



CLOUD TRAIN

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MODULE 5

STORAGE & DATA MANAGEMENT

AWS Workshop

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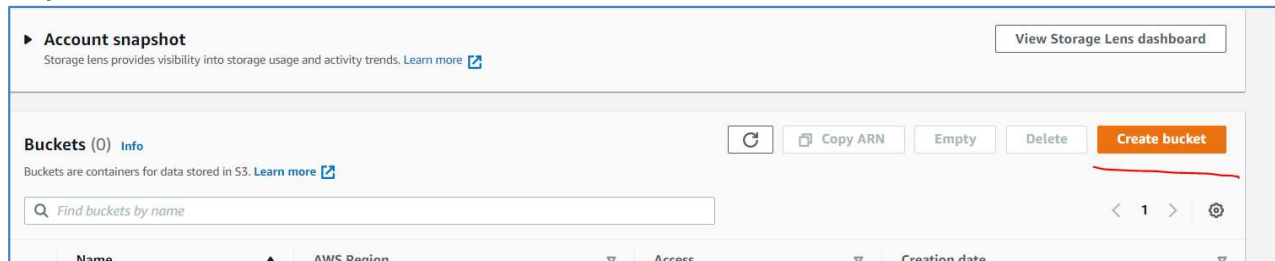
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Creating Bucket on Amazon S3

To create a bucket

Step 1. Sign in to the AWS Management Console and open the Amazon S3 console at <https://console.aws.amazon.com/s3/>.

Step 2. Choose **Create bucket**.



The **Create bucket** page opens.

Step 3. In **Bucket name**, enter a DNS-compliant name for your bucket, say **bucket1**.

The bucket name must:

- Be unique across all of Amazon S3.
- Be between 3 and 63 characters long.
- Not contain uppercase characters.
- Start with a lowercase letter or number.

After you create the bucket, you can't change its name.

Important: Avoid including sensitive information, such as account numbers, in the bucket name.

The bucket name is visible in the URLs that point to the objects in the bucket.

Step 4. In **Region**, choose the AWS Region where you want the bucket to reside.

Choose a Region that is close to you geographically to minimize latency and costs and to address regulatory requirements. Objects stored in a Region never leave that Region unless you explicitly transfer them to another Region.

Amazon S3 > Create bucket

Create bucket [Info](#)

Buckets are containers for data stored in S3. [Learn more](#)

General configuration

Bucket name

Bucket name must be unique and must not contain spaces or uppercase letters. [See rules for bucket naming](#)

AWS Region

US East (N. Virginia) us-east-1

Copy settings from existing bucket - *optional*
Only the bucket settings in the following configuration are copied.

Choose bucket

Step 5. Keep the remaining settings set to the defaults.

Step 6. Choose **Create bucket**.

► **Advanced settings**

After creating the bucket you can upload files and folders to the bucket, and configure additional bucket settings.

Cancel **Create bucket**

Buckets (1) [Info](#)

Buckets are containers for data stored in S3. [Learn more](#)

Find buckets by name

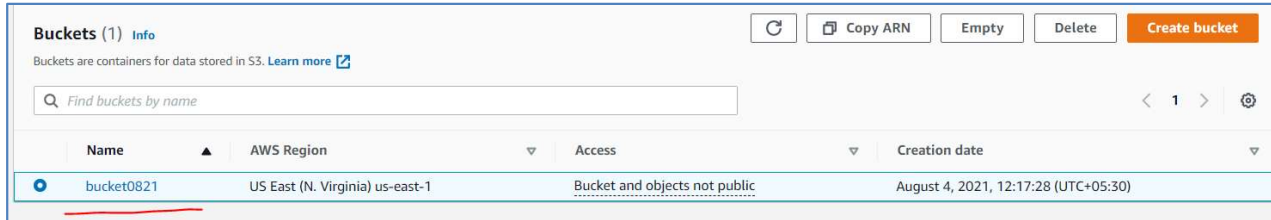
	Name	AWS Region	Access	Creation date
<input type="radio"/>	<u>bucket0821</u>	US East (N. Virginia) us-east-1	Bucket and objects not public	August 4, 2021, 12:17:28 (UTC+05:30)

