

EZDRM Configuration AWS MediaLive and MediaPackage

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Version 1

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>

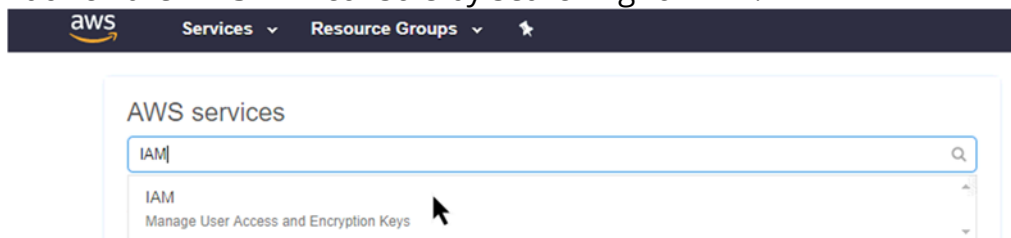
To download Python 3.6: <https://www.python.org/downloads/>

EZDRM AWS Speke Server Deployment

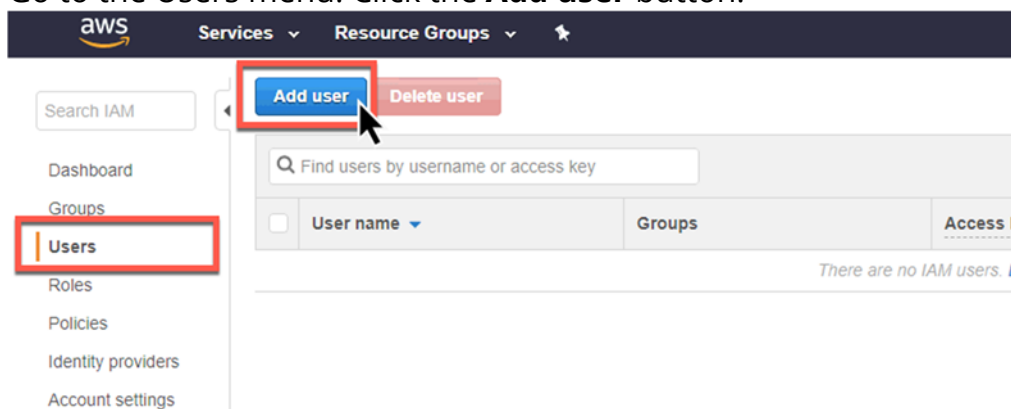
Step 1: Create a New User

To create a new User in AWS complete the following steps:

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



2. Go to the Users menu. Click the **Add user** button.



3. Enter a **User name**, we suggest "cli-access". Then under the "Select Access Type" section, click the checkbox to enable **Programmatic access**. This enables an access key ID and secret access key for the AWS CLI.

Add user

1 2 3 4

Set user details

You can add multiple users at once with the same access type and permissions. [Learn more](#)

User name* cli-access

[Add another user](#)

Select AWS access type

Select how these users will access AWS. Access keys and autogenerated passwords are provided in the last step. [Learn more](#)

Access type* ☒ **Programmatic access**
Enables an **access key ID** and **secret access key** for the AWS API, CLI, SDK, and other development tools.

☐ **AWS Management Console access**
Enables a **password** that allows users to sign-in to the AWS Management Console.

* Required

Cancel [Next: Permissions](#)

4. Click the **Next: Permissions** button.
5. Select the **Attach existing policies directly** menu and click the checkbox to select **AdministratorAccess**. This provides full access to AWS services and resources.

Add user

1 2 3 4

Set permissions for cli-access

[Add user to group](#) [Copy permissions from existing user](#) [Attach existing policies directly](#)

Attach one or more existing policies directly to the users or create a new policy. [Learn more](#)

[Create policy](#) [Refresh](#)

Filter: Policy type Search Showing 315 results

	Policy name	Type	Attachments	Description
<input checked="" type="checkbox"/>	AdministratorAccess	Job function	0	Provides full access to AWS services and resources.
<input type="checkbox"/>	AlexaForBusinessDeviceSetup	AWS managed	0	Provide device setup access to AlexaForBusiness services
<input type="checkbox"/>	AlexaForBusinessFullAccess	AWS managed	0	Grants full access to AlexaForBusiness resources and access to related AWS Services

6. Click the **Next: Review** button.
7. Review the new User settings on the Review page and click the **Create user** button.

Review

Review your choices. After you create the user, you can view and download the autogenerated password and access key.

User details

User name cli-access
AWS access type Programmatic access - with an access key

Permissions summary

The following policies will be attached to the user shown above.

Type	Name
Managed policy	AdministratorAccess

Cancel Previous **Create user**

8. The last step is the Success screen. Here you will have access to the **Console Login Link**, the **Access key ID** and the **Secret access key**. **Download the .csv** file with the key information and save this file where it can be accessed for future reference.

Important Note: This is the ONLY TIME you will have access to the **Secret access key**. It is important to download the .csv with this information or copy and paste the keys into a saved document. Once you leave this screen you will no longer have access to the **Secret access key**.

Add user

1 2 3 **4**

Success

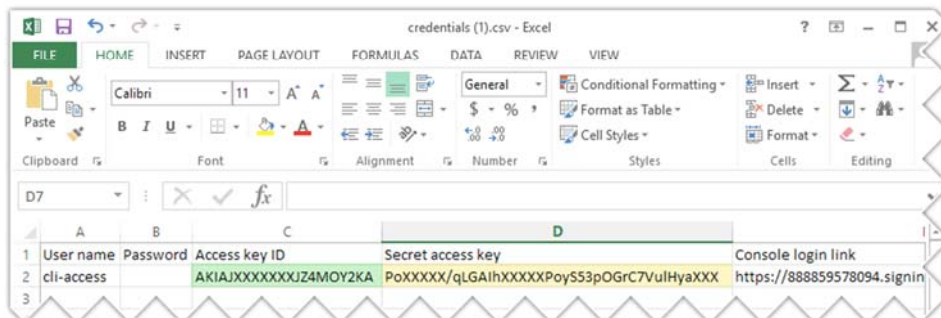
You successfully created the users shown below. You can view and download user security credentials. You can also email users instructions for signing in to the AWS Management Console. This is the last time these credentials will be available to download. However, you can create new credentials at any time.

Users with AWS Management Console access can sign-in at: <https://888859578094.signin.aws.amazon.com/console>

Download .csv

User	Access key ID	Secret access key
cli-access	AKIAJXXXXXXJZ4MOY2KA	PoXXXXX/qLGAihXXXXPoyS53pOGrc7VulHyaOg3 Hide

Close



User name	Password	Access key ID	Secret access key	Console login link
cli-access		AKIAJXXXXXXJZ4MOY2KA	PoXXXXX/qLGAihXXXXPoyS53pOGrc7VulHyaOg3	https://888859578094.signin

Step 2: Create AWS CLI Access

To create the AWS CLI access, open Command Prompt.

1. Type the command **aws configure** and hit enter.
2. You will be prompted to enter your **AWS Access Key ID** and hit enter.
3. You will be prompted to enter your **Secret Access Key** and hit enter.
4. You will be prompted to enter your **Default region name** (Example: **us-east-1**) and hit enter. You can find the region that is closest to you here: <https://docs.aws.amazon.com/general/latest/gr/rande.html>
5. You will be prompted to enter the Default output format and hit enter. You will enter the format **json**.

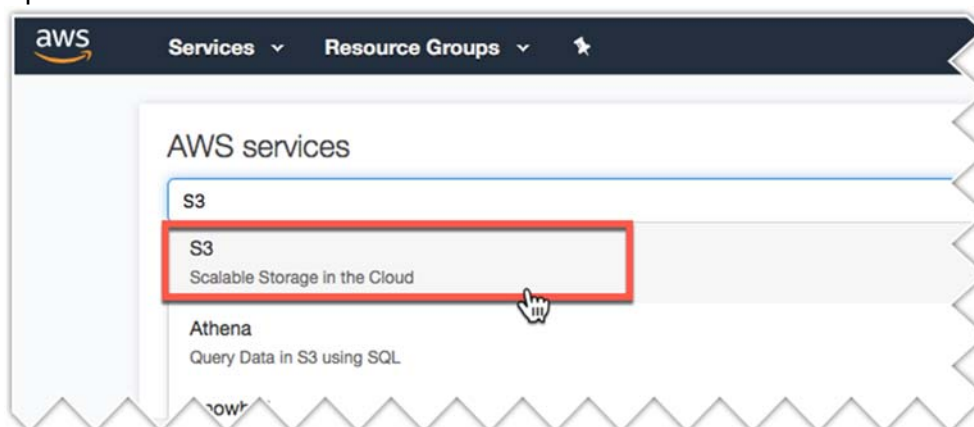
Sample Command Prompt:

```
C:\Users\User>aws configure
AWS Access Key ID [*****Y2KA]: your-access-key-id-here
AWS Secret Access Key [*****a0g3]: your-secret-access-key-id-here
Default region name [us-east-1]: your-region-here
Default output format [json]: json
```

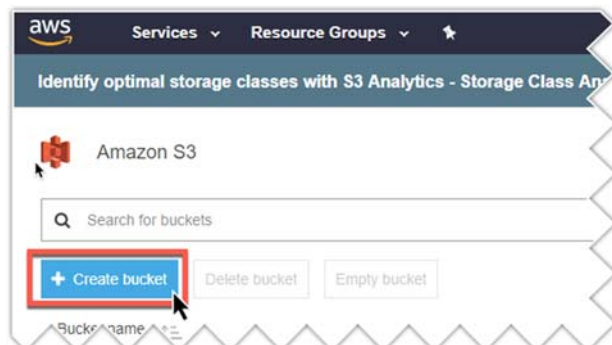
Optional: you could enter the command "aws sts get-session-token" to confirm that your installation of Python and AWS CLI is working properly.

