 4.6 Configuring a Bucket ACL (SDK for Node.js)

## Function

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

This API modifies a bucket ACL.

## Restrictions

- A bucket can have up to 100 ACL rules.
- To configure an ACL for a bucket, you must be the bucket owner or have the required permission (**obs:bucket:PutBucketAcl** in IAM or **PutBucketAcl** in a bucket policy).

## Method

```
ObsClient.setBucketAcl(params)
```

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## Request Parameters

**Table 4-32** List of request parameters

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Bucket | string | Yes | **Explanation:**<br>Bucket name.<br>**Restrictions:**<br>• A bucket name must be unique across all accounts and regions.<br>• A bucket name:<br>– Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.<br>– Cannot be formatted as an IP address.<br>– Cannot start or end with a hyphen (-) or period (.).<br>– Cannot contain two consecutive periods (..), for example, **my..bucket**.<br>– Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, **my-.bucket** or **my.-bucket**.<br>• If you repeatedly create buckets with the same name in the same region, no error will be reported, and the bucket attributes comply with those set in the first creation request.<br>**Value range**:<br>The value can contain 3 to 63 characters.<br>**Default value**:<br>None |
| ACL | **AclType** | No | **Explanation:**<br>Pre-defined ACL.<br>**Restrictions**:<br>You must specify either **ACL** or the combination of **Owner** and **Grants**.<br>**Value range**:<br>See **Table 4-33**.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Owner | Owner | No | **Explanation:**<br>Bucket owner<br>**Restrictions**:<br>• **Owner** and **Grants** must be used together, and they cannot be used with **ACL**.<br>• You must specify either **ACL** or the combination of **Owner** and **Grants**.<br>**Value range**:<br>See **Table 4-34**.<br>**Default value**:<br>None |
| Grants | Grant[] | No | **Explanation:**<br>Grantees and permissions<br>**Restrictions**:<br>• **Owner** and **Grants** must be used together, and they cannot be used with **ACL**.<br>• You must specify either **ACL** or the combination of **Owner** and **Grants**.<br>**Value range**:<br>See **Table 4-35**.<br>**Default value**:<br>None |

**Table 4-33** AclType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPrivate | private | Private read and write<br>A bucket or object can only be accessed by its owner. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPublicRead | public-read | Public read and private write<br>If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket.<br>If this permission is granted on an object, everyone can obtain the content and metadata of the object. |
| ObsClient.enums.AclPublicReadWrite | public-read-write | Public read and write<br>If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart upload tasks.<br>If this permission is granted on an object, everyone can obtain the content and metadata of the object. |
| ObsClient.enums.AclPublicReadDelivered | public-read-delivered | Public read on a bucket as well as the objects in the bucket.<br>If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions and read the content and metadata of objects in the bucket.<br>**NOTE**<br>**AclPublicReadDelivered** does not apply to objects. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPublicReadWriteDelivered | public-read-write-delivered | Public read and write on a bucket as well as the objects in the bucket.<br>If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart uploads. They can also read the content and metadata of objects in the bucket.<br>**NOTE**<br>**AclPublicReadWriteDelivered** does not apply to objects. |
| ObsClient.enums.AclBucketOwnerFullControl | bucket-owner-full-control | If this permission is granted on an object, only the bucket and object owners have the full control over the object.<br>By default, if you upload an object to a bucket of any other user, the bucket owner does not have the permissions on your object. After you grant this policy to the bucket owner, the bucket owner can have full control over your object. For example, if user A uploads object **x** to user B's bucket, user B does not have the control over object **x**. If user A sets the **bucket-owner-full-control** policy for object **x**, user B then has the control over object **x**. |

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**Table 4-34** Owner

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ID | string | Yes if used as a request parameter | **Explanation:**<br>Account (domain) ID of the owner<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**.<br>**Default value**:<br>None |
| Display Name | string | No | **Explanation:**<br>Account name of the owner<br>**Default value**:<br>None |

**Table 4-35** Grant

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Grantee | **Grantee** | Yes if used as a request parameter | **Explanation:**<br>Grantee information. For details, see **Table 4-36**. |
| Permission | **PermissionType** | Yes if used as a request parameter | **Explanation:**<br>Granted permission<br>**Value range**:<br>See **Table 4-39**.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Delivered | boolean | No | **Explanation:**<br>Whether the ACL of the bucket applies to its objects<br>**Value range**:<br>• **true**: The ACL of the bucket applies to its objects.<br>• **false**: The ACL of the bucket does not apply to its objects.<br>**Default value**:<br>None |

**Table 4-36** Grantee

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Type | string | Yes if used as a request parameter | **Explanation:**<br>Grantee type<br>**Value range**:<br>See **Table 4-37**.<br>**Default value**:<br>None |
| ID | string | Yes if this parameter is used as a request parameter and **Type** is set to a user | **Explanation:**<br>Account (domain) ID of the grantee.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Name | string | No if used as a request parameter | **Explanation:**<br>Account name of the grantee<br>**Restrictions**:<br>• The account name starts with a letter.<br>• The account name contains 6 to 32 characters.<br>• The account name contains only letters, digits, hyphens (-), or underscores (_).<br>**Default value**:<br>None |
| URI | **GroupUriType** | Yes if this parameter is used as a request parameter and **Type** is set to a group | **Explanation:**<br>Authorized user group<br>**Value range**:<br>See **Table 4-38**.<br>**Default value**:<br>None |

**Table 4-37** GranteeType

| Constant | Description |
| --- | --- |
| Group | Grants permissions to user groups. |
| CanonicalUser | Grants permissions to individual users. |

**Table 4-38** GroupUriType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.GroupAllUsers | AllUsers | All users. |
| ObsClient.enums.GroupAuthenticatedUs-ers | AuthenticatedUsers | Authorized users. This constant is deprecated. |
| ObsClient.enums.GroupLogDelivery | LogDelivery | Log delivery group. This constant is deprecated. |

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**Table 4-39** PermissionType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.PermissionRead | READ | A grantee with this permission for a bucket can obtain the list of objects, multipart uploads, bucket metadata, and object versions in the bucket.<br>A grantee with this permission for an object can obtain the object content and metadata. |
| ObsClient.enums.PermissionWrite | WRITE | A grantee with this permission for a bucket can upload, overwrite, and delete any object or part in the bucket.<br>This permission is not applicable to objects. |
| ObsClient.enums.PermissionReadAcp | 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 for their bucket or object by default. |
| ObsClient.enums.PermissionWriteAcp | 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 for their bucket or object by default.<br>This permission allows the grantee to change the access control policies, meaning the grantee has full control over a bucket or object. |
| ObsClient.enums.PermissionFullControl | FULL_CONTROL | A grantee with this permission for a bucket has **PermissionRead**, **PermissionWrite**, **PermissionReadAcp**, and **PermissionWriteAcp** permissions for the bucket.<br>A grantee with this permission for an object has **PermissionRead**, **PermissionReadAcp**, and **PermissionWriteAcp** permissions for the object. |

## Responses

**Table 4-40** Responses

| Type | Description |
| --- | --- |
| Table 4-41<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 4-41. |

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**Table 4-41** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 4-42. |
| InterfaceResult | Table 4-43 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 4-43.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 4-42** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

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**Table 4-43** BaseResponseOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

## Code Examples: Setting a Pre-defined ACL When Creating a Bucket

This example sets a pre-defined ACL (private read and write) when creating a bucket.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an ObsClient instance.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function createBucket() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the region where the bucket is to be created. The region must be the same as that in the passed endpoint.
      // Location: "region",
      // Specify the ACL. obs.AclPrivate is used as an example.
      ACL: obsClient.enums.AclPrivate,
    };
    // Create a bucket.
    const result = await obsClient.createBucket(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Create bucket(%s) successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

createBucket();
```

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## Code Examples: Setting a Pre-defined ACL for a Bucket

This example sets an ACL (private) for bucket **examplebucket**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  //Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function setBucketAcl() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Set the bucket ACL to be private.
      ACL: obsClient.enums.AclPrivate
    };
    // Set the bucket ACL.
    const result = await obsClient.setBucketAcl(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Set bucket(%s)'s acl successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };

    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

setBucketAcl();
```

## Code Examples: Setting an ACL for a Bucket Directly

This example sets an ACL to allow all users to read from bucket **examplebucket** but only allow user **0a03f5833900d3730f13c00f49d5exxx** to write to the bucket.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
```

```
const obsClient = new ObsClient({
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  //Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function setBucketAcl() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the bucket owner ID. ownerid is used in this example.
      Owner: { ID: 'ownerid' },
      Grants: [
        // Grant the public-read permission to all users.
        { Grantee: { Type: 'Group', URI: obsClient.enums.GroupAllUsers  }, Permission: obsClient.enums.PermissionRead },
          // Grant the write permission to a specific user. In this example, the user ID is 0a03f5833900d3730f13c00f49d5exxx.
        { Grantee: { Type: 'CanonicalUser', ID: '0a03f5833900d3730f13c00f49d5exxx' }, Permission: obsClient.enums.PermissionWrite },
      ]
    };
    // Set the bucket ACL.
    const result = await obsClient.setBucketAcl(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Set bucket(%s)'s acl successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };

    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

setBucketAcl();
```

# 4.7 Obtaining a Bucket ACL (SDK for Node.js)

## Function

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

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

This API returns the ACL of a bucket.

## Restrictions

- To obtain the ACL of a bucket, you must be the bucket owner or have the required permission (**obs:bucket:GetBucketAcl** in IAM or **GetBucketAcl** in a bucket policy).

## Method

```
ObsClient.getBucketAcl(params)
```

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## Request Parameters

**Table 4-44** BucketRequestInput

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

## Responses

**Table 4-45** Responses

| Type | Description |
| --- | --- |
| Table 4-46<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 4-46. |

**Table 4-46** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 4-47. |
| InterfaceResult | Table 4-48 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 4-48.<br>**Restrictions**:<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 4-47** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |

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| | | |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 4-48** GetBucketAclOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |
| Owner | **Owner** | **Explanation:**<br>Account ID of the bucket owner. For details, see **Table 4-49**. |
| Grants | **Grant**[] | **Explanation:**<br>Grantees' permission information. For details, see **Table 4-50**. |

**Table 4-49** Owner

| Parameter | Type | Mandatory (Yes/No) | Description |
|---|---|---|---|
| ID | string | Yes if used as a request parameter | **Explanation:**<br>Account (domain) ID of the owner<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**.<br>**Default value**:<br>None |
| Display Name | string | No | **Explanation:**<br>Account name of the owner<br>**Default value**:<br>None |

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**Table 4-50** Grant

| Parameter | Type | Description |
| --- | --- | --- |
| Grantee | Grantee | **Explanation:**<br>Grantee information. For details, see **Table 4-51**. |
| Permission | string | **Explanation:**<br>Granted permissions. For details, see **Table 4-54**. |

**Table 4-51** Grantee

| Parameter | Type | Description |
| --- | --- | --- |
| Type | string | **Explanation:**<br>Grantee type. For details, see **Table 4-52**. |
| ID | string | **Explanation:**<br>Account (domain) ID of the grantee. |
| Name | string | **Explanation:**<br>Account name of the grantee |
| URI | string | **Explanation:**<br>Authorized user group. For details, see **Table 4-53**. |

**Table 4-52** GranteeType

| Constant | Description |
| --- | --- |
| Group | Grants permissions to user groups. |
| CanonicalUser | Grants permissions to individual users. |

**Table 4-53** GroupUriType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.GroupAllUsers | AllUsers | All users. |
| ObsClient.enums.GroupAuthenticatedUsers | AuthenticatedUsers | Authorized users. This constant is deprecated. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.GroupLogDelivery | LogDelivery | Log delivery group. This constant is deprecated. |

**Table 4-54** PermissionType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.PermissionRead | READ | A grantee with this permission for a bucket can obtain the list of objects, multipart uploads, bucket metadata, and object versions in the bucket.<br>A grantee with this permission for an object can obtain the object content and metadata. |
| ObsClient.enums.PermissionWrite | WRITE | A grantee with this permission for a bucket can upload, overwrite, and delete any object or part in the bucket.<br>This permission is not applicable to objects. |
| ObsClient.enums.PermissionReadAcp | 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 for their bucket or object by default. |
| ObsClient.enums.PermissionWriteAcp | 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 for their bucket or object by default.<br>This permission allows the grantee to change the access control policies, meaning the grantee has full control over a bucket or object. |
| ObsClient.enums.PermissionFullControl | FULL_CONTROL | A grantee with this permission for a bucket has **PermissionRead**, **PermissionWrite**, **PermissionReadAcp**, and **PermissionWriteAcp** permissions for the bucket.<br>A grantee with this permission for an object has **PermissionRead**, **PermissionReadAcp**, and **PermissionWriteAcp** permissions for the object. |

## Code Examples

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

```
// Import the OBS library.
// Use npm to install the client.
```

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```
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  //Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function getBucketAcl() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket"
    };
    // Obtain the bucket ACL.
    const result = await obsClient.getBucketAcl(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Get bucket(%s)'s acl rules successful!", params.Bucket);
      console.log('RequestId: %s', result.InterfaceResult.RequestId);
      console.log('Owner[ID]: %s', result.InterfaceResult.Owner.ID);
      console.log('Grants:');
      for (let i = 0; i < result.InterfaceResult.Grants.length; i++) {
        const grant = result.InterfaceResult.Grants[i];
        console.log("Grant[%d]-Type:%s, ID:%s, URI:%s, Permission:%s",
          i, grant.Grantee.Type, grant.Grantee.ID, grant.Grantee.URI, grant.Permission
        );
      };
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

getBucketAcl();
```

# 4.8 Configuring a Bucket Policy (SDK for Node.js)

## Function

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

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

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

This API configures a policy for a bucket.

## Restrictions

- To configure a bucket policy, you must be the bucket owner or have the required permission (**obs:bucket:PutBucketPolicy** in IAM or **PutBucketPolicy** in a bucket policy).

## Method

```
ObsClient.setBucketPolicy(params)
```

## Request Parameters

**Table 4-55** List of request parameters

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

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Policy | string | Yes | **Explanation:**<br>Policy in JSON format<br>**Restrictions**:<br>• The bucket name contained in the **Resource** parameter of the policy must be the same as the one specified for the current bucket policy.<br>**Value range**:<br>See .<br>**Default value**:<br>None |

## Responses

**Table 4-56** Responses

| Type | Description |
| --- | --- |
| Table 4-57<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results.<br>For details, see **Table 4-57**. |

**Table 4-57** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see **Table 4-58**. |
| InterfaceResult | Table 4-59 | **Explanation:**<br>Results outputted for a successful call. For details, see **Table 4-59**.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

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**Table 4-58** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 4-59** BaseResponseOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

## Code Examples: Specifying a Bucket Policy

You can call **ObsClient.setBucketPolicy** to set a bucket policy. Sample code:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  //Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
```

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```
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function setBucketPolicy() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify a bucket policy.
      Policy: "{\"Statement\":[{\"Sid\":\"Custom-policy-2482\",\"Effect\":\"Allow\",\"Principal\":{\"ID\":[\"*\"]},\"Action\":[\"*\",\"ListBucket\"],\"Resource\":[\"examplebucket\"]}]}",
    };
    // Set a bucket policy.
    const result = await obsClient.setBucketPolicy(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Set bucket(%s)'s policy successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

setBucketPolicy();
```

# 4.9 Obtaining the Policy of a Bucket (SDK for Node.js)

## Function

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

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

This API returns the policy of a bucket.

## Restrictions

- OBS returns "404 NoSuchBucketPolicy" when you call this API in the following scenarios:
  - The specified bucket policy does not exist.
  - The standard policy of the specified bucket is set to **Private** and no advanced policies are configured.

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- To obtain the policy of a bucket, you must be the bucket owner or have the required permission (**obs:bucket:GetBucketPolicy** in IAM or **GetBucketPolicy** in a bucket policy).

## Method

```
ObsClient.getBucketPolicy(params)
```

## Request Parameters

**Table 4-60** BucketRequestInput

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

## Responses

**Table 4-61** Responses

| Type | Description |
| --- | --- |
| Table 4-62<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 4-62. |

**Table 4-62** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 4-63. |
| InterfaceResult | Table 4-64 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 4-64.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 4-63** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |

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| | | |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 4-64** GetBucketPolicyOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |
| Policy | string | **Explanation:**<br>Policy in JSON format<br>**Restrictions**:<br>• The bucket name contained in the **Resource** parameter of the policy must be the same as the one specified for the current bucket policy. |

## Code Examples

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

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  //Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function getBucketPolicy() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket"
    };
```

```
    // Obtain the bucket policy.
    const result = await obsClient.getBucketPolicy(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Get bucket(%s)'s policy successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log("Policy: %s", result.InterfaceResult.Policy);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

getBucketPolicy();
```

# 4.10 Deleting a Bucket Policy (SDK for Node.js)

## Function

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

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

This API deletes the policy of a bucket. OBS returns **204 No Content** if the deletion is successful or the requested bucket policy does not exist.

## Restrictions

- To delete the policy of a bucket, you must be the bucket owner or have the required permission (**obs:bucket:DeleteBucketPolicy** in IAM or **DeleteBucketPolicy** in a bucket policy).

## Method

```
ObsClient.deleteBucketPolicy(params)
```

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## Request Parameters

**Table 4-65** BucketRequestInput

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

## Responses

**Table 4-66** Responses

| Type | Description |
| --- | --- |
| Table 4-67<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 4-67. |

**Table 4-67** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 4-68. |
| InterfaceResult | Table 4-69 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 4-69.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 4-68** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |

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| | | |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 4-69** BaseResponseOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

## Code Examples

This example deletes the policy of bucket **examplebucket**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  //Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function deleteBucketPolicy() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket"
    };
    // Delete a bucket policy.
    const result = await obsClient.deleteBucketPolicy(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Delete bucket(%s)'s policy successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("Delete bucket(%s)'s policy fail!", params.Bucket);
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
```

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```
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

deleteBucketPolicy();
```

# 4.11 Obtaining the Region of a Bucket (SDK for Node.js)

## Function

This API returns the region of a bucket.

## Restrictions

- To obtain the region of a bucket, you must be the bucket owner or have the required permission (**obs:bucket:GetBucketLocation** in IAM or **GetBucketLocation** in a bucket policy).

## Method

```
ObsClient.getBucketLocation(params)
```

## Request Parameters

**Table 4-70** BucketRequestInput

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

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## Responses

**Table 4-71** Responses

| Type | Description |
| --- | --- |
| Table 4-72<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 4-72. |

**Table 4-72** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 4-73. |
| InterfaceResult | GetBucketMetadataOutput | **Explanation:**<br>Results outputted for a successful call. For details, see Table 4-74.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 4-73** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |

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| | | |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 4-74** GetBucketLocationOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |
| Location | string | **Explanation:**<br>Region where a bucket is located. |

## Code Examples

You can call **ObsClient.getBucketLocation** to obtain the location of a bucket. This example uses bucket **examplebucket**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function getBucketLocation() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket"
    };
    // Obtain the bucket region.
    const result = await obsClient.getBucketLocation(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Get bucket(%s)'s location successful!", params.Bucket);
      console.log('Location: %s', result.InterfaceResult.Location);
      return;
```

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```
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

getBucketLocation();
```

NOTE

When creating a bucket, you can specify its location. For details, see **Creating a Bucket (SDK for Node.js)**.

# 4.12 Obtaining Storage Information of a Bucket (SDK for Node.js)

## Function

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

NOTE

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

## Restrictions

- To obtain the storage information of a bucket, you must be the bucket owner or have the required permission (**obs:bucket:GetBucketStorage** in IAM or **GetBucketStorage** in a bucket policy).

## Method

```
ObsClient.getBucketStorageInfo(params)
```

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## Request Parameters

**Table 4-75** BucketRequestInput

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

## Responses

**Table 4-76** Responses

| Type | Description |
| --- | --- |
| Table 4-77<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 4-77. |

**Table 4-77** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 4-78. |
| InterfaceResult | Table 4-79 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 4-79.<br>**Restrictions**:<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 4-78** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |

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| | | |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 4-79** GetBucketStorageInfoOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |
| Size | number | **Explanation:**<br>Size of the space occupied by objects in the bucket. |
| ObjectNumber | number | **Explanation:**<br>Number of objects in the bucket. |

## Code Examples

A bucket's storage information comprises its used size and object count. You can call **ObsClient.getBucketStorageInfo** to obtain the bucket storage information. This example uses bucket **examplebucket**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  //Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function getBucketStorageInfo() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket"
    };
```

```
    // Obtain the bucket storage information.
    const result = await obsClient.getBucketStorageInfo(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Get bucket(%s)'s storage-info successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log('Size: %s', result.InterfaceResult.Size);
      console.log('ObjectNumber: %s', result.InterfaceResult.ObjectNumber);
      return;
    };

    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

getBucketStorageInfo();
```

# 4.13 Configuring a Storage Quota for a Bucket (SDK for Node.js)

## Function

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

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

## Restrictions

- A bucket storage quota must be a non-negative integer expressed in bytes. The maximum value is $2^{63} - 1$.
- OBS does not provide an API for deleting bucket storage quotas. You can set the bucket storage quota to **0** to cancel the limit.
- To configure a storage quota for a bucket, you must be the bucket owner or have the required permission (**obs:bucket:PutBucketQuota** in IAM or **PutBucketQuota** in a bucket policy).

## Method

```
ObsClient.setBucketQuota(params)
```

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## Request Parameters

**Table 4-80** List of request parameters

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

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| StorageQuota | number | Yes | **Explanation:**<br>Bucket quota.<br>**Restrictions**:<br>None<br>**Value range**:<br>0 to ($2^{63}$ – 1), in bytes<br>**Default value**:<br>**0**, indicating that there is no limit on the bucket quota. |

## Responses

**Table 4-81** Responses

| Type | Description |
| --- | --- |
| Table 4-82<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 4-82. |

**Table 4-82** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 4-83. |
| InterfaceResult | Table 4-84 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 4-84.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 4-83** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |

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| | | |
|---|---|---|
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 4-84** BaseResponseOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

## Code Examples

You can call **ObsClient.setBucketQuota** to configure a storage quota for a bucket. This example sets the quota of bucket **examplebucket** to 1 GB.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  //Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment
```

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```
variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function setBucketQuota() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify a quota of 1 GB (measured in bytes) for the bucket.
      StorageQuota: 1024 * 1024 * 1024
    };
    // Set the bucket quota.
    const result = await obsClient.setBucketQuota(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Get bucket(%s)'s quota successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error
response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

setBucketQuota();
```

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.

# 4.14 Obtaining the Storage Quota of a Bucket (SDK for Node.js)

## Function

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

## Restrictions

- A bucket storage quota must be a non-negative integer expressed in bytes. The maximum value is $2^{63}$ – 1.
- A bucket owner with a frozen account in arrears is not allowed to query the bucket storage quota.
- To obtain the storage quota of a bucket, you must be the bucket owner or have the required permission (**obs:bucket:GetBucketQuota** in IAM or **GetBucketQuota** in a bucket policy).

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## Method

```
ObsClient.getBucketQuota(params)
```

## Request Parameters

**Table 4-85** BucketRequestInput

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

## Responses

**Table 4-86** Responses

| Type | Description |
| --- | --- |
| Table 4-87<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 4-87. |

**Table 4-87** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 4-88. |
| InterfaceResult | Table 4-89 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 4-89.<br>**Restrictions**:<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 4-88** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |

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| | | |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 4-89** GetBucketQuotaOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |
| StorageQuota | number | **Explanation:**<br>Bucket quota.<br>**Default value**:<br>**0**, indicating that there is no limit on the bucket quota. |

## Code Examples

You can call **ObsClient.getBucketQuota** to obtain the storage quota of a bucket. This example uses bucket **examplebucket**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  //Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function getBucketQuota() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket"
    };
    // Obtain the bucket quota.
```

```
    const result = await obsClient.getBucketQuota(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Get bucket(%s)'s quota successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log('StorageQuota: %s', result.InterfaceResult.StorageQuota);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

getBucketQuota();
```

# 4.15 Configuring a Storage Class for a Bucket (SDK for Node.js)

## Function

This API configures a storage class for a bucket. If you upload or copy objects to a bucket with a storage class configured or initiating a multipart upload for such a bucket without specifying storage classes for objects, those objects inherit the storage class of the bucket.

## Restrictions

- To configure a storage class for a bucket, you must be the bucket owner or have the required permission (**obs:PutBucketStoragePolicy** in IAM or **PutBucketStoragePolicy** in a bucket policy).

## Method

```
ObsClient.setBucketStoragePolicy(params)
```

## Request Parameters

**Table 4-90** List of request parameters

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

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| StorageClass | StorageClassType | Yes | **Explanation:**<br>Storage class of the bucket.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Table 4-91**.<br>**Default value**:<br>None |

**Table 4-91** StorageClassType

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

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## Responses

**Table 4-92** Responses

| Type | Description |
| --- | --- |
| Table 4-93<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 4-93. |

**Table 4-93** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 4-94. |
| InterfaceResult | Table 4-95 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 4-95.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 4-94** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |

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| | | |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 4-95** BaseResponseOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

## Code Examples

You can call **ObsClient.setBucketStoragePolicy** to specify the storage class for a bucket. This example sets the storage class of bucket **examplebucket** to Warm.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function setBucketStoragePolicy() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify a storage class (obsClient.enums.StorageClassWarm in this example) for the bucket.
      StorageClass: obsClient.enums.StorageClassWarm
    };
    // Configure a storage class for the bucket.
    const result = await obsClient.setBucketStoragePolicy(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Set bucket(%s)'s storage-class successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error
```

```
response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

setBucketStoragePolicy();
```

# 4.16 Obtaining the Storage Class of a Bucket (SDK for Node.js)

## Function

This API returns the storage class of a bucket.

## Restrictions

- To obtain a bucket's storage class, you must be the bucket owner or have the required permission (**obs:bucket:GetBucketStoragePolicy** in IAM or **GetBucketStoragePolicy** in a bucket policy).

## Method

```
ObsClient.getBucketStoragePolicy(params)
```

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## Request Parameters

**Table 4-96** BucketRequestInput

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

## Responses

**Table 4-97** Responses

| Type | Description |
| --- | --- |
| Table 4-98<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 4-98. |

**Table 4-98** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 4-99. |
| InterfaceResult | GetBucketMetadataOutput | **Explanation:**<br>Results outputted for a successful call. For details, see Table 4-100.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 4-99** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |

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| | | |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 4-100** GetBucketStorageClassOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |
| StorageClass | **StorageClass Type** | **Explanation:**<br>Storage class of the bucket.<br>**Value range**:<br>See **Table 4-101**. |

**Table 4-101** StorageClassType

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

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## Code Examples

You can call **ObsClient.getBucketStoragePolicy** to obtain the storage class of a bucket. This example uses bucket **examplebucket**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  //Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function getBucketStoragePolicy() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket"
    };
    // Obtain the storage class of the bucket.
    const result = await obsClient.getBucketStoragePolicy(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Get bucket(%s)'s storage-class successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log('StorageClass: %s', result.InterfaceResult.StorageClass);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

getBucketStoragePolicy();
```

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# 5 Object Upload (SDK for Node.js)

## 5.1 Object Upload Overview (SDK for Node.js)

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

- **Uploading an Object - Text-Based (SDK for Node.js)**
- **Uploading an Object - Streaming (SDK for Node.js)**
- **Uploading an Object - File-Based (SDK for Node.js)**
- **Initiating a Multipart Upload (SDK for Node.js)**
- **Uploading an Object - Append (SDK for Node.js)**
- **Uploading an Object - Resumable (SDK for Node.js)**
- **Uploading an Object - Browser-Based (SDK for Node.js)**

The SDK supports the upload of objects whose size ranges from 0 KB to 5 GB. For streaming upload, appendable upload, and file-based upload, data to be uploaded at a time cannot be larger than 5 GB. If the file is larger than 5 GB, multipart upload (whose part size is smaller than 5 GB) is suitable. Browser-based upload allows files 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.

## 5.2 Uploading an Object - Text-Based (SDK for Node.js)

### Function

This API uploads an object to a bucket.

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## Restrictions

- To upload an object, you must be the bucket owner or have the required permission (**obs:object:PutObject** in IAM or **PutObject** in a bucket policy).
- The object size in a single upload ranges from 0 to 5 GB.
- To upload files larger than 5 GB, refer to **Multipart Upload APIs (SDK for Node.js)**.

## Method

```
ObsClient.putObject(params)
```

## Request Parameters

**Table 5-1** List of request parameters

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

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| ACL | **AclType** | No | **Explanation:**<br>Access control list (ACL) that can be pre-defined when an object is created.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Table 5-2**.<br>**Default value**:<br>None |
| StorageClass | **StorageClassType** | No | **Explanation:**<br>When creating an object, you can use this header to specify the storage class for the object.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Table 5-3**.<br>**Default value**:<br>If this parameter is not specified, the object inherits the storage class of the bucket. |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Body | string \| stream.Readable | No | **Explanation:**<br>Content of the part to upload, which can be in string or stream.Readable form.<br>**Restrictions**:<br>• The object size in a single upload ranges from 0 to 5 GB.<br>• To upload files larger than 5 GB, refer to **Multipart Upload APIs (SDK for Node.js)**.<br>• **Body** and **SourceFile** cannot be used together.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| SourceFile | string | No | **Explanation:**<br>Source file path of the object to be uploaded<br>**Restrictions**:<br>• The content size in a single upload ranges from 0 to 5 GB.<br>• **Body** and **SourceFile** cannot be used together.<br>• **Offset** and **SourceFile** are used together to specify what data is uploaded from the source file.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| Offset | number | No | **Explanation:**<br>Start offset of a part in the source file.<br>**Restrictions**:<br>**Offset** and **SourceFile** are used together to specify what data is uploaded from the source file.<br>**Value range**:<br>A non-negative integer smaller than the size of the object to be uploaded, in bytes<br>**Default value**:<br>0 |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ProgressCallback | function | No | **Explanation:**<br>Callback function for obtaining the upload progress<br>**Restrictions**:<br>None<br>**Value range**:<br>None<br>**Default value**:<br>None<br>**NOTE**<br>This callback function contains the following parameters in sequence: number of uploaded bytes, total bytes, and used time (in seconds). |
| ContentMD5 | string | No | **Explanation:**<br>Base64-encoded MD5 value of the data to be uploaded. It is used for the OBS server to verify data integrity.<br>**Restrictions**:<br>Base64-encoded, 128-bit MD5 value of the request body.<br>**Value range**:<br>Base64-encoded, 128-bit MD5 value of the request body calculated based on the RFC 1864 standard.<br>Example: **n58IG6hfM7vqI4K0vnWpog==**<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| WebsiteRedirect-Location | string | No | **Explanation:**<br>If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.<br>The request is redirected to object **anotherPage.html** in the same bucket:<br>WebsiteRedirectLocation:/anotherPage.html<br>The request is redirected to an external URL:<br>WebsiteRedirectLocation:http://www.example.com/<br>OBS obtains the specified value from the header and stores it in the object metadata **WebsiteRedirectLocation**.<br>**Restrictions**:<br>• The value must start with a slash (/), **http://**, or **https://** and cannot exceed 2 KB.<br>• OBS only supports redirection of objects that are in the root directory.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| ContentType | string | No | **Explanation:**<br>MIME type of the file to be uploaded. MIME type is a standard way of describing a data type and is used by the browser to decide how to display data.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **What Is Content-Type (MIME)? (SDK for Node.js)**<br>**Default value**:<br>If you do not specify **Content-Type** when uploading an object, the SDK determines the object type based on the suffix of the specified object name and automatically assigns a value to **Content-Type**. |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ContentLength | int64 | No | **Explanation:**<br>Size of the object to be uploaded.<br>**Restrictions**:<br>• The object size in a single upload ranges from 0 to 5 GB.<br>• To upload files larger than 5 GB, refer to **Multipart Upload APIs (SDK for Node.js)**.<br>**Value range**:<br>0 GB to 5 GB<br>**Default value**:<br>If this parameter is not specified, the SDK automatically calculates the size of the object. |
| Metadata | object | No | **Explanation:**<br>Custom metadata of the object to be uploaded. You can add a header starting with **x-obs-meta-** in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.<br>**Restrictions**:<br>• The custom metadata cannot exceed 8 KB in total. To measure the size, calculate the sum of bytes of all UTF-8 encoded keys and values.<br>• The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.<br>• Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are required, they must be encoded and decoded in URL or Base64 on the client, because the server does not perform such operations.<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| GrantRead | string | No | **Explanation:**<br>ID (domain_id) of an account the **READ** permission is granted to. The account with the **READ** permission can read the current object and obtain its metadata.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |
| GrantReadAcp | string | No | **Explanation:**<br>ID (domain_id) of an account the **READ_ACP** permission is granted to. The account with the **READ_ACP** permission can read the ACL of the current object.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |
| GrantWriteAcp | string | No | **Explanation:**<br>ID (domain_id) of an account the **WRITE_ACP** permission is granted to. The account with the **WRITE_ACP** permission can modify the ACL of the current object.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| GrantFullControl | string | No | **Explanation:**<br>ID (domain_id) of an account the **FULL_CONTROL** permission is granted to. The account with the **FULL_CONTROL** permission can read the current object, obtain its metadata, and obtain and modify its ACL.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |
| Expires | number | No | **Explanation:**<br>Expiration time of the object (calculated from the latest modification time of the object). Expired objects are automatically deleted.<br>**Restrictions**:<br>• The value cannot be smaller than the number of days that have passed since the object was created. For example, if the object was uploaded 10 days ago, you cannot specify a value less than 10.<br>• This parameter can only be configured when uploading an object.<br>**Value range**:<br>1 to ($2^{63}$ - 1), in days<br>**Default value**:<br>None |

**Table 5-2** AclType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPrivate | private | Private read and write<br>A bucket or object can only be accessed by its owner. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPublicRead | public-read | Public read and private write<br>If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket.<br>If this permission is granted on an object, everyone can obtain the content and metadata of the object. |
| ObsClient.enums.AclPublicReadWrite | public-read-write | Public read and write<br>If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart upload tasks.<br>If this permission is granted on an object, everyone can obtain the content and metadata of the object. |
| ObsClient.enums.AclPublicReadDelivered | public-read-delivered | Public read on a bucket as well as the objects in the bucket.<br>If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions and read the content and metadata of objects in the bucket.<br>**NOTE**<br>**AclPublicReadDelivered** does not apply to objects. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPublicReadWriteDelivered | public-read-write-delivered | Public read and write on a bucket as well as the objects in the bucket.<br>If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart uploads. They can also read the content and metadata of objects in the bucket.<br>**NOTE**<br>**AclPublicReadWriteDelivered** does not apply to objects. |
| ObsClient.enums.AclBucketOwnerFullControl | bucket-owner-full-control | If this permission is granted on an object, only the bucket and object owners have the full control over the object.<br>By default, if you upload an object to a bucket of any other user, the bucket owner does not have the permissions on your object. After you grant this policy to the bucket owner, the bucket owner can have full control over your object. For example, if user A uploads object **x** to user B's bucket, user B does not have the control over object **x**. If user A sets the **bucket-owner-full-control** policy for object **x**, user B then has the control over object **x**. |

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**Table 5-3** StorageClassType

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

## Responses

**Table 5-4** Responses

| Type | Description |
| --- | --- |
| Table 5-5<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 5-5. |

**Table 5-5** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 5-6. |

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| Parameter | Type | Description |
| --- | --- | --- |
| InterfaceResult | Table 5-7 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 5-7.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 5-6** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 5-7** PutObjectOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

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| Parameter | Type | Description |
| --- | --- | --- |
| StorageClass | StorageClassType | **Explanation:**<br>Object storage class.<br>**Value range**:<br>• If the storage class of the object is Standard, this parameter is left blank.<br>• See **Table 5-8**. |
| VersionId | string | **Explanation:**<br>Object version. If versioning is enabled for the bucket, the object version ID will be returned. |
| ETag | string | **Explanation:**<br>Base64-encoded, 128-bit MD5 value of an object. It uniquely identifies the content of an object and can be used to check the object integrity. For example, if the ETag is **A** when an object is uploaded and is **B** when the object is downloaded, it indicates that the object content has been changed. The ETag reflects changes to the contents of the object, not its metadata. An object created by an upload or copy operation has a unique ETag. |

**Table 5-8** StorageClassType

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

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## Code Examples

Text-based upload is used to upload character strings. You can call **ObsClient.putObject** to upload character strings to OBS. This example uploads a text object to bucket **examplebucket**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function putObject() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify an object. example/objectname is used in this example.
      Key: "example/objectname",
      // Specify a text object.
      Body : 'Hello OBS'
    };
    // Upload the object.
    const result = await obsClient.putObject(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Put object(%s) under the bucket(%s) successful!!", params.Key, params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log("StorageClass:%s, ETag:%s", result.InterfaceResult.StorageClass, result.InterfaceResult.ETag);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

putObject();
```

# 5.3 Uploading an Object - Streaming (SDK for Node.js)

## Function

This API uploads an object to a bucket.

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## Restrictions

- To upload an object, you must be the bucket owner or have the required permission (**obs:object:PutObject** in IAM or **PutObject** in a bucket policy).
- The object size in a single upload ranges from 0 to 5 GB.
- To upload files larger than 5 GB, refer to **Multipart Upload APIs (SDK for Node.js)**.

## Method

```
ObsClient.putObject(params)
```

## Request Parameters

**Table 5-9** List of request parameters

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

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| ACL | **AclType** | No | **Explanation:**<br>Access control list (ACL) that can be pre-defined when an object is created.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Table 5-10**.<br>**Default value**:<br>None |
| StorageClass | **StorageClassType** | No | **Explanation:**<br>When creating an object, you can use this header to specify the storage class for the object.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Table 5-11**.<br>**Default value**:<br>If this parameter is not specified, the object inherits the storage class of the bucket. |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Body | string \| stream.Readable | No | **Explanation:**<br>Content of the part to upload, which can be in string or stream.Readable form.<br>**Restrictions**:<br>• The object size in a single upload ranges from 0 to 5 GB.<br>• To upload files larger than 5 GB, refer to **Multipart Upload APIs (SDK for Node.js)**.<br>• **Body** and **SourceFile** cannot be used together.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| SourceFile | string | No | **Explanation:**<br>Source file path of the object to be uploaded<br>**Restrictions**:<br>• The content size in a single upload ranges from 0 to 5 GB.<br>• **Body** and **SourceFile** cannot be used together.<br>• **Offset** and **SourceFile** are used together to specify what data is uploaded from the source file.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| Offset | number | No | **Explanation:**<br>Start offset of a part in the source file.<br>**Restrictions**:<br>**Offset** and **SourceFile** are used together to specify what data is uploaded from the source file.<br>**Value range**:<br>A non-negative integer smaller than the size of the object to be uploaded, in bytes<br>**Default value**:<br>0 |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ProgressCallback | function | No | **Explanation:**<br>Callback function for obtaining the upload progress<br>**Restrictions**:<br>None<br>**Value range**:<br>None<br>**Default value**:<br>None<br>**NOTE**<br>This callback function contains the following parameters in sequence: number of uploaded bytes, total bytes, and used time (in seconds). |
| ContentMD5 | string | No | **Explanation:**<br>Base64-encoded MD5 value of the data to be uploaded. It is used for the OBS server to verify data integrity.<br>**Restrictions**:<br>Base64-encoded, 128-bit MD5 value of the request body.<br>**Value range**:<br>Base64-encoded, 128-bit MD5 value of the request body calculated based on the RFC 1864 standard.<br>Example: **n58IG6hfM7vqI4K0vnWpog==**<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| WebsiteRedirect-Location | string | No | **Explanation:**<br>If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.<br>The request is redirected to object **anotherPage.html** in the same bucket:<br>WebsiteRedirectLocation:/anotherPage.html<br>The request is redirected to an external URL:<br>WebsiteRedirectLocation:http://www.example.com/<br>OBS obtains the specified value from the header and stores it in the object metadata **WebsiteRedirectLocation**.<br>**Restrictions**:<br>• The value must start with a slash (/), **http://**, or **https://** and cannot exceed 2 KB.<br>• OBS only supports redirection of objects that are in the root directory.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| ContentType | string | No | **Explanation:**<br>MIME type of the file to be uploaded. MIME type is a standard way of describing a data type and is used by the browser to decide how to display data.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **What Is Content-Type (MIME)? (SDK for Node.js)**<br>**Default value**:<br>If you do not specify **Content-Type** when uploading an object, the SDK determines the object type based on the suffix of the specified object name and automatically assigns a value to **Content-Type**. |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ContentLength | int64 | No | **Explanation:**<br>Size of the object to be uploaded.<br>**Restrictions**:<br>• The object size in a single upload ranges from 0 to 5 GB.<br>• To upload files larger than 5 GB, refer to **Multipart Upload APIs (SDK for Node.js)**.<br>**Value range**:<br>0 GB to 5 GB<br>**Default value**:<br>If this parameter is not specified, the SDK automatically calculates the size of the object. |
| Metadata | object | No | **Explanation:**<br>Custom metadata of the object to be uploaded. You can add a header starting with **x-obs-meta-** in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.<br>**Restrictions**:<br>• The custom metadata cannot exceed 8 KB in total. To measure the size, calculate the sum of bytes of all UTF-8 encoded keys and values.<br>• The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.<br>• Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are required, they must be encoded and decoded in URL or Base64 on the client, because the server does not perform such operations.<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| GrantRead | string | No | **Explanation:**<br>ID (domain_id) of an account the **READ** permission is granted to. The account with the **READ** permission can read the current object and obtain its metadata.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |
| GrantReadAcp | string | No | **Explanation:**<br>ID (domain_id) of an account the **READ_ACP** permission is granted to. The account with the **READ_ACP** permission can read the ACL of the current object.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |
| GrantWriteAcp | string | No | **Explanation:**<br>ID (domain_id) of an account the **WRITE_ACP** permission is granted to. The account with the **WRITE_ACP** permission can modify the ACL of the current object.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| GrantFullControl | string | No | **Explanation:**<br>ID (domain_id) of an account the **FULL_CONTROL** permission is granted to. The account with the **FULL_CONTROL** permission can read the current object, obtain its metadata, and obtain and modify its ACL.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |
| Expires | number | No | **Explanation:**<br>Expiration time of the object (calculated from the latest modification time of the object). Expired objects are automatically deleted.<br>**Restrictions**:<br>• The value cannot be smaller than the number of days that have passed since the object was created. For example, if the object was uploaded 10 days ago, you cannot specify a value less than 10.<br>• This parameter can only be configured when uploading an object.<br>**Value range**:<br>1 to ($2^{63}$ - 1), in days<br>**Default value**:<br>None |

**Table 5-10** AclType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPrivate | private | Private read and write<br>A bucket or object can only be accessed by its owner. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPublicRead | public-read | Public read and private write<br>If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket.<br>If this permission is granted on an object, everyone can obtain the content and metadata of the object. |
| ObsClient.enums.AclPublicReadWrite | public-read-write | Public read and write<br>If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart upload tasks.<br>If this permission is granted on an object, everyone can obtain the content and metadata of the object. |
| ObsClient.enums.AclPublicReadDelivered | public-read-delivered | Public read on a bucket as well as the objects in the bucket.<br>If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions and read the content and metadata of objects in the bucket.<br>**NOTE**<br>**AclPublicReadDelivered** does not apply to objects. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPublicReadWriteDelivered | public-read-write-delivered | Public read and write on a bucket as well as the objects in the bucket.<br>If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart uploads. They can also read the content and metadata of objects in the bucket.<br>**NOTE**<br>**AclPublicReadWriteDelivered** does not apply to objects. |
| ObsClient.enums.AclBucketOwnerFullControl | bucket-owner-full-control | If this permission is granted on an object, only the bucket and object owners have the full control over the object.<br>By default, if you upload an object to a bucket of any other user, the bucket owner does not have the permissions on your object. After you grant this policy to the bucket owner, the bucket owner can have full control over your object. For example, if user A uploads object **x** to user B's bucket, user B does not have the control over object **x**. If user A sets the **bucket-owner-full-control** policy for object **x**, user B then has the control over object **x**. |

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**Table 5-11** StorageClassType

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

## Responses

**Table 5-12** Responses

| Type | Description |
| --- | --- |
| Table 5-13<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 5-13. |

**Table 5-13** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 5-14. |

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| Parameter | Type | Description |
| --- | --- | --- |
| InterfaceResult | Table 5-15 | **Explanation:**<br>Results outputted for a successful call. For details, see **Table 5-15**.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 5-14** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 5-15** PutObjectOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

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| Parameter | Type | Description |
| --- | --- | --- |
| StorageClass | StorageClassType | **Explanation:**<br>Object storage class.<br>**Value range**:<br>• If the storage class of the object is Standard, this parameter is left blank.<br>• See **Table 5-16**. |
| VersionId | string | **Explanation:**<br>Object version. If versioning is enabled for the bucket, the object version ID will be returned. |
| ETag | string | **Explanation:**<br>Base64-encoded, 128-bit MD5 value of an object. It uniquely identifies the content of an object and can be used to check the object integrity. For example, if the ETag is **A** when an object is uploaded and is **B** when the object is downloaded, it indicates that the object content has been changed. The ETag reflects changes to the contents of the object, not its metadata. An object created by an upload or copy operation has a unique ETag. |

**Table 5-16** StorageClassType

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

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## Code Examples: Uploading a Network Stream

Streaming upload uses **stream.Readable** as the data source of objects. This example uploads an object to bucket **examplebucket** using a stream.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function getNetWorkStream() {
  // Define the network stream URL.
  const url = 'https://www.example.com';
  // Import HTTP and HTTPS libraries.
  const http = require('http');
  const https = require('https');
  // Choose the corresponding library based on the URL.
  const request = url.startsWith('http') ? http : https;
  return new Promise((resolve, reject) => {
    request.get(url, res => {
      if (res.statusCode === 200) {
        resolve(res);
      } else {
        reject(res);
      };
    }).on(reject);
  });
};

async function putObject() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the object. example/objectname is used in this example.
      Key: "example/objectname",
      // Specify the network flow.
      Body: await getNetWorkStream()
    };
    // Upload the object using the network stream.
    const result = await obsClient.putObject(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Put object(%s) under the bucket(%s) successful!!", params.Key, params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log("StorageClass:%s, ETag:%s", result.InterfaceResult.StorageClass, result.InterfaceResult.ETag);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
```

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```
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

putObject();
```

## Code Examples: Uploading a File Stream

This example uploads an object to bucket **examplebucket** using a file stream.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function getFileStream() {
  const fs = require('fs');
  // Enter the complete local path of the file to be uploaded.
  // If no local path is specified, the system uploads the file from the local path of the project that the sample program belongs to by default.
  return fs.createReadStream('D:\\localpath\\examplefile.txt');
}

async function putObject() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the object. example/objectname is used in this example.
      Key: "example/objectname",
      // Specify the file stream.
      Body: await getFileStream()
    };
    // Upload the object using the file stream.
    const result = await obsClient.putObject(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Put bucket(%s) successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    }
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
```

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```
  };
};

putObject();
```

# 5.4 Uploading an Object - File-Based (SDK for Node.js)

## Function

This API uploads an object to a bucket.

## Restrictions

- To upload an object, you must be the bucket owner or have the required permission (**obs:object:PutObject** in IAM or **PutObject** in a bucket policy).
- The object size in a single upload ranges from 0 to 5 GB.
- To upload files larger than 5 GB, refer to **Multipart Upload APIs (SDK for Node.js)**.

