

EZDRM Configuration

AWS MediaConvert

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Version 5.0 / Updated July 19, 2022

Prerequisites

Installation of AWS Command Line Interface (CLI) pip install is required prior to configuration. Python 3.6 or higher is required.

For more information on requirements set up, visit this link in a browser:

<https://docs.aws.amazon.com/cli/latest/userguide/installing.html>

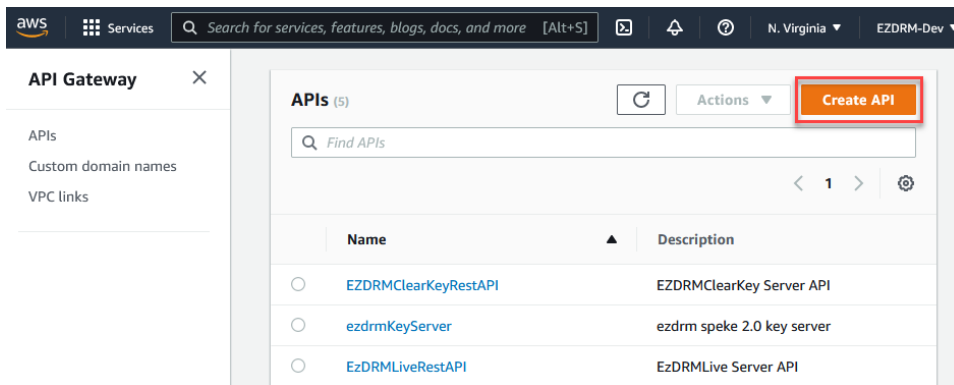
To download Python 3.6: <https://www.python.org/downloads/>

STEP 1 - EZDRM AWS Speke 2.0 Server Deployment

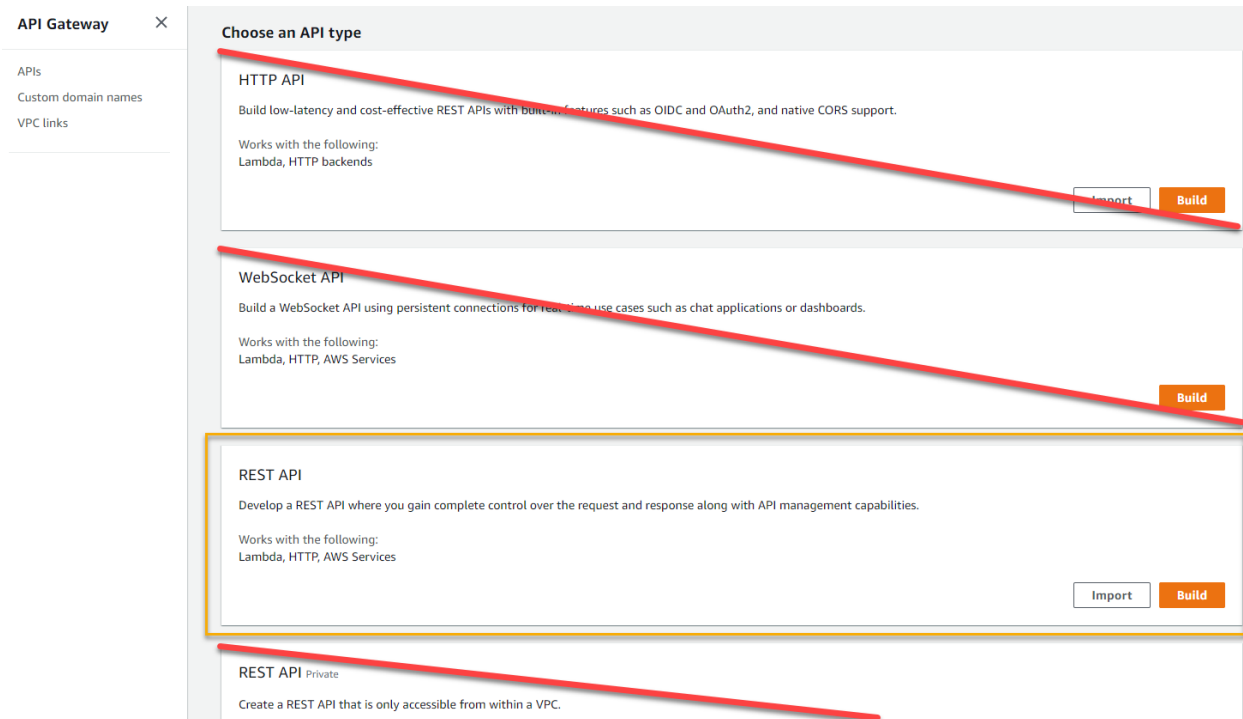
We will utilize AWS SPEKE 2.0 with backward compliance for SPEKE 1.0.

Create API

1. Under API Gateway click **Create API**.

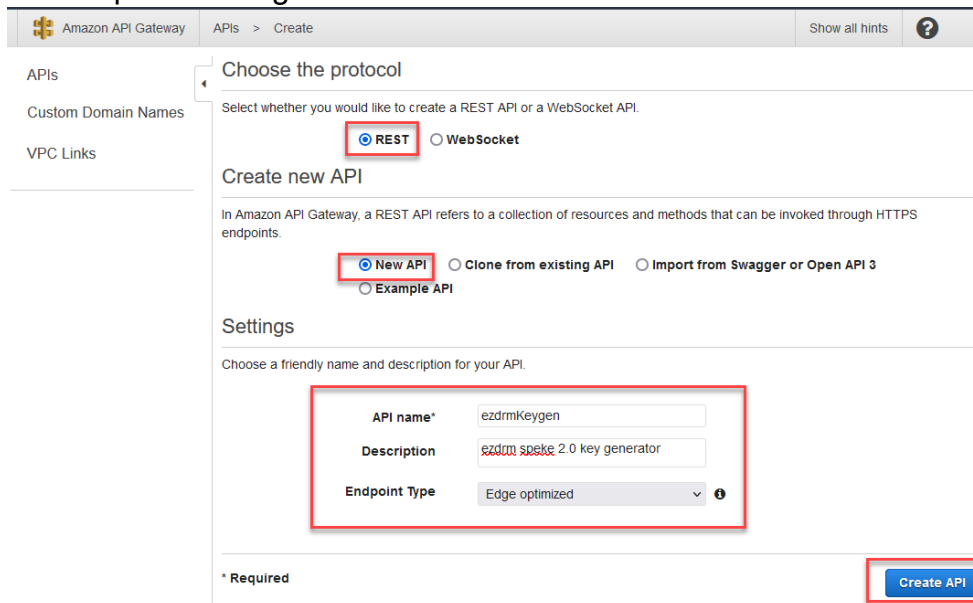


2. Build a **REST API** by clicking the **Build** button.



Note – **do not use REST API Private, only the REST API option shown.*

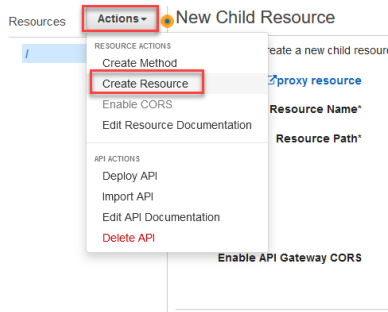
3. Select **REST** protocol, and under Create new API select **New API**. Enter the **API name**, **Description** and select the **Endpoint Type – Edge Optimized**. Edge Optimized allows the endpoint to be geo-balanced.



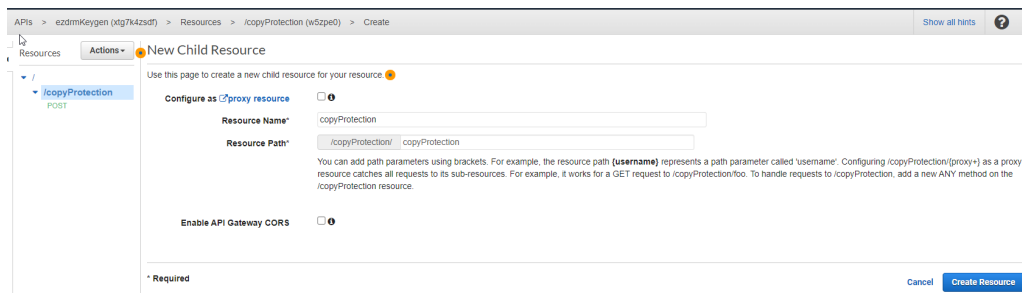
- Click **Create API**.

Create API Resource

- Under Resources **Actions** menu, select **Create Resource**.

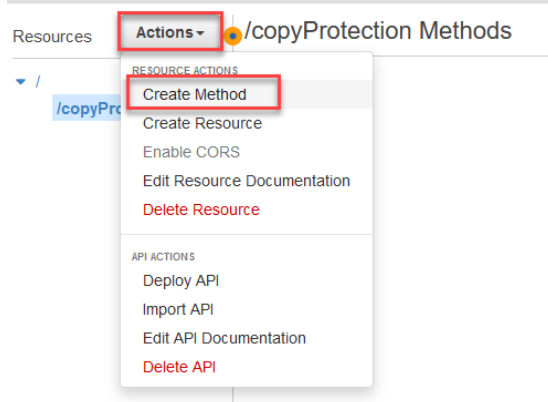


- Leave **Configure as proxy resource** unchecked. Enter **Resource Name**, we recommend **copyProtection** (case sensitive). Leave **Enable API Gateway CORS** unchecked.
- Click **Create Resource**.

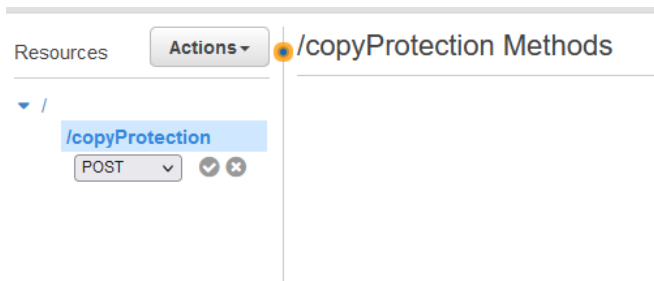


Create Method

- Under Resources **Actions** menu, select **Create Method**.



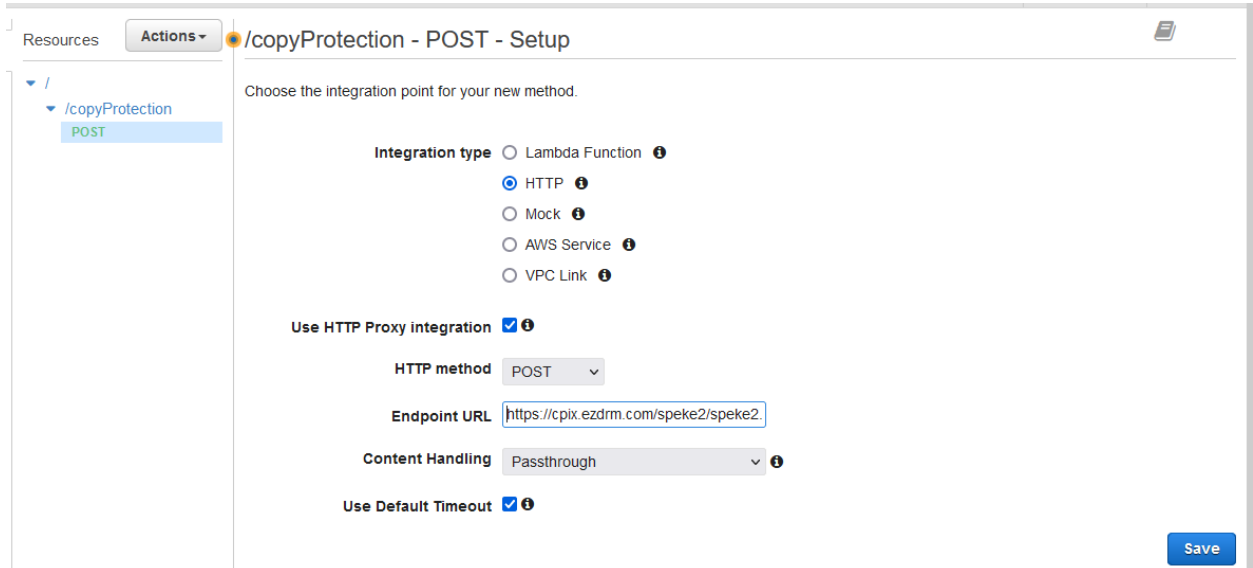
9. The Method type is **POST**.



