

# StreamPackage Console Guide Product Documentation





#### Copyright Notice

©2013-2024 Tencent Cloud. All rights reserved.

Copyright in this document is exclusively owned by Tencent Cloud. You must not reproduce, modify, copy or distribute in any way, in whole or in part, the contents of this document without Tencent Cloud's the prior written consent.

Trademark Notice



All trademarks associated with Tencent Cloud and its services are owned by Tencent Cloud Computing (Beijing) Company Limited and its affiliated companies. Trademarks of third parties referred to in this document are owned by their respective proprietors.

#### Service Statement

This document is intended to provide users with general information about Tencent Cloud's products and services only and does not form part of Tencent Cloud's terms and conditions. Tencent Cloud's products or services are subject to change. Specific products and services and the standards applicable to them are exclusively provided for in Tencent Cloud's applicable terms and conditions.



# **Contents**

Console Guide

Console Guide

Harvest Jobs

Server-Side Ad Insertion



# Console Guide Console Guide

Last updated: 2024-01-06 13:59:16

## Overview

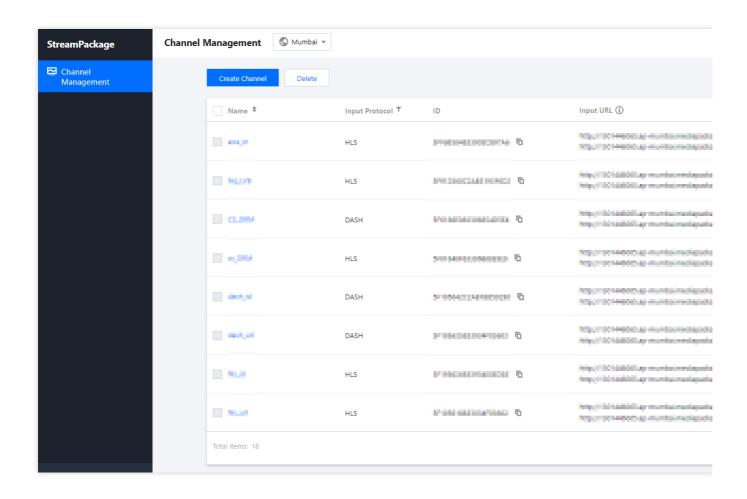
StreamPackage is a high-quality video packaging and origin platform. It offers professional, stable, secure, and easy-to-use video packaging and delivery services globally and helps you enhance origin resilience. You can use StreamPackage to securely and reliably distribute video streams at a large scale.

StreamPackage manages tasks at the channel level. It packages compressed and encoded audio and video tracks into certain formats for distribution.

# Console Overview

The StreamPackage console provides a rich set of easy-to-use and flexible features. It manages tasks at the channel level and functions through four main sections: channel, input, endpoint, and CDN.





# Prerequisites

You have a domain for playing videos from CDNs (if you want to use Tencent Cloud's live streaming CDN for content distribution).

You have activated CSS.

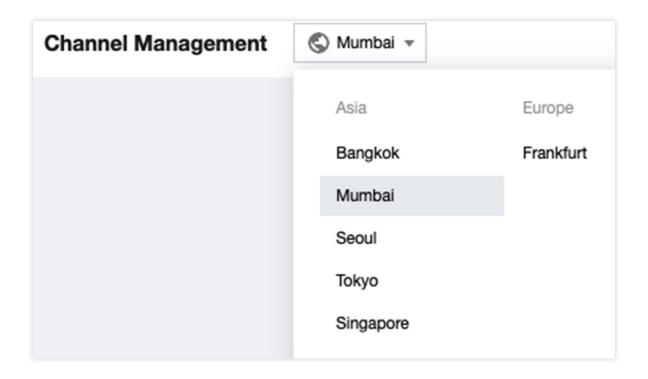
You have logged in to the StreamPackage console.

# **Directions**

#### 1. Select an AZ

Currently, StreamPackage services are available in Mumbai (India), Bangkok (Thailand), Seoul (South Korea), Tokyo (Japan), Frankfurt (Germany), and Singapore. If you want to deploy your business in other regions, please contact us.

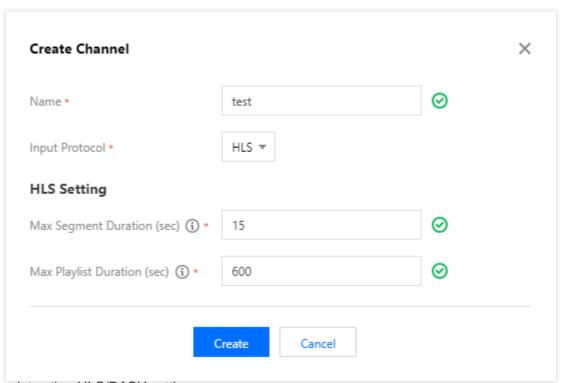




#### 2. Create a channel

A channel holds basic information about inputs and outputs. You can configure a channel to receive live streams that use a specific protocol. You can also create endpoints to generate content to be distributed.

- 1. Click Create Channel.
- 2. Enter a channel name and select an input protocol (HLS and DASH are supported).



3. Complete other HLS/DASH settings.



**Max Segment Duration** indicates the maximum duration of HLS TS segments or DASH M4S segments pushed to this channel. The default is 15 seconds.

**Max Playlist Duration** indicates the maximum total duration of the HLS M3U8 or DASH MPD playlist pushed to this channel. The default is 600 seconds.

#### Note

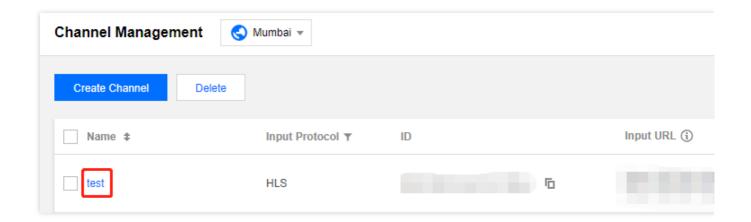
If you are sending two streams, one primary stream and one backup stream, to the channel for failover, we recommend you set **Max Segment Duration** slightly longer than actually needed.

4. Click Create.

#### 3. View channel information

#### Viewing channel information

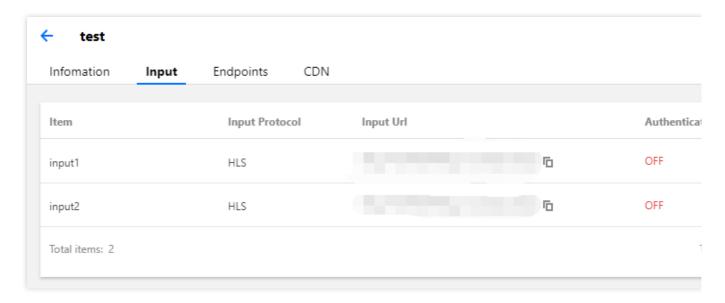
After the channel is created, you will be directed to the channel details page (you can also go to the details page by clicking the channel name or **Info** on the right). This page displays the channel's name, ID (automatically generated), input protocol, and other settings. StreamPackage will generate two inputs of the specified protocol for the channel.



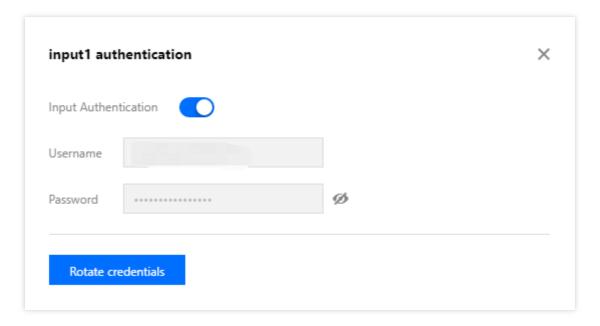
#### Viewing inputs

An input is the basic unit of the content StreamPackage receives. After a channel is created, StreamPackage will automatically generate two inputs as well as two input URLs for the channel. You can send streams to the URLs.





You can enable authentication for an input: Click **Authentication** in the **Operation** column. StreamPackage will generate a username and a password for HTTP authentication. Click **Rotate credentials** to complete the configuration.



#### **Note**

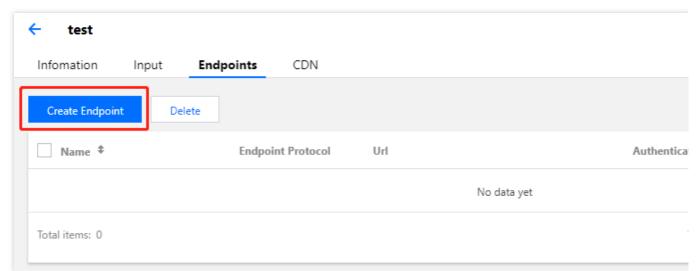
Once you rotate credentials, the existing credentials of the channel will become invalid.

