This page explains the concept of *storage class* and the differences between storage classes.

- To learn how to change the storage class of an object, see Changing object storage classes (/storage/docs/changing-storage-classes).
- To learn how to change a bucket's default storage class, see Changing the default storage class (/storage/docs/changing-default-storage-class).

- The storage class you set for an object affects the object's availability and pricing model (/storage/pricing).
    - You can change the storage class of an existing object either by rewriting the object (/storage/docs/changing-storage-classes) or by using Object Lifecycle Management (/storage/docs/lifecycle).
- When you create a bucket (/storage/docs/creating-buckets), you can specify a *default storage class* for the bucket. When you add objects to the bucket, they inherit this storage class unless explicitly set otherwise.
    - If you don't specify a default storage class when you create a bucket, that bucket's default storage class is set to Standard Storage.
    - Changing the default storage class of a bucket (/storage/docs/changing-default-storage-class) does not affect any of the objects that already exist in the bucket.

The following table summarizes the primary storage classes offered by Cloud Storage. See class descriptions (#descriptions) for a complete discussion.

Storage Class	Name for APIs and gsutil	Minimum storage duration (/storage/pricing#archival-pricing)	Typical monthly availability[1]

Storage Class	Name for APIs and gsutil	Minimum storage duration (/storage/pricing#archival-pricing)	Typical monthly availability[1]
Standard Storage	`STANDARD`	None	• >99.99% in multi-regions and dual-regions • 99.99% in regions
Nearline Storage	`NEARLINE`	30 days	• 99.95% in multi-regions and dual-regions • 99.9% in regions
Coldline Storage	`COLDLINE`	90 days	• 99.95% in multi-regions and dual-regions • 99.9% in regions
Archive Storage	`ARCHIVE`	365 days	• 99.95% in multi-regions and dual-regions • 99.9% in regions

[1]See the class descriptions (#descriptions) for the *availability SLA* for each storage class.

The following aspects apply to all storage classes:

- Unlimited storage with no minimum object size.
- Worldwide accessibility and worldwide storage locations (/storage/docs/locations).
- Low latency (time to first byte typically tens of milliseconds).
- High durability (99.999999999% annual durability).
- Geo-redundancy (/storage/docs/key-terms#geo-redundant) if the data is stored in a multi-region or dual-region.
- A uniform experience with Cloud Storage features, security, tools, and APIs.

Standard Storage is best for data that is frequently accessed ("hot" data) and/or stored for only brief periods of time.

When used in a region, Standard Storage is appropriate for storing data in the same location as Google Kubernetes Engine clusters (/kubernetes-engine/docs/clusters/) or Compute Engine instances (/compute/docs/instances/) that use the data. Co-locating your resources maximizes the performance for data-intensive computations and can reduce network charges.

When used in a dual-region, you still get optimized performance when accessing Google Cloud products that are located in one of the associated regions, but you also get the improved availability that comes from storing data in geographically separate locations.

When used in a multi-region, Standard Storage is appropriate for storing data that is accessed around the world, such as serving website content, streaming videos, executing interactive workloads, or serving data supporting mobile and gaming applications.

The availability of Standard Storage data is:

Location Type	Availability SLA[1]	Typical monthly availability
multi-region	99.95%	>99.99%
dual-region	99.95%	>99.99%
region	99.9%	99.99%

[1]The availability SLA is the monthly uptime percentage backed by the Cloud Storage SLA (/storage/sla). If Google fails to meet that uptime, customers are eligible to receive a credit as described in the Cloud Storage SLA.

Nearline Storage is a low-cost, highly durable storage service for storing infrequently accessed data. Nearline Storage is a better choice than Standard Storage in scenarios where slightly lower availability, a 30-day minimum storage duration, and costs for data access are acceptable trade-offs for lowered at-rest storage costs (/storage/pricing#storage-pricing).

Nearline Storage is ideal for data you plan to read or modify on average once per month or less. For example, if you want to continuously add files to Cloud Storage and plan to access those files once a month for analysis, Nearline Storage is a great choice.

