Project in AWS
Practice Lab

Creating Amazon S3 Buckets, Managing Objects, and Enabling Versioning

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ABOUT THIS LAB

Amazon Simple Storage Service (Amazon S3) is an object storage service that offers industry-leading scalability, data availability, security, and performance. In this lab, we will create two S3 buckets and verify public versus non-public access to the buckets. We will also enable and validate versioning based on uploaded objects.

LEARNING OBJECTIVES

- Create a Public and Private Amazon S3 Bucket
- Enable Versioning on the Public Bucket and Validate Access to Different Versions of Files with the Same Name

AWS Documentation about S3: https://aws.amazon.com/s3/faqs/#Storage_Classes

Source: https://learn.acloud.guru/course/certified-solutions-architect-associate/

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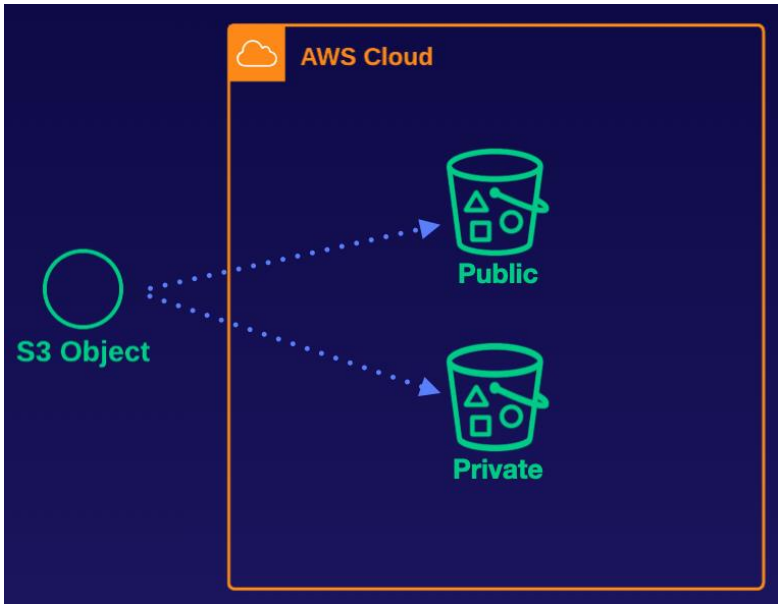
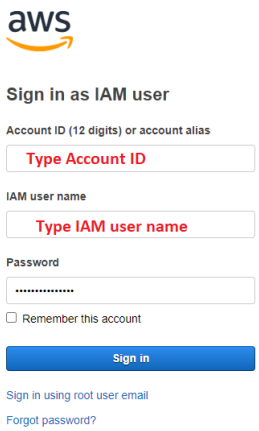
Lab Diagram



We will begin by configuring an S3 bucket, managing objects, and enabling versioning. Our objective is to create a public and a private S3 bucket and evaluate results when the objects are accessed. We will also enable versioning and observe the effects of versioning on an S3 bucket. Use **us-east-1** for the all the lab activities.

Download the files needed for the lab here: https://github.com/ACloudGuru-Resources/S3BucketsLabFiles .

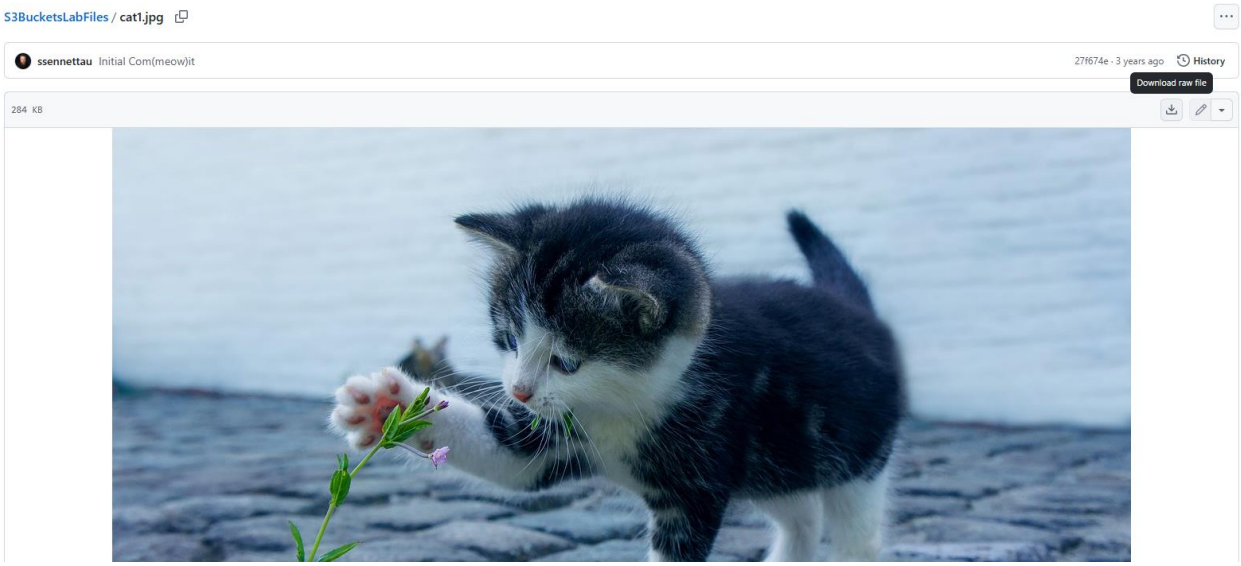
Log in to your AWS account



1. Create a Public S3 Bucket

1.1. Download the 2 files from GitHub

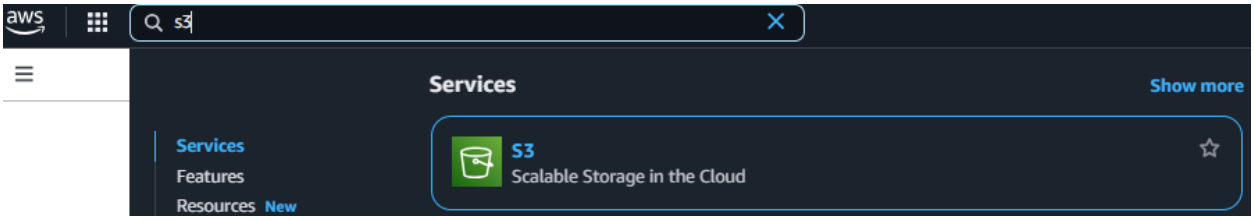
1. In a new browser tab, navigate to the GitHub repository for the files.
2. Download these 2 files (***cat1.jpg*** and ***cat2.jpg***) to the local machine so that we can upload them to S3.
3. Go to each file and click **Download raw file**.



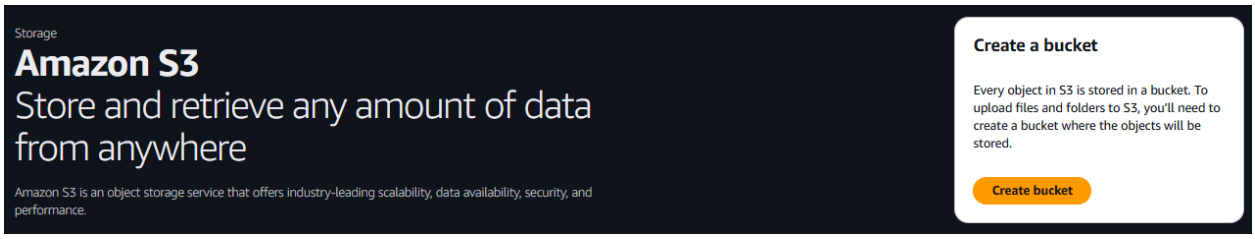
4. Repeat this for the ***cat2.jpg*** file.

