Storage Products   (https://cloud.google.com/products/storage/)

Documentation   (https://cloud.google.com/storage/docs/) Guides

Quickstart: Using the gsutil tool

This page shows you how to perform basic tasks in Cloud Storage using the gsutil command-line tool.

Costs that you incur in Cloud Storage are based on the resources you use. This quickstart typically uses less than $0.01 USD worth of Cloud Storage resources.

Before you begin

1. Sign in (https://accounts.google.com/Login) to your Google Account.

   If you don't already have one, sign up for a new account
    (https://accounts.google.com/SignUp).

2. In the Cloud Console, on the project selector page, click **Create** to begin creating a new Cloud project.

   GO TO THE PROJECT SELECTOR PAGE (HTTPS://CONSOLE.CLOUD.GOOGLE.COM/PROJECTSELECT

3. Make sure that billing is enabled for your Google Cloud project. Learn how to confirm billing is enabled for your project (https://cloud.google.com/billing/docs/how-to/modify-project).

4. Install the Cloud SDK (https://cloud.google.com/sdk/docs/).

   When prompted, choose the project that you created above.

5. Install Python 3.8 (https://www.python.org/downloads/release/python-381/).

   If you are using Windows and you   ed
   the Cloud SDK, this was done auto

   Please rate your overall satisfaction with the   ✕
   Google Cloud Storage JSON API

Note: If you are using Cloud Shell or a Compu   Very satisfied
authenticated. If your Compute Engine instan   ge,
run `gsutil config` and follow the instructio   Somewhat satisfied

                                                       Neither satisfied nor dissatisfied

Note: If you use Windows and did not install g   Somewhat dissatisfied
`gsutil` command with `python` (for example,   Very dissatisfied

                                                                    Google   ore

information, see the Python on Windows FAQ (https://docs.python.org/2/faq/windows.html).

Create a bucket

Buckets are the basic containers that hold your data in Cloud Storage.

To create a bucket:

1. Open a terminal window.

2. Use the `gsutil mb` command and a unique name to create a bucket:

   ```
   gsutil mb -l us-east1 gs://my-awesome-bucket/
   ```

   This uses a bucket named "my-awesome-bucket." You must choose your own, globally-unique, bucket name.

   ⊘ See bucket naming requirements.

   - Bucket names must contain only lowercase letters, numbers, dashes (-), underscores (_), and dots (.). Spaces are not allowed. Names containing dots require verification (https://cloud.google.com/storage/docs/domain-name-verification).

   - Bucket names must start and end with a number or letter.

   - Bucket names must contain 3-63 characters. Names containing dots can contain up to 222 characters, but each dot-separated component can be no longer than 63 characters.

   - Bucket names cannot be represented as an IP address in dotted-decimal notation (for example, 192.168.5.4).

   - Bucket names cannot begin with the "goog" prefix.

   - Bucket names cannot contain "google" or close misspellings, such as "g00gle".

   Also, for DNS compliance and future compatibility, you should not use underscores (_) or have a period next to another period or dash. For example, ".." or "-." or ".-" are not valid in DNS names.

   ❗ **Caution**: Do not include sensitive information in the bucket name, since the bucket namespace is global and publicly visible.

If successful, the command returns:

```
Creating gs://my-awesome-bucket/...
```

You've just created a bucket where you can store your stuff!

> **Note**: If your bucket name is already being used, either by you or someone else, the command returns:
>
> ```
> Creating gs://my-awesome-bucket/...
> ServiceException: 409 Bucket my-awesome-bucket already exists.
> ```
>
> Try again with a different bucket name.

Upload an object into your bucket

1. Right-click the image above and save it somewhere on your computer, such as on the desktop.

> **Note:** If you are using Cloud Shell or a Compute Engine instance, download the image using **wget https://cloud.google.com/storage/images/kitten.png**.

2. Use the `gsutil cp` command to copy the image from the location where you saved it to the bucket you created:

```
gsutil cp Desktop/kitten.png gs://my-awesome-bucket
```

If successful, the command returns:

```
Copying file://Desktop/kitten.png [Content-Type=image/png]...
Uploading   gs://my-awesome-bucket/kitten.png:       0 B/164.3 KiB
Uploading   gs://my-awesome-bucket/kitten.png:       164.3 KiB/164.3 KiB
```

You've just stored an object in your bucket.

Note: When typing your bucket name, you can use the tab key to autocomplete it.

Download an object from your bucket

1. Use the `gsutil cp` command to download the image you stored in your bucket to somewhere on your computer, such as the desktop:

```
gsutil cp gs://my-awesome-bucket/kitten.png Desktop/kitten2.png
```

If successful, the command returns:

```
Copying gs://my-awesome-bucket/kitten.png...
Downloading file://Desktop/kitten2.png:        0 B/164.3 KiB
Downloading file://Desktop/kitten2.png:        164.3 KiB/164.3 KiB
```

You've just downloaded something from your bucket.