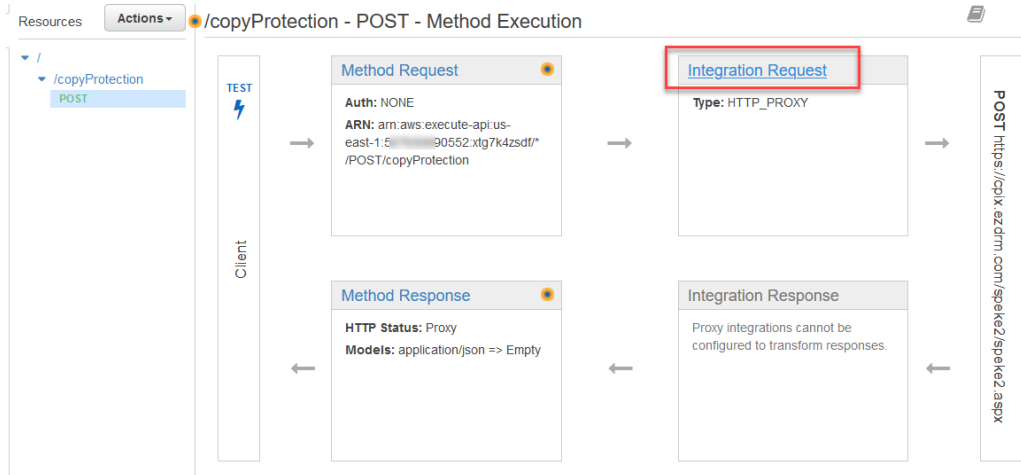
10. Under **Integration Type** select **HTTP**. Select the checkbox for **Use HTTP Proxy Integration**. HTTP Method is **POST**. The **Endpoint URL** is <https://cpix.ezdrm.com/speke2/speke2.aspx> (SPEKE 2.0 is backwards compliant with all SPEKE 1.0 jobs)

11. **Content Handling** is **Passthrough**. Select **Use Default Timeout**.

12. Click **Save**.

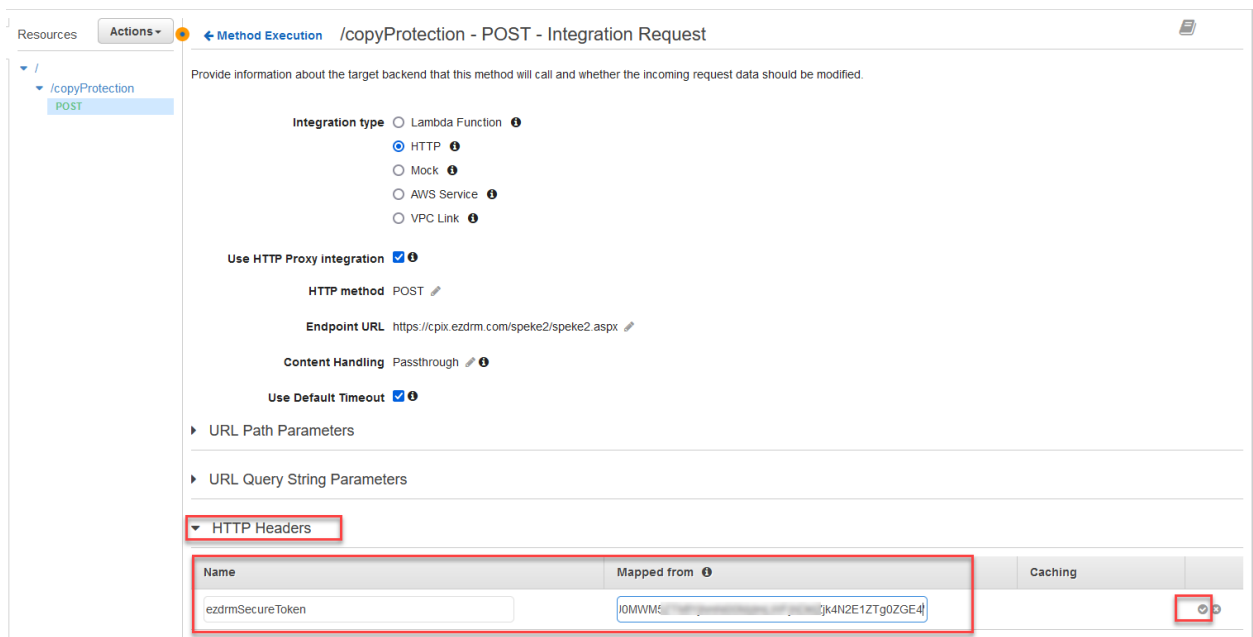


13. Next, select **Integration Request** link.



Integration Request

14. Specify an **HTTP Header**, this is how access to the endpoint is validated with EZDRM.
15. Enter a **Name**, for this example we suggest **ezdrmSecureToken** (case insensitive).
16. Enter the **ezdrmSecureToken** provided through your EZDRM admin portal under **Mapped From** in single quotes (see example).
17. Click **checkmark** to save.



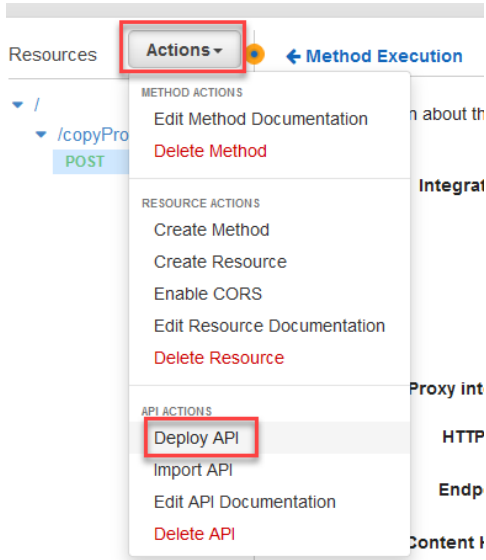
The screenshot shows the 'Integration Request' configuration page for the /copyProtection - POST method. The page includes several settings:

- Integration type**: HTTP (selected), with options for Lambda Function, Mock, AWS Service, and VPC Link.
- Use HTTP Proxy integration**: Checked.
- HTTP method**: POST.
- Endpoint URL**: https://cpix.ezdrm.com/speke2/speke2.aspx.
- Content Handling**: Passthrough.
- Use Default Timeout**: Checked.
- URL Path Parameters** and **URL Query String Parameters**: Sections for defining parameters.
- HTTP Headers**: A section with a table for defining headers. The table has columns for 'Name', 'Mapped from', 'Caching', and a checkbox. One header is defined: 'ezdrmSecureToken' mapped from '["MWMK...", "jk4N2E1ZTg0ZGE4"]'. This section and the table are highlighted with a red border in the original image.

 A red box highlights the 'Mapped from' field in the table, and another red box highlights the save button (checkmark icon) at the bottom right of the table.

Deploy API

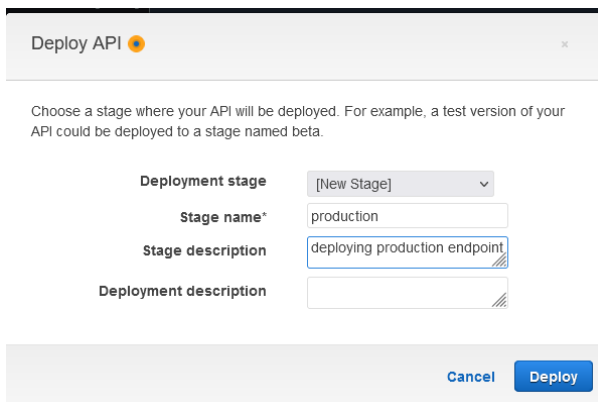
18. Select **Deploy API** from the Actions menu.



19. Select **[New Stage]** under **Stage Name**.

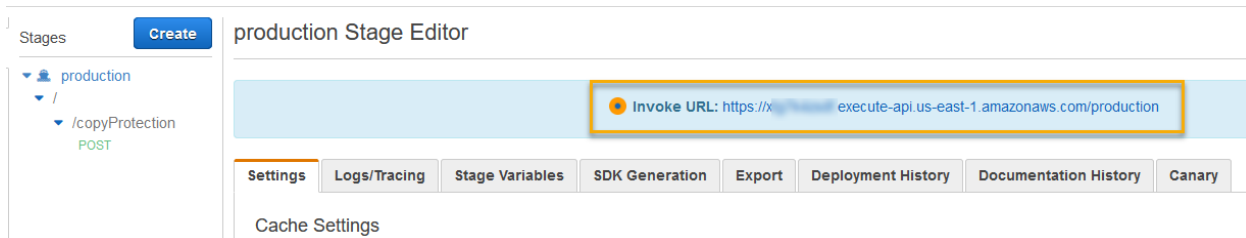
20. Enter the **Stage Name**. This name is used as part of the API URL to identify the version of the API. For example, you can name based on a test or stage version, as well as as production, etc. For our example we used “production”.

21. The **Stage Description** can be used to notate the version of the API. For this example we used “deploying production endpoint”.



22. Click **Deploy**.

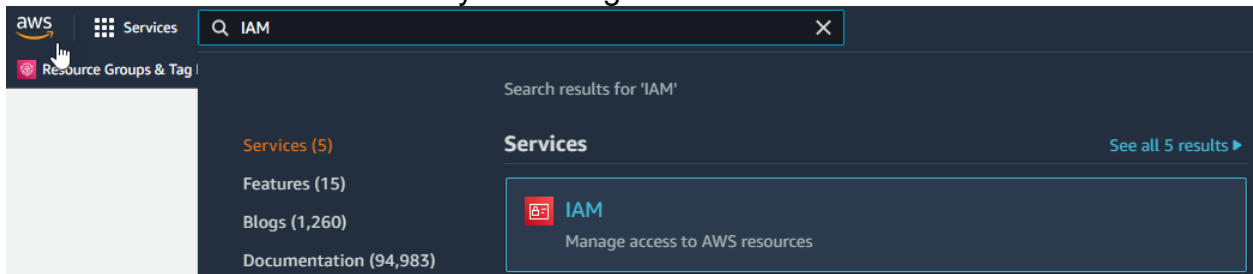
23. You will copy the **API URL** at the top of the Editor page labeled **Invoke URL**. Paste this URL in a notepad for editing in a future step.



