



# Ezserver User Guide

[www.ezhometech.com](http://www.ezhometech.com)

**Updated :05/11/2017**

**Version : 1.0.320**

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# 1. Introduction

**Artificial Intelligence (AI) IPTV is the new generation of IPTV.** Traditional IPTV provides static channel list, movie list and categories to users. AI IPTV is to provide dynamic, Intelligence channel list., movie list and categories to users.

Traditional IPTV provides all channel names or icons to users, so users need to see them that some channels were never watched or disliked by users. Or users need to pre-define their favorite channel list. AI IPTV can intelligently and dynamically provides certain channels that users often watch or like at one time.

To provide dynamic, Intelligence Information to users, Ezserver uses one of the important AI theory, called [Vague Set](#) that is an extension of fuzzy set. Vague set was found by Ezhometech Founder, Mr. Gau and published in "*IEEE Transaction on system, Man and Cybernetics*" in 1993.

**Ezserver is a media streaming server with Artificial Intelligence (AI) capability.** It receives live video from UDP, HTTP, RTMP and HLS links, *ecording* and *streaming* them into players on PC, Android, iOS, STB and Smart TV. Ezhometech also provides Channel/Movie/User Management, Security, Statistics and REST API with Ezserver. Additional, Ezserver can support a lot of famous players on PC, Google android app, Apple app, STB and Smart TV. Specially, we are proud to provide the fastest video response to let our customers provide the best video streaming.



## 2. System requirement

### Hardware requirement

#### **Minimum requirement**

- **Processor: Dual-Core**
- **RAM: 8GB**
- **Network Interface: 1G BASE**
- **Hard Disk Space: 150MB**

#### **800 connection requirement**

- **Processor: Quad-Core (Intel i7 4970)**
- **RAM: 16GB**
- **Network Interface: 1G BASE**
- **Hard Disk Space: 150MB**

#### **4500 connection requirement**

- **Processor: 2x Intel Six-Core Xeon E5-2620v3**
- **RAM: 128GB**
- **Network Interface: Upload 10G BASE / Download 10G BASE**
- **Hard Disk Space: 150MB**

### Software requirement

#### **Linux platform**

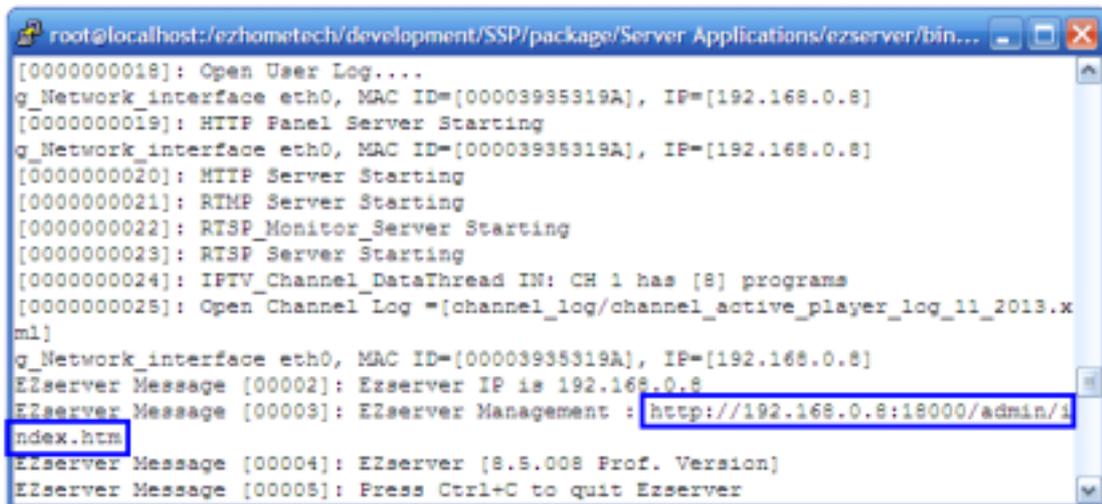
- **64-bit**
- **Debian (recommended)**
- **Centos**
- **Ubuntu**

## 3. System installation

Refer the below steps to install ezserver and IPTV Panel.

- copy install.sh into /root or /home folder
- `chmod 777 install.sh`
- `./install.sh`
- After installation, go to ezserver\_enterprise folder.
- **cd ezserver\_enterprise**
- **ls -al serial\_number.txt**
- **send** serial\_number.txt to sales@ezhometech.com for license activation.
- **go to ezserver\_enterprise to start or shutdown ezserver.**
  - **Start Ezserver**
    - ◆ **cd ezserver\_enterprise**
    - ◆ `./start.sh`
  - **Shutdown Ezserver**
    - ◆ **cd ezserver\_enterprise**
    - ◆ `./shutdown.sh`

When Ezserver shows `http://server_ip:18000/admin/index.htm`, it means Ezserver starts successfully.



```
root@localhost:/ezhometech/development/SSP/package/Server Applications/ezserver/bin...
[0000000018]: Open User Log....
g_Network_interface eth0, MAC ID={00003935319A}, IP=[192.168.0.8]
[0000000019]: HTTP Panel Server Starting
g_Network_interface eth0, MAC ID={00003935319A}, IP=[192.168.0.8]
[0000000020]: HTTP Server Starting
[0000000021]: RTMP Server Starting
[0000000022]: RTSP_Monitor_Server Starting
[0000000023]: RTSP_Server Starting
[0000000024]: IPTV_Channel_DataThread IN: CH 1 has [8] programs
[0000000025]: Open Channel Log =[channel_log/channel_active_player_log_11_2013.x
ml]
g_Network_interface eth0, MAC ID={00003935319A}, IP=[192.168.0.8]
EZserver Message [00002]: Ezserver IP is 192.168.0.8
EZserver Message [00003]: Ezserver Management : http://192.168.0.8:18000/admin/i
index.htm
EZserver Message [00004]: Ezserver [8.8.008 Prof. Version]
EZserver Message [00005]: Press Ctrl+C to quit Ezserver
```

- Login Panel by [http://server\\_ip:18000/admin/index.htm](http://server_ip:18000/admin/index.htm)
- **IMPORTANT ---** Change root user to your own ID (refer Administrator profile setting topic) .

You can change the setting after Installation, you can run

- `./setup.sh`

to change the setting.

Setup example steps:

**A. Please use Linux command netstat or nmap to find the unused port no.**

**B. Run setup.sh to setup Ezserver to create serial\_number.txt for License Key.**

`./setup.sh`

**1. Please select network interface (current setting is eth0)**

`eth0`

`lo`

`→eth0`

**2. Please type new panel port no. (18000): 18000**

**3. Please type new http streaming port no. for players (8000): 8000**

**4. Do you want to setup auto\_start mode?(y/n) y**

**5. Setup successfully...**

**6. Send serial\_number.txt to sales@ezhometech.com for license activation...**

## 4. Administrator Web Management

### Introduction

It supports Internet browser such as *Internet Explore, Chrome, Firefox* or *Safari* to login by the below URL path.

[http://Ezserver\\_IP:18000/admin/index.htm](http://Ezserver_IP:18000/admin/index.htm)

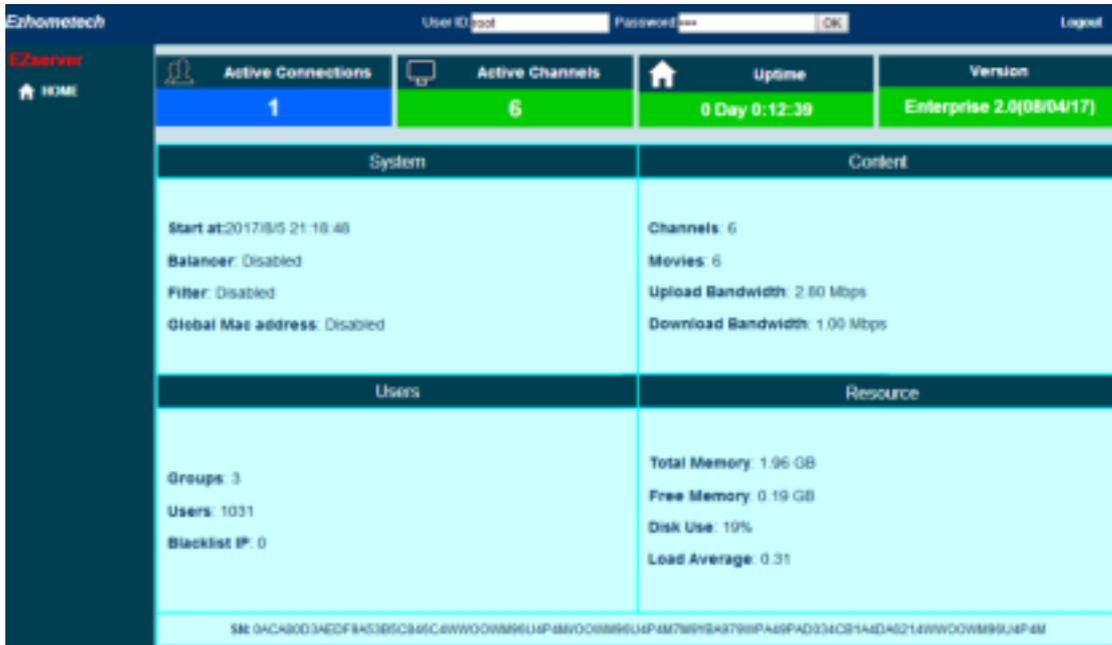
The screenshot displays the Ezserver Administrator Web Management interface. At the top, there is a navigation bar with 'User ID' and 'Password' fields, and a 'Login' button. Below this, a dashboard shows four key metrics: Active Connections (1), Active Channels (6), Uptime (0 Day 0:12:39), and Version (Enterprise 2.0(08/04/17)). The main content area is divided into four sections: System, Content, Users, and Resource. The System section includes Start at, Balancer, Filter, and Global Mac address. The Content section shows Channels, Movies, Upload Bandwidth, and Download Bandwidth. The Users section lists Groups, Users, and Blacklist IP. The Resource section displays Total Memory, Free Memory, Disk Use, and Load Average. A sidebar on the left contains a menu with options like HOME, CHANNEL, MOVIE, USER, GROUP, PLAYER, EPG, RESELLER, FILTER, MAC ADDR, ALERT, BLACKLIST, BALANCER, SETTING, STATISTICS, LOG, and SHUTDOWN.

It provides the below management

- Home: **System Information.**
- Channel: **Channel Management**
- Movie: **Movie Management**
- User: **Subscriber Management**
- Group: **Group Management**
- Player: **Online Player Information**
- EPG: **EPG Management**
- Reseller: **Reseller Management**
- Player Filter: **Filter all players**
- Alert Player: **Alert Player Information**
- MAC Addr.: **MAC Address Control**
- Blacklist: **Automatic blacklist management**
- Balancer: **Load balancing Management**
- Setting: **Protocol port setting**
- Statistics: **Channel Statistics**
- Shutdown: **Shutdown Ezserver**

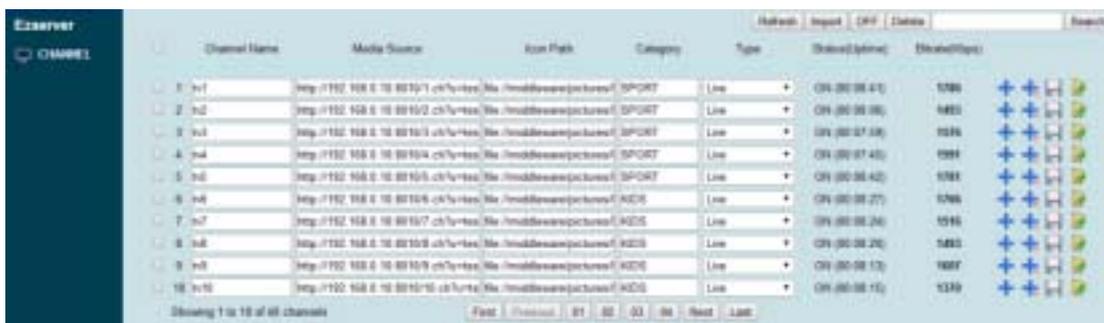
- Log: System Log

Home



Version	• Ezserver Version
Start at	• EZserver Starting time
Uptime	• Ezserver Uptime
Group	• Total Group No.
Subscriber	• Total Subscriber No.
Streaming Connection	• Total Active Player No.
Blacklist IP	• Total Blacklist No..
Channels	• Total Channel No.
Active Channels	• Total Active Channel No.
Movie	• Total Movie No.
Upload Bandwidth	• Total Upload Bandwidth
Download Bandwidth	• Total Download Bandwidth
Total / Free Memory	• System total available memory and free memory
Ezserver Memory Usage	• Ezserver running time memory
Disk Use	• System Disk use percentage
Load Average	• System Load average

## Channel



### Menu Bar

Refresh	Refresh checked channels
Import	Import Channel List from m3u list URL
Delete	Delete checked channels
OFF	Show OFF channels
Search	Search Channel Name

### Button

Add	Add a new channel
Copy	Copy 10 channels
Save	Save channel definition
More	More Channel information

### Content

Channel No	For player input url by no, ex. <a href="http://192.168.0.8:18000/1.ch">http://192.168.0.8:18000/1.ch</a>
Channel Name	For player input url by name. Ex. <a href="http://192.18.0.8.1800/tv1">http://192.18.0.8.1800/tv1</a>
Media Source	<p>For RTP/UDP/HTTP/RTMP/Playlist input.</p> <ul style="list-style-type: none"> <li>○ Playlist syntax : “playlist:/folder_path” <ul style="list-style-type: none"> <li>▪ Supports TS, MP4, FLV, AVI, MKV, MP3, JPEG, PNG</li> <li>▪ The playing sequence of videos is by alphabetical order.</li> <li>▪ ex. if the url is “<b>playlist://middleware/videos/Movie</b>”, you have to create /ezserver_enterprise /middleware/videos/Movie folder. And upload videos or music into this folder.</li> </ul> </li> <li>• RTP syntax : “rtp://por_no” <ul style="list-style-type: none"> <li>• rtp://7001</li> </ul> </li> <li>• UDP syntax : “udp://por_no” <ul style="list-style-type: none"> <li>• udp://7001</li> </ul> </li> <li>• RTMP syntax : “rtmp://url” <ul style="list-style-type: none"> <li>• rtmp://207.182.149.36/live/live1</li> </ul> </li> <li>• HTTP syntax : “http://ip:port_no/path”</li> </ul>

	<ul style="list-style-type: none"> <li>• <a href="http://172.16.10.51:7001/1.ch">http://172.16.10.51:7001/1.ch</a></li> <li>• <a href="http://172.16.10.51:7001/1.mp4">http://172.16.10.51:7001/1.mp4</a></li> <li>• HLS m3u8 syntax : “<a href="http://ip:port_no/chx.m3u8">http://ip:port_no/chx.m3u8</a>”</li> <li>• <a href="http://172.16.10.51/ch1.m3u8">http://172.16.10.51/ch1.m3u8</a></li> <li>○ TS Playlist syntax : “<a href="dir:/folder_path">dir:/folder_path</a>”             <ul style="list-style-type: none"> <li>• <b>Supports TS Format</b></li> <li>• Needs to create the folder in ezserver media/videos folder first.</li> <li>• ex. if the url is “<b>dir://media/videos/Movie</b>”, you have to create /ezserver_enterprise /media/videos/Movie folder. And upload TS format videos into this folder</li> <li>• The playing sequence of videos is by alphabetical order.</li> </ul> </li> </ul>
Icon Path	The path of Channel icon for players
Category	The category for each channel.
Type	Support Live, Movie, Delay, DVR and Inactive channels.
Status (Uptime)	<ul style="list-style-type: none"> <li>• ON (Uptime)</li> <li>• OFF</li> <li>• Connecting</li> </ul>
Bitrate	<ul style="list-style-type: none"> <li>• <b>Channel Upload Bitrate</b></li> </ul>

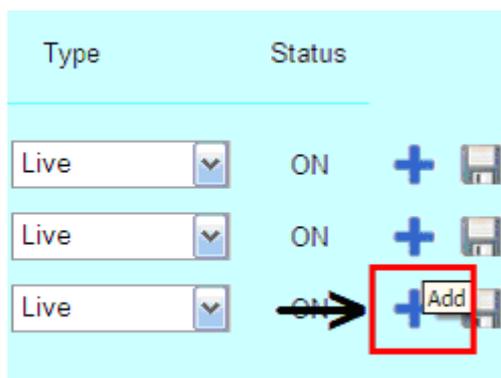
## Add new channel

Follow the below steps to add new channel.

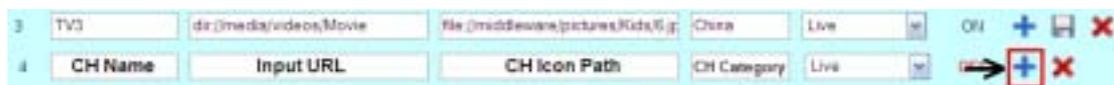
Step1: Click "Channel" Button.



Step2: Click "+" Button of a channel to add new channel.



Step3: Input Channel Name, input URL, Channel Icon Path Catalog and Type, then click "+" button.



## Add Channel backup source URLs

- Click Channel Button
- Click More Button of a channel
- Input URL into 2<sup>nd</sup> URL and 3<sup>rd</sup> URL

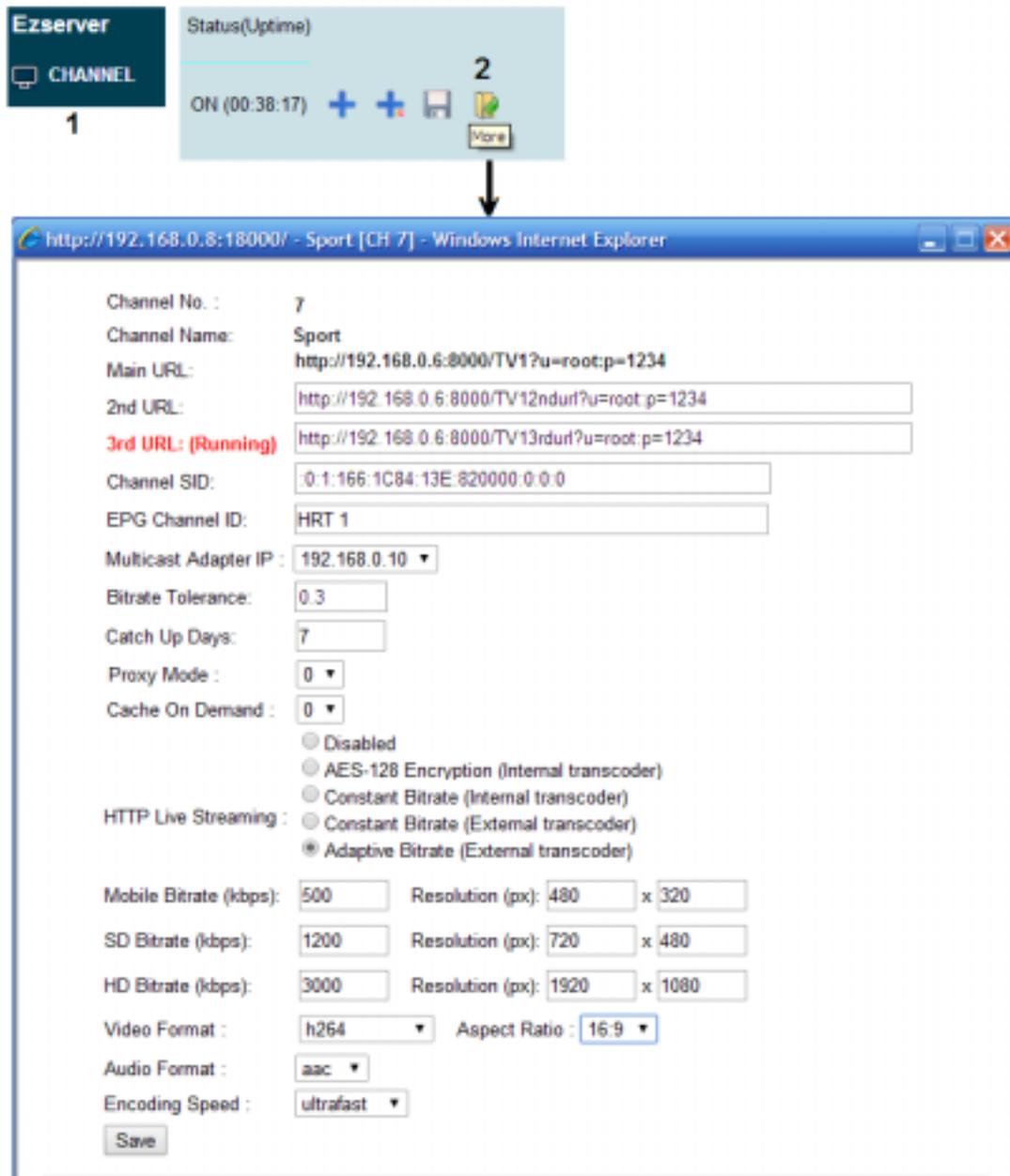
The image shows a two-step process. Step 1: A dark blue sidebar labeled 'Eserver' contains a 'CHANNEL' button with a monitor icon and the number '1'. Step 2: A light blue panel shows 'Status(Uptime)' as 'ON (00:38:17)' with a '2' in a circle, a 'More' button, and other icons. An arrow points to a Windows Internet Explorer window titled 'Sport [CH 7]'. The window displays the following configuration:

Channel No. :	1
Channel Name:	RTMP TEST
Main URL:	rtmp://192.168.0.6/live/1.ch?u=root;p=1234
2nd URL:	<input type="text" value="rtmp://192.168.0.6/live/2.ch?u=root;p=1234"/>
3rd URL: (Running)	<input type="text" value="rtmp://192.168.0.6/live/3.ch?u=root;p=1234"/>

- Click Save Button

## Channel extra setting

Extra setting includes Channel Backup URLs, Enigma SID for EPG, Bitrate Tolerance for video streaming, Channel Forward for bandwidth saving.



