

Introduction to Google Cloud Storage - Buckets

Steps:

1. Set Up: (Optional)

- Open Google Cloud Console.
- Create a new project named gcs-lab-101.

2. Create a Bucket:

- Go to **Cloud Storage > Buckets > Create**.
- Name it uniquely (e.g., gcs-lab-101-<yourname>).
- Choose **Standard** storage class.
- Choose a region (e.g., us-central1).
- Leave default settings and create the bucket.

3. Upload an Object:

- Click on your bucket.
- Upload a sample file (e.g., sample.txt).
- Confirm successful upload.

4. Set Object-Level Permissions:

- Click on the uploaded file > Permissions > Add principal.
- Grant Storage Object Viewer to a service account or another user.

5. Download/Delete Object:

- Use the GCS web interface to download.
- Then delete the object.

To begin with the Lab

1. Give a unique name to your bucket and click on continue.

2. Now, for the Location type, you need to choose Region. (Choose your preferred region) Click on continue.

3. Then, for the next step, “How to store your data”, simply set the default class to **Standard**.

Cloud Storage

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Create a bucket

Choose how to store your data

A storage class sets costs for storage, retrieval, and operations, with minimal differences in uptime. Choose if you want objects to be managed automatically or specify a default storage class based on how long you plan to store your data and your workload or use case. [Learn more](#)

☐ Autoclass
Automatically transitions each object to Standard or Nearline class based on object-level activity, to optimize for cost and latency. Recommended if usage frequency may be unpredictable. Can be changed to a default class at any time. [Pricing details](#)

☒ Set a default class
Applies to all objects in your bucket unless you manually modify the class per object or set object lifecycle rules. Best when your usage is highly predictable.

☒ Standard
Best for short-term storage and frequently accessed data

☐ Nearline
Best for backups and data accessed less than once a month

☐ Coldline
Best for disaster recovery and data accessed less than once a quarter

☐ Archive
Best for long-term digital preservation of data accessed less than once a year

- Then, for how to control access to objects, choose Fine-grained. Click on continue.
- Now, keep everything to default and create your bucket.

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Create a bucket

Choose how to control access to objects

Prevent public access

Restrict data from being publicly accessible via the internet. Will prevent this bucket from being used for web hosting. [Learn more](#)

☒ Enforce public access prevention on this bucket

Access control

☐ Uniform
Ensure uniform access to all objects in the bucket by using only bucket-level permissions (IAM). This option becomes permanent after 90 days. [Learn more](#)

☒ Fine-grained
Specify access to individual objects by using object-level permissions (ACLs) in addition to your bucket-level permissions (IAM). [Learn more](#)

Continue

- In the end it will give this pop up message, keep it to default and click on confirm.

Public access will be prevented

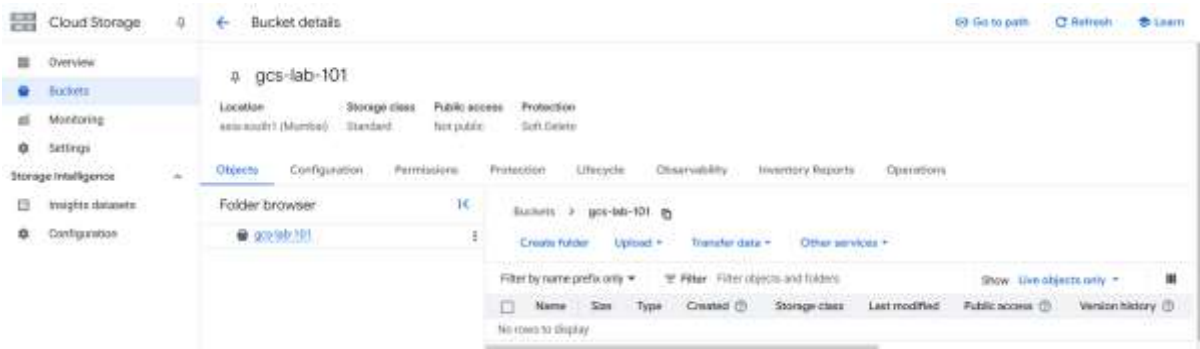
This bucket is set to prevent exposure of its data on the public internet.

Keep this setting enabled unless you have a use case that requires public access (such as static website hosting). You can change it now or later. [Learn more](#)