#### Creating an endpoint

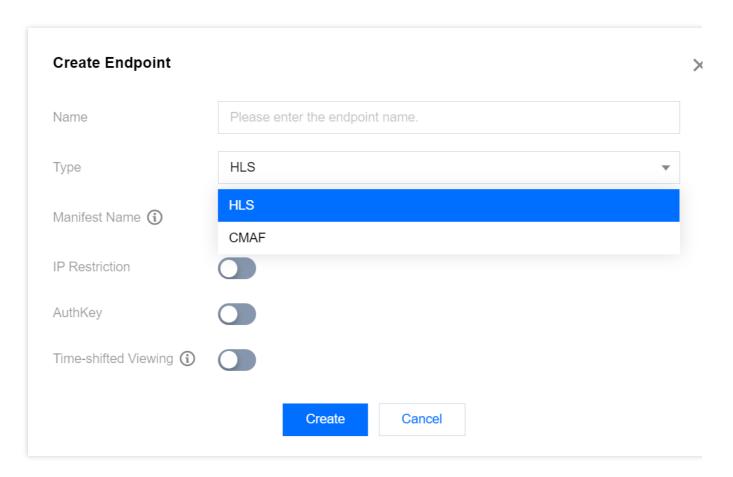
You can create endpoints for a channel so that streams can be pulled from the channel.

1. Click Create Endpoint.



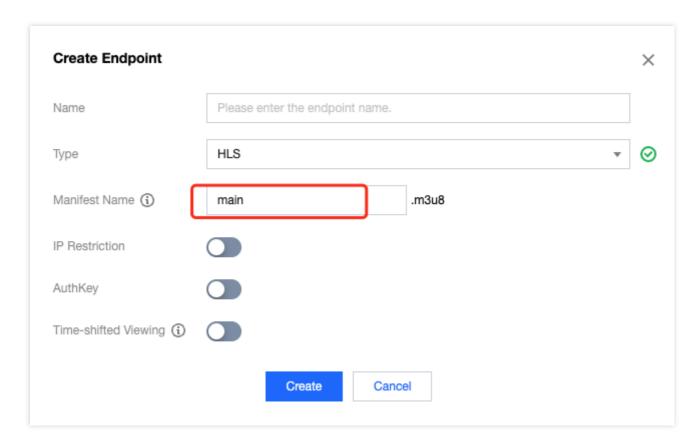


2. Enter an endpoint name. The endpoint type is the same as the channel's input type by default. If the input type is HLS, you can also select CMAF as the endpoint type. This means StreamPackage can package HLS streams into CMAF streams (DASH).



If you want to modify the Manifest Name, please enter the name in "Manifest Name", the default value is main.





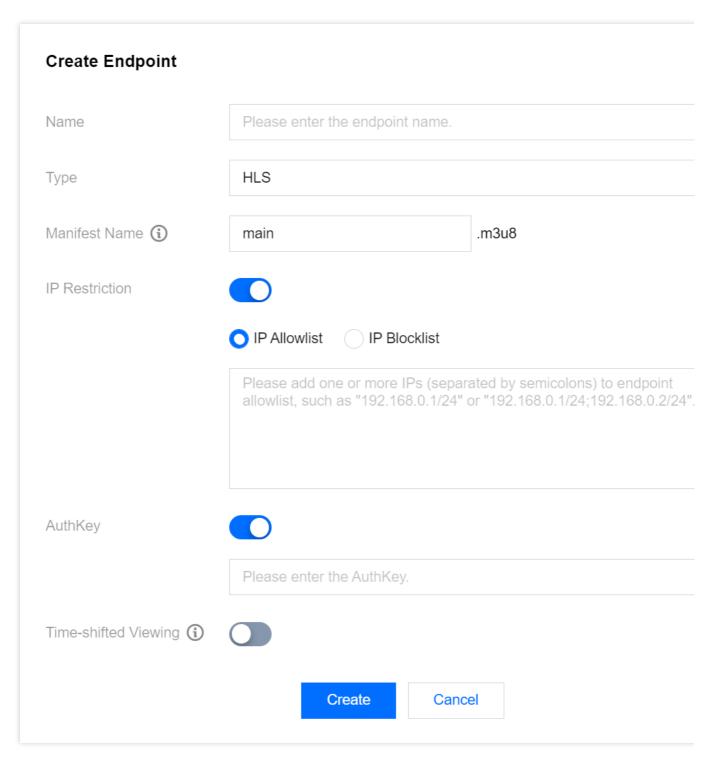
#### **Note**

HLS repackaging into CMAF (DASH format) does not currently support DRM inputs. If the input HLS m3u8 contains SCTE-35 tags, these SCTE-35 tags will not appear in the repackaged CMAF manifest.

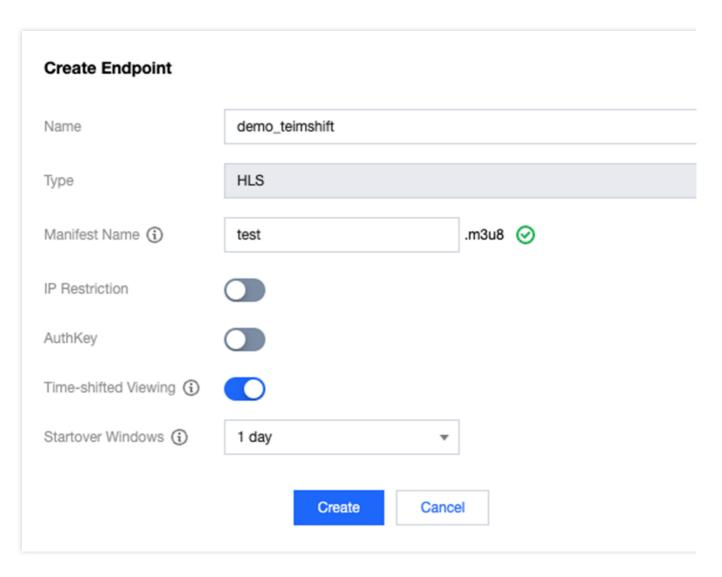
3. You can also enable IP allowlist/blocklist and AuthKey if necessary.

IP allowlist/blocklist: Allow only specific IP address ranges to push or disallow specific IP address ranges to push. AuthKey: Perform authentication using the HTTP header field X-TENCENT-PACKAGE.





4. If you need the timeshift feature, you can enable the "Time-shifted Viewing" to activate it.



Startover Windows: Set how long StreamPackage will support time-shifted viewing for the content. Default value is 1 day, and 3days, 7 days, 15 days and 30 days are also supported.

Once timeshift is enabled, live segments will be saved in the cloud, and you can watch them with timeshift by adding specific parameters to the Endpoint URL. The parameters are as follows:

timeshift=1, Indicates that you want to watch TimeShift stream.

start=xxx, indicating the start time of the timeshift. It supports either the ISO 8601 dates format or the POSIX (or Epoch) time format.

end=xxx, indicating the end time of the timeshift. It supports either the ISO 8601 dates format or the POSIX (or Epoch) time format.

#### Please note:

If both start and end are specified, end must be greater than start, otherwise a 400 error will be returned.

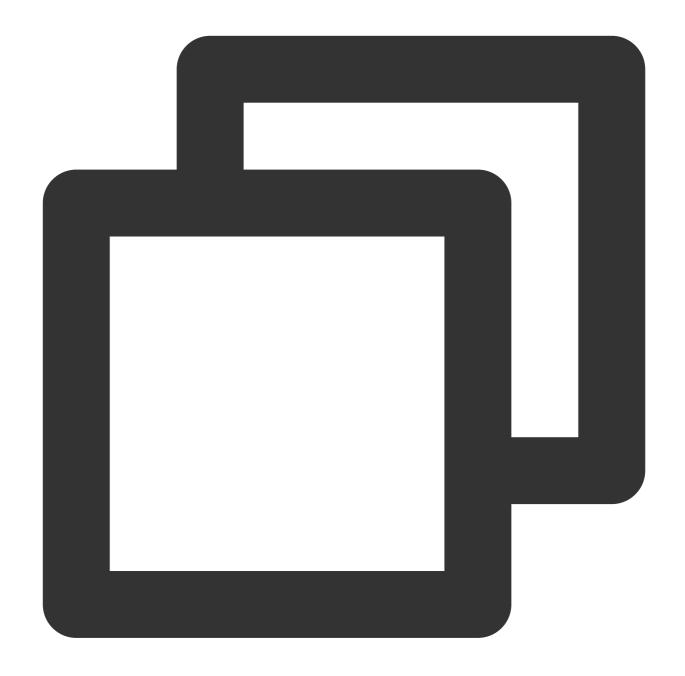
The start time must be within the Startover Windows range, otherwise a 400 error will be returned.

Only a maximum of 24 hours of timeshift content can be returned. This means that the time difference between end and start cannot exceed 24 hours, otherwise a 400 error will be returned.