1.2. Create a Public S3 Bucket

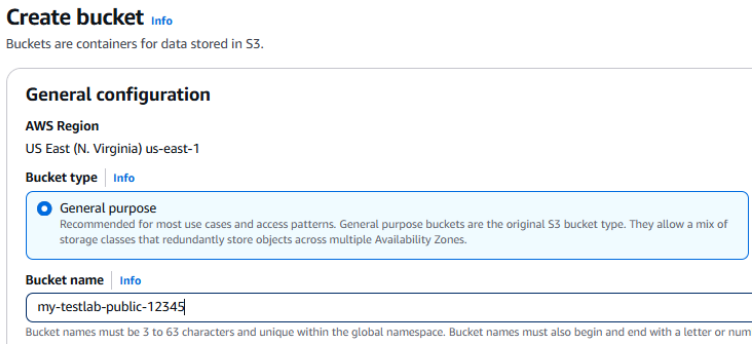
1. In the AWS Management Console, navigate to S3.



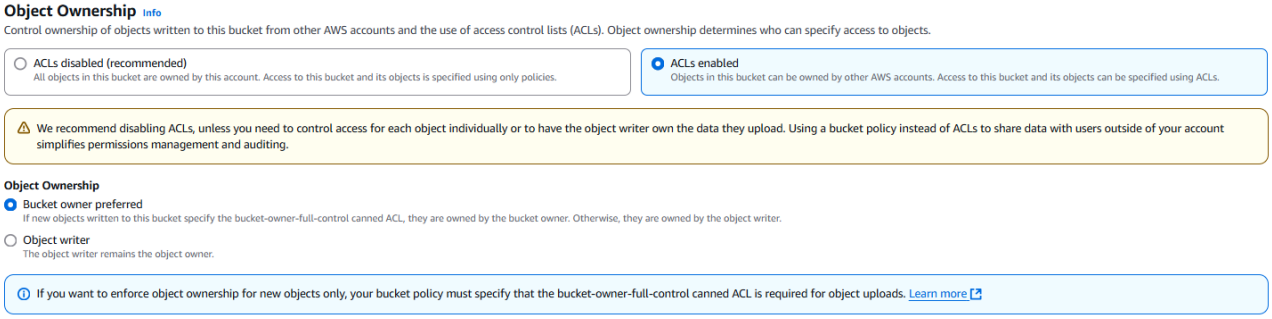
2. Click **Create bucket**.



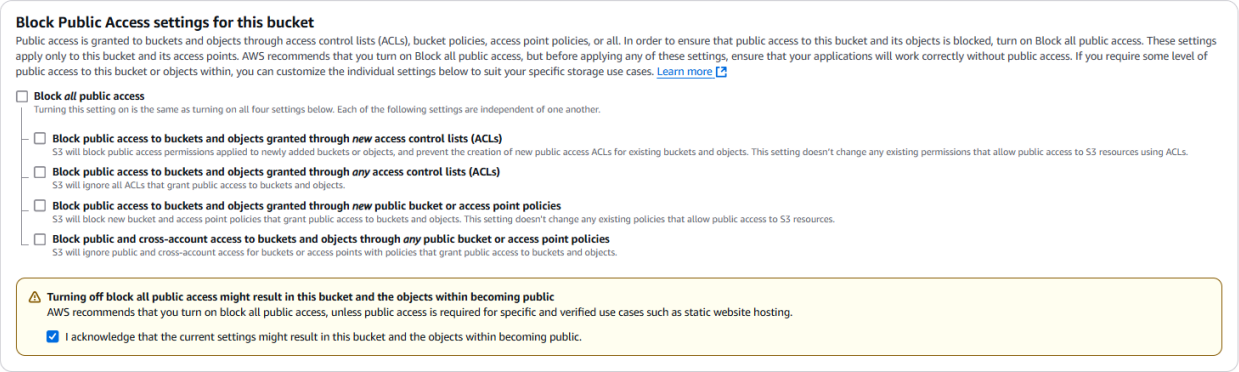
3. Set Bucket name: ***my-testlab-public-<random numbers>*** with the AWS account ID or another series of numbers at the end to make it globally unique. Also, set the Region: US East (N. Virginia) us-east-1.



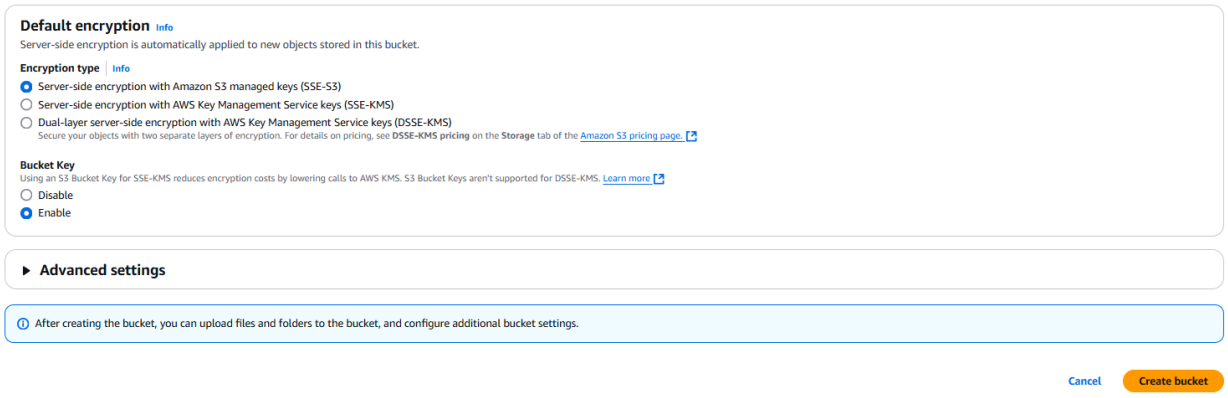
4. And at **Object Ownership**: Select **ACLs enabled,** and **Bucket owner preferred**.



5. In the **Block Public Access settings for this bucket** section, un-check Block all public access. Ensure all four permissions restrictions beneath it are also un-checked.
6. Check the box stating **I acknowledge that the current settings might result in this bucket and the objects within becoming public** to confirm that we understand the bucket is going to be public.

