



# **EZDRM Integration**

## **MediaKind**

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Version 1.0 / June 17, 2021

## Introduction

The following document outlines integration with EZDRM Encoding using the MediaKind Controller.

## Widevine/PlayReady Common Encryption (CENC)

### Catalog Creation

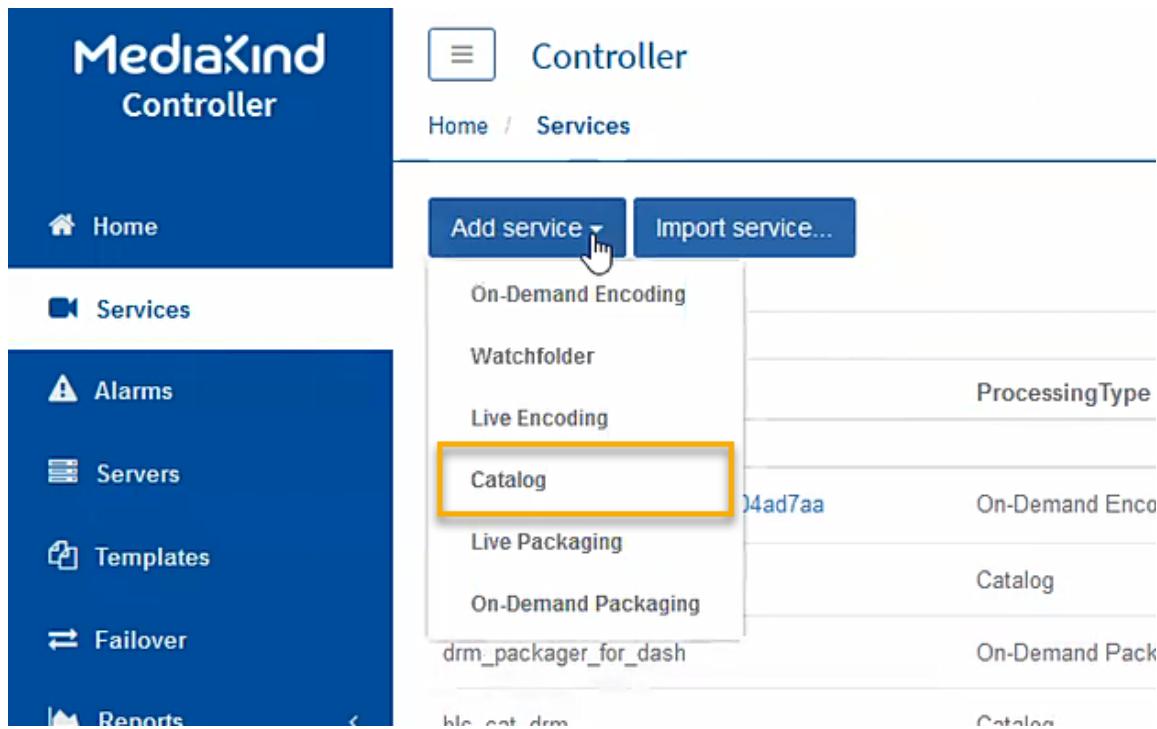
The first step is to create a catalog to store files for encoding. Within the catalog the **Output settings** are configured for encryption.

1. Click on **Services** menu on the right-hand column.



The screenshot shows the MediaKind Controller dashboard. On the left, a sidebar menu includes Home, Services (which is highlighted with a red box), Alarms, Servers, Templates, Failover, Reports, Settings, and Jobs. The main area displays four cards: Services (8 total, 8 Started, 0 Other status), Servers (2 total, 2 Connected, 0 Connection lost), Templates (0 total, 0 Most used templates by services), and Alarms (0 total, 0 Critical, 0 Major, 0 Minor).

2. Click **Add service**. Select **Catalog**.



The screenshot shows the MediaKind Controller interface. On the left, there's a sidebar with icons for Home, Services, Alarms, Servers, Templates, Failover, Reports, Settings, and Jobs. The main area is titled 'Controller' and shows 'Home / Services'. A sub-menu for 'Services' is open, with 'Add service' highlighted. A dropdown menu lists several options: On-Demand Encoding, Watchfolder, Live Encoding, Catalog, Live Packaging, and On-Demand Packaging. The 'Catalog' option is highlighted with a yellow box.

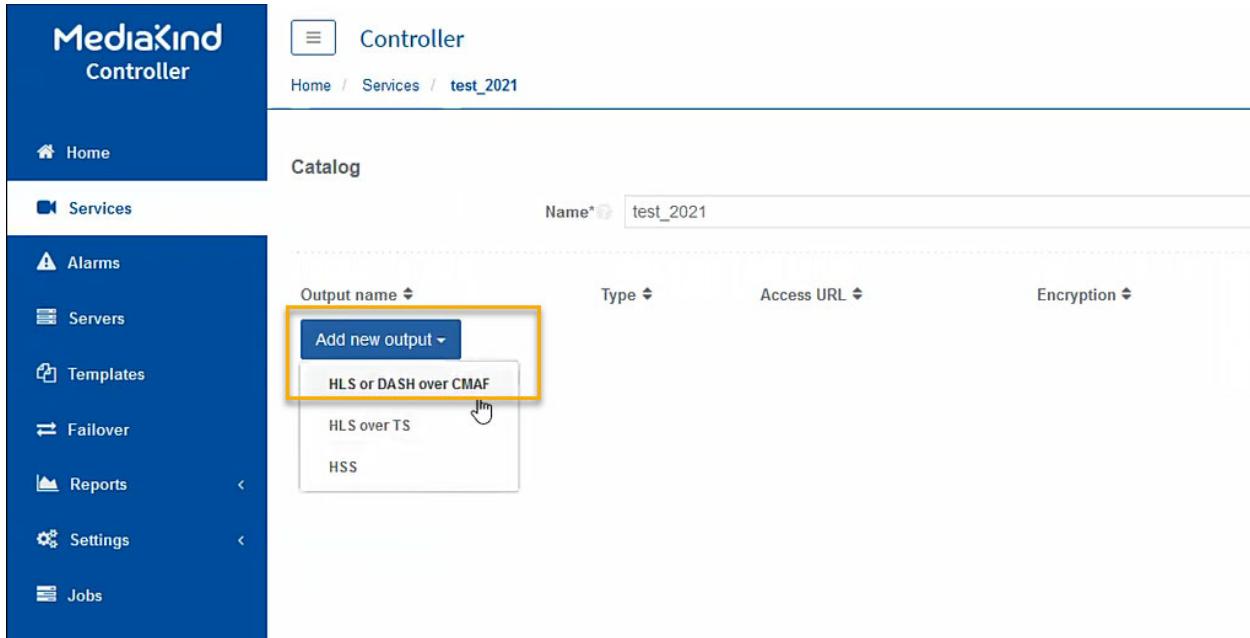
3. Enter a **Name** for the Catalog. Then click **Add new output**.



The screenshot shows the 'Catalog' configuration page. The left sidebar is identical to the previous screenshot. The main area shows 'Catalog' and a sub-menu. A form is displayed with a 'Name\*' field containing 'test\_2021', which is highlighted with a yellow box. Below the form, there are columns for 'Output name', 'Type', 'Access URL', 'Encryption', and 'Content repl.'. A button labeled 'Add new output' is highlighted with a yellow box.

