



Creating live broadcast with Kaltura

Complete guide

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1.Change history

Date	Version	Owner	Change History
09/05/10	1.0	Nir	First draft

2.Overview

Kaltura have the ability to help you create a live broadcast with easy to understand steps.

Here, we'll layout all that is needed in order to help you create your own live broadcast with a few easy steps.

3. Client side integration

The client side integration is what you need to do before setting the live broadcast and actually go “On-Air”.

The following steps are needed **for each** live feed you wish to broadcast.

3.1. Internet connection

Internet connection must be setup before you go online.

How do you choose your internet connection? By the bandwidth of the feed you wish to broadcast.

For example, for a 600kbps broadcast you’ll need at least 1Mbps **up stream** guaranteed.

Also, you’ll need a **fixed IP** for each broadcasting point/location.

3.2. Broadcasting machine

The actual computer/machine from which you’ll be broadcasting from.

The machine should have the following setup:

- Capture card – to get the Audio/Video feed
- Flash Media Encoder (FME) – Application installation can be found here: <http://www.adobe.com/products/flashmediaserver/flashmediaencoder/>
- Internet connection setup in the “Local area connection” management screen as follows:

Create a new connection in the “Network connections” folder.

On the new “Local area connection” created, click on the right mouse button and choose “Properties”.

On the new window opened, select “Internet Protocol (TCP/IP)” from the list and click the “Properties” button, as shown in figure 1 (That information should be provided by your Internet Service Provider):

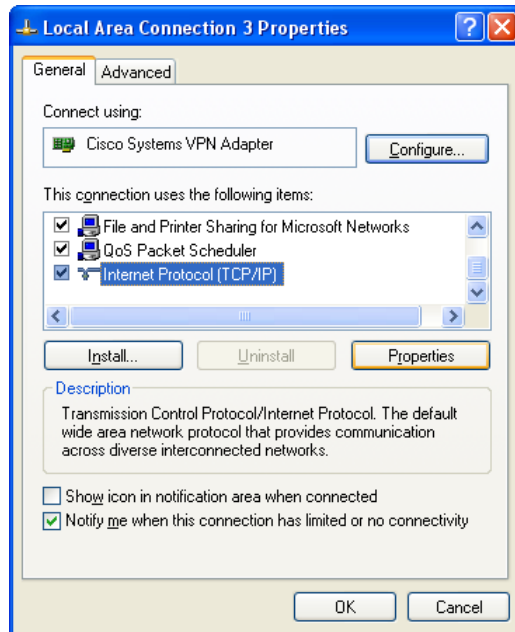


Figure 1

On the new window opened fill in the following fields (see figure 2):

- Check “Use the following IP address and fill:
 - ❖ IP Address
 - ❖ Subnet mask
 - ❖ Default gateway
- Check “Use the following DNS server addresses” and fill
 - ❖ Preferred DNS server
 - ❖ Alternate DNS server

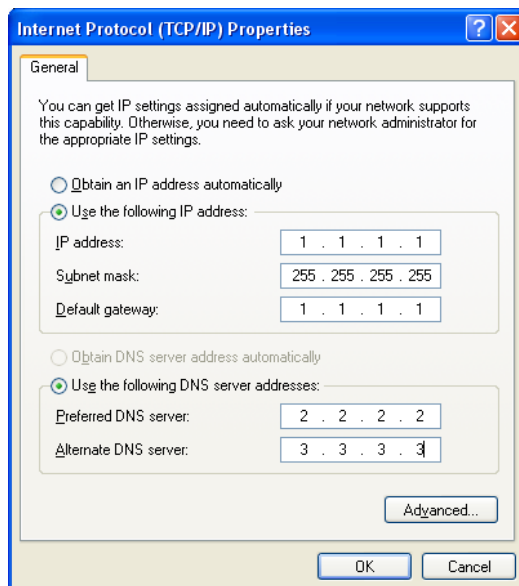


Figure 2

3.3. Flash Media Encoder (FME)

Install the FME you've downloaded in section 3.2

Run the FME and verify that you receive an Audio/Video feed (see figure 3)

