

Swinburne University of Technology

*COS20019 Cloud Computing Architecture*

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## Module 11 Guided Lab - Streaming Dynamic Content using Amazon CloudFront

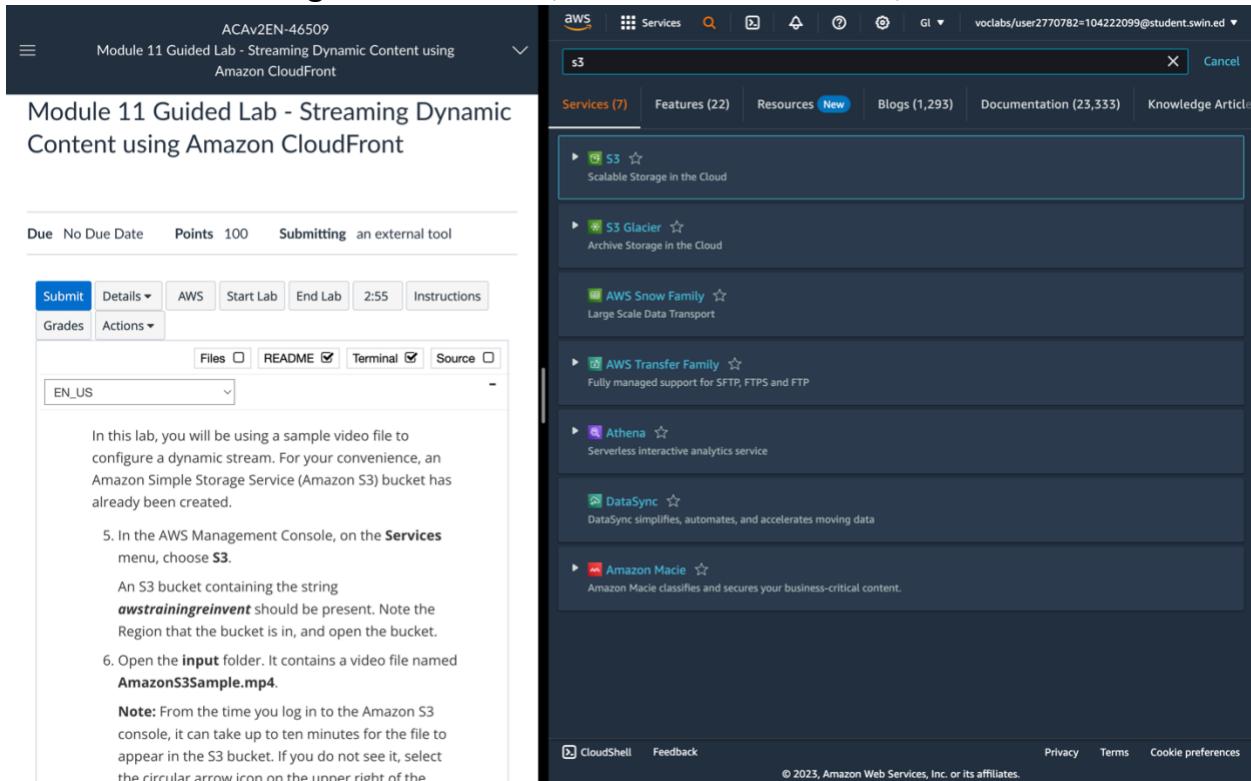
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*Sunday 25th September, 2023*

Name: Phan Vu - ID: 104222099

## TASK 1: Lab Preparation

5. In the AWS Management Console, on the Services menu, choose S3.



The image shows two side-by-side screenshots of the AWS Management Console. The left screenshot shows a guided lab interface for 'Module 11 Guided Lab - Streaming Dynamic Content using Amazon CloudFront'. It includes tabs for 'Submit', 'Details', 'AWS', 'Start Lab', 'End Lab', '2:55', and 'Instructions'. Below these are 'Grades' and 'Actions' dropdowns, and buttons for 'Files', 'README', 'Terminal', and 'Source'. A note at the bottom states: 'In this lab, you will be using a sample video file to configure a dynamic stream. For your convenience, an Amazon Simple Storage Service (Amazon S3) bucket has already been created.' The right screenshot shows the 'Services' menu with 'S3' selected. Other services listed include S3 Glacier, AWS Snow Family, AWS Transfer Family, Athena, DataSync, and Amazon Macie. At the bottom of the right screenshot, there are links for 'CloudShell', 'Feedback', 'Privacy', 'Terms', and 'Cookie preferences', along with a copyright notice: '© 2023, Amazon Web Services, Inc. or its affiliates.'

An S3 bucket containing the string ***awstrainingreinvent*** should be present. Note the Region that the bucket is in, and open the bucket.

The screenshot shows the AWS S3 console interface. On the left, there's a sidebar with various navigation links: Buckets, 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-links for Dashboards and AWS Organizations settings), Feature spotlight (with a blue badge showing '7'), and AWS Marketplace for S3.

The main content area has a header "Amazon S3" and a sub-header "Amazon S3". It features an "Account snapshot" section with a callout to "Storage lens provides visibility into storage usage and activity trends" and a "View Storage Lens dashboard" button. Below this is a "Buckets (1) Info" section. It includes buttons for "Create bucket" (which is highlighted in orange), "Copy ARN", and "Empty". There's also a search bar "Find buckets by name" and a pagination indicator "1". A table lists the single bucket:

Name	AWS Region
c83328a1775290l4829957t1 w1391-awstrainingreinvent- 7rrdugar4nt7	US East (N. Virginia) us- east-1

6. Open the **input** folder. It contains a video file named **AmazonS3Sample.mp4**.

AWS Services Gl vocabs/user2770782=104222099@student.swin.edu

## Amazon S3

Buckets

- 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
- AWS Organizations settings

Feature spotlight 7

▶ AWS Marketplace for S3

c83328a1775290l4829957t1w1391-awstrainingreinvent-7rrdugar4nt7

c83328a1775290l4829957t1w1391  
awstrainingreinvent-  
7rrdugar4nt7 [Info](#)

Publicly accessible

Objects Properties Permissions >

### Objects (1)

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

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

Find objects by prefix

< 1 >

<input type="checkbox"/>	Name	Type	Last modified
<input type="checkbox"/>	input/	Folder	-

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“Input” folder

aws Services Q G Gl v vocabs/user2770782=104222099@student.swin.edu

## Amazon S3

Buckets

- 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
- AWS Organizations settings

Feature spotlight 7

▶ AWS Marketplace for S3

Amazon S3 > Buckets > c83328a1775290l4829957t1w1391-awstrainingreinvent-7rrdugar4nt7 input/

### input/

Objects Properties

#### Objects (1)

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

< 1 >

<input type="checkbox"/>	Name	Type	Last modified	Size
<input type="checkbox"/>	AmazonS3ample.mp4	mp4	September 25, 2023, 16:48:33 (UTC+07:00)	

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AmazonS3Sample.mp4

The screenshot shows the AWS S3 console. On the left, the navigation pane includes 'Buckets', '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 'Dashboards' and 'AWS Organizations settings'), 'Feature spotlight' (with 7 items), and 'AWS Marketplace for S3'. The main content area displays the object 'AmazonS3Sample.mp4' with its details:

