

## Hands on Lab: Creating IBM Cloud Object Storage



**Estimated Effort:** 20 minutes

### Lab overview:

After completing this lab, you will have created an Object Storage instance, a bucket, and added objects to the bucket.

### Objectives:

After completing this lab, you will be able to:

- Use your IBM Cloud account to create an instance of Object Storage
- Create a bucket to store data
- Add objects to your bucket
- Share objects in your bucket.

### Prerequisites:

You will need an IBM Cloud account to do this lab. If you have not created one already, click on this [link](#) and follow the instructions to create an IBM Cloud account.

## Create an IBM Cloud Object storage

### Task 1: Create an instance of IBM Cloud Object Storage:

1. Log in to your IBM Cloud account and open the IBM Cloud Catalog <https://cloud.ibm.com/catalog>.
2. On the Catalog page, make sure the **Storage** tab is selected and search and select **Object Storage**:

The screenshot shows the IBM Cloud Catalog interface. At the top, there's a navigation bar with 'IBM Cloud', a search bar, and links for 'Catalog', 'Manage', and 'test skillup's Account'. Below the navigation bar, there's a header section with an illustration of a data center and the text 'Sell on IBM Cloud' and 'Catalog settings'.

The main content area is titled 'Catalog'. On the left, there's a search bar with the text 'object storage'. Below the search bar, a dropdown menu is open, showing a list of search results. The first result, 'Object Storage', is highlighted with a red box. Other results include 'Block Storage Snapshots for VPC', 'Spectrum Protect', 'Block Storage', 'Block Storage for VPC', and 'Cloud Native Storage and Data Service'.

On the right side of the catalog, there's a grid of service cards. The cards are arranged in two rows and three columns. The first row contains 'AnonTech ViziVault Platform', 'API Connect', and 'App Configuration'. The second row contains 'App Connect', 'App ID', 'Bare Metal Servers for Classic', and 'Bare Metal Servers for VPC'. Each card displays the service name, the provider (e.g., 'By IBM'), a brief description, and a list of features or capabilities.

3. On the [Cloud Object Storage \(COS\)](#) page, choose the Lite plan. You can use the name that is shown in Service name or rename it as you want, accept the Default resource group, and then click Create.

IBM Cloud

Search resources and products...

Catalog

Manage

test skilup's Account


Catalog / Services /


Cloud Object Storage

Author: IBM • Date of last update: 2022-07-06 7:49 PM • Docs • API docs

CreateAbout

Choose an Infrastructure

**IBM Cloud**  
Create, manage, and access your storage in globally available data center locations. Public cloud environments are designed for high durability, resiliency and security. IBM-managed infrastructure automatically scales to businesses needs.  


**Satellite**  
Utilize infrastructure from on-premise data centers, at other cloud providers, or in edge networks as a Satellite location to IBM Cloud. Deploy, manage and control app workloads with IBM Cloud Object Storage on client-managed infrastructure.  


Select a pricing plan  
Displayed prices do not include tax. Monthly prices shown are for country or region: United States