## Method

```
ObsClient.putObject(params)
```

## Request Parameters

**Table 5-17** List of request parameters

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Bucket | string | Yes | **Explanation:**<br>Bucket name.<br>**Restrictions:**<br>● A bucket name must be unique across all accounts and regions.<br>● A bucket name:<br>– Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.<br>– Cannot be formatted as an IP address.<br>– Cannot start or end with a hyphen (-) or period (.).<br>– Cannot contain two consecutive periods (..), for example, **my..bucket**.<br>– Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, **my-.bucket** or **my.-bucket**.<br>● If you repeatedly create buckets with the same name in the same region, no error will be reported, and the bucket attributes comply with those set in the first creation request.<br>**Value range**:<br>The value can contain 3 to 63 characters.<br>**Default value**:<br>None |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions:**<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ACL | AclType | No | **Explanation:**<br>Access control list (ACL) that can be pre-defined when an object is created.<br>**Restrictions**:<br>None<br>**Value range**:<br>See Table 5-18.<br>**Default value**:<br>None |
| StorageClass | StorageClassType | No | **Explanation:**<br>When creating an object, you can use this header to specify the storage class for the object.<br>**Restrictions**:<br>None<br>**Value range**:<br>See Table 5-19.<br>**Default value**:<br>If this parameter is not specified, the object inherits the storage class of the bucket. |
| Body | string \| stream.Readable | No | **Explanation:**<br>Content of the part to upload, which can be in string or stream.Readable form.<br>**Restrictions**:<br>• The object size in a single upload ranges from 0 to 5 GB.<br>• To upload files larger than 5 GB, refer to Multipart Upload APIs (SDK for Node.js).<br>• **Body** and **SourceFile** cannot be used together.<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| SourceFile | string | No | **Explanation:**<br>Source file path of the object to be uploaded<br>**Restrictions**:<br>• The content size in a single upload ranges from 0 to 5 GB.<br>• **Body** and **SourceFile** cannot be used together.<br>• **Offset** and **SourceFile** are used together to specify what data is uploaded from the source file.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| Offset | number | No | **Explanation:**<br>Start offset of a part in the source file.<br>**Restrictions**:<br>**Offset** and **SourceFile** are used together to specify what data is uploaded from the source file.<br>**Value range**:<br>A non-negative integer smaller than the size of the object to be uploaded, in bytes<br>**Default value**:<br>0 |
| ProgressCallback | function | No | **Explanation:**<br>Callback function for obtaining the upload progress<br>**Restrictions**:<br>None<br>**Value range**:<br>None<br>**Default value**:<br>None<br>**NOTE**<br>This callback function contains the following parameters in sequence: number of uploaded bytes, total bytes, and used time (in seconds). |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ContentMD5 | string | No | **Explanation:**<br>Base64-encoded MD5 value of the data to be uploaded. It is used for the OBS server to verify data integrity.<br>**Restrictions**:<br>Base64-encoded, 128-bit MD5 value of the request body.<br>**Value range**:<br>Base64-encoded, 128-bit MD5 value of the request body calculated based on the RFC 1864 standard.<br>Example: **n58IG6hfM7vqI4K0vnWpog==**<br>**Default value**:<br>None |
| WebsiteRedirect-Location | string | No | **Explanation:**<br>If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.<br>The request is redirected to object **anotherPage.html** in the same bucket:<br>WebsiteRedirectLocation:/anotherPage.html<br>The request is redirected to an external URL:<br>WebsiteRedirectLocation:http://www.example.com/<br>OBS obtains the specified value from the header and stores it in the object metadata **WebsiteRedirectLocation**.<br>**Restrictions**:<br>● The value must start with a slash (/), **http://**, or **https://** and cannot exceed 2 KB.<br>● OBS only supports redirection of objects that are in the root directory.<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ContentType | string | No | **Explanation:**<br>MIME type of the file to be uploaded. MIME type is a standard way of describing a data type and is used by the browser to decide how to display data.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **What Is Content-Type (MIME)? (SDK for Node.js)**<br>**Default value**:<br>If you do not specify **Content-Type** when uploading an object, the SDK determines the object type based on the suffix of the specified object name and automatically assigns a value to **Content-Type**. |
| ContentLength | int64 | No | **Explanation:**<br>Size of the object to be uploaded.<br>**Restrictions**:<br>• The object size in a single upload ranges from 0 to 5 GB.<br>• To upload files larger than 5 GB, refer to **Multipart Upload APIs (SDK for Node.js)**.<br>**Value range**:<br>0 GB to 5 GB<br>**Default value**:<br>If this parameter is not specified, the SDK automatically calculates the size of the object. |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Metadata | object | No | **Explanation:**<br>Custom metadata of the object to be uploaded. You can add a header starting with **x-obs-meta-** in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.<br>**Restrictions**:<br>• The custom metadata cannot exceed 8 KB in total. To measure the size, calculate the sum of bytes of all UTF-8 encoded keys and values.<br>• The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.<br>• Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are required, they must be encoded and decoded in URL or Base64 on the client, because the server does not perform such operations.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| GrantRead | string | No | **Explanation:**<br>ID (domain_id) of an account the **READ** permission is granted to. The account with the **READ** permission can read the current object and obtain its metadata.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| GrantReadAcp | string | No | **Explanation:**<br>ID (domain_id) of an account the **READ_ACP** permission is granted to. The account with the **READ_ACP** permission can read the ACL of the current object.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |
| GrantWriteAcp | string | No | **Explanation:**<br>ID (domain_id) of an account the **WRITE_ACP** permission is granted to. The account with the **WRITE_ACP** permission can modify the ACL of the current object.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |
| GrantFullControl | string | No | **Explanation:**<br>ID (domain_id) of an account the **FULL_CONTROL** permission is granted to. The account with the **FULL_CONTROL** permission can read the current object, obtain its metadata, and obtain and modify its ACL.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Expires | number | No | **Explanation:**<br>Expiration time of the object (calculated from the latest modification time of the object). Expired objects are automatically deleted.<br>**Restrictions**:<br>• The value cannot be smaller than the number of days that have passed since the object was created. For example, if the object was uploaded 10 days ago, you cannot specify a value less than 10.<br>• This parameter can only be configured when uploading an object.<br>**Value range**:<br>1 to ($2^{63}$ - 1), in days<br>**Default value**:<br>None |

**Table 5-18** AclType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPrivate | private | Private read and write<br>A bucket or object can only be accessed by its owner. |
| ObsClient.enums.AclPublicRead | public-read | Public read and private write<br>If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket.<br>If this permission is granted on an object, everyone can obtain the content and metadata of the object. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPublicReadWrite | public-read-write | Public read and write<br>If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart upload tasks.<br>If this permission is granted on an object, everyone can obtain the content and metadata of the object. |
| ObsClient.enums.AclPublicReadDelivered | public-read-delivered | Public read on a bucket as well as the objects in the bucket.<br>If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions and read the content and metadata of objects in the bucket.<br>**NOTE**<br>**AclPublicReadDelivered** does not apply to objects. |

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPublicReadWriteDelivered | public-read-write-delivered | Public read and write on a bucket as well as the objects in the bucket.<br>If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart uploads. They can also read the content and metadata of objects in the bucket.<br>**NOTE**<br>**AclPublicReadWriteDelivered** does not apply to objects. |
| ObsClient.enums.AclBucketOwnerFullControl | bucket-owner-full-control | If this permission is granted on an object, only the bucket and object owners have the full control over the object.<br>By default, if you upload an object to a bucket of any other user, the bucket owner does not have the permissions on your object. After you grant this policy to the bucket owner, the bucket owner can have full control over your object. For example, if user A uploads object **x** to user B's bucket, user B does not have the control over object **x**. If user A sets the **bucket-owner-full-control** policy for object **x**, user B then has the control over object **x**. |

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**Table 5-19** StorageClassType

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

## Responses

**Table 5-20** Responses

| Type | Description |
| --- | --- |
| Table 5-21<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 5-21. |

**Table 5-21** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 5-22. |

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| Parameter | Type | Description |
| --- | --- | --- |
| InterfaceResult | Table 5-23 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 5-23.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 5-22** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 5-23** PutObjectOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

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| Parameter | Type | Description |
| --- | --- | --- |
| StorageClass | StorageClassType | **Explanation:**<br>Object storage class.<br>**Value range**:<br>• If the storage class of the object is Standard, this parameter is left blank.<br>• See **Table 5-24**. |
| VersionId | string | **Explanation:**<br>Object version. If versioning is enabled for the bucket, the object version ID will be returned. |
| ETag | string | **Explanation:**<br>Base64-encoded, 128-bit MD5 value of an object. It uniquely identifies the content of an object and can be used to check the object integrity. For example, if the ETag is **A** when an object is uploaded and is **B** when the object is downloaded, it indicates that the object content has been changed. The ETag reflects changes to the contents of the object, not its metadata. An object created by an upload or copy operation has a unique ETag. |

**Table 5-24** StorageClassType

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

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## Code Examples

File-based upload uses local files as data sources. This example uploads a file to bucket **examplebucket**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function putObject() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the object. example/objectname is used in this example.
      Key: "example/objectname",
      // localfile indicates the path of the local file to be uploaded, which must include the file name.
      SourceFile : 'localfile'
    };
    // Upload the file.
    const result = await obsClient.putObject(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Put bucket(%s) successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

putObject();
```

# 5.5 Creating a Folder (SDK for Node.js)

## Function

This API uploads a folder object to a bucket to make it easy to manage data stored in the bucket.

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## Restrictions

- To upload an object, you must be the bucket owner or have the required permission (**obs:object:PutObject** in IAM or **PutObject** in a bucket policy).
- To create a folder in OBS is to create an object whose size is 0 and whose name ends with a slash (/).

## Method

```
ObsClient.putObject(params)
```

## Request Parameters

**Table 5-25** List of request parameters

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

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| ACL | **AclType** | No | **Explanation:**<br>Access control list (ACL) that can be pre-defined when an object is created.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Table 5-26**.<br>**Default value**:<br>None |
| StorageClass | **StorageClassType** | No | **Explanation:**<br>When creating an object, you can use this header to specify the storage class for the object.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Table 5-27**.<br>**Default value**:<br>If this parameter is not specified, the object inherits the storage class of the bucket. |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Body | string \| stream.Readable | No | **Explanation:**<br>Content of the part to upload, which can be in string or stream.Readable form.<br>**Restrictions**:<br>• The object size in a single upload ranges from 0 to 5 GB.<br>• To upload files larger than 5 GB, refer to **Multipart Upload APIs (SDK for Node.js)**.<br>• **Body** and **SourceFile** cannot be used together.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| SourceFile | string | No | **Explanation:**<br>Source file path of the object to be uploaded<br>**Restrictions**:<br>• The content size in a single upload ranges from 0 to 5 GB.<br>• **Body** and **SourceFile** cannot be used together.<br>• **Offset** and **SourceFile** are used together to specify what data is uploaded from the source file.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| Offset | number | No | **Explanation:**<br>Start offset of a part in the source file.<br>**Restrictions**:<br>**Offset** and **SourceFile** are used together to specify what data is uploaded from the source file.<br>**Value range**:<br>A non-negative integer smaller than the size of the object to be uploaded, in bytes<br>**Default value**:<br>0 |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ProgressCallback | function | No | **Explanation:**<br>Callback function for obtaining the upload progress<br>**Restrictions**:<br>None<br>**Value range**:<br>None<br>**Default value**:<br>None<br>**NOTE**<br>This callback function contains the following parameters in sequence: number of uploaded bytes, total bytes, and used time (in seconds). |
| ContentMD5 | string | No | **Explanation:**<br>Base64-encoded MD5 value of the data to be uploaded. It is used for the OBS server to verify data integrity.<br>**Restrictions**:<br>Base64-encoded, 128-bit MD5 value of the request body.<br>**Value range**:<br>Base64-encoded, 128-bit MD5 value of the request body calculated based on the RFC 1864 standard.<br>Example: **n58IG6hfM7vqI4K0vnWpog==**<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| WebsiteRedirect-Location | string | No | **Explanation:**<br>If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.<br>The request is redirected to object **anotherPage.html** in the same bucket:<br>WebsiteRedirectLocation:/anotherPage.html<br>The request is redirected to an external URL:<br>WebsiteRedirectLocation:http://www.example.com/<br>OBS obtains the specified value from the header and stores it in the object metadata **WebsiteRedirectLocation**.<br>**Restrictions**:<br>• The value must start with a slash (/), **http://**, or **https://** and cannot exceed 2 KB.<br>• OBS only supports redirection of objects that are in the root directory.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| ContentType | string | No | **Explanation:**<br>MIME type of the file to be uploaded. MIME type is a standard way of describing a data type and is used by the browser to decide how to display data.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **What Is Content-Type (MIME)? (SDK for Node.js)**<br>**Default value**:<br>If you do not specify this parameter when uploading an object, the SDK determines the object type based on the suffix of the specified object name and automatically assigns a value to this parameter. |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ContentLength | int64 | No | **Explanation:**<br>Size of the object to be uploaded.<br>**Restrictions**:<br>• The object size in a single upload ranges from 0 to 5 GB.<br>• To upload files larger than 5 GB, refer to **Multipart Upload APIs (SDK for Node.js)**.<br>**Value range**:<br>0 GB to 5 GB<br>**Default value**:<br>If this parameter is not specified, the SDK automatically calculates the size of the object. |
| Metadata | object | No | **Explanation:**<br>Custom metadata of the object to be uploaded. You can add a header starting with **x-obs-meta-** in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.<br>**Restrictions**:<br>• The custom metadata cannot exceed 8 KB in total. To measure the size, calculate the sum of bytes of all UTF-8 encoded keys and values.<br>• The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.<br>• Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are required, they must be encoded and decoded in URL or Base64 on the client, because the server does not perform such operations.<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| GrantRead | string | No | **Explanation:**<br>ID (domain_id) of an account the **READ** permission is granted to. The account with the **READ** permission can read the current object and obtain its metadata.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |
| GrantReadAcp | string | No | **Explanation:**<br>ID (domain_id) of an account the **READ_ACP** permission is granted to. The account with the **READ_ACP** permission can read the ACL of the current object.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |
| GrantWriteAcp | string | No | **Explanation:**<br>ID (domain_id) of an account the **WRITE_ACP** permission is granted to. The account with the **WRITE_ACP** permission can modify the ACL of the current object.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| GrantFullControl | string | No | **Explanation:**<br>ID (domain_id) of an account the **FULL_CONTROL** permission is granted to. The account with the **FULL_CONTROL** permission can read the current object, obtain its metadata, and obtain and modify its ACL.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |
| Expires | number | No | **Explanation:**<br>Expiration time of the object (calculated from the latest modification time of the object). Expired objects are automatically deleted.<br>**Restrictions**:<br>• The value cannot be smaller than the number of days that have passed since the object was created. For example, if the object was uploaded 10 days ago, you cannot specify a value less than 10.<br>• This parameter can only be configured when uploading an object.<br>**Value range**:<br>1 to ($2^{63}$ - 1), in days<br>**Default value**:<br>None |

**Table 5-26** AclType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPrivate | private | Private read and write<br>A bucket or object can only be accessed by its owner. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPublicRead | public-read | Public read and private write<br>If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket.<br>If this permission is granted on an object, everyone can obtain the content and metadata of the object. |
| ObsClient.enums.AclPublicReadWrite | public-read-write | Public read and write<br>If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart upload tasks.<br>If this permission is granted on an object, everyone can obtain the content and metadata of the object. |
| ObsClient.enums.AclPublicReadDelivered | public-read-delivered | Public read on a bucket as well as the objects in the bucket.<br>If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions and read the content and metadata of objects in the bucket.<br>**NOTE**<br>**AclPublicReadDelivered** does not apply to objects. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPublicReadWriteDelivered | public-read-write-delivered | Public read and write on a bucket as well as the objects in the bucket.<br>If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart uploads. They can also read the content and metadata of objects in the bucket.<br>**NOTE**<br>**AclPublicReadWriteDelivered** does not apply to objects. |
| ObsClient.enums.AclBucketOwnerFullControl | bucket-owner-full-control | If this permission is granted on an object, only the bucket and object owners have the full control over the object.<br>By default, if you upload an object to a bucket of any other user, the bucket owner does not have the permissions on your object. After you grant this policy to the bucket owner, the bucket owner can have full control over your object. For example, if user A uploads object **x** to user B's bucket, user B does not have the control over object **x**. If user A sets the **bucket-owner-full-control** policy for object **x**, user B then has the control over object **x**. |

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**Table 5-27** StorageClassType

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

## Responses

**Table 5-28** Responses

| Type | Description |
| --- | --- |
| Table 5-29<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 5-29. |

**Table 5-29** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 5-30. |

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| Parameter | Type | Description |
| --- | --- | --- |
| InterfaceResult | Table 5-31 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 5-31.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 5-30** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 5-31** PutObjectOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

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| Parameter | Type | Description |
| --- | --- | --- |
| StorageClass | StorageClassType | **Explanation:**<br>Object storage class.<br>**Value range**:<br>• If the storage class of the object is Standard, this parameter is left blank.<br>• See **Table 5-32**. |
| VersionId | string | **Explanation:**<br>Object version. If versioning is enabled for the bucket, the object version ID will be returned. |
| ETag | string | **Explanation:**<br>Base64-encoded, 128-bit MD5 value of an object. It uniquely identifies the content of an object and can be used to check the object integrity. For example, if the ETag is **A** when an object is uploaded and is **B** when the object is downloaded, it indicates that the object content has been changed. The ETag reflects changes to the contents of the object, not its metadata. An object created by an upload or copy operation has a unique ETag.<br>**Restrictions**:<br>If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object. |
| SseKms | string | **Explanation:**<br>SSE-KMS is used for encrypting objects on the server side. |
| SseKmsKey | string | **Explanation:**<br>ID of the KMS master key when SSE-KMS is used. |
| SseC | string | **Explanation:**<br>SSE-C is used for encrypting objects on the server side. |

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| Parameter | Type | Description |
| --- | --- | --- |
| SseCKeyMd5 | string | **Explanation:**<br>MD5 value of the key used for encrypting objects when SSE-C is used. This value is used to check whether any error occurs during the transmission of the key.<br>**Restrictions**:<br>Base64-encoded MD5 value of the key, for example, **4XvB3tbNTN+tIEVa0/fGaQ==** |

**Table 5-32** StorageClassType

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

## Code Examples

All elements stored in OBS buckets are called objects. A folder in OBS is essentially an object with a size of 0 and a name ending with a slash (/). You can perform download, delete, or other operations on folder objects just like on regular objects. This example creates a folder object named **parent_directory**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
```

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```
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function putObject() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify a folder (parent_directory in this example).
      Key: "parent_directory/",
    };
    // Create a folder object.
    const result = await obsClient.putObject(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Put bucket(%s) successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

putObject();
```

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.

# 5.6 Configuring Object Metadata (SDK for Node.js)

## Function

Object metadata contains a set of name-value pairs that are used for describing and managing objects.

Currently, only the system-defined metadata is supported. System-defined metadata consists of system-controlled metadata and user-controlled metadata.

This API sends a HEAD request for obtaining object metadata.

## Restrictions

- To obtain object metadata, you must be the bucket owner or have the required permission (**obs:object:GetObject** in IAM or **GetObject** in a bucket policy).
- Users with the READ permission for objects can send HEAD requests to retrieve object metadata, which is included in the response.

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## Method

```
ObsClient.setObjectMetadata(params)
```

## Request Parameters

**Table 5-33** List of request parameters

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

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| MetadataDirective | MetadataDirectiveType | Yes | **Explanation:**<br>Policy for copying the source object's attributes<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Table 5-39**.<br>**Default value**:<br>None |
| VersionId | string | No | **Explanation:**<br>Object version. Example: **G001117FCE89978B0000401205D5DC9A**<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| CacheControl | string | No | **Explanation:**<br>**Cache-Control** header in the response. It specifies the cache behavior of the web page when an object is downloaded.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Cache-Control values defined in HTTP.<br>**Default value**:<br>None |
| ContentDisposition | string | No | **Explanation:**<br>**Content-Disposition** header in the response. It specifies the name of an object when it is downloaded.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Disposition values defined in HTTP.<br>**Default value**:<br>None |
| ContentEncoding | string | No | **Explanation:**<br>**Content-Encoding** header in the response. It specifies the content encoding format when an object is downloaded.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Encoding values defined in HTTP.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ContentLanguage | string | No | **Explanation:**<br>**Content-Language** header in the response. It specifies what language the object content is in when being downloaded.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Language values defined in HTTP.<br>**Default value**:<br>None |
| ContentType | string | No | **Explanation:**<br>**Content-Type** header in the response. It specifies the file type of an object when it is downloaded.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **What Is Content-Type (MIME)? (SDK for Node.js)**<br>**Default value**:<br>None |
| Expires | string | No | **Explanation:**<br>**Expires** header in the response. It specifies the cache expiration time of the web page when the object is downloaded.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Expires values defined in HTTP.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| WebsiteRedirectLocation | string | No | **Explanation:**<br>If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.<br>The request is redirected to object **anotherPage.html** in the same bucket:<br>WebsiteRedirectLocation:/anotherPage.html<br>The request is redirected to an external URL:<br>WebsiteRedirectLocation:http://www.example.com/<br>OBS obtains the specified value from the header and stores it in the object metadata **WebsiteRedirectLocation**.<br>**Restrictions**:<br>• The value must start with a slash (/), **http://**, or **https://** and cannot exceed 2 KB.<br>• OBS only supports redirection of objects that are in the root directory.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| StorageClass | **StorageClassType** | No | **Explanation:**<br>Storage class of the object.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Table 5-34**.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Metadata | object | No | **Explanation:**<br>Custom metadata of the object. You can add a header starting with **x-obs-meta-** in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.<br>**Restrictions**:<br>• The custom metadata cannot exceed 8 KB in total. To measure the size, calculate the sum of bytes of all UTF-8 encoded keys and values.<br>• The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.<br>• Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are required, they must be encoded and decoded in URL or Base64 on the client, because the server does not perform such operations.<br>**Value range**:<br>None<br>**Default value**:<br>None |

**Table 5-34** StorageClassType

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

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.StorageClassWarm | WARM | Warm storage class.<br>Used for storing data that is semi-frequently accessed (fewer than 12 times a year) but becomes instantly available when needed. |
| ObsClient.enums.StorageClassCold | COLD | Cold storage class.<br>Used for storing rarely accessed (once a year) data. |

## Responses

**Table 5-35** Responses

| Type | Description |
| --- | --- |
| Table 5-36<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 5-36. |

**Table 5-36** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 5-37. |
| InterfaceResult | Table 5-38 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 5-38.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 5-37** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |

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| | | |
|---|---|---|
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 5-38** SetObjectMetadataOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |
| MetadataDirective | **Metadata Directive Type** | **Explanation:**<br>Policy for copying the source object's attributes<br>**Value range**:<br>See **Table 5-39**. |
| CacheControl | string | **Explanation:**<br>**Cache-Control** header in the response. It specifies the cache behavior of the web page when an object is downloaded. |
| ContentDisposition | string | **Explanation:**<br>**Content-Disposition** header in the response. It specifies the name of an object when it is downloaded. |

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| Parameter | Type | Description |
| --- | --- | --- |
| ContentEncoding | string | **Explanation:**<br>**Content-Encoding** header in the response. It specifies how the object is encoded when being downloaded. |
| ContentLanguage | string | **Explanation:**<br>**Content-Language** header in the response. It specifies what language the object content is in when being downloaded. |
| ContentType | string | **Explanation:**<br>**Content-Type** header in the response. It specifies the file type of an object when it is downloaded. |
| Expires | string | **Explanation:**<br>**Expires** header in the response. It specifies the cache expiration time of the web page when the object is downloaded. |
| WebsiteRedirectLocation | string | **Explanation:**<br>If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.<br>The request is redirected to object **anotherPage.html** in the same bucket:<br>WebsiteRedirectLocation:/anotherPage.html<br>The request is redirected to an external URL:<br>WebsiteRedirectLocation:http://www.example.com/<br>OBS obtains the specified value from the header and stores it in the object metadata **WebsiteRedirectLocation**.<br>**Restrictions**:<br>• The value must start with a slash (/), **http://**, or **https://** and cannot exceed 2 KB.<br>• OBS only supports redirection of objects that are in the root directory. |

| Parameter | Type | Description |
| --- | --- | --- |
| StorageClass | StorageClassType | **Explanation:**<br>Storage class configured when copying the object. If this parameter is not specified, the object inherits the storage class of the bucket.<br>**Value range**:<br>See **Table 5-40**. |
| Metadata | object | **Explanation:**<br>Custom metadata of the object. You can add a header starting with **x-obs-meta-** in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.<br>**Restrictions**:<br>• The custom metadata cannot exceed 8 KB in total. To measure the size, calculate the sum of bytes of all UTF-8 encoded keys and values.<br>• The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.<br>• Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are required, they must be encoded and decoded in URL or Base64 on the client, because the server does not perform such operations. |

**Table 5-39** MetadataDirectiveType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.CopyMetadata | COPY | When copying an object, the object's attributes are also copied.<br>**NOTICE**<br>This value is used only in the API for **Copying an Object (SDK for Node.js)**. |
| ObsClient.enums.ReplaceMetadata | REPLACE | **REPLACE** uses the complete header carried in the current request to replace the original one and deletes the metadata that is not specified. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.ReplaceNewMetadata | REPLACE_NEW | **REPLACE_NEW** replaces the metadata that already has a value, assigns a value to the metadata that does not have a value, and retains the metadata that is not specified.<br>**NOTICE**<br>This value is used only in the API for **Configuring Object Metadata (SDK for Node.js)**. |

**Table 5-40** StorageClassType

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

## Code Examples

This example configures metadata for object **example/objectname** in bucket **examplebucket**. The MIME type of the object is set to image/jpeg, the storage class is set to , and custom metadata is also configured for the object.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
```

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```
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function setObjectMetadata() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify an object. example/objectname is used in this example.
      Key: "example/objectname",
      // Specify a MIME type (image/jpeg in this example) for the object.
      ContentType: "image/jpeg",
      // Specify a storage class (obsClient.enums.StorageClassCold in this example) for the object.
      StorageClass: obsClient.enums.StorageClassCold,
      // Specify custom metadata.
      Metadata: { "property1": "property-value1", "property2": "property-value2" }
    };
    // Configure the metadata for the object.
    const result = await obsClient.setObjectMetadata(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Set Object(%s)'s metadata successful with bucket(%s)!", params.Key, params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

setObjectMetadata();
```

# 5.7 Configuring a Lifecycle Rule When Uploading an Object (SDK for Node.js)

## Function

When uploading an object or initiating a multipart upload, you can set an expiration time for the object using **Expires**. This method only supports setting the object expiration time in days, and the expired objects will be automatically deleted by OBS, with a higher priority than bucket lifecycle rules.

## Code Examples: Uploading an Object

When uploading an object, you can specify when it expires after being created.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');
```

```
// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function putObject() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify an object (example/objectname in this example).
      Key: "example/objectname",
      // localfile indicates the path of the local file to be uploaded, which must include the file name.
      SourceFile : 'localfile',
      // Specify how many days can pass before the object expires (30 in this example).
      Expires : 30
    };
    // Upload a file.
    const result = await obsClient.putObject(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Put bucket(%s) successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

putObject()
```

## Code Examples: Initiating a Multipart Upload

When initiating a multipart upload, you can specify when the object expires after it is created.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to
```

```
use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function initiateMultipartUpload() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify an object (example/objectname in this example).
      Key: "example/objectname",
      // Specify how many days can pass before the object expires (30 in this example).
      Expires : 30
    };
    // Initiate the multipart upload.
    const result = await obsClient.initiateMultipartUpload(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Initiate multipart upload successfully with bucket(%s) and object(%s)!", params.Bucket, params.Key);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log("UploadId: %s", result.InterfaceResult.UploadId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

initiateMultipartUpload();
```

# 5.8 Uploading an Object - Append (SDK for Node.js)

## Function

This API uploads a file or folder to an existing OBS bucket. You can upload text, pictures, videos, or any other types of files.

This API adds data to the end of a specified object. If there is no object with the same key found in the bucket, a new object is created.

The latest modification time of the object is updated each time an upload is appended.

## Restrictions

- To upload an object, you must be the bucket owner or have the required permission (**obs:object:PutObject** in IAM or **PutObject** in a bucket policy).
- The name of each object in a bucket must be unique.
- If SSE-C is used for server-side encryption, you must carry request headers such as **x-obs-server-side-encryption** in each append upload.

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- If SSE-KMS is used for server-side encryption, you only need to carry request headers such as **x-obs-server-side-encryption** when you first call this API to upload an object and when there is no existing object with the same name in the bucket.
- The size of each append upload cannot exceed 5 GB.
- The maximum number of append uploads for each appendable object is 10,000.
- If the storage class is , this API cannot be called.
- Objects uploaded using **ObsClient.putObject**, referred to as normal objects, can overwrite objects uploaded using **ObsClient.appendObject**, referred to as appendable objects. Data cannot be appended to an appendable object anymore once the object has been overwritten by a normal object.
- When you upload an object for the first time in appendable mode, an exception will be reported (HTTP status code **409**) if a common object with the same name exists.
- The ETag returned for an appendable upload is the ETag for the uploaded content, rather than that of the whole object.

## Method

```
ObsClient.appendObject(params)
```

## Request Parameters

**Table 5-41** List of request parameters

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

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| Position | number | Yes | **Explanation:**<br>Position where the object data is appended<br>**Restrictions**:<br>For an object to be appended, the value of **position** must be set to **0** when the object is uploaded for the first time. For the second append upload, the value of **position** should be set to the value of **NextAppendPosition** returned in the response when the first upload is successful.<br>**Value range**:<br>0 to ($2^{63}$ – 1), in bytes<br>**Default value**:<br>0 |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Body | string \| stream.Readable | No | **Explanation:**<br>Content of the part to upload, which can be in string or stream.Readable form.<br>**Restrictions**:<br>• The object size in a single upload ranges from 0 to 5 GB.<br>• To upload files larger than 5 GB, refer to **Multipart Upload APIs (SDK for Node.js)**.<br>• **Body** and **SourceFile** cannot be used together.<br>• If both **Body** and **SourceFile** are left blank, the size of the uploaded object is **0** bytes.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| SourceFile | string | No | **Explanation:**<br>Source file path of the object to be uploaded<br>**Restrictions**:<br>• The content size in a single upload ranges from 0 to 5 GB.<br>• **Body** and **SourceFile** cannot be used together.<br>• If both **Body** and **SourceFile** are left blank, the size of the uploaded object is **0** bytes.<br>• **Offset** and **SourceFile** are used together to specify what data is uploaded from the source file.<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Offset | number | No | **Explanation:**<br>Start offset of a part in the source file.<br>**Restrictions**:<br>**Offset** and **SourceFile** are used together to specify what data is uploaded from the source file.<br>**Value range**:<br>A non-negative integer smaller than the size of the object to be uploaded, in bytes<br>**Default value**:<br>0 |
| ProgressCallback | function | No | **Explanation:**<br>Callback function for obtaining the upload progress<br>**NOTE**<br>This callback function contains the following parameters in sequence: number of uploaded bytes, total bytes, and used time (in seconds).<br>**Restrictions**:<br>None<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ContentMD5 | string | No | **Explanation:**<br>Base64-encoded MD5 value of the data to be uploaded. It is used for the OBS server to verify data integrity.<br>**Restrictions**:<br>Base64-encoded, 128-bit MD5 value of the request body.<br>**Value range**:<br>Base64-encoded, 128-bit MD5 value of the request body calculated based on the RFC 1864 standard.<br>Example: **n58IG6hfM7vqI4K0vnWpog==**<br>**Default value**:<br>None |
| ACL | **AclType** | No | **Explanation:**<br>Access control list (ACL) that can be pre-defined when an object is created.<br>**Restrictions**:<br>This parameter can only be configured in the first request for append upload. The configurations specified in the first request will be used in subsequent requests by default.<br>**Value range**:<br>See **Table 5-42**.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| WebsiteRedirectLocation | string | No | **Explanation:**<br>If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.<br>The request is redirected to object **anotherPage.html** in the same bucket:<br>WebsiteRedirectLocation:/anotherPage.html<br>The request is redirected to an external URL:<br>WebsiteRedirectLocation:http://www.example.com/<br>OBS obtains the specified value from the header and stores it in the object metadata **WebsiteRedirectLocation**.<br>**Restrictions**:<br>● This parameter can only be configured in the first request for append upload. The configurations specified in the first request will be used in subsequent requests by default.<br>● The value must start with a slash (/), **http://**, or **https://** and cannot exceed 2 KB.<br>● OBS only supports redirection of objects that are in the root directory.<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ContentType | string | No | **Explanation:**<br>MIME type of the file to be uploaded. MIME type is a standard way of describing a data type and is used by the browser to decide how to display data.<br>**Restrictions**:<br>This parameter can only be configured in the first request for append upload. The configurations specified in the first request will be used in subsequent requests by default.<br>**Value range**:<br>See **What Is Content-Type (MIME)? (SDK for Node.js)**<br>**Default value**:<br>If you do not specify this parameter when uploading an object, the SDK determines the object type based on the suffix of the specified object name and automatically assigns a value to this parameter. |
| ContentLength | int64 | No | **Explanation:**<br>Size of the object to be uploaded.<br>**Restrictions**:<br>• The object size in a single upload ranges from 0 to 5 GB.<br>• To upload files larger than 5 GB, refer to **Multipart Upload APIs (SDK for Node.js)**.<br>**Value range**:<br>0 GB to 5 GB<br>**Default value**:<br>If this parameter is not specified, the SDK automatically calculates the size of the object. |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| StorageClass | StorageClassType | No | **Explanation:**<br>When creating an object, you can use this header to specify the storage class for the object.<br>**Restrictions**:<br>None<br>**Value range**:<br>See Table 5-43.<br>**Default value**:<br>If this parameter is not specified, the object inherits the storage class of the bucket. |

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Metadata | object | No | **Explanation:**<br>Custom metadata of the object to be uploaded. You can add a header starting with **x-obs-meta-** in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.<br>**Restrictions**:<br>● This parameter is valid only for the first append upload.<br>● The custom metadata cannot exceed 8 KB in total. To measure the size, calculate the sum of bytes of all UTF-8 encoded keys and values.<br>● The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.<br>● Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are required, they must be encoded and decoded in URL or Base64 on the client, because the server does not perform such operations.<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| GrantRead | string | No | **Explanation:**<br>ID (domain_id) of an account the **READ** permission is granted to. The account with the **READ** permission can read the current object and obtain its metadata.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |
| GrantReadAcp | string | No | **Explanation:**<br>ID (domain_id) of an account the **READ_ACP** permission is granted to. The account with the **READ_ACP** permission can read the ACL of the current object.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| GrantWriteAcp | string | No | **Explanation:**<br>ID (domain_id) of an account the **WRITE_ACP** permission is granted to. The account with the **WRITE_ACP** permission can modify the ACL of the current object.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |
| GrantFullControl | string | No | **Explanation:**<br>ID (domain_id) of an account the **FULL_CONTROL** permission is granted to. The account with the **FULL_CONTROL** permission can read the current object, obtain its metadata, and obtain and modify its ACL.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Expires | number | No | **Explanation:**<br>Expiration time of the object (calculated from the latest modification time of the object). Expired objects are automatically deleted.<br>**Restrictions**:<br>• The value cannot be smaller than the number of days that have passed since the object was created. For example, if the object was uploaded 10 days ago, you cannot specify a value less than 10.<br>• This parameter can only be configured when uploading an object.<br>**Value range**:<br>1 to ($2^{63}$ - 1), in days<br>**Default value**:<br>None |

**Table 5-42** AclType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPrivate | private | Private read and write<br>A bucket or object can only be accessed by its owner. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPublicRead | public-read | Public read and private write<br>If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket.<br>If this permission is granted on an object, everyone can obtain the content and metadata of the object. |
| ObsClient.enums.AclPublicReadWrite | public-read-write | Public read and write<br>If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart upload tasks.<br>If this permission is granted on an object, everyone can obtain the content and metadata of the object. |
| ObsClient.enums.AclPublicReadDelivered | public-read-delivered | Public read on a bucket as well as the objects in the bucket.<br>If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions and read the content and metadata of objects in the bucket.<br>**NOTE**<br>**AclPublicReadDelivered** does not apply to objects. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPublicReadWriteDelivered | public-read-write-delivered | Public read and write on a bucket as well as the objects in the bucket.<br>If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart uploads. They can also read the content and metadata of objects in the bucket.<br>**NOTE**<br>**AclPublicReadWriteDelivered** does not apply to objects. |
| ObsClient.enums.AclBucketOwnerFullControl | bucket-owner-full-control | If this permission is granted on an object, only the bucket and object owners have the full control over the object.<br>By default, if you upload an object to a bucket of any other user, the bucket owner does not have the permissions on your object. After you grant this policy to the bucket owner, the bucket owner can have full control over your object. For example, if user A uploads object **x** to user B's bucket, user B does not have the control over object **x**. If user A sets the **bucket-owner-full-control** policy for object **x**, user B then has the control over object **x**. |

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**Table 5-43** StorageClassType

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

## Responses

**Table 5-44** Responses

| Type | Description |
| --- | --- |
| Table 5-45<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 5-45. |

**Table 5-45** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 5-46. |

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| Parameter | Type | Description |
| --- | --- | --- |
| InterfaceResult | Table 5-47 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 5-47.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 5-46** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 5-47** AppendObjectOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

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| Parameter | Type | Description |
| --- | --- | --- |
| VersionId | string | **Explanation:**<br>Object version. If versioning is enabled for the bucket, the object version ID will be returned. |
| ETag | string | **Explanation:**<br>Base64-encoded, 128-bit MD5 value of an object. It uniquely identifies the content of an object and can be used to check the object integrity. For example, if the ETag is **A** when an object is uploaded and is **B** when the object is downloaded, it indicates that the object content has been changed. The ETag reflects changes to the contents of the object, not its metadata. An object created by an upload or copy operation has a unique ETag.<br>**Restrictions**:<br>If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object. |
| NextAppendPosition | int64 | **Explanation:**<br>Position from which the next append upload starts<br>**Restrictions**:<br>For an object to be appended, the value of **position** must be set to **0** when the object is uploaded for the first time. For the second append upload, the value of **position** should be set to the value of **NextAppendPosition** returned in the response when the first upload is successful. You can also call **ObsClient.getObjectMetadata** to obtain the value of **NextAppendPosition**. |

## Code Examples

You can call **ObsClient.appendObject** to upload an object and append content to it. This example uses object **example/objectname** and bucket **examplebucket**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
```

```
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function appendObject() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the object (example/objectname in this example).
      Key: "example/objectname",
      // Specify the position where content is appended. For the first upload, set Position to 0. For the subsequent appends, specify the actual position.
      Position: 0,
      // Specify the data stream of the object to upload.
      Body: strings.NewReader("Hello OBS"),
    };
    // Upload the object using the append method.
    const result = await obsClient.appendObject(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Append object(%s) under the bucket(%s) successful!", params.Key, params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log("ETag: %s, NextAppendPosition:%d", result.InterfaceResult.ETag, result.InterfaceResult.NextAppendPosition);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

appendObject();
```

# 5.9 Uploading an Object - Resumable (SDK for Node.js)

## Function

The resumable upload is an encapsulated and enhanced version of **the multipart upload** used for dealing with possible upload failures of large files when the network connection is unstable or a program crashes.

Uploading large files often fails due to poor network conditions or program breakdowns. It is a waste of resources to restart the upload process upon an upload failure, and the restarted upload process may still suffer from the unstable network. To resolve such issues, you can use the API for resumable upload, whose working principle is to divide the to-be-uploaded file into multiple parts and upload them separately. The upload result of each part is recorded in a checkpoint

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file in real time. Only when all parts are successfully uploaded, the result indicating a successful upload will be returned. Otherwise, an error is returned in callback function to remind you of calling the API again for re-uploading. Based on the upload status of each part recorded in the checkpoint file, the re-uploading will upload the parts failed to be uploaded previously, instead of uploading all parts. By virtue of this, resources are saved and efficiency is improved.

The resumable upload interface helps save resources and improve efficiency by restarting an upload from the point of failure and concurrently uploading parts. You do not need to worry about internal service details, such as the creation and deletion of checkpoint files, division of objects, or concurrent uploads of parts.

## Restrictions

The total size of files uploaded by the resumable upload API must be larger than 100 KB.

## Method

```
ObsClient.uploadFile(params)
```

## Request Parameters

**Table 5-48** List of request parameters

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

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| UploadFile | string | No | **Explanation:**<br>Source file path of the object to be uploaded<br>**Restrictions**:<br>None<br>**Value range**:<br>None<br>**Default value**:<br>None |
| PartSize | number | No | **Explanation:**<br>Size of the current part.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value ranges from 100 KB to 5 GB, in bytes.<br>**Default value**:<br>102400 |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| TaskNum | number | No | **Explanation:**<br>Maximum number of parts that can be uploaded concurrently<br>**Restrictions**:<br>None<br>**Value range**:<br>1~10000<br>**Default value**:<br>1, indicating concurrent uploads are not used |
| ProgressCallback | function | No | **Explanation:**<br>Callback function for obtaining the upload progress<br>**NOTE**<br>This callback function contains the following parameters in sequence: number of uploaded bytes, total bytes, and used time (in seconds).<br>**Restrictions**:<br>None<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ResumeCallback | function | No | **Explanation:**<br>Callback function used to obtain the control parameter for canceling a resumable download<br>**Restrictions**:<br>None<br>**Value range**:<br>None<br>**Default value**:<br>None<br>**NOTE**<br>• This callback function contains a control parameter used for pausing or aborting a resumable upload.<br>• By calling the cancel method of this control parameter, you can pause a resumable upload.<br>• By calling the abort method of this control parameter, you can abort a resumable upload. |
| EnableCheckpoint | boolean | No | **Explanation:**<br>Whether to enable the resumable mode.<br>**Restrictions**:<br>None<br>**Value range**:<br>• **true**: The resumable mode is enabled.<br>• **false**: The resumable mode is disabled. In this case, this API works as a multipart upload API, and no checkpoint files are generated.<br>**Default value**:<br>false |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| CheckpointFile | string | No | **Explanation:**<br>Path of a file generated for recording the progress of a resumable upload. The file contains the information about parts and progress.<br>**Restrictions**:<br>This parameter is valid only in the resumable mode.<br>**Value range**:<br>None<br>**Default value**:<br>If this parameter is left blank, the checkpoint file will be in the same directory as the local file to be uploaded. |
| EnableCheckSum | boolean | No | **Explanation:**<br>Whether to verify the file to upload. If this function is enabled, before each task restarts, the system verifies whether the file to upload is the one used during task initialization.<br>**Restrictions**:<br>This parameter is valid only in the resumable mode.<br>**Value range**:<br>• **true**: The file is verified.<br>• **false**: The file is not verified.<br>**Default value**:<br>false |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ContentType | string | No | **Explanation:**<br>MIME type of the file to be uploaded. MIME type is a standard way of describing a data type and is used by the browser to decide how to display data.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **What Is Content-Type (MIME)? (SDK for Node.js)**<br>**Default value**:<br>If you do not specify this parameter when uploading an object, the SDK determines the object type based on the suffix of the specified object name and automatically assigns a value to this parameter. |
| ACL | **AclType** | No | **Explanation:**<br>Access control list (ACL) that can be pre-defined when an object is created.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Table 5-49**.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| WebsiteRedirect-Location | string | No | **Explanation:**<br>If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.<br>The request is redirected to object **anotherPage.html** in the same bucket:<br>WebsiteRedirectLocation:/anotherPage.html<br>The request is redirected to an external URL:<br>WebsiteRedirectLocation:http://www.example.com/<br>OBS obtains the specified value from the header and stores it in the object metadata **WebsiteRedirectLocation**.<br>**Restrictions**:<br>• The value must start with a slash (/), **http://**, or **https://** and cannot exceed 2 KB.<br>• OBS only supports redirection of objects that are in the root directory.<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Metadata | object | No | **Explanation:**<br>Custom metadata of the object to be uploaded. You can add a header starting with **x-obs-meta-** in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.<br>**Restrictions**:<br>● The custom metadata cannot exceed 8 KB in total. To measure the size, calculate the sum of bytes of all UTF-8 encoded keys and values.<br>● The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.<br>● Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are required, they must be encoded and decoded in URL or Base64 on the client, because the server does not perform such operations.<br>**Value range**:<br>None<br>**Default value**:<br>None |

**Table 5-49** AclType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPrivate | private | Private read and write<br>A bucket or object can only be accessed by its owner. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPublicRead | public-read | Public read and private write<br>If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket.<br>If this permission is granted on an object, everyone can obtain the content and metadata of the object. |
| ObsClient.enums.AclPublicReadWrite | public-read-write | Public read and write<br>If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart upload tasks.<br>If this permission is granted on an object, everyone can obtain the content and metadata of the object. |
| ObsClient.enums.AclPublicReadDelivered | public-read-delivered | Public read on a bucket as well as the objects in the bucket.<br>If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions and read the content and metadata of objects in the bucket.<br>**NOTE**<br>**AclPublicReadDelivered** does not apply to objects. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPublicReadWriteDelivered | public-read-write-delivered | Public read and write on a bucket as well as the objects in the bucket.<br>If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart uploads. They can also read the content and metadata of objects in the bucket.<br>**NOTE**<br>**AclPublicReadWriteDelivered** does not apply to objects. |
| ObsClient.enums.AclBucketOwnerFullControl | bucket-owner-full-control | If this permission is granted on an object, only the bucket and object owners have the full control over the object.<br>By default, if you upload an object to a bucket of any other user, the bucket owner does not have the permissions on your object. After you grant this policy to the bucket owner, the bucket owner can have full control over your object. For example, if user A uploads object **x** to user B's bucket, user B does not have the control over object **x**. If user A sets the **bucket-owner-full-control** policy for object **x**, user B then has the control over object **x**. |

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## Responses

**Table 5-50** Responses

| Type | Description |
| --- | --- |
| Table 5-51<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 5-51. |

**Table 5-51** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 5-52. |
| InterfaceResult | Table 5-53 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 5-53.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 5-52** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |

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| | | |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 5-53** UploadFileOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |
| ETag | string | **Explanation:**<br>Base64-encoded, 128-bit MD5 value of an assembled object calculated based on the ETag of each part. The ETag is a unique identifier for the object's contents, used to determine if the object has been updated. For example, if the ETag value is **A** when an object is uploaded and **B** when the object is downloaded, this indicates the contents of the object have been changed. The ETag reflects changes to an object's contents, not its metadata. Objects created by the upload and copy operations have unique ETags after being encrypted using MD5.<br>**Restrictions**:<br>If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object. |
| Bucket | string | **Explanation:**<br>Name of the bucket in which parts are assembled |
| Key | string | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name. |

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| Parameter | Type | Description |
| --- | --- | --- |
| Location | string | **Explanation:**<br>URL of the object obtained from assembling the parts. |
| VersionId | string | **Explanation:**<br>Version ID of the object obtained from assembling the parts. If versioning is enabled for the bucket, the object version ID will be returned. |

## Code Examples

This example uploads **example/objectname** to **examplebucket** using resumable upload.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function uploadFile() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: 'examplebucket',
      // Specify the object to be created (example/objectname in this example).
      Key: 'example/objectname',
      //Specify the local file to upload (/tmp/objectname in this example).
      UploadFile: 'localfile',
      // Specify whether to enable resumable transmission. Value true is used in this example. The default value is false.
      EnableCheckpoint: true,
      // Specify a part size, in bytes. This example sets each part to 9 MB.
      PartSize: 9 * 1024 * 1024,
      // Specify the maximum number of parts that can be concurrently transmitted. 5 is used in this example.
      TaskNum: 5
    };
    // Upload the object using resumable upload.
    const result = await obsClient.uploadFile(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Upload file(%s) under the bucket(%s) successful!", params.Key, params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log("ETag: %s", result.InterfaceResult.ETag)
      return;
```

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```
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

uploadFile();
```

# 5.10 Uploading an Object - Browser-Based (SDK for Node.js)

## Function

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.createPostSignatureSync** to generate request parameters for a browser-based upload.

