

## SUMMARY:

This Lab covers CDN – Adding CDN, Adding HTTPS to CDN distro using ACM

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## 1. Adding a CDN to a static Website using S3 and CloudFront - Part 1

In this [DEMO] lesson you will learn how to implement a CloudFront distribution using an S3 bucket as the origin.

Use deployment stack from lesson, and Whiskers.jpg file.

Stack will create the static website we will use to setup CloudFront with:

CloudFormation > Stacks > Create stack

### Quick create stack

**Template**

Template URL  
<https://learn-cantrill-labs.s3.amazonaws.com/awscoursedemos/0026-aws-associate-cdn-cloudfront-and-s3/top10catsbucket.yaml>

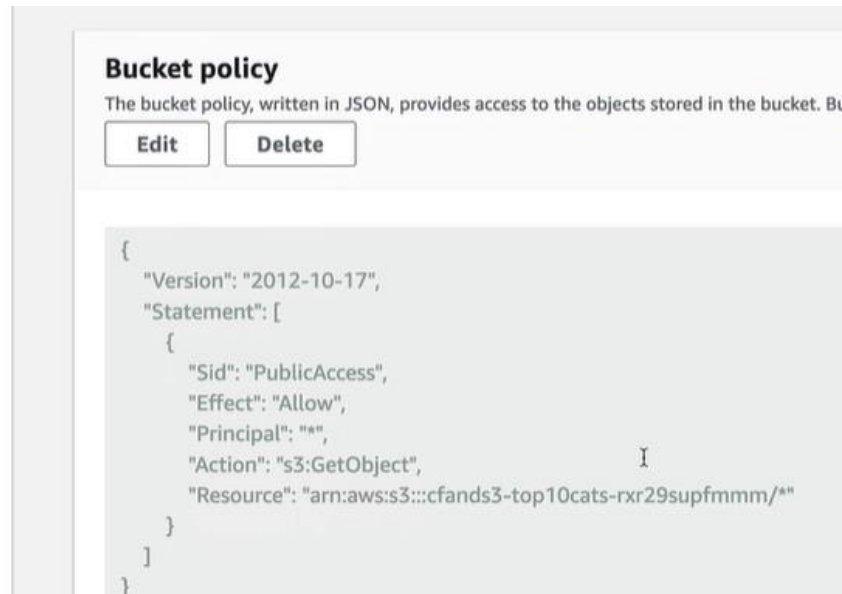
Stack description  
Top10 Cats S3 Bucket with Static Website Hosting and Public Access

**Stack name**

Stack name  
CFANDS3


Stack name can include letters (A-Z and a-z), numbers (0-9), and dashes (-).

Confirm bucket policy for S3:



Create and configure a CDN:

aws Services ▼  [Option+S]

Step 1: Select delivery method  
Step 2: Create distribution 

Origin ID: S3-cfands3-top10cats-rxr29supfmmm ⓘ

Restrict Bucket Access ☐ Yes ☒ No ⓘ

Origin Connection Attempts: 3 ⓘ

Origin Connection Timeout: 10 ⓘ

Origin Custom Headers

Header Name	Value	ⓘ
<input type="text"/>	<input type="text"/>	

**Default Cache Behavior Settings**

Path Pattern: Default (\*) ⓘ

Viewer Protocol Policy ☒ HTTP and HTTPS ⓘ  
☐ Redirect HTTP to HTTPS  
☐ HTTPS Only

Allowed HTTP Methods ☒ GET, HEAD ⓘ  
☐ GET, HEAD, OPTIONS  
☐ GET, HEAD, OPTIONS, PUT, POST, PATCH, DELETE

Field-level Encryption Config: ⓘ

Cached HTTP Methods: GET, HEAD (Cached by default) ⓘ

Cache and origin request ☒ Use a cache policy and origin request policy ⓘ  
☐ Use legacy cache settings

Set cache policy:

Cache and origin request settings ☒ Use a cache policy and origin request policy ☐ Use legacy cache settings