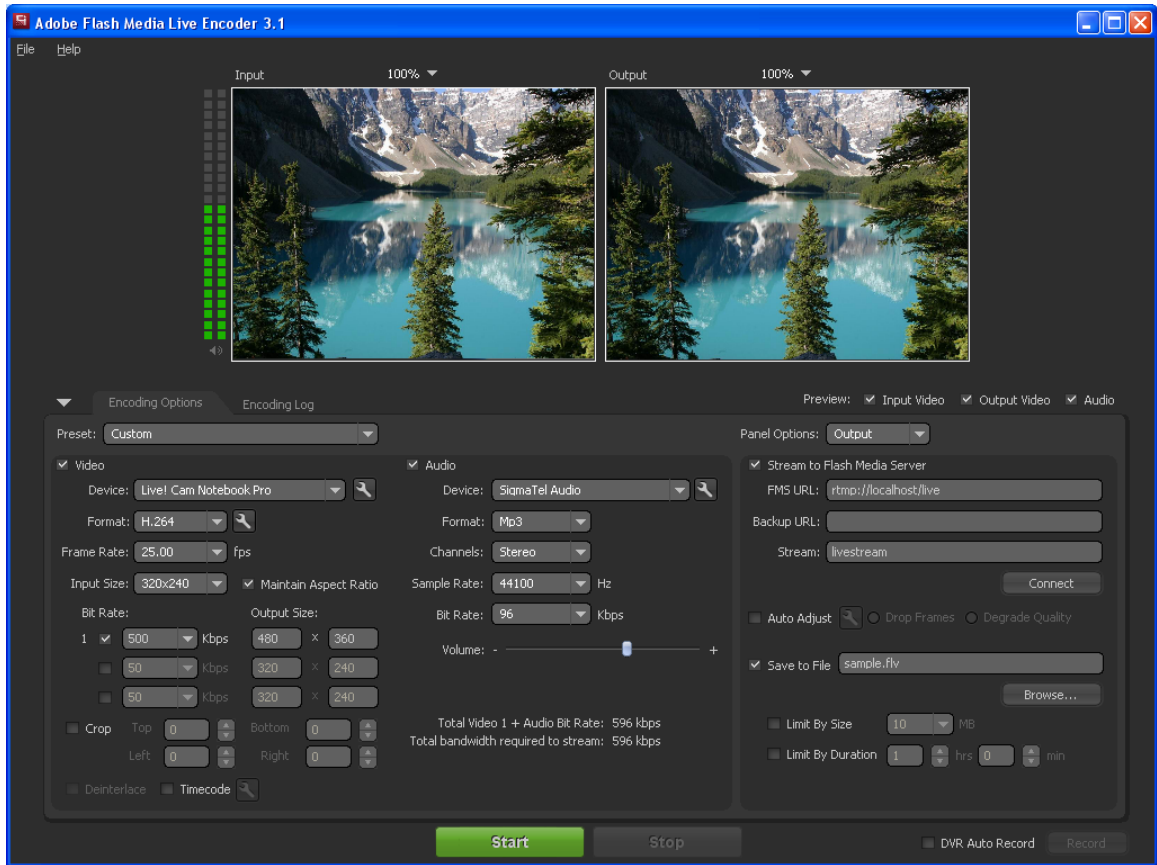


Figure 3

Fill in the following fields:

- Check the “Video” checkbox
 - ❖ Device → Select a video device from the device drop down list
 - ❖ Format → Select H.264
 - ❖ Frame Rate → Select 25.00 fps
 - ❖ Input Size → Select the input size according to your video device and check the “Maintain Aspect Ratio” checkbox
 - ❖ Bit Rate → If you wish to create a single bit rate broadcast, check the first checkbox and fill in the desired **video** bit rate and the **output** frame size. If you wish, you can create a multiple bit rate broadcast. Just follow that step for each **video** stream.
- Check the “Audio” checkbox
 - ❖ Device → Select an audio device from the device drop down list
 - ❖ Format → Select MP3
 - ❖ Channel → Select Stereo

- ❖ Sample Rate → Select 44100 Hz
- ❖ Bit Rate → Select 96 kbps
- ❖ Volume → Choose the desired volume for output.

Take a look at the lines below: “Total Video + Audio Bit Rate” and “Total bandwidth required to stream”. Those 2 lines indicates the amount of upstream you’ll need to broadcast.

Leave the FME open and now move to the Kaltura Management console (KMC) in order to create a live point.

4.Kaltura Management Console (KMC)

4.1.Live point creation –

Login into your account in the KMC at the following link: <http://www.kaltura.com/kmc>

Once logged in, go to the “Content” tab.

There click on “New Live Stream” button on the bottom right hand of the page (as shown in figure 4).

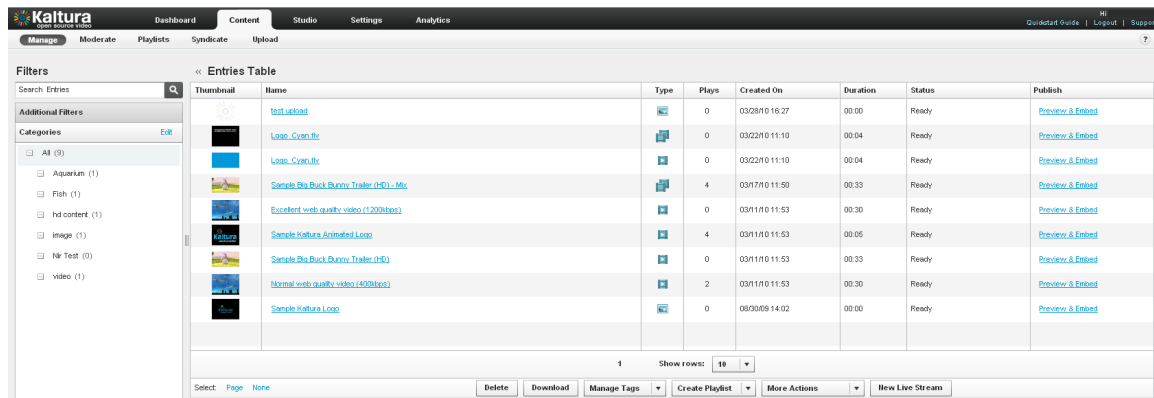


Figure 4

On the new window opened, fill in the following details (as shown in figure 5):