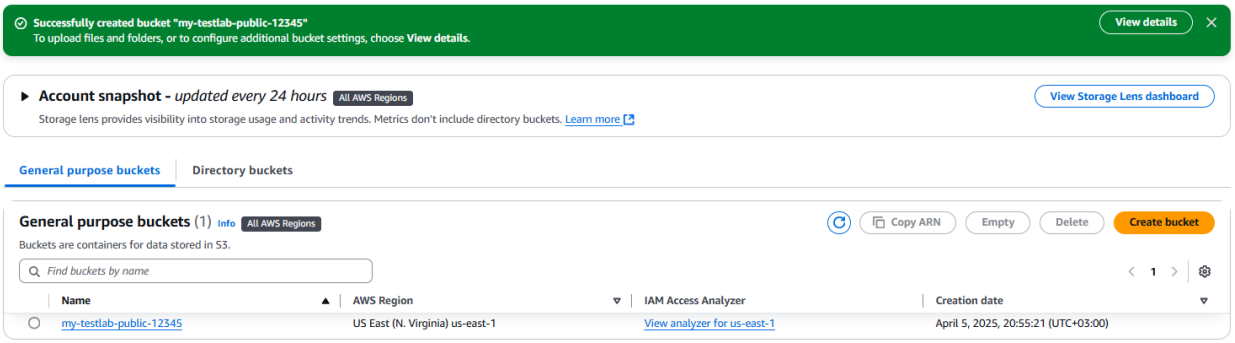


7. Leave the rest of the settings as their defaults.
8. Click **Create bucket**.

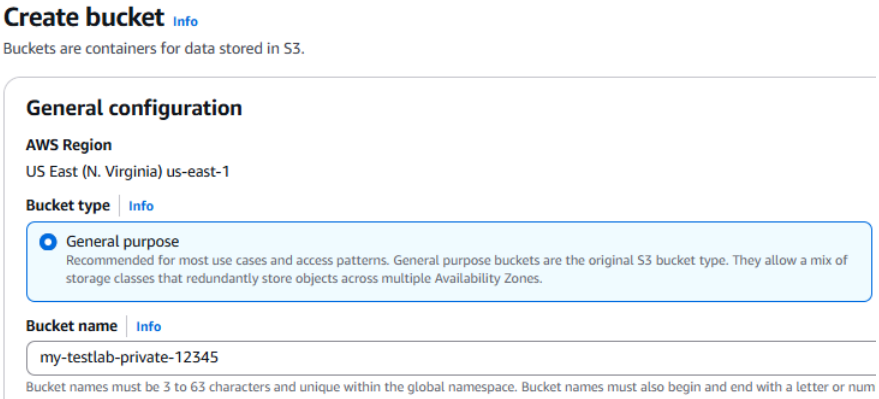


1.3. Create a Private S3 Bucket

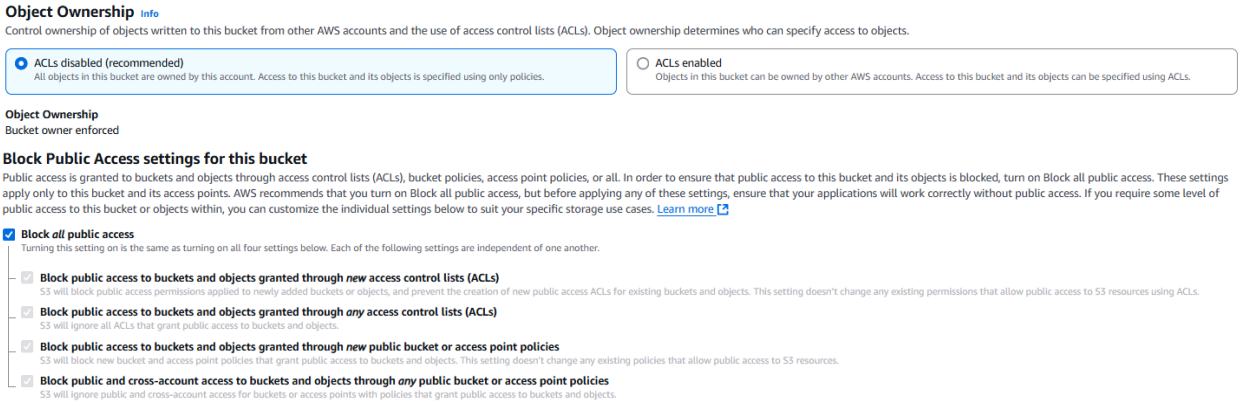
1. On the **Buckets** screen, click **Create bucket**.



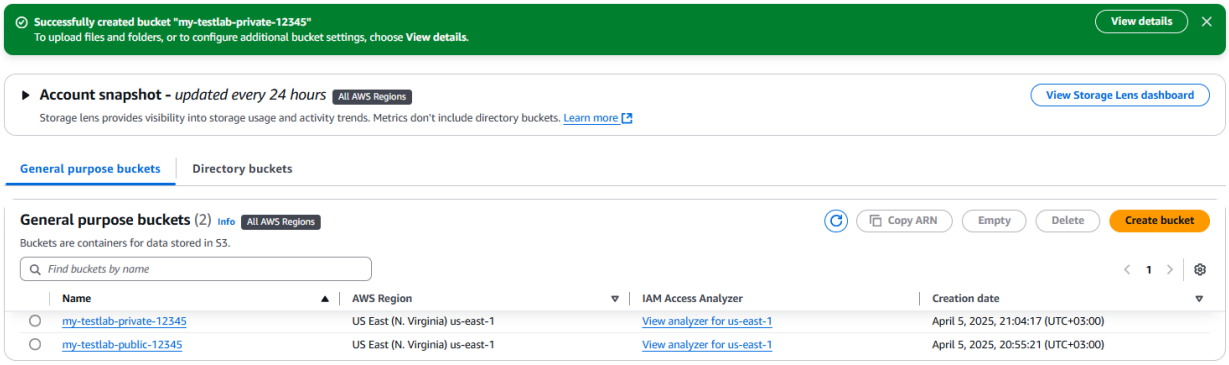
2. Set Bucket name: ***my-testlab-private-<random numbers>*** with the AWS account ID or another series of numbers at the end to make it globally unique. Also, set the Region: US East (N. Virginia) us-east-1.



3. Leave the rest of the settings as their defaults, including the public access, because this is going to be a private bucket. So, we really want to block all public access by default.