Uploading and downloading data from Amazon S3

To upload an object to a bucket

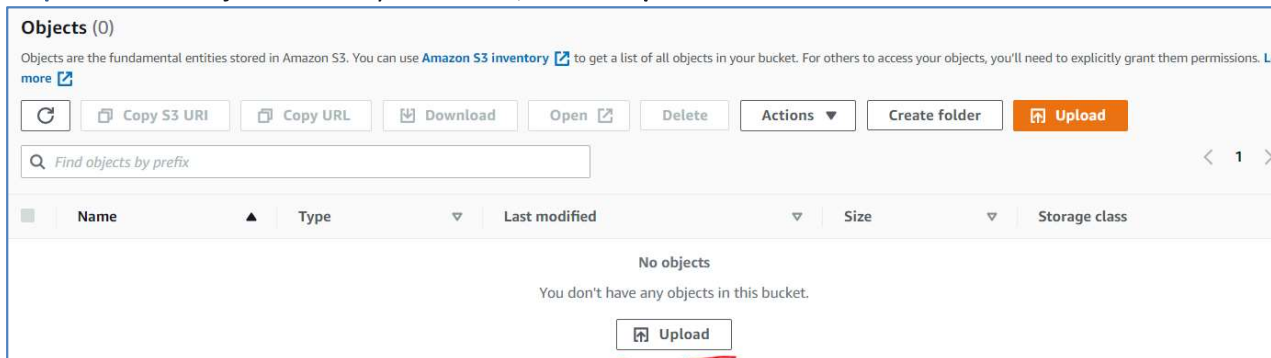
Step 1. Open the Amazon S3 console at <https://console.aws.amazon.com/s3/>.

Step 2. In the **Buckets** list, choose the name of the bucket that you want to upload your object to.



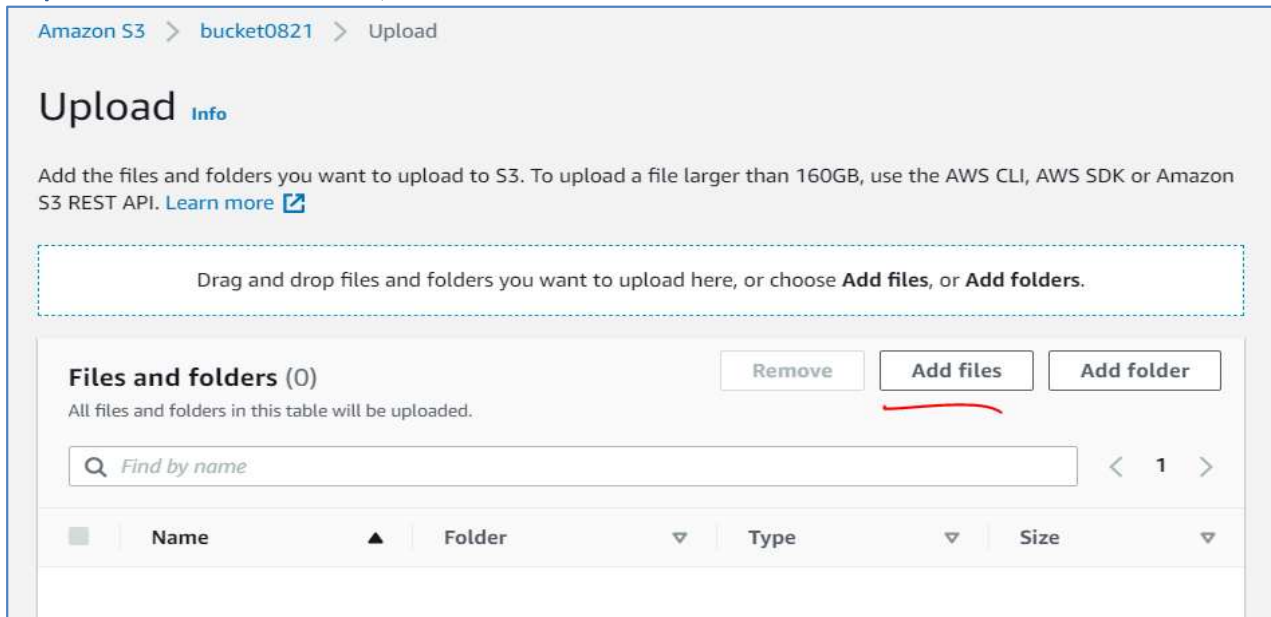
The screenshot shows the 'Buckets (1)' section of the Amazon S3 console. It includes a search bar labeled 'Find buckets by name', a table with columns for Name, AWS Region, Access, and Creation date, and a 'Create bucket' button. The table contains one entry: 'bucket0821' in the 'US East (N. Virginia) us-east-1' region, with 'Bucket and objects not public' access and a creation date of 'August 4, 2021, 12:17:28 (UTC+05:30)'. A red underline is under the bucket name 'bucket0821'.

Step 3. On the **Objects** tab for your bucket, choose **Upload**.