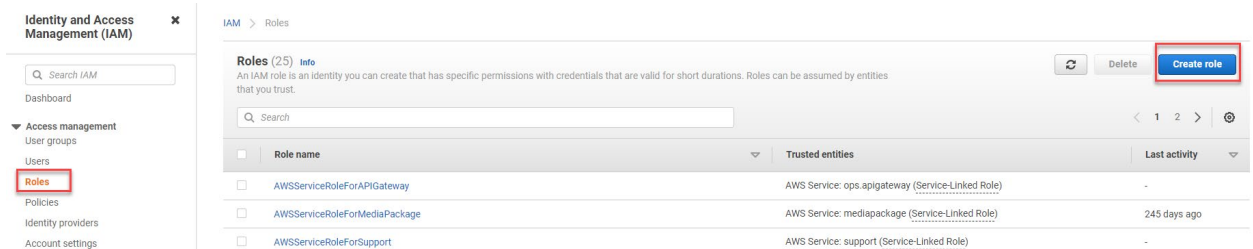
STEP 2 - Create Role – MediaConvert

To create a the MediaConvert Role in AWS complete the following steps:

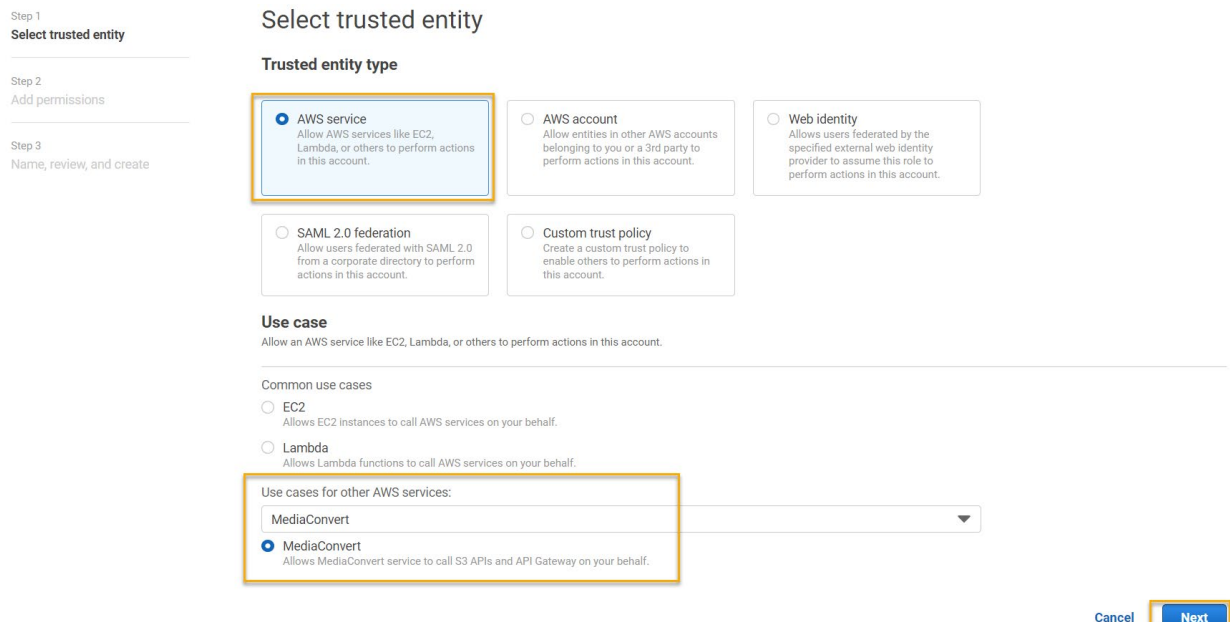
1. Launch the AWS IAM console by searching for IAM.



2. Go to the Roles menu. Click the **Add role** button.



3. Under **AWS service** select the **MediaConvert** role and click the **Next** button.



4. Review attached permissions and click **Next** button.

IAM > Roles > Create role

Step 1
Select trusted entity

Step 2
Add permissions

Step 3
Name, review, and create

Add permissions

Permissions policies (2)
The type of role that you selected requires the following policy.

Policy name	Type	Attached entities
AmazonS3FullAccess	AWS ma...	8
AmazonAPIGateway...	AWS ma...	5

► **Set permissions boundary - optional**
Set a permissions boundary to control the maximum permissions this role can have. This is not a common setting, but you can use it to delegate permission management to others.

Cancel Previous **Next**

5. Enter the **Role name**, review Permissions and click **Create role**.

Role details

Role name
Enter a meaningful name to identify this role.

MediaConvert

Maximum 128 characters. Use alphanumeric and '+=, @, _' characters.

Description
Add a short explanation for this policy.

Allows MediaConvert service to call S3 APIs and API Gateway on your behalf.

Maximum 1000 characters. Use alphanumeric and '+=, @, _' characters.

Step 1: Select trusted entities

Edit

```

1 {
2   "Version": "2012-10-17",
3   "Statement": [

```

Step 2: Add permissions

[Edit](#)

Permissions policy summary

Policy name ↗	Type	Attached as
AmazonS3FullAccess	AWS managed	Permissions policy
AmazonAPIGatewayInvokeFullAccess	AWS managed	Permissions policy

Tags

Add tags (Optional)

Tags are key-value pairs that you can add to AWS resources to help identify, organize, or search for resources.

No tags associated with the resource.

[Add tag](#)

You can add up to 50 more tags

[Cancel](#)
[Previous](#)
[Create role](#)

6. Now that the MediaPackage role is created, click on the link to open the role details.

Identity and Access Management (IAM)

Search IAM

Dashboard

Access management

- User groups
- Users
- Roles**
- Policies
- Identity providers

[IAM](#) > [Roles](#) > [MediaConvertDemo](#)

MediaConvertDemo

Allows MediaConvert service to call S3 APIs and API Gateway on your behalf.

[Delete](#)

[Edit](#)

Summary

Creation date	ARN
March 08, 2022, 10:45 (UTC-05:00)	arn:aws:iam::501234567890:role/MediaConvertDemo
Last activity	Maximum session duration
None	1 hour

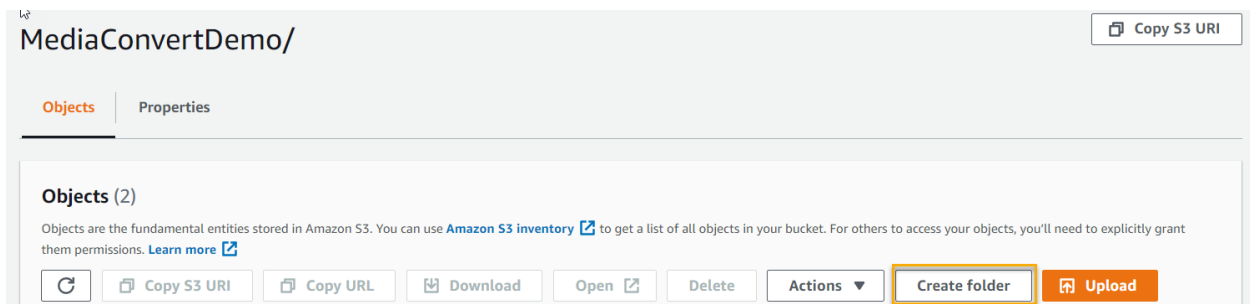
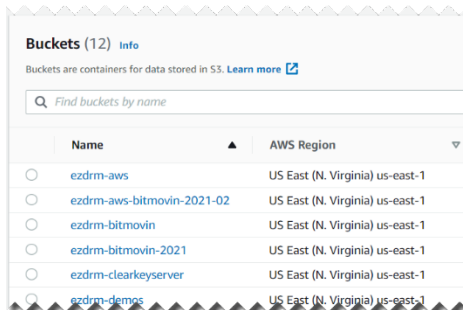
STEP 3 - Creating an AWS MediaConvert Job

Widevine and PlayReady

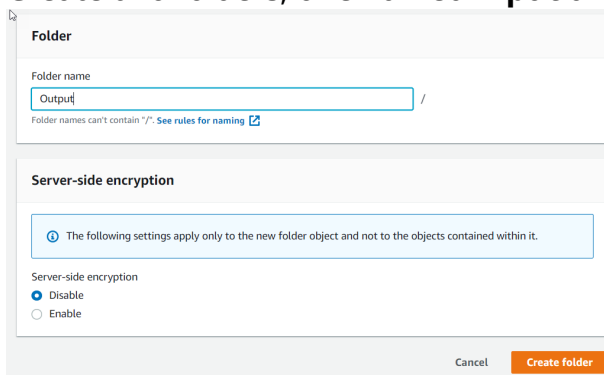
1. Launch the AWS S3 console by searching for S3.



2. Create a new bucket or use an existing bucket.
3. Select the bucket and click the **Create folder** button.



4. Create two folders, one named **input** and one named **output**.



MediaConvertDemo/ Copy S3 URI

Objects | Properties

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](#)

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

<input type="checkbox"/>	Name	Type	Last modified	Size	Storage class
<input type="checkbox"/>	Input/	Folder	-	-	-
<input type="checkbox"/>	Output/	Folder	-	-	-

5. Select the **input** folder and click the **Upload** button. Then select the **Add Files**. **Upload** the test mp4. For this example we used **BigBuckBunny_320x180.mp4**. The file will now show in the input folder.

Amazon S3 > MediaConvertDemo > MediaConvertDemo/ > Input/ > 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 folders**.

Files and folders (1 Total, 61.7 MB) Remove Add files Add folder

All files and folders in this table will be uploaded.

<input type="checkbox"/>	Name	Folder	Type	Size
<input type="checkbox"/>	BigBuckBunny_320x180.mp4	-	video/mp4	61.7 MB

Upload succeeded
View details below.

Upload: status Close

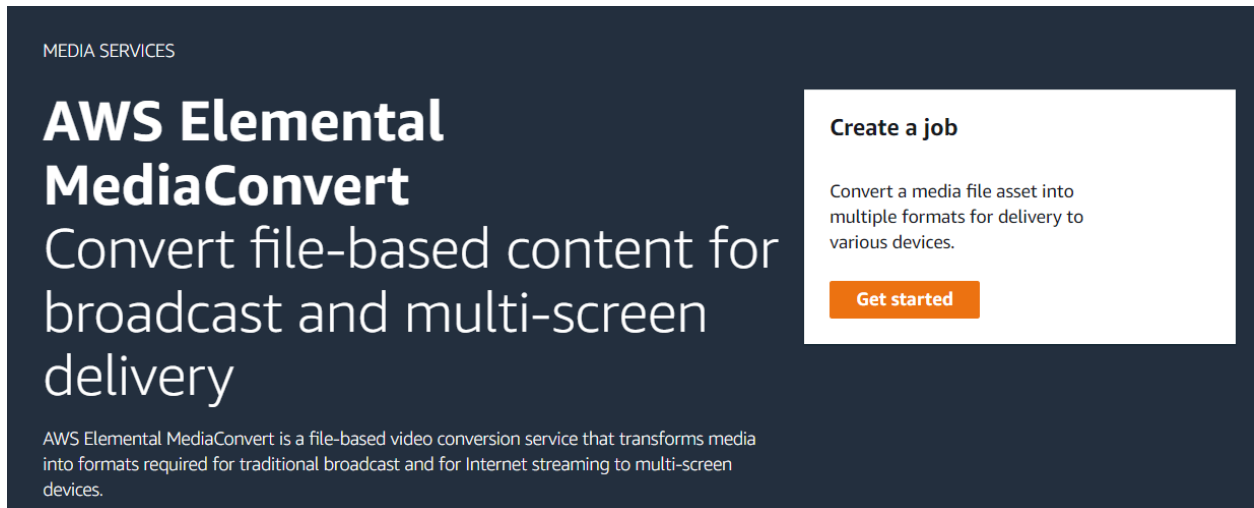
ⓘ The information below will no longer be available after you navigate away from this page.