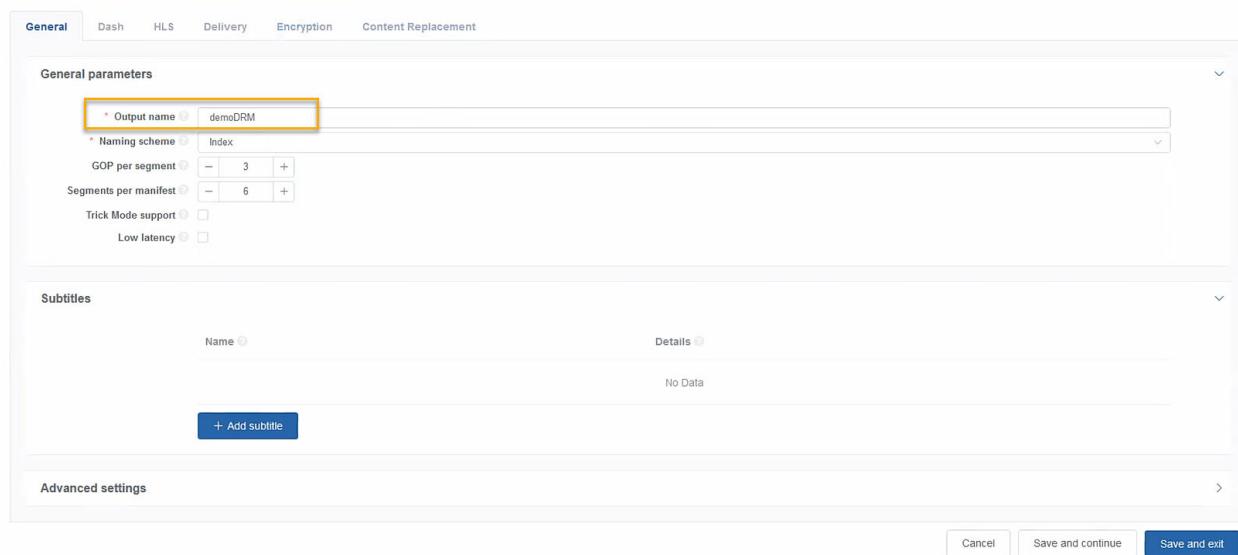
4. Select **HLS or DASH over CMAF**.

5.



The screenshot shows the MediaKind Controller interface. On the left, a sidebar lists various services like Alarms, Servers, Templates, Failover, Reports, Settings, and Jobs. The main area is titled 'Catalog' and shows a table with columns: Output name, Type, Access URL, and Encryption. A search bar at the top right contains 'test\_2021'. A dropdown menu is open under 'Output name' with the following options: 'Add new output' (highlighted with a yellow box), 'HLS over TS', and 'HSS'.

6. On the General tab, enter a unique **Output name**. Keep the other defaults.



The screenshot shows the 'General' tab of a configuration screen. Under 'General parameters', the 'Output name' field is highlighted with a yellow box and contains the value 'demoDRM'. Other fields include 'Naming scheme' (Index), 'GOP per segment' (3), 'Segments per manifest' (6), 'Trick Mode support' (unchecked), and 'Low latency' (unchecked). Below this, the 'Subtitles' section shows a table with a single row where '+ Add subtitle' is visible. At the bottom, there are buttons for 'Cancel', 'Save and continue' (disabled), and 'Save and exit'.

7. For the DASH tab, keep the defaults.

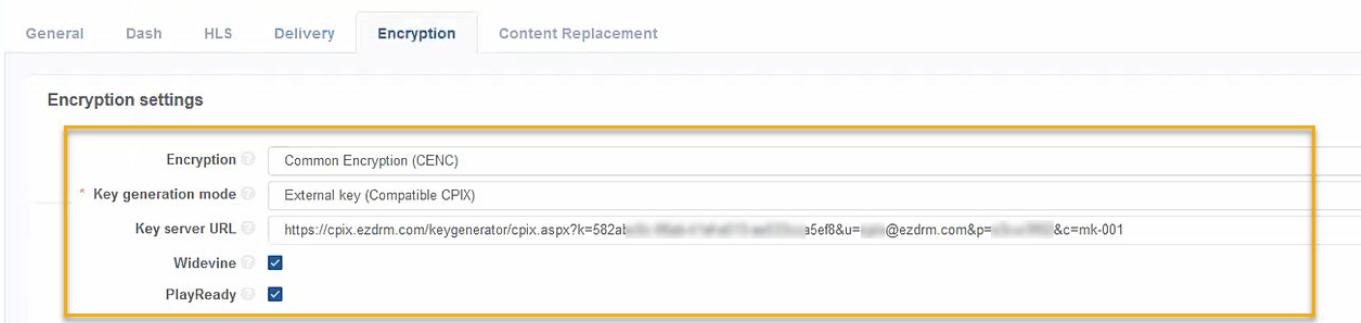
8. For the HLS tab, keep the defaults.

9. On the Delivery tab – **Access URL**, for this example we are using the same Output name from the General tab (be sure it matches exactly). This will create a local folder with the same name on the encoding server for playback.



10. On the Encryption tab enter the following parameters:

- From the **Encryption** dropdown, select **Common Encryption (CENC)**
- From the **Key generation mode** dropdown select **External key (Compatible CPIX)**
- For the **Key server URL** enter the **EZDRM CPIX Key Generator URL** that includes the Key, Username, Password and Resource name (see [next section](#) for more details)
- Widevine** and **PlayReady** checkboxes should be checked



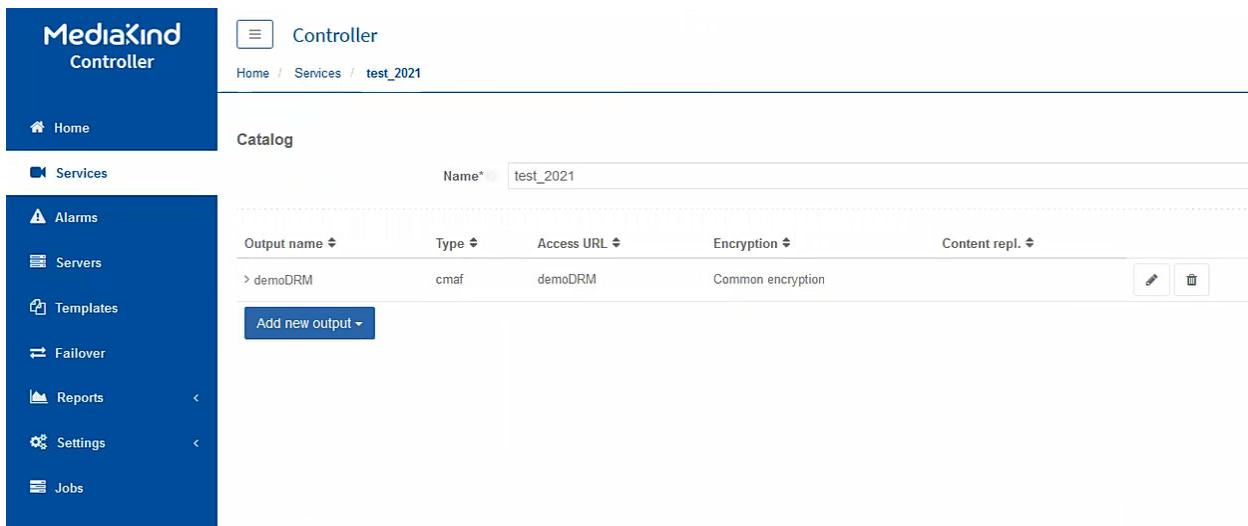
11. For the Content Replacement tab, keep the defaults.

## 12. Click **Save and exit**.



The screenshot shows the 'Encryption' configuration page. At the top, there are tabs for General, Dash, HLS, Delivery, Encryption (which is selected), and Content Replacement. The main area is titled 'Encryption settings'. It contains sections for 'Encryption' (set to 'Common Encryption (CENC)'), 'Key generation mode' (set to 'External key (Compatible CPIX)'), 'Key server URL' (set to 'https://cpix.ezdrm.com/keygenerator/cpix.aspx?k=58...'), and checkboxes for 'Widevine' and 'PlayReady'. Below this is a 'Parameters mapping' section with a 'Parameters mapping key' input field. At the bottom right are three buttons: 'Cancel', 'Save and continue', and 'Save and exit' (which is highlighted with a yellow box).

The catalog with encryption is now created.