Example timeshift URLs:

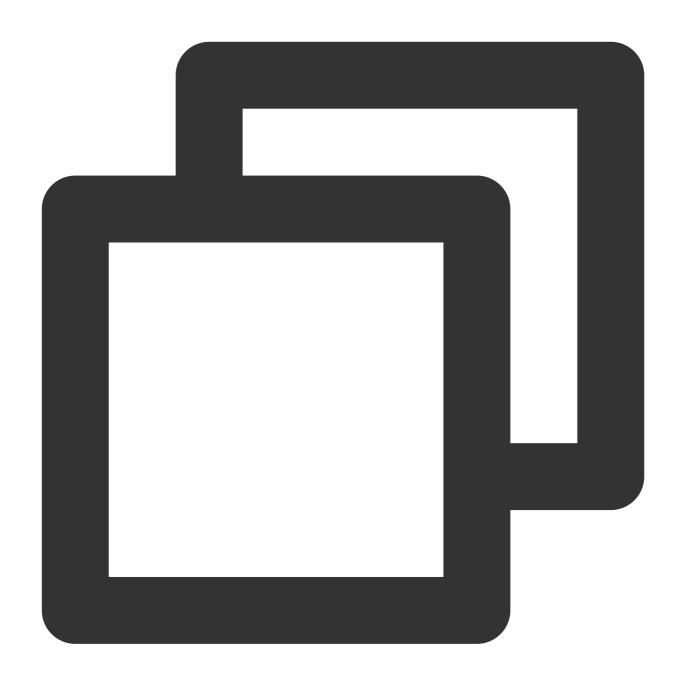


Request timeshift content from 2023-07-01T00:00:00Z to 2023-07-01T23:59:59Z:

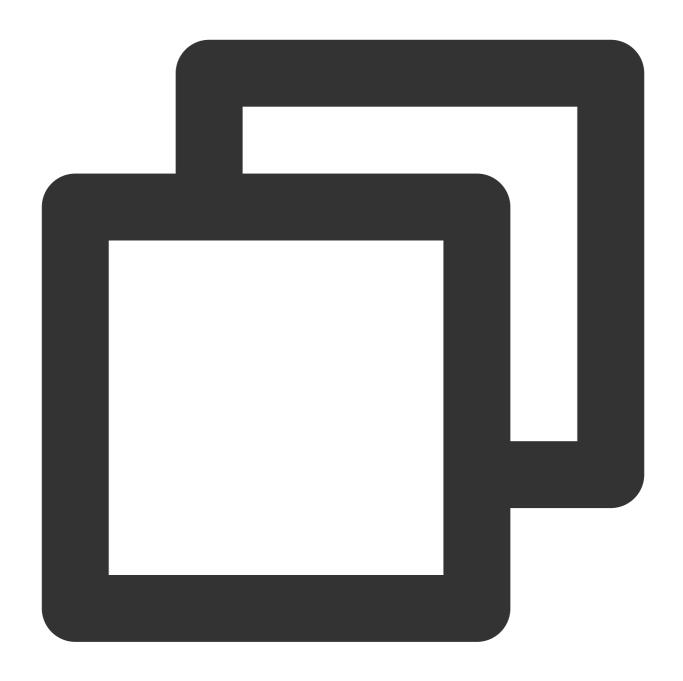


http://domain/v1/path/subpath/playlist.m3u8?timeshift=1&start=2023-07-01T00:00:00Z&

or



Request live content starting from 2023-07-01T00:00:00Z until the end of the live stream:



http://domain/v1/path/subpath/playlist.m3u8?timeshift=1&start=2023-07-01T00:00:00Z

or



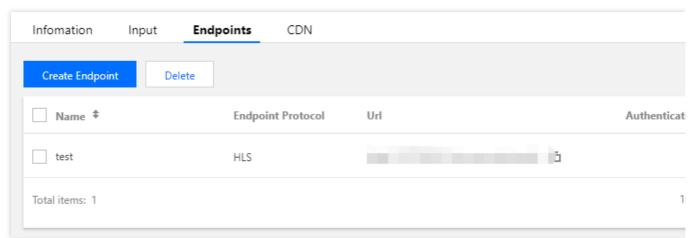
http://domain/v1/path/subpath/playlist.m3u8?timeshift=1&start=1688169600

## Note

CMAF type time-shifting does not currently support SCTE-35.

5. Click **Create** and the endpoint is created. You can modify or delete the endpoint. From the endpoint URL generated, you can pull streams and distribute them.





#### Configuring a CDN distribution

You can create a CDN distribution for a StreamPackage channel to distribute the streams in the channel via Tencent Cloud's live streaming CDN. To achieve this, you need to activate CSS and **grant CSS access to StreamPackage** and StreamPackage access to CSS.

Before we proceed, make sure you understand the following terms:

LVB CDN: StreamPackage allows you to quickly distribute streams in a channel via the LVB CDN.

CDN domain/CDN playback domain: A playback domain in the LVB CDN, which can be used to distribute live streams.

#### 1. Activate CSS

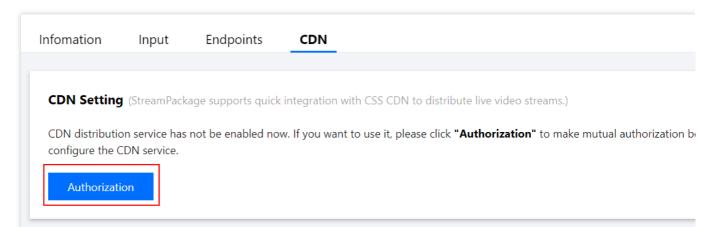
Before you configure a CDN distribution, make sure you have activated CSS.

#### 2. Grant StreamPackage access to CSS

In the StreamPackage console, go to the details page of the channel for which you want to configure a CDN distribution, select the **CDN** tab, and click **Authorization**.

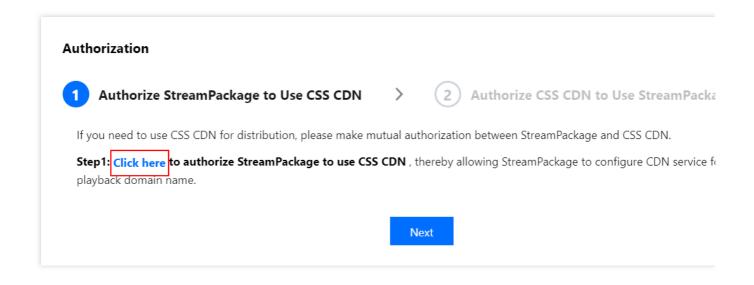
#### Note

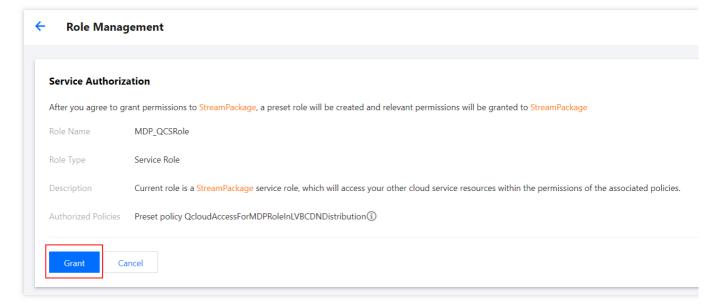
After the authorization, you will be able to configure a CSS playback domain for a StreamPackage channel.



Click **Click here**. To distribute streams via the LVB CDN, you need to allow StreamPackage to access certain resources. This is achieved via a service role. Click **Authorize Now** to go to the **Role Management** page, and click **Grant** to grant StreamPackage the permission to use related APIs.

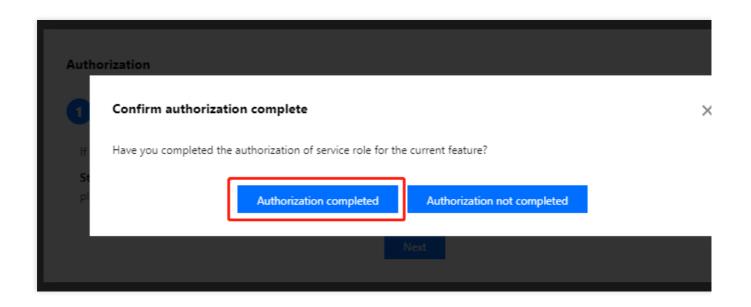


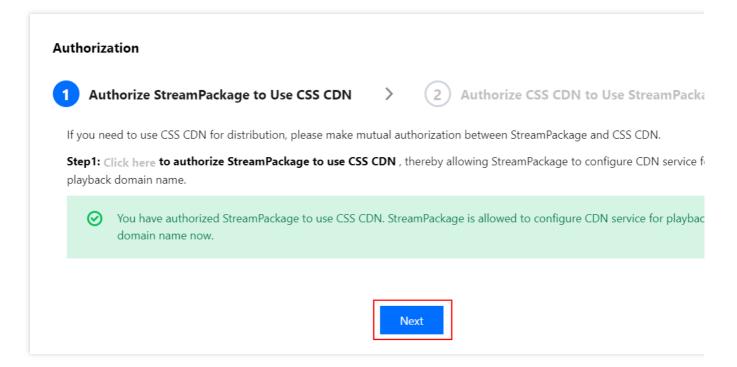




You will be directed back to the StreamPackage console. Click Authorization completed.





