

EZDRM Configuration AWS SPEKE 2.0 for MediaLive and MediaPackage

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Version 1.2 / Updated April 25, 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>

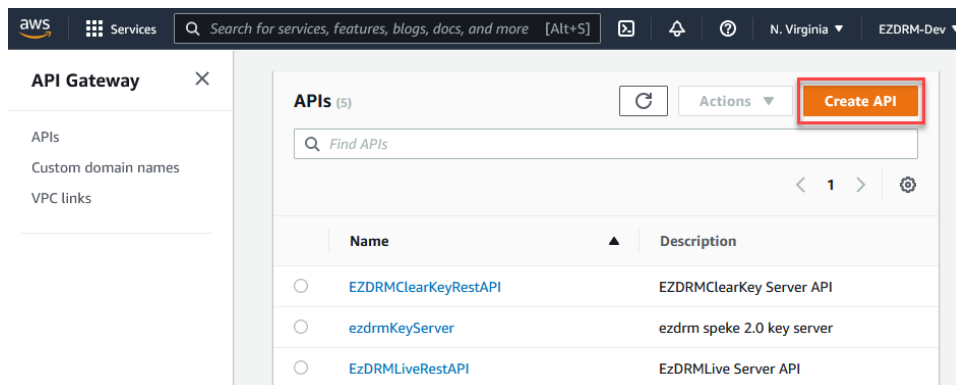
To download Python 3.6: <https://www.python.org/downloads/>

STEP 1 - EZDRM AWS Speke 2.0 Server Deployment

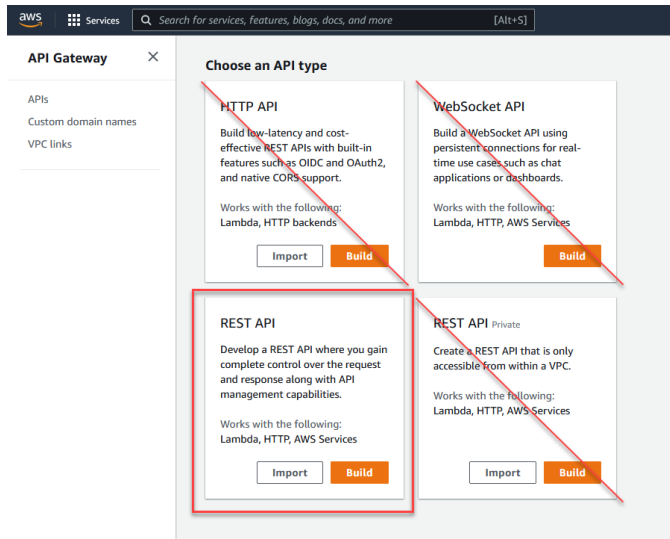
We will utilize AWS SPEKE 2.0 to support their multi-key infrastructure.

Create API

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

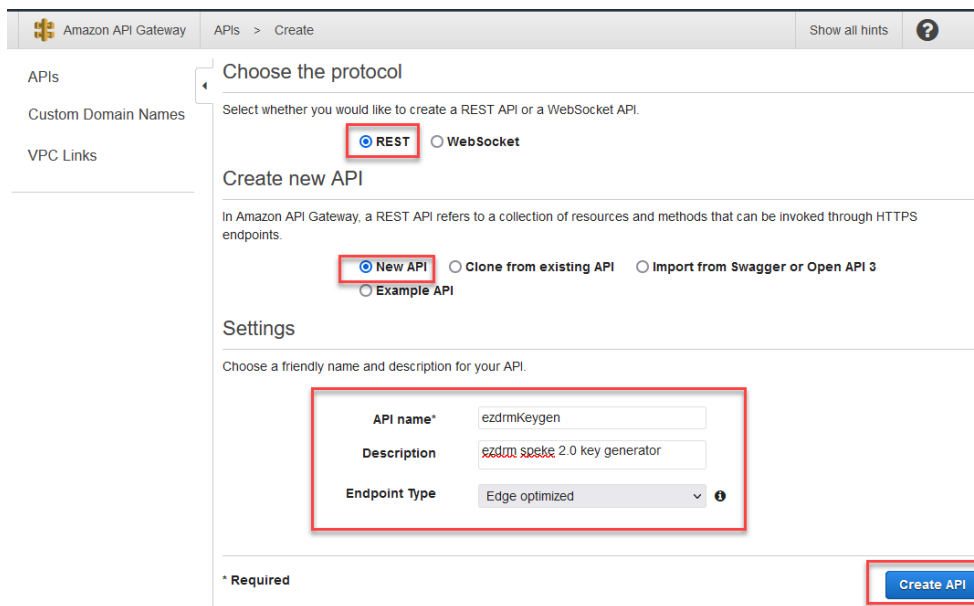


2. Build a **REST API** by clicking the **Build** button.



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

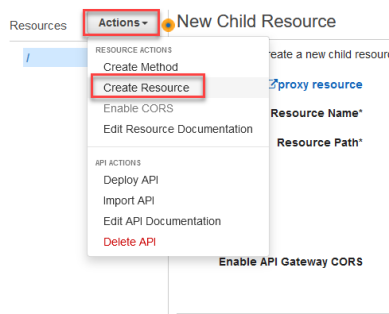
3. Select **REST** protocol, and under Create new API select **New API**. Enter the **API name**, **Description** and select the **Endpoint Type – Edge Optimized**. Edge Optimized allows the endpoint to be geo-balanced.



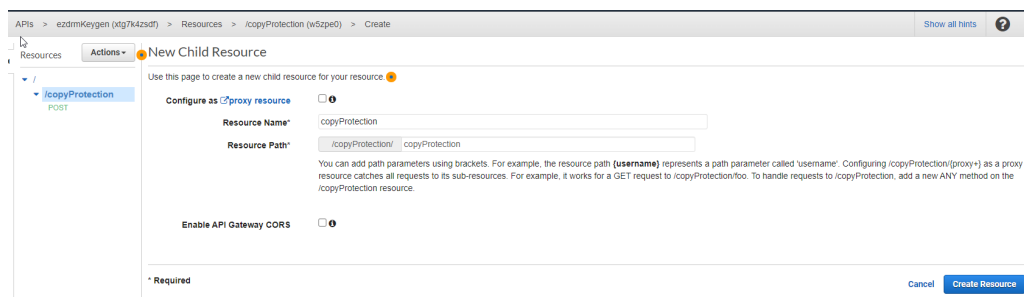
4. Click **Create API**.

Create API Resource

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

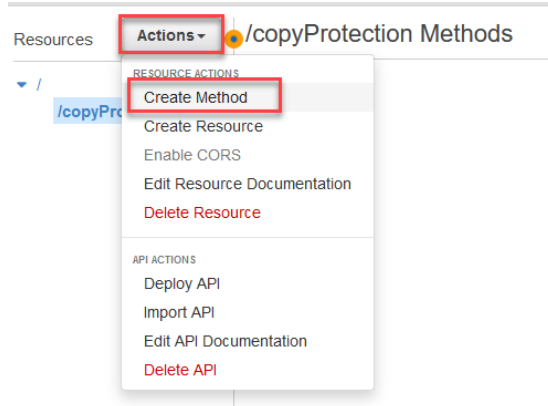


- Leave **Configure as proxy resource** unchecked. Enter **Resource Name**, we recommend **copyProtection** (case sensitive). Leave **Enable API Gateway CORS** unchecked.
- Click **Create Resource**.

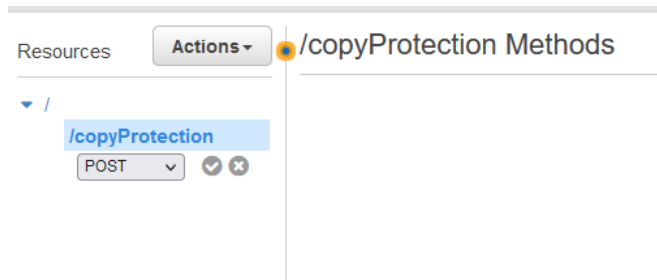


Create Method

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



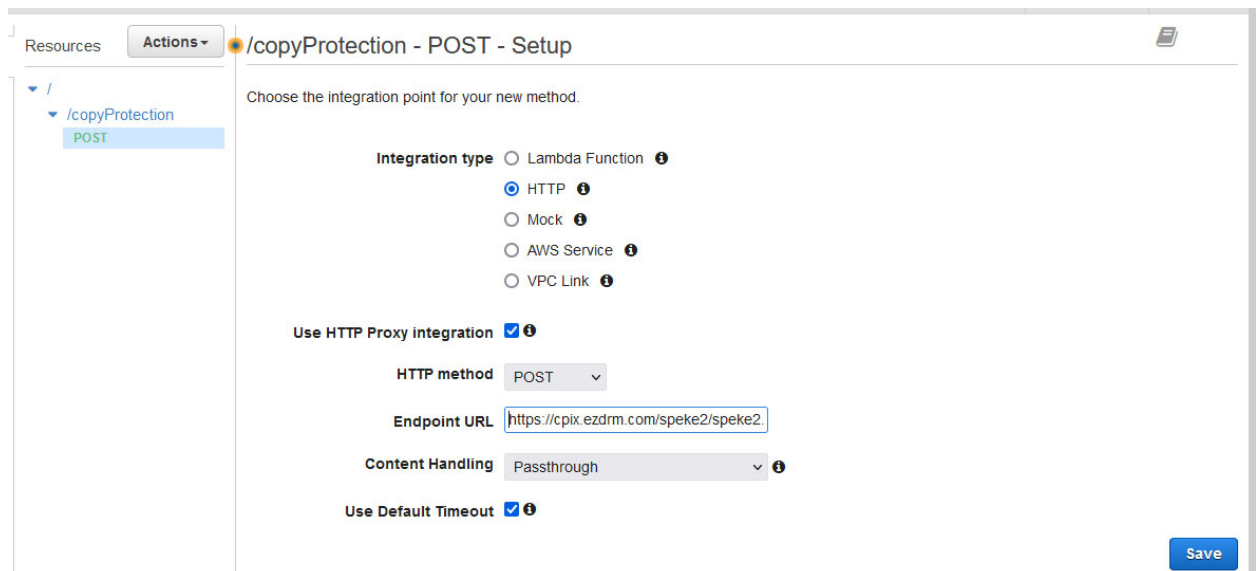
9. The Method type is **POST**.



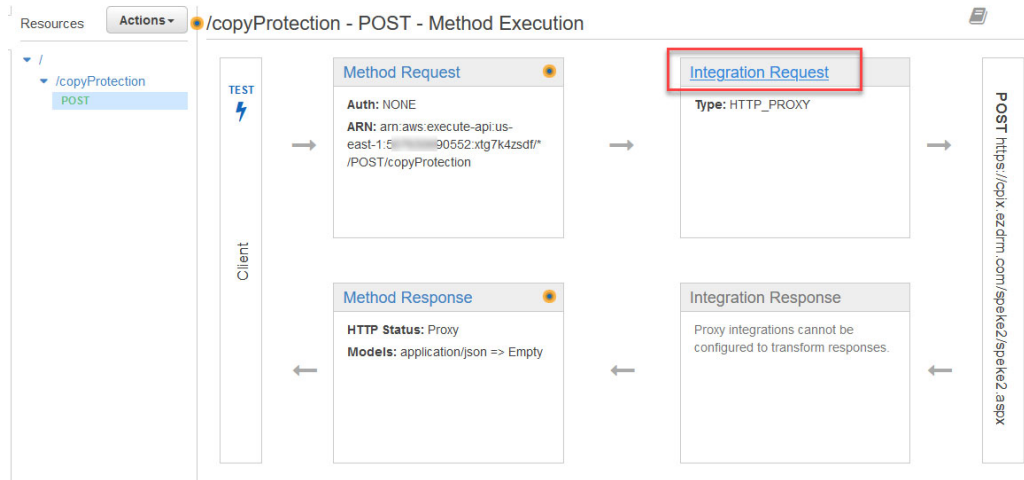
10. Under **Integration Type** select **HTTP**. Select the checkbox for **Use HTTP Proxy Integration**. **HTTP Method** is **POST**. The **Endpoint URL** is <https://cpix.ezdrm.com/speke2/speke2.aspx>

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

12. Click **Save**.

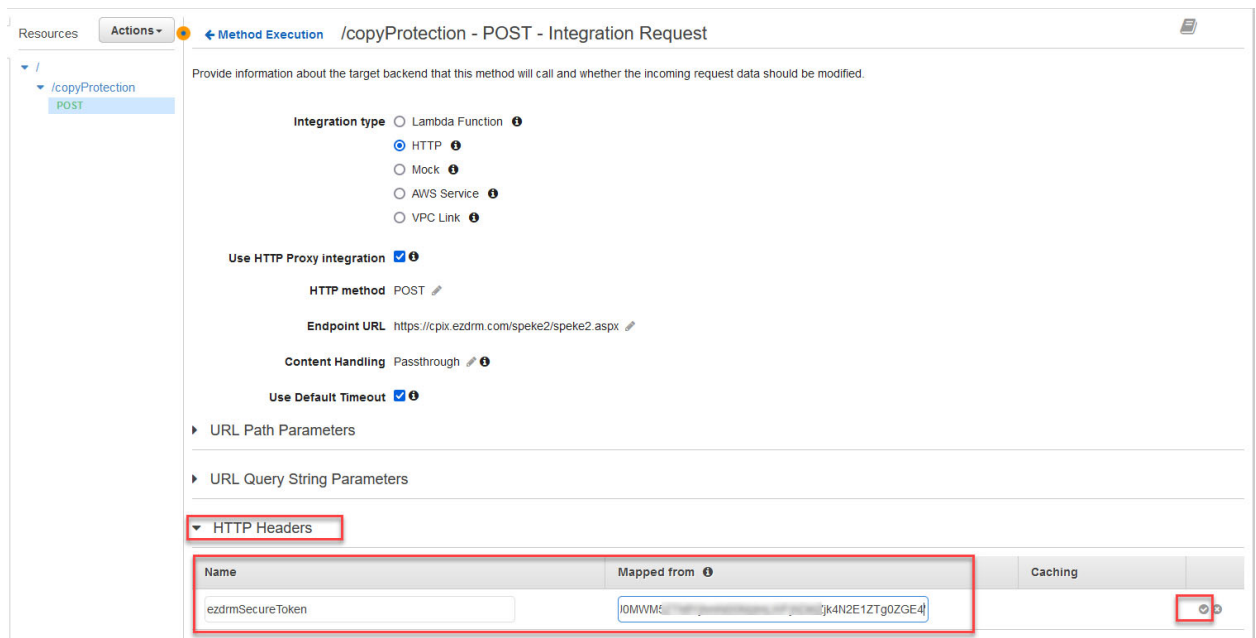


13. Next, select **Integration Request** link.



Integration Request

14. Specify an **HTTP Header**, this is how access to the endpoint is validated with EZRDM.
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.



Resources Actions ▾ Method Execution /copyProtection - POST - Integration Request

Provide information about the target backend that this method will call and whether the incoming request data should be modified.

Integration type ☐ Lambda Function ⓘ ☒ HTTP ⓘ ☐ Mock ⓘ ☐ AWS Service ⓘ ☐ VPC Link ⓘ

Use HTTP Proxy integration ☒ ⓘ

HTTP method POST

Endpoint URL <https://cpix.ezdrm.com/speke2/speke2.aspx>

Content Handling Passthrough ⓘ

Use Default Timeout ☒ ⓘ

URL Path Parameters

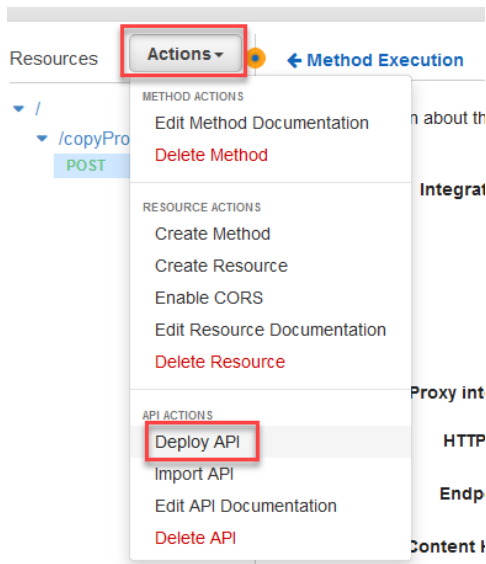
URL Query String Parameters

HTTP Headers

Name	Mapped from ⓘ	Caching
ezdrmSecureToken	Authorization [k4N2E1ZTg0ZGE4]	<input type="checkbox"/>

Deploy API

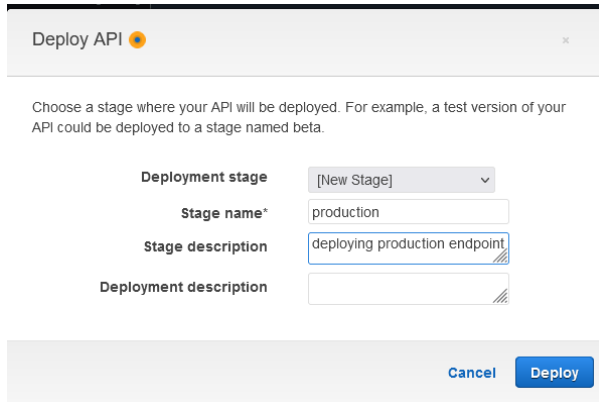
18. Select **Deploy API** from the Actions menu.



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 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”.



Deploy API

Choose a stage where your API will be deployed. For example, a test version of your API could be deployed to a stage named beta.

Deployment stage: [New Stage] v

Stage name*: production

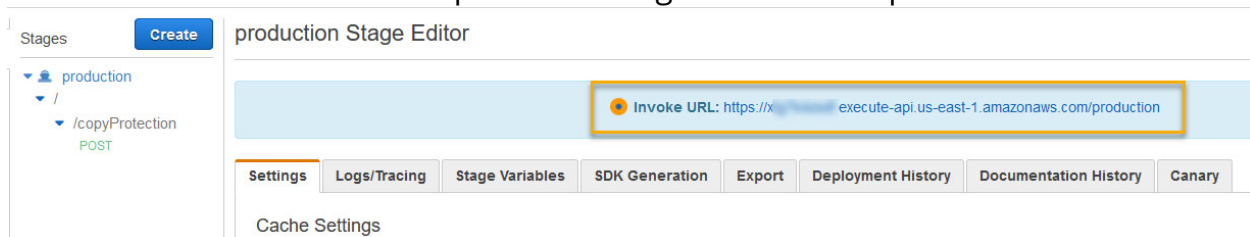
Stage description: deploying production endpoint

Deployment description:

Cancel Deploy

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.



Stages Create

- production
 - /
 - /copyProtection POST

production Stage Editor

Invoke URL: https://x.execute-api.us-east-1.amazonaws.com/production

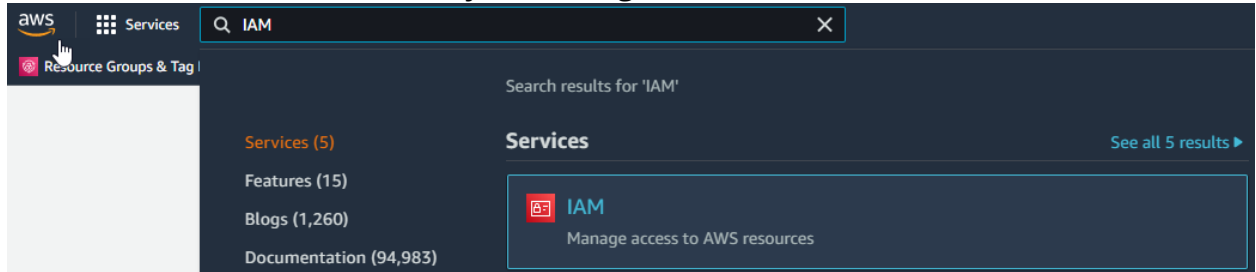
Settings Logs/Tracing Stage Variables SDK Generation Export Deployment History Documentation History Canary

Cache Settings

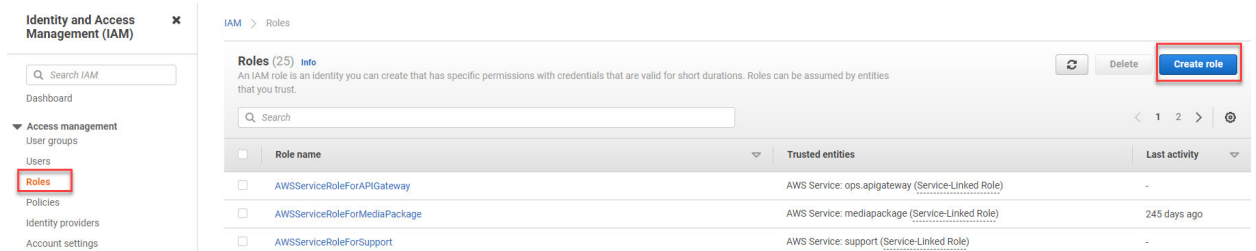
STEP 2 - Create Role – MediaPackage

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

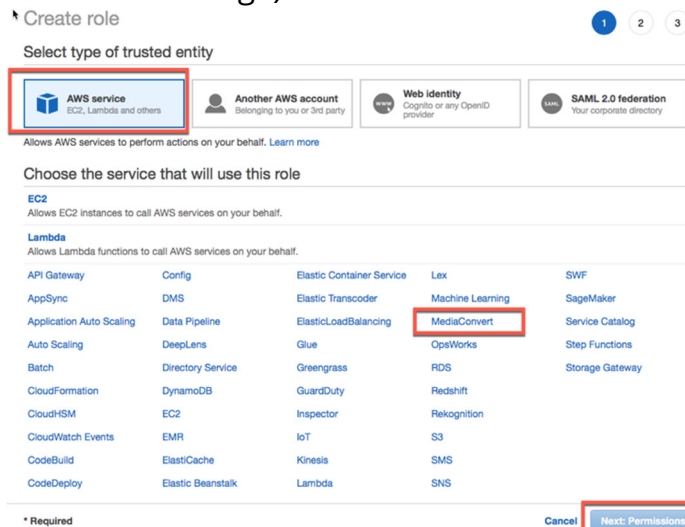
1. Launch the AWS IAM console by searching for IAM.



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



3. Under AWS service select the **MediaConvert** role (there isn't currently a role for MediaPackage) and click the **Next: Permissions** button.



4. Review attached permissions and click the **Next: Tags** button.

Create role 1 2 3 4

▼ Attached permissions policies

The type of role that you selected requires the following policy.