- Name → The name of the live point you wish to create (will be shown as entry name in the KMC)
- Description (optional) → The description of the live point you wish to create
- Primary encoder IP → Your fixed IP set on the machine as shown on section 3.2
- Secondary encoder IP → If you have a backup machine and you wish to use its fixed IP as backup, write that IP in here, else, copy the primary encoder IP.
- Broadcast password (optional) → If your feed is password protected, write that password here. Else, leave blank.

Click “Save”.

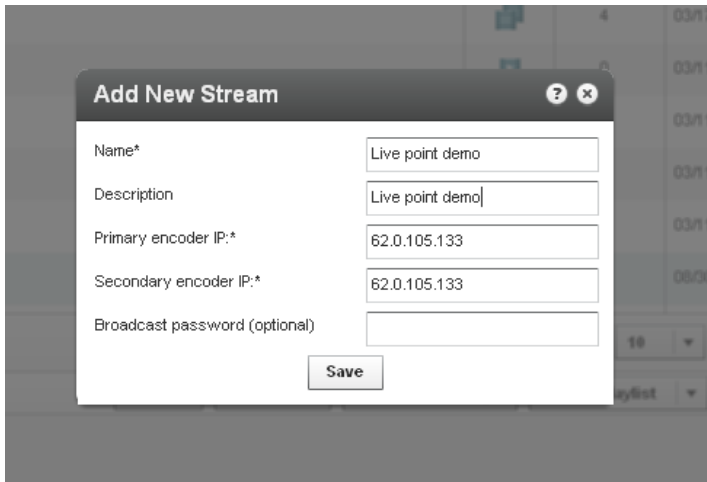


Figure 5

A notification alert will pop-up, indicating your stream will be ready to use with the CDN in 20 minutes (as shown in figure 6).

Click "OK".

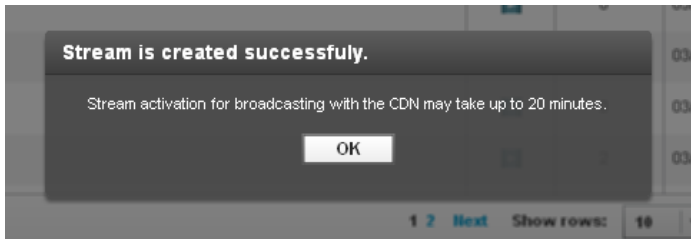


Figure 6

You now see a new entry added to your content list in the KMC.

4.2. Preparing the FME for live –

Click on the entry created holding the name of your live stream point you've created.

On the new window opened (see figure 7), go to the “Broadcasting” tab on the left.