**Step 1** Call **ObsClient.createPostSignatureSync** 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**

## Method

```
ObsClient.createPostSignatureSync(params)
```

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## Request Parameters

**Table 5-54** List of request parameters

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

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| Expires | Number | No | **Explanation:**<br>Validity period of authentication for a browser-based upload<br>**Restrictions**:<br>None<br>**Value range**:<br>A positive integer, in seconds<br>**Default value**:<br>300 |
| FormParams | Object | No | **Explanation:**<br>Parameters used for browser-based uploads, excluding **key**, **policy**, and **signature**.<br>**Restrictions**:<br>None<br>**Value range**:<br>• acl<br>• cache-control<br>• content-type<br>• content-disposition<br>• content-encoding<br>• expires<br>**Default value**:<br>None |

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## Responses

**Table 5-55** Responses

| Parameter | Type | Description |
| --- | --- | --- |
| OriginPolicy | String | **Explanation:**<br>**policy** not encoded using Base64. This parameter can only be used for verification. |
| Policy | String | **Explanation:**<br>**policy** in the form. |
| Signature | String | **Explanation:**<br>**signature** in the form. |

## Code Examples

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

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

function createSignedUrlSync() {
  const params = {
    // Specify the bucket name.
    Bucket: "examplebucket",
    // Specify an object (example/objectname in this example).
    Key: "example/objectname",
    // Specify the validity period of the signed URL, in seconds (3600 in this example).
    Expires: 3600,
    // Specify the headers that must be carried in the request.
    FormParams: {
      'x-obs-acl': 'public-read',
      'content-type': 'text/plain'
    }
  };
  // Create a signed URL for uploading an object.
  const res = obsClient.createPostSignatureSync(params);
  console.log("OriginPolicy : %s", res.OriginPolicy);
  console.log("Policy: %s", res.Policy);
```

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```
  console.log("Signature: %v", res.Signature);
};

createSignedUrlSync()
```

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>
```

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# 6 Object Download (SDK for Node.js)

## 6.1 Overview (SDK for Node.js)

OBS Node.js SDK provides abundant APIs for downloading objects in the following modes:

- **Downloading an Object - Text-Based (SDK for Node.js)**
- **Downloading an Object - Streaming (SDK for Node.js)**
- **Downloading an Object - File-Based (SDK for Node.js)**
- **Downloading an Object - Range-Based (SDK for Node.js)**
- **Downloading an Object - Resumable (SDK for Node.js)**

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

## 6.2 Downloading an Object - Text-Based (SDK for Node.js)

### Function

This API downloads an object as text from OBS to your local computer.

### Restrictions

- To download an object, you must be the bucket owner or have the required permission (**obs:object:GetObject** in IAM or **GetObject** in a bucket policy).
- Objects in the storage class can be downloaded only when they are in the **Restored** status.

### Method

```
ObsClient.getObject(params)
```

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## Request Parameters

**Table 6-1** List of request parameters

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

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| VersionId | string | No | **Explanation:**<br>Object version ID. Example: **G001117FCE89978B0000401205D5DC9A**<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |
| SaveAsFile | string | No | **Explanation:**<br>The download path with the file name contained<br>**Restrictions**:<br>A file name must be included in the path, for example, **aa/bb.txt**.<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| SaveAsStream | boolean | No | **Explanation:**<br>Whether the object is returned as a readable stream<br>**Value range**:<br>• **true**: The object is returned as a readable stream.<br>• **false**: The object is not returned as a readable stream.<br>**Default value**:<br>false |
| ProgressCallback | function | No | **Explanation:**<br>Callback function for obtaining the download progress<br>**NOTE**<br>This callback function contains the following parameters in sequence: number of downloaded bytes, total bytes, and used time (unit: second).<br>**Restrictions**:<br>None<br>**Value range**:<br>None<br>**Default value**:<br>None |
| IfMatch | string | No | **Explanation:**<br>Preset ETag. If the ETag of the object to be downloaded is the same as the preset ETag, the object is returned. Otherwise, an error is returned.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| IfModifiedSince | string | No | **Explanation:**<br>If the object was modified after the time specified by this parameter, its content is returned. Otherwise, an error code is returned.<br>**Restrictions**:<br>The value must conform with the HTTP time format specified in http://www.ietf.org/rfc/rfc2616.txt.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| IfNoneMatch | string | No | **Explanation:**<br>Preset ETag. If the ETag of the object to be downloaded is different from the preset ETag, the object is returned. Otherwise, an error is returned.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| IfUnmodifiedSince | string | No | **Explanation:**<br>If the object was modified before the time specified by this parameter, its content is returned. Otherwise, an error code is returned.<br>**Restrictions**:<br>The value must conform with the HTTP time format specified in http://www.ietf.org/rfc/rfc2616.txt.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| Range | string | No | **Explanation:**<br>Download range. For example, **0-999** indicates the range is from byte 1 to byte 1000.<br>**Restrictions**:<br>The maximum length of **Range** is the length of the object minus 1. If the specified value exceeds this limit, the length of the object minus 1 is used.<br>**Value range**:<br>0 to the object length minus 1. Format: **bytes=***x*-*y*<br>**Default value**:<br>None |
| Origin | string | No | **Explanation:**<br>Origin of the cross-domain request specified in the preflight request. It is usually a domain name.<br>**Restrictions**:<br>Each origin can contain at most one wildcard character (*).<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| RequestHeader | string | No | **Explanation:**<br>HTTP headers that can be used in cross-origin requests. Only CORS requests matching the allowed headers are valid.<br>**Restrictions**:<br>Each header can contain only one wildcard character (*). Spaces, ampersands (&), colons (:), less-than signs (<), and full-width characters are not allowed.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| ResponseCacheControl | string | No | **Explanation:**<br>This parameter is used to rewrite the **Cache-Control** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Cache-Control values defined in HTTP.<br>**Default value**:<br>None |
| ResponseContent-Disposition | string | No | **Explanation:**<br>This parameter is used to rewrite the **Content-Disposition** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Disposition values defined in HTTP.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ResponseContentEncoding | string | No | **Explanation:**<br>This parameter is used to rewrite the **Content-Encoding** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Encoding values defined in HTTP.<br>**Default value**:<br>None |
| ResponseContentLanguage | string | No | **Explanation:**<br>This parameter is used to rewrite the **Content-Language** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Language values defined in HTTP.<br>**Default value**:<br>None |
| ResponseContent-Type | string | No | **Explanation:**<br>This parameter is used to rewrite the **Content-Type** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **What Is Content-Type (MIME)? (SDK for Node.js)**<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ResponseExpires | string | No | **Explanation:**<br>This parameter is used to rewrite the **Expires** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Expires values defined in HTTP.<br>**Default value**:<br>None |

NOTE

- If a download request includes **IfUnmodifiedSince** or **IfMatch** but does not meet the conditions specified by these parameters, an exception is thrown with HTTP status code **412 Precondition Failed**.
- If a download request includes **IfModifiedSince** or **IfNoneMatch** but does not meet the conditions specified by these parameters, an exception is thrown with HTTP status code **304 Not Modified**.

## Responses

**Table 6-2** Responses

| Type | Description |
| --- | --- |
| Table 6-3<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see **Table 6-3**. |

**Table 6-3** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see **Table 6-4**. |

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| Parameter | Type | Description |
| --- | --- | --- |
| InterfaceResult | Table 6-5 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 6-5.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 6-4** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 6-5** GetObjectOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

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| Parameter | Type | Description |
| --- | --- | --- |
| DeleteMarker | string | **Explanation:**<br>Whether the deleted object is a delete marker. |
| LastModified | string | **Explanation:**<br>Time when the object was last modified. |
| ContentLength | string | **Explanation:**<br>Object size |
| CacheControl | string | **Explanation:**<br>**Cache-Control** header in the response. |
| ContentDisposition | string | **Explanation:**<br>**Content-Disposition** header in the response |
| ContentEncoding | string | **Explanation:**<br>**Content-Encoding** header in the response |
| ContentLanguage | string | **Explanation:**<br>**Content-Language** header in the response |
| ContentType | string | **Explanation:**<br>MIME type of the object |
| Expires | string | **Explanation:**<br>**Expires** header in the response |
| ETag | string | **Explanation:**<br>ETag of the object. |
| VersionId | string | **Explanation:**<br>Object version |
| WebsiteRedirectLocation | string | **Explanation:**<br>Location where an object is redirected. It is available when website hosting is configured for a bucket. |
| StorageClass | string | **Explanation:**<br>Object storage class. If the storage class is Standard, this parameter is left blank. |
| Restore | string | **Explanation:** |
| Expiration | string | **Explanation:**<br>Expiration details |

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| Parameter | Type | Description |
| --- | --- | --- |
| Content | string \| stream.Readable | **Explanation:**<br>Content of the object. The content is left blank if **SaveAsFile** was specified. The content is a **stream.Readable** object if **SaveAsStream** was set to **true**. The content is a **String** object if neither **SaveAsFile** nor **SaveAsStream** was specified. |
| Metadata | object | **Explanation:**<br>Custom metadata of the object. You need to add in the CORS configurations the additional headers allowed to be carried in the response. For example, you can add the **x-amz-meta-property1** header to allow custom metadata **property1** to be returned. |

## Code Examples

This example downloads object **examplebucket/objectname** as text.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');
// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function getObject() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the object to download (example/objectname in this example).
      Key: 'example/objectname',
    };

    // Download the object as text.
    const result = await obsClient.getObject(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Get object(%s) under the bucket(%s) successful!", params.Key, params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log('Object Content: %s', result.InterfaceResult.Content);
      return;
```

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```
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

getObject();
```

# 6.3 Downloading an Object - Streaming (SDK for Node.js)

## Function

This API downloads an object as a stream from OBS to your local computer.

## Restrictions

- To download an object, you must be the bucket owner or have the required permission (**obs:object:GetObject** in IAM or **GetObject** in a bucket policy).
- Objects in the storage class can be downloaded only when they are in the **Restored** status.

## Method

```
ObsClient.getObject(params)
```

## Request Parameters

**Table 6-6** List of request parameters

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

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| VersionId | string | No | **Explanation:**<br>Object version ID, for example, **G001117FCE89978B0000401205D5DC9A**<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |
| SaveAsFile | string | No | **Explanation:**<br>The download path with the file name contained<br>**Restrictions**:<br>A file name must be included in the path, for example, **aa/bb.txt**.<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| SaveAsStream | boolean | No | **Explanation:**<br>Whether the object is returned as a readable stream<br>**Value range**:<br>• **true**: The object is returned as a readable stream.<br>• **false**: The object is not returned as a readable stream.<br>**Default value**:<br>false |
| ProgressCallback | function | No | **Explanation:**<br>Callback function for obtaining the download progress<br>**NOTE**<br>This callback function contains the following parameters in sequence: number of downloaded bytes, total bytes, and used time (unit: second).<br>**Restrictions**:<br>None<br>**Value range**:<br>None<br>**Default value**:<br>None |
| IfMatch | string | No | **Explanation:**<br>Preset ETag. If the ETag of the object to be downloaded is the same as the preset ETag, the object is returned. Otherwise, an error is returned.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| IfModifiedSince | string | No | **Explanation:**<br>If the object was modified after the time specified by this parameter, its content is returned. Otherwise, an error code is returned.<br>**Restrictions**:<br>The value must conform with the HTTP time format specified in http://www.ietf.org/rfc/rfc2616.txt.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| IfNoneMatch | string | No | **Explanation:**<br>Preset ETag. If the ETag of the object to be downloaded is different from the preset ETag, the object is returned. Otherwise, an error is returned.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| IfUnmodifiedSince | string | No | **Explanation:**<br>If the object was modified before the time specified by this parameter, its content is returned. Otherwise, an error code is returned.<br>**Restrictions**:<br>The value must conform with the HTTP time format specified in http://www.ietf.org/rfc/rfc2616.txt.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| Range | string | No | **Explanation:**<br>Download range. For example, **0-999** indicates the range is from byte 1 to byte 1000.<br>**Restrictions**:<br>The maximum length of **Range** is the length of the object minus 1. If the specified value exceeds this limit, the length of the object minus 1 is used.<br>**Value range**:<br>0 to the object length minus 1. Format: **bytes=***x*-*y*<br>**Default value**:<br>None |
| Origin | string | No | **Explanation:**<br>Origin of the cross-domain request specified in the preflight request. It is usually a domain name.<br>**Restrictions**:<br>Each origin can contain at most one wildcard character (*).<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| RequestHeader | string | No | **Explanation:**<br>HTTP headers that can be used in cross-origin requests. Only CORS requests matching the allowed headers are valid.<br>**Restrictions**:<br>Each header can contain only one wildcard character (*). Spaces, ampersands (&), colons (:), less-than signs (<), and full-width characters are not allowed.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| ResponseCacheControl | string | No | **Explanation:**<br>This parameter is used to rewrite the **Cache-Control** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Cache-Control values defined in HTTP.<br>**Default value**:<br>None |
| ResponseContent-Disposition | string | No | **Explanation:**<br>This parameter is used to rewrite the **Content-Disposition** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Disposition values defined in HTTP.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ResponseContentEncoding | string | No | **Explanation:**<br>This parameter is used to rewrite the **Content-Encoding** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Encoding values defined in HTTP.<br>**Default value**:<br>None |
| ResponseContentLanguage | string | No | **Explanation:**<br>This parameter is used to rewrite the **Content-Language** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Language values defined in HTTP.<br>**Default value**:<br>None |
| ResponseContent-Type | string | No | **Explanation:**<br>This parameter is used to rewrite the **Content-Type** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **What Is Content-Type (MIME)? (SDK for Node.js)**<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ResponseExpires | string | No | **Explanation:**<br>This parameter is used to rewrite the **Expires** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Expires values defined in HTTP.<br>**Default value**:<br>None |

NOTE

- If a download request includes **IfUnmodifiedSince** or **IfMatch** but does not meet the conditions specified by these parameters, an exception is thrown with HTTP status code **412 Precondition Failed**.
- If a download request includes **IfModifiedSince** or **IfNoneMatch** but does not meet the conditions specified by these parameters, an exception is thrown with HTTP status code **304 Not Modified**.

## Responses

**Table 6-7** Responses

| Type | Description |
| --- | --- |
| Table 6-8<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 6-8. |

**Table 6-8** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 6-9. |

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| Parameter | Type | Description |
| --- | --- | --- |
| InterfaceResult | Table 6-10 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 6-10.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 6-9** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 6-10** GetObjectOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

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| Parameter | Type | Description |
| --- | --- | --- |
| DeleteMarker | string | **Explanation:**<br>Whether the deleted object is a delete marker. |
| LastModified | string | **Explanation:**<br>Time when the object was last modified. |
| ContentLength | string | **Explanation:**<br>Object size |
| CacheControl | string | **Explanation:**<br>**Cache-Control** header in the response. |
| ContentDisposition | string | **Explanation:**<br>**Content-Disposition** header in the response |
| ContentEncoding | string | **Explanation:**<br>**Content-Encoding** header in the response |
| ContentLanguage | string | **Explanation:**<br>**Content-Language** header in the response |
| ContentType | string | **Explanation:**<br>MIME type of the object. |
| Expires | string | **Explanation:**<br>**Expires** header in the response |
| ETag | string | **Explanation:**<br>ETag of the object. |
| VersionId | string | **Explanation:**<br>Object version ID |
| WebsiteRedirectLocation | string | **Explanation:**<br>Location where an object is redirected. It is available when website hosting is configured for a bucket. |
| StorageClass | string | **Explanation:**<br>Object storage class. If the storage class is Standard, this parameter is left blank. |
| Restore | string | **Explanation:** |
| Expiration | string | **Explanation:**<br>Expiration details |

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| Parameter | Type | Description |
| --- | --- | --- |
| Content | string \| stream.Readable | **Explanation:**<br>Content of the object. The content is left blank if **SaveAsFile** was specified. The content is a **stream.Readable** object if **SaveAsStream** was set to **true**. The content is a **Buffer** object if neither **SaveAsFile** nor **SaveAsStream** was specified. |
| Metadata | object | **Explanation:**<br>Custom metadata of the object. You need to add in the CORS configurations the additional headers allowed to be carried in the response. For example, you can add the **x-amz-meta-property1** header to allow custom metadata **property1** to be returned. |

## Code Examples

This example downloads object **examplebucket/objectname** using the stream.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function getObject() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the object to download (example/objectname in this example).
      Key: 'example/objectname',
      // Specify that the object is returned as a stream (stream.Readable).
      SaveAsStream: true
    };

    // Download the object using the stream.
    const result = await obsClient.getObject(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Get object(%s) under the bucket(%s) successful!", params.Key, params.Bucket);
```

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```
    console.log("RequestId: %s", result.CommonMsg.RequestId);
    console.log('Object Content:');
    result.InterfaceResult.Content.on('data', (data) => {
      console.log(data.toString());
    });
    return;
  };
  console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
  console.log("Status: %d", result.CommonMsg.Status);
  console.log("Code: %s", result.CommonMsg.Code);
  console.log("Message: %s", result.CommonMsg.Message);
  console.log("RequestId: %s", result.CommonMsg.RequestId);
 } catch (error) {
  console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
  console.log(error);
 };
};

getObject();
```

# 6.4 Downloading an Object - File-Based (SDK for Node.js)

## Function

This API downloads an object as a file from OBS to your local computer.

## Restrictions

- To download an object, you must be the bucket owner or have the required permission (**obs:object:GetObject** in IAM or **GetObject** in a bucket policy).
- Objects in the storage class can be downloaded only when they are in the **Restored** status.

## Method

```
ObsClient.getObject(params)
```

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## Request Parameters

**Table 6-11** List of request parameters

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

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| VersionId | string | No | **Explanation:**<br>Object version ID, for example, **G001117FCE89978B0000401205D5DC9A**<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |
| SaveAsFile | string | No | **Explanation:**<br>The download path with the file name contained<br>**Restrictions**:<br>A file name must be included in the path, for example, **aa/bb.txt**.<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| SaveAsStream | boolean | No | **Explanation:**<br>Whether the object is returned as a readable stream<br>**Value range**:<br>• **true**: The object is returned as a readable stream.<br>• **false**: The object is not returned as a readable stream.<br>**Default value**:<br>false |
| ProgressCallback | function | No | **Explanation:**<br>Callback function for obtaining the download progress<br>**NOTE**<br>This callback function contains the following parameters in sequence: number of downloaded bytes, total bytes, and used time (unit: second).<br>**Restrictions**:<br>None<br>**Value range**:<br>None<br>**Default value**:<br>None |
| IfMatch | string | No | **Explanation:**<br>Preset ETag. If the ETag of the object to be downloaded is the same as the preset ETag, the object is returned. Otherwise, an error is returned.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| IfModifiedSince | string | No | **Explanation:**<br>If the object was modified after the time specified by this parameter, its content is returned. Otherwise, an error code is returned.<br>**Restrictions**:<br>The value must conform with the HTTP time format specified in http://www.ietf.org/rfc/rfc2616.txt.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| IfNoneMatch | string | No | **Explanation:**<br>Preset ETag. If the ETag of the object to be downloaded is different from the preset ETag, the object is returned. Otherwise, an error is returned.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| IfUnmodifiedSince | string | No | **Explanation:**<br>If the object was modified before the time specified by this parameter, its content is returned. Otherwise, an error code is returned.<br>**Restrictions**:<br>The value must conform with the HTTP time format specified in http://www.ietf.org/rfc/rfc2616.txt.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| Range | string | No | **Explanation:**<br>Download range. For example, **0-999** indicates the range is from byte 1 to byte 1000.<br>**Restrictions**:<br>The maximum length of **Range** is the length of the object minus 1. If the specified value exceeds this limit, the length of the object minus 1 is used.<br>**Value range**:<br>0 to the object length minus 1. Format: **bytes=***x*-*y*<br>**Default value**:<br>None |
| Origin | string | No | **Explanation:**<br>Origin of the cross-domain request specified in the preflight request. It is usually a domain name.<br>**Restrictions**:<br>Each origin can contain at most one wildcard character (*).<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| RequestHeader | string | No | **Explanation:**<br>HTTP headers that can be used in cross-origin requests. Only CORS requests matching the allowed headers are valid.<br>**Restrictions**:<br>Each header can contain only one wildcard character (*). Spaces, ampersands (&), colons (:), less-than signs (<), and full-width characters are not allowed.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| ResponseCacheControl | string | No | **Explanation:**<br>This parameter is used to rewrite the **Cache-Control** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Cache-Control values defined in HTTP.<br>**Default value**:<br>None |
| ResponseContent-Disposition | string | No | **Explanation:**<br>This parameter is used to rewrite the **Content-Disposition** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Disposition values defined in HTTP.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ResponseContentEncoding | string | No | **Explanation:**<br>This parameter is used to rewrite the **Content-Encoding** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Encoding values defined in HTTP.<br>**Default value**:<br>None |
| ResponseContentLanguage | string | No | **Explanation:**<br>This parameter is used to rewrite the **Content-Language** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Language values defined in HTTP.<br>**Default value**:<br>None |
| ResponseContent-Type | string | No | **Explanation:**<br>This parameter is used to rewrite the **Content-Type** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **What Is Content-Type (MIME)? (SDK for Node.js)**<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ResponseExpires | string | No | **Explanation:**<br>This parameter is used to rewrite the **Expires** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Expires values defined in HTTP.<br>**Default value**:<br>None |

NOTE

- If a download request includes **IfUnmodifiedSince** or **IfMatch** but does not meet the conditions specified by these parameters, an exception is thrown with HTTP status code **412 Precondition Failed**.
- If a download request includes **IfModifiedSince** or **IfNoneMatch** but does not meet the conditions specified by these parameters, an exception is thrown with HTTP status code **304 Not Modified**.

## Responses

**Table 6-12** Responses

| Type | Description |
| --- | --- |
| Table 6-13<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 6-13. |

**Table 6-13** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 6-14. |

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| Parameter | Type | Description |
| --- | --- | --- |
| InterfaceResult | Table 6-15 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 6-15.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 6-14** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 6-15** GetObjectOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

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| Parameter | Type | Description |
| --- | --- | --- |
| DeleteMarker | string | **Explanation:**<br>Whether the deleted object is a delete marker. |
| LastModified | string | **Explanation:**<br>Time when the object was last modified. |
| ContentLength | string | **Explanation:**<br>Object size |
| CacheControl | string | **Explanation:**<br>**Cache-Control** header in the response. |
| ContentDisposition | string | **Explanation:**<br>**Content-Disposition** header in the response |
| ContentEncoding | string | **Explanation:**<br>**Content-Encoding** header in the response |
| ContentLanguage | string | **Explanation:**<br>**Content-Language** header in the response |
| ContentType | string | **Explanation:**<br>MIME type of the object |
| Expires | string | **Explanation:**<br>**Expires** header in the response |
| ETag | string | **Explanation:**<br>ETag of the object. |
| VersionId | string | **Explanation:**<br>Object version ID |
| WebsiteRedirectLocation | string | **Explanation:**<br>Location where an object is redirected. It is available when website hosting is configured for a bucket. |
| StorageClass | string | **Explanation:**<br>Object storage class. If the storage class is Standard, this parameter is left blank. |
| Restore | string | **Explanation:** |
| Expiration | string | **Explanation:**<br>Expiration details |

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| Parameter | Type | Description |
| --- | --- | --- |
| Content | string \| stream.Readable | **Explanation:**<br>Content of the object. The content is left blank if **SaveAsFile** was specified. The content is a **stream.Readable** object if **SaveAsStream** was set to **true**. The content is a **Buffer** object if neither **SaveAsFile** nor **SaveAsStream** was specified. |
| Metadata | object | **Explanation:**<br>Custom metadata of the object. You need to add in the CORS configurations the additional headers allowed to be carried in the response. For example, you can add the **x-amz-meta-property1** header to allow custom metadata **property1** to be returned. |

## Code Examples

This example downloads object **examplebucket/objectname** as a file.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function getObject() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the object to download (example/objectname in this example).
      Key: 'example/objectname',
      // Specify the destination path for the downloaded object.
      SaveAsFile: 'localfile'
    };

    // Download an object as a file.
    const result = await obsClient.getObject(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Get object(%s) under the bucket(%s) successful!", params.Key, params.Bucket);
```

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```
    console.log("RequestId: %s", result.CommonMsg.RequestId);
    return;
  };
  console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
  console.log("Status: %d", result.CommonMsg.Status);
  console.log("Code: %s", result.CommonMsg.Code);
  console.log("Message: %s", result.CommonMsg.Message);
  console.log("RequestId: %s", result.CommonMsg.RequestId);
 } catch (error) {
  console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
  console.log(error);
 };
};

getObject();
```

# 6.5 Downloading an Object - Range-Based (SDK for Node.js)

## Function

This API downloads part of an object from OBS to your local computer. 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, the whole object will be returned. This download method can also be used to concurrently download parts of a large object.

## Restrictions

- To download an object, you must be the bucket owner or have the required permission (**obs:object:GetObject** in IAM or **GetObject** in a bucket policy).
- Objects in the storage class can be downloaded only when they are in the **Restored** status.
- 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.

## Method

```
ObsClient.getObject(params)
```

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## Request Parameters

**Table 6-16** List of request parameters

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

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| VersionId | string | No | **Explanation:**<br>Object version ID, for example, **G001117FCE89978B0000401205D5DC9A**<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |
| SaveAsFile | string | No | **Explanation:**<br>The download path with the file name contained<br>**Restrictions**:<br>A file name must be included in the path, for example, **aa/bb.txt**.<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| SaveAsStream | boolean | No | **Explanation:**<br>Whether the object is returned as a readable stream<br>**Value range**:<br>• **true**: The object is returned as a readable stream.<br>• **false**: The object is not returned as a readable stream.<br>**Default value**:<br>false |
| ProgressCallback | function | No | **Explanation:**<br>Callback function for obtaining the download progress<br>**NOTE**<br>This callback function contains the following parameters in sequence: number of downloaded bytes, total bytes, and used time (unit: second).<br>**Restrictions**:<br>None<br>**Value range**:<br>None<br>**Default value**:<br>None |
| IfMatch | string | No | **Explanation:**<br>Preset ETag. If the ETag of the object to be downloaded is the same as the preset ETag, the object is returned. Otherwise, an error is returned.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| IfModifiedSince | string | No | **Explanation:**<br>If the object was modified after the time specified by this parameter, its content is returned. Otherwise, an error code is returned.<br>**Restrictions**:<br>The value must conform with the HTTP time format specified in http://www.ietf.org/rfc/rfc2616.txt.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| IfNoneMatch | string | No | **Explanation:**<br>Preset ETag. If the ETag of the object to be downloaded is different from the preset ETag, the object is returned. Otherwise, an error is returned.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| IfUnmodifiedSince | string | No | **Explanation:**<br>If the object was modified before the time specified by this parameter, its content is returned. Otherwise, an error code is returned.<br>**Restrictions**:<br>The value must conform with the HTTP time format specified in http://www.ietf.org/rfc/rfc2616.txt.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| Range | string | No | **Explanation:**<br>Download range. For example, **0-999** indicates the range is from byte 1 to byte 1000.<br>**Restrictions**:<br>The maximum length of **Range** is the length of the object minus 1. If the specified value exceeds this limit, the length of the object minus 1 is used.<br>**Value range**:<br>0 to the object length minus 1. Format: **bytes=***x*-*y* (**bytes=1-1000** as an example)<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Origin | string | No | **Explanation:**<br>Origin of the cross-domain request specified in the preflight request. It is usually a domain name.<br>**Restrictions**:<br>Each origin can contain at most one wildcard character (*).<br>**Value range**:<br>None<br>**Default value**:<br>None |
| RequestHeader | string | No | **Explanation:**<br>HTTP headers that can be used in cross-origin requests. Only CORS requests matching the allowed headers are valid.<br>**Restrictions**:<br>Each header can contain at most one wildcard character (*). Spaces, ampersands (&), colons (:), less-than signs (<), and full-width characters are not allowed.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| ResponseCacheControl | string | No | **Explanation:**<br>This parameter is used to rewrite the **Cache-Control** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Cache-Control values defined in HTTP.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ResponseContent-Disposition | string | No | **Explanation:**<br>This parameter is used to rewrite the **Content-Disposition** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Disposition values defined in HTTP.<br>**Default value**:<br>None |
| ResponseContentEncoding | string | No | **Explanation:**<br>This parameter is used to rewrite the **Content-Encoding** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Encoding values defined in HTTP.<br>**Default value**:<br>None |
| ResponseContentLanguage | string | No | **Explanation:**<br>This parameter is used to rewrite the **Content-Language** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Language values defined in HTTP.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ResponseContent-Type | string | No | **Explanation:**<br>This parameter is used to rewrite the **Content-Type** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **What Is Content-Type (MIME)? (SDK for Node.js)**<br>**Default value**:<br>None |
| ResponseExpires | string | No | **Explanation:**<br>This parameter is used to rewrite the **Expires** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Expires values defined in HTTP.<br>**Default value**:<br>None |

NOTE

- If a download request includes **IfUnmodifiedSince** or **IfMatch** but does not meet the conditions specified by these parameters, an exception is thrown with HTTP status code **412 Precondition Failed**.
- If a download request includes **IfModifiedSince** or **IfNoneMatch** but does not meet the conditions specified by these parameters, an exception is thrown with HTTP status code **304 Not Modified**.

## Responses

**Table 6-17** Responses

| Type | Description |
| --- | --- |
| **Table 6-18**<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see **Table 6-18**. |

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**Table 6-18** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 6-19. |
| InterfaceResult | Table 6-20 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 6-20.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 6-19** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

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**Table 6-20** GetObjectOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |
| DeleteMarker | string | **Explanation:**<br>Whether the deleted object is a delete marker. |
| LastModified | string | **Explanation:**<br>Time when the object was last modified. |
| ContentLength | string | **Explanation:**<br>Object size |
| CacheControl | string | **Explanation:**<br>**Cache-Control** header in the response. |
| ContentDisposition | string | **Explanation:**<br>**Content-Disposition** header in the response |
| ContentEncoding | string | **Explanation:**<br>**Content-Encoding** header in the response |
| ContentLanguage | string | **Explanation:**<br>**Content-Language** header in the response |
| ContentType | string | **Explanation:**<br>MIME type of the object. |
| Expires | string | **Explanation:**<br>**Expires** header in the response |
| ETag | string | **Explanation:**<br>ETag of the object. |
| VersionId | string | **Explanation:**<br>Object version ID |
| WebsiteRedirectLocation | string | **Explanation:**<br>Location where an object is redirected. It is available when website hosting is configured for a bucket. |
| StorageClass | string | **Explanation:**<br>Object storage class. If the storage class is Standard, this parameter is left blank. |

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| Parameter | Type | Description |
| --- | --- | --- |
| Restore | string | **Explanation:** |
| Expiration | string | **Explanation:**<br>Expiration details |
| Content | string \|<br>stream.Readable | **Explanation:**<br>Content of the object. The content is left blank if **SaveAsFile** was specified. The content is a **stream.Readable** object if **SaveAsStream** was set to **true**. The content is a **Buffer** object if neither **SaveAsFile** nor **SaveAsStream** was specified. |
| Metadata | object | **Explanation:**<br>Custom metadata of the object. You need to add in the CORS configurations the additional headers allowed to be carried in the response. For example, you can add the **x-amz-meta-property1** header to allow custom metadata **property1** to be returned. |

## Code Examples

This example downloads object **examplebucket/objectname** from 0 to 1,000 bytes.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function getObject() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the object to download (example/objectname in this example).
      Key: 'example/objectname',
      // Specify the download range.
```

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```
    Range: 'bytes=0-1000'
  };
  // Download the object based on the range.
  const result = await obsClient.getObject(params);
  if (result.CommonMsg.Status <= 300) {
    console.log("Get object(%s) under the bucket(%s) successful!", params.Key, params.Bucket);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
    console.log('Object Content: %s', result.InterfaceResult.Content);
    return;
  };
  console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
  console.log("Status: %d", result.CommonMsg.Status);
  console.log("Code: %s", result.CommonMsg.Code);
  console.log("Message: %s", result.CommonMsg.Message);
  console.log("RequestId: %s", result.CommonMsg.RequestId);
 } catch (error) {
  console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
  console.log(error);
 };
};

getObject();
```

# 6.6 Downloading an Object - Conditional (SDK for Node.js)

## Function

This API downloads objects that meet specified conditions from OBS to a local computer.

## Restrictions

- To download an object, you must be the bucket owner or have the required permission (**obs:object:GetObject** in IAM or **GetObject** in a bucket policy).
- Objects in the storage class can be downloaded only when they are in the **Restored** status.

## Method

```
ObsClient.getObject(params)
```

## Request Parameters

**Table 6-21** List of request parameters

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

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| VersionId | string | No | **Explanation:**<br>Object version ID, for example, **G001117FCE89978B0000401205D5DC9A**<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |
| SaveAsFile | string | No | **Explanation:**<br>The download path with the file name contained<br>**Restrictions**:<br>A file name must be included in the path, for example, **aa/bb.txt**.<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| SaveAsStream | boolean | No | **Explanation:**<br>Whether the object is returned as a readable stream<br>**Value range**:<br>• **true**: The object is returned as a readable stream.<br>• **false**: The object is not returned as a readable stream.<br>**Default value**:<br>false |
| ProgressCallback | function | No | **Explanation:**<br>Callback function for obtaining the download progress<br>**Restrictions**:<br>None<br>**Value range**:<br>None<br>**Default value**:<br>None<br>**NOTE**<br>This callback function contains the following parameters in sequence: number of downloaded bytes, total bytes, and used time (unit: second). |
| IfMatch | string | No | **Explanation:**<br>Preset ETag. If the ETag of the object to be downloaded is the same as the preset ETag, the object is returned. Otherwise, an error is returned.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| IfModifiedSince | string | No | **Explanation:**<br>If the object was modified after the time specified by this parameter, its content is returned. Otherwise, an error code is returned. **Restrictions**:<br>The value must conform with the HTTP time format specified in http://www.ietf.org/rfc/rfc2616.txt.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| IfNoneMatch | string | No | **Explanation:**<br>Preset ETag. If the ETag of the object to be downloaded is different from the preset ETag, the object is returned. Otherwise, an error is returned.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |
| IfUnmodifiedSince | string | No | **Explanation:**<br>If the object was modified before the time specified by this parameter, its content is returned. Otherwise, an error code is returned.<br>**Restrictions**:<br>The value must conform with the HTTP time format specified in http://www.ietf.org/rfc/rfc2616.txt.<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Range | string | No | **Explanation:**<br>Download range. For example, **0-999** indicates the range is from byte 1 to byte 1000.<br>**Restrictions**:<br>The maximum length of **Range** is the length of the object minus 1. If the specified value exceeds this limit, the length of the object minus 1 is used.<br>**Value range**:<br>0 to the object length minus 1. Format: **bytes=***x-y*<br>**Default value**:<br>None |
| Origin | string | No | **Explanation:**<br>Origin of the cross-domain request specified in the preflight request. It is usually a domain name.<br>**Restrictions**:<br>Each origin can contain at most one wildcard character (*).<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| RequestHeader | string | No | **Explanation:**<br>HTTP headers that can be used in cross-origin requests. Only CORS requests matching the allowed headers are valid.<br>**Restrictions**:<br>Each header can contain at most one wildcard character (*). Spaces, ampersands (&), colons (:), less-than signs (<), and full-width characters are not allowed.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| ResponseCacheControl | string | No | **Explanation:**<br>This parameter is used to rewrite the **Cache-Control** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Cache-Control values defined in HTTP.<br>**Default value**:<br>None |
| ResponseContent-Disposition | string | No | **Explanation:**<br>This parameter is used to rewrite the **Content-Disposition** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Disposition values defined in HTTP.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ResponseContentEncoding | string | No | **Explanation:**<br>This parameter is used to rewrite the **Content-Encoding** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Encoding values defined in HTTP.<br>**Default value**:<br>None |
| ResponseContentLanguage | string | No | **Explanation:**<br>This parameter is used to rewrite the **Content-Language** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Language values defined in HTTP.<br>**Default value**:<br>None |
| ResponseContent-Type | string | No | **Explanation:**<br>This parameter is used to rewrite the **Content-Type** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **What Is Content-Type (MIME)? (SDK for Node.js)**<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ResponseExpires | string | No | **Explanation:**<br>This parameter is used to rewrite the **Expires** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Expires values defined in HTTP.<br>**Default value**:<br>None |

NOTE

- If a download request includes **IfUnmodifiedSince** or **IfMatch** but does not meet the conditions specified by these parameters, an exception is thrown with HTTP status code **412 Precondition Failed**.
- If a download request includes **IfModifiedSince** or **IfNoneMatch** but does not meet the conditions specified by these parameters, an exception is thrown with HTTP status code **304 Not Modified**.

## Responses

**Table 6-22** Responses

| Type | Description |
| --- | --- |
| Table 6-23<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 6-23. |

**Table 6-23** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 6-24. |

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| Parameter | Type | Description |
| --- | --- | --- |
| InterfaceResult | Table 6-25 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 6-25.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 6-24** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 6-25** GetObjectOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

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| Parameter | Type | Description |
| --- | --- | --- |
| DeleteMarker | string | **Explanation:**<br>Whether the deleted object is a delete marker. |
| LastModified | string | **Explanation:**<br>Time when the object was last modified. |
| ContentLength | string | **Explanation:**<br>Object size |
| CacheControl | string | **Explanation:**<br>**Cache-Control** header in the response. |
| ContentDisposition | string | **Explanation:**<br>**Content-Disposition** header in the response |
| ContentEncoding | string | **Explanation:**<br>**Content-Encoding** header in the response |
| ContentLanguage | string | **Explanation:**<br>**Content-Language** header in the response |
| ContentType | string | **Explanation:**<br>MIME type of the object |
| Expires | string | **Explanation:**<br>**Expires** header in the response |
| ETag | string | **Explanation:**<br>ETag of the object. |
| VersionId | string | **Explanation:**<br>Object version ID |
| WebsiteRedirectLocation | string | **Explanation:**<br>Location where an object is redirected. It is available when website hosting is configured for a bucket. |
| StorageClass | string | **Explanation:**<br>Object storage class. If the storage class is Standard, this parameter is left blank. |
| Restore | string | **Explanation:** |
| Expiration | string | **Explanation:**<br>Expiration details |

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| Parameter | Type | Description |
| --- | --- | --- |
| Content | string \| stream.Readable | **Explanation:**<br>Content of the object. The content is left blank if **SaveAsFile** was specified. The content is a **stream.Readable** object if **SaveAsStream** was set to **true**. The content is a **Buffer** object if neither **SaveAsFile** nor **SaveAsStream** was specified. |
| Metadata | object | **Explanation:**<br>Custom metadata of the object. You need to add in the CORS configurations the additional headers allowed to be carried in the response. For example, you can add the **x-amz-meta-property1** header to allow custom metadata **property1** to be returned. |

## Code Examples

This example downloads object **examplebucket/objectname** and specifies that the object can be downloaded only when it has been modified since **Wed, 04 Jul 2018 08:54:53 GMT**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');
// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function getObject() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the object to download (example/objectname in this example).
      Key: 'example/objectname',
      // If modified since the specified time, the object is downloaded. Otherwise, a 304 code without a message body is returned.
      IfModifiedSince: 'Wed, 04 Jul 2018 08:54:53 GMT'
    };
    // Download the object based on the specified conditions.
    const result = await obsClient.getObject(params);
```

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```
    if (result.CommonMsg.Status <= 300) {
      console.log("Get object(%s) under the bucket(%s) successful!", params.Key, params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log('Object Content: %s', result.InterfaceResult.Content);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

getObject();
```

# 6.7 Rewriting Response Headers (SDK for Node.js)

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. |

## Code Examples

This code example rewrites response headers.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');
// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
```

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```
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function getObject() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the object (example/objectname in this example).
      Key: 'example/objectname',
      // Rewrite a response header (Content-Type in this example).
      ResponseContentType : 'image/jpeg'
    };

    // Rewrite the response header.
    const result = await obsClient.getObject(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Get object(%s) under the bucket(%s) successful!", params.Key, params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      // Obtain the response header that was rewritten.
      console.log("ContentType:%s", result.InterfaceResult.ContentType)
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

getObject();
```

# 6.8 Downloading Object (SDK for Node.js)

**CAUTION**

To prolong the validity period of the Cold data restored, you can repeatedly restore the data, but you will be billed for each restoration. 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.

## Function

To download an object in the storage class, you need to restore it first. After an object is restored, a copy of the object is saved in the Standard storage class. By doing so, the object in the storage class and its copy in the Standard storage class co-exist in the bucket. The copy will be automatically deleted once its retention period ends.

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## Restrictions

- To restore object, you must be the bucket owner or have the required permission (**obs:object:RestoreObject** in IAM or **RestoreObject** in a bucket policy.)
- To extend the validity period of the data restored, you can repeatedly restore the data, but you will be billed for each restoration. After a restoration, the validity period of Standard object copies will be extended, and you need to pay for storing these copies during the extended period.

## Method

```
ObsClient.restoreObject(params)
```

## Request Parameters

**Table 6-26** List of request parameters

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

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| VersionId | string | No | **Explanation:**<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None. If this parameter is left blank, the latest version of the object is specified. |
| Days | number | Yes | **Explanation:**<br>After an object is restored, a Standard copy is generated for the object. This parameter specifies how long the Standard copy can be retained, that is, the validity period of the restored object.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value ranges from 1 to 30, in days.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Tier | RestoreTierType | No | **Explanation:**<br>Tier of the restoration speed. You can select a suitable tier based on your needs.<br>**Restrictions**:<br>None<br>**Value range**:<br>See Table 6-27.<br>**Default value**:<br>Standard |

**Table 6-27** RestoreTierType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.RestoreTierExpedited | Expedited | Objects can be quickly restored from Cold storage within 1 to 5 minutes. |
| ObsClient.enums.RestoreTierStandard | Standard | Objects can be restored from Cold storage within 3 to 5 hours. |

## Responses

**Table 6-28** Responses

| Type | Description |
| --- | --- |
| Table 6-29<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 6-29. |

**Table 6-29** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 6-30. |

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| Parameter | Type | Description |
| --- | --- | --- |
| InterfaceResult | Table 6-31 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 6-31.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 6-30** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 6-31** BaseResponseOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

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## Code Examples

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');
// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function downloadColdObject() {
  // Specify the bucket name.
  const bucketName = "examplebucket";
  // Specify the object (example/objectname in this example).
  const objectKey = "example/objectname";
  try {
    const restoreObjectOutput = await obsClient.restoreObject({
      Bucket: bucketName,
      Key: objectKey,
      // Specify how long the restored object will be retained, in days. The value ranges from 1 to 30 (1 this example).
      Days: 1,
      // Specify the restoration speed (obs.RestoreTierExpedited in this example). By default, the object is restored at an expedited speed.
      Tier: obs.enums.RestoreTierExpedited
    });
    if (restoreObjectOutput.CommonMsg.Status > 300) {
      handleMessage(restoreObjectOutput.CommonMsg);
      return;
    };
    // Wait for the object to be restored.
    await sleep(5 * 60);
    // Download the object.
    const getObjectOutput = await obsClient.getObject({
      Bucket: bucketName,
      Key: objectKey,
    });
    if (getObjectOutput.CommonMsg.Status > 300) {
      handleMessage(getObjectOutput.CommonMsg);
      return;
    };
    console.log("Get object(%s) under the bucket(%s) successful!", params.Key, params.Bucket);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
    console.log('Object Content: %s', result.InterfaceResult.Content);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

function handleMessage(commonMsg) {
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", commonMsg.Status);
    console.log("Code: %s", commonMsg.Code);
    console.log("Message: %s", commonMsg.Message);
```

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```
    console.log("RequestId: %s", commonMsg.RequestId);
};

function sleep() {
    return new Promise(resolve => {
        setTimeout(resolve, time * 1000);
    });
} ;

downloadColdObject();
```

# 6.9 Downloading an Object - Resumable (SDK for Node.js)

## Function

The API for resumable download is an encapsulated and enhanced version of range-based download. Downloading large files often fails due to an unstable network or program breakdown. It is a waste of resources to restart the download process upon a download failure, and the restarted download process may still suffer from the unstable network. To resolve such issues, you can use the API for resumable download, whose working principle is to divide the to-be-downloaded file into multiple parts and download them separately. The download result of each part is recorded in a checkpoint file in real time. Only when all parts are successfully downloaded, the result indicating a successful download will be returned. Otherwise, an error is returned in callback function to remind you of calling the API again for re-downloading. Based on the download status of each part recorded in the checkpoint file, the re-downloading will download the parts failed to be downloaded previously, instead of downloading all parts. By virtue of this, resources are saved and efficiency is improved.

By resuming a failed download from where it failed, this API helps save resources. In addition, parts can be downloaded concurrently, which helps speed up the download. During the download process, you do not need to take care of internal service details, such as the creation and deletion of checkpoint files, division of objects, or concurrent downloads of parts.

## Restrictions

- To download an object, you must be the bucket owner or have the required permission (**obs:object:GetObject** in IAM or **GetObject** in a bucket policy).
- Objects in the storage class can be downloaded only when they are in the **Restored** status.

## Method

```
ObsClient.downloadFile(params)
```

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## Request Parameters

**Table 6-32** List of request parameters

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

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| VersionId | string | No | **Explanation:**<br>Object version ID, for example, **G001117FCE89978B0000401205D5DC9A**<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |
| DownloadFile | string | No | **Explanation:**<br>The full local path that the object is downloaded to. If this parameter is not specified, the working directory of the current program is used.<br>**Restrictions**:<br>A file name must be included in the path, for example, **aa/bb.txt**.<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| PartSize | number | No | **Explanation:**<br>Size of the current part.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value ranges from 100 KB to 5 GB, in bytes.<br>**Default value**:<br>102400 |
| TaskNum | number | No | **Explanation:**<br>Maximum number of parts that can be downloaded concurrently<br>**Restrictions**:<br>None<br>**Value range**:<br>1~10000<br>**Default value**:<br>**1**, indicating concurrent downloads are not used. |
| ProgressCallback | function | No | **Explanation:**<br>Callback function for obtaining the download progress<br>**NOTE**<br>This callback function contains the following parameters in sequence: number of downloaded bytes, total bytes, and used time (unit: second).<br>**Restrictions**:<br>None<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ResumeCallback | function | No | **Explanation:**<br>Callback function used to obtain the control parameter for canceling a resumable download<br>**Restrictions**:<br>None<br>**Value range**:<br>None<br>**Default value**:<br>None<br>**NOTE**<br>• This callback function contains a control parameter used for canceling resumable downloads.<br>• By calling the cancel method of this control parameter, you can pause a resumable download. |
| EnableCheckpoint | boolean | No | **Explanation:**<br>Whether to enable the resumable mode.<br>**Restrictions**:<br>None<br>**Value range**:<br>• **true**: The resumable mode is enabled.<br>• **false**: The resumable mode is disabled. In this case, this API works as a multipart download API, and no checkpoint files are generated.<br>**Default value**:<br>false |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| CheckpointFile | string | No | **Explanation:**<br>Path of a file generated for recording the progress of a resumable download. The file contains the information about parts and progress.<br>**Restrictions**:<br>This parameter is valid only in the resumable mode.<br>**Value range**:<br>None<br>**Default value**:<br>If this parameter is left blank, the checkpoint file will be in the same directory as the local path that the file is downloaded to. |
| IfMatch | string | No | **Explanation:**<br>Preset ETag. If the ETag of the object to be downloaded is the same as the preset ETag, the object is returned. Otherwise, an error is returned.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| IfModifiedSince | string | No | **Explanation:**<br>If the object was modified after the time specified by this parameter, its content is returned. Otherwise, an error code is returned.<br>**Restrictions**:<br>The value must conform with the HTTP time format specified in http://www.ietf.org/rfc/rfc2616.txt.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| IfNoneMatch | string | No | **Explanation:**<br>Preset ETag. If the ETag of the object to be downloaded is different from the preset ETag, the object is returned. Otherwise, an error is returned.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| IfUnmodifiedSince | string | No | **Explanation:**<br>If the object was modified before the time specified by this parameter, its content is returned. Otherwise, an error code is returned.<br>**Restrictions**:<br>The value must conform with the HTTP time format specified in http://www.ietf.org/rfc/rfc2616.txt.<br>**Value range**:<br>None<br>**Default value**:<br>None |

NOTE

- If a download request includes **IfUnmodifiedSince** or **IfMatch** but does not meet the conditions specified by these parameters, an exception is thrown with HTTP status code **412 Precondition Failed**.
- If a download request includes **IfModifiedSince** or **IfNoneMatch** but does not meet the conditions specified by these parameters, an exception is thrown with HTTP status code **304 Not Modified**.

## Responses

**Table 6-33** Responses

| Type | Description |
| --- | --- |
| Table 6-34<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 6-34. |

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**Table 6-34** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 6-35. |
| InterfaceResult | Table 6-36 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 6-36.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 6-35** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

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**Table 6-36** DownloadFileOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |
| DeleteMarker | string | **Explanation:**<br>Whether the deleted object is a delete marker. |
| LastModified | string | **Explanation:**<br>Time when the object was last modified. |
| CacheControl | string | **Explanation:**<br>**Cache-Control** header in the response |
| ContentDisposition | string | **Explanation:**<br>**Content-Disposition** header in the response |
| ContentEncoding | string | **Explanation:**<br>**Content-Encoding** header in the response |
| ContentLanguage | string | **Explanation:**<br>**Content-Language** header in the response |
| ContentType | string | **Explanation:**<br>MIME type of the object |
| Expires | string | **Explanation:**<br>**Expires** header in the response |
| ETag | string | **Explanation:**<br>ETag of the object |
| VersionId | string | **Explanation:**<br>Object version ID |
| WebsiteRedirectLocation | string | **Explanation:**<br>Location where an object is redirected. It is available when website hosting is configured for a bucket. |
| StorageClass | string | **Explanation:**<br>Object storage class. If the storage class is Standard, this parameter is left blank. |
| Restore | string | **Explanation:** |

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| Parameter | Type | Description |
| --- | --- | --- |
| Expiration | string | **Explanation:**<br>Expiration details |
| Metadata | object | **Explanation:**<br>Custom metadata of the object. You need to add in the CORS configurations the additional headers allowed to be carried in the response. For example, you can add the **x-amz-meta-property1** header to allow custom metadata **property1** to be returned. |

## Code Examples

This example downloads **example/objectname** from **examplebucket** using resumable download.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function downloadFile() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: 'examplebucket',
      // Specify the object (example/objectname in this example).
      Key: 'example/objectname',
      // Specify a local absolute path (/tmp/objectname in this example) for download. If the path is left blank, the current working directory is used by default.
      DownloadFile: 'localfile',
      // Specify whether to enable resumable transmission. Value true is used in this example. The default value is false.
      EnableCheckpoint: true,
      // Specify a part size, in bytes. This example sets each part to 9 MB.
      PartSize: 9 * 1024 * 1024,
      // Specify the maximum number of parts that can be concurrently transmitted. 5 is used in this example.
      TaskNum: 5
    };
    // Download the object using resumable download.
    const result = await obsClient.downloadFile(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Download file(%s) under the bucket(%s) successful!", params.Key, params.Bucket);
```

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```
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log("StorageClass:%s, ETag:%s, ContentType:%s, ContentLength:%d, LastModified:%s",
        result.InterfaceResult.StorageClass, result.InterfaceResult.ETag, result.InterfaceResult.ContentType,
        result.InterfaceResult.ContentLength, result.InterfaceResult.LastModified,
      );
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

downloadFile();
```

# 7 Object Management (SDK for Node.js)

## 7.1 Configuring Object Metadata (SDK for Node.js)

### Function

Object metadata contains a set of name-value pairs that are used for describing and managing objects.

Currently, system-defined and custom metadata are supported.

System-defined metadata consists of system-controlled metadata and user-controlled metadata. The kind of metadata like **Last-Modified** is controlled by the system and cannot be modified. However, the kind of metadata configured for objects such as **ContentLanguage** can be modified by calling APIs.

This API adds, modifies, or deletes metadata of objects in a bucket.

### Restrictions

- To configure object metadata, you must be the bucket owner or have the required permission (**obs:object:ModifyObjectMetaData** in IAM or **ModifyObjectMetaData** in a bucket policy).
- If versioning is enabled for a bucket, you can set metadata for objects of the latest version but cannot set metadata for historical objects.
- You cannot set metadata for objects.

### Method