Extra setting includes Channel Backup URLs, Enigma SID for EPG, Bitrate Tolerance for video streaming, Channel Forward for bandwidth saving.

Note 1. 2<sup>nd</sup> URL and 3<sup>rd</sup> URL: **for channel main URL is not available.**

Note 2. Multicast Adapter IP: **Multicast Stream from multiple network adapters.**

Note 3. Channel SID: **for enigma EPG use.**

Note 4. EPG Channel ID: **When the channel name of panel is different with channel id of**

**EPG, It is for mapping them.**

Note 5. Bitrate Tolerance: **for video streaming performance of a channel, it is same as “Channel Streaming Bitrate Tolerance” of Setting Windows that is for all channels.**

Note 6. Catch Up Days: **days for channel recording. “0” is to disable recording.**

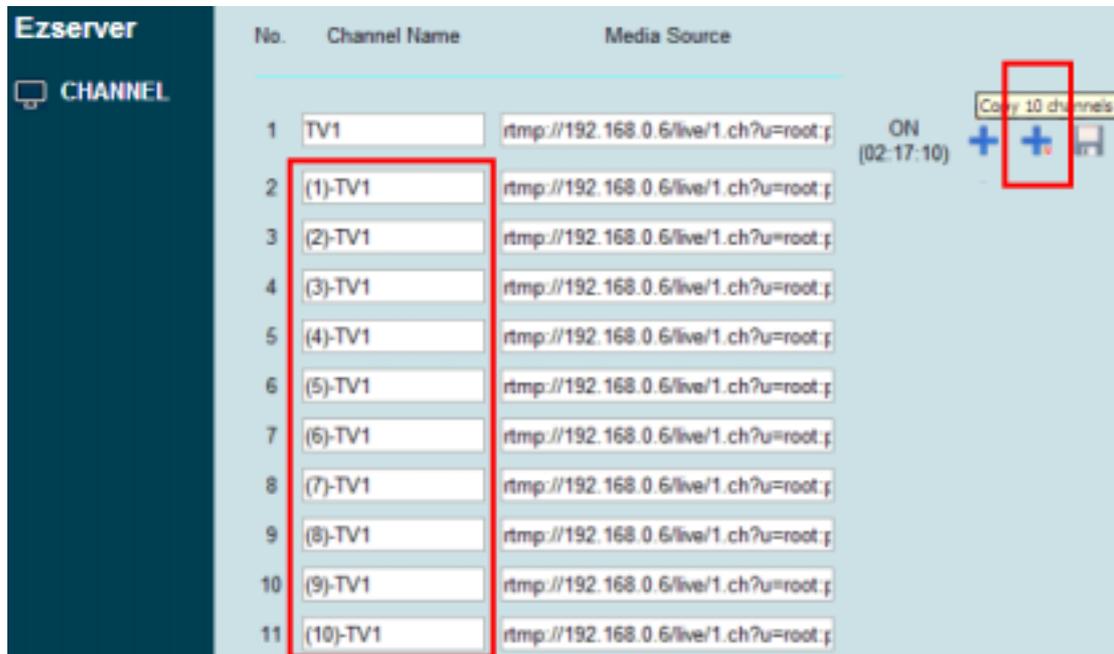
Note 7. Proxy mode: **The channel becomes a proxy server to forward the channel main url to player.**

Note 8. Caching on-demand: **if its value is 1, then when a player wants to watch a channel, ezserver checks the channel if is cached in memory. if the channel is cached, then ezserver streams the channel video from the cache to the player. If the channel is not cached, ezserver opens a connection to the input server and gets the video into cache memory, then ezserver streams the channel video from the cache to the player. If its value is 0, ezserver does not stop the connection of input server to get the video into cache memory.**

Note 9. HTTP Live Streaming: **Use DASH Transcoder.to provide adaptive bitrate streaming for H265/H264 video.**

## Create multiple channels

Use copy button to create 10 channels with the current channel information.



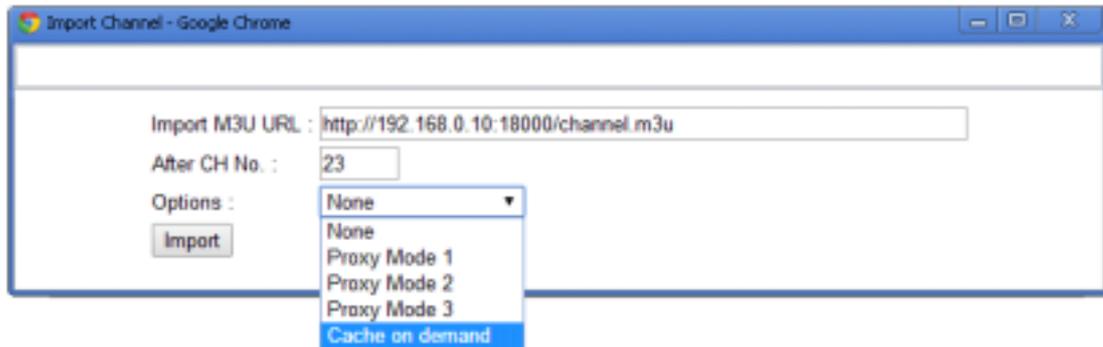
The screenshot shows the Ezserver interface with a table of channels. The table has three columns: No., Channel Name, and Media Source. The first row (No. 1) shows 'TV1' with the media source 'rtmp://192.168.0.6/live/1.ch?u=root;p'. The subsequent rows (No. 2-11) show '(1)-TV1' through '(10)-TV1' with the same media source. A red box highlights the Channel Name and Media Source columns for rows 2 through 11. To the right of the table, there is a status 'ON (02:17:10)' and a 'Copy 10 channels' button, which is also highlighted with a red box. The button has a plus sign and a document icon.

No.	Channel Name	Media Source
1	TV1	rtmp://192.168.0.6/live/1.ch?u=root;p
2	(1)-TV1	rtmp://192.168.0.6/live/1.ch?u=root;p
3	(2)-TV1	rtmp://192.168.0.6/live/1.ch?u=root;p
4	(3)-TV1	rtmp://192.168.0.6/live/1.ch?u=root;p
5	(4)-TV1	rtmp://192.168.0.6/live/1.ch?u=root;p
6	(5)-TV1	rtmp://192.168.0.6/live/1.ch?u=root;p
7	(6)-TV1	rtmp://192.168.0.6/live/1.ch?u=root;p
8	(7)-TV1	rtmp://192.168.0.6/live/1.ch?u=root;p
9	(8)-TV1	rtmp://192.168.0.6/live/1.ch?u=root;p
10	(9)-TV1	rtmp://192.168.0.6/live/1.ch?u=root;p
11	(10)-TV1	rtmp://192.168.0.6/live/1.ch?u=root;p

## Import channel

Import channel list by m3u format into Ezserver, there are three ways, the 1<sup>st</sup> way is by IPTV Panel, the 2<sup>nd</sup> way is to upload channel.m3u to ezserver\_ai folder, the 3<sup>rd</sup> way is by command.

- **By Panel:** Login Panel to Click import button, then input m3u location and select one option.



- **By channel.m3u:** Make a filename, called channel.m3u and upload it into ezserver\_ai folder. Then start ezserver to convert it into channel\_definition.xml. **channel.m3u files must be deleted after channel\_definition.xml created.**
- **By command:** Convert m3u8 file into channel\_definition.xml

Command Options:

### Function:

Convert m3u file into Ezserver Channel database

### Usage:

ezchconverter [-c] filename(m3u)

### Options:

-c Convert m3u file to channel\_definition.xml (Default)

### Examples:

```
>ezchconverter 1.m3u      ... Convert 1.m3u to channel_definition.xml
>ezchconverter -c 1.m3u  ... Convert 1.m3u to channel_definition.xml
```

- **cd ezserver\_ai /**
- **ls ezchconverter**
- **./ezchconverter 1.m3u**
- **cat channel\_definition.xml**

## Channel list download

Download channel list, Script by each user.

- Select one option of CH List filed in User panel to download it to your PC.
- The options are including enigma, m3u8, m3u, XBMC, Enigma Script and MAC Address Script etc.

The screenshot shows the Ezserver USER interface. On the left is a dark sidebar with the Ezserver logo and the word 'USER'. The main area displays a table of users with columns for 'User no', 'User Name (Primary Key)', 'Password', and 'Group'. A 'Total: 141' label is at the top left of the table. The 'CH List' column contains dropdown menus for each user. The dropdown for user 11 is open, showing a list of channel list scripts: Enigma, Enigma 1.6, Enigma(RTMP), Enigma 1.6(RTMP), m3u(chno), m3u(chname), m3u(chno with suffix), m3u(chname with suffix), m3u(RTMP), octagon, ariva, XBMC, Pure, Optumuss, Amiko, Spark, Tiger, Bluestar, and nStreamVOD.

User no	User Name (Primary Key)	Password	Group	CH List
1	root	1234	golden	--
2	robert	1234	basic	--
3	5586688948	5586688948	basic	--
4	8698527291	8698527291	basic	--
5	4395840282	4395840282	basic	--
6	8789290532	8789290532	basic	--
7	7265082124	7265082124	basic	--
8	8509419732	8509419732	basic	--
9	9817122342	9817122342	basic	--
10	6428111621	6428111621	basic	--
11	4653669740	4653669740	basic	Enigma Enigma 1.6 Enigma(RTMP) Enigma 1.6(RTMP) m3u(chno) m3u(chname) m3u(chno with suffix) m3u(chname with suffix) m3u(RTMP) octagon ariva XBMC Pure Optumuss Amiko Spark Tiger Bluestar nStreamVOD
12	9006398696	9006398696	basic	--
13	4707250525	4707250525	basic	--
14	9292189360	9292189360	basic	--
15	3845085616	3845085616	basic	--

## Streaming performance adjustment

If a player watches a channel freezing, it can be network performance, internet download bandwidth or higher video bitrate, administrator can adjust Bitrate Tolerance to enhance the video streaming speed as below:

The image shows a two-step process. Step 1: A dark blue sidebar labeled 'Ezserver' contains a 'CHANNEL' icon and the number '1'. Step 2: A light blue status panel shows 'Status(Uptime)' with a large '2' and 'ON (00:38:17)'. Below this are icons for a plus sign, a minus sign, a hard drive, a folder, and a 'More' button. An arrow points from the 'More' button to a Windows Internet Explorer browser window. The browser window title is 'http://192.168.0.8:18000/ - Sport [CH 7] - Windows Internet Explorer'. The page content is a configuration form for channel 7. The 'Bitrate Tolerance' field is highlighted with a red box and contains the value '0.3'. Other fields include Channel No. (7), Channel Name (Sport), Main URL, 2nd URL, 3rd URL (Running), Multicast Adapter IP (192.168.0.10), Channel SID, Proxy Mode (0), Cache On Demand (0), HTTP Live Streaming (Adaptive Bitrate selected), Mobile Bitrate (500 kbps), SD Bitrate (1500 kbps), HD Bitrate (3000 kbps), Video Format (h265), Audio Format (aac), and Encoding Speed (fast). A 'Save' button is at the bottom left.

Note 1: Bitrate Tolerance: for video streaming performance of a channel, it is same as “Channel Streaming Bitrate Tolerance” of Panel Setting that is for all channels.

Note 2: Its value is between 0 and 0.999. (ex. 0.00: SD video, 0.999: HD 25Mbps)

## Movie

Movie No	Movie Name	Media Source	Icon Path	Category	Duration (min)	Bitrate (Kbps)	Status
1	Movie1	file:///middleware/videos/Sports/1.mp4	file:///middleware/pictures/Sport1.jpg	SPORT	6:509	772.36	ON
2	Movie2	file:///middleware/videos/Sports/2.mp4	file:///middleware/pictures/Sport2.jpg	SPORT	6:509	772.36	ON
3	Movie3	file:///middleware/videos/Sports/3.mp4	file:///middleware/pictures/Sport3.jpg	SPORT	6:509	772.36	ON
4	Movie4	file:///middleware/videos/Sports/4.mp4	file:///middleware/pictures/Sport4.jpg	SPORT	6:509	772.36	ON
5	Movie5	file:///middleware/videos/Sports/5.mp4	file:///middleware/pictures/Sport5.jpg	SPORT	6:509	772.36	ON
6	Movie6	file:///middleware/videos/Kids/1.mp4	file:///middleware/pictures/Kids1.jpg	KIDS	3:301	189.00	ON
7	Movie7	file:///middleware/videos/Kids/2.mp4	file:///middleware/pictures/Kids2.jpg	KIDS	3:301	189.00	ON
8	Movie8	file:///middleware/videos/Kids/3.mp4	file:///middleware/pictures/Kids3.jpg	KIDS	3:301	189.00	ON
9	Movie9	file:///middleware/videos/Kids/4.mp4	file:///middleware/pictures/Kids4.jpg	KIDS	3:301	189.00	ON
10	Movie10	file:///middleware/videos/Kids/5.mp4	file:///middleware/pictures/Kids5.jpg	KIDS	3:301	189.00	ON

### Menu Bar

Refresh	Refresh checked movies
Import	Import Movie List from m3u list URL
Delete	Delete checked movies
Search	Search Movie Name

### Button

Add	Add a new movie,
Copy	Copy 10 movies.
Save	Save movie definition.
More	More movie information

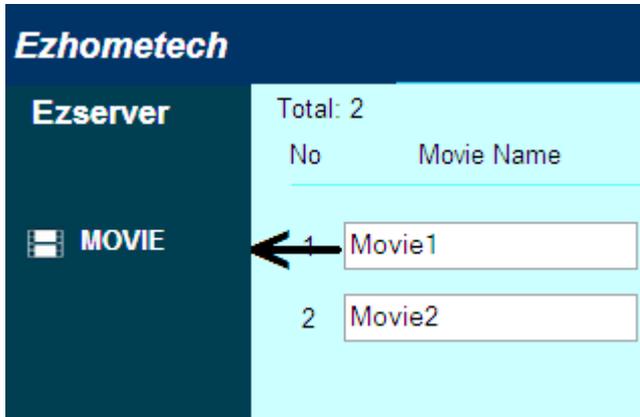
### Content

Movie No	N/A
Movie Name	For player input url by name. Ex. http://192.18.0.8.1800/MOVIE1
Media Source	<p>Local movies.</p> <ul style="list-style-type: none"> <li>• syntax : "file://path" <ul style="list-style-type: none"> <li>• file:///middleware/videos/Sports/1.mp4</li> <li>• file:///middleware/videos/Kids/1.flv</li> <li>• file:///middleware/videos/Kids/1.ts</li> <li>• file:///middleware/videos/Kids/1.mov</li> </ul> </li> </ul> <p>Remote movies</p> <ul style="list-style-type: none"> <li>• syntax : "http://url" <ul style="list-style-type: none"> <li>• http://192.168.0.6/films/1.mp4</li> <li>• http://192.168.0.6/films/1.flv</li> <li>• http://192.168.0.6/films/1.avi</li> </ul> </li> </ul>
Icon Path	The path of Movie icon for players
Category	The category for each movie.
Duration	The movie duration by min.
Bitrate	The movie bitrate by Kbps
Status	ON / OFF for the Input link.

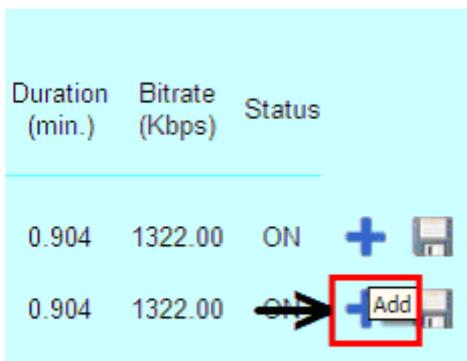
## Add new movie

Follow the below steps to add new movie.

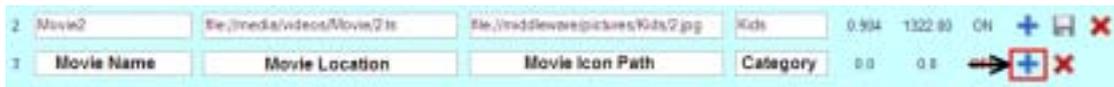
Step1: Click "Movie" Button.



Step2: Click "+" Button of a movie to add new movie.



Step3: Input Channel Name, input URL, Channel Icon Path Catalog and Type, then click "+" button.



## Create multiple movies

Use copy button to create 10 movies with the current movie information.

No	Movie Name	Media Source	Status
1	MOVIE1	file://middleware/videos/Sports/1.mp4	ON
2	(1)-MOVIE1	file://middleware/videos/Sports/1.mp4	
3	(2)-MOVIE1	file://middleware/videos/Sports/1.mp4	
4	(3)-MOVIE1	file://middleware/videos/Sports/1.mp4	
5	(4)-MOVIE1	file://middleware/videos/Sports/1.mp4	
6	(5)-MOVIE1	file://middleware/videos/Sports/1.mp4	
7	(6)-MOVIE1	file://middleware/videos/Sports/1.mp4	
8	(7)-MOVIE1	file://middleware/videos/Sports/1.mp4	
9	(8)-MOVIE1	file://middleware/videos/Sports/1.mp4	
10	(9)-MOVIE1	file://middleware/videos/Sports/1.mp4	
11	(10)-MOVIE1	file://middleware/videos/Sports/1.mp4	

## Import movie

### By command

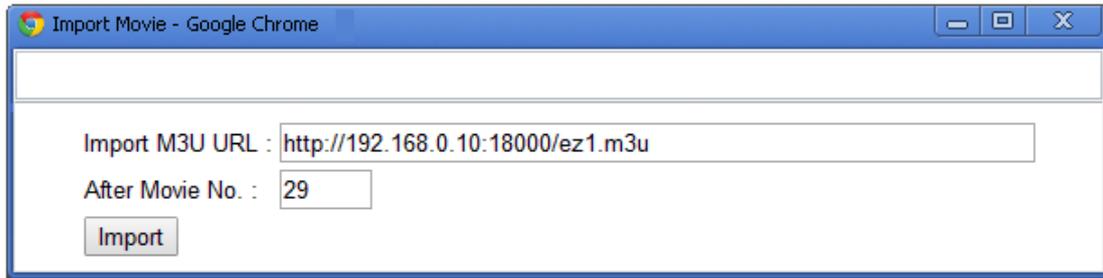
Convert m3u8 file into channel\_definition.xml

Command Options:

<p><b>Function:</b></p> <p>Convert m3u file into Movie database</p> <p><b>Usage:</b></p> <p>ezchconverter [-m] filename(m3u)</p> <p><b>Options:</b></p> <p>-m Convert m3u file to movie_definition.xml</p> <p><b>Examples:</b></p> <p>&gt;ezchconverter -m 1.m3u ... Convert 1.m3u to movie_definition.xml</p>
--

### By Panel

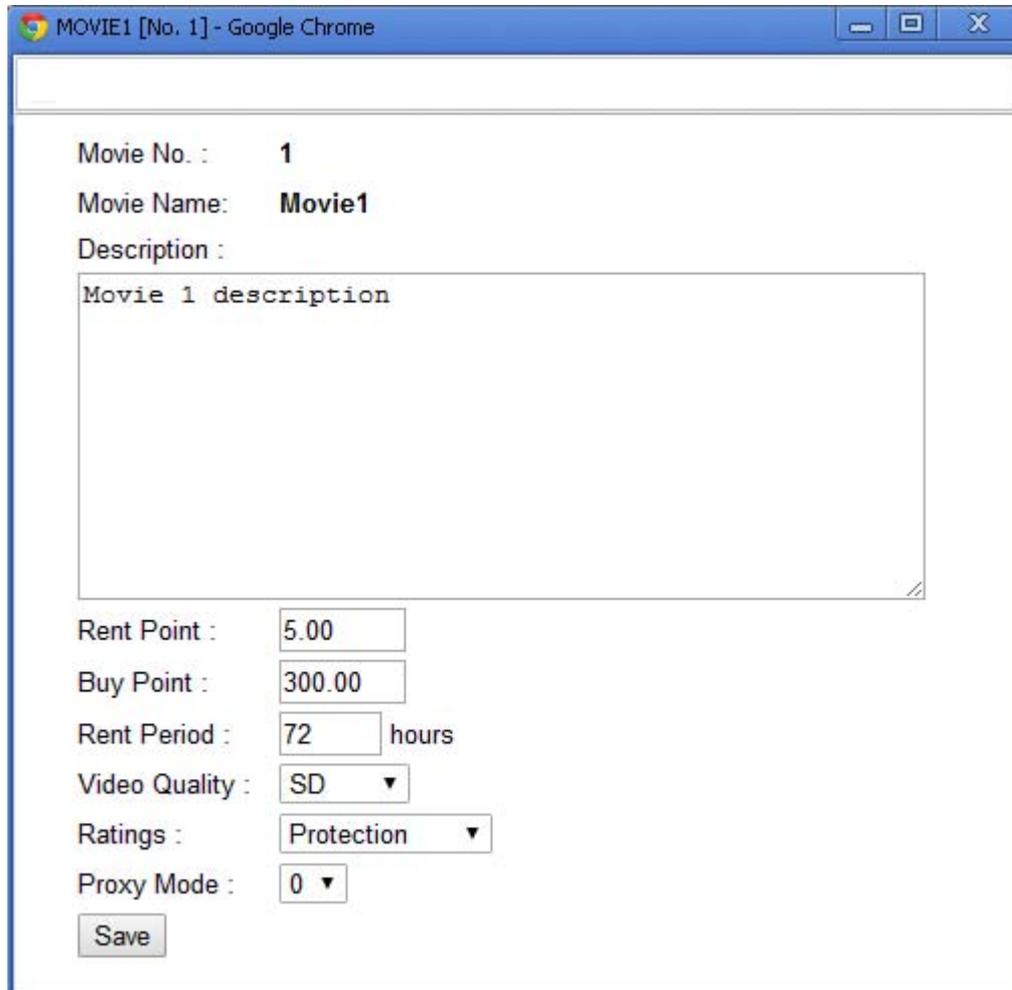
Click import button



The screenshot shows a web browser window with the title "Import Movie - Google Chrome". The browser's address bar is empty. Below the address bar, there is a form with two input fields and one button. The first field is labeled "Import M3U URL :" and contains the text "http://192.168.0.10:18000/ez1.m3u". The second field is labeled "After Movie No. :" and contains the number "29". Below these fields is a button labeled "Import".