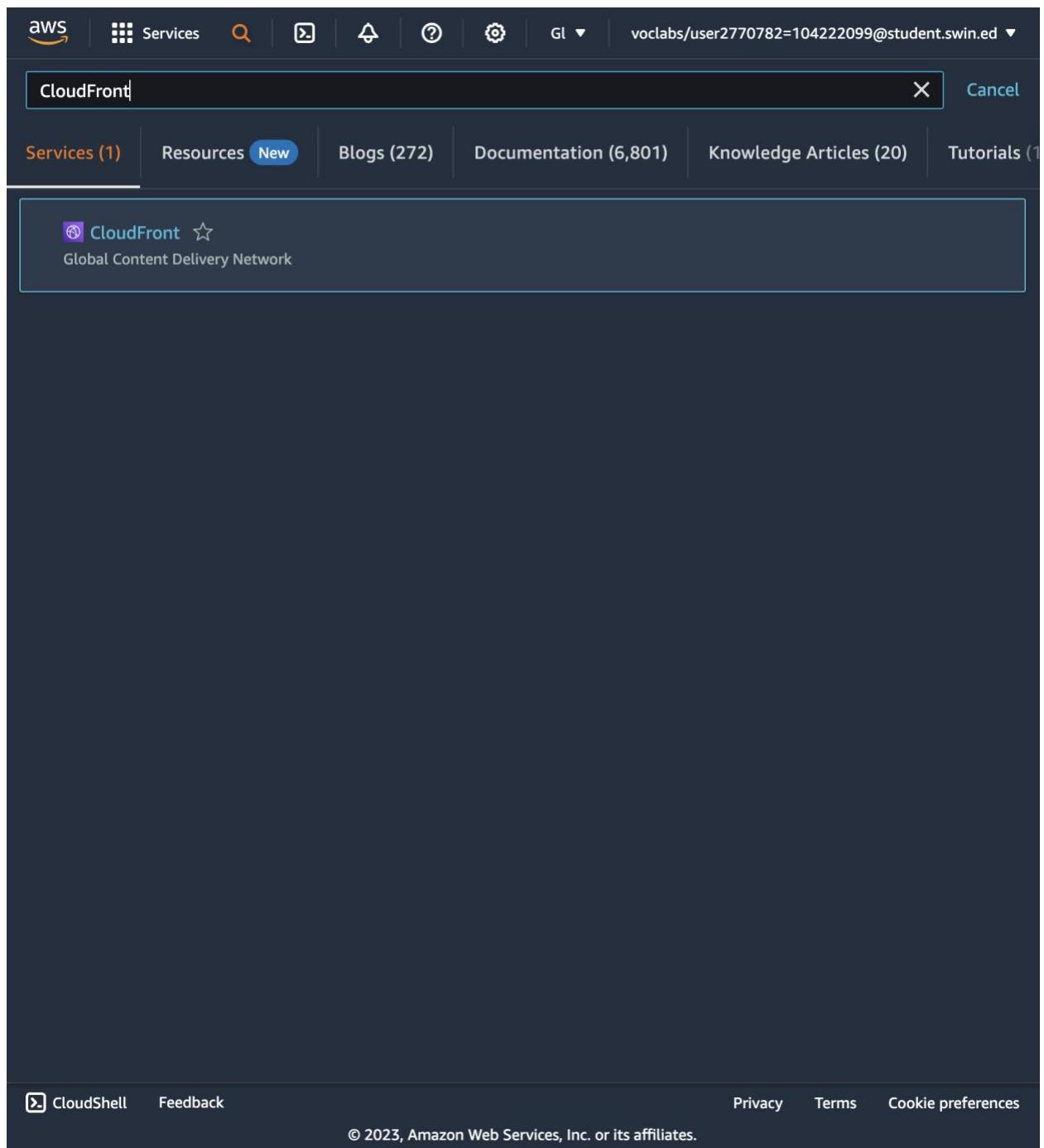
Object overview	
Owner	s3://c83328a1775290l4829957t1w1391-awstrainingreinvent-7rrdugar4nt7/input/AmazonS3Sample.mp4
AWS Region	US East (N. Virginia) us-east-1
Last modified	September 25, 2023, 16:48:33 (UTC+07:00)
Size	22.4 MB
Type	mp4
Key	e6655efa2d88343a16024c9bb0e046c2-3

Below the object details, there are buttons for 'Copy S3 URI', 'Download', and 'Open'. The 'Properties' tab is selected. At the bottom, there are links for 'CloudShell', 'Feedback', 'Privacy', 'Terms', and 'Cookie preferences'.

Inside of the **AmazonS3Sample.mp4** after opened

## TASK 2: Create an Amazon CloudFront Distribution

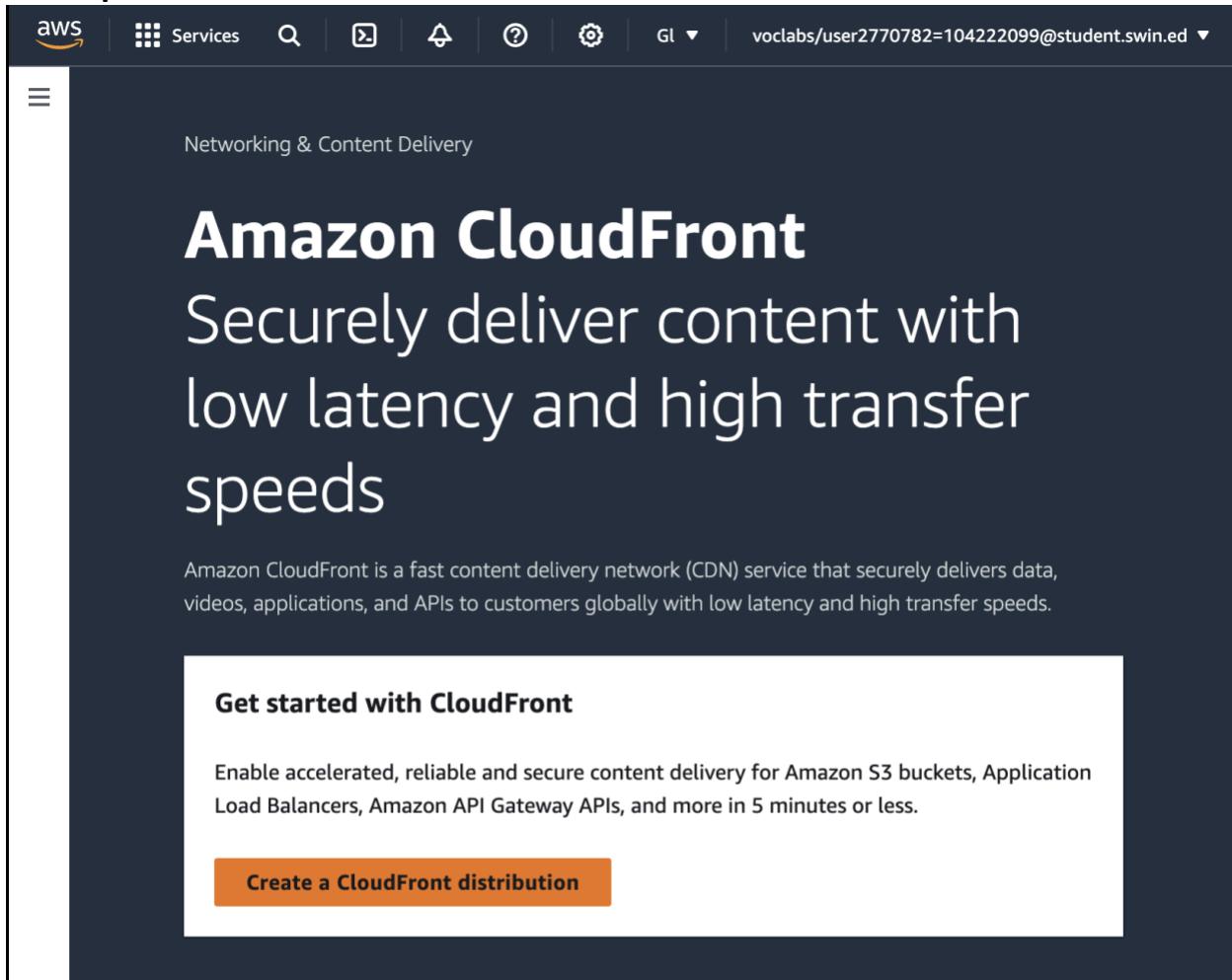
7. On the **Services** menu, choose **CloudFront**.