The screenshot shows the MediaKind Controller interface. On the left is a sidebar with icons for Home, Services, Alarms, Servers, Templates, Failover, Reports, Settings, and Jobs. The main area is titled 'Controller' and shows the path 'Home / Services / test\_2021'. Below this is a 'Catalog' section with a table. The table has columns for Output name, Type, Access URL, Encryption, and Content repl. The table contains one row: 'demoDRM' (Type: cmaf, Access URL: demoDRM, Encryption: Common encryption). There are edit and delete icons next to the row. At the bottom of the catalog table is a blue 'Add new output' button. The top right of the main area shows a 'Name\*' input field with 'test\_2021' and a 'Save' button.

## The EZDRM CPIX Key Generator URL

The Base URL for EZDRM Key Generation is formatted as follows:

[https://cpix.ezdrm.com/keygenerator/cpix.aspx?k=kid&u=username&p=password&c=resource](https://cpix.ezdrm.com/keygenerator/cpix.aspx?k=kid&u=username&p=password&c=resourcename)

The parameters include:

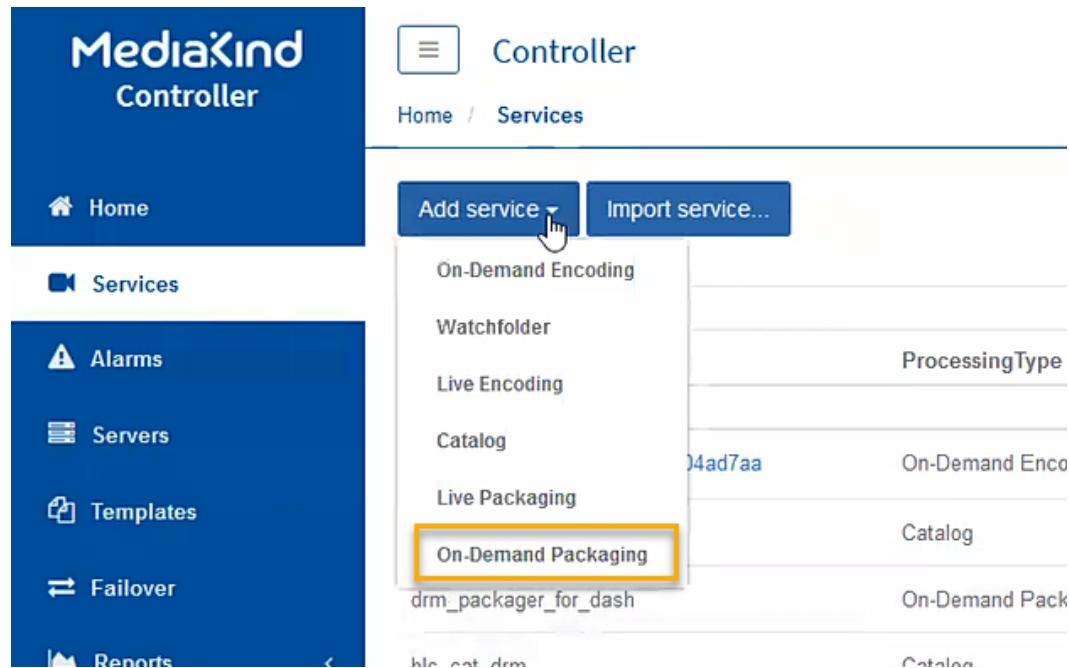
Parameter	Description
<b>k</b>	kid or Key ID value (client generated) in GUID format*
<b>u</b>	EZDRM username
<b>p</b>	EZDRM password
<b>c</b>	Content ID – generic resource name/identifier (client generated) – passed into <b>id</b> field

\* To generate a GUID for the k value, you can use a GUID generator like the one found here: <http://guid-convert.appspot.com>.

## On-Demand Packaging

The second step is to create the On-Demand Packaging for the Catalog.

1. From the **Services** Menu click **Add service**. Select **On-Demand Packaging**.



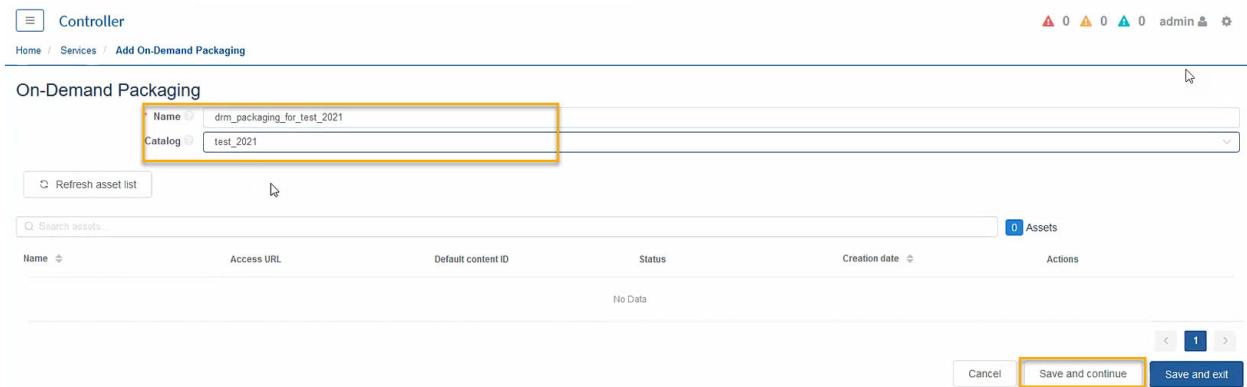
The screenshot shows the MediaKind Controller interface. The left sidebar has links for Home, Services, Alarms, Servers, Templates, Failover, and Reports. The main area is titled 'Controller' and shows 'Home / Services'. A sub-menu for 'Services' is open, with 'Add service' highlighted. A list of service types includes On-Demand Encoding, Watchfolder, Live Encoding, Catalog, Live Packaging, and On-Demand Packaging. The 'On-Demand Packaging' item is highlighted with an orange box. Below the list, there is a table with columns for 'ProcessingType' and 'Catalog'. One row in the table is also highlighted with an orange box.

ProcessingType	Catalog
On-Demand Encod	drm_packager_for_dash
Catalog	On-Demand Pack
Catalog	Catalog

2. Enter **Name** for Packaging

3. Select the correct **Catalog** from the dropdown, created in the previous steps

4. Click **Save and Continue**



Controller

Home / Services / Add On-Demand Packaging

On-Demand Packaging

<input type="text"/> * Name	drm_packaging_for_test_2021
<input type="text"/> Catalog	test_2021

Refresh asset list

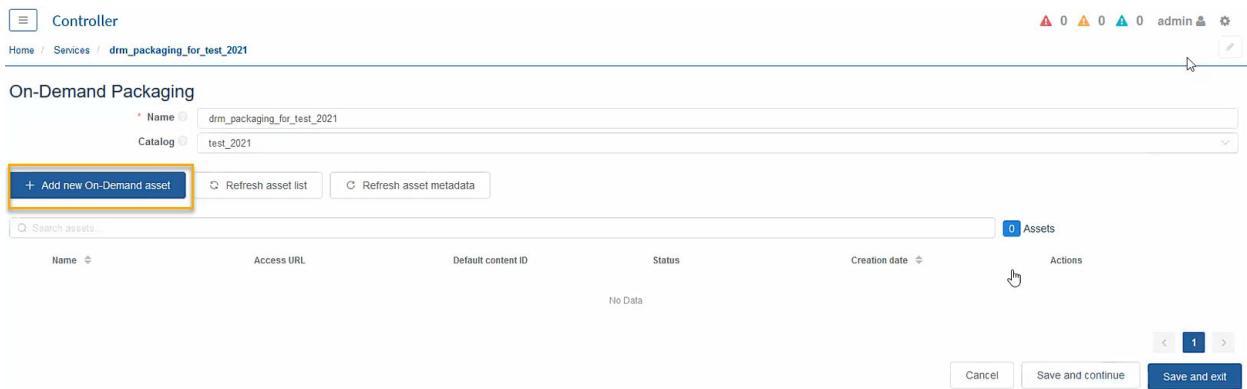
Search assets

Assets

Name	Access URL	Default content ID	Status	Creation date	Actions
No Data					

Cancel Save and continue Save and exit

5. Click Add new On-Demand asset



Controller

Home / Services / drm\_packaging\_for\_test\_2021

On-Demand Packaging

<input type="text"/> * Name	drm_packaging_for_test_2021
<input type="text"/> Catalog	test_2021

