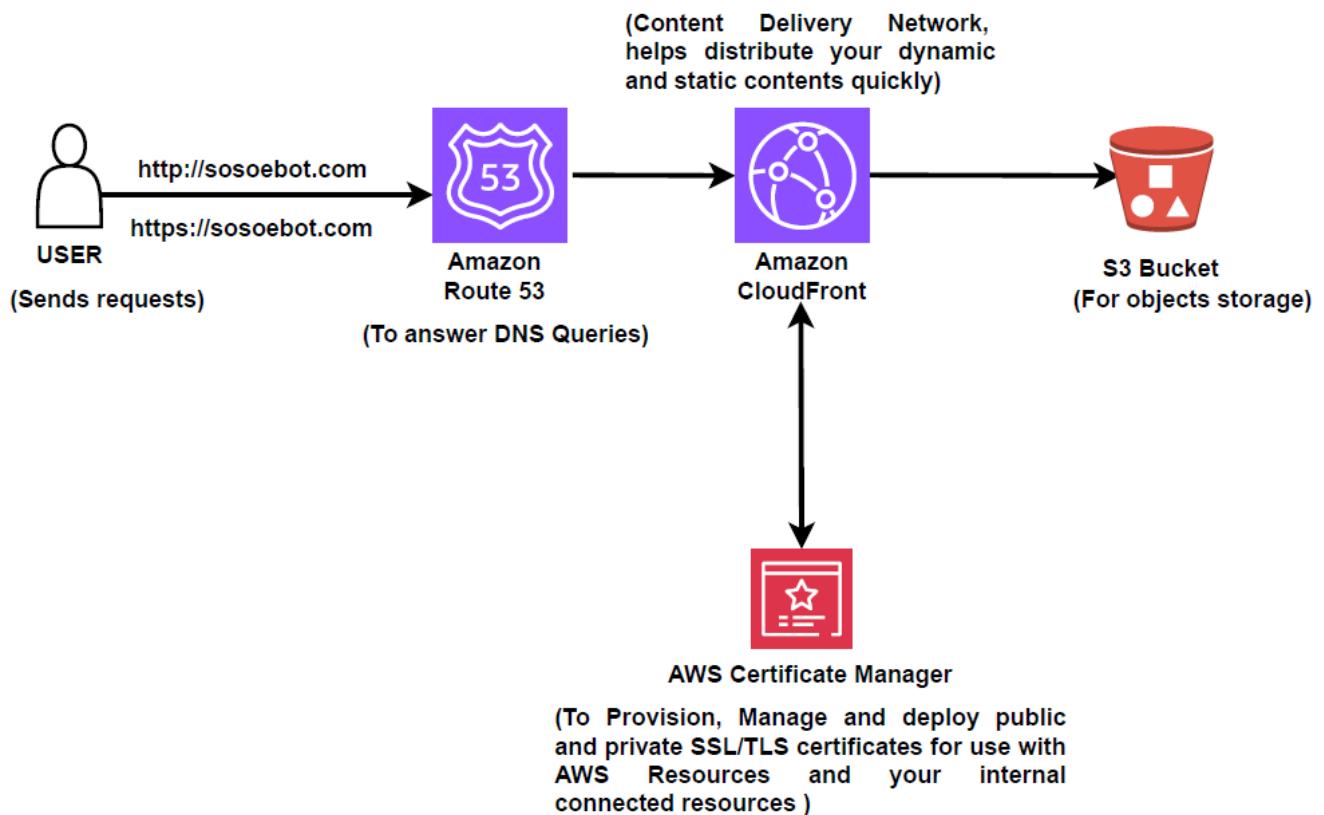


## Host a Static Website on AWS with a Custom Domain and HTTPS using Route 53, S3, ACM and CloudFront

In this tutorial we will walk through the process of setting up your own website from scratch with a custom domain and configuring it with an SSL certificate for an extra security ensuring that your visitors' requests are served over HTTPS. What this means functionally is that data is going to be encrypted before reaching the server.

Our toolkit for this project will include Route 53, CloudFront, AWS Certificate Manager (ACM) and an S3 bucket.

### ARCHITECTURE



The diagram represents the infrastructure we are going to create. When a user visits a website let us say sosoebot.net. The journey begins at Route 53, Route 53 is the internet phonebook. It translates domains into IP addresses making sure you land on the right website.

Next, the request hits CloudFront. CloudFront is a Content Delivery Network (CDN) that ensures lightning fast data delivery, at this point an SSL certificate is going to step in to ensure the request is encrypted via HTTPS protecting your data from potential threats.

HTTPS is crucial as it encrypts user data before it reaches the server, thereby blocking any hacking attempt.

Finally, CloudFront fetches the web page contents from an S3 bucket serving it back to the user allowing them to view your web page.

What is fascinating about CloudFront is its caching feature which stores contents in **EDGE** Locations making subsequent visits even faster and cost effective.

With CloudFront in place, when a user, say user 1 visits a web page or your website, contents requested are going to be fetched from an S3 bucket and send back to that user. These contents are also CACHED in an EDGE location so that if a second user, say user 2 request the same page, he is going to benefit from the cached data in the EDGE location. This helps in reducing LATENCY.

Throughout this tutorial, you will be guided on how to build the above architecture step by step for your own website hosting.

The entire process is broken down into four simple steps for better understanding:

- Configuring a custom domain using Amazon Route 53
- Creating an Amazon S3 bucket for your website's static content
- Enabling HTTPS with AWS Certificate Manager for enhanced security
- Setting up Amazon CloudFront as a Content Delivery Network (CDN)

### STEP 1: Configuring a custom domain using Amazon Route 53

In this step we are going to buy a domain name and configure the domain using Amazon Route 53. We start by searching for Route 53 on the AWS Management Console.

The screenshot shows the AWS Management Console search interface. The search bar at the top contains the text "Route 53". Below the search bar, there is a sidebar with various navigation links and a main search results area. The search results for 'Route' are displayed under the heading "Search results for 'Route'" with the sub-instruction "Try searching with longer queries for more relevant results". The results are categorized into "Services" and "Features". Under "Services", the "Route 53" service is listed with the description "Scalable DNS and Domain Name Registration". Under "Features", the "Transit Gateway route tables" feature is listed with the note "VPC feature".

Click on “Route 53” under services

The screenshot shows the AWS Route 53 Dashboard. On the left, a navigation sidebar lists categories such as Dashboard, Hosted zones, Health checks, IP-based routing, Traffic flow, Domains, Resolver, and more. The main content area is titled "Route 53 Dashboard" and includes sections for "DNS management", "Traffic management", "Availability monitoring", and "Domain registration". Each section contains descriptive text and a "Create" button. At the bottom, there's a "Register domain" section with a search bar and a "Check" button.

Click on “Registered Domains” on the Left-hand side

The screenshot shows the "Registered domains" page within the AWS Route 53 console. The left sidebar highlights "Registered domains". The main area displays a table with one row for the domain "sosoebot.net", which has an expiration date of November 23, 2024, at 13:01 (UTC-05:00), auto-renew is set to "On", and transfer lock is "Off". There are buttons for "Download billing report", "Transfer in", and "Register domains". A blue banner at the top informs users about the new console experience.

You can see that I already have a domain name I have bought earlier. I am going to use this domain name in this tutorial.

When you create a domain, AWS creates a Hosted Zone for you. Click on “Hosted Zones” on the Left-hand side. What is a Hosted Zone?

A hosted zone represents a set of records that belongs to a specific domain

The screenshot shows the AWS Route 53 service interface. On the left, a sidebar menu lists various options under the 'Route 53' heading, including 'Hosted zones' which is currently selected. The main content area displays a table titled 'Hosted zones (1)'. The table has columns for 'Hosted zone name', 'Type', 'Create...', 'Record ...', 'Descrip...', and 'Hosted...'. A single row is shown for 'sosoebot.net', which is listed as 'Public' and associated with 'Route 53'. There are buttons for 'View details', 'Edit', 'Delete', and 'Create hosted zone'.

Click on the hosted zone name to open it

This screenshot shows the 'Hosted zone details' page for the 'sosoebot.net' zone. At the top, there are buttons for 'Delete zone', 'Test record', and 'Configure query logging'. Below this, a section titled 'Records (2)' is visible, showing two records: one NS record and one SOA record. The NS record points to several external DNS servers, and the SOA record provides information about the zone's authority. The sidebar on the left remains the same as the previous screenshot.

You can see that our hosted zone has two records with types NS and SOA in it.

Make sure that the values you have in the “**Hosted Zones**” shown below

Route 53 > Hosted zones > sosoebot.net

**sosoebot.net** Info

Delete zone Test record Configure query logging

Hosted zone details

Records (2) DNSSEC signing Hosted zone tags (0)

Values

Records (2) Info

Automatic mode is the current search behavior optimized for best filter results. To change modes go to settings.

Delete record Import zone file Create record

Filter records by property or value Type Routing policy Alias

Record ...	Type	Routing...	Differ...	Alias	Value/Route traffic to
<input type="checkbox"/> sosoebot....	NS	Simple	-	No	ns-1669.awsdns-16.co.uk. ns-1066.awsdns-05.org. ns-845.awsdns-41.net. ns-313.awsdns-39.com.
<input type="checkbox"/> sosoebot....	SOA	Simple	-	No	ns-1669.awsdns-16.co.uk. a...

Matches the ones that you have under the “**Registered Domains**” shown below

Route 53 > Registered domains > sosoebot.net

**sosoebot.net** Info

Transfer out Delete domain

Details Info

Registration date November 23, 2023, 13:01 (UTC-05:00)	Auto-renew On	Domain status code addPeriod ok	Name servers ns-782.awsdns-33.net ns-426.awsdns-53.com ns-1946.awsdns-51.co.uk ns-1291.awsdns-33.org
Expiration date November 23, 2024, 13:01 (UTC-05:00)	Transfer lock Off	DNSSEC status Not configured	

Contact information DNSSEC keys Tags

Modify these Values

Contact information Info

Registrant contact Sidney Smith Otegwo Osojoh Ebot sidneysmithebot@gmail.com +1 2204653579	Admin contact Sidney Smith Otegwo Osojoh Ebot sidneysmithebot@gmail.com +1 2204653579	Tech contact Sidney Smith Otegwo Osojoh Ebot sidneysmithebot@gmail.com +1 2204653579
---	--	---

You can see that the values are different, so we modify the values in the “**Registered Domains**” by copying those in the “**Hosted Zones**” to the “**Registered Domains**” as shown in the steps below

Click on the “**Registered Domain**” name to open it

**Route 53**

Route 53 > Registered domains > sosoebot.net

**sosoebot.net Info**

**Details** **Info**

Registration date November 23, 2023, 13:01 (UTC-05:00)	Auto-renew On	Domain status code addPeriod ok	Name servers ns-782.awsdns-33.net ns-426.awsdns-53.com ns-1946.awsdns-51.co.uk ns-1291.awsdns-33.org
Expiration date November 23, 2024, 13:01 (UTC-05:00)	Transfer lock Off	DNSSEC status Not configured	

**Contact information** **Info**

Registrant contact <b>Sidney Smith Oteggewo Osojoh Ebot</b> sidneysmithebot@gmail.com +1 2204653579	<b>Verified</b>	Admin contact <b>Sidney Smith Oteggewo Osojoh Ebot</b> sidneysmithebot@gmail.com +1 2204653579	Tech contact <b>Sidney Smith Oteggewo Osojoh Ebot</b> sidneysmithebot@gmail.com +1 2204653579
--	-----------------	---	--

**Actions** ▾

Transfer out ▾ Delete domain

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Click on “Action” at the top right-hand side

**Route 53**

Route 53 > Registered domains > sosoebot.net

**sosoebot.net Info**

**Details** **Info**

Registration date November 23, 2023, 13:01 (UTC-05:00)	Auto-renew On	Domain status code addPeriod ok	<b>Actions</b> ▾
Expiration date November 23, 2024, 13:01 (UTC-05:00)	Transfer lock Off	DNSSEC status Not configured	<b>Edit name servers</b>

**Contact information** **Info**

Registrant contact <b>Sidney Smith Oteggewo Osojoh Ebot</b> sidneysmithebot@gmail.com +1 2204653579	<b>Verified</b>	Admin contact <b>Sidney Smith Oteggewo Osojoh Ebot</b> sidneysmithebot@gmail.com +1 2204653579	Tech contact <b>Sidney Smith Oteggewo Osojoh Ebot</b> sidneysmithebot@gmail.com +1 2204653579
--	-----------------	---	--

**Actions** ▾

Transfer out ▾ Delete domain

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Select “Edit Name Servers”

**Edit name servers**

Name server ns-782.awsdns-33.net	<b>Remove</b>
ns-426.awsdns-53.com	<b>Remove</b>
ns-1946.awsdns-51.co.uk	<b>Remove</b>
ns-1291.awsdns-33.org	<b>Remove</b>

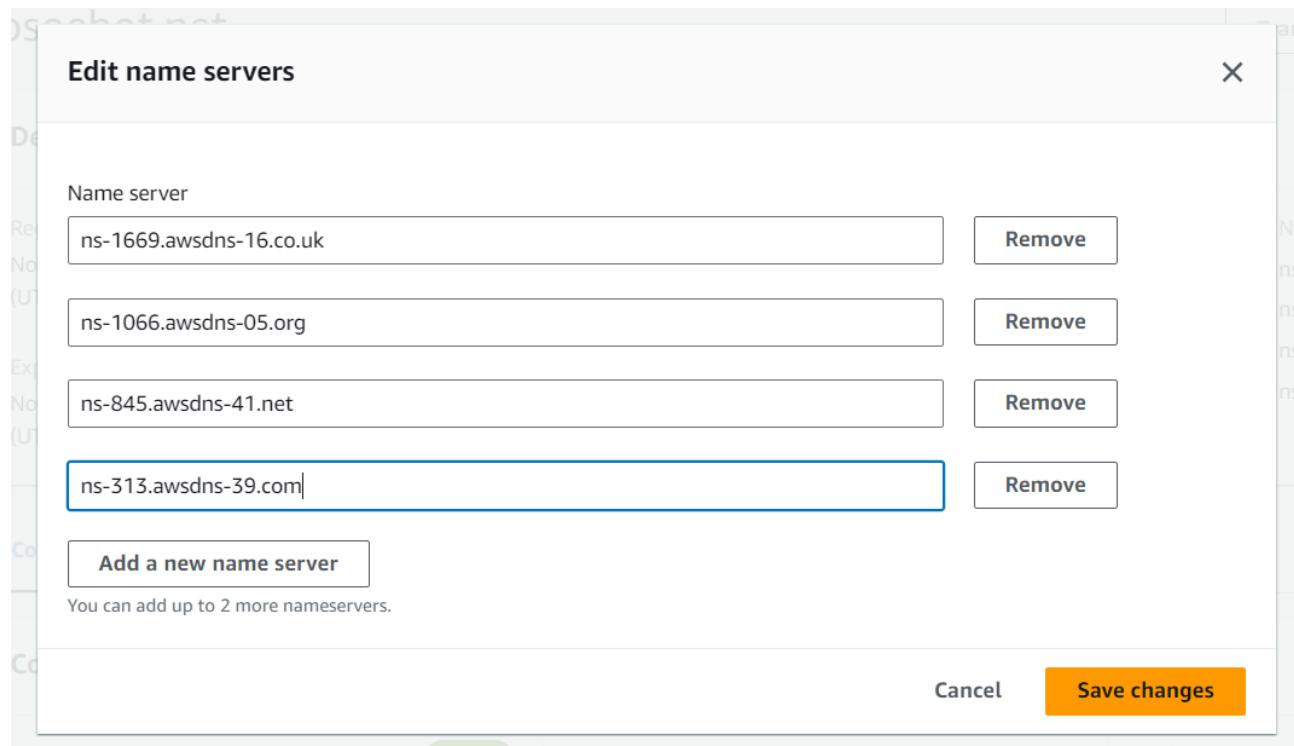
**Add a new name server**

You can add up to 2 more nameservers.

**Cancel** **Save changes**

Now, modify the “**Name Servers**” to the values in the “**Hosted Zones**” leaving out the points (.) at the end of the names.

ns-1669.awsdns-16.co.uk.  
ns-1066.awsdns-05.org.  
ns-845.awsdns-41.net.  
ns-313.awsdns-39.com.



Click on “**Save Changes**”

Click on “**Check Status**”

The screenshot shows the AWS Route 53 Requests page. The left sidebar lists various Route 53 management options. The main area displays a table of requests:

Operation ID	Domain name	Message	Status	Type	Submitted
c71ead20-2235-4fe2-9ee3-86e87c33a4fe	sosoebot.net	-	Successful	Update name servers	December 12, 2023, 10:00 (UTC-05:00)
1883a574-f3f5-4e15-8bf3-5289fbeb7199	sosoebot.net	-	Successful	Update name servers	December 10, 2023, 10:22 (UTC-05:00)
21ef7c69-84ee-4ae8-b4a8-fa57f326257d	sosoebot.net	-	Successful	Update name servers	November 23, 2023, 15:43 (UTC-05:00)
2e91fc26-fd25-4062-8f26-3f77197c1fa4	sosoebot.net	-	Successful	Register domain	November 23, 2023, 12:59 (UTC-05:00)

We are now done with Step 1, which is creating a domain in Amazon Route 53.

## STEP 2: Creating an Amazon S3 bucket for your website's static content

In this step we are going to be creating an S3 bucket and uploading files. Search for “S3” in the AWS Management Console

The screenshot shows the AWS search results for 'S3'. The left sidebar lists various AWS services. The main search results page shows the following:

- Services (8)**
- S3** Scalable Storage in the Cloud
- S3 Glacier** Archive Storage in the Cloud
- AWS Snow Family** Large Scale Data Transport
- Storage Gateway** Hybrid Storage Integration
- Features (30)**
- Imports from S3**
- DynamoDB feature**

Click on “S3” under services

The screenshot shows the Amazon S3 homepage. At the top right, there's a 'Create a bucket' button. Below it, a section titled 'Pricing' states: 'With S3, there are no minimum fees. You only pay for what you use. Prices are based on the location of your S3 bucket.' It also includes links to 'Estimate your monthly bill using the AWS Simple Monthly Calculator' and 'View pricing details'.

Click on “Create Bucket”

The screenshot shows the 'Create bucket' configuration page. Under 'General configuration', the 'AWS Region' is set to 'US East (N. Virginia) us-east-1'. The 'Bucket type' is set to 'General purpose'. A 'Bucket name' field contains 'myawsbucket'. Below the form, a note says 'Bucket name must be unique within the global namespace and follow the bucket naming rules. See rules for bucket naming'.

Your bucket name has to be universally unique. Let me try to give it the name “**soso4live**”

## Create bucket Info

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

### General configuration

#### AWS Region

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

#### Bucket type Info

##### General purpose

Recommended for most use cases and access patterns. General purpose buckets are the original S3 bucket type. They allow a mix of storage classes that redundantly store objects across multiple Availability Zones.

##### Directory - New

Recommended for low-latency use cases. These buckets use only the S3 Express One Zone storage class, which provides faster processing of data within a single Availability Zone.

#### Bucket name Info

soso4live

Bucket name must be unique within the global namespace and follow the bucket naming rules. [See rules for bucket naming](#)

Scroll down

### Default encryption Info

Server-side encryption is automatically applied to new objects stored in this bucket.

#### Encryption type Info

##### Server-side encryption with Amazon S3 managed keys (SSE-S3)

##### Server-side encryption with AWS Key Management Service keys (SSE-KMS)

##### Dual-layer server-side encryption with AWS Key Management Service keys (DSSE-KMS)

Secure your objects with two separate layers of encryption. For details on pricing, see [DSSE-KMS pricing](#) on the [Storage](#) tab of the [Amazon S3 pricing page](#).

#### Bucket Key

Using an S3 Bucket Key for SSE-KMS reduces encryption costs by lowering calls to AWS KMS. S3 Bucket Keys aren't supported for DSSE-KMS. [Learn more](#)

##### Disable

##### Enable

### ► Advanced settings

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

Cancel

Create bucket

Click on “Create Bucket”

The screenshot shows the AWS S3 Buckets page. At the top, a green banner indicates "Successfully created bucket 'soso4live'". Below the banner, the "Account snapshot" section is visible, followed by tabs for "General purpose buckets" and "Directory buckets", with "General purpose buckets" selected. A table lists one bucket: "soso4live" (Name), "US East (N. Virginia) us-east-1" (AWS Region), "Bucket and objects not public" (Access), and "December 12, 2023, 10:18:34 (UTC-05:00)" (Creation date). Action buttons for "Copy ARN", "Empty", "Delete", and "Create bucket" are available.

The bucket has been created successfully. Now, click on “View Status”

This screenshot is identical to the one above, showing the AWS S3 Buckets page with the newly created "soso4live" bucket listed in the "General purpose buckets" table. The bucket details are the same: Name: soso4live, AWS Region: US East (N. Virginia) us-east-1, Access: Bucket and objects not public, Creation date: December 12, 2023, 10:18:34 (UTC-05:00).

You can now see the bucket we just created. This is all you have to do to create an S3 bucket.

Now, we have to configure the bucket so that we can host our website on it.

Click on the bucket name to open it

The screenshot shows the AWS S3 Bucket "soso4live" configuration page. The top navigation bar includes "Amazon S3 > Buckets > soso4live". The main content area is titled "Objects (0) Info". It displays a message: "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](#)". Below this are buttons for "Upload", "Actions", and other management options. A table at the bottom shows "No objects" with the message "You don't have any objects in this bucket." and a "Upload" button.

## PART 1: Enabling Versioning

The first configuration we are going to do is to Enabling versioning. Enabling versioning for an S3 bucket helps you to maintain historical versions of your files. This is crucial because it allows you to recover previous versions of your files in case of accidental deletion or changes providing data protection and also ensuring content integrity.

To do this, click on “Properties”

Amazon S3 > Buckets > soso4live

soso4live [Info](#)

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

**Bucket overview**

AWS Region US East (N. Virginia) us-east-1	Amazon Resource Name (ARN) arn:aws:s3:::soso4live	Creation date December 12, 2023, 10:18:34 (UTC-05:00)
---	--	--

**Bucket Versioning**

Versioning is a means of keeping multiple variants of an object in the same bucket. You can use versioning to preserve, retrieve, and restore every version of every object stored in your Amazon S3 bucket. With versioning, you can easily recover from both unintended user actions and application failures. [Learn more](#)

Bucket Versioning  
Disabled

Multi-factor authentication (MFA) delete  
An additional layer of security that requires multi-factor authentication for changing Bucket Versioning settings and permanently deleting object versions. To modify MFA delete settings, use the AWS CLI, AWS SDK, or the Amazon S3 REST API. [Learn more](#)

Disabled

**Edit**

You can see that bucket versioning is “Disable”. Click on “Edit”

Amazon S3 > Buckets > soso4live > Edit Bucket Versioning

## Edit Bucket Versioning [Info](#)

**Bucket Versioning**

Versioning is a means of keeping multiple variants of an object in the same bucket. You can use versioning to preserve, retrieve, and restore every version of every object stored in your Amazon S3 bucket. With versioning, you can easily recover from both unintended user actions and application failures. [Learn more](#)

Bucket Versioning

**Suspend**  
This suspends the creation of object versions for all operations but preserves any existing object versions.

**Enable**

**Multi-factor authentication (MFA) delete**  
An additional layer of security that requires multi-factor authentication for changing Bucket Versioning settings and permanently deleting object versions. To modify MFA delete settings, use the AWS CLI, AWS SDK, or the Amazon S3 REST API. [Learn more](#)

Disabled

**Cancel** **Save changes**

Check “Enable” and click on “Save Changes”

The screenshot shows the AWS S3 Bucket Properties page for a bucket named "soso4live". A green success message at the top states "Successfully edited Bucket Versioning". The "Properties" tab is selected. In the "Bucket Versioning" section, the status is listed as "Enabled". An "Edit" button is visible in the top right corner of this section.

This is all you have to do to Enable Versioning on an S3 bucket

## PART 2: Enable Static Website Hosting

The next thing we are going to do on the S3 bucket is to enable Static website hosting. Enabling static website hosting on an S3 bucket allows you to serve web content directly from the bucket. It turns the bucket into a web server, making it possible to host static HTML, JavaScript, CSS files and more.

This simplifies website deployment and management.

Still on “Properties” on the S3 bucket. Scroll down to “Static Website Hosting”

The screenshot shows the "Static website hosting" section of the AWS S3 Bucket Properties page. The status is listed as "Disabled". An "Edit" button is visible in the top right corner of this section.

You can see that it is “Disable”

Click on “Edit”

## Edit static website hosting Info

### Static website hosting

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

Static website hosting

- Disable  
 Enable

[Cancel](#)

[Save changes](#)

Check “Enable”

### 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](#)

**i** For your customers to access content at the website endpoint, you must make all your content publicly readable. To do so, you can edit the S3 Block Public Access settings for the bucket. For more information, see [Using Amazon S3 Block Public Access](#)

Index document

Specify the home or default page of the website.

index.html

Error document - *optional*

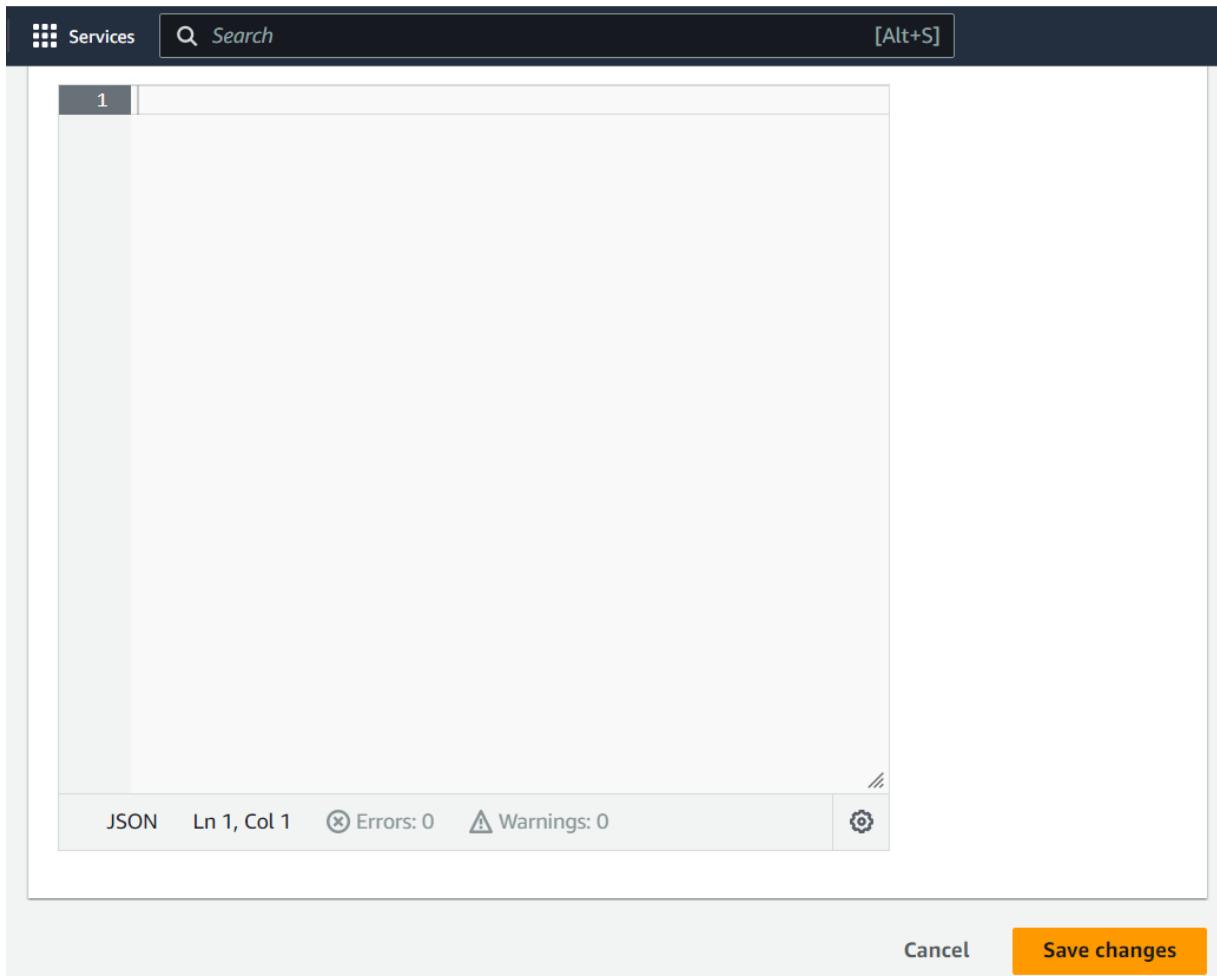
This is returned when an error occurs.

index.html

Redirection rules – *optional*

--

Fill as above and scroll down



Click on “Save Changes”

A screenshot of the AWS S3 bucket properties page for 'soso4live'. The top navigation bar includes 'Services', a search bar, and a keyboard shortcut [Alt+S]. A green success message box says 'Successfully edited static website hosting.' The main content area shows the bucket overview with details like AWS Region (US East (N. Virginia)), ARN (arn:aws:s3:::soso4live), and Creation date (December 12, 2023). The 'Properties' tab is selected. In the 'Bucket Versioning' section, it shows 'Enabled' and 'Multi-factor authentication (MFA) delete' with a note about MFA delete settings. At the bottom, there are links for 'CloudShell', 'Feedback', and copyright information: '© 2023, Amazon Web Services, Inc. or its affiliates.' and 'Privacy Terms Cookie preferences'.

And if you scroll down

Successfully edited static website hosting.

Disabled

**Requester pays**

When enabled, the requester pays for requests and data transfer costs, and anonymous access to this bucket is disabled. [Learn more](#)

Requester pays

Disabled

**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://soso4live.s3-website-us-east-1.amazonaws.com>

CloudShell Feedback

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Static Website hosting has been enabled

## PART 3: Making the Bucket Publicly Accessible

Making the bucket Publicly accessible means that anyone on the internet can access the files stored in the bucket. This is essential for selling web contents to users worldwide. However, making an S3 bucket public should be done cautiously as it exposes your data to the public internet.

Click on the “Permission” tab on the opened S3 bucket

Amazon S3 > Buckets > soso4live

soso4live [Info](#)

Objects Properties **Permissions** Metrics Management Access Points

**Permissions overview**

Access

Bucket and objects not public

**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**

On

► Individual Block Public Access settings for this bucket

Edit

You can see that “**Block Public Access (Bucket Setting)**” is set to ON, which means it is Blocking Public Access. We need to turn this OFF so that it should allow Public Access.

Click on “Edit”

Amazon S3

Buckets

Access Grants [New](#)

Access Points

Object Lambda Access Points

Multi-Region Access Points

Batch Operations

IAM Access Analyzer for S3

Block Public Access settings for this account

▼ Storage Lens

Dashboards

Storage Lens groups

AWS Organizations settings

Feature spotlight

**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.

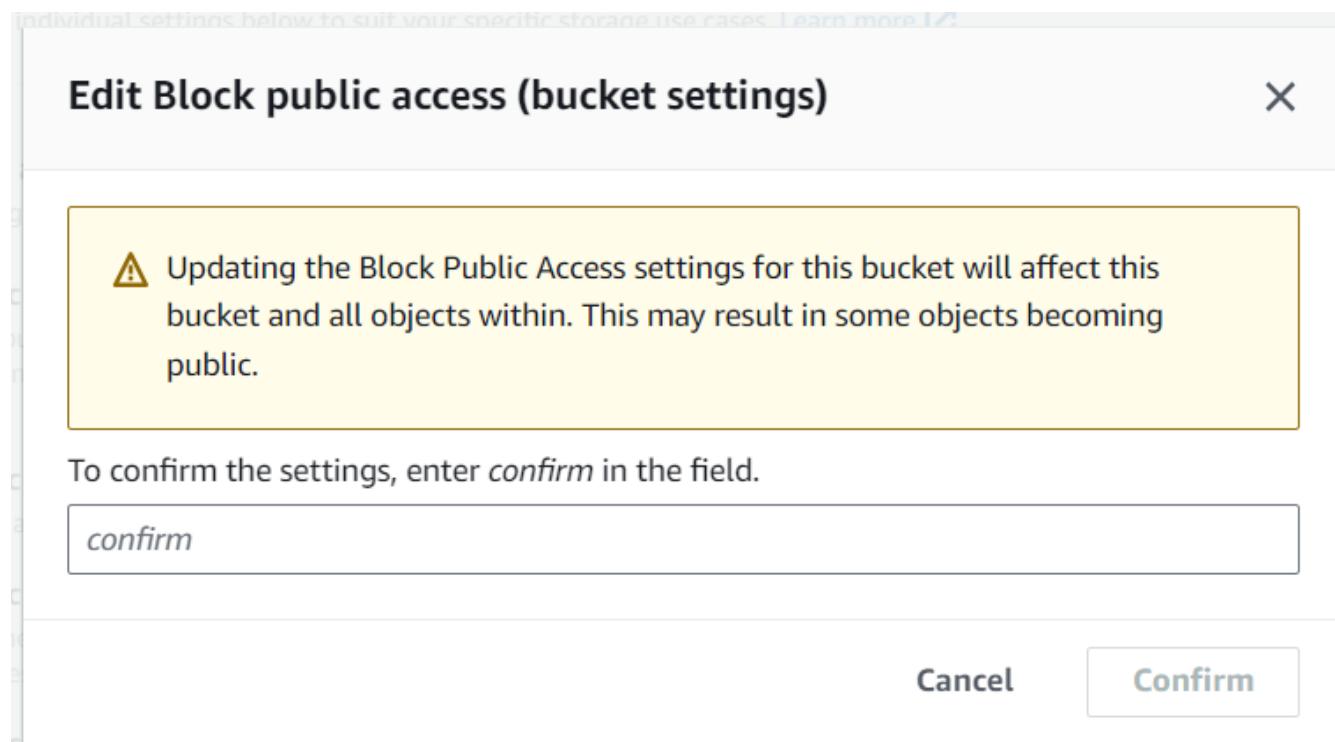
**Block public access to buckets and objects granted through any access control lists (ACLs)**  
S3 will ignore all ACLs that grant public access to buckets and objects.

**Block public access to buckets and objects granted through new public bucket or access point policies**  
S3 will block new bucket and access point policies that grant public access to buckets and objects. This setting doesn't change any existing policies that allow public access to S3 resources.

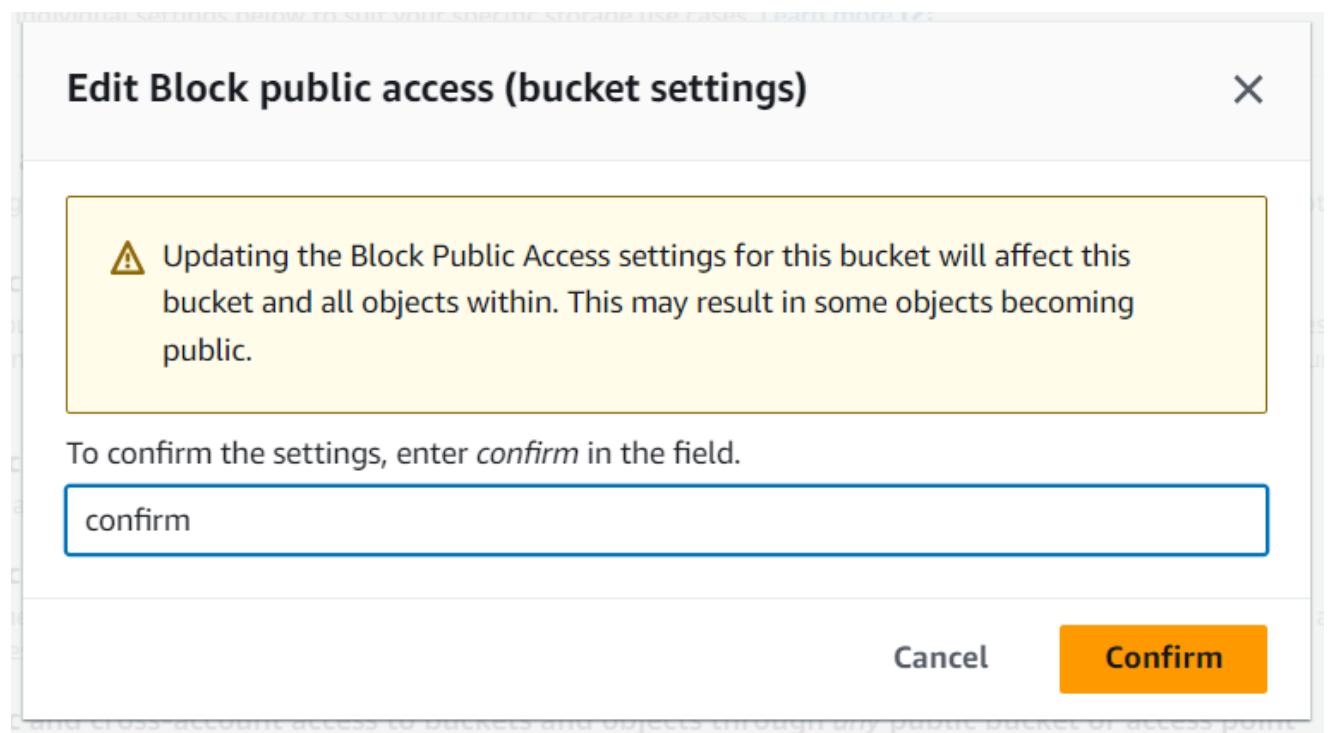
**Block public and cross-account access to buckets and objects through any public bucket or access point policies**  
S3 will ignore public and cross-account access for buckets or access points with policies that grant public access to buckets and objects.

Cancel **Save changes**

Uncheck “**Block all Public Access**” and click on “**Save Changes**”



Type “**Confirm**”



Click on “**Confirm**”

The screenshot shows the AWS S3 Bucket Permissions Overview page for the bucket 'soso4live'. At the top, a green banner indicates: 'Successfully edited Block Public Access settings for this bucket.' Below the banner, the navigation path is 'Amazon S3 > Buckets > soso4live'. The main tabs are 'Objects', 'Properties', 'Permissions' (which is selected), 'Metrics', 'Management', and 'Access Points'. Under 'Permissions overview', there is a section for 'Access' with the sub-section 'Bucket and objects not public'. A callout box highlights the status 'This is now OFF'. In the 'Block public access (bucket settings)' section, it says 'Block all public access' is 'Off'. An orange arrow points from the 'This is now OFF' box to the 'Off' status. At the bottom of the page, there is a link 'Individual Block Public Access settings for this bucket'.

You can see that “Block All Public Access” is now OFF. We have successfully made the bucket publicly accessible.

#### PART 4: Add Bucket Policy for Public Access

The last thing to do with the S3 bucket is to add the bucket policy for public access. It is important to know that adding a policy to allow public access to S3 bucket object is a security configuration that determines who can access the objects within the S3 bucket.

By crafting a specific policy, you can control which users or groups are granted Public access ensuring that your content is accessible to the intended audience while maintaining proper security.

To add policy for public access, scroll down to “Bucket Policy”

The screenshot shows the AWS S3 Bucket policy page for the bucket 'soso4live'. The left sidebar includes 'Buckets', 'Access Grants', 'Access Points', 'Object Lambda Access Points', 'Multi-Region Access Points', 'Batch Operations', 'IAM Access Analyzer for S3', 'Block Public Access settings for this account', 'Storage Lens' (with sub-options 'Dashboards', 'Storage Lens groups', 'AWS Organizations settings'), and 'Feature spotlight'. The main content area is titled 'Bucket policy' and contains the message: 'The bucket policy, written in JSON, provides access to the objects stored in the bucket. Bucket policies don't apply to objects owned by other accounts.' Below this is a large text area with the message 'No policy to display.' and a 'Copy' button. At the top right of the main content area are 'Edit' and 'Delete' buttons.

Click on “Edit”

The screenshot shows the AWS S3 Bucket Policy editor. The left sidebar has a 'Buckets' section with 'Access Grants New', 'Access Points', 'Object Lambda Access Points', 'Multi-Region Access Points', 'Batch Operations', 'IAM Access Analyzer for S3', and 'Block Public Access settings for this account'. Below that is a 'Storage Lens' section with 'Dashboards', 'Storage Lens groups', and 'AWS Organizations settings'. At the bottom of the sidebar are 'Feature spotlight' and 'CloudShell Feedback' buttons. The main area is titled 'Edit bucket policy' with a 'Bucket policy' sub-section. It shows a JSON policy document:

```
[{"Version": "2012-10-17", "Statement": [{"Effect": "Allow", "Principal": "arn:aws:s3:::soso4live", "Action": "s3:PutObject", "Resource": "arn:aws:s3:::soso4live/*"}]}
```

There are 'Policy examples' and 'Policy generator' buttons at the top right. Below the policy is a 'Bucket ARN' field with 'arn:aws:s3:::soso4live'. A 'Policy' section shows a single statement labeled '1'. To the right is an 'Edit statement' button and a 'Select a statement' dropdown with the message 'Select an existing statement in the policy or add a new statement.' A '+ Add new statement' button is also present.

We can get the policy by searching on google

Search for “Setting Permissions for website access on S3”

The screenshot shows a Google search results page for the query "Setting Permissions for website access on S3". The search bar contains the query. The results page has a decorative header with a map of the world. The first result is a sponsored link from Amazon Web Services:

**Amazon S3 Website Hosting - AWS Simple Cloud Storage**  
Experience the Wide Range of Secure & Scalable AWS **Website** Hosting Options. Sign Up Today! We Offer Cloud **Web** Hosting Solutions for Businesses, Non-Profits & Governmental Companies. Easily Manage Clusters.  
Storage Classes · Pricing · Why Choose AWS? · Current AWS Customers

The second result is a link to AWS Documentation:

**Setting permissions for website access - AWS Documentation**  
Configure your Amazon S3 bucket as a website by granting access permissions to the website through a bucket policy.

Below the results, there's a "People also ask" section with two collapsed questions: "How do I restrict access to my S3 website?" and "How do I set permissions on S3?". The bottom of the screen shows a Windows taskbar with various icons and the date/time: 14:41 12/12/2023.

Click on “Setting permissions for website access - AWS Documentation”

Here is the link:

<https://docs.aws.amazon.com/AmazonS3/latest/userguide/WebsiteAccessPermissionsReqd.html>

AWS Search in this guide Contact Us English

AWS Documentation Amazon Simple Storage Service (S3) User Guide

- ▶ Using analytics and insights
- ▼ Hosting a static website
  - Website endpoints
  - Enabling website hosting
  - Configuring an index document
  - Configuring a custom error document
  - Setting permissions for website access**
  - Logging web traffic
  - Configuring a redirect
- ▶ Developing with Amazon S3
- ▶ Optimizing Amazon S3 performance
- ▶ What is S3 on Outposts?
- ▶ Code examples
- ▶ Troubleshooting
- Document history
- AWS Glossary

## Setting permissions for website access

PDF RSS

When you configure a bucket as a static website, if you want your website to be public, you can grant public read access. To make your bucket publicly readable, you must disable block public access settings for the bucket and write a bucket policy that grants public read access. If your bucket contains objects that are not owned by the bucket owner, you might also need to add an object access control list (ACL) that grants everyone read access.

If you don't want to disable block public access settings for your bucket but you still want your website to be public, you can create a Amazon CloudFront distribution to serve your static website. For more information, see [Speeding up your website with Amazon CloudFront](#) or [Use an Amazon CloudFront distribution to serve a static website](#) in the [Amazon Route 53 Developer Guide](#).

**Note**

On the website endpoint, if a user requests an object that doesn't exist, Amazon S3 returns HTTP response code 404 (Not Found). If the object exists but you haven't granted read permission on it, the website endpoint returns HTTP response code 403 (Access Denied). The user can use the response code to infer whether a specific object exists. If you don't want this behavior, you should not enable website support for your bucket.

Share icon

Scroll down to “Add a Bucket Policy”

AWS Search in this guide Contact Us English

AWS Documentation Amazon Simple Storage Service (S3) User Guide

- ▶ Using analytics and insights
- ▼ Hosting a static website
  - Website endpoints
  - Enabling website hosting
  - Configuring an index document
  - Configuring a custom error document
  - Setting permissions for website access**
  - Logging web traffic
  - Configuring a redirect
- ▶ Developing with Amazon S3
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- ▶ What is S3 on Outposts?
- ▶ Code examples
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- Document history
- AWS Glossary

2. Choose **Permissions**.
3. Under **Bucket Policy**, choose **Edit**.
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:::Bucket-Name/*"
      ]
    }
  ]
}
```

5. Update the **Resource** to your bucket name.

Share icon

Copy this code

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "PublicReadGetObject",
      "Effect": "Allow",
```

```

    "Principal": "*",
    "Action": [
        "s3:GetObject"
    ],
    "Resource": [
        "arn:aws:s3:::Bucket-Name/*"
    ]
}
]
}

```

This policy means we have the version in the first line, which specifies the version of the policy language that is being used. The Statement is an array of policy statements that defines permission.

The SID line is a unique identifier for the statement, it helps in referencing the statements later. Then we have the effects, the effects is set to allow. This specifies whether the statement allows or denies the specified action. In this case, allow indicates that the action is permitted.

The next line is Principal, which defines the entity to which the permission applies. And the asterisk sign that we have here is means the policy applies to all users and entities.

The next line is Action, this specifies the action that is being allowed. Here it is set to s3:GetObject, which grants permission to retrieve objects from the S3 bucket.

The last line is Resource, which defines the resource name of the resource to which the permission applies. In this policy, it applied to all objects within the “**soso4live**” bucket.

Paste in the AWS Management Console

**Bucket policy**

The bucket policy, written in JSON, provides access to the objects stored in the bucket. Bucket policies don't apply to objects owned by other accounts. [Learn more](#)

**Bucket ARN**

arn:aws:s3:::soso4live

**Policy**

```

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

```

**Edit statement**

Select a statement

Select an existing statement in the policy or add a new statement.

+ Add new statement

**Policy examples** **Policy generator**

Edit the “Bucket-Name: with your bucket name “**soso4live**”

The screenshot shows the AWS IAM Bucket Policy Editor. On the left, a sidebar lists various AWS services like S3, Lambda, and CloudWatch. The main area displays a JSON policy document with line numbers 9 through 16. The policy grants a specific ARN access to the bucket. Below the JSON is a button to "Add new statement". At the bottom, there are tabs for "Security", "Errors", "Warnings", and "Suggestions", along with a "Preview external access" button. A large orange "Save changes" button is located at the bottom right.

Click on “Save Changes”

The screenshot shows the AWS S3 Bucket Permissions page for the "soso4live" bucket. A green header bar indicates "Successfully edited bucket policy". The main content area shows the "Permissions" tab selected. It includes sections for "Permissions overview" (showing "Bucket and objects not public") and "Block public access (bucket settings)". The "Block all public access" setting is currently off. At the bottom, there are links for "CloudShell", "Feedback", and copyright information.

The bucket policy has been edited

These configurations collectively enable you to efficiently host and deliver static website contents using an S3 bucket while also providing the necessary control for data versioning, security and access management.

## PART 5: Upload our files to the S3 bucket

Click on the bucket to open it

The screenshot shows the Amazon S3 console interface. On the left, there's a sidebar with options like 'Buckets', 'Access Grants', 'Access Points', etc. The main area shows the 'soso4live' bucket details. At the top, there are tabs for 'Objects', 'Properties', 'Permissions', 'Metrics', 'Management', and 'Access Points'. Below that, there's a section for 'Objects (0)' with a message: 'No objects. You don't have any objects in this bucket.' There are buttons for 'Upload' and 'Create folder'. At the bottom, there's a search bar and some navigation links.

Click on “Upload”

The screenshot shows the 'Upload' page for the 'soso4live' bucket. The URL in the address bar is 'Amazon S3 > Buckets > soso4live > Upload'. The main area has a large dashed box for dragging and dropping files. Below it, there's a table for 'Files and folders (0)' with columns for Name, Folder, Type, and Size. A message says 'No files or folders' and 'You have not chosen any files or folders to upload.' At the bottom, there's a 'Destination' section.

Click on “Add Files” or “**Add folders**” to add the files and folders of the website contents

[Amazon S3](#) > [Buckets](#) > [soso4live](#) > Upload

## Upload [Info](#)

Add the files and folders you want to upload to S3. To upload a file larger than 160GB, use the AWS CLI, AWS SDK or Amazon S3 REST API. [Learn more](#) 

Drag and drop files and folders you want to upload here, or choose **Add files** or **Add folder**.

### Files and folders (45 Total, 788.1 KB)

[Remove](#)

[Add files](#)

[Add folder](#)

All files and folders in this table will be uploaded.

 [Find by name](#)

< 1 2 3 4 5 >

<input type="checkbox"/>	Name	Folder	Type	Size
<input type="checkbox"/>	bg-mobile.png	mobile/	image/png	1010.0 B
<input type="checkbox"/>	mobile-close.png	mobile/	image/png	1.8 KB
<input type="checkbox"/>	mobile-collapse.png	mobile/	image/png	1.4 KB
<input type="checkbox"/>	mobile-expand.png	mobile/	image/png	1.3 KB
<input type="checkbox"/>	mobile-menu.png	mobile/	image/png	1.3 KB
<input type="checkbox"/>	function.js	js/	text/javascript	131.0 B

Scroll down

**Files and folders (45 Total, 788.1 KB)**

All files and folders in this table will be uploaded.

<input type="checkbox"/>	Name	Folder	Type	Size
<input type="checkbox"/>	bg-separator.png	images/	image/png	1.0 KB
<input type="checkbox"/>	group-yoga.jpg	images/	image/jpeg	12.1 KB

**Destination** [Info](#)

Destination  
<s3://soso4live>

▶ **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](#)

Click on “Upload”

Uploading

Total remaining: 42 files: 784.0 KB(99.48%)  
Estimated time remaining: 9 minutes  
Transfer rate: 1.5 KB/s

[Cancel](#)

**Upload: status**

The information below will no longer be available after you navigate away from this page.

**Summary**

Destination	Succeeded	Failed
<a href="s3://soso4live">s3://soso4live</a>	3 files, 4.1 KB (0.52%)	0 files, 0 B (0%)

[Files and folders](#) [Configuration](#)

**Files and folders (45 Total, 788.1 KB)**

[CloudShell](#) [Feedback](#) © 2023, Amazon Web Services, Inc. or its affiliates. [Privacy](#) [Terms](#) [Cookie preferences](#)

Files are being uploaded

Services Search [Alt+S] Global ▾

Upload succeeded  
View details below.

## Upload: status

The information below will no longer be available after you navigate away from this page.

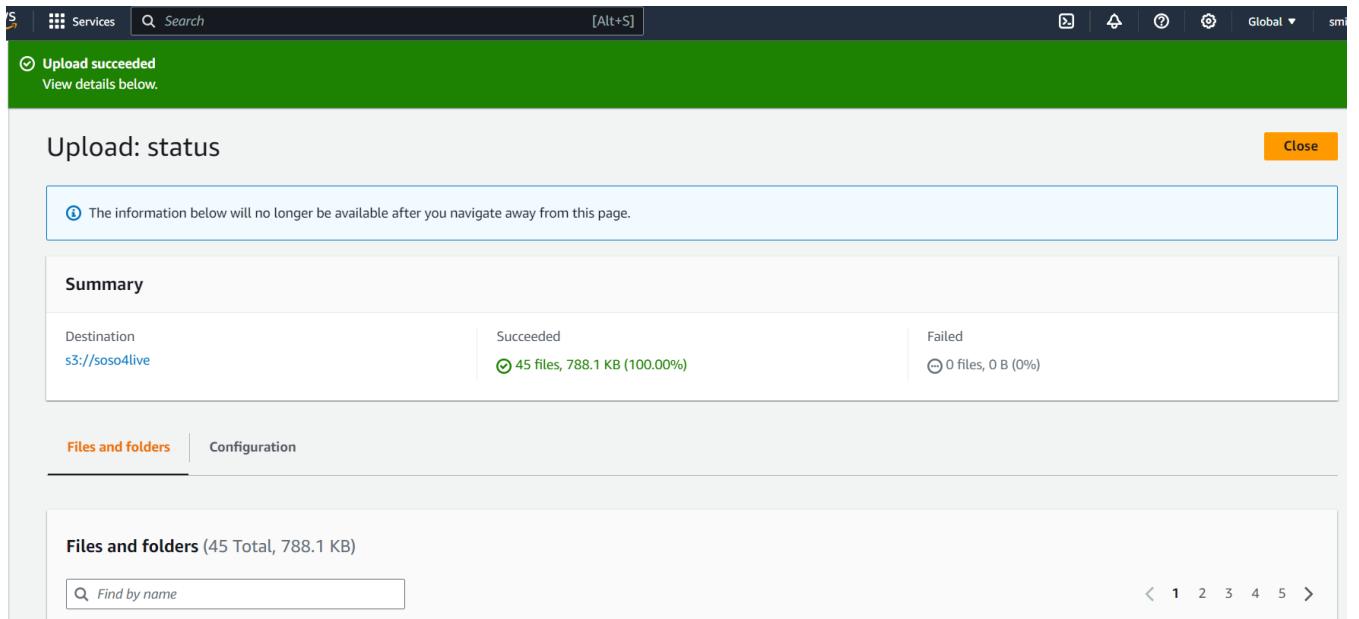
### Summary

Destination	Succeeded	Failed
s3://soso4live	45 files, 788.1 KB (100.00%)	0 files, 0 B (0%)

**Files and folders** Configuration

#### Files and folders (45 Total, 788.1 KB)

Find by name < 1 2 3 4 5 >



Click on “Close”

Amazon S3 > Buckets > soso4live

### soso4live Info

Objects Properties Permissions Metrics Management Access Points

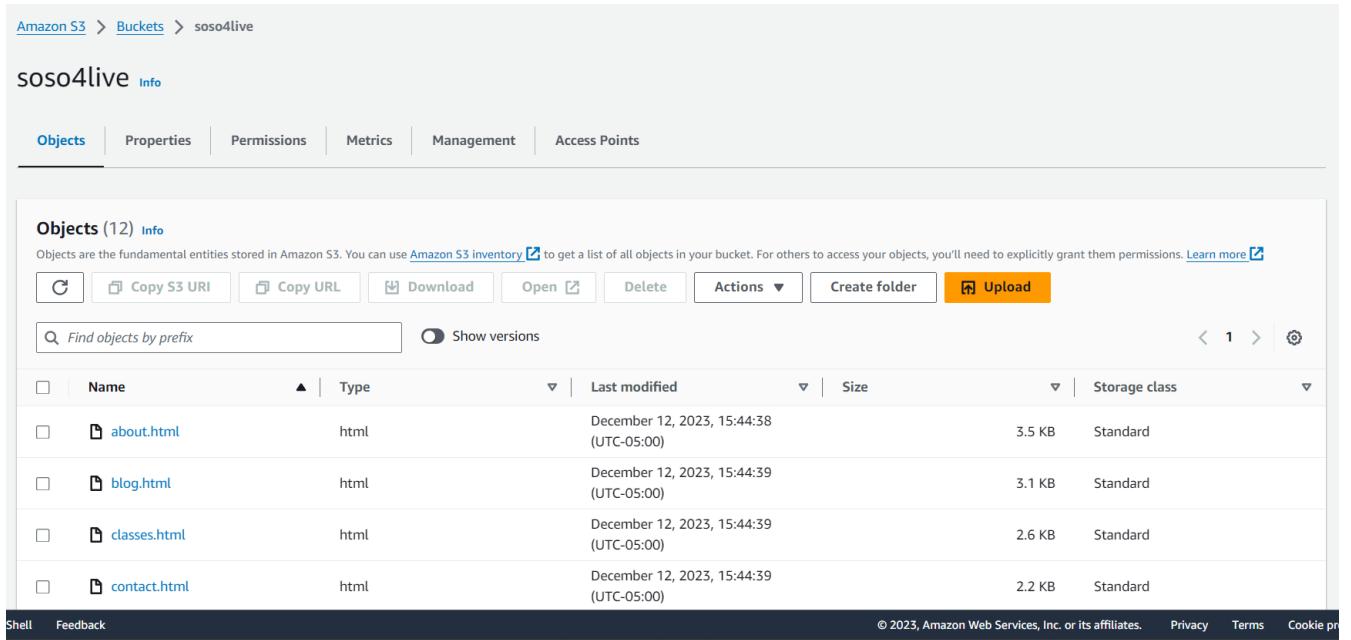
#### Objects (12) Info

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](#)

Find objects by prefix Show versions < 1 >

Name	Type	Last modified	Size	Storage class
about.html	html	December 12, 2023, 15:44:38 (UTC-05:00)	3.5 KB	Standard
blog.html	html	December 12, 2023, 15:44:39 (UTC-05:00)	3.1 KB	Standard
classes.html	html	December 12, 2023, 15:44:39 (UTC-05:00)	2.6 KB	Standard
contact.html	html	December 12, 2023, 15:44:39 (UTC-05:00)	2.2 KB	Standard

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The files and folders have been uploaded

Now, click on “Properties” and scroll down to “Static Website Hosting”

Object Lock  
Disabled

**Requester pays**

When enabled, the requester pays for requests and data transfer costs, and anonymous access to this bucket is disabled. [Learn more](#)

**Requester pays**

Disabled

**Static website hosting**

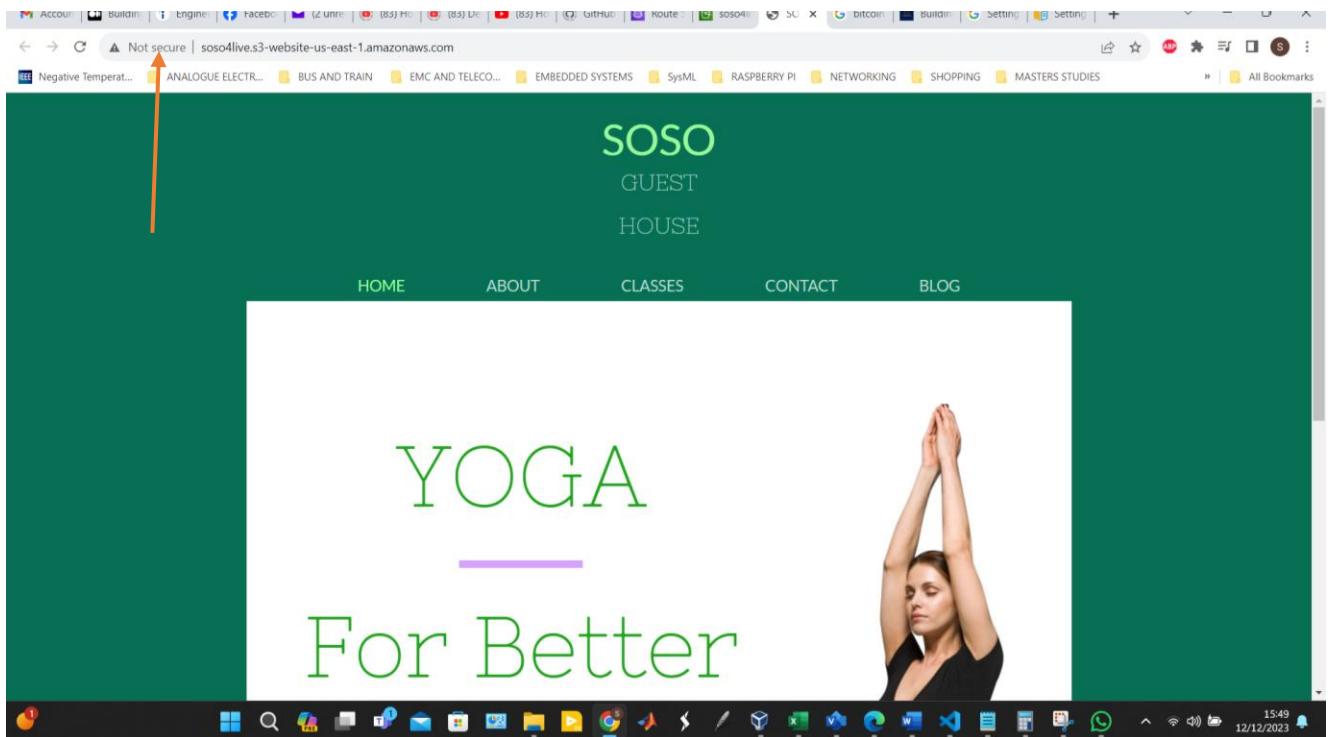
Use this bucket to host a website or redirect requests. [Learn more](#)

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](#)

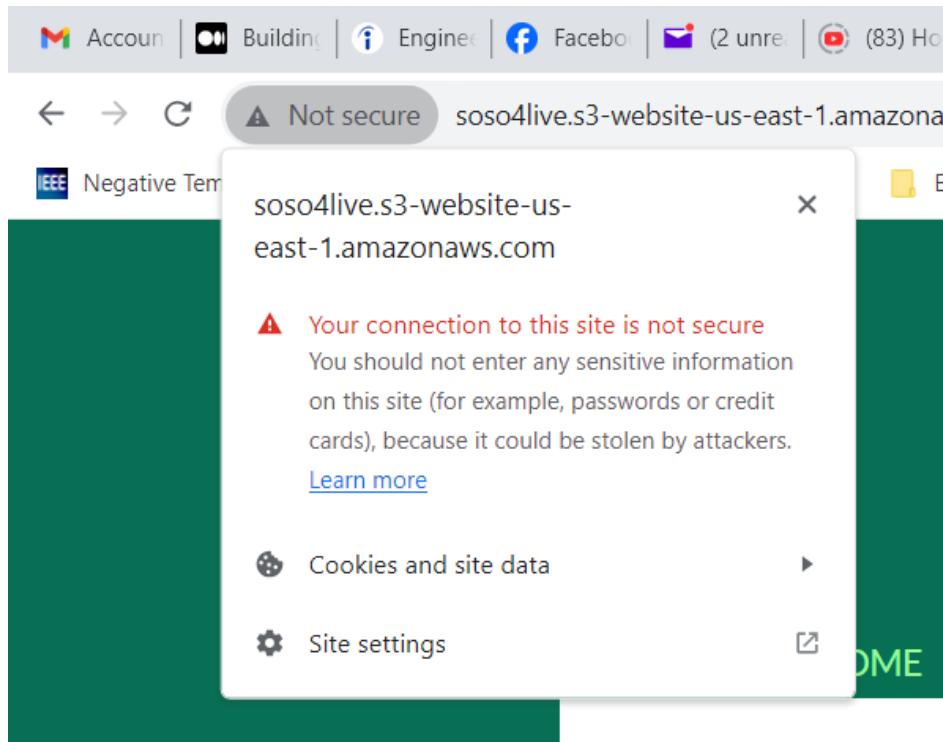
<http://soso4live.s3-website-us-east-1.amazonaws.com>

This is the Bucket Website Endpoint

Click on the “Bucket website endpoint”



You can see our website.



But we have a problem because this website is not secured. This takes up to step 3.

### STEP 3: Enabling HTTPS with AWS Certificate Manager for enhanced security

In this step, we are going to be enabling HTTPS with AWS Certificate Manager (ACM), this ensures that secure connections are established between your visitors and your website.

Search for “**Certificate Manager**” on AWS Management Console

The screenshot shows the AWS Management Console search interface. The search bar at the top contains the query 'Certificate Manager'. Below the search bar, there is a sidebar for 'Route 53' with various navigation options like Dashboard, Hosted zones, Health checks, IP-based routing, Traffic flow, Domains, Requests, and Resolver. The main search results area has a heading 'Search results for 'Cert'' and a sub-heading 'Try searching with longer queries for more relevant results'. It lists three services under 'Services': 'Certificate Manager' (Provision, Manage, and Deploy SSL/TLS Certificates), 'AWS Private Certificate Authority' (Managed private certificate authority service), and 'AWS IQ' (Complete projects faster with help from third-party AWS Certified experts). Below these, under 'Features', are 'AWS Private CA Connector for Active Directory' (AWS Private Certificate Authority feature) and 'Create an AS2 server' (AWS Transfer Family feature). A link 'See all 6 results ▶' is visible. At the bottom of the page, there are links for CloudShell and Feedback, and a copyright notice for 2023, Amazon.

Click on “**Certificate Manager**” under “**Services**”

The screenshot shows the AWS Certificate Manager (ACM) service page. The left sidebar has a title 'AWS Certificate Manager (ACM)' and links for List certificates, Request certificate, Import certificate, and AWS Private CA. The main content area has a heading 'AWS Certificate Manager' and a sub-heading 'Easily provision, manage, deploy, and renew SSL/TLS certificates'. To the right, there is a callout box titled 'New ACM managed certificate' with text about requesting a public or private certificate. It features a prominent orange 'Request a certificate' button. Below this, there are sections for 'Import a certificate' (importing certificates from external sources) and 'Create a private CA' (creating private certificate authority hierarchies). The bottom of the page includes standard AWS footer links for CloudShell, Feedback, Privacy, Terms, and Cookie preferences.

Click on “**Request a Certificate**”

[Alt+S]

AWS Certificate Manager > Certificates > Request certificate

## Request certificate

**Certificate type** [Info](#)

ACM certificates can be used to establish secure communications access across the internet or within an internal network. Choose the type of certificate for ACM to provide.

- Request a public certificate  
Request a public SSL/TLS certificate from Amazon. By default, public certificates are trusted by browsers and operating systems.
- Request a private certificate  
No private CAs available for issuance.

Requesting a private certificate requires the creation of a private certificate authority (CA). To create a private CA, visit [AWS Private Certificate Authority](#).

[Cancel](#) [Next](#)

Click on “Next”

AWS Certificate Manager (ACM)

List certificates

**Request certificate**

Import certificate

AWS Private CA

AWS Certificate Manager > Certificates > Request certificate > Request public certificate

## Request public certificate

**Domain names**  
Provide one or more domain names for your certificate.

Fully qualified domain name [Info](#)

Add another name to this certificate  
You can add additional names to this certificate. For example, if you're requesting a certificate for "www.example.com", you might want to add the name "example.com" so that customers can reach your site by either name.

**Validation method** [Info](#)  
Select a method for validating domain ownership.

- DNS validation - recommended  
Choose this option if you are authorized to modify the DNS configuration for the domains in your certificate request.
- Email validation  
Choose this option if you do not have permission or cannot obtain permission to modify the DNS configuration for the domains in your certificate request.

Here you enter your domain name. Our domain name in this project is “**sosoebot.net**”

AWS Certificate Manager (ACM)

List certificates

**Request certificate**

Import certificate

AWS Private CA

AWS Certificate Manager > Certificates > Request certificate > Request public certificate

## Request public certificate

**Domain names**  
Provide one or more domain names for your certificate.

Fully qualified domain name [Info](#)

Add another name to this certificate  
You can add additional names to this certificate. For example, if you're requesting a certificate for "www.example.com", you might want to add the name "example.com" so that customers can reach your site by either name.

**Validation method** [Info](#)  
Select a method for validating domain ownership.

- DNS validation - recommended  
Choose this option if you are authorized to modify the DNS configuration for the domains in your certificate request.
- Email validation  
Choose this option if you do not have permission or cannot obtain permission to modify the DNS configuration for the domains in your certificate request.

Scroll down

AWS Certificate Manager (ACM)

Choose this option if you are authorized to modify the DNS configuration for the domains in your certificate request.

Email validation  
Choose this option if you do not have permission or cannot obtain permission to modify the DNS configuration for the domains in your certificate request.

**Key algorithm** [Info](#)  
Select an encryption algorithm. Some algorithms may not be supported by all AWS services.

RSA 2048  
RSA is the most widely used key type.

ECDSA P 256  
Equivalent in cryptographic strength to RSA 3072.

ECDSA P 384  
Equivalent in cryptographic strength to RSA 7680.

**Tags** [Info](#)  
To help you manage your certificates, you can optionally assign your own metadata to each resource in the form of tags.

No tags associated with this resource.

Add tag  
You can add 50 more tag(s).

Cancel Previous Request

Click on “Request”

AWS Certificate Manager (ACM)

Successfully requested certificate with ID fb101581-6f91-47ef-ab82-4a988a22cced  
A certificate request with a status of pending validation has been created. Further action is needed to complete the validation and approval of the certificate.

View certificate

AWS Certificate Manager > Certificates

Certificates (0)

C Delete Manage expiry events Import Request

Certificate ID	Domain name	Type	Status	In use	Renewal eligibility	Key algorithm
There are no certificates in your account.						

There are no certificates in your account.  
There are no certificates in your account.

Click on “View Certificate”

AWS Certificate Manager (ACM)

AWS Certificate Manager > Certificates > fb101581-6f91-47ef-ab82-4a988a22cced

**Certificate status**

Identifier: fb101581-6f91-47ef-ab82-4a988a22cced

Status: [Pending validation](#) [Info](#)

ARN: arn:aws:acm:us-east-1:510786428272:certificate/fb101581-6f91-47ef-ab82-4a988a22cced

Type: Amazon Issued

**Domains (1)**

Create records in Route 53 Export to CSV

Domain	Status	Renewal status	Type	CNAME name	CNAME value
sosoebot.net	<a href="#">Pending validation</a>	-	CNAME	_f4a18384ebaf8d54c2786	_c901d2f6a2b8f8f5bcf9197b395a6560.mhbtspdnt.a

Our certificate has been created but the status is “Pending”

Now, click on “Create Records in Route 53”. This is automatically going to create some records in AWS Route 53.

<input checked="" type="checkbox"/>	Domain	Validation status	Type	CNAME name	CNAME value	Is domain in Route 53?
<input checked="" type="checkbox"/>	sosoebot.net	Pending validation	CNAME	_f4a18384ebeaf8d54c2786c15aec15a.sosoebot.net.	_c901d2f6a2b8f8f5bcf9197b395a6560.mhbtspdrnt.acm-validations.aws.	Yes

Click on “Create Records”

Domain	Status	Renewal status	Type	CNAME name	CNAME value
sosoebot.net	Valid	Not due	CNAME	_f4a18384ebeaf8d54c2786c15aec15a.sosoebot.net.	_c901d2f6a2b8f8f5bcf9197b395a6560.mhbtspdrnt.acm-validations.aws.

Check Route 53

Record ...	Type	Routing...	Differ...	Alias	Value/Route traffic to
sosoebot....	NS	Simple	-	No	ns-1669.awsdns-16.co.uk. ns-1066.awsdns-05.org. ns-845.awsdns-41.net. ns-313.awsdns-39.com.
sosoebot....	SOA	Simple	-	No	ns-1669.awsdns-16.co.uk. a...
_f4a1838....	CNAME	Simple	-	No	_c901d2f6a2b8f8f5bcf9197...

You can see one additional record with name “CNAME”

Now, go back and check the status of the created certificate

The screenshot shows the AWS Certificate Manager interface. On the left, a sidebar lists options: List certificates, Request certificate, Import certificate, and AWS Private CA. The main area displays a certificate named 'fb101581-6f91-47ef-ab82-4a988a22cced'. The 'Certificate status' section shows the identifier 'fb101581-6f91-47ef-ab82-4a988a22cced', ARN 'arn:aws:acm:us-east-1:510786428272:certificate/fb101581-6f91-47ef-ab82-4a988a22cced', and Type 'Amazon Issued'. A green arrow points to the 'Status' field, which is labeled 'Issued'. Below this, the 'Domains (1)' section lists 'sosoebot.net' with a status of 'Success'. At the bottom of the page, there are links for CloudShell, Feedback, and a footer with copyright information.

Domain	Status	Renewal status	Type	CNAME name	CNAME value
sosoebot.net	Success	-	CNAME	_f4a18384ebeaf8d54c278615ec15e8.sosoebot.net	_c901d2f6a2b8f8f5bcf9197b395a6560.mhbtspdn.a

Now, the certificate has been issued. We now move to step 4.

## STEP 4: Setting up Amazon CloudFront as a Content Delivery Network (CDN)

In this step, we are going to be creating our CloudFront distribution for content delivery. This is going to take advantage of the cached content in the EDGE location making your website faster and more cost efficient especially for returning visitors.

Search for “CloudFront” on AWS Management Console”

The screenshot shows the AWS Management Console search interface. The search bar at the top contains the text "CloudFront". On the left, there's a sidebar for "AWS Certificate Manager (ACM)" with options like "List certificates", "Request certificate", "Import certificate", and "AWS Private CA". The main search results are displayed under the heading "Services (49)". A card for "CloudFront" is highlighted, showing it as a "Global Content Delivery Network". Other services listed include Cloud9, AWS Cloud Map, and Lightsail. Below this, under "Features", there's a card for "Cloud WAN" which includes a "VPC feature". At the bottom right, there are links for "See all 49 results" and "See all 28 results".

Click on “CloudFront” under “Services”

The screenshot shows the "Amazon CloudFront" service page. The main headline reads "Securely deliver content with low latency and high transfer speeds". A "Get started with CloudFront" section provides a brief overview and a "Create a CloudFront distribution" button. The "AWS Free Tier" section lists benefits such as 1 TB of data transfer out, 10,000,000 HTTP or HTTPS requests, 2,000,000 CloudFront Function invocations, and usage each month, always free. At the bottom, there are links for "CloudShell", "Feedback", "© 2023, Amazon Web Services, Inc. or its affiliates.", "Privacy", "Terms", and "Cookie preferences".

Click on “Create a CloudFront Distribution”

## Create distribution

### Origin

#### Origin domain

Choose an AWS origin, or enter your origin's domain name.

 Choose origin domain

#### Origin path - *optional* | [Info](#)

Enter a URL path to append to the origin domain name for origin requests.

 Enter the origin path

#### Name

Enter a name for this origin.

 Enter origin name

#### Add custom header - *optional*

CloudFront includes this header in all requests that it sends to your origin.

 Add header

Go to your S3 bucket and copy the “**Bucket website endpoint**” and paste in the “**Origin Domain**”

## Create distribution

### Origin

#### Origin domain

Choose an AWS origin, or enter your origin's domain name.

 soso4live.s3-website-us-east-1.amazonaws.com

#### Protocol | [Info](#)

- HTTP only
- HTTPS only
- Match viewer

#### HTTP port

Enter your origin's HTTP port. The default is port 80.

 80

#### HTTPS port

Enter your origin's HTTPS port. The default is port 443.

 443

#### Minimum origin SSL protocol | [Info](#)

Scroll down to “**Viewers**”

## Viewer

Viewer protocol policy

- HTTP and HTTPS
- Redirect HTTP to HTTPS
- HTTPS only

And select “**Redirect HTTP to HTTPS**”

## Viewer

Viewer protocol policy

- HTTP and HTTPS
- Redirect HTTP to HTTPS
- HTTPS only

Scroll down to “**Web Application Firewall (WAF)**”

## Web Application Firewall (WAF) Info

- Enable security protections

Keep your application secure from the most common web threats and security vulnerabilities using AWS WAF. Blocked requests are stopped before they reach your web servers.

- Do not enable security protections

Select this option if your application does not need security protections from AWS WAF.

Choose “Do not enable security protections”

## Web Application Firewall (WAF) Info

- Enable security protections

Keep your application secure from the most common web threats and security vulnerabilities using AWS WAF. Blocked requests are stopped before they reach your web servers.

- Do not enable security protections

Select this option if your application does not need security protections from AWS WAF.

Scroll down to “**Settings**”

## Settings

Price class | [Info](#)

Choose the price class associated with the maximum price that you want to pay.

- Use all edge locations (best performance)
- Use only North America and Europe
- Use North America, Europe, Asia, Middle East, and Africa

Alternate domain name (CNAME) - *optional*

Add the custom domain names that you use in URLs for the files served by this distribution.

[Add item](#)

Under “Alternate domain name (CNAME) – optional”, click on “Add Item”

## Settings

Price class | [Info](#)

Choose the price class associated with the maximum price that you want to pay.

- Use all edge locations (best performance)
- Use only North America and Europe
- Use North America, Europe, Asia, Middle East, and Africa

Alternate domain name (CNAME) - *optional*

Add the custom domain names that you use in URLs for the files served by this distribution.

|

[Remove](#)

[Add item](#)

Enter the name of your Domain “**sosoebot.net**”

## Settings

Price class | [Info](#)

Choose the price class associated with the maximum price that you want to pay.

- Use all edge locations (best performance)
- Use only North America and Europe
- Use North America, Europe, Asia, Middle East, and Africa

Alternate domain name (CNAME) - *optional*

Add the custom domain names that you use in URLs for the files served by this distribution.

sosoebot.net

[Remove](#)

[Add item](#)

Scroll down to “**Custom SSL certificate – optional**” and browse to the created “**Certificate**”

Custom SSL certificate - *optional*

Associate a certificate from AWS Certificate Manager. The certificate must be in the US East (N. Virginia) Region (us-east-1).

Choose certificate

sosoebot.net

None

ACM certificates

sosoebot.net (fb101581-6f91-47ef-ab82-4a988a22cced)

IAM certificates

Then scroll down

**Supported HTTP versions**  
Add support for additional HTTP versions. HTTP/1.0 and HTTP/1.1 are supported by default.

HTTP/2  
 HTTP/3

**Default root object - optional**  
The object (file name) to return when a viewer requests the root URL (/) instead of a specific object.

**Standard logging**  
Get logs of viewer requests delivered to an Amazon S3 bucket.

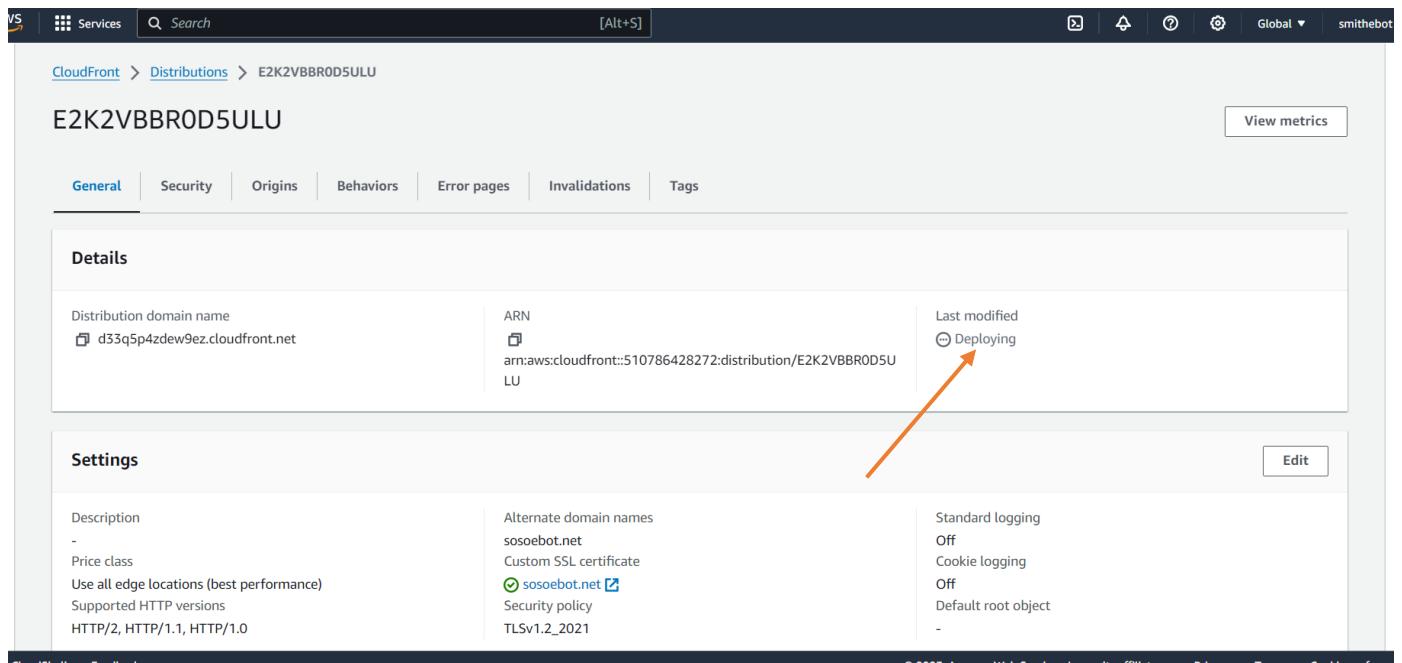
Off  
 On

**IPv6**  
 Off  
 On

**Description - optional**

[Cancel](#) [Create distribution](#)

Click on “Create Distribution”



The screenshot shows the AWS CloudFront distribution configuration page for distribution E2K2VBBR0D5ULU. The 'General' tab is selected. In the 'Details' section, the 'Last modified' status is shown as 'Deploying'. An orange arrow points from the 'Create distribution' button in the previous screenshot to this 'Deploying' status field.

The distribution has been successfully created but the status is showing “Deploying”

“Refresh” after some minutes

**CloudFront**

[Distributions](#)

Policies  
Functions  
What's new [NEW](#)

▼ Telemetry  
Monitoring  
Alarms  
Logs

▼ Reports & analytics  
Cache statistics  
Popular objects  
Top referrers  
Usage  
Viewers

▼ Security  
Origin access  
Field-level encryption

[CloudFront](#) > [Distributions](#) > E2K2VBBR0D5ULU

## E2K2VBBR0D5ULU

[View metrics](#)

[General](#) | [Security](#) | [Origins](#) | [Behaviors](#) | [Error pages](#) | [Invalidations](#) | [Tags](#)

**Details**

Distribution domain name	<a href="#">d33q5p4zdew9ez.cloudfront.net</a>	ARN	arn:aws:cloudfront::510786428272:distribution/E2K2VBBR0D5ULU	Last modified December 12, 2023 at 9:45:04 PM UTC
--------------------------	---	-----	--	--

**Settings**

Description	-	Alternate domain names	sosoebot.net	Standard logging
Price class	Use all edge locations (best performance)	Custom SSL certificate	<a href="#">sosoebot.net</a> <a href="#">Edit</a>	Off
Supported HTTP versions	HTTP/2, HTTP/1.1, HTTP/1.0	Security policy	TLSv1.2_2021	Cookie logging
				Off
				Default root object
				-

You can now see that the CloudFront has been successfully provisioned.

**CloudFront**

[Distributions](#)

Policies  
Functions  
What's new [NEW](#)

▼ Telemetry  
Monitoring  
Alarms  
Logs

▼ Reports & analytics  
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▼ Security  
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[CloudFront](#) > [Distributions](#) > E2K2VBBR0D5ULU

## E2K2VBBR0D5ULU

[View metrics](#)

[General](#) | [Security](#) | [Origins](#) | [Behaviors](#) | [Error pages](#) | [Invalidations](#) | [Tags](#)

**Details**

Distribution domain name	<a href="#">d33q5p4zdew9ez.cloudfront.net</a>	ARN	arn:aws:cloudfront::510786428272:distribution/E2K2VBBR0D5ULU	Last modified December 12, 2023 at 9:45:04 PM UTC
--------------------------	---	-----	--	--

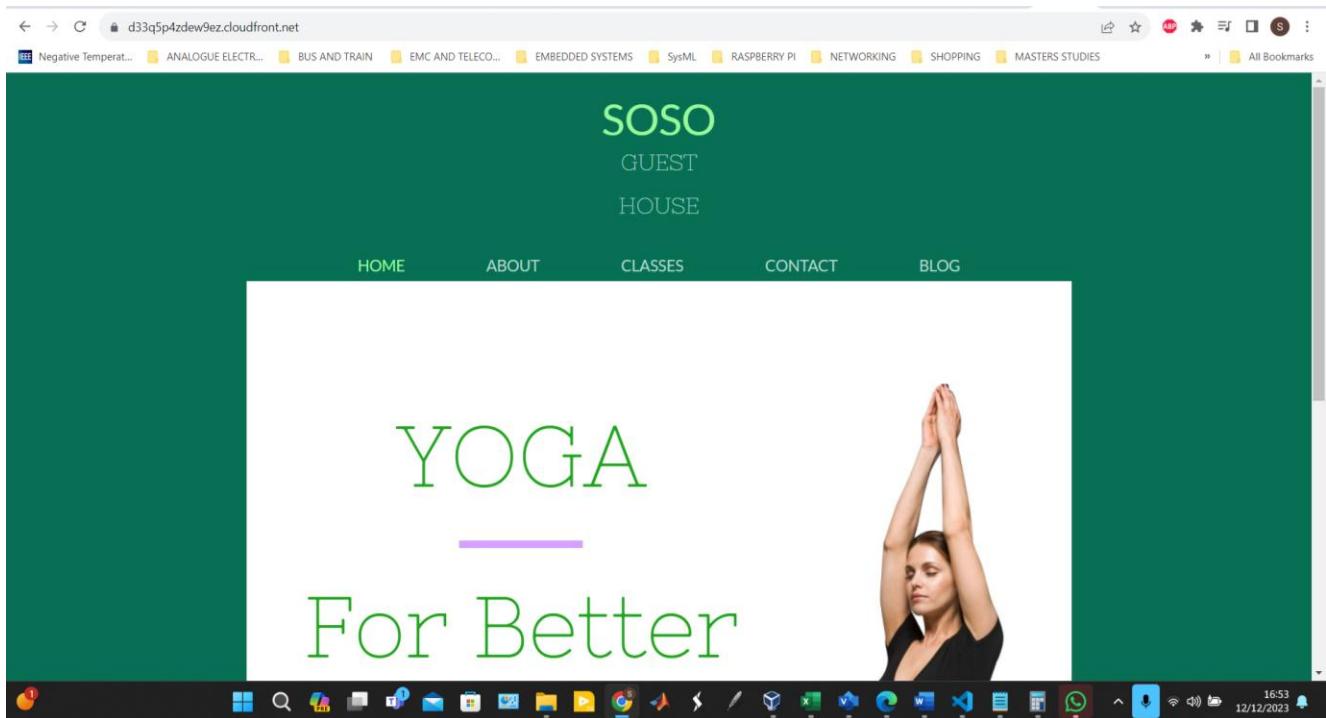
**Settings**

Description	-	Alternate domain names	sosoebot.net	Standard logging
Price class	Use all edge locations (best performance)	Custom SSL certificate	<a href="#">sosoebot.net</a> <a href="#">Edit</a>	Off
Supported HTTP versions	HTTP/2, HTTP/1.1, HTTP/1.0	Security policy	TLSv1.2_2021	Cookie logging
				Off
				Default root object
				-

[CloudShell](#) [Feedback](#)

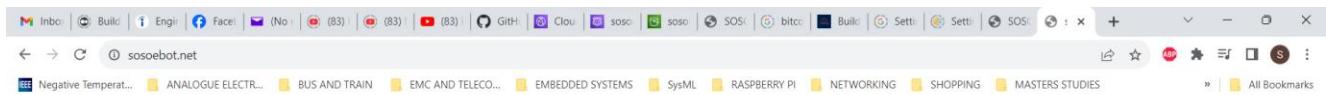
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Copy the “**Distribution Domain Name**” and paste on a new web browser and hit ENTER



We can still access our web page. But this is not what we want. We want to access our web page using our domain name “**sosoebot.net**”

Let us try to access our web page using the domain name



The web page cannot be accessed

To solve this, we go back to Route 53

**Route 53 Dashboard**

- DNS management**: 1 Hosted zone
- Traffic management**: A visual tool that lets you easily create policies for multiple endpoints in complex configurations. Create policy
- Availability monitoring**: Health checks monitor your applications and web resources, and direct DNS queries to healthy resources. Create health check
- Domain registration**: 1 Domain

**Register domain**: Find and register an available domain, or transfer your existing domains to Route 53. Enter a domain name, Check

Click on “Hosted Zones”

**Hosted zones (1)**: Automatic mode is the current search behavior optimized for best filter results. To change modes go to settings.

Hosted zone name	Type	Created by	Record count	Description
sosoebot.net	Public	Route 53	3	-

Open the Hosted Zone by clicking on the name

**Hosted zone details**: Edit hosted zone

**Records (3)**: 3 Info

Record ...	Type	Routing policy	Alias	Value/Route traffic to
sosoebot....	NS	Simple	-	ns-1669.awsdns-16.co.uk. ns-1066.awsdns-05.org. ns-845.awsdns-41.net. ns-313.awsdns-39.com.
sosoebot....	SOA	Simple	-	ns-1669.awsdns-16.co.uk. a...
_f4a1838...	CNAME	Simple	-	_c901d2f6a2b8f8f5bcf9197...

Click on “Create Record”

## Create record Info

**Quick create record** Switch to wizard

**Record 1**

Record name <small>Info</small>	<input type="text" value="subdomain"/> sosoebot.net	Record type <small>Info</small>	<input type="text" value="A – Routes traffic to an IPv4 address and some AWS resources"/>
Keep blank to create a record for the root domain.			
<input checked="" type="checkbox"/> Alias	<div style="border: 1px solid black; padding: 5px; width: 300px; height: 100px; margin-top: 10px;">Toggle this</div>		
Value <small>Info</small>	<input type="text" value="192.0.2.235"/>		
Enter multiple values on separate lines.			
TTL (seconds) <small>Info</small>	<input type="text" value="300"/>	<input type="button" value="1m"/>	<input type="button" value="1h"/>
		<input type="button" value="1d"/>	Routing policy <small>Info</small>
		<input type="button" value="Simple routing"/>	<input type="button" value="▼"/>

Recommended values: 60 to 172800 (two days)

### Toggle “Alias”

**Quick create record** Switch to wizard

**Record 1**

Record name <small>Info</small>	<input type="text" value="subdomain"/> sosoebot.net	Record type <small>Info</small>	<input type="text" value="A – Routes traffic to an IPv4 address and some AWS resources"/>
Keep blank to create a record for the root domain.			
<input checked="" type="checkbox"/> Alias	<div style="border: 1px solid black; padding: 5px; width: 300px; height: 100px; margin-top: 10px;">Choose endpoint Choose Region</div>		
Route traffic to <small>Info</small>	<input type="text" value="Choose endpoint"/>	<input type="text" value="Choose Region"/>	<input type="button" value="▼"/>
Routing policy <small>Info</small>	<input type="text" value="Simple routing"/>		

### Then under “Route traffic to”

**Choose Endpoint:** Alias to CloudFront Distribution

**Quick create record**

[Switch to wizard](#)

**Record 1**

**Record name** [Info](#) **subdomain** **sosoebot.net** [Delete](#)

Keep blank to create a record for the root domain.

**Alias**

**Route traffic to** [Info](#) **Alias to CloudFront distribution** [US East \(N. Virginia\)](#)

An alias to a CloudFront distribution and another record in the same hosted zone are global and available only in US East (N. Virginia).

**d33q5p4zdew9ez.cloudfront.net**

**Routing policy** [Info](#) **Simple routing** **Evaluate target health**  **No**

[Add another record](#)

[Cancel](#) [Create records](#)

Click on “Create Records”

**aws** Services [Search](#) [Alt+S]

**Route 53** [View status](#)

- Dashboard
- Hosted zones**
- Health checks
- ▼ IP-based routing
- CIDR collections
- ▼ Traffic flow
- Traffic policies
- Policy records
- ▼ Domains
- Registered domains
- Requests
- ▼ Resolver
- VPCs
- Inbound endpoints
- Outbound endpoints
- Rules
- Query logging

**sosoebot.net** [Info](#) [Delete zone](#) [Test record](#) [Configure query logging](#)

**Hosted zone details** [Edit hosted zone](#)

[Records \(4\)](#) [DNSSEC signing](#) [Hosted zone tags \(0\)](#)

**Records (4) Info** Automatic mode is the current search behavior optimized for best filter results. To change modes go to settings.

[Create record](#)

<input type="checkbox"/>	<a href="#">Record ...</a>	<a href="#">Type</a>	<a href="#">Routing policy</a>	<a href="#">Alias</a>	<a href="#">Value/Route traffic to</a>
<input type="checkbox"/>	sosoebot....	A	Simple	-	Yes d33q5p4zdew9ez.cloudfront...

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Click on “View Status”

The screenshot shows the AWS Route 53 console. The left sidebar is titled "Route 53" and includes sections for Dashboard, Hosted zones, Health checks, IP-based routing, Traffic flow, Domains, Resolver, and Query logging. The "Hosted zones" section is currently selected. The main content area shows a "Change info details" page for a specific change ID: C0735183153PEXMOHWJV0. The page displays the following information:

ID	Submitted at
/change/C0735183153PEXMOHWJV0	December 12, 2023, 17:05 (UTC-05:00)

Below this, there is a "Status" field showing "PENDING" and a "Comment" field which is empty.

The record has been created

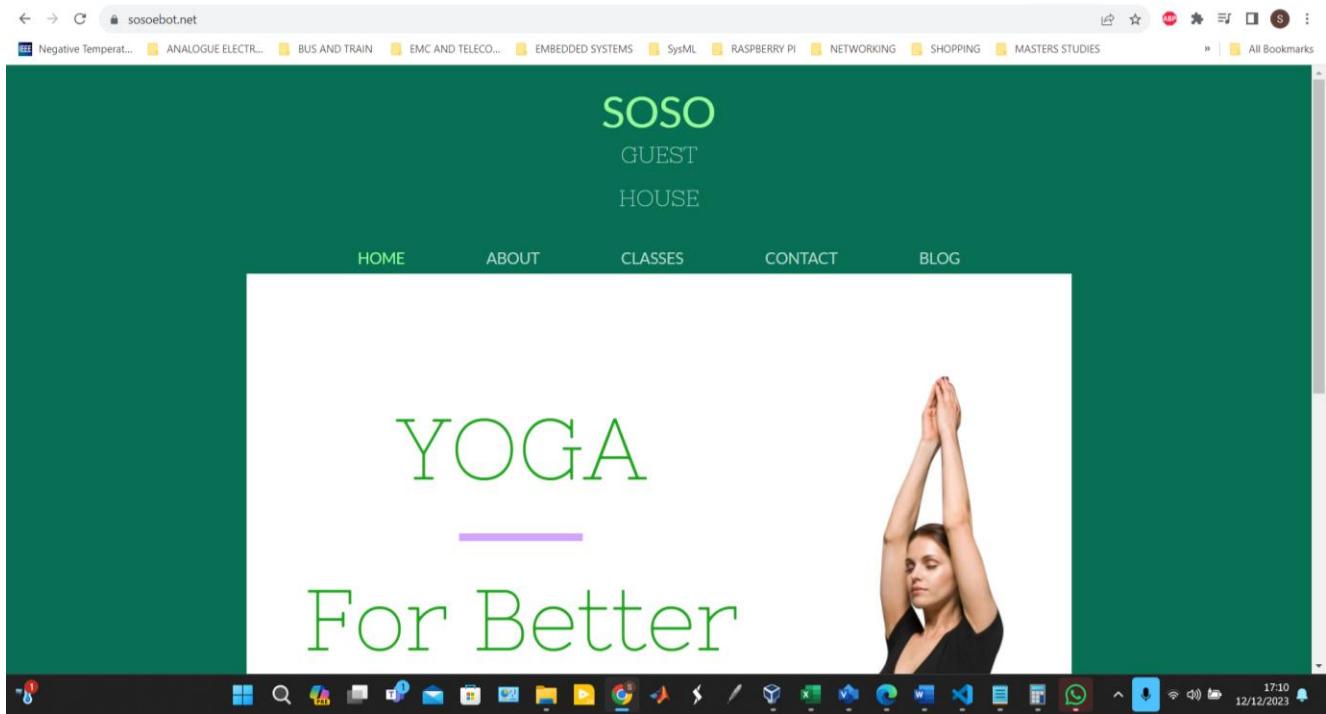
Now, go back to Route 53

The screenshot shows the AWS Route 53 console again. The left sidebar is identical to the previous screenshot. The main content area shows the "Hosted zones (1)" page. It features a table with one row, showing the following data:

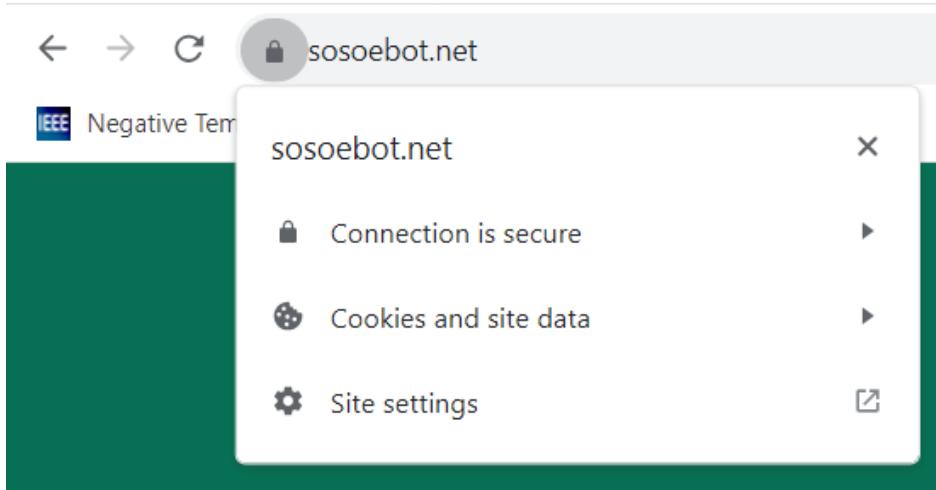
Hosted zone name	Type	Create...	Record ...	Descri...	Hosted...
sosoebot.net	Public	Route 53	4	-	Z022380

At the top of the table, there are buttons for "View details", "Edit", "Delete", and "Create hosted zone". A search bar labeled "Filter records by property or value" is also present.

Copy the domain name and paste on a new web browser. Then hit Enter.



Now we can access our website through our domain name. Our web page is live and is SECURED



This is all about this tutorial

## CONCLUSION

I have hosted a static website on Amazon S3, integrated with CloudFront for CDN, secured with SSL/TLS certificates via ACM, and connected through Route 53 DNS management.