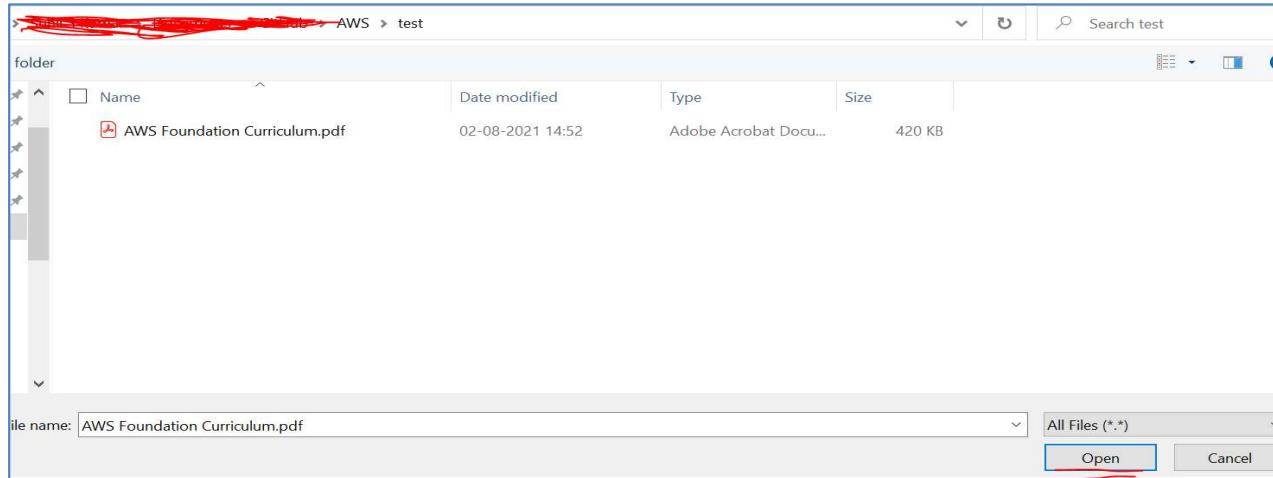
The screenshot shows the 'Objects (0)' section of the Amazon S3 console for the bucket 'bucket0821'. It includes a search bar labeled 'Find objects by prefix', a table with columns for Name, Type, Last modified, Size, and Storage class, and an 'Upload' button. The table is empty, and a message states 'No objects. You don't have any objects in this bucket.' A red underline is under the 'Upload' button.

Step 4. Under **Files and folders**, choose **Add files**.