## 8. Choose **Create a CloudFront distribution**.

And configure the setting:

- Select the **Origin domain** field. A list of S3 buckets will appear. Choose the one that was created earlier that has **awstrainingreinvent** as part of the file name.
- Leave **Origin access as Public**.
- Under **Web Application Firewall (WAF)** select **Do not enable security protections**.



The screenshot shows the AWS CloudFront service page. At the top, there's a navigation bar with the AWS logo, a services menu, a search bar, and user information. Below the header, the title "Amazon CloudFront" is prominently displayed in large white font, followed by the tagline "Securely deliver content with low latency and high transfer speeds". A descriptive paragraph explains that CloudFront is a fast content delivery network (CDN) service. A call-to-action button labeled "Create a CloudFront distribution" is visible. The main content area is titled "Benefits and features" and lists two main benefits: "Reduce latency" and "Improve security", each with a brief description.

Networking & Content Delivery

# Amazon CloudFront

## Securely deliver content with low latency and high transfer speeds

Amazon CloudFront is a fast content delivery network (CDN) service that securely delivers data, videos, applications, and APIs to customers globally with low latency and high transfer speeds.

**Get started with CloudFront**

Enable accelerated, reliable and secure content delivery for Amazon S3 buckets, Application Load Balancers, Amazon API Gateway APIs, and more in 5 minutes or less.

[Create a CloudFront distribution](#)

### Benefits and features

<b>Reduce latency</b> The CloudFront network has 225+ points of presence (PoPs) that are connected by fully redundant parallel 100 GbE fiber.	<b>Improve security</b> Use CloudFront for perimeter protection, traffic encryption, and access controls. AWS Shield Standard defends traffic.
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[CloudShell](#) [Feedback](#) [Privacy](#) [Terms](#) [Cookie preferences](#)

<https://us-east-1.console.aws.amazon.com/cloudfront/v3/home?region=us-east-1#/distributions/create>

### ACAV2EN-46509

Module 11 Guided Lab - Streaming Dynamic Content using Amazon CloudFront

## Module 11 Guided Lab - Streaming Dynamic Content using Amazon CloudFront

Due No Due Date Points 100 Submitting an external tool

**Submit** Details AWS Start Lab End Lab 2:44 Instructions  
 Grades Actions EN\_US

9. Under **Origin Settings** section of the page, enter the follow information:

- o Select the **Origin domain** field. A list of S3 buckets will appear. Choose the one that was created earlier that has **awstrainingreinvent** as part of the file name.
- o Leave **Origin access** as **Public**.
- o Under **Web Application Firewall (WAF)** select **Do not enable security protections**.

⚠ The warning message under **Custom SSL certificate - optional** can be safely ignored.

10. Scroll to the bottom of the page, then choose **Create Distribution**.

**Origin**

**Origin domain**  
Choose an AWS origin, or enter your origin's domain name.  
c83328a1775290l4829957t1w1391-awstrainingreinvent-7rrdugar4nt7.s3.us-east-1.amazonaws.com

**Origin path - optional** 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.  
c83328a1775290l4829957t1w1391-awstrainingreinvent-7rrdugar4nt7.s3.us-east-1.amazonaws.com

**Origin access** Public  
Bucket must allow public access.

Origin access control settings (recommended)  
Bucket can restrict access to only CloudFront.

Legacy access identities  
Use a CloudFront origin access identity (OAI) to access the S3 bucket.

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

**Enable Origin Shield** Origin Shield is an additional caching layer that can help reduce the load on your origin and help protect its availability.  
No

**Additional settings**

### ACAV2EN-46509

Module 11 Guided Lab - Streaming Dynamic Content using Amazon CloudFront

## Task 2: Create an Amazon CloudFront Distribution

Due No Due Date Points 100 Submitting an external tool

**Submit** Details AWS Start Lab End Lab 2:44 Instructions  
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- o Select the **Origin domain** field. A list of S3 buckets will appear. Choose the one that was created earlier that has **awstrainingreinvent** as part of the file name.
- o Leave **Origin access** as **Public**.
- o Under **Web Application Firewall (WAF)** select **Do not enable security protections**.

⚠ The warning message under **Custom SSL certificate - optional** can be safely ignored.

10. Scroll to the bottom of the page, then choose **Create Distribution**.

**Default cache behavior**

**Path pattern** Default (\*)

Compress objects automatically  
Yes

**Viewer**

Viewer protocol policy  
HTTP and HTTPS

Allowed HTTP methods  
GET, HEAD

Restrict viewer access  
No

**Cache key and origin requests**  
We recommend using a cache policy and origin request policy to control the cache key and origin requests.

Cache policy and origin request policy (recommended)

ACAv2EN-46509

Module 11 Guided Lab - Streaming Dynamic Content using Amazon CloudFront

## Module 11 Guided Lab - Streaming Dynamic Content using Amazon CloudFront

Due No Due Date Points 100 Submitting an external tool

**Submit** Details AWS Start Lab End Lab 2:43 Instructions

Grades Actions

Files README Terminal Source EN\_US

9. Under **Origin Settings** section of the page, enter the follow information:

- o Select the **Origin domain** field. A list of S3 buckets will appear. Choose the one that was created earlier that has **awstrainingreinvent** as part of the file name.
- o Leave **Origin access as Public**.
- o Under **Web Application Firewall (WAF)** select **Do not enable security protections**.

⚠ The warning message under **Custom SSL certificate - optional** can be safely ignored.

10. Scroll to the bottom of the page, then choose **Create Distribution**.

**Tools & Scripts on Amazon**

aws Services Search Gl v vocabs/user2770782=104222099@student.swin.edu.v

### Web Application Firewall (WAF)

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.

#### 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](#)

To add a list of alternative domain names, use the [bulk editor](#).