```
ObsClient.setObjectMetadata(params)
```

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## Request Parameters

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

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

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| MetadataDirective | MetadataDirectiveType | Yes | **Explanation:**<br>Policy for copying the source object's attributes<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Table 7-7**.<br>**Default value**:<br>None |
| VersionId | string | No | **Explanation:**<br>Object version ID, for example, **G001117FCE89978B0000401205D5DC9A**<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| CacheControl | string | No | **Explanation:**<br>**Cache-Control** header in the response. It specifies the cache behavior of the web page when an object is downloaded.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Cache-Control values defined in HTTP.<br>**Default value**:<br>None |
| ContentDisposition | string | No | **Explanation:**<br>**Content-Disposition** header in the response. It specifies the name of an object when it is downloaded.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Disposition values defined in HTTP.<br>**Default value**:<br>None |
| ContentEncoding | string | No | **Explanation:**<br>**Content-Encoding** header in the response. It specifies the content encoding format when an object is downloaded.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Encoding values defined in HTTP.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ContentLanguage | string | No | **Explanation:**<br>**Content-Language** header in the response. It specifies what language the object content is in when being downloaded.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Language values defined in HTTP.<br>**Default value**:<br>None |
| ContentType | string | No | **Explanation:**<br>**Content-Type** header in the response. It specifies the file type of an object when it is downloaded.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **What Is Content-Type (MIME)? (SDK for Node.js)**<br>**Default value**:<br>None |
| Expires | string | No | **Explanation:**<br>**Expires** header in the response. It specifies the cache expiration time of the web page when the object is downloaded.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Expires values defined in HTTP.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| WebsiteRedirectLocation | string | No | **Explanation:**<br>If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.<br>The request is redirected to object **anotherPage.html** in the same bucket:<br>WebsiteRedirectLocation:/anotherPage.html<br>The request is redirected to an external URL:<br>WebsiteRedirectLocation:http://www.example.com/<br>OBS obtains the specified value from the header and stores it in the object metadata **WebsiteRedirectLocation**.<br>**Restrictions**:<br>• The value must start with a slash (/), **http://**, or **https://** and cannot exceed 2 KB.<br>• OBS only supports redirection of objects that are in the root directory.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| StorageClass | **StorageClassType** | No | **Explanation:**<br>Storage class of the object.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Table 7-2**.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Metadata | object | No | **Explanation:**<br>Custom metadata of the object. You can add a header starting with **x-obs-meta-** in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.<br>**Restrictions**:<br>• The custom metadata cannot exceed 8 KB in total. To measure the size, calculate the sum of bytes of all UTF-8 encoded keys and values.<br>• The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.<br>• Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are required, they must be encoded and decoded in URL or Base64 on the client, because the server does not perform such operations.<br>**Value range**:<br>None<br>**Default value**:<br>None |

**Table 7-2** StorageClassType

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

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.StorageClassWarm | WARM | Warm storage class.<br>Used for storing data that is semi-frequently accessed (fewer than 12 times a year) but becomes instantly available when needed. |
| ObsClient.enums.StorageClassCold | COLD | Cold storage class.<br>Used for storing rarely accessed (once a year) data. |

## Responses

**Table 7-3** Responses

| Type | Description |
| --- | --- |
| Table 7-4<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 7-4. |

**Table 7-4** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 7-5. |
| InterfaceResult | Table 7-6 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 7-6.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 7-5** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |

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| | | |
|---|---|---|
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 7-6** SetObjectMetadataOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |
| MetadataDirective | **Metadata Directive Type** | **Explanation:**<br>Policy for copying the source object's attributes<br>**Value range**:<br>See **Table 7-7**. |
| CacheControl | string | **Explanation:**<br>**Cache-Control** header in the response. It specifies the cache behavior of the web page when an object is downloaded. |
| ContentDisposition | string | **Explanation:**<br>**Content-Disposition** header in the response It specifies the name of an object when it is downloaded. |

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| Parameter | Type | Description |
| --- | --- | --- |
| ContentEncoding | string | **Explanation:**<br>**Content-Encoding** header in the response. It specifies the content encoding format when an object is downloaded. |
| ContentLanguage | string | **Explanation:**<br>**Content-Language** header in the response. It specifies what language the object content is in when being downloaded. |
| ContentType | string | **Explanation:**<br>**Content-Type** header in the response. It specifies the file type of an object when it is downloaded. |
| Expires | string | **Explanation:**<br>**Expires** header in the response. It specifies the cache expiration time of the web page when the object is downloaded. |
| WebsiteRedirectLocation | string | **Explanation:**<br>If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.<br>The request is redirected to object **anotherPage.html** in the same bucket:<br>WebsiteRedirectLocation:/anotherPage.html<br>The request is redirected to an external URL:<br>WebsiteRedirectLocation:http://www.example.com/<br>OBS obtains the specified value from the header and stores it in the object metadata **WebsiteRedirectLocation**.<br>**Restrictions**:<br>• The value must start with a slash (/), **http://**, or **https://** and cannot exceed 2 KB.<br>• OBS only supports redirection of objects that are in the root directory. |

| Parameter | Type | Description |
| --- | --- | --- |
| StorageClass | StorageClassType | **Explanation:**<br>Storage class configured when copying the object. If this parameter is not specified, the object inherits the storage class of the bucket.<br>**Value range**:<br>See **Table 7-8**. |
| Metadata | object | **Explanation:**<br>Custom metadata of the object. You can add a header starting with **x-obs-meta-** in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.<br>**Restrictions**:<br>• The custom metadata cannot exceed 8 KB in total. To measure the size, calculate the sum of bytes of all UTF-8 encoded keys and values.<br>• The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.<br>• Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are required, they must be encoded and decoded in URL or Base64 on the client, because the server does not perform such operations. |

**Table 7-7** MetadataDirectiveType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.CopyMetadata | COPY | When copying an object, the object's attributes are also copied.<br>**NOTICE**<br>This value is used only in the API for **Copying an Object (SDK for Node.js)**. |
| ObsClient.enums.ReplaceMetadata | REPLACE | **REPLACE** uses the complete header carried in the current request to replace the original one and deletes the metadata that is not specified. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.ReplaceNewMetadata | REPLACE_NEW | **REPLACE_NEW** replaces the metadata that already has a value, assigns a value to the metadata that does not have a value, and retains the metadata that is not specified.<br>**NOTICE**<br>This value is used only in the API for **Configuring Object Metadata (SDK for Node.js)**. |

**Table 7-8** StorageClassType

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

## Code Examples

This example configures metadata for object **example/objectname** in bucket **examplebucket**. The MIME type of the object is set to image/jpeg, the storage class is set to , and custom metadata is also configured for the object.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
```

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```
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function setObjectMetadata() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify an object. example/objectname is used in this example.
      Key: "example/objectname",
      // Specify a MIME type (image/jpeg in this example) for the object.
      ContentType: "image/jpeg",
      // Specify a storage class (obsClient.enums.StorageClassCold in this example) for the object.
      StorageClass: obsClient.enums.StorageClassCold,
      // Specify custom metadata.
      Metadata: { "property1": "property-value1", "property2": "property-value2" }
    };
    // Configure the metadata for the object.
    const result = await obsClient.setObjectMetadata(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Set Object(%s)'s metadata successful with bucket(%s)!", params.Key, params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

setObjectMetadata();
```

# 7.2 Obtaining Object Metadata (SDK for Node.js)

## Function

Object metadata contains a set of name-value pairs that are used for describing and managing objects.

Currently, only the system-defined metadata is supported. System-defined metadata consists of system-controlled metadata and user-controlled metadata. The kind of metadata like **Last-Modified** is controlled by the system and cannot be modified. However, the kind of metadata configured for objects such as **ContentLanguage** can be modified by calling APIs.

This API sends a HEAD request for obtaining object metadata.

## Restrictions

- To obtain object metadata, you must be the bucket owner or have the required permission (**obs:object:GetObject** in IAM or **GetObject** in a bucket policy).

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## Method

```
ObsClient.getObjectMetadata(params)
```

## Request Parameters

**Table 7-9** List of request parameters

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

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| VersionId | string | No | **Explanation:**<br>Object version ID, for example, **G001117FCE89978B0000401205D5DC9A**<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |
| Origin | string | No | **Explanation:**<br>Origin of the cross-domain request specified in the preflight request. It is usually a domain name.<br>**Restrictions**:<br>Each origin can contain at most one wildcard character (*).<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| RequestHeader | string | No | **Explanation:**<br>HTTP headers that can be used in cross-origin requests. Only CORS requests matching the allowed headers are valid.<br>**Restrictions**:<br>Each header can contain at most one wildcard character (*). Spaces, ampersands (&), colons (:), less-than signs (<), and full-width characters are not allowed.<br>**Value range**:<br>None<br>**Default value**:<br>None |

## Responses

**Table 7-10** Responses

| Type | Description |
| --- | --- |
| Table 7-11<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see **Table 7-11**. |

**Table 7-11** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see **Table 7-12**. |

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| Parameter | Type | Description |
| --- | --- | --- |
| InterfaceResult | Table 7-13 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 7-13.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 7-12** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 7-13** GetObjectMetadataOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

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| Parameter | Type | Description |
| --- | --- | --- |
| StorageClass | StorageClassType | **Explanation:**<br>Storage class configured when copying the object. If you do not specify this parameter, the object inherits the storage class of the bucket.<br>**Value range**:<br>See **Table 7-14**. |
| AllowOrigin | string | **Explanation:**<br>If **Origin** in the request meets the CORS rules of the bucket, **AllowedOrigin** specified in the CORS rules is returned. **AllowedOrigin** indicates the origin from which requests can access the bucket.<br>**Restrictions**:<br>Domain name of the origin. Each origin can contain at most one wildcard character (*). Example: **https://*.vbs.example.com**<br>**Default value**:<br>None |
| AllowHeader | string | **Explanation:**<br>If **RequestHeader** in the request meets the CORS rules of the bucket, **AllowedHeader** specified in the CORS rules is returned. **AllowedHeader** indicates the allowed headers for cross-origin requests. Only CORS requests matching the allowed headers are valid.<br>**Restrictions**:<br>Each header can contain at most one wildcard character (*). Spaces, ampersands (&), colons (:), less-than signs (<), and full-width characters are not allowed.<br>**Default value**:<br>None |

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| Parameter | Type | Description |
| --- | --- | --- |
| AllowMethod | string | **Explanation:**<br>**AllowedMethod** in the CORS rules of the bucket. It specifies the HTTP method allowed for cross-origin requests, that is, the operation type of buckets and objects.<br>**Value range**:<br>The following HTTP methods are supported:<br>• GET<br>• PUT<br>• HEAD<br>• POST<br>• DELETE<br>**Default value**:<br>None |
| ExposeHeader | string | **Explanation:**<br>**ExposeHeader** in the CORS rules of the bucket. It specifies the CORS-allowed additional headers in the response. These headers provide additional information to clients. By default, your browser can only access headers **Content-Length** and **Content-Type**. If your browser needs to access other headers, add them to a list of the allowed additional headers.<br>**Restrictions**:<br>Spaces, asterisks (*), ampersands (&), colons (:), less-than signs (<), and full-width characters are not allowed.<br>**Default value**:<br>None |

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| Parameter | Type | Description |
| --- | --- | --- |
| MaxAgeSeconds | number | **Explanation:**<br>**MaxAgeSeconds** in the CORS rules of the bucket. It specifies the time your client can cache the response for a cross-origin request.<br>**Restrictions**:<br>Each CORS rule can contain at most one **MaxAgeSeconds**.<br>**Value range**:<br>0 to ($2^{31}$ – 1), in seconds<br>**Default value**:<br>100 |
| ContentLength | number | **Explanation:**<br>Object size<br>**Value range**:<br>0 to ($2^{63}$ – 1), in bytes<br>**Default value**:<br>None |
| ContentType | string | **Explanation:**<br>MIME type of the object. MIME type is a standard way of describing a data type and is used by the browser to decide how to display data.<br>**Value range**:<br>See **What Is Content-Type (MIME)? (SDK for Node.js)**<br>**Default value**:<br>If you do not specify this parameter when uploading an object, the SDK determines the object type based on the suffix of the specified object name and automatically assigns a value to this parameter. |
| LastModified | string | **Explanation:**<br>Time when the object was last modified.<br>**Restrictions**:<br>The time must be in the ISO8601 format, for example, **2018-01-01T00:00:00.000Z**.<br>**Default value**:<br>None |

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| Parameter | Type | Description |
| --- | --- | --- |
| ETag | string | **Explanation:**<br>Base64-encoded, 128-bit MD5 value of an object. It uniquely identifies the content of an object and can be used to check the object integrity. For example, if the ETag is **A** when an object is uploaded and is **B** when the object is downloaded, it indicates that the object content has been changed. The ETag reflects changes to the contents of the object, not its metadata. An object created by an upload or copy operation has a unique ETag.<br>**Restrictions**:<br>If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object.<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |
| VersionId | string | **Explanation:**<br>Object version ID.<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |
| Restore | string | **Explanation:**<br>Restoration status of an object. For object that is being restored or has been restored, this header is returned.<br>For example, **ongoing-request="true"** indicates that the object is being restored. **ongoing-request="false", expiry-date="Wed, 7 Nov 2012 00:00:00 GMT"** indicates that the object has been restored, where **expiry-date** indicates when the restored object expires.<br>**Restrictions**:<br>**Default value**:<br>None |

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| Parameter | Type | Description |
| --- | --- | --- |
| Expiration | string | **Explanation:**<br>Expiration details, for example, **"expiry-date=\"Mon, 11 Sep 2023 00:00:00 GMT\""**<br>**Default value**:<br>None |
| WebsiteRedirectLocation | string | **Explanation:**<br>If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.<br>The request is redirected to object **anotherPage.html** in the same bucket:<br>WebsiteRedirectLocation:/anotherPage.html<br>The request is redirected to an external URL:<br>WebsiteRedirectLocation:http://www.example.com/<br>OBS obtains the specified value from the header and stores it in the object metadata **WebsiteRedirectLocation**.<br>**Restrictions**:<br>• The value must start with a slash (/), **http://**, or **https://** and cannot exceed 2 KB.<br>• OBS only supports redirection of objects that are in the root directory.<br>**Default value**:<br>None |

| Parameter | Type | Description |
| --- | --- | --- |
| Metadata | object | **Explanation:**<br>Custom metadata of the object. You can add a header starting with **x-obs-meta-** in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.<br>**Restrictions**:<br>● The custom metadata cannot exceed 8 KB in total. To measure the size, calculate the sum of bytes of all UTF-8 encoded keys and values.<br>● The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.<br>● Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are required, they must be encoded and decoded in URL or Base64 on the client, because the server does not perform such operations.<br>**Default value**:<br>None |

**Table 7-14** StorageClassType

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

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## Code Examples

You can call **ObsClient.getObjectMetadata** to obtain the metadata of an object, including its length, MIME type, and custom metadata. The following code shows how to obtain the metadata of object **example/objectname** in bucket **examplebucket**:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function getObjectMetadata() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the object (example/objectname in this example).
      Key: 'example/objectname',
    };
    // Obtain the object metadata.
    const result = await obsClient.getObjectMetadata(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Put bucket(%s) successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log("StorageClass:%s, ETag:%s, ContentType:%s, ContentLength:%d, LastModified:%s\n",
        result.InterfaceResult.StorageClass, result.InterfaceResult.ETag, result.InterfaceResult.ContentType,
        result.InterfaceResult.ContentLength, result.InterfaceResult.LastModified);
      // Obtain the custom metadata of the object.
      console.log("Metadata:%v", result.InterfaceResult.Metadata);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

getObjectMetadata();
```

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# 7.3 Configuring an Object ACL (SDK for Node.js)

## Function

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

1. Specify a pre-defined ACL when uploading an object. For details, see **Code Examples: Specifying a Pre-defined ACL During Object Creation**.
2. Call ObsClient.setObjectAcl to specify a pre-defined ACL. For details, see **Code Examples: Specifying a Pre-defined ACL for an Existing Object**.
3. Call ObsClient.setObjectAcl to directly set an ACL. For details, see **Code Examples: Setting an ACL for an Object Directly**.

## Restrictions

- To configure an object ACL, you must be the bucket owner or have the required permission (**obs:object:PutObjectAcl** in IAM or **PutObjectAcl** in a bucket policy).
- An object ACL supports a maximum of 100 **Grants**.

## Method

```
ObsClient.setObjectAcl(params)
```

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## Request Parameters

**Table 7-15** List of request parameters

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

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| VersionId | string | No | **Explanation:**<br>Object version ID, for example, **G001117FCE89978B0000401205D5DC9A**<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |
| ACL | **AclType** | No | **Explanation:**<br>Pre-defined ACL<br>**Restrictions**:<br>You must specify either **ACL** or the combination of **Owner** and **Grants**.<br>**Value range**:<br>See **Table 7-16**.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Owner | Owner | No | **Explanation:**<br>Bucket owner<br>**Restrictions**:<br>• **Owner** and **Grants** must be used together, and they cannot be used with **ACL**.<br>• You must specify either **ACL** or the combination of **Owner** and **Grants**.<br>**Value range**:<br>See **Table 7-17**.<br>**Default value**:<br>None |
| Delivered | boolean | No | **Explanation:**<br>Whether the ACL of the bucket applies to its objects<br>**Value range**:<br>• **true**: The ACL of the bucket applies to its objects.<br>• **false**: The ACL of the bucket does not apply to its objects.<br>**Default value**:<br>None |
| Grants | Grant[] | No | **Explanation:**<br>Grantees and permissions<br>**Restrictions**:<br>• **Owner** and **Grants** must be used together, and they cannot be used with **ACL**.<br>• You must specify either **ACL** or the combination of **Owner** and **Grants**.<br>**Value range**:<br>See **Table 7-18**.<br>**Default value**:<br>None |

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**Table 7-16** AclType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPrivate | private | Private read and write<br>A bucket or object can only be accessed by its owner. |
| ObsClient.enums.AclPublicRead | public-read | Public read and private write<br>If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket.<br>If this permission is granted on an object, everyone can obtain the content and metadata of the object. |
| ObsClient.enums.AclPublicReadWrite | public-read-write | Public read and write<br>If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart upload tasks.<br>If this permission is granted on an object, everyone can obtain the content and metadata of the object. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPublicReadDelivered | public-read-delivered | Public read on a bucket as well as the objects in the bucket.<br>If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions and read the content and metadata of objects in the bucket.<br>**NOTE**<br>**AclPublicReadDelivered** does not apply to objects. |
| ObsClient.enums.AclPublicReadWriteDelivered | public-read-write-delivered | Public read and write on a bucket as well as the objects in the bucket.<br>If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart uploads. They can also read the content and metadata of objects in the bucket.<br>**NOTE**<br>**AclPublicReadWriteDelivered** does not apply to objects. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclBucketOwnerFullControl | bucket-owner-full-control | If this permission is granted on an object, only the bucket and object owners have the full control over the object.<br>By default, if you upload an object to a bucket of any other user, the bucket owner does not have the permissions on your object. After you grant this policy to the bucket owner, the bucket owner can have full control over your object. For example, if user A uploads object **x** to user B's bucket, user B does not have the control over object **x**. If user A sets the **bucket-owner-full-control** policy for object **x**, user B then has the control over object **x**. |

**Table 7-17** Owner

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ID | string | Yes if used as a request parameter | **Explanation:**<br>Account (domain) ID of the owner<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**.<br>**Default value**:<br>None |
| Display Name | string | No | **Explanation:**<br>Account name of the owner<br>**Default value**:<br>None |

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**Table 7-18** Grant

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Grantee | Grantee | Yes if used as a request parameter | **Explanation:**<br>Grantee information. For details, see **Table 7-19**. |
| Permission | PermissionType | Yes if used as a request parameter | **Explanation:**<br>Granted permission<br>**Value range**:<br>See **Table 7-22**.<br>**Default value**:<br>None |

**Table 7-19** Grantee

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Type | string | Yes if used as a request parameter | **Explanation:**<br>Grantee type<br>**Value range**:<br>See **Table 7-20**.<br>**Default value**:<br>None |
| ID | string | Yes if this parameter is used as a request parameter and **Type** is set to a user | **Explanation:**<br>Account (domain) ID of the grantee.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Name | string | No if used as a request parameter | **Explanation:**<br>Account name of the grantee.<br>**Restrictions**:<br>• The account name starts with a letter.<br>• The account name contains 6 to 32 characters.<br>• The account name contains only letters, digits, hyphens (-), or underscores (_).<br>**Default value**:<br>None |
| URI | **GroupUriType** | Yes if this parameter is used as a request parameter and **Type** is set to a group | **Explanation:**<br>Authorized user group<br>**Value range**:<br>See **Table 7-21**.<br>**Default value**:<br>None |

**Table 7-20** GranteeType

| Constant | Description |
| --- | --- |
| Group | Grants permissions to user groups. |
| CanonicalUser | Grants permissions to individual users. |

**Table 7-21** GroupUriType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.GroupAllUsers | AllUsers | All users. |
| ObsClient.enums.GroupAuthenticatedUs-ers | AuthenticatedUsers | Authorized users. This constant is deprecated. |
| ObsClient.enums.GroupLogDelivery | LogDelivery | Log delivery group. This constant is deprecated. |

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**Table 7-22** PermissionType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.PermissionRead | READ | A grantee with this permission for a bucket can obtain the list of objects, multipart uploads, bucket metadata, and object versions in the bucket.<br>A grantee with this permission for an object can obtain the object content and metadata. |
| ObsClient.enums.PermissionWrite | WRITE | A grantee with this permission for a bucket can upload, overwrite, and delete any object or part in the bucket.<br>This permission is not applicable to objects. |
| ObsClient.enums.PermissionReadAcp | 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 for their bucket or object by default. |
| ObsClient.enums.PermissionWriteAcp | 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 for their bucket or object by default.<br>This permission allows the grantee to change the access control policies, meaning the grantee has full control over a bucket or object. |
| ObsClient.enums.PermissionFullControl | FULL_CONTROL | A grantee with this permission for a bucket has **PermissionRead**, **PermissionWrite**, **PermissionReadAcp**, and **PermissionWriteAcp** permissions for the bucket.<br>A grantee with this permission for an object has **PermissionRead**, **PermissionReadAcp**, and **PermissionWriteAcp** permissions for the object. |

## Responses

**Table 7-23** Responses

| Type | Description |
| --- | --- |
| Table 7-24<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 7-24. |

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**Table 7-24** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 7-25. |
| InterfaceResult | Table 7-26 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 7-26.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 7-25** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

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**Table 7-26** BaseResponseOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

## Code Examples: Specifying a Pre-defined ACL During Object Creation

Sample code:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an ObsClient instance.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function putObject() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the object. example/objectname is used in this example.
      Key: "example/objectname",
      // Specify a text object.
      Body : 'Hello OBS',
      // Set the object ACL to public read.
      ACL : obsClient.enums.AclPublicRead
    };
    // Upload the object.
    const result = await obsClient.putObject(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Put object(%s) under the bucket(%s) successful!!", params.Key, params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log("StorageClass:%s, ETag:%s", result.InterfaceResult.StorageClass, result.InterfaceResult.ETag);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};
```

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```
putObject();
```

## Code Examples: Specifying a Pre-defined ACL for an Existing Object

Sample code:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function setObjectAcl() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify an object. example/objectname is used in this example.
      Key: "example/objectname",
      // Set the object ACL to private read and write.
      ACL : obsClient.enums.AclPrivate
    };
    // Set the object ACL.
    const result = await obsClient.setObjectAcl(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Set Object(%s)'s acl successful with Bucket(%s)!", params.Key, params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

setObjectAcl();
```

## Code Examples: Setting an ACL for an Object Directly

Sample code:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
```

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```
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function setObjectAcl() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify an object. example/objectname is used in this example.
      Key: "example/objectname",
      // Specify the version ID of the object.
      VersionId: 'G001117FCE89978B0000401205D5DC9A',
      // Specify the owner of the object.
      Owner: { 'ID': 'ownerid' },
// Specify the information about the authorized user.
      Grants: [
        // Grant the write permission to a specified user (0a03f5833900d3730f13c00f49d5exxx in this example).
        { Grantee: { Type: 'CanonicalUser', ID: '0a03f5833900d3730f13c00f49d5exxx' }, Permission: obsClient.enums.PermissionWrite },
        // Grant the read permission to all users.
        { Grantee: { Type: 'Group', URI: obsClient.enums.GroupAllUsers }, Permission: obsClient.enums.PermissionRead },
      ]
    };
    // Set the ACL.
    const result = await obsClient.setObjectAcl(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Set Object(%s)'s acl successful with Bucket(%s)!", params.Key, params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

setObjectAcl();
```

# 7.4 Obtaining the ACL of an Object (SDK for Node.js)

## Function

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

This API returns the ACL of an object.

## Restrictions

- To obtain an object ACL, you must be the bucket owner or have the required permission (**obs:object:GetObjectAcl** in IAM or **GetObjectAcl** in a bucket policy).

## Method

```
ObsClient.getObjectAcl(params)
```

## Request Parameters

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

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

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| VersionId | string | No | **Explanation:**<br>Object version ID, for example, **G001117FCE89978B0000401205D5DC9A**<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |

## Responses

**Table 7-28** Responses

| Type | Description |
| --- | --- |
| Table 7-29<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 7-29. |

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**Table 7-29** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 7-30. |
| InterfaceResult | Table 7-31 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 7-31.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 7-30** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

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**Table 7-31** GetObjectAclOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |
| VersionId | string | **Explanation:**<br>Object version ID, for example, **G001117FCE89978B0000401205D5DC9A** |
| Owner | **Owner** | **Explanation:**<br>Object owner. For details, see **Owner**. |
| Delivered | string | **Explanation:**<br>Whether the bucket ACL is applied to the objects in the bucket. |
| Grants | **Grant**[] | **Explanation:**<br>Grantees' permission information. For details, see **Table 7-33**. |

**Table 7-32** Owner

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ID | string | Yes if used as a request parameter | **Explanation:**<br>Account (domain) ID of the owner<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**.<br>**Default value**:<br>None |
| Display Name | string | No | **Explanation:**<br>Account name of the owner<br>**Default value**:<br>None |

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**Table 7-33** Grant

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Grantee | Grantee | Yes if used as a request parameter | **Explanation:**<br>Grantee information. For details, see **Table 7-34**. |
| Permission | PermissionType | Yes if used as a request parameter | **Explanation:**<br>Granted permission<br>**Value range**:<br>See **Table 7-37**. |

**Table 7-34** Grantee

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Type | string | Yes if used as a request parameter | **Explanation:**<br>Grantee type<br>**Value range**:<br>See **Table 7-35**.<br>**Default value**:<br>None |
| ID | string | Yes if this parameter is used as a request parameter and **Type** is set to a user | **Explanation:**<br>Account (domain) ID of the grantee.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Name | string | No if used as a request parameter | **Explanation:**<br>Account name of the grantee.<br>**Restrictions**:<br>• The account name starts with a letter.<br>• The account name contains 6 to 32 characters.<br>• The account name contains only letters, digits, hyphens (-), or underscores (_).<br>**Default value**:<br>None |
| URI | **GroupUriType** | Yes if this parameter is used as a request parameter and **Type** is set to a group | **Explanation:**<br>Authorized user group<br>**Value range**:<br>See **Table 7-36**.<br>**Default value**:<br>None |

**Table 7-35** GranteeType

| Constant | Description |
| --- | --- |
| Group | Grants permissions to user groups. |
| CanonicalUser | Grants permissions to individual users. |

**Table 7-36** GroupUriType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.GroupAllUsers | AllUsers | All users. |
| ObsClient.enums.GroupAuthenticatedUs-ers | AuthenticatedUsers | Authorized users. This constant is deprecated. |
| ObsClient.enums.GroupLogDelivery | LogDelivery | Log delivery group. This constant is deprecated. |

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**Table 7-37** PermissionType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.PermissionRead | READ | A grantee with this permission for a bucket can obtain the list of objects, multipart uploads, bucket metadata, and object versions in the bucket.<br>A grantee with this permission for an object can obtain the object content and metadata. |
| ObsClient.enums.PermissionWrite | WRITE | A grantee with this permission for a bucket can upload, overwrite, and delete any object or part in the bucket.<br>This permission is not applicable to objects. |
| ObsClient.enums.PermissionReadAcp | 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 for their bucket or object by default. |
| ObsClient.enums.PermissionWriteAcp | 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 for their bucket or object by default.<br>This permission allows the grantee to change the access control policies, meaning the grantee has full control over a bucket or object. |
| ObsClient.enums.PermissionFullControl | FULL_CONTROL | A grantee with this permission for a bucket has **PermissionRead**, **PermissionWrite**, **PermissionReadAcp**, and **PermissionWriteAcp** permissions for the bucket.<br>A grantee with this permission for an object has **PermissionRead**, **PermissionReadAcp**, and **PermissionWriteAcp** permissions for the object. |

## Code Examples

This example returns the ACL of object **example/objectname**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
```

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```
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function getObjectAcl() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the object (example/objectname in this example).
      Key: 'example/objectname',
    };
    // Obtain the object ACL.
    const result = await obsClient.getObjectAcl(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Get object(%s)'s acl successful with bucket(%s)!", params.Key, params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log('Owner[ID]: %s', result.InterfaceResult.Owner.ID);
      console.log('Owner[Name]: %s', result.InterfaceResult.Owner.Name);
      for (let i = 0; i < result.InterfaceResult.Grants.length; i++) {
        const grant = result.InterfaceResult.Grants[i];
        fmt.Printf("Grant[%d]-Type:%s, ID:%s, URI:%s, Permission:%s\n",
          index, grant.Grantee.Type, grant.Grantee.ID, grant.Grantee.URI, grant.Permission)
      };
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

getObjectAcl();
```

# 7.5 Listing Objects in a Bucket (SDK for Node.js)

## Function

This API lists some or all of the objects in a bucket. You can configure the prefix, number, or start position as the filter to list objects. Returned objects are listed in alphabetical order by object name.

## Restrictions

- A maximum of 1,000 objects can be listed for each API call.
- To list objects in a bucket, you must be the bucket owner or have the required permission (**obs:bucket:ListBucket** in IAM or **ListBucket** in a bucket policy).

## Method

```
ObsClient.listObjects(params)
```

## Request Parameters

**Table 7-38** ListObjectsInput

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

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Marker | string | No | **Explanation:**<br>Object name to start with when listing objects in a bucket. Objects after the specified object are returned in alphabetical order.<br>**Restrictions**:<br>This parameter is only used for listing objects with a single version.<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| Prefix | string | No | **Explanation:**<br>Name prefix that the objects to be listed must contain<br>Assume that you have the following objects: **logs/day1**, **logs/day2**, **logs/day3**, and **ExampleObject.jpg**. If you specify **logs/** as the prefix, **logs/day1**, **logs/day2**, and **logs/day3** will be returned. If this parameter is left blank and there are no other filtering criteria, all objects in the bucket will be returned.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| MaxKeys | number | No | **Explanation:**<br>The maximum number of objects returned in the response in alphabetical order<br>**Restrictions**:<br>None<br>**Value range**:<br>The value ranges from **1** to **1000**. If the specified value is greater than **1000**, only 1,000 objects are returned.<br>**Default value**:<br>1000 |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Delimiter | string | No | **Explanation:**<br>Object names are grouped by this parameter, which is often used with **Prefix**. If a prefix is specified, objects with the same string from the prefix to the first delimiter are grouped into one **CommonPrefixes**. If no prefix is specified, objects with the same string from the first character to the first delimiter are grouped into one **CommonPrefixes**.<br>Assume that a bucket has objects **abcd**, **abcde**, and **bbcde** in it. If **Delimiter** is set to **d** and **Prefix** is set to **a**, objects **abcd** and **abcde** are grouped into a **CommonPrefixes** with **abcd** as the prefix. If only **Delimiter** is set to **d**, objects **abcd** and **abcde** are grouped into a **CommonPrefixes** with **abcd** as the prefix, and **bbcde** is placed separately into another **CommonPrefixes** with **bbcd** as the prefix.<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 multiple directory levels, and each directory level has a large number of objects. In such case, you are advised to configure **[delimiter=/]** to list only the content in the current directory, without the content in subdirectories, to make the listing more efficient.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |

## Responses

**Table 7-39** Responses

| Type | Description |
| --- | --- |
| Table 7-40<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 7-40. |

**Table 7-40** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 7-41. |
| InterfaceResult | Table 7-42 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 7-42.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 7-41** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |

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| | | |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 7-42** ListObjectsOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |
| Location | string | **Explanation:**<br>Region where a bucket is located. |
| Bucket | string | **Explanation:**<br>Bucket name |
| Prefix | string | **Explanation:**<br>Object name prefix, which is consistent with that set in the request.<br>Assume that you have the following objects: **logs/day1**, **logs/day2**, **logs/day3**, and **ExampleObject.jpg**. If you specify **logs/** as the prefix, **logs/day1**, **logs/day2**, and **logs/day3** will be returned. If this parameter is left blank and there are no other filtering criteria, all objects in the bucket will be returned. |
| Marker | string | **Explanation:**<br>Object name to start with when listing objects. Objects after the specified object are returned in alphabetical order. |

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| Parameter | Type | Description |
| --- | --- | --- |
| Delimiter | string | **Explanation:**<br>Object names are grouped by this parameter, which is often used with **Prefix**. If a prefix is specified, objects with the same string from the prefix to the first delimiter are grouped into one **CommonPrefixes**. If no prefix is specified, objects with the same string from the first character to the first delimiter are grouped into one **CommonPrefixes**.<br>Assume that a bucket has objects **abcd**, **abcde**, and **bbcde** in it. If **Delimiter** is set to **d** and **Prefix** is set to **a**, objects **abcd** and **abcde** are grouped into a **CommonPrefixes** with **abcd** as the prefix. If only **Delimiter** is set to **d**, objects **abcd** and **abcde** are grouped into a **CommonPrefixes** with **abcd** as the prefix, and **bbcde** is placed separately into another **CommonPrefixes** with **bbcd** as the prefix.<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 multiple directory levels, and each directory level has a large number of objects. In such case, you are advised to configure **[delimiter=/]** to list only the content in the current directory, without the content in subdirectories, to make the listing more efficient. |
| MaxKeys | number | **Explanation:**<br>The maximum number of objects returned in the response in alphabetical order. This parameter corresponds to the same parameter in the request. |

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| Parameter | Type | Description |
| --- | --- | --- |
| IsTruncated | string | **Explanation:**<br>Whether all results are returned in the response. A maximum of 1,000 objects can be listed at a time. If the number of objects is greater than 1,000, the objects beyond 1,000 cannot be returned.<br>**Value range**:<br>• **true**: Not all results are returned.<br>• **false**: All results are returned. |
| NextMarker | string | **Explanation:**<br>Where in the bucket the next listing begins. If not all results are returned, the response contains this parameter to mark the last object listed in the request. In a subsequent request, you can set **Marker** to the value of this parameter to list the remaining objects. |
| Contents | **Content**[] | **Explanation:**<br>List of objects in the bucket. For details, see **Content**. |
| CommonPrefixes | **CommonPrefix**[] | **Explanation:**<br>List of object name prefixes grouped based on the **Delimiter** parameter (if specified)<br>**Value range**:<br>See **Table 7-44**. |

**Table 7-43** Content

| Parameter | Type | Description |
| --- | --- | --- |
| Key | string | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name. |
| LastModified | string | **Explanation:**<br>Time when the object was last modified, in UTC. |

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| Parameter | Type | Description |
| --- | --- | --- |
| ETag | string | **Explanation:**<br>Base64-encoded, 128-bit MD5 value of an object. ETag is the unique identifier of the object contents and is used to determine whether the contents of an object are changed. For example, if the ETag value is **A** when an object is uploaded and **B** when the object is downloaded, this indicates the contents of the object have been changed. The ETag reflects changes to an object's contents, not its metadata. Objects created by the upload and copy operations are assigned unique ETags after being encrypted using MD5.<br>**Restrictions**:<br>If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object. |
| Size | number | **Explanation:**<br>Object size, in bytes. |
| Owner | **Owner** | **Explanation:**<br>Object owner. The value contains the domain ID and name of the object owner. For details, see **Table 7-45**. |
| StorageClass | string | **Explanation:**<br>Object storage class. |
| Type | string | **Explanation:**<br>Type of the object<br>**Value range**:<br>• **NORMAL** indicates a regular object.<br>• **APPENDABLE** indicates an appendable object. |

**Table 7-44** CommonPrefix

| Parameter | Type | Description |
| --- | --- | --- |
| Prefix | string | **Explanation:**<br>Prefix of objects in a bucket<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |

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**Table 7-45** Owner

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ID | string | Yes if used as a request parameter | **Explanation:**<br>Account (domain) ID of the owner<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**.<br>**Default value**:<br>None |
| Display Name | string | No | **Explanation:**<br>Account name of the owner<br>**Default value**:<br>None |

## Code Examples: Simple Listing

The following sample code shows how to list objects in simple mode. A maximum of 1,000 objects can be returned.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function listObjects() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
    };
    // List objects in a bucket.
    const result = await obsClient.listObjects(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("List objects under the bucket(%s) successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      for (let j = 0; j < result.InterfaceResult.Contents.length; j++) {
        const val = result.InterfaceResult.Contents[j];
```

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```
      console.log('Content[%d]-OwnerId:%s, ETag:%s, Key:%s, LastModified:%s, Size:%d',
        j, val.Owner.ID, val.ETag, val.Key, val.LastModified, val.Size);
    };
    return;
  };
  console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
  console.log("Status: %d", result.CommonMsg.Status);
  console.log("Code: %s", result.CommonMsg.Code);
  console.log("Message: %s", result.CommonMsg.Message);
  console.log("RequestId: %s", result.CommonMsg.RequestId);
 } catch (error) {
  console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
  console.log(error);
 };
};

listObjects();
```

NOTE

- A maximum of 1,000 objects can be listed each time. If a bucket contains more than 1,000 objects, **InterfaceResult.IsTruncated** in the response is **true**, indicating not all objects were listed. In such case, you can use **InterfaceResult.NextMarker** to obtain the start position for next listing.
- If you want to obtain all objects in a specified bucket, use pagination. For details, see **Code Examples: Listing All Objects Using Pagination**.

## Code Examples: Listing a Specified Number of Objects

Sample code:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
 // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  access_key_id: process.env.ACCESS_KEY_ID,
 // Obtain an AK/SK pair on the management console.
 secret_access_key: process.env.SECRET_ACCESS_KEY,
 // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
 // security_token: process.env.SECURITY_TOKEN,
 // Enter the endpoint of the region where the bucket is located.
 server: "https://your-endpoint"
});

async function listObjects() {
 try {
  const params = {
   // Specify the bucket name.
   Bucket: "examplebucket",
   // Specify the maximum number of objects to be returned in alphabetic order. The default value is 1000. 100 is used in this example.
   MaxKeys: 100,
  };
  // List objects in a bucket.
  const result = await obsClient.listObjects(params);
  if (result.CommonMsg.Status <= 300) {
   console.log("List objects under the bucket(%s) successful!", params.Bucket);
   console.log("RequestId: %s", result.CommonMsg.RequestId);
```

```
    for (let j = 0; j < result.InterfaceResult.Contents.length; j++) {
      const val = result.InterfaceResult.Contents[j];
      console.log('Content[%d]-OwnerId:%s, ETag:%s, Key:%s, LastModified:%s, Size:%d',
        j, val.Owner.ID, val.ETag, val.Key, val.LastModified, val.Size);
    };
    return;
  };
  console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
  console.log("Status: %d", result.CommonMsg.Status);
  console.log("Code: %s", result.CommonMsg.Code);
  console.log("Message: %s", result.CommonMsg.Message);
  console.log("RequestId: %s", result.CommonMsg.RequestId);
 } catch (error) {
  console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
  console.log(error);
 };
};

listObjects();
```

## Code Examples: Listing Objects by Prefix

Sample code:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');
// Create an instance of ObsClient.
const obsClient = new ObsClient({
 // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
 // Obtain an AK/SK pair on the management console.
 access_key_id: process.env.ACCESS_KEY_ID,
 secret_access_key: process.env.SECRET_ACCESS_KEY,
 // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
 // security_token: process.env.SECURITY_TOKEN,
 // Enter the endpoint of the region where the bucket is located.
 server: "https://your-endpoint"
});

async function listObjects() {
 try {
  const params = {
   // Specify the bucket name.
   Bucket: "examplebucket",
   // Specify an object prefix (test/ in this example). Objects whose names contain the specified prefix will be listed.
   Prefix: "test/",
   // Specify the maximum number of objects to be returned in alphabetic order. The default value is 1000. 100 is used in this example.
   MaxKeys: 100,
  };

  // List objects in a bucket.
  const result = await obsClient.listObjects(params);
  if (result.CommonMsg.Status <= 300) {
   console.log("List objects under the bucket(%s) successful!", params.Bucket);
   console.log("RequestId: %s", result.CommonMsg.RequestId);
   for (let j = 0; j < result.InterfaceResult.Contents.length; j++) {
    const val = result.InterfaceResult.Contents[j];
    console.log('Content[%d]-OwnerId:%s, ETag:%s, Key:%s, LastModified:%s, Size:%d',
     j, val.Owner.ID, val.ETag, val.Key, val.LastModified, val.Size);
   };
```

```
    return;
  };
  console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
  console.log("Status: %d", result.CommonMsg.Status);
  console.log("Code: %s", result.CommonMsg.Code);
  console.log("Message: %s", result.CommonMsg.Message);
  console.log("RequestId: %s", result.CommonMsg.RequestId);
 } catch (error) {
  console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
  console.log(error);
 };
};

listObjects();
```

## Code Examples: Specifying a Start Position for Listing

Sample code:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
 // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
 // Obtain an AK/SK pair on the management console.
 access_key_id: process.env.ACCESS_KEY_ID,
 secret_access_key: process.env.SECRET_ACCESS_KEY,
 // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
 // security_token: process.env.SECURITY_TOKEN,
 // Enter the endpoint of the region where the bucket is located.
 server: "https://your-endpoint"
});

async function listObjects() {
 try {
  const params = {
   // Specify the bucket name.
   Bucket: "examplebucket",
   // Specify an object prefix (test/ in this example). Objects whose names contain the specified prefix will be listed.
   Prefix: "test/",
   // Specify the maximum number of objects to be returned in alphabetic order. The default value is 1000. 100 is used in this example.
   MaxKeys: 100,
   // Specify the position (test/test2 in this example) where the object listing starts.
   Marker: "test/test2",
  };
  // List objects in a bucket.
  const result = await obsClient.listObjects(params);
  if (result.CommonMsg.Status <= 300) {
   console.log("List objects under the bucket(%s) successful!", params.Bucket);
   console.log("RequestId: %s", result.CommonMsg.RequestId);
   for (let j = 0; j < result.InterfaceResult.Contents.length; j++) {
    const val = result.InterfaceResult.Contents[j];
    console.log('Content[%d]-OwnerId:%s, ETag:%s, Key:%s, LastModified:%s, Size:%d',
     j, val.Owner.ID, val.ETag, val.Key, val.LastModified, val.Size);
   };
   return;
  };
  console.log("An ObsError was found, which means your request sent to OBS was rejected with an error
```

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```
response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

listObjects();
```

## Code Examples: Listing All Objects Using Pagination

Sample code:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to
use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment
variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function listObjects() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify an encoding type. url is used in this example. If the objects to list contain special characters,
this parameter must be passed.
      EncodingType: "url",
    };
    while (true) {
      // List object versions in the bucket.
      const result = await obsClient.listObjects(params);
      if (result.CommonMsg.Status > 300) {
        console.log("An ObsError was found, which means your request sent to OBS was rejected with an
error response.");
        console.log("Status: %d", result.CommonMsg.Status);
        console.log("Code: %s", result.CommonMsg.Code);
        console.log("Message: %s", result.CommonMsg.Message);
        console.log("RequestId: %s", result.CommonMsg.RequestId);
        return;
      };
      console.log("List objects under the bucket(%s) successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      for (let j = 0; j < result.InterfaceResult.Contents.length; j++) {
        const val = result.InterfaceResult.Contents[j];
        console.log('Content[%d]-OwnerId:%s, ETag:%s, Key:%s, LastModified:%s, Size:%d',
          j, val.Owner.ID, val.ETag, val.Key, val.LastModified, val.Size);
      };
      if (result.InterfaceResult.IsTruncated === "true") {
```

```
      params.KeyMarker = result.InterfaceResult.NextKeyMarker;
    } else {
      break;
    };
  };
 } catch (error) {
  console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
  console.log(error);
 };
};

listObjects();
```

## Code Examples: Listing All Objects in a Folder

OBS does not involve folders like in a file system. 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 OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
 // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
 // Obtain an AK/SK pair on the management console.
 access_key_id: process.env.ACCESS_KEY_ID,
 secret_access_key: process.env.SECRET_ACCESS_KEY,
 // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
 // security_token: process.env.SECURITY_TOKEN,
 // Enter the endpoint of the region where the bucket is located.
 server: "https://your-endpoint"
});

async function listObjects() {
 try {
  const params = {
   // Specify the bucket name.
   Bucket: "examplebucket",
   // Specify an object prefix (test/ in this example). Objects whose names contain the specified prefix will be listed.
   Prefix: "test/",
   // Specify an encoding type. url is used in this example. If the objects to list contain special characters, this parameter must be passed.
   EncodingType: "url",
  };
  let count = 1
  while (true) {
   // List object versions in the bucket.
   const result = await obsClient.listObjects(params);
   if (result.CommonMsg.Status > 300) {
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
    return;
   };
```

```
    console.log("List objects under the bucket(%s) successful!", params.Bucket);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
    for (let j = 0; j < result.InterfaceResult.Contents.length; j++) {
      const val = result.InterfaceResult.Contents[j];
      console.log('Content[%d]-OwnerId:%s, ETag:%s, Key:%s, LastModified:%s, Size:%d',
        count++, val.Owner.ID, val.ETag, val.Key, val.LastModified, val.Size);
    };
    if (result.InterfaceResult.IsTruncated === "true") {
      params.Marker = result.InterfaceResult.NextMarker;
    } else {
      break;
    };
  };
 } catch (error) {
  console.log("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.");
  console.log(error);
 };
};

listObjects();
```

# 7.6 Deleting an Object (SDK for Node.js)

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.

## Function

This API deletes an object in the specified bucket to save space and costs.

## Restrictions

- To delete an object, you must be the bucket owner or have the required permission (**obs:object:DeleteObject** in IAM or **DeleteObject** in a bucket policy).
- If versioning is not enabled for a bucket, deleted objects cannot be restored.

## Method

```
ObsClient.deleteObject(params)
```

## Request Parameters

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

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

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| VersionId | string | No | **Explanation:**<br>Object version ID, for example, **G001117FCE89978B0000401205D5DC9A**<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |

## Responses

**Table 7-47** Responses

| Type | Description |
| --- | --- |
| Table 7-48<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 7-48. |

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**Table 7-48** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 7-49. |
| InterfaceResult | Table 7-50 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 7-50.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 7-49** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

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**Table 7-50** BaseResponseOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |
| DeleteMarker | boolean | **Explanation:**<br>Whether the deleted object is a delete marker.<br>**Value range**:<br>• **true**: The deleted object is a delete marker.<br>• **false**: The deleted object is not a delete marker. |
| VersionId | string | **Explanation:**<br>ID of the object version to be deleted, for example, **G001117FCE89978B0000401205D5DC9** |

## Code Examples

This example deletes object **example/objectname** from bucket **examplebucket**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function deleteObject() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the object (example/objectname in this example) to delete.
      Key: 'example/objectname',
    };
    // Delete the object.
    const result = await obsClient.deleteObject(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Delete object(%s) under the bucket(%s) successful!", params.Key, params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
```

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```
    return;
  };
  console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
  console.log("Status: %d", result.CommonMsg.Status);
  console.log("Code: %s", result.CommonMsg.Code);
  console.log("Message: %s", result.CommonMsg.Message);
  console.log("RequestId: %s", result.CommonMsg.RequestId);
 } catch (error) {
  console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
  console.log(error);
 };
};

deleteObject();
```

# 7.7 Batch Deleting Objects (SDK for Node.js)

NOTE

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

## Function

This API deletes objects in a batch from a specific bucket. Deleted objects cannot be restored.

In a batch deletion, OBS concurrently deletes the specified objects and returns the deletion result of each object.

## Restrictions

- To delete objects in a batch, you must be the bucket owner or have the required permission (**obs:object:DeleteObject** in IAM or **DeleteObject** in a bucket policy).
- If versioning is not enabled for a bucket, deleted objects cannot be restored.
- A maximum of 1,000 objects can be deleted at a time. If you send a request for deleting more than 1,000 objects, OBS returns an error message.
- After concurrent tasks are assigned, if an internal error occurs during cyclic deletion of multiple objects, an object may be deleted in the index data but still exist in the metadata.

## Method

```
ObsClient.deleteObjects(params)
```

## Request Parameters

**Table 7-51** List of request parameters

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

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Quiet | boolean | No | **Explanation:**<br>Mode of the response to the request for deleting objects in a batch<br>**Restrictions**:<br>None<br>**Value range**:<br>• **false**: The detailed mode. Results of both successful and failed deletions are returned.<br>• **true**: The quiet mode. Only results of failed deletions are returned.<br>**Default value**:<br>false |
| Objects | **ObjectToDelete**[] | Yes | **Explanation:**<br>List of objects to be deleted. For details, see **Table 7-52**.<br>**Restrictions**:<br>A maximum of 1000 objects can be deleted at a time.<br>**Value range**:<br>None<br>**Default value**:<br>None |

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**Table 7-52** ObjectToDelete

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| VersionId | string | No | **Explanation:**<br>ID of the object version to be deleted, for example, **G001117FCE89978B0000401205D5DC9**.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None. If this parameter is left blank, the latest version of the object is deleted. |

## Responses

**Table 7-53** Responses

| Type | Description |
| --- | --- |
| Table 7-54<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 7-54. |

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**Table 7-54** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 7-55. |
| InterfaceResult | Table 7-56 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 7-56.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 7-55** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

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**Table 7-56** DeleteObjectsOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |
| Deleteds | **Deleted**[] | **Explanation:**<br>List of objects that were successfully deleted. For details, see **Table 7-57**. |
| Errors | **Error**[] | **Explanation:**<br>List of objects that failed to be deleted. For details, see **Table 7-58**. |

**Table 7-57** Deleted

| Parameter | Type | Description |
| --- | --- | --- |
| Key | string | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name. |
| VersionId | string | **Explanation:**<br>Object version ID, for example, **G001117FCE89978B0000401205D5DC9**. |
| DeleteMarker | bool | **Explanation:**<br>Whether the deleted object is a delete marker.<br>**Value range**:<br>• **true**: The deleted object is a delete marker.<br>• **false**: The deleted object is not a delete marker. |

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| Parameter | Type | Description |
| --- | --- | --- |
| DeleteMarkerVersionId | string | **Explanation:**<br>Version ID of a delete marker to create or delete.<br>OBS returns this element in the response when a delete marker is created or deleted for a versioning-enabled bucket. This element will be returned in either of the following cases:<br>• You send a delete request specifying an object's name without providing a version ID. In this case, OBS creates a delete marker and returns its version ID in the response.<br>• You send a delete request specifying both an object's name and its version ID, but this version ID points to a delete marker. In this case, OBS deletes the delete marker and returns its version ID in the response. |

**Table 7-58** Error

| Parameter | Type | Description |
| --- | --- | --- |
| Key | string | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name. |
| VersionId | string | **Explanation:**<br>Object version ID, for example, **G001117FCE89978B0000401205D5DC9**. |
| Code | string | **Explanation:**<br>Error code for the failed deletion. |
| Message | string | **Explanation:**<br>Error message for the failed deletion. |

## Code Examples

Sample code:

```
// Import the OBS library.
// Use npm to install the client.
```

```
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function deleteObjects() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the object list to delete.
      Objects: [
        { Key: 'objectname1', VersionId: "version1" },
        { Key: 'objectname2', VersionId: "version2" },
        { Key: 'objectname3', VersionId: "version3" }
      ]
    };
    // Delete the objects in a batch.
    const result = await obsClient.deleteObjects(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Delete objects under the bucket(%s) successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      // Return details about which objects were deleted.
      console.log('Deleteds:');
      for (let i = 0; i < result.InterfaceResult.Deleteds.length; i++) {
        const deleted = result.InterfaceResult.Deleteds[i];
        console.log("Deleted[%d]-Key:%s, VersionId:%s", i, deleted.Key, deleted.VersionId);
      };
      // Return details about which objects were not deleted.
      console.log('Errors:');
      for (let i = 0; i < result.InterfaceResult.Errors.length; i++) {
        const err = result.InterfaceResult.Errors[i];
        console.log("Errors[%d]-Key:%s, Code:%s", i, err.Key, err.Code);
      };
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

deleteObjects();
```

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# 7.8 Copying an Object (SDK for Node.js)

## Function

This API copies an object stored in OBS to a specified path. You can copy an object of up to 5 GB in a single operation.

## Restrictions

- To copy an object, you must be the bucket owner or have the required permission (**obs:object:PutObject** in IAM or **PutObject** in a bucket policy).
- The target object size ranges from 0 to 5 GB. If the source object size exceeds 5 GB, you must use a multipart copying API by referring to **Copying a Part (SDK for Node.js)**.

## Method