Cache Policy Managed-CachingOptimized Create a new policy

View policy details

[Learn More](#)

Origin Request Policy  Create a new policy

View policy details

[Learn More](#)

Smooth Streaming ☐ Yes ☒ No

Restrict Viewer Access (Use Signed URLs or Signed Cookies) ☐ Yes ☒ No

Compress Objects Automatically ☐ Yes ☒ No

[Learn More](#)

Lambda Function Associations

CloudFront Event	Lambda Function ARN	Include Body

Configure best performance and http versions:

### Distribution Settings

Price Class Use All Edge Locations (Best Performance)

AWS WAF Web ACL None

Alternate Domain Names (CNAMEs)

SSL Certificate ☒ Default CloudFront Certificate (\*.cloudfront.net)

Choose this option if you want your users to use HTTPS or HTTP to access your content with the <https://d1111111abcdef8.cloudfront.net/logo.jpg>. Important: If you choose this option, CloudFront requires that browsers or devices support TLSv1.2.

☐ Custom SSL Certificate (example.com):

Choose this option if you want your users to access your content by using an alternate domain name. You can use a certificate stored in AWS Certificate Manager (ACM) in the US East (N. Virginia) Region, or you can use a certificate stored in IAM.

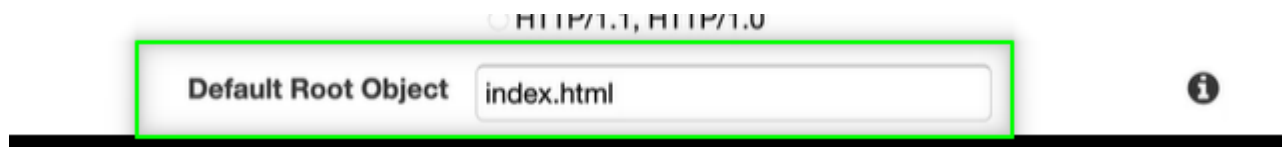
Request or Import a Certificate with ACM

[Learn more](#) about using custom SSL/TLS certificates with CloudFront. [Learn more](#) about using ACM.

Supported HTTP Versions ☒ HTTP/2, HTTP/1.1, HTTP/1.0

☐ HTTP/1.1, HTTP/1.0

Set root object:



Create CDN:



## 2. Adding a CDN to a static Website using S3 and CloudFront - Part 2

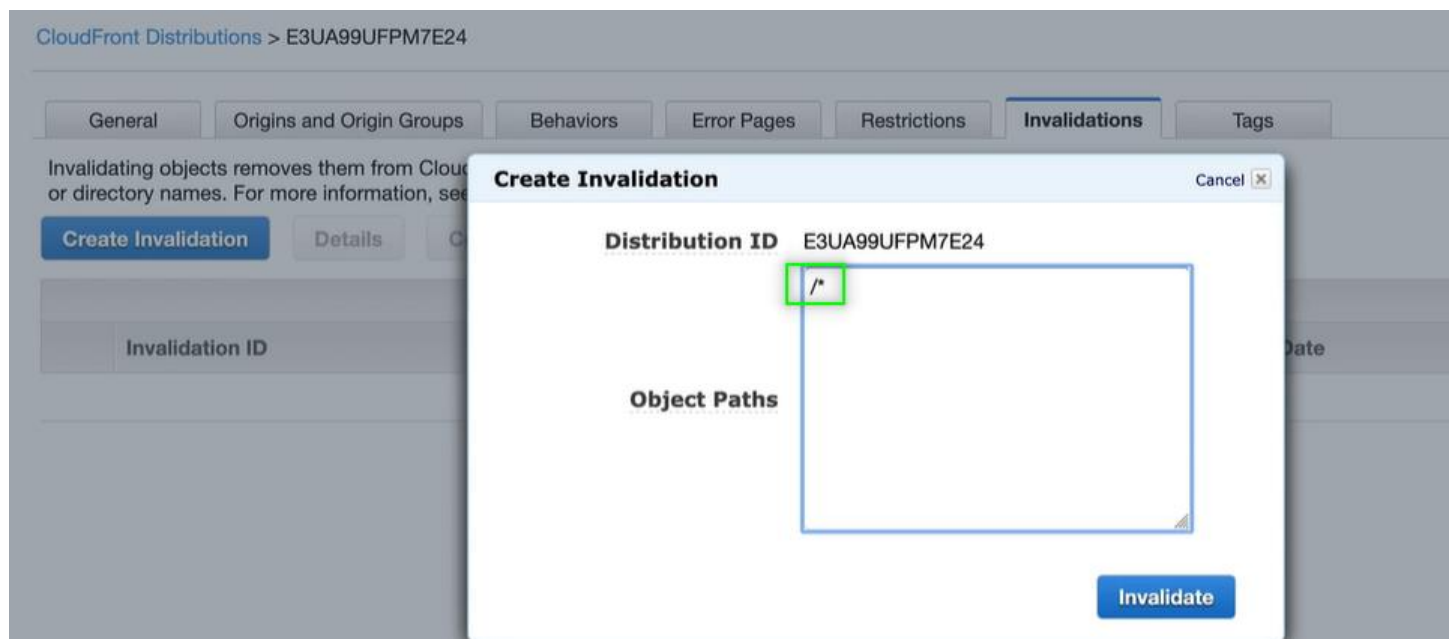
In this [DEMO] lesson you will learn how to implement a CloudFront distribution using an S3 bucket as the origin.