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](#) [Request certificate](#)

**C** User: arn:aws:sts::139157793567:assumed-role/vocabs/user2770782=104222099@student.swin.edu.au is not authorized to perform: acm>ListCertificates because no identity-based policy allows the acmListCertificates action

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The screenshot shows the AWS CloudFront 'Distributions' page. At the top, a green success message box says 'Successfully created new distribution.' Below it, a blue feedback message asks if the user has 30 seconds to share their experience. The main content area shows the distribution details for 'E1NNV75M5BYFQI'. The 'General' tab is selected, showing the distribution domain name (d3w0d4chexmthh.cloudfront.net), ARN (arn:aws:cloudfront::139157793567:distribution/E1NNV75M5BYFQI), and last modified status (Deploying). Below this is a 'Settings' section with tabs for Description, Alternate domain names, Standard logging, Price class, Use all edge locations (best performance), Cookie logging, Supported HTTP versions, Default root object, and AWS WAF. At the bottom, there are links for CloudShell, Feedback, Privacy, Terms, and Cookie preferences, along with a copyright notice for 2023, Amazon Web Services, Inc. or its affiliates.

Successfully created new distribution.

Do you have 30 seconds to share your experience? [Help us improve CloudFront.](#)

[CloudFront](#) > [Distributions](#) > E1NNV75M5BYFQI

## E1NNV75M5BYFQI

[View metrics](#)

< General Origins Behaviors Error pages Geographic restrictions >

### Details

Distribution domain name	ARN	Last modified
d3w0d4chexmthh.cloudfront.net	arn:aws:cloudfront::139157793567:distribution/E1NNV75M5BYFQI	Deploying

### Settings

Description	Alternate domain names	Standard logging
-	-	Off
Price class		Cookie logging
Use all edge locations (best performance)		Off
Supported HTTP versions		Default root object
HTTP/2, HTTP/1.1, HTTP/1.0		-
AWS WAF		

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Successfully created new distribution

## TASK 3: Create an Amazon Elastic Transcoder Pipeline

## Create a Pipeline

11. In the AWS Management Console, on the **Services** menu, choose **Elastic Transcoder**.

The screenshot shows the AWS Management Console search results page. The search bar at the top contains the text "eLASTICTranscoder". Below the search bar, there are several navigation links: Services (12), Marketplace (1,136), Features (27), Resources (New), Blogs (1,797), and Documentation (23,95). The main content area displays a list of services, with "Elastic Transcoder" highlighted in a blue box. Other listed services include Elastic Beanstalk, Elastic Container Service, Elastic Container Registry, Elastic Kubernetes Service, AWS Elastic Disaster Recovery, EC2, EMR, and EFS.

Service	Description
Elastic Transcoder	Easy-to-Use Scalable Media Transcoding
Elastic Beanstalk	Run and Manage Web Apps
Elastic Container Service	Highly secure, reliable, and scalable way to run containers
Elastic Container Registry	Fully-managed Docker container registry : Share and deploy container software, publicly or privately
Elastic Kubernetes Service	The most trusted way to start, run, and scale Kubernetes
AWS Elastic Disaster Recovery	Scalable, cost-effective application recovery to AWS
EC2	Virtual Servers in the Cloud
EMR	Managed Hadoop Framework
EFS	Managed File Storage for EC2

12. In the navigation bar of the Amazon Elastic Transcoder console, select the same Region that the S3 bucket was created in.

aws Services N. Vi vocabs/user2770782=104222099@student.swin. ▾

**Try the New File MediaConvert**

AWS Elemental MediaConvert is a service that provides a comprehensive suite of advanced transcoding features for video and audio content.

**Welcome to Amazon Elastic Transcoder**

Create a new Pipeline

Amazon Elastic Transcoder has the following features:

- Pipelines** are queues that process jobs in the order they were submitted. There are two pipelines, one for standard priority and one for high priority. Jobs in the standard-priority pipeline are transcoded immediately.
- Jobs** specify the source file, destination file, and whether to create a thumbnail. When you create a job, Elastic Transcoder begins to process it. You'll create at least one job. Most jobs go into the standard-priority pipeline when you need a file to be transcoded.
- Presets** are templates that define how media files are transcoded. Elastic Transcoder includes several built-in presets. When you create a pipeline, you can also create your own presets. When you click Create, Elastic Transcoder automatically adds the specified pipeline for processing.

**Amazon Elastic Transcoder Regions**

Create a pipeline

Give your pipeline a name so you can identify which jobs go in that pipeline, for example, standard priority.

There are 11 Regions that are not enabled for this account.

**Additional Information**

- Getting Started with Elastic Transcoder
- Documentation
- All Elastic Transcoder Resources
- Forums

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13. On the Pipelines page, choose **Create a new Pipeline**.

**Welcome to Amazon Elastic Transcoder**

**Create a new Pipeline**

**Try the New File-Based Video Processing Option**

AWS Elemental MediaConvert is a new file-based video transcoding service that provides a comprehensive suite of advanced transcoding features, with Basic tier rates starting at \$0.0075/minute. [Read more](#) or try [MediaConvert](#)

- Welcome to Amazon Elastic Transcoder**
- Create a new Pipeline**
- Additional Information**
- [Getting Started](#)
- For **Pipeline Name**, enter InputPipeline
  - For **Input Bucket**, select the awstrainingreinvent S3 bucket.
  - For **IAM Role**, under **Other roles**, select **AmazonElasticTranscoderRole**. This role was pre-created in this lab's CloudFormation template that uses the managed policy **AmazonElasticTranscoderRole**. The Elastic Transcoder service will assume this role to access Amazon S3 and Amazon Simple Notification Service (Amazon SNS) resources in your lab account.

**Try the New File-Based Video Processing Option**

AWS Elemental MediaConvert is a new file-based video transcoding service that provides a comprehensive suite of advanced transcoding features, with Basic tier rates starting at \$0.0075/minute. [Read more](#) or try [MediaConvert](#)

**Create New Pipeline**

**Pipeline Name** InputPipeline

**Input Bucket** c83328a1775290l4829957t1w1391-*i*

**IAM Role** AmazonElasticTranscoderRole

This role must have the permissions necessary to access the applicable S3 buckets and SNS topics. [View the policy for the default IAM role](#).

17. In the **Configuration for Amazon S3 Bucket for Transcoded Files and Playlists** section, enter the follow information:

- Under **Bucket**, select the **awstrainingreinvent** S3 bucket.
- Under **Storage Class**, select **Standard**.

The screenshot shows the AWS Elemental MediaConvert configuration interface. At the top, there's a banner for 'Try the New File-Based Video Processing Option' with a link to 'Read more or try MediaConvert'. Below the banner, the section title is 'Configuration for Amazon S3 Bucket for Transcoded Files and Playlists'. It contains two main settings: 'Bucket' set to 'c83328a1775290l4829957t1w1391-i' and 'Storage Class' set to 'Standard'. Each setting has an information icon (i) to its right. A ' + Add Permission' button is located below the storage class dropdown. The top navigation bar includes the AWS logo, services menu, search bar, and user information 'N. Vi'.

18. In the **Configuration for Amazon S3 Bucket for Thumbnails** section, enter the following information:

- Under **Bucket**, select the **awstrainingreinvent** S3 bucket.
- Under **Storage Class**, select **ReducedRedundancy**.

The screenshot shows the AWS Elemental MediaConvert configuration interface. At the top, there's a banner for 'Try the New File-Based Video Processing Option' with a link to 'Read more or try MediaConvert'. Below the banner, the section title is 'Configuration for Amazon S3 Bucket for Thumbnails'. It contains two main settings: 'Bucket' set to 'c83328a1775290l4829957t1w1391-i' and 'Storage Class' set to 'Reduced Redundancy'. Each setting has an information icon (i) to its right. A ' + Add Permission' button is located below the storage class dropdown. The top navigation bar includes the AWS logo, services menu, search bar, and user information 'N. Vi'.