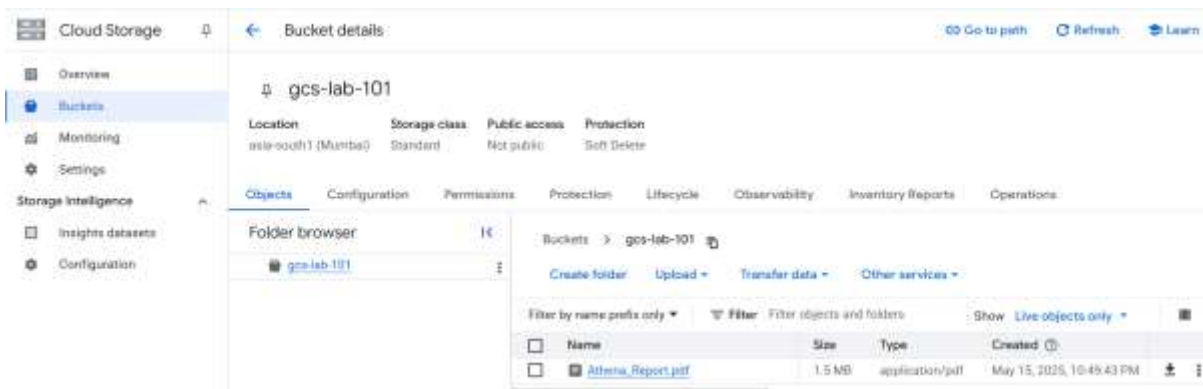
- ☒ Enforce public access prevention on this bucket
- ☐ Don't show this message again

Cancel Confirm

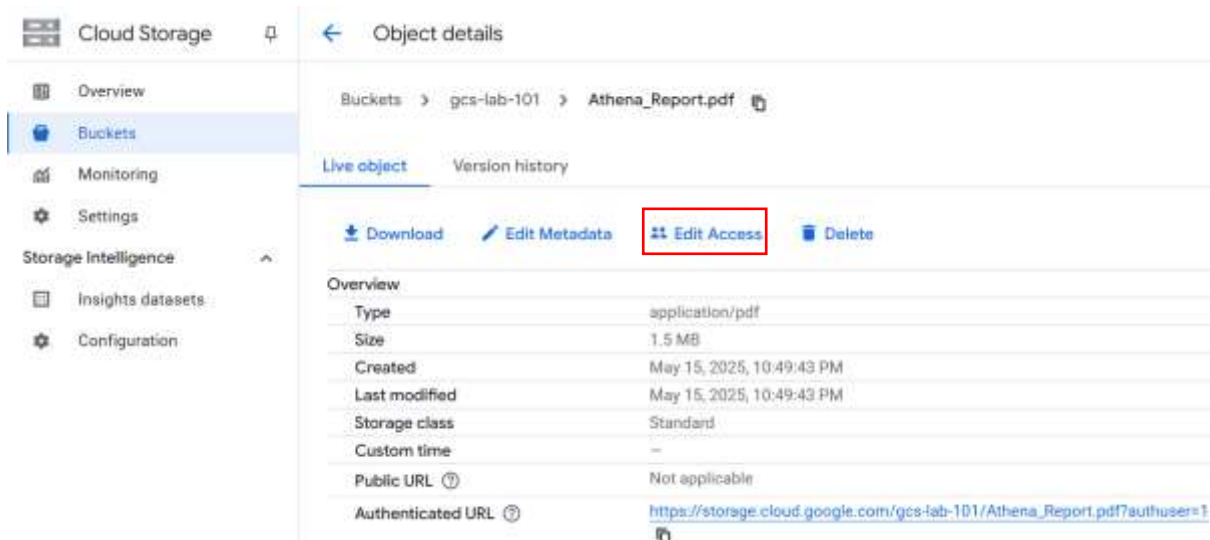
7. Here you can see that our bucket has been created, now we are going to upload an object to this bucket.



8. You can see that we have uploaded an object to our bucket. Now we will edit the permission for this object.



9. Click on the object to come inside of it and click on Edit access to manage the access of your object.



10. Here, you can see that in the edit access area, we already have some access defined.

Edit access

Object name: Athena_Report.pdf

If you don't rely on individual object-level access, you can start managing all access uniformly at the bucket-level. Go to the bucket's Permissions tab to get started. [Learn more](#)

Entity 1 * Project ▼	Name 1 owners-106436058	Access 1 * Owner ▼
Entity 2 * Project ▼	Name 2 editors-106436058	Access 2 * Owner ▼
Entity 3 * Project ▼	Name 3 viewers-106436058	Access 3 * Reader ▼
Entity 4 * User ▼	Name 4 pulkit.k2711@gmail	Access 4 * Owner ▼

[+ Add entry](#)

Cancel Save

11. Now we are going to add another access to it, for that, click on Add entry.
12. We are going to add a user entity for the name area, just enter an email address on which you want to give access for this object.
13. For the access choose Reader role so that the user can only read the object. Click on save.