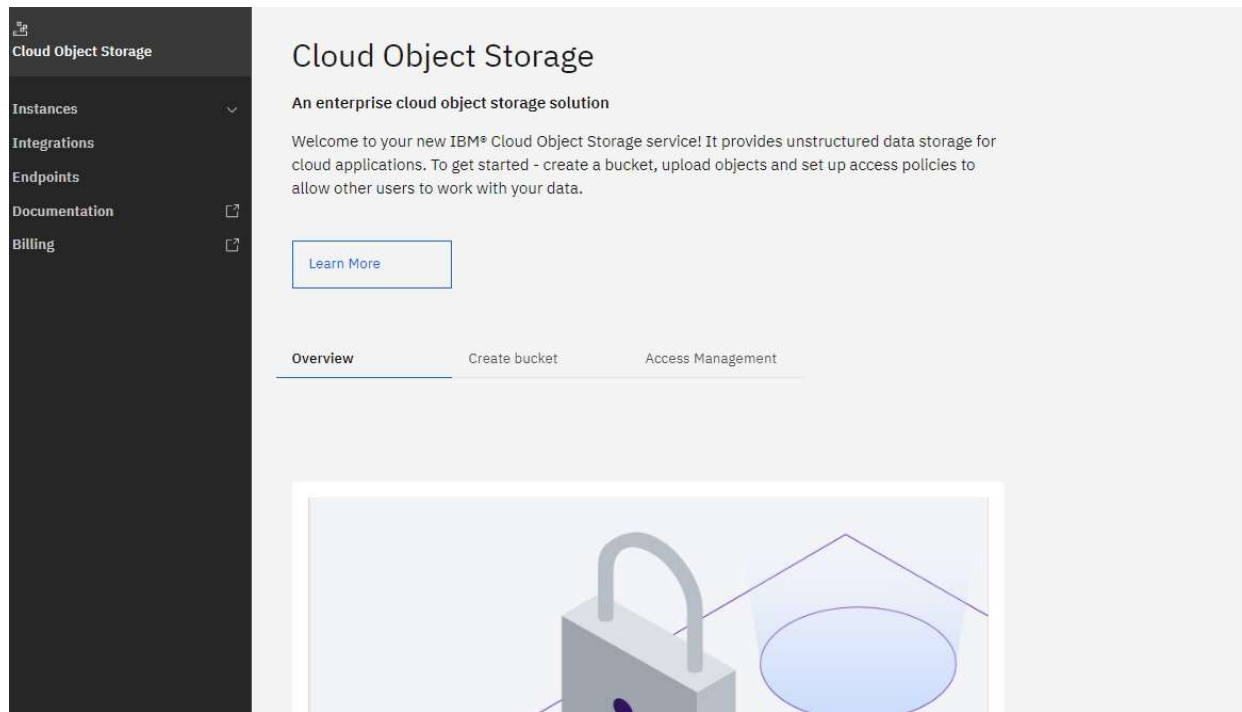
Plan	Features	Pricing
Lite	<p>Lite plan instance is free to use for Storage capacity up to 25 GB per month. Lite plan instance is used for trial, and can be easily upgraded to Standard plan for unlimited scalability and full functionality.</p> <p>Only one Lite plan instance is allowed per account. The Lite plan instance includes up to 25 GB of storage capacity; 2,000 Class A (PUT, COPY, POST, and LIST) requests; 20,000 Class B (GET and all others) requests; 10 GB of data retrieval; 5GB of egress (public outbound bandwidth) each month. These thresholds apply to the aggregate total across all storage class buckets. Lite plan services are deleted after 30 days of inactivity.</p>	Free
Standard	Standard plan is our most popular Pay-as-You-Go pricing plan. There is no minimum fee. This plan meets the requirements of most of the enterprise workloads.	<a href="#">View storage class pricing</a>
One Rate	One Rate plan offers a flat monthly charge that includes capacity, and built-in allowances for outbound bandwidth and data access. It is best suited for active workloads with large amounts of outbound bandwidth as a percent of their storage capacity.	<a href="#">View storage class pricing</a>

Create

Add to estimate

View terms

4. Once the Cloud Object Storage (COS) instance is created, you will automatically be directed to the Cloud Object Storage page. Here you can create a bucket and invite users for your Cloud Object Storage instance.

**Task 2: Create a Bucket to store your data:**

1. Click on **Instances** in the left navigation pane and select your Object storage instance. Then, click on the **Create bucket** panel.

**Cloud Object Storage**

An enterprise cloud object storage solution

Welcome to your new IBM® Cloud Object Storage service! It provides unstructured data storage for cloud applications. To get started - create a bucket, upload objects and set up access policies to allow other users to work with your data.