Step 3: Create an S3 Bucket

1. From the AWS Console, search for **S3 Scalable Storage in the Cloud** and open.



2. Click the **Create Bucket** button.

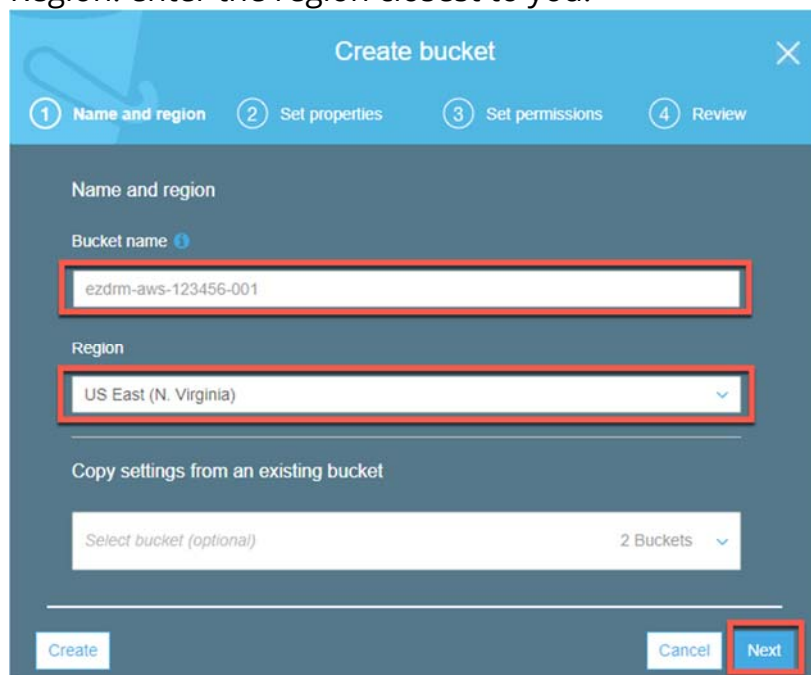


3. Enter the following parameters and click **Next**:

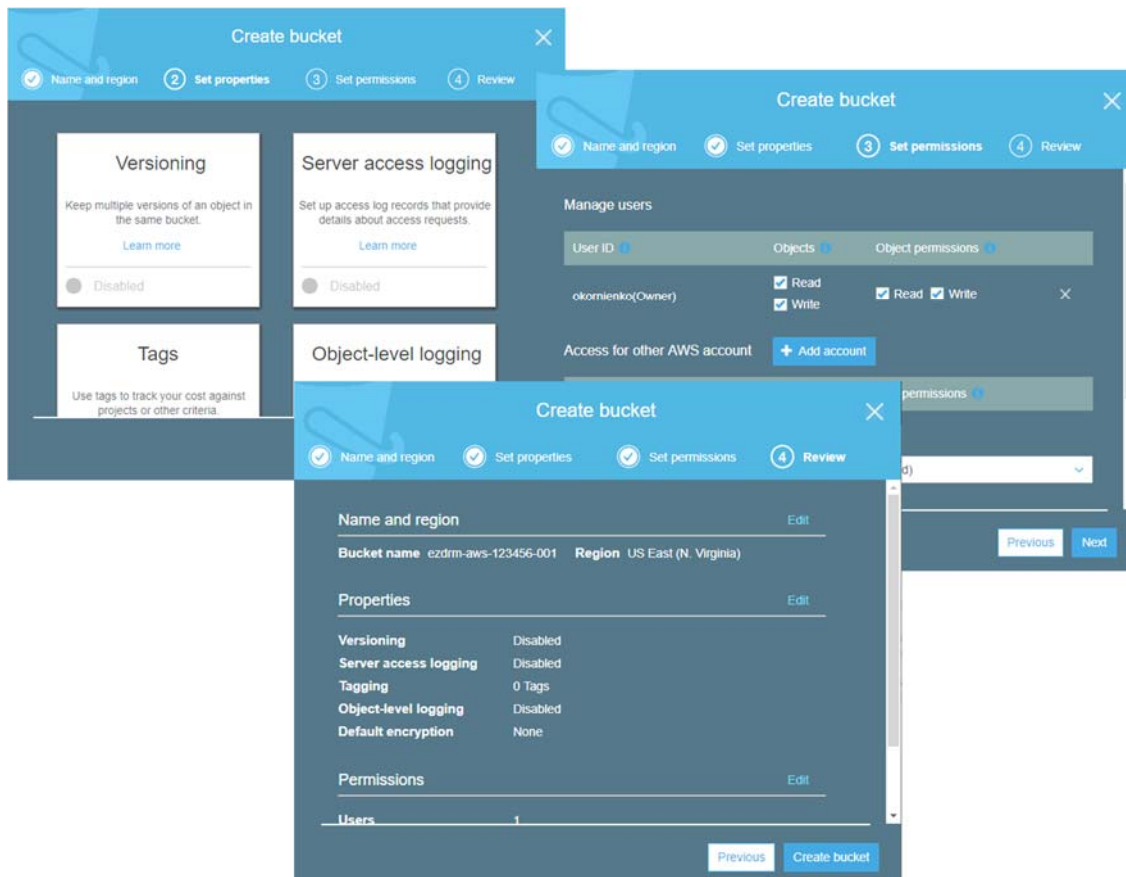
- Bucket name: Bucket name can be any format you prefer. We recommend that you use a naming convention that is unique and reusable.

Note: The bucket name must be ^{SEP}unique across all existing ^{SEP}bucket names in Amazon S3.

- Region: enter the region closest to you.



4. Click the **Next** button through the next three screens keeping all the default settings, then click the **Create Bucket** button.



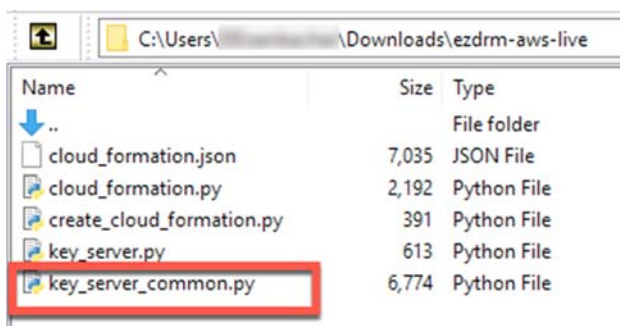
Step 4: Edit the Key Server files

To edit the Key server files:

1. Download the EZDRM AWS zip file through a browser using this link:
<http://www.ezdrm.com/downloads/ezdrm-aws-live.zip>
2. Extract the **ezdrm-aws-live.zip** file and open the **ezdrm-aws-live** folder.



3. Right-click to edit the **key_server_common.py** file.



4. Edit Line 78 with your EZDRM username and password and save the file.
The parameters are as follows:

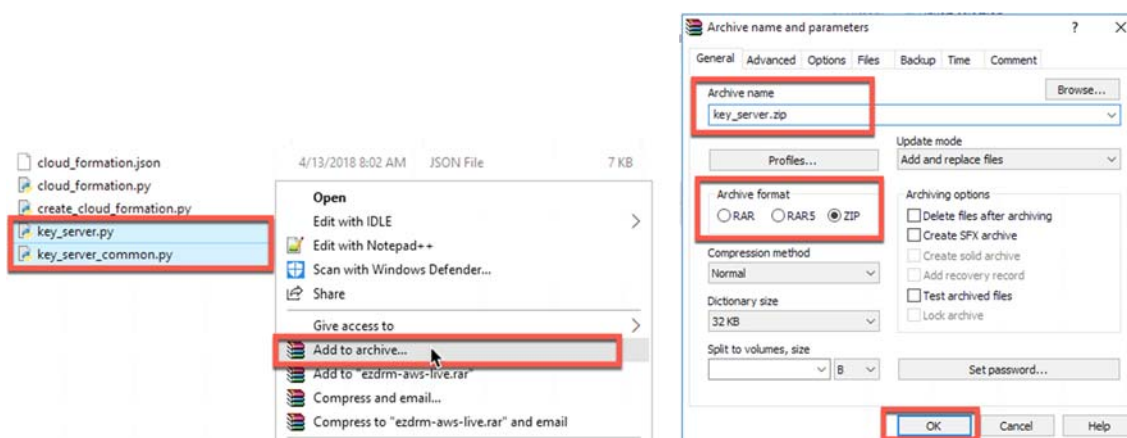
Parameter	Description
u	EZDRM username
p	EZDRM password

```

73 xt = PLAYREADY_CONTENT_KEY
74
75 xt = base64.b64encode(get_digest(KEY_STRING, content_id, kid)).decode('utf-8')
76 system_ids.get(HLS_SAMPLE_AES_SYSTEM_ID, False) == kid:
77 t('explicitIV', base64.b64encode(get_digest(KEY_STRING, content_id, kid)).decode('utf-8'))
78 lopen('http://cpix.ezdrm.com/awslive.aspx?m=' + mst + '&k=' + kid + '&u=USERNAME&p=PASSWORD&c=' + content_id + '&e
79 ad()
80 ace("cpix", "urn:dashif:org:cpix")
81 ace("pskc", "urn:ietf:params:xml:ns:keyprov:pskc")

```

5. After editing the **key_server_common.py** file, combine it with **key_server.py** in a zip file called **key_server.zip**.



Step 5: Create Speke Server

To create the Speke Server, open Command Prompt.

1. Navigate to the extract directory for ezdrm-aws-live.zip in command prompt.

For example:

```
c:\Users\User\Downloads\ezdrm-aws-live\ezdrm-aws-live
```

2. Run the following python command **python create_cloud_formation.py** <<insert S3 bucket name from Step 3 here>>.

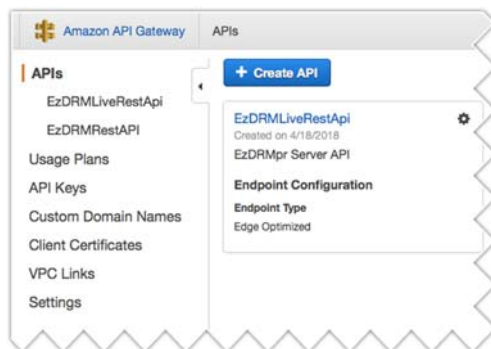
For example:

```
c:\Users\User\Downloads\ezdrm-aws-live\ezdrm-aws-live> python  
create_cloud_formation.py ezdrm-aws-123456-001
```

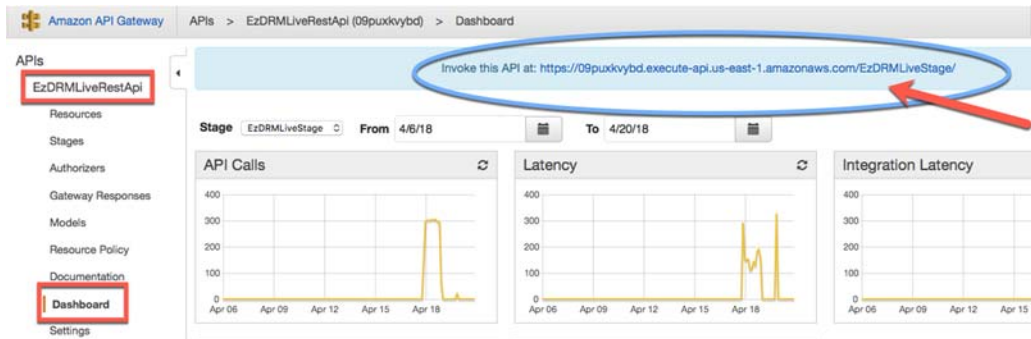
NOTE: The boto3 library needs to be installed for this to work. To install, run the command: **pip install --upgrade --user boto3**.

```
c:\Users\User\Downloads\ezdrm-aws-live\ezdrm-aws-live> pip install --upgrade --user boto3
```

Once complete, you view see the server **EzDRMLiveRestApi** under the **Amazon API Gateway**:



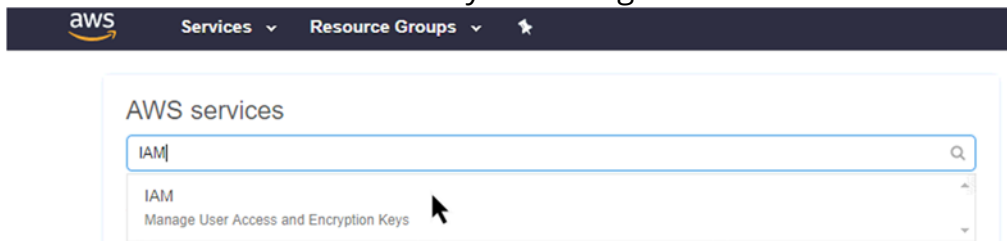
6. Click on the **EzDRMLiveRestApi** link and select the **Dashboard** menu. You will copy the API URL at the top of the **Dashboard** page labeled "Invoke this API". Paste this URL in a notepad for editing in a future step.



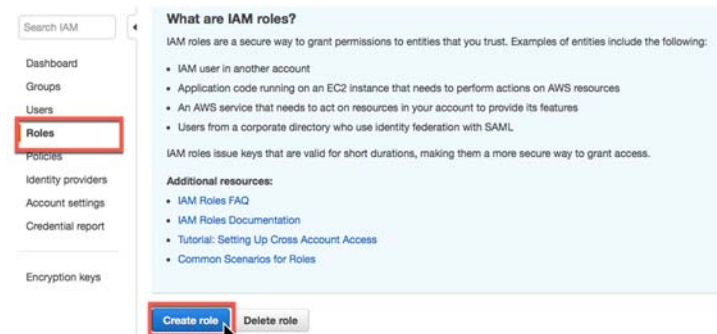
Step 6: Create Role – MediaPackage

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.


Create role


1 2 3

Select type of trusted entity


AWS service
EC2, Lambda and others


Another AWS account
Belonging to you or 3rd party


Web identity
Cognito or any OpenID provider


SAML 2.0 federation
Your corporate directory

Allows AWS services to perform actions on your behalf. [Learn more](#)

Choose the service that will use this role

EC2
Allows EC2 instances to call AWS services on your behalf.

Lambda
Allows Lambda functions to call AWS services on your behalf.

API Gateway	Config	Elastic Container Service	Lex	SWF
AppSync	DMS	Elastic Transcoder	Machine Learning	SageMaker
Application Auto Scaling	Data Pipeline	ElasticLoadBalancing	MediaConvert	Service Catalog
Auto Scaling	DeepLens	Glue	OpsWorks	Step Functions
Batch	Directory Service	Greengrass	RDS	Storage Gateway
CloudFormation	DynamoDB	GuardDuty	Redshift	
CloudHSM	EC2	Inspector	Rekognition	
CloudWatch Events	EMR	IoT	S3	
CodeBuild	ElastiCache	Kinesis	SMS	
CodeDeploy	Elastic Beanstalk	Lambda	SNS	

* Required

Cancel **Next: Permissions**

4. Enter the **Role name** and click the **Create role** button.

Create role

1 2 3

Review

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

Role name*



Use alphanumeric and "+,=, @, _" characters. Maximum 64 characters.