```
ObsClient.copyObject(params)
```

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## Request Parameters

**Table 7-59** List of request parameters

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

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| CopySource | string | Yes | **Explanation:**<br>Names of the source bucket and object. If the source object has multiple versions, the **versionId** parameter is used to specify the desired version.<br>Example: **source_bucket/sourceObject?versionId=G001117FCE89978B0000401205D5DC9A**<br>**Restrictions**:<br>None<br>**Restrictions**:<br>Full-width characters and percent signs (%) must be URL-encoded.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ACL | AclType | No | **Explanation:**<br>ACL that can be pre-defined during the object copy.<br>**Restrictions**:<br>None<br>**Value range**:<br>See Table 7-60.<br>**Default value**:<br>None |
| MetadataDirective | MetadataDirectiveType | No | **Explanation:**<br>Policy for copying the source object's attributes<br>**Restrictions**:<br>None<br>**Value range**:<br>See Table 7-61.<br>**Default value**:<br>None |
| CopySourceIfMatch | string | No | **Explanation:**<br>If the ETag of the source object is the same as the one specified by this parameter, it is copied. Otherwise, an error is returned.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| CopySourceIfNone-Match | string | No | **Explanation:**<br>If the ETag of the source object is different from the one specified by this parameter, it is copied. Otherwise, an error is returned.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |
| CopySourceIfUnmodifiedSince | string | No | **Explanation:**<br>If the source object has not been modified since the specified time, it is copied. Otherwise, an exception is thrown.<br>**Restrictions**:<br>The value must conform with the HTTP time format specified in http://www.ietf.org/rfc/rfc2616.txt.<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| CopySourceIfModifiedSince | string | No | **Explanation:**<br>If the source object has been modified since the specified time, it is copied. Otherwise, an exception is thrown.<br>**Restrictions**:<br>The value must conform with the HTTP time format specified in http://www.ietf.org/rfc/rfc2616.txt.<br>**Value range**:<br>None<br>**Default value**:<br>None |

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| WebsiteRedirectLocation | string | No | **Explanation:**<br>If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.<br>The request is redirected to object **anotherPage.html** in the same bucket:<br>WebsiteRedirectLocation:/anotherPage.html<br>The request is redirected to an external URL:<br>WebsiteRedirectLocation:http://www.example.com/<br>OBS obtains the specified value from the header and stores it in the object metadata **WebsiteRedirectLocation**.<br>**Restrictions**:<br>• The value must start with a slash (/), **http://**, or **https://** and cannot exceed 2 KB.<br>• OBS only supports redirection of objects that are in the root directory.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| CacheControl | string | No | **Explanation:**<br>**Cache-Control** in the response is rewritten.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Cache-Control values defined in HTTP.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ContentDisposition | string | No | **Explanation:**<br>**Content-Disposition** in the response is rewritten.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Disposition values defined in HTTP.<br>**Default value**:<br>None |
| ContentEncoding | string | No | **Explanation:**<br>**Content-Encoding** in the response is rewritten.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Encoding values defined in HTTP.<br>**Default value**:<br>None |
| ContentLanguage | string | No | **Explanation:**<br>**Content-Language** in the response is rewritten.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Language values defined in HTTP.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ContentType | string | No | **Explanation:**<br>**Content-Type** in the response is rewritten.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **What Is Content-Type (MIME)? (SDK for Node.js)**<br>**Default value**:<br>None |
| Expires | string | No | **Explanation:**<br>**Expires** in the response is rewritten.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Expires values defined in HTTP.<br>**Default value**:<br>None |
| StorageClass | **StorageClassType** | No | **Explanation:**<br>Storage class configured when copying the object.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Table 7-62**.<br>**Default value**:<br>None. If this parameter is not specified, the storage class of the bucket is used as that of the object. |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Metadata | object | No | **Explanation:**<br>Custom metadata of the target object. You can add a header starting with **x-obs-meta-** in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.<br>**Restrictions**:<br>● The custom metadata cannot exceed 8 KB in total. To measure the size, calculate the sum of bytes of all UTF-8 encoded keys and values.<br>● The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.<br>● Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are required, they must be encoded and decoded in URL or Base64 on the client, because the server does not perform such operations.<br>**Value range**:<br>None<br>**Default value**:<br>None |

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| GrantRead | string | No | **Explanation:**<br>ID (domain_id) of an account the **READ** permission is granted to. The account with the **READ** permission can read the object to copy and obtain its metadata.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |
| GrantReadAcp | string | No | **Explanation:**<br>ID (domain_id) of an account the **READ_ACP** permission is granted to. The account with the **READ_ACP** permission can read the ACL of the object to copy.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| GrantWriteAcp | string | No | **Explanation:**<br>ID (domain_id) of an account the **WRITE_ACP** permission is granted to. The account with the **WRITE_ACP** permission can modify the ACL of the object to copy.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |
| GrantFullControl | string | No | **Explanation:**<br>ID (domain_id) of an account the **FULL_CONTROL** permission is granted to. The account with the **FULL_CONTROL** permission can read the object to copy, obtain its metadata, and obtain and modify its ACL.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| SuccessActionRedirect | string | No | **Explanation:**<br>Address (URL) to which a successfully answered request is redirected.<br>If the value is valid and the request is successful, OBS returns status code 303. **Location** contains the value of this parameter, as well as the bucket name, object name, and object ETag.<br>If the value is invalid, OBS ignores this parameter. In such case, the **Location** header is the object address, and OBS returns a status code based on whether the operation succeeded or failed.<br>**Restrictions**:<br>None<br>**Value range**:<br>None<br>**Default value**:<br>None |

**Table 7-60** AclType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPrivate | private | Private read and write<br>A bucket or object can only be accessed by its owner. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPublicRead | public-read | Public read and private write<br>If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket.<br>If this permission is granted on an object, everyone can obtain the content and metadata of the object. |
| ObsClient.enums.AclPublicReadWrite | public-read-write | Public read and write<br>If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart upload tasks.<br>If this permission is granted on an object, everyone can obtain the content and metadata of the object. |
| ObsClient.enums.AclPublicReadDelivered | public-read-delivered | Public read on a bucket as well as the objects in the bucket.<br>If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions and read the content and metadata of objects in the bucket.<br>**NOTE**<br>**AclPublicReadDelivered** does not apply to objects. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPublicReadWriteDelivered | public-read-write-delivered | Public read and write on a bucket as well as the objects in the bucket.<br>If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart uploads. They can also read the content and metadata of objects in the bucket.<br>**NOTE**<br>**AclPublicReadWriteDelivered** does not apply to objects. |
| ObsClient.enums.AclBucketOwnerFullControl | bucket-owner-full-control | If this permission is granted on an object, only the bucket and object owners have the full control over the object.<br>By default, if you upload an object to a bucket of any other user, the bucket owner does not have the permissions on your object. After you grant this policy to the bucket owner, the bucket owner can have full control over your object. For example, if user A uploads object **x** to user B's bucket, user B does not have the control over object **x**. If user A sets the **bucket-owner-full-control** policy for object **x**, user B then has the control over object **x**. |

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**Table 7-61** MetadataDirectiveType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.CopyMetadata | COPY | When copying an object, the object's attributes are also copied.<br>**NOTICE**<br>This value is used only in the API for **Copying an Object (SDK for Node.js)**. |
| ObsClient.enums.ReplaceMetadata | REPLACE | **REPLACE** uses the complete header carried in the current request to replace the original one and deletes the metadata that is not specified. |
| ObsClient.enums.ReplaceNewMetadata | REPLACE_NEW | **REPLACE_NEW** replaces the metadata that already has a value, assigns a value to the metadata that does not have a value, and retains the metadata that is not specified.<br>**NOTICE**<br>This value is used only in the API for **Configuring Object Metadata (SDK for Node.js)**. |

**Table 7-62** StorageClassType

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

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NOTE

- If **CopySourceIfUnmodifiedSince**, **CopySourceIfMatch**, **CopySourceIfModifiedSince**, or **CopySourceIfNoneMatch** is included but the specified condition is not met, **412 precondition failed** will be returned.
- **CopySourceIfModifiedSince** and **CopySourceIfNoneMatch** can be used together. So can **CopySourceIfUnmodifiedSince** and **CopySourceIfMatch**.

## Responses

**Table 7-63** Responses

| Type | Description |
| --- | --- |
| Table 7-64<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 7-64. |

**Table 7-64** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 7-65. |
| InterfaceResult | Table 7-66 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 7-66.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 7-65** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |

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| | | |
|---|---|---|
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 7-66** CopyObjectOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |
| LastModified | string | **Explanation:**<br>Time when the target object was last modified, in UTC |
| ETag | string | **Explanation:**<br>Base64-encoded, 128-bit MD5 value of the target object. The ETag is a unique identifier for the object's contents, used to determine if the object has been updated. For example, if the ETag value is **A** when an object is uploaded and **B** when the object is downloaded, this indicates the contents of the object have been changed. The ETag reflects changes to an object's contents, not its metadata. Objects created by the upload and copy operations have unique ETags after being encrypted using MD5.<br>**Restrictions**:<br>If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object. |

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| Parameter | Type | Description |
| --- | --- | --- |
| CopySourceVersionId | string | **Explanation:**<br>Version ID of the source object |
| VersionId | string | **Explanation:**<br>Version ID of the target object |

## Code Examples: Simple Copying

Sample code:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function copyObject() {
  try {
    const params = {
      // Specify the target bucket name.
      Bucket: "examplebucket",
      // Specify the name of the object copy (example/objectname in this example).
      Key: 'example/objectname',
      // Specify the names of the source bucket (sourcebucketname in this example) and source object (sourceobjectkey in this example).
      CopySource: 'sourcebucketname/sourceobjectname'
    };
    // Copy the source object.
    const result = await obsClient.copyObject(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Copy Object(bucket:%s, object: %s) successful from bucket/object: %s!", params.Bucket, params.Key, params.CopySource);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log("ETag: %s, LastModified:%s", result.InterfaceResult.ETag, result.InterfaceResult.LastModified);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
```

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```
  };
};

copyObject();
```

## Code Examples: Rewriting Object Attributes

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.enums.ReplaceMetadata** (rewrite) or **ObsClient.enums.CopyMetadata** (copy from the source object).

The following sample code shows how to rewrite object properties.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function copyObject() {
  try {
    const params = {
      // Specify the target bucket name.
      Bucket: "examplebucket",
      // Specify the name of the object copy (example/objectname in this example).
      Key: 'example/objectname',
      // Specify the names of the source bucket (sourcebucketname in this example) and source object (sourceobjectkey in this example).
      CopySource: 'sourcebucketname/sourceobjectname'
      // Specify custom metadata.
      Metadata: {'property':'property-value'},
      // Specify the policy for copying the metadata of the source object. In this example, ObsClient.enums.ReplaceMetadata is used to rewrite the metadata of the source object.
      MetadataDirective: ObsClient.enums.ReplaceMetadata
    };
    // Copy the object.
    const result = await obsClient.copyObject(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Copy Object(bucket:%s, object: %s) successful from bucket/object: %s!", params.Bucket, params.Key, params.CopySource);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log("ETag: %s, LastModified:%s", result.InterfaceResult.ETag, result.InterfaceResult.LastModified);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
```

```
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

copyObject();
```

## Code Examples: Specifying Copying 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 error code will be returned and the copy will fail.

**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 object copy will fail with error code **412 Precondition Failed** returned.
- **CopySourceIfModifiedSince** and **CopySourceIfNoneMatch** can be used together. So do **CopySourceIfUnmodifiedSince** and **CopySourceIfMatch**.

Sample code:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function copyObject() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the name of the object copy (example/objectname in this example).
      Key: 'example/objectname',
      // Specify the names of the source bucket (sourcebucketname in this example) and source object (sourceobjectkey in this example).
      CopySource: 'sourcebucketname/sourceobjectname'
      // Specify the copy conditions. If the source object has been modified since the specified time, it will be copied.
      CopySourceIfModifiedSince: 'Thu, 31 Dec 2015 16:00:00 GMT',
      // Specify the copy conditions. If the ETag of the source object is different from the one specified by this parameter, the source object will be copied.
      CopySourceIfNoneMatch: 'none-match-etag'
    };
    // Copy the object.
```

```
    const result = await obsClient.copyObject(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Copy Object(bucket:%s, object: %s) successful from bucket/object: %s!", params.Bucket,
params.Key, params.CopySource);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log("ETag: %s, LastModified:%s", result.InterfaceResult.ETag,
result.InterfaceResult.LastModified);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error
response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

copyObject();
```

## Code Examples: Rewriting an Object ACL

Sample code:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to
use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment
variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function copyObject() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the name of the object copy (example/objectname in this example).
      Key: 'example/objectname',
      // Specify the names of the source bucket (sourcebucketname in this example) and source object
(sourceobjectkey in this example).
      CopySource: 'sourcebucketname/sourceobjectname'
      // Rewrite the object ACL to public read during the copy.
      ACL : obsClient.enums.AclPublicRead
    };
    // Copy the object.
    const result = await obsClient.copyObject(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Copy Object(bucket:%s, object: %s) successful from bucket/object: %s!", params.Bucket,
params.Key, params.CopySource);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log("ETag: %s, LastModified:%s", result.InterfaceResult.ETag,
```

```
result.InterfaceResult.LastModified);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

copyObject();
```

# 8 Multipart Upload (SDK for Node.js)

## 8.1 Multipart Upload APIs (SDK for Node.js)

To upload a large file, multipart upload is recommended. Multipart upload is applicable to many scenarios. Below are some examples.

- Files to be uploaded are larger than 100 MB.
- The network connection to the OBS server breaks often.
- Sizes of files to be uploaded are uncertain.

Multipart upload consists of three phases:

1. **Initiating a Multipart Upload (SDK for Node.js)**
2. **Uploading a Part (SDK for Node.js)**
3. **Assembling Parts (SDK for Node.js)** or **Aborting a Multipart Upload (SDK for Node.js)**

Multipart upload is mainly used for large file upload or when the network connection is poor. This example uploads a large file in parts concurrently:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require('esdk-obs-nodejs');
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');
const fs = require('fs');

// Create an ObsClient instance.
var obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});
```

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```
// Specify the bucket name.
const Bucket = 'bucketname'
// Specify an object (example/objectname in this example).
const Key = 'objectname'

// Specify the part size.
const DEFAULT_PART_SIZE = 9 * 1024 * 1024;
// Set the number of concurrent parts to 20.
const CONCURRENCY = 20

// Prepare multipart upload parameters.
const preparePartParams = (Bucket, Key, UploadId) => (sampleFile, partSize = DEFAULT_PART_SIZE) => {
    try {
        const fileSize = fs.lstatSync(sampleFile).size;
        const partCount = fileSize % partSize === 0 ? Math.floor(fileSize / partSize) : Math.floor(fileSize /
partSize) + 1;

        const uploadPartParams = [];
        // Specify the concurrent upload.
        for (let i = 0; i < partCount; i++) {
            // Start position of parts in the file
            let Offset = i * partSize;
            // Part size
            let currPartSize = (i + 1 === partCount) ? fileSize - Offset : partSize;
            // Part number
            let PartNumber = i + 1;
            uploadPartParams.push({
                Bucket,
                Key,
                PartNumber,
                UploadId,
                Offset,
                SourceFile: sampleFile,
                PartSize: currPartSize,
            });
        };

        return ({ uploadPartParams, fileSize });
    } catch (error) {
        console.log(error)
    };
};


/**
 * uploadSuccessSize: Size of the parts that have been uploaded
 * uploadSuccessCount: Number of the parts that have been uploaded
 * concurrency: Current concurrency
 */
let uploadSuccessSize = 0;
let uploadSuccessCount = 0;
let concurrency = 0

const parts = [];

// Upload parts.
const uploadPart = (uploadPartParam, otherUploadPartInfo) => {
    const partCount = otherUploadPartInfo.partCount;
    const fileSize = otherUploadPartInfo.fileSize;
    concurrency++;
    return obsClient
        .uploadPart(uploadPartParam)
        .then(result => {
            const { PartNumber, PartSize } = uploadPartParam;
            if (result.CommonMsg.Status < 300) {
                uploadSuccessCount++;
                uploadSuccessSize += PartSize;
                            // Print the upload progress.
                console.log(`the current concurrent count is ${concurrency} | uploaded segment: $
```

```
{uploadSuccessCount}/${partCount}. the progress is ${((uploadSuccessSize / fileSize) * 100).toFixed(2)}% |
the partNumber ${PartNumber} upload succeeded.`);
                parts.push({ PartNumber, ETag: result.InterfaceResult.ETag });
            } else {
                console.log(result.CommonMsg.Code, parts);
            };
            concurrency--;
        }).catch(function (err) {
            console.log(err);
            throw err;
        })
};

// Multipart upload
const uploadFile = (sourceFile) => {
        // Initiate the multipart upload task.
    obsClient.initiateMultipartUpload({
        Bucket,
        Key
    }).then(res => {
        const Status = res.CommonMsg.Status;
        const UploadId = res.InterfaceResult.UploadId;

        if (typeof Status === 'number' && Status > 300) {
            console.log(`initiateMultipartUpload failed! Status:${Status}`);
            return;
        };

        const partParams = preparePartParams(Bucket, Key, UploadId)(sourceFile);
        const uploadPartParams = partParams.uploadPartParams;
        const fileSize = partParams.fileSize;
        const partCount = uploadPartParams.length;
        const otherUploadPartInfo = { fileSize, partCount };

        // Call the parallel upload function.
        parallelFunc(uploadPartParams, (param) => uploadPart(param, otherUploadPartInfo),
CONCURRENCY)
            .then(() => {
                        // Assemble parts.
                obsClient.completeMultipartUpload({
                    Bucket,
                    Key,
                    UploadId,
                    Parts: parts.sort((a, b) => a.PartNumber - b.PartNumber)
                }, (err, result) => {
                    if (err) {
                        console.log('Error-->' + err);
                    } else {
                        console.log('Status-->' + result.CommonMsg.Status);
                    };
                });
            });

    }).catch(function (err) {
        console.log(err)
    });
};


/**
 * Implement the parallel function execution.
 * @param {Array} params Parameter array of the callback function
 * @param {Promise} promiseFn Callback function
 * @param {number} limit Number of parallel parts
 */
const parallelFunc = (params, promiseFn, limit) => {
    return new Promise((resolve) => {
        let concurrency = 0;
        let finished = 0;
```

```
        const count = params.length;
        const run = (param) => {
            concurrency++;
            promiseFn(param)
                .then(() => {
                    concurrency--;
                    drainQueue();
                    finished++;
                    if (finished === count) {
                        resolve();
                    };
                });
        };
        const drainQueue = () => {
            while (params.length > 0 && concurrency < limit) {
                var param = params.shift();
                run(param);
            };
        };
        drainQueue();
    });

};

uploadFile('localfile');
```

NOTE

When uploading a large file in parts, you need to use the **Offset** and **PartSize** parameters to specify the start and end positions of each part in the file.

CAUTION

If the concurrency value is too great, timeout may occur due to network instability. In such case, you need to reduce that value.

# 8.2 Initiating a Multipart Upload (SDK for Node.js)

## Function

This API initiates a multipart upload and returns a globally unique upload ID. You can use this upload ID in your subsequent requests for uploading, assembling, and listing parts. Initiating multipart upload tasks do not affect existing objects with the same names as the involved objects in those tasks. There can be more than one multipart upload for the same object. Each multipart upload initiation request can contain additional headers such as **contentType**, **contentEncoding**, and the headers for ACL and custom metadata. These headers are recorded in the multipart upload metadata. After the API for initiating a multipart upload is successfully called, an upload ID will be returned. This ID will be used in subsequent operations.

## Restrictions

- To initiate a multipart upload, you must be the bucket owner or have the required permission (**obs:object:PutObject** in IAM or **PutObject** in a bucket policy).

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- After a multipart upload was initiated and one or more parts have been uploaded, you will be charged for storing these parts until you complete or cancel the upload.

## Method

```
ObsClient.initiateMultipartUpload(params)
```

## Request Parameters

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

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

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| ACL | **AclType** | No | **Explanation:**<br>An access control list (ACL) that can be pre-defined when creating a bucket.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Table 8-2**.<br>**Default value**:<br>private |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| WebsiteRedirectLocation | string | No | **Explanation:**<br>If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.<br>The request is redirected to object **anotherPage.html** in the same bucket:<br>WebsiteRedirectLocation:/anotherPage.html<br>The request is redirected to an external URL:<br>WebsiteRedirectLocation:http://www.example.com/<br>OBS obtains the specified value from the header and stores it in the object metadata **WebsiteRedirectLocation**.<br>**Value range**:<br>None<br>**Restrictions**:<br>• The value must start with a slash (/), **http://**, or **https://** and cannot exceed 2 KB.<br>• OBS only supports redirection of objects that are in the root directory.<br>**Default value**:<br>None |

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ContentType | string | No | **Explanation:**<br>MIME type of the file to be uploaded. MIME type is a standard way of describing a data type and is used by the browser to decide how to display data.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **What Is Content-Type (MIME)? (SDK for Node.js)**<br>**Default value**:<br>If you do not specify this parameter when uploading an object, the SDK determines the object type based on the suffix of the specified object name and automatically assigns a value to this parameter. |
| StorageClass | **StorageClassType** | No | **Explanation:**<br>Object storage class. If this parameter is not specified, the object inherits the storage class of its bucket.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Table 8-3**.<br>**Default value**:<br>STANDARD |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Metadata | object | No | **Explanation:**<br>Custom metadata of the object to be uploaded. You can add a header starting with **x-obs-meta-** in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.<br>**Restrictions**:<br>● The custom metadata cannot exceed 8 KB in total. To measure the size, calculate the sum of bytes of all UTF-8 encoded keys and values.<br>● The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.<br>● Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are required, they must be encoded and decoded in URL or Base64 on the client, because the server does not perform such operations.<br>**Value range**:<br>None<br>**Default value**:<br>None |

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| GrantRead | string | No | **Explanation:**<br>ID (domain_id) of an account the **READ** permission is granted to. The account with the **READ** permission can read the current object and obtain its metadata.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |
| GrantReadAcp | string | No | **Explanation:**<br>ID (domain_id) of an account the **READ_ACP** permission is granted to. The account with the **READ_ACP** permission can read the ACL of the current object.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| GrantWriteAcp | string | No | **Explanation:**<br>ID (domain_id) of an account the **WRITE_ACP** permission is granted to. The account with the **WRITE_ACP** permission can modify the ACL of the current object.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |
| GrantFullControl | string | No | **Explanation:**<br>ID (domain_id) of an account the **FULL_CONTROL** permission is granted to. The account with the **FULL_CONTROL** permission can read the current object, obtain its metadata, and obtain and modify its ACL.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Expires | number | No | **Explanation:**<br>Expiration time of the object (calculated from the latest modification time of the object). Expired objects are automatically deleted.<br>**Restrictions**:<br>• The value cannot be smaller than the number of days that have passed since the object was created. For example, if the object was uploaded 10 days ago, you cannot specify a value less than 10.<br>• This parameter can only be configured when uploading an object.<br>**Value range**:<br>1 to ($2^{63}$ - 1), in days<br>**Default value**:<br>None |

**Table 8-2** AclType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPrivate | private | Private read and write<br>A bucket or object can only be accessed by its owner. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPublicRead | public-read | Public read and private write<br>If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket.<br>If this permission is granted on an object, everyone can obtain the content and metadata of the object. |
| ObsClient.enums.AclPublicReadWrite | public-read-write | Public read and write<br>If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart upload tasks.<br>If this permission is granted on an object, everyone can obtain the content and metadata of the object. |
| ObsClient.enums.AclPublicReadDelivered | public-read-delivered | Public read on a bucket as well as the objects in the bucket.<br>If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions and read the content and metadata of objects in the bucket.<br>**NOTE**<br>**AclPublicReadDelivered** does not apply to objects. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPublicReadWriteDelivered | public-read-write-delivered | Public read and write on a bucket as well as the objects in the bucket.<br>If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart uploads. They can also read the content and metadata of objects in the bucket.<br>**NOTE**<br>**AclPublicReadWriteDelivered** does not apply to objects. |
| ObsClient.enums.AclBucketOwnerFullControl | bucket-owner-full-control | If this permission is granted on an object, only the bucket and object owners have the full control over the object.<br>By default, if you upload an object to a bucket of any other user, the bucket owner does not have the permissions on your object. After you grant this policy to the bucket owner, the bucket owner can have full control over your object. For example, if user A uploads object **x** to user B's bucket, user B does not have the control over object **x**. If user A sets the **bucket-owner-full-control** policy for object **x**, user B then has the control over object **x**. |

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**Table 8-3** StorageClassType

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

## Responses

**Table 8-4** Responses

| Type | Description |
| --- | --- |
| Table 8-5<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 8-5. |

**Table 8-5** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 8-6. |

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| Parameter | Type | Description |
| --- | --- | --- |
| InterfaceResult | Table 8-7 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 8-7.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 8-6** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 8-7** InitiateMultipartUploadOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

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| Parameter | Type | Description |
| --- | --- | --- |
| Bucket | string | **Explanation:**<br>Name of the bucket involved in the multipart upload. |
| Key | string | **Explanation:**<br>Object name in the multipart upload. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name. |
| UploadId | string | **Explanation:**<br>Multipart upload ID, for example, **000001648453845DBB78F2340DD460D8**. |

## Code Examples

This example initiates a multipart upload for object **example/objectname**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function initiateMultipartUpload() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the object (example/objectname in this example).
      Key: "example/objectname",
    };
    // Initiate the multipart upload.
    const result = await obsClient.initiateMultipartUpload(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Initiate multipart upload successfully with bucket(%s) and object(%s)!", params.Bucket, params.Key);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
     // A globally unique identifier of the multipart upload task, which will be used in uploading and assembling parts.
      console.log("UploadId: %s", result.InterfaceResult.UploadId);
      return;
    };
```

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```
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

initiateMultipartUpload();
```

# 8.3 Uploading a Part (SDK for Node.js)

## Function

After a multipart upload is initiated, this API uploads a part to a specified bucket. In the upload request, the multipart upload ID must be included.

When uploading a part, you must specify its upload ID and part number. You can select any part number between **1** and **10000**. A part number uniquely identifies a part and its location in the object you are uploading. If the number of an uploaded part is used to upload a new part, the uploaded part will be overwritten. Whenever you upload a part, OBS returns the ETag header in the response. For each part upload, you must record the part number and the ETag value. These values are required in subsequent requests to complete a multipart upload.

## Restrictions

- To assemble parts, you must be the bucket owner or have the required permission (**obs:object:PutObject** in IAM or **PutObject** in a bucket policy).
- Except for the last part uploaded, the other parts range from 0 to 5 GB, and the last part ranges from 100 KB to 5 GB. Part sizes will not be verified during upload because whether an uploaded part is the last one cannot be determined. Their sizes will be verified when being assembled.
- Each part is numbered from 1 to 10000.
- The minimum part size supported by an OBS 3.0 bucket is 100 KB, and that supported by an OBS 2.0 bucket is 5 MB. You are advised to perform the multipart upload on OBS 3.0 buckets.

## Method

```
ObsClient.uploadPart(params)
```

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## Request Parameters

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

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

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| PartNumber | number | Yes | **Explanation:**<br>Part number.<br>**Restrictions**:<br>None<br>**Value range**:<br>An integer ranging from 1 to 10000.<br>**Default value**:<br>None |
| UploadId | string | Yes | **Explanation:**<br>Multipart upload ID, which is generated by **initiating a multipart upload**.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters, for example, **000001648453845DBB78F2340DD460D8**.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ContentMD5 | string | No | **Explanation:**<br>Base64-encoded MD5 value of the data to be uploaded. It is used for the OBS server to verify data integrity.<br>**Restrictions**:<br>Base64-encoded, 128-bit MD5 value of the request body.<br>**Value range**:<br>Base64-encoded, 128-bit MD5 value of the request body calculated based on the RFC 1864 standard.<br>Example: **n58IG6hfM7vqI4K0vnWpog==**<br>**Default value**:<br>None |
| Body | string \| stream.Readable | No | **Explanation:**<br>Data stream of the object to be uploaded.<br>**Restrictions**:<br>The content size in a single upload ranges from 0 to 5 GB.<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| SourceFile | string | No | **Explanation:**<br>Source file path of the object to be uploaded<br>**Restrictions**:<br>• The content size in a single upload ranges from 0 to 5 GB.<br>• **Body** and **SourceFile** cannot be used together.<br>• If both **Body** and **SourceFile** are left blank, the size of the uploaded object is **0** bytes.<br>• **Offset**, **PartSize**, and **SourceFile** can be used together to specify part of the source file to upload.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| Offset | number | No | **Explanation:**<br>Start offset of a part in the source file.<br>**Restrictions**:<br>**Offset**, **PartSize**, and **SourceFile** can be used together to specify part of the source file to upload.<br>**Value range**:<br>A non-negative integer smaller than the size of the object to be uploaded, in bytes<br>**Default value**:<br>0 |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| PartSize | number | No | **Explanation:**<br>Part size.<br>**Restrictions**:<br>**Offset**, **PartSize**, and **SourceFile** can be used together to specify part of the source file to upload.<br>**Value range**:<br>The value ranges from 100 KB to 5 GB, in bytes.<br>**Default value**:<br>102400 |

## Responses

**Table 8-9** Responses

| Type | Description |
| --- | --- |
| Table 8-10<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 8-10. |

**Table 8-10** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 8-11. |

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| Parameter | Type | Description |
| --- | --- | --- |
| InterfaceResult | Table 8-12 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 8-12.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 8-11** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 8-12** UploadPartOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

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| Parameter | Type | Description |
| --- | --- | --- |
| ETag | string | **Explanation:**<br>Base64-encoded, 128-bit MD5 value of an object. The ETag is a unique identifier for the object's contents, used to determine if the object has been updated. For example, if the ETag value is **A** when an object is uploaded and becomes **B** when the object is downloaded, this indicates the contents of the object were changed. The ETag reflects changes of an object, not of the metadata. Objects created by the upload and copy operations have unique ETags after being encrypted using MD5.<br>**Restrictions**:<br>If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object. |

## Code Examples

This example uploads a part to bucket **examplebucket** in a specified multipart upload (uploadId) of object **example/objectname**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function uploadPart() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the object. example/objectname is used in this example.
      Key: "example/objectname",
      // Specify the ID of the multipart upload.
      UploadId: "0000000xxxxxxxx",
      // Specify the part number (1 in this example) of the part to upload. The part number is an integer ranging from 1 to 10000.
      PartNumber: 1,
      // Specify the source file path of the part to upload (localfile in this example).
```

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```
    SourceFile: "localfile",
    // Specify the part size (5 MB in this example), in bytes.
    PartSize: 5 * 1024 * 1024,
    // Specify the offset of the part (0 in this example).
    Offset: 0
  };
  // Upload the part.
  const result = await obsClient.uploadPart(params);
  if (result.CommonMsg.Status <= 300) {
    console.log("Upload part(%d) successful with bucket(%s) and object(%s)!", params.PartNumber,
params.Bucket, params.Key);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
    console.log("ETag: %s", result.InterfaceResult.ETag);
    return;
  };
  console.log("An ObsError was found, which means your request sent to OBS was rejected with an error
response.");
  console.log("Status: %d", result.CommonMsg.Status);
  console.log("Code: %s", result.CommonMsg.Code);
  console.log("Message: %s", result.CommonMsg.Message);
  console.log("RequestId: %s", result.CommonMsg.RequestId);
 } catch (error) {
  console.log("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.");
  console.log(error);
 };
};

uploadPart();
```

# 8.4 Assembling Parts (SDK for Node.js)

## Function

This API assembles the uploaded parts to complete the multipart upload. Before performing this operation, you cannot download the uploaded data. When assembling parts, you need to copy the additional message header information recorded during the multipart upload initiation to the object metadata. Such information is processed in the same way the information in a regular object upload is processed. In the case of assembling parts concurrently, the Last Write Wins strategy applies, but the time of Last Write is defined as the time when a multipart upload was initiated.

As long as the multipart upload is not aborted, all uploaded parts occupy the space. However, after you assembled the specified parts, those uploaded but not assembled will be deleted to free up space.

When assembling parts, OBS arranges parts in ascending order by part number. If any object metadata is provided during the initiation of the multipart upload, OBS will associate this metadata with the object. When the multipart upload is complete, the individual parts will no longer exist. A part assembling request must contain the upload ID, part numbers, and ETag values. OBS responses include the ETag that uniquely identifies the object data. This ETag is not required to be the MD5 hash value of the object data.

## Restrictions

- To assemble parts, you must be the bucket owner or have the required permission (**obs:object:PutObject** in IAM or **PutObject** in a bucket policy).

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- After a multipart upload is complete, the uploaded parts that were not assembled will be automatically deleted and cannot be restored. Before assembling parts, use the API for listing uploaded parts to check all parts to ensure no parts were left out.
- If the size of any part other than the last part is smaller than 100 KB, OBS returns **400 Bad Request**.

## Method

```
ObsClient.completeMultipartUpload(params)
```

## Request Parameters

**Table 8-13** List of request parameters

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

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| UploadId | string | Yes | **Explanation:**<br>Multipart upload ID, which is generated by **initiating a multipart upload**.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters, for example, **000001648453845DBB78F2340DD460D8**.<br>**Default value**:<br>None |
| Parts | **Part**[] | Yes | **Explanation:**<br>List of parts to be assembled. For details, see **Table 8-14**. |

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**Table 8-14** Part

| Parameter | Type | Description |
| --- | --- | --- |
| PartNumber | number | **Explanation:**<br>Part number.<br>**Restrictions**:<br>None<br>**Value range**:<br>An integer ranging from 1 to 10000.<br>**Default value**:<br>None |
| ETag | string | **Explanation:**<br>ETag of a part. It is calculated by encoding the 128-bit MD5 value of the part using Base64.<br>**Restrictions**:<br>ETag (MD5 value of the part data) can be obtained from the response returned by the API for **uploading a part**.<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |

## Responses

**Table 8-15** Responses

| Type | Description |
| --- | --- |
| **Table 8-16**<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see **Table 8-16**. |

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**Table 8-16** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 8-17. |
| InterfaceResult | Table 8-18 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 8-18.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 8-17** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

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**Table 8-18** CompleteMultipartUploadOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |
| ETag | string | **Explanation:**<br>Base64-encoded, 128-bit MD5 value of an assembled object calculated based on the ETag of each part. The ETag is a unique identifier for the object's contents, used to determine if the object has been updated. For example, if the ETag value is **A** when an object is uploaded and becomes **B** when the object is downloaded, this indicates the contents of the object were changed. The ETag reflects changes of an object, not of the metadata. Objects created by the upload and copy operations have unique ETags after being encrypted using MD5.<br>**Restrictions**:<br>If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object. |
| Bucket | string | **Explanation:**<br>Name of the bucket in which parts are assembled |
| Key | string | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name. |
| Location | string | **Explanation:**<br>URL of the object obtained from assembling the parts. |
| VersionId | string | **Explanation:**<br>Version ID of the object obtained from assembling the parts. If versioning is enabled for the bucket, the object version ID will be returned. |

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| Parameter | Type | Description |
| --- | --- | --- |
| EncodingType | string | **Explanation:**<br>Encoding type for **Key** in the response. If **Key** in the response contains control characters that are not supported by the XML 1.0 standard, you can specify this parameter to encode **Key**.<br>**Value range**:<br>**url**<br>**Default value**:<br>None. If you leave this parameter blank, encoding is not applied. |

## Code Examples

This example assembles the uploaded parts to complete multipart upload **00000188677110424014075CC4A77xxx** of object **example/objectname**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function completeMultipartUpload() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify an object. example/objectname is used in this example.
      Key: "example/objectname",
      // Specify the multipart upload ID (00000188677110424014075CC4A77xxx in this example).
      UploadId: "00000188677110424014075CC4A77xxx",
// Specify the list of parts to be assembled. The parts must be sorted by part number in ascending order, and the parts can be inconsecutive.
      Parts: [
        { PartNumber: 1, ETag: "etag1" },
        { PartNumber: 2, ETag: "etag2" },
        { PartNumber: 3, ETag: "etag3" },
      ]
    };
    // Assemble parts.
    const result = await obsClient.completeMultipartUpload(params);
    if (result.CommonMsg.Status <= 300) {
```

```
    console.log("Complete multipart upload successful with bucket(%s) and object(%s)!", params.Bucket,
params.Key);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
    return;
  };
  console.log("An ObsError was found, which means your request sent to OBS was rejected with an error
response.");
  console.log("Status: %d", result.CommonMsg.Status);
  console.log("Code: %s", result.CommonMsg.Code);
  console.log("Message: %s", result.CommonMsg.Message);
  console.log("RequestId: %s", result.CommonMsg.RequestId);
 } catch (error) {
  console.log("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.");
  console.log(error);
 };
};

completeMultipartUpload();
```

# 8.5 Listing Uploaded Parts (SDK for Node.js)

## Function

This API lists the uploaded parts in a specified bucket. This request must contain the multipart upload ID.

You can list the uploaded parts of a specified multipart upload or of all ongoing multipart uploads. For each listing request, OBS can list a maximum of 1,000 uploaded parts. If more than 1,000 parts were uploaded for a multipart upload, you need to send more than one request to list all uploaded parts. Assembled parts will not be listed.

## Restrictions

- To list uploaded parts, you must be the bucket owner or have the required permission (**obs:object:ListMultipartUploadParts** in IAM or **ListMultipartUploadParts** in a bucket policy).
- A maximum of 1,000 parts can be listed each time. If the upload of a specified ID contains more than 1,000 parts, **InterfaceResult.IsTruncated** in the response is **true**, indicating not all parts were listed. In such case, you can use **InterfaceResult.NextPartNumberMarker** to obtain the start position for the next listing.

## Method

```
ObsClient.listParts(params)
```

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## Request Parameters

**Table 8-19** List of request parameters

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

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| UploadId | string | Yes | **Explanation:**<br>Multipart upload ID, which is generated by **initiating a multipart upload**.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters, for example, **000001648453845DBB78F2340DD460D8**.<br>**Default value**:<br>None |
| PartNumberMarker | number | No | **Explanation:**<br>Part number the listing starts from.<br>**Restrictions**:<br>None<br>**Restrictions**:<br>OBS only lists parts with greater numbers than that specified by this parameter.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| MaxParts | number | No | **Explanation:**<br>Maximum number of parts that can be listed per page.<br>**Restrictions**:<br>If the specified value is greater than **1000**, only 1,000 parts are returned.<br>**Value range**:<br>The value ranges from **1** to **1000**.<br>**Default value**:<br>1000 |

## Responses

**Table 8-20** Responses

| Type | Description |
| --- | --- |
| Table 8-21<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 8-21. |

**Table 8-21** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 8-22. |
| InterfaceResult | Table 8-23 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 8-23.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

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**Table 8-22** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 8-23** ListMultipartUploadsOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |
| Bucket | string | **Explanation:**<br>Bucket name |
| Key | string | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name. |

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| Parameter | Type | Description |
| --- | --- | --- |
| UploadId | string | **Explanation:**<br>Multipart upload ID, for example, **000001648453845DBB78F2340DD460D8**. |
| Initiator | **Initiator** | **Explanation:**<br>Initiator of the multipart upload. For details, see **Table 8-24**. |
| Owner | **Owner** | **Explanation:**<br>Owner of the multipart upload, which is consistent with an initiator. For details, see **Table 8-25**. |
| StorageClass | **StorageClass Type** | **Explanation:**<br>Storage class of the object obtained from assembling parts. For details about storage classes, see **Table 8-26**. |
| PartNumberMarker | number | **Explanation:**<br>Part number the listing begins from, which is consistent with that specified in the request. |
| NextPartNumberMarker | number | **Explanation:**<br>Part number to start with for the next part listing request. This parameter is returned if some parts were not listed. You can set **PartNumberMarker** to this value in the next request to list the remaining parts. |
| MaxParts | number | **Explanation:**<br>Maximum number of parts that can be listed per page, which is consistent with that specified in the request. |
| IsTruncated | boolean | **Explanation:**<br>Whether all results are returned in the response.<br>**Value range**:<br>• **true**: Not all results are returned.<br>• **false**: All results are returned. |
| Parts | **Part**[] | **Explanation:**<br>List of uploaded parts. For details, see **Table 8-27**. |

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**Table 8-24** Initiator

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ID | string | Yes if used as a request parameter | **Explanation:**<br>Account (domain) ID of the initiator<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**.<br>**Default value**:<br>None |
| Display Name | string | No | **Explanation:**<br>Account name of the initiator<br>**Restrictions**:<br>The account name can contain 6 to 32 characters and must start with a letter. Only letters, digits, hyphens (-), and underscores (_) are allowed.<br>**Default value**:<br>None |

**Table 8-25** Owner

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ID | string | Yes if used as a request parameter | **Explanation:**<br>Account (domain) ID of the owner<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**.<br>**Default value**:<br>None |
| Display Name | string | No | **Explanation:**<br>Account name of the owner<br>**Default value**:<br>None |

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**Table 8-26** StorageClassType

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

**Table 8-27** Part

| Parameter | Type | Description |
| --- | --- | --- |
| PartNumber | number | **Explanation:**<br>Part number |
| LastModified | string | **Explanation:**<br>Time when a part was last modified, in UTC |
| ETag | string | **Explanation:**<br>ETag of a part. It is calculated by encoding the 128-bit MD5 value of the part using Base64. |
| Size | number | **Explanation:**<br>Size of the space occupied by a part |

## Code Examples

This example lists the parts that have been uploaded for a multipart upload.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');
// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
```

```
coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function listParts() {
    try {
        const params = {
            // Specify the bucket name.
            Bucket: "examplebucket",
            // Specify an object. example/objectname is used in this example.
            Key: "example/objectname",
            // Specify the multipart upload ID (00000188677110424014075CC4A77xxx in this example).
            UploadId: "00000188677110424014075CC4A77xxx",
            // Specify the maximum number of objects to be returned in alphabetic order. The default value is 1000. 100 is used in this example.
            MaxKeys: 100,
        };
        // List uploaded parts.
        const result = await obsClient.listParts(params);
        if (result.CommonMsg.Status <= 300) {
            console.log("List part successful with bucket(%s) and object(%s)!", params.Bucket, params.Key);
            console.log('RequestId: %s', result.CommonMsg.RequestId);
            console.log('Bucket: %s', result.InterfaceResult.Bucket);
            console.log('Key: %s', result.InterfaceResult.Key);
            console.log('UploadId: %s', result.InterfaceResult.UploadId);
            console.log('PartNumberMarker: %s', result.InterfaceResult.PartNumberMarker);
            console.log('NextPartNumberMarker: %s', result.InterfaceResult.NextPartNumberMarker);
            console.log('MaxParts: %s', result.InterfaceResult.MaxParts);
            console.log('IsTruncated: %s', result.InterfaceResult.IsTruncated);
            console.log('StorageClass: %s', result.InterfaceResult.StorageClass);
            console.log('Initiator[ID]: %s', result.InterfaceResult.Initiator['ID']);
            console.log('Owner[ID]: %s', result.InterfaceResult.Owner['ID']);
            for (let i = 0; i < result.InterfaceResult.Parts.length; i++) {
                const part = result.InterfaceResult.Parts[i];
                console.log("Part[%d]-ETag:%s, PartNumber:%d, LastModified:%s, Size:%d",
                    i, part.PartNumber, part.LastModified, part.ETag, part.Size);
            };
            return;
        };
        console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
        console.log("Status: %d", result.CommonMsg.Status);
        console.log("Code: %s", result.CommonMsg.Code);
        console.log("Message: %s", result.CommonMsg.Message);
        console.log("RequestId: %s", result.CommonMsg.RequestId);
    } catch (error) {
        console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
        console.log(error);
    };
};

listParts();
```

# 8.6 Listing Multipart Uploads (SDK for Node.js)

## Function

This API lists multipart uploads that have been initiated but not completed or cancelled.

You can list all the multipart uploads that are not assembled or aborted in a bucket. Each request can return up to 1,000 multipart uploads. If a bucket contains more than 1,000 multipart uploads, **InterfaceResult.IsTruncated** in the response is **true**, indicating not all uploads were listed. In such case, you can use **InterfaceResult.NextKeyMarker** and **InterfaceResult.NextUploadIdMarker** to obtain the start position for the next listing.

## Restrictions

- To list multipart uploads, you must be the bucket owner or have the required permission (**obs:bucket:ListBucketMultipartUploads** in IAM or **ListBucketMultipartUploads** in a bucket policy).