Summary

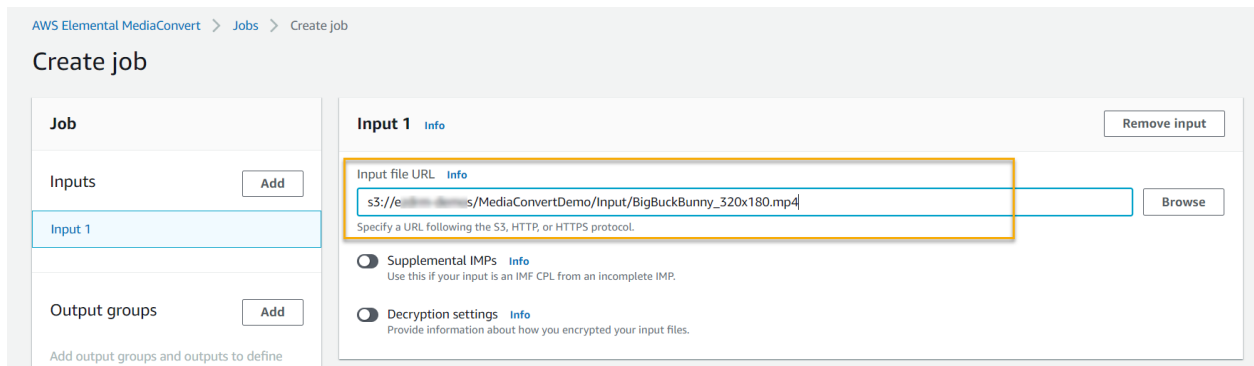
Destination	Succeeded	Failed
s3://MediaConvertDemo/MediaConvertDemo/Input/	✔ 1 file, 61.7 MB (100.00%)	✘ 0 files, 0 B (0%)

6. Copy the **S3 Destination URL** for the next step.

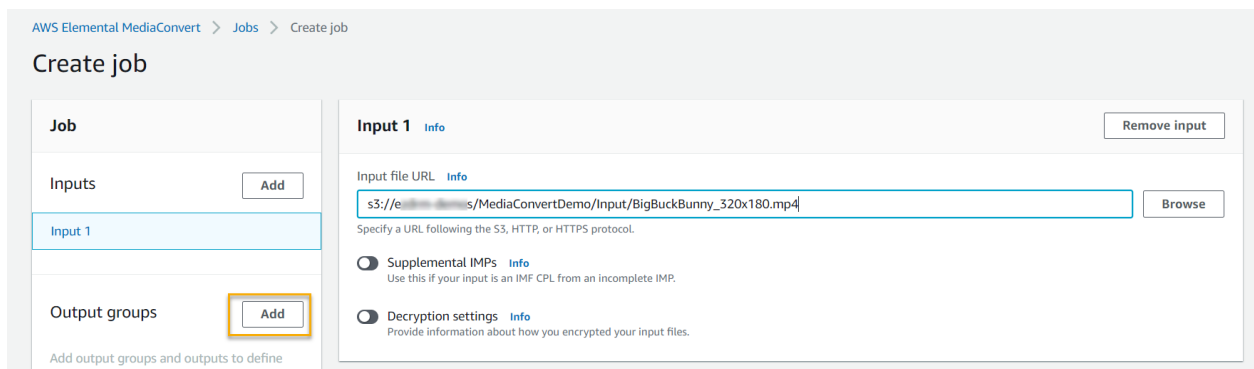
- Go to **MediaConvert** and under **Create a job**, click **Get Started**.



- For **Input 1** enter the **S3 Destination URL** from **Step 6**.



- Next click the **Add** for **Output groups**. For this example, select **DASH ISO** and click the **Select** button.



Add output group

File group

Create unpackaged outputs, such as MPEG-4 or QuickTime files.

Apple HLS

Create a stack of outputs for adaptive bitrate streaming to Apple players.

☒ DASH ISO

Create a stack of outputs for adaptive bitrate streaming to MPEG-DASH players.

Microsoft Smooth Streaming Info

Create a stack of outputs for adaptive bitrate streaming to Microsoft players.

CMAF

Create a fragmented MP4 ABR stack for streaming to both Apple HLS or MPEG-DASH compatible players.

Cancel

Select

10. The DASH ISO group settings will open. The **Custom Group Name** is optional. Under **Destination** enter the **S3 URI for the Output folder** in the Bucket previously created.

Amazon S3 > MediaConvertDemo/ > Output/

Output/

Copy S3 URI

Objects

Properties

Create job

Job

Inputs

Input 1

Output groups

DASH ISO

DASH ISO group settings

Remove output group

Custom group name Info

Destination Info

s3:// /MediaConvertDemo/Output/

Browse

Server-side encryption Info

Have Amazon S3 encrypt your output as it uploads.

Access control Info

11. Scroll down and select the toggle for **DRM Encryption**.

☒ DRM encryption
 Pro
Info

Resource ID Info

Enter the unique identifier that your DRM system provider uses to identify this content.

Use only alphanumeric characters and dashes.

System ID Info

Unique identifiers for the DRM system to use. One ID per line. Must contain at least one entry, and up to two entries.

G

Key provider URL Info

Provide the URL for the encryption keys from your SPEKE-compliant DRM key provider.

Certificate ARN Info

If you use encrypted content keys, enter the ARN of the certificate you set up with AWS Certificate Manager.

Playback device compatibility Info

The parameters are as follows:

- **ResourceID**: this will be the ID that references your DRM Keys. This is a required field.

Note: The first time you send a ResourceID to run a job, the ID will be tied to the DRM keys for that job. Jobs can use the same ResourceID to reference the same keys or for new DRM Keys send a new ResourceID. It is best not to use a ResourceID from a failed job.

- **System ID**: Unique identifiers for the DRM system to use. These System IDs are industry standard, must be utilized for encryption. Insert the System ID's for Widevine and PlayReady, one ID per line:
(Widevine) **edef8ba9-79d6-4ace-a3c8-27dcd51d21ed**
(PlayReady) **9a04f079-9840-4286-ab92-e65be0885f95**

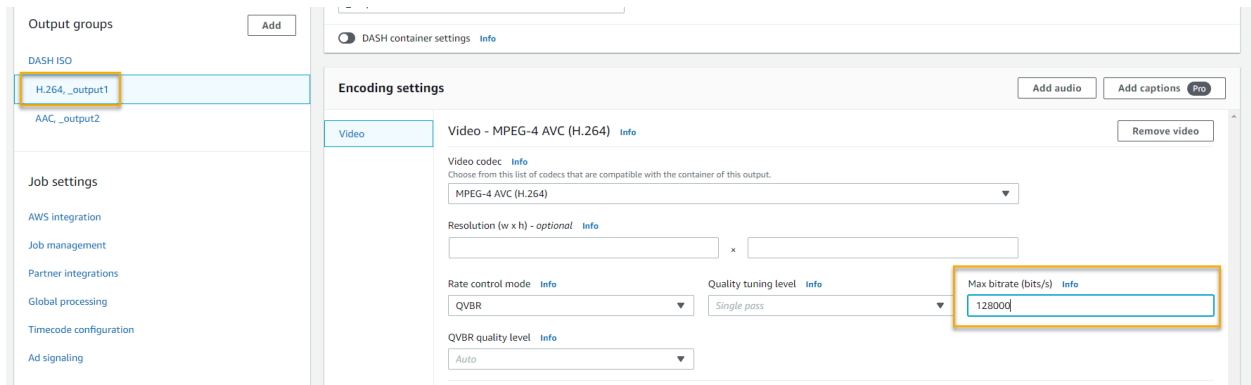
Note: The System ID values need to be lowercase.

- **Key provider URL:** The URL is the **API URL** copied from **Step 1**:

Sample URL:

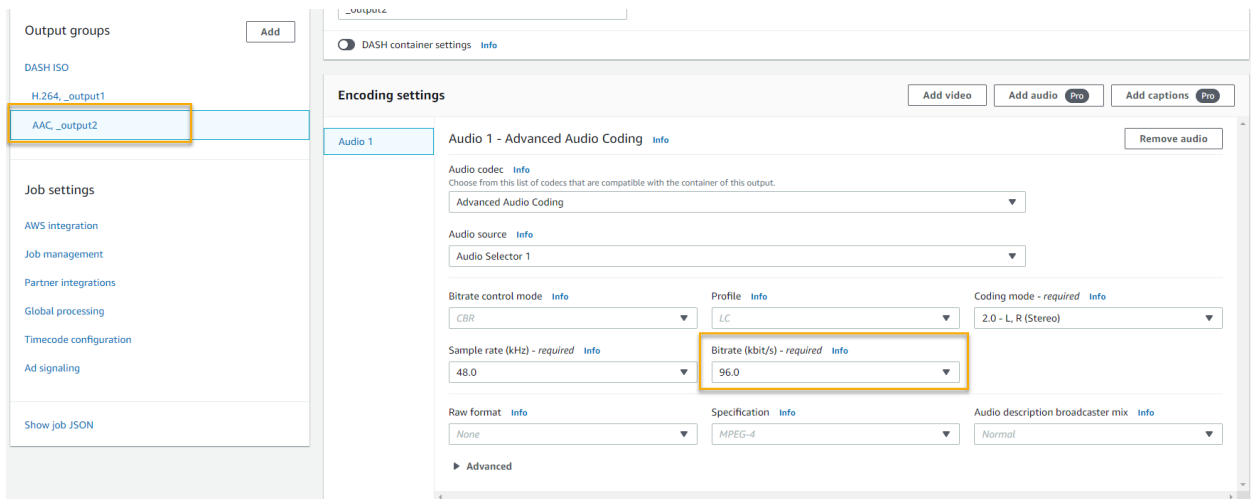
<https://i2qXXjdb1e.execute-api.us-east-1.amazonaws.com/production/copyProtection>

12. For the Video output “**H.264, _output1**”, be sure to enter a **Max bitrate (bits/s)**, this value is required. For this example, we used 128000.



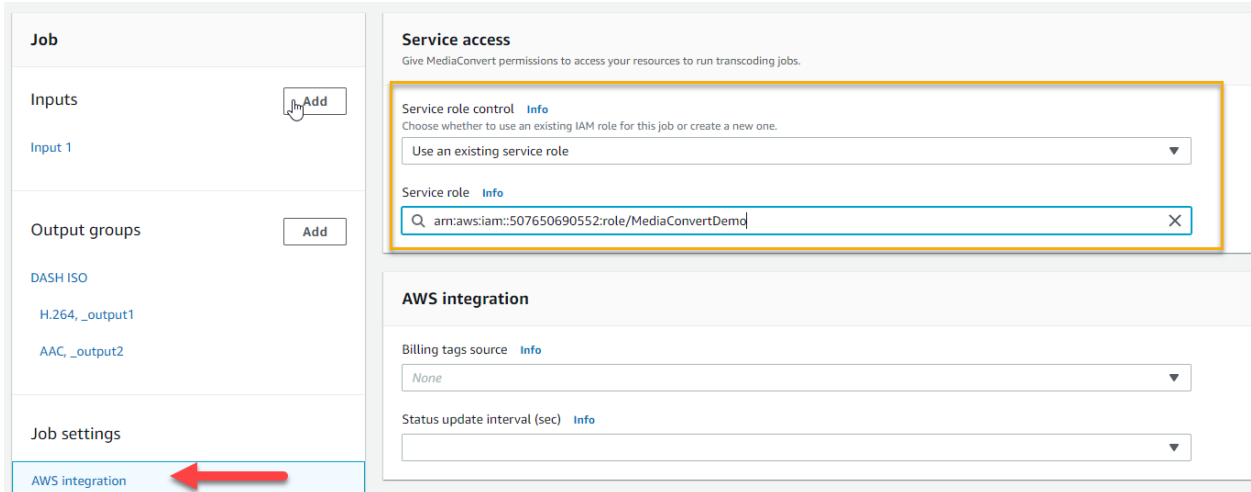
The screenshot shows the EZDRM interface with the 'Output groups' sidebar on the left. 'H.264, _output1' is selected. The main panel shows 'Encoding settings' for 'Video - MPEG-4 AVC (H.264)'. The 'Max bitrate (bits/s)' field is highlighted with a blue box and contains the value '128000'.