Filter policies	Q Search	Showing 2 results
Policy name	Used as	Description
AmazonAPIGatewayInvokeFullAccess	Permissions policy (3)	Provides full access to invoke APIs in Amazon ...
AmazonS3FullAccess	Permissions policy (6)	Provides full access to all buckets via the AWS ...

* Required Cancel Previous Next: Tags

5. Add any application tags (optional) and then click **Next: Review**

Create role 1 2 3 4

Add tags (optional)

IAM tags are key-value pairs you can add to your role. Tags can include user information, such as an email address, or can be descriptive, such as a job title. You can use the tags to organize, track, or control access for this role. [Learn more](#)

Key	Value (optional)	Remove
Add new key		

You can add 50 more tags.

Cancel Previous Next: Review

6. Enter the Role name and click Create role.

Create role 1 2 3 4

Review

Provide the required information below and review this role before you create it.

Role name* Media_Package
Use alphanumeric and "+, @, _" characters. Maximum 64 characters.

Role description Allows MediaConvert service to call S3 APIs and API Gateway on your behalf.
Maximum 1000 characters. Use alphanumeric and "+, @, _" characters.

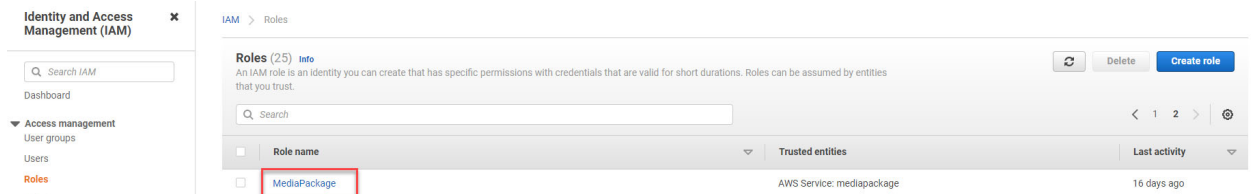
Trusted entities AWS service: mediaconvert.amazonaws.com

Policies AmazonS3FullAccess AmazonAPIGatewayInvokeFullAccess

Permissions boundary Permissions boundary is not set

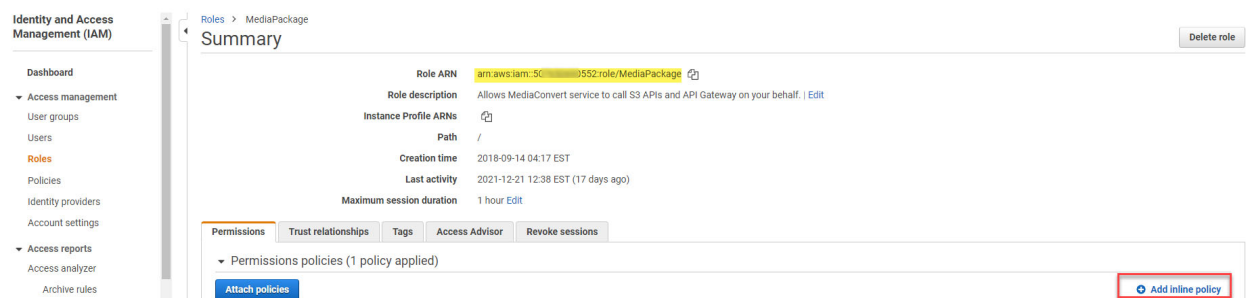
* Required Cancel Previous Create role

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

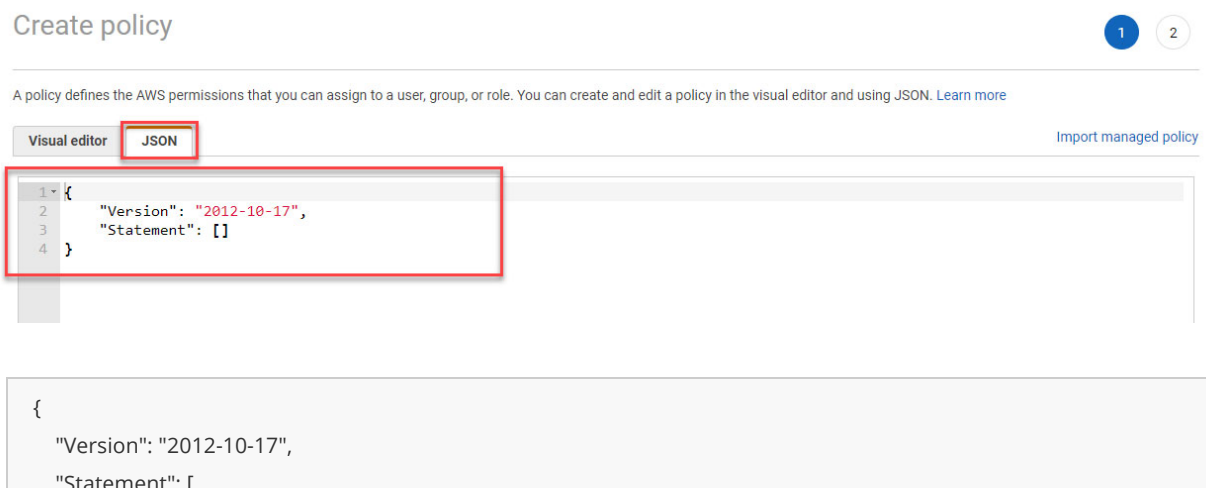


- Because a role doesn't exist for MediaPackage, you will need to add an inline policy and change the settings of these role. This gives permission to execute the copy protection.

First, note your **AWS Account ID** as part of the **Role ARN** value (you can also find this value under the My Account menu under Account Settings). Click the link to **Add inline policy**.

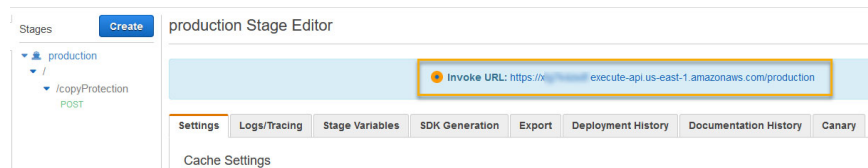


- Next select the **JSON** tab and replace with the following code:




```
{
  "Effect": "Allow",
  "Action": [
    "execute-api:Invoke"
  ],
  "Resource": [
    "arn:aws:execute-api:us-east-1:888XXXX78094::vxxxxxoy5h/*/GET/client/*/\"",
    "arn:aws:execute-api:us-east-1:888XXXX78094::vxxxxxoy5h/*/POST/copyProtection"
  ]
}
```

The yellow highlighted value is your **AWS Account ID**, the purple highlighted value is from the **EzDRM SPEKE 2.0 API Invoke URL** created in Step 1 (this value would change if you redeploy the Speke server).



- Once you've entered the correct code in the JSON tab, click the **Review policy** button.

Create policy

1

2

A policy defines the AWS permissions that you can assign to a user, group, or role. You can create and edit a policy in the visual editor and using JSON. [Learn more](#)

This policy validation failed and might have errors converting to JSON: The policy must have at least one statement. For more information about the IAM policy grammar, see [AWS IAM Policies](#).

Visual editor

JSON

[Import managed policy](#)

```

1 {
2   "Version": "2012-10-17",
3   "Statement": [
4     {
5       "Effect": "Allow",
6       "Action": [
7         "execute-api:Invoke"
8       ],
9       "Resource": [
10        "arn:aws:execute-api:us-east-1:888859578094:09puxkvybd:*/GET/client/*/*",
11        "arn:aws:execute-api:us-east-1:888859578094:09puxkvybd:*/POST/copyProtection"
12      ]
13    }
14  ]
15 }

```

Cancel

Review policy

11. On the Review policy page, fill in the policy **Name** and click **Create policy**.

Create policy

1

2

Review policy

Before you create this policy, provide the required information and review this policy.

Name* MediaPacketoEZDRM

Maximum 128 characters. Use alphanumeric and "+", "-", "." characters.

Summary

Q Filter			
Service	Access level	Resource	Request condition
Allow (1 of 136 services) Show remaining 135			
ExecuteAPI	Limited: Write	Multiple	None

* Required

Cancel

Previous

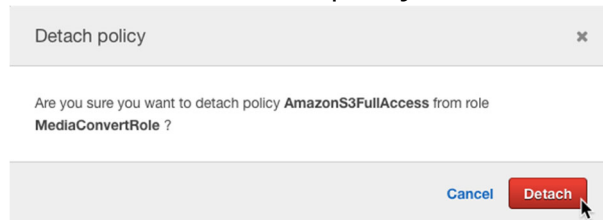
Create policy

12. Now you will detach the two default policies from the role by clicking the “x” next to **AmazonS3FullAccess** and **AmazonAPIGatewayInvokeFullAccess**.



Policy name	Policy type	
AmazonS3FullAccess	AWS managed policy	x
AmazonAPIGatewayInvokeFullAccess	AWS managed policy	x
MediaPackageToEZDRM	Inline policy	x

Click **Detach** on the Detach policy confirmation screen for both.

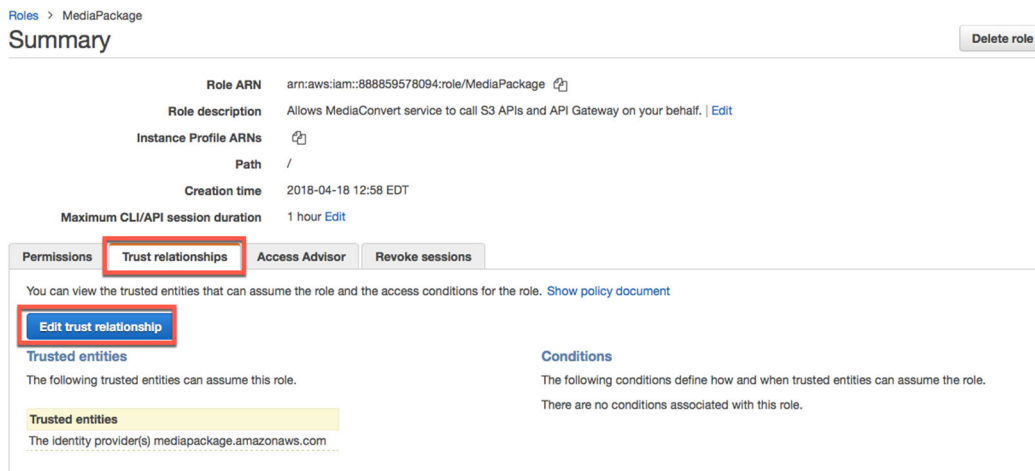


Detach policy x

Are you sure you want to detach policy **AmazonS3FullAccess** from role **MediaConvertRole** ?

Cancel Detach

13. Then click on the **Trust relationships** tab and click the **Edit trust relationship** button.



Roles > MediaPackage

Summary Delete role

Role ARN: arn:aws:iam::888859578094:role/MediaPackage

Role description: Allows MediaConvert service to call S3 APIs and API Gateway on your behalf. [Edit](#)

Instance Profile ARNs: /

Path: /

Creation time: 2018-04-18 12:58 EDT

Maximum CLI/API session duration: 1 hour [Edit](#)

Trust relationships Access Advisor Revoke sessions

You can view the trusted entities that can assume the role and the access conditions for the role. [Show policy document](#)

Edit trust relationship

Trusted entities

The following trusted entities can assume this role.

Trusted entities

The identity provider(s) mediapackage.amazonaws.com

Conditions

The following conditions define how and when trusted entities can assume the role.

There are no conditions associated with this role.

14. Edit line 8 from “mediaconvert.amazonaws.com” to
“mediapackage.amazonaws.com” and click the **Update trust policy**
 button.

Edit Trust Relationship

You can customize trust relationships by editing the following access control policy document.

Policy Document

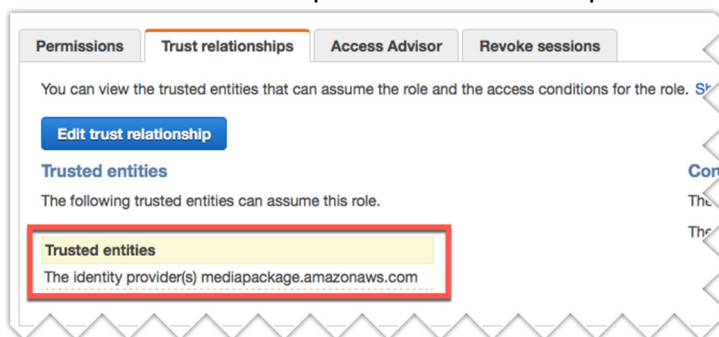
```

1 {
2   "Version": "2012-10-17",
3   "Statement": [
4     {
5       "Sid": "",
6       "Effect": "Allow",
7       "Principal": {
8         "Service": "mediapackage.amazonaws.com"
9       },
10      "Action": "sts:AssumeRole"
11    }
12  ]
13 }
```

Cancel

Update Trust Policy

The Trust relationships tab should be updated as follows:



Permissions Trust relationships Access Advisor Revoke sessions

You can view the trusted entities that can assume the role and the access conditions for the role. [See the documentation](#)

[Edit trust relationship](#)

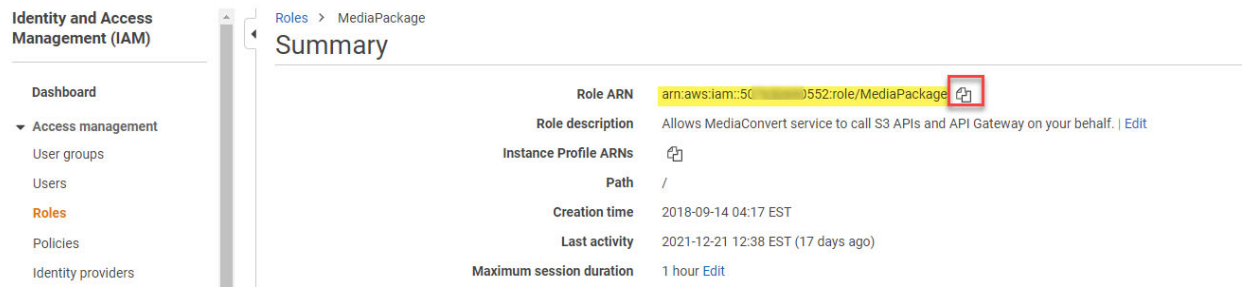
Trusted entities

The following trusted entities can assume this role.

Trusted entities

The identity provider(s) mediapackage.amazonaws.com

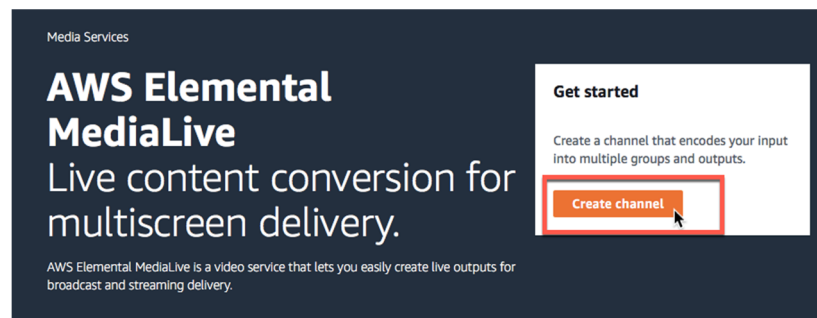
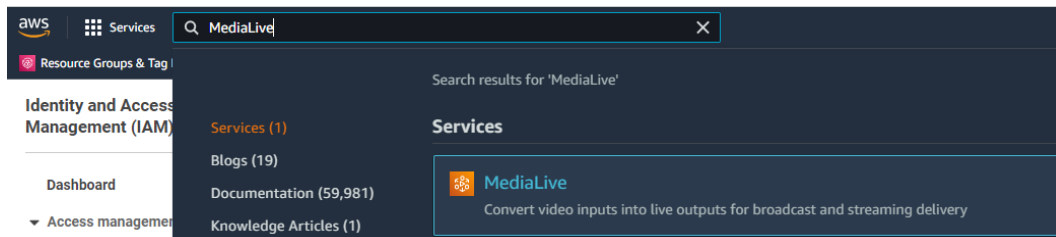
- Once the MediaPackage role is created, make note of the **Role ARN** value for use in a later step. You can copy this value using the doc copy shortcut.



STEP 3 - Creating an AWS MediaLive & MediaPackage Job

Create a Channel in MediaLive

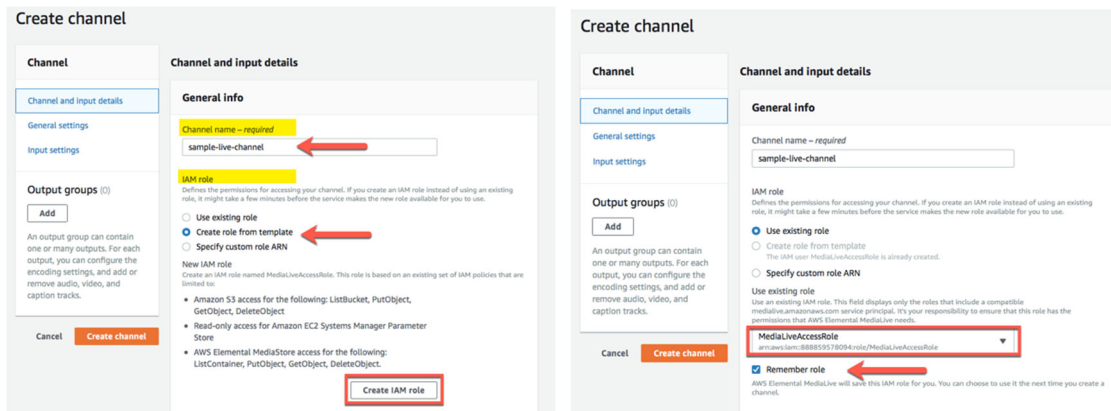
- Through **AWS Services** go to **MediaLive** and under **Get Started**, click **Create Channel**.



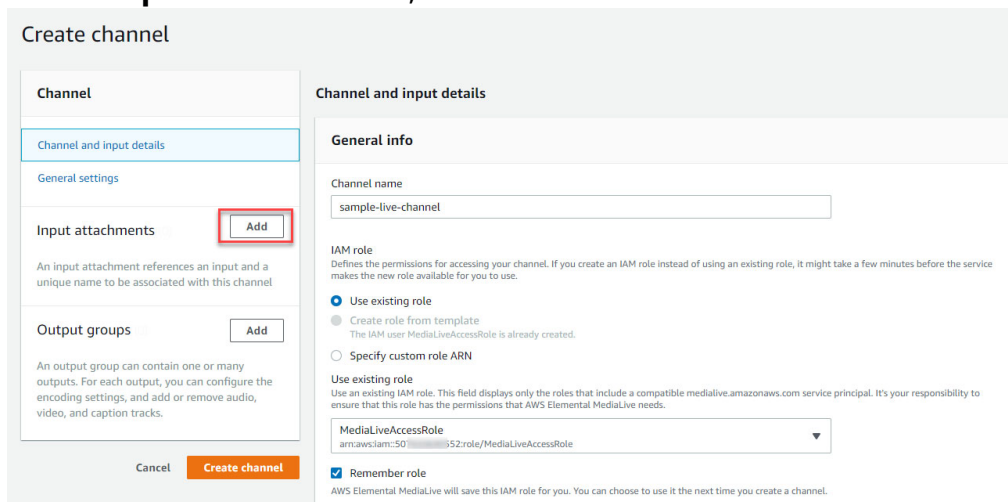
Channel and Input Details

- The channel is the input for your live broadcast. Enter the **Channel Name** (this is a required value).

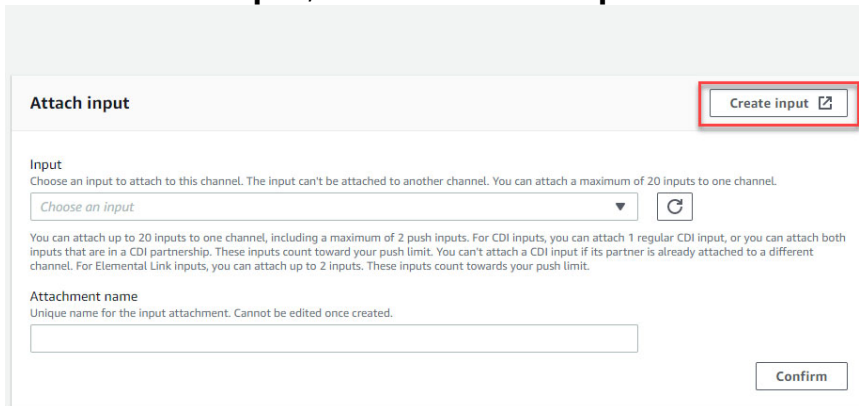
- Under **IAM Role**, the first time you create a channel, you can select **Create Role from Template** and click **Create IAM role**. The **MediaLiveAccessRole** will be created. You can select to **Remember role** and it will be available as the existing role for future channels.



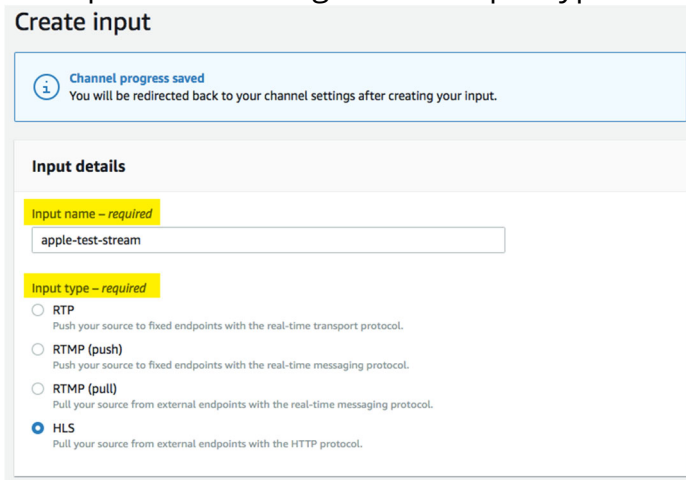
- Under **Input attachments**, click the **Add** button.