CDN is now active:

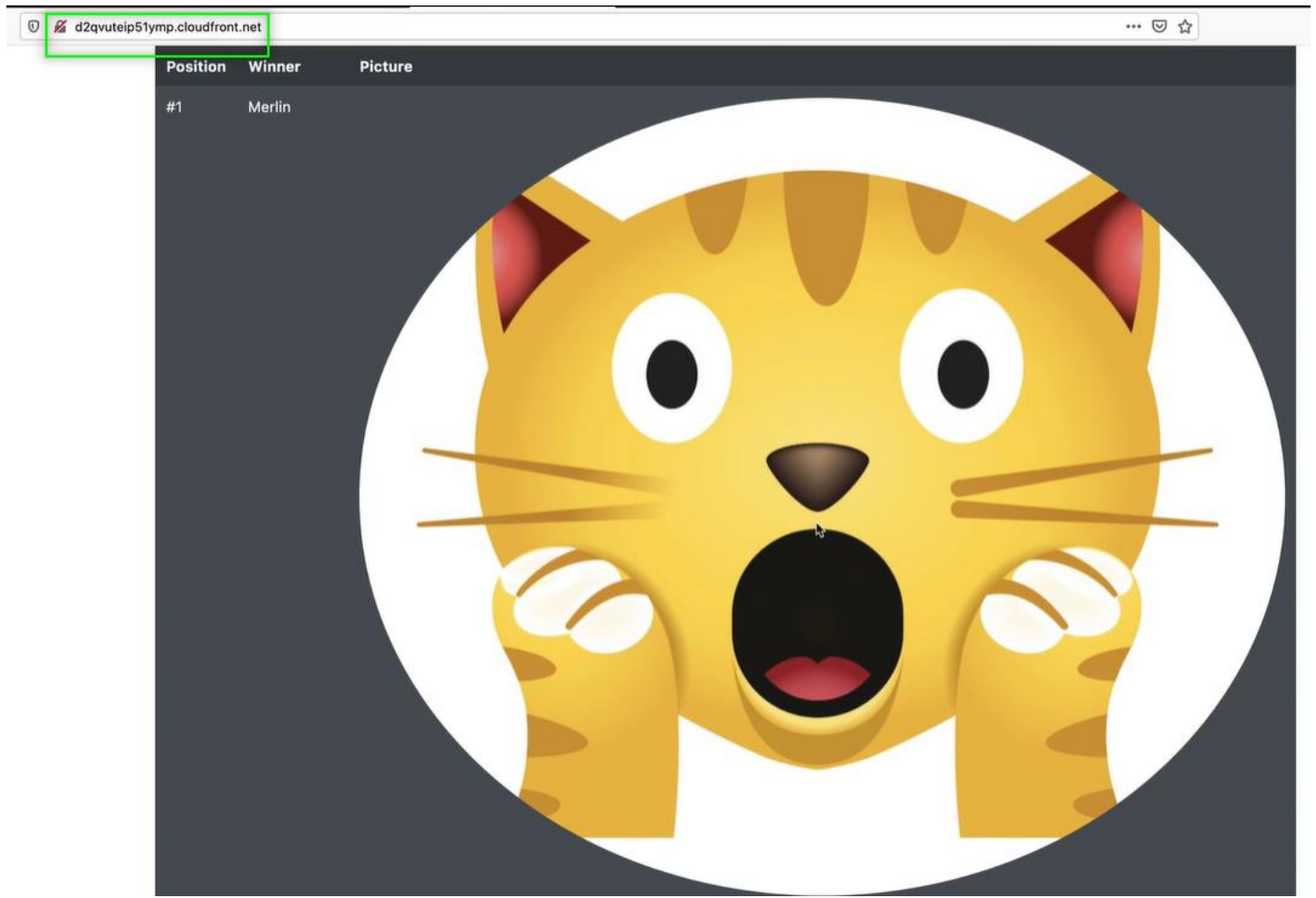
### CloudFront Distributions



Create invalidation for all:



Creates origin fetch – not going to nearest cached anymore.



### 3. Adding a Custom Domain and HTTPS to a cloudFront distribution using ACM

In this DEMO lesson you will gain experience of adding an Alternate domain name for a CloudFront Distribution and enabling HTTPS capability via a ACM generated certificate.

To do this demo you will need a domain registered and hosted within R53

Add domain name:

## Request a certificate

## Step 1: Add domain names

Step 2: Select validation method

Step 3: Add tags

Step 4: Review

Step 5: Validation

AWS Certificate Manager logs domain names from your certificates into public certificate transparency (CT) logs when renewing certificates. You can opt out of CT logging. [Learn more](#)

You can use AWS Certificate Manager certificates with other [AWS Services](#).

## Add domain names

Type the fully qualified domain name of the site you want to secure with an SSL/TLS certificate (for example, `www.example.com`). Use an asterisk (\*) to request a wildcard certificate to protect several sites in the same domain. For example: `*.example.com` protects `www.example.com`, `site.example.com` and `images.example.com`.

Domain name\*

\*At least one domain name is required

merlin.animals4life.org

Utilize DNS validation:

## Request a certificate

## Step 1: Add domain names

## Step 2: Select validation method

Step 3: Add tags

Step 4: Review

Step 5: Validation

## Select validation method

Choose how AWS Certificate Manager (ACM) validates your certificate request. Before we issue your certificate, we need to validate which you are requesting the certificate. ACM can validate ownership by using DNS or by sending email to the contact addresses

☒ DNS validation

Choose this option if you have or can obtain permission 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 request. [Learn more](#).

Create record in Route53:

Step 2: Select validation method

Step 3: Add tags

Step 4: Review

Step 5: Validation

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.

### Create record in Route 53

Below is your DNS record for domain validation. Click **Create** below to create the records in your Route 53 hosted zone

**Hosted zone** animals4life.org.

Name	Type	Value
_8afa5e06c3bbddf744abda9103c6ec3f.merlin.animals4life.org.	CNAME	_26fcc48802b4126a3314e152d2cabf7f.vtqfhvjcp.acm-validations.aws.


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


[Create record in Route 53](#) Amazon Route 53 DNS Customers ACM can update your DNS configuration for you. [Learn more](#).