## Movie extra setting

Click more button to get the more setting including Description, Rent Point, Buy Point, Rent Period, Rating.



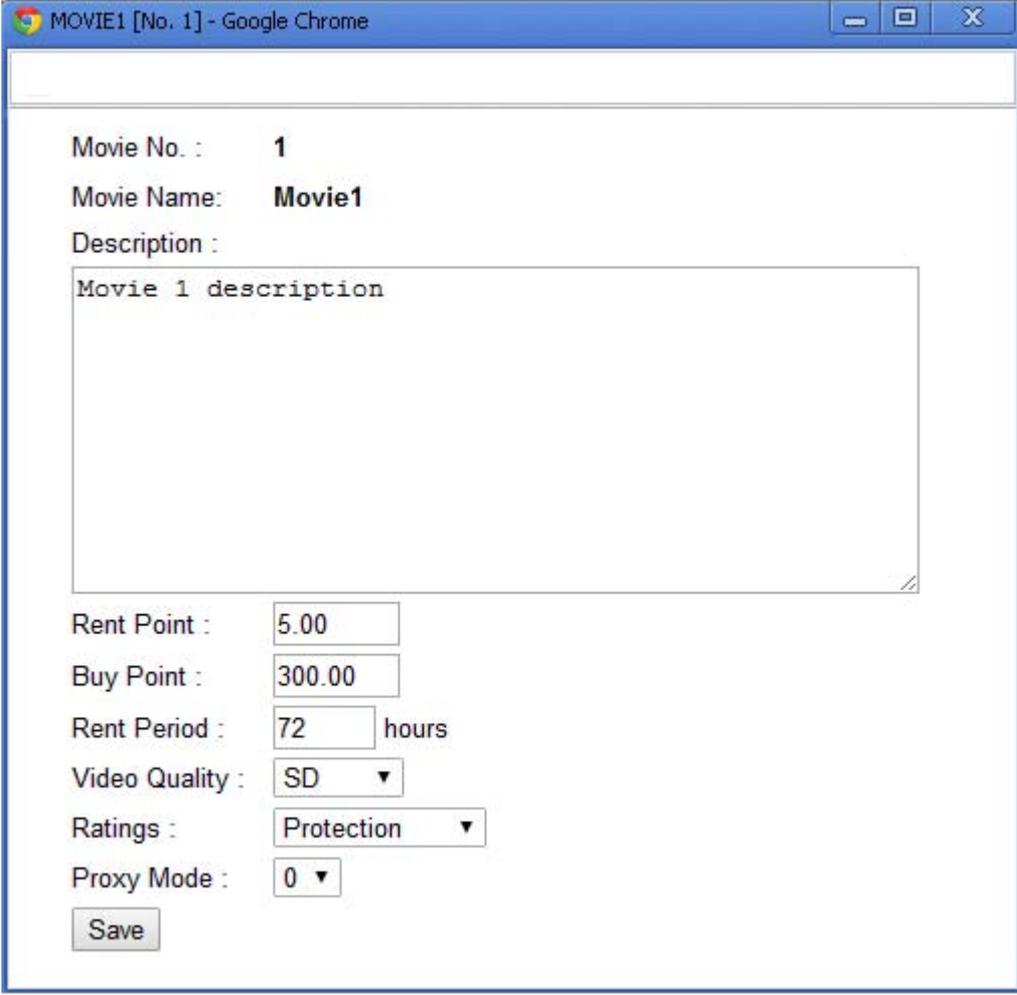
The screenshot shows a web browser window titled "MOVIE1 [No. 1] - Google Chrome". The page content includes the following fields and controls:

- Movie No. : 1
- Movie Name: **Movie1**
- Description :
- Rent Point :
- Buy Point :
- Rent Period :  hours
- Video Quality :  ▼
- Ratings :  ▼
- Proxy Mode :  ▼
-

## Pay Per View

### Set Movie Point

Click the more button of Movie Panel to set Rent Point, Buy Point, Rent Period, and Rating.



MOVIE1 [No. 1] - Google Chrome

Movie No. : 1

Movie Name: **Movie1**

Description :

Movie 1 description

Rent Point : 5.00

Buy Point : 300.00

Rent Period : 72 hours

Video Quality : SD

Ratings : Protection

Proxy Mode : 0

Save

- Set User Pay Mode
  - ◆ pre: **Prepaid mode is for internet video service.**
  - ◆ post: **Post-paid mode is special for Hotel PPV.**
  - ◆ free: **Free mode is for monthly subscription or free service.**

EZserver Subscriber - Google Chrome

about:blank

User: test

Rating Password:

Level:

Pay Model:

User Point.:

Smart Phone No.:

Tablet ID:

The image shows a web form with several fields. The 'Pay Model' field is highlighted with a red box, and its dropdown menu is also highlighted with a red box. The dropdown menu is open, showing three options: 'pre' (selected), 'post', and 'free'.

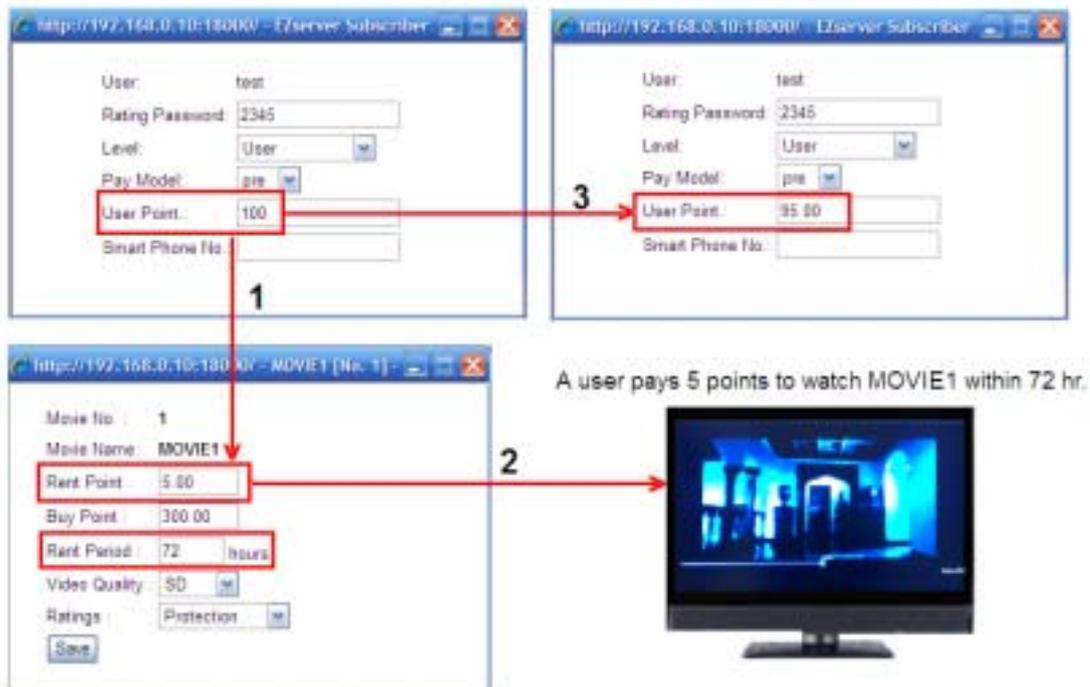
### Set User Point

- ◆ For Prepaid mode, Administrator needs to set the User Point first. Once the user rents or buys a movie, the User Point will be subtracted by the movie point.
- ◆ For Post-paid mode, Administrator needs to set the User Point to zero first. Once the user watches a movie, the User Point will be added by the movie point.
- ◆ For Free mode, the User Point is disabled.

The screenshot shows a web browser window titled "EZserver Subscriber - Google Chrome" with the address bar showing "about:blank". The form contains the following fields:

User:	test
Rating Password:	2345
Level:	User
Pay Model:	pre
User Point.:	100.00
Smart Phone No.:	

### PPV Flow



## PPV API

- ◆ createtokenbased64
- ◆ destroytoken
- ◆ check\_user\_ppv
- ◆ charge\_user\_ppv
- ◆ get\_movie\_ratings
- ◆ check\_user\_ratings\_password

## Movie subtitle

Ezserver supports HTML5 video tag for subtitle WebVTT. It supports mp4 file with subtitle. A movie needs a mp4 file and vtt file with the same filename in the same folder.

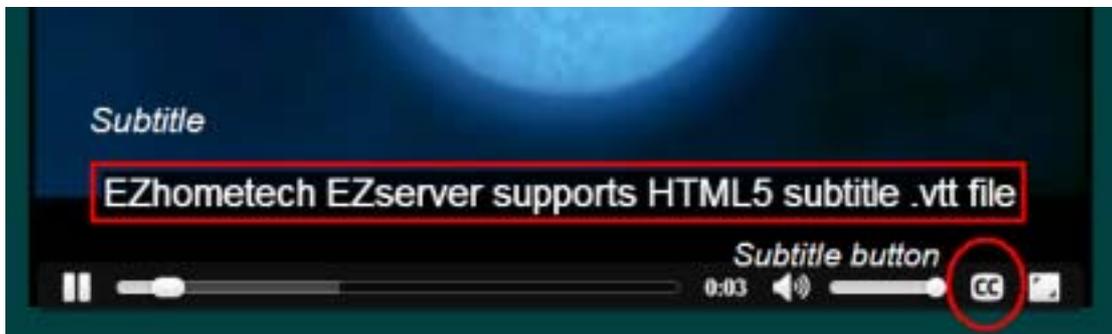
Ex.

When a movie Media Source is file://middleware/videos/Sports/1.mp4, then need to put a subtitle file in ezserver\_enterprise /middleware/videos/Sports/1.vtt

Movie Name	Media Source	Scan Path	Category	Duration	Size	Status
1 Movie1	file://middleware/videos/Sports/1.mp4	file://middleware/videos/Sports/1.vtt	SPORT	0:30	772 KB	OK
2 Movie2	file://middleware/videos/Sports/2.mp4	file://middleware/videos/Sports/2.vtt	SPORT	0:30	772 KB	OK
3 Movie3	file://middleware/videos/Sports/3.mp4	file://middleware/videos/Sports/3.vtt	SPORT	0:30	772 KB	OK
4 Movie4	file://middleware/videos/Sports/4.mp4	file://middleware/videos/Sports/4.vtt	SPORT	0:30	772 KB	OK
5 Movie5	file://middleware/videos/Sports/5.mp4	file://middleware/videos/Sports/5.vtt	SPORT	0:30	772 KB	OK
6 Movie6	file://middleware/videos/Kids/1.mp4	file://middleware/videos/Kids/1.vtt	KIDS	1:01	186 KB	OK
7 Movie7	file://middleware/videos/Kids/2.mp4	file://middleware/videos/Kids/2.vtt	KIDS	1:01	186 KB	OK
8 Movie8	file://middleware/videos/Kids/3.mp4	file://middleware/videos/Kids/3.vtt	KIDS	1:01	186 KB	OK
9 Movie9	file://middleware/videos/Kids/4.mp4	file://middleware/videos/Kids/4.vtt	KIDS	1:01	186 KB	OK
10 Movie10	file://middleware/videos/Kids/5.mp4	file://middleware/videos/Kids/5.vtt	KIDS	1:01	186 KB	OK

### Enable Subtitle Steps:

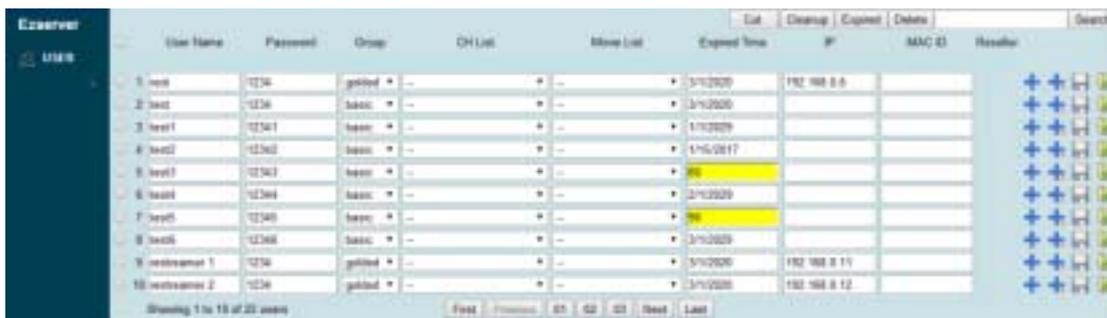
- Open a browser. (Chrome or IE10)
- Input <http://ezserverip:17000/radsplayer/index.htm> in URL field
- Login by “test” with password “1234”
- Play the movie and click “CC” to turn on/off the subtitle



## User

Each user can be used by User/Password mode or Top-up Card mode. User/Password mode has at least 4 fields that include user name, password, belonged group, expired time for Channels, Top-up Card mode has at least 3 fields that include PIN No., belonged group, expired time for Channels, and 2 more fields (Moive Paid Model, Points) for Video on Demand.

Each subscriber needs to be belonged to one group, so Ezserver Administrator has to define groups for users first.



### Menu Bar

Cut / Paste	<b>Cut / Paste checked users</b>
Cleanup	<b>Cleanup Expired Users</b>
Expired	<b>Show Expired Users</b>
Delete	<b>Delete checked users</b>
Search	<b>Search User name, First Name, Last Name or email ID.</b>

### Button

Add	<b>Add a new user,</b>
Add Multiple Users	<b>Create multiple users with 10-digital-no username and password.</b>
Save	<b>Save user definition.</b>
More	<b>Refer the below "User More window".</b>

### Content

User Name / PIN No.	<b>User Name for User/Password mode, PIN No. for Top-up Card</b>
Password	<b>Only for User/Password mode</b>
Group	<b>Defined in Group Management window</b>
CH List	<b>Create Ch list for Enigma, M3u8, XBMC, etc.</b>
Movie List	<b>Create Movie list for Enigam and M3U.</b>
Expired Time / Paid Days	<b>Date Format: MM/DD/YYYY. Ex. 12/31/2014</b> <b>Date Format: xxxx. Ex. 180 means 180 days</b>
IP	<b>Predefined allowed IP for each user.</b>
MAC ID	<b>Predefined allowed MAC Address for each user.</b>
Command	<b>Add, Save, Del, More</b>

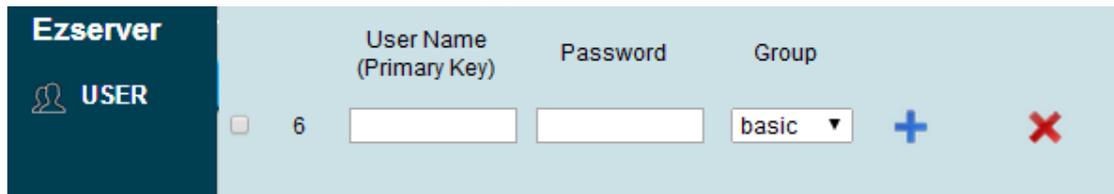
## Create new user

- Click User button and click + button.



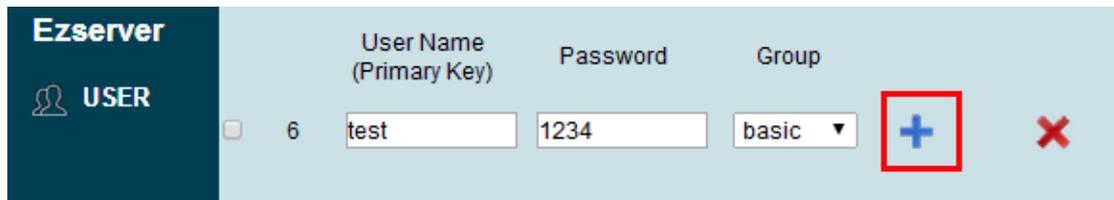
The screenshot shows the 'Ezserver' interface with a dark blue sidebar containing a 'USER' button. The main panel has a light blue background with two columns: 'MAC ID' and 'Reseller'. Below these columns is a white input field. To the right of the input field, there are three icons: a blue '+' button (highlighted with a red box), another blue '+' button, and a grey floppy disk icon.

- Panel will show the empty user fields



The screenshot shows the 'Ezserver' interface with a dark blue sidebar containing a 'USER' button. The main panel has a light blue background with four columns: a checkbox, '6', 'User Name (Primary Key)', 'Password', 'Group', and a red 'X' button. The 'User Name' field contains 'test', the 'Password' field contains '1234', and the 'Group' dropdown is set to 'basic'. A blue '+' button is highlighted with a red box.

- Input user id, password and etc., then click + button to save it



The screenshot shows the 'Ezserver' interface with a dark blue sidebar containing a 'USER' button. The main panel has a light blue background with four columns: a checkbox, '6', 'User Name (Primary Key)', 'Password', 'Group', and a red 'X' button. The 'User Name' field contains 'test', the 'Password' field contains '1234', and the 'Group' dropdown is set to 'basic'. A blue '+' button is highlighted with a red box.

## Max. concurrent connections

Administrator can click User button and select More icon to set user max. connections as below:



The screenshot shows the Ezserver web interface in a browser window. The left sidebar has the Ezserver logo and a 'USER' button. The main content area displays a form for user configuration. The fields are as follows:

User:	root
IP 2:	192.168.0.1
IP 3:	192.168.0.2
IP 4:	192.168.0.3
IP 5:	192.168.0.4
Rating Password:	marocco2
Level:	Administrator
Pay Model:	free
Max. Connections:	1
User Point:	2000.00

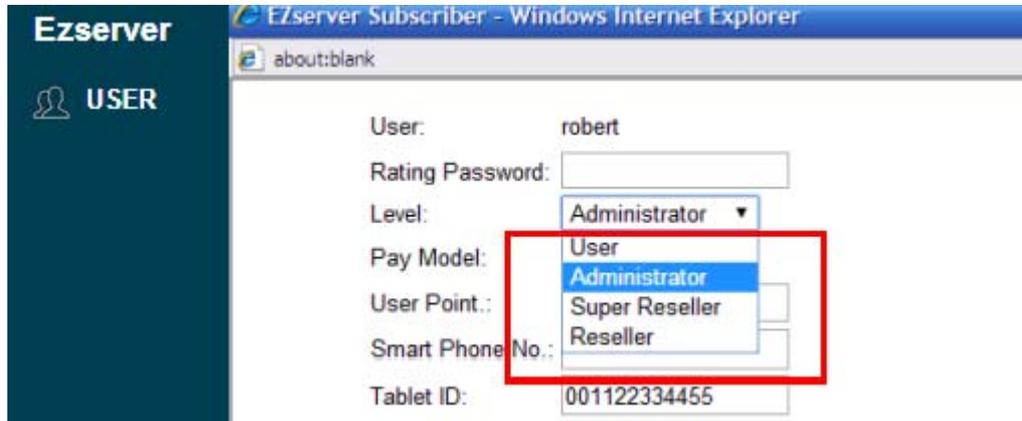
Note: Enable/Disable user First in First out connection:

Add `user_connection_fifo=0/1` in `ezserver_config.txt` and restart ezserver.

- `user_connection_fifo=1` means to **stop the previous connection** and **start new connectrion**. (Default).
- `user_connection_fifo=0` means to **reject start new connectrion** over Max connection no.