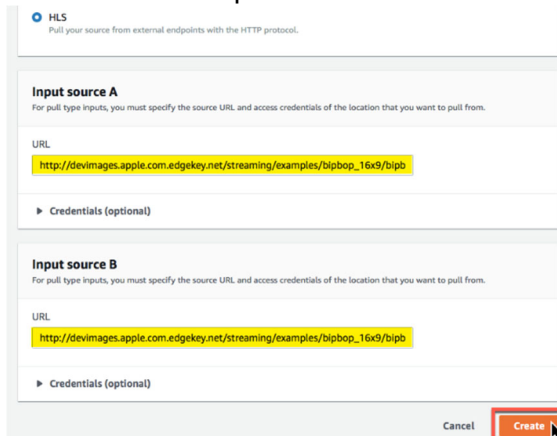
- Under **Attach input**, click the **Create input** button.



- This will pull the source and type of stream pushing up to **MediaLive**, for this example we are using the HLS input type.



7. Channel **Input source A** and **Input source B** will be the same for redundancy. For this example, we are using a publicly available HLS stream provided by Apple for testing. You will enter your encoders publishing point URL for both Input sources and click **Create** button.



HLS
Pull your source from external endpoints with the HTTP protocol.

Input source A
For pull type inputs, you must specify the source URL and access credentials of the location that you want to pull from.

URL
`http://devimages.apple.com.edgekey.net/streaming/examples/bipbop_16x9/bipbop_16x9_variant.m3u8`

► Credentials (optional)

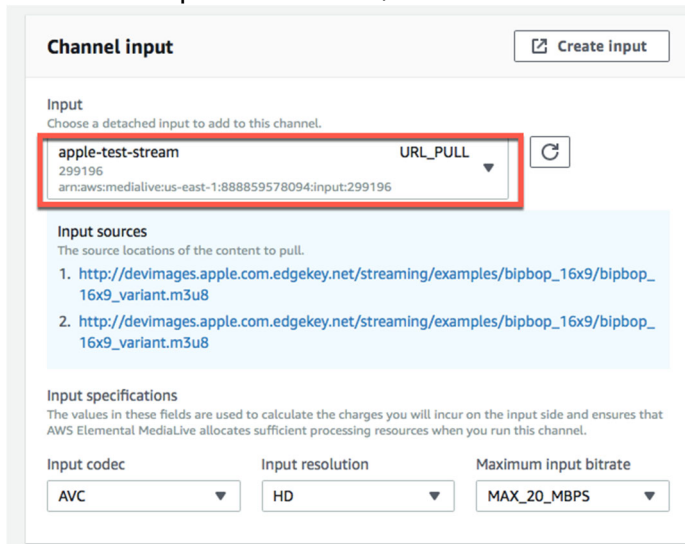
Input source B
For pull type inputs, you must specify the source URL and access credentials of the location that you want to pull from.

URL
`http://devimages.apple.com.edgekey.net/streaming/examples/bipbop_16x9/bipbop_16x9_variant.m3u8`

► Credentials (optional)

Cancel Create

8. Once the Input is created, it can be selected from the Input dropdown menu.



Channel input Create input

Input
Choose a detached input to add to this channel.

apple-test-stream URL_PULL
299196
arn:aws:medialive:us-east-1:888859578094:input:299196

Input sources
The source locations of the content to pull.

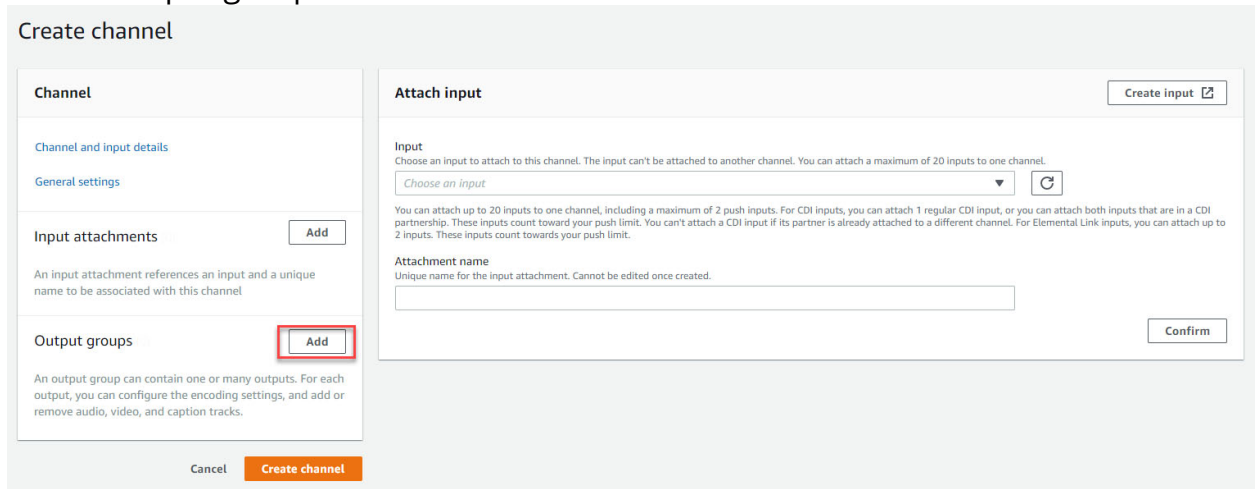
- `http://devimages.apple.com.edgekey.net/streaming/examples/bipbop_16x9/bipbop_16x9_variant.m3u8`
- `http://devimages.apple.com.edgekey.net/streaming/examples/bipbop_16x9/bipbop_16x9_variant.m3u8`

Input specifications
The values in these fields are used to calculate the charges you will incur on the input side and ensures that AWS Elemental MediaLive allocates sufficient processing resources when you run this channel.

Input codec: AVC Input resolution: HD Maximum input bitrate: MAX_20_MBPS

9. Click **Confirm**.

10. Under Output groups click **Add**.



Create channel

Channel

[Channel and input details](#)

[General settings](#)

Input attachments Add

An input attachment references an input and a unique name to be associated with this channel

Output groups Add

An output group can contain one or many outputs. For each output, you can configure the encoding settings, and add or remove audio, video, and caption tracks.

Cancel Create channel

Attach input Create input

Input
Choose an input to attach to this channel. The input can't be attached to another channel. You can attach a maximum of 20 inputs to one channel.

Choose an input ▼ ↺

You can attach up to 20 inputs to one channel, including a maximum of 2 push inputs. For CDI inputs, you can attach 1 regular CDI input, or you can attach both inputs that are in a CDI partnership. These inputs count toward your push limit. You can't attach a CDI input if its partner is already attached to a different channel. For Elemental Link inputs, you can attach up to 2 inputs. These inputs count towards your push limit.

Attachment name
Unique name for the input attachment. Cannot be edited once created.

Confirm

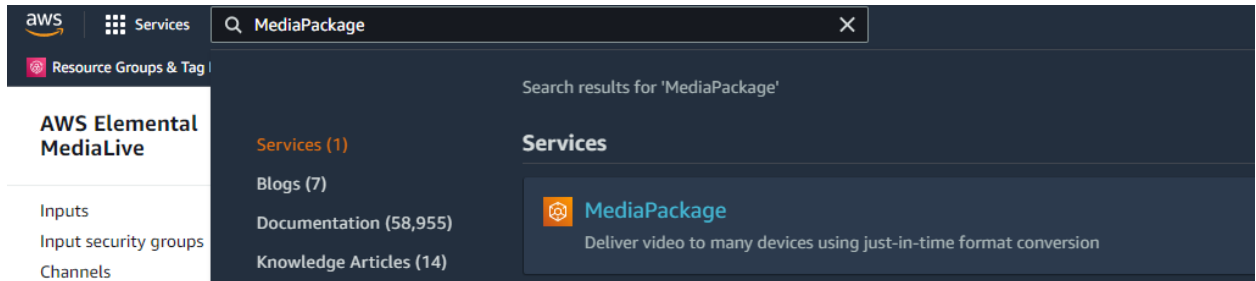
11. Select **HLS** and then click **Confirm**.

12. Now you will keep this tab open while you complete the next few steps.

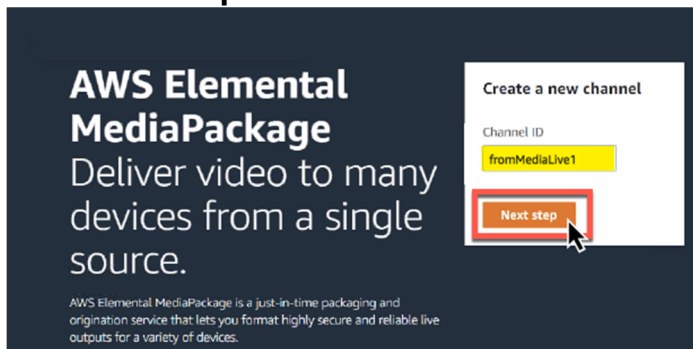
Create Channels in MediaPackage

13. The next step is to create a new channel in **MediaPackage** to ingest the stream that is coming from MediaLive.

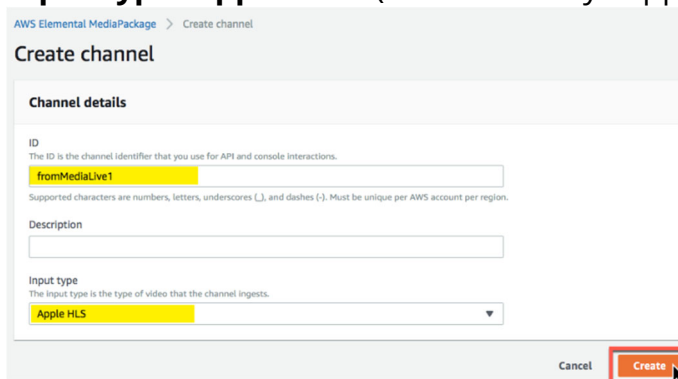
Note: It is helpful to *have multiple tabs open during this process*, for ease of copying settings between MediaLive and MediaPackage.



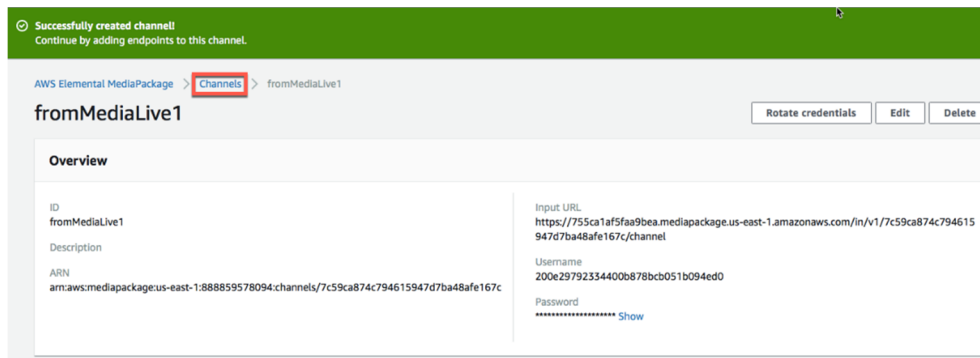
14. Click **Next Step** under **Create a new channel**.



15. Enter the Channel details including the **ID** channel identifier and select the **Input type "Apple HLS"** (this is the only supported type). Click **Create**.



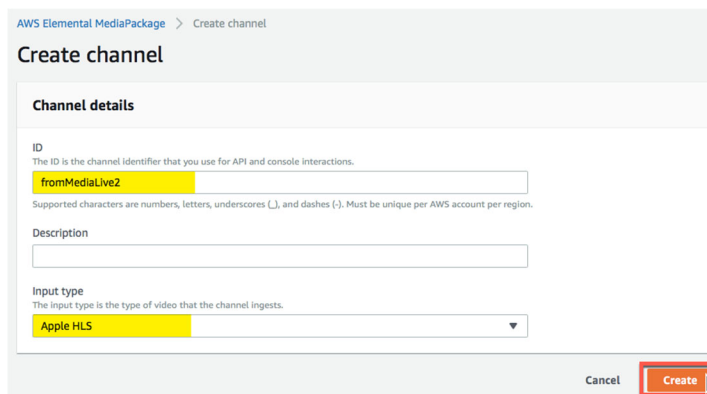
16. This will create the MediaPackage channel. For redundancy, a second channel will need to be created. Select **Channels**.



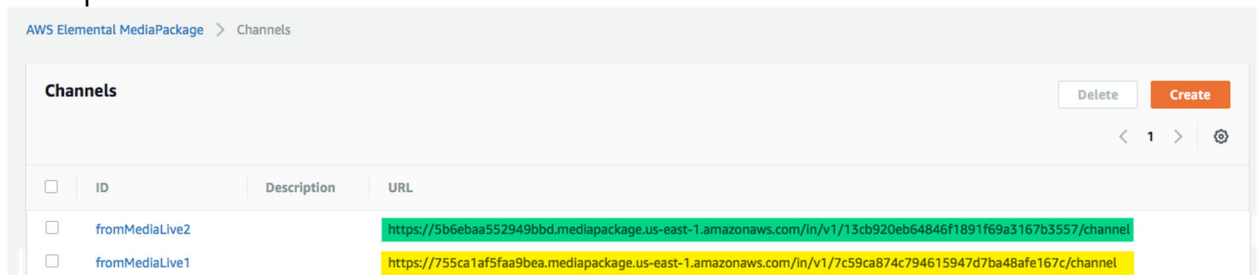
17. Click create on the **Channels** page and click the **Create** button to create the second redundant channel.



18. Enter the **Channel details** and click **Create**.

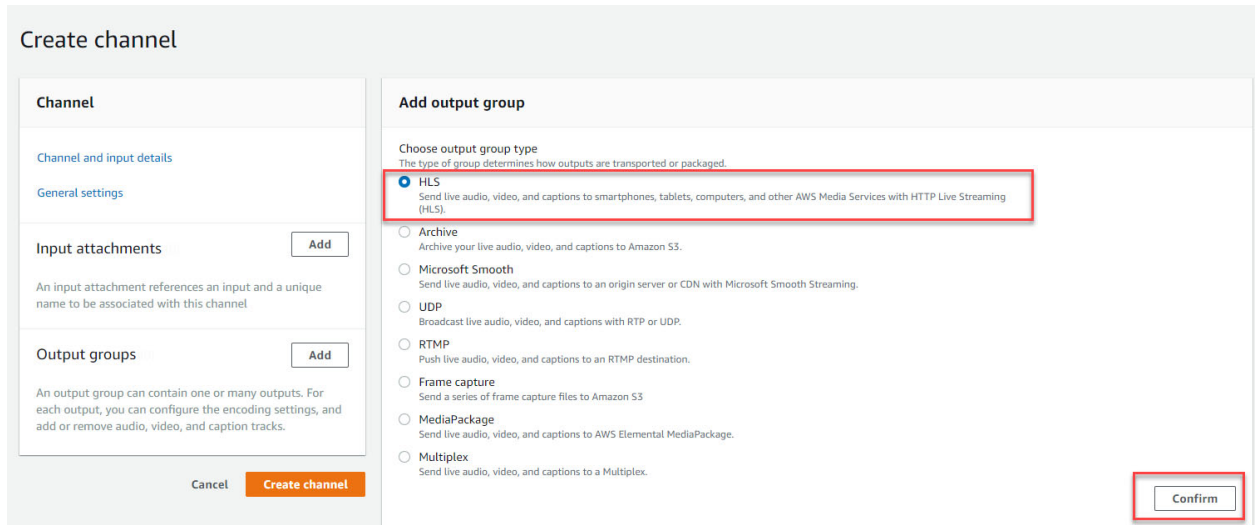


19. Now we have the URL and Channel details we will need for the Output Groups in MediaLive.



MediaLive Output Groups

20. Back in **MediaLive**, click the **Add** button under **Output groups** and select **HLS**. Click the **Confirm** button.1



Create channel

Channel

Channel and input details

General settings

Input attachments Add

An input attachment references an input and a unique name to be associated with this channel.

Output groups Add

An output group can contain one or many outputs. For each output, you can configure the encoding settings, and add or remove audio, video, and caption tracks.

Cancel Create channel

Add output group


Choose output group type
The type of group determines how outputs are transported or packaged.

- ☒ **HLS**
Send live audio, video, and captions to smartphones, tablets, computers, and other AWS Media Services with HTTP Live Streaming (HLS).
- ☐ **Archive**
Archive your live audio, video, and captions to Amazon S3.
- ☐ **Microsoft Smooth**
Send live audio, video, and captions to an origin server or CDN with Microsoft Smooth Streaming.
- ☐ **UDP**
Broadcast live audio, video, and captions with RTP or UDP.
- ☐ **RTMP**
Push live audio, video, and captions to an RTMP destination.
- ☐ **Frame capture**
Send a series of frame capture files to Amazon S3.
- ☐ **MediaPackage**
Send live audio, video, and captions to AWS Elemental MediaPackage.
- ☐ **Multiplex**
Send live audio, video, and captions to a Multiplex.

Confirm

Note: *MediaPackage only accepts HLS streams.*

21. Copy and Paste the **Input URL**, **Username** and **Password** from the first **MediaPackage** channel you created to input in the next step.



AWS Elemental MediaPackage > Channels > fromMediaLive1

fromMediaLive1 Rotate credentials Edit Delete

Overview

ID
fromMediaLive1

Description

ARN
am:aws:mediapackage:us-east-1:88859578094:channels/7c59ca874c794615947d7ba48afe167c

Input URL
<https://755ca1af5faa9bea.mediapackage.us-east-1.amazonaws.com/in/v1/7c59ca874c794615947d7ba48afe167c/channel>

Username
200e29792334400b878bcb051b094ed0

Password
***** Show

22. In **MediaLive**, in the first **HLS Group destination A**, enter the copied values for **URL** and **Username**. The first time you set up a password in the Output groups, you will select **Create AWS Elemental MediaLive parameter**. This will allow the password to be saved by AWS for future use. We recommend entering the password **Name** with something that will help you select the correct one when you have multiple channels created in the future. Enter the **Password** value and click to **Create the AWS Elemental MediaLive Parameter**.

HLS group destination A


Type a destination for your first HLS group.


URL
https://755ca1af5faa9bea.mediapackage.us-east-1.amazonaws.c

▼ Credentials (optional)

Username
200e29792334400b878bcb051b094ed0

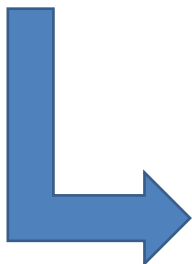
Password
Retrieves the password that is stored in the specified parameter in Amazon EC2 Systems Manager Parameter Store.

☐ Use an existing AWS Elemental MediaLive parameter.
☒ Create AWS Elemental MediaLive parameter. 
☐ Use an existing parameter.

Name
A name for the parameter. The name will be prefixed with /medialive/.
pw-36d4 

Password value
The password to store in this parameter.
36d4ff

Create AWS Elemental MediaLive parameter.



HLS group destination A

Type a destination for your first HLS group.

URL
https://755ca1af5faa9bea.mediapackage.us-east-1.amazonaws.c

▼ Credentials (optional)

Username
200e29792334400b878bcb051b094ed0

Password
Retrieves the password that is stored in the specified parameter in Amazon EC2 Systems Manager Parameter Store.

☒ Use an existing AWS Elemental MediaLive parameter.
☐ Create AWS Elemental MediaLive parameter.
☐ Use an existing parameter.

Use an existing AWS Elemental MediaLive parameter.
Choose parameters that were created specifically for AWS Elemental MediaLive.

/medialive/pw-36d4
SecureString

23. Copy and Paste the **Input URL**, **Username** and **Password** from the second **MediaPackage** channel you created to input in the next step.

AWS Elemental MediaPackage > Channels > fromMediaLive2

fromMediaLive2 Rotate credentials Edit Delete

Overview

ID	fromMediaLive2	Input URL	https://5b6ebaa552949bbd.mediapackage.us-east-1.amazonaws.com/in/v1/13cb920eb64846f1891f69a3167b3557/channel
Description		Username	03892b2d40d94fb9ac5bc1b65f20cc42
ARN	arn:aws:mediapackage:us-east-1:888859578094:channels/13cb920eb64846f1891f69a3167b3557	Password	***** Show

24. Back in **MediaLive**, in **HLS Group destination B** for redundancy, repeat the process in Step 17 to enter parameters for **URL** and **Username**, Password **Name** and **Password** from **MediaPackage**.


HLS group destination B
Type a destination for your second (redundant) HLS group.

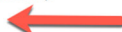
URL
<https://5b6ebaa552949bbd.mediapackage.us-east-1.amazonaws.com/in/v1/13cb920eb64846f1891f69a3167b3557/channel>


▼ Credentials (optional)

Username
03892b2d40d94fb9ac5bc1b65f20cc42

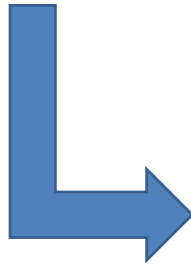
Password
Retrieves the password that is stored in the specified parameter in Amazon EC2 Systems Manager Parameter Store.

☐ Use an existing AWS Elemental MediaLive parameter.
☒ Create AWS Elemental MediaLive parameter. 
☐ Use an existing parameter.

Name
A name for the parameter. The name will be prefixed with /mediaLive/.
pw-a636 

Password value
The password to store in this parameter.
a636 

Create AWS Elemental MediaLive parameter.



HLS group destination B

Type a destination for your second (redundant) HLS group.

URL

▼ Credentials (optional)

Username

Password
Retrieves the password that is stored in the specified parameter in Amazon EC2 Systems Manager Parameter Store.

☒ Use an existing AWS Elemental MediaLive parameter.
☐ Create AWS Elemental MediaLive parameter.
☐ Use an existing parameter.

Use an existing AWS Elemental MediaLive parameter.
Choose parameters that were created specifically for AWS Elemental MediaLive.

25. Next in **MediaLive** under **HLS Settings** enter a **Name**, and for **CDN Settings** select **Hls webdav**. Keep the other settings as default.

HLS settings

Name

CDN Settings [Info](#)

Connection Retry Interval [Info](#)

Num Retries [Info](#)

Filecache Duration [Info](#)

Restart Delay [Info](#)

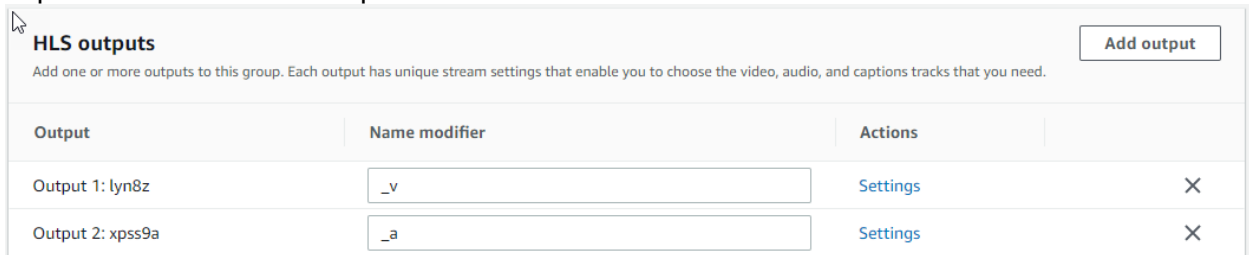
HTTP Transfer Mode [Info](#)

Input Loss Action [Info](#)

Caption Language Mappings (0)

DASH-ISO Output example

26. This is the Output set up for DASH-ISO. See the next section for HLS Output settings. Under **HLS outputs** click the **Add output** button to create Output 2. You can name Output 1 to represent the video output, and Output 2 to represent the audio output.