[Learn More](#)

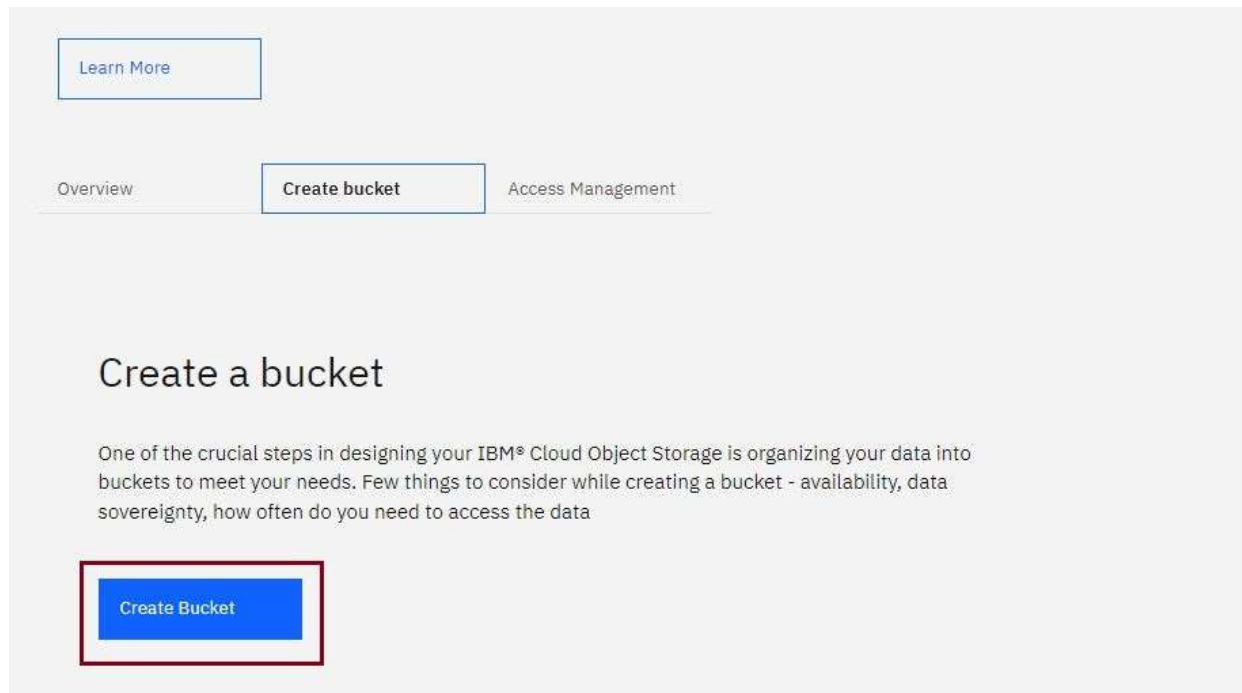
Overview **Create bucket** Access Management

## Access Management

IBM® Cloud Identity & Access Management (IAM) enables you to securely authenticate users and control access to all cloud resources consistently in the IBM Cloud Platform.

[Invite Users](#) [Create credential](#)

2. Click on the Create Bucket button



3. Click the right facing arrow under the **Quickly get started** tile.

Instances / Cloud Object Storage-rg /

## Create bucket

Get started by creating a bucket to store unstructured data. A bucket is a storage resource available in IBM Cloud Object Storage service. The bucket can be used to organize objects (storage data) along with their metadata. Create a custom bucket of your own, or choose from our pre-defined configurations.

Custom bucket

**Customize your bucket**

Create a bucket by selecting bucket configurations that meet your object storage needs.

→

Predefined buckets

**Quickly get started**

Create a Smart Tier storage class bucket in a region close to you and a service credential to connect your application.

Show more ▾

→

**Archive your data**

Create a Smart Tier storage class bucket in a region close to you with an archive rule and a service credential to connect your application.

Show more ▾

→

**Host a static website**

Create a Smart Tier storage class bucket in a region close to you with static web hosting configuration and a service credential to connect your application.

Show more ▾

→

4. Use the pre-assigned name for your bucket and review the pre-configured settings and service credentials and click **Next**.