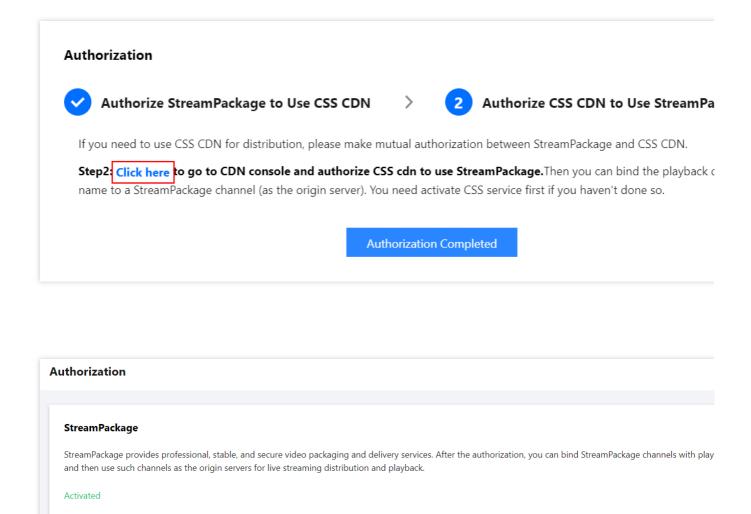


#### Click Next.

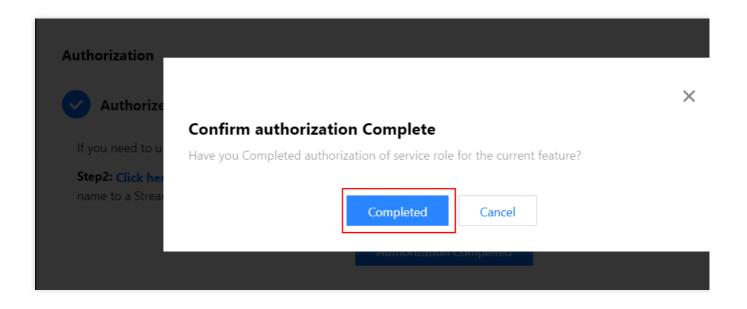
3. Grant CSS access to StreamPackage

Click **Click here** to go to the CDN console and allow the LVB CDN to use StreamPackage. After the authorization, you will see that the authorization status for StreamPackage has become **Activated** in the CSS console.



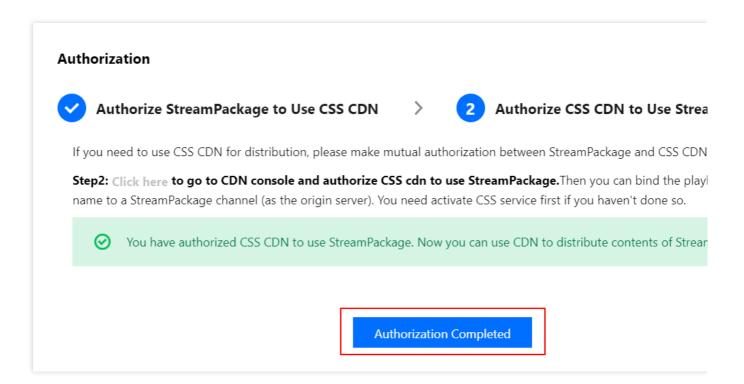


Return to the StreamPackage console and click Completed.



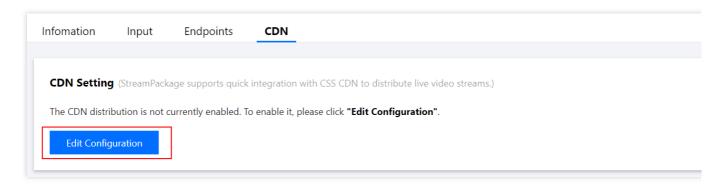


Click Authorization Completed. You have now granted the LVB CDN access to StreamPackage and StreamPackage access to the LVB CDN (which means you can now configure a CDN playback domain for a StreamPackage channel and the LVB CDN can pull streams from a StreamPackage channel).



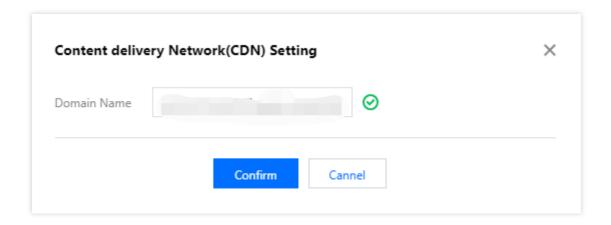
#### 4. Configure a CDN playback domain

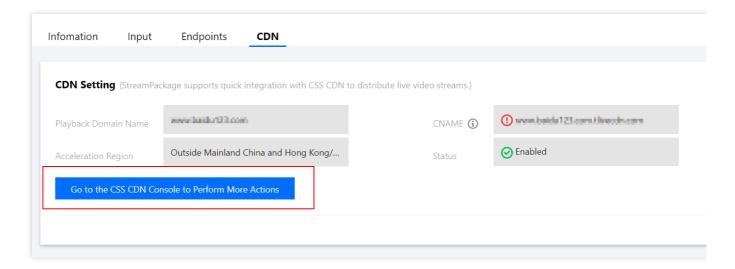
After completing the authorization, under the **CDN** tab, click **Edit Configuration** to configure a CDN distribution.



Enter the domain you want to use for CDN playback and click **Confirm**.







#### Note

After a new playback domain is added, the system will assign it a CNAME which ends with

.liveplay.myqcloud.com . To make the CNAME accessible, you need to add a CNAME record for the domain at your DNS provider. For detailed directions, see Configuring CNAME for Domain Name.

The default acceleration region for a CDN playback domain configured in the StreamPackage console is outside the Chinese mainland. If you need to distribute live streams inside the Chinese mainland, according to relevant laws and regulations, ICP filing is required for your domain. You can click **Go to the CSS CDN Console to Perform More Actions**.

#### Playing streams via the configured playback domain

To achieve playback via the configured playback domain, after you associate a StreamPackage channel with a CDN playback domain, replace the domain in the channel's endpoint URL with the CDN playback domain.

For example:

Suppose the endpoint URL of your channel is:

http://123456789.ap-

seoul.streampackage.srclivepull.myqcloud.com/v1/017697a3513109df73abda3c4b26/017697a



918bf09dfabc033b04d43/main.m3u8

Then your CDN playback address is:

http://CDN playback domain

name/v1/017697a3513109df73abda3c4b26/017697a918bf09dfabc033b04d43/main.m3u8

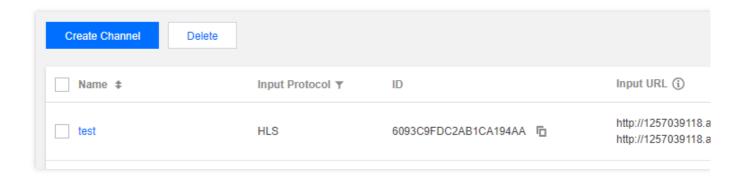
After the configuration is completed, please contact us for configuration optimization to ensure a better experience for you.

#### Note

Using the LVB CDN for distribution will incur playback traffic fees. For details, see Billing of LVB.

#### 4. Edit and delete a channel

You can manage created channels on the **Channel Management** page. Click **Info** in the **Operation** column to view channel details. Click **Edit** to edit a channel, and click **Delete** to delete a channel. Note that you cannot delete a channel bound with endpoints. Delete the endpoints first before deleting a channel.





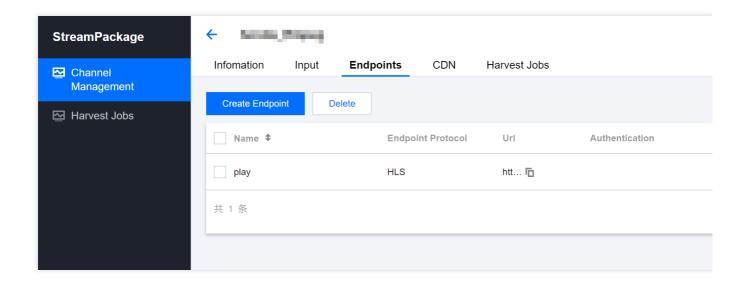
# Harvest Jobs

Last updated: 2024-01-06 13:59:16

A harvest job represents a request to extract a live-to-VOD (video on demand) asset from an endpoint for a specific timeframe in the past. StreamPackage uses information from the harvest job to determine the start and end times of the asset, and where to store it after the harvest job is complete. A harvest job runs only once after it's been created. StreamPackage keeps a record of the job on your account for reference only. You can't modify or delete a record once you've created the harvest job.