+ Add new On-Demand asset

Refresh asset list Refresh asset metadata

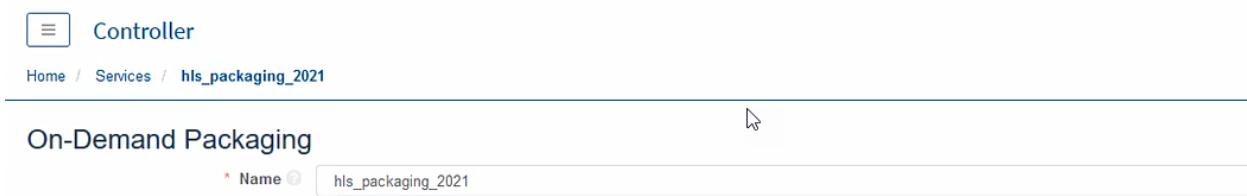
Search assets

Assets

Name	Access URL	Default content ID	Status	Creation date	Actions
No Data					

Cancel Save and continue Save and exit

6. Enter Asset **Name** for the On-Demand Asset



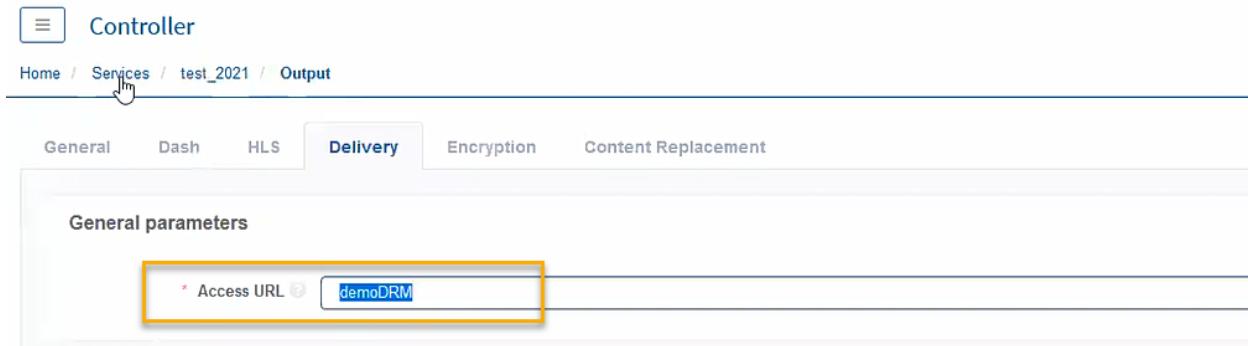
Controller

Home / Services / hls\_packaging\_2021

On-Demand Packaging

<input type="text"/> * Name	hls_packaging_2021
-----------------------------	--------------------

7. Enter the **Access URL** - this is the Delivery Access URL from the Catalog previously created (Services / Controller / Catalog / Output / Delivery / Access URL)



Controller

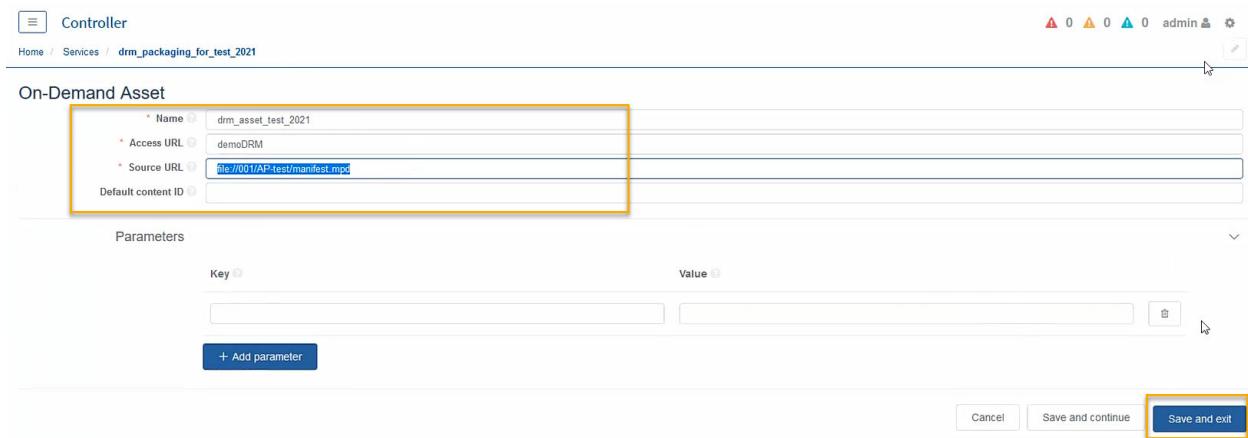
Home / Services / test\_2021 / Output

General Delivery HLS Encryption Content Replacement

General parameters

\* Access URL demoDRM

8. Enter **Source URL** – the source file location for the MPD file



Controller

Home Services / drm\_packaging\_for\_test\_2021

On-Demand Asset

Name	drm_asset_test_2021
Access URL	demoDRM
Source URL	file:///001/AP-test/manifest.mpd
Default content ID	

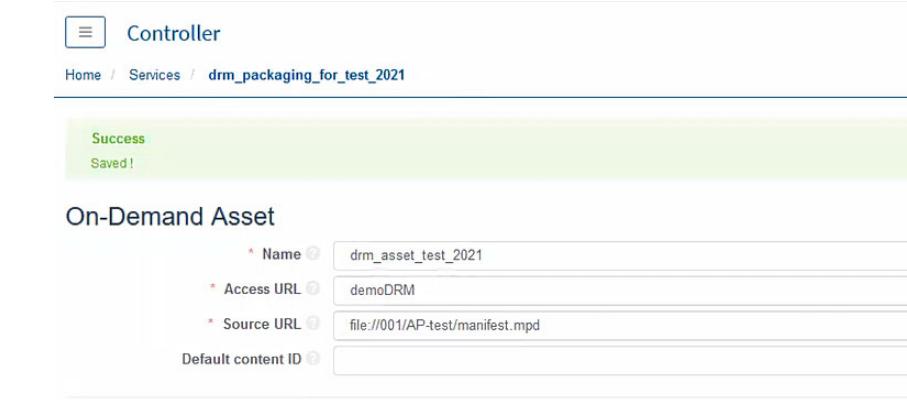
Parameters

Key	Value

+ Add parameter

Cancel Save and continue Save and exit

9. Click **Save and Exit**. The Asset will be shown as **Valid** if created successfully.



Controller

Home / Services / drm\_packaging\_for\_test\_2021

Success  
Saved!