Role description

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

Trusted entities AWS service: mediaconvert.amazonaws.com

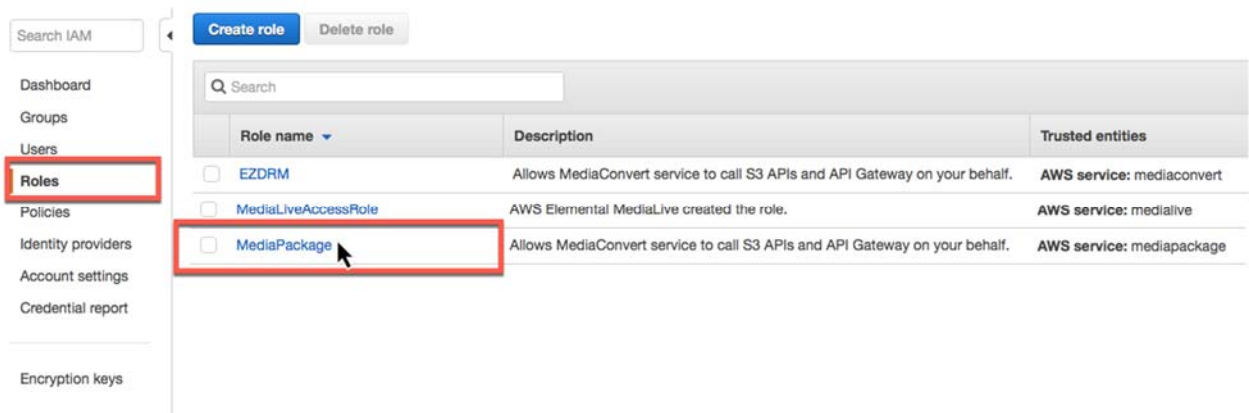
Policies

-  [AmazonS3FullAccess](#)
-  [AmazonAPIGatewayInvokeFullAccess](#)

* Required

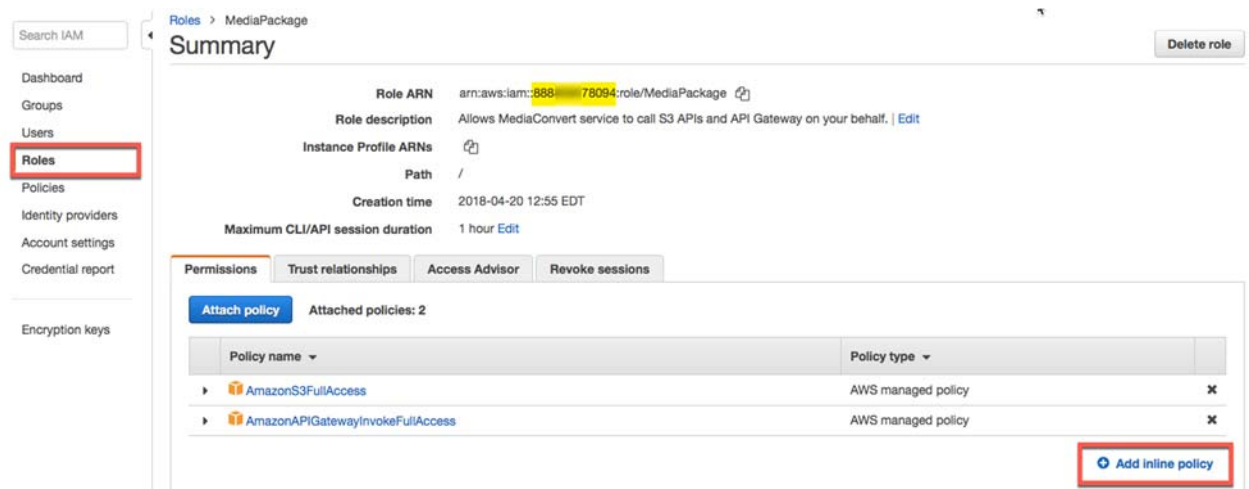
Cancel Previous **Create role**

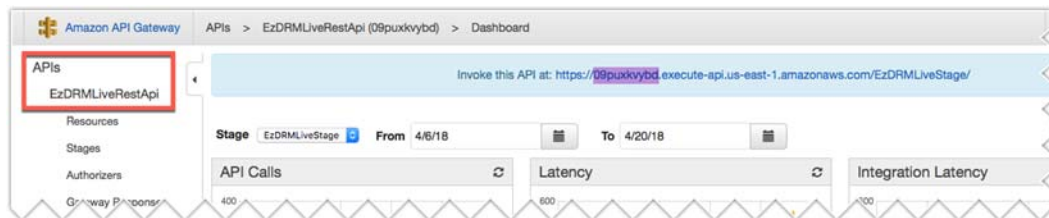
5. Now that the MediaPackage role is created, click on the link to open the role details.



- 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**.





8. 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

9. 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*

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](#)

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


Permissions Trust relationships Access Advisor Revoke sessions

[Attach policy](#) Attached policies: 3

Policy name	Policy type	
 AmazonS3FullAccess	AWS managed policy	
 AmazonAPIGatewayInvokeFullAccess	AWS managed policy	
MediaPacketoEZDRM	Inline policy	

[Add inline policy](#)

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

Detach policy 

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

[Cancel](#) [Detach](#)

11. 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

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. [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.

12. 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.

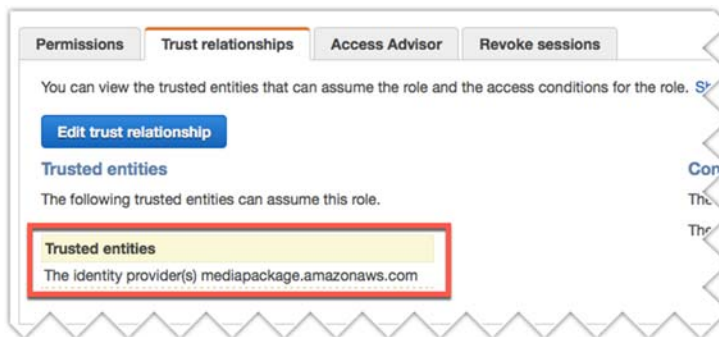
Policy Document

```

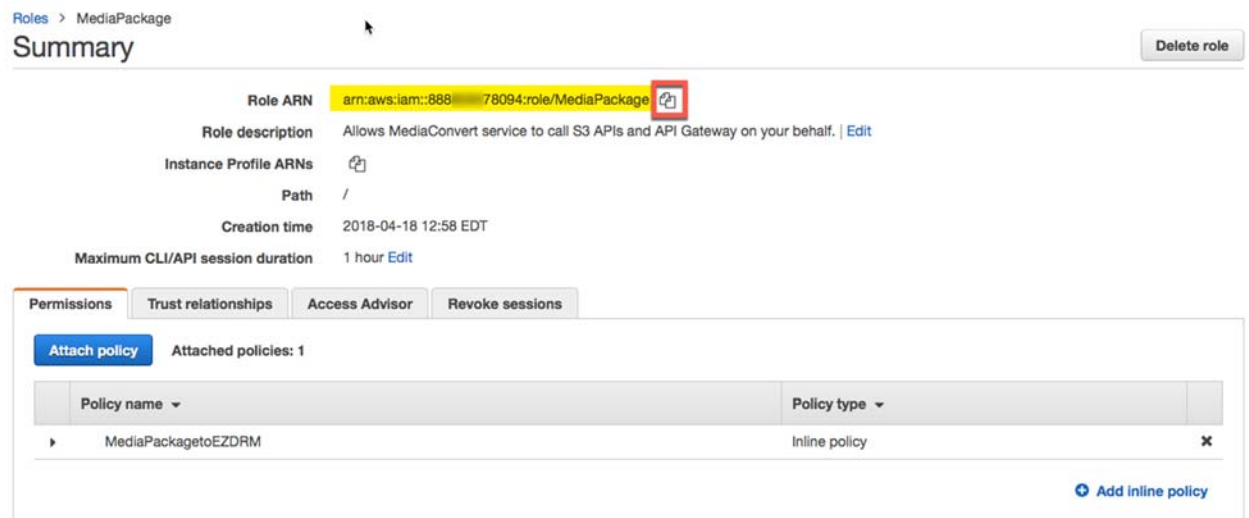
1- {
2-   "Version": "2012-10-17",
3-   "Statement": [
4-     {
5-       "Sid": "",
6-       "Effect": "Allow",
7-       "Principal": {
8-         "Service": "mediapackage.amazonaws.com"
9-       },
10-      "Action": "sts:AssumeRole"
11-     }
12-   ]
13- }
```

[Cancel](#) **Update Trust Policy**

The Trust relationships tab should be updated as follows:



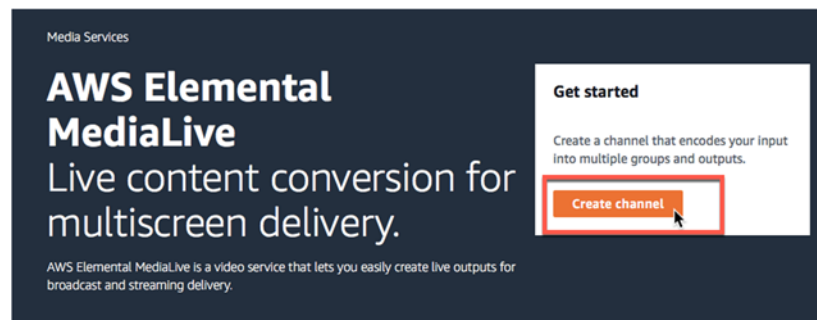
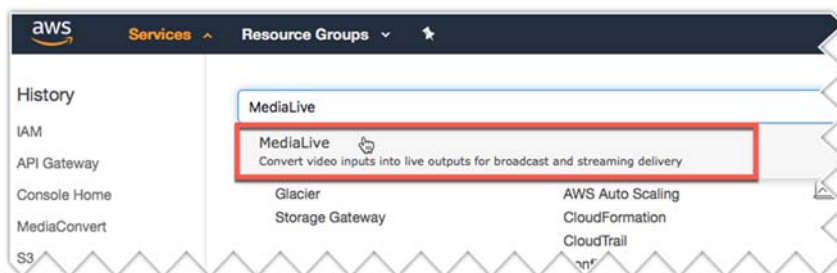
13. Once the MediaPackage role is created, make note of the **Role ARN** value for use in a later step. You can copy this value using the doc copy shortcut.



Creating an AWS MediaLive & MediaPackage Job

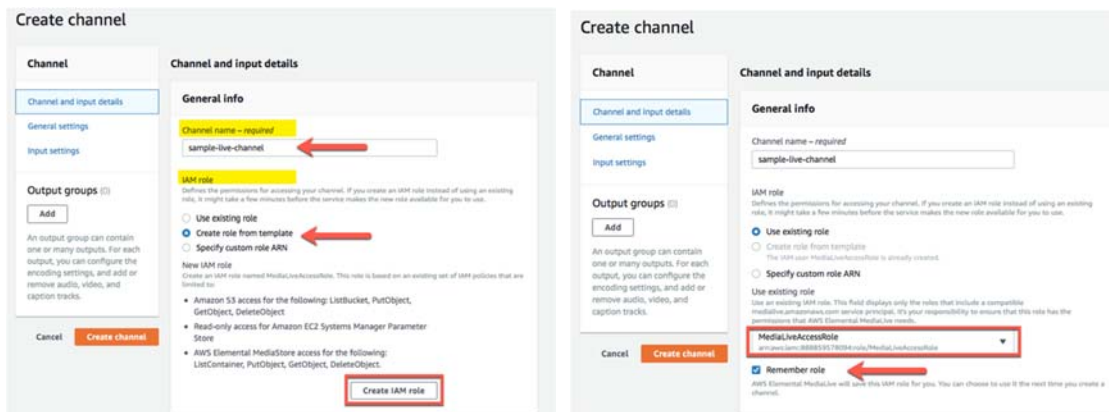
Create a Channel in MediaLive

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

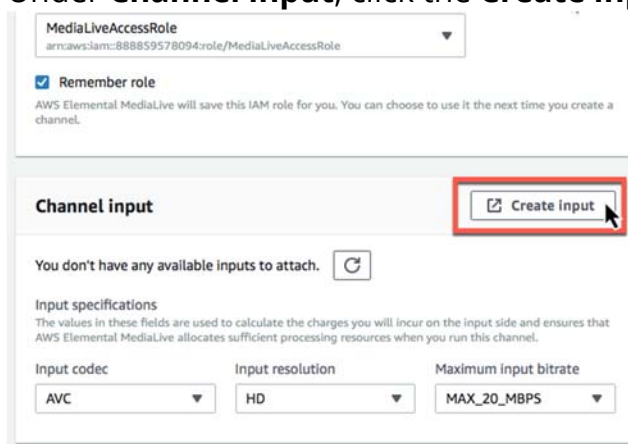


Channel and Input Details

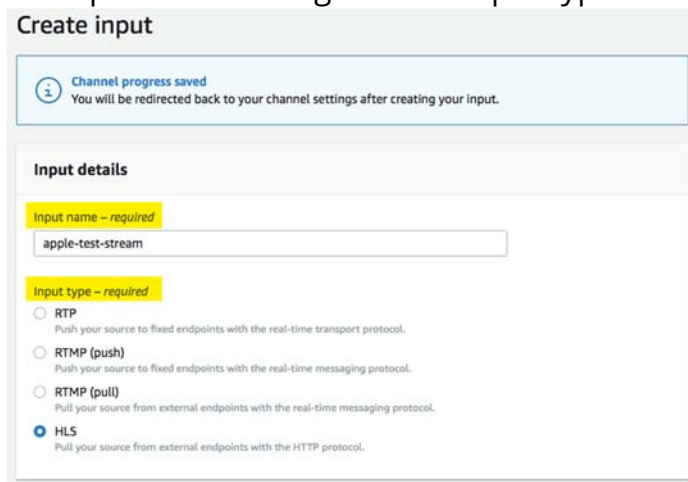
2. The channel is the input for your live broadcast. Enter the **Channel Name** (this is a required value).
3. Under **IAM Role**, the first time you create a channel, you can select **Create Role from Template** and click **Create IAM role**. The **MediaLiveAccessRole** will be created. You can select to **Remember role** and it will be available as the existing role for future channels.