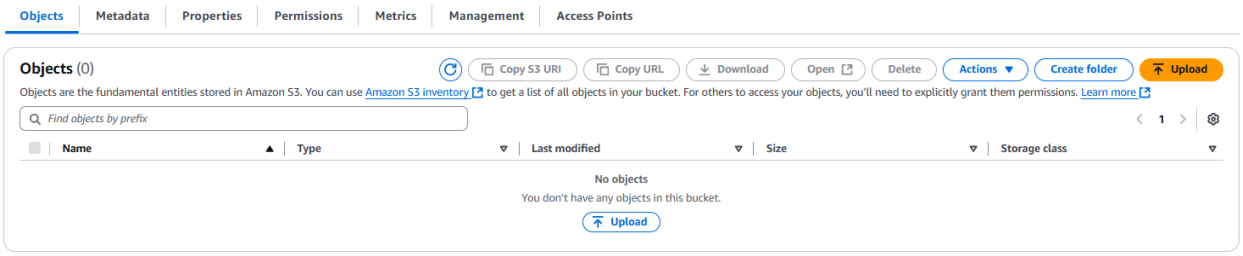


4. Click **Create bucket**.
5. The buckets are created, so we need to upload some files to them.

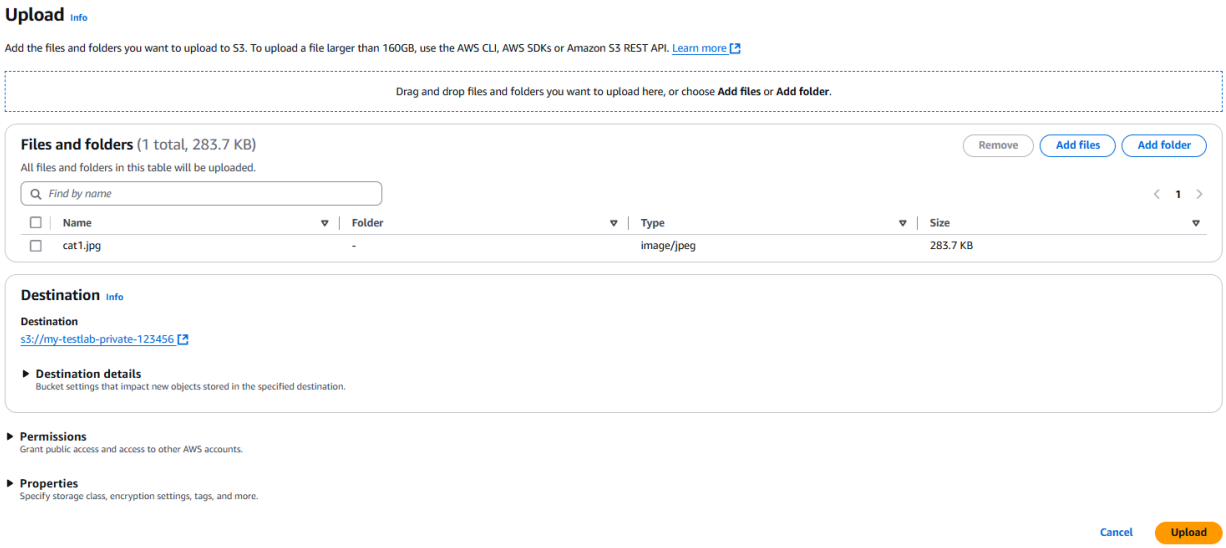


1.4. Upload a File in the Private Bucket

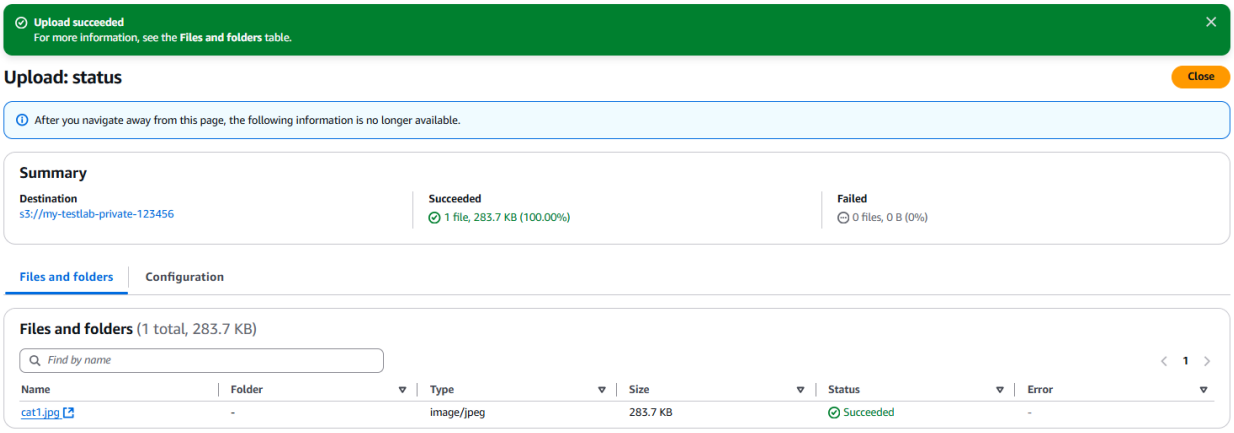
1. Select the private bucket name to open it.
2. In the **Objects** section, click **Upload**.



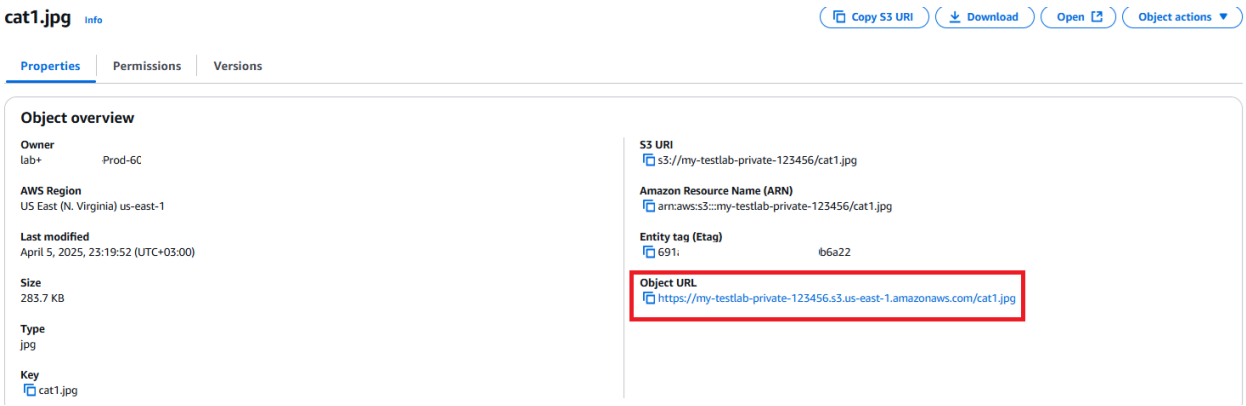
3. Click **Add files**.
4. Navigate to the files you downloaded for the lab and upload the ***cat1.jpg*** image.
5. Leave the rest of the settings on the page as their defaults.
6. Click **Upload**.



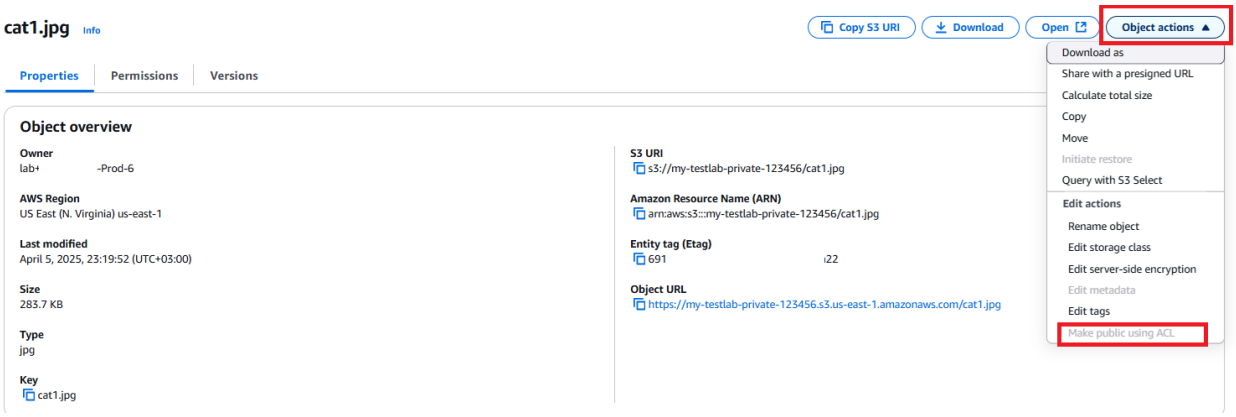
7. After the file uploads successfully, click its name to view its properties.



8. Open the **Object URL** in a new browser tab. Since it's a private bucket, you'll see an error message. That's because this bucket doesn't allow public access.

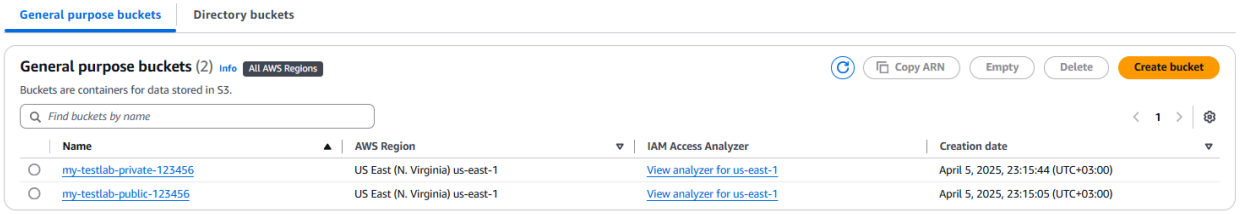


9. Back on the ***cat1.jpg*** page, select the ***Object actions*** dropdown.
10. Note that the **Make public using ACL** option is grayed out, because the bucket is private, and we set the ownership to not use ACLs.