19. Choose **Create Pipeline**.

aws Services N. Vir v ocrlabs/user2770782=104222099@student.swin.edu. ▾

**Try the New File-Based Video Processing Option**

AWS Elemental MediaConvert is a new file-based video transcoding service that provides a comprehensive suite of advanced transcoding features, with Basic tier rates starting at \$0.0075/minute. [Read more](#) or [try MediaConvert](#)

**IAM Role** AmazonElasticTranscoderRole ⓘ

This role must have the permissions necessary to access the applicable S3 buckets and SNS topics. [View the policy for the default IAM role.](#)

**Configuration for Amazon S3 Bucket for Transcoded Files and Playlists**

Bucket c83328a1775290l4829957t1w1391- ⓘ

Storage Class Standard ⓘ

+ Add Permission

**Configuration for Amazon S3 Bucket for Thumbnails**

Bucket c83328a1775290l4829957t1w1391- ⓘ

Storage Class Reduced Redundancy ⓘ

+ Add Permission

▶ Notifications (Optional)

▶ Encryption (Optional)

**Create Pipeline**

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### Try the New File-Based Video Processing Option

AWS Elemental MediaConvert is a new file-based video transcoding service that provides a comprehensive suite of advanced transcoding features, with Basic tier rates starting at \$0.0075/minute. [Read more](#) or [try MediaConvert](#)

## Pipelines

[Create New Job](#)[Edit](#)[Pause](#)[Activate](#)[Remove](#)[Jobs](#)[Presets](#)

### Summary

ARN	arn:aws:elastictranscoder:us-east-1:139157793567:pipeline/1695637017520-xqqmyo
Name	InputPipeline
Pipeline ID	1695637017520-xqqmyo
Status	Active
Input Bucket	c83328a1775290l4829957t1w1391-awstrainingreinvent-7rrdugar4nt7

▶ Configuration for Amazon S3 Bucket for Transcoded Files and Playlists

▶ Configuration for Amazon S3 Bucket for Thumbnails

▶ Job Details

▶ Permissions

▶ Notifications

▶ Encryption

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## Create a Job

- On the Pipelines page, choose **Create New Job** to create a transcoding job. You create the job in the pipeline (queue) that you want to use to transcode the video file.

The screenshot shows the AWS Elemental MediaConvert service interface. At the top, there's a banner for 'Try the New File-Based Video Processing Option' with a link to 'Read more or try MediaConvert'. Below the banner, the navigation bar includes 'Services' and the user account 'N. Vir'. The main content area is titled 'Pipelines' and contains buttons for 'Create New Job', 'Edit', 'Pause', 'Activate', and 'Remove'. A help icon is also present.

- For **Pipeline**, select **InputPipeline**.

- For **Output Key Prefix**, enter **output/**.

Amazon Elastic Transcoder will prepend this value to the names of all files that the job will create (including output files, thumbnails, and playlists).

- For **Input Key**, select the input file labeled **input/AmazonS3Sample.mp4**.

The screenshot shows the 'Create a New Transcoding Job' wizard. It starts with a 'Try the New File-Based Video Processing Option' banner. The main section is titled 'Create a New Transcoding Job' and describes what a job contains. It has two configuration steps: 'Input Details (1 of 1)' and 'Configure Output Details'. In the 'Input Details' step, the 'Pipeline' is set to 'InputPipeline', the 'Output Key Prefix' is 'output/', and the 'Input Key' is 'input/AmazonS3Sample.mp4'. Under 'Decryption Parameters', 'None' is selected. Under 'Available Settings', 'Clip' and 'Input Captions' are listed. A button '+ Add Another Input' is available for adding more inputs.

## Configure Output Details

24. For **Preset**, select **System preset: HLS 2M**
25. For **Segment Duration**, enter 10 (which is the HLS default).
26. For **Output Key**, enter the unique prefix **HLS20M** to name the segments created using this preset.
27. Click **+ Add Another Output** and repeat the steps above to generate segments for presets **HLS 1.5M** and **HLS 1M** and then provide the respective prefix names:
  - o **HLS15M**
  - o **HLS10M**

The screenshot shows the AWS Elemental MediaConvert configuration interface. At the top, there's a banner for 'Try the New File-Based Video Processing Option' with a close button (X). Below the banner, the main configuration area starts with '+ Add Another Input'. The first output details are shown:

- Preset:** System preset: HLS 2M
- Segment Duration:** 10
- Output Key:** HLS20M
- Segment Filename Preview:** HLS20M00000.ts
- Create Thumbnails:** No (radio button selected)
- Output Rotation (Clockwise):** auto
- Encryption Parameters:** A note: 'To protect your HLS Outputs, add an HLSv3 or HLSv4 playlist along with Content Protection information.'
- Available Settings:** Output Captions (checkbox)

Below this, there's a section for Watermarks with a Preset Watermark Id dropdown set to 'Select One...'. The interface has a clean, modern design with blue and white colors.

**Try the New File-Based Video Processing Option**

AWS Elemental MediaConvert is a new file-based video transcoding service that provides a comprehensive suite of advanced transcoding features, with Basic tier rates starting at \$0.0075/minute. [Read more](#) or [try MediaConvert](#)

### Output Details (2 of 3)

- Remove Output

Preset	System preset: HLS 1.5M	
Segment Duration	10	
Output Key	HLS15M	
Segment Filename Preview	HLS15M00000.ts	
Create Thumbnails	<input checked="" type="radio"/> No <input type="radio"/> Yes	
Output Rotation (Clockwise)	auto	
Encryption Parameters	To protect your HLS Outputs, add an HLSv3 or HLSv4 playlist along with Content Protection information.	
Available Settings	<input type="checkbox"/> Output Captions	

## Watermarks

Preset Watermark Id **Select One...** ▾

The screenshot shows the AWS Elemental MediaConvert interface. At the top, there's a navigation bar with icons for AWS, Services, Search, Notifications, and User N. Vir. The URL in the address bar is voclabs/user2770782=104222099@student.swin.edu. A prominent callout box at the top left says "Try the New File-Based Video Processing Option". It describes AWS Elemental MediaConvert as a new file-based video transcoding service with advanced transcoding features and basic tier rates starting at \$0.0075/minute. It includes links to "Read more" and "try MediaConvert".