Create bucket with credentials   Upload files (objects) Optional   Test your bucket Optional

### Create bucket with credentials [View bucket details >](#)

Create a Smart Tier storage class bucket in a region close to you and a service credential to connect your application

Unique bucket name [View naming rules](#)

cloud-object-storage-cos-standard-gr5

Cancel   **Next** →

#### Bucket details

**Quick start bucket presets**

Bucket name  
cloud-object-storage-cos-standard-gr5

Resiliency   Location  
Regional   jp-tok

Storage class  
Smart Tier

---

**Service credentials**

Service credential  
cloud-object-storage-cos-standard-gr5

Role  
Writer

4. The Bucket page appears where you can begin adding objects to the bucket. You can either upload file(s) and then click on **Next**, or click **Next** without uploading any files.

Create bucket with credentials

Upload files (objects)  
Optional

Test your bucket  
Optional

Upload files (objects) [View bucket details >](#)  
Optional

Upload files (objects) to your Standard bucket. This is an optional step that can also be completed at a later time.

Upload

The size of each file (object) cannot be larger than 200MB for standard uploads. [See file \(object\) and folder guidelines](#)

Drag and drop files (objects) here or click to upload

View bucket configuration

Next →

## Bucket details ×

## Quick start bucket presets

Bucket name  
cloud-object-storage-cos-  
standard-gr5

Resiliency  
Regional

Location  
jp-tok

Storage class  
Smart Tier

## Service credentials

Service credential  
cloud-object-storage-cos-  
standard-gr5

Role  
Writer

## Task 3: Add Objects to your Bucket:

1. On your Object storage instance's page, click on **View bucket details**

IBM Cloud

Search resources and products...

Cloud Object Storage

Instances

Cloud Object Storage-rg

Integrations

Endpoints

Documentation

Billing

Create bucket with credentials

Upload files (objects)  
Optional

Test your bucket  
Optional

Test your bucket [View bucket details >](#)  
Optional

Copy the sample JS script below to your local machine to automate the upload and download files (objects) to your account. Modify the code to fit your needs. [Learn more](#)

Node.js script to upload a file (object) to the created bucket

2. The details for the bucket will be displayed.



Test your bucket [View bucket details](#)

Copy the sample JS script below to your local machine to automate the upload and download files (objects) to your account. Modify the code to fit your needs. [Learn more](#)

Node.js script to upload a file (object) to the created bucket.

```
const fs = require('fs');
const {Storage} = require('@google-cloud/storage');

const storage = new Storage({
  // Your project ID
  projectId: 'your-project-id',
});

const bucket = storage.bucket('cloud-object-storage-cos-standard-61t');

const file = 'index.html';

// Upload the file to the bucket
const upload = bucket.upload(file, {
  // Optional: Set the storage class to 'Smart Tier'
  storageClass: 'SMART_TIER',
});

upload.then(() => {
  console.log('File uploaded successfully');
});
```

**Bucket details**

**Quick start bucket presets**

Bucket name  
cloud-object-storage-cos-standard-61t

Resiliency Location  
Regional jp-tok

Storage class  
Smart Tier

**Service credentials**

Service credential  
cloud-object-storage-cos-standard-61t

Role  
Writer

3. In the object storage main page you can see all the buckets under the **Buckets** tab. Select the bucket to which you want to add objects.