HLS outputs Add output

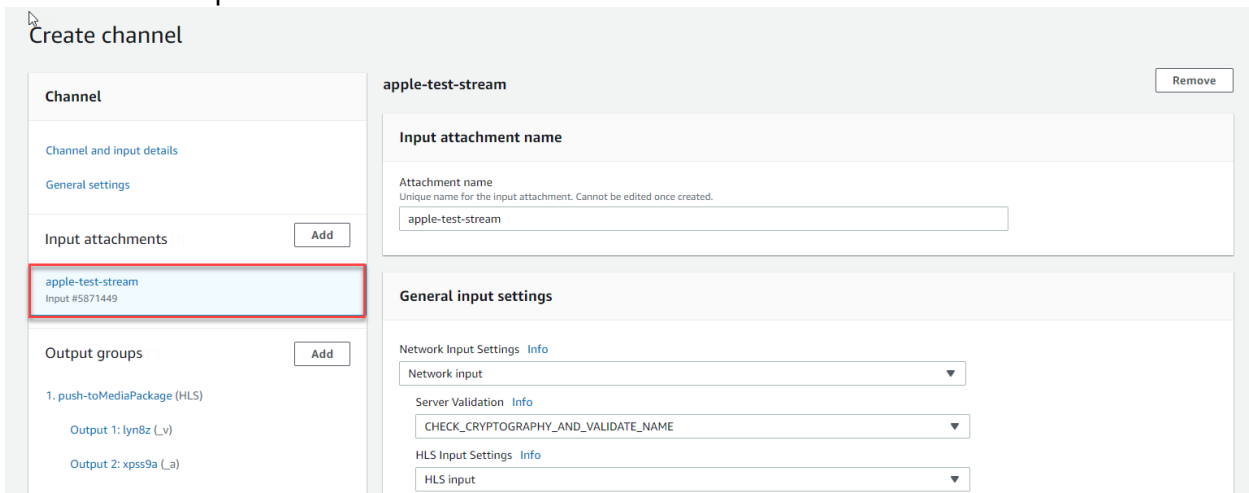
Add one or more outputs to this group. Each output has unique stream settings that enable you to choose the video, audio, and captions tracks that you need.

Output	Name modifier	Actions
Output 1: lyn8z	<input type="text" value="_v"/>	Settings ×
Output 2: xpss9a	<input type="text" value="_a"/>	Settings ×

27. The rest of the settings under **Channel and Input Details** keep as default.

Input Settings

28. Click on the input link.



Create channel Remove

Channel

[Channel and input details](#)

[General settings](#)

Input attachments Add

apple-test-stream
Input #5871449

Output groups Add

1. push-toMediaPackage (HLS)

Output 1: lyn8z (_v)

Output 2: xpss9a (_a)

Input attachment name

Attachment name
Unique name for the input attachment. Cannot be edited once created.

General input settings

Network Input Settings [Info](#)

Server Validation [Info](#)

HLS Input Settings [Info](#)

29. Scroll down to **Add audio selectors** button.

Input settings

General input settings

Network Input Settings [Info](#)

Input Filter [Info](#)

Filter Strength [Info](#)

Deblock Filter [Info](#)

Denoise Filter [Info](#)

Source End Behavior [Info](#)

Video Selector [Info](#)

Audio Selectors (0)

Caption Selectors (0)

30. Enter the **Audio Selector Name** and copy it to paste in the next section.

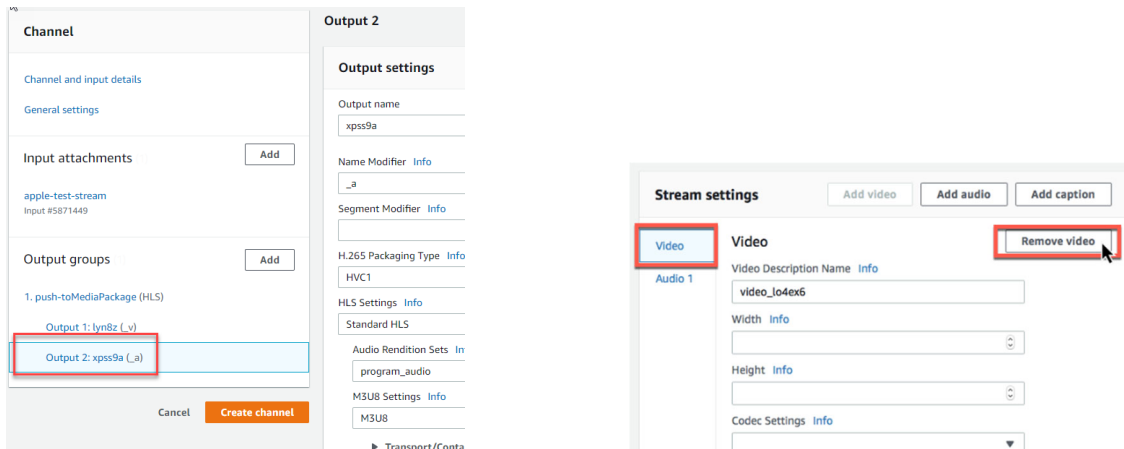
Audio Selectors (1)

Audio Selectors 1

Audio Selector Name [Info](#)

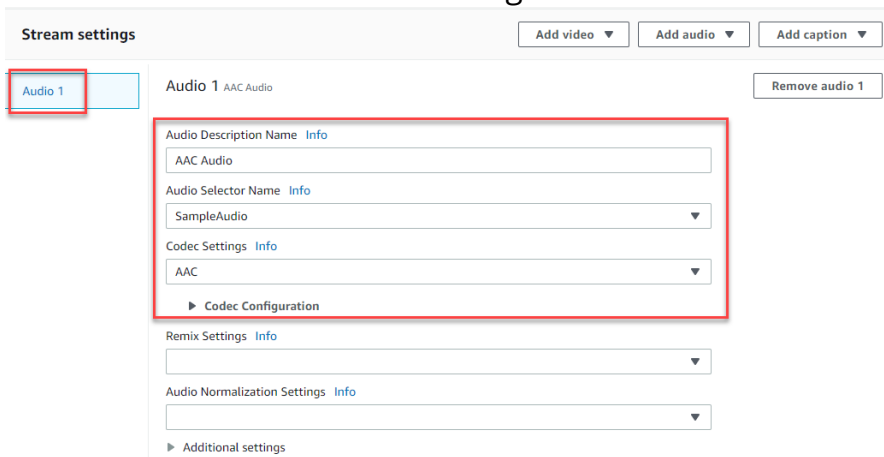
Selector Settings [Info](#)

31. Under **Output Groups**, select **Output 2 (_a)** and click on the **Video** tab. Click the **Remove video** button.



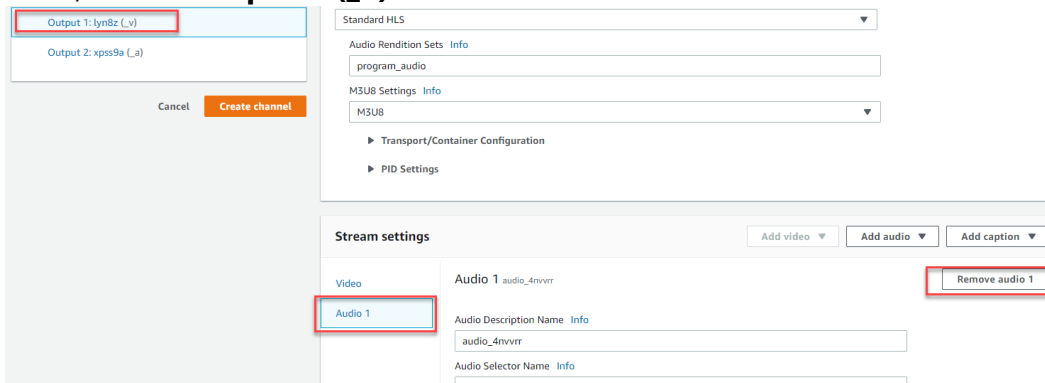
The screenshot shows the 'Output 2' settings panel. On the left, under 'Output groups', 'Output 2: xps9a (_a)' is selected and highlighted with a red box. On the right, the 'Stream settings' panel is open, showing the 'Video' tab selected and highlighted with a red box. The 'Remove video' button is also highlighted with a red box.

32. In the **Audio 1** section, enter the **Audio Description Name** (we recommend AAC Audio), then paste the **Audio Selector Name** that you entered in Step 24. Select **Aac** under Codec Settings.



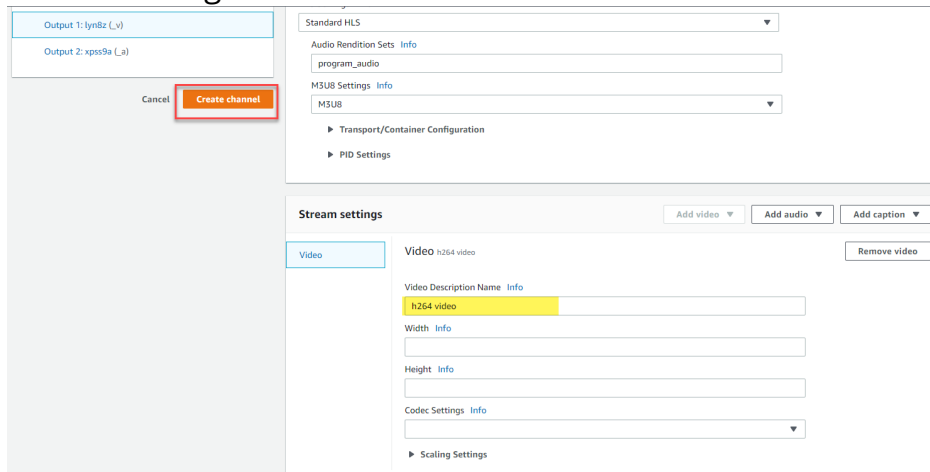
The screenshot shows the 'Audio 1' settings panel. The 'Audio 1' tab is selected and highlighted with a red box. The 'Audio Description Name' field is set to 'AAC Audio'. The 'Audio Selector Name' dropdown is set to 'SampleAudio'. The 'Codec Settings' dropdown is set to 'AAC'. The 'Remove audio 1' button is visible in the top right corner.

33. Next, select **Output 1 (_v)** and **Remove audio 1**.

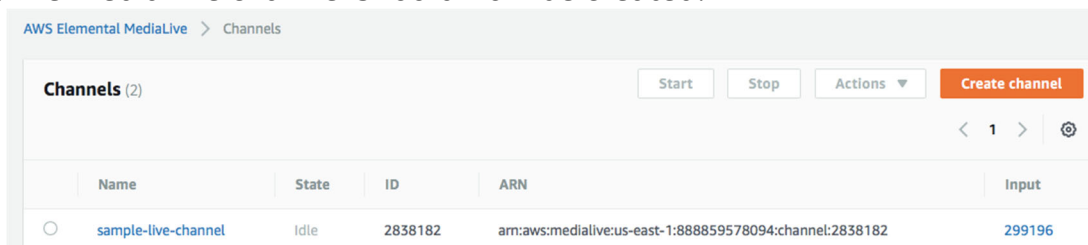


The screenshot shows the 'Output 1' settings panel. On the left, under 'Output groups', 'Output 1: lym8z (_v)' is selected and highlighted with a red box. On the right, the 'Stream settings' panel is open, showing the 'Audio 1' tab selected and highlighted with a red box. The 'Remove audio 1' button is also highlighted with a red box.

34. You can rename the **Video Description Name** if you prefer and leave the default settings. Then click **Create channel**.



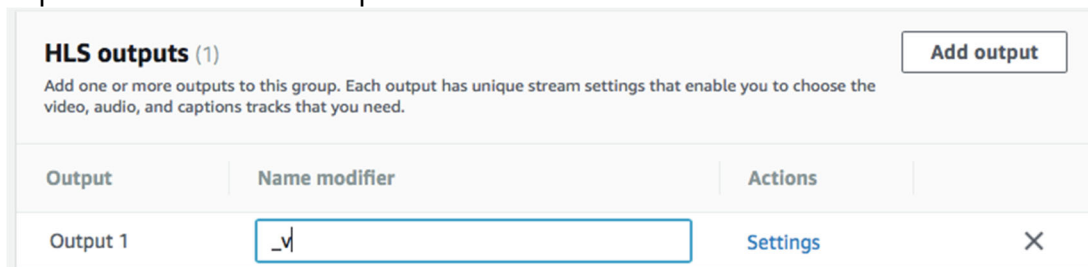
35. The MediaLive channel should now be created.



Name	State	ID	ARN	Input
sample-live-channel	Idle	2838182	arn:aws:medialive:us-east-1:888859578094:channel:2838182	299196

HLS Output example

36. This is the Output setup for **HLS**. Under **HLS outputs** rename **Output 1** to represent the video output.



Output	Name modifier	Actions
Output 1	<input type="text" value="_v"/>	Settings

37. The rest of the settings under **Channel and Input Details** keep as default.

Input Settings

38. Click on the **Input settings** link and click the **Add audio selectors** button.

Input settings

General input settings

Network Input Settings [Info](#)

Input Filter [Info](#)

Filter Strength [Info](#)

Deblock Filter [Info](#)

Denoise Filter [Info](#)

Source End Behavior [Info](#)

Video Selector [Info](#)

Audio Selectors (0)

Add audio selectors

Caption Selectors (0)

Add caption selectors

39. Enter the **Audio Selector Name** and copy it to paste in the next section.

Audio Selectors (1)

Add audio selectors

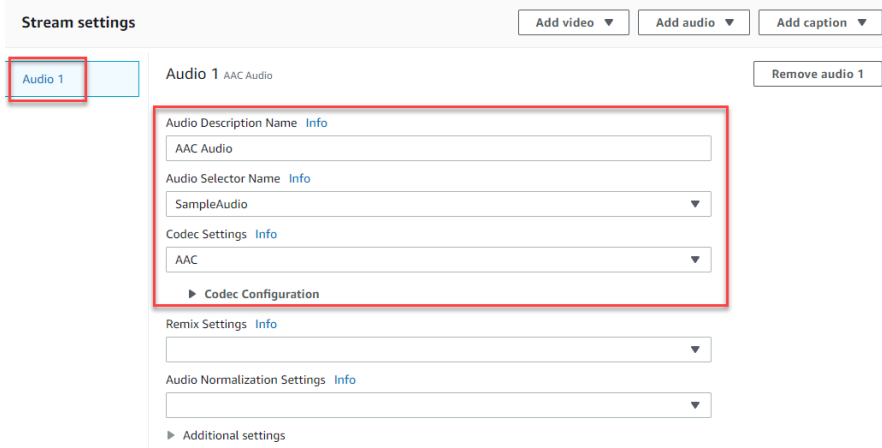
Audio Selectors 1 [Remove](#)

Audio Selector Name [Info](#)

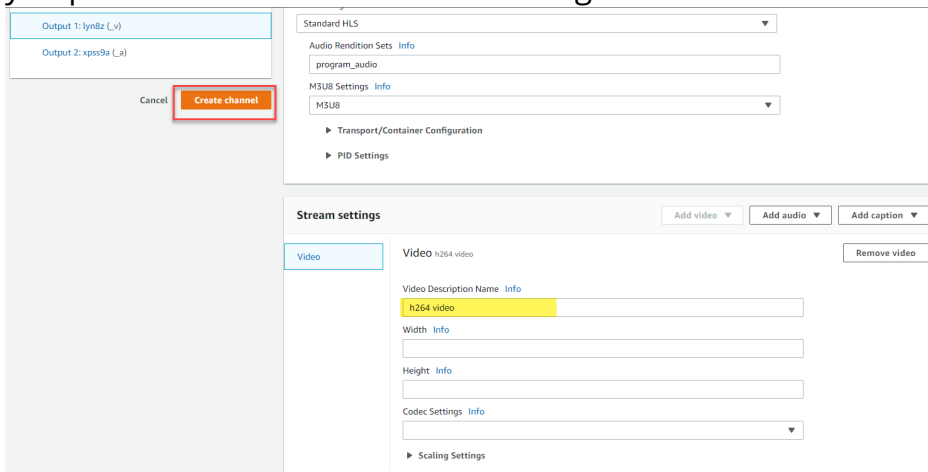
SampleAudio

Selector Settings [Info](#)

40. Under **Output Groups**, In the **Audio 1** section, enter the **Audio Description Name** (we recommend AAC Audio), then paste the **Audio Selector Name** that you entered in Step 33. Select **Aac** under Codec Settings.



41. Next, select **Output 1 (_v)**. You can rename the **Video Description Name** if you prefer and leave the default settings. Then click **Create channel**.



42. The MediaLive channel should now be created.



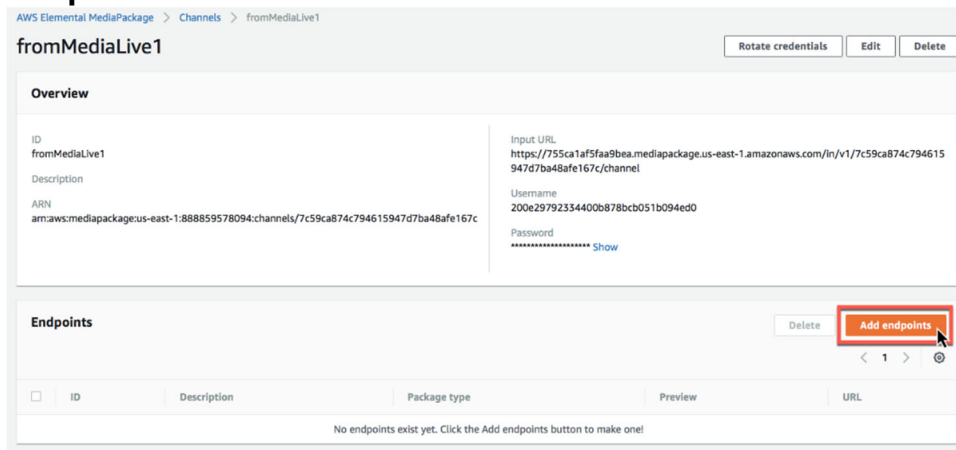
	Name	State	ID	ARN	Input
<input type="radio"/>	sample-live-channel	Idle	2838182	arn:aws:medialive:us-east-1:888859578094:channel:2838182	299196

Step 4 - Create Endpoints in MediaPackage

Endpoints are the outputs for the live stream for viewing. You can have multiple endpoints for each channel.

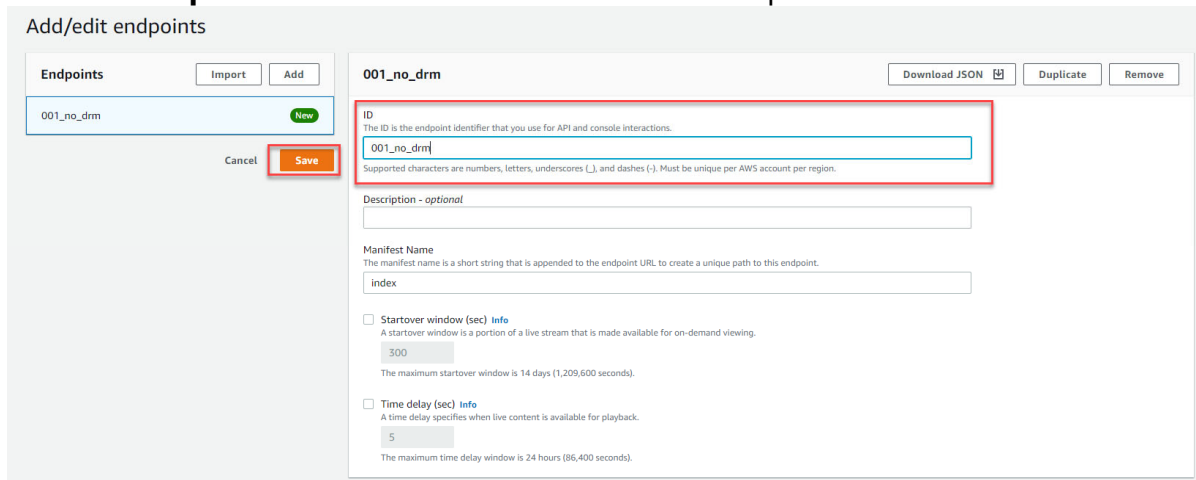
No DRM Endpoint example

1. In MediaPackage, from the first MediaLive channel you created, click the **Add endpoints** button.



The screenshot shows the AWS Elemental MediaPackage console for a channel named 'fromMediaLive1'. The 'Overview' section displays the channel's ID, description, ARN, input URL, username, and password. The 'Endpoints' section shows a table with no endpoints and an 'Add endpoints' button highlighted with a red box.

2. Edit the **Endpoint ID** and **Manifest Name** to a unique identifier.



The screenshot shows the 'Add/edit endpoints' form. The 'Endpoints' list on the left contains one entry, '001_no_drm', with a 'New' button. The 'Add/edit endpoints' form on the right shows the 'ID' field highlighted with a red box, containing the text '001_no_drm'. The 'Manifest Name' field contains the text 'index'. The 'Save' button is highlighted with a red box.

3. Once these settings are completed, click the **Save** button to create the endpoint.

- Now for redundancy, from your second MediaLive channel, create a 001_no_drm endpoint with the same settings as the one we just created, but change the ID name to indicate the redundant endpoint.

For this example, we called our first channel **MediaLive1** and created the DASH-ISO endpoint **001_no_drm**. Under **MediaLive2** we will create a duplicate DASH-ISO endpoint but name it **001_no_drm_2**.

Duplicate ALL the same settings for the second No DRM endpoint under the second channel and click **Save**.