Edit access

Object name: Athena_Report.pdf

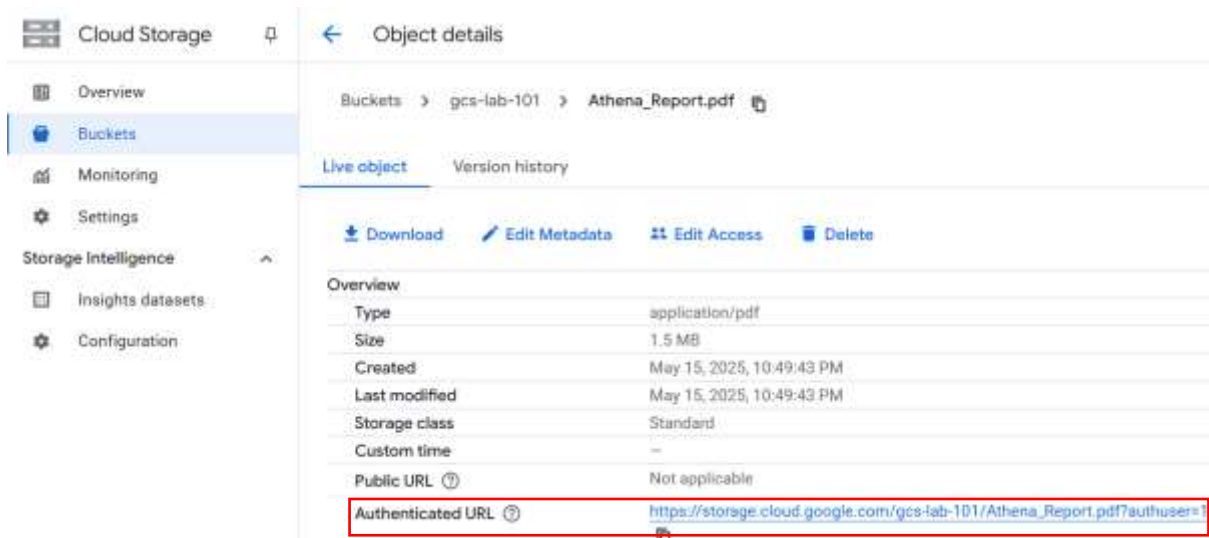
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Entity 1 * Project ▼	Name 1 owners-106436058	Access 1 * Owner ▼
Entity 2 * Project ▼	Name 2 editors-106436058	Access 2 * Owner ▼
Entity 3 * Project ▼	Name 3 viewers-106436058	Access 3 * Reader ▼
Entity 4 * User ▼	Name 4 pulkit.k2711@gmail	Access 4 * Owner ▼
Entity 5 * User ▼	Name 5 pulkitkumar2711@	Access 5 * Reader ▼

+ Add entry

Cancel Save

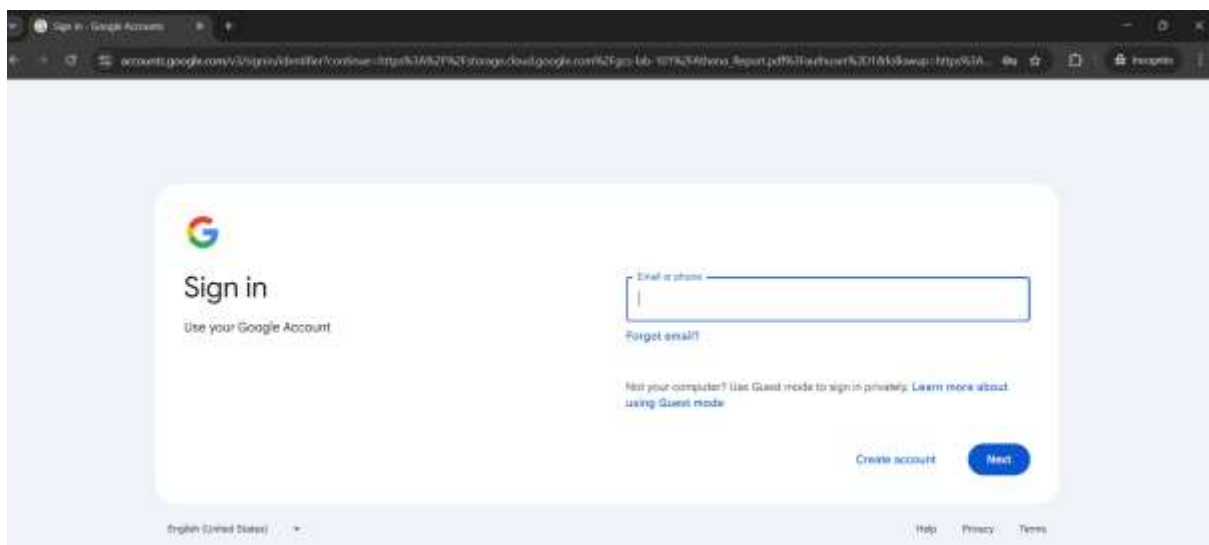
14. Now you need to copy the authenticated URL and paste it in the browser where you are logged in with the user email address that you have mentioned in the access.



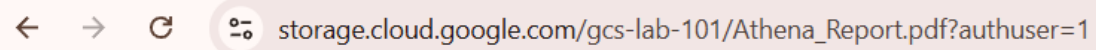
15. Here you can see that our pdf has been opened successfully.



16. But if you try to access the URL in incognito mode, it will ask you to sign in with the user you have defined in the access area.



17. Now let us try to access this object using an email that has not been given access, then you will see that it is giving the Error 403.

A screenshot of a web browser's address bar. It features navigation icons (back, forward, refresh) and a search icon. The URL displayed is 'storage.cloud.google.com/gcs-lab-101/Athena_Report.pdf?authuser=1'.

← → ↻ 🔍 storage.cloud.google.com/gcs-lab-101/Athena_Report.pdf?authuser=1

Forbidden

Error 403