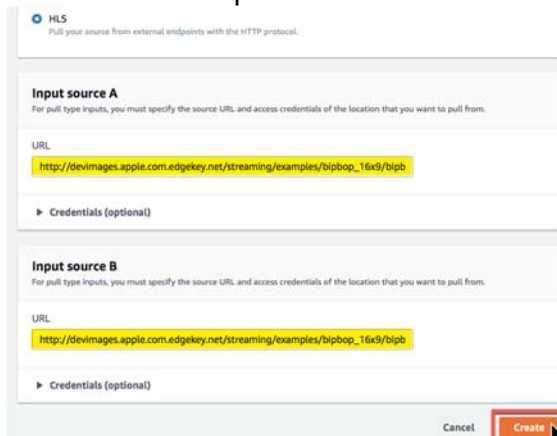
4. Under **Channel input**, click the **Create input** button.



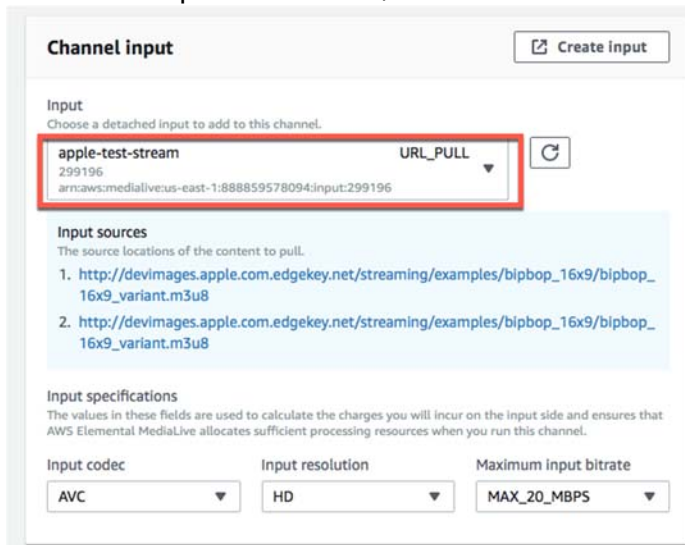
5. This will pull the source and type of stream pushing up to **MediaLive**, for this example we are using the HLS input type.



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



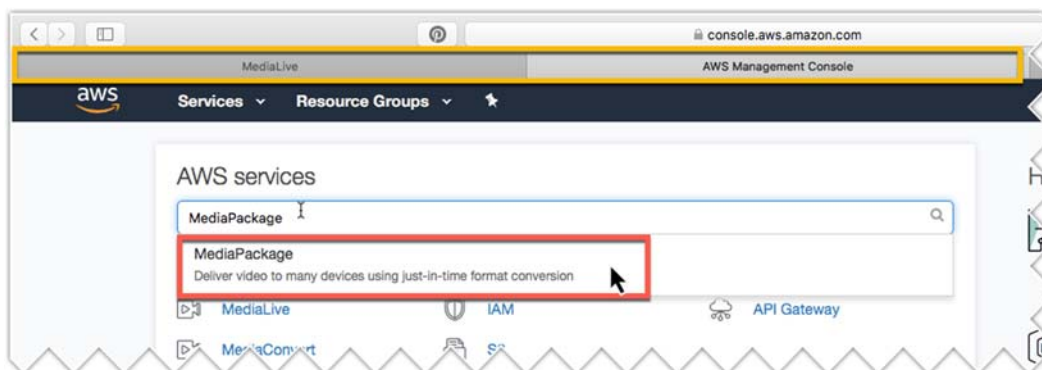
7. Once the Input is created, it can be selected from the Input dropdown menu.



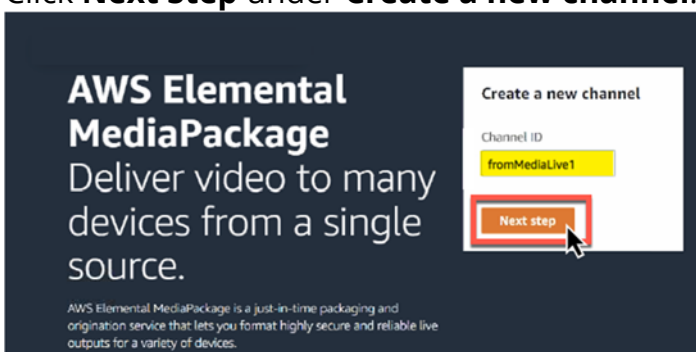
Create Channels in MediaPackage

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

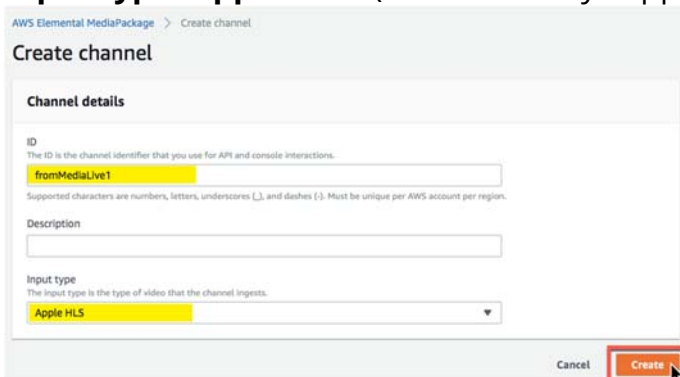
Note: It is helpful to have multiple tabs open during this process, for ease of copying settings between MediaLive and MediaPackage.



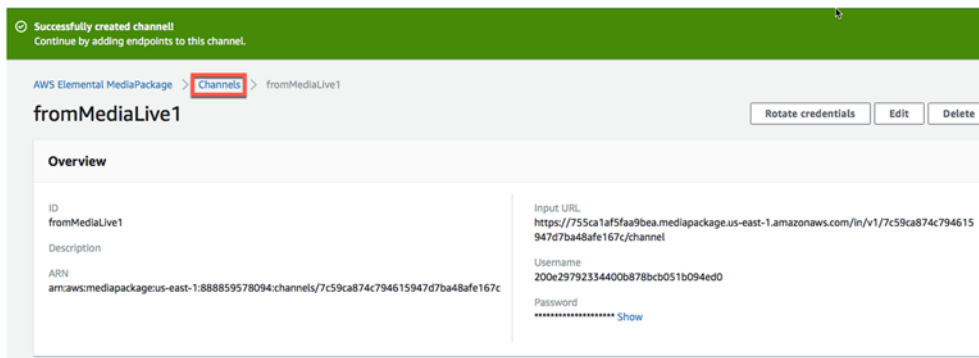
9. Click **Next Step** under **Create a new channel**.



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



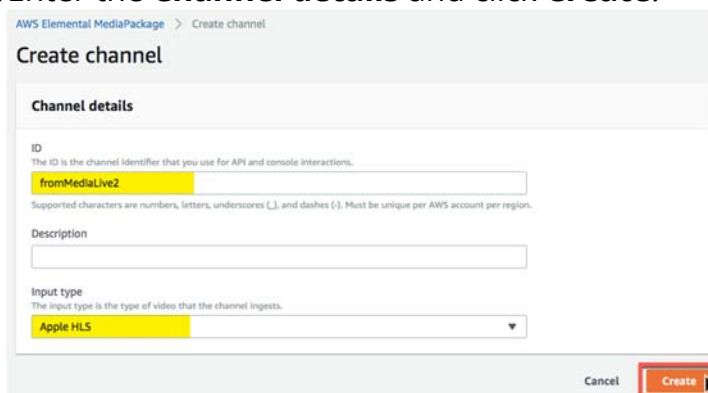
11. This will create the MediaPackage channel. For redundancy, a second channel will need to be created. Select **Channels**.



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



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

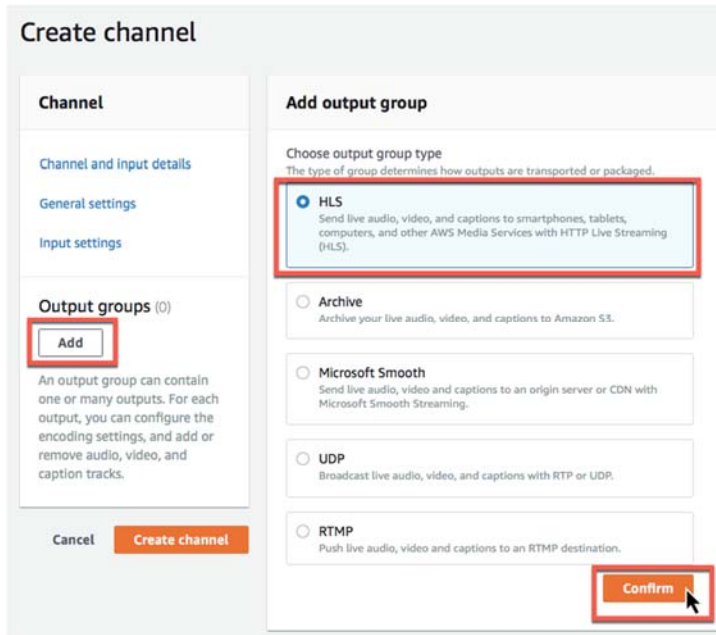


14. Now we have the URL and Channel details we will need for the Output Groups in MediaLive.



MediaLive Output Groups

15. 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 settings

Output groups (0)

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.

Confirm

Note: MediaPackage only accepts HLS streams.

16. 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
arn:aws:mediapackage:us-east-1:888859578094:channels/7c59ca874c794615947d7ba48afe167c

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

Username
200e29792334400b878bcb051b094ed0

Password
***** **Show**

17. 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**.

Channel

Channel and input details

General settings

Input settings

Output groups (1)

Add

1. HLS group

Output 1 (1)

Cancel Create channel

1. HLS group Remove


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

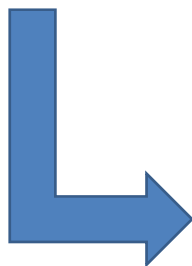
Password
Retrieves the password that is stored in the specified parameter in Amazon EC2 Systems Manager Parameter Store.

☐ 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

18. 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
Description	
ARN	arn:aws:mediapackage:us-east-1:888859578094:channels/13cb920eb64846f1891f69a3167b3557
Input URL	https://5b6ebaa552949bbd.mediapackage.us-east-1.amazonaws.com/in/v1/13cb920eb64846f1891f69a3167b3557/channel
Username	03892b2d40d94fb9ac5bc1b65f20cc42
Password	Show

19. 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


▼ 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.
 ▼
SecureString

20. 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](#)

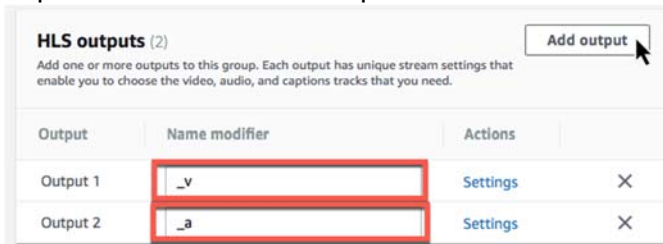
Input Loss Action [Info](#)

Caption Language Mappings (0)

DASH-ISO Output example

21. 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 (2) Add output

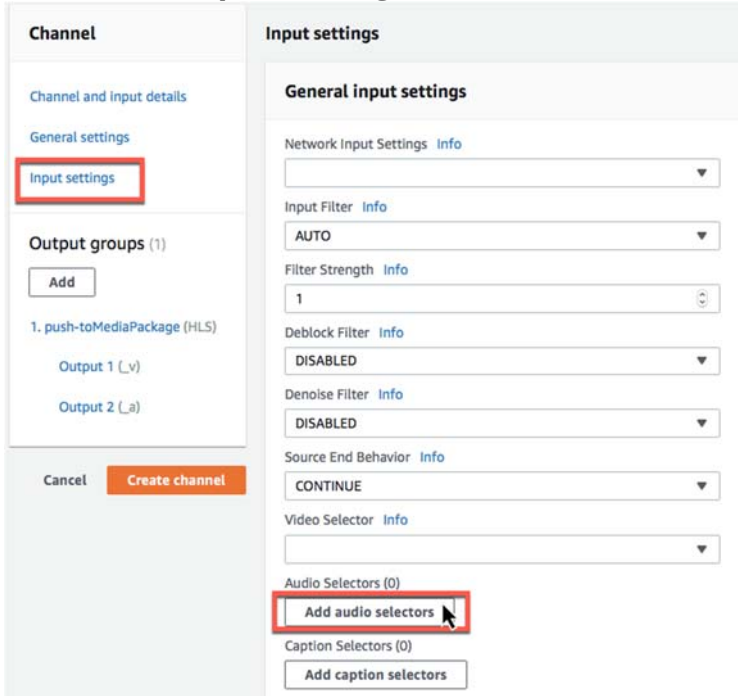
Add one or more outputs to this group. Each output has unique stream settings that enable you to choose the video, audio, and captions tracks that you need.