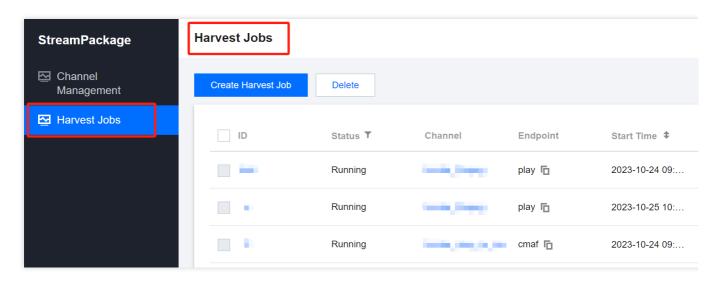
#### Note:

Time-shifted Viewing feature must be enabled. The startover window determines the time frame that assets can be harvested from your endpoint. Your harvest job must fall within your StreamPackage endpoint's startover window. For example, if your endpoint has a startover window of 30 days, you can harvest your asset anytime within that time frame.

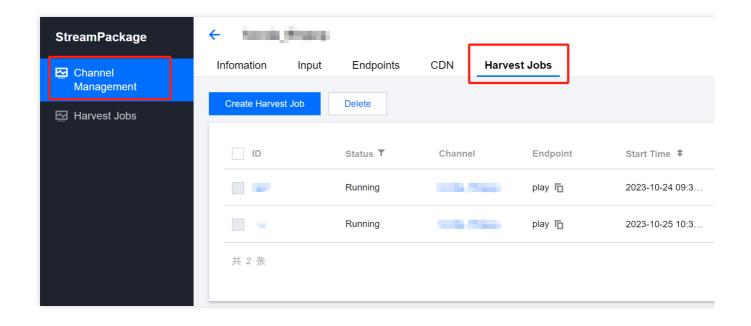


# Harvest jobs management

Select **Harvest Jobs** on the left sidebar. On this page, you can view the ID, status, channel, endpoint, start time, end time and created time of your harvest jobs. The status includes running, completed and failed. You can only delete the completed and failed jobs. You can also click **Create Harvest Job** to create a new job, or click **Info** to view detailed information.



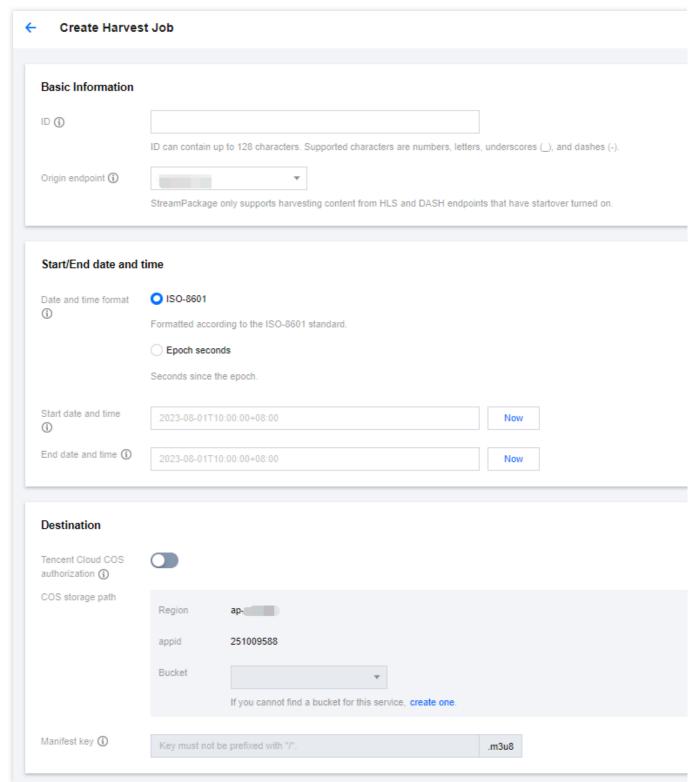
For the harvest jobs belong to a channel, you can also manage the jobs in the channel details page (you can go to the details page by clicking the channel name in the **Channel Management** page).



# Creating a Harvest Job

1. Click Create Harvest Job.





#### 2. Set the basic information

The basic details of a harvest job define its identifier and the source for the live-to-VOD asset.

**ID**: ID is the primary identifier for the harvest job. ID can contain up to 128 characters. Numbers, letters, underscores (\_), and dashes (-) are allowed.

**Origin endpoint**: Select the endpoint that serves the live stream that you're harvesting the live-to-VOD asset from. And harvest job must fall within this endpoint's startover window.

3. Set start/end date and time



The start and end date and time information defines the time range for the harvest job. The maximum duration of the harvest job is **24 hours**. The duration between the start time and end time you enter cannot exceed 24 hours.

**Date and time format**: Choose Epoch seconds or ISO-8601. Epoch seconds: the date and time is formatted in seconds since the epoch. ISO-8601: the date and time is formatted according to the ISO-8601 standard.

**Start date and time**: Enter when the live-to-VOD asset begins. The asset's begin time must be at the same time or after the live event started. The start time must also be within the startover window on the endpoint.

**End date and time**: Enter when the live-to-VOD asset ends. The length of the asset can't exceed the startover window on the endpoint. The end time must also be in the past.

#### 4. Set destination

The destination information defines how StreamPackage saves the live-to-VOD asset after it has been harvested from the live stream. Currently, we only support using Tencent Cloud COS for file storage.

**Tencent Cloud COS authorization**: Enable the authorization to provide StreamPackage access to read and write from your Tencent Cloud COS bucket where the live-to-VOD asset will be stored.

**COS storage path**: Select the bucket where you want StreamPackage to store the live-to-VOD asset. You can only select a bucket that is in the same region StreamPackage is harvesting from.

**Manifest key**: Enter the path within the bucket to the live-to-VOD asset, including the file name for the parent manifest of the asset. If the directory structure doesn't already exist in the bucket, StreamPackage creates it. The manifest key must be unique. When you use the same manifest key for multiple harvest jobs, the newest playlist for the asset overwrites existing playlists.

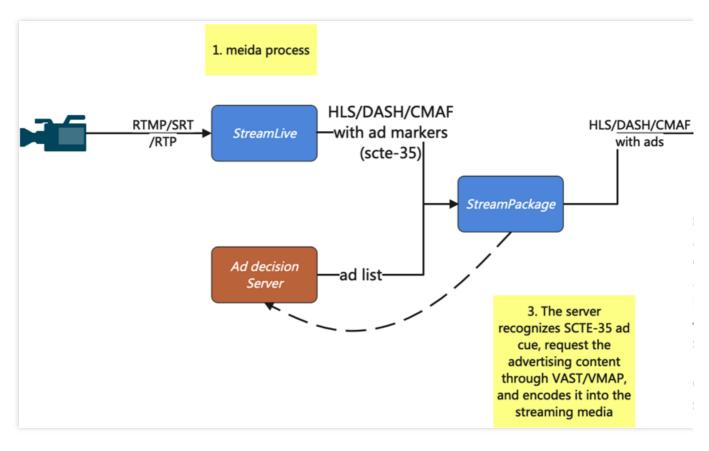


# Server-Side Ad Insertion

Last updated: 2024-01-06 13:59:16

## AD insertion

With the advancement of streaming media technology and applications on internet, it is apparent that ad-supported streaming media delivery has become a major monetization strategy. By using Tencent Cloud's Stream Service, you can implement dynamic ad insertion based on SCTE-35 ad markers and SSAI. The complete general process of SSAI is as follows:



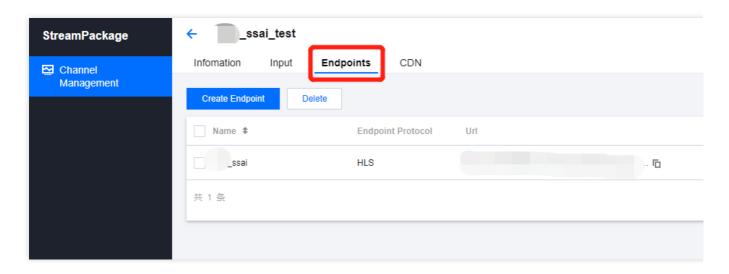
- 1. The publisher pushes the live stream to StreamLive for transcoding, packaging, and inserting SCTE-35 ad markers, and then transmits it to StreamPackage. If there are no subsequent processes, step 1) has already completed all server-side steps in CSAI.
- 2. The player requests the manifest (m3u8/mpd), and StreamPackage fetches the origin manifest while parsing the manifest and checking the SCTE-35 ad markers.
- 3. StreamPackage send the request to the Ad Decision Server, parses the VAST/VMAP response, and obtains the ad video address.
- 4. StreamPackage downloads the ad video, transcodes and stores it.