On-Demand Asset

Name	drm_asset_test_2021
Access URL	demoDRM
Source URL	file:///001/AP-test/manifest.mpd
Default content ID	

Controller

Home / Services / drm\_packaging\_for\_test\_2021

On-Demand Packaging

Name	Catalog	Status	Creation date	Actions
drm_asset_test_2021	test_2021	valid	2021-01-22 19:12:31 UTC	
Output Name	Access URL			Actions
demoDRM	http://<host>/demoDRM/demoDRM/manifest.mpd	valid		

10. The **Access URL** will now produce the MPD file with encryption, see example below:

Name	Access URL	Default content ID	Status	Creation date	Actions
drm_asset_test_2021	demoDRM	valid		2021-01-22 19:12:31 UTC	
Output Name	Status	Access URL			Actions
demoDRM	valid	http://<host>/demoDRM/demoDRM/manifest.mpd			

```

1 <?xml version="1.0" encoding="UTF-8"?>
2 <MPD xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:mpeg:dash:schema:mpd:2011" xmlns:cenc="urn:mpeg:cenc:2013" xsi:schemaLocation="urn:mpeg:dash:schema:mpd:2011 http://www.w3.org/2001/XMLSchema-instance urn:mpeg:cenc:2013 http://www.w3.org/2001/XMLSchema-instance" minBufferTime="PT2.00S" maxSegmentDuration="PT6.016S" availabilityStartTime="2021-01-22T19:12:31Z" mediaPresentationDuration="PT181.981S">
3   <Period id="period0" start="PT0.101S">
4     <AssetIdentifier schemeIdUri="urn:eidr" value="md:cid:EIDR:10.5240%2f9e32-2d22-6a84-2a02-C"/>
5     <AdaptationSet id="1" contentType="video" mimeType="video/mp4" segmentAlignment="true" startWithSAP="1" maxWidth="1920" maxHeight="1080" maxFrameRate="30000/1001" par="16:9" minBufferTime="PT2.00S" maxSegmentDuration="PT6.016S" availabilityStartTime="2021-01-22T19:12:31Z" mediaPresentationDuration="PT181.981S">
6       <ContentProtection schemeIdUri="urn:mpeg:dash:mp4protection:2011" value="cenc" cenc:default_KID="582abc0c-0cab-4lef-a013-aes33cc5ef8"/>
7       <cenc:pssh>AAAA</cenc:pssh>
8     </ContentProtection>
9   <ContentProtection schemeIdUri="urn:uuid:edef8" value="1d21ed">
10    <mspr:pro>
11      <SgIAAAwA
12        <WATq8MF
13        <AEYATw+AI
14        <Bx4CwPQ
15        <PwDwPwA
16        UARQa+ADwQAA4AEUASwBVAFYAMABnAG0AQQA9ADwALwBDAEgARQBDAsAUwBVAE0APgA8AC8ARABBAFQAQQA+ADwALwBXAFIATQBIAEUQQBEEUEAUgA+AA==</mspr:pro>
17        <cenc:pssh>
18        <AAADbnzic2
19        <8ab;qvA8yQ
20        <AEYATw+AI
21        <Bx4CwPwB
22        <bgbjAHKAl
23        <OAPAAvEQ>
24      </ContentProtection>
25      <SegmentTemplate timescale="90000" initialization="$RepresentationID$-init.m4s" media="$RepresentationID$-182524-i-$Number$.m4s" startNumber="1" duration="528335"
26        <keySystem>cenc</keySystem>
27        <keyFormat>urn:uuid:edef8ba9-eed5-d8f6-f98e-3fb7235acae5</keyFormat>
28        <keyFormatVersion>1</keyFormatVersion>
29        <keyUri>http://<host>/demoDRM/demoDRM/manifest.mpd?segmentNumber=$RepresentationID$-182524-i-$Number$.m4s&keyFormat=urn:uuid:edef8ba9-eed5-d8f6-f98e-3fb7235acae5&keyFormatVersion=1&segmentNumber=$RepresentationID$-182524-i-$Number$.m4s</keyUri>
30      </SegmentTemplate>
31    </mspr:pro>
32  </AdaptationSet>
33</MPD>
  
```

# Apple FairPlay Common Encryption (CBCS)

## Catalog Creation

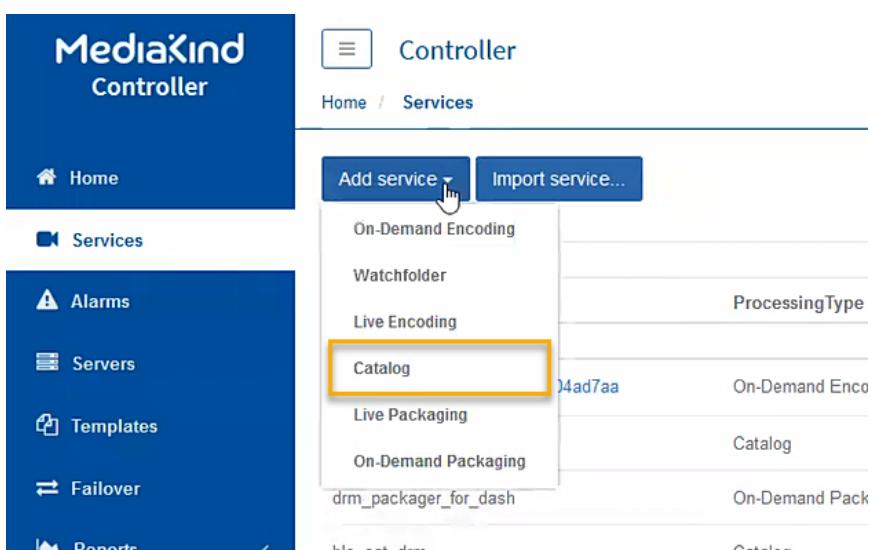
The first step is to create a catalog to store files for encoding. Within the catalog the Output settings are configured for encryption.

1. Click on **Services** menu on the right-hand column.



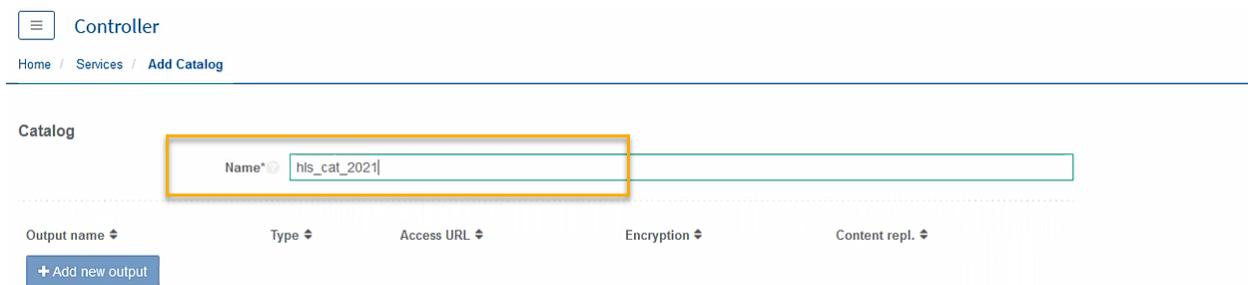
The screenshot shows the MediaKind Controller interface. On the left, a sidebar menu includes options like Home, Services (which is highlighted with a red box), Alarms, Servers, Templates, Failover, Reports, Settings, and Jobs. The main content area displays four cards: 'Services' (8 items, 8 Started, 0 Other status), 'Servers' (2 items, 2 Connected, 0 Connection lost), 'Templates' (0 items, Most used templates by services), and 'Alarms' (0 items, 0 Critical, 0 Major, 0 Minor).

2. Click **Add service**. Select **Catalog**.



The screenshot shows the 'Services' page of the MediaKind Controller. The sidebar menu is identical to the previous screen. The main area shows a 'Add service' button with a cursor pointing at it, and a dropdown menu listing 'On-Demand Encoding', 'Watchfolder', 'Live Encoding', 'Catalog' (which is highlighted with a yellow box), 'Live Packaging', and 'On-Demand Packaging'. Below the dropdown, there are two tables with rows for 'ProcessingType', 'On-Demand Enco', 'Catalog', 'On-Demand Pack', and 'Catalog'.