**Output Details (3 of 3)** - Remove Output

---

Preset	System preset: HLS 1M	<input type="button" value="i"/>
Segment Duration	10	<input type="button" value="i"/>
Output Key	HLS10M	<input type="button" value="i"/>
Segment Filename Preview	HLS10M00000.ts <input type="button" value="i"/>	
Create Thumbnails	<input checked="" type="radio"/> No <input type="radio"/> Yes	<input type="button" value="i"/>
Output Rotation (Clockwise)	auto	<input type="button" value="i"/>
Encryption Parameters	To protect your HLS Outputs, add an HLSv3 or HLSv4 playlist along with Content Protection information.	
Available Settings	<input type="checkbox"/> Output Captions <input type="button" value="i"/>	

#### Watermarks

Preset Watermark Id

[+ Add Another Output](#)

## Configure a Playlist

28. Under **Playlists (Adaptive Streaming)**, choose **Add Playlist**, then configure:
  - o **Master Playlist Name** primary
  - o **Playlist Format:** *HLSv3*
29. Select all the three outputs, which were entered in the previous section, to include them in this playlist by selecting the **+** option.

warn Services Search Bell Help N. Vir vclabs/user2770782=104222099@student.swin.edu. ▾

**Try the New File-Based Video Processing Option**  
AWS Elemental MediaConvert is a new file-based video transcoding service that provides a comprehensive suite of advanced transcoding features, with Basic tier rates starting at \$0.0075/minute. [Read more](#) or [try MediaConvert](#)

Content Protection information. [?](#) [X](#)

Output Captions [i](#)

**Watermarks**

Preset Watermark Id [Select One...](#)

[+ Add Another Output](#)

**Playlist (1 of 1)** [- Remove Playlist](#)

Master Playlist Name  [i](#)

Playlist Format [HLSv3](#) [i](#)

Outputs in Master Playlist [HLS20M](#) [+](#) [x](#) [i](#)

Outputs in Master Playlist [HLS15M](#) [+](#) [x](#) [i](#)

Outputs in Master Playlist [HLS10M](#) [+](#) [x](#) [i](#)

Content Protection  None  HLS AES  PlayReady DRM [i](#)

[+ Add Playlist](#)

▶ User Metadata (Optional)

[Cancel](#) [Create New Job](#)

[CloudShell](#) [Feedback](#) [Privacy](#) [Terms](#) [Cookie preferences](#)

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30. Choose **Create New Job**.

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Pipelines **Jobs**

Presets

ARN	Number Of Inputs
arn:aws:elastictranscoder:us-east-1:139157793567:job/1695637608594-xum248	1

Job ID	Number Of Outputs
1695637608594-xum248	3

Pipeline	Number Of Playlists
InputPipeline	1

Pipeline ID	Job Status
1695637017520-xqqmyo	Complete

Output Key Prefix output/

Inputs

Input Key	Frame Rate
input/AmazonS3Sample.mp4	15

Resolution	Duration
1280 x 720	0:06:45.535

File Size	Clip Start Time
23.5 MB	

Captions Merge Policy	Clip Duration

Outputs

Preset	Preset ID
System preset: HLS 2M	1351620000001-200010

Output Key	Status
HLS20M	Complete

Status Details	Output Duration
Some individual segment files for this output have a higher bit rate than the average bit rate of the transcoded media. Playlists including this output will record a higher bit rate than the rate specified by the preset.	0:06:45.579

Output Resolution	Thumbnail Filename Pattern
1024 x 576	

Output Rotation (Clockwise)	Segment Duration
auto	10.0

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Pipelines	Watermarks	Album Art Merge Policy																					
<b>Jobs</b>	<b>Caption Formats</b>																						
Presets	Preset Output Key <b>Status Details</b> Output Resolution Output Rotation (Clockwise) Frame Rate File Size Watermarks Caption Formats	System preset: HLS 1M HLS10M Some individual segment files for this output have a higher bit rate than the average bit rate of the transcoded media. Playlists including this output will record a higher bit rate than the rate specified by the preset. 640 x 360 auto 15 fps 17.1 MB Album Art Merge Policy Album Art Merge Policy	Preset ID Status Output Duration Thumbnail Filename Pattern Segment Duration Applied Color Space Conversion Album Art Merge Policy																				
		1351620000001-200030 Complete 0:06:45.579																					
	<b>Playlists</b> <table border="1"> <thead> <tr> <th>Master Playlist Name</th> <th>Playlist Format</th> <th>Output Key List</th> <th>Status</th> <th>Status Details</th> </tr> </thead> <tbody> <tr> <td>primary</td> <td>HLSv3</td> <td>HLS20M, HLS15M, HLS10M</td> <td>Complete</td> <td></td> </tr> </tbody> </table> <b>User Metadata</b> <b>Job Timing</b> <table border="1"> <thead> <tr> <th>Submit Time</th> <th>Time in Queue</th> <th>Start Time</th> <th>Transcoding Time</th> <th>Finish Time</th> </tr> </thead> <tbody> <tr> <td>2023-09-25T17:26:48+0700</td> <td>0:00:00.796</td> <td>2023-09-25T17:26:49+0700</td> <td>0:00:23.404</td> <td>2023-09-25T17:27:12+0700</td> </tr> </tbody> </table>			Master Playlist Name	Playlist Format	Output Key List	Status	Status Details	primary	HLSv3	HLS20M, HLS15M, HLS10M	Complete		Submit Time	Time in Queue	Start Time	Transcoding Time	Finish Time	2023-09-25T17:26:48+0700	0:00:00.796	2023-09-25T17:26:49+0700	0:00:23.404	2023-09-25T17:27:12+0700
Master Playlist Name	Playlist Format	Output Key List	Status	Status Details																			
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2023-09-25T17:26:48+0700	0:00:00.796	2023-09-25T17:26:49+0700	0:00:23.404	2023-09-25T17:27:12+0700																			

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**Pipelines**

<b>Preset</b>	System preset: HLS 1.5M	<b>Preset ID</b>	1351620000001-200020
<b>Output Key</b>	HLS15M	<b>Status</b>	Complete

**Presets**

<b>Status Details</b>	Some individual segment files for this output have a higher bit rate than the average bit rate of the transcoded media. Playlists including this output will record a higher bit rate than the rate specified by the preset.	<b>Output Duration</b>	0:06:45.579
<b>Output Resolution</b>	960 x 540	<b>Thumbnail Filename Pattern</b>	
<b>Output Rotation (Clockwise)</b>	auto	<b>Segment Duration</b>	10.0
<b>Frame Rate</b>	15 fps	<b>Applied Color Space Conversion</b>	
<b>File Size</b>	26.6 MB		
<b>Watermarks</b>		<b>Album Art Merge Policy</b>	
<b>Caption Formats</b>			
<b>Preset</b>	System preset: HLS 1M	<b>Preset ID</b>	1351620000001-200030
<b>Output Key</b>	HLS10M	<b>Status</b>	Complete
<b>Status Details</b>	Some individual segment files for this output have a higher bit rate than the average bit rate of the transcoded media. Playlists including this output will record a higher bit rate than the rate specified by the preset.	<b>Output Duration</b>	0:06:45.579
<b>Output Resolution</b>	640 x 360	<b>Thumbnail Filename Pattern</b>	
<b>Output Rotation (Clockwise)</b>	auto	<b>Segment Duration</b>	10.0
<b>Frame Rate</b>	15 fps	<b>Applied Color Space Conversion</b>	
<b>File Size</b>	17.1 MB		
<b>Watermarks</b>		<b>Album Art Merge Policy</b>	
<b>Caption Formats</b>			

**CloudShell** **Feedback** **Privacy** **Terms** **Cookie preferences**

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## TASK 4: Test Playback of the Dynamic (Multi Bit-Rate) Stream

### Obtain an Amazon CloudFront Domain Name

31. In the AWS Management Console, on the **Services** menu, choose **CloudFront**.

The screenshot shows the AWS CloudFront service page. On the left, there's a sidebar with links like Pipelines, Jobs, Presets, and All services. The main area is titled 'Recently visited' and lists several AWS services:

- Elastic Transcoder
- CloudFront
- S3
- Console Home
- Service Quotas
- VPC
- EC2

At the bottom of the page, there's a footer with links for CloudShell, Feedback, Privacy, Terms, and Cookie preferences. A URL bar at the bottom contains the address: <https://us-east-1.console.aws.amazon.com/cloudfront/v3/home?region=us-east-1>.