Nearline Storage is also appropriate for data backup, long-tail multimedia content, and data archiving. Note, however, that for data accessed less frequently than once a quarter, Coldline Storage or Archive Storage are more cost-effective, as they offer lower storage costs.

The availability of Nearline Storage data is:

Location Type	Availability SLA[1]	Typical monthly availability
multi-region	99.9%	99.95%
dual-region	99.9%	99.95%
region	99.0%	99.9%

[1]The availability SLA is the monthly uptime percentage backed by the Cloud Storage SLA (/storage/sla). If Google fails to meet that uptime, customers are eligible to receive a credit as described in the Cloud Storage SLA.

Coldline Storage is a very-low-cost, highly durable storage service for storing infrequently accessed data. Coldline Storage is a better choice than Standard Storage or Nearline Storage in scenarios where slightly lower availability, a 90-day minimum storage duration, and higher costs for data access are acceptable trade-offs for lowered at-rest storage costs (/storage/pricing#storage-pricing).

Coldline Storage is ideal for data you plan to read or modify at most once a quarter. Note, however, that for data being kept entirely for backup or archiving purposes, Archive Storage is more cost-effective, as it offers the lowest storage costs.

The availability of Coldline Storage data is:

Location Type	Availability SLA[1]	Typical monthly availability
multi-region	99.9%	99.95%
dual-region	99.9%	99.95%
region	99.0%	99.9%

[1]The availability SLA is the monthly uptime percentage backed by the Cloud Storage SLA (/storage/sla). If Google fails to meet that uptime, customers are eligible to receive a credit as described in the Cloud Storage SLA.

Archive Storage is the lowest-cost, highly durable storage service for data archiving, online backup, and disaster recovery. Unlike the "coldest" storage services offered by other Cloud providers, your data is available within milliseconds, not hours or days.

Unlike other Cloud Storage storage classes, Archive Storage has no availability SLA, though the typical availability is comparable to Nearline Storage and Coldline Storage. Archive Storage also has higher costs for data access and operations, as well as a 365-day minimum storage duration. Archive Storage is the best choice for data that you plan to access less than once a year. For example:

- Cold data storage - Archived data, such as data stored for legal or regulatory reasons, can be stored at low cost as Archive Storage, yet still be available if you need it.
- Disaster recovery - In the event of a disaster recovery (/solutions/designing-a-disaster-recovery-plan) event, recovery time is key. Cloud Storage provides low latency access to data stored as Archive Storage.

The availability of Archive Storage data is:

Location Type	Availability SLA[1]	Typical monthly availability
multi-region	None	99.95%

Location Type	Availability SLA[1]	Typical monthly availability
dual-region	None	99.95%
region	None	99.9%

[1]The availability SLA is the monthly uptime percentage backed by the Cloud Storage SLA (/storage/sla). Unlike other storage classes, Archive Storage does not have an availability SLA.

Cloud Storage supports several additional storage classes; however, these classes cannot be set using the Cloud Console. Unless you already are using one of these additional classes, you should use Standard Storage instead.

- **Multi-Regional Storage**: Equivalent to Standard Storage, except Multi-Regional Storage can only be used for objects stored in multi-regions (/storage/docs/locations#location-mr) or dual-regions (/storage/docs/locations#location-dr).
- **Regional Storage**: Equivalent to Standard Storage, except Regional Storage can only be used for objects stored in regions (/storage/docs/locations#location-r).
- **Durable Reduced Availability (DRA) Storage**: Similar to Standard Storage except:
    - DRA has higher pricing for operations.
    - DRA has lower performance, particularly in terms of availability (DRA has a 99% availability SLA).

  You can move your data from DRA to other storage classes by performing a storage transfer (/storage-transfer/docs/create-manage-transfer-console).

- Create a Cloud Storage bucket (/storage/docs/creating-buckets).
- Change the default storage class of a bucket (/storage/docs/changing-default-storage-class).
- Upload an object to Cloud Storage (/storage/docs/uploading-objects).

- Change the storage class of an individual object (/storage/docs/changing-storage-classes).
- Learn about the Object Lifecycle Management feature (/storage/docs/lifecycle).