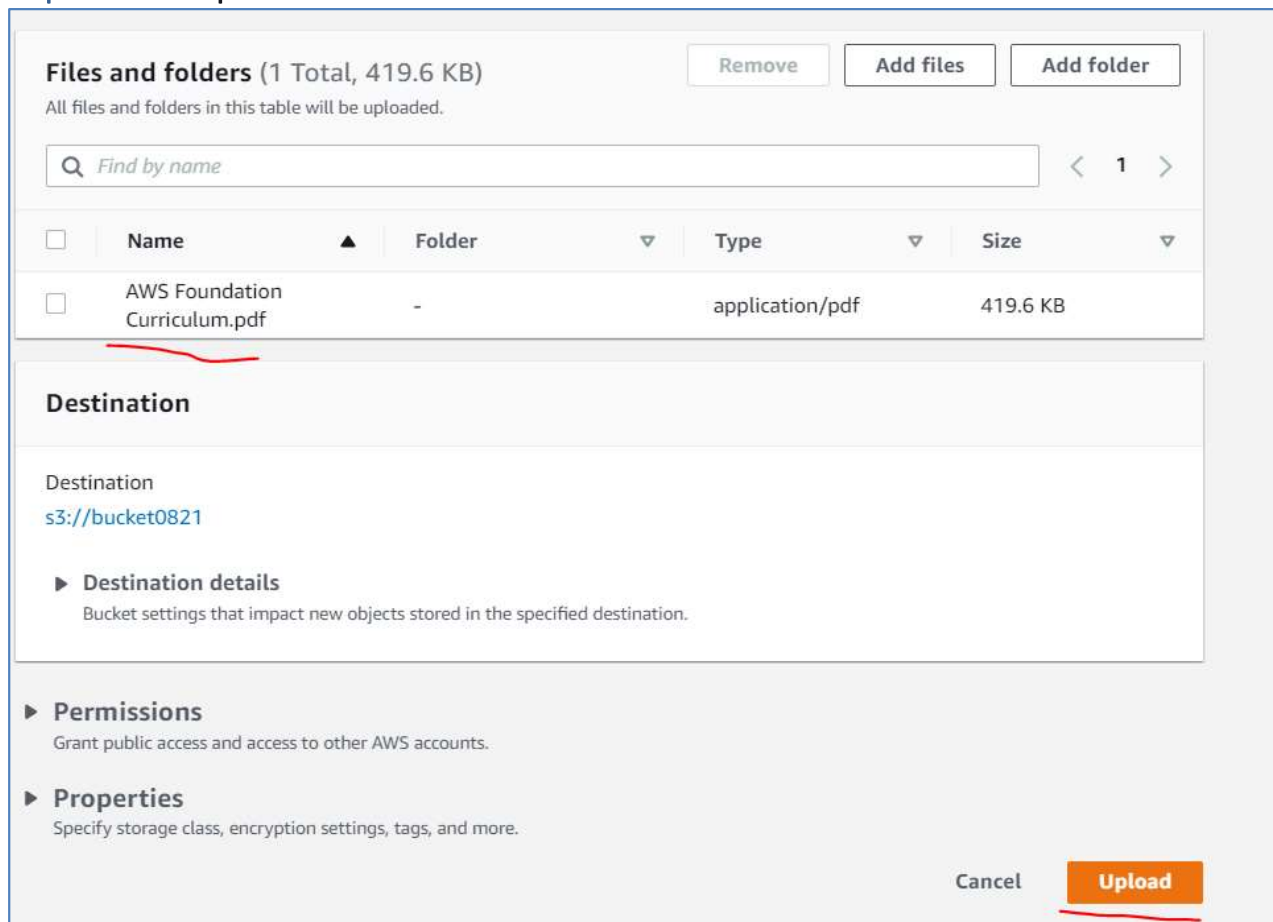


The screenshot shows the 'Upload' page in the Amazon S3 console for the bucket 'bucket0821'. It includes a search bar labeled 'Find by name', a table with columns for Name, Folder, Type, and Size, and an 'Add files' button. The table is empty, and a message states 'All files and folders in this table will be uploaded.' A red underline is under the 'Add files' button.

Step 5. Choose a file to upload, and then choose **Open**.



Step 6. Choose **Upload**.



Files and folders (1 Total, 419.6 KB)					
<input type="text" value="Find by name"/>					
Name	Folder	Type	Size	Status	
AWS Foundation Curriculum.pdf	-	application/pdf	419.6 KB	✓ Succeeded	

You've successfully uploaded an object to your bucket.

To download an object from an S3 bucket

Step 1. Sign into the AWS Management Console and open the Amazon S3 console at <https://console.aws.amazon.com/s3/>.

Step 2. In the **Buckets** list, choose the name of the bucket that you want to download an object from.

Buckets (1) Info						Copy ARN	Empty	Delete	Create bucket
Buckets are containers for data stored in S3. Learn more									
<input type="text" value="Find buckets by name"/>									
	Name	AWS Region	Access	Creation date					
<input type="radio"/>	<u>bucket0821</u>	US East (N. Virginia) us-east-1	Bucket and objects not public	August 4, 2021, 12:17:28 (UTC+05:30)					

Step 3. You can download an object from an S3 bucket in any of the following ways:










- Choose the name of the object that you want to download.

On the **Overview** page, select the object and from the **Actions** menu choose **Download** or **Download as** if you want to download the object to a specific folder.

- Choose the object that you want to download and then from the **Object actions** menu choose **Download** or **Download as** if you want to download the object to a specific folder.
- If you want to download a specific version of the object, choose the name of the object that you want to download. Choose the **Versions** tab and then from the **Actions** menu choose **Download** or **Download as** if you want to download the object to a specific folder.

Objects (1)

Objects are the fundamental entities stored in Amazon S3. You can use [Amazon S3 inventory](#) to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. [Learn more](#)

  Copy S3 URI  Copy URL  Download  Open  Delete  Actions  Create folder  Upload

Find objects by prefix

<input checked="" type="checkbox"/>	Name	Type	Last modified	Size	Storage class
<input checked="" type="checkbox"/>	<u>AWS Foundation Curriculum.pdf</u>	pdf	August 4, 2021, 12:24:38 (UTC+05:30)	419.6 KB	Standard

File name: AWS Foundation Curriculum.pdf

File type: Adobe Acrobat Document (*.pdf)

Save Cancel






You've successfully downloaded your object.

Hosting a Static Website on Amazon S3

To enable static website hosting


Step 1. Sign in to the AWS Management Console and open the Amazon S3 console at <https://console.aws.amazon.com/s3/>.

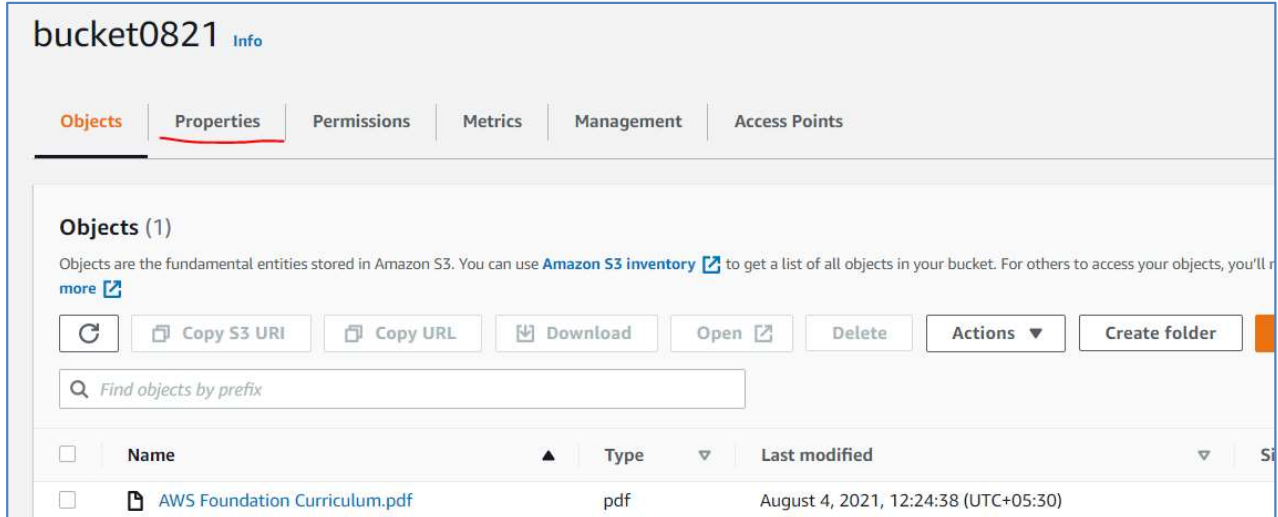
Step 2. In the **Buckets** list, choose the name of the bucket that you want to enable static website hosting for.