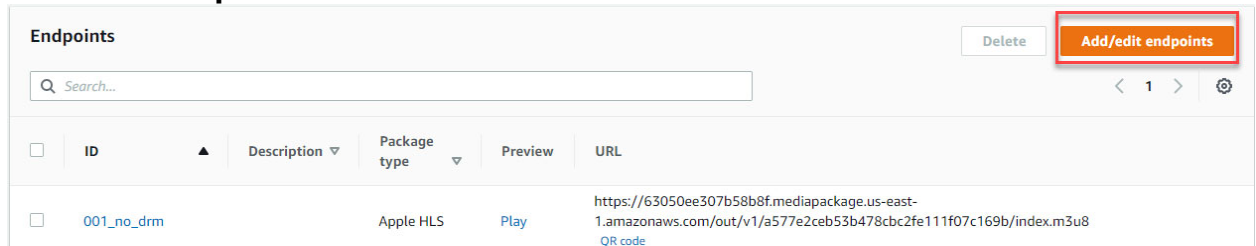
Note: *It is helpful to have multiple tabs open during this process, for ease of copying settings from one channel to the other.*

- Once **MediaLive** is running and publishing to **MediaPackage**, you will be able to access the URL created to play the encrypted Media.

Endpoints					
<input type="text" value="Search..."/>					<input type="button" value="Delete"/> <input type="button" value="Add/edit endpoints"/>
<div> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </div>					
ID	Description	Package type	Preview	URL	
001_no_drm		Apple HLS	Play	https://630b8bfmediapackage.us-east-1.amazonaws.com/out/v1/a57707c169b/index.m3u8 QR code	

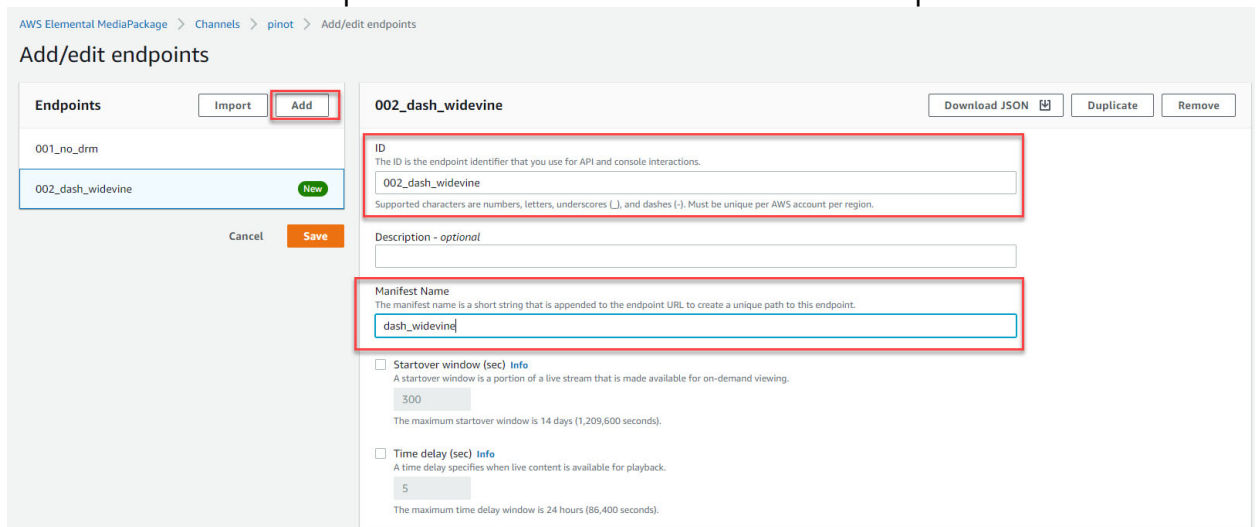
DASH-ISO Widevine Endpoint example

1. In **MediaPackage**, from the first MediaLive channel you created, click the **Add/edit endpoints** button.



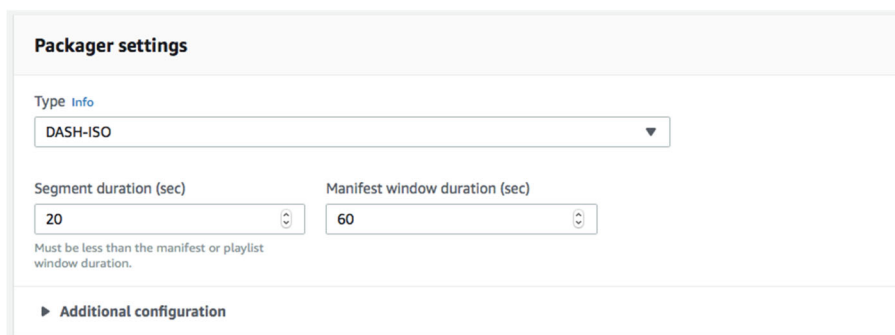
The screenshot shows the 'Endpoints' section of the AWS Elemental MediaPackage console. At the top right, there is a 'Delete' button and an 'Add/edit endpoints' button, which is highlighted with a red box. Below this is a search bar. A table lists the endpoints with columns: ID, Description, Package type, Preview, and URL. One endpoint is listed: ID '001_no_drm', Description 'Apple HLS', Package type 'Play', and a long URL. A 'QR code' link is shown below the URL.

2. Click **Add**. Edit the Endpoint **ID** and **Manifest Name** to a unique identifier.



The screenshot shows the 'Add/edit endpoints' form. On the left, a list of endpoints includes '001_no_drm' and '002_dash_widevine', which is highlighted with a blue box and a 'New' badge. The 'Add' button is highlighted with a red box. The main form for '002_dash_widevine' has fields for 'ID' (containing '002_dash_widevine'), 'Description - optional', and 'Manifest Name' (containing 'dash_widevine'). The 'ID' and 'Manifest Name' fields are highlighted with red boxes. Below these are checkboxes for 'Startover window (sec)' and 'Time delay (sec)', each with a numeric input field.

3. Under **Packager Settings**, select the **Type DASH-ISO**, and update **Segment duration (sec)** to **20** seconds.



The screenshot shows the 'Packager settings' form. The 'Type' dropdown is set to 'DASH-ISO'. Below it, the 'Segment duration (sec)' is set to '20' and the 'Manifest window duration (sec)' is set to '60'. A note states: 'Must be less than the manifest or playlist window duration.' At the bottom, there is a link for 'Additional configuration'.

4. Scroll down and select the toggle for **Encrypt Content**.

Package encryption

☐ No encryption
This endpoint is not copy-protected.

☒ **Encrypt content** [Info](#)
The endpoint is copy-protected.

Resource ID
The resource ID is the identifier that you send to the key server to identify this endpoint.

002_dash_widevine

Supported characters are numbers, letters, underscores (_), and dashes (-).

System IDs [Info](#)
A system ID is a unique identifiers for the DRM system to use. Type one per line.

edef8ba9-79d6-4ace-a3c8-27dcd51d21ed

Must contain either one or two entries, as defined by the packager type.

URL
The URL for the proxy that you created so AWS Elemental MediaPackage can talk to your key server.

https://i2q...-api.us-east-1.amazonaws.com/production/copyProtection

Role ARN
The Amazon Resource Name (ARN) for the IAM role that you created that allows communication between SPEKE and AWS Elemental MediaPackage.

arn:aws:iam::5t...52:role/MediaPackage

Must be in this format: arn:aws:iam::(accountID):role/(name)

SPEKE version [Info](#)
Select the version of SPEKE to use for encryption on this endpoint. SPEKE 1.0 is the legacy version that uses CPIX 2.0, and supports single key encryption. SPEKE 2.0 uses CPIX 2.3, and supports multiple key encryption.

Version 2.0

Video encryption preset [Info](#)
Choose a video encryption preset.

Preset Video 1
Encrypts all video tracks with one key

Audio encryption preset [Info](#)
Choose an audio encryption preset.

Preset Audio 1
Encrypts all audio tracks with one key

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 (one ID per line):
(Widevine) **edef8ba9-79d6-4ace-a3c8-27dcd51d21ed**

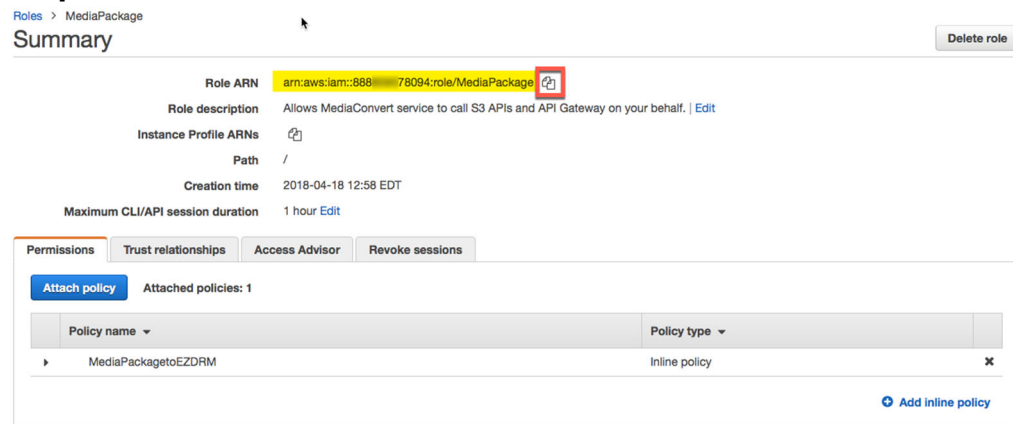
Note: The System ID values need to be lowercase.

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

Sample URL:

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

- **Role ARN:** This value is from the **MediaPackage Role ARN** created in **Step 2**.



- **SPEKE version:** Select **Version 2.0**

5. Under **Additional configuration** uncheck **Key rotation interval (sec)**.

▼ **Additional configuration**

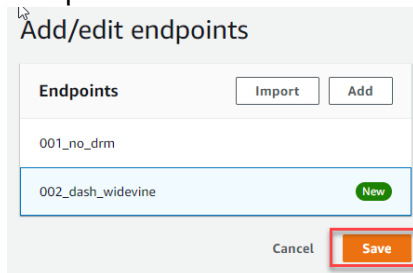
Certificate ARN - *optional* [Info](#)
The Amazon Resource Name (ARN) for the certificate that you imported in AWS Certificate Manager to add content key encryption to this endpoint.

The ARN must be in this format: arn:aws:acm:{AWS-region}:{accountID}:certificate/{name}

☐ **Key rotation interval (sec)**
Enables key rotation. Specify the rotation interval (in seconds).

60

- Once these settings are completed, click the **Save** button to create the endpoint.



Add/edit endpoints

Endpoints

001_no_drm

002_dash_widevine

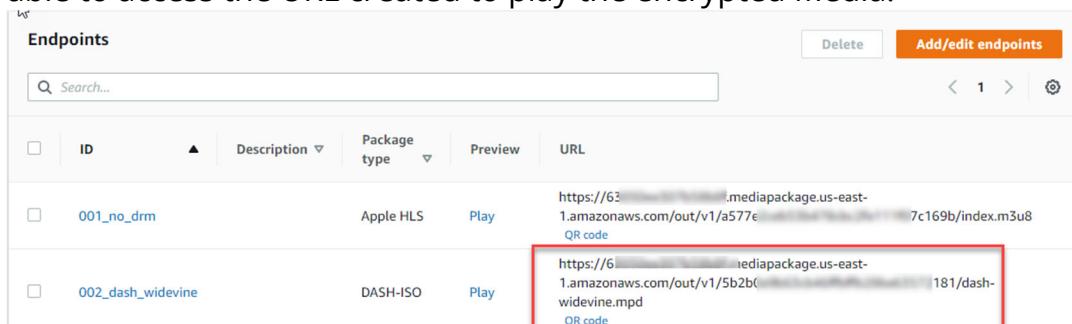
- Now for redundancy, from your second MediaLive channel, create a DASH-ISO endpoint with the same settings as the one we just created, but change the **ID** name to indicate the redundant endpoint.

For this example, we called our first channel **MediaLive1** and created the DASH-ISO endpoint **002_dash_widevine**. Under **MediaLive2** we will create a duplicate DASH-ISO endpoint but name it **002_dash_widevine_2**.

Duplicate ALL the same settings for the second DASH-ISO endpoint under the second channel and click **Save**.

Note: It is helpful to have multiple tabs open during this process, for ease of copying settings from one channel to the other.

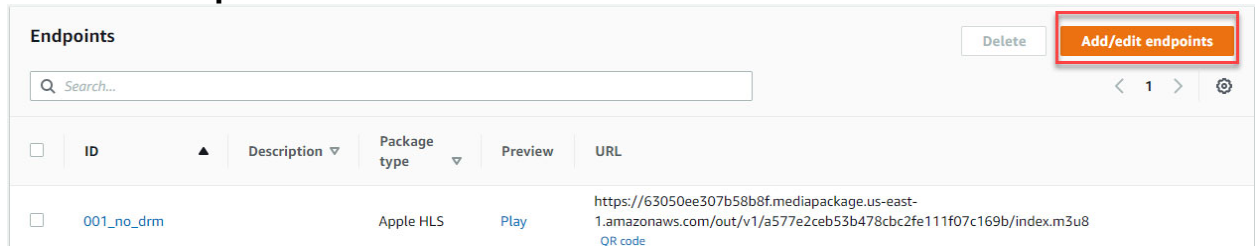
- Once **MediaLive** is running and publishing to **MediaPackage**, you will be able to access the URL created to play the encrypted Media.



<input type="checkbox"/>	ID	Description	Package type	Preview	URL
<input type="checkbox"/>	001_no_drm		Apple HLS	Play	https://63...mediapackage.us-east-1.amazonaws.com/out/v1/a577e...7c169b/index.m3u8 QR code
<input type="checkbox"/>	002_dash_widevine		DASH-ISO	Play	https://6...mediapackage.us-east-1.amazonaws.com/out/v1/5b2b...181/dash-widevine.mpd QR code

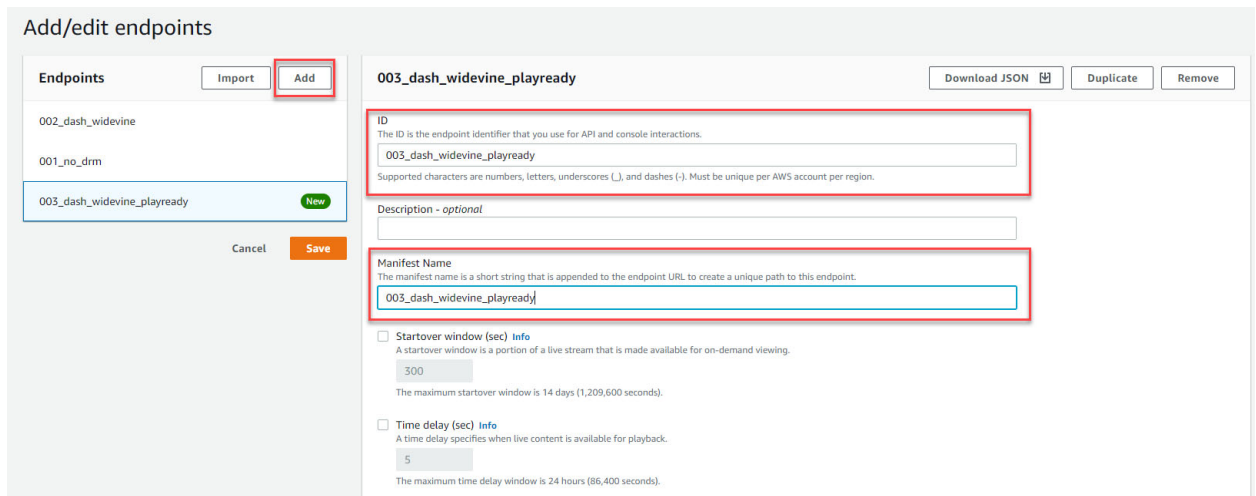
DASH-ISO Widevine & PlayReady Endpoint example

1. In **MediaPackage**, from the first MediaLive channel you created, click the **Add/edit endpoints** button.



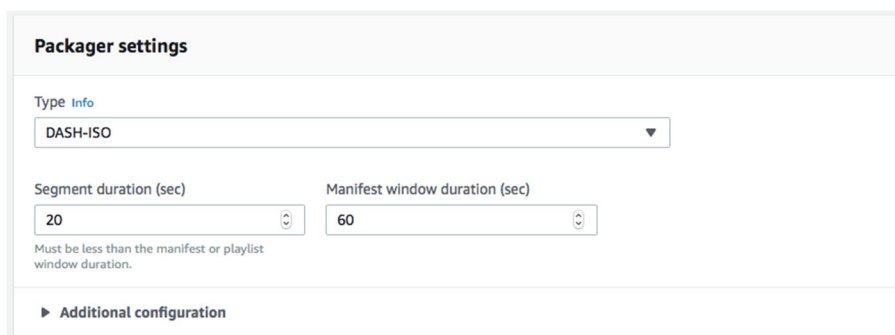
The screenshot shows the 'Endpoints' section of the MediaPackage console. It includes a search bar, a 'Delete' button, and an 'Add/edit endpoints' button (highlighted with a red box). Below is a table with columns: ID, Description, Package type, Preview, and URL. One endpoint is listed: '001_no_drm' with package type 'Apple HLS' and a URL starting with 'https://63050ee307b58b8f.mediapackage.us-east-1.amazonaws.com/out/v1/a577e2ceb53b478cbc2fe111f07c169b/index.m3u8'.

2. Click **Add**. Edit the Endpoint **ID** and **Manifest Name** to a unique identifier.



The screenshot shows the 'Add/edit endpoints' form. On the left, a list of endpoints includes '002_dash_widevine', '001_no_drm', and '003_dash_widevine_playready' (highlighted with a blue box and a 'New' tag). The 'Add' button is highlighted with a red box. On the right, the form for '003_dash_widevine_playready' is shown. The 'ID' field (containing '003_dash_widevine_playready') and the 'Manifest Name' field (containing '003_dash_widevine_playready') are both highlighted with red boxes. Other fields include 'Description - optional', 'Startover window (sec)' (set to 300), and 'Time delay (sec)' (set to 5).

3. Under **Packager Settings**, select the **Type DASH-ISO**, and update **Segment duration (sec)** to 20 seconds.



The screenshot shows the 'Packager settings' form. The 'Type' dropdown is set to 'DASH-ISO'. The 'Segment duration (sec)' is set to '20' and the 'Manifest window duration (sec)' is set to '60'. A note states: 'Must be less than the manifest or playlist window duration.' There is an 'Additional configuration' link at the bottom.

4. Scroll down and select the toggle for **Encrypt Content**.

Package encryption

☐ No encryption
This endpoint is not copy-protected.

☒ **Encrypt content** [Info](#)
The endpoint is copy-protected.

Resource ID
The resource ID is the identifier that you send to the key server to identify this endpoint.

003_dash_widevine_playready

Supported characters are numbers, letters, underscores (_), and dashes (-).

System IDs [Info](#)
A system ID is a unique identifiers for the DRM system to use. Type one per line.

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

Must contain either one or two entries, as defined by the packager type.

URL
The URL for the proxy that you created so AWS Elemental MediaPackage can talk to your key server.

https://i2q6e-api.us-east-1.amazonaws.com/production/copyProtection

Role ARN
The Amazon Resource Name (ARN) for the IAM role that you created that allows communication between SPEKE and AWS Elemental MediaPackage.

arn:aws:iam::507552:role/MediaPackage

Must be in this format: arn:aws:iam::[accountID]:role/(name)

SPEKE version [Info](#)
Select the version of SPEKE to use for encryption on this endpoint. SPEKE 1.0 is the legacy version that uses CPIX 2.0, and supports single key encryption. SPEKE 2.0 uses CPIX 2.3, and supports multiple key encryption.

Version 2.0

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**

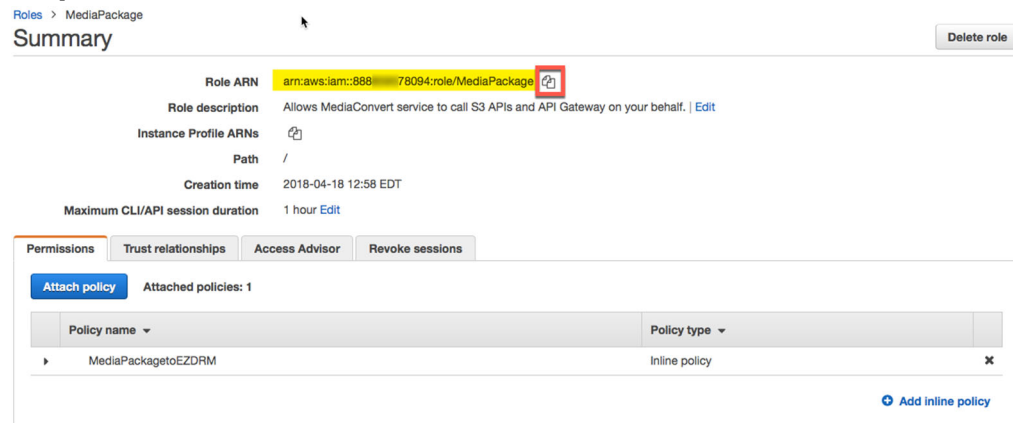
Note: The System ID values need to be lowercase.

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

Sample URL:

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

- **Role ARN:** This value is from the **MediaPackage Role ARN** created in **Step 2.**



- **SPEKE version:** Select **Version 2.0**

5. Under **Additional configuration** uncheck **Key rotation interval (sec).**

Video encryption preset [Info](#)
Choose a video encryption preset.

Preset Video 1
Encrypts all video tracks with one key

Audio encryption preset [Info](#)
Choose an audio encryption preset.

Preset Audio 1
Encrypts all audio tracks with one key

▼ **Additional configuration**

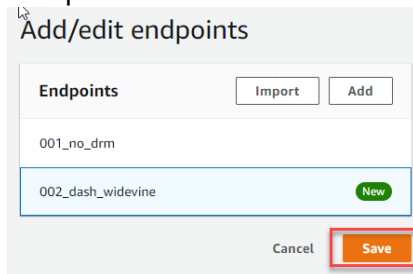
Certificate ARN - *optional* [Info](#)
The Amazon Resource Name (ARN) for the certificate that you imported in AWS Certificate Manager to add content key encryption to this endpoint.

The ARN must be in this format: arn:aws:acm:{AWS-region}:{accountID}:certificate/{name}

☐ **Key rotation interval (sec)**
Enables key rotation. Specify the rotation interval (in seconds).

60

- Once these settings are completed, click the **Save** button to create the endpoint.