3. Enter a **Name** for the Catalog. Then click **Add new output**.



Controller

Home / Services / Add Catalog

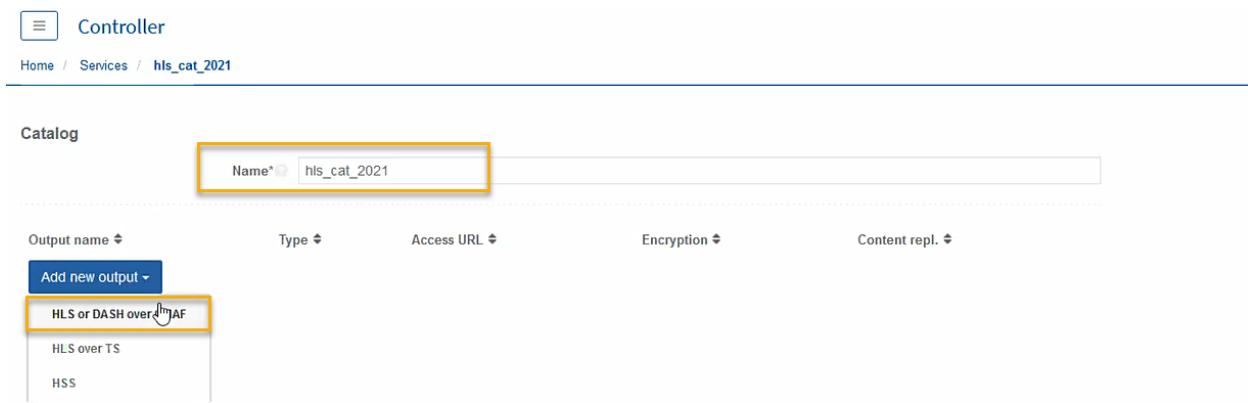
Catalog

Name\* hls\_cat\_2021

Output name Type Access URL Encryption Content repl.

+ Add new output

4. Select **HLS or DASH over CMAF**.



Controller

Home / Services / hls\_cat\_2021

Catalog

Name\* hls\_cat\_2021

Output name Type Access URL Encryption Content repl.

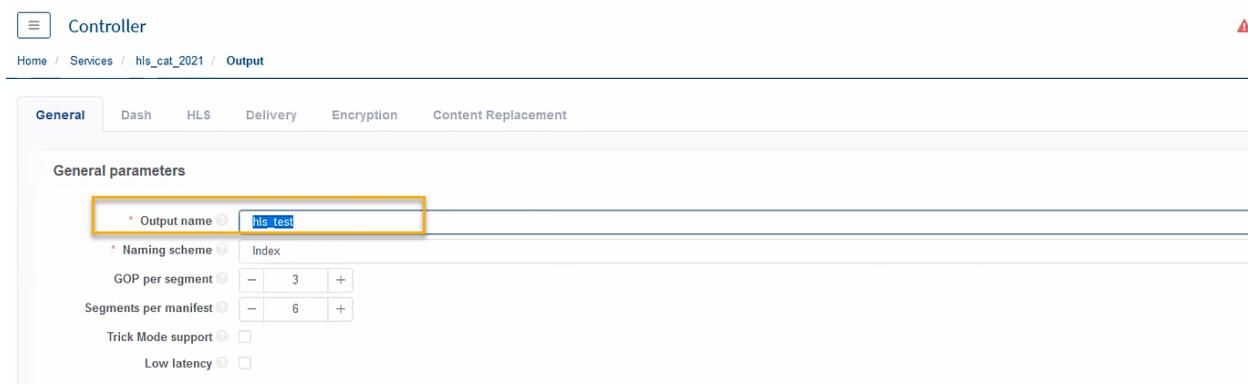
Add new output ▾

HLS or DASH over CMAF

HLS over TS

HSS

5. On the General tab, enter a unique **Output name**. Keep the other defaults.



Controller

Home / Services / hls\_cat\_2021 / Output

General Dash HLS Delivery Encryption Content Replacement

General parameters

\* Output name hls\_test

\* Naming scheme Index

GOP per segment 3

Segments per manifest 6

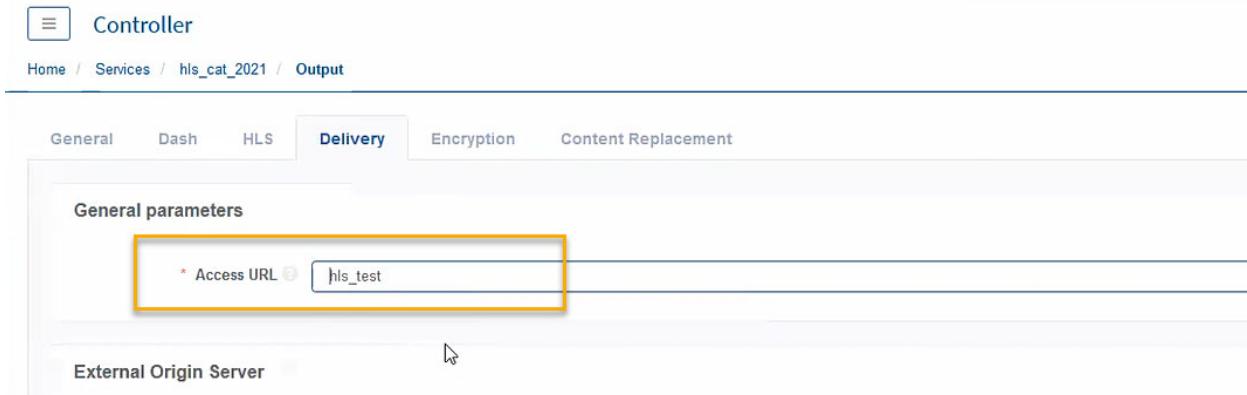
Trick Mode support

Low latency

6. For the DASH tab, keep the defaults.

7. For the HLS tab, keep the defaults.

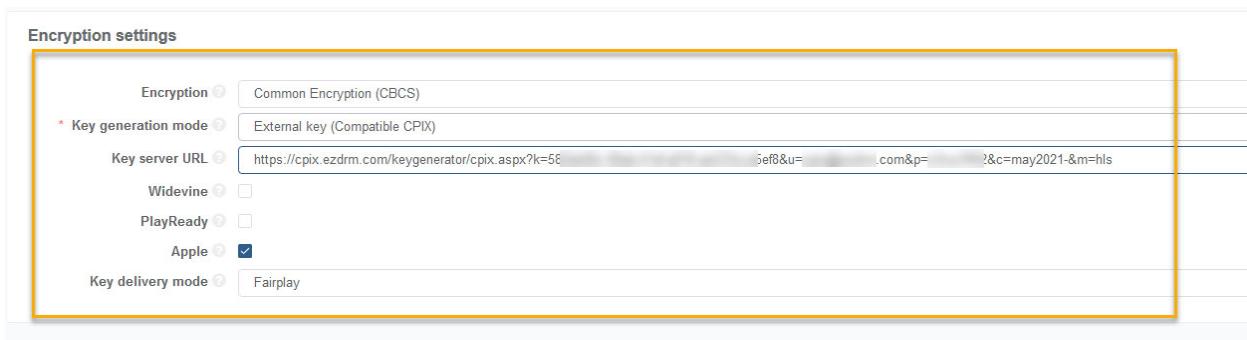
8. On the Delivery tab – for the **Access URL**, for this example we are using the same Output name from the General tab (be sure it matches exactly). This will create a local folder with the same name on the encoding server for playback.



The screenshot shows the EZDRM Controller interface. At the top, there's a navigation bar with 'Controller' and a sidebar with 'Home / Services / hls\_cat\_2021 / Output'. Below this is a tab navigation bar with 'General', 'Dash', 'HLS', 'Delivery' (which is selected and highlighted in blue), 'Encryption', and 'Content Replacement'. Under the 'Delivery' tab, there's a section titled 'General parameters' with a sub-section for 'External Origin Server'. The 'Access URL' input field, which contains 'hls\_test', is highlighted with a yellow box.

9. On the Encryption tab enter the following parameters:

- From the **Encryption** dropdown, select **Common Encryption (CBCS)**
- From the **Key generation mode** dropdown select **External key (Compatible CPIX)**
- For the **Key server URL** enter the **EZDRM CPIX Key Generator URL** that includes the Key, Username, Password and Resource name (see [next section](#) for more details)
- Widevine** and **PlayReady** checkboxes should be unchecked, and the **Apple** Checkbox should be checked.