Buckets (1) [Info](#)   Copy ARN  Empty  Delete  Create

Buckets are containers for data stored in S3. [Learn more](#)

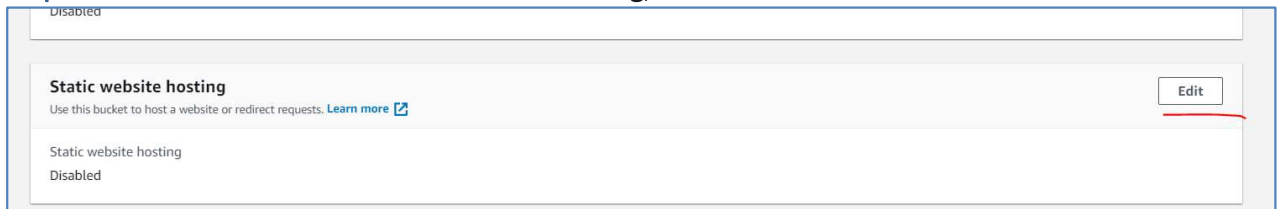
Find buckets by name

Name	AWS Region	Access	Creation date
 bucket0821	US East (N. Virginia) us-east-1	<u>Bucket and objects not public</u>	August 4, 2021, 12:17:28 (UTC+05:30)

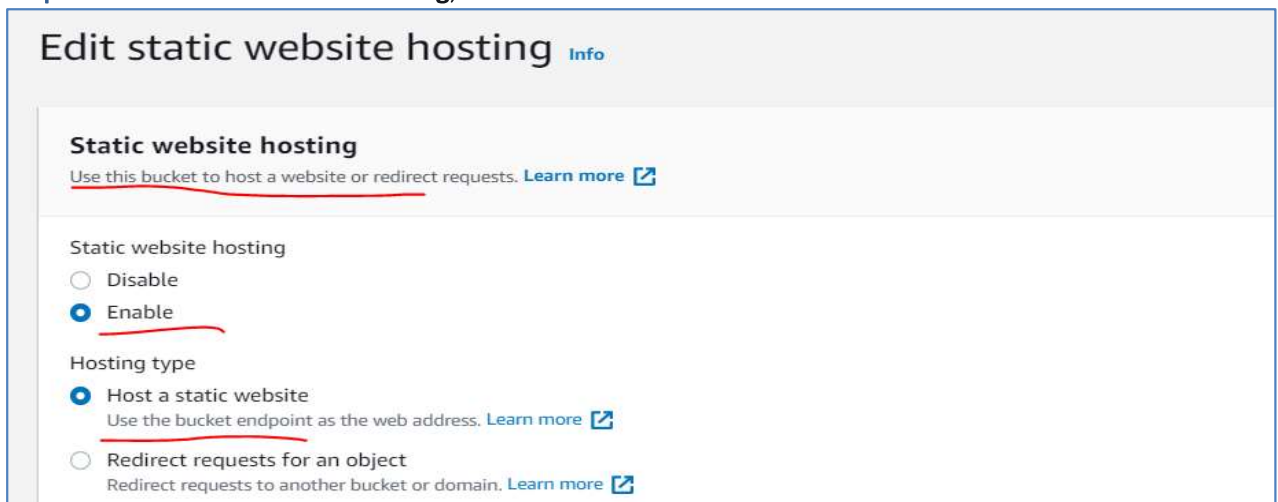
Step 3. Choose Properties.

The screenshot shows the Amazon S3 console interface for a bucket named "bucket0821". The "Properties" tab is selected and underlined. The "Objects (1)" section shows a single object: "AWS Foundation Curriculum.pdf". The object's type is "pdf" and it was last modified on "August 4, 2021, 12:24:38 (UTC+05:30)".

Name	Type	Last modified
AWS Foundation Curriculum.pdf	pdf	August 4, 2021, 12:24:38 (UTC+05:30)

Step 4. Scroll down and under Static website hosting, choose Edit.

The screenshot shows the "Static website hosting" section in the Amazon S3 console. The "Static website hosting" status is "Disabled". An "Edit" button is visible in the top right corner of the section.

Step 5. Choose Use this bucket to host a website.**Step 6. Under Static website hosting, choose Enable.**

The screenshot shows the "Edit static website hosting" settings in the Amazon S3 console. The "Static website hosting" status is set to "Enable". The "Hosting type" is set to "Host a static website".