13. For Audio output “**AAC, _output2**”, be sure to set the appropriate **Bitrate (kbit/s)**.

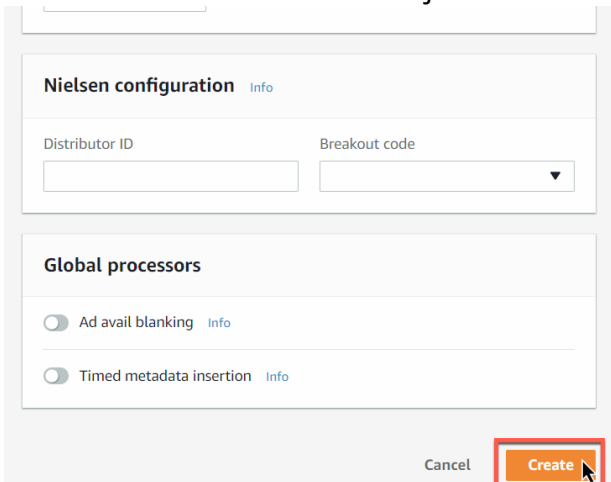


The screenshot shows the EZDRM interface with the 'Output groups' sidebar on the left. 'AAC, _output2' is selected. The main panel shows 'Encoding settings' for 'Audio 1 - Advanced Audio Coding'. The 'Bitrate (kbit/s) - required' field is highlighted with a blue box and contains the value '96.0'.

14. Confirm the **Service Role** (created in **Step 2**) under Job Settings / AWS integration.



15. Once all of the settings are complete, scroll to the bottom of the page and click the **Create** button to create the job.



16. The job will show Submitted and then if you click the **Refresh** button, you will see the job listed as Complete.

Job summary
Refresh
Details
Duplicate
View JSON

Overview

Status	Queue	Job ID
COMPLETE	Default	1519959472587-miupti
Role	Submit time	Start time
EZDRM	2018-03-01 21:57:52	2018-03-01 21:57:53
Finish time	Duration in queue	Duration in transcoding
2018-03-01 21:58:57	00:00:01	00:01:04

Apple FairPlay Streaming

1. Launch the AWS S3 console by searching for S3.



2. Create a new bucket or use an existing bucket.

3. Select the bucket and click the **Create folder** button.

Buckets (12) Info

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

Name	AWS Region
<input type="radio"/> ezdrm-aws	US East (N. Virginia) us-east-1
<input type="radio"/> ezdrm-aws-bitmovin-2021-02	US East (N. Virginia) us-east-1
<input type="radio"/> ezdrm-bitmovin	US East (N. Virginia) us-east-1
<input type="radio"/> ezdrm-bitmovin-2021	US East (N. Virginia) us-east-1
<input type="radio"/> ezdrm-clearkeyserver	US East (N. Virginia) us-east-1
<input type="radio"/> ezdrm-demos	US East (N. Virginia) us-east-1

MediaConvertDemo/
Copy S3 URI

Objects
Properties

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](#)

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

4. Create two folders, one named **input** and one named **output**.

Folder

Folder name

Output/

Folder names can't contain "/". See rules for naming

Server-side encryption

The following settings apply only to the new folder object and not to the objects contained within it.

Server-side encryption

☒ Disable
☐ Enable

Cancel
Create folder

MediaConvertDemo/
Copy S3 URI

Objects
Properties

Objects (2)

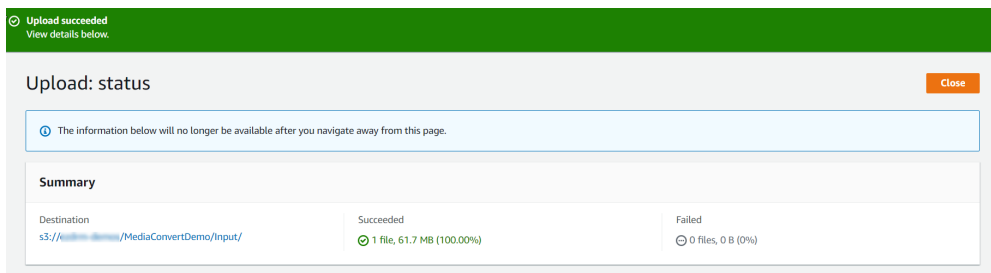
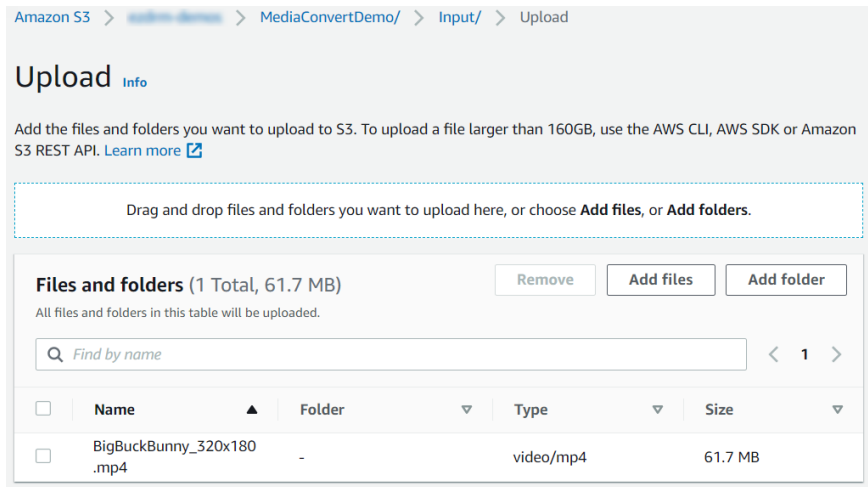
Objects are the fundamental entities stored in Amazon S3. You can use [Amazon S3 inventory](#) to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. [Learn more](#)

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

Find objects by prefix

<input type="checkbox"/>	Name	Type	Last modified	Size	Storage class
<input type="checkbox"/>	Input/	Folder	-	-	-
<input type="checkbox"/>	Output/	Folder	-	-	-

5. Select the **input** folder and click the **Upload** button. Then select the **Add Files**. **Upload** the test mp4. For this example, we used **BigBuckBunny_320x180.mp4**. The file will now show in the input folder.



6. Copy the **S3 Destination URL** for the next step.
7. Go to **MediaConvert** and under **Create a job**, click **Get Started**.

MEDIA SERVICES

AWS Elemental MediaConvert

Convert file-based content for broadcast and multi-screen delivery

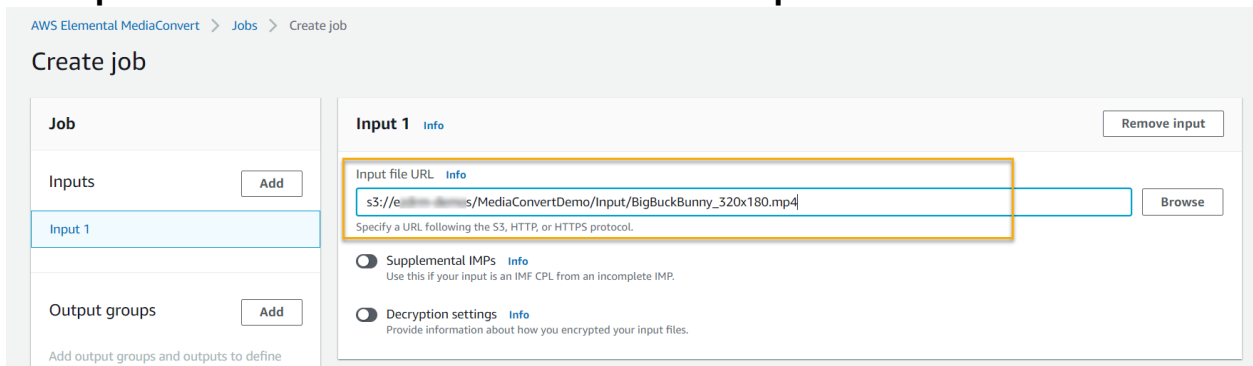
AWS Elemental MediaConvert is a file-based video conversion service that transforms media into formats required for traditional broadcast and for Internet streaming to multi-screen devices.

Create a job

Convert a media file asset into multiple formats for delivery to various devices.

Get started

8. For **Input 1** enter the **S3 Destination URL** from **Step 6**.



AWS Elemental MediaConvert > Jobs > Create job

Create job

Job

Inputs **Add**

Input 1

Output groups **Add**

Add output groups and outputs to define

Input 1 [Info](#) **Remove input**

Input file URL [Info](#)

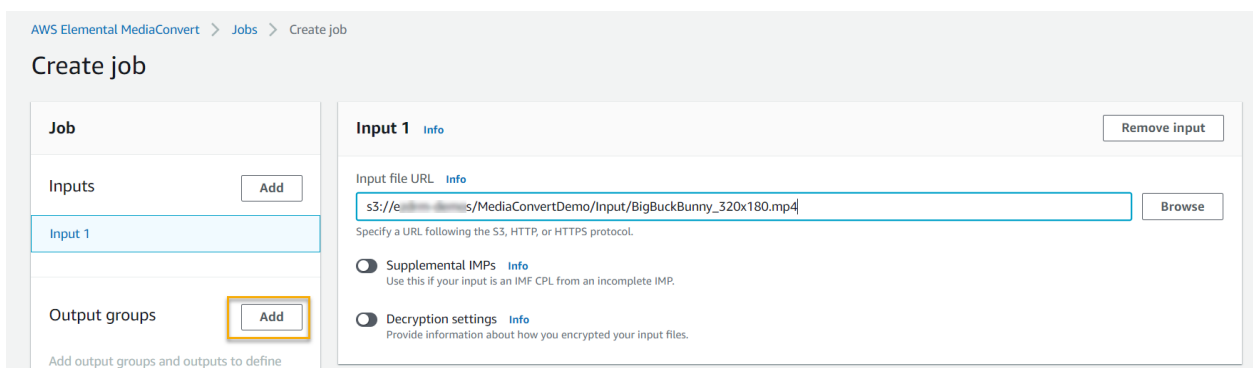
s3://e...s/MediaConvertDemo/Input/BigBuckBunny_320x180.mp4 **Browse**

Specify a URL following the S3, HTTP, or HTTPS protocol.

☒ **Supplemental IMPs** [Info](#)
Use this if your input is an IMF CPL from an incomplete IMP.

☒ **Decryption settings** [Info](#)
Provide information about how you encrypted your input files.

9. Next click the **Add** for **Output groups**. For this example, select **Apple HLS** and click the **Select** button.



AWS Elemental MediaConvert > Jobs > Create job

Create job

Job

Inputs **Add**

Input 1

Output groups **Add**

Add output groups and outputs to define

Input 1 [Info](#) **Remove input**

Input file URL [Info](#)

s3://e...s/MediaConvertDemo/Input/BigBuckBunny_320x180.mp4 **Browse**

Specify a URL following the S3, HTTP, or HTTPS protocol.

☒ **Supplemental IMPs** [Info](#)
Use this if your input is an IMF CPL from an incomplete IMP.

☒ **Decryption settings** [Info](#)
Provide information about how you encrypted your input files.

Add output group

File group

Create unpackaged outputs, such as MPEG-4 or QuickTime files.

Apple HLS

Create a stack of outputs for adaptive bitrate streaming to Apple players.

DASH ISO

Create a stack of outputs for adaptive bitrate streaming to MPEG-DASH players.