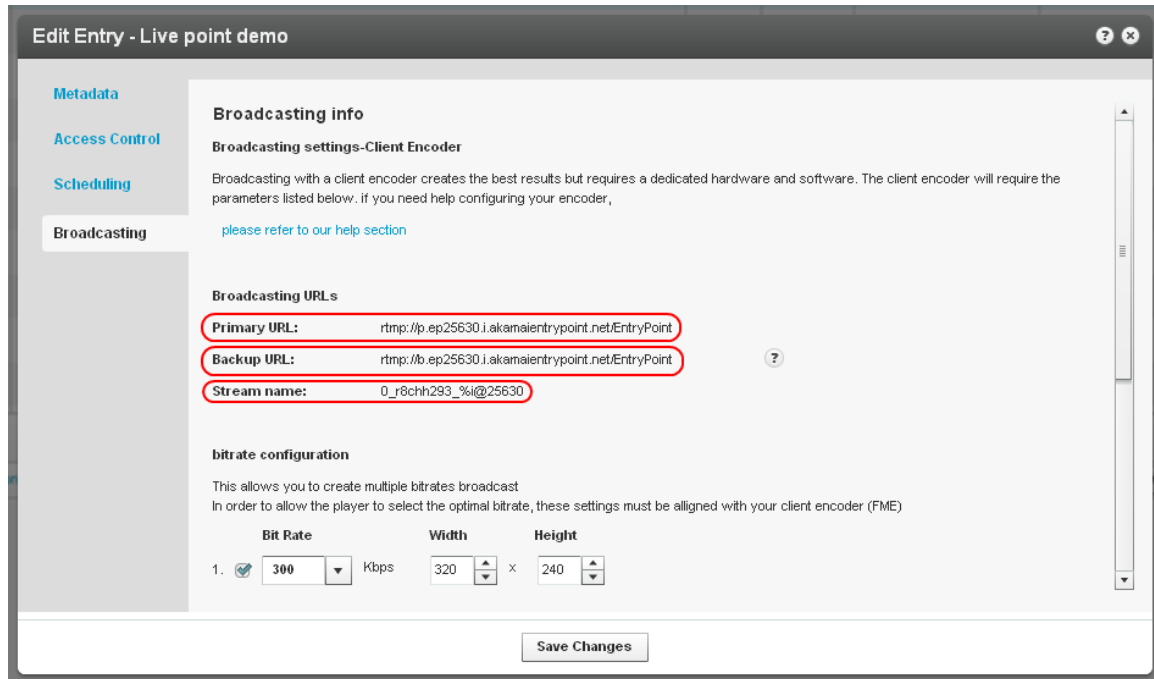


Figure 7

Copy the following fields from the “Edit Entry” window in the KMC and paste them in the relevant fields in your FME (configured on section 3.3) as followed:

KMC ↔ FME

- Primary URL ↔ FMS URL
- Backup URL ↔ Backup URL
- Stream name ↔ Stream

The final result should look like shown on figure 8.

Click “Connect” button.

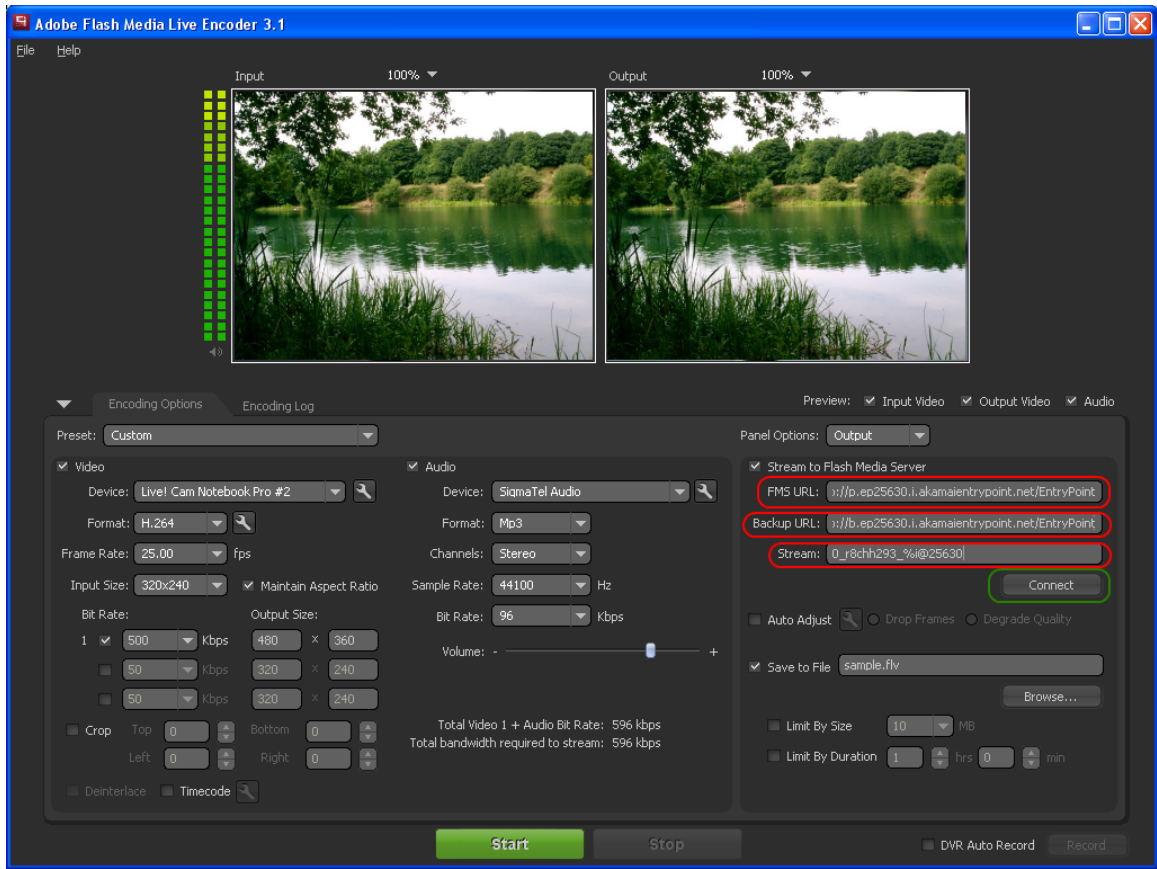


Figure 8

Now, the FME is trying to connect to each live point set above. A login screen will pop-up asking for the user name and password to make the connection with the CDN servers.

4.3.Login to CDN servers –

Go back to the KMC screen of the “Edit Entry” window and scroll down to where it says: “Broadcasting credentials” (as shown in figure 9).