- 5. StreamPackage updates the transcoded ad segment url in the manifest by inserting and replacing, and then distribute it.
- 6. After the ad is played on the client-side, StreamPackage reports to the ad Tracking service for tracking the event. If you use this AD insertion feature. AD insertion fee will be incurred.

## **Step One: Enabling AD Configuration**

Click the channel name or Info on the right to go to the channel details page. In the endponts tab, you can enable Ad Configuration for the endpoints:



Click **AD Configuration** to enter the configuration page which includes:

**Ad decision server**: The URL for the ad decision server (ADS).

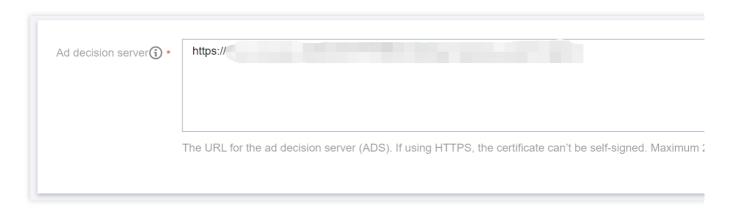
**Configuration aliases**: Configuration aliases are used for dynamic variable replacement.

**Personalization details**: Optional settings for ad break personalization.

**Advanced settings**: Advanced settings allow you to fine-tune properties related to your content delivery network (CDN) prefix, DASH.

Step Two: Configuring URL for the ADS

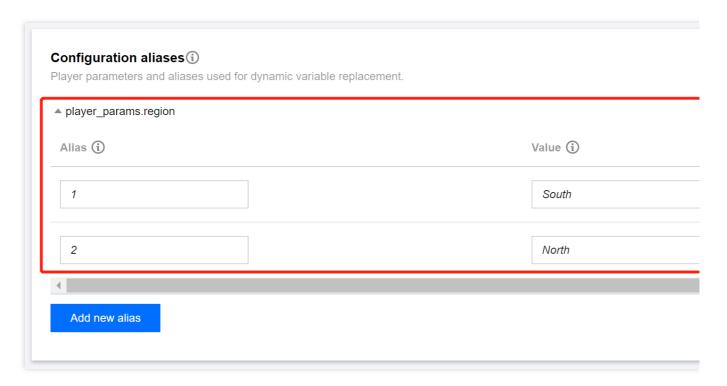




The ad decision server (ADS) is the origin server that's providing content to StreamPackage. It determines which ads StreamPackage will insert in ad breaks in the manifest. The URL for the ad decision server (ADS) is an address starting with http:// or https://. Maximum 25,000 characters.

## **Step Three: Configuring aliases**

Player parameters and aliases used for dynamic variable replacement. Click **Add player parameter**, **Edit**, **Delete** on the right to maintain player parameters. Parameter name can contain up to 32 letters, digits, underscores(\_), and hythens(-).

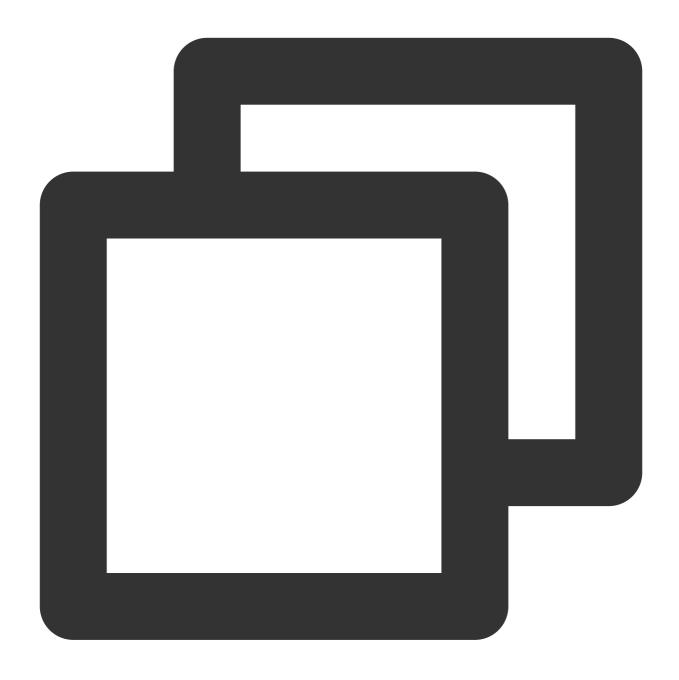


Enter alias key name and alias value in the parameter. You'll use the alias key as a player parameter variable during dynamic variable replacement. StreamPackage will replace the alias key with the mapped alias value.

#### An example:



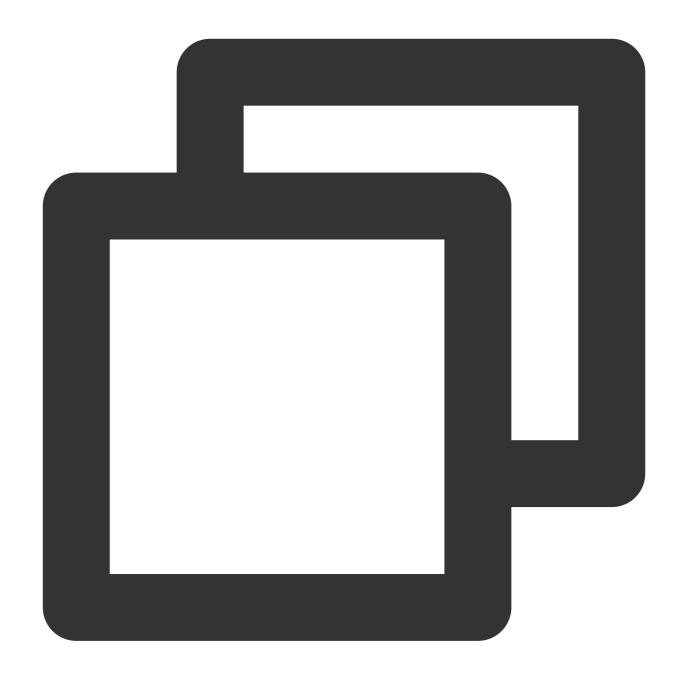
#### 1. URL for the ADS



https://my.ads.com/path?ad\_type=[player\_params.ad\_type]&region=[player\_params.regio

# 2. Aliases for dynamic variable replacement





```
"ConfigurationAliases": {
    "player_params.ad_type": {
        "customized": "abc",
        "default": "default"
    },
    "player_params.region": {
        "india": "ap-mumbai",
        "japan": "ap-tokyo"
    },
}
```