31. Select the **Amazon CloudFront** distribution that was previously created, and verify that the **Status** has changed from *InProgress* to *Enabled*.

aws Services Q A ⓘ Gl v vocabs/user2770782=104222099@student.swin.edu.a ▾

## 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

▼ Key management Public keys Key groups

▼ Savings Bundle Overview

[CloudFront](#) > Distributions

### Distributions (1) Info

C Enable Disable Delete

Create distribution

Search all distributions

	ID	Description	Type
<input type="checkbox"/>	E1NNV75M5BYFQI	-	Production

< 1 > ⚙

CloudShell Feedback Privacy Terms Cookie preferences

<https://us-east-1.console.aws.amazon.com/cloudfront/v3/home?region=us-east-1#/distributions/E1NNV75M5BYFQI>

The screenshot shows the AWS CloudFront Distributions page. At the top, there are navigation icons for notifications, help, and settings, followed by the URL "voclabs/user2770782=104222099@student.swin.edu.a".

The main heading is "Distributions (1) [Info](#)". Below it are four buttons: "C" (Create), "Enable", "Disable", and "Delete". A prominent orange button labeled "Create distribution" is centered below these.

A search bar with the placeholder "Search all distributions" is present. Navigation controls include a back arrow, a page number "1", a forward arrow, and a gear icon for settings.

The table lists one distribution:

Alterna...	Origins	Status	Last m...
-	c83328a177529	<input checked="" type="checkbox"/> Enabled	September...

**Status** has changed from *InProgress* to *Enabled*.

AWS Services Search Filter Gl v oclabs/user2770782=104222099@student.swin.edu.a

## CloudFront

Distributions Policies Functions What's new NEW

▼ Telemetry Monitoring Alarms Logs

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

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▼ Key management Public keys Key groups

▼ Savings Bundle Overview

[CloudFront](#) > [Distributions](#) > E1NNV75M5BYFQI

# E1NNV75M5BYFQI

[View metrics](#)

General Origins Behaviors Error pages

### Details

Distribution domain name	ARN
d3w0d4chexmthh.cloudfront.net	arn:aws:cloudfront::139157793567:distribution/E1NNV75M5BYFQI
Last modified	
September 25, 2023 at 10:06:44 AM UTC	

### Settings

Description	Alternate domain names
-	-
Price class	
Use all edge locations (best performance)	
Supported HTTP versions	
HTTP/2, HTTP/1.1, HTTP/1.0	
AWS WAF	

Edit

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<https://d3w0d4chexmthh.cloudfront.net>

Copy the **Distribution domain name** and paste it into a text editor.

## Obtain the Playlist File Path

35. On the Services menu, choose S3.

The screenshot shows the AWS CloudFront service page. At the top, there's a navigation bar with the AWS logo, a search icon, and user information. Below the navigation bar is a sidebar with various service categories like CloudFront, Distribution, Policies, Functions, What's New, Telemetry, Reports, Security, Key Management, Savings Plans, and more. The 'CloudFront' service is selected. To the right of the sidebar is a 'Recently visited' list. The list includes 'CloudFront' (Global Content Delivery Network), 'Elastic Transcoder' (Easy-to-Use Scalable Media Transcoding), 'S3' (Scalable Storage in the Cloud, highlighted with a star icon), 'Console Home' (View resource insights, service shortcuts, and feature updates), 'Service Quotas' (View and manage your AWS service quotas from a central location), 'VPC' (Isolated Cloud Resources), and 'EC2' (Virtual Servers in the Cloud). At the bottom of the page, there are links for CloudFront, Internet of Things, Privacy, Terms, and Cookie preferences, along with a URL bar showing the address https://s3.console.aws.amazon.com/s3/home?region=us-east-1 and the text 'Web Services, Inc. or its affiliates.'

35. Select the **awstrainingreinvent** S3 bucket.

The screenshot shows the AWS S3 console interface. The left sidebar has a tree view with 'Buckets' selected. The main content area shows an 'Account snapshot' with a 'View Storage Lens dashboard' button. Below it is a table titled 'Buckets (1)'. The table has columns for Name, AWS Region, and Access. One row is shown: 'awstrainingreinvent' (Name), 'US East (N. Virginia)' (AWS Region), and 'us-east-1' (Access). A yellow warning icon next to the bucket name indicates it is public. At the bottom of the table, there is a link: <https://s3.console.aws.amazon.com/s3/buckets/c83328a1775290l4829957t1w1391-awstrainingreinvent-7rrdugar4nt7?region=us-east-1>.

Name	AWS Region	Access
<a href="#">awstrainingreinvent</a>	US East (N. Virginia)	us-east-1

37. Open the **output** folder (which contains the output of the transcoding job) and select the **primary.m3u8** playlist file.  
This is the file that you will play on your mobile device.

aws Services Search Gl vclabs/user2770782=104222099@student.swin.edu.a ▾

7rrdugar4nt7

### Amazon S3

Buckets

- 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
- AWS Organizations settings

Feature spotlight 7

► AWS Marketplace for S3

c83328a1775290l4829957t1w1391-awstrainingreinvent-7rrdugar4nt7 [Info](#)

Publicly accessible

Objects (2)

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](#)

C Copy S3 URI Copy URL

Download Open Delete

Actions Create folder Upload

Find objects by prefix

	Name	Type	Last modified
<input type="checkbox"/>	input/	Folder	-
<input type="checkbox"/>	output/	Folder	-

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The screenshot shows the AWS S3 console interface. On the left, there's a sidebar with various links like 'Buckets', 'Storage Lens', and 'AWS Marketplace for S3'. The main area is titled 'Objects (127)' and contains a table of files. The table has columns for Name, Type, Last modified, and Size. The objects listed are:

	Name	Type	Last modified	Size
<input type="checkbox"/>	HLS20M000 38.ts	ts	25, 2023, 17:27:10 (UTC+07:00)	33
<input type="checkbox"/>	HLS20M000 39.ts	ts	September 25, 2023, 17:27:10 (UTC+07:00)	76
<input type="checkbox"/>	HLS20M000 40.ts	ts	September 25, 2023, 17:27:10 (UTC+07:00)	59
<input type="checkbox"/>	<u>primary.m3 u8</u>	m3u8	September 25, 2023, 17:27:13 (UTC+07:00)	3