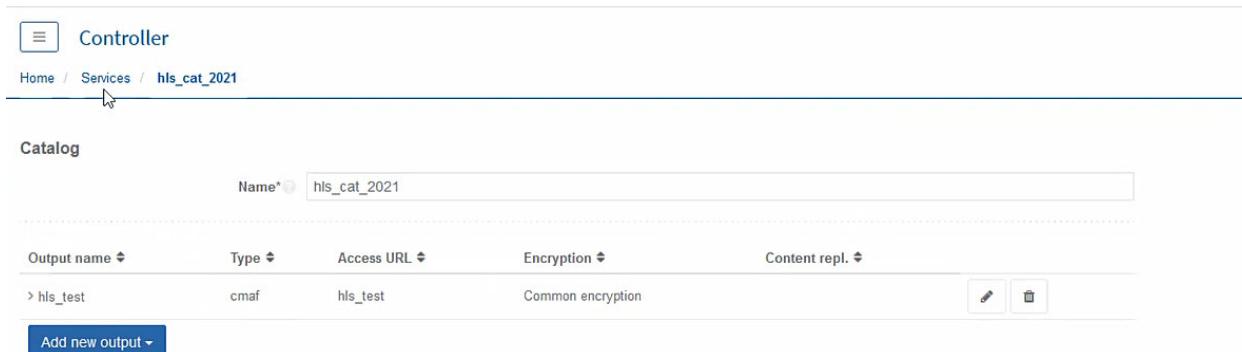


The screenshot shows the 'Encryption settings' section of the EZDRM Controller. It includes fields for 'Encryption' (set to 'Common Encryption (CBCS)'), 'Key generation mode' (set to 'External key (Compatible CPIX)'), 'Key server URL' (containing the URL 'https://cpix.ezdrm.com/keygenerator/cpix.aspx?k=5E'), and checkboxes for 'Widevine', 'PlayReady', and 'Apple' (which is checked). A yellow box highlights the 'Encryption' dropdown and the 'Key generation mode' dropdown.

10. For the Content Replacement tab, keep the defaults.

11. Click **Save and exit**.

The catalog with encryption is now created.



The screenshot shows the EZDRM Controller interface. At the top, there's a navigation bar with 'Controller' and a breadcrumb trail: Home / Services / hls\_cat\_2021. Below this is a section titled 'Catalog'. A table lists a single output entry:

Output name	Type	Access URL	Encryption	Content repl.
> hls_test	cmaf	hls_test	Common encryption	

At the bottom left of the catalog section, there's a blue button labeled 'Add new output'.

## The EZDRM CPIX Key Generator URL

The Base URL for EZDRM Key Generation is formatted as follows:

<https://cpix.ezdrm.com/keygenerator/cpix.aspx?k=kid&u=username&p=password&c=resourcename&m=hls>

The parameters include:

Parameter	Description
<b>k</b>	kid or Key ID value (client generated) in GUID format*
<b>u</b>	EZDRM username
<b>p</b>	EZDRM password
<b>c</b>	Content ID – generic resource name/identifier (client generated) – passed into <b>id</b> field
<b>m</b>	Media type, enter hls to return FairPlay key values

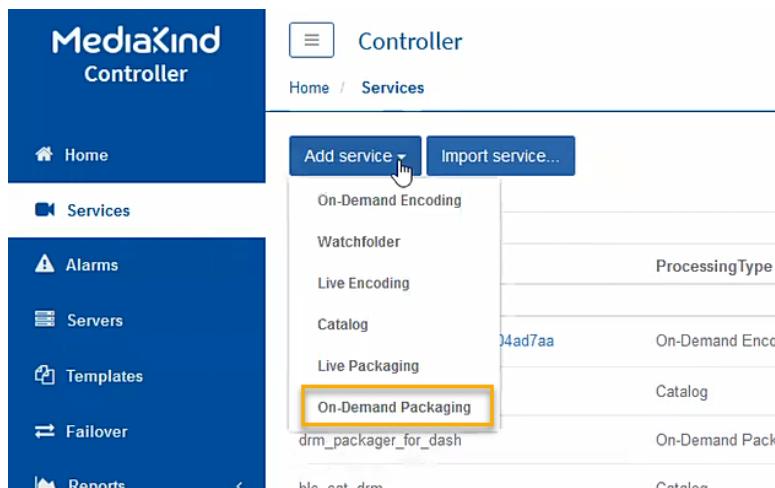
\* To generate a GUID for the k value, you can use a GUID generator like the one found here: <http://guid-convert.appspot.com>.

\* The **Key ID** used in the CPIX call is the Asset ID for your player.

## On-Demand Packaging

The second step is to create the On-Demand Packaging for the Catalog.

11. From the **Services** Menu click **Add service**. Select **On-Demand Packaging**.

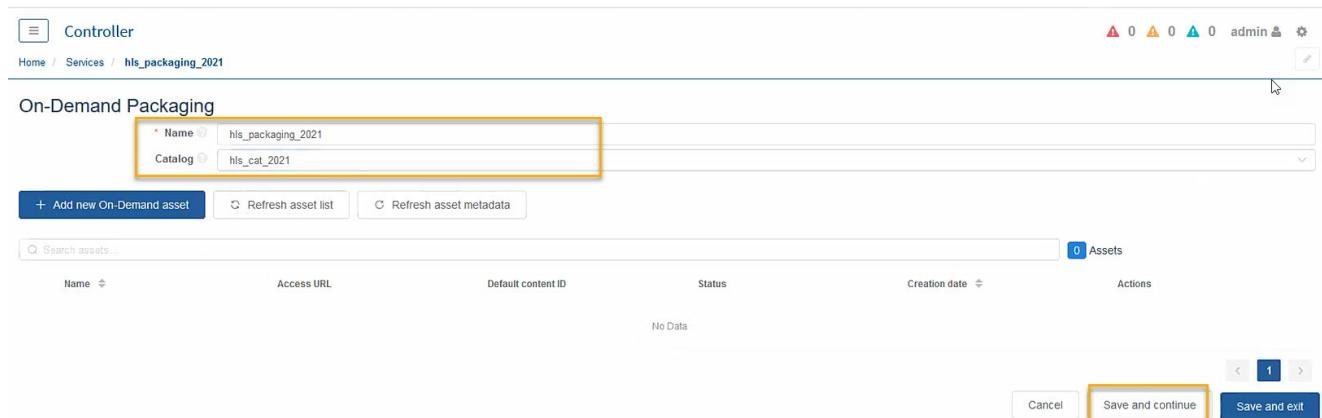


The screenshot shows the MediaKind Controller interface. On the left, there's a sidebar with icons for Home, Services (which is selected), Alarms, Servers, Templates, Failover, and Reports. The main area is titled 'Controller' and shows 'Home / Services'. A blue button labeled 'Add service' has a dropdown arrow pointing down. The dropdown menu lists several options: 'On-Demand Encoding', 'Watchfolder', 'Live Encoding', 'Catalog', 'Live Packaging', and 'On-Demand Packaging'. The 'On-Demand Packaging' option is highlighted with an orange box. Below the dropdown, there's some text and a timestamp '2021-04-14 10:20:00'.