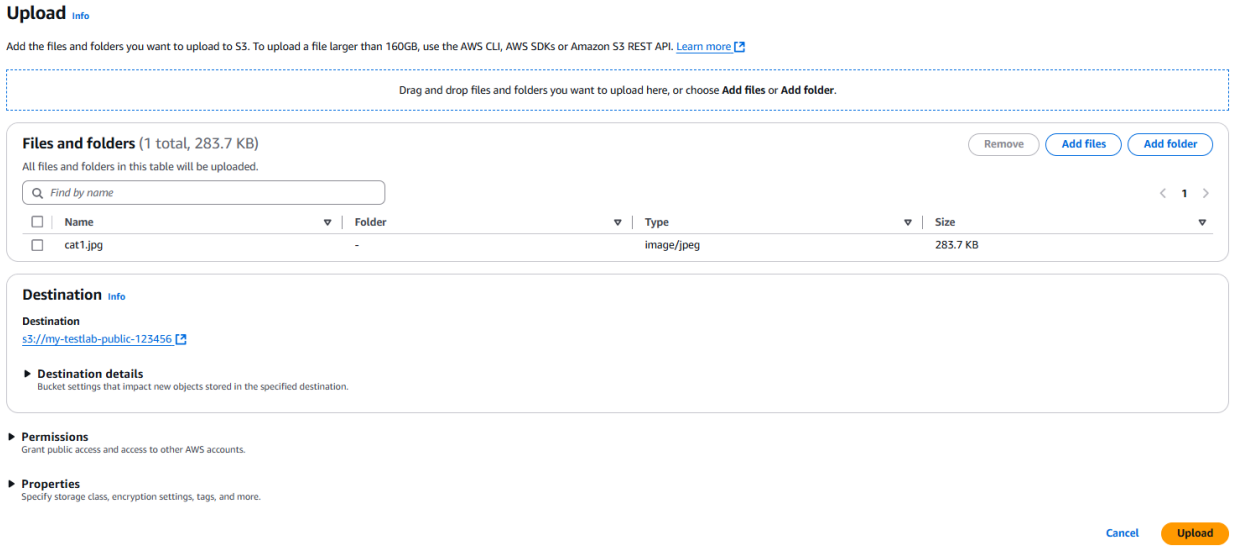


1.5. Upload a File in the Public Bucket

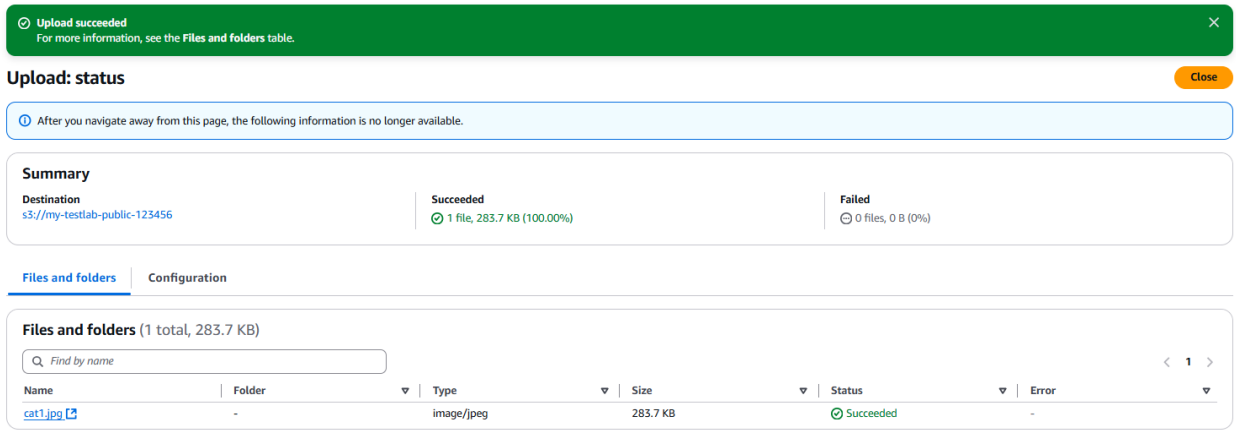
1. Click **Buckets** in the link trail at the top.
2. Select the **public** bucket name to open it.



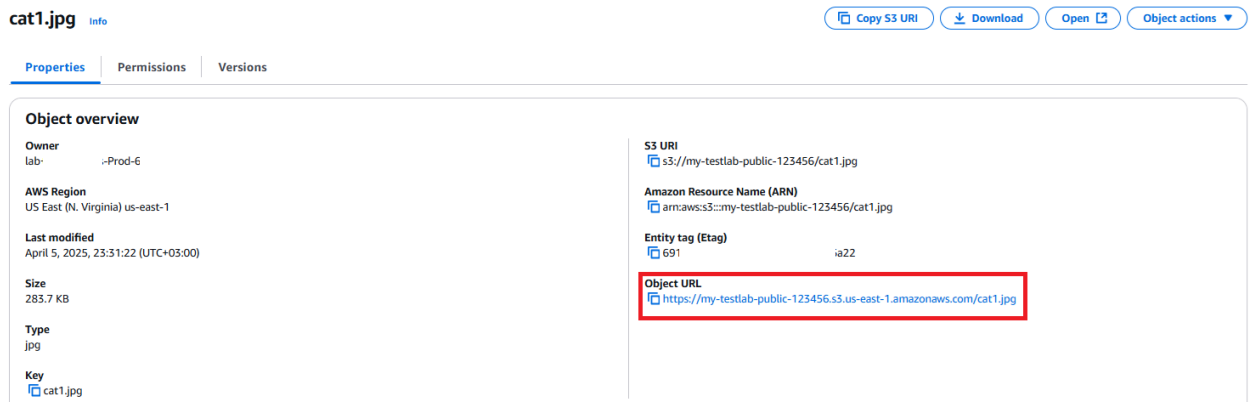
3. In the **Objects** section, click **Upload**.
4. Click **Add files**.
5. Navigate to the files you downloaded for the lab and upload the ***cat1.jpg*** image.
6. Leave the rest of the settings on the page as their defaults.
7. Click **Upload**.

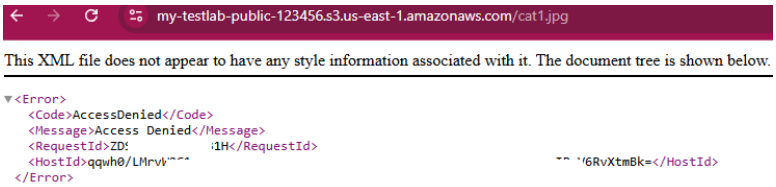


8. After the file uploads successfully, click its name to view its properties.

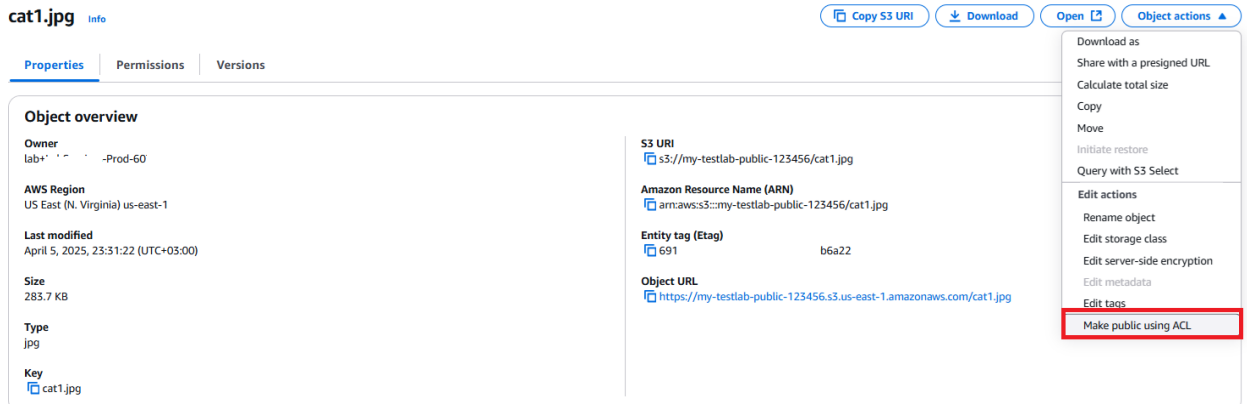


9. Open the **Object URL** in a new browser tab. You should receive an error message because although the bucket is public, the object is not.