Static website hosting
Use this bucket to host a website or redirect requests. [Learn more](#)

Static website hosting

☐ Disable

☒ Enable

Hosting type

☒ Host a static website
Use the bucket endpoint as the web address. [Learn more](#)


☐ Redirect requests for an object
Redirect requests to another bucket or domain. [Learn more](#)

Step 7. In **Index document**, enter the file name of the index document, typically `index.html`.

Note: The index document name is case sensitive and must exactly match the file name of the HTML index document that you plan to upload to your S3 bucket. When you configure a bucket for website hosting, you must specify an index document. Amazon S3 returns this index document when requests are made to the root domain or any of the subfolders.

Step 8. To provide your own custom error document for 4XX class errors, in **Error document**, enter the custom error document file name.

Note: The error document name is case sensitive and must exactly match the file name of the HTML error document that you plan to upload to your S3 bucket. If you don't specify a custom error document and an error occurs, Amazon S3 returns a default HTML error document.



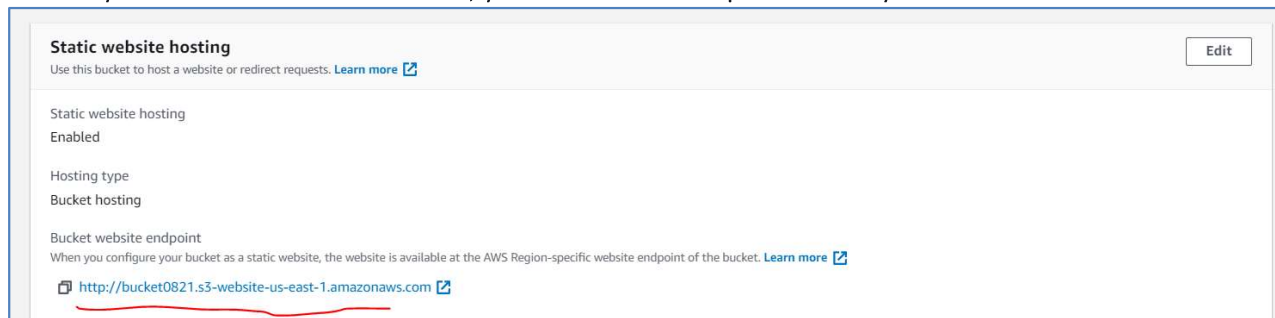
The screenshot shows two input fields. The first field is labeled 'Index document' with the subtitle 'Specify the home or default page of the website.' and contains the text 'index.html'. The second field is labeled 'Error document - optional' with the subtitle 'This is returned when an error occurs.' and contains the text 'error.html'. Red lines are drawn under both input fields.

Step 9. Choose **Save changes**.

Amazon S3 enables static website hosting for your bucket. At the bottom of the page, under **Static website hosting**, you see the website endpoint for your bucket.

Step 10. Under **Static website hosting**, note the **Endpoint**.

The **Endpoint** is the Amazon S3 website endpoint for your bucket. After you finish configuring your bucket as a static website, you can use this endpoint to test your website.



The screenshot shows the 'Static website hosting' section. It includes a header with 'Static website hosting' and a subtitle 'Use this bucket to host a website or redirect requests. [Learn more](#)'. Below this, it shows 'Static website hosting' is 'Enabled'. Under 'Hosting type', it says 'Bucket hosting'. Under 'Bucket website endpoint', it says 'When you configure your bucket as a static website, the website is available at the AWS Region-specific website endpoint of the bucket. [Learn more](#)'. At the bottom, the endpoint is listed as 'http://bucket0821.s3-website-us-east-1.amazonaws.com' with a red line drawn under it.

To configure the index and error document

Step 1. Create an `index.html` and `error.html` file in your local system or laptop.

If you don't have an `index.html` and `error.html` file, you can use the following HTML files to create both:

index.html




```
<html xmlns="http://www.w3.org/1999/xhtml" >
<head>
  <title>My Website Home Page</title>
</head>
<body>
  <h1>Welcome to my website</h1>
  <p>Now hosted on Amazon S3!</p>
</body>
</html>
```

error.html

```
<html xmlns="http://www.w3.org/1999/xhtml" >
<head>
  <title>Page Not Found</title>
</head>
<body>
  <h1>Requested page not found</h1>
  <p>Please check the page you have entered!!</p>
</body>
</html>
```

Step 2. Save the index and error file locally.

Note: The index and error document file name must exactly match the index and error document name that you enter in the **Static website hosting** dialog box. The index document name is case sensitive.

<input type="checkbox"/> Name	Date modified	Type	Size
<input type="checkbox"/>  AWS Foundation Curriculum.pdf	02-08-2021 14:52	Adobe Acrobat Docu...	420
<input checked="" type="checkbox"/>  error.html	04-08-2021 12:41	Chrome HTML Docu...	1
<input checked="" type="checkbox"/>  index.html	04-08-2021 12:41	Chrome HTML Docu...	1

Step 3. Sign in to the AWS Management Console and open the Amazon S3 console at <https://console.aws.amazon.com/s3/>.