12. Enter **Name** for Packaging

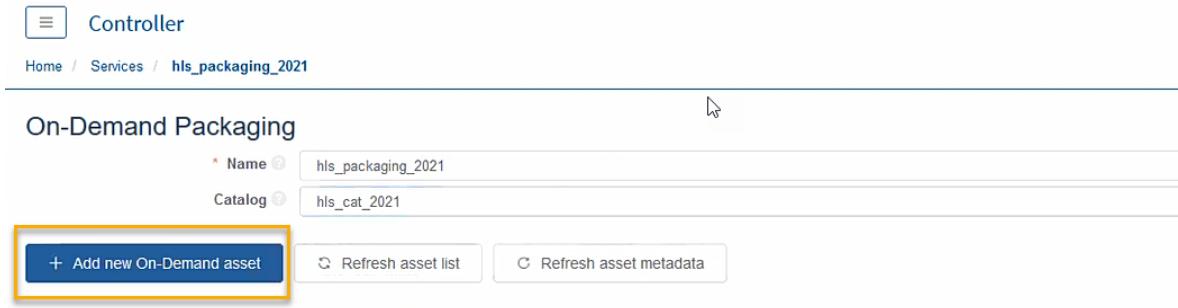
13. Select the correct **Catalog** from the dropdown, created in the previous steps

14. Click **Save and Continue**



This screenshot shows the 'On-Demand Packaging' configuration page. At the top, it says 'On-Demand Packaging'. Below that, there are two input fields: 'Name' (containing 'hls\_packaging\_2021') and 'Catalog' (containing 'hls\_cat\_2021'). Both of these fields are highlighted with an orange box. At the bottom right of the page, there are three buttons: 'Cancel', 'Save and continue' (which is also highlighted with an orange box), and 'Save and exit'.

## 15. Click **Add new On-Demand asset**



Controller

Home / Services / hls\_packaging\_2021

On-Demand Packaging

\* Name: hls\_packaging\_2021

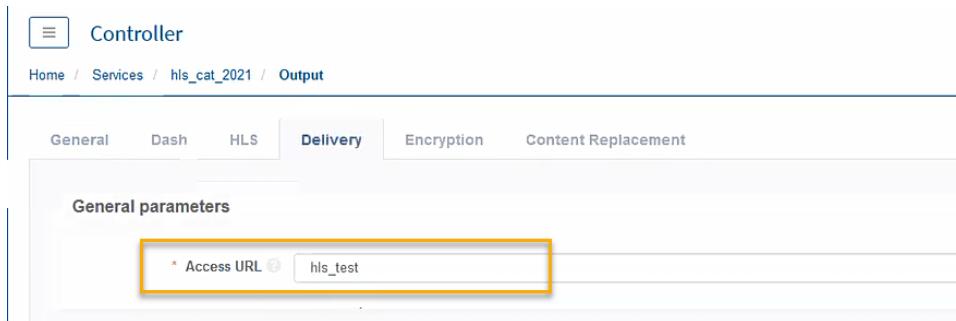
Catalog: hls\_cat\_2021

+ Add new On-Demand asset (button highlighted with a yellow box)

Refresh asset list Refresh asset metadata

## 16. Enter Asset **Name** for the On-Demand Asset

17. Enter the **Access URL** - this is the Delivery Access URL from the Catalog previously created (Services / Controller / Catalog / Output / Delivery / Access URL)



Controller

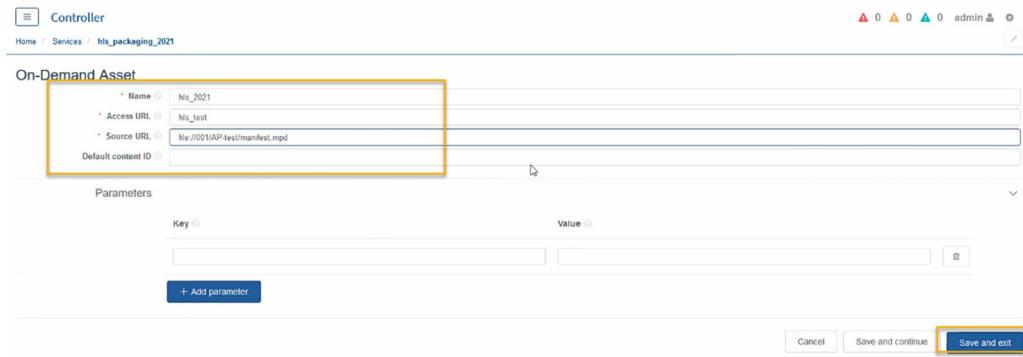
Home / Services / hls\_cat\_2021 / Output

General Dash HLS Delivery Encryption Content Replacement

Access URL: hls\_test (button highlighted with a yellow box)

## 18. Enter **Source URL** – the source file location for the MPD file

19. Click **Save and Exit**. The Asset will be shown as Valid if created successfully.



Controller

Home / Services / hls\_packaging\_2021

On-Demand Asset

Name: hls\_2021

Access URL: hls\_test

Source URL: file:///001/AP-test/manifest.mpd

Default content ID

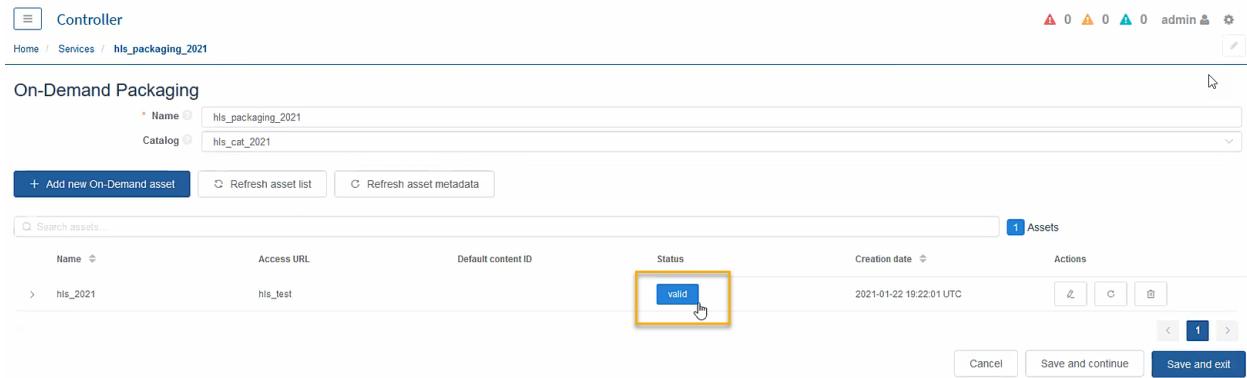
Parameters

Key Value

+ Add parameter

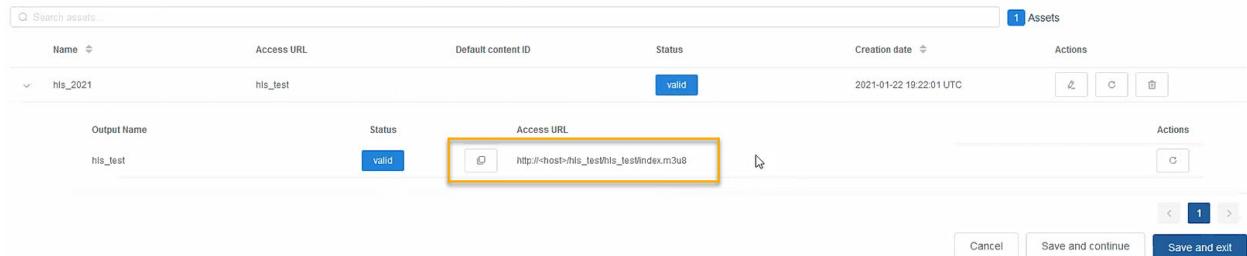
Cancel Save and continue Save and exit (button highlighted with a yellow box)

20. The Asset will be shown as **Valid** if created successfully.



Name	Access URL	Default content ID	Status	Creation date	Actions
hls_2021	hls_test		<b>valid</b>	2021-01-22 19:22:01 UTC	

21. The **Access URL** will now produce the M3U8 file with encryption, see example below:



Name	Access URL	Default content ID	Status	Creation date	Actions
hls_2021	hls_test		<b>valid</b>	2021-01-22 19:22:01 UTC	

The **Key ID** used in the CPIX call is the Asset ID for your player.

## Additional Information

For additional questions and comments please contact [simplify@ezdrm.com](mailto:simplify@ezdrm.com).