## User level

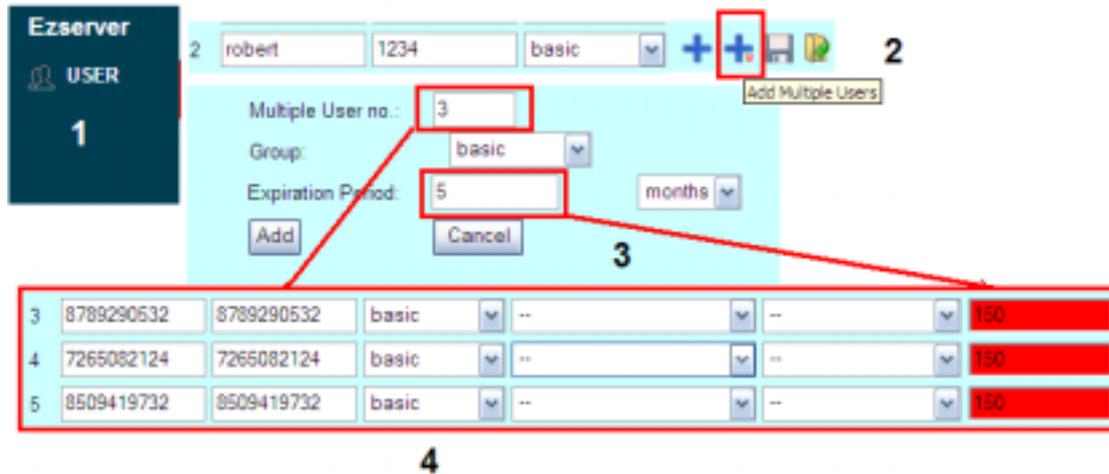
User Level has 4 levels including Administrator, Supper Reseller, Reseller and User. Administrator can click User button and select More icon to set user level as below:



- Administrator can login Ezserver Panel to configure Ezserver via a browser.
- Super Reseller can add resellers and users
- Reseller can add users
- Users can watch channels and movies

## Active Code Mode

- Set user\_authorization=2 and active\_code\_no=14 in ezserver\_config.txt to create 14- digital-no active code in username.
- Start Ezserver.
- Click User button and “Add Multiple Users” button to create new users with random username, group and expiration days.



User Name	Active code
Group	Defined in Group Management window
Paid Days	Date Format: xxxx. Ex. 150 means 150 days from the first watching.

## Add multiple users

Use "Add Multiple Users" button to create new users with 10-digital-no username, password, group and expiration days.

The screenshot displays the 'Add Multiple Users' interface. At the top, there is a navigation bar with 'Ezserver' and 'USER' labels. Below this, a form allows for adding multiple users. The form includes a 'Multiple User no.' field (set to 3), a 'Group' dropdown (set to 'basic'), and an 'Expiration Period' field (set to 5 months). A red box highlights the 'Add Multiple Users' button. Below the form, a table shows the resulting user entries. A red box highlights the table, and a red arrow points from the 'Add Multiple Users' button to the table. The table is labeled '4'.

3	8789290532	8789290532	basic	--	--	150
4	7265082124	7265082124	basic	--	--	150
5	8509419732	8509419732	basic	--	--	150

User extra setting

The screenshot shows a web browser window titled 'EZserver Subscriber - Windows Internet Explorer' with the address bar set to 'about:blank'. On the left is a dark sidebar with the 'Ezserver' logo and a 'USER' profile icon. The main content area contains a form with the following fields:

- User: root
- IP 2: 192.168.0.1
- IP 3: 192.168.0.2
- IP 4: 192.168.0.3
- IP 5: 192.168.0.4
- Rating Password: marocco2
- Level: Administrator (dropdown)
- Pay Model: free (dropdown)
- Max. Connections: 1
- User Point: 2000.00
- Smart Phone No.: 0988888888
- Tablet ID: 001122334455
- Desktop ID: 112233445566
- TV ID: 112233445566
- First Name: Admin
- Last Name: Admin
- Adress: 13F-1, No.189,Sec. 2 , Keelung Rd
- City: Taipei
- ZIP: 110
- Tel: 02-27354224
- Email: sales@ezometech.com

A 'Save' button is located at the bottom of the form.

User Name / PIN No.	<b>User Name is for User/Password mode, PIN No. is for Top-up Card</b>
IP2, IP3, IP4, IP5	<b>Defined allowed IP for the user</b>
Rating Password	<b>Password for Rating Movie</b>
Level	<p><b>User Level has 5 levels including Administrator, Supper Reseller, Reseller, User and Restreamer.</b></p> <ul style="list-style-type: none"> <li>• Administrator <b>can login Ezserver Panel to configure Ezserver via a browser.</b> And you need to set allowed folders for Administrator, more detail in HTML Access Protection section.</li> <li>• Super Reseller <b>can add resellers and users</b></li> <li>• Reseller <b>can add users</b></li> <li>• Users <b>can watch channels and movies</b></li> </ul>

	<ul style="list-style-type: none"><li>• Restreamer <b>can restream channels without "Alter Player Duration" limitation</b></li></ul>
Pay Model	<b>Has 3 model: Free, Pre-Paid, Post-Paid for Points</b>
ISP Lock	<b>Limit the user connection from the same ISP</b>
Max. Connection	<b>Max. concurrent connections</b>
User Point	<b>Pay Per View Point</b>
Command	<b>Save</b>

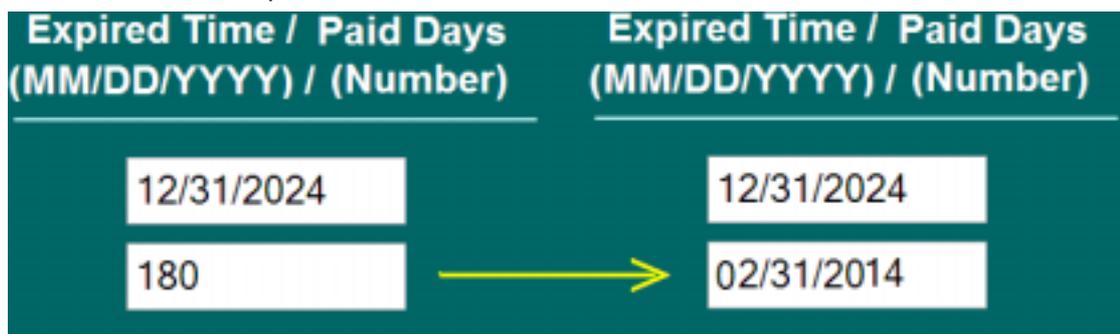
## User-Password mode and Top-up Card mode

Each subscriber can be used by User-Password mode or Top-up Card mode. User-Password mode has at least 4 fields that include user name, password, belonged group, expired time for Channels, Top-up Card mode has at least 3 fields that include PIN No., belonged group, expired time for Channels, and 2 more fields (Moive Paid Model, Points) for Video on Demand.

Each subscriber needs to be belonged to one group, so Ezserver Administrator has to define groups for subscribers first.

User Name / PIN No.	User Name is for User/Password mode, PIN No. is for Top-up Card
Password	Only for User/Password mode
Group	Defined in Group Management window
Expired Time /	Date Format: MM/DD/YYYY. ex. 12/31/2014
Paid Days	Date Format: xxxx. ex. 180 means 180 days
IP	Predefined allowed IP for each user.
MAC ID	Predefined allowed MAC Address for each user
Command	Save, Del, More

Expired Time / Paid Days field has two type, one is fixed expired time as 12/31/2014, the other is to define the available days as 180, it means when a subscriber starts to play the channel or video, then he has 180 available days. And Ezserver will change this field to fixed expired time as below example:



ex. If the subscriber has 180 available days and login on 09/01/2013, then the expired time field will be changed into 02/31/2014.

For User-Password mode, Ezserver administrator needs to set user\_authorization=1 of ezserver\_config.txt. For Top-up Card mode, Ezserver administrator needs to set user\_authorization=2.

## User-Password mode:

```
bitrate_constant=0
system_log=0
user_authorization=1
```

## Top-up Card mode

```
bitrate_constant=0
system_log=0
user_authorization=2
```

## User-Free mode

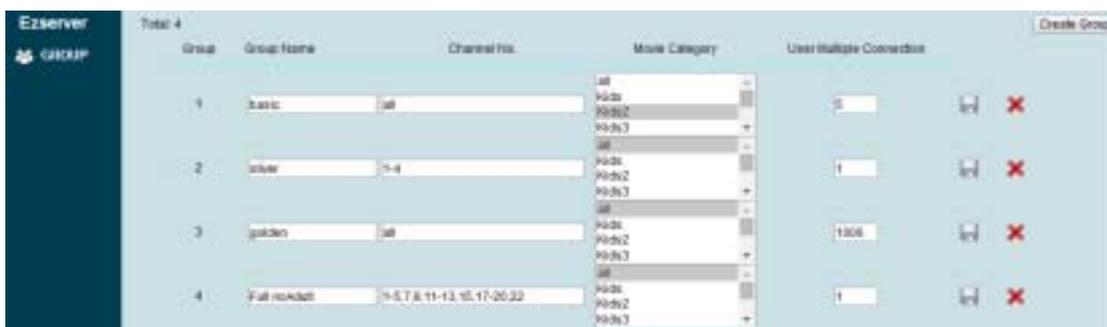
This mode does not have any protection for output links. For example, the URL is as <http://192.168.0.10:8000/1.ch> without u=xxx and p=xxx.

- set user\_authorization=0 in ezserver\_config.txt
- ./shutdown.sh
- ./start.sh

```
bitrate_constant=0
system_log=0
user_authorization=0
```

## Group

Group management can define allowed channels, allowed movie categories and multiple connection. For the below example, “golden” group can play all channels, but “sliver” group can only play ch1 to ch4. It also defines the “golden” group can has 1000 connections with the same user on different ip and “sliver” group only has one connection for one user at same time.



### Menu

Total	The total no of Group
-------	-----------------------

### Button

Create Group	Create new group
--------------	------------------

### Content

Group	N/A
Group Name	N/A
Channel No.	<p>Define allowed channel no. for the group. The keyword “all” is for all channels.</p> <p>Ex. 1,2,3 means the group users can watch ch1, ch2 and ch3</p> <p>Ex. 1-3,5-7,15 means the group users can watch ch1, ch2 , ch3, ch5, ch6, ch7 and ch15</p> <p>Ex. all means the group users can watch all channels.</p>
Movie Category	<p>Define allowed movie categories. "all" is for all movie categories. Hold down the Ctrl button to select multiple options.</p>
User Multiple Connection	Define the max concurrent connection for a user in the group

## Player

No	Subscriber	Session No	Player Name	Watching Channels	Starting Time	IP	MAC Address	Country	Protocol
1	test	1	Test4430	RTMPTEST (1)	2015-11-19 07:11:00.000000	192.168.1.1	N/A	USA	HTTP
1	test	1	Test4430	RTMPTEST (1)	2015-11-19 07:11:00.000000	192.168.1.1	N/A	USA	HTTP

### Menu Bar

Total	The total no of active player
Auto Query	Automatically Query active players per 10 seconds.
Reload Filter	Reload the information of Filter Addons such as Player Filter, IP Blocker, Country Filter and MAC ID Blocker.

### Button

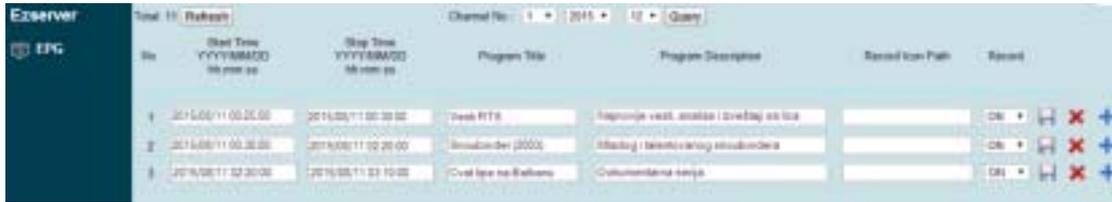
Stop	Stop the player
Block	Stop the player and block it into blacklist

### Content

Subscriber Name	N/A
Player Name	User-Agent Name
Watching CH	The Channel Name and No. watching by each user
Starting Time	Starting Video Streaming Time
IP	Player IP
MAC Address	MAC Address or N/A
Country Name	Player Location
Protocol	Video Streaming Protocol

- Country Name has 3 types as below in users/user\_ip\_country.csv
  - Country\_Type=1 : 2 Letter Abbreviations.
  - Country\_Type=2: 3 Letter Abbreviations.
  - Country\_Type=3: Full Country Name

## EPG



### Menu

Total Program No.	The total no of Program in a channel
Channel No.	N/A
Year	N/A
Month	N/A
Query	Query the EPG information of the Channel

### Button

Save	Save Program definition
Add	Add a new program
Del	Delete a program

### EPG

No	Program No.
Start Time	Program Start Time: Format: YYYY/MM/DD hh:mm:ss
Stop Time	Program Stop Time: Format: YYYY/MM/DD hh:mm:ss
Program Title	The category for each channel
Program Description	N/A
Record Icon Path	Record Video Icon Location
Record	Vaule=ON/OFF, ON means Ezserver will record the live channel from Start Time to Stop Time

Note: There are two ways to generate Channel EPG into Panel. One is from MPEG TS stream with EPG packets, The other way is from XMLTV URL. Please check more in Automatic EPG Generation.

## EPG Automatic Generation

There are two ways to generate Channel EPG into Panel. One is from MPEG TS stream with EPG packets. The other way is from XMLTV URL.

### A. From MPEG TS stream

Add MPEG TS URL with EPG packets into panel channel list, then Ezserver automatically gets EPG from the streams and add them into EPG Panel.

### B. From XMLTV URL

Click Setting button and input XMLTV URL, then Ezserver automatically gets EPG from the streams and add them into EPG Panel.



## Alert Player

No.	Subscriber	Process No.	Player Name	Watching CH Name	Starting Time	Watch Hours	IP	MAC Address	Country	Protocol
0	adsl	0	14475-8120	RTMP TEST (1)	2013/11/06 21:00	8.00	10.100.0.1	N/A	N/A	RTMP
1	adsl	1	70232118043122	RTMP TEST (1)	2013/11/06 21:00	12.0	10.100.0.2	N/A	N/A	RTMP

### Menu

Total	The total no of active player
Query	Query active players

### Button

Stop	Stop the player
Block	Stop the player and block it into blacklist

### Content

Subscriber Name	N/A
Player Name	User-Agent Name
Watching CH	The Channel Name and No. watching by each user
Starting Time	Starting Video Streaming Time
Watch Hours	Player watching hours
IP	Player IP
MAC Address	MAC Address or N/A
Country Name	Player Location
Protocol	Video Streaming Protocol

- Country Name has 3 types as below in users/user\_ip\_country.csv
  - **Country\_Type=1 : 2 Letter Abbreviations.**
  - **Country\_Type=2: 3 Letter Abbreviations.**
  - **Country\_Type=3: Full County Name**
- To block and stop players over Watching Hours, add alert\_player\_blacklist option in ezserver\_config.txt and restart ezserver.
  - alert\_player\_blacklist=1 : ezserver disconnects the player and blocks its IP.
  - alert\_player\_blacklist=2: ezserver just disconnects the player, not to block its IP.
  - If the user level is "Restreamer", ezserver ignores this option.

## Player Filter

Player Filter is to filter all players to reject or allow to access video from Ezserver. Rejected player and accepted player is exclusive.

No.	Accepted Player Name
1	NSPlayer
2	null
3	vlc
4	VLC

### Menu

Total No	The total no of Player Filter Name
Refresh	Refresh Player Filter List
Mode	Disabled / Rejected / Accepted

### Button

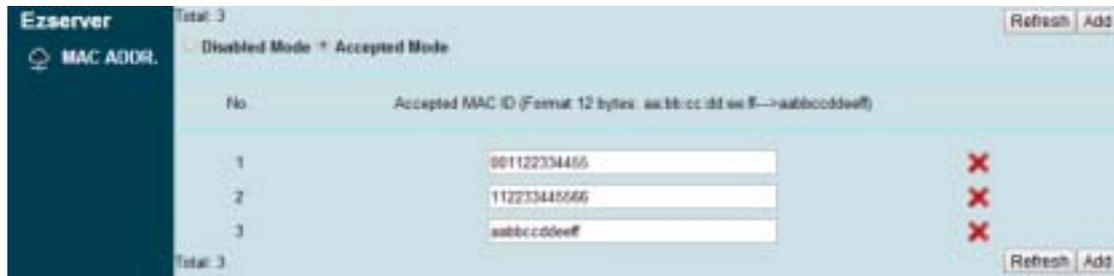
Del	Delete a Player Filter Name
-----	-----------------------------

### Content

Accepted/Rejected Player Name	Player Filter Name
-------------------------------	--------------------

## Mac Address

MAC Address is to filter all players by MAC address to reject or allow them to access video from Ezserver.



### Menu

Total No	The total no of accepted MAC Address
Refresh	Refresh MAC Address List
Mode	Disabled / Accepted

### Button

Del	Delete a MAC Address
-----	----------------------

### Content

Accepted MAC Address	<ul style="list-style-type: none"> <li>• Player MAC Address sent by Sample player</li> <li>• Format: aabbccddeeff</li> <li>• Byte No.: 12</li> </ul>
----------------------	--

## Blacklist

Ezserver will automatically detects illegal connections and lock the IP into Blacklist.

No.	User	IP	MAC Address	Country	Failed Login times	Available Login times	Refresh	Remove All
1	admin@	192.168.0.1	00:00:00:00:00:00	USA	1	10		X
2	admin@	192.168.0.2	00:00:00:00:00:00	USA	1	10		X
3	admin@	192.168.0.3	00:00:00:00:00:00	USA	1	10		X

### Menu

Total Blacklist No	The total no of Locked IP
Refresh	Refresh Locked IP
Remove All	Remove all Locked Ips.

### Button

Remove	Remove the Locked IP.
--------	-----------------------

### Content

IP	IPv4
MAC Address	MAC Address or N/A
Country	IP Location
Failed Login Times	Attempted ezserver times
Available Login Times	Available login times (The default value is 10)
Command	Remove

- Note: If a user IP is defined in user panel, then the IP does not appear in the blacklist.

Expired Time / Paid Days (MM/DD/YYYY) / (Number)	IP	DRM Model	DRM Points
12/31/2024		free	2000
12/31/2024	192.168.0.6	post	2000
12/31/2024		pre	2000
12/31/2024		pre	2000

## Balancer

Load Balancer can redirect the player request by Geo. Location or Max. Streaming No. of the server to slave servers.

- For Geo. Location, all players connect one master Ezserver, then Ezserver will check the player location to redirect the request to the nearest slave server.
- For max. streaming connections, when the connections are equal to max. streaming no. Ezserver will redirect the following requests to the slave server with the lowest load.
- Max. Streaming No. of an Slave Server is defined in Setting: 11. Max Streaming No



It also supports distributed users and channels.

- Users can be distributed in different User Databases and a user can connect one of distributed Ezservers to play the video. The way can reduce the redundancy of subscribers.
- Channels can be distributed in different servers. The way can reduce the upload bandwidth.

