

This page outlines the naming guidelines you should follow when creating buckets and uploading objects in Cloud Storage. To learn how to create a bucket, see the [Creating storage buckets guide](/storage/docs/creating-buckets) (/storage/docs/creating-buckets).

Your bucket names must meet the following requirements:

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

Bucket names reside in a single Cloud Storage namespace. This means that:

- Every bucket name must be unique.
- Bucket names are publicly visible.

If you try to create a bucket with a name that already belongs to an existing bucket, Cloud Storage responds with an error message. However, once you delete a bucket, you or another user can reuse its name for a new bucket.

A bucket name can only be assigned during creation; you cannot change the name of an existing bucket. Instead, you should create a new bucket with the desired name and move the contents from the old bucket to the new bucket. See [Moving and Renaming Buckets](/storage/docs/moving-buckets) (/storage/docs/moving-buckets) for a step-by-step guide.

See also the [Naming Best Practices](/storage/docs/best-practices#naming) (/storage/docs/best-practices#naming) section, which includes recommendations about excluding proprietary information from bucket and object names.

Your object names must meet the following requirements:

- Object names can contain any sequence of valid Unicode characters, of length 1-1024 bytes when UTF-8 encoded.
- Object names cannot contain Carriage Return or Line Feed characters.
- Object names cannot start with `.well-known/acme-challenge`.
- Objects cannot be named `.` or `...`

For more information about Carriage Return and Line Feed characters, see [Newline](https://en.wikipedia.org/wiki/Newline#Unicode) (https://en.wikipedia.org/wiki/Newline#Unicode).

It is strongly recommended that you avoid the following in your object names:

- Avoid using [control characters](http://www.w3.org/TR/xml/#charsets) (http://www.w3.org/TR/xml/#charsets) that are illegal in XML 1.0 (`#x7F–#x84` and `#x86–#x9F`): these characters cause XML listing issues when you try to list your objects.
- Avoid using `"#"` in your object names: gsutil interprets object names ending with `#<numeric string>` as version identifiers, so including `"#"` in object names can make it difficult or impossible to perform operations on such versioned objects using gsutil (see [Object Versioning and Concurrency Control](/storage/docs/gsutil/addlhelp/ObjectVersioningandConcurrencyControl) (/storage/docs/gsutil/addlhelp/ObjectVersioningandConcurrencyControl)).
- Avoid using `"["`, `"]"`, `"*"`, or `"?"` in your object names: gsutil interprets these characters as wildcards, so including them in object names can make it difficult or impossible to perform [wildcard operations using gsutil](/storage/docs/gsutil/addlhelp/WildcardNames) (/storage/docs/gsutil/addlhelp/WildcardNames).

Object names reside in a flat namespace within a bucket. This means that:

- Different buckets can have objects with the same name.
- Objects do not reside within subdirectories in a bucket.

For example, you can name an object `/europe/france/paris.jpg` to make it *appear* that `paris.jpg` resides in the subdirectory `/europe/france`, but to Cloud Storage, the object simply exists in the bucket and has the name `/europe/france/paris.jpg`.

As with buckets, existing objects cannot be directly renamed. Instead, you can copy an object, give the copied version the desired name, and delete the original version of the object. See [Renaming an object](#) (`/storage/docs/renaming-copying-moving-objects#rename`) for a step-by-step guide, including instructions for tools like `gsutil` and the Google Cloud Console, which handle the renaming process automatically.

in: Renaming objects whose storage class is Nearline Storage, Coldline Storage, or Archive Storage may incur early n charges. For details on minimum storage duration see the [Pricing page](#) (`/storage/pricing#archival-pricing`).

- [Create a bucket](#) (`/storage/docs/creating-buckets`).
- [Rename an existing bucket](#) (`/storage/docs/moving-buckets`).
- [Upload an object](#) (`/storage/docs/uploading-objects`).
- [Rename an existing object](#) (`/storage/docs/renaming-copying-moving-objects#rename`).