Instances / Cloud Object Storage-rg

**Buckets** Service credentials Instance Usage Plan

Search

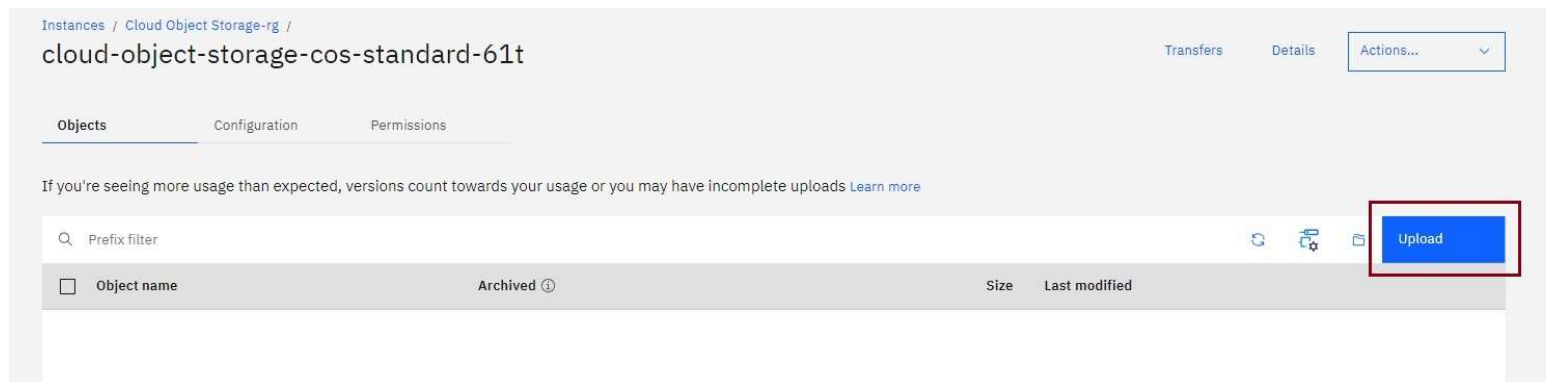
Create bucket +

Name	Public access ⓘ	Location ⓘ	Storage class	Created
cloud-object-storage-cos-standard-61t	No	jp-tok	Smart Tier	2023-06-27 12:12 PM

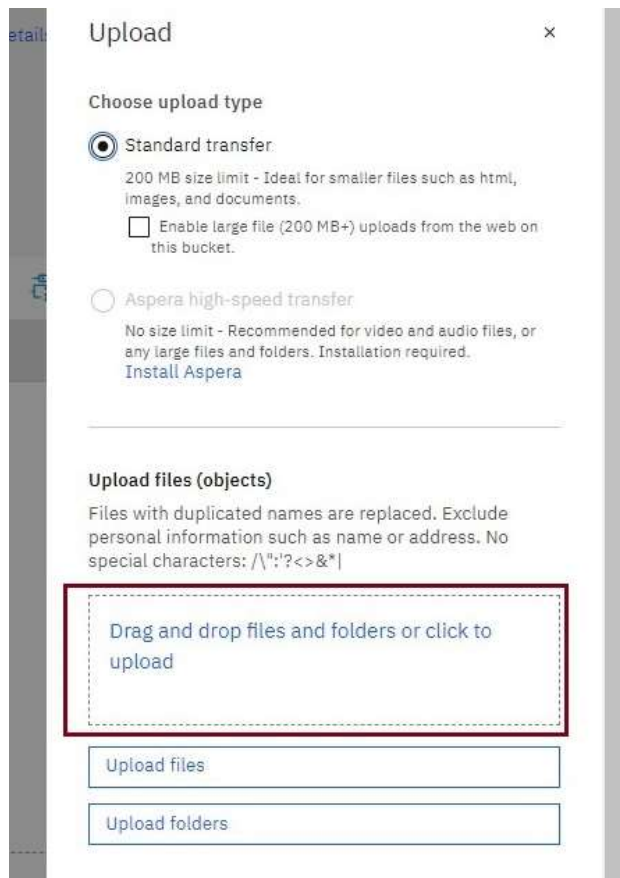
4. For this lab, we've provided an HTML file that you can use to add to your bucket. Right click on [index.html](#) and click on **Save Link as** or **Save Page as** to save the index.html file to your computer.

5. (Optional) Edit the index.html file to customize it if you like.

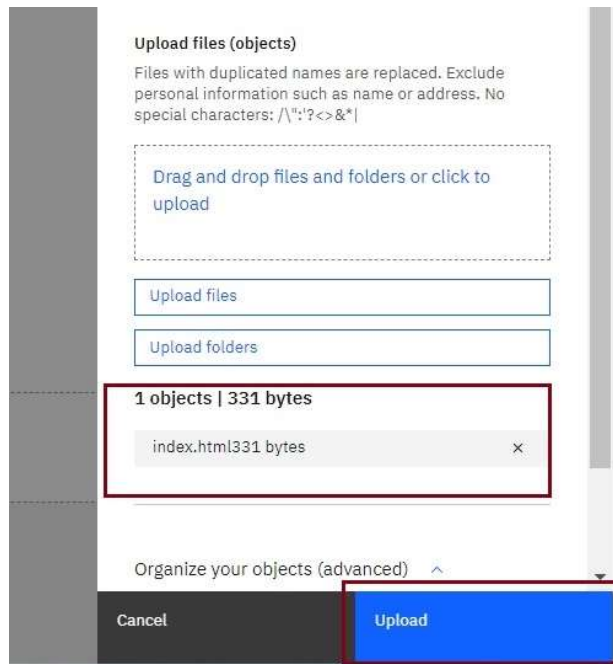
6. Click on **Upload** in the **Objects** page.