Microsoft Smooth Streaming Pro

Create a stack of outputs for adaptive bitrate streaming to Microsoft players.

CMAF

Create a fragmented MP4 ABR stack for streaming to both Apple HLS or MPEG-DASH compatible players.

Cancel

Select

10. The Apple HLS group settings will open. The **Custom Group Name** is optional. Under **Destination** enter the **S3 URI for the Output folder** in the Bucket previously created.

Amazon S3 > MediaConvertDemo/ > Output/

Output/

Copy S3 URI

Objects | Properties

Create job

Job

Inputs

Add

Input 1

Output groups

Add

Apple HLS

H.264, AAC

Apple HLS group settings

Remove output group

Custom group name [Info](#)

Destination [Info](#)

s3://MediaConvertDemo/Output/

Browse

Server-side encryption [Info](#)

Have Amazon S3 encrypt your output as it uploads.

Access control [Info](#)

11. Scroll down and select the toggle for **DRM Encryption**.

☒ DRM encryption
 Pro
Info

Encryption method Info
 Sample AES

Key provider type Info
 SPEKE

Initialization vector in manifest Info
 Include

Resource ID Info
 Enter the unique identifier that your DRM system provider uses to identify this content.
 your-unique-resource-id
 Use only alphanumeric characters and dashes.

System ID Info
 Enter the identifier for the DRM system provider that appears in your HLS manifest.
 94ce86fb-07ff-4f43-adb8-93d2fa968ca2
 A GUID registered with DASH-IF for FairPlay, PlayReady, or Widevine.

Key provider URL Info
 Provide the URL for the encryption keys from your SPEKE-compliant DRM key provider.
 https://i2xXXjdb1e.execute-api.us-east-1.amazonaws.com/production/copyProtection

Certificate ARN Info
 If you use encrypted content keys, enter the ARN of the certificate you set up with AWS Certificate Manager.

The parameters are as follows:

- **Encryption method:** select **SAMPLE_AES**.
- **Key provider type:** select **SPEKE**.
- **Initialization vector in manifest:** select **Include**.
- **ResourceID:** this will be the ID that references your DRM Keys. This is a required field.

Note: The first time you send a ResourceID to run a job, the ID will be tied to the DRM keys for that job. Jobs can use the same ResourceID to reference the same keys or for new DRM Keys send a new ResourceID. It is best not to use a ResourceID from a failed job.

- **System ID:** Unique identifiers for the DRM system to use. Insert the System ID for Apple FairPlay, one ID per line:
94ce86fb-07ff-4f43-adb8-93d2fa968ca2

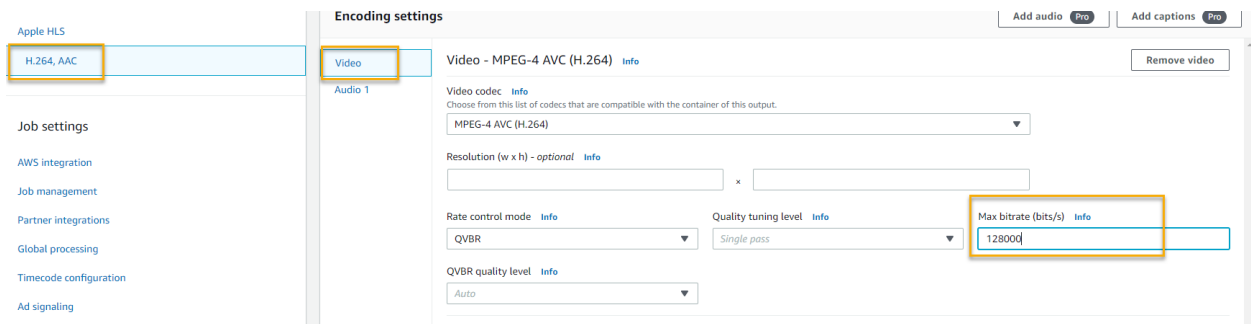
Note: The System ID values need to be lowercase.

- **Key provider URL:** The URL is the **API URL** copied from **Step 1**:

Sample URL:

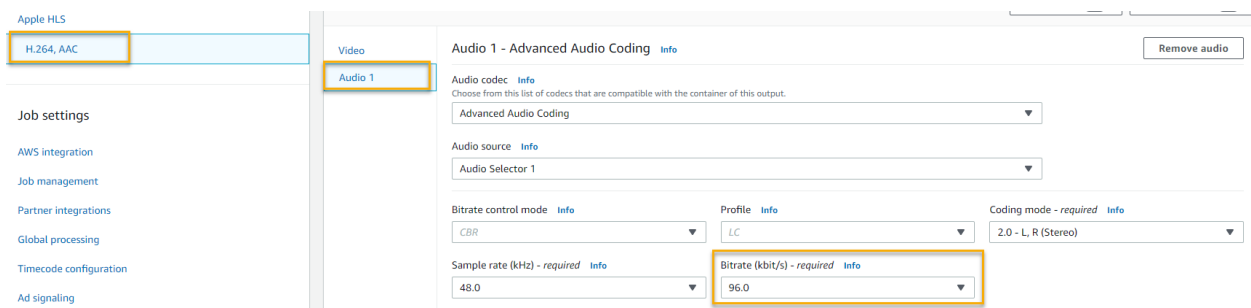
<https://i2xXXjdb1e.execute-api.us-east-1.amazonaws.com/production/copyProtection>

12. Next, select **"H.264, AAC"** and then select **Video**. Enter a **Max bitrate (bits/s)** – this is a required field. For this example, we used 128000.



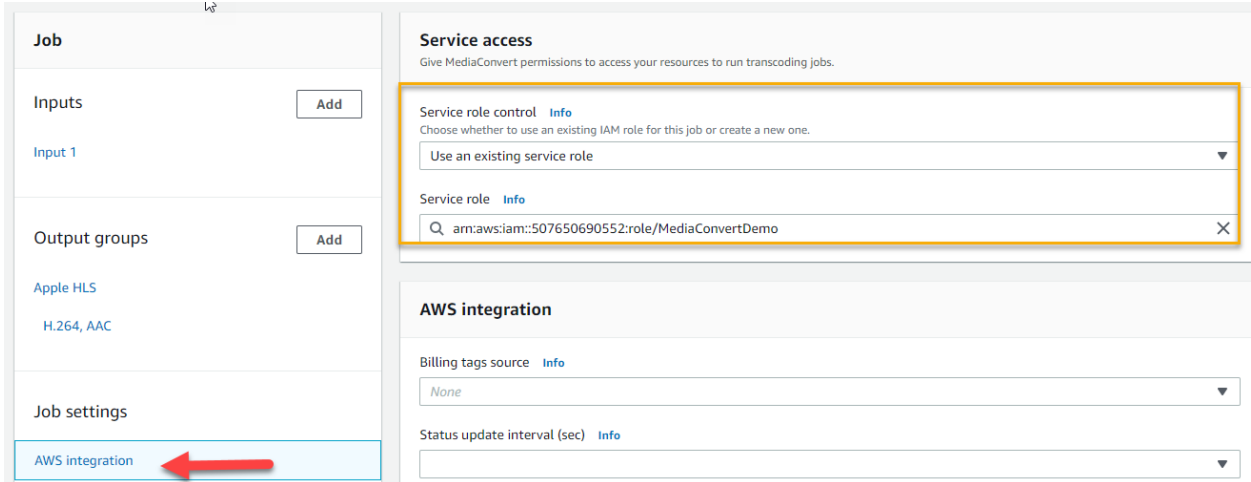
The screenshot shows the 'Encoding settings' interface. On the left, under 'Apple HLS', 'H.264, AAC' is selected. In the main panel, 'Video' is selected under 'Audio 1'. The 'Video codec' is set to 'MPEG-4 AVC (H.264)'. The 'Resolution' is set to '1280x720'. The 'Rate control mode' is set to 'QVBR'. The 'Quality tuning level' is set to 'Single pass'. The 'Max bitrate (bits/s)' is set to '128000'.

13. Next select **Audio 1** output, be sure to set the appropriate **Bitrate (kbit/s)**. For this example, it is set to 96.0.



The screenshot shows the 'Encoding settings' interface. On the left, under 'Apple HLS', 'H.264, AAC' is selected. In the main panel, 'Audio 1' is selected under 'Audio 1'. The 'Audio codec' is set to 'Advanced Audio Coding'. The 'Audio source' is set to 'Audio Selector 1'. The 'Bitrate control mode' is set to 'CBR'. The 'Profile' is set to 'LC'. The 'Coding mode - required' is set to '2.0 - L, R (Stereo)'. The 'Sample rate (kHz) - required' is set to '48.0'. The 'Bitrate (kbit/s) - required' is set to '96.0'.

14. Confirm the **Service Role** (created in **Step 2**) under Job Settings / AWS integration.



Job

Inputs [Add](#)

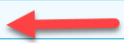
Input 1

Output groups [Add](#)

Apple HLS

H.264, AAC

Job settings

AWS integration 

Service access

Give MediaConvert permissions to access your resources to run transcoding jobs.

Service role control [Info](#)

Choose whether to use an existing IAM role for this job or create a new one.

Use an existing service role ▼

Service role [Info](#)

Q am:aws:iam::507650690552:role/MediaConvertDemo X

AWS integration

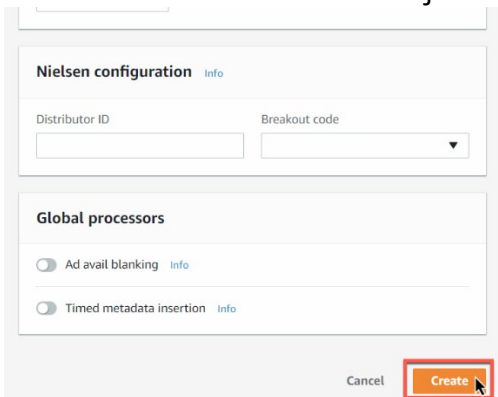
Billing tags source [Info](#)

None ▼

Status update interval (sec) [Info](#)

▼

15. Once all of the settings are complete, scroll to the bottom of the page and click the **Create** button to create the job.




