

AWS Static Website Project

Hosting a Static website on AWS:

Problem Statement:

-A client wants me to host his school website (The information is hard coded and I have access to the code file) on AWS.

Requirements:

- The website should be accessible with a domain name
- The website should be available globally and load fast
- The customer wants a cost-effective but efficient solution
- Also, the website should be secured with HTTPS.

Solution Statement:

- I'll create an Amazon S3 bucket to hold the static website files and an Amazon CloudFront distribution to serve the website globally. Amazon Route 53 will manage the website domain name, and AWS Certificate Manager to provide a valid SSL/TLS certificate while making sure I am still within the customer's budget.

Services for the project:

- Amazon S3
- Amazon CloudFront
- Amazon Route 53
- AWS Certificate Manager

Creating an S3 bucket for the source code

Amazon S3 > Buckets > Create bucket

Create bucket [Info](#)

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

General configuration

Bucket name

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

AWS Region

Copy settings from existing bucket - *optional*

-The bucket for the website

Buckets (1) [Info](#)

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

[Refresh](#) [Copy ARN](#) [Empty](#) [Delete](#) [Create bucket](#)

	Name ▲	AWS Region ▼	Access ▼	Creation date ▼
<input type="radio"/>	static-app-bucket	US East (N. Virginia) us-east-1	Objects can be public	January 18, 2023, 18:57:49 (UTC-06:00)

-Now, that I am done uploading all the files for the website to an S3 bucket. Let's make the files public so that anyone can access them with a link, and I need to create an IAM policy too.

Editing the S3 bucket's public access permissions, also edit the Bucket policy permission too for the IAM policy

Amazon S3 > Buckets > static-app-bucket > Edit Block public access (bucket settings)

Edit Block public access (bucket settings) [Info](#)

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

-Let see configure the S3 bucket so we can access the static website. But first, we need to specify the default and error page of our website from the S3 Bucket's Properties tab under the Static website hosting section.

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

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](#)

☒ For your customers to access content at the website endpoint, you must make all your content publicly

The website URL is below the static website hosting: Click on it and see if it works.

Static website hosting

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

Static website hosting

Enabled

Hosting type

Bucket hosting

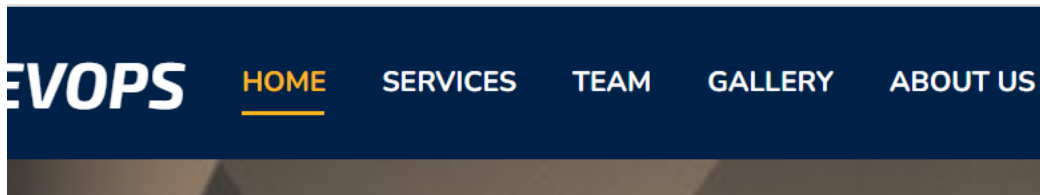
Bucket website endpoint

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://static-app-bucket.s3-website-us-east-1.amazonaws.com>

Edit

static-app-bucket.s3-website-us-east-1.amazonaws.com



-Let's configure CloudFront to serve our content globally. Creating a Distribution in CloudFront.

Create distribution

Origin

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

Origin path - optional | [Info](#)
Enter a URL path to append to the origin domain name for origin requests.

Name
Enter a name for this origin.

Add custom header - optional
CloudFront includes this header in all requests that it sends to your origin.