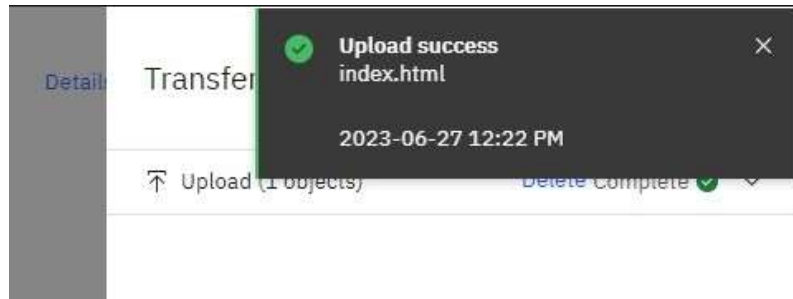
7. Use either the **click to upload** or the **drag and drop files and folders** option to select the `index.html` file from the appropriate location on your computer.



8. Once selected, it will show the file name & size. Click on **Upload**.



9. Once the file is uploaded, you will see a message like this.



#### Task 4: Share Objects in your Bucket:

If you need to share objects in your buckets with other users, you can setup Access Policies. You can set access policies for specific users and groups, or you can choose to make certain buckets public so that anyone can access them (e.g. if you want to host static files on your website).

1. In the Bucket tab, click the three dots option of the bucket that you created. Then click “Access Policies”.

Instances / Cloud Object Storage-rg

Details Actions...

Buckets Service credentials Instance Usage Plan

Search

Name	Public access ⓘ	Location ⓘ	Storage class	Created	
cloud-object-storage-cos-standard-61t	No	jp-tok	Smart Tier	2023-06-27 12:12 PM	⋮

- Configuration
- Access Policies
- Access with Data Engine
- IAM Panel
- Delete bucket

2. Under **Permission** Tab, click **Public Access**.

### Bucket access policies

Manage access to this bucket by creating IAM policies for users and service IDs. Users and service IDs must also have an instance level viewer role (or higher) to use the console or to list buckets using the REST API.

- Access policies
- Public access
- Context-based restrictions
- Firewall (legacy)

3. When you click on **Public Access**. Click **Create access policy**.

### Public access

**Warning:** Granting Public access to this bucket will allow anyone to access the bucket. To revoke public access, remove the "Public access" policy from this bucket within [Access groups](#) [Learn more](#) X

Status: Disabled

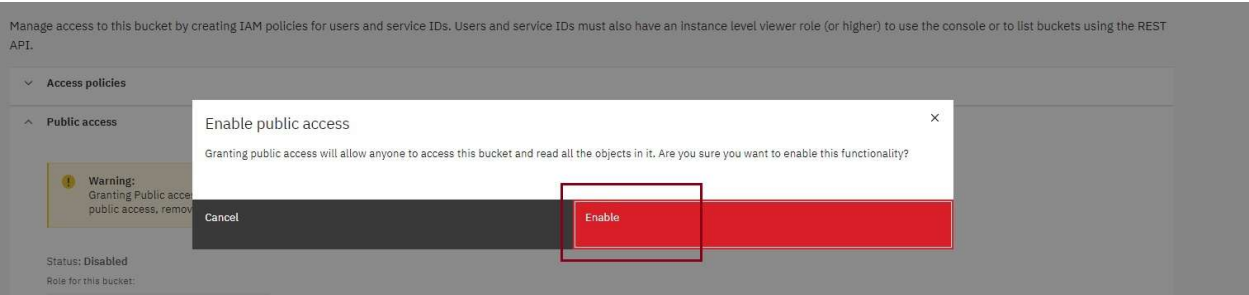
Role for this bucket:

Content Reader

As a Content Reader, one can read and list objects in the bucket.