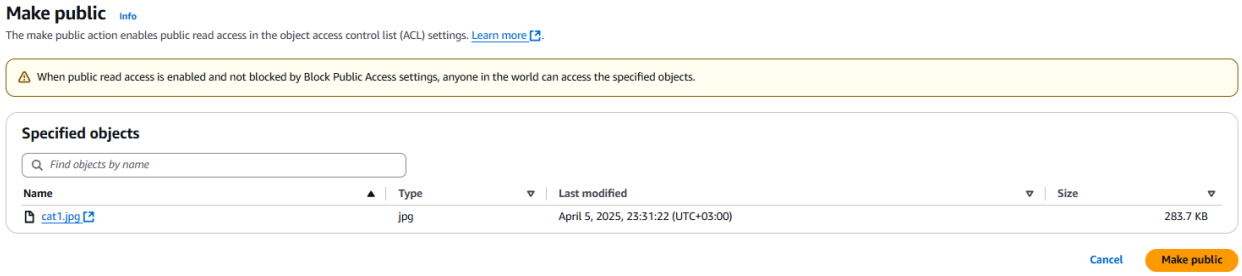




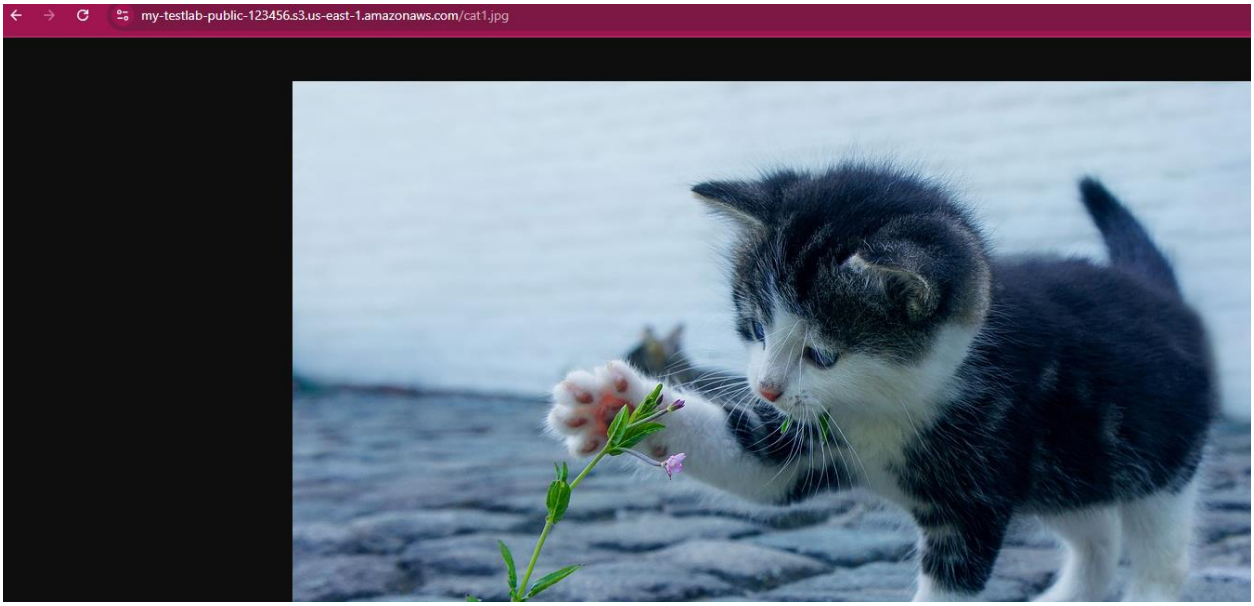
10. Back on the ***cat1.jpg*** page, select **Object actions → Make public using ACL**.



11. Click **Make public**.



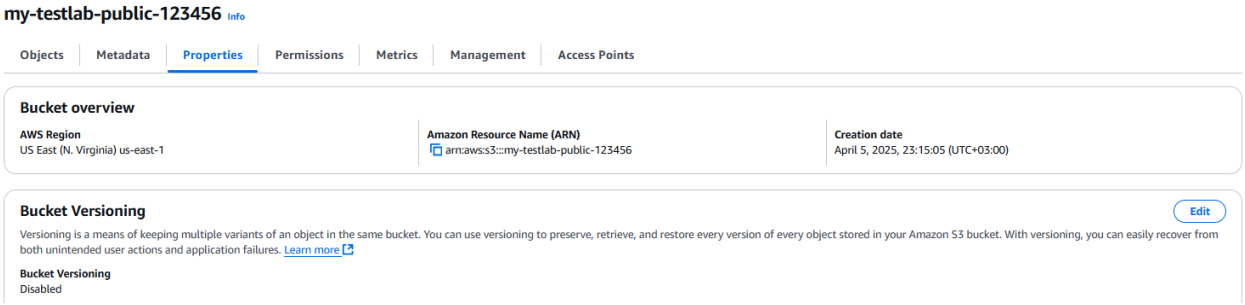
12. Open the **Object URL** in a new browser tab again. This time, the image should load.



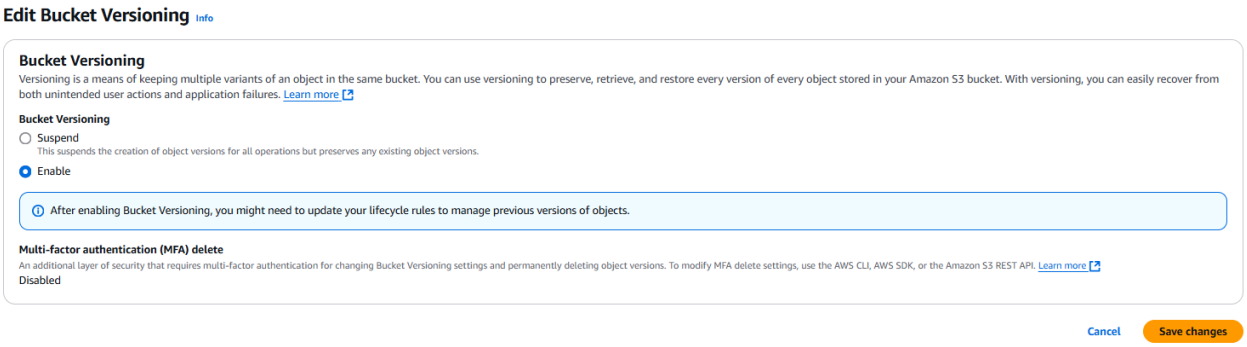
2. Enable Versioning on the Public Bucket and Validate Access to Different Versions of Files with the Same Name

2.1. Enable Versioning

1. Back on the public bucket page, click the **Properties** tab.
2. In the **Bucket Versioning** section, click **Edit**.