Add/edit endpoints

Endpoints	Import	Add
001_no_drm		
002_dash_widevine		New

Cancel Save

- Now for redundancy, from your second MediaLive channel, create a DASH-ISO endpoint with the same settings as the one we just created, but change the **ID** name to indicate the redundant endpoint.

For this example, we called our first channel **MediaLive1** and created the DASH-ISO endpoint **003_dash_widevine_playready**. Under **MediaLive2** we will create a duplicate DASH-ISO endpoint but name it **003_dash_widevine_playready_2**.

Duplicate ALL the same settings for the second DASH-ISO endpoint under the second channel and click **Save**.

Note: *It is helpful to have multiple tabs open during this process, for ease of copying settings from one channel to the other.*

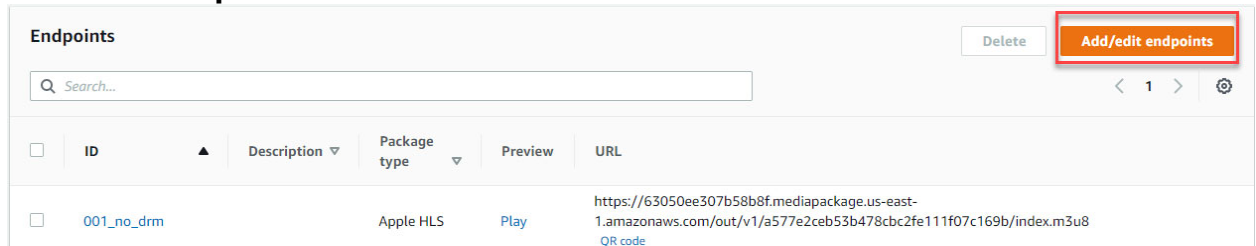
- Once **MediaLive** is running and publishing to **MediaPackage**, you will be able to access the URL created to play the encrypted Media.

☐ 003_dash_widevine_playready DASH-ISO Play

https://63050ee307b58b8f.mediapackage.us-east-1.amazonaws.com/out/v1/24C...ib1e050e18/003_dash_widevine_playready.mpd
QR code

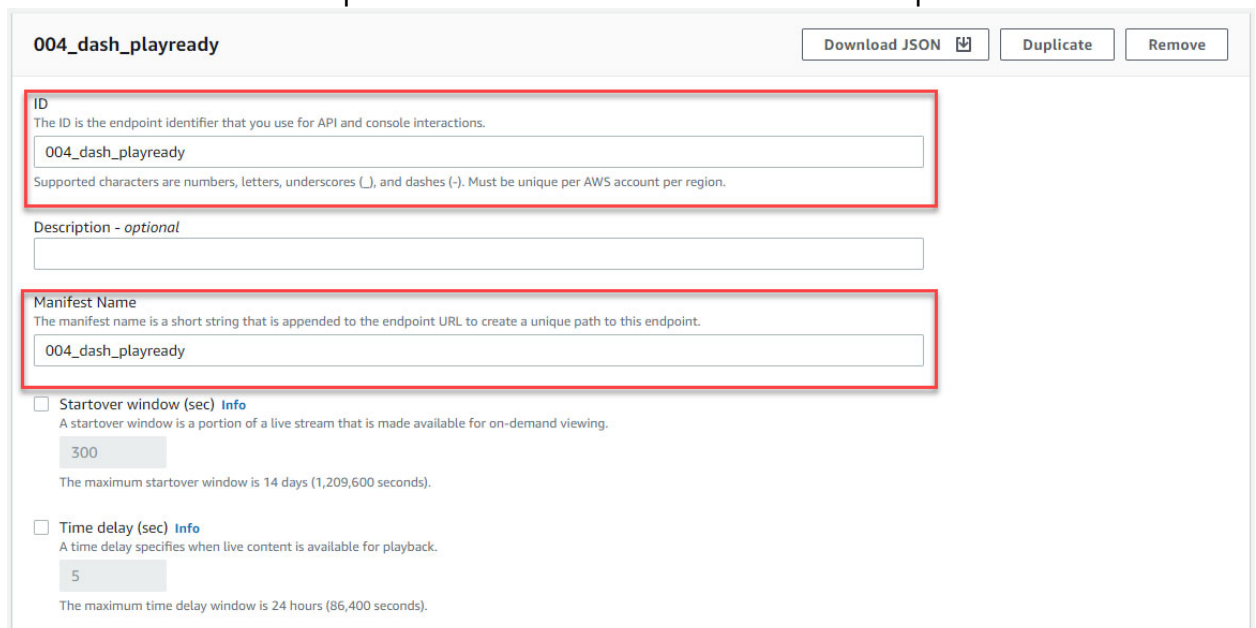
DASH-ISO PlayReady Endpoint example

1. In **MediaPackage**, from the first MediaLive channel you created, click the **Add/edit endpoints** button.



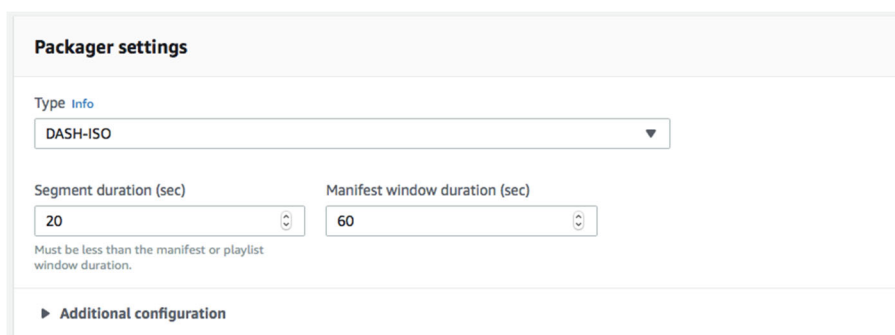
The screenshot shows the 'Endpoints' section of the MediaPackage console. At the top right, there are buttons for 'Delete' and 'Add/edit endpoints', with the latter highlighted by a red box. Below these is a search bar. A table lists the endpoints with columns: ID, Description, Package type, Preview, and URL. One endpoint is listed with ID '001_no_drm', Package type 'Apple HLS', and a URL starting with 'https://63050ee307b58b8f.mediapackage.us-east-1.amazonaws.com/out/v1/a577e2ceb53b478cbc2fe111f07c169b/index.m3u8'. A 'QR code' link is also present.

2. Click **Add**. Edit the Endpoint **ID** and **Manifest Name** to a unique identifier.



The screenshot shows the 'Add endpoint' form in the MediaPackage console. The title is '004_dash_playready'. At the top right are buttons for 'Download JSON', 'Duplicate', and 'Remove'. The form has several fields: 'ID' (with a red box around it, containing '004_dash_playready'), 'Description - optional', 'Manifest Name' (with a red box around it, containing '004_dash_playready'), 'Startover window (sec)' (set to 300), and 'Time delay (sec)' (set to 5). Each field has a brief description and a maximum value.

9. Under **Packager Settings**, select the **Type DASH-ISO**, and update **Segment duration (sec)** to **20** seconds.



The screenshot shows the 'Packager settings' section of the MediaPackage console. The 'Type' is set to 'DASH-ISO'. Below this are two input fields: 'Segment duration (sec)' set to '20' and 'Manifest window duration (sec)' set to '60'. A note states: 'Must be less than the manifest or playlist window duration.' At the bottom is a link for 'Additional configuration'.

10. Scroll down and select the toggle for **Encrypt Content**.

Package encryption

☐ No encryption
This endpoint is not copy-protected.

☒ **Encrypt content** [Info](#)
The endpoint is copy-protected.

Resource ID
The resource ID is the identifier that you send to the key server to identify this endpoint.

004_dash_playready

Supported characters are numbers, letters, underscores (_), and dashes (-).

System IDs [Info](#)
A system ID is a unique identifiers for the DRM system to use. Type one per line.

9a04f079-9840-4286-ab92-e65be0885f95

Must contain either one or two entries, as defined by the packager type.

URL
The URL for the proxy that you created so AWS Elemental MediaPackage can talk to your key server.

https://i2c...e.execute-api.us-east-1.amazonaws.com/production/copyProtection

Role ARN
The Amazon Resource Name (ARN) for the IAM role that you created that allows communication between SPEKE and AWS Elemental MediaPackage.

arn:aws:iam::507...2:role/MediaPackage

Must be in this format: arn:aws:iam:[accountID]:role/{name}

SPEKE version [Info](#)
Select the version of SPEKE to use for encryption on this endpoint. SPEKE 1.0 is the legacy version that uses CPIX 2.0, and supports single key encryption. SPEKE 2.0 uses CPIX 2.3, and supports multiple key encryption.

Version 2.0

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 PlayReady (one ID per line):
(PlayReady) **9a04f079-9840-4286-ab92-e65be0885f95**

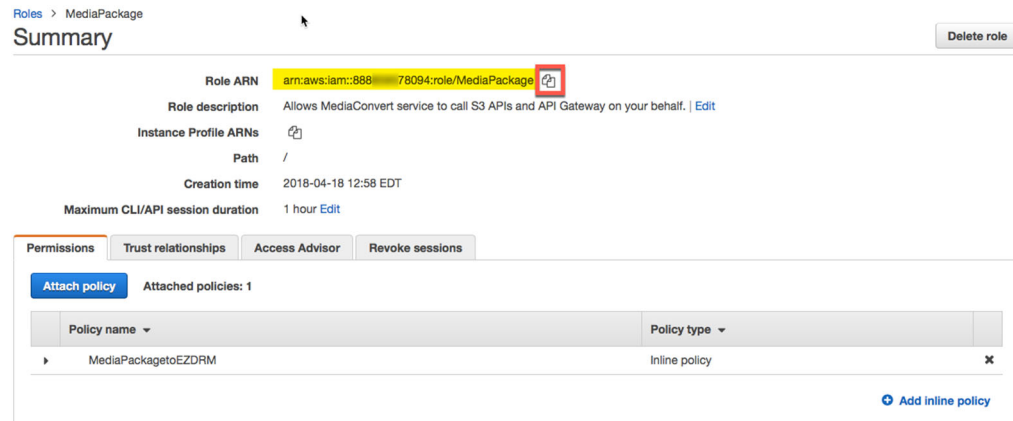
Note: The System ID values need to be lowercase.

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

Sample URL:

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

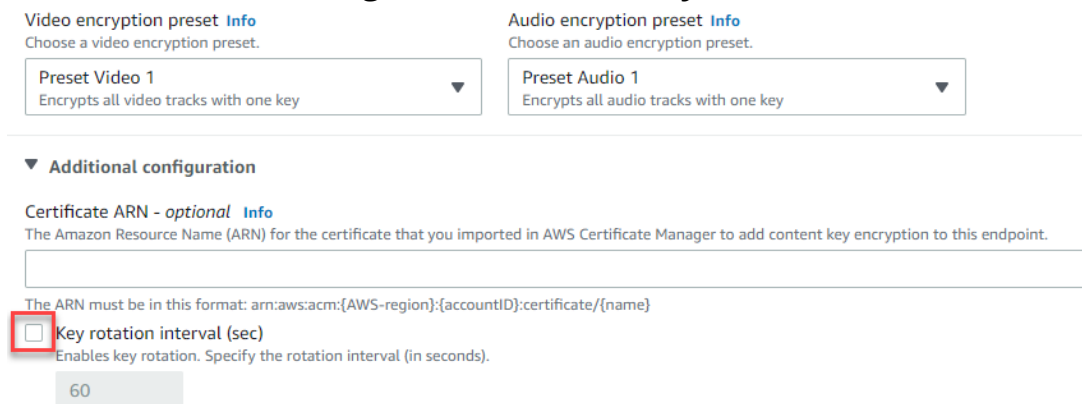
- **Role ARN:** This value is from the **MediaPackage Role ARN** created in **Step 2**.



The screenshot shows the AWS IAM console for a role named 'MediaPackage'. The 'Summary' tab is selected. The 'Role ARN' is highlighted with a red box and is 'arn:aws:iam::888-78094:role/MediaPackage'. The 'Role description' is 'Allows MediaConvert service to call S3 APIs and API Gateway on your behalf.' The 'Instance Profile ARNs' is empty. The 'Path' is '/'. The 'Creation time' is '2018-04-18 12:58 EDT'. The 'Maximum CLI/API session duration' is '1 hour'. The 'Permissions' tab is selected, showing 'Attached policies: 1'. The table lists one policy: 'MediaPackagetoEZDRM' of type 'Inline policy'.

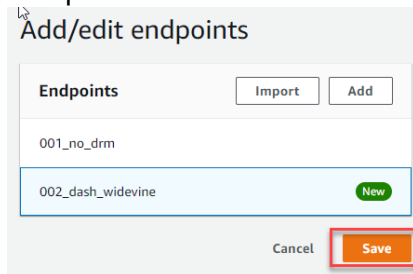
- **SPEKE version:** Select **Version 2.0**

11. Under **Additional configuration** uncheck **Key rotation interval (sec)**.



The screenshot shows the 'Additional configuration' section of the AWS MediaPackage console. It includes fields for 'Video encryption preset' (Preset Video 1) and 'Audio encryption preset' (Preset Audio 1). Below these is the 'Certificate ARN' field. The 'Key rotation interval (sec)' checkbox is checked, and the interval is set to 60 seconds. A red box highlights the checkbox.

12. Once these settings are completed, click the **Save** button to create the endpoint.



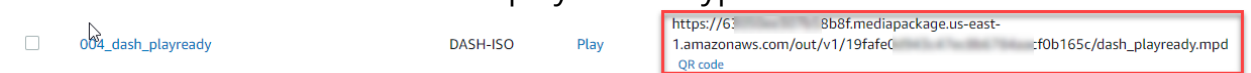
13. Now for redundancy, from your second MediaLive channel, create a DASH-ISO endpoint with the same settings as the one we just created, but change the **ID** name to indicate the redundant endpoint.

For this example, we called our first channel **MediaLive1** and created the DASH-ISO endpoint **004_dash_playready**. Under **MediaLive2** we will create a duplicate DASH-ISO endpoint but name it **004_dash_playready_2**.

Duplicate ALL the same settings for the second DASH-ISO endpoint under the second channel and click **Save**.

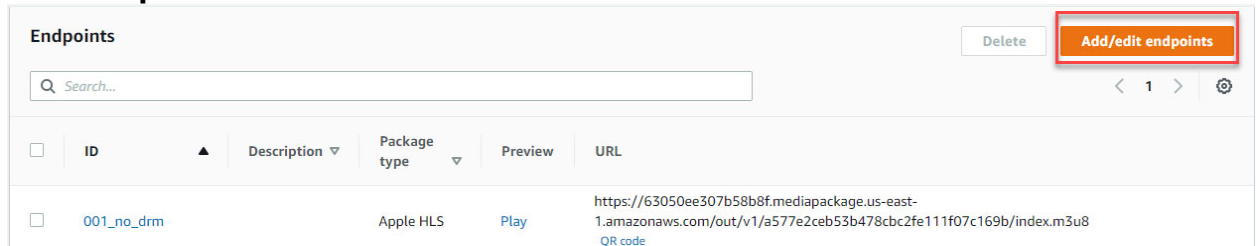
Note: *It is helpful to have multiple tabs open during this process, for ease of copying settings from one channel to the other.*

14. Once **MediaLive** is running and publishing to **MediaPackage**, you will be able to access the URL created to play the encrypted Media.



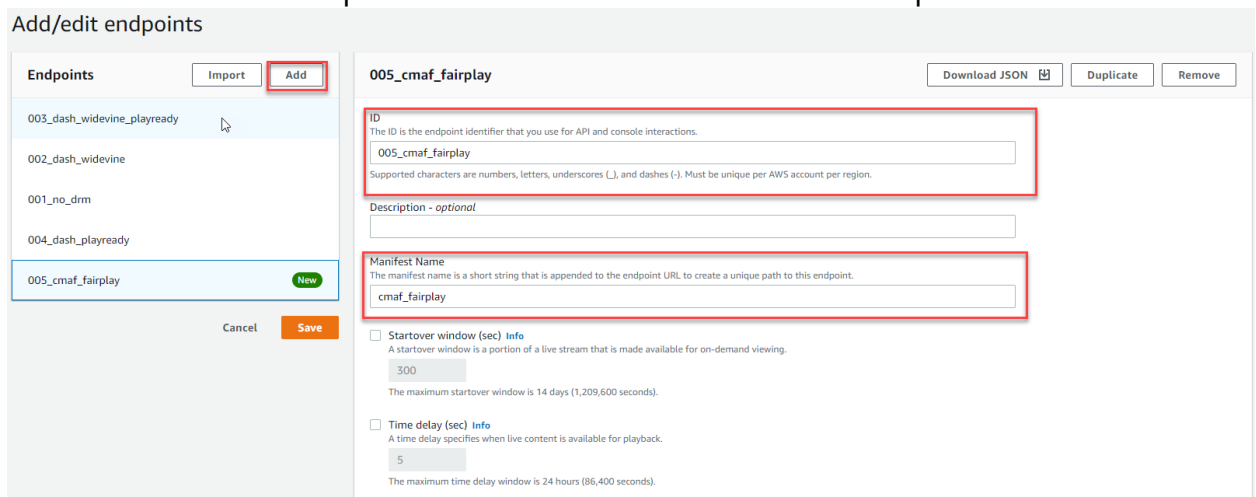
CMAF Apple HLS Endpoint example

1. In **MediaPackage**, from the first MediaLive channel you created, click the **Add endpoints** button.



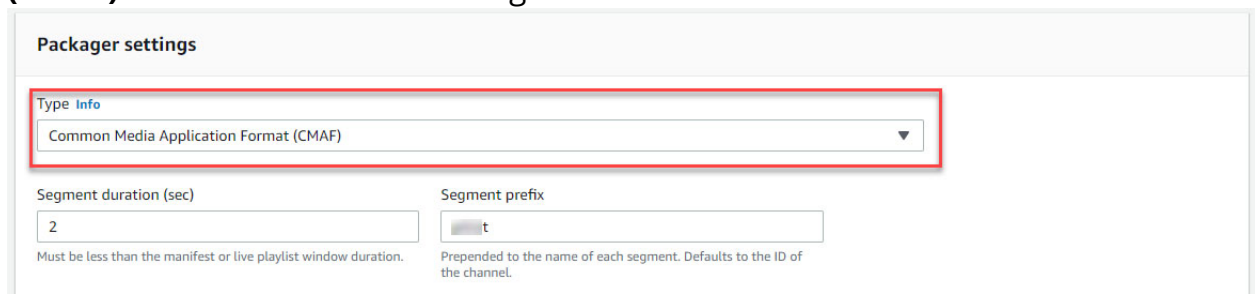
The screenshot shows the 'Endpoints' section of the MediaPackage console. At the top right, there is a 'Delete' button and a red-bordered 'Add/edit endpoints' button. Below this is a search bar. A table lists endpoints with columns: ID, Description, Package type, Preview, and URL. One endpoint is listed: ID '001_no_drm', Description 'Apple HLS', Package type 'Play', and a long URL. A 'QR code' link is below the URL.

2. Click **Add**. Edit the Endpoint **ID** and **Manifest Name** to a unique identifier.



The screenshot shows the 'Add/edit endpoints' form. On the left, a list of endpoints includes '005_dash_widevine_playready', '002_dash_widevine', '001_no_drm', '004_dash_playready', and '005_cmaf_fairplay' (marked as 'New'). The 'Add' button is highlighted. The main form is for '005_cmaf_fairplay'. It has fields for 'ID' (containing '005_cmaf_fairplay'), 'Description - optional', and 'Manifest Name' (containing 'cmaf_fairplay'). Below these are checkboxes for 'Startover window (sec)' (set to 300) and 'Time delay (sec)' (set to 5).

3. Under **Packager Settings**, select the **Common Media Application Format (CMAF)** and leave the other settings as default.



The screenshot shows the 'Packager settings' form. The 'Type' dropdown menu is highlighted with a red border and set to 'Common Media Application Format (CMAF)'. Below it are two input fields: 'Segment duration (sec)' set to '2' and 'Segment prefix' set to 't'. Both fields have explanatory text below them.

4. Enter the same manifest name for the **HLS Manifest**.

HLS manifest

ID

005_cmaf_fairplay

Must be unique within the endpoint and it cannot be changed after it is created.

▶ Additional configuration

5. Scroll down and select the toggle for **Encrypt Content**.

Package encryption

☐ No encryption
This endpoint is not copy-protected.

☒ **Encrypt content** [Info](#)
The endpoint is copy-protected.

Resource ID
The resource ID is the identifier that you send to the key server to identify this endpoint.

005_cmaf_fairplay

Supported characters are numbers, letters, underscores (_), and dashes (-).

System IDs [Info](#)
A system ID is a unique identifiers for the DRM system to use. Type one per line.

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

Must contain either one or two entries, as defined by the packager type.

URL
The URL for the proxy that you created so AWS Elemental MediaPackage can talk to your key server.

https://i2e.execute-api.us-east-1.amazonaws.com/production/copyProtection

Role ARN
The Amazon Resource Name (ARN) for the IAM role that you created that allows communication between SPEKE and AWS Elemental MediaPackage.

arn:aws:iam::507le/MediaPackage

Must be in this format: arn:aws:iam:{accountID}:role/{name}

SPEKE version [Info](#)
Select the version of SPEKE to use for encryption on this endpoint. SPEKE 1.0 is the legacy version that uses CPIX 2.0, and supports single key encryption. SPEKE 2.0 uses CPIX 2.3, and supports multiple key encryption.

Version 2.0

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 for Apple FairPlay (one ID per line):
94ce86fb-07ff-4f43-adb8-93d2fa968ca2

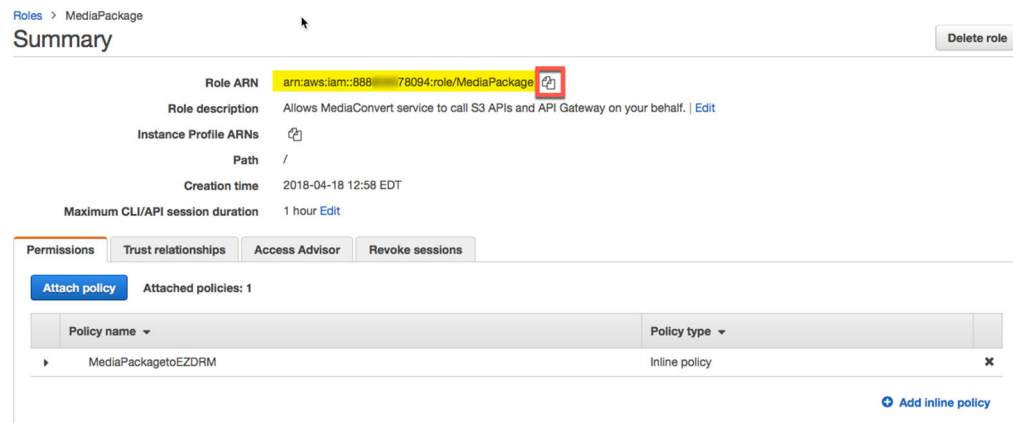
Note: The System ID values need to be lowercase.