## Method

```
ObsClient.listMultipartUploads(params)
```

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## Request Parameters

**Table 8-28** List of request parameters

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

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Prefix | string | No | **Explanation:**<br>Prefix that the object names in the multipart uploads to be listed must contain.<br>Assume that you have the following objects: **logs/day1**, **logs/day2**, **logs/day3**, and **ExampleObject.jpg**. If you specify **logs/** as the prefix, the multipart uploads that contain **logs/day1**, **logs/day2**, or **logs/day3** will be returned. If this parameter is left blank and there are no other filtering criteria, all multipart uploads in the bucket will be returned.<br>**Restrictions**:<br>The value can contain 1 to 1,024 characters.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| MaxUploads | number | No | **Explanation:**<br>Maximum number of multipart uploads to list.<br>**Restrictions**:<br>If the specified value is greater than **1000**, only 1,000 multipart uploads are returned.<br>**Value range**:<br>An integer from **1** to **1000**<br>**Default value**:<br>1000 |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Delimiter | string | No | **Explanation:**<br>Object names are grouped by this parameter, which is often used with **Prefix**. If a prefix is specified, objects with the same string from the prefix to the first delimiter are grouped into one **CommonPrefixes**. If no prefix is specified, objects with the same string from the first character to the first delimiter are grouped into one **CommonPrefixes**.<br>Assume that a bucket has objects **abcd**, **abcde**, and **bbcde** in it. If **Delimiter** is set to **d** and **Prefix** is set to **a**, objects **abcd** and **abcde** are grouped into a **CommonPrefixes** with **abcd** as the prefix. If only **Delimiter** is set to **d**, objects **abcd** and **abcde** are grouped into a **CommonPrefixes** with **abcd** as the prefix, and **bbcde** is placed separately into another **CommonPrefixes** with **bbcd** as the prefix.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| KeyMarker | string | No | **Explanation:**<br>Object name to start with when listing multipart uploads<br>**Restrictions**:<br>None<br>**Value range**:<br>The value of **NextKeyMarker** in the response body of the last request.<br>**Default value**:<br>None |
| UploadIdMarker | string | No | **Explanation:**<br>Upload ID to start with when listing multipart uploads<br>**Restrictions**:<br>This parameter is valid only when used with **KeyMarker**. If both parameters are specified, multipart uploads with IDs greater than the specified **UploadIdMarker** for the specified **KeyMarker** are listed.<br>**Value range**:<br>The value of **NextUploadIdMarker** in the response body of the last request<br>**Default value**:<br>None |

## Responses

**Table 8-29** Responses

| Type | Description |
| --- | --- |
| Table 8-30<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 8-30. |

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**Table 8-30** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 8-31. |
| InterfaceResult | Table 8-32 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 8-32.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 8-31** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

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**Table 8-32** ListMultipartUploadsOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |
| Bucket | string | **Explanation:**<br>Bucket name |
| KeyMarker | string | **Explanation:**<br>Object name to start with when listing multipart uploads. This parameter corresponds to **KeyMarker** in the request. |
| UploadIdMarker | string | **Explanation:**<br>Upload ID to start with when listing multipart uploads. This parameter corresponds to **UploadIdMarker** in the request. |
| NextKeyMarker | string | **Explanation:**<br>Object name to start with for the next multipart upload listing request. This parameter is returned if some results were not returned. You can set **KeyMarker** in the next request to the returned value to list the remaining results. |
| NextUploadIdMarker | string | **Explanation:**<br>Upload ID to start with for the next multipart upload listing request. This parameter is used together with **NextKeyMarker**. This parameter is returned if some listing results were not returned. You can set **UploadIdMarker** of the next request to the returned value to list the remaining multipart uploads. |
| MaxUploads | number | **Explanation:**<br>Maximum number of multipart uploads that can be listed. This parameter corresponds to **MaxUploads** in the request. |
| IsTruncated | boolean | **Explanation:**<br>Whether all results are returned in the response.<br>**Value range**:<br>• **true**: Not all results are returned.<br>• **false**: All results are returned. |

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| Parameter | Type | Description |
| --- | --- | --- |
| Prefix | string | **Explanation:**<br>Object name prefix in multipart uploads. This parameter corresponds to **Prefix** in the request. It defines the prefix that the object names in the multipart uploads to be listed must contain.<br>Assume that you have the following objects: **logs/day1**, **logs/day2**, **logs/day3**, and **ExampleObject.jpg**. If you specify **logs/** as the prefix, the multipart uploads that contain **logs/day1**, **logs/day2**, or **logs/day3** will be returned. If this parameter is left blank and there are no other filtering criteria, all multipart uploads in the bucket will be returned. |
| Delimiter | string | **Explanation:**<br>Used to group object names involved in multipart uploads. This parameter corresponds to **Delimiter** in the request. This parameter is often used with **Prefix**. If a prefix is specified, objects with the same string from the prefix to the first delimiter are grouped into one **CommonPrefixes**. If no prefix is specified, objects with the same string from the first character to the first delimiter are grouped into one **CommonPrefixes**.<br>Assume that a bucket has objects **abcd**, **abcde**, and **bbcde** in it. If **Delimiter** is set to **d** and **Prefix** is set to **a**, objects **abcd** and **abcde** are grouped into a **CommonPrefixes** with **abcd** as the prefix. If only **Delimiter** is set to **d**, objects **abcd** and **abcde** are grouped into a **CommonPrefixes** with **abcd** as the prefix, and **bbcde** is placed separately into another **CommonPrefixes** with **bbcd** as the prefix. |
| Uploads | **Upload**[] | **Explanation:**<br>List of multipart uploads. For details, see **Table 8-33**. |

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**Table 8-33** Upload

| Parameter | Type | Description |
| --- | --- | --- |
| Key | string | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name. |
| UploadId | string | **Explanation:**<br>Multipart upload ID, for example, **000001648453845DBB78F2340DD460D8**. |
| Initiator | **Initiator** | **Explanation:**<br>Initiator of the multipart upload. For details, see **Table 8-34**. |
| Owner | **Owner** | **Explanation:**<br>Account ID of the object owner. For details, see **Table 8-35**. |
| StorageClass | **StorageClassType** | **Explanation:**<br>Storage class of the object involved in the multipart upload. For details about the storage classes, see **Table 8-36**. |
| Initiated | string | **Explanation:**<br>Time when the multipart upload was initiated |

**Table 8-34** Initiator

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ID | string | Yes if used as a request parameter | **Explanation:**<br>Account (domain) ID of the initiator<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Display Name | string | No | **Explanation:**<br>Account name of the initiator<br>**Restrictions**:<br>The account name can contain 6 to 32 characters and must start with a letter. Only letters, digits, hyphens (-), and underscores (_) are allowed.<br>**Default value**:<br>None |

**Table 8-35** Owner

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ID | string | Yes if used as a request parameter | **Explanation:**<br>Account (domain) ID of the owner<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**.<br>**Default value**:<br>None |
| Display Name | string | No | **Explanation:**<br>Account name of the owner<br>**Default value**:<br>None |

**Table 8-36** StorageClassType

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

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.StorageClassWarm | WARM | Warm storage class.<br>Used for storing data that is semi-frequently accessed (fewer than 12 times a year) but becomes instantly available when needed. |
| ObsClient.enums.StorageClassCold | COLD | Cold storage class.<br>Used for storing rarely accessed (once a year) data. |

## Code Examples

This example lists all multipart uploads for bucket **examplebucket** that have been initiated but not completed or aborted.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function listMultipartUploads() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify an object. example/objectname is used in this example.
      Key: "example/objectname",
      // Specify the maximum number of multipart uploads that can be listed. 10 is used in this example.
      MaxUploads: 10
    };
    // List multipart uploads.
    const result = await obsClient.listMultipartUploads(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("List multipart uploads successful with bucket(%s) !", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      for (let i = 0; i < output.Uploads.length; i++) {
        const upload = output.Uploads[i];
        console.log("Upload[%d]-OwnerId:%s, UploadId:%s, Key:%s, Initiated:%s",
            i, upload.Owner.ID, upload.UploadId, upload.Key, upload.Initiated);
      };
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error
```

```
response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

listMultipartUploads();
```

# 8.7 Copying a Part (SDK for Node.js)

## Function

This API uploads a part for a specified multipart upload by copying data to a specified bucket.

After initiating a multipart upload task, you can add parts for this task by copying part or all of an existing object in OBS.

Assume that you copy a source object and save it as **part1**. If there is already an existing part called **part1**, the new **part1** will overwrite the existing **part1**. Then, only the new **part1** can be listed. The old **part1** is deleted. To prevent accidental deletion, ensure there is no existing object with the same name as the part involved when using this API. The source object remains unchanged during the copy process.

## Restrictions

- To copy a part, you must be the bucket owner or have the required permission (**obs:object:PutObject** in IAM or **PutObject** in a bucket policy).
- You cannot determine whether the operation is successful solely based on **status_code** returned in the HTTP header. For example, code **200** indicates that the server has received and started to process the request. The copy operation is considered successful only when the response body contains an ETag.

## Method

```
ObsClient.copyPart(params)
```

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## Request Parameters

**Table 8-37** List of request parameters

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

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| PartNumber | number | Yes | **Explanation:**<br>Part number.<br>**Restrictions**:<br>None<br>**Value range**:<br>Value range: 1–10000<br>**Default value**:<br>None |
| UploadId | string | Yes | **Explanation:**<br>Multipart upload ID, which is generated by **initiating a multipart upload**.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters, for example, **000001648453845DBB78F2340DD460D8**.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| CopySource | string | Yes | **Explanation:**<br>Names of the source bucket and object. If the source object has multiple versions, the **versionId** parameter is used to specify the desired version.<br>Example: **source_bucket/sourceObject?versionId=G001117FCE89978B0000401205D5DC9A**<br>**Restrictions**:<br>Full-width characters and percent signs (%) must be URL-encoded.<br>**Value range**:<br>None<br>**Default value**:<br>None |

## Responses

**Table 8-38** Responses

| Type | Description |
| --- | --- |
| Table 8-39<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 8-39. |

**Table 8-39** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 8-40. |

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| Parameter | Type | Description |
| --- | --- | --- |
| InterfaceResult | Table 8-41 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 8-41.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 8-40** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 8-41** CopyPartOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

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| Parameter | Type | Description |
| --- | --- | --- |
| ETag | string | **Explanation:**<br>Base64-encoded, 128-bit MD5 value of an object. The ETag is a unique identifier for the object's contents, used to determine if the object has been updated. For example, if the ETag value is **A** when an object is uploaded and becomes **B** when the object is downloaded, this indicates the contents of the object were changed. The ETag reflects changes of an object, not of the metadata. Objects created by the upload and copy operations have unique ETags after being encrypted using MD5.<br>**Restrictions**:<br>If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object. |
| LastModified | string | **Explanation:**<br>Time when a part was last modified, in UTC |
| PartNumber | number | **Explanation:**<br>Part number. |

## Code Examples

This example copies a part from object **example/sourceobjectname** in bucket **sourcebucketname** to object **example/objectname** in bucket **examplebucket**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function copyPart() {
  try {
    const params = {
      // Specify the bucket name.
```

```
    Bucket: "examplebucket",
    // Specify an object. example/objectname is used in this example.
    Key: "example/objectname",
    // Specify the names of the source bucket (sourcebucketname in this example) and source object (example/sourceobjectname in this example).
    CopySource: "sourcebucketname/example/sourceobjectname",
    // Specify the part number (1 in this example).
    PartNumber: 1,
    // Specify the multipart upload ID (00000188677110424014075CC4A77xxx in this example).
    UploadId: "00000188677110424014075CC4A77xxx",
  };
  // Copy the part.
  const result = await obsClient.copyPart(params);
  if (result.CommonMsg.Status <= 300) {
    console.log("Complete multipart upload successful with bucket(%s) and object(%s)!", params.Bucket, params.Key);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
    return;
  };
  console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
  console.log("Status: %d", result.CommonMsg.Status);
  console.log("Code: %s", result.CommonMsg.Code);
  console.log("Message: %s", result.CommonMsg.Message);
  console.log("RequestId: %s", result.CommonMsg.RequestId);
 } catch (error) {
  console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
  console.log(error);
 };
};

copyPart();
```

# 8.8 Aborting a Multipart Upload (SDK for Node.js)

## Function

This API aborts a multipart upload by specifying its ID.

After a multipart upload is aborted, its upload ID cannot be used to upload any part. And the space occupied by all uploaded parts will be freed up. If any parts are being uploaded when you abort the upload, they may or may not be uploaded successfully. To free up the space occupied by all uploaded parts, you must abort the multipart upload after all parts have been uploaded.

## Restrictions

- To abort a multipart upload, you must be the bucket owner or have the required permission (**obs:object:AbortMultipartUpload** in IAM or **AbortMultipartUpload** in a bucket policy).

## Method

```
ObsClient.abortMultipartUpload(params)
```

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## Request Parameters

**Table 8-42** List of request parameters

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| input | Table 8-43 | Yes | **Explanation:**<br>Input parameters in the request for aborting a multipart upload. For details, see **Table 8-43**. |

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**Table 8-43** List of request parameters

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

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| UploadId | string | Yes | **Explanation:**<br>Multipart upload ID, which is generated by **initiating a multipart upload**.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters, for example, **000001648453845DBB78F2340DD460D8**.<br>**Default value**:<br>None |

## Responses

**Table 8-44** Responses

| Type | Description |
| --- | --- |
| **Table 8-45**<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see **Table 8-45**. |

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**Table 8-45** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 8-46. |
| InterfaceResult | Table 8-47 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 8-47.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 8-46** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

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**Table 8-47** BaseResponseOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

## Code Examples

This example aborts multipart upload **0000018867711042401407 5CC4A77xxx**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function abortMultipartUpload() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify an object. example/objectname is used in this example.
      Key: "example/objectname",
      // Specify the multipart upload ID (0000018867711042401407 5CC4A77xxx in this example).
      UploadId: "0000018867711042401407 5CC4A77xxx",
    };
    // Abort the multipart upload.
    const result = await obsClient.abortMultipartUpload(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Abort multipart upload successful!");
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

abortMultipartUpload();
```

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# 9 Temporarily Authorized Access (SDK for Node.js)

## 9.1 Using a Temporary URL for Authorized Access (SDK for Node.js)

### Function

OBS allows you to create a URL whose Query parameters carry authentication information by specifying the AK and SK, HTTP method, and request parameters. You can provide this URL for other users to grant them temporary access. When generating a URL, you need to specify the validity period of the URL to restrict the access duration of visitors.

To grant other users the temporary permission to perform operations (such as upload), you need to generate a URL for the corresponding request (such as PUT) and provide it for users.

### Restrictions

- If a CORS or signature mismatch error occurs, troubleshoot the issue as follows:
  a. If CORS is not configured, you need to configure CORS rules on OBS Console.
  b. If the signatures do not match, check whether signature parameters are missing or invalid. For example, during an object upload, the backend uses **Content-Type** to calculate the signature and generate a signed URL, but if **Content-Type** is not set or is set to an invalid value when the frontend uses that URL, a CORS error occurs. To resolve this issue, ensure **Content-Type** remains consistent at the frontend and backend.

### Method

```
ObsClient.createSignedUrlSync(params)
```

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## Request Parameters

**Table 9-1** List of request parameters

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Method | HttpMethodType | Yes | **Explanation:**<br>HTTP method. For details, see **Table 9-2**. |
| Bucket | string | Yes | **Explanation:**<br>Bucket name<br>**Restrictions**:<br>• A bucket name must be unique across all accounts and regions.<br>• A bucket name:<br>– Must be 3 to 63 characters long and start with a digit or letter. Lowercase letters, digits, hyphens (-), and periods (.) are allowed.<br>– Cannot be formatted as an IP address.<br>– Cannot start or end with a hyphen (-) or period (.).<br>– Cannot contain two consecutive periods (..), for example, **my..bucket**.<br>– Cannot contain a period (.) and a hyphen (-) adjacent to each other, for example, **my-.bucket** or **my.-bucket**.<br>• If you repeatedly create buckets with the same name in the same region, no error will be reported, and the bucket attributes comply with those set in the first creation request.<br>**Value range**:<br>The value can contain 3 to 63 characters.<br>**Default value**:<br>None |

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| SpecialParam | **SpecialParam** | No | **Explanation:**<br>Sub-resource to be accessed<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Table 9-3**.<br>**Default value**:<br>None |
| Expires | number | No | **Explanation:**<br>Expiration time of the signed URL.<br>**Restrictions**:<br>None<br>**Value range**:<br>• The value of this parameter for temporary credentials ranges from **0** to **86400**, in seconds.<br>• The value of this parameter for permanent keys ranges from **0** to **630720000**, in seconds.<br>**Default value**:<br>300 |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Headers | object | No | **Explanation:**<br>Headers in the request.<br>**Restrictions**:<br>None<br>**Value range**:<br>None<br>**Default value**:<br>None |
| QueryParams | object | No | **Explanation:**<br>Query parameters in the request.<br>**Restrictions**:<br>None<br>**Value range**:<br>None<br>**Default value**:<br>None |

**Table 9-2** HttpMethodType

| Constant | Description |
| --- | --- |
| GET | HTTP GET request |
| POST | HTTP POST request |
| PUT | HTTP PUT request |
| DELETE | HTTP DELETE request |
| HEAD | HTTP HEAD request |
| OPTIONS | HTTP OPTIONS request |

**Table 9-3** SpecialParam

| Constant | Applicable API |
| --- | --- |
| storagePolicy | Specify or obtain bucket storage classes. |
| quota | Specify or obtain bucket quotas. |

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| Constant | Applicable API |
| --- | --- |
| storageinfo | Obtain bucket storage information. |
| location | Obtain bucket locations. |
| acl | Specify or obtain bucket ACLs or object ACLs. |
| policy | Specify, obtain, or delete bucket policies. |
| cors | Specify, obtain, or delete bucket CORS configurations. |
| versioning | Specify or obtain bucket versioning statuses. |
| website | Specify, obtain, or delete bucket website configurations. |
| logging | Specify or obtain bucket logging settings. |
| lifecycle | Specify, obtain, or delete lifecycle rules of buckets. |
| notification | Specify or obtain the notification configurations of buckets. |
| append | Append data to an object. |
| delete | Batch delete objects. |
| versions | List object versions in buckets. |
| uploads | List or initiate multipart uploads in buckets. |
| restore | |

## Responses

**Table 9-4** Responses

| Parameter | Type | Description |
| --- | --- | --- |
| SignedUrl | string | **Explanation:**<br>The signed URL that carries the authentication information. |
| ActualSignedRequestHeaders | object | **Explanation:**<br>Headers that need to be included in the request initiated using the signed URL. |

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

**Step 1** Call **ObsClient.createSignedUrlSync** 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 is not configured, you need to configure CORS rules on OBS Console.
2. If the signatures do not match, check whether signature parameters are correct by referring to . For example, during an object upload, the backend uses **Content-Type** to calculate the signature and generate an authorized URL, but if **Content-Type** is not set or set incorrectly when the frontend uses the authorized URL, a CORS error occurs. To avoid this issue, ensure that **Content-Type** fields at both the frontend and backend are kept consistent.

The following code examples use a temporary URL to create a bucket or upload, download, list, or delete objects.

## Code Examples: Creating a Bucket

This example creates a bucket using a temporary URL.

```
// Import the OBS library.
// Use npm to install the client.
var ObsClient = require('esdk-obs-nodejs');
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');
var https = require('https');
var urlLib = require('url');
var crypto = require('crypto');

// Create an ObsClient instance.
var 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.
      access_key_id: process.env.ACCESS_KEY_ID,
      secret_access_key: process.env.SECRET_ACCESS_KEY,
      server : 'https://your-endpoint'
});

let bucketName = 'bucketname';
let method = 'PUT';
let res = obsClient.createSignedUrlSync({Method : method, Bucket : bucketName});
let location = 'your-location';
let content  = `<CreateBucketConfiguration><LocationConstraint>${location}</LocationConstraint></CreateBucketConfiguration>`;

// Make a PUT request to create a bucket.
var url = urlLib.parse(res.SignedUrl);
var req = https.request({
      method : method,
      host : url.hostname,
      port : url.port,
      path : url.path,
      rejectUnauthorized : false,
      headers : res.ActualSignedRequestHeaders || {}
});
```

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```
console.log('Creating bucket using url:' + res.SignedUrl);

req.on('response',   (serverback) => {
      var buffers = [];
      serverback.on('data', (data) => {
            buffers.push(data);
      }).on('end', () => {

            if(serverback.statusCode < 300){
                  console.log('Creating bucket using temporary signature succeed.');
            }else{
                  console.log('Creating bucket using temporary signature failed!');
                  console.log('status:' + serverback.statusCode);
                  console.log('\n');
            };
            buffers = Buffer.concat(buffers);
            if(buffers.length > 0){
                  console.log(buffers.toString());
            };
            console.log('\n');
      });
}).on('error',(err) => {
      console.log('Creating bucket using temporary signature failed!');
      console.log(err);
      console.log('\n');
});

if(content){
      req.write(content);
};
req.end();
```

## Code Examples: Uploading an Object

This example uploads an object using a temporary URL.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

function createSignedUrlSync() {
  // Specify the HTTP method. PUT is used in this example.
  const method = 'PUT';
  const params = {
    // Specify the bucket name.
    Bucket: "examplebucket",
    // Specify an object (example/objectname in this example).
    Key: "example/objectname",
    // Specify the HTTP method.
    Method: method,
    // Specify the validity period of the signed URL, in seconds (3600 in this example).
    Expires: 3600,
```

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```
  // Specify the headers carried in the request.
  Headers: {
    "Content-Type": "text/plain",
  }
};

// Create a signed URL for uploading an object.
const res = obsClient.createSignedUrlSync(params);
console.log("SignedUrl: %s", res.SignedUrl);
console.log("ActualSignedRequestHeaders: %v", res.ActualSignedRequestHeaders);

let content  = 'Hello OBS';
// Make a PUT request to upload an object.
var url = urlLib.parse(res.SignedUrl);
var req = https.request({
  method: method,
  host: url.hostname,
  port: url.port,
  path: url.path,
  rejectUnauthorized: false,
  headers: res.ActualSignedRequestHeaders || {}
});
console.log('Creating object using url:' + res.SignedUrl);

req.on('response', (serverback) => {
  var buffers = [];
  serverback.on('data', (data) => {
    buffers.push(data);
  }).on('end', () => {
    if (serverback.statusCode < 300) {
      console.log('Creating object using temporary signature succeed.');
    } else {
      console.log('Creating object using temporary signature failed!');
      console.log('status:' + serverback.statusCode);
      console.log('\n');
    };
    buffers = Buffer.concat(buffers);
    if (buffers.length > 0) {
      console.log(buffers.toString());
    };
    console.log('\n');
  });
}).on('error', (err) => {
  console.log('Creating object using temporary signature failed!');
  console.log(err);
  console.log('\n');
});
if (content) {
  req.write(content);
};
req.end();
};

createSignedUrlSync();
```

## Code Examples: Downloading an Object

This example downloads an object using a temporary URL.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
```

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```
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

function createSignedUrlSync() {
  // Specify the HTTP method. GET is used in this example.
  const method = 'GET';

  const params = {
    // Specify the bucket name.
    Bucket: "examplebucket",
    // Specify an object (example/objectname in this example).
    Key: "example/objectname",
    // Specify the HTTP method.
    Method: method,
    // Specify the validity period of the signed URL, in seconds (3600 in this example).
    Expires: 3600,
  };

  // Make a GET request to download an object.
  var url = urlLib.parse(res.SignedUrl);
  var req = https.request({
    method: method,
    host: url.hostname,
    port: url.port,
    path: url.path,
    rejectUnauthorized: false,
    headers: res.ActualSignedRequestHeaders || {}
  });
  console.log('Creating object using url:' + res.SignedUrl);

  req.on('response', (serverback) => {
    var buffers = [];
    serverback.on('data', (data) => {
      buffers.push(data);
    }).on('end', () => {
      if (serverback.statusCode < 300) {
        console.log('Getting object using temporary signature succeed.');
      } else {
        console.log('Getting object using temporary signature failed!');
        console.log('status:' + serverback.statusCode);
        console.log('\n');
      };
      buffers = Buffer.concat(buffers);
      if (buffers.length > 0) {
        console.log(buffers.toString());
      };
      console.log('\n');
    });
  }).on('error', (err) => {
    console.log('Getting object using temporary signature failed!');
    console.log(err);
    console.log('\n');
  });
  req.end();
};

createSignedUrlSync();
```

## Code Examples: Listing Objects

This example lists objects using a temporary URL.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

function createSignedUrlSync() {
  // Specify the HTTP method. GET is used in this example.
  const method = 'GET';

  const params = {
    // Specify the bucket name.
    Bucket: "examplebucket",
    // Specify the HTTP method.
    Method: method,
    // Specify the validity period of the signed URL, in seconds (3600 in this example).
    Expires: 3600,
  };

  // Make a GET request to obtain the object list.
  var url = urlLib.parse(res.SignedUrl);
  var req = https.request({
    method: method,
    host: url.hostname,
    port: url.port,
    path: url.path,
    rejectUnauthorized: false,
    headers: res.ActualSignedRequestHeaders || {}
  });
  console.log('Listing object using url:' + res.SignedUrl);

  req.on('response', (serverback) => {
    var buffers = [];
    serverback.on('data', (data) => {
      buffers.push(data);
    }).on('end', () => {
      if (serverback.statusCode < 300) {
        console.log('Listing object using temporary signature succeed.');
      } else {
        console.log('Listing object using temporary signature failed!');
        console.log('status:' + serverback.statusCode);
        console.log('\n');
      };
      buffers = Buffer.concat(buffers);
      if (buffers.length > 0) {
        console.log(buffers.toString());
      };
      console.log('\n');
    });
  }).on('error', (err) => {
    console.log('Listing object using temporary signature failed!');
    console.log(err);
    console.log('\n');
  });
```

```
  req.end();
};

createSignedUrlSync();
```

## Code Examples: Deleting an Object

This example deletes an object using a temporary URL.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

function createSignedUrlSync() {
  // Specify the HTTP method. DELETE is used in this example.
  const method = 'DELETE';
  const params = {
    // Specify the bucket name.
    Bucket: "examplebucket",
    // Specify an object (example/objectname in this example).
    Key: "example/objectname",
    // Specify the HTTP method.
    Method: method,
    // Specify the validity period of the signed URL, in seconds (3600 in this example).
    Expires: 3600,
  };

  // Make a DELETE request to delete the object.
  var url = urlLib.parse(res.SignedUrl);
  var req = https.request({
    method: method,
    host: url.hostname,
    port: url.port,
    path: url.path,
    rejectUnauthorized: false,
    headers: res.ActualSignedRequestHeaders || {}
  });
  console.log('Deleting object using url:' + res.SignedUrl);
  req.on('response', (serverback) => {
    var buffers = [];
    serverback.on('data', (data) => {
      buffers.push(data);
    }).on('end', () => {
      if (serverback.statusCode < 300) {
        console.log('Deleting object using temporary signature succeed.');
      } else {
        console.log('Deleting object using temporary signature failed!');
        console.log('status:' + serverback.statusCode);
        console.log('\n');
      };
      buffers = Buffer.concat(buffers);
      if (buffers.length > 0) {
```

```
        console.log(buffers.toString());
      };
      console.log('\n');
    });
  }).on('error', (err) => {
    console.log('Deleting object using temporary signature failed!');
    console.log(err);
    console.log('\n');
  });
  req.end();
};

createSignedUrlSync();
```

# 10 Versioning (SDK for Node.js)

## 10.1 Versioning Overview (SDK for Node.js)

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.

## 10.2 Configuring Versioning for a Bucket (SDK for Node.js)

### Function

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

This API configures versioning for a bucket.

### Restrictions

- To configure versioning for a bucket, you must be the bucket owner or have the required permission (**obs:bucket:PutBucketVersioning** in IAM or **PutBucketVersioning** in a bucket policy).

### Method

```
ObsClient.setBucketVersioning(params)
```

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## Request Parameters

**Table 10-1** List of request parameters

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

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| VersionStatus | string | Yes | **Explanation:**<br>Versioning status of the bucket.<br>**Restrictions**:<br>None<br>**Value range**:<br>Versioning status of the bucket. Possible values are:<br>• **Enabled**<br>• **Suspended**<br>**Default value**:<br>None |

## Responses

**Table 10-2** Responses

| Type | Description |
| --- | --- |
| Table 10-3<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results.<br>For details, see **Table 10-3**. |

**Table 10-3** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see **Table 10-4**. |
| InterfaceResult | Table 10-5 | **Explanation:**<br>Results outputted for a successful call. For details, see **Table 10-5**.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

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**Table 10-4** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 10-5** BaseResponseOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

## Code Examples

This example configures versioning for bucket **examplebucket**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  //Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
```

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```
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function setBucketVersioning() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify a versioning status (Enabled in this example) for the bucket.
      VersionStatus: 'Enabled'
    };

    // Configure versioning for the bucket.
    const result = await obsClient.setBucketVersioning(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Set bucket(%s)'s versioning status successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

setBucketVersioning();
```

# 10.3 Viewing the Versioning Status of a Bucket (SDK for Node.js)

## Function

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

This API obtains the versioning status of a bucket.

## Restrictions

- To view the versioning status of a bucket, you must be the bucket owner or have the required permission (**obs:bucket:GetBucketVersioning** in IAM or **GetBucketVersioning** in a bucket policy).

## Method

```
ObsClient.getBucketVersioning(params)
```

## Request Parameters

**Table 10-6** BucketRequestInput

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

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## Responses

**Table 10-7** Responses

| Type | Description |
| --- | --- |
| Table 10-8<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 10-8. |

**Table 10-8** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 10-9. |
| InterfaceResult | Table 10-10 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 10-10.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 10-9** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |

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| | | |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 10-10** GetBucketVersioningOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |
| VersionStatus | string | **Explanation:**<br>Versioning status of the bucket |

## Code Examples

You can call **ObsClient.getBucketVersioning** to view the versioning status of a bucket. The following code shows how to view the versioning status of bucket **examplebucket**:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  //Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function getBucketVersioning() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
    };
    // Obtain the versioning status of the bucket.
    const result = await obsClient.getBucketVersioning(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Get bucket(%s)'s versioning status successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
```

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```
    console.log('VersionStatus: %s', result.InterfaceResult.VersionStatus);
    return;
  };
  console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
  console.log("Status: %d", result.CommonMsg.Status);
  console.log("Code: %s", result.CommonMsg.Code);
  console.log("Message: %s", result.CommonMsg.Message);
  console.log("RequestId: %s", result.CommonMsg.RequestId);
 } catch (error) {
  console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
  console.log(error);
 };
};

getBucketVersioning();
```

# 10.4 Obtaining an Object Version (SDK for Node.js)

## Function

This API downloads an object version from OBS to your local computer.

## Restrictions

- To download an object, you must be the bucket owner or have the required permission (**obs:object:GetObject** in IAM or **GetObject** in a bucket policy).
- Objects in the storage class can be downloaded only when they are in the **Restored** status.

## Method

```
ObsClient.getObject(params)
```

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## Request Parameters

**Table 10-11** List of request parameters

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

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| VersionId | string | No | **Explanation:**<br>Object version ID, for example, **G001117FCE89978B0000401205D5DC9A**<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |
| SaveAsFile | string | No | **Explanation:**<br>The download path with the file name contained<br>**Restrictions**:<br>A file name must be included in the path, for example, **aa/bb.txt**.<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| SaveAsStream | boolean | No | **Explanation:**<br>Whether the object is returned as a readable stream<br>**Value range**:<br>• **true**: The object is returned as a readable stream.<br>• **false**: The object is not returned as a readable stream.<br>**Default value**:<br>false |
| ProgressCallback | function | No | **Explanation:**<br>Callback function for obtaining the download progress<br>**NOTE**<br>This callback function contains the following parameters in sequence: number of downloaded bytes, total bytes, and used time (unit: second).<br>**Restrictions**:<br>None<br>**Value range**:<br>None<br>**Default value**:<br>None |
| IfMatch | string | No | **Explanation:**<br>Preset ETag. If the ETag of the object to be downloaded is the same as the preset ETag, the object is returned. Otherwise, an error is returned.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| IfModifiedSince | string | No | **Explanation:**<br>If the object was modified after the time specified by this parameter, its content is returned. Otherwise, an error code is returned.<br>**Restrictions**:<br>The value must conform with the HTTP time format specified in http://www.ietf.org/rfc/rfc2616.txt.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| IfNoneMatch | string | No | **Explanation:**<br>Preset ETag. If the ETag of the object to be downloaded is different from the preset ETag, the object is returned. Otherwise, an error is returned.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| IfUnmodifiedSince | string | No | **Explanation:**<br>If the object was modified before the time specified by this parameter, its content is returned. Otherwise, an error code is returned.<br>**Restrictions**:<br>The value must conform with the HTTP time format specified in http://www.ietf.org/rfc/rfc2616.txt.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| Range | string | No | **Explanation:**<br>Download range. For example, **0-999** indicates the range is from byte 1 to byte 1000.<br>**Restrictions**:<br>The maximum length of **Range** is the length of the object minus 1. If the specified value exceeds this limit, the length of the object minus 1 is used.<br>**Value range**:<br>0 to the object length minus 1. Format: **bytes=***x*-*y*<br>**Default value**:<br>None |
| Origin | string | No | **Explanation:**<br>Origin of the cross-domain request specified in the preflight request. It is usually a domain name.<br>**Restrictions**:<br>Each origin can contain at most one wildcard character (*).<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| RequestHeader | string | No | **Explanation:**<br>HTTP headers that can be used in cross-origin requests. Only CORS requests matching the allowed headers are valid.<br>**Restrictions**:<br>Each header can contain at most one wildcard character (*). Spaces, ampersands (&), colons (:), less-than signs (<), and full-width characters are not allowed.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| ResponseCacheControl | string | No | **Explanation:**<br>This parameter is used to rewrite the **Cache-Control** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Cache-Control values defined in HTTP.<br>**Default value**:<br>None |
| ResponseContent-Disposition | string | No | **Explanation:**<br>This parameter is used to rewrite the **Content-Disposition** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Disposition values defined in HTTP.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ResponseContentEncoding | string | No | **Explanation:**<br>This parameter is used to rewrite the **Content-Encoding** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Encoding values defined in HTTP.<br>**Default value**:<br>None |
| ResponseContentLanguage | string | No | **Explanation:**<br>This parameter is used to rewrite the **Content-Language** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Language values defined in HTTP.<br>**Default value**:<br>None |
| ResponseContent-Type | string | No | **Explanation:**<br>This parameter is used to rewrite the **Content-Type** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **What Is Content-Type (MIME)? (SDK for Node.js)**<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ResponseExpires | string | No | **Explanation:**<br>This parameter is used to rewrite the **Expires** header in the response.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Expires values defined in HTTP.<br>**Default value**:<br>None |

NOTE

- If a download request includes **IfUnmodifiedSince** or **IfMatch** but does not meet the conditions specified by these parameters, an exception is thrown with HTTP status code **412 Precondition Failed**.
- If a download request includes **IfModifiedSince** or **IfNoneMatch** but does not meet the conditions specified by these parameters, an exception is thrown with HTTP status code **304 Not Modified**.

## Responses

**Table 10-12** Responses

| Type | Description |
| --- | --- |
| Table 10-13<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 10-13. |

**Table 10-13** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 10-14. |

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| Parameter | Type | Description |
| --- | --- | --- |
| InterfaceResult | Table 10-15 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 10-15.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 10-14** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 10-15** GetObjectOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |

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| Parameter | Type | Description |
| --- | --- | --- |
| DeleteMarker | string | **Explanation:**<br>Whether the deleted object is a delete marker. |
| LastModified | string | **Explanation:**<br>Time when the object was last modified. |
| ContentLength | string | **Explanation:**<br>Object size. |
| CacheControl | string | **Explanation:**<br>**Cache-Control** header in the response. |
| ContentDisposition | string | **Explanation:**<br>**Content-Disposition** header in the response. |
| ContentEncoding | string | **Explanation:**<br>**Content-Encoding** header in the response. |
| ContentLanguage | string | **Explanation:**<br>**Content-Language** header in the response. |
| ContentType | string | **Explanation:**<br>MIME type of the object. |
| Expires | string | **Explanation:**<br>**Expires** header in the response. |
| ETag | string | **Explanation:**<br>ETag of the object. |
| VersionId | string | **Explanation:**<br>Object version ID. |
| WebsiteRedirectLocation | string | **Explanation:**<br>Location where an object is redirected. It is available when website hosting is configured for a bucket. |
| StorageClass | string | **Explanation:**<br>Object storage class. If the storage class is Standard, this parameter is left blank. |
| Restore | string | **Explanation:** |
| Expiration | string | **Explanation:**<br>Expiration details. |

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| Parameter | Type | Description |
| --- | --- | --- |
| Content | string \| stream.Readable | **Explanation:**<br>Content of the object. The content is left blank if **SaveAsFile** was specified. The content is a **stream.Readable** object if **SaveAsStream** was set to **true**. The content is a **Buffer** object if neither **SaveAsFile** nor **SaveAsStream** was specified. |
| Metadata | object | **Explanation:**<br>Custom metadata of the object. You need to add in the CORS configurations the additional headers allowed to be carried in the response. For example, you can add the **x-amz-meta-property1** header to allow custom metadata **property1** to be returned. |

## Code Examples

You can call **ObsClient.getObject** to obtain a version of an object by specifying **VersionId**. Sample code is as follows:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function getObject() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the object to download (example/objectname in this example).
      Key: 'example/objectname',
      // Specify the version ID of the object. If the version ID is not specified, the object of the latest version is downloaded by default.
      VersionId: 'G001117FCE89978B0000401205D5DC9A'
    };

    // Download a version of an object.
    const result = await obsClient.getObject(params);
```

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```
    if (result.CommonMsg.Status <= 300) {
      console.log("Get object(%s) under the bucket(%s) successful!", params.Key, params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

getObject();
```

# 10.5 Copying an Object Version (SDK for Node.js)

## Function

This API copies an object version in a specified bucket. You can copy an object of up to 5 GB in a single operation.

## Restrictions

- To copy an object, you must be the bucket owner or have the required permission (**obs:object:PutObject** in IAM or **PutObject** in a bucket policy).
- This API requires carrying the information about the source bucket and object using headers. A message body cannot be carried.
- The target object size ranges from 0 to 5 GB. If the source object size exceeds 5 GB, you must use a multipart copying API by referring to **Copying a Part (SDK for Node.js)**.

## Method

```
ObsClient.copyObject(params)
```

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## Request Parameters

**Table 10-16** List of request parameters

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

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| CopySource | string | Yes | **Explanation:**<br>Names of the source bucket and object. If the source object has multiple versions, the **versionId** parameter is used to specify the desired version.<br>Example: **source_bucket/sourceObject?versionId=G001117FCE89978B0000401205D5DC9A**<br>**Restrictions**:<br>None<br>**Restrictions**:<br>Full-width characters and percent signs (%) must be URL-encoded.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ACL | AclType | No | **Explanation:**<br>ACL that can be pre-defined during the object copy.<br>**Restrictions**:<br>None<br>**Value range**:<br>See Table 10-17.<br>**Default value**:<br>None |
| MetadataDirective | MetadataDirectiveType | No | **Explanation:**<br>Policy for copying the source object's attributes<br>**Restrictions**:<br>None<br>**Value range**:<br>See Table 10-18.<br>**Default value**:<br>None |
| CopySourceIfMatch | string | No | **Explanation:**<br>If the ETag of the source object is the same as the one specified by this parameter, it is copied. Otherwise, an error is returned.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| CopySourceIfNone-Match | string | No | **Explanation:**<br>If the ETag of the source object is different from the one specified by this parameter, it is copied. Otherwise, an error is returned.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |
| CopySourceIfUnmodifiedSince | string | No | **Explanation:**<br>If the source object has not been modified since the specified time, it is copied. Otherwise, an exception is thrown.<br>**Restrictions**:<br>The value must conform with the HTTP time format specified in http://www.ietf.org/rfc/rfc2616.txt.<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| CopySourceIfModifiedSince | string | No | **Explanation:**<br>If the source object has been modified since the specified time, it is copied. Otherwise, an exception is thrown.<br>**Restrictions**:<br>The value must conform with the HTTP time format specified in http://www.ietf.org/rfc/rfc2616.txt.<br>**Value range**:<br>None<br>**Default value**:<br>None |

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| WebsiteRedirectLocation | string | No | **Explanation:**<br>If the bucket is configured with website hosting, the request for obtaining the object can be redirected to another object in the bucket or an external URL.<br>The request is redirected to object **anotherPage.html** in the same bucket:<br>WebsiteRedirectLocation:/anotherPage.html<br>The request is redirected to an external URL:<br>WebsiteRedirectLocation:http://www.example.com/<br>OBS obtains the specified value from the header and stores it in the object metadata **WebsiteRedirectLocation**.<br>**Restrictions**:<br>• The value must start with a slash (/), **http://**, or **https://** and cannot exceed 2 KB.<br>• OBS only supports redirection of objects that are in the root directory.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| CacheControl | string | No | **Explanation:**<br>**Cache-Control** in the response is rewritten.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Cache-Control values defined in HTTP.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ContentDisposition | string | No | **Explanation:**<br>**Content-Disposition** in the response is rewritten.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Disposition values defined in HTTP.<br>**Default value**:<br>None |
| ContentEncoding | string | No | **Explanation:**<br>**Content-Encoding** in the response is rewritten.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Encoding values defined in HTTP.<br>**Default value**:<br>None |
| ContentLanguage | string | No | **Explanation:**<br>**Content-Language** in the response is rewritten.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Content-Language values defined in HTTP.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ContentType | string | No | **Explanation:**<br>**Content-Type** in the response is rewritten.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **What Is Content-Type (MIME)? (SDK for Node.js)**<br>**Default value**:<br>None |
| Expires | string | No | **Explanation:**<br>**Expires** in the response is rewritten.<br>**Restrictions**:<br>None<br>**Value range**:<br>See the Expires values defined in HTTP.<br>**Default value**:<br>None |
| StorageClass | **StorageClassType** | No | **Explanation:**<br>Storage class configured when copying the object.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Table 10-19**.<br>**Default value**:<br>None. If this parameter is not specified, the storage class of the bucket is used as that of the object. |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Metadata | object | No | **Explanation:**<br>Custom metadata of the target object. You can add a header starting with **x-obs-meta-** in the request to define metadata. The custom metadata will be returned in the response when you retrieve the object or query the object metadata.<br>**Restrictions**:<br>• The custom metadata cannot exceed 8 KB in total. To measure the size, calculate the sum of bytes of all UTF-8 encoded keys and values.<br>• The custom metadata keys are case insensitive, but are stored in lowercase in OBS. The key values are case sensitive.<br>• Both custom metadata keys and their values must conform to US-ASCII standards. If non-ASCII or unrecognizable characters are required, they must be encoded and decoded in URL or Base64 on the client, because the server does not perform such operations.<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| GrantRead | string | No | **Explanation:**<br>ID (domain_id) of an account the **READ** permission is granted to. The account with the **READ** permission can read the object to copy and obtain its metadata.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |
| GrantReadAcp | string | No | **Explanation:**<br>ID (domain_id) of an account the **READ_ACP** permission is granted to. The account with the **READ_ACP** permission can read the ACL of the object to copy.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| GrantWriteAcp | string | No | **Explanation:**<br>ID (domain_id) of an account the **WRITE_ACP** permission is granted to. The account with the **WRITE_ACP** permission can modify the ACL of the object to copy.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |
| GrantFullControl | string | No | **Explanation:**<br>ID (domain_id) of an account the **FULL_CONTROL** permission is granted to. The account with the **FULL_CONTROL** permission can read the object to copy, obtain its metadata, and obtain and modify its ACL.<br>**Restrictions**:<br>Use commas (,) to separate multiple accounts.<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| SuccessActionRedirect | string | No | **Explanation:**<br>Address (URL) to which a successfully answered request is redirected.<br>If the value is valid and the request is successful, OBS returns status code 303. **Location** contains the value of this parameter, as well as the bucket name, object name, and object ETag.<br>If the value is invalid, OBS ignores this parameter. In such case, the **Location** header is the object address, and OBS returns a status code based on whether the operation succeeded or failed.<br>**Restrictions**:<br>None<br>**Value range**:<br>None<br>**Default value**:<br>None |

**Table 10-17** AclType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPrivate | private | Private read and write<br>A bucket or object can only be accessed by its owner. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPublicRead | public-read | Public read and private write<br>If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket.<br>If this permission is granted on an object, everyone can obtain the content and metadata of the object. |
| ObsClient.enums.AclPublicReadWrite | public-read-write | Public read and write<br>If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions in the bucket and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart upload tasks.<br>If this permission is granted on an object, everyone can obtain the content and metadata of the object. |
| ObsClient.enums.AclPublicReadDelivered | public-read-delivered | Public read on a bucket as well as the objects in the bucket.<br>If this permission is granted on a bucket, anyone can read the object list, multipart tasks, metadata, and object versions and read the content and metadata of objects in the bucket.<br>**NOTE**<br>**AclPublicReadDelivered** does not apply to objects. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.AclPublicReadWriteDelivered | public-read-write-delivered | Public read and write on a bucket as well as the objects in the bucket.<br>If this permission is granted on a bucket, anyone can read the object list, multipart uploads, metadata, and object versions in the bucket and can upload or delete objects, initiate multipart upload tasks, upload parts, assemble parts, copy parts, and abort multipart uploads. They can also read the content and metadata of objects in the bucket.<br>**NOTE**<br>**AclPublicReadWriteDelivered** does not apply to objects. |
| ObsClient.enums.AclBucketOwnerFullControl | bucket-owner-full-control | If this permission is granted on an object, only the bucket and object owners have the full control over the object.<br>By default, if you upload an object to a bucket of any other user, the bucket owner does not have the permissions on your object. After you grant this policy to the bucket owner, the bucket owner can have full control over your object. For example, if user A uploads object **x** to user B's bucket, user B does not have the control over object **x**. If user A sets the **bucket-owner-full-control** policy for object **x**, user B then has the control over object **x**. |

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**Table 10-18** MetadataDirectiveType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.CopyMetadata | COPY | When copying an object, the object's attributes are also copied.<br>**NOTICE**<br>This value is used only in the API for **Copying an Object (SDK for Node.js)**. |
| ObsClient.enums.ReplaceMetadata | REPLACE | **REPLACE** uses the complete header carried in the current request to replace the original one and deletes the metadata that is not specified. |
| ObsClient.enums.ReplaceNewMetadata | REPLACE_NEW | **REPLACE_NEW** replaces the metadata that already has a value, assigns a value to the metadata that does not have a value, and retains the metadata that is not specified.<br>**NOTICE**<br>This value is used only in the API for **Configuring Object Metadata (SDK for Node.js)**. |

**Table 10-19** StorageClassType

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

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NOTE

- If **CopySourceIfUnmodifiedSince**, **CopySourceIfMatch**, **CopySourceIfModifiedSince**, or **CopySourceIfNoneMatch** is included but the specified condition is not met, **412 precondition failed** will be returned.
- **CopySourceIfModifiedSince** and **CopySourceIfNoneMatch** can be used together. So can **CopySourceIfUnmodifiedSince** and **CopySourceIfMatch**.

## Responses

**Table 10-20** Responses

| Type | Description |
| --- | --- |
| Table 10-21<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 10-21. |

**Table 10-21** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 10-22. |
| InterfaceResult | Table 10-23 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 10-23.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 10-22** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |

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| | | |
|---|---|---|
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 10-23** CopyObjectOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| LastModified | string | **Explanation:**<br>Time when the target object was last modified, in UTC. |
| ETag | string | **Explanation:**<br>Base64-encoded, 128-bit MD5 value of the target object. The ETag is a unique identifier for the object's contents, used to determine if the object has been updated. For example, if the ETag value is **A** when an object is uploaded and becomes **B** when the object is downloaded, this indicates the contents of the object were changed. The ETag reflects changes of an object, not of the metadata. Objects created by the upload and copy operations have unique ETags after being encrypted using MD5.<br>**Restrictions**:<br>If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object. |
| CopySourceVersionId | string | **Explanation:**<br>Version ID of the source object. |

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| Parameter | Type | Description |
| --- | --- | --- |
| VersionId | string | **Explanation:**<br>Version ID of the target object. |

## Code Examples

You can call **ObsClient.copyObject** to copy a specific version of an object by specifying **versionId** in the **CopySource** parameter. Sample code is as follows:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an ObsClient instance.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function copyObject() {
  try {
    const params = {
      // Specify the target bucket name.
      Bucket: "examplebucket",
      // Specify the name of the object copy (example/objectname in this example).
      Key: 'example/objectname',
      // Specify the source bucket name (sourcebucketname in this example), source object name (sourceobjectkey in this example), and source object version ID (G001117FCE89978B0000401205D5DC9A in this example).
      CopySource: 'sourcebucketname/sourceobjectname?versionId=G001117FCE89978B0000401205D5DC9A'
    };
    // Copy a version of an object.
    const result = await obsClient.copyObject(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Copy Object(bucket:%s, object: %s) successful from bucket/object: %s!", params.Bucket, params.Key, params.CopySource);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log("ETag: %s, LastModified:%s", result.InterfaceResult.ETag, result.InterfaceResult.LastModified);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
```

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```
};

copyObject();
```

# 10.6 Restoring Object Version (SDK for Node.js)

## Function

To download an object in the storage class, you need to restore it first. After an object is restored, a copy of the object is saved in the Standard storage class. By doing so, the object in the storage class and its copy in the Standard storage class co-exist in the bucket. The copy will be automatically deleted once its retention period ends.

## Restrictions

- To restore object, you must be the bucket owner or have the required permission (**obs:object:RestoreObject** in IAM or **RestoreObject** in a bucket policy.)
- To extend the validity period of the data restored, you can repeatedly restore the data, but you will be billed for each restoration. After a restoration, the validity period of Standard object copies will be extended, and you need to pay for storing these copies during the extended period.