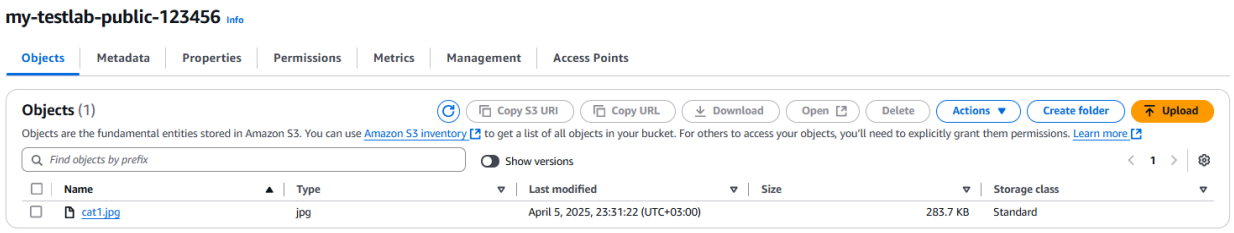


3. Click **Enable** to enable bucket versioning.
4. Click **Save changes**.

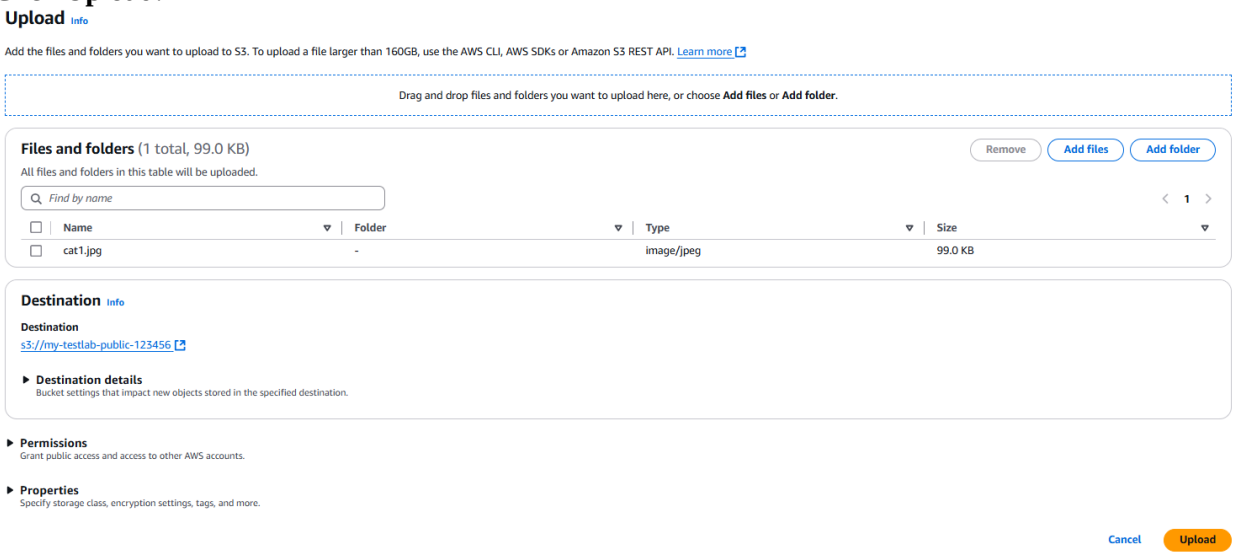


2.2. Upload Another Image to Test Versioning

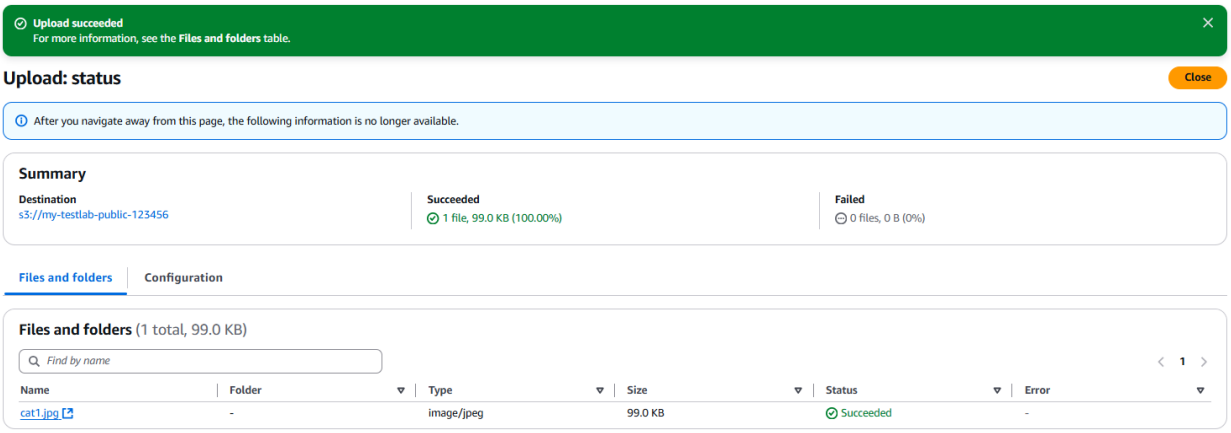
1. Click the **Objects** tab.
2. Click **Upload**, and then click **Add files**.



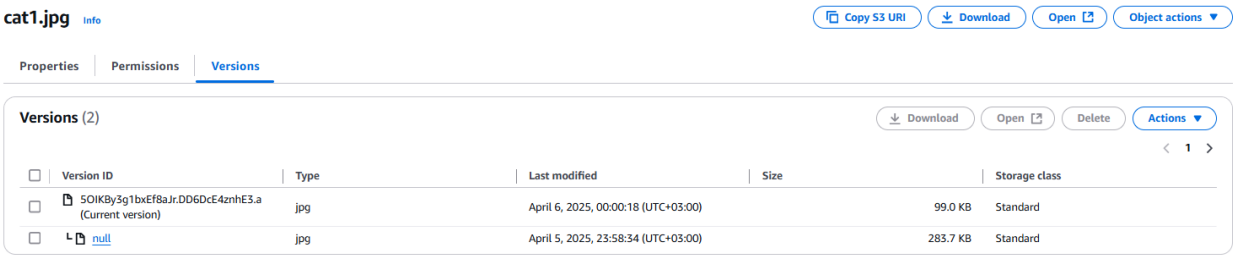
3. Rename ***cat2.jpg*** to ***cat1.jpg*** (this way, you'll upload a different image than the original ***cat1.jpg*** image).
4. Upload the newly renamed ***cat1.jpg*** image.
5. Click **Upload**.



6. After the file uploads successfully, click its name to view its properties.



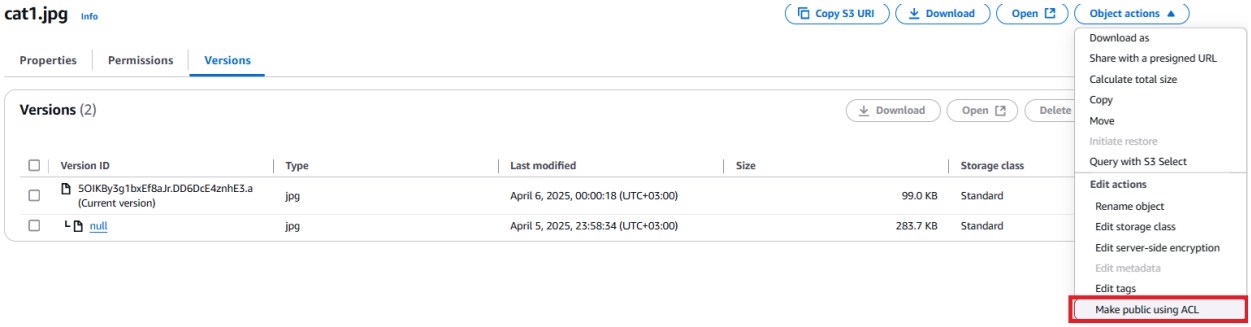
7. Click the **Versions** tab. You should see there are two versions of the ***cat1.jpg*** file.



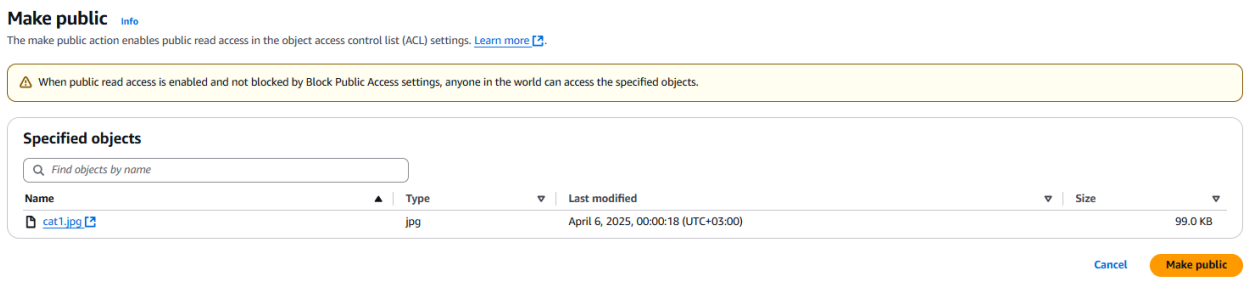
8. Before, we were able to access this file publicly. Now, we have to make it public again.
9. The reason: even though it has the same name, this is effectively a new object.