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

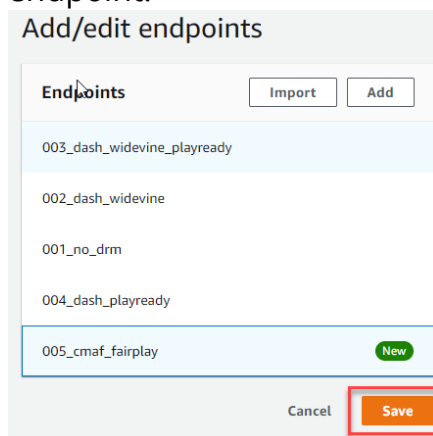
Sample URL:

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

- **Role ARN:** This value is from the **MediaPackage Role** created in **Step 2.**



6. Once these settings are completed, click the **Save** button to create the endpoint.



- Now for redundancy, from your second MediaLive channel, create an Apple HLS endpoint with the same settings as the one we just created, but change the **ID** name to indicate the redundant endpoint.

For this example, we called our first channel **MediaLive1** and created the Apple HLS endpoint **005_cmaf_fairplay**. Under **MediaLive2** we will create a duplicate Apple HLS endpoint but name it **005_cmaf_fairplay_2**.

Duplicate ALL the same settings for the second CMAF endpoint under the second channel and click **Save**.

Note: *It is helpful to have multiple tabs open during this process, for ease of copying settings from one channel to the other.*

- Once **MediaLive** is running and publishing to **MediaPackage**, you will be able to access the URL created to play the encrypted Media.

☐ 005_cmaf_fairplay

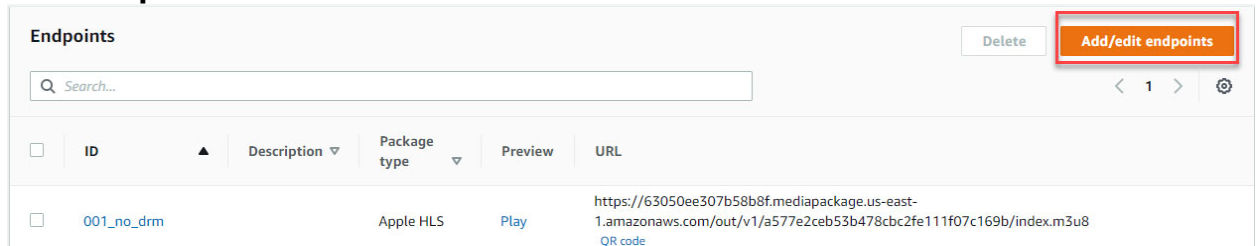
CMAF

Play

https://6305c...us-east-1.amazonaws.com/out/v1/ec4560f...e/005_cmaf_fairplay/cmaf_fairplay.m3u8
QR code

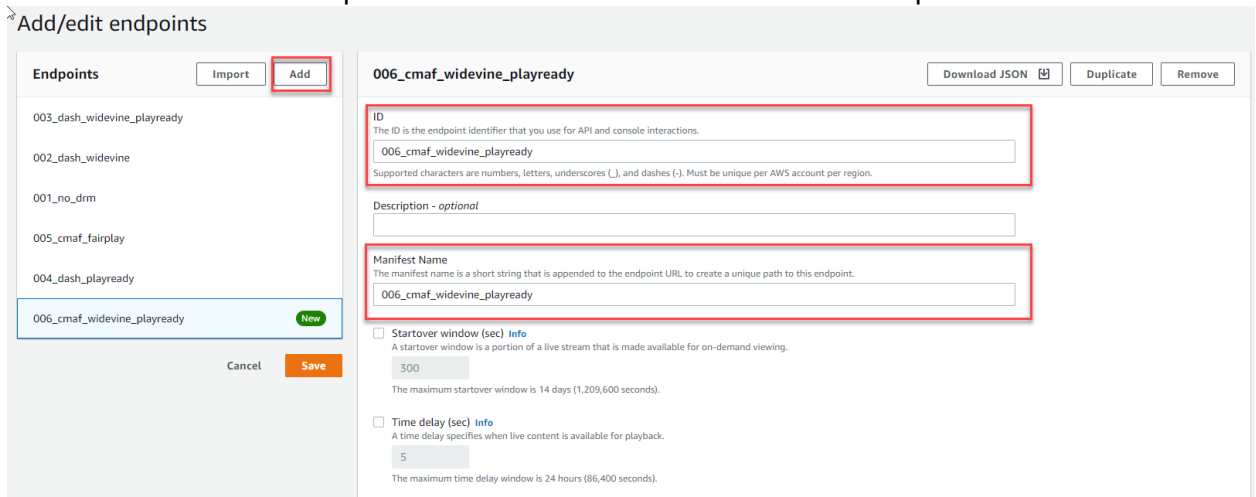
CMAF Widevine & PlayReady Endpoint example

- In **MediaPackage**, from the first MediaLive channel you created, click the **Add endpoints** button.



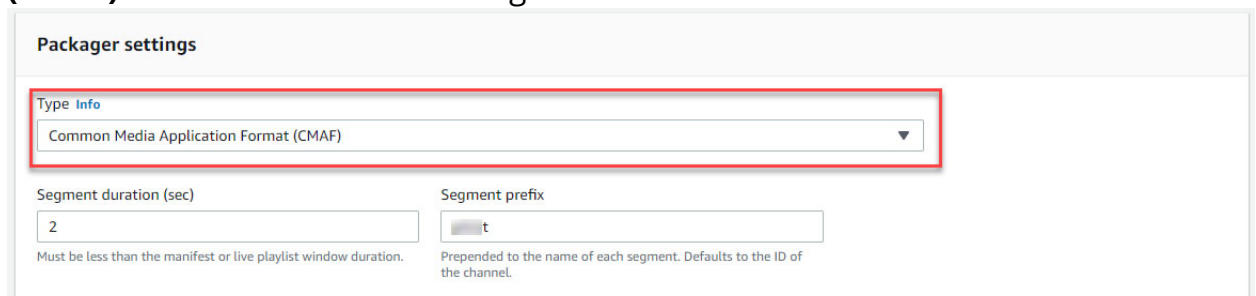
The screenshot shows the 'Endpoints' section in the MediaPackage console. At the top right, there is a 'Delete' button and a red-bordered 'Add/edit endpoints' button. Below this is a search bar labeled 'Search...'. A table lists the endpoints with columns: ID, Description, Package type, Preview, and URL. One endpoint is listed: ID '001_no_drm', Description 'Apple HLS', Package type 'Play', and a long URL. A 'QR code' link is present below the URL.

- Click **Add**. Edit the Endpoint **ID** and **Manifest Name** to a unique identifier.



The screenshot shows the 'Add/edit endpoints' form. On the left, a list of endpoints includes '006_cmaf_widevine_playready' with a green 'New' tag. The 'Add' button is highlighted with a red box. The main form area is titled '006_cmaf_widevine_playready' and has buttons for 'Download JSON', 'Duplicate', and 'Remove'. It contains two red-bordered input fields: 'ID' (with value '006_cmaf_widevine_playready') and 'Manifest Name' (with value '006_cmaf_widevine_playready'). Below these are checkboxes for 'Startover window (sec)' and 'Time delay (sec)', each with a value input field and explanatory text.

- Under **Packager Settings**, select the **Common Media Application Format (CMAF)** and leave the other settings as default.



The screenshot shows the 'Packager settings' form. A red box highlights the 'Type' dropdown menu, which is set to 'Common Media Application Format (CMAF)'. Below this are two input fields: 'Segment duration (sec)' with a value of '2' and 'Segment prefix' with a value of 't'. Explanatory text is provided for both fields.

9. Enter the same manifest name for the **HLS Manifest**.

HLS manifest

ID

Must be unique within the endpoint and it cannot be changed after it is created.

► Additional configuration

10. Scroll down and select the toggle for **Encrypt Content**.

Package encryption

☐ No encryption
This endpoint is not copy-protected.

☒ **Encrypt content** [Info](#)
The endpoint is copy-protected.

Resource ID
The resource ID is the identifier that you send to the key server to identify this endpoint.

Supported characters are numbers, letters, underscores (_), and dashes (-).

System IDs [Info](#)
A system ID is a unique identifiers for the DRM system to use. Type one per line.

Must contain either one or two entries, as defined by the packager type.

URL
The URL for the proxy that you created so AWS Elemental MediaPackage can talk to your key server.

Role ARN
The Amazon Resource Name (ARN) for the IAM role that you created that allows communication between SPEKE and AWS Elemental MediaPackage.

Must be in this format: arn:aws:iam::[accountID]:role/{name}

SPEKE version [Info](#)
Select the version of SPEKE to use for encryption on this endpoint. SPEKE 1.0 is the legacy version that uses CPIX 2.0, and supports single key encryption. SPEKE 2.0 uses CPIX 2.3, and supports multiple key encryption.

Version 2.0

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**

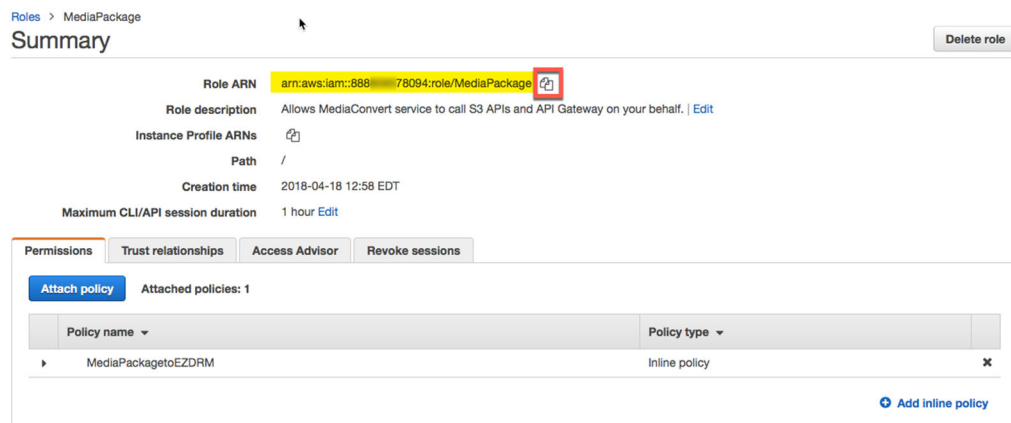
Note: The System ID values need to be lowercase.

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

Sample URL:

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

- **Role ARN:** This value is from the **MediaPackage Role** created in **Step 2.**



9. Once these settings are completed, click the **Save** button to create the endpoint.

10. Now for redundancy, from your second MediaLive channel, create an Apple HLS endpoint with the same settings as the one we just created, but change the **ID** name to indicate the redundant endpoint.

For this example, we called our first channel **MediaLive1** and created the Apple HLS endpoint **006_cmaf_widevine_playready**. Under **MediaLive2** we will create a duplicate Apple HLS endpoint but name it **006_cmaf_widevine_playready_2**.

Duplicate ALL the same settings for the second CMAF endpoint under the second channel and click **Save**.

Note: *It is helpful to have multiple tabs open during this process, for ease of copying settings from one channel to the other.*

11. Once **MediaLive** is running and publishing to **MediaPackage**, you will be able to access the URL created to play the encrypted Media.

006_cmaf_widevine_playready

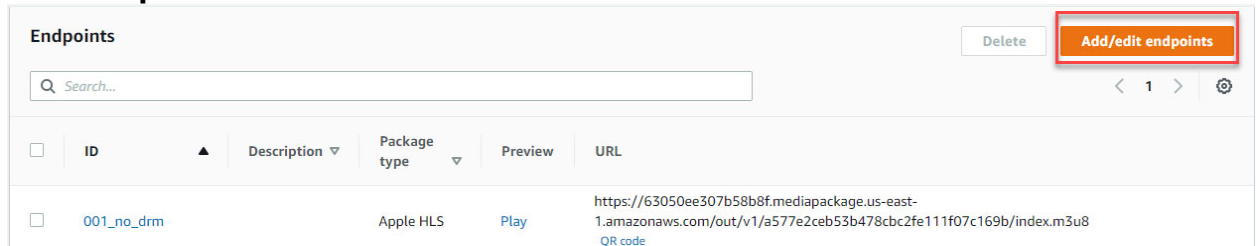
CMAF

Play

https://631...b8f.mediapackage.us-east-1.amazonaws.com/out/v1/1b8c45...e6c68267/006_cmaf_widevine_playready/006_cmaf_widevine_playready.m3u8
QR code

CMAF Widevine, PlayReady & Apple FairPlay Endpoint example

1. In **MediaPackage**, from the first MediaLive channel you created, click the **Add endpoints** button.



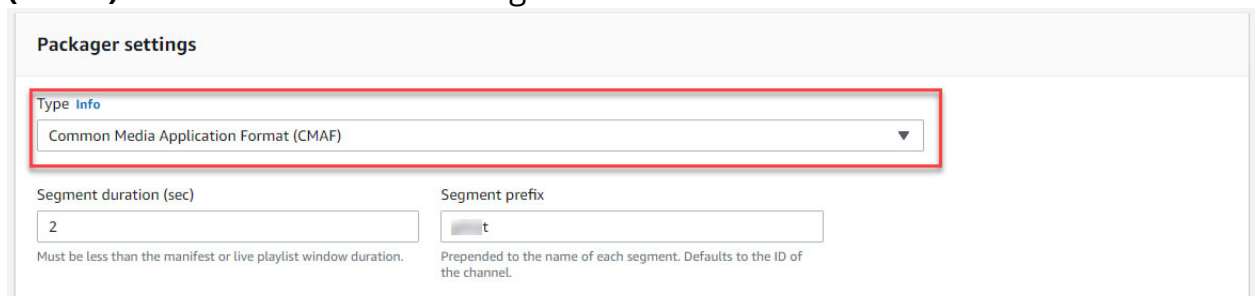
The screenshot shows the 'Endpoints' section of the MediaPackage console. At the top right, there is a 'Delete' button and a red-bordered 'Add/edit endpoints' button. Below this is a search bar labeled 'Search...'. A table lists endpoints with columns: ID, Description, Package type, Preview, and URL. One endpoint is listed: ID '001_no_drm', Description 'Apple HLS', Package type 'Play', and a long URL. A 'QR code' link is present below the URL.

2. Click **Add**. Edit the Endpoint **ID** and **Manifest Name** to a unique identifier.



The screenshot shows the 'Add/edit endpoints' form. On the left, a list of endpoints includes '007_cmaf_widevine_playready_fairplay' with a green 'New' tag. The 'Add' button is highlighted with a red box. The main form area shows the details for '007_cmaf_widevine_playready_fairplay'. The 'ID' field is highlighted with a red box and contains '007_cmaf_widevine_playready_fairplay'. The 'Manifest Name' field is also highlighted with a red box and contains '007_cmaf_widevine_playready_fairplay'. Other fields like 'Description - optional' and 'Startover window (sec)' are visible but not highlighted.

3. Under **Packager Settings**, select the **Common Media Application Format (CMAF)** and leave the other settings as default.



The screenshot shows the 'Packager settings' form. The 'Type' dropdown menu is highlighted with a red box and is set to 'Common Media Application Format (CMAF)'. Below this, the 'Segment duration (sec)' is set to '2' and the 'Segment prefix' is set to 't'. Both of these fields are also highlighted with red boxes.

4. Enter the same manifest name for the **HLS Manifest**.

HLS manifest

ID

Must be unique within the endpoint and it cannot be changed after it is created.

► Additional configuration

5. Scroll down and select the toggle for **Encrypt Content**.

Package encryption

☐ No encryption
This endpoint is not copy-protected.

☒ **Encrypt content** [Info](#)
The endpoint is copy-protected.

Resource ID
The resource ID is the identifier that you send to the key server to identify this endpoint.

Supported characters are numbers, letters, underscores (_), and dashes (-).

System IDs [Info](#)
A system ID is a unique identifiers for the DRM system to use. Type one per line.

Must contain either one or two entries, as defined by the packager type.

URL
The URL for the proxy that you created so AWS Elemental MediaPackage can talk to your key server.

Role ARN
The Amazon Resource Name (ARN) for the IAM role that you created that allows communication between SPEKE and AWS Elemental MediaPackage.

Must be in this format: arn:aws:iam:[accountID]:role/(name)

SPEKE version [Info](#)
Select the version of SPEKE to use for encryption on this endpoint. SPEKE 1.0 is the legacy version that uses CPIX 2.0, and supports single key encryption. SPEKE 2.0 uses CPIX 2.3, and supports multiple key encryption.

Version 2.0

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, PlayReady and FairPlay, one ID per line:

(Widevine) **edef8ba9-79d6-4ace-a3c8-27dcd51d21ed**

(PlayReady) **9a04f079-9840-4286-ab92-e65be0885f95**

(FairPlay) **94ce86fb-07ff-4f43-adb8-93d2fa968ca2**

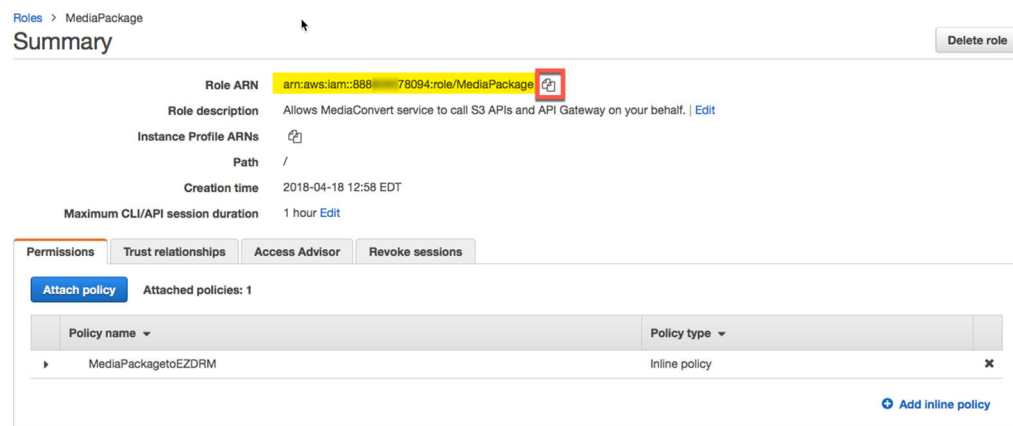
Note: The System ID values need to be lowercase.

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

Sample URL:

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

- **Role ARN:** This value is from the **MediaPackage Role** created in **Step 2.**



12. Once these settings are completed, click the **Save** button to create the endpoint.

13. Now for redundancy, from your second MediaLive channel, create an Apple HLS endpoint with the same settings as the one we just created, but change the **ID** name to indicate the redundant endpoint.

For this example, we called our first channel **MediaLive1** and created the Apple HLS endpoint **007_cmaf_widevine_playready_fairplay**. Under **MediaLive2** we will create a duplicate Apple HLS endpoint but name it **007_cmaf_widevine_playready_fairplay_2**.

Duplicate ALL the same settings for the second CMAF endpoint under the second channel and click **Save**.

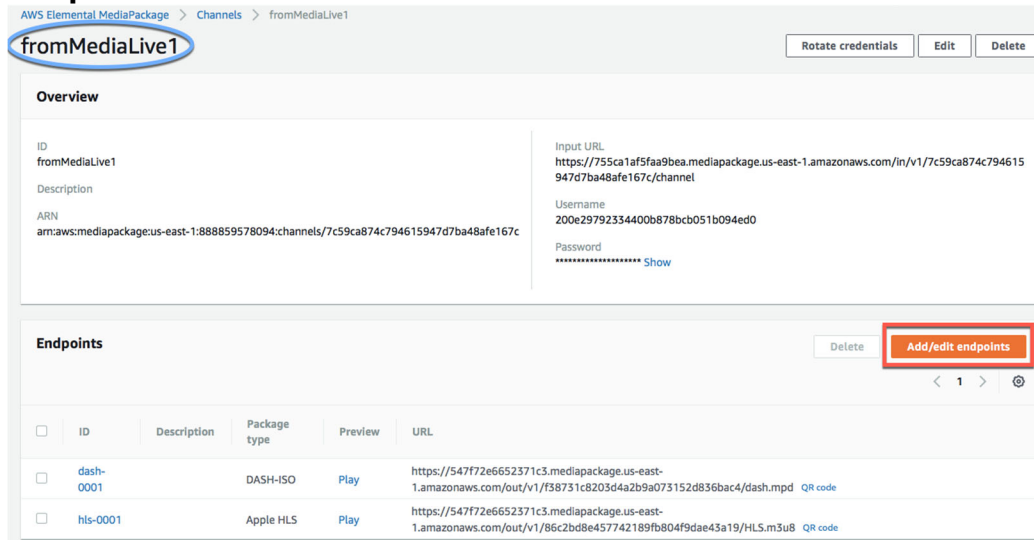
Note: *It is helpful to have multiple tabs open during this process, for ease of copying settings from one channel to the other.*

14. Once **MediaLive** is running and publishing to **MediaPackage**, you will be able to access the URL created to play the encrypted Media.

https://630f1b8f.mediapackage.us-east-1.amazonaws.com/out/v1/603efaa91129410072/007_cmaf_widevine_playready_fairplay/007_cmaf_widevine_playready_fairplay.m3u8
[QR code](#)

Microsoft Smooth Streaming for PlayReady Endpoint example

1. In **MediaPackage**, from the first MediaLive channel you created, click the **Add endpoints** button.



AWS Elemental MediaPackage > Channels > fromMediaLive1

fromMediaLive1 Rotate credentials Edit Delete

Overview

ID: fromMediaLive1

Description:

ARN: arn:aws:mediapackage:us-east-1:888859578094:channels/7c59ca874c794615947d7ba48afe167c

Input URL: https://7755ca1af5faa9bea.mediapackage.us-east-1.amazonaws.com/in/v1/7c59ca874c794615947d7ba48afe167c/channel

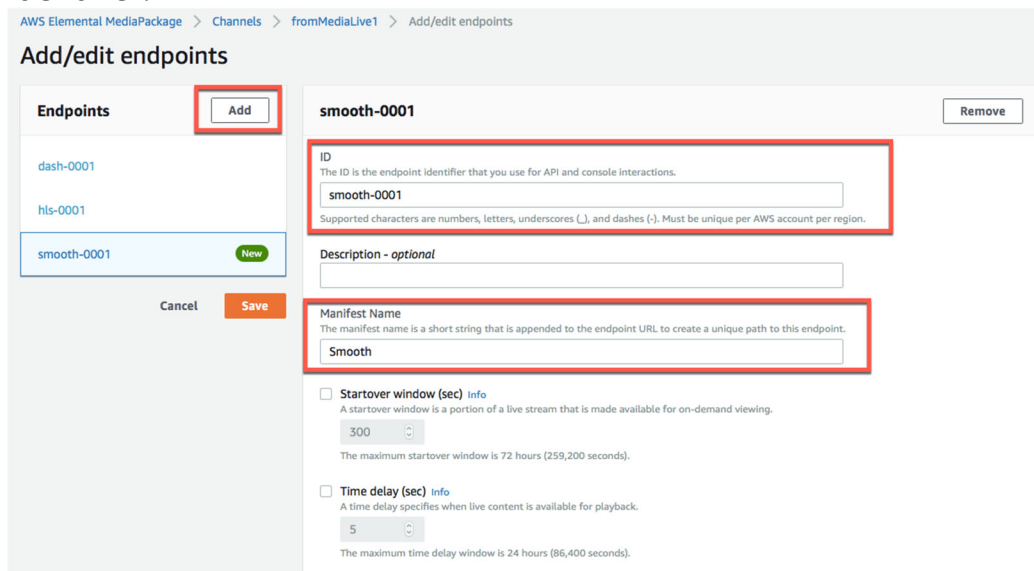
Username: 200e29792334400b878bcb051b094ed0

Password: ***** Show

Endpoints Delete Add/edit endpoints

ID	Description	Package type	Preview	URL
dash-0001		DASH-ISO	Play	https://547f72e6652371c3.mediapackage.us-east-1.amazonaws.com/out/v1/f38731c8203d4a2b9a073152d836bac4/dash.mpd QR code
hls-0001		Apple HLS	Play	https://547f72e6652371c3.mediapackage.us-east-1.amazonaws.com/out/v1/86c2bd8e457742189fb804f9dae43a19/HLS.m3u8 QR code

2. Click the **Add** button. Edit the Endpoint **ID** and **Manifest Name** to a unique identifier.



AWS Elemental MediaPackage > Channels > fromMediaLive1 > Add/edit endpoints

Add/edit endpoints

Endpoints Add

dash-0001

hls-0001

smooth-0001 New

Cancel Save

smooth-0001 Remove

ID
The ID is the endpoint identifier that you use for API and console interactions.
smooth-0001
Supported characters are numbers, letters, underscores (_), and dashes (-). Must be unique per AWS account per region.