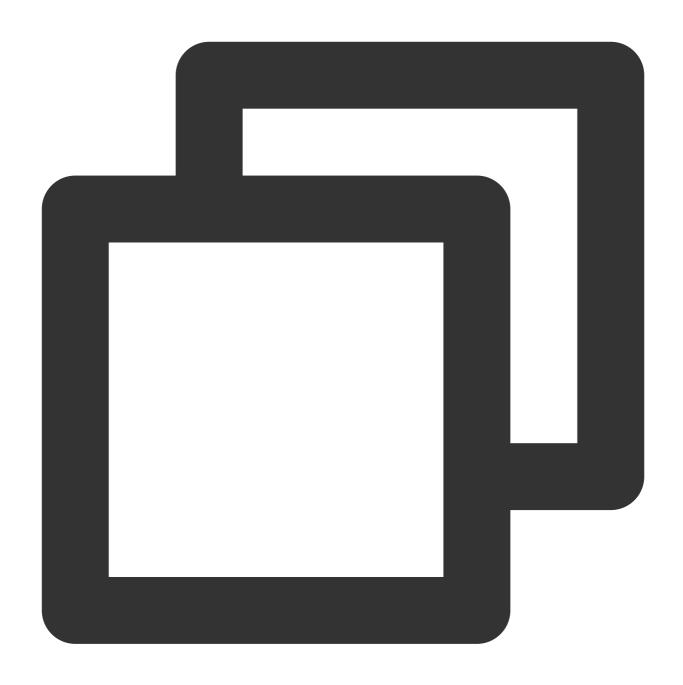


# 3. Add key-value in the request to StreamPackage



<master>.m3u8?ad\_type=customized&region=india

4. StreamPackage will pass the parameters to ADS

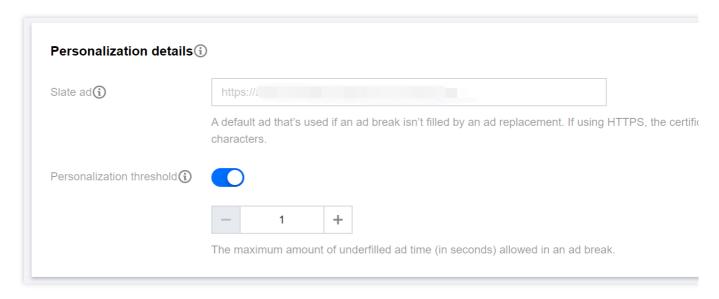


https://my.ads.com/path?ad\_type=abc&region=ap-mumbai

#### Step Four: Setting default slate ad

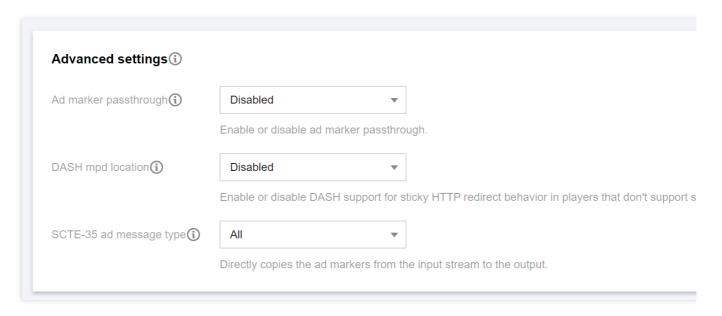
The slate ad is a default ad that's used if an ad break isn't filled by an ad replacement. It lets you define what happens when an ad break isn't completely filled by the ads dictated by the ad decision server (ADS). This way, if an ad is unavailable or too short, or if network conditions prevent the ad decision server from responding to StreamPackage, you know exactly what will be played instead. If an ad slate isn't specified, then the default is to show the underlying content stream. The URL for the slate ad is an address starting with http:// or https://. Maximum 25,000 characters.





The personalization threshold sets the maximum duration (in seconds) of underfilled ad time allowed in an ad break. If the duration of underfilled ad time exceeds the personalization threshold, then personalization of the ad break is abandoned and the underlying content is shown.

### **Step Five: Advanced settings**



**Ad marker passthrough**: Enable or disable ad marker passthrough.

**DASH mpd location**: Enable or disable DASH support for sticky HTTP redirect behavior in players that don't support sticky.

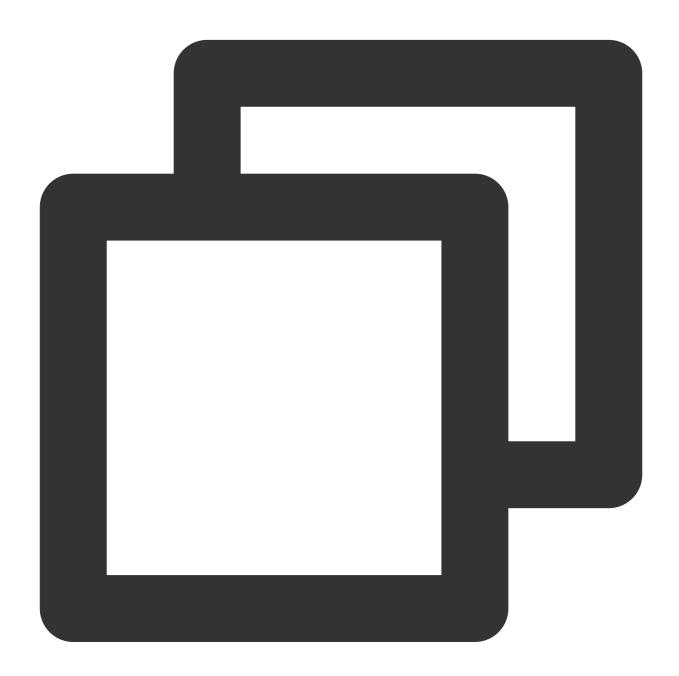
SCTE-35 ad message type: Specify how ad markers are packaged in the output.



# Step Six: Generating playback URL with inserted ad

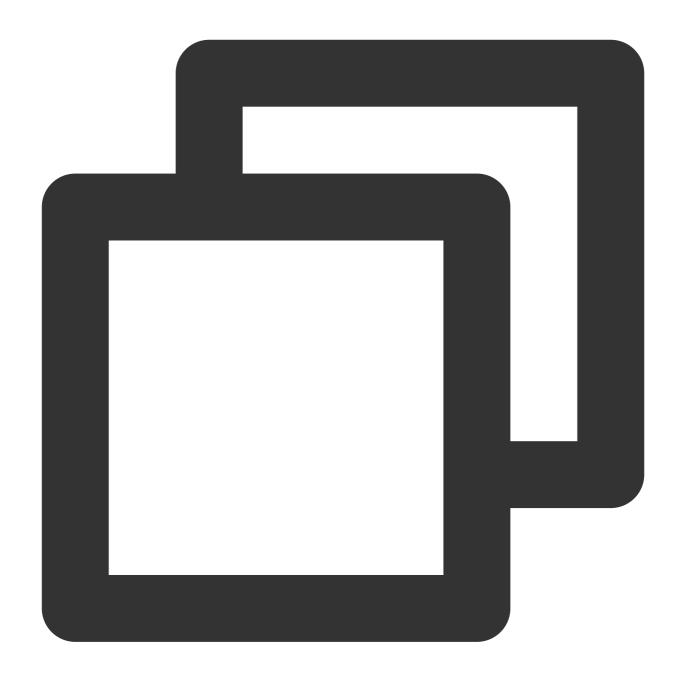
After completing the configurations above, add txType=ssai to the Endpoint Url to generate the corresponding playback Url with inserted ad. For example:

Original Endpoint Url:



http://xxx.mediapackage.srclivepull.myqcloud.com/v1/<channel\_id>/<stream\_id>/ssai\_t

Corresponding Url with inserted ad:



http://xxx.mediapackage.srclivepull.myqcloud.com/v1/<channel\_id>/<stream\_id>/ssai\_t

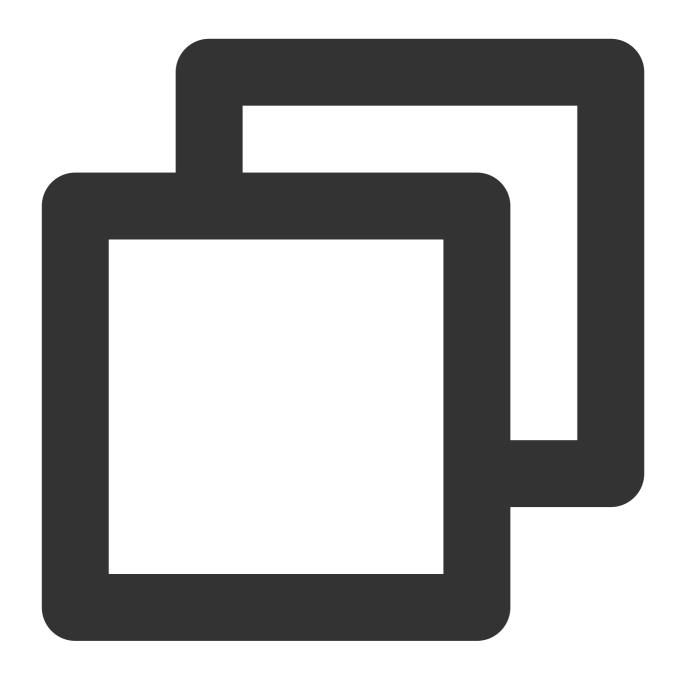
## Step Seven: Origin manifest and personalized manifest after replacement

The following examples provide a comparison between the origin manifest and the personalized manifest after replacement.

#### Origin manifest

Here is an example of the HLS master manifest obtained by StreamPackage from the original stream:

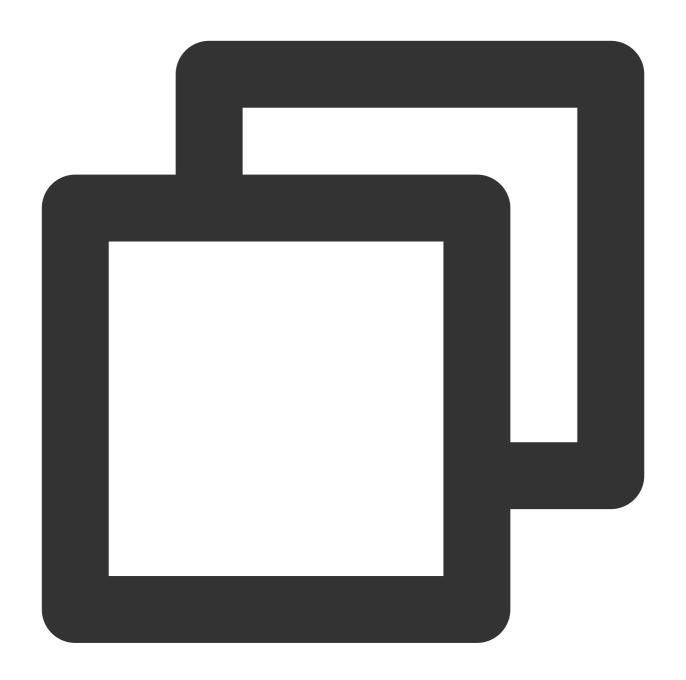




```
#EXTM3U
#EXT-X-VERSION:3
#EXT-X-INDEPENDENT-SEGMENTS
#EXT-X-STREAM-INF:PROGRAM-ID=0,BANDWIDTH=500000,RESOLUTION=640x360
tx_ssai_temp1.m3u8
#EXT-X-STREAM-INF:PROGRAM-ID=0,BANDWIDTH=2000000,RESOLUTION=960x540
tx_ssai_temp2.m3u8
#EXT-X-STREAM-INF:PROGRAM-ID=0,BANDWIDTH=3000000,RESOLUTION=1280x720
tx_ssai_temp3.m3u8
```