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

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

Input Settings

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



Channel

- [Channel and input details](#)
- [General settings](#)
- [Input settings](#)**

Output groups (1)

Add

1. push-toMediaPackage (HLS)

- [Output 1 \(_v\)](#)
- [Output 2 \(_a\)](#)

Cancel Create channel

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](#)

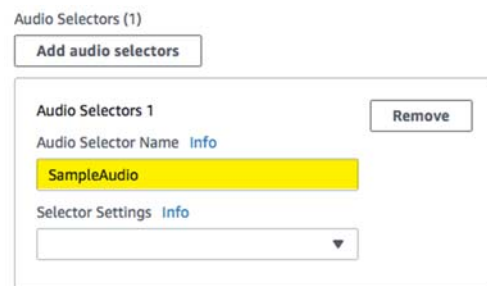
Audio Selectors (0)

Add audio selectors

Caption Selectors (0)

Add caption selectors

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



Audio Selectors (1)

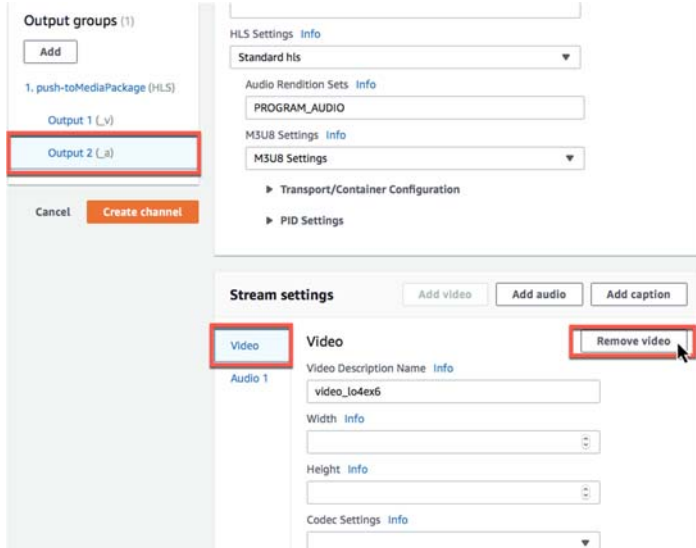
Add audio selectors

Audio Selectors 1 Remove

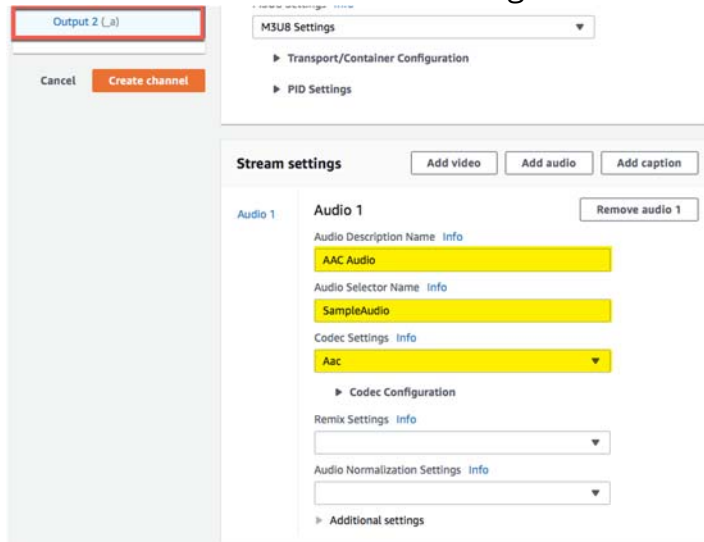
Audio Selector Name [Info](#)

Selector Settings [Info](#)

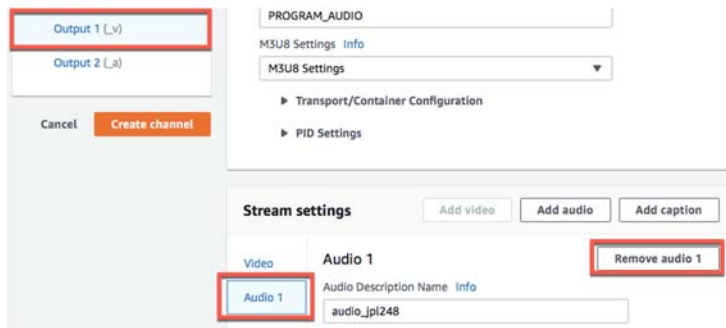
25. Under **Output Groups**, select **Output 2 (_a)** and click on the **Video** tab. Click the **Remove video** button.



26. 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.



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



Output 1 (.v)
Output 2 (.a)

Cancel Create channel

PROGRAM_AUDIO
M3U8 Settings Info
M3U8 Settings

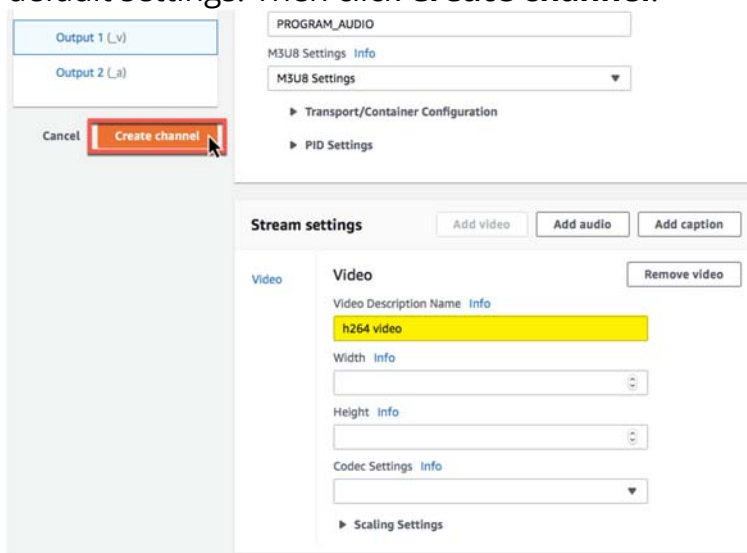
Transport/Container Configuration
PID Settings

Stream settings Add video Add audio Add caption

Video Audio 1 Remove audio 1

Audio 1 Audio Description Name Info
audio_jpl248

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



Output 1 (.v)
Output 2 (.a)

Cancel Create channel

PROGRAM_AUDIO
M3U8 Settings Info
M3U8 Settings

Transport/Container Configuration
PID Settings

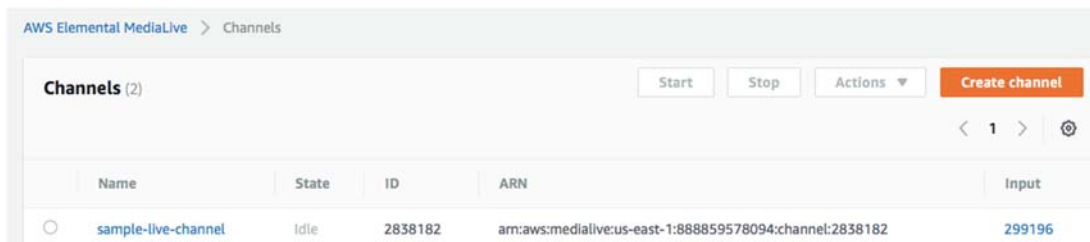
Stream settings Add video Add audio Add caption

Video Video Remove video

Video Description Name Info
h264 video

Width Info
Height Info
Codec Settings Info
Scaling Settings

29. The MediaLive channel should now be created.



AWS Elemental MediaLive > Channels

Channels (2) Start Stop Actions Create channel

< 1 > ⚙

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

HLS Output example

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

HLS outputs (1)
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	<input type="text" value="_v"/>	Settings ✕

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

Input Settings

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

Channel

[Channel and input details](#)
[General settings](#)
Input settings

Output groups (1)
Add

1. pushtoMediaPackage1 (HLS)
Output 1 (_v)

Cancel
Create channel

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

33. 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](#)

34. 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.

Stream settings [Add video](#) [Add audio](#) [Add caption](#)

[Video](#)

Audio 1

Audio 1 [Remove audio 1](#)

Audio Description Name [Info](#)

AAC Audio

Audio Selector Name [Info](#)

SampleAudio

Codec Settings [Info](#)

Aac

► Codec Configuration

Remix Settings [Info](#)

Audio Normalization Settings [Info](#)

► Additional settings

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

Output 1 (_v)

Cancel
Create channel

Audio Rendition Sets [Info](#)
PROGRAM_AUDIO

M3U8 Settings [Info](#)
M3U8 Settings

▶ Transport/Container Configuration

▶ PID Settings

Stream settings
Add video
Add audio
Add caption

Video
Audio 1

Video
Remove video

Video Description Name [Info](#)
h264 video

Width [Info](#)

Height [Info](#)

Codec Settings [Info](#)

▶ Scaling Settings

36. The MediaLive channel should now be created.

AWS Elemental MediaLive > Channels

Channels (2)
Start
Stop
Actions
Create channel

< 1 >

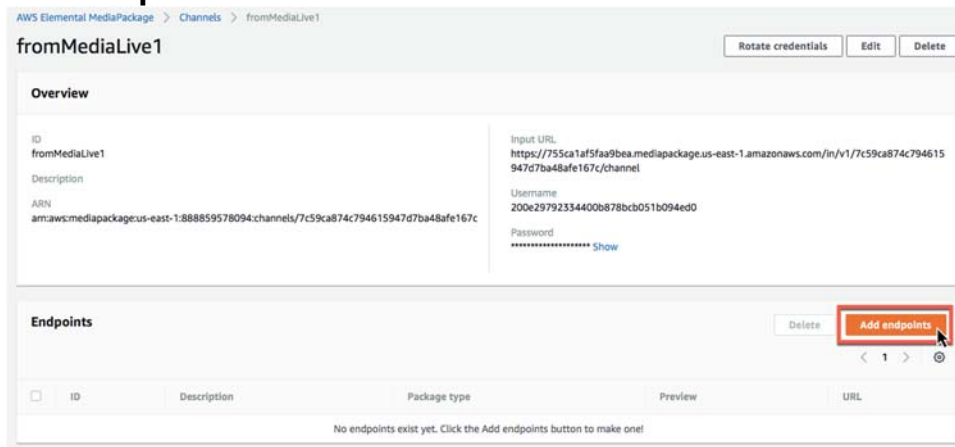
	Name	State	ID	ARN	Input
	sample-live-channel	Idle	2838182	arn:aws:medialive:us-east-1:888859578094:channel:2838182	299196

Create Endpoints in MediaPackage

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

DASH-ISO 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

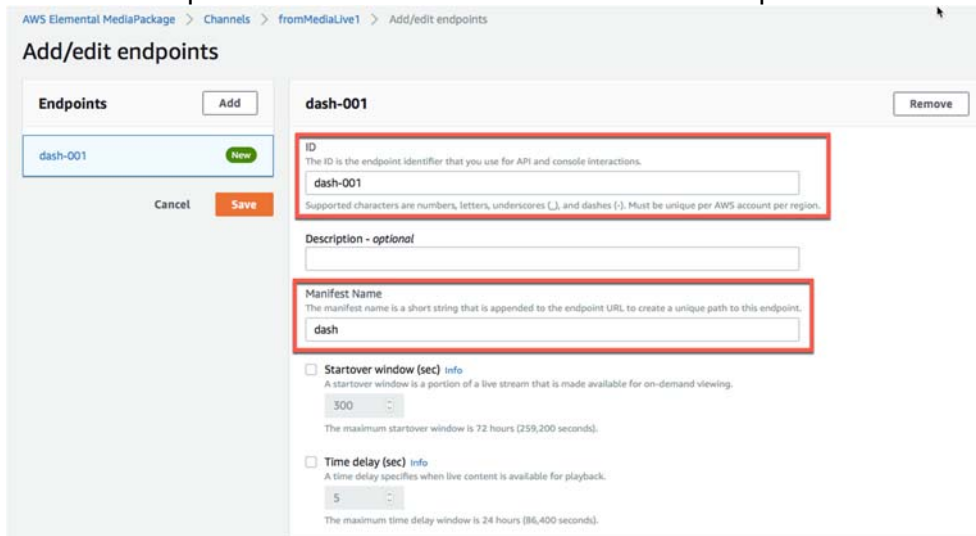
ID: fromMediaLive1
Description:
ARN: amaws:mediapackage-us-east-1:888859578094:channels/7c59ca874c794615947d7ba48afe167c

Input URL:
https://755ca1af5fa9bea.mediapackage-us-east-1.amazonaws.com/in/v1/7c59ca874c794615947d7ba48afe167c/channel
Username:
200e29792334400b878bc051b094ed0
Password:
***** Show

Endpoints [Delete] [Add endpoints]

ID	Description	Package type	Preview	URL
No endpoints exist yet. Click the Add endpoints button to make one!				