Nielsen configuration [Info](#)

Distributor ID Breakout code

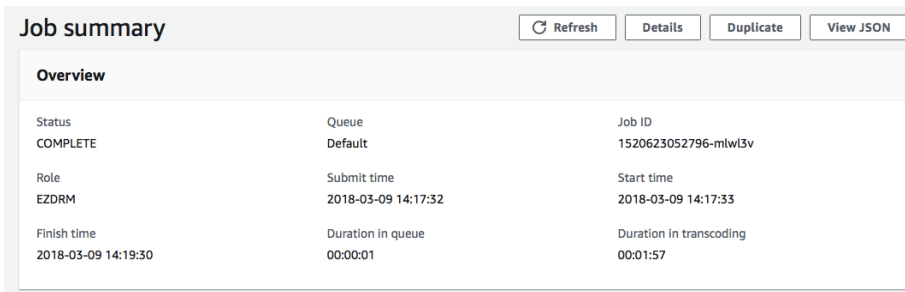
Global processors

☒ Ad avail blanking [Info](#)

☒ Timed metadata insertion [Info](#)

Cancel **Create** 

16. The job will show Submitted and then if you click the **Refresh** button, you will see the job listed as Complete.



Job summary [Refresh](#) [Details](#) [Duplicate](#) [View JSON](#)

Overview

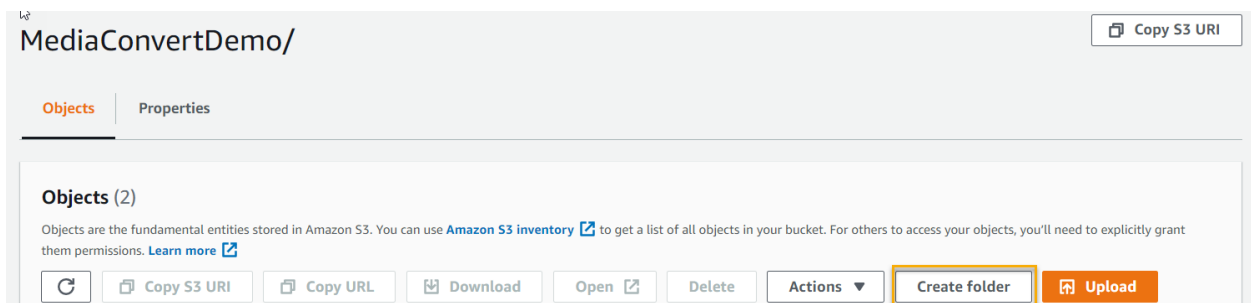
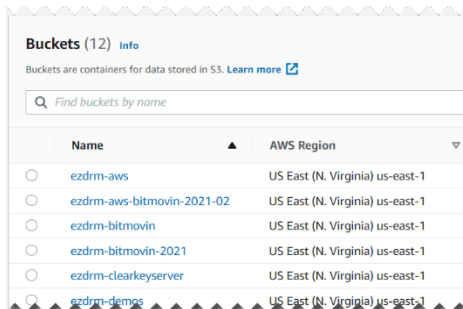
Status	Queue	Job ID
COMPLETE	Default	1520623052796-mlw3v
Role	Submit time	Start time
EZDRM	2018-03-09 14:17:32	2018-03-09 14:17:33
Finish time	Duration in queue	Duration in transcoding
2018-03-09 14:19:30	00:00:01	00:01:57

CMAF (Apple HLS and MPEG-DASH)

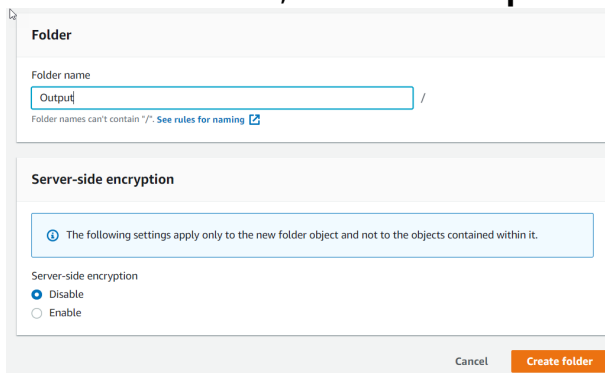
1. Launch the AWS S3 console by searching for S3.



2. Create a new bucket or use an existing bucket.
3. Select the bucket and click the **Create folder** button.



4. Create two folders, one named **input** and one named **output**.



MediaConvertDemo/ Copy S3 URI

Objects | Properties

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](#)

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

Find objects by prefix

<input type="checkbox"/>	Name	Type	Last modified	Size	Storage class
<input type="checkbox"/>	Input/	Folder	-	-	-
<input type="checkbox"/>	Output/	Folder	-	-	-

- Select the **input** folder and click the **Upload** button. Then select the **Add Files**. **Upload** the test mp4. For this example we used **BigBuckBunny_320x180.mp4**. The file will now show in the input folder.

Amazon S3 > MediaConvertDemo > MediaConvertDemo/ > Input/ > 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 folders**.

Files and folders (1 Total, 61.7 MB) Remove Add files Add folder

All files and folders in this table will be uploaded.

Find by name

<input type="checkbox"/>	Name	Folder	Type	Size
<input type="checkbox"/>	BigBuckBunny_320x180.mp4	-	video/mp4	61.7 MB

Upload succeeded
View details below.

Upload: status Close

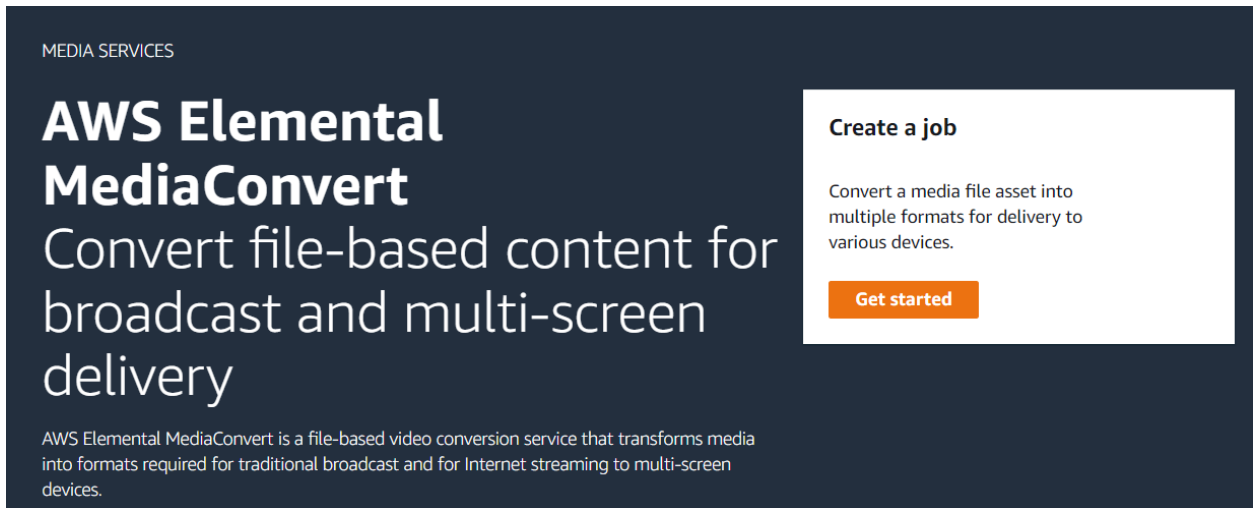
The information below will no longer be available after you navigate away from this page.

Summary

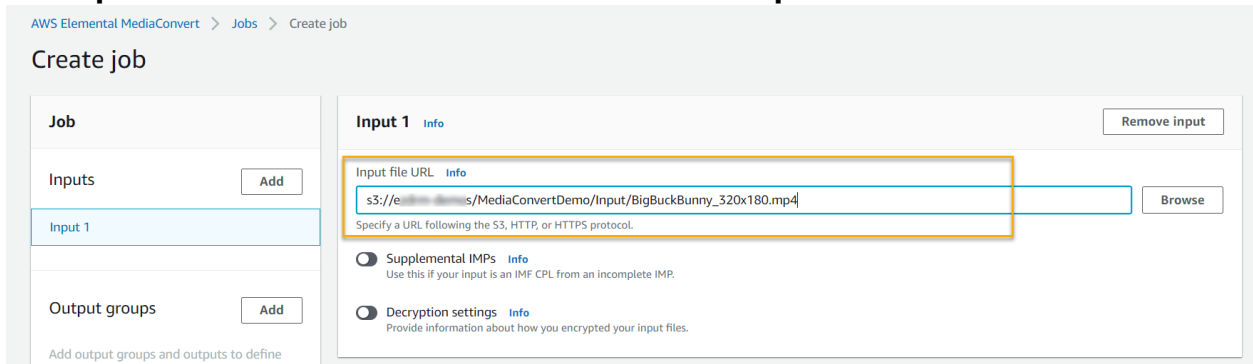
Destination	Succeeded	Failed
s3://MediaConvertDemo/MediaConvertDemo/Input/	1 file, 61.7 MB (100.00%)	0 files, 0 B (0%)

- Copy the **S3 Destination URL** for the next step.

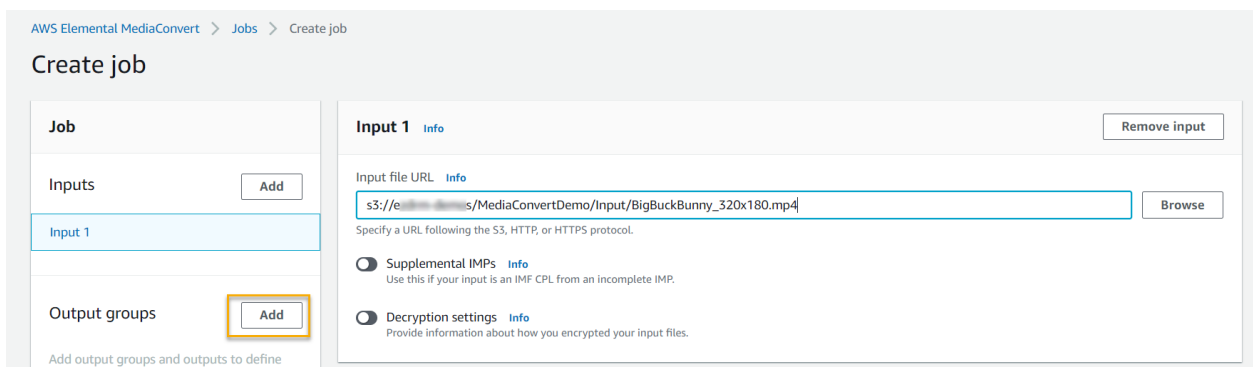
- Go to **MediaConvert** and under **Create a job**, click **Get Started**.



- For **Input 1** enter the **S3 Destination URL** from **Step 6**.



- Next click the **Add** for **Output groups**. For this example, select **CMAF** and click the **Select** button.



Add output group

File group

Create unpackaged outputs, such as MPEG-4 or QuickTime files.

Apple HLS

Create a stack of outputs for adaptive bitrate streaming to Apple players.

DASH ISO

Create a stack of outputs for adaptive bitrate streaming to MPEG-DASH players.

Microsoft Smooth Streaming

Create a stack of outputs for adaptive bitrate streaming to Microsoft players.

CMAF

Create a fragmented MP4 ABR stack for streaming to both Apple HLS or MPEG-DASH compatible players.

Cancel

Select

10. The CMAF group settings will open. The **Custom Group Name** is optional. Under **Destination** enter the **S3 URI for the Output folder** in the Bucket previously created.

Amazon S3 > MediaConvertDemo/ > Output/

Output/

Objects

Properties

Copy S3 URI

AWS Elemental MediaConvert > Jobs > Create job

Create job

Job

Inputs

Input 1

Output groups

CMAF

H.264

AAC

CMAF group settings

Custom group name

Destination

s3://MediaConvertDemo/Output/CMAF

Browse

Server-side encryption

Access control

Target duration compatibility mode

Legacy

Segment control

Single file

Fragment length (sec)

2

11. Scroll down and select the toggle for **DRM Encryption**.

Encryption method [Info](#)

AES-CBC subsample ▼

Initialization vector in manifest [Info](#)

Include ▼

Constant initialization vector - optional [Info](#)

Specify an initialization vector to use in conjunction with the key to encrypt content. Default value is the segment number.

32-character text string representing a 128-bit, 16-byte hex value.

Key provider type [Info](#)

SPEKE ▼

Resource ID [Info](#)

Enter the unique identifier that your DRM system provider uses to identify this content.

cmf-resourceID-custom

Use only alphanumeric characters and dashes.

System ID signaled in HLS [Info](#)

Enter the identifier for the DRM system provider that appears in your HLS manifest.

94ce86fb-07ff-4f43-adb8-93d2fa968ca2

A GUID registered with DASH-IF for FairPlay, PlayReady, or Widevine.

System IDs signaled in DASH [Info](#)

Enter identifiers for the DRM system providers that appear in your DASH manifest.

edef8ba9-79d6-4ace-a3c8-27dcd51d21ed
9a04f079-9840-4286-ab92-e65be0885f95

Up to three GUIDs registered with DASH-IF for FairPlay, PlayReady, or Widevine. Enter each GUID on a separate line. Don't use punctuation.