## Method

```
ObsClient.restoreObject(params)
```

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## Request Parameters

**Table 10-24** List of request parameters

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

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | Yes | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Restrictions**:<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| VersionId | string | No | **Explanation:**<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None. If this parameter is left blank, the latest version of the object is specified. |
| Days | number | Yes | **Explanation:**<br>After an object is restored, a Standard copy is generated for the object. This parameter specifies how long the Standard copy can be retained, that is, the validity period of the restored object.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value ranges from 1 to 30, in days.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Tier | RestoreTierType | No | **Explanation:**<br>Tier of the restoration speed. You can select a suitable tier based on your needs.<br>**Restrictions**:<br>None<br>**Value range**:<br>See Table 10-25.<br>**Default value**:<br>**Standard** |

**Table 10-25** RestoreTierType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.RestoreTierExpedited | Expedited | Objects can be quickly restored from Cold storage within 1 to 5 minutes. |
| ObsClient.enums.RestoreTierStandard | Standard | Objects can be restored from Cold storage within 3 to 5 hours. |

## Responses

**Table 10-26** Responses

| Type | Description |
| --- | --- |
| Table 10-27<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 10-27. |

**Table 10-27** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 10-28. |

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| Parameter | Type | Description |
| --- | --- | --- |
| InterfaceResult | Table 10-29 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 10-29.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 10-28** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 10-29** BaseResponseOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

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## Code Examples

This example restores version **G001117FCE89978B0000401205D5DC9A** of object **example/objectname** in bucket **examplebucket**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function restoreObject() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify an object. **example/objectname** is used in this example.
      Key: "example/objectname",
      // Specify the version ID of the object.
      VersionId: 'G001117FCE89978B0000401205D5DC9A'
      // Specify how long the restored object will be retained, in days. The value ranges from 1 to 30 (**1** is used in this example).
      Days: 1,
      // Specify the restore speed (**obs.RestoreTierExpedited** in this example). By default, the object is restored at an expedited speed.
      Tier: obs.enums.RestoreTierExpedited
    };
    // Restore the  object.
    const result = await obsClient.restoreObject(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Restore object(%s) under the bucket(%s) successful!", params.Key, params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

restoreObject();
```

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> **CAUTION**
>
> To prolong the validity period of the Cold data restored, you can repeatedly restore the data, but you will be billed for each restoration. 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 Object Versions in a Bucket (SDK for Node.js)

## Function

This API lists some or all of the object versions in a bucket. When listing the object versions, you can specify the criteria such as the prefix, number, and start position. Returned object versions are listed in alphabetical order by object name.

## Restrictions

- To list object versions in a bucket, you must be the bucket owner or have the required permission (**obs:bucket:ListBucketVersions** in IAM or **ListBucketVersions** in a bucket policy).

## Method

```
ObsClient.listVersions(params)
```

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## Request Parameters

**Table 10-30** List of request parameters

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

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| KeyMarker | string | No | **Explanation:**<br>Object name to start with when listing object versions in a bucket. All object versions following the specified value are listed in lexicographical order by object name.<br>**Restrictions**:<br>This parameter is only available for listing objects with multiple versions.<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| VersionIdMarker | string | No | **Explanation:**<br>Version ID you want to start listing from. All object versions following the value specified by this parameter are listed in alphabetical order by object name and version ID. This parameter must be used together with **KeyMarker**. **KeyMarker** specifies the object name, and **VersionIdMarker** specifies the version ID of the specified object.<br>**Restrictions**:<br>● This parameter is only available for listing objects with multiple versions.<br>● If the object specified by **KeyMarker** does not have the version specified by **VersionIdMarker**, the value of this parameter is invalid.<br>**Value range**:<br>A version ID of the object specified by **KeyMarker**<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Prefix | string | No | **Explanation:**<br>Prefix that the object names to be listed must contain.<br>Assume that you have the following objects: **logs/day1**, **logs/day2**, **logs/day3**, and **ExampleObject.jpg**. If you specify **logs/** as the prefix, **logs/day1**, **logs/day2**, and **logs/day3** will be returned. If this parameter is left blank and there are no other filtering criteria, all objects in the bucket will be returned.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| MaxKeys | number | No | **Explanation:**<br>The maximum number of objects returned in the response in alphabetical order<br>**Restrictions**:<br>None<br>**Value range**:<br>The value ranges from **1** to **1000**. If the specified value is greater than **1000**, only 1,000 objects are returned.<br>**Default value**:<br>1000 |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Delimiter | string | No | **Explanation:**<br>Object names are grouped by this parameter, which is often used with **Prefix**. If a prefix is specified, objects with the same string from the prefix to the first delimiter are grouped into one **CommonPrefixes**. If no prefix is specified, objects with the same string from the first character to the first delimiter are grouped into one **CommonPrefixes**.<br>Assume that a bucket has objects **abcd**, **abcde**, and **bbcde** in it. If **Delimiter** is set to **d** and **Prefix** is set to **a**, objects **abcd** and **abcde** are grouped into a **CommonPrefixes** with **abcd** as the prefix. If only **Delimiter** is set to **d**, objects **abcd** and **abcde** are grouped into a **CommonPrefixes** with **abcd** as the prefix, and **bbcde** is placed separately into another **CommonPrefixes** with **bbcd** as the prefix.<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 multiple directory levels, and each directory level has a large number of objects. In such case, you are advised to configure **[Delimiter=/]** to list only the content in the current directory, without the content in subdirectories, to make the listing more efficient.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |

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## Responses

**Table 10-31** Responses

| Type | Description |
| --- | --- |
| Table 10-32<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 10-32. |

**Table 10-32** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 10-33. |
| InterfaceResult | ListVersionsOutput | **Explanation:**<br>Results outputted for a successful call. For details, see Table 10-34.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 10-33** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |

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| | | |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 10-34** ListVersionsOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server.<br>**Default value**:<br>None |
| Location | string | **Explanation:**<br>Region where a bucket is located. |
| Name | string | **Explanation:**<br>Bucket name. |
| Prefix | string | **Explanation:**<br>Object name prefix, which is consistent with that set in the request.<br>Assume that you have the following objects: **logs/day1**, **logs/day2**, **logs/day3**, and **ExampleObject.jpg**. If you specify **logs/** as the prefix, **logs/day1**, **logs/day2**, and **logs/day3** will be returned. If this parameter is left blank and there are no other filtering criteria, all objects in the bucket will be returned. |
| KeyMarker | string | **Explanation:**<br>Object name to start listing from. All object versions following the value specified by this parameter are listed in alphabetical order by object name. This parameter corresponds to **KeyMarker** in the request. |

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| Parameter | Type | Description |
| --- | --- | --- |
| VersionIdMarker | string | **Explanation:**<br>Version ID of the key marker object.<br>Version ID you want to start listing from. All object versions following the value specified by this parameter are listed in alphabetical order by object name and version ID. This parameter must be used together with **KeyMarker**. **KeyMarker** specifies the object name, and **VersionIdMarker** specifies the version ID of the specified object. |
| Delimiter | string | **Explanation:**<br>Object names are grouped by this parameter, which is often used with **Prefix**. If a prefix is specified, objects with the same string from the prefix to the first delimiter are grouped into one **CommonPrefixes**. If no prefix is specified, objects with the same string from the first character to the first delimiter are grouped into one **CommonPrefixes**.<br>Assume that a bucket has objects **abcd**, **abcde**, and **bbcde** in it. If **Delimiter** is set to **d** and **Prefix** is set to **a**, objects **abcd** and **abcde** are grouped into a **CommonPrefixes** with **abcd** as the prefix. If only **Delimiter** is set to **d**, objects **abcd** and **abcde** are grouped into a **CommonPrefixes** with **abcd** as the prefix, and **bbcde** is placed separately into another **CommonPrefixes** with **bbcd** as the prefix.<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 multiple directory levels, and each directory level has a large number of objects. In such case, you are advised to configure **[Delimiter=/]** to list only the content in the current directory, without the content in subdirectories, to make the listing more efficient. |
| MaxKeys | number | **Explanation:**<br>The maximum number of objects returned in the response in alphabetical order. This parameter corresponds to **MaxKeys** in the request. |

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| Parameter | Type | Description |
| --- | --- | --- |
| IsTruncated | boolean | **Explanation:**<br>Whether all results are returned in the response. A maximum of 1,000 objects can be listed at a time. If the number of objects is greater than 1,000, the objects beyond 1,000 cannot be returned.<br>**Value range**:<br>• **true**: Not all results are returned.<br>• **false**: All results are returned. |
| NextKeyMarker | string | **Explanation:**<br>Object name to start with in the next request for listing object versions. This parameter is returned if some results were not returned. You can set **KeyMarker** in the next request to the returned value to list the remaining results. |
| NextVersionIdMarker | string | **Explanation:**<br>Version ID to start with in the next request for listing object versions. It must be used together with **NextKeyMarker**. **NextVersionIdMarker** is returned when some results were not returned. You can set **VersionIdMarker** in the next request to the returned value to list the remaining results. |
| Versions | **Version**[] | **Explanation:**<br>List of object versions in the bucket. For details, see **Table 10-36**. |
| DeleteMarkers | **DeleteMarker**[] | **Explanation:**<br>List of delete markers in the bucket. For details, see **Table 10-37**. |
| CommonPrefixes | **Table 10-35**[] | **Explanation:**<br>List of object name prefixes grouped based on the **Delimiter** parameter (if specified). For details, see **CommonPrefix**. |

**Table 10-35** CommonPrefix

| Parameter | Type | Description |
| --- | --- | --- |
| Prefix | string | **Explanation:**<br>Prefix of objects in the bucket. |

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**Table 10-36** Version

| Parameter | Type | Description |
| --- | --- | --- |
| Key | string | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name.<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| VersionId | string | **Explanation:**<br>Object version ID.<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |
| LastModified | string | **Explanation:**<br>Time when the object was last modified, in UTC.<br>**Value range**:<br>UTC time<br>**Default value**:<br>None |

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| Parameter | Type | Description |
| --- | --- | --- |
| ETag | string | **Explanation:**<br>Base64-encoded, 128-bit MD5 value of an object. It uniquely identifies the content of an object and can be used to check the object integrity. For example, if the ETag is **A** when an object is uploaded and is **B** when the object is downloaded, it indicates that the object content has been changed. The ETag reflects changes to the contents of the object, not its metadata. An object created by an upload or copy operation has a unique ETag.<br>**Restrictions**:<br>If an object is encrypted using server-side encryption, the ETag is not the MD5 value of the object.<br>**Value range**:<br>The value must contain 32 characters.<br>**Default value**:<br>None |
| Size | number | **Explanation:**<br>Object size, in bytes.<br>**Value range**:<br>The value ranges from 0 TB to 48.8 TB, in bytes.<br>**Default value**:<br>None |
| Owner | **Owner** | **Explanation:**<br>Object owner. For details, see **Table 10-38**. |
| StorageClass | **StorageClassType** | **Explanation:**<br>Storage class of the object. For details, see **Table 10-39**. |
| IsLatest | boolean | **Explanation:**<br>Whether the object is the latest version.<br>**Value range**:<br>• **true**: The object is the latest version.<br>• **false**: The object is not the latest version.<br>**Default value**:<br>false |

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**Table 10-37** DeleteMarker

| Parameter | Type | Description |
| --- | --- | --- |
| Key | string | **Explanation:**<br>Object name. An object is uniquely identified by an object name in a bucket. An object name is a complete path of the object that does not contain the bucket name. |
| VersionId | string | **Explanation:**<br>Object version ID. |
| IsLatest | boolean | **Explanation:**<br>Whether the object is the latest version.<br>**Value range**:<br>• **true**: The object is the latest version.<br>• **false**: The object is not the latest version. |
| LastModified | string | **Explanation:**<br>Time when the object was last modified, in UTC. |
| Owner | **Owner** | **Explanation:**<br>Object owner. This parameter contains the domain ID and name of the object owner. For details, see **Table 10-38**. |
| StorageClass | **StorageClassType** | **Explanation:**<br>Storage class of the object. For details, see **Table 10-39**. |

**Table 10-38** Owner

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ID | string | Yes if used as a request parameter | **Explanation:**<br>Account (domain) ID of the owner<br>**Value range**:<br>To obtain the account ID, see **How Do I Get My Account ID and User ID? (Node.js SDK)**.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Display Name | string | No | **Explanation:**<br>Account name of the owner<br>**Default value**:<br>None |

**Table 10-39** StorageClassType

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

## Code Examples: Simple Listing

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

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
```

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```
  server: "https://your-endpoint"
});

async function listVersions() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
    };
    // List object versions in the bucket.
    const result = await obsClient.listVersions(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("List objects under the bucket(%s) successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      // Obtain object versions.
      for (let j = 0; j < result.InterfaceResult.Versions.length; j++) {
        const val = result.InterfaceResult.Versions[j];
        console.log('Content[%d]-OwnerId:%s, ETag:%s, Key:%s, VersionId, LastModified:%s, Size:%d',
          j, val.Owner.ID, val.ETag, val.Key, val.VersionId, val.LastModified, val.Size);
      };
       // Obtain delete markers.
      for (let i = 0; i < result.InterfaceResult.DeleteMarkers.length; i++) {
        const val = result.InterfaceResult.Versions[j];
        console.log('Content[%d]-OwnerId:%s, Key:%s, VersionId, LastModified:%s',
          j, val.Owner.ID, val.Key, val.VersionId, val.LastModified);
      };
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error
response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

listVersions();
```

NOTE

- A maximum of 1,000 object versions can be listed each time. If a bucket contains more than 1,000 object versions, **InterfaceResult.IsTruncated** in the response is **true**, indicating not all object versions were listed. In such case, you can use **InterfaceResult.NextKeyMarker** and **InterfaceResult.NextVersionIdMarker** to obtain the start position for the next listing.
- To obtain all object versions in a specified bucket at a time, refer to **Code Examples: Using Pagination to List All Object Versions**.

## Code Examples: Listing a Specified Number of Object Versions

This example lists a specified number of object versions in a bucket.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
```

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```
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function listVersions() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the maximum number of objects to be returned in alphabetic order. The default value is 1000. 100 is used in this example.
      MaxKeys: 100,
    };
    // List object versions in the bucket.
    const result = await obsClient.listVersions(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("List version objects under the bucket(%s) successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      for (let j = 0; j < result.InterfaceResult.Contents.length; j++) {
        // Obtain object versions.
        for (let j = 0; j < result.InterfaceResult.Versions.length; j++) {
          const val = result.InterfaceResult.Versions[j];
          console.log('Content[%d]-OwnerId:%s, ETag:%s, Key:%s, VersionId, LastModified:%s, Size:%d',
            j, val.Owner.ID, val.ETag, val.Key, val.VersionId, val.LastModified, val.Size);
        };
       // Obtain delete markers.
        for (let i = 0; i < result.InterfaceResult.DeleteMarkers.length; i++) {
          const val = result.InterfaceResult.Versions[j];
          console.log('Content[%d]-OwnerId:%s, Key:%s, VersionId, LastModified:%s',
            j, val.Owner.ID, val.Key, val.VersionId, val.LastModified);
        };
        return;
      };
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

listVersions();
```

## Code Examples: Listing Object Versions by Prefix

This example lists object versions with a specified prefix.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');
// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
```

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```
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function listVersions() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify an object prefix (test/ in this example). Objects whose names contain the specified prefix will be listed.
      Prefix: "test/",
      // Specify the maximum number of objects to be returned in alphabetic order. The default value is 1000. 100 is used in this example.
      MaxKeys: 100,
    };

    // List object versions in the bucket.
    const result = await obsClient.listVersions(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("List version objects under the bucket(%s) successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      for (let j = 0; j < result.InterfaceResult.Contents.length; j++) {
        // Obtain object versions.
        for (let j = 0; j < result.InterfaceResult.Versions.length; j++) {
          const val = result.InterfaceResult.Versions[j];
          console.log('Content[%d]-OwnerId:%s, ETag:%s, Key:%s, VersionId, LastModified:%s, Size:%d',
            j, val.Owner.ID, val.ETag, val.Key, val.VersionId, val.LastModified, val.Size);
        };
       // Obtain delete markers.
        for (let i = 0; i < result.InterfaceResult.DeleteMarkers.length; i++) {
          const val = result.InterfaceResult.Versions[j];
          console.log('Content[%d]-OwnerId:%s, Key:%s, VersionId, LastModified:%s',
            j, val.Owner.ID, val.Key, val.VersionId, val.LastModified);
        };
        return;
      };
    };

    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

listVersions();
```

## Code Examples: Specifying a Start Position for Listing

This example lists object versions from the specified position.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
```

```
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function listVersions() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify an object prefix (test/ in this example). Objects whose names contain the specified prefix will be listed.
      Prefix: "test/",
      // Specify the maximum number of objects to be returned in alphabetic order. The default value is 1000. 100 is used in this example.
      MaxKeys: 100,
      // Specify the position (test/test2 in this example) where the object listing starts.
      KeyMarker: "test/test2",
    };
    // List object versions in the bucket.
    const result = await obsClient.listVersions(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("List version objects under the bucket(%s) successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      for (let j = 0; j < result.InterfaceResult.Contents.length; j++) {
        // Obtain object versions.
        for (let j = 0; j < result.InterfaceResult.Versions.length; j++) {
          const val = result.InterfaceResult.Versions[j];
          console.log('Content[%d]-OwnerId:%s, ETag:%s, Key:%s, VersionId, LastModified:%s, Size:%d',
            j, val.Owner.ID, val.ETag, val.Key, val.VersionId, val.LastModified, val.Size);
        };
       // Obtain delete markers.
        for (let i = 0; i < result.InterfaceResult.DeleteMarkers.length; i++) {
          const val = result.InterfaceResult.Versions[j];
          console.log('Content[%d]-OwnerId:%s, Key:%s, VersionId, LastModified:%s',
            j, val.Owner.ID, val.Key, val.VersionId, val.LastModified);
        };
        return;
      };
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

listVersions();
```

## Code Examples: Using Pagination to List All Object Versions

This example lists all object versions using pagination.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function listVersions() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify an encoding type. url is used in this example. If the objects to list contain special characters, this parameter must be passed.
      EncodingType: "url",
    };
    while (true) {
      // List object versions in the bucket.
      const result = await obsClient.listVersions(params);
      if (result.CommonMsg.Status > 300) {
        console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
        console.log("Status: %d", result.CommonMsg.Status);
        console.log("Code: %s", result.CommonMsg.Code);
        console.log("Message: %s", result.CommonMsg.Message);
        console.log("RequestId: %s", result.CommonMsg.RequestId);
        return;
      };
      console.log("List version objects under the bucket(%s) successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      for (let j = 0; j < result.InterfaceResult.Contents.length; j++) {
        // Obtain object versions.
        for (let j = 0; j < result.InterfaceResult.Versions.length; j++) {
          const val = result.InterfaceResult.Versions[j];
          console.log('Content[%d]-OwnerId:%s, ETag:%s, Key:%s, VersionId, LastModified:%s, Size:%d',
            j, val.Owner.ID, val.ETag, val.Key, val.VersionId, val.LastModified, val.Size);
        };
       // Obtain delete markers.
        for (let i = 0; i < result.InterfaceResult.DeleteMarkers.length; i++) {
          const val = result.InterfaceResult.Versions[j];
          console.log('Content[%d]-OwnerId:%s, Key:%s, VersionId, LastModified:%s',
            j, val.Owner.ID, val.Key, val.VersionId, val.LastModified);
        };
      };
      if (result.InterfaceResult.IsTruncated === "true") {
        params.KeyMarker = result.InterfaceResult.NextKeyMarker;
        params.VersionIdMarker = result.InterfaceResult.NextVersionIdMarker;
      } else {
        break;
      };
    };
```

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```
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

listVersions();
```

## Code Examples: Listing All Object Versions in a Folder

All elements stored in OBS buckets are called objects. Folders are objects whose sizes are 0 and whose names end with a slash (/). You can set a folder name as a prefix to list objects in this folder. This example lists object versions in a folder.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard
coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to
use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment
variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function listVersions() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify an object prefix (test/ in this example). Objects whose names contain the specified prefix will
be listed.
      Prefix: "test/",
      // Specify an encoding type. url is used in this example. If the objects to list contain special characters,
this parameter must be passed.
      EncodingType: "url",
    };
    while (true) {
      // List object versions in the bucket.
      const result = await obsClient.listVersions(params);
      if (result.CommonMsg.Status > 300) {
        console.log("An ObsError was found, which means your request sent to OBS was rejected with an
error response.");
        console.log("Status: %d", result.CommonMsg.Status);
        console.log("Code: %s", result.CommonMsg.Code);
        console.log("Message: %s", result.CommonMsg.Message);
        console.log("RequestId: %s", result.CommonMsg.RequestId);
        return;
      };
      console.log("List version objects under the bucket(%s) successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      for (let j = 0; j < result.InterfaceResult.Contents.length; j++) {
        // Obtain object versions.
        for (let j = 0; j < result.InterfaceResult.Versions.length; j++) {
          const val = result.InterfaceResult.Versions[j];
          console.log('Content[%d]-OwnerId:%s, ETag:%s, Key:%s, VersionId, LastModified:%s, Size:%d',
            j, val.Owner.ID, val.ETag, val.Key, val.VersionId, val.LastModified, val.Size);
```

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```
      };
     // Obtain delete markers.
      for (let i = 0; i < result.InterfaceResult.DeleteMarkers.length; i++) {
        const val = result.InterfaceResult.Versions[j];
        console.log('Content[%d]-OwnerId:%s, Key:%s, VersionId, LastModified:%s',
          j, val.Owner.ID, val.Key, val.VersionId, val.LastModified);
      };
    };
    if (result.InterfaceResult.IsTruncated === "true") {
      params.KeyMarker = result.InterfaceResult.NextKeyMarker;
      params.VersionIdMarker = result.InterfaceResult.NextVersionIdMarker;
    } else {
      break;
    };
  };
 } catch (error) {
   console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
   console.log(error);
 };
};

listVersions();
```

# 10.8 Setting an ACL for an Object Version (SDK for Node.js)

## Function

This API calls **ObsClient.setObjectAcl** to set an ACL for an object version specified by the **VersionId** parameter. For details about the API definition, see **Configuring an Object ACL (SDK for Node.js)**.

## Code Examples

This example sets the ACL to allow all users to read object **example/objectname** from bucket **examplebucket** but only allow user **0a03f5833900d3730f13c00f49d5exxx** to write.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function setObjectAcl() {
  try {
    const params = {
```

```
    // Specify the bucket name.
    Bucket: "examplebucket",
    // Specify an object. example/objectname is used in this example.
    Key: "example/objectname",
    // Specify the version ID of the object.
    VersionId: 'G001117FCE89978B0000401205D5DC9A',
    // Specify the owner of the object.
    Owner: { 'ID': 'ownerid' },
// Specify the information about the authorized user.
    Grants: [
      // Grant the write permission to a specified user (0a03f5833900d3730f13c00f49d5exxx in this
example).
      { Grantee: { Type: 'CanonicalUser', ID: '0a03f5833900d3730f13c00f49d5exxx' }, Permission:
obsClient.enums.PermissionWrite },
      // Grant the read permission to all users.
      { Grantee: { Type: 'Group', URI: obsClient.enums.GroupAllUsers }, Permission:
obsClient.enums.PermissionRead },
    ]
  };
  // Set the ACL.
  const result = await obsClient.setObjectAcl(params);
  if (result.CommonMsg.Status <= 300) {
    console.log("Set Object(%s)'s acl successful with Bucket(%s)!", params.Key, params.Bucket);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
    return;
  };
  console.log("An ObsError was found, which means your request sent to OBS was rejected with an error
response.");
  console.log("Status: %d", result.CommonMsg.Status);
  console.log("Code: %s", result.CommonMsg.Code);
  console.log("Message: %s", result.CommonMsg.Message);
  console.log("RequestId: %s", result.CommonMsg.RequestId);
 } catch (error) {
  console.log("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.");
  console.log(error);
 };
};

setObjectAcl();
```

NOTE

- For details about the error codes returned during the configuration of permissions for versioned objects, see **OBS Server-Side Error Codes (SDK for Node.js)**.

# 10.9 Obtaining the ACL of an Object Version (SDK for Node.js)

## Function

This API calls **ObsClient.getObjectAcl** to obtain the ACL of an object version specified by the **VersionId** parameter. For details about the API definition, see **Obtaining the ACL of an Object (SDK for Node.js)**.

## Code Examples

This example obtains the ACL of version **G001117FCE89978B0000401205D5DC9A** of object **example/objectname** in bucket **examplebucket**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
```

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```
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function getObjectAcl() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the object (example/objectname in this example).
      Key: 'example/objectname',
      // Specify the version ID of the object.
      VersionId: 'G001117FCE89978B0000401205D5DC9A'
    };
    // Obtain the object ACL.
    const result = await obsClient.getObjectAcl(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Get object(%s)'s acl successful with bucket(%s)!", params.Key, params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log('Owner[ID]: %s', result.InterfaceResult.Owner.ID);
      console.log('Owner[Name]: %s', result.InterfaceResult.Owner.Name);
      for (let i = 0; i < result.InterfaceResult.Grants.length; i++) {
        const grant = result.InterfaceResult.Grants[i];
        fmt.Printf("Grant[%d]-Type:%s, ID:%s, URI:%s, Permission:%s\n",
          index, grant.Grantee.Type, grant.Grantee.ID, grant.Grantee.URI, grant.Permission);
      };
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

getObjectAcl();
```

**NOTE**

- For details about the error codes returned during the configuration of permissions for versioned objects, see **OBS Server-Side Error Codes (SDK for Node.js)**.

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# 10.10 Deleting an Object Version (SDK for Node.js)

## Function

You can call **ObsClient.deleteObject** to delete an object version specified by the **VersionId** parameter. For details about the API definition, see **Deleting an Object (SDK for Node.js)**.

You can also call **ObsClient.deleteObjects** to delete multiple object versions at a time by passing all of their **VersionId** values. For details about the API definition, see **Batch Deleting Objects (SDK for Node.js)**.

## Code Examples: Deleting an Object Version

This example deletes version **G001117FCE89978B0000401205D5DC9A** of object **example/objectname** from bucket **examplebucket**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function deleteObject() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the object (example/objectname in this example) to delete.
      Key: 'example/objectname',
      // Specify the ID of the object version.
      VersionId: 'G001117FCE89978B0000401205D5DC9A'
    };
    // Delete a version of an object.
    const result = await obsClient.deleteObject(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Delete object(%s) under the bucket(%s) successful!", params.Key, params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
```

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```
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

deleteObject();
```

## Code Examples: Deleting Object Versions

This example deletes objects **objectname1**, **objectname2**, and **objectname3** from bucket **examplebucket** in a batch.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function deleteObjects() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify the object list to delete.
      Objects: [
        { Key: 'objectname1', VersionId: "version1" },
        { Key: 'objectname2', VersionId: "version2" },
        { Key: 'objectname3', VersionId: "version3" }
      ]
    };
    // Delete the objects in a batch.
    const result = await obsClient.deleteObjects(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Delete objects under the bucket(%s) successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      // Return details about which objects were deleted.
      console.log('Deleteds:');
      for (let i = 0; i < result.InterfaceResult.Deleteds.length; i++) {
        const deleted = result.InterfaceResult.Deleteds[i];
        console.log("Deleted[%d]-Key:%s, VersionId:%s", i, deleted.Key, deleted.VersionId);
      };
      // Return details about which objects were not deleted.
      console.log('Errors:');
      for (let i = 0; i < result.InterfaceResult.Errors.length; i++) {
        const err = result.InterfaceResult.Errors[i];
        console.log("Errors[%d]-Key:%s, Code:%s", i, err.Key, err.Code);
      };
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
```

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```
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

deleteObjects();
```

# 11 Lifecycle (SDK for Node.js)

## 11.1 Configuring Lifecycle Rules for a Bucket (SDK for Node.js)

### Function

You can configure lifecycle rules to periodically delete objects or transition objects between storage classes.

This API configures lifecycle rules for a bucket.

NOTE

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

### Restrictions

- There is no limit on the number of lifecycle rules in a bucket, but the total size of XML descriptions of all lifecycle rules in a bucket cannot exceed 20 KB.
- A maximum of 20 lifecycle rules can be configured for a parallel file system.
- To configure a lifecycle rule for a bucket, you must be the bucket owner or have the required permission (**obs:bucket:PutLifecycleConfiguration** in IAM or **PutLifecycleConfiguration** in a bucket policy).

### Method

```
ObsClient.setBucketLifecycle(params)
```

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## Request Parameters

**Table 11-1** List of request parameters

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

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Rules | LifecycleRule[] | Yes | **Explanation:**<br>Lifecycle rules of the bucket<br>**Restrictions**:<br>• There is no limit on the number of lifecycle rules in a bucket, but the total size of XML descriptions of all lifecycle rules in a bucket cannot exceed 20 KB.<br>• A maximum of 20 lifecycle rules can be configured for a parallel file system.<br>**Value range**:<br>See Table 11-2.<br>**Default value**:<br>None |

**Table 11-2** LifecycleRule

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ID | string | No if used as a request parameter | **Explanation:**<br>Lifecycle rule ID.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 1 to 255 characters.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Prefix | string | Yes if used as a request parameter | **Explanation:**<br>Object name prefix. It identifies the objects the rule applies to. You can leave this parameter blank to apply the rule to all objects in the bucket.<br>Assume that you have the following objects: **logs/day1**, **logs/day2**, **logs/day3**, and **ExampleObject.jpg**. If you set **Prefix** to **ExampleObject.jpg**, the rule applies to object **ExampleObject.jpg** alone. If you set **Prefix** to **logs/**, the rule applies to objects **logs/day1**, **logs/day2**, and **logs/day3**. If you leave **Prefix** blank, the rule applies to all objects in the bucket.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| Status | string | Yes if used as a request parameter | **Explanation:**<br>Whether the current rule is enabled.<br>**Restrictions**:<br>None<br>**Value range**:<br>**Enabled**<br>**Disabled**<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Transitions | Transition [] | No if used as a request parameter | **Explanation:**<br>Policies for storage class transition, including transition time and the storage class after transition.<br>**Restrictions**:<br>This parameter is only available for the latest object version.<br>**Value range**:<br>See Table 11-3.<br>**Default value**:<br>None |
| Expiration | Expiration | No if used as a request parameter | **Explanation:**<br>Expiration time of an object.<br>**Restrictions**:<br>This parameter is only available for the latest object version.<br>**Value range**:<br>See Table 11-4.<br>**Default value**:<br>None |
| NoncurrentVersionTransitions | NoncurrentVersionTransition [] | No if used as a request parameter | **Explanation:**<br>Policies for storage class transition of historical versions, including transition time and the storage class after transition.<br>**Restrictions**:<br>• This parameter is only available for historical object versions.<br>• Versioning must be enabled (or suspended after being enabled) for the bucket.<br>**Value range**:<br>See Table 11-5.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| NoncurrentVersionExpiration | NoncurrentVersionExpiration | No if used as a request parameter | **Explanation:**<br>Expiration time of historical object versions<br>**Restrictions**:<br>• This parameter is only available for historical object versions.<br>• Versioning must be enabled (or suspended after being enabled) for the bucket.<br>• This parameter is not available for parallel file systems.<br>**Value range**:<br>See Table 11-6.<br>**Default value**:<br>None |

NOTE

**Transitions**, **Expiration**, **NoncurrentVersionTransitions**, and **NoncurrentVersionExpiration** cannot be left blank at the same time.

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**Table 11-3** Transition

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| StorageClass | StorageClassType | Yes if used as a request parameter | **Explanation:**<br>Storage class of the object after transition<br>**Restrictions**:<br>• The **Standard** storage class is not supported.<br>• Restrictions on storage class transitions:<br>– Only transitions from the Standard storage class to the storage class are supported. To transition objects from to Standard, you must manually do it.<br>– Only transitions from the Standard or storage class to the storage class are supported. To transition objects from to Standard or , you must first restore these objects and then manually transition their storage classes.<br>**Value range**:<br>See Table 11-7.<br>**Default value**:<br>None |
| Date | string | Yes if this parameter is used as a request parameter and **Days** is absent | **Explanation:**<br>OBS executes the lifecycle rule for objects that were modified before the specified date.<br>**Restrictions**:<br>The value must conform with the ISO8601 standards and indicate UTC 00:00. For example, **2018-01-01T00:00:00.000Z** indicates only objects that were last modified before the specified time are transitioned to the specified storage class.<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Days | number | Yes if this parameter is used as a request parameter and **Date** is absent | **Explanation:**<br>How many days can pass since the last update before the lifecycle rule takes effect<br>**Restrictions**:<br>This parameter is only available for the latest object version.<br>**Value range**:<br>0 to ($2^{31}$ – 1), in days<br>**Default value**:<br>None |

**Table 11-4** Expiration

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Date | string | Yes if this parameter is used as a request parameter and **Days** is absent | **Explanation:**<br>OBS executes the lifecycle rule (deletion) for objects that were modified before the specified date.<br>**Restrictions**:<br>The value must conform with the ISO8601 standards and indicate UTC 00:00. For example, **2018-01-01T00:00:00.000Z** indicates only objects that were last modified before the specified time are deleted.<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Days | number | Yes if this parameter is used as a request parameter and **Date** is absent | **Explanation:**<br>How many days can pass since the last update before the lifecycle rule (deletion) takes effect<br>**Restrictions**:<br>This parameter is only available for the latest object version.<br>**Value range**:<br>1 to ($2^{31}$ – 1), in days<br>**Default value**:<br>None |

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**Table 11-5** NoncurrentVersionTransition

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| StorageClass | StorageClassType | Yes if used as a request parameter | **Explanation:**<br>Storage class of historical object versions after transition<br>**Restrictions**:<br>• The Standard storage class is not supported.<br>• Restrictions on storage class transitions:<br>– Only transitions from the Standard storage class to the storage class are supported. To transition objects from to Standard, you must manually do it.<br>Only transitions from the Standard or storage class to the storage class are supported. To transition objects from to Standard or , you must first restore these objects and then manually transition their storage classes.<br>– Multi-AZ redundancy is not available for storage. For this reason, buckets or objects with multi-AZ redundancy cannot be transitioned to the storage class based on a lifecycle rule.<br>**Value range**:<br>See Table 11-7.<br>**Default value**:<br>None |

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| NoncurrentDays | number | Yes if used as a request parameter | **Explanation:**<br>Number of days an object is historical before the specified rule takes effect<br>**Restrictions**:<br>This parameter is only available for historical object versions.<br>**Value range**:<br>0 to ($2^{31}$ – 1), in days<br>**Default value**:<br>None |

**Table 11-6** NoncurrentVersionExpiration

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| NoncurrentDays | number | Yes if used as a request parameter | **Explanation:**<br>Number of days an object is historical before the specified rule takes effect<br>**Restrictions**:<br>This parameter is only available for historical object versions.<br>**Value range**:<br>0 to ($2^{31}$ – 1), in days<br>**Default value**:<br>None |

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**Table 11-7** StorageClassType

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

## Responses

**Table 11-8** Responses

| Type | Description |
| --- | --- |
| Table 11-9<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 11-9. |

**Table 11-9** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 11-10. |

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| Parameter | Type | Description |
| --- | --- | --- |
| InterfaceResult | Table 11-11 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 11-11.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 11-10** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 11-11** BaseResponseOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

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## Code Examples: Setting an Object Transition Policy

This example sets lifecycle rules to specify transition policies for latest and historical versions of objects in bucket **examplebucket**.

## Code Examples: Setting an Object Expiration Time

This example sets lifecycle rules to specify expiration time for latest and historical versions of objects in bucket **examplebucket**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function setBucketLifecycle() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Lifecycle rules
      Rules: [
        {
          ID:'rule1',Prefix:'prefix1',Status:'Enabled',
          // Specify that objects whose names contain the specified prefix will expire 60 days after creation.
          Expiration:{Days:60},
          // Specify that objects whose names contain the prefix will expire 60 days after becoming historical.
          NoncurrentVersionExpiration:{NoncurrentDays : 60}
        },
        {
          ID:'rule2',Prefix:'prefix2',Status:'Enabled',
          // Specify when the objects whose names contain the specified prefix will expire. The value must conform to the ISO8601 standard. The time value must be 00:00:00 in UTC.
          Expiration:{Date: '2018-12-31T00:00:00Z'},
        }

      ]
    };
    // Configure lifecycles.
    const result = await obsClient.setBucketLifecycle(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Set bucket(%s)'s lifecycle configuration successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
```

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```
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

setBucketLifecycle();
```

# 11.2 Obtaining the Lifecycle Rules of a Bucket (SDK for Node.js)

## Function

You can configure lifecycle rules to periodically delete objects or transition objects between storage classes.

This API returns the lifecycle rules of a bucket.

## Restrictions

- To obtain the lifecycle rules of a bucket, you must be the bucket owner or have the required permission (**obs:bucket:GetLifecycleConfiguration** in IAM or **GetLifecycleConfiguration** in a bucket policy).

## Method

```
ObsClient.getBucketLifecycle(params)
```

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## Request Parameters

**Table 11-12** BucketRequestInput

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

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## Responses

**Table 11-13** Responses

| Type | Description |
| --- | --- |
| Table 11-14<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 11-14. |

**Table 11-14** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 11-15. |
| InterfaceResult | Table 11-16 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 11-16.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 11-15** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |

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| | | |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 11-16** GetBucketLifecycleOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server<br>**Default value**:<br>None |
| Rules | LifecycleRule []<br> | Yes<br>**Explanation:**<br>Lifecycle rule information. For details, see Table 11-17. |

**Table 11-17** LifecycleRule

| Parameter | Type | Description |
|---|---|---|
| ID | string | **Explanation:**<br>Lifecycle rule ID. |
| Prefix | string | **Explanation:**<br>Object name prefix. It identifies the objects the rule applies to. You can leave this parameter blank to apply the rule to all objects in the bucket.<br>Assume that you have the following objects: **logs/day1**, **logs/day2**, **logs/day3**, and **ExampleObject.jpg**. If you set **Prefix** to **ExampleObject.jpg**, the rule applies to object **ExampleObject.jpg** alone. If you set **Prefix** to **logs/**, the rule applies to objects **logs/day1**, **logs/day2**, and **logs/day3**. If you leave **Prefix** blank, the rule applies to all objects in the bucket. |

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| Parameter | Type | Description |
| --- | --- | --- |
| Status | string | **Explanation:**<br>Whether the rule is enabled.<br>**Value range**:<br>**Enabled**<br>**Disabled** |
| Transitions | **Transition**[] | **Explanation:**<br>Policies for storage class transition, including transition time and the storage class after transition. For details, see **Table 11-18**.<br>**Restrictions**:<br>This parameter is only available for the latest object version. |
| Expiration | **Expiration** | **Explanation:**<br>Object expiration time. For details, see **Table 11-19**.<br>**Restrictions**:<br>This parameter is only available for the latest object version. |
| NoncurrentVersionTransitions | **NoncurrentVersionTransition**[] | **Explanation:**<br>Policies for storage class transition, including transition time and the storage class after transition. For details, see **Table 11-20**.<br>**Restrictions**:<br>• This parameter is only available for historical object versions.<br>• Versioning must be enabled (or suspended after being enabled) for the bucket. |
| NoncurrentVersionExpiration | **NoncurrentVersionExpiration** | **Explanation:**<br>Expiration time of historical object versions. For details, see **Table 11-21**.<br>**Restrictions**:<br>• This parameter is only available for historical object versions.<br>• Versioning must be enabled (or suspended after being enabled) for the bucket.<br>• This parameter is not available for parallel file systems. |

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**Table 11-18** Transition

| Parameter | Type | Description |
| --- | --- | --- |
| StorageClass | StorageClassType | **Explanation:**<br>Storage class of the object after transition |
| Date | string | **Explanation:**<br>OBS executes the lifecycle rule for objects that were modified before the specified date. |
| Days | number | **Explanation:**<br>How many days can pass since the last update before the lifecycle rule takes effect |

**Table 11-19** Expiration

| Parameter | Type | Description |
| --- | --- | --- |
| Date | string | **Explanation:**<br>OBS executes the lifecycle rule (deletion) for objects that were modified before the specified date. |
| Days | number | **Explanation:**<br>How many days can pass since the last update before the lifecycle rule (deletion) takes effect |

**Table 11-20** NoncurrentVersionTransition

| Parameter | Type | Description |
| --- | --- | --- |
| StorageClass | StorageClassType | **Explanation:**<br>Storage class of historical object versions after transition |
| NoncurrentDays | number | **Explanation:**<br>Number of days an object is historical before the specified rule takes effect |

**Table 11-21** NoncurrentVersionExpiration

| Parameter | Type | Description |
| --- | --- | --- |
| NoncurrentDays | number | **Explanation:**<br>Number of days an object is historical before the specified rule takes effect |

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**Table 11-22** AbortIncompleteMultipartUpload

| Parameter | Type | Description |
| --- | --- | --- |
| DaysAfterInitiation | number | **Explanation:**<br>Number of days since the initiation of an incomplete multipart upload that OBS will wait before deleting the non-assembled parts (fragments) of the upload |

**Table 11-23** StorageClassType

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

## Code Examples

You can call **ObsClient.getBucketLifecycle** to view lifecycle rules of a bucket. The following code shows how to obtain the lifecycle rule of bucket **examplebucket**:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
```

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```
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function getBucketLifecycle() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket"
    };
    // Obtain the lifecycle rules of the bucket.
    const result = await obsClient.getBucketLifecycle(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Get bucket(%s)'s lifecycle configuration successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      for (let i = 0; i < result.InterfaceResult.Rules.length; i++) {
        const rule = result.InterfaceResult.Rules[i];
        console.log("ID:%s, Prefix:%s, Status:%s, Expiration[Date]:%s, Expiration[Days]:%d,
NoncurrentVersionExpiration[NoncurrentDays]:%s",
          rule.ID, rule.Prefix, rule.Status, rule.Expiration.Date,
          rule.Expiration.Days, rule.NoncurrentVersionExpiration.NoncurrentDays
        );
      };
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error
response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

getBucketLifecycle();
```

# 11.3 Deleting the Lifecycle Rules of a Bucket (SDK for Node.js)

## Function

You can configure lifecycle rules to periodically delete objects or transition objects between storage classes.

This API deletes the lifecycle rules of a bucket.

## Restrictions

- To delete the lifecycle rules of a bucket, you must be the bucket owner or have the required permission (**obs:bucket:PutLifecycleConfiguration** in IAM or **PutLifecycleConfiguration** in a bucket policy).

## Method

```
ObsClient.deleteBucketLifecycle(params)
```

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## Request Parameters

**Table 11-24** BucketRequestInput

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

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## Responses

**Table 11-25** Responses

| Type | Description |
| --- | --- |
| Table 11-26<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 11-26. |

**Table 11-26** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 11-27. |
| InterfaceResult | Table 11-28 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 11-28.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 11-27** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |

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| | | |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 11-28** BaseResponseOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

## Code Examples

You can call **ObsClient.deleteBucketLifecycle** to delete lifecycle rules of a bucket. The following code shows how to delete the lifecycle rule of bucket **examplebucket**:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function deleteBucketLifecycle() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
    };
    // Delete the lifecycle configuration of the bucket.
    const result = await obsClient.deleteBucketLifecycle(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Delete bucket(%s)'s lifecycle configuration successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
```

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```
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

deleteBucketLifecycle();
```

# 12 Bucket CORS (SDK for Node.js)

## 12.1 Configuring CORS for a Bucket (SDK for Node.js)

### Function

Cross-origin resource sharing (CORS) is a mechanism defined by the World Wide Web Consortium (W3C) that allows a web application program in one domain to access resources located in another one. For normal web page requests, website scripts and contents in one domain cannot interact with those in another because of Same Origin Policies (SOPs). OBS supports CORS rules that allow the resources in OBS to be requested by other domains.

This API configures CORS for a bucket. The configured CORS rules follow the principle of new ones overwriting old ones.

### Restrictions

- To configure CORS for a bucket, you must be the bucket owner or have the required permission (**obs:bucket:PutBucketCORS** in IAM or **PutBucketCORS** in a bucket policy).

### Method

```
ObsClient.setBucketCors(params)
```

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## Request Parameters

**Table 12-1** List of request parameters

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

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| CorsRules | CorsRule[] | Yes | **Explanation:**<br>List of CORS rules of a bucket.<br>**Restrictions**:<br>A list can contain a maximum of 100 CORS rules.<br>**Value range**:<br>See CorsRule.<br>**Default value**:<br>None |

**Table 12-2** CorsRule

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ID | string | No if used as a request parameter | **Explanation:**<br>CORS rule ID.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 1 to 255 characters.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| AllowedMethod | string[] | Yes if used as a request parameter | **Explanation:**<br>The allowed HTTP methods (types of operations on buckets and objects) for a cross-origin request.<br>**Restrictions**:<br>None<br>**Value range**:<br>The following HTTP methods are supported:<br>● GET<br>● PUT<br>● HEAD<br>● POST<br>● DELETE<br>**Default value**:<br>None |
| AllowedOrigin | string[] | Yes if used as a request parameter | **Explanation:**<br>The origin that is allowed to access the bucket.<br>**Restrictions**:<br>Domain name of the origin. Each origin can contain at most one wildcard character (*). Example: **https://*.vbs.example.com**<br>**Value range**:<br>None<br>**Default value**:<br>None |

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| AllowedHeader | string[] | No if used as a request parameter | **Explanation:**<br>The allowed cross-origin request headers. Only CORS requests matching the allowed headers are valid.<br>**Restrictions**:<br>Each header can contain at most one wildcard character (*). Spaces, ampersands (&), colons (:), less-than signs (<), and full-width characters are not allowed.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| MaxAgeSeconds | number | No if used as a request parameter | **Explanation:**<br>How long the response can be cached on a client<br>**Restrictions**:<br>Each CORS rule can contain at most one **MaxAgeSeconds**.<br>**Value range**:<br>0 to ($2^{31}$ – 1), in seconds<br>**Default value**:<br>100 |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ExposeHeader | string[] | No if used as a request parameter | **Explanation:**<br>It specifies additional headers a CORS rule allows in a response, which can be used to provide extra information to clients. By default, a browser can access only headers **Content-Length** and **Content-Type**. If the browser needs to access other headers, you need to configure them as additional headers.<br>**Restrictions**:<br>Spaces, asterisks (*), ampersands (&), colons (:), less-than signs (<), and full-width characters are not allowed.<br>**Value range**:<br>None<br>**Default value**:<br>None |

## Responses

**Table 12-3** Responses

| Type | Description |
| --- | --- |
| Table 12-4<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see **Table 12-4**. |

**Table 12-4** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see **Table 12-5**. |

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| Parameter | Type | Description |
| --- | --- | --- |
| InterfaceResult | Table 12-6 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 12-6.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 12-5** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 12-6** BaseResponseOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

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## Code Examples

This example configures CORS for bucket **examplebucket**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function setBucketCors() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify CORS rules.
      CorsRules: [
        {
          // Specify the allowed request methods, which can be GET, PUT, DELETE, POST, or HEAD.
          AllowedMethod: ['GET', 'HEAD', 'PUT'],
          // Specify the allowed request origins.
          AllowedOrigin: ['http://www.a.com', 'http://www.b.com'],
          // Specify whether headers specified in Access-Control-Request-Headers in an OPTIONS preflight request can be used.
          AllowedHeader: ['x-obs-header'],
          // Specify what headers users can access from application programs.
          ExposeHeader: ['x-obs-expose-header'],
          // Specify the browser's cache time of the returned results of OPTIONS preflight requests for specific resources, in seconds.
          MaxAgeSeconds: 10
        }
      ]
    };
    // Configure CORS settings for the bucket.
    const result = await obsClient.setBucketCors(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Set bucket(%s) CORS configuration successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

setBucketCors();
```

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# 12.2 Obtaining the CORS Configuration of a Bucket (SDK for Node.js)

## Function

Cross-origin resource sharing (CORS) is a mechanism defined by the World Wide Web Consortium (W3C) that allows a web application program in one domain to access resources located in another one. For normal web page requests, website scripts and contents in one domain cannot interact with those in another because of Same Origin Policies (SOPs). OBS supports CORS rules that allow the resources in OBS to be requested by other domains.

This API returns the CORS configuration of a bucket.

## Restrictions

- To obtain the CORS configuration of a bucket, you must be the bucket owner or have the required permission (**obs:bucket:GetBucketCORS** in IAM or **GetBucketCORS** in a bucket policy).

## Method

```
ObsClient.getBucketCors(params)
```

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## Request Parameters

**Table 12-7** BucketRequestInput

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

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## Responses

**Table 12-8** Responses

| Type | Description |
| --- | --- |
| Table 12-9<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 12-9. |

**Table 12-9** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 12-10. |
| InterfaceResult | Table 12-11 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 12-11.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 12-10** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |

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| | | |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 12-11** GetBucketCorsOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |
| CorsRules | **CorsRule**[] | **Explanation:**<br>CORS rule list of the bucket. For details, see **CorsRule**. |

**Table 12-12** CorsRule

| Parameter | Type | Mandatory (Yes/No) | Description |
|---|---|---|---|
| ID | string | No if used as a request parameter | **Explanation:**<br>CORS rule ID.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value must contain 1 to 255 characters.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| AllowedMethod | string[] | Yes if used as a request parameter | **Explanation:**<br>The allowed HTTP methods (types of operations on buckets and objects) for a cross-origin request.<br>**Restrictions**:<br>None<br>**Value range**:<br>The following HTTP methods are supported:<br>● GET<br>● PUT<br>● HEAD<br>● POST<br>● DELETE<br>**Default value**:<br>None |
| AllowedOrigin | string[] | Yes if used as a request parameter | **Explanation:**<br>The origin that is allowed to access the bucket.<br>**Restrictions**:<br>Domain name of the origin. Each origin can contain at most one wildcard character (*). Example: **https://*.vbs.example.com**<br>**Value range**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| AllowedHeader | string[] | No if used as a request parameter | **Explanation:**<br>The allowed cross-origin request headers. Only CORS requests matching the allowed headers are valid.<br>**Restrictions**:<br>Each header can contain at most one wildcard character (*). Spaces, ampersands (&), colons (:), less-than signs (<), and full-width characters are not allowed.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| MaxAgeSeconds | number | No if used as a request parameter | **Explanation:**<br>How long the response can be cached on a client<br>**Restrictions**:<br>Each CORS rule can contain at most one **MaxAgeSeconds**.<br>**Value range**:<br>0 to ($2^{31}$ – 1), in seconds<br>**Default value**:<br>100 |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ExposeHeader | string[] | No if used as a request parameter | **Explanation:**<br>It specifies additional headers a CORS rule allows in a response, which can be used to provide extra information to clients. By default, a browser can access only headers **Content-Length** and **Content-Type**. If the browser needs to access other headers, you need to configure them as additional headers.<br>**Restrictions**:<br>Spaces, asterisks (*), ampersands (&), colons (:), less-than signs (<), and full-width characters are not allowed.<br>**Value range**:<br>None<br>**Default value**:<br>None |

## Code Examples

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

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function getBucketCors() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
    };
    // Obtain the CORS configuration of the bucket.
    const result = await obsClient.getBucketCors(params);
    if (result.CommonMsg.Status <= 300) {
```

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```
    console.log("Get bucket(%s) CORS configuration successful!", params.Bucket);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
    for (let k = 0; k < result.InterfaceResult.CorsRules.length; k++) {
      const corsRule = result.InterfaceResult.CorsRules[i];
      console.log("ID:%s, AllowedOrigin:%s, AllowedMethod:%s, AllowedHeader:%s, MaxAgeSeconds:%d,
ExposeHeader:%s",
        corsRule.ID, corsRule.AllowedOrigin.join("|"), corsRule.AllowedMethod.join("|"),
corsRule.AllowedHeader.join("|"),
        corsRule.MaxAgeSeconds, corsRule.ExposeHeader.join("|")
      );
    };
    return;
  };
  console.log("An ObsError was found, which means your request sent to OBS was rejected with an error
response.");
  console.log("Status: %d", result.CommonMsg.Status);
  console.log("Code: %s", result.CommonMsg.Code);
  console.log("Message: %s", result.CommonMsg.Message);
  console.log("RequestId: %s", result.CommonMsg.RequestId);
 } catch (error) {
  console.log("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.");
  console.log(error);
 };
};

getBucketCors();
```

# 12.3 Deleting the CORS Configuration of a Bucket (SDK for Node.js)

## Function

Cross-origin resource sharing (CORS) is a mechanism defined by the World Wide Web Consortium (W3C) that allows a web application program in one domain to access resources located in another one. For normal web page requests, website scripts and contents in one domain cannot interact with those in another because of Same Origin Policies (SOPs). OBS supports CORS rules that allow the resources in OBS to be requested by other domains.

This API deletes the CORS rules of a bucket.

## Restrictions

- To delete the CORS configuration of a bucket, you must be the bucket owner or have the required permission (**obs:bucket:PutBucketCORS** in IAM or **PutBucketCORS** in a bucket policy).

## Method

```
ObsClient.deleteBucketCors(params)
```

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## Request Parameters

**Table 12-13** BucketRequestInput

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

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## Responses

**Table 12-14** Responses

| Type | Description |
| --- | --- |
| Table 12-15<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 12-15. |

**Table 12-15** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 12-16. |
| InterfaceResult | Table 12-17 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 12-17.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 12-16** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |

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| | | |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 12-17** BaseResponseOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

## Code Examples

Sample code is as follows:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function deleteBucketCors() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket"
    };
    // Delete CORS rules of the bucket.
    const result = await obsClient.DeleteBucketCors(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Delete bucket(%s)'s CORS configuration successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };

    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
```

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```
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("Delete bucket(%s)'s CORS configuration successful!", params.Bucket);
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

deleteBucketCors();
```

# 13 Logging (SDK for Node.js)

## 13.1 Configuring Logging for a Bucket (SDK for Node.js)

NOTE

### Function

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

### Restrictions

- OBS creates log files and uploads them to the bucket. Before enabling logging for a bucket, you need to create an IAM agency to delegate OBS to upload log files to the specified bucket. For details about how to create an agency, see .
- To configure logging for a bucket, you must be the bucket owner or have the required permission (**obs:bucket:PutBucketLogging** in IAM or **PutBucketLogging** in a bucket policy).
- The source bucket and target bucket must be in the same region.