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



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

Add/edit endpoints

Endpoints [Add]

ID	Description	Package type	Preview	URL
dash-001				

[Cancel] [Save]

dash-001 [Remove]

ID
The ID is the endpoint identifier that you use for API and console interactions.
dash-001
Supported characters are numbers, letters, underscores (_), and dashes (-). Must be unique per AWS account per region.

Description - optional
[Text field]

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

☐ **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).

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

Packager settings

Type [Info](#)
DASH-ISO ▼


Segment duration (sec) Manifest window duration (sec)
Must be less than the manifest or playlist window duration.

► 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.

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]

► Additional configuration

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. 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**

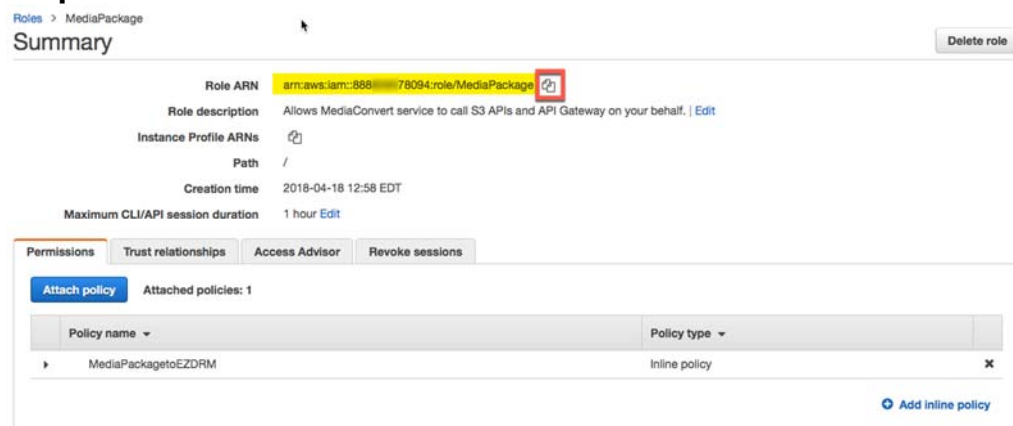
Note: The System ID values need to be lowercase.

- **URL:** The URL is the **API URL** copied from **Step 5** above, except to the end of the URL add **"/copyProtection"**. (This is case sensitive, be sure **capitalize the P** in Protection.)

Sample URL:

<https://09puxkvybd.execute-api.us-east-1.amazonaws.com/EzDRMLiveStage/copyProtection>

- **Role ARN:** This value is from the **MediaPackage Role ARN** created in **Step 6**.



5. Under **Additional configuration** (Package Encryption), select the **Key rotation interval (sec)** and enter a value of **0**. (This solves a current issue with Key rotation not saving as off.)

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

`https://09puxkvybd.execute-api.us-east-1.amazonaws.com/EzDRMLiveStage/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::888XXXX78094:role/MediaPackage`

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

Additional configuration

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

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

Add/edit endpoints

Endpoints

`dash-001`

dash-001

ID
The ID is the endpoint identifier that you use for API and com...

`dash-001`

Supported characters are numbers, letters, underscores (_).

Description - optional

- 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 **dash-001**. Under **MediaLive2** we will create a duplicate DASH-ISO endpoint but name it **dash-002**.

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.

AWS Elemental MediaPackage > Channels > **fromMediaLive2** > Add/edit endpoints

Add/edit endpoints

Endpoints

dash-002

New

Cancel

Save

dash-002

ID

The ID is the endpoint identifier that you use for API and console interactions.

dash-002

Supported characters are numbers, letters, underscores (_), and dashes (-). Must be unique per AWS account per region.

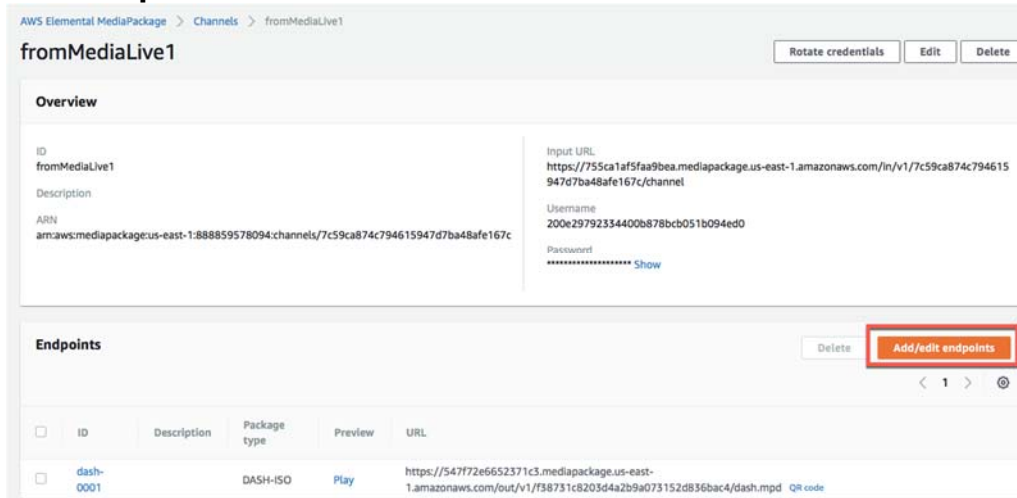
Description - optional

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

Endpoints						Delete	Add/edit endpoints
						< 1 > ⚙	
<input type="checkbox"/>	ID	Description	Package type	Preview	URL		
<input type="checkbox"/>	dash-0001		DASH-ISO	Play	https://547f72e6652371c3.mediapackage.us-east-1.amazonaws.com/out/v1/f38731c8203d4a2b9a073152d836bac4/dash.mpd	QR code	

Apple HLS 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://755ca1af5faa9bea.mediapackage.us-east-1.amazonaws.com/in/v1/7c59ca874c794615947d7ba48afe167c/channel

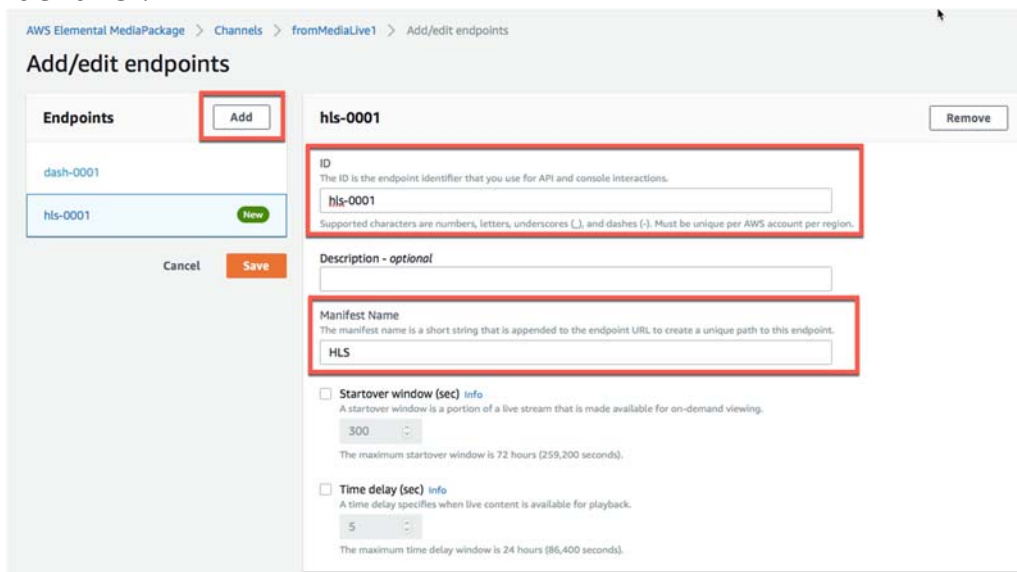
Username: 200e29792334400b878bc051b094ed0

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

1. 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 New

Cancel Save

hls-0001 Remove

ID
The ID is the endpoint identifier that you use for API and console interactions.
hls-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.
HLS

☐ **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).

2. Under **Packager Settings**, select the **Type HLS** and leave the other settings as default.

Packager settings

Type [Info](#)

Segment duration (sec) Playlist window duration (sec)

Must be less than the manifest or playlist window duration.

► **Additional configuration**

3. 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)

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. Insert the System ID for Apple FairPlay, one ID per line:

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

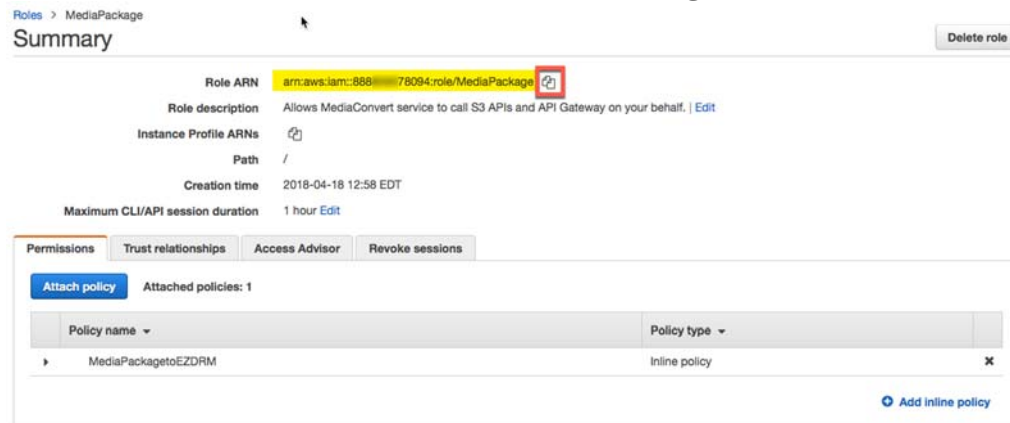
Note: The System ID values need to be lowercase.

- **URL:** The URL is the **API URL** copied from **Step 9** above, except at to the end of the URL add **"/copyProtection"**. (This is case sensitive, be sure **capitalize the P** in Protection.)

Sample URL:

<https://09puxkvybd.execute-api.us-east-1.amazonaws.com/EzDRMLiveStage/copyProtection>

- **Role ARN:** This value is from the **MediaPackage Role** created in Step 6.

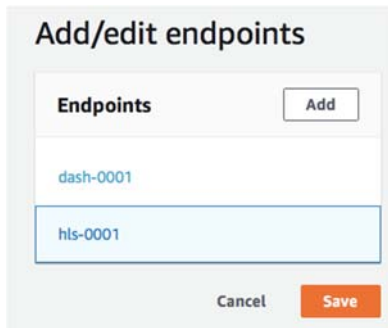


4. Under **Additional configuration**, select the **Encryption method: SAMPLE-AES**.



The screenshot shows the 'Additional configuration' section of the AWS console. The 'Encryption method' dropdown menu is set to 'SAMPLE-AES' and is highlighted with a yellow background. Below it, there is a text input field for the 'Constant initialization vector' and a checkbox for 'Key rotation interval (sec)' which is currently unchecked.