Description - optional

Manifest Name
The manifest name is a short string that is appended to the endpoint URL to create a unique path to this endpoint.
Smooth

☐ **Startover window (sec)** Info
A startover window is a portion of a live stream that is made available for on-demand viewing.
300
The maximum startover window is 72 hours (259,200 seconds).

☐ **Time delay (sec)** Info
A time delay specifies when live content is available for playback.
5
The maximum time delay window is 24 hours (86,400 seconds).

- Under **Packager Settings**, select the **Type Smooth** and **Segment duration (sec)** to **20** seconds.

Packager settings

Type [Info](#)

Microsoft Smooth

Segment duration (sec)

20

Manifest window duration (sec)


60

Must be less than the manifest or playlist window duration.

- Scroll down and select the toggle for **Encrypt Content**.

Package encryption

☐ No encryption
This endpoint is not copy-protected.

☒ **Encrypt content** [Info](#) 
The endpoint is copy-protected.

Resource ID
The resource ID is the identifier that you send to the key server to identify this endpoint.

smooth_001

Supported characters are numbers, letters, underscores (_), and dashes (-).

System IDs [Info](#)
A system ID is a unique identifiers for the DRM system to use. Type one per line.

9a04f079-9840-4286-ab92-e65be0885f95

Must contain either one or two entries, as defined by the packager type.

URL
The URL for the proxy that you created so AWS Elemental MediaPackage can talk to your key server.

https://i2z1e.execute-api.us-east-1.amazonaws.com/production/copyProtection

Role ARN
The Amazon Resource Name (ARN) for the IAM role that you created that allows communication between SPEKE and AWS Elemental MediaPackage.

arn:aws:iam::500552:role/MediaPackage

Must be in this format: arn:aws:iam::{accountID}:role/{name}

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 for Smooth Streaming (uses PlayReady's System ID), one ID per line:

9a04f079-9840-4286-ab92-e65be0885f95

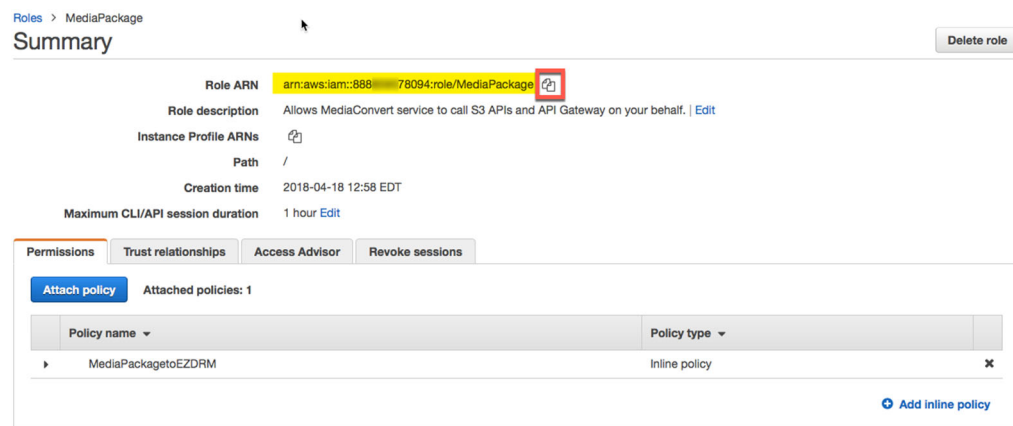
Note: The System ID values need to be lowercase.

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

Sample URL:

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

- **Role ARN:** This value is from the **MediaPackage Role** created in **Step 2.**



5. Once these settings are completed, click the **Save** button to create the endpoint.
6. Now for redundancy, from your second MediaLive channel, create an Smooth Streaming endpoint with the same settings as the one we just created, but change the **ID** name to indicate the redundant endpoint.

For this example, we called our first channel **MediaLive1** and created the Smooth Streaming endpoint **smooth-001**. Under **MediaLive2** we will create a duplicate Smooth Streaming endpoint but name it **smooth-002**.

Duplicate ALL the same settings for the second Smooth Streaming endpoint under the second channel and click **Save**.

Note: *It is helpful to have multiple tabs open during this process, for ease of copying settings from one channel to the other.*

7. Once **MediaLive** is running and publishing to **MediaPackage**, you will be able to access the URL created to play the DRM encrypted Media.

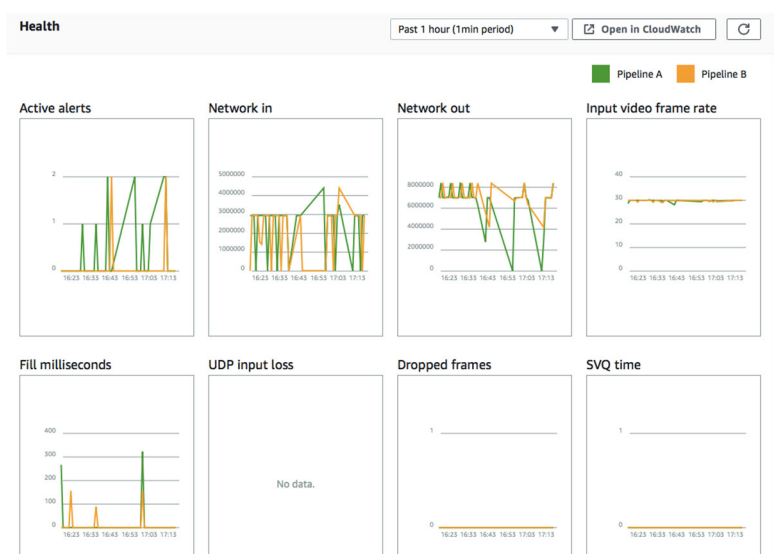
smooth_001	smooth_001	Microsoft Smooth	Play	https://6305...b8f.mediapackage.us-east-1.amazonaws.com/out/v1/37d867...86b4/index.ism/Manifest
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STEP 5 - Starting a MediaLive Channel

Open **MediaLive** and select the channel. Click the **Start** button to start the channel.

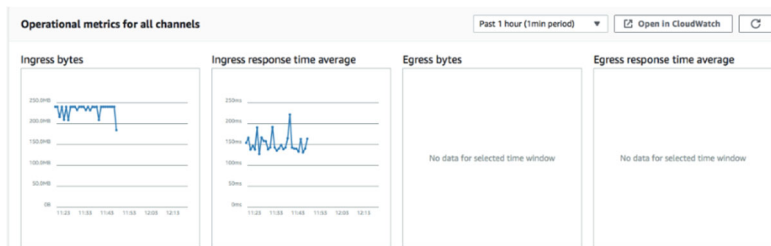


Once the channel is started, data for the stream will be shown in the Health section.



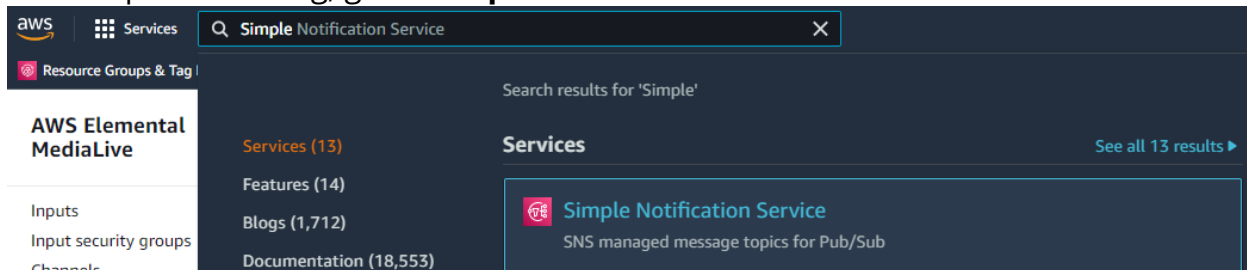
If Input video frame rate is ever not running, you know that there is a problem with the stream.

Same on the **MediaPackage** side, there will be data showing under Operational metrics.

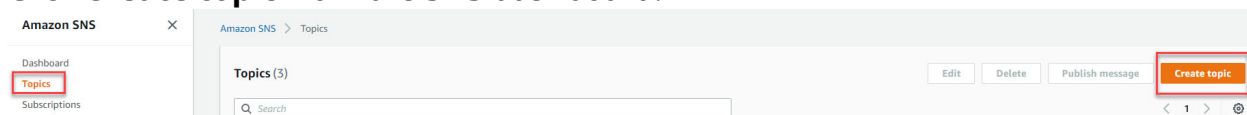


Appendix 1 – Error Log Set-up

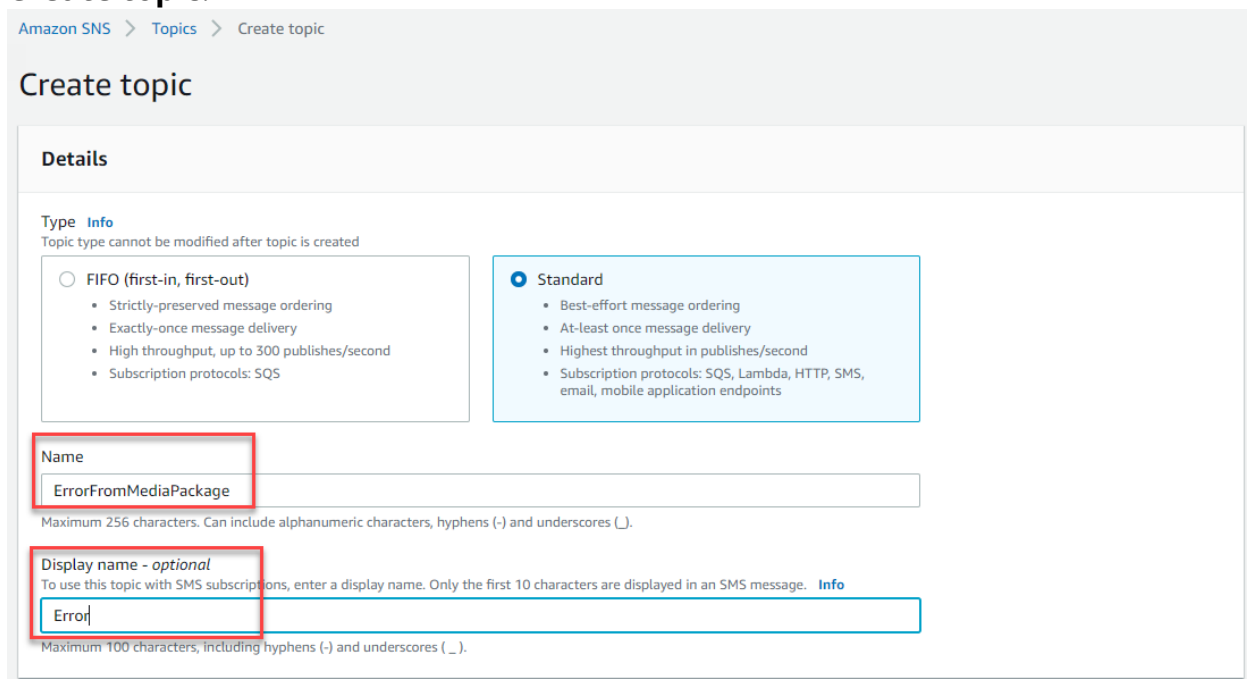
1. To set up an error log, go to **Simple Notification Service** in AWS.



2. Click **Create topic** from the SNS dashboard.



3. To create a Standard topic, enter the **Topic name** and **Display name** and click **Create topic**.



4. The Topic details will open, then click **Create subscription**.

Amazon SNS > Topics > ErrorFromMediaPackage_Test

ErrorFromMediaPackage

Edit Delete Publish message

Details

Name	ErrorFromMediaPackage_Test	Display name	Error
ARN	arn:aws:sns:us-east-1:507650690552:ErrorFromMediaPackage_Test	Topic owner	507650690552
Type	Standard		

Subscriptions Access policy Delivery retry policy (HTTP/S) Delivery status logging Encryption Tags

Subscriptions (0) Edit Delete Request confirmation Confirm subscription **Create subscription**

- Change the **Protocol** to **Email** and enter the **email address** in the **Endpoint** field. Click **Create subscription**.

Amazon SNS > Subscriptions > Create subscription

Create subscription

Details

Topic ARN

arn:aws:sns:us-east-1:507650690552:ErrorFromMediaPackage_Test

Protocol

The type of endpoint to subscribe

Email

Endpoint

An email address that can receive notifications from Amazon SNS.

yourname@youremail.com

After your subscription is created, you must confirm it. Info

Subscription filter policy - optional

This policy filters the messages that a subscriber receives. Info

Redrive policy (dead-letter queue) - optional

Send undeliverable messages to a dead-letter queue. Info

Cancel **Create subscription**

- There will now be a **Pending Confirmation** line item, and an email will be sent to confirm the subscription.

ErrorFromMediaPackage_Test Edit Delete Publish message

Details

Name ErrorFromMediaPackage_Test	Display name Error
ARN arn:aws:sns:us-east-1:507650690552:ErrorFromMediaPackage_Test	Topic owner 507650690552
Type Standard	

Subscriptions | Access policy | Delivery retry policy (HTTP/S) | Delivery status logging | Encryption | Tags

Subscriptions (1) Edit Delete Request confirmation Confirm subscription Create subscription

ID	Endpoint	Status	Protocol
<input type="radio"/> Pending confirmation	yourname@youremail.com	Pending confirmation	EMAIL

7. Next, open **Amazon EventBridge** under AWS Services.

8. Under the **Rules** menu, click **Create rule**.

Amazon EventBridge × EventBridge - Learning content Tell us what topics you would like to see more learning material for (tutorials, videos, blog posts, etc.). Provide Feedback ×

Getting started
Event buses
Rules
Archives
Replays
Integration
Partner event sources
API destinations
Schema registry
Schemas
Documentation

Amazon EventBridge > Rules

Rules

A rule watches for specific types of events. When a matching event occurs, the event is routed to the targets associated with the rule. A rule can be associated with one or more targets.

Select event bus

Event bus
Select or enter event bus name
default

Rules (2/2) Find rules Any status Refresh Edit Delete Enable Create rule

9. Enter the Rule **Name** and **Description** (optional).

Amazon EventBridge > Rules > Create rule

Create rule

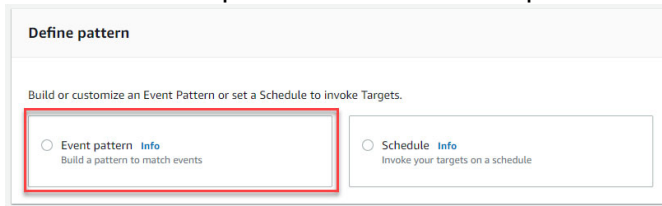
A rule watches for certain events and then routes them to AWS targets that you choose. You can create a rule that performs an AWS action automatically when another AWS action happens, or a rule that performs an AWS action regularly on a set schedule.

Name and description

Name
MediaPackageTest
Maximum of 64 characters consisting of lower/upper case letters, -, ., _

Description - optional
MediaPackage

10. Under Define pattern select Event pattern.



Define pattern

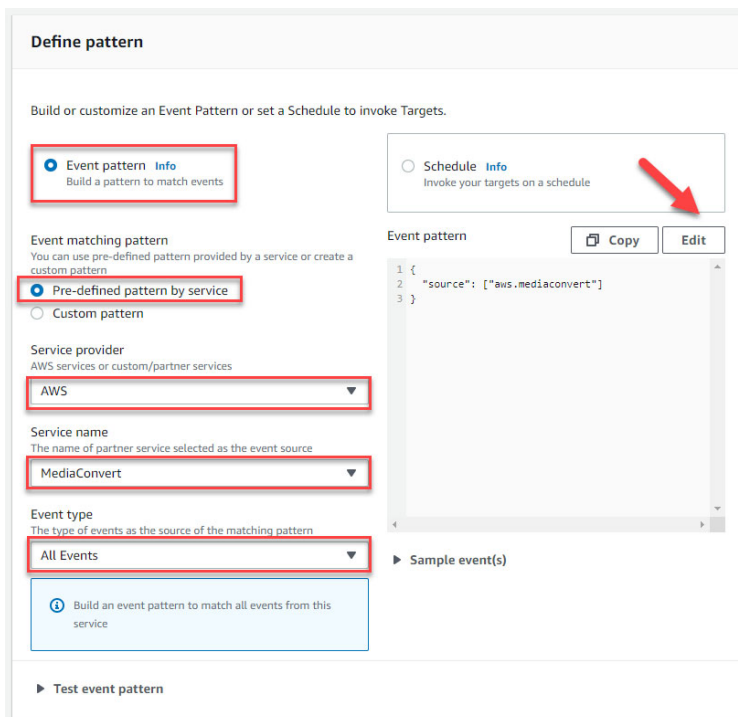
Build or customize an Event Pattern or set a Schedule to invoke Targets.

☒ **Event pattern** [Info](#)
Build a pattern to match events

☐ **Schedule** [Info](#)
Invoke your targets on a schedule

11. Select:

- Pre-defined pattern by service
- Service Provider: AWS
- Service name: MediaConvert (there isn't a service for MediaPackage)
- Event Type: All Events



Define pattern

Build or customize an Event Pattern or set a Schedule to invoke Targets.

☒ **Event pattern** [Info](#)
Build a pattern to match events

☐ **Schedule** [Info](#)
Invoke your targets on a schedule

Event matching pattern
You can use pre-defined pattern provided by a service or create a custom pattern.

☒ **Pre-defined pattern by service**

☐ Custom pattern

Service provider
AWS services or custom/partner services

AWS

Service name
The name of partner service selected as the event source

MediaConvert

Event type
The type of events as the source of the matching pattern

All Events

[Build an event pattern to match all events from this service](#)

Event pattern [Copy](#) [Edit](#)

```
1 {
2   "source": ["aws.mediaconvert"]
3 }
```

▶ Sample event(s)

▶ Test event pattern

12. Click the **Edit** button.

13. Update "aws.mediaconvert" to "**aws.mediapackage**" and click **Save**.

Define pattern

Build or customize an Event Pattern or set a Schedule to invoke Targets.

☒ **Event pattern** [Info](#)
Build a pattern to match events

☐ **Schedule** [Info](#)
Invoke your targets on a schedule

Event matching pattern
You can use pre-defined pattern provided by a service or create a custom pattern

☐ Pre-defined pattern by service

☒ **Custom pattern**

Event pattern

Save

Cancel

```

1 {
2   "source": ["aws.mediapackage"]
3 }
    
```

14. Under Select targets, click **Add target**.

Select targets

Select target(s) to invoke when an event matches your event pattern or when schedule is triggered (limit of 5 targets per rule).

Target

Select target(s) to invoke when an event matches your event pattern or when schedule is triggered (limit of 5 targets per rule).

Lambda function

▼

Function

Select function

▼

► Configure version/alias

► Configure input

► Retry policy and dead-letter queue

Add target

15. Select **SNS Topic** from the dropdown and select the **Topic** you created in Step 3, for this example "ErrorfromMediaPackage".

Select targets

Select target(s) to invoke when an event matches your event pattern or when schedule is triggered (limit of 5 targets per rule).

Target

Remove

Select target(s) to invoke when an event matches your event pattern or when schedule is triggered (limit of 5 targets per rule).

Lambda function

Function

Select function

► Configure version/alias

► Configure input

► Retry policy and dead-letter queue

Target

Remove

Select target(s) to invoke when an event matches your event pattern or when schedule is triggered (limit of 5 targets per rule).

SNS topic

Topic

ErrorFromMediaPackage

► Configure input

► Retry policy and dead-letter queue

Add target

16. Click the **Create** button.

You will now get an error message in the event that there is a connection issue.

Additional Information

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