### Method

```
ObsClient.setBucketLogging(params)
```

## Request Parameters

**Table 13-1** List of request parameters

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

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Agency | string | Yes if used in a request for enabling bucket logging | **Explanation:**<br>Name of the IAM agency created by the owner of the target bucket for OBS.<br>**Restrictions**:<br>By default, the IAM agency only requires the **PutObject** permission to upload logs to the target bucket. If default encryption is enabled for the target bucket, the agency also requires the **KMS Administrator** permission in the region where the target bucket is located.<br>**Value range**:<br>You can select an existing IAM agency or create one.<br>**Default value**:<br>None |
| LoggingEnabled | **LoggingEnabled** | Yes if you enable logging for the bucket<br>Do not set this parameter when you disable logging for the bucket. | **Explanation:**<br>Logging configuration information. If this parameter is not set, bucket logging is disabled by default.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **LoggingEnabled**.<br>**Default value**:<br>None |

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**Table 13-2** LoggingEnabled

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

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| TargetPrefix | string | Yes if you enable logging for the bucket<br>Do not set this parameter when you disable logging for the bucket. | **Explanation:**<br>Name prefix for log files stored in the target bucket.<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| TargetGrants | **Grant** | No | **Explanation:**<br>Permission information list of grantees, which defines grantees and their permissions for log files.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Grant**.<br>**Default value**:<br>None |

**Table 13-3** Grant

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Grantee | **Grantee** | Yes | **Explanation:**<br>Grantees and permissions<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Grantee**.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Permission | PermissionType | Yes | **Explanation:**<br>Granted permission<br>**Restrictions**:<br>None<br>**Value range**:<br>See PermissionType.<br>**Default value**:<br>None |

**Table 13-4** Grantee

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Type | GranteeType | Yes if used as a request parameter | **Explanation:**<br>Grantee type<br>**Restrictions**:<br>None<br>**Value range**:<br>See Table 13-5.<br>**Default value**:<br>None |
| ID | string | Yes if this parameter is used as a request parameter and **Type** is set to a user | **Explanation:**<br>Account (domain) ID of the grantee.<br>**Restrictions**:<br>None<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Name | string | No if used as a request parameter | **Explanation:**<br>Account name of the grantee.<br>**Restrictions**:<br>• The account name starts with a letter.<br>• The account name contains 6 to 32 characters.<br>• The account name only allows letters, digits, hyphens (-), and underscores (_).<br>**Value range**:<br>None<br>**Default value**:<br>None |
| URI | **GroupUriType** | Yes if this parameter is used as a request parameter and **Type** is set to a group | **Explanation:**<br>Authorized user group<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Table 13-6**.<br>**Default value**:<br>None |

**Table 13-5** GranteeType

| Constant | Default Value | Description |
| --- | --- | --- |
| GranteeGroup | Group | Grants permissions to user groups. |
| GranteeUser | CanonicalUser | Grants permissions to individual users. |

**Table 13-6** GroupUriType

| Constant | Default Value | Description |
| --- | --- | --- |
| GroupAllUsers | AllUsers | All users |
| GroupAuthenticatedUsers | AuthenticatedUsers | Authorized users. This constant is deprecated. |
| GroupLogDelivery | LogDelivery | Log delivery group. This constant is deprecated. |

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**Table 13-7** PermissionType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.PermissionRead | READ | A grantee with this permission for a bucket can obtain the list of objects, multipart uploads, bucket metadata, and object versions in the bucket.<br>A grantee with this permission for an object can obtain the object content and metadata. |
| ObsClient.enums.PermissionWrite | WRITE | A grantee with this permission for a bucket can upload, overwrite, and delete any object or part in the bucket.<br>This permission is not applicable to objects. |
| ObsClient.enums.PermissionReadAcp | 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 for their bucket or object by default. |
| ObsClient.enums.PermissionWriteAcp | 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 for their bucket or object by default.<br>This permission allows the grantee to change the access control policies, meaning the grantee has full control over a bucket or object. |
| ObsClient.enums.PermissionFullControl | FULL_CONTROL | A grantee with this permission for a bucket has **PermissionRead**, **PermissionWrite**, **PermissionReadAcp**, and **PermissionWriteAcp** permissions for the bucket.<br>A grantee with this permission for an object has **PermissionRead**, **PermissionReadAcp**, and **PermissionWriteAcp** permissions for the object. |

## Responses

**Table 13-8** Responses

| Type | Description |
| --- | --- |
| Table 13-9<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 13-9. |

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**Table 13-9** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see **Table 13-10**. |
| InterfaceResult | Table 13-11 | **Explanation:**<br>Results outputted for a successful call. For details, see **Table 13-11**.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 13-10** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

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**Table 13-11** BaseResponseOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

## Code Examples: Enabling Bucket Logging

This example configures logging for bucket **examplebucket**.

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function setBucketLogging() {
    try {
        const params = {
            // Specify the bucket name.
            Bucket: "examplebucket",
            // Specify an agency name (obs_test_agency in this example).
            Agency: 'obs_test_agency',
            LoggingEnabled: {
                // Specify a bucket (TargetBucketname in this example) for storing generated log files.
                TargetBucket: 'TargetBucketname',
                // Specify a prefix (TargetPrefixtest/ in this example) for log files to be generated.
                TargetPrefix: 'TargetPrefixtest/',
                // Specify the grantee permissions.
                TargetGrants: [
                    // Grant the read permission to a specific user. In this example, the user ID is 0a03f5833900d3730f13c00f49d5exxx.
                    { Grantee: { Type: 'CanonicalUser', ID: '0a03f5833900d3730f13c00f49d5exxx' }, Permission: obsClient.enums.PermissionRead }
                ]
            }
        };
        // Configure logging for a bucket.
        const result = await obsClient.setBucketLogging(params);
        if (result.CommonMsg.Status <= 300) {
            console.log("Set bucket(%s)'s logging configuration successful!", params.Bucket);
            console.log("RequestId: %s", result.CommonMsg.RequestId);
            return;
        };
        console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
        console.log("Status: %d", result.CommonMsg.Status);
        console.log("Code: %s", result.CommonMsg.Code);
        console.log("Message: %s", result.CommonMsg.Message);
```

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```
        console.log("RequestId: %s", result.CommonMsg.RequestId);
    } catch (error) {
        console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
        console.log(error);
    };
};

setBucketLogging();
```

## Code Examples: Disabling Bucket Logging

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

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  //Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function setBucketLogging() {
    try {
        const params = {
            // Specify the bucket name.
            Bucket: "examplebucket",
            // Clear the logging configuration.
            LoggingEnabled : {}
        };
        // Delete the access logging configuration of the bucket.
        const result = await obsClient.setBucketLogging(params);
        if (result.CommonMsg.Status <= 300) {
            console.log("Delete bucket(%s)'s logging configuration successful!", params.Bucket);
            console.log("RequestId: %s", result.CommonMsg.RequestId);
            return;
        };
        console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
        console.log("Status: %d", result.CommonMsg.Status);
        console.log("Code: %s", result.CommonMsg.Code);
        console.log("Message: %s", result.CommonMsg.Message);
        console.log("RequestId: %s", result.CommonMsg.RequestId);
    } catch (error) {
        console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
        console.log(error);
    };
};

setBucketLogging();
```

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# 13.2 Obtaining the Logging Configuration of a Bucket (SDK for Node.js)

## Function

This API returns the logging configuration of a bucket.

## Restrictions

- To obtain the logging configuration of a bucket, you must be the bucket owner or have the required permission (**obs:bucket:GetBucketLogging** in IAM or **GetBucketLogging** in a bucket policy).

## Method

```
ObsClient.getBucketLogging(params)
```

## Request Parameters

**Table 13-12** BucketRequestInput

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

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## Responses

**Table 13-13** Responses

| Type | Description |
| --- | --- |
| Table 13-14<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 13-14. |

**Table 13-14** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 13-15. |
| InterfaceResult | Table 13-16 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 13-16.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 13-15** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |

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| | | |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 13-16** GetBucketLoggingOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |
| Agency | string | **Explanation:**<br>Name of the IAM agency created by the owner of the target bucket for OBS.<br>You can select an existing IAM agency or create one. |
| LoggingEnabled | **LoggingEnabled** | **Explanation:**<br>Logging configuration information |

**Table 13-17** LoggingEnabled

| Parameter | Type | Description |
|---|---|---|
| TargetBucket | string | **Explanation:**<br>Name of the bucket for storing log files. |
| TargetPrefix | string | **Explanation:**<br>Name prefix for log files stored in the target bucket. |
| TargetGrants | **Grant** | **Explanation:**<br>Permission information list of grantees, which defines grantees and their permissions for log files. For details, see **Table 13-18**. |

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**Table 13-18** Grant

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Grantee | Grantee | Yes if used as a request parameter | **Explanation:**<br>Grantee information. For details, see **Table 13-19**. |
| Permission | PermissionType | Yes if used as a request parameter | **Explanation:**<br>Granted permissions. For details, see **Table 13-22**. |

**Table 13-19** Grantee

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Type | GranteeType | Yes if used as a request parameter | **Explanation:**<br>Grantee type. For details, see **Table 13-20**. |
| ID | string | Yes if this parameter is used as a request parameter and **Type** is set to a user | **Explanation:**<br>Account (domain) ID of the grantee. |
| Name | string | No if used as a request parameter | **Explanation:**<br>Account name of the grantee. |
| URI | GroupUriType | Yes if this parameter is used as a request parameter and **Type** is set to a group | **Explanation:**<br>Authorized user group. For details, see **Table 13-21**. |

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**Table 13-20** GranteeType

| Constant | Default Value | Description |
| --- | --- | --- |
| GranteeGroup | Group | Grants permissions to user groups. |
| GranteeUser | CanonicalUser | Grants permissions to individual users. |

**Table 13-21** GroupUriType

| Constant | Default Value | Description |
| --- | --- | --- |
| GroupAllUsers | AllUsers | All users |
| GroupAuthenticatedUsers | AuthenticatedUsers | Authorized users. This constant is deprecated. |
| GroupLogDelivery | LogDelivery | Log delivery group. This constant is deprecated. |

**Table 13-22** PermissionType

| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.PermissionRead | READ | A grantee with this permission for a bucket can obtain the list of objects, multipart uploads, bucket metadata, and object versions in the bucket.<br>A grantee with this permission for an object can obtain the object content and metadata. |
| ObsClient.enums.PermissionWrite | WRITE | A grantee with this permission for a bucket can upload, overwrite, and delete any object or part in the bucket.<br>This permission is not applicable to objects. |
| ObsClient.enums.PermissionReadAcp | 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 for their bucket or object by default. |
| ObsClient.enums.PermissionWriteAcp | 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 for their bucket or object by default.<br>This permission allows the grantee to change the access control policies, meaning the grantee has full control over a bucket or object. |

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| Constant | Default Value | Description |
| --- | --- | --- |
| ObsClient.enums.PermissionFullControl | FULL_CONTROL | A grantee with this permission for a bucket has **PermissionRead**, **PermissionWrite**, **PermissionReadAcp**, and **PermissionWriteAcp** permissions for the bucket.<br>A grantee with this permission for an object has **PermissionRead**, **PermissionReadAcp**, and **PermissionWriteAcp** permissions for the object. |

## Code Examples

You can call **ObsClient.getBucketLogging** to view the logging configuration of a bucket. The following code shows how to obtain the logging configuration of bucket **examplebucket**:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  //Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function getBucketLogging() {
    try {
        const params = {
            // Specify the bucket name.
            Bucket: "examplebucket",
        };
        // Obtain logging for a bucket.
        const result = await obsClient.getBucketLogging(params);
        if (result.CommonMsg.Status <= 300) {
            console.log("Get bucket(%s)'s logging configuration successful!", params.Bucket);
            console.log("RequestId: %s", result.CommonMsg.RequestId);
            if (result.InterfaceResult.LoggingEnabled) {
                console.log('TargetBucket: %s', result.InterfaceResult.LoggingEnabled.TargetBucket);
                console.log('TargetPrefix: %s', result.InterfaceResult.LoggingEnabled.TargetPrefix);
                for (let i = 0; i < result.InterfaceResult.LoggingEnabled.TargetGrants.length; i++) {
                    const grant = result.InterfaceResult.LoggingEnabled.TargetGrants[0];
                    console.log('Grant[%d]-Type:%s, ID:%s, URI:%s, Permission:%s',
                        i, grant.Grantee.Type, grant.Grantee.ID, grant.Grantee.URI, grant.Permission
                    );
                };
            };
            return;
        };
        console.log("An ObsError was found, which means your request sent to OBS was rejected with an
```

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```
error response.");
        console.log("Status: %d", result.CommonMsg.Status);
        console.log("Code: %s", result.CommonMsg.Code);
        console.log("Message: %s", result.CommonMsg.Message);
        console.log("RequestId: %s", result.CommonMsg.RequestId);
    } catch (error) {
        console.log("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.");
        console.log(error);
    };
};

getBucketLogging();
```

# 14 Static Website Hosting (SDK for Node.js)

## 14.1 Overview (SDK for Node.js)

You can upload the content files of the static website to your bucket in OBS as objects and configure the **public-read** permission on the files, and then configure the static website hosting mode for your bucket to host your static websites in OBS. 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.

You can perform the following to host a website file in a bucket:

**Step 1** Upload a website file to your bucket in OBS as an object and specify 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 OBS library.
// Use npm for installation.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code for installation.
// var ObsClient = require('./lib/obs');

// Create an ObsClient instance.
const obsClient = new ObsClient({
  //Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  //Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
```

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```
  server: "https://your-endpoint"
});

async function putObject() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify an object. test.html is used in this example.
      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.enums.AclPublicRead

    };
    // Upload the object.
    const result = await obsClient.putObject(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Put object(%s) under the bucket(%s) successful!!", params.Key, params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      console.log("StorageClass:%s, ETag:%s", result.InterfaceResult.StorageClass, result.InterfaceResult.ETag);
      return;
    }
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error
response.")
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.")
    console.log(error);
  }
}

putObject();
```

NOTE

- You can enter **http://**examplebucket.*your-endpoint*/**test.html** in a browser to access the file hosted using the sample code.

# 14.2 Configuring Static Website Hosting (SDK for Node.js)

## Function

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

- Redirecting all requests to another website
- Redirecting specific requests

This API configures static website hosting for a bucket.

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## Restrictions

- Periods (.) should be avoided in the target bucket name, or there may be certificate verification failures on the client when using HTTPS for access.
- The request body of the website configuration cannot exceed 10 KB.
- To configure static website hosting for a bucket, you must be the bucket owner or have the required permission (**obs:bucket:PutBucketWebsite** in IAM or **PutBucketWebsite** in a bucket policy).

## Method

```
ObsClient.setBucketWebsite(params)
```

## Request Parameters

**Table 14-1** List of request parameters

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

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| RedirectAllRequestsTo | **RedirectAllRequestTo** | No | **Explanation:**<br>Redirection rule for all requests<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Table 14-2**.<br>**Default value**:<br>None |
| IndexDocument | **IndexDocument** | No | **Explanation:**<br>Default page configuration.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Table 14-3**.<br>**Default value**:<br>None |
| ErrorDocument | **ErrorDocument** | No | **Explanation:**<br>Error page configuration.<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Table 14-4**.<br>**Default value**:<br>None |
| RoutingRules | **RoutingRule**[] | No | **Explanation:**<br>Redirection rule list<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Table 14-5**.<br>**Default value**:<br>None |

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NOTE

- **ErrorDocument**, **IndexDocument**, and **RoutingRules** must be used together and must not be used with **RedirectAllRequestsTo**.
- When **ErrorDocument**, **IndexDocument**, and **RoutingRules** are used together, **RoutingRules** can be left blank.
- You must set either these three parameters (**ErrorDocument**, **IndexDocument**, and **RoutingRules**) or **RedirectAllRequestsTo**.

**Table 14-2** RedirectAllRequestsTo

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| HostName | string | Yes if **RedirectAllRequestsTo** is specified | **Explanation:**<br>Domain name used for redirection, for example, **www.example.com**<br>**Restrictions**:<br>The domain name must comply with the domain name standards.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| Protocol | string | No | **Explanation:**<br>Protocol used for redirection<br>**Restrictions**:<br>None<br>**Value range**:<br>http or https<br>**Default value**:<br>None |

**Table 14-3** IndexDocument

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

**Table 14-4** ErrorDocument

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | No if **ErrorDocument** is specified | **Explanation:**<br>The object name that is used when a 4*XX* error occurs. This element specifies the page that is returned when an error occurs.<br>**Restrictions**:<br>None<br>**Value range**:<br>The key can contain 1 to 1,024 characters.<br>**Default value**:<br>None |

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**Table 14-5** RoutingRule

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Condition | **Condition** | No | **Explanation:**<br>Conditions that must be met for the specified rule to take effect<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Table 14-6**.<br>**Default value**:<br>None |
| Redirect | **Redirect** | Yes if **RoutingRule** is specified | **Explanation:**<br>Details about the redirection<br>**Restrictions**:<br>None<br>**Value range**:<br>See **Table 14-7**.<br>**Default value**:<br>None |

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**Table 14-6** Condition

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| KeyPrefixEquals | string | No | **Explanation:**<br>Object name prefix for the redirection to take effect. If the name prefix of the requested object is the same as the value specified for this parameter, the redirection rule takes effect.<br>For example, to redirect the requests for the object **ExamplePage.html**, set **KeyPrefixEquals** to **ExamplePage.html**.<br>**Restrictions**:<br>This parameter cannot be used together with **HttpErrorCodeReturnedEquals**.<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| HttpErrorCodeReturnedEquals | string | No | **Explanation:**<br>HTTP error code for the redirection to take effect. If an error code returned is the same as the value specified for this parameter, the redirection rule takes effect.<br>For example, if you want to redirect requests to **NotFound.html** when HTTP error code **404** is returned, set **HttpErrorCodeReturnedEquals** to **404** in **Condition** and set **ReplaceKeyWith** to **NotFound.html** in **Redirect**.<br>**Restrictions**:<br>This parameter cannot be used together with **KeyPrefixEquals**.<br>**Default value**:<br>None |

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**Table 14-7** Redirect

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Protocol | string | No if used as a request parameter | **Explanation:**<br>Protocol used for redirection<br>**Restrictions**:<br>None<br>**Value range**:<br>http or https<br>**Default value**:<br>None |
| HostName | string | No if used as a request parameter | **Explanation:**<br>Domain name used for redirection<br>**Restrictions**:<br>The domain name must comply with the domain name standards.<br>**Value range**:<br>None<br>**Default value**:<br>None |
| ReplaceKeyPrefix-With | string | No if used as a request parameter | **Explanation:**<br>Object name prefix used in the redirection request<br>**Restrictions**:<br>None<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |

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| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| ReplaceKeyWith | string | No if used as a request parameter | **Explanation:**<br>Object name used in the redirection request<br>**Restrictions**:<br>This parameter cannot be used together with **replaceKeyPrefixWith**.<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| HttpRedirectCode | string | No if used as a request parameter | **Explanation:**<br>HTTP status code in the response to the redirection request<br>**Restrictions**:<br>None<br>**Value range**:<br>**Default value**:<br>None |

## Responses

**Table 14-8** Responses

| Type | Description |
| --- | --- |
| Table 14-9<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results.<br>For details, see **Table 14-9**. |

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**Table 14-9** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see **Table 14-10**. |
| InterfaceResult | Table 14-11 | **Explanation:**<br>Results outputted for a successful call. For details, see **Table 14-11**.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 14-10** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

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**Table 14-11** BaseResponseOutput

| Parameter | Type | Description |
| --- | --- | --- |
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

## Code Examples

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

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function setBucketWebsite() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
      // Specify a default page (index.html in this example).
      IndexDocument: { Suffix: 'index.html' },
      // Specify an error page (error.html in this example).
      ErrorDocument: { Key: 'error.html' },
      // Configure redirection for all requests.
      RedirectAllRequestsTo : {HostName : 'www.example.com', Protocol : 'http'}
      // Specify redirect rules for requests.
      RoutingRules: [
        { Redirect: { HostName: "www.a.com", Protocol: obs.ProtocolHttp, ReplaceKeyPrefixWith: "prefix", HttpRedirectCode: "304" } },
        { Redirect: { HostName: "www.b.com", Protocol: obs.ProtocolHttps, ReplaceKeyWith: "replaceKey", HttpRedirectCode: "304" } },
      ]
    };
    // Configure the website settings for the bucket.
    const result = await obsClient.setBucketWebsite(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Set bucket(%s)'s website configuration successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
```

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```
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

setBucketWebsite();
```

# 14.3 Obtaining Static Website Hosting Configurations (SDK for Node.js)

## Function

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

- Redirecting all requests to another website
- Redirecting specific requests

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

## Restrictions

- To obtain the static website hosting configurations of a bucket, you must be the bucket owner or have the required permission (**obs:bucket:GetBucketWebsite** in IAM or **GetBucketWebsite** in a bucket policy).

## Method

```
ObsClient.getBucketWebsite(params)
```

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## Request Parameters

**Table 14-12** BucketRequestInput

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

## Responses

**Table 14-13** Responses

| Type | Description |
| --- | --- |
| Table 14-14<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 14-14. |

**Table 14-14** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 14-15. |
| InterfaceResult | Table 14-16 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 14-16.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 14-15** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |

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| | | |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 14-16** GetBucketWebsiteOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |
| RedirectAllRequestsTo | **RedirectAllRequestTo** | **Explanation:**<br>Redirection rules for all requests. For details, see **Table 14-19**. |
| IndexDocument | **IndexDocument** | **Explanation:**<br>Default page configuration. For details, see **Table 14-17**. |
| ErrorDocument | **ErrorDocument** | **Explanation:**<br>Error page configuration. For details, see **Table 14-18**. |
| RoutingRules | **RoutingRule** [] | **Explanation:**<br>List of routing rules. For details, see **Table 14-20**. |

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**Table 14-17** IndexDocument

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

**Table 14-18** ErrorDocument

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| Key | string | No if **ErrorDocument** is specified | **Explanation:**<br>The object name that is used when a 4*XX* error occurs. This element specifies the page that is returned when an error occurs.<br>**Restrictions**:<br>None<br>**Value range**:<br>The key can contain 1 to 1,024 characters.<br>**Default value**:<br>None |

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**Table 14-19** RedirectAllRequestsTo

| Parameter | Type | Description |
| --- | --- | --- |
| HostName | string | **Explanation:**<br>Domain name used for redirection, for example, **www.example.com** |
| Protocol | string | **Explanation:**<br>Protocol used for redirection |

**Table 14-20** RoutingRule

| Parameter | Type | Description |
| --- | --- | --- |
| Condition | **Condition** | **Explanation:**<br>Conditions that must be met for the specified rule to take effect. For details, see **Condition**. |
| Redirect | **Redirect** | **Explanation:**<br>Details about the redirection. For details, see **Table 14-22**. |

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**Table 14-21** Condition

| Parameter | Type | Mandatory (Yes/No) | Description |
| --- | --- | --- | --- |
| KeyPrefixEquals | string | No | **Explanation:**<br>Object name prefix for the redirection to take effect. If the name prefix of the requested object is the same as the value specified for this parameter, the redirection rule takes effect.<br>For example, to redirect the requests for the object **ExamplePage.html**, set **KeyPrefixEquals** to **ExamplePage.html**.<br>**Restrictions**:<br>This parameter cannot be used together with **HttpErrorCodeReturnedEquals**.<br>**Value range**:<br>The value can contain 1 to 1,024 characters.<br>**Default value**:<br>None |
| HttpErrorCodeReturnedEquals | string | No | **Explanation:**<br>HTTP error code for the redirection to take effect. If an error code returned is the same as the value specified for this parameter, the redirection rule takes effect.<br>For example, if you want to redirect requests to **NotFound.html** when HTTP error code **404** is returned, set **HttpErrorCodeReturnedEquals** to **404** in **Condition** and set **ReplaceKeyWith** to **NotFound.html** in **Redirect**.<br>**Restrictions**:<br>This parameter cannot be used together with **KeyPrefixEquals**.<br>**Default value**:<br>None |

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**Table 14-22** Redirect

| Parameter | Type | Description |
| --- | --- | --- |
| Protocol | string | **Explanation:**<br>Protocol used for redirection |
| HostName | string | **Explanation:**<br>Domain name used for redirection |
| ReplaceKeyPrefixWith | string | **Explanation:**<br>Object name prefix used in the redirection request |
| ReplaceKeyWith | string | **Explanation:**<br>Object name used in the redirection request |
| HttpRedirectCode | string | **Explanation:**<br>HTTP status code in the response to the redirection request. |

## Code Examples

You can call **ObsClient.getBucketWebsite** to obtain the hosting configuration of a bucket. The following code shows how to obtain the website configuration of bucket **examplebucket**:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function getBucketWebsite() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
    };
    // Obtain the website configuration of the bucket.
    const result = await obsClient.getBucketWebsite(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Get bucket(%s)'s website configuration successful!", params.Bucket);
      console.log('RedirectAllRequestsTo:');
      console.log('HostName: %s', result.InterfaceResult.RedirectAllRequestsTo.HostName);
```

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```
    console.log('Protocol: %s', result.InterfaceResult.RedirectAllRequestsTo.Protocol);
    console.log('IndexDocument[Suffix]: %s', result.InterfaceResult.IndexDocument.Suffix);
    console.log('ErrorDocument[Key]: %s', result.InterfaceResult.ErrorDocument.Key);
    console.log('RoutingRules:');
    for (let i = 0; i < result.InterfaceResult.RoutingRules; i++) {
      let routingRule = result.InterfaceResult.RoutingRules[i];
      let condition = routingRule.Condition;
      console.log("Condition[%d]-KeyPrefixEquals:%s, HttpErrorCodeReturnedEquals:%s",
        i, condition.KeyPrefixEquals, condition.HttpErrorCodeReturnedEquals
      );
      let redirect = routingRule.Redirect;
      console.log("Redirect[%d]-Protocol:%s, HostName:%s, ReplaceKeyPrefixWith:%s,
HttpRedirectCode:%s",
        i, redirect.Protocol, redirect.HostName, redirect.ReplaceKeyPrefixWith, redirect.HttpRedirectCode
      );
    };
    return;
  };

  console.log("An ObsError was found, which means your request sent to OBS was rejected with an error
response.");
  console.log("Status: %d", result.CommonMsg.Status);
  console.log("Code: %s", result.CommonMsg.Code);
  console.log("Message: %s", result.CommonMsg.Message);
  console.log("RequestId: %s", result.CommonMsg.RequestId);
 } catch (error) {
  console.log("An Exception was found, which means the client encountered an internal problem when
attempting to communicate with OBS, for example, the client was unable to access the network.");
  console.log(error);
 };
};

getBucketWebsite();
```

# 14.4 Deleting Website Hosting Settings (SDK for Node.js)

## Function

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

- Redirecting all requests to another website
- Redirecting specific requests

This API deletes the static website hosting configurations of a bucket.

## Restrictions

- To delete the static website hosting configurations of a bucket, you must be the bucket owner or have the required permission (**obs:bucket:DeleteBucketWebsite** in IAM or **DeleteBucketWebsite** in a bucket policy).

## Method

```
ObsClient.deleteBucketWebsite(params)
```

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## Request Parameters

**Table 14-23** BucketRequestInput

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

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## Responses

**Table 14-24** Responses

| Type | Description |
| --- | --- |
| Table 14-25<br>**NOTE**<br>This API returns a Promise response, which requires the Promise or async/await syntax. | **Explanation:**<br>Returned results. For details, see Table 14-25. |

**Table 14-25** Response

| Parameter | Type | Description |
| --- | --- | --- |
| CommonMsg | ICommonMsg | **Explanation:**<br>Common information generated after an API call is complete, including the HTTP status code and error code. For details, see Table 14-26. |
| InterfaceResult | Table 14-27 | **Explanation:**<br>Results outputted for a successful call. For details, see Table 14-27.<br>**Restrictions:**<br>This parameter is not included if the value of **Status** is greater than 300. |

**Table 14-26** ICommonMsg

| Parameter | Type | Description |
| --- | --- | --- |
| Status | number | **Explanation:**<br>HTTP status code returned by the OBS server.<br>**Value range**:<br>A status code is a group of digits indicating the status of a response. It ranges from 2*xx* (indicating successes) to 4*xx* or 5*xx* (indicating errors). |
| Code | string | **Explanation:**<br>Error code returned by the OBS server. |
| Message | string | **Explanation:**<br>Error description returned by the OBS server. |
| HostId | string | **Explanation:**<br>Request server ID returned by the OBS server. |

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| | | |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server. |
| Id2 | string | **Explanation:**<br>Request ID2 returned by the OBS server. |
| Indicator | string | **Explanation:**<br>Error code details returned by the OBS server. |

**Table 14-27** BaseResponseOutput

| Parameter | Type | Description |
|---|---|---|
| RequestId | string | **Explanation:**<br>Request ID returned by the OBS server |

## Code Examples

You can call **ObsClient.deleteBucketWebsite** to delete the hosting configuration of a bucket. The following code shows how to delete the website configuration of bucket **examplebucket**:

```
// Import the OBS library.
// Use npm to install the client.
const ObsClient = require("esdk-obs-nodejs");
// Use the source code to install the client.
// var ObsClient = require('./lib/obs')
;
// Create an instance of ObsClient.
const obsClient = new ObsClient({
  // Obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways. Using hard coding may result in leakage.
  // Obtain an AK/SK pair on the management console.
  access_key_id: process.env.ACCESS_KEY_ID,
  secret_access_key: process.env.SECRET_ACCESS_KEY,
  // (Optional) If you use a temporary AK/SK pair and a security token to access OBS, you are advised not to use hard coding, which may result in information leakage. You can obtain an AK/SK pair using environment variables or import an AK/SK pair in other ways.
  // security_token: process.env.SECURITY_TOKEN,
  // Enter the endpoint of the region where the bucket is located.
  server: "https://your-endpoint"
});

async function deleteBucketWebsite() {
  try {
    const params = {
      // Specify the bucket name.
      Bucket: "examplebucket",
    };
    // Delete the website configuration of the bucket.
    const result = await obsClient.deleteBucketWebsite(params);
    if (result.CommonMsg.Status <= 300) {
      console.log("Delete bucket(%s)'s website configuration successful!", params.Bucket);
      console.log("RequestId: %s", result.CommonMsg.RequestId);
      return;
    };
    console.log("An ObsError was found, which means your request sent to OBS was rejected with an error response.");
```

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```
    console.log("Status: %d", result.CommonMsg.Status);
    console.log("Code: %s", result.CommonMsg.Code);
    console.log("Message: %s", result.CommonMsg.Message);
    console.log("RequestId: %s", result.CommonMsg.RequestId);
  } catch (error) {
    console.log("An Exception was found, which means the client encountered an internal problem when attempting to communicate with OBS, for example, the client was unable to access the network.");
    console.log(error);
  };
};

deleteBucketWebsite();
```

# 15 Troubleshooting (SDK for Node.js)

## 15.1 OBS Server-Side Error Codes (SDK for Node.js)

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 |

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| Error Code | Description | HTTP Status Code |
| --- | --- | --- |
| BucketAlreadyExists | The requested bucket name already exists. The bucket namespace is shared by all users of OBS. Select another 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 has exceeded the upper limit. | 400 Bad Request |
| FrozenUserId | The user has been frozen. | 403 Forbidden |
| IllegalVersioningConfigurationException | Invalid versioning configuration in the request. | 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 |

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| 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 has exceeded 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 |

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| 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 cannot be obtained. | 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 | Invalid storage class. | 400 Bad Request |
| InvalidTargetBucketForLogging | The delivery group has no ACL permission for the target bucket. | 400 Bad Request |
| InvalidURI | The specified URI cannot be resolved. | 400 Bad Request |
| KeyTooLong | The provided key is too long. | 400 Bad Request |
| MalformedACLError | The provided XML file has syntax errors 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 |

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| 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.<br>The message "Specified method is not supported." is returned. | 405 Method Not Allowed |
| MissingContentLength | The HTTP header **Content-Length** is not provided. | 411 Length Required |
| MissingRegion | No region contained in the request and no default region defined 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 |

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| Error Code | Description | HTTP Status Code |
| --- | --- | --- |
| NoSuchBucket | The specified bucket does not exist. | 404 Not Found |
| NoSuchBucketPolicy | No bucket policy exists. | 404 Not Found |
| 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 |

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| Error Code | Description | HTTP Status Code |
| --- | --- | --- |
| Redirect | The request is temporarily redirected. | 307 Moved Temporarily |
| 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 read or write operations 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/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 |

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| Error Code | Description | HTTP Status Code |
| --- | --- | --- |
| TooManyObjectCopied | An object has been copied too many times. | 400 Bad Request |
| 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 |
| RestoreAlreadyInProgress | The 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 | | 403 Forbidden |

# 15.2 SDK Common Results (SDK for Node.js)

After you call an API in an instance of the **ObsClient** class, a common result object will be returned if no exception is thrown. The following table lists the fields of the object:

| Parameter | | Type | Description |
| --- | --- | --- | --- |
| CommonMsg | | Object | Common information generated after the API is called, including HTTP status code and error code. |
| - | Status | Number | HTTP status code. If the value is smaller than **300**, the operation succeeds. Otherwise, the operation fails. |
| | Code | String | Error code returned by the OBS server. If **Status** is smaller than **300**, the value is null. |

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| Parameter | | Type | Description |
| --- | --- | --- | --- |
| | Message | String | Error description returned by the OBS server. If **Status** is smaller than **300**, the value is null. |
| | HostId | String | Requested Server ID. If **Status** is smaller than **300**, the value is null. |
| | RequestId | String | Request ID returned by the OBS server |
| | Id2 | String | Request ID2 returned by the OBS server |
| | Indicator | String | Detailed error code returned by the OBS server. If **Status** is smaller than **300**, the value is null. |
| InterfaceResult | | Object | Result data generated after the operation is successful. If **Status** is greater than **300**, the value is null. |
| - | RequestId | String | Request ID returned by the OBS server. |
| | Id2 | String | Request ID2 returned by the OBS server |
| | Other fields | For details, see the **Response** area in the corresponding section. | |

Sample code:

```
// Import the OBS library.
// Use npm to install the client.
var ObsClient = require('esdk-obs-nodejs');
// Use the source code to install the client.
// var ObsClient = require('./lib/obs');

// Create an instance of ObsClient.
const 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.
    access_key_id: process.env.ACCESS_KEY_ID,
    secret_access_key: process.env.SECRET_ACCESS_KEY,

    server : 'https://your-endpoint'
});

// Call APIs to perform operations, such as downloading an object.
obsClient.getObject({
        Bucket : 'bucketname',
        Key : 'objectname',
}, (err, result) => {
        if(!err){
            if(result.CommonMsg.Status < 300){
                // Obtain RequestId.
                console.log('RequestId-->' + result.InterfaceResult.RequestId);
                // Obtain other parameters.
                console.log('Content-->' + result.InterfaceResult.Content.toString());
            }else{
                // Obtain Code and Message.
                console.log('Code-->' + result.CommonMsg.Code);
                console.log('Message-->' + result.CommonMsg.Message);
```

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```
        }
    }
});
```

# 15.3 Log Analysis (SDK for Node.js)

## Log Configuration

OBS Node.js SDK provides the logging function based on Log4js. You can call **ObsClient.initLog** to enable and configure logging. The sample code is as follows:

```
obsClient.initLog({
      name: 'test', // Log name
file_full_path:'./logs/OBS-SDK.log', //Set the path to the log file.
max_log_size:20480, //Set the size of the log file, in bytes.
backups:10, //Set the maximum number of log files that can be stored.
level:'warn', //Set the log level.
log_to_console:true //Set whether to print the log to Console.
});
```

NOTE

- The logging function is disabled by default. You need to enable it if needed.
- Use the **file_full_path** parameter to specify the path to the log file. The path can be set to an absolute path or a relative path.

## Log Format

The SDK log format is: Log time|log level|invoked interface|log content. The following are examples:

```
2017/10/12 10:21:05 666|INFO |ListBuckets|enter ListBuckets...
2017/10/12 10:21:05 672|INFO |ListBuckets|prepare request parameters ok,then Send request to service start
2017/10/12 10:21:05 715|INFO |ListBuckets|2017-10-12 10:21:05|http cost 34 ms|0|
2017/10/12 10:21:05 716|INFO |ListBuckets|get response start, statusCode:200
```

## Log Level

When current logs cannot be used to troubleshoot system faults, you can change the log level to obtain more information. You can obtain the most information in **debug** logs and the least information in **error** logs.

The following describes each log level in detail.

- **debug**: Debugging level. If this level is set, all log information will be printed.
- **info**: Information level. If this level is set, information about logs of the **warn** level and time consumed for each HTTP/HTTPS request will be printed.
- **warn**: Warning level. If this level is set, information about logs of the error level and information about partial critical events will be printed.
- **error**: Error level. If this level is set, only error information will be printed.

# 15.4 Missing Modules (SDK for Node.js)

**Problem**: When OBS Node.js SDK is used for secondary development, an error message was displayed indicating that a module was missing, for example, "Cannot find module 'xml2js'".

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**Solution:**

1. Check whether the version of the local Node.js SDK is the latest.
2. Ensure that the dependency libraries have been correctly installed. For details, see **Installing the SDK (SDK for Node.js)**.

# 15.5 Connection Timeout (SDK for Node.js)

**Problem**: If a "connect ETIMEDOUT" error occurred when calling an API, the possible cause was that the service address (endpoint) was incorrect or the network was disconnected.

**Solution:**

1. Check whether the service address was left blank or invalid.
2. Check the network connection.
3. Check whether the server had returned any exceptions and if so, contact the server-side O&M team.

# 15.6 Unmatched Signatures (SDK for Node.js)

**Problem**: The HTTP status code obtained from **CommonMsg.Status** was **403**, and the OBS server-side error code obtained from **CommonMsg.Code** was **SignatureDoesNotMatch**.

**Solution:**

1. Check whether a bucket name was added before the endpoint. This will lead to a signature mismatch.
2. Ensure that the AK and SK matched, were both correctly specified, and were the same as those used in the request.
3. Check StringToSign.

   The structure of StringToSign should be as follows:

   ```
   HTTP-Verb + "\n" + Content-MD5 + "\n" + Content-Type + "\n" + Date + "\n" + CanonicalizedHeaders + CanonicalizedResource
   ```

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# 16 FAQs (SDK for Node.js)

## 16.1 How Do I Get My Account ID and User ID? (Node.js SDK)

### Obtaining the Account ID and User ID

When calling APIs, you may need to specify the account ID (**DomainID**) and user ID (**UserID**) in some requests. You need to obtain them from the console in advance. To obtain them from the console, do as follows:

**Step 1** Log in to the management console.

**Step 2** Hover the mouse pointer over the username and choose **My Credentials** from the drop-down list.

On the **My Credentials** page, view the account ID and user ID.

**----End**

## 16.2 What Is Content-Type (MIME)? (SDK for Node.js)

Multipurpose Internet Mail Extensions (MIME) type is a standard way of describing a data type. The MIME type is passed in the Content-Type header.

**NOTE**

If you do not specify Content-Type when uploading an object, the SDK determines the object type based on the suffix of the specified object name and automatically assigns a value to Content-Type.

### Content-Type

**Content-Type** indicates the type of data to send or receive and determine the form and encoding method browsers will use to display data (mainly custom client files or media files). If no content type is specified, the type will be generated based on the file name extension. If there is no extension, the content type is **application/octet-stream** by default.

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## Common Content Types

The commonly used content types are given in the table below.

| File Name Extension | Content-Type | File Name Extension | Content-Type |
|---|---|---|---|
| .* (binary stream, unknown file type) | application/octet-stream | .7z | application/x-7z-compressed |
| .001 | application/x-001 | .301 | application/x-301 |
| .323 | text/h323 | .906 | application/x-906 |
| .907 | drawing/907 | .a11 | application/x-a11 |
| .acp | audio/x-mei-aac | .ai | application/postscript |
| .aif | audio/aiff | .aifc | audio/aiff |
| .aiff | audio/aiff | .anv | application/x-anv |
| .asa | text/asa | .asf | video/x-ms-asf |
| .asp | text/asp | .asx | video/x-ms-asf |
| .au | audio/basic | .avi | video/avi |
| .awf | application/vnd.adobe.workflow | .biz | text/xml |
| .bmp | application/x-bmp | .bot | application/x-bot |
| .c4t | application/x-c4t | .c90 | application/x-c90 |
| .cal | application/x-cals | .cat | application/vnd.ms-pki.seccat |
| .cdf | application/x-netcdf | .cdr | application/x-cdr |
| .cel | application/x-cel | .cer | application/x-x509-ca-cert |
| .cg4 | application/x-g4 | .cgm | application/x-cgm |
| .cit | application/x-cit | .class | java/* |
| .cml | text/xml | .cmp | application/x-cmp |
| .cmx | application/x-cmx | .cot | application/x-cot |
| .crl | application/pkix-crl | .crt | application/x-x509-ca-cert |
| .csi | application/x-csi | .css | text/css |

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| File Name Extension | Content-Type | File Name Extension | Content-Type |
|---|---|---|---|
| .cut | application/x-cut | .dbf | application/x-dbf |
| .dbm | application/x-dbm | .dbx | application/x-dbx |
| .dcd | text/xml | .dcx | application/x-dcx |
| .der | application/x-x509-ca-cert | .dgn | application/x-dgn |
| .dib | application/x-dib | .dll | application/x-msdownload |
| .doc | application/msword | .dot | application/msword |
| .drw | application/x-drw | .dtd | text/xml |
| .dwf | Model/vnd.dwf | .dwf | application/x-dwf |
| .dwg | application/x-dwg | .dxb | application/x-dxb |
| .dxf | application/x-dxf | .edn | application/vnd.adobe.edn |
| .emf | application/x-emf | .eml | message/rfc822 |
| .ent | text/xml | .epi | application/x-epi |
| .eps | application/x-ps | .eps | application/postscript |
| .etd | application/x-ebx | .exe | application/x-msdownload |
| .fax | image/fax | .fdf | application/vnd.fdf |
| .fif | application/fractals | .fo | text/xml |
| .frm | application/x-frm | .g4 | application/x-g4 |
| .gbr | application/x-gbr | . | application/x- |
| .gif | image/gif | .gl2 | application/x-gl2 |
| .gp4 | application/x-gp4 | .hgl | application/x-hgl |
| .hmr | application/x-hmr | .hpg | application/x-hpgl |
| .hpl | application/x-hpl | .hqx | application/mac-binhex40 |
| .hrf | application/x-hrf | .hta | application/hta |
| .htc | text/x-component | .htm | text/html |

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| File Name Extension | Content-Type | File Name Extension | Content-Type |
|---|---|---|---|
| .html | text/html | .htt | text/webviewhtml |
| .htx | text/html | .icb | application/x-icb |
| .ico | image/x-icon | .ico | application/x-ico |
| .iff | application/x-iff | .ig4 | application/x-g4 |
| .igs | application/x-igs | .iii | application/x-iphone |
| .img | application/x-img | .ins | application/x-internet-signup |
| .isp | application/x-internet-signup | .IVF | video/x-ivf |
| .java | java/* | .jfif | image/jpeg |
| .jpe | image/jpeg | .jpe | application/x-jpe |
| .jpeg | image/jpeg | .jpg | image/jpeg |
| .jpg | application/x-jpg | .js | application/x-javascript |
| .jsp | text/html | .la1 | audio/x-liquid-file |
| .lar | application/x-laplayer-reg | .latex | application/x-latex |
| .lavs | audio/x-liquid-secure | .lbm | application/x-lbm |
| .lmsff | audio/x-la-lms | .ls | application/x-javascript |
| .ltr | application/x-ltr | .m1v | video/x-mpeg |
| .m2v | video/x-mpeg | .m3u | audio/mpegurl |
| .m4e | video/mpeg4 | .mac | application/x-mac |
| .man | application/x-troff-man | .math | text/xml |
| .mdb | application/msaccess | .mdb | application/x-mdb |
| .mfp | application/x-shockwave-flash | .mht | message/rfc822 |
| .mhtml | message/rfc822 | .mi | application/x-mi |
| .mid | audio/mid | .midi | audio/mid |

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| File Name Extension | Content-Type | File Name Extension | Content-Type |
|---|---|---|---|
| .mil | application/x-mil | .mml | text/xml |
| .mnd | audio/x-musicnet-download | .mns | audio/x-musicnet-stream |
| .mocha | application/x-javascript | .movie | video/x-sgi-movie |
| .mp1 | audio/mp1 | .mp2 | audio/mp2 |
| .mp2v | video/mpeg | .mp3 | audio/mp3 |
| .mp4 | video/mp4 | .mpa | video/x-mpg |
| .mpd | application/vnd.ms-project | .mpe | video/x-mpeg |
| .mpeg | video/mpg | .mpg | video/mpg |
| .mpga | audio/rn-mpeg | .mpp | application/vnd.ms-project |
| .mps | video/x-mpeg | .mpt | application/vnd.ms-project |
| .mpv | video/mpg | .mpv2 | video/mpeg |
| .mpw | application/vnd.ms-project | .mpx | application/vnd.ms-project |
| .mtx | text/xml | .mxp | application/x-mmxp |
| .net | image/pnetvue | .nrf | application/x-nrf |
| .nws | message/rfc822 | .odc | text/x-ms-odc |
| .out | application/x-out | .p10 | application/pkcs10 |
| .p12 | application/x-pkcs12 | .p7b | application/x-pkcs7-certificates |
| .p7c | application/pkcs7-mime | .p7m | application/pkcs7-mime |
| .p7r | application/x-pkcs7-certreqresp | .p7s | application/pkcs7-signature |
| .pc5 | application/x-pc5 | .pci | application/x-pci |
| .pcl | application/x-pcl | .pcx | application/x-pcx |
| .pdf | application/pdf | .pdf | application/pdf |

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| File Name Extension | Content-Type | File Name Extension | Content-Type |
| --- | --- | --- | --- |
| .pdx | application/vnd.adobe.pdx | .pfx | application/x-pkcs12 |
| .pgl | application/x-pgl | .pic | application/x-pic |
| .pko | application/vnd.ms-pki.pko | .pl | application/x-perl |
| .plg | text/html | .pls | audio/scpls |
| .plt | application/x-plt | .png | image/png |
| .png | application/x-png | .pot | application/vnd.ms-powerpoint |
| .ppa | application/vnd.ms-powerpoint | .ppm | application/x-ppm |
| .pps | application/vnd.ms-powerpoint | .ppt | application/vnd.ms-powerpoint |
| .ppt | application/x-ppt | .pr | application/x-pr |
| .prf | application/pics-rules | .prn | application/x-prn |
| .prt | application/x-prt | .ps | application/x-ps |
| .ps | application/postscript | .ptn | application/x-ptn |
| .pwz | application/vnd.ms-powerpoint | .r3t | text/vnd.rn-realtext3d |
| .ra | audio/vnd.rn-realaudio | .ram | audio/x-pn-realaudio |
| .ras | application/x-ras | .rat | application/rat-file |
| .rdf | text/xml | .rec | application/vnd.rn-recording |
| .red | application/x-red | .rgb | application/x-rgb |
| .rjs | application/vnd.rn-realsystem-rjs | .rjt | application/vnd.rn-realsystem-rjt |
| .rlc | application/x-rlc | .rle | application/x-rle |

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| File Name Extension | Content-Type | File Name Extension | Content-Type |
|---|---|---|---|
| .rm | application/vnd.rn-realmedia | .rmf | application/vnd.adobe.rmf |
| .rmi | audio/mid | .rmj | application/vnd.rn-realsystem-rmj |
| .rmm | audio/x-pn-realaudio | .rmp | application/vnd.rn-rn_music_package |
| .rms | application/vnd.rn-realmedia-secure | .rmvb | application/vnd.rn-realmedia-vbr |
| .rmx | application/vnd.rn-realsystem-rmx | .rnx | application/vnd.rn-realplayer |
| .rp | image/vnd.rn-realpix | .rpm | audio/x-pn-realaudio-plugin |
| .rsml | application/vnd.rn-rsml | .rt | text/vnd.rn-realtext |
| .rtf | application/msword | .rtf | application/x-rtf |
| .rv | video/vnd.rn-realvideo | .sam | application/x-sam |
| .sat | application/x-sat | .sdp | application/sdp |
| .sdw | application/x-sdw | .sit | application/x-stuffit |
| .slb | application/x-slb | .sld | application/x-sld |
| .slk | drawing/x-slk | .smi | application/smil |
| .smil | application/smil | .smk | application/x-smk |
| .snd | audio/basic | .sol | text/plain |
| .sor | text/plain | .spc | application/x-pkcs7-certificates |
| .spl | application/futuresplash | .spp | text/xml |
| .ssm | application/streamingmedia | .sst | application/vnd.ms-pki.certstore |

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| File Name Extension | Content-Type | File Name Extension | Content-Type |
|---|---|---|---|
| .stl | application/vnd.ms-pki.stl | .stm | text/html |
| .sty | application/x-sty | .svg | text/xml |
| .swf | application/x-shockwave-flash | .tdf | application/x-tdf |
| .tg4 | application/x-tg4 | .tga | application/x-tga |
| .tif | image/tiff | .tiff | image/tiff |
| .ttf | font/otf | .tld | text/xml |
| .top | drawing/x-top | .torrent | application/x-bittorrent |
| .tsd | text/xml | .txt | text/plain |
| .uin | application/x-icq | .uls | text/iuls |
| .vcf | text/x-vcard | .vda | application/x-vda |
| .vdx | application/vnd.visio | .vml | text/xml |
| .vpg | application/x-vpeg005 | .vsd | application/vnd.visio |
| .vsd | application/x-vsd | .vss | application/vnd.visio |
| .vst | application/vnd.visio | .vst | application/x-vst |
| .vsw | application/vnd.visio | .vsx | application/vnd.visio |
| .vtx | application/vnd.visio | .vxml | text/xml |
| .wav | audio/wav | .wax | audio/x-ms-wax |
| .wb1 | application/x-wb1 | .wb2 | application/x-wb2 |
| .wb3 | application/x-wb3 | .wbmp | image/vnd.wap.wbmp |
| .wiz | application/msword | .wk3 | application/x-wk3 |
| .wk4 | application/x-wk4 | .wkq | application/x-wkq |
| .wks | application/x-wks | .wm | video/x-ms-wm |

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| File Name Extension | Content-Type | File Name Extension | Content-Type |
| --- | --- | --- | --- |
| .wma | audio/x-ms-wma | .wmd | application/x-ms-wmd |
| .wmf | application/x-wmf | .wml | text/vnd.wap.wml |
| .wmv | video/x-ms-wmv | .wmx | video/x-ms-wmx |
| .wmz | application/x-ms-wmz | .wp6 | application/x-wp6 |
| .wpd | application/x-wpd | .wpg | application/x-wpg |
| .wpl | application/vnd.ms-wpl | .wq1 | application/x-wq1 |
| .wr1 | application/x-wr1 | .wri | application/x-wri |
| .wrk | application/x-wrk | .ws | application/x-ws |
| .ws2 | application/x-ws | .wsc | text/scriptlet |
| .wsdl | text/xml | .wvx | video/x-ms-wvx |
| .xdp | application/vnd.adobe.xdp | .xdr | text/xml |
| .xfd | application/vnd.adobe.xfd | .xfdf | application/vnd.adobe.xfdf |
| .xhtml | text/html | .xlsx | application/vnd.openxmlformats-officedocument.spreadsheetml.sheet |
| .xls | application/x-xls | .xlw | application/x-xlw |
| .xml | text/xml | .xpl | audio/scpls |
| .xq | text/xml | .xql | text/xml |
| .xquery | text/xml | .xsd | text/xml |
| .xsl | text/xml | .xslt | text/xml |
| .xwd | application/x-xwd | .x_b | application/x-x_b |
| .sis | application/vnd.symbian.install | .sisx | application/vnd.symbian.install |
| .x_t | application/x-x_t | .ipa | application/vnd.iphone |

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| File Name Extension | Content-Type | File Name Extension | Content-Type |
| --- | --- | --- | --- |
| .apk | application/vnd.android.package-archive | .xap | application/x-silverlight-app |
| .zip | application/zip | .rar | application/x-rar-compressed |

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