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



Add/edit endpoints

Endpoints Add

dash-0001

hls-0001

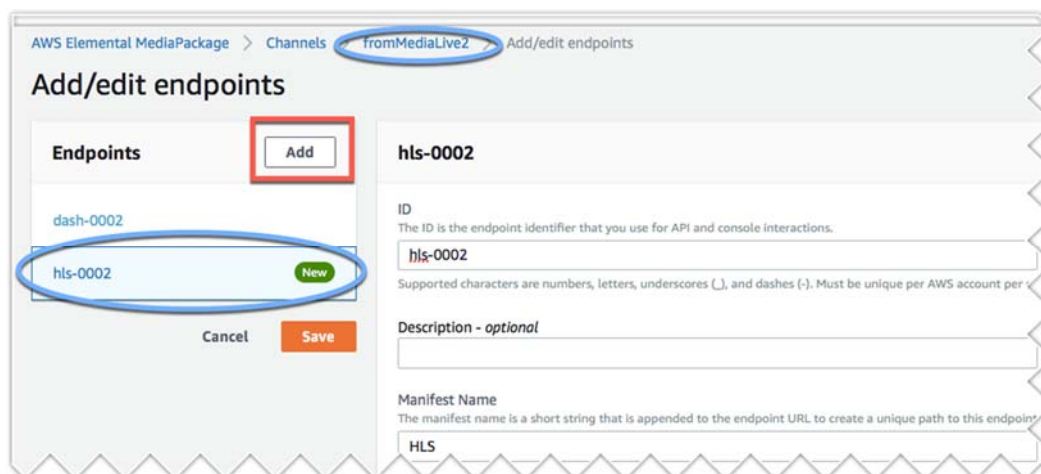
Cancel Save

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 **hls-0001**. Under **MediaLive2** we will create a duplicate Apple HLS endpoint but name it **hls-0002**.

Duplicate ALL the same settings for the second Apple HLS 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.



AWS Elemental MediaPackage > Channels **fromMediaLive2** Add/edit endpoints

Add/edit endpoints

Endpoints Add

dash-0002

hls-0002 New

Cancel Save

hls-0002

ID
The ID is the endpoint identifier that you use for API and console interactions.

hls-0002
Supported characters are numbers, letters, underscores (_), and dashes (-). Must be unique per AWS account per

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

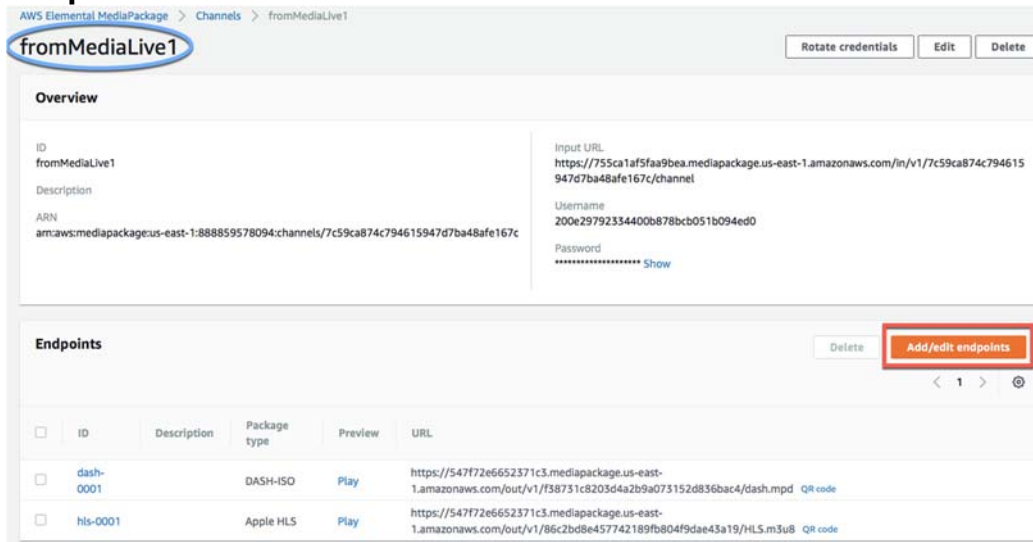
HLS

11. 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="button" value="Delete"/> <input type="button" value="Add/edit endpoints"/>
<div> < 1 > ⚙ </div>					
<input type="checkbox"/>	ID	Description	Package type	Preview	URL
<input type="checkbox"/>	dash-0001		DASH-ISO	Play	https://547f72e6652371c3.mediapackage.us-east-1.amazonaws.com/out/v1/f38731c8203d4a2b9a073152d836bac4/dash.mpd QR code
<input type="checkbox"/>	smooth-0001		Microsoft Smooth	Play	https://547f72e6652371c3.mediapackage.us-east-1.amazonaws.com/out/v1/f50d90d0ea6f4b589f819483880a5f5/Smooth.ism/Manifest QR code
<input type="checkbox"/>	hls-0001		Apple HLS	Play	https://547f72e6652371c3.mediapackage.us-east-1.amazonaws.com/out/v1/86c2bd8e457742189fb804f9dae43a19/HLS.m3u8 QR code

Microsoft Smooth Streaming

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://755ca1af5faa9bea.mediapackage.us-east-1.amazonaws.com/in/v1/7c59ca874c794615947d7ba48afe167c/channel

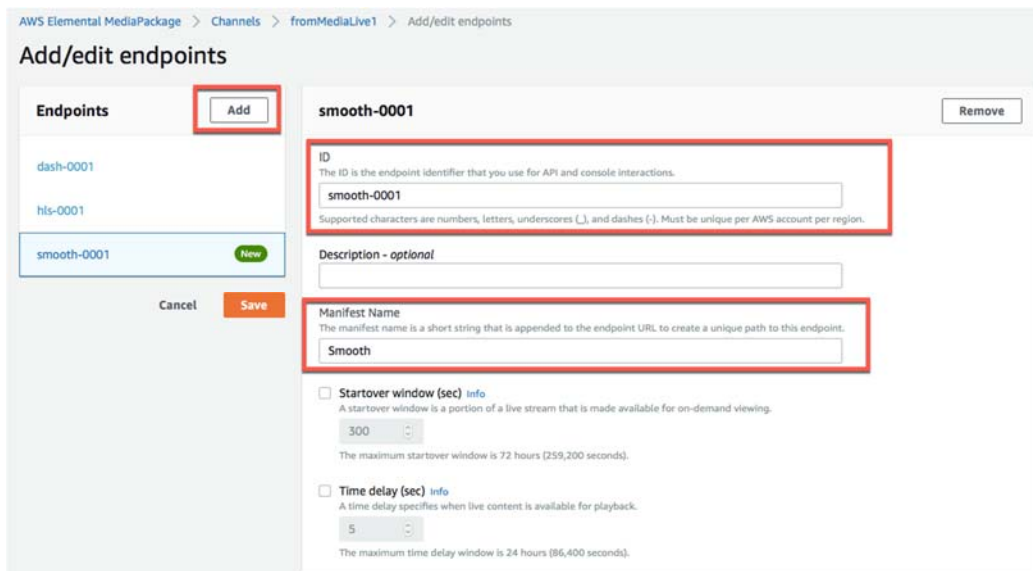
Username: 200e29792334400b878bc051b094ed0

Password: ***** Show

Endpoints Delete Add/edit endpoints

<input type="checkbox"/>	ID	Description	Package type	Preview	URL
<input type="checkbox"/>	dash-0001		DASH-ISO	Play	https://547f72e6652371c3.mediapackage.us-east-1.amazonaws.com/out/v1/f3b731c820364a2b9a073152d836bac4/dash.mpd QR code
<input type="checkbox"/>	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).

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

Packager settings

Type [Info](#)

Microsoft Smooth

Segment duration (sec) Manifest window duration (sec)

Must be less than the manifest or playlist window duration.

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.

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)

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. Insert the System ID for Smooth Streaming, one ID per line:
9a04f079-9840-4286-ab92-e65be0885f95

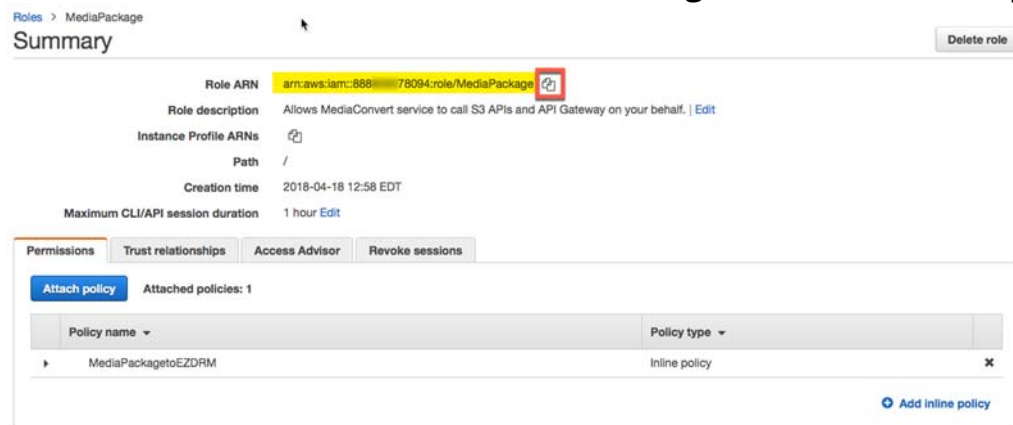
Note: The System ID values need to be lowercase.

- **URL:** The URL is the **API URL** copied from **Step 9** above, except at to the end of the URL add **"/copyProtection"**. (This is case sensitive, be sure **capitalize the P** in Protection.)

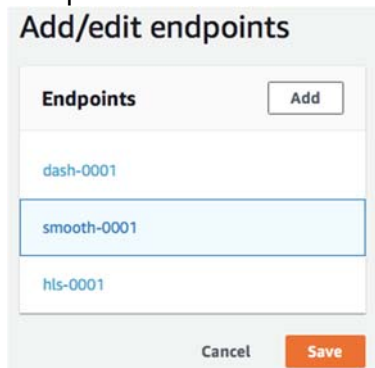
Sample URL:

<https://09puxkvybd.execute-api.us-east-1.amazonaws.com/EzDRMLiveStage/copyProtection>

- **Role ARN:** This value is from the **MediaPackage Role** created in Step 6.



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



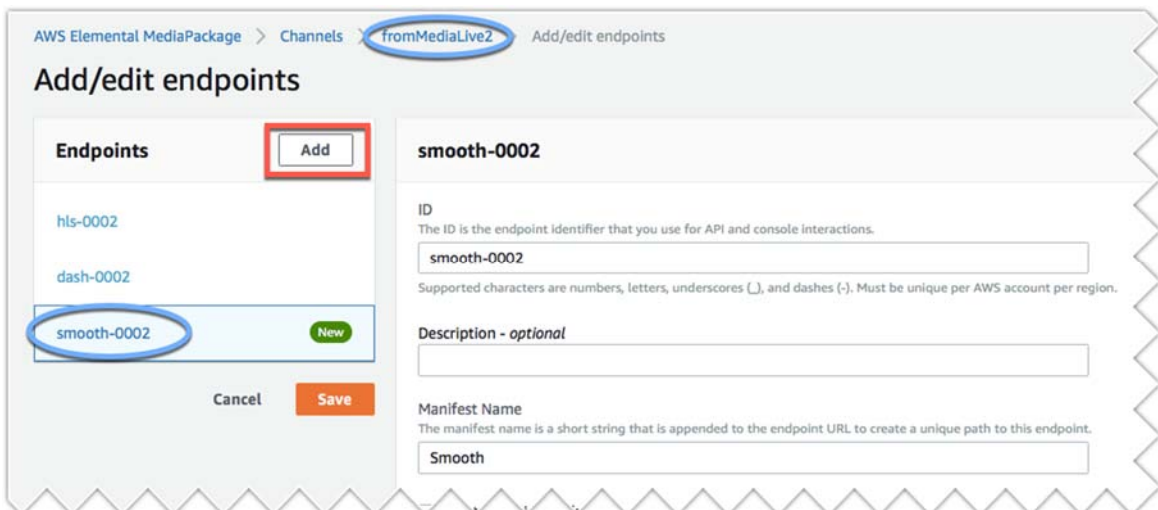
The screenshot shows the 'Add/edit endpoints' dialog box. It has a title bar 'Add/edit endpoints' and a list of endpoints: 'dash-0001', 'smooth-0001' (which is selected and highlighted in blue), and 'hls-0001'. There is an 'Add' button at the top right and 'Cancel' and 'Save' buttons at the bottom right.

- 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-0001**. Under **MediaLive2** we will create a duplicate Smooth Streaming endpoint but name it **smooth-0002**.

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.



AWS Elemental MediaPackage > Channels > fromMediaLive2 > Add/edit endpoints

Add/edit endpoints

Endpoints

hls-0002

dash-0002

smooth-0002 New

Cancel Save

smooth-0002

ID
The ID is the endpoint identifier that you use for API and console interactions.