No.	Slave Server Name (Primary Key)	Admin Name	Password	IP	Port	Country	Max Connection	Free Connection	Status
1	USA	root	1234	192.168.8.9	19100	USA	1000	1000	OK
2	Taiwan Server	root	1234	192.168.8.9	19800	Taiwan	0	0	OK
3	Italy Server	root	1234	192.168.8.9	19800	Italy	0	0	OK

## Menu

Total No	The total no of Servers
Query_All	Query the balancer List
Mode	Disabled / By Geo. Location / By Max. Streaming No. <ul style="list-style-type: none"> <li>• By Geo. Location depends on Player Location to redirect it to Slave Server.</li> <li>• By Max. Streaming No. depends on the Max Streaming Limitation to provide the streaming or redirect it to other slave servers.</li> </ul>

## Button

Save	Save Slave Server Information.
Query	Get the latest Information of a Slave server.
Del	Delete Slave Server

## Content

Slave Server Name	Unique Key for an Slave Server
Admin. Name	“root” user of an Slave Server
Password	Password of admin user of an Slave Server
IP	Slave Server IPv4
Panel Port	Slave Server Panel Port
Max Connection	Max. Streaming No. of an Slave Server
Free Connection	Available Connection No. of an Slave Server
Status	ON/Checking/OFF

## Setting

**Ezserver**  
SETTING

**Setting**

**Unicast Streaming Setting:**

1. Panel port:  --- Administrator Panel Port

2. API port:  --- Application Program Interface Port

3. HTTP port:  --- HTTP Streaming Port for players

4. RTMP port:  --- RTMP Streaming Port for players

5. RTSP port:  --- RTSP Streaming Port for players

---

**Multicasting Streaming Setting:**

6. Multicast IP:  --- Multicasting Streaming IP for players (0.0.0.0: disabled)

7. Multicast port:  --- Multicasting Streaming Port for players

---

**Channel Setting:**

8. Channel Input Buffer No.:  --- Panel will automatically refresh all channels after modification.

9. Channel Streaming Prebuffer No.:  --- The value must be smaller than Channel Input Buffer No.

10. Channel Streaming Bitrate Tolerance:  --- Value: 0.00-1.00 (ex. 0.00: SD video, 0.999: HD 25Mbps)

11. Channel Reconnection Interval:  sec.

12. DVR Duration:  min.

13. DASH Transcoder Path:

---

**EPG Setting:**

14. MPEG Transport Stream:  --- Value: 0 (disabled), 1 (Real Time Extraction)

15. XMLTV EPG URL:  (per day)

---

**System Setting:**

16. Max. Streaming No.:

17. System Log Lines:  --- Value: 0 (disabled), 1 (enabled), xxx (xxx lines)

18. Admin. System Log Lines:  --- Value: 0 (disabled), 1 (enabled), xxx (xxx lines)

19. Pagination Limit Number:  --- Pagination Limit Number for Channel/Movie/User Window

---

**Player Setting:**

20. Alert Player Duration:  Hours (ex. 5: 5 hours, 10.5: 10 hours 30 min.)

21. Blacklist Option:  --- Value: 0 (disabled), 1 (enabled)

### Content

Unicast Streaming Setting	
Panel port	<ul style="list-style-type: none"> <li>Web Panel Port for Ezserver System Management.</li> <li>The default value is 18000.</li> </ul>
API port	<ul style="list-style-type: none"> <li>Application Program Interface Port for integration via REST API.</li> <li>The default value is 17000</li> </ul>
HTTP port	<ul style="list-style-type: none"> <li>HTTP video streaming about IPTV/OTT/VOD</li> <li>The default value is 8000.</li> </ul>
RTMP port	<ul style="list-style-type: none"> <li>RTMP Live Encoder and Video Streaming.</li> <li>The default value is 1935</li> <li>The value = 0 is to disable service</li> </ul>
RTSP port	<ul style="list-style-type: none"> <li>RTSP video streaming about IPTV/OTT/VOD.</li> <li>The default value is 5544</li> <li>The value = 0 is to disable service</li> </ul>

Multicasting Streaming Setting	
Multicast IP/Port	<ul style="list-style-type: none"> <li>○ Multicast IP is 0.0.0.0 that means Ezserver stop broadcast channels to LAN.</li> <li>○ Multicast IP is 224.1.1.1 for Multicast IP and 9001 for Multicast Port, then Ezserver will broadcast all channels to 224.1.1.1~224.1.1.x : 9001.</li> </ul>
Channel Setting	
Channel Input Buffer No.	<ul style="list-style-type: none"> <li>○ It is for channel input cache, ex. 8000 means 1524*8000 =12M bytes in the cache each channel.</li> <li>○ Need to refresh all channels after modification.</li> <li>○ For channel input buffer (unit: 1K bytes).</li> <li>○ Value 8000, means RAM: 8M bytes for channel cache.</li> <li>○ There are 10 channels in panel, it occupies RAM: 80M bytes for channel cache.</li> <li>○ If the channel bitrate is 1Mbps, item#8: 8000 means 64-second video for channel cache.</li> </ul>
Channel Streaming Prebuffer No.	<ul style="list-style-type: none"> <li>○ The value must be smaller than Channel Input Buffer No</li> <li>○ For channel zapping time (unit: 1K bytes).</li> <li>○ Value 2000, means RAM: 2M bytes for channel I-frame search.</li> <li>○ There are 10 channels in panel, the last 20M of the 80M bytes is used for I frame search.</li> </ul>
Channel Streaming Bitrate Tolerance	<ul style="list-style-type: none"> <li>○ It is for SD/HD Streaming, its value is between 0.0 and 0.99,</li> <li>○ Value: 0.00~1.00 (ex. 0.00: SD video, 0.999: HD 25Mbps)</li> </ul>
Channel Reconnection Interval	<ul style="list-style-type: none"> <li>○ Once the channel input is down, then ezserver will reconnect the input stream after x seconds.</li> </ul>
DVR Duration	<ul style="list-style-type: none"> <li>○ The duration for recording live video to do timeshift functions as pause, resume, backward and forward</li> </ul>
DASH Transcoder Path	<ul style="list-style-type: none"> <li>○ External DASH Transcoder path</li> </ul>
EPG Setting	
MPEG Transport Stream	<ul style="list-style-type: none"> <li>○ option = 1 : Ezserver extracts EPG from MPEG Transport Stream of all channels, administrator can click EPG button of Panel to see the Program Title, Description and start/Stop time of EPG programs. Players can use Ezserver API: get_epg_info to get them, too.</li> <li>○ option = 0 : Disable the EPG extraction of channels.</li> </ul>
XMLTV EPG URL	<ul style="list-style-type: none"> <li>○ Get EPG from XMLTV URL.</li> </ul>
System Setting	
Max Streaming No.	<ul style="list-style-type: none"> <li>○ The Max. Connection no. for players.</li> </ul>

System Log Lines	<ul style="list-style-type: none"> <li>○ It is for log line no, ex. 1000 means 1000 log lines in log/system.log,</li> <li>○ If 1 means ezserver will write the all log in log/system.log,</li> <li>○ If 0 means no any log in log/system.log.</li> </ul>
Admin System Log Lines	<ul style="list-style-type: none"> <li>○ It is for channel input connection and panel</li> <li>○ It is for log line no, ex. 1000 means 1000 log lines in log/admin_system.log,</li> <li>○ If 1 means ezserver will write the all log in log/admin_system.log,</li> <li>○ If 0 means no any log in log/admin_system.log.</li> </ul>
Pagination Limit Number	<ul style="list-style-type: none"> <li>○ Pagination Limit Number for Channel / Movie / User window.</li> </ul>
Player Setting	
Blacklist Option	<ul style="list-style-type: none"> <li>○ disable/enable blacklist for illegal player connection.</li> </ul>
Alter Player Duration	<ul style="list-style-type: none"> <li>○ Set alert hours for connected players. It means if the player has been watching the same channels after x hours, it will be listed in Alert Player window that supports Stop and Block buttons</li> </ul>

## Statistics

Ezserver		Total: 7				
STATISTICS	No.	CH Name	Today Watched No.	Active Player No.	Uptime	Status(Buffer Index, Buffer Size)
	1	Sport	0	0	0 days 00:03:24	ON (5152/6000)
	2	ABSTRACT FILE	0	0	0 days 00:05:01	ON
	3	体育新闻	0	0	0 days 00:03:25	ON (5117/6000)
	4	Спортивные новости	0	0	0 days 00:05:01	ON
	5	Sport Nouvelles	0	0	0 days 00:05:01	ON
	6	スポーツニュース	0	0	0 days 00:05:01	ON
	7	أخبار الرياضة	0	0	0 days 00:05:01	ON

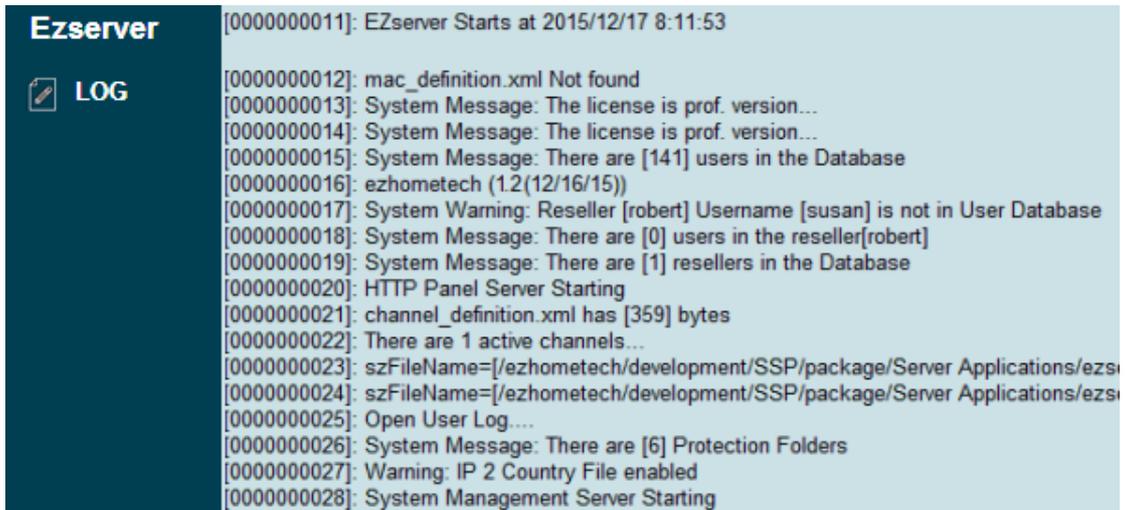
## Menu

Total	Total Channel No
Auto Query	Automatically Get Statistics per 10 seconds.

## Content

No.	Channel No.
CH Name	Channel Name
Today Watched No.	The accumulated watched No. of a channel.
Active Player No.	The watching no.
Uptime	Channel Uptime
Status	ON, OFF, Connecting with Buffer Index and Size.

## Log



**Ezserver**  
**LOG**

```
[0000000011]: EZserver Starts at 2015/12/17 8:11:53
[0000000012]: mac_definition.xml Not found
[0000000013]: System Message: The license is prof. version...
[0000000014]: System Message: The license is prof. version...
[0000000015]: System Message: There are [141] users in the Database
[0000000016]: ezhometech (1.2(12/16/15))
[0000000017]: System Warning: Reseller [robert] Username [susan] is not in User Database
[0000000018]: System Message: There are [0] users in the reseller[robert]
[0000000019]: System Message: There are [1] resellers in the Database
[0000000020]: HTTP Panel Server Starting
[0000000021]: channel_definition.xml has [359] bytes
[0000000022]: There are 1 active channels...
[0000000023]: szFileName=[/ezhometech/development/SSP/package/Server Applications/ezs
[0000000024]: szFileName=[/ezhometech/development/SSP/package/Server Applications/ezs
[0000000025]: Open User Log...
[0000000026]: System Message: There are [6] Protection Folders
[0000000027]: Warning: IP 2 Country File enabled
[0000000028]: System Management Server Starting
```

## Shutdown



**Ezserver**  
**SHUTDOWN**

**System Information**

- \* ezhometech EZserver
- \* Version: Release 1.2(06/04/16)
- \* Serial Number: 076244D61D693281E50708214B438C041
- \* Start at: 2015/12/17 8:11:53
- \* Uptime: 0:00:00
- \* Subscriber: robert
- \* Channel No.: 1
- \* Online Play: 0
- \* Group No.: 1
- \* Blacklist IP No.: 0

**Message from webpage**

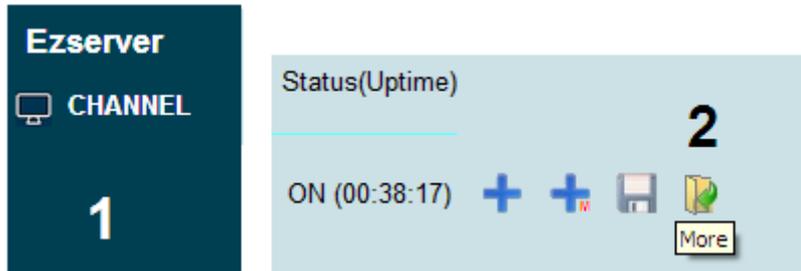
Shutdown EZserver?

確定 取消

# 5. Advanced channel option

## Reduce Channel Bitrate

Click Channel Button and More icon to set Channel HTTP Live Streaming as below:



- Select Adaptive Bitrate.
- Set Mobile Bitrate to desired bitrate (unit: kbps).
- Select Video Format (h264, h265, h264\_nvenc or h265\_nvenc).
  - h264 and h265 options use CPU resource.
  - h264\_nvenc and h265\_nvenc options use Nvidia GPU resource.
    - These 2 options need Nvidia GPU card and its ffmpeg.
- **URL for restreamer or players**
  - **Syntax:** `http://ip_address:port/ChannelName.m3u8?u=xxxx:p=xxxx`
  - **Syntax:** `http://ip_address:port/chx.m3u8?u=xxxx:p=xxxx`
  - **Ex. 1:** `http://test:1234@172.16.10.50:8000/TV1.m3u8`
  - **Ex. 2:** `http://test:1234@172.16.10.50:8000/ch4.m3u8`

Examples:

- **Option 1: Bitrate: 700kbps and video format :h264.**

HTTP Live Streaming :

- Disabled
- AES-128 Encryption (Internal transcoder)
- Constant Bitrate (Internal transcoder)
- Constant Bitrate (External transcoder)
- Adaptive Bitrate (External transcoder)

Mobile Bitrate:  kbps

SD Bitrate:  kbps

HD Bitrate:  kbps

Video Format :

Audio Format :

Encoding Speed :

- Option 2: Bitrate: 700kbps and video format :h265.

HTTP Live Streaming :  Disabled  
 AES-128 Encryption (Internal transcoder)  
 Constant Bitrate (Internal transcoder)  
 Constant Bitrate (External transcoder)  
 Adaptive Bitrate (External transcoder)

Mobile Bitrate:  kbps  
SD Bitrate:  kbps  
HD Bitrate:  kbps  
Video Format :   
Audio Format :   
Encoding Speed :

- Option 3: Bitrate: 700kbps and video format :h264\_nvenc.

HTTP Live Streaming :  Disabled  
 AES-128 Encryption (Internal transcoder)  
 Constant Bitrate (Internal transcoder)  
 Constant Bitrate (External transcoder)  
 Adaptive Bitrate (External transcoder)

Mobile Bitrate:  kbps  
SD Bitrate:  kbps  
HD Bitrate:  kbps  
Video Format :   
Audio Format :   
Encoding Speed :

- Option 4: Bitrate: 700kbps and video format :h265\_nvenc.

HTTP Live Streaming :

- Disabled
- AES-128 Encryption (Internal transcoder)
- Constant Bitrate (Internal transcoder)
- Constant Bitrate (External transcoder)
- Adaptive Bitrate (External transcoder)

Mobile Bitrate:  kbps

SD Bitrate:  kbps

HD Bitrate:  kbps

Video Format :

Audio Format :

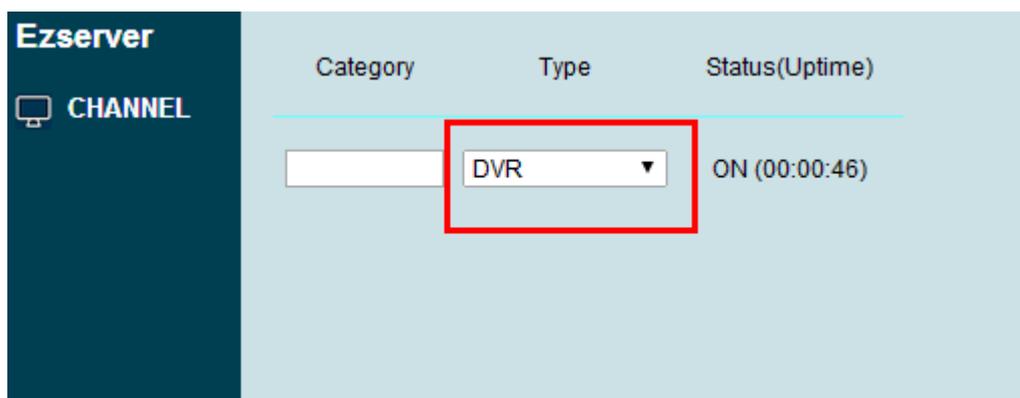
Encoding Speed :

## Time-Shift TV

Time-Shift TV channel is to save live stream from source URL into server local storage. When a player wants to play it, Ezserver restreams its videos from server local storage to the player. The player can backward and forward the channel with timestamp.

### Set DVR type

Click Channel button and set Type to DVR, then click Save button.



### Set DVR duration

Click Setting button and set DVR Duration, then click Save button.



The storage size of per channel depends on video bitrate and duration. For example,

- Channel video bitrate is 1Mbps and duration is 1 hour, the storage size needs 450M bytes. Ezserver uses triple space for one channel, so the total size is 1.35G bytes.
- 100 channels, 1Mbps bitrate, 1-hour duration, the storage size needs 45G bytes. Ezserver uses triple space for one channel, so the total size is 135G bytes.

### Backword and forward by URL:

- URL Syntax: `http://serverip:port/xxx?u=xxx;p=xxx::timestamp=xxxxxxxxxx`
  - ◆ Timestamp unit is **millisecond**.
  - ◆ `http://192.168.0.6:8000/ch1.m3u8?u=test;p=1234:timestamp=600000`
  - ◆ `http://192.168.0.6:8000/sport.m3u8?u=test;p=1234:timestamp=600000`
  - ◆ The above links are to play video from the 600th second (10 min) of the DVR buffer.

A player can use .m3u8 URL without timestamp option for live (back to now) as below:

- URL Syntax: `http://serverip:port/xxx?u=xxx;p=xxx:`
  - ◆ `http://192.168.0.6:8000/ch1.m3u8?u=test;p=1234`

### Encrypted Time Shift TV setting:

- Click Channel Button and Click More icon

- Select HLS option to AES-128 Encryption (internal transcoder)

Disabled  
 AES-128 Encryption (Internal transcoder)  
 Constant Bitrate (Internal transcoder)

HTTP Live Streaming :  Constant Bitrate (External transcoder)  
 Adaptive Bitrate (External transcoder)

Mobile Bitrate:  kbps  
SD Bitrate:  kbps  
HD Bitrate:  kbps

Video Format :  ▼  
Audio Format :  ▼  
Encoding Speed :  ▼

## Time-Delay TV for NON-STOP Restreaming

Delay TV channel is to save live stream from source URL into server local storage. When a player wants to play it, Ezserver restreams its videos from server local storage to the player. The player only watch delay video from Ezserver, but the player can not backward and forward the channel.

Click Channel button and set Type to Delay x sec., min., hr, then click Save button.



The storage size of per channel depends on video bitrate and delay time. For example,

- Channel video bitrate is 1Mbps and delay time is 1 hour, the storage size needs 450M bytes
- 100 channels, 1Mbps bitrate, 1-hour delay time, the storage size needs 45G bytes. Ezserver uses triple space for one channel, so the total size is 135G bytes.
- Use HLS link as <http://192.168.0.6:8000/ch1.m3u8?u=test;p=1234> to play channels.

Encrypted Time Delay TV setting:

- Click Channel Button and Click More icon
- Select HLS option to AES-128 Encryption (internal transcoder)

Disabled  
 AES-128 Encryption (Internal transcoder)  
 Constant Bitrate (Internal transcoder)  
HTTP Live Streaming :  Constant Bitrate (External transcoder)  
 Adaptive Bitrate (External transcoder)

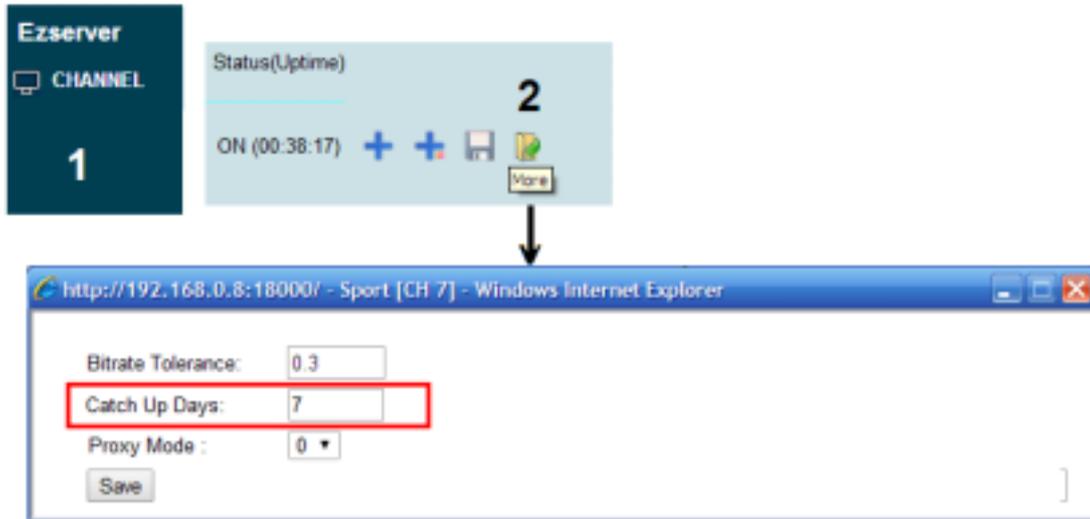
Mobile Bitrate:  kbps  
SD Bitrate:  kbps  
HD Bitrate:  kbps  
Video Format :   
Audio Format :   
Encoding Speed :

## Catch up TV

This function is to record live channel into VOD movies by EPG information.