Create access policy

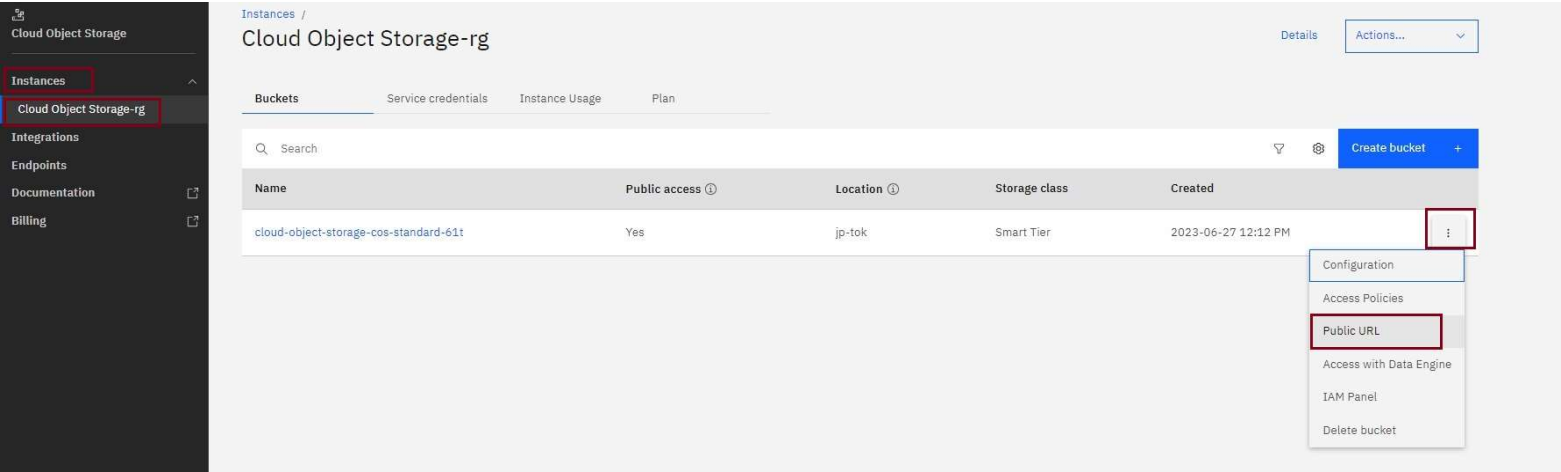
4. Next, a popup window appears. Click **Enable** to allow public access.



5. Once the access policy is created, you will see a message like this.



6. On the Buckets page, select the **three dots** option under which you will find **Public URL**.



7. This will show your **bucket's Public URL** in a pop-up. Copy the URL.



**Note:** If the Object Public URL does not appear, kindly refresh the page as it may take some time to reflect

8. Add `/index.html` to this link to get the **Object Public URL** which will be similar to `...cloud-object-storage.appdomain.cloud/index.html`.

9. Test the **Object public URL** by opening it in your browser. The output will be like this:



## My File in Cloud Object Storage

I just learned how to work with Cloud Object Storage, including -

- Creating Buckets
- Adding Objects to them
- and Sharing them with others

- in this Introduction to Cloud course from IBM.

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Changelog

Date	Version	Changed by	Change Description
2023-06-27	2.4	K Sundararajan	Updated instructions and screenshots as per the latest IBM Cloud UI
2023-01-20	2.3	Sapthashree	Updated the screenshots and content of the lab instruction
2022-04-07	2.2	Sourabh	Updated the screenshots and content of the lab instruction
2021-07-28	2.1	Rav	Removed erroneous instruction for others to sign file, updated links, formatting
2021-01-28	2.0	Lavanya	Updated Lab instructions and screenshots and migrated to GitLab
2020-03-10	1.1	Rav	Updates for improved flow and sharing
2020-01-31	1.0	Priya	Initial version created

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