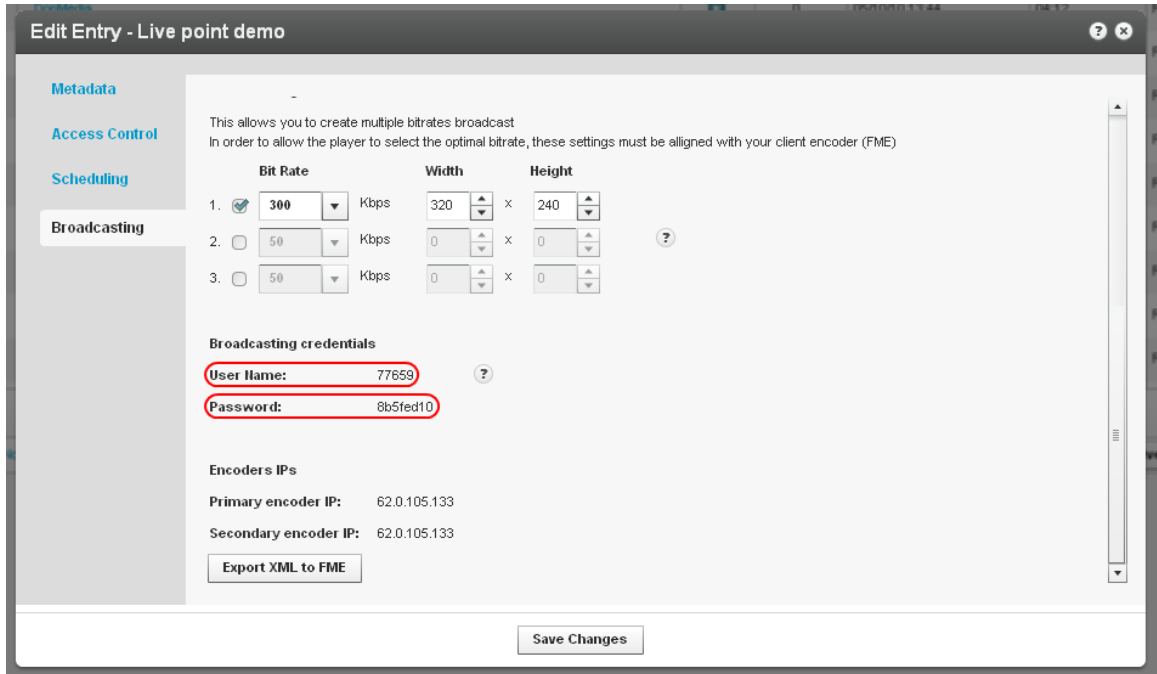


Figure 9

There copy the user name and password and paste it to the FME pop-up screen opened requesting login as follows:

KMC ↔ FME

- User Name ↔ Username
- Password ↔ Password

The final result should look like shown on figure 10.

Click “OK” button.

*** Important notice: Repeat that action for the second pop-up for login as well with the same user name and password. The login pop-up is opened for each live point → Primary and Backup.**