Copy an object to a folder in the bucket

1. Use the `gsutil cp` command to create a folder and copy the image into it:

```
gsutil cp gs://my-awesome-bucket/kitten.png gs://my-awesome-bucket/just-a-folde
```

⭐ **Note:** Folders in Cloud Storage have limitations
(https://cloud.google.com/storage/docs/gsutil/addlhelp/HowSubdirectoriesWork) compared to local filesystems, but many of the same operations are supported.

If successful, the command returns:

```
Copying gs://my-awesome-bucket/kitten.png [Content-Type=image/png]...
Copying      ...my-awesome-bucket/just-a-folder/kitten3.png: 164.3 KiB/164.3 KiB
```

You've just copied your object into a new folder in your bucket.

List contents of a bucket or folder

1. Use the `gsutil ls` command to list the contents at the top level of your bucket:

```
gsutil ls gs://my-awesome-bucket
```

If successful, the command returns a message similar to:

```
gs://my-awesome-bucket/kitten.png
gs://my-awesome-bucket/just-a-folder/
```

You've just seen the contents at the top level of your bucket.

List details for an object

1. Use the `gsutil ls` command, with the `-l` flag to get some details about an object:

```
gsutil ls -l gs://my-awesome-bucket/kitten.png
```

If successful, the command returns a message similar to:

```
2638  2016-02-26T23:05:14Z  gs://my-awesome-bucket/kitten.png
TOTAL: 1 objects, 168243.2 bytes (164.3 KiB)
```

You've just obtained information about the object's size and date of creation.

Make your object publicly accessible

1. Use the `gsutil acl ch` command to grant all users read permission for the object stored in your bucket:

```
gsutil acl ch -u AllUsers:R gs://my-awesome-bucket/kitten.png
```

If successful, the command returns:

```
Updated ACL on gs://my-awesome-bucket/kitten.png
```

Now anyone can get your object.

2. To remove this permission, use the command:

```
gsutil acl ch -d AllUsers gs://my-awesome-bucket/kitten.png
```

If successful, the command returns:

```
Updated ACL on gs://my-awesome-bucket/kitten.png
```

You have removed public access to this object.

Note: After you remove public access, you may still be able to access a cached version of it for a period of time.

Give someone access to your bucket

1. Use the `gsutil iam ch` command to give a specific email address permission to read and write objects in your bucket:

```
gsutil iam ch user:jane@gmail.com:objectCreator,objectViewer gs://my-awesome-bu
```

The command is successful if no error is returned.

Now someone else can put things into and view what's in your bucket.

2. To remove this permission, use the command:

```
gsutil iam ch -d user:jane@gmail.com:objectCreator,objectViewer gs://my-awesome
```

The command is successful if no error is returned.

You have removed the user's access to this bucket.

Delete objects

1. Use the `gsutil rm` command to delete an object:

```
gsutil rm gs://my-awesome-bucket/kitten.png
```

If successful, the command returns:

```
Removing gs://my-awesome-bucket/kitten.png...
```

This copy of the object is no longer stored on Cloud Storage (though the copy you made in the folder `just-a-folder/` still exists).

Clean up

To avoid incurring charges to your Google Cloud account for the resources used in this quickstart, follow these steps.

1. Open a terminal window (if not already open).

2. Use the gsutil `rm command` with the `-r` flag to delete the bucket and anything inside of it:

```
gsutil rm -r gs://my-awesome-bucket
```

If successful, the command returns a message similar to:

```
Removing gs://my-awesome-bucket/just-a-folder/cloud-storage.logo.png#14565300/7
Removing gs://my-awesome-bucket/...
```

Your bucket and its contents are deleted.

What's next

- Work through Cloud Storage Quickstart using the Google Cloud Console
  (https://cloud.google.com/storage/docs/quickstart-console).

- Review the available guides for completing tasks in Cloud Storage
  (https://cloud.google.com/storage/docs/how-to).

- Understand the key terms in Cloud Storage (https://cloud.google.com/storage/docs/key-terms).

- Learn about the pricing structure for Cloud Storage (https://cloud.google.com/storage/pricing)
  .

- See the reference pages for gsutil commands, such as make bucket (mb)
  (https://cloud.google.com/storage/docs/gsutil/commands/mb), copy (cp)
  (https://cloud.google.com/storage/docs/gsutil/commands/cp), list (ls)
  (https://cloud.google.com/storage/docs/gsutil/commands/ls), access control list (acl)
  (https://cloud.google.com/storage/docs/gsutil/commands/acl), identity access management
  (iam) (https://cloud.google.com/storage/docs/gsutil/commands/iam), and remove (rm)
  (https://cloud.google.com/storage/docs/gsutil/commands/rm).