### Set Catch up days

- Click Channel Button and More icon to set Catch Up Days



### Set EPG time

- Click EPG button to add new program item
  - ◆ Start Time
  - ◆ Stop Time
  - ◆ Program Title
  - ◆ Program Description
  - ◆ Record Icon Path
  - ◆ Set Record Option to ON

The image shows the 'EPG' section of the Ezserver interface. It features a table with columns for 'No.', 'Start Time', 'Stop Time', 'Program Title', 'Program Description', 'Record Icon Path', and 'Record'. There are three rows of data:

No.	Start Time	Stop Time	Program Title	Program Description	Record Icon Path	Record
1	2015/01/11 00:30:00	2015/01/11 00:30:00	Desk RTS	Agencia web, noticias, eventos en vivo		ON
2	2015/01/11 00:30:00	2015/01/11 00:30:00	Studio 2000	Musica / entretenimiento studio 2000		ON
3	2015/01/11 02:30:00	2015/01/11 03:10:00	Cual fue mi Ballena	Documental de la vida		ON

- Ezserver add the record video information as below into Movie Panel after stop time automatically.
  - ◆ Program Title → Movie Name
  - ◆ Record Video Path → Media Source
  - ◆ Record Icon Path → Icon Path
  - ◆ Channel Category → Category

Movie Name	Media Source	Icon Path	Category	Duration (min)	State (Days)	Status
1 Movie1	file:///middlew/ntv/Sporn1.mpl	file:///middlew/picture/Sporn1.jpg	SPORT	6:30	7/2:30	ON
2 Movie2	file:///middlew/ntv/Sporn2.mpl	file:///middlew/picture/Sporn2.jpg	SPORT	6:30	7/2:30	ON
3 Movie3	file:///middlew/ntv/Sporn3.mpl	file:///middlew/picture/Sporn3.jpg	SPORT	6:30	7/2:30	ON
4 Movie4	file:///middlew/ntv/Sporn4.mpl	file:///middlew/picture/Sporn4.jpg	SPORT	6:30	7/2:30	ON
5 Movie5	file:///middlew/ntv/Sporn5.mpl	file:///middlew/picture/Sporn5.jpg	SPORT	6:30	7/2:30	ON
6 Movie6	file:///middlew/ntv/Kudu1.mpl	file:///middlew/picture/Kudu1.jpg	KIDS	3:00	1/0:30	ON
7 Movie7	file:///middlew/ntv/Kudu2.mpl	file:///middlew/picture/Kudu2.jpg	KIDS	3:00	1/0:30	ON
8 Movie8	file:///middlew/ntv/Kudu3.mpl	file:///middlew/picture/Kudu3.jpg	KIDS	3:00	1/0:30	ON
9 Movie9	file:///middlew/ntv/Kudu4.mpl	file:///middlew/picture/Kudu4.jpg	KIDS	3:00	1/0:30	ON
10 Movie10	file:///middlew/ntv/Kudu5.mpl	file:///middlew/picture/Kudu5.jpg	KIDS	3:00	1/0:30	ON

Catch up TV Example Flow:

**CHANNEL** Define Category in Channel

No	Channel Name	Media Source	Icon Path	Category	Type
1	ESS NEWS	http://nt1.cwcast.com/133/ntv	file:///middlew/picture/0du1.jpg	India	Live
2	POSTE NEWS	http://nt1.cwcast.com/gandhi	file:///middlew/picture/0du2.jpg	USA	Live
3	AUC NEWS	http://wp.informantk.ch/vecast	file:///middlew/picture/0du3.jpg	China	Live

**EPG** Define Program Title and Record Icon Path

No	Start Time YYYY/MM/DD hh:mm:ss	Stop Time YYYY/MM/DD hh:mm:ss	Program Title	Program Description	Record Icon Path	Record
1	2015/05/04 10:00:00	2015/05/04 10:05:00	Football News	Football News Description	file:///middlew/picture	ON
2	2015/05/04 10:10:00	2015/05/04 10:20:00	Baseball News	Baseball News Description	file:///middlew/picture	ON

**MOVE** Automatically add Football News into Movie for VOD

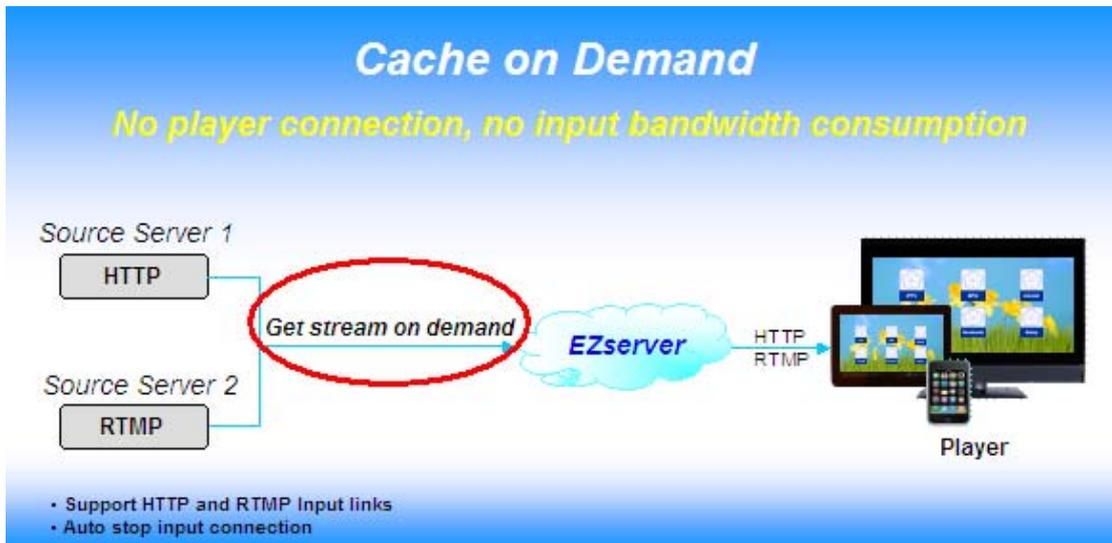
No	Movie Name	Media Source	Icon Path	Category	Duration (min)	State (Days)	Status
1	Football News	file:///tv_program_archive/India/Football	file:///middlew/picture/Sporn1.jpg	India	0:304	1/22:00	ON
2	Baseball News	file:///tv_program_archive/India/Baseball	file:///middlew/picture/Sporn1.jpg	India	0:064	1/22:00	ON

Note: The recorded file is ezserver\_enterprise /tv\_program\_archive/2015\_05\_04/CH0001\_10\_00.ts

**utc option in URL**

- URL Syntax: http://serverip:port/xxx?u=xxx:p=xxx:utc=xxxxxxxxx
  - http://192.168.0.6:8000/1.ch?u=test:p=1234:utc=1460763600
  - or use siptv EPG List to watch the video

## Channel on demand (Cache on demand)



Channel on demand TV is that a player wants to watch a channel, ezserver checks the channel if is cached in memory. if the channel is cached, then ezserver streams the channel video from the cache to the player. If the channel is not cached, ezserver opens a connection to the input server and gets the video into cache memory, then ezserver streams the channel video from the cache to the player. Once, there is no any player to watch the channel, ezserver stops the connection of input server in order to save the incoming bandwidth of ezserver.



Additional, there are two options in ezserver\_config.txt, one is for enable/disable caching for all channels, the other is for caching off interval as below:

1. cache\_on\_demand\_channel :

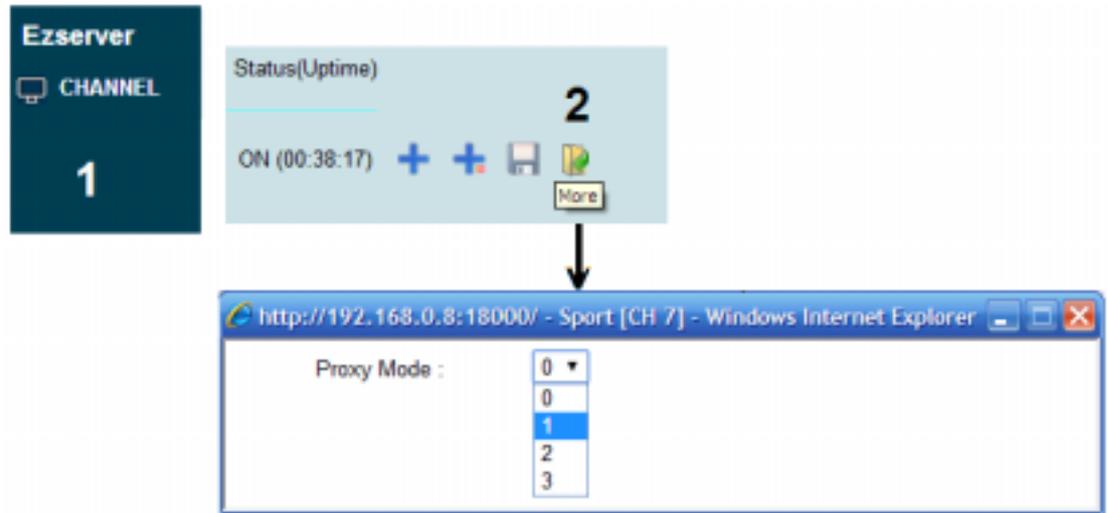
- if its value is 1, then when a player wants to watch a channel, ezserver checks the channel if is cached in memory. if the channel is cached, then ezserver streams the channel video from the cache to the player. If the channel is not cached, ezserver opens a connection to the input server and gets the video into cache memory, then ezserver streams the channel video from the cache to the player.

- If its value is 0, ezserver does not stop the connection of input server to get the video into cache memory.

2. stop\_ch\_cache\_interval (unit: min.): is defined for cache\_on\_demand\_channel=1. Once, there is no any player to watch the channel, ezserver stops the connection of input server after stop\_ch\_cache\_interval value. For example, its value is 10 min, then ezserver stops the connection of input channel after 10 min.

## Proxy Mode

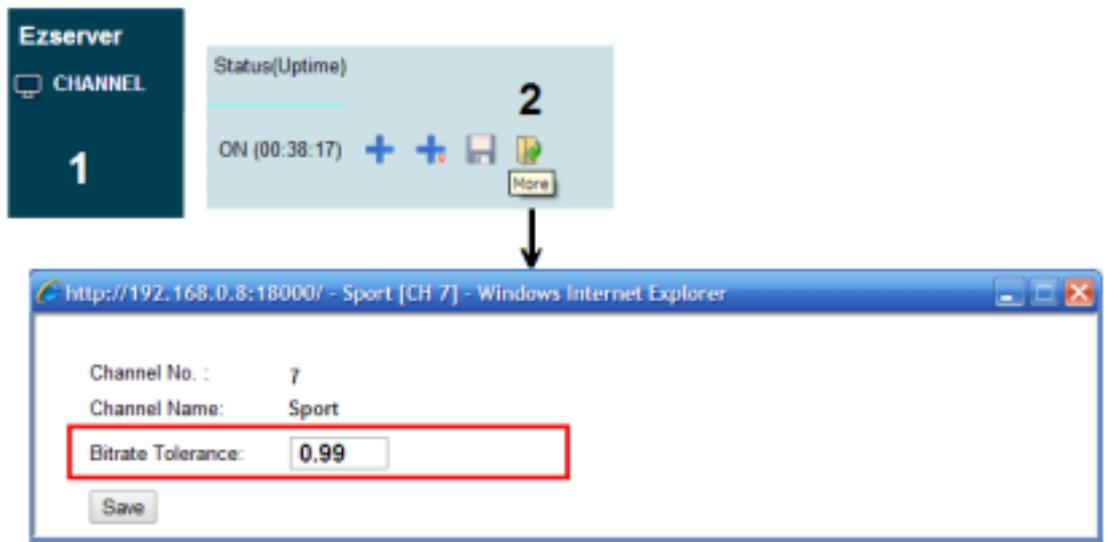
- Click More Button of a channel
- Set Channel Proxy mode to 1 / 2 / 3
  - ◆ 1: forward main URL to players
  - ◆ 2: forward balancer URL to player
  - ◆ 3: forward main / 2<sup>nd</sup> / 3<sup>rd</sup> URLs into players



- Click Save Button

## HD channel buffering

- Click More Button of a channel with over 10Mbps bitrate.
  - ◆ Set Bitrate Tolerance value to 0.99



- Click Save Button

## Apple HLS channel output

### Enable one channel with HLS output:

- Click Channel Button and Click More icon
- Select HLS option to Constant Bitrate (internal transcoder)

Disabled  
 AES-128 Encryption (Internal transcoder)  
 Constant Bitrate (Internal transcoder)  
 HTTP Live Streaming :  Constant Bitrate (External transcoder)  
 Adaptive Bitrate (External transcoder)

Mobile Bitrate:  kbps  
 SD Bitrate:  kbps  
 HD Bitrate:  kbps  
 Video Format :  ▾  
 Audio Format :  ▾  
 Encoding Speed :  ▾

### Enable/Disable all channels with HLS output:

add `hls_disable=1/2` in `ezserver_config.txt` and restart `ezserver`.

- `hls_disable=1` means to disable all HLS channels
- `hls_disable=2` means to enable all channels to HLS

### Open RAMDisk to speed up streaming

- Add one option `RAMDisk=xxxx` in `ezserver_config.txt`, it can reduce load average.
  - Go to `ezserver` folder (`ezserver_enterprise` or `ezserver_balancer`)
  - Run "`du hls_archive`" to get `hls_archive` size (ex.4000), then set double size for RAMDisk.
  - `RAMDisk=8000` means 8Gbytes ramdisk for `hls_archive` folder.
  - Linux command "`df | grep tmpfs`" to check ramdisk usage.
- `./shutdown.sh` then `./start.sh`

### Streaming URL:

Single channel: `http://192.168.0.10:8000/ch1.m3u8?u=test;p=1234`

All channels: `http://192.168.0.10:8000/getlink?username=test;password=1234:type=hls`

## Encrypted channel with AES-128

- Click Channel Button and Click More icon
- Select HLS option to AES-128 Encryption (internal transcoder)

Disabled

AES-128 Encryption (Internal transcoder)

Constant Bitrate (Internal transcoder)

HTTP Live Streaming :  Constant Bitrate (External transcoder)

Adaptive Bitrate (External transcoder)

Mobile Bitrate:  kbps

SD Bitrate:  kbps

HD Bitrate:  kbps

Video Format :

Audio Format :

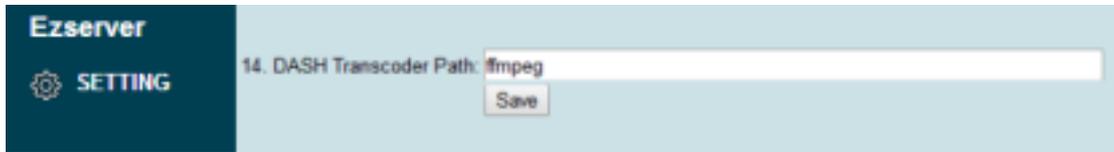
Encoding Speed :

- URL for players
  - Syntax: `http://ip_address:port/chx.m3u8?u=xxxx:p=xxxx`
  - Syntax: `http://ip_address:port/channe_name.m3u8?u=xxxx:p=xxxx`
    - Ex.1: `http://192.168.0.10:8000/ch1.m3u8?u=test:p=1234`
    - Ex.2: `http://192.168.0.10:8000/TV1.m3u8?u=test:p=1234`

## Adaptive Bitrate Streaming

Login Ezserver Panel and Click Setting Panel to set DASH Transcoder Path first.

- Set DASH Transcoder Path



Click Channel Button and More icon to set Channel HTTP Live Streaming as below:

- HTTP Live Streaming :
- Disabled
  - AES-128 Encryption (Internal transcoder)
  - Constant Bitrate (Internal transcoder)
  - Constant Bitrate (External transcoder)
  - Adaptive Bitrate (External transcoder)

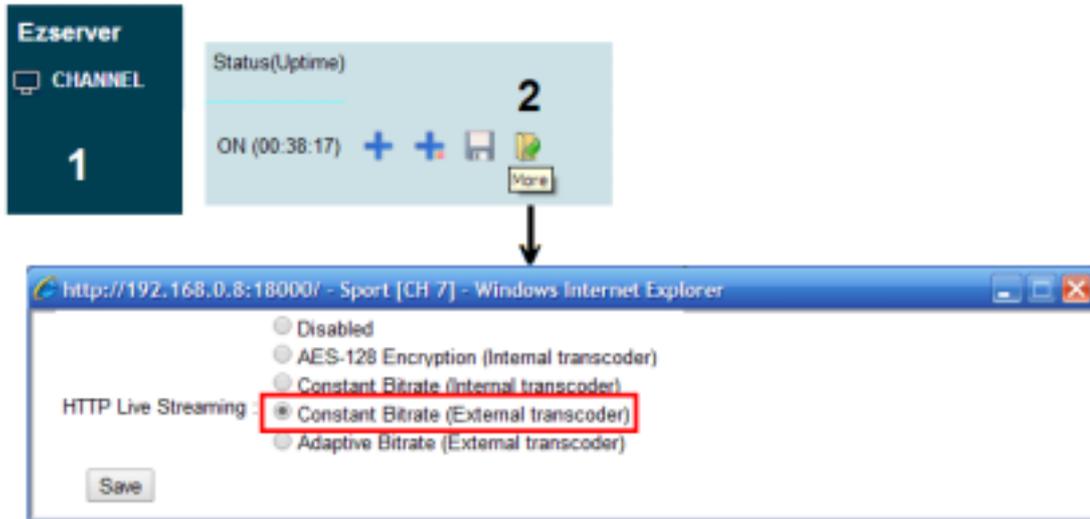
Mobile Bitrate:	<input type="text" value="500"/>	kbps
SD Bitrate:	<input type="text" value="1500"/>	kbps
HD Bitrate:	<input type="text" value="3000"/>	kbps
Video Format :	<input type="text" value="h265"/>	▼
Audio Format :	<input type="text" value="aac"/>	▼
Encoding Speed :	<input type="text" value="fast"/>	▼

- URL for players
  - Syntax: `http://ip_address:port/ChannelName.m3u8?u=xxxx:p=xxxx`
  - Syntax: `http://ip_address:port/chx.m3u8?u=xxxx:p=xxxx`
  - Ex. 1: `http://test:1234@172.16.10.50:8000/TV1.m3u8`
  - Ex. 2: `http://test:1234@172.16.10.50:8000/ch4.m3u8`

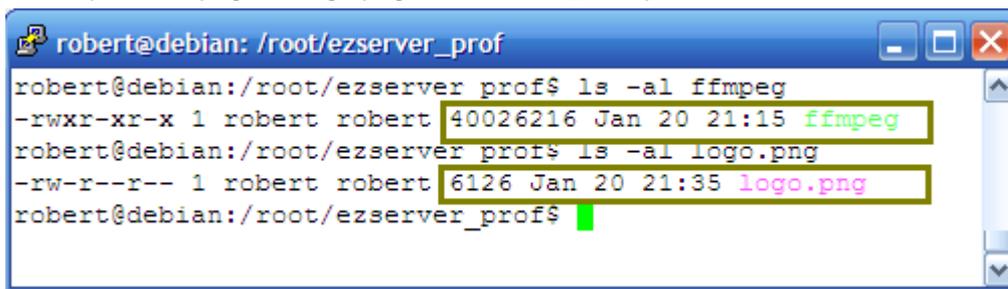
## Logo watermark

This function is to add a logo watermark on live channel. Administrator follows up the below steps to enable the live channel record:

- Click Channel Button and More icon to set Constant Bitrate(External transcoder)



- Add the below line into ezserver\_config.txt
  - Linux version
    - ◆ `transcoder_path=ffmpeg -i logo.png -filter_complex 'overlay=10:10'`
  - Windows version
    - ◆ `transcoder_path=ffmpeg.exe -i logo.png -filter_complex 'overlay=10:10'`
- Upload ffmpeg and logo.png into ezserver\_enterprise folder.



- HLS URL for Players:
  - `http://serverip:port/chx.m3u8?u=xxxx;p=xxxx.`
    - ◆ `http://192.168.0.10:8000/ch1.m3u8?u=test;p=1234`
    - ◆ `http://test:1234@192.168.0.10:8000/ch1.m3u8`
  - `http://serverip:port/CannelName.m3u8?u=xxxx;p=xxxx.`
    - ◆ `http://192.168.0.10:8000/SportTV.m3u8?u=test;p=1234`
    - ◆ `http://test:1234@192.168.0.10:8000/SportTV.m3u8`

## MPEG MPTS Input

Ezserver receives MPTS streams by multicast IP/Port with a program number and generates SPTS streams for video streaming to players.

Ezserver		
<input type="checkbox"/>	Channel Name	Media Source
<input type="checkbox"/>	1 MPTS UDP1	udp://224.1.1.1:9001/301
<input type="checkbox"/>	2 MPTS UDP2	udp://224.1.1.1:9001/302
<input type="checkbox"/>	3 MPTS UDP3	udp://224.1.1.1:9001/303
<input type="checkbox"/>	4 MPTS UDP4	udp://224.1.1.1:9001/304
<input type="checkbox"/>	5 MPTS UDP5	udp://224.1.1.1:9001/305
<input type="checkbox"/>	6 MPTS UDP6	udp://224.1.1.1:9001/306
<input type="checkbox"/>	7 MPTS UDP7	udp://224.1.1.1:9001/307
<input type="checkbox"/>	8 MPTS UDP8	udp://224.1.1.1:9001/308
<input type="checkbox"/>	9 MPTS UDP9	udp://224.1.1.1:9001/309
<input type="checkbox"/>	10 MPTS UDP10	udp://224.1.1.1:9001/3010

For better network performance, you can use the 2nd network card for MPTS input, Please follow the below steps:

1. Click More icon of the channel as below:

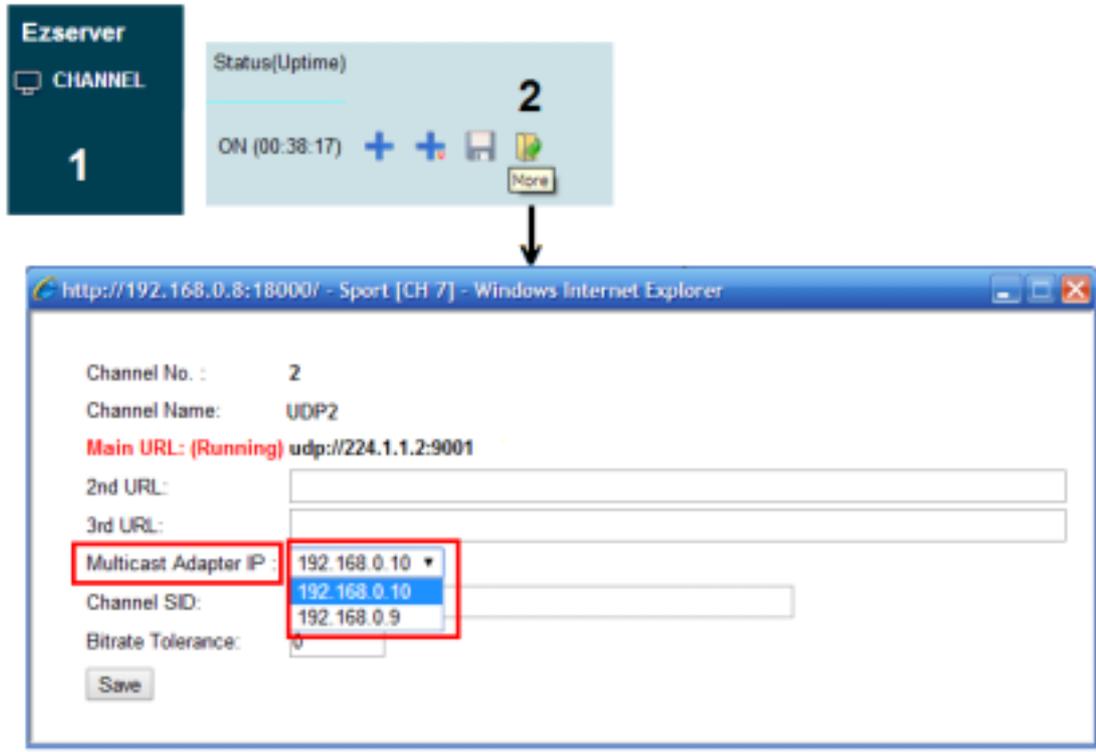
The image shows two screenshots illustrating the configuration steps. The first screenshot shows the Ezserver interface with a channel card for 'Sport [CH 7]' and a 'More' icon highlighted with a red box and the number '2'. The second screenshot shows a browser window displaying the configuration page for Channel No. 2, where the 'Multicast Adapter IP' dropdown is set to '192.168.0.10' and highlighted with a red box.