Configure distribution settings:

☒ Custom SSL Certificate (example.com):

Choose this option if you want your users to access your content by using an alternate domain name, such as <https://www.example.com/logo.jpg>. You can use a certificate stored in AWS Certificate Manager (ACM) in the US East (N. Virginia) Region, or you can use a certificate stored in IAM.





[Request or Import a Certificate with ACM](#)

[Learn more](#) about using custom SSL/TLS certificates with CloudFront.  
[Learn more](#) about using ACM.

**Custom SSL Client Support**

☒ Clients that Support Server Name Indication (SNI) - (Recommended)


CloudFront serves your content over HTTPS to clients that support SNI. SNI is supported by browsers and clients released after 2010. There is no additional charge for this option.  
[Learn More](#)

☐ Legacy Clients Support (\$600/month prorated charge applies. [Learn about pricing](#))

CloudFront allocates dedicated IP addresses at each CloudFront edge location to serve your content over HTTPS.  
[Learn More](#)










**Security Policy**


☐ TLSv1  
☐ TLSv1\_2016  
☐ TLSv1.1\_2016  
☐ TLSv1.2\_2018  
☒ TLSv1.2\_2019 (recommended)



See the [list of protocols and ciphers](#) that CloudFront uses for each security policy.

Confirm edit:

Supported HTTP Versions	<input checked="" type="radio"/> HTTP/2, HTTP/1.1, HTTP/1.0 <input type="radio"/> HTTP/1.1, HTTP/1.0	
Default Root Object	<input type="text" value="index.html"/>	
Standard Logging	<input type="radio"/> On <input checked="" type="radio"/> Off	
S3 Bucket for Logs	<input type="text"/>	
Log Prefix	<input type="text"/>	
Cookie Logging	<input type="radio"/> On <input checked="" type="radio"/> Off	
Enable IPv6	<input checked="" type="checkbox"/> <a href="#">Learn more</a>	
Comment	<input type="text"/>	
Distribution State	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled	

[Cancel](#)
[Yes Edit](#)


SSL cert to be distributed:



**CloudFront**

CloudFront Distributions > E3UA99UFPM7E24

**Distributions**

Policies

What's new ✨

Telemetry

Monitoring

Alarms

Logs **NEW**

Reports & analytics

Cache statistics

Popular objects

Top referrers

Usage

Viewers

Security

**General** | Origins and Origin Groups | Behaviors | Error Pages | Restrictions | Invalidations | Tags

**Edit**

**Distribution ID** E3UA99UFPM7E24

**ARN** arn:aws:cloudfront::945690336440:distribution/E3UA99UFPM7E24

**Log Prefix** -

**Delivery Method** Web

**Cookie Logging** Off

**Distribution Status** InProgress

**Comment** -

**Price Class** Use All Edge Locations (Best Performance)

**AWS WAF Web ACL** -

**State** Enabled

**Alternate Domain Names (CNAMEs)** merlin.animals4life.org

**SSL Certificate** merlin.animals4life.org (02b945f7-9a73-4bc3-b218-cb0d356266b5)

**Domain Name** d2qvuteip51ymp.cloudfront.net

**Custom SSL Client Support** Clients that Support Server Name Indication (SNI) - (Recommended)

**Security Policy** TLSv1.2\_2019

**Supported HTTP Versions** HTTP/2, HTTP/1.1, HTTP/1.0

**IPv6** Enabled

**Default Root Object** index.html

Configure record, this will route and use HTTPS now:

Step 1  
Choose routing policy

Step 2  
**Configure records**

**Configure records** Info

You can create multiple records at a time that have the same routing policy.

**Simple routing records to add to animals4life.org** Info

Use if you're routing traffic to just one resource, such as a webserver.

**Edit** **Delete** **Define simple record**

<input type="checkbox"/>	Record name	Type	Value/Route traffic to	TTL (seconds)
<input type="checkbox"/>	merlin.animals4life.org	A	d2qvuteip51ymp.cloudfront.net	-

▶ Existing records

**Cancel** **Previous** **Create records**