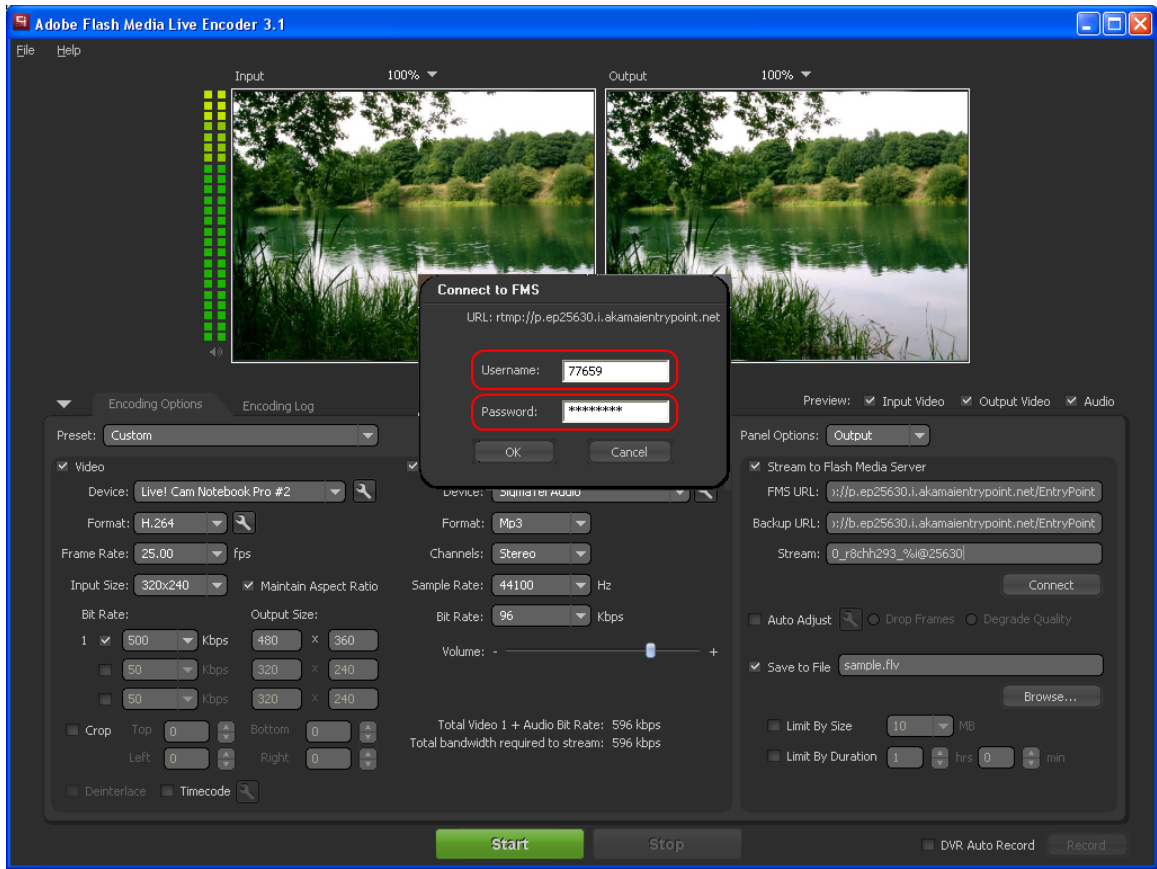


Figure 10

If the login fails, make sure you've waited the 20 minutes time period before you tried to connect.

If you did wait, make sure you copied the username and password correctly from the KMC (No spaces etc.).

5.Start broadcasting

Now, you're FME is connected to the CDN servers and you're now ready to broadcast.

5.1.Flash Media Encoder (FME) –

Now, click on the “Start” button situated on the bottom of your FME application screen (see figure 11).

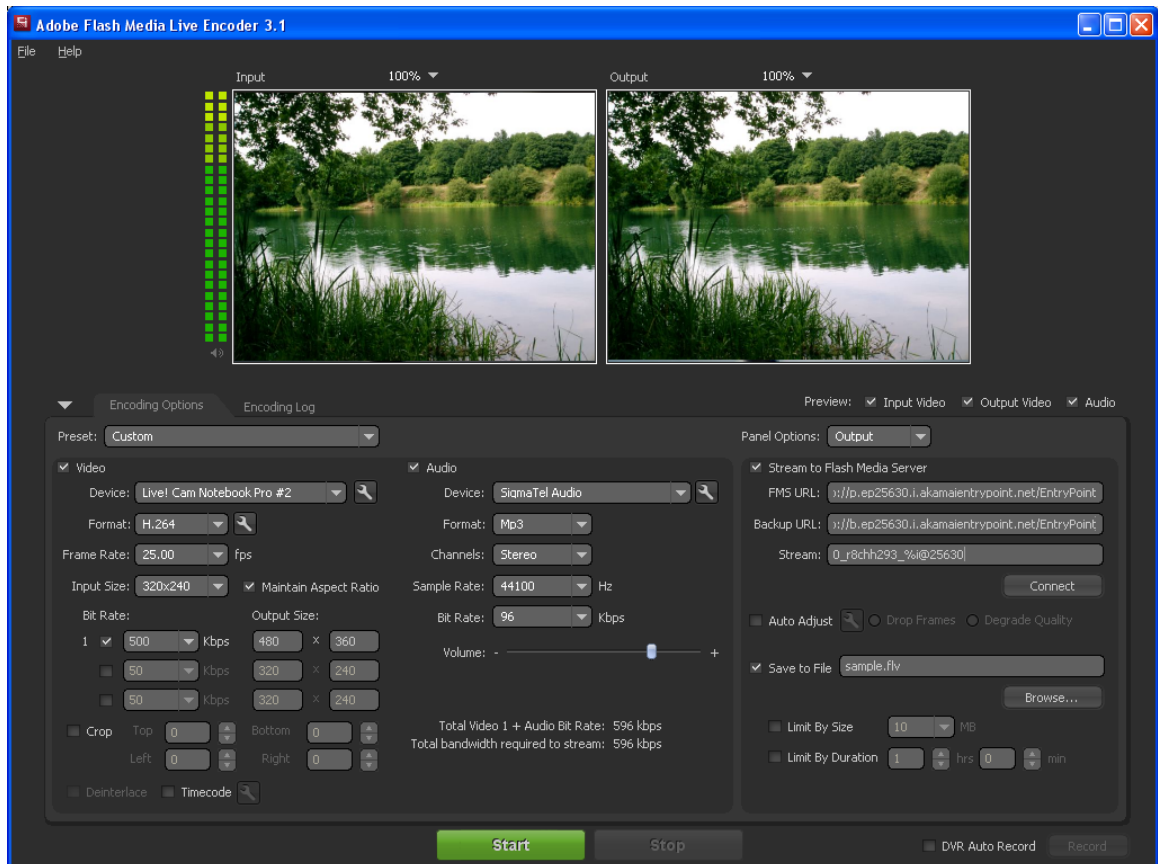


Figure 11

You'll now be transferred to a new window indicating you broadcast speed (bit rate) and will show you what is currently broadcasting (see figure 12).