2.3. View the Image Versions

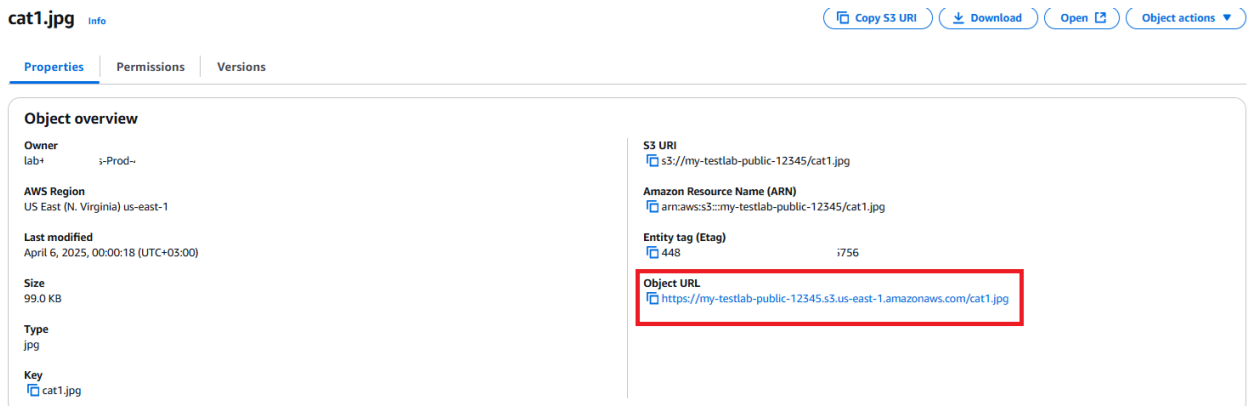
1. Select **Object actions → Make public using ACL**.

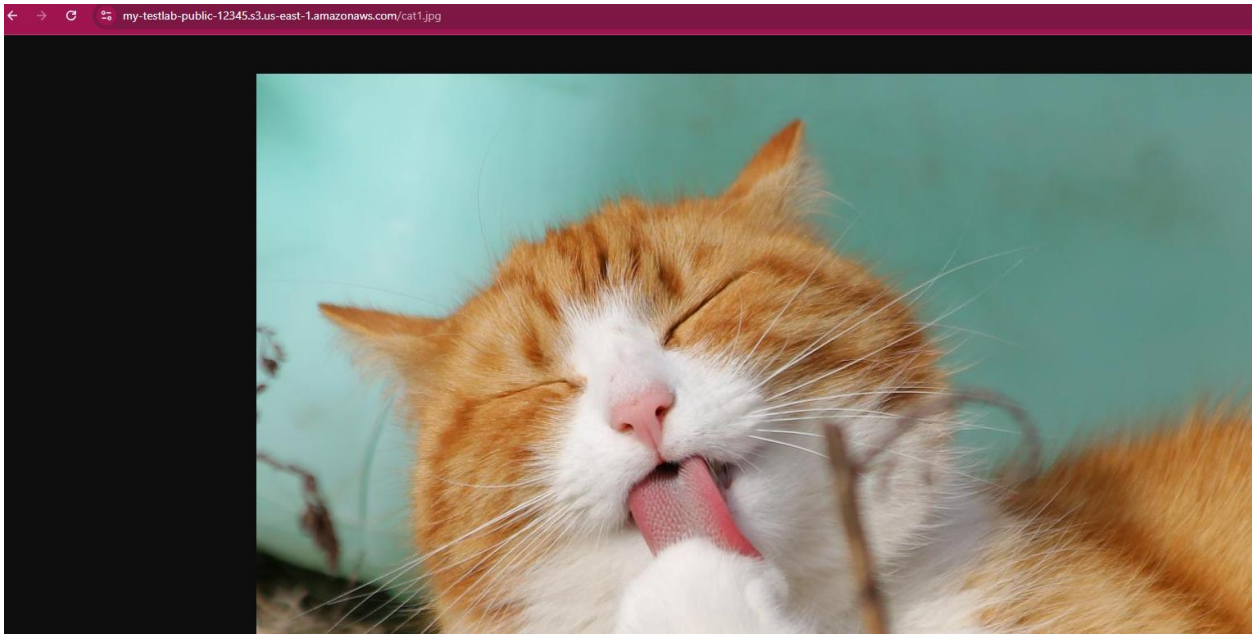


2. Click **Make public**.

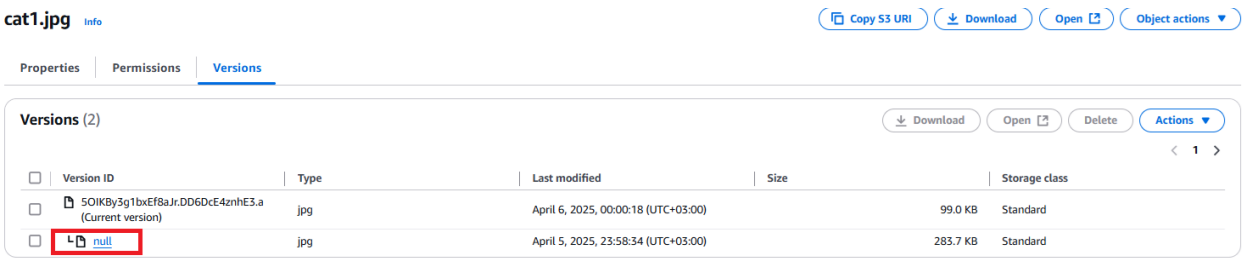


3. Click the **Properties** tab.
4. Open the **Object URL** in a new browser tab. This time, you should see the new image.

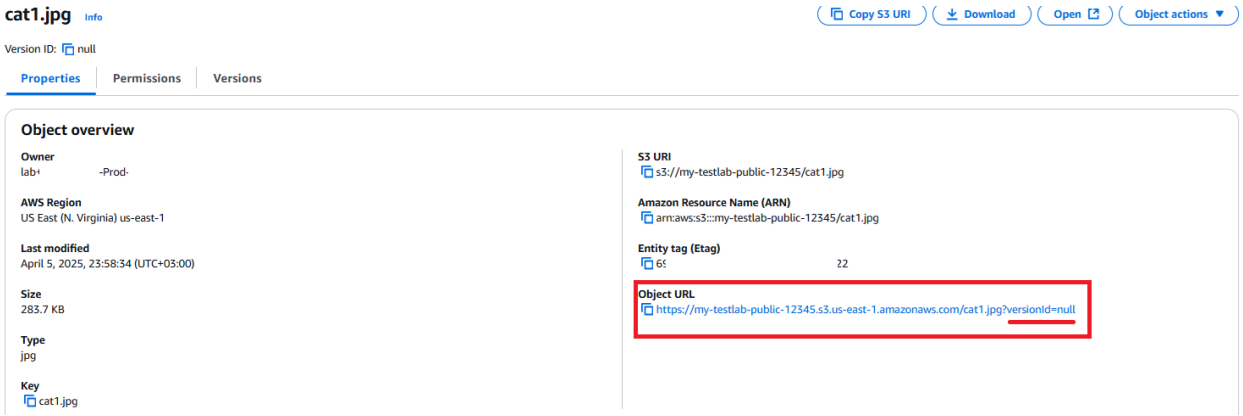




5. But the important part about versioning is that we can also see our previous file versions.
6. Back on the ***cat1.jpg*** page, click the **Versions** tab.
7. Click the **null** object.



8. Open its **Object URL** in a new browser tab. Also, notice that it has a ***version ID=null*** at the end.



9. You should see the original ***cat1.jpg*** image you uploaded. So, we're still able to keep the original version of the file.