Here is an example of the HLS media manifest obtained by StreamPackage from the original stream, which includes inserted SCTE-35 markers:



```
#EXT-X-VERSION:5

#EXT-X-MEDIA-SEQUENCE:3835222

#EXT-X-TARGETDURATION:6

#EXTINF:6.000, no desc seq 3835223
64998DFC00006B56A7AF-p0_tmplav9601_av9601-1689907362016.ts?&3835223

#EXTINF:2.333, no desc seq 3835224
64998DFC00006B56A7AF-p0_tmplav9601_av9601-1689907368016.ts?&3835224
```

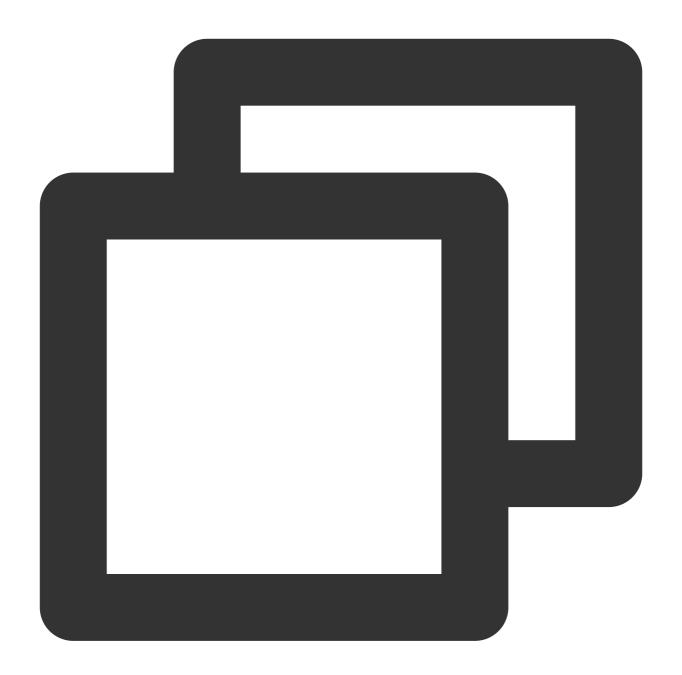


```
#EXT-OATCLS-SCTE35:/AAGAAHwulfuAAAADwUAAACcAPCAAA27oAAAAAAAAPKrLtw=
#EXT-X-CUE-OUT:10
#EXTINF:3.667, no desc seq 3835225
64998DFC00006B56A7AF-p0_tmplav9601_av9601-1689907370349.ts?&3835225
#EXT-X-CUE-OUT-CONT:ElapsedTime=3.667, Duration=10, SCTE35=/AAgAAHwulfuAAAADwUAAACcAP
#EXTINF:6.000, no desc seq 3835226
64998DFC00006B56A7AF-p0_tmplav9601_av9601-1689907374016.ts?&3835226
#EXT-X-CUE-OUT-CONT:ElapsedTime=9.667, Duration=10, SCTE35=/AAgAAHwulfuAAAADwUAAACcAP
#EXTINF:0.333, no desc seq 3835227
64998DFC00006B56A7AF-p0 tmplav9601 av9601-1689907380016.ts?&3835227
#EXT-X-CUE-IN
#EXTINF:5.667, no desc seq 3835228
64998DFC00006B56A7AF-p0_tmplav9601_av9601-1689907380349.ts?&3835228
#EXTINF:6.000, no desc seq 3835229
64998DFC00006B56A7AF-p0_tmplav9601_av9601-1689907386016.ts?&3835229
#EXTINF:6.000, no desc seq 3835230
64998DFC00006B56A7AF-p0_tmplav9601_av9601-1689907392016.ts?&3835230
```

#### Personalized manifest

Here is an example of the personalized HLS master manifest generated by StreamPackage:

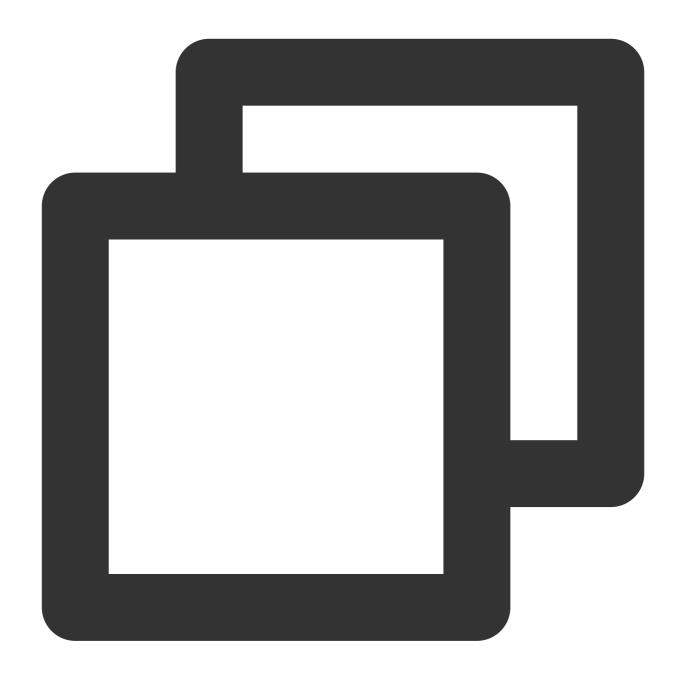




```
#EXTM3U
#EXT-X-VERSION:3
#EXT-X-INDEPENDENT-SEGMENTS
#EXT-X-STREAM-INF:PROGRAM-ID=0,BANDWIDTH=500000,RESOLUTION=640x360
tx_ssai_temp1.m3u8?txSessionID=fd320a4d99ba7df952f5a214ed901935&txType=manifest
#EXT-X-STREAM-INF:PROGRAM-ID=0,BANDWIDTH=2000000,RESOLUTION=960x540
tx_ssai_temp2.m3u8?txSessionID=fd320a4d99ba7df952f5a214ed901935&txType=manifest
#EXT-X-STREAM-INF:PROGRAM-ID=0,BANDWIDTH=3000000,RESOLUTION=1280x720
tx_ssai_temp3.m3u8?txSessionID=fd320a4d99ba7df952f5a214ed901935&txType=manifest
```

Here is an example of the personalized HLS media manifest generated by StreamPackage:





```
#EXTM3U
#EXT-X-VERSION:5
#EXT-X-MEDIA-SEQUENCE:3835222
#EXT-X-TARGETDURATION:6
#EXTINF:6.000, no desc seq 3835223
64998DFC00006B56A7AF-p0_tmplav9601_av9601-1689907362016.ts?&3835223
#EXTINF:2.333, no desc seq 3835224
64998DFC00006B56A7AF-p0_tmplav9601_av9601-1689907368016.ts?&3835224
#EXT-X-DISCONTINUITY
#EXTINF:2.000,
segment.ts?txType=segment&txSessionID=fd320a4d99ba7df952f5a214ed901935&txManifestNa
```



```
#EXTINF:2.000,
segment.ts?txType=segment&txSessionID=fd320a4d99ba7df952f5a214ed901935&txManifestNa
#EXTINF:2.000,
segment.ts?txType=segment&txSessionID=fd320a4d99ba7df952f5a214ed901935&txManifestNa
#EXTINF:2.000,
segment.ts?txType=segment&txSessionID=fd320a4d99ba7df952f5a214ed901935&txManifestNa
#EXTINF:2.000,
segment.ts?txType=segment&txSessionID=fd320a4d99ba7df952f5a214ed901935&txManifestNa
#EXTINF:2.000,
segment.ts?txType=segment&txSessionID=fd320a4d99ba7df952f5a214ed901935&txManifestNa
#EXT-X-DISCONTINUITY
#EXTINF:5.667, no desc seq 3835228
64998DFC00006B56A7AF-p0_tmplav9601_av9601-1689907380349.ts?&3835228
#EXTINF:6.000, no desc seq 3835229
64998DFC00006B56A7AF-p0_tmplav9601_av9601-1689907386016.ts?&3835229
#EXTINF:6.000, no desc seq 3835230
64998DFC00006B56A7AF-p0_tmplav9601_av9601-1689907392016.ts?&3835230
```