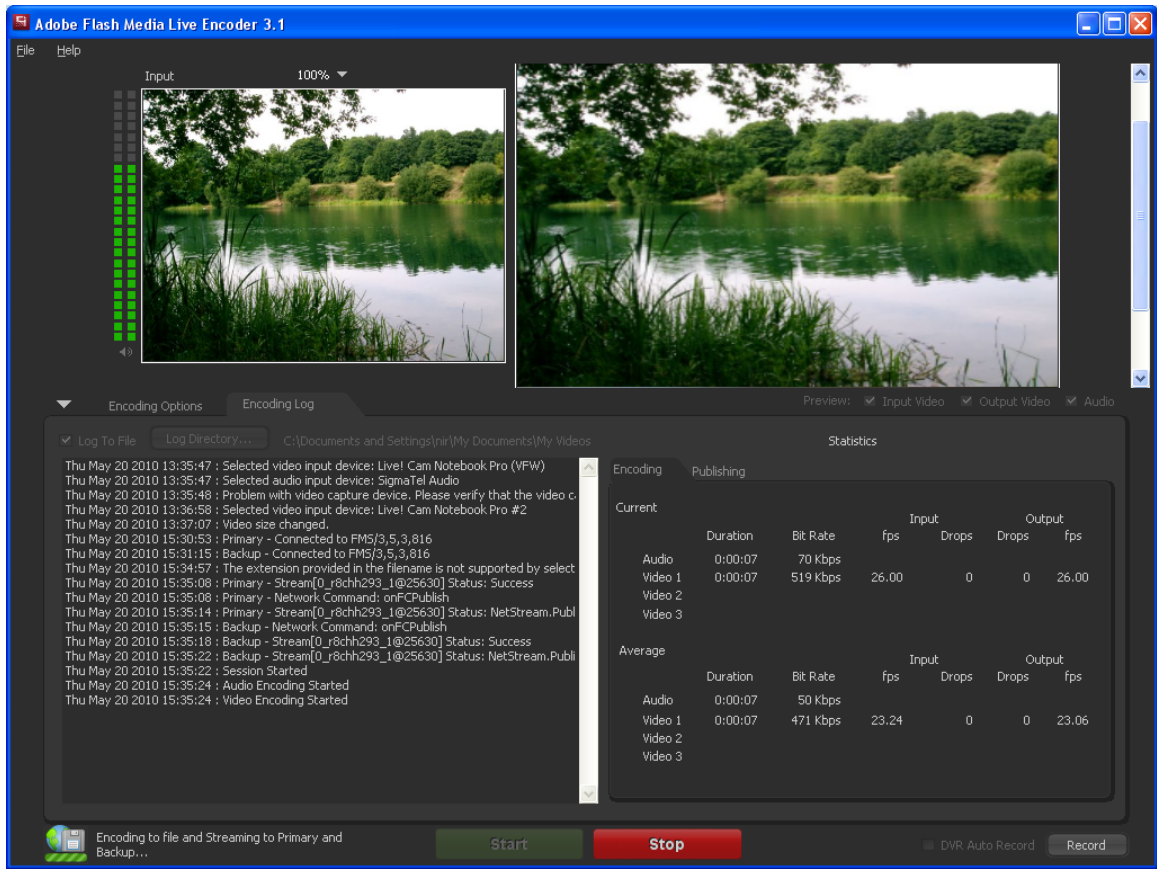


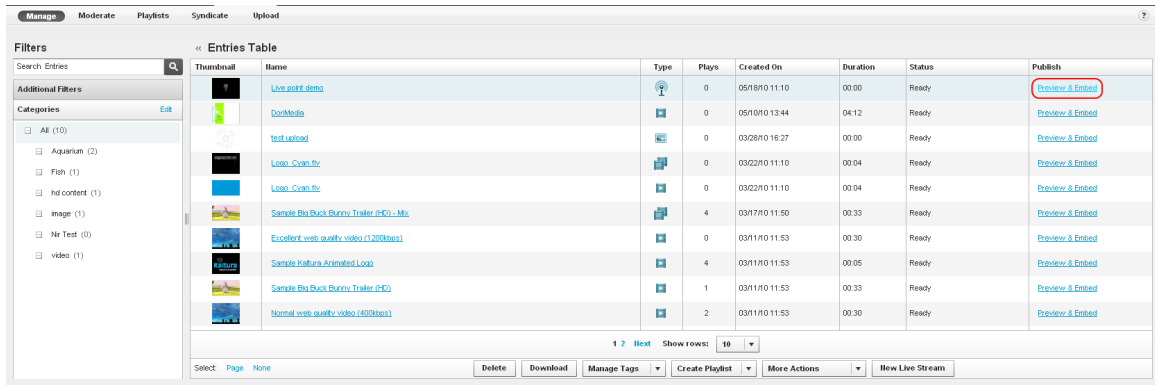
Figure 12

Now, in order to see you live feed go back to the KMC and see what every end user will see.