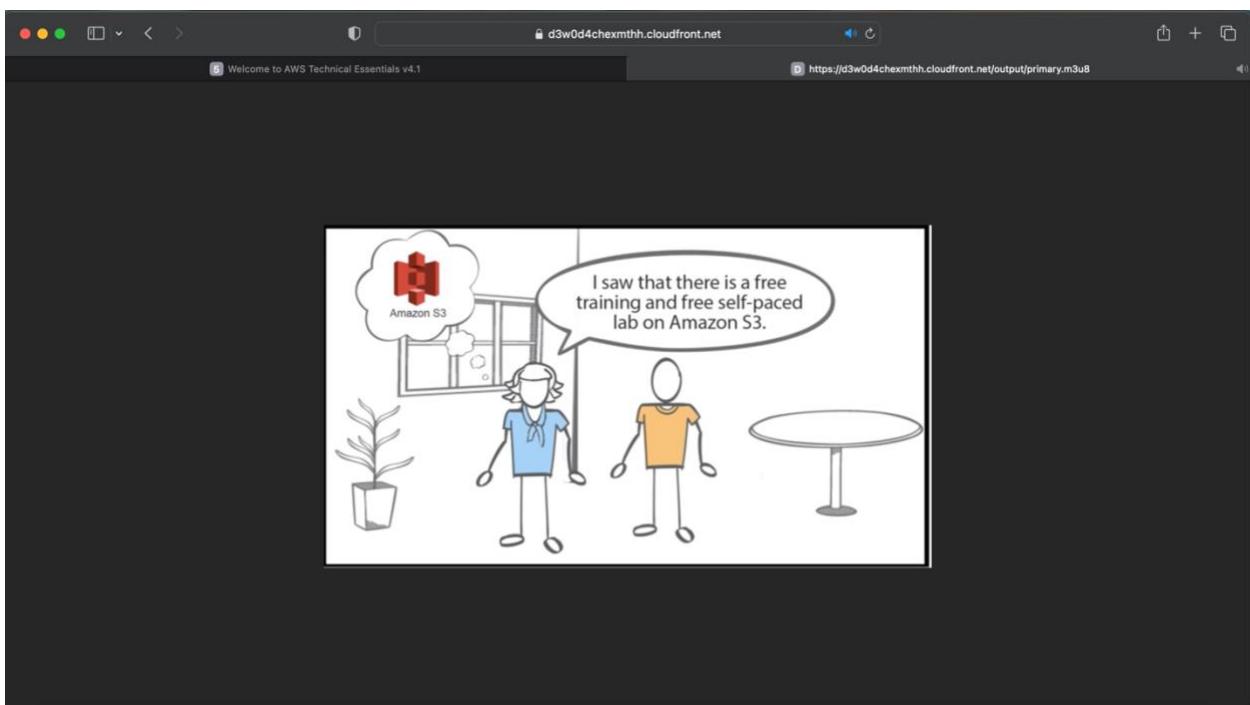
At the bottom, there are navigation links for CloudShell, Feedback, Privacy, Terms, and Cookie preferences, along with a URL bar containing the object's full path.

38. In a text editor, construct the URL by appending /output/primary.m3u8 to the end of your CloudFront domain name.

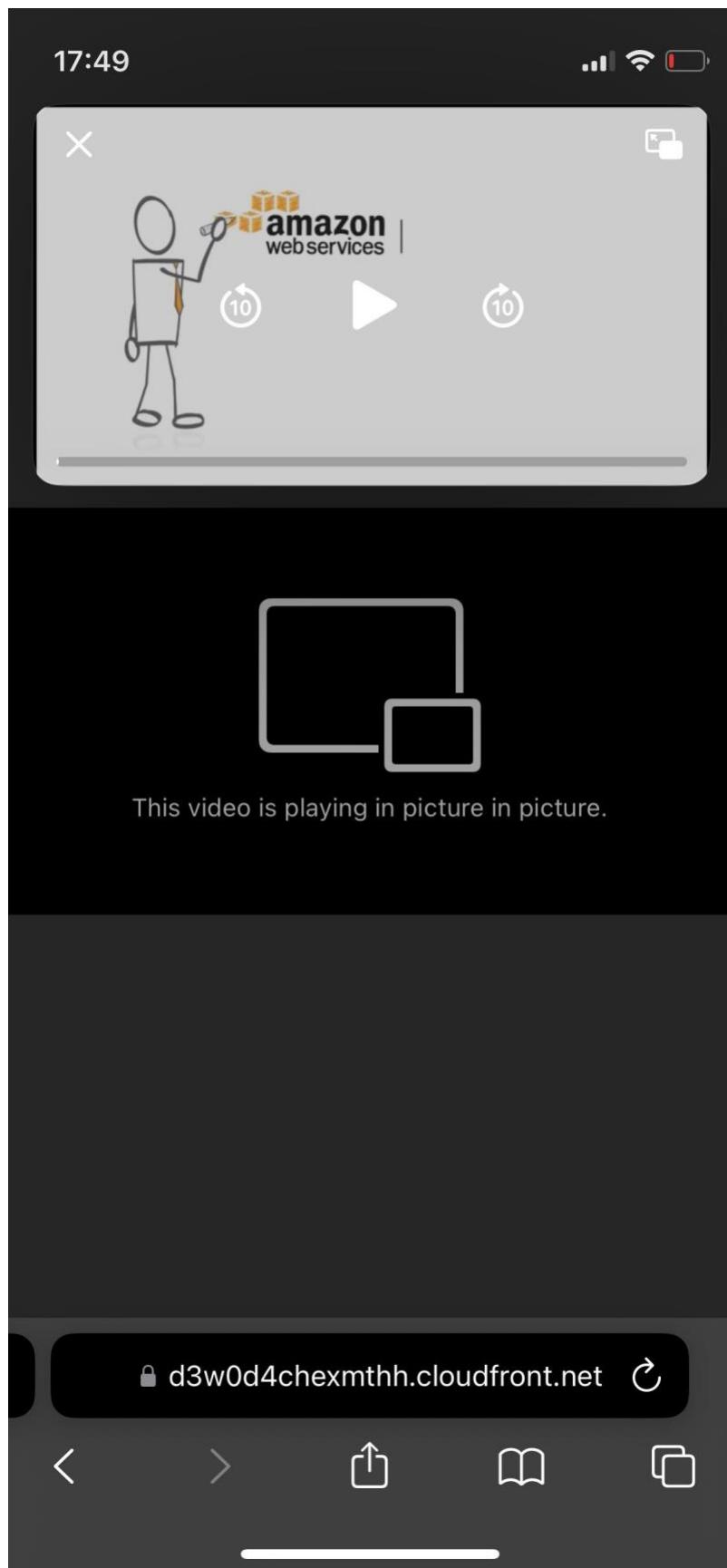
The new URL should look similar to:

[d1ckwesahkbyvu.cloudfront.net/output/primary.m3u8](https://d1ckwesahkbyvu.cloudfront.net/output/primary.m3u8)

<https://d3w0d4chexmthh.cloudfront.net/output/primary.m3u8>



The stream plays successfully on Desktop



The stream plays successfully on Mobile device.

## Dynamic Content using Amazon CloudFront

Due No Due Date Points 100 Submitting an external tool

Submit Details AWS Start Lab End Lab 1:57 Instructions  
Grades Actions

Files README Terminal Source  
EN\_US

Total score 40/40

[Task 2] Distribution Created 5/5

[Task 3A] Pipeline was created 5/5

[Task 3B] Transcoded File Storage 5/5

[Task 3C] Thumbnail File Storage 5/5

[Task 3D] Output Key Prefix 5/5

[Task 3E] Output Presets 5/5

[Task 3F] Playlist Format 5/5

◀ Previous Next ▶

CloudFront E1NNV75M5BYFQI View metrics

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

Key management Public keys Key groups

Savings Bundle Overview

General Origins Behaviors Error pages

Details Distribution domain name copied ARN d3w0d4chexmthh.cloudfront.net arn:aws:cloudfront::139157793567:distribution/E1NNV75M5BYFQI Last modified September 25, 2023 at 10:06:44 AM UTC

Settings Edit Description Alternate domain names Price class Use all edge locations (best performance) Supported HTTP versions HTTP/2, HTTP/1.1, HTTP/1.0 AWS WAF

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Submitted and Assignment recorded

END LAB.