Key provider URL [Info](#)

Provide the URL for the encryption keys from your SPEKE-compliant DRM key provider.

https://i2xXXjdb1e.execute-api.us-east-1.amazonaws.com/production/copyProtection

Certificate ARN - optional [Info](#)

The parameters are as follows:

- **Encryption method:** select **AES-CBC subsample**
- **Initialization vector in manifest:** select **Include**
- **Key provider type:** select **SPEKE**
- **ResourceID:** this will be the ID that references your DRM Keys. This is a required field.

Note: The first time you send a ResourceID to run a job, the ID will be tied to the DRM keys for that job. Jobs can use the same ResourceID to reference the same keys or for new DRM Keys send a new ResourceID. It is best not to use a ResourceID from a failed job.

- **System ID signaled in HLS:** Unique identifiers for the DRM system to use. Insert the System ID for Apple FairPlay, one ID per line:
94ce86fb-07ff-4f43-adb8-93d2fa968ca2

Note: The System ID values need to be lowercase.

- **System ID signaled in DASH:** Unique identifiers for the DRM system to use. These System IDs are industry standard, must be utilized for encryption. Insert the System ID's for Widevine and PlayReady, one ID per line:
(Widevine) **edef8ba9-79d6-4ace-a3c8-27dcd51d21ed**
(PlayReady) **9a04f079-9840-4286-ab92-e65be0885f95**

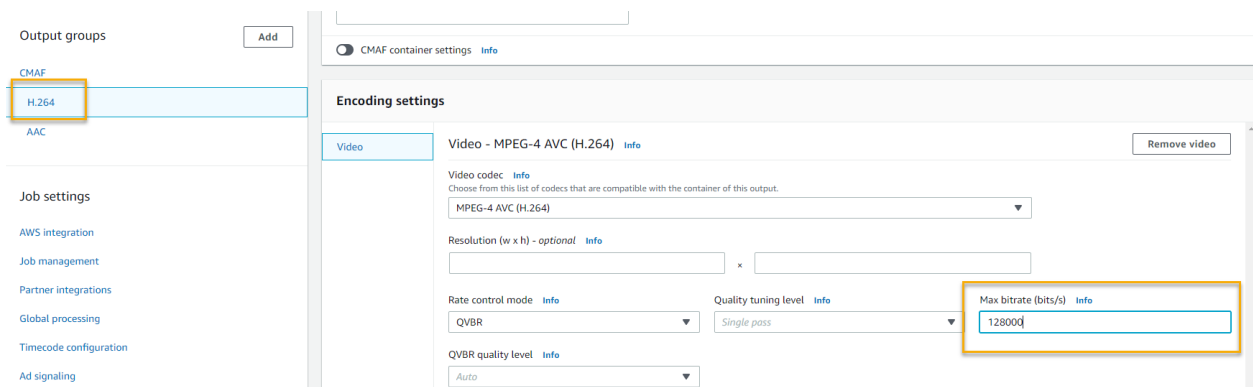
Note: The System ID values need to be lowercase.

- **Key provider URL:** The URL is the **API URL** copied from **Step 1:**

Sample URL:

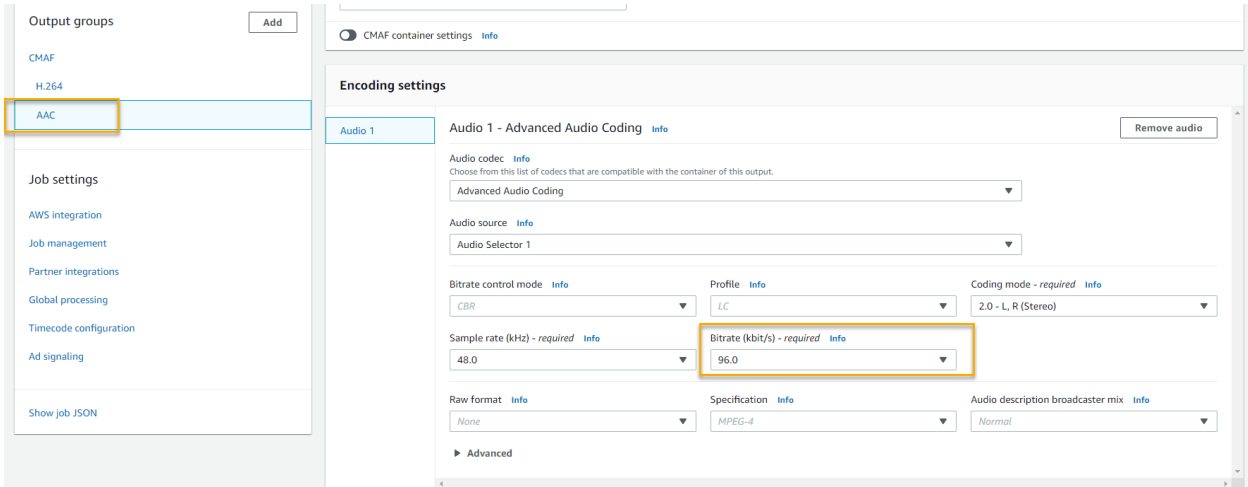
<https://i2xXXjdb1e.execute-api.us-east-1.amazonaws.com/production/copyProtection>

12. Next, select the Video “**H.264**” under **CMAF Output groups**. Enter a **Max bitrate (bits/s)** – this is a required field. For this example we entered 128000.



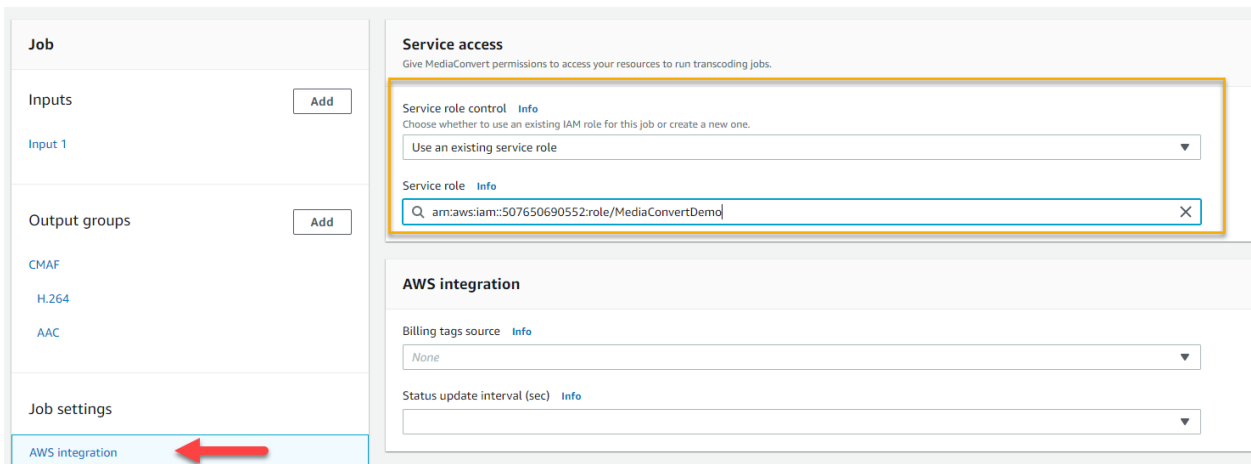
The screenshot shows the EZDRM interface. On the left, under 'Output groups', the 'CMAF' section is expanded, and 'H.264' is selected. The main area shows 'Encoding settings' for 'Video - MPEG-4 AVC (H.264)'. The 'Max bitrate (bits/s)' field is highlighted with a yellow box and contains the value '128000'. Other fields include 'Video codec' (MPEG-4 AVC (H.264)), 'Resolution (w x h) - optional', 'Rate control mode' (QVBR), 'Quality tuning level' (Single pass), and 'QVBR quality level' (Auto).

13. Go back up to the top left side of the screen to change the settings for **AAC**. Under the **Audio 1** output, be sure to set the appropriate **Bitrate (kbit/s)**. For this example, it is set to 96.0.



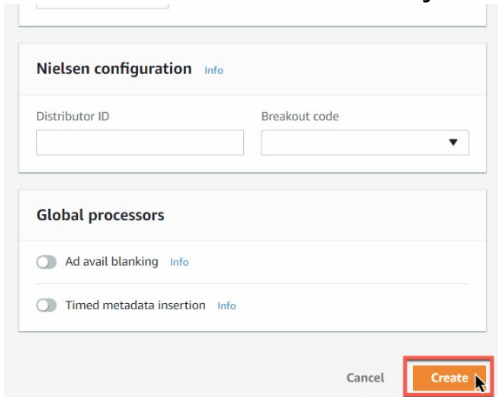
The screenshot shows the 'Encoding settings' for 'Audio 1 - Advanced Audio Coding'. The 'Bitrate (kbit/s)' dropdown is highlighted with a yellow box and set to '96.0'. Other settings include 'Audio codec' set to 'Advanced Audio Coding', 'Audio source' set to 'Audio Selector 1', 'Bitrate control mode' set to 'CBR', 'Profile' set to 'LC', 'Coding mode' set to '2.0 - L, R (Stereo)', 'Sample rate (kHz)' set to '48.0', 'Raw format' set to 'None', 'Specification' set to 'MPEG-4', and 'Audio description broadcaster mix' set to 'Normal'.

14. Confirm the **Service Role** (created in **Step 2**) under Job Settings / AWS integration.



The screenshot shows the 'Service access' and 'AWS integration' sections. The 'Service role' dropdown is highlighted with a yellow box and set to 'arn:aws:iam::507650690552:role/MediaConvertDemo'. The 'AWS integration' section shows 'Billing tags source' set to 'None' and 'Status update interval (sec)' set to a default value. A red arrow points to the 'AWS integration' tab in the left sidebar.

15. Once all of the settings are complete, scroll to the bottom of the page and click the **Create** button to create the job.



Nielsen configuration [Info](#)

Distributor ID Breakout code

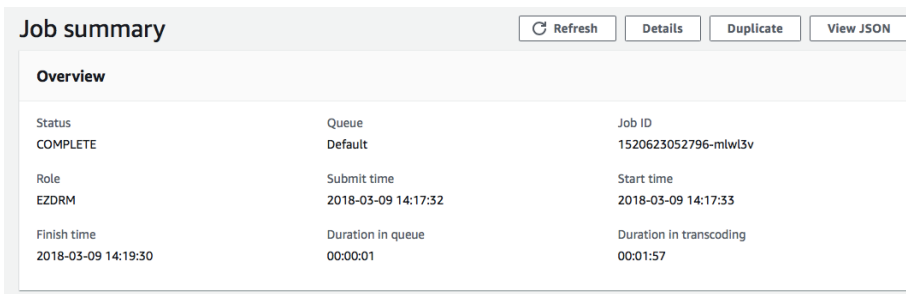
Global processors

☐ Ad avail blanking [Info](#)

☐ Timed metadata insertion [Info](#)

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

16. The job will show Submitted and then if you click the **Refresh** button, you will see the job listed as Complete.



Job summary		
Refresh Details Duplicate View JSON		
Overview		
Status	Queue	Job ID
COMPLETE	Default	1520623052796-mlw3v
Role	Submit time	Start time
EZDRM	2018-03-09 14:17:32	2018-03-09 14:17:33
Finish time	Duration in queue	Duration in transcoding
2018-03-09 14:19:30	00:00:01	00:01:57

Additional Information

For additional questions and comments please contact: simplify@ezdrm.com

Updated 3/8/22 – V5.0

Speke 2.0 Server updates / updated AWS screen flows

4/27/22 – V5.0 – Certificate ARN correction and added Service Role screencap

5/10/22 – updated screenshots and added CMAF