2. select one IP for multicast stream in the same LAN.

## Multiple network input cards

When a server has 2 network cards, you can set the 2<sup>nd</sup> card for multicast input from an encoder. Please follow the below steps:

1. Click More icon of the channel as below:



2. select one IP for multicast stream in the same LAN.
3. login panel to set UDP Multicast URL in channels.

For example:

An encoder can stream multicast videos by 224.1.1.1:9001, 224.1.1.2:9001 and 224.1.1.3:9001 to the LAN with the 2<sup>nd</sup> card.

Channel	Channel Name	Media Source
1	Local Stream 1	udp://224.1.1.1:9001
2	Local Stream 2	udp://224.1.1.2:9001
3	Local Stream 3	udp://224.1.1.3:9001

## 6. Reseller

Each reseller can add his own users by reseller panel. Ezserver Administrator can a new supper reseller or reseller. And a super reseller can also create his reseller from his reseller panel.

### Create reseller

#### Create super reseller

- click User button
- select more icon to select Level to Super Reseller

The screenshot shows the 'Ezserver Subscriber' form in a Windows Internet Explorer browser. The left sidebar is labeled 'Ezserver' and 'USER'. The form fields are: User: robert; Rating Password: (empty); Level: Super Reseller (selected in a dropdown); Pay Model: (empty); User Point.: (empty); Smart Phone No.: (empty); Tablet ID: 001122334455. A red box highlights the dropdown menu for 'Level', which includes options: User, Administrator, Super Reseller (highlighted), and Reseller.

#### Create reseller

- click User button
- select more icon to select Level to reseller

The screenshot shows the 'Ezserver Subscriber' form in a Windows Internet Explorer browser. The left sidebar is labeled 'Ezserver' and 'USER'. The form fields are: User: robert; Rating Password: (empty); Level: Reseller (selected in a dropdown); Pay Model: (empty); User Point.: (empty); Smart Phone No.: (empty); Tablet ID: 001122334455. A red box highlights the dropdown menu for 'Level', which includes options: User, Administrator, Super Reseller, and Reseller (highlighted).

### Reseller setting

click Reseller button

The screenshot shows the 'Ezserver' interface with the 'RESELLER' button selected in the sidebar. The table displays a list of resellers with the following data:

No.	Name	Credit	Option	Credit	Credit Unit	Creator	Type
1	robert	490	<input checked="" type="checkbox"/>	5		root	Super Reseller
2	rs2	100	<input checked="" type="checkbox"/>	6		robert	Reseller

Menu Bar

Total	The total no of Super Reseller or Reseller
-------	--

Button

Save	Save Credit items
------	-------------------

Content

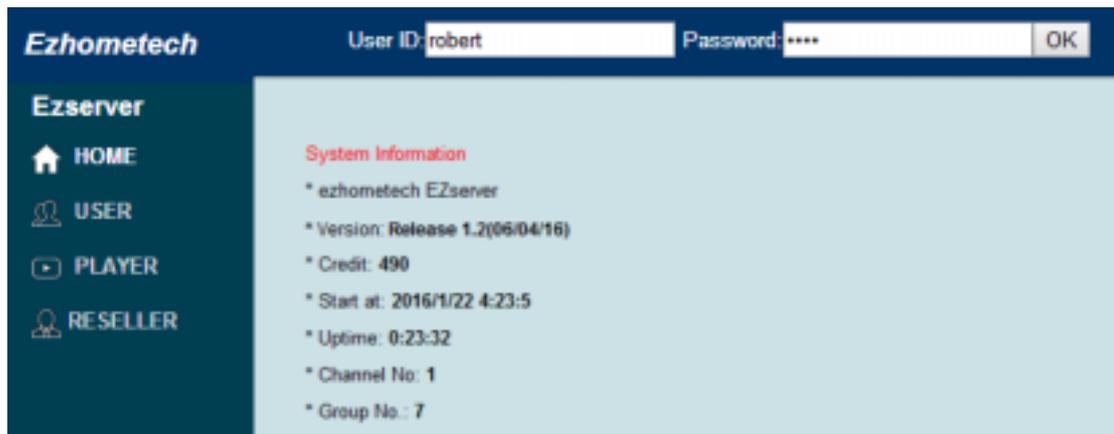
Reseller Name	<b>Reseller name MUST be created by user panel first</b>
Credit Option	<b>Enable / Disable Reseller Credit</b>
Credit	<b>Total Credit for the monthly fee of his users</b>
Credit Unit	<p><b>Daily or Monthly fee unit.</b></p> <p><b>reseller_credit_day</b> option in ezserver_config.txt to set Daily or Monthly fee unit.</p> <p><b>reseller_credit_day=1 : Daily fee unit.</b></p> <p>Ex. The daily fee of a user for watch video is US\$2, then its value is 2.</p> <p><b>reseller_credit_day=0: Monthly fee unit.</b></p> <p>Ex. The monthly fee of a user for watch video is US\$50, then its value is 50.</p>
Creator	<b>The person created the reseller.</b>
Type	<b>Super Reseller or Reseller.</b>

## Reseller Web Management

Reseller management has two modes, one is for Super Reseller, the other is for Reseller. The difference between them is that Super Reseller can manage his reseller.

A reseller can add/edit/delete his users and monitor their connections via Internet browser. Each reseller can add his own users by reseller panel (<http://serverip:port/reseller/index.htm>).  
EX. <http://192.168.0.6:18000/reseller/index.htm>

Super Reseller Panel:

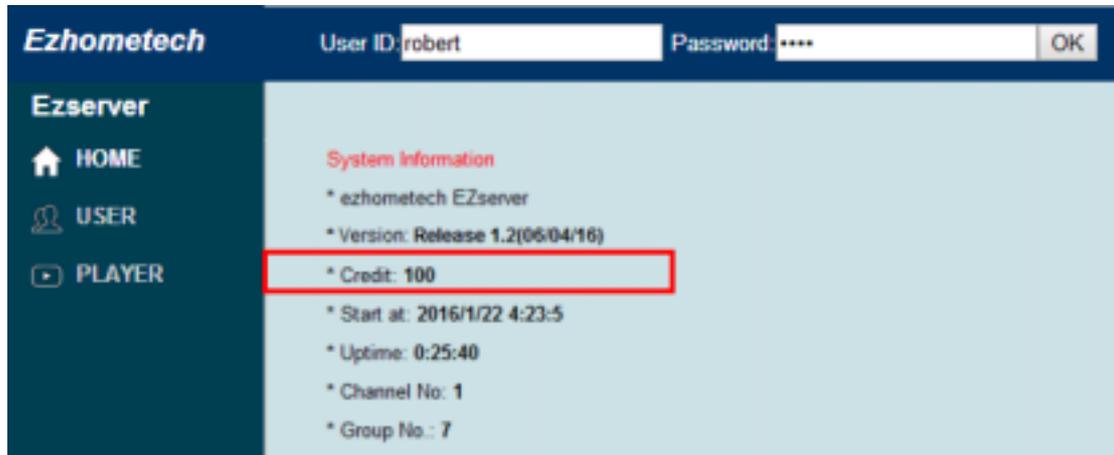


Reseller Panel:



Reseller Credit:

The reseller panel will show his current Credit, if its value is 0, it means he can not create any user.

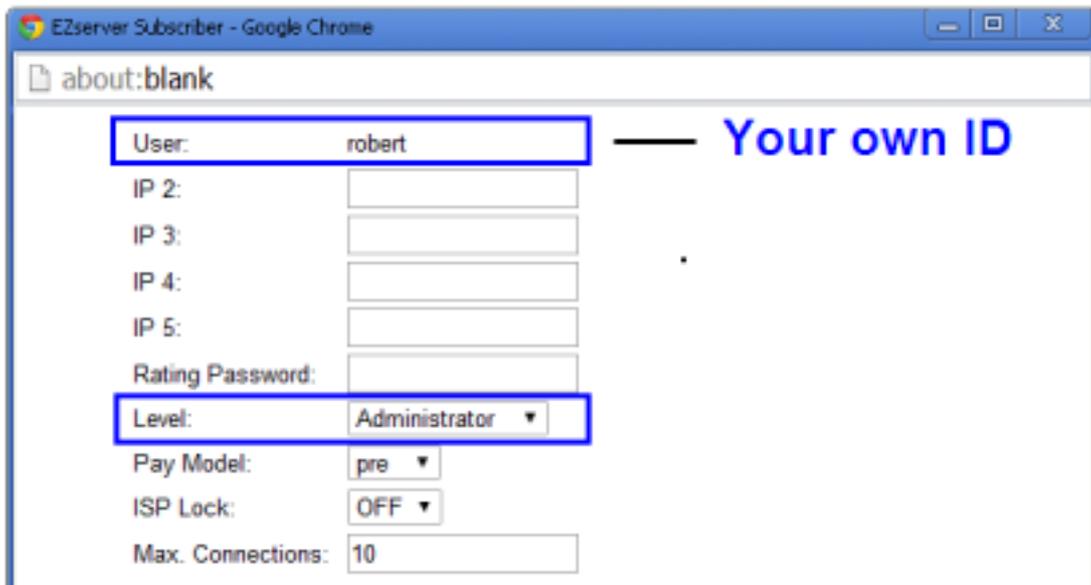


## 7. System maintenance

### Administrator profile setting --- **Important**

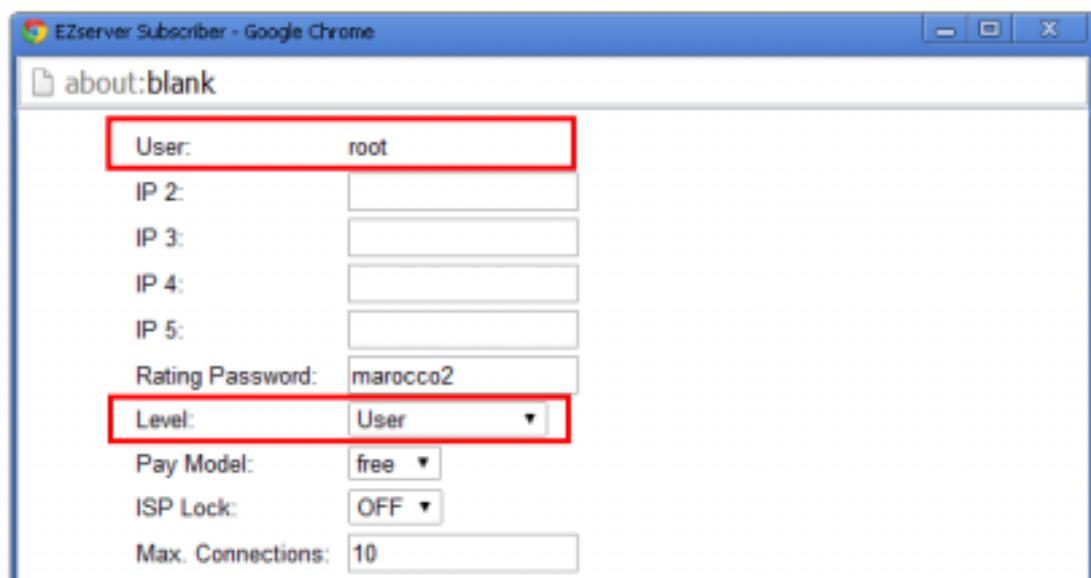
Login Panel [http://Server\\_IP:18000/admin/index.htm](http://Server_IP:18000/admin/index.htm) by user id "root" and password,

- Click user button to create **your own user id** with password.
- Click its more icon to change its **Level** to **Administrator**.



The screenshot shows a web browser window titled "EZserver Subscriber - Google Chrome" with the address bar displaying "about:blank". The main content area contains a form for user profile settings. The "User:" field is filled with "robert" and is highlighted with a blue border. To the right of this field, the text "Your own ID" is written in blue. Below the "User:" field are five empty input fields labeled "IP 2:", "IP 3:", "IP 4:", "IP 5:", and "Rating Password:". The "Level:" dropdown menu is set to "Administrator" and is also highlighted with a blue border. Other fields include "Pay Model:" set to "pre", "ISP Lock:" set to "OFF", and "Max. Connections:" set to "10".

- Login Panel with your own ID.
- Click **root** more icon to set its **Level** to **User**.



The screenshot shows the same web browser window as above, but now the "User:" field is filled with "root" and is highlighted with a red border. The "Level:" dropdown menu is set to "User" and is also highlighted with a red border. The "Rating Password:" field is now filled with "marocco2". The other fields remain the same: "Pay Model:" set to "free", "ISP Lock:" set to "OFF", and "Max. Connections:" set to "10".

- Login panel by root to check if root can not login panel again.

## Network interface selection

The default network interface of Ezserver uses eth0, if the server does not use eth0, please change the network\_interface value in ezserver\_config.txt.

### Linux platform:

#### Dedicated Server

if your current network card is not eth0, Ezserver administrator needs to replace network\_interface=eth0 by your current network interface(ex. eth1 or eth2) of ezserver/ezserver\_config.txt.

```
[root@localhost x86_linux]# ifconfig
eth0      Link encap:Ethernet  HWaddr 00:00:00:00:00:00
          inet addr:192.168.0.8  Bcast:192.168.0.255  Mask:255.255.255.0
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:1967998 errors:0 dropped:0 overruns:0 frame:0
          TX packets:1346208 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:100
          RX bytes:2288229645 (2182.2 Mb)  TX bytes:643610873 (613.7 Mb)
          Interrupt:11 Base address:0xeec0 Memory:f7efe000-f7efe038

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          UP LOOPBACK RUNNING  MTU:16436  Metric:1
          RX packets:75 errors:0 dropped:0 overruns:0 frame:0
          TX packets:75 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:0
          RX bytes:6174 (6.0 Kb)  TX bytes:6174 (6.0 Kb)
```

```
path=.
startmenu=index.htm
iptv_base_port=5544
http_base_port=18000
time_zone_diff=0
httpport=8000
rtmpport=1935
igmpip=0.0.0.0
igmpport=9001
network_interface=eth1
```

### Virtual Private Server(VPS)

Ezserver administrator needs to replace network\_interface=eth0 by network\_interface=venet0:0 of ezserver/ezserver\_config.txt for system configuration.

```
[root]# ifconfig
lo          link encap:loopback
           inet addr:127.0.0.1 Bcast:127.0.0.1
           inet6 addr: ::1/128 Scope:Host
           UP LOOPBACK RUNNING MTU:16436 Metric:1
           RX packets:1237 errors:0 dropped:0 overruns:0 frame:0
           TX packets:1237 errors:0 dropped:0 overruns:0 carrier:0
           collisions:0 txqueuelen:0
           RX bytes:116189 (113.4 KiB) TX bytes:116189 (113.4 KiB)

venet0     Link encap:UNSPEC HWaddr 00-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00
           inet addr:127.0.0.2 P-t-P:127.0.0.2 Bcast:0.0.0.0 Mask:255.255.255.255
           UP BROADCAST POINTOPOINT RUNNING NOARP MTU:1500 Metric:1
           RX packets:3799 errors:0 dropped:0 overruns:0 frame:0
           TX packets:3635 errors:0 dropped:31 overruns:0 carrier:0
           collisions:0 txqueuelen:0
           RX bytes:266593299 (254.2 MiB) TX bytes:211596448 (201.7 MiB)

venet0:0   Link encap:UNSPEC HWaddr 00-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00
           inet addr:71.11.244.22 P-t-P:71.11.244.223 Bcast:71.11.244.253 Mask:255.255.255.255
```

```
path=.
startmenu=index.htm
iptv_base_port=5544
http_base_port=18000
time_zone_diff=0
httpport=8000
rtmport=1935
igmpip=0.0.0.0
igmpport=9001
network_interface=venet0:0
```

## Network Interface for Amazon EC2

The default network interface of Ezserver uses eth0, for Amazon EC2, it needs to added an alias to eth0 with the public ip as eth0:1 in Amzaon EC2 server and change network\_interface value from eth0 to eth0:1 in ezserver\_config.txt.

```
.
.
.
network_interface=eth0:1
.
.
.
```

For example, Amazon CE2 public ip is 187.178,11.1, then run below command in ssh console:

- `ifconfig eth0:1 187.178,11.1 up`
- `ifconfig` (check if eth0:1 is available)
- change network\_interface value from eth0 to eth0:1 in ezserver\_config.txt.

## System backup and restore

- run `./backup_setting.sh` to backup current setting to `ezserver_backup_setting.tar`
- run `./restore_setting.sh` to restore setting from `ezserver_backup_setting.tar`

## New installation with original setting in Linux

**follow up the below steps (Example for /root/ezserver enterprise)**

- rename `ezserver_enterprise` to `ezserver_enterprise_old`
- go to `ezserver_enterprise_old` folder
- run `./shutdown.sh` to shutdown ezserver
- run `./backup_setting.sh` to backup current setting to `ezserver_backup_setting.tar`
- `cd root`
- run `./install.sh` to get the new installation files
- input password
- `cp /root/ezserver_enterprise_old/ezserver_backup_setting.tar /root/ezserver_enterprise/`
- run `./restore_setting.sh` to restore setting from `ezserver_backup_setting.tar`
- run `./setup.sh` to select autostart option
- run `./start.sh` to start ezserver
- **For not same server, need to send new `serial_number.txt` to [sales@ezhometech.com](mailto:sales@ezhometech.com) for license activation.**

## Move Folder for Disk full in Linux

**follow up the below steps**

(Ex. : move `/root/ezserver enterprise` to `/home/ezserver enterprise`)

- **remove autostart command in `/etc/crontab`**
- `tar cvfz 1.tar /root/ezserver_enterprise/`
- copy `1.tar` into `/home` folder
- `cd /home`
- `tar xfvz 1.tar`
- `cd /home/ezserver_enterprise`
- run `./setup.sh` to select autostart option
- run `./start.sh` to start ezserver

## System update

There are 2 ways to update software. One is to update patch files. The other way is to update the whole folder.

- **Get patch files (recommended):**
  - **./patch.sh**
  - Input **patch password**
  - After patch successfully
  - **./shutdown.sh**
  - **./start.sh**
- **Backup ezserver\_enterprise folder** into ezserver\_enterprise\_ddmmyy folder and download the newest version with the current setting in your server.
  - **./update\_latest\_ezserver.sh**
  - Input **patch password**

## Auto start

Ezserver can automatically restart streaming services when Linux booting, ezserver suddenly closed or at specified time. There are 3 options for Ezserver restarting

Option A: Run `./install.sh` in `/root/ezserver_enterprise` folder to select “y” in auto start setting.

Option B: Run `./setup.sh` in `/root/ezserver_enterprise` folder to select “y” in auto start setting.

Option C: Run `crontab -e` in ssh console and add the below line in the end of the file:

```
*/1 * * * * /root/ezserver_enterprise/checkmo.sh
```

Option D: Run `./start.sh` in `/root/ezserver_enterprise`.

Option E: Defined the restart times by hour:minute in `ezserver_config.txt`. It can have multiple restart time.

```
restart=(hh:mm),(hh:mm),(hh:mm)
```

For example:

`restart=(00:00),(12:30),(18:45),(20:30)`, then Ezserver will restart at 00:00, 12:30, 18:45 and 20:30 per day.

## Channel Input Re-Connection

Sometimes HTTP or RTMP input of an Ezserver channel is dropped that is happened by some network failure or input server closed and etc.. There are two ways for dropped channels, one is Ezserver will automatically re-connect the dropped channels after seconds, the other is by refresh channels via Ezserver panel manually.

1. For automatically reconnection, there are two options, one is by `channel_reconnection_interval` in `ezserver_config.txt`, the other is default setting.

For example:

- If `channel_reconnection_interval = 7`, Ezserver will reconnect the dropped channel after 7 seconds.
- The default option is that Ezserver reconnects it after 5 sec., if failed to get video stream from input link, it will try after 10 sec., 15 sec., 20 sec., 25 sec., 30 sec., 10 min.. If the link is still dropped after 10 min, Ezserver will try it again.