The Distribution of the website

E3UP5EQ529WE97

View metrics

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

Details

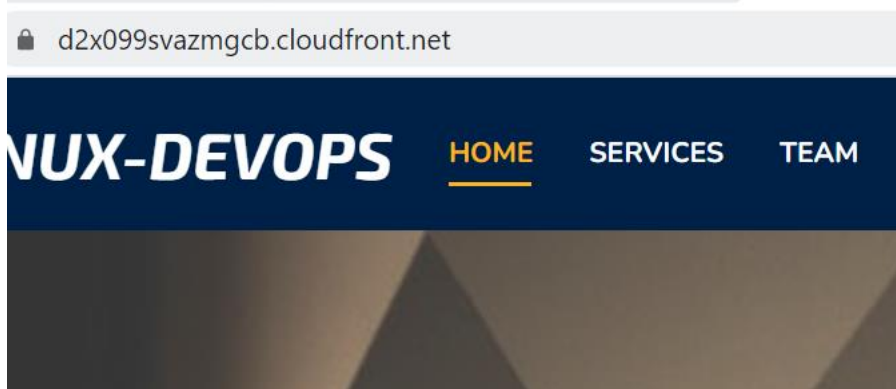
Distribution domain name d2x099svazmgcb.cloudfront.net	ARN arn:aws:cloudfront::868016059835:distribution/E3UP5EQ529WE97	Last modified January 23, 2023 at 8:45:19 PM UTC
---	---	---

Settings

Edit

Description -	Alternate domain names -	Standard logging Off
Price class Use all edge locations (best performance)		Cookie logging Off

Using the distribution name to access the website



-Now, I need to set a custom domain name with Route 53.

Creating a Route 53 hosted zone for the application.

Create hosted zone [Info](#)

Hosted zone configuration

A hosted zone is a container that holds information about how you want to route traffic for a domain, such as example.com subdomains.

Domain name [Info](#)

This is the name of the domain that you want to route traffic for.

Valid characters: a-z, 0-9, ! " # \$ % & ' () * + , - / : ; < = > ? @ [\] ^ _ ` { | } . ~

Description - optional [Info](#)

This value lets you distinguish hosted zones that have the same name.

The description can have up to 256 characters. 0/256

Type [Info](#)

The type indicates whether you want to route traffic on the internet or in an Amazon VPC.

☒ Public hosted zone

A public hosted zone determines how

☐ Private hosted zone

A private hosted zone determines how

DNS records in the hosted zone.

Adding alternative domain name on CloudFront.

Requesting a certificate for the website.

Request public certificate

Domain names

Provide one or more domain names for your certificate.

Fully qualified domain name [Info](#)

niandreprojectforaws.online

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.

Setting records in Route 53 to direct traffic to CloudFront

Create record [Info](#)

Quick create record

[Switch to wizard](#)

▼ Record 1

Delete

Record name [Info](#)

subdomain

niandreprojectforaws.online

Record type [Info](#)

A – Routes traffic to an IPv4 address and some AWS resources ▼

Keep blank to create a record for the root domain.

☒ Alias

Route traffic to [Info](#)

Alias to CloudFront distribution ▼

US East (N. Virginia) ▼

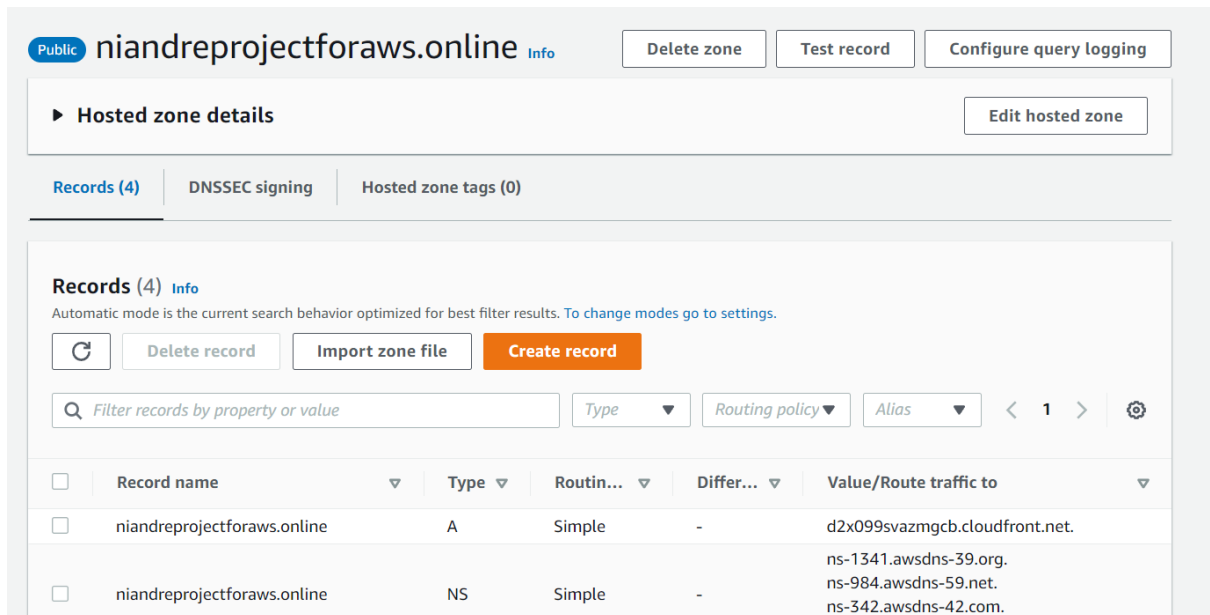
An alias to a CloudFront distribution and another record in the same hosted zone are global and available only in US East (N. Virginia).