Step 4. In the **Buckets** list, choose the name of the bucket that you want to use to host a static website.

Buckets (1) Info

Buckets are containers for data stored in S3. [Learn more](#)

Find buckets by name

Copy ARN

Empty


Delete

Create bucket

<

1

>

	Name ▲	AWS Region ▼	Access ▼	Creation date ▼
	<u>bucket0821</u>	US East (N. Virginia) us-east-1	<u>Bucket and objects not public</u>	August 4, 2021, 12:17:28 (UTC+05:30)

Step 5. To upload the index document to your bucket, do one of the following:

- Drag and drop the index file into the console bucket listing or follow the steps to upload files to bucket.
- Choose **Upload**, and follow the prompts to choose and upload the index file.

<input type="checkbox"/>	error.html	-	text/html	212.0 B
<input type="checkbox"/>	index.html	-	text/html	197.0 B

Destination

Destination
[s3://bucket0821](#)

► **Destination details**
Bucket settings that impact new objects stored in the specified destination.

► **Permissions**
Grant public access and access to other AWS accounts.

► **Properties**
Specify storage class, encryption settings, tags, and more.

Cancel **Upload**



Step 6. Try accessing the website now using the endpoint:

Static website hosting
Use this bucket to host a website or redirect requests. [Learn more](#)

Static website hosting
Enabled

Hosting type
Bucket hosting

Bucket website endpoint
When you configure your bucket as a static website, the website is available at the AWS Region-specific website endpoint of the bucket. [Learn more](#)

 <http://bucket0821.s3-website-us-east-1.amazonaws.com> 

Step 7. You will see the below permission error while accessing because we have blocked public access on the bucket.

← → ↻ ⚠ Not secure | bucket0821.s3-website-us-east-1.amazonaws.com

403 Forbidden

- Code: AccessDenied
- Message: Access Denied
- RequestId: ANH9VKXJYXNTSX3Z
- HostId: g6cCeC4ChFrpw4tJAWEbHQcusY2mF4fb69N8efKH0ybuC9uG9RF66Pu/cpXWVf6h3OxsuNz5y24=

An Error Occurred While Attempting to Retrieve a Custom Error Document

- Code: AccessDenied
- Message: Access Denied

Step 8. Let's fix it by editing the permission on bucket:

Edit S3 Block Public Access settings

Step 1. Open the Amazon S3 console at <https://console.aws.amazon.com/s3/>.

Step 2. Choose the name of the bucket that you have configured as a static website.

Step 3. Choose **Permissions**.

bucket0821 [Info](#)

[Objects](#) | [Properties](#) | **[Permissions](#)** | [Metrics](#) | [Management](#) | [Access Points](#)


Permissions overview

Access

Bucket and objects not public

Step 4. Under **Block public access (bucket settings)**, choose **Edit**.

Block public access (bucket settings)

Public access is granted to buckets and objects through access control lists (ACLs), bucket policies, access point policies, or all. In order to ensure that public access to all your S3 buckets and objects is blocked, turn on Block all public access. These settings apply only to this bucket and its access points. AWS recommends that you turn on Block all public access, but before applying any of these settings, ensure that your applications will work correctly without public access. If you require some level of public access to your buckets or objects within, you can customize the individual settings below to suit your specific storage use cases. [Learn more](#) 

Edit

Block all public access


☒ On

Block public access to buckets and objects granted through *new* access control lists (ACLs)

☒ On

Step 5. Clear **Block all public access**, and choose **Save changes**.

Block public access (bucket settings)

Public access is granted to buckets and objects through access control lists (ACLs), bucket policies, access point policies, or all. In order to ensure that public access to all your S3 buckets and objects is blocked, turn on Block all public access. These settings apply only to this bucket and its access points. AWS recommends that you turn on Block all public access, but before applying any of these settings, ensure that your applications will work correctly without public access. If you require some level of public access to your buckets or objects within, you can customize the individual settings below to suit your specific storage use cases. [Learn more](#) 

☐ **Block all public access**


Turning this setting on is the same as turning on all four settings below. Each of the following settings are independent of one another.

☐ **Block public access to buckets and objects granted through *new* access control lists (ACLs)**

S3 will block public access permissions applied to newly added buckets or objects, and prevent the creation of new public access ACLs for existing buckets and objects. This setting doesn't change any existing permissions that allow public access to S3 resources using ACLs.

☐ **Block public access to buckets and objects granted through *any* access control lists (ACLs)**

Edit Block public access (bucket settings)

 Updating the Block Public Access settings for this bucket will affect this bucket and all objects within. This may result in some objects becoming public.

To confirm the settings, enter *confirm* in the field.