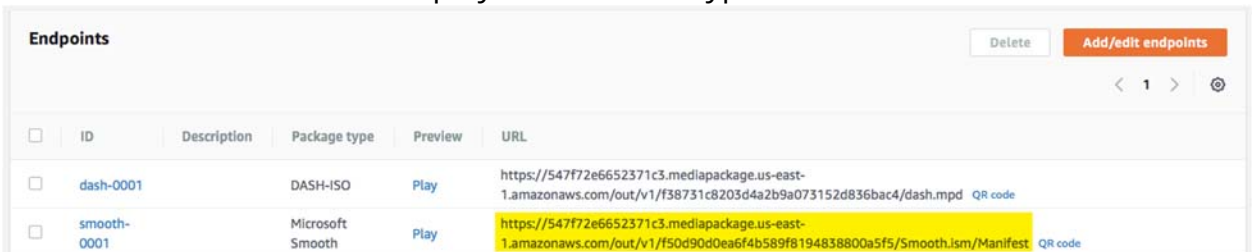
smooth-0002
Supported characters are numbers, letters, underscores (_), and dashes (-). Must be unique per AWS account per region.

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

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



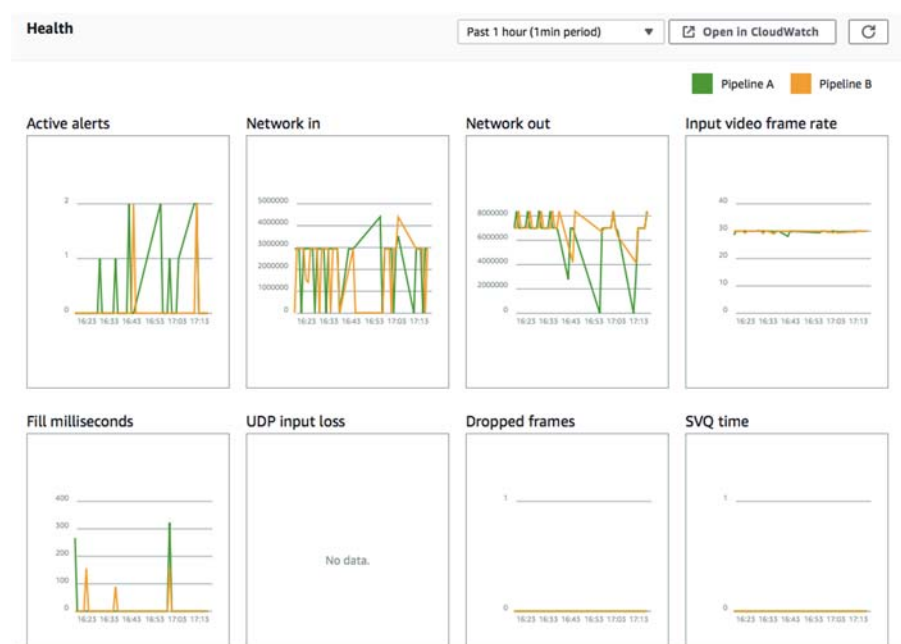
Endpoints						Delete	Add/edit endpoints
						< 1 >	⚙
<input type="checkbox"/>	ID	Description	Package type	Preview	URL		
<input type="checkbox"/>	dash-0001		DASH-ISO	Play	https://547f72e6652371c3.mediapackage.us-east-1.amazonaws.com/out/v1/f38731c8203d4a2b9a073152d836bac4/dash.mpd QR code		
<input type="checkbox"/>	smooth-0001		Microsoft Smooth	Play	https://547f72e6652371c3.mediapackage.us-east-1.amazonaws.com/out/v1/f50d90d0ea6f4b589f8194838800a5f5/Smooth.ism/Manifest QR code		

Starting a MediaLive Channel

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

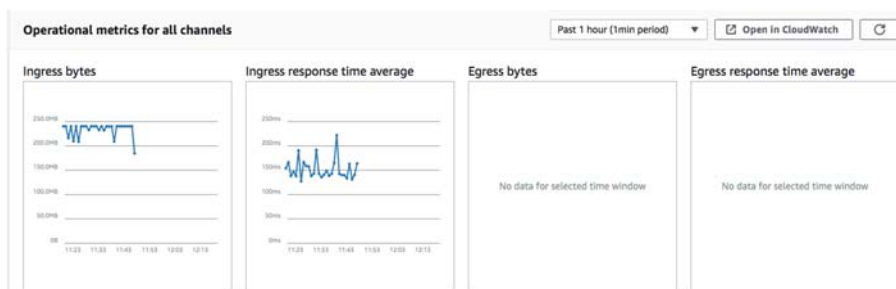


Once the channel is started, data for the stream will be shown in the Health section.



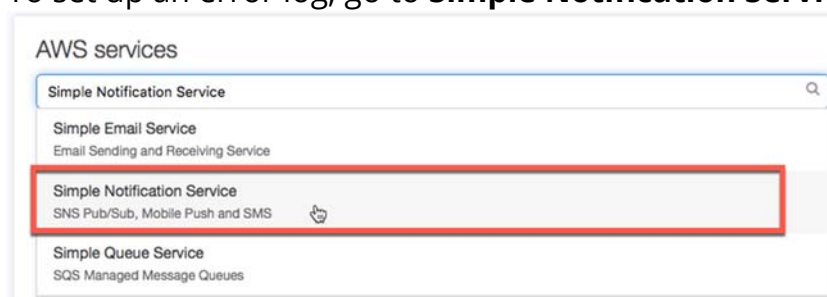
If Input video frame rate is ever not running, you know that there is a problem with the stream.

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

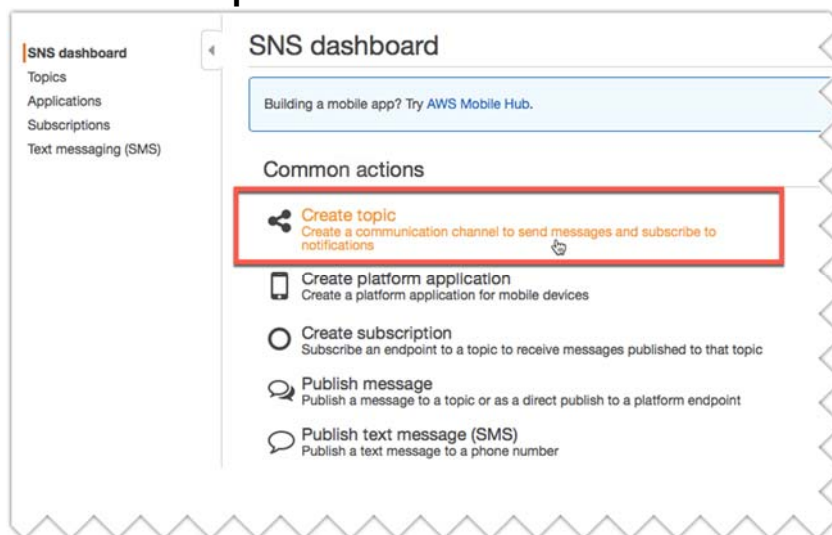


Appendix 1 – Error Log Set-up

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



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



3. Enter the **Topic name** and **Display name** and click **Create topic**.

Create new topic

Building a mobile app? Try [AWS Mobile Hub](#).

A topic name will be used to create a permanent unique identifier called an Amazon Resource Name (ARN).

Topic name

Display name

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

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

SNS dashboard

- Topics
- Applications
- Subscriptions
- Text messaging (SMS)

Topic details: ErrorfromMediaPackage

[Publish to topic](#) [Other topic actions](#)

Topic ARN: arn:aws:sns:us-east-1:888888888888:ErrorfromMediaPackage

Topic owner: 888859578094

Region: us-east-1

Display name: Error

Subscriptions

[Create subscription](#) [Request confirmations](#) [Confirm subscription](#) [Other subscription actions](#)

Filter:

Subscription ID	Protocol	Endpoint
-----------------	----------	----------

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

Create subscription

Topic ARN:

Protocol:

Endpoint:

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

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

Topic details: ErrorfromMediaPackage

Publish to topic **Other topic actions**

Topic ARN: arn:aws:sns:us-east-1:888859578094:ErrorfromMediaPackage
 Topic owner: 888859578094
 Region: us-east-1
 Display name: Error

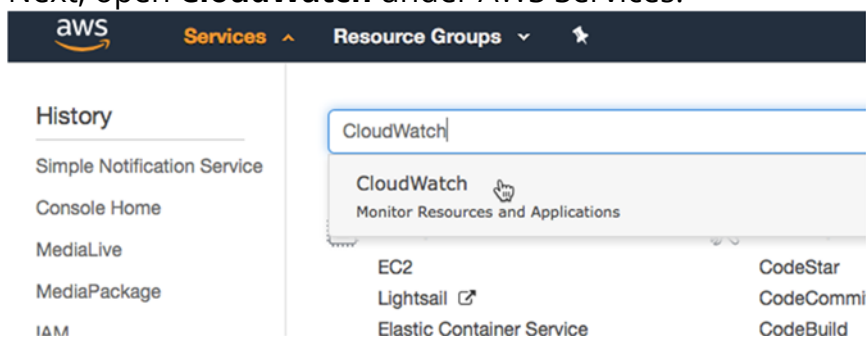
Subscriptions

Create subscription **Request confirmations** **Confirm subscription** **Other subscription actions**

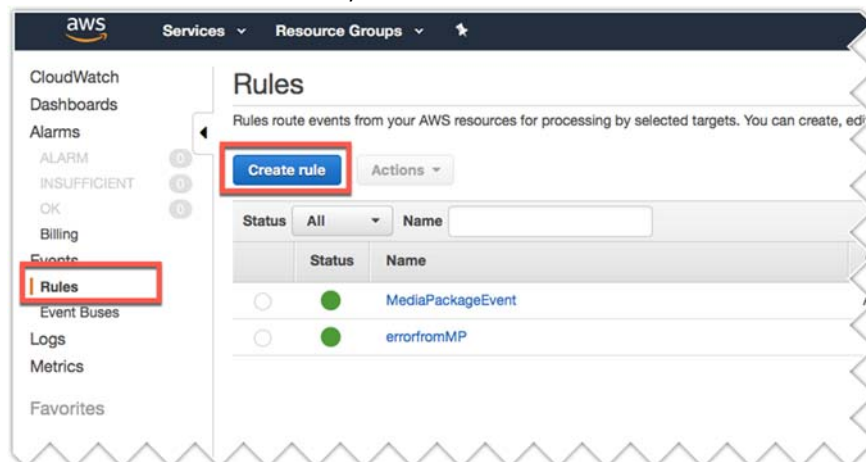
Filter:

Subscription ID	Protocol	Endpoint	Subscriber
<input type="checkbox"/> PendingConfirmation	email	yourname@youremail.com	

- Next, open **CloudWatch** under AWS Services.



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



- Select the **Service Name: MediaConvert** (there isn't currently an option for MediaPackage) and click the **Edit** link.

Step 1: Create rule

Create rules to invoke Targets based on Events happening in your AWS environment.

Event Source

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

☒ Event Pattern ⓘ ☐ Schedule ⓘ

Build event pattern to match events by service

Service Name: **MediaConvert**

Event Type: All Events

Build an event pattern to match all events from this service

▼ Event Pattern Preview Copy to clipboard **Edit**

```
{
  "source": [
    "aws.mediaconvert"
  ]
}
```

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

```
{
  "source": [
    "aws.mediapackage"
  ]
}
```

Cancel **Save**

11. Under Targets, click **Add target**.

Step 1: Create rule

Create rules to invoke Targets based on Events happening in your AWS environment.

Event Source

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

☒ Event Pattern ☐ Schedule

Build custom event pattern

```
{
  "source": [
    "aws.mediapackage"
  ]
}
```

Targets

Select Target to invoke when an event matches your Event Pattern or when schedule is triggered.

[Add target*](#)

12. Select **SNS Topic** from the dropdown and select the **Topic** you created in Step 3, for this example "ErrorfromMediaPackage". Then click the **Configure details** button.

Step 1: Create rule

Create rules to invoke Targets based on Events happening in your AWS environment.

Event Source

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

☒ Event Pattern ☐ Schedule

Build custom event pattern

```
{
  "source": [
    "aws.mediapackage"
  ]
}
```

[Show sample event\(s\)](#)

* Required

Targets

Select Target to invoke when an event matches your Event Pattern or when schedule is triggered.

SNS topic

Topic* ErrorfromMediaPackage

[Configure input](#)

[Add target*](#)

[Cancel](#)

[Configure details](#)

13. Enter a **Name** for the rule and click **Create rule**.

Step 2: Configure rule details

Rule definition

Name* ErrorfromMP

Description

State ☒ Enabled

CloudWatch Events will add necessary permissions for target(s) so they can be invoked when this rule is triggered.

* Required

[Cancel](#)

[Back](#)

[Create rule](#)

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