2. For manually re-connection, you can login Ezserver panel and use refresh button of the dropped channel to do re-connection.

## Remote storage

**For external movies in other servers or outside ezserver folder, you can use Linux Symbolic Link or NFS to insert them into ezserver folder.**

**EX. Symbolic Link**

- **`mkdir /root/movie`**
- **upload your movie into /root/movie folder**
- **`cd /root/ezserver_enterprise`**
- **In /root/media `-s media/videos/`**
- **`ls media/videos/`**

**EX. NFS**

**Install NFS in ezserver IP is 192.168.0.10 and Storage Server IP is 192.168.0.8.**

**Login server 192.168.0.8**

- **`mkdir /root/movie`**
- **add `"/root/movie 192.168.100.10(rw)"` in `/etc/exports`**
- **`./etc/init.d/nfs-kernel-server restart`**
- **`showmount -e localhost`**

**Login server 192.168.0.10**

- **`cd /root/ezserver_enterprise`**
- **`mount -t nfs 192.168.0.8:/root/movie media/videos/`**

## Notice video / image setting

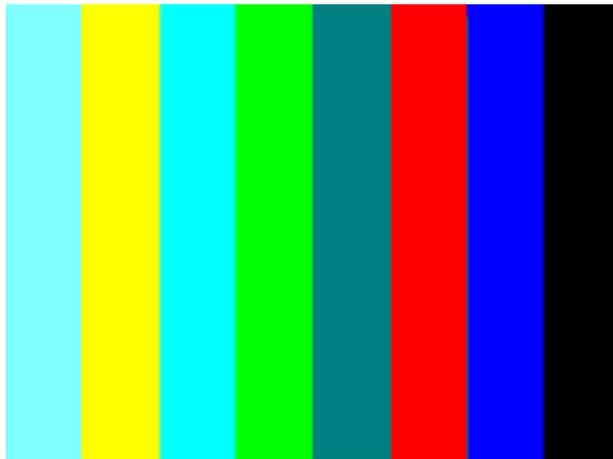
### Offline Channel Setting

When a channel is not available for players as source url fails, Administrator can set a default image (PNG or JPG format) or video for this case to let users know it. The default image is in admin/channel\_off.PNG

Set channel\_off\_video\_path=path in ezserver\_config.txt, then start ezserver again.

Ex: channel\_off\_video\_path=media/videos/channel\_off.flv

or channel\_off\_video\_path=admin/channel\_no\_signal.PNG



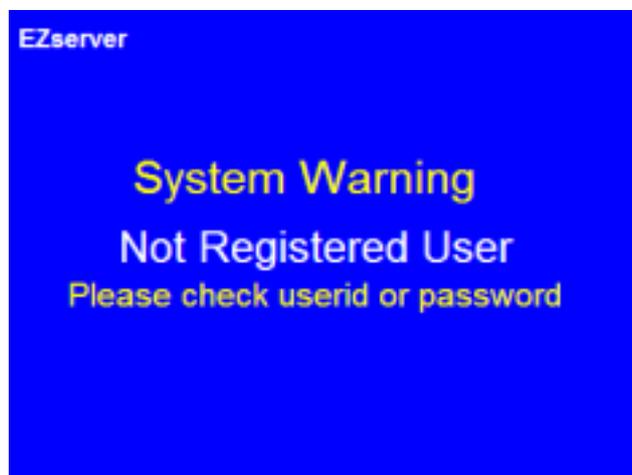
### Not Registered User Setting

When a user connects ezserver with wrong userid or passowrd ,administrator can set a default image (PNG or JPG format) or video to inform the user. The default image is in admin/not\_registered\_user.PNG.

Set unregistered\_user\_video\_path=path in ezserver\_config.txt, then start ezserver again.

Ex: unregistered\_user\_video\_path=media/videos/not\_registered\_user.flv

or unregistered\_user\_video\_path=admin/not\_registered\_user.PNG



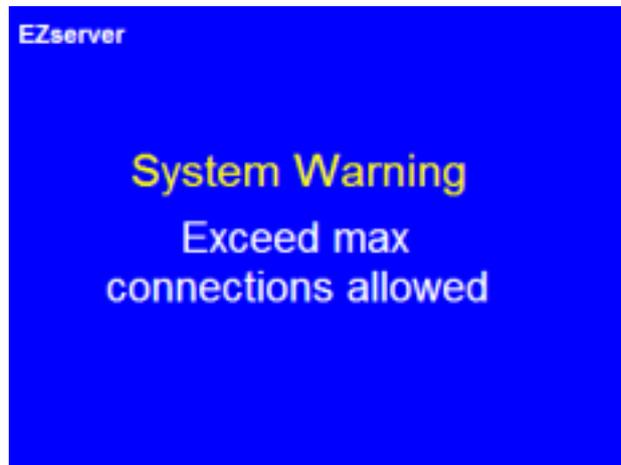
## Exceed max connections allowed

When a user connects ezserver with multiple connections at same time, administrator can set a default image (PNG or JPG format) or video to inform the user. The default image is in admin/ exceed\_max\_connections\_allowed.PNG.

Set exceed\_max\_connects\_allowed\_video\_path=path in ezserver\_config.txt, then start ezserver again.

Ex:exceed\_max\_connects\_allowed\_video\_path=media/videos/exceed\_max\_connections\_allowed.flv or

exceed\_max\_connects\_allowed\_video\_path=admin/exceed\_max\_connections\_allowed.PNG



## Time-Expired Setting

When a user subscription is expired and need to notice him, Administrator can set a default image (PNG or JPG format) or video for this case to inform the user. The default image is in admin/time\_expired.PNG

Set time\_expired\_video\_path=path in ezserver\_config.txt, then start ezserver again.

Ex: time\_expired\_video\_path=media/videos/time\_expired.flv

or time\_expired\_video\_path=admin/time\_expired.PNG

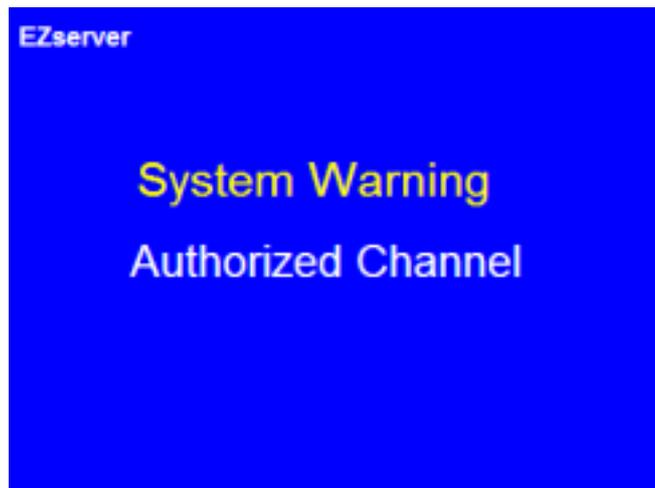


## Unauthorized Channel Setting

When a user wants to watch unauthorized channels, administrator can set a default image (PNG or JPG format) or video to inform the user. The default image is in admin/authorized\_channel.PNG.

Set `authorized_channel_video_path=path` in `ezserver_config.txt`, then start ezserver again.

Ex: `authorized_channel_video_path=media/videos/authorized_channel.flv`  
or `authorized_channel_video_path=admin/authorized_channel.PNG`



## Reduce Load average

- When channel output supports HLS output, it may have higher load average.
- Add one option **RAMDisk=xxxx** in ezserver\_config.txt, it can reduce load average.
  - ◆ Go to ezserver folder (ezserver\_enterprise or ezserver\_balancer)
  - ◆ Run “**du hls\_archive**” to get hls\_archive size (ex.4000), then set double size for RAMDisk.
  - ◆ RAMDisk=8000 means 8Gbytes ramdisk for hls\_archive folder.
  - ◆ Linux command “**df | grep tmpfs**” to check ramdisk usage.
- ./shutdown.sh
- ./start.sh

## System shutdown

- **Press Ctrl + C keys after ./start.sh in SSH console**
- **Go to ezserver directory to run ./shutdown.sh in SSH console**
- **Login IPTV Panel and click shutdown button, Ezserver will restart after 1 second.**

## DNS server setting

Ezserver needs Name2IP function, Ezserver already has the default value of a DNS IP. but it will be better to change that to the nearest DNS IP.

- Find the nearest DNS IP as the below:
  - Login ssh and run “nslookup [www.google.com](http://www.google.com)”
    - **Server: 192.168.0.1 ← this is the nearest DNS IP**
    - Address: 192.168.0.1#53
- Open ezt\_dns.txt to change 8.8.8.8 to the nearest DNS IP

## System diagnostics

Enable Ezserver system log as below:

- Replace "system\_log=0" by "system\_log=1" in ezserver\_config.txt.
- Restart Ezserver, then it will create a system log file, called "system.log" in Ezserver folder.
- Shutdown Ezserver by Ezserver System Management to get the whole log information.
- If “system\_log=xxxx” : Ezserver logs xxx lines in system.log. e.g. “system\_log=1000” in ezserver\_config.txt, Ezserver logs 1,000 messages in the file.
- When system checks any error, it will dump information to system.dump.

## System Token Control

Restore token after ezserver restarting:

- Add one optionh **token\_restore=1** in ezserver\_config.txt.
- ./shutdown.sh
- ./start.sh
- Ezserver will restore all vaild tokens after restarting.

Token expired: (unit: hour)

- Add one optionh **token\_period=12** in ezserver\_config.txt, it means created token will be expired after 12 hours.
- **token\_period=5.5** in ezserver\_config.txt, it means created token will be expired after 5 hours 30 min..
- ./shutdown.sh
- ./start.sh

## Linux Script

Ezserver provides some scripts for setup, update software and etc...

- start.sh
  - ◆ **Start ezserver and monitor.sh.**
- shutdown.sh
  - ◆ **Stop ezserver and monitor.sh.**
- monitor.sh
  - ◆ **Check ezserver process available and restart ezserver automatically.**
- setup.sh
  - ◆ **Setup network interface, Panel port, Streaming port, Auto start and create serial\_number.txt.**
- patch.sh
  - ◆ **Get the newest version with password.**
  - ◆ **update patch files only.**
- update\_latest\_ezserver.sh
  - ◆ **Get the newest version with password.**
  - ◆ **Backup ezserver\_enterprise folder with current date.**
  - ◆ **Download the newest version.**
  - ◆ **Restore the current setting back.**
- backup\_setting.sh
  - ◆ **This script is prepared for new installation and backup the current setting of ezserver\_enterprise folder.**
  - ◆ **create ezserver\_backup\_setting.tar**
- restore\_setting.sh
  - ◆ **This script is to restore the current setting into the new ezserver\_enterprise folder.**
  - ◆ **restore setting from ezserver\_backup\_setting.tar**

## 8. Encoder integration

### RTMP Encoder to Ezserver

Ezserver supports RTMP Encoder as Adobe FME, XSplit and etc..

First set the below setting in Ezserver,

- Define Channel Name and “rtmpencoder” keyword in Channel Management.
- The below example defines Channel Name : **robert** and Medis Source : **rtmpencoder**

Channel	Channel Name	Media Source
1	robert	rtmpencoder
2	CTV	rtmp://213.205.104.131/f24_live/f24_live

- Set rtmp port to 1935 in Streaming Ports Panel

### Ezserver

SETTING

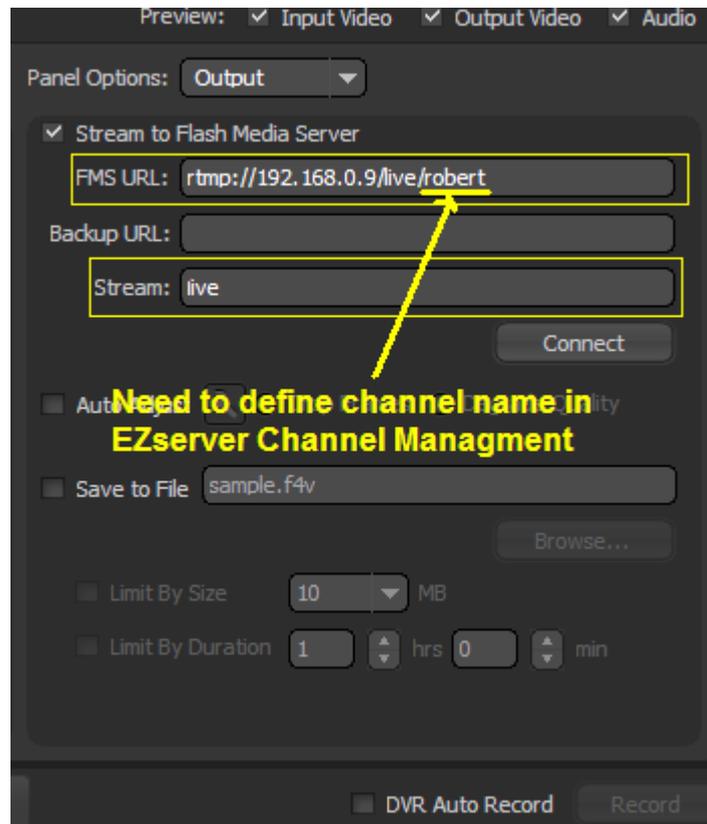
3. HTTP port:  -- HTTP Streaming Port for players

4. RTMP port:  -- RTMP Streaming Port for players

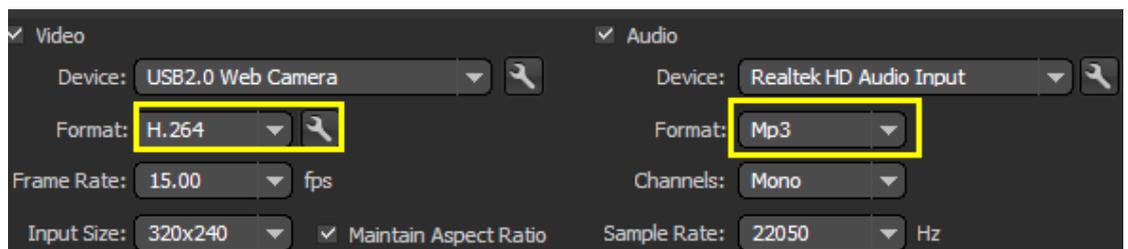
5. RTSP port:  -- RTSP Streaming Port for players

Adobe FME Setting:

- **Set FMS URL as the below**
  - ◆ **Syntax: rtmp://serverip:port/live/channel\_name.**
  - ◆ **ex. : rtmp://192.168.0.9/live/robert**
  - ◆ **ex. : rtmp://192.168.0.9:1938/live/robert (If rtmp port is not 1935 in Ezserver Panel Setting, it needs to assign port no. into FRM URL)**



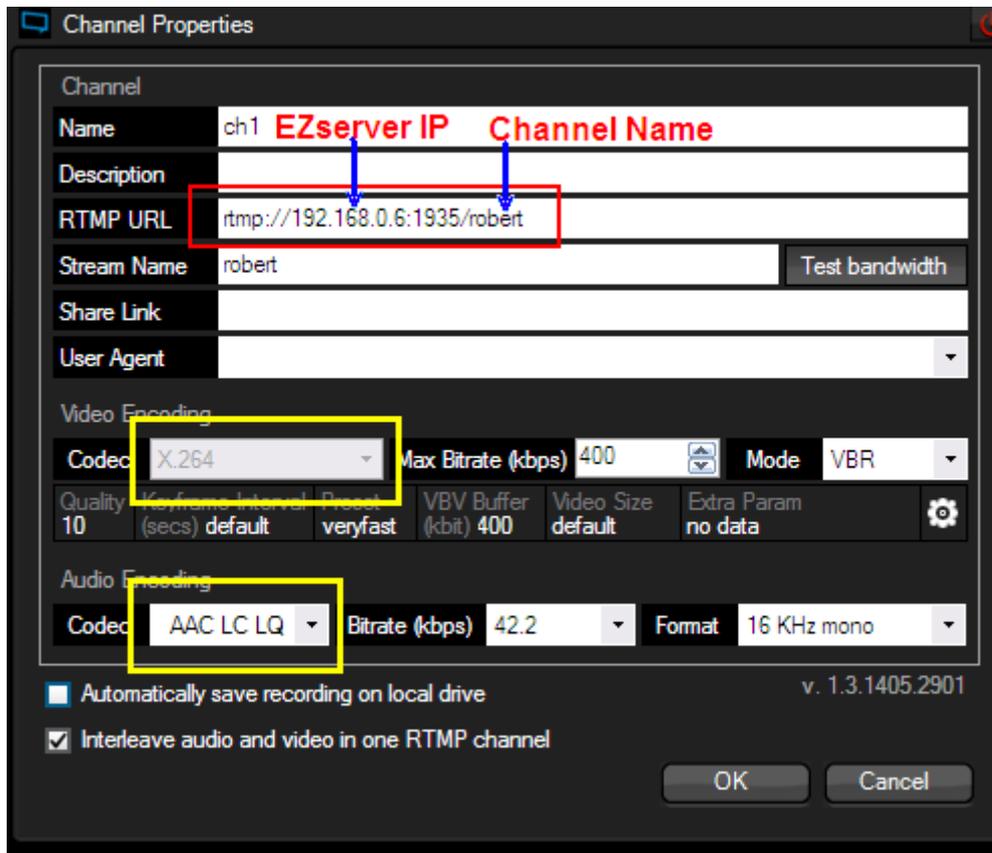
- **Select Video Format : H.264 and Audio format : Mp3/AAC, Stereo**



- **Select one of three bitrate options**

XSplit Setting:

- Set RTMP URL as the below
  - ◆ Syntax: `rtmp://serverip:port/channel_name`.
  - ◆ ex. : `rtmp://192.168.0.6/robert`
  - ◆ ex. : `rtmp://192.168.0.6:1938/robert` (If rtmp port is not 1935 in Ezserver Panel Setting, it needs to assign port no. into RTMP URL)



- Select Video Format : X.264 and Audio format : AAC, Stereo

## FFMPEG Encoder to Ezserver

1. Check **ffmpeg** in **/ezserver\_enterprise** folder.
2. Create new channel in Ezserver Panel as below:
  - **Login Ezserver Panel**
  - **Click Channel button**
  - **Define Channel Name and udp port**
  - **The below example defines Channel Name : *robert* and Medis Source : `udp://9001`**

Channel	Channel Name	Media Source
1	robert	udp://9001
2	CTV	rtmp://213.205.104.131/f24_live/f24_live:

3. Send transcoding stream into Ezserver as below:
  - **Login your server by putty**
  - **cd /root/ezserver\_enterprise**
  - **.ffmpeg -i http://192.168.1.100:8001/1:0:1:135:2:1:5F0B1BF:0:0:0: -f mpegts `udp://127.0.0.1:9001?pkt_size=1316`**
4. Check channel status in Ezserver Panel as below:
  - **Login Ezserver Panel**
  - **Click Channel button**
  - **Check the channel status**

More technical information for ffmpeg to ezserver as below:

- WebCam or Capture Card Input and RTMP Output
  - Define Channel Name and “rtmpencoder” keyword in Channel Management.
  - The below example defines Channel Name : **robert** and Medis Source : **rtmpencoder**

Channel	Channel Name	Media Source
1	robert	rtmpencoder
2	CTV	rtmp://213.205.104.131/f24_live/f24_live

- Use the below command to get the video/audio capture name from your window pc.
  - ◆ `ffmpeg.exe -list_devices true -f dshow -i dummy`
- Rtmp command syntax is below:
  - ◆ `ffmpeg.exe -f dshow -i video="video device name":audio="audio device name" -preset ultrafast -vcodec libx264 -b 300k -bt 300k -s 320x240 -acodec aac -ar 44100 -ab 128k -strict experimental -f flv rtmp://192.168.0.9/live/robert`

ex.

```
ffmpeg.exe -f dshow -i video="USB2.0 Web Camera":audio="Realtek HD Audio Input" -preset ultrafast -vcodec libx264 -b 300k -bt 300k -s 320x240 -acodec aac -ar 44100 -ab 128k -strict experimental -f flv rtmp://192.168.0.9/live/robert
```

- RTMP Input and RTMP Output
  - Define Channel Name and “rtmpencoder” keyword in Channel Management.
  - The below example defines Channel Name : **robert** and Medis Source : **rtmpencoder**

Channel	Channel Name	Media Source
1	robert	rtmpencoder
2	CTV	rtmp://213.205.104.131/f24_live/f24_live

- Rtmp command syntax is below:
- `.ffmpeg -i rtmp://input_server_ip:port/live/kid -preset ultrafast -vcodec libx264 -b`

```
300k -bt 500k -s 720x480 -acodec aac -ar 44100 -ab 128k -strict experimental -f
flv rtmp://ezserver_ip/live/robert
```

ex.

```
./ffmpeg -i rtmp://211.23.12.11:1935/live/kid -preset ultrafast -vcodec libx264 -b 300k
-bt 500k -s 720x480 -acodec aac -ar 44100 -ab 128k -strict experimental -f flv
rtmp://192.168.0.8/live/robert
```

- RTMP input and UDP transport Stream Output
  - Define Channel Name and udp port in Channel Management.
  - The below example defines Channel Name : **robert** and Media Source :  
udp://9001

Channel	Channel Name	Media Source
1	robert	udp://9001
2	CTV	rtmp://213.205.104.131/f24_live/f24_live:

ex.

```
./ffmpeg -i rtmp://211.23.12