Cancel Confirm

Block public access (bucket settings)


Public access is granted to buckets and objects through access control lists (ACLs), bucket policies, access point policies, or all. In order to bucket and its access points. AWS recommends that you turn on Block all public access, but before applying any of these settings, ensure within, you can customize the individual settings below to suit your specific storage use cases. [Learn more](#)

Edit

Block all public access

 Off

Block public access to buckets and objects granted through *new* access control lists (ACLs)

 Off

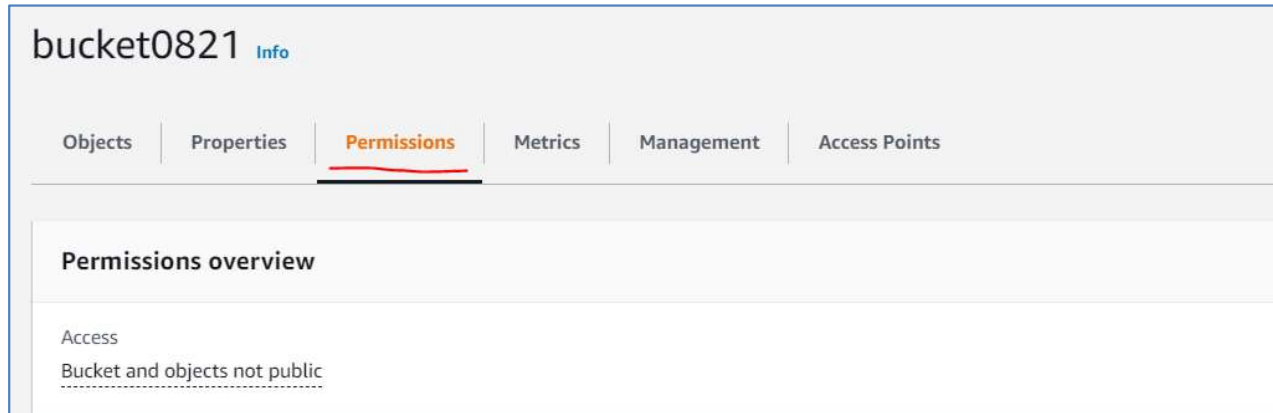
Add a bucket policy

To make the objects in your bucket publicly readable, you must write a bucket policy that grants everyone `s3:GetObject` permission.

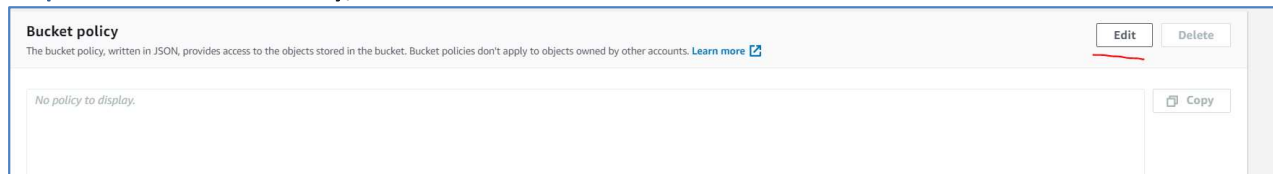
After you edit S3 Block Public Access settings, you can add a bucket policy to grant public read access to your bucket. When you grant public read access, anyone on the internet can access your bucket.

Step 1. Under **Buckets**, choose the name of your bucket.

Step 2. Choose **Permissions**.



Step 3. Under **Bucket Policy**, choose **Edit**.



Step 4. To grant public read access for your website, copy the following bucket policy, and paste it in the **Bucket policy editor**.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "PublicReadGetObject",
      "Effect": "Allow",
      "Principal": "*",
      "Action": [
        "s3:GetObject"
      ],
      "Resource": [
        "arn:aws:s3:::bucket0821/*"
      ]
    }
  ]
}
```


Edit bucket policy Info

Bucket policy

The bucket policy, written in JSON, provides access to the objects stored in the bucket. Bucket pol other accounts. [Learn more](#)

[Policy examples](#) [Policy generator](#)

Bucket ARN
arn:aws:s3:::bucket0821

Policy

```
1 {  
2   "Version": "2012-10-17",  
3   "Statement": [  
4     {  
5       "Sid": "PublicReadGetObject",  
6       "Effect": "Allow",  
7       "Principal": "*",  
8       "Action": [  
9         "s3:GetObject"  
10      ],  
11      "Resource": [  
12        "arn:aws:s3:::bucket0821/*"  
13      ]  
14    }  
15  ]  
16 }  
17
```

Step 5. Update the `Resource` to your bucket name.

In the preceding example bucket policy, `Bucket-Name` is a placeholder for the bucket name. To use this bucket policy with your own bucket, you must update this name to match your bucket name.

Step 6. Choose **Save changes**.

Step 7. Try accessing the website now. It should be accessible now, if you have executed all steps correctly.

← → ↻ ⚠ Not secure | bucket0821.s3-website-us-east-1.amazonaws.com

Welcome to my website

Now hosted on Amazon S3!

Step 8. Try giving some incorrect path and it will take you to error.html:

← → ↻ ⚠ Not secu | bucket0821.s3-website-us-east-1.amazonaws.com/doesnotexist

Requested page not found

Please check the page you have entered!!

You have successfully deployed a static website on S3 bucket!!