5.2.Kaltura Management Console (KMC) –

Close the “Edit Entry” window. Click “OK” in the “Discard changes” pop-up window.

Now, on the entry row in the content list, click the “Preview & Embed” link on the right hand side of the entry row (see figure 13).



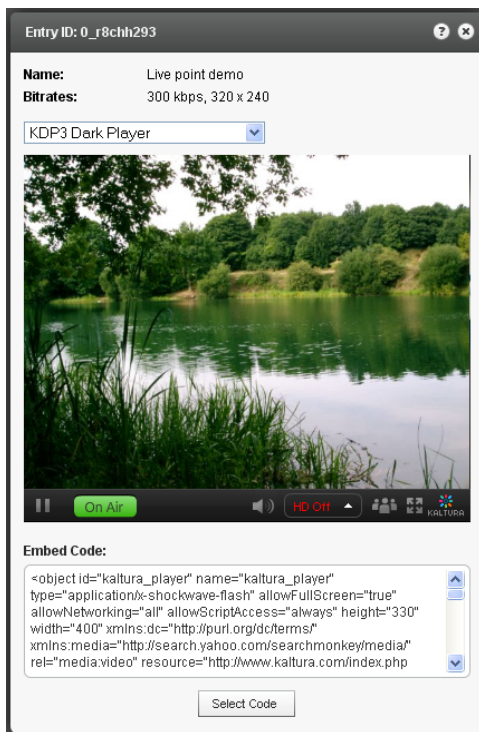
Thumbnail	Name	Type	Plays	Created On	Duration	Status	Publish
	Live point demo	Live	0	05/18/10 11:10	00:00	Ready	Preview & Embed
	DoraMedia	Video	0	05/10/10 13:44	04:12	Ready	Preview & Embed
	testUpload	Video	0	03/28/10 18:27	00:00	Ready	Preview & Embed
	Logo_Cyan.flv	Video	0	03/22/10 11:10	00:04	Ready	Preview & Embed
	Logo_Cyan.flv	Video	0	03/22/10 11:10	00:04	Ready	Preview & Embed
	Sample Blu-Ray Bunny Trailer (HD) - Mkv	Video	4	03/17/10 11:50	00:33	Ready	Preview & Embed
	Excellent web quality video (1200kbps)	Video	0	03/11/10 11:53	00:30	Ready	Preview & Embed
	Sample Kaltura Animated Logo	Video	4	03/11/10 11:53	00:05	Ready	Preview & Embed
	Sample Blu-Ray Bunny Trailer (HD)	Video	1	03/11/10 11:53	00:33	Ready	Preview & Embed
	Normal web quality video (450kbps)	Video	2	03/11/10 11:53	00:30	Ready	Preview & Embed

Figure 13

On the new window opened, you’ll see a default player with your live feed broadcasted from your machine.

You’ll notice the “On Air” mark, mentioning that you’re currently broadcasting.

Beneath the player you’ll be able to grab the embed code for that selected player and paste it on your site (see figure 14).



Entry ID: 0_r8chh293

Name: Live point demo
Bitrates: 300 kbps, 320 x 240

KDP3 Dark Player

On Air

HD Off

Embed Code:

```
<object id="kaltura_player" name="kaltura_player" type="application/x-shockwave-flash" allowFullScreen="true" allowNetworking="all" allowScriptAccess="always" height="330" width="400" xmlns:dc="http://purl.org/dc/terms/" xmlns:media="http://search.yahoo.com/searchmonkey/media/" rel="media:video" resource="http://www.kaltura.com/index.php" />
```

Select Code

Figure 14

6. More features ...

6.1. Create your own player –

In your KMC account you can create your own customized player with many optional features.

Login to your KMC account at: <http://www.kaltura.com/kmc>

Go to the “Studio tab” and select one of the options to create your own designed player.

After you design your player you can then, in the “Preview & Embed” link on your live feed entry, select that player, you’ve just designed, as the player to use in your site.

Just select the player from the drop down list and take it’s embed code.

6.2. Save your live feed to a file –

In the FME you can select a location to save your live feed to a file to use afterwards as a VOD in your site.

Before hitting the “Start” button, in the FME, you’ll see the “Save to file” checkbox.

Check that checkbox, browse to your desired saving location, by clicking the “Browse” button, and selecting the output filename in the textbox.

Once you click the “Start” button, to start the live, the feed will be now saved into the file you’ve selected before.