Q d2x099svazmgcb.cloudfront.net X

Routing policy [Info](#)

Evaluate target health

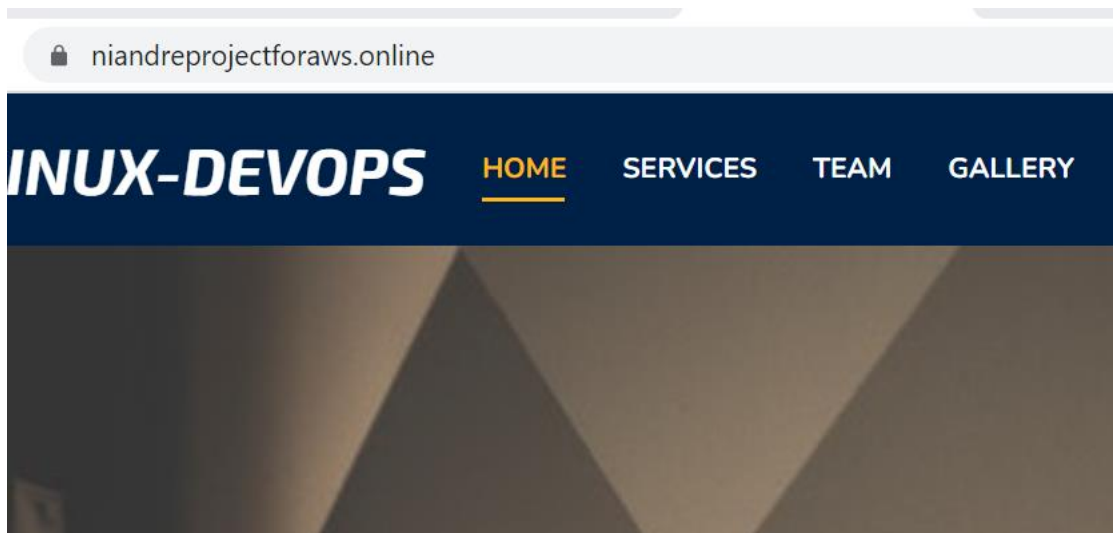
Hosted DNS record



The screenshot shows the AWS Route 53 console for the hosted zone **niandreprojectforaws.online**. The zone is public and has 4 records. The records are listed in a table below the console's navigation tabs.

Record name	Type	Routin...	Differ...	Value/Route traffic to
niandreprojectforaws.online	A	Simple	-	d2x099svazmgcb.cloudfront.net.
niandreprojectforaws.online	NS	Simple	-	ns-1341.awsdns-39.org. ns-984.awsdns-59.net. ns-342.awsdns-42.com.

Accessing the website using a registered custom website



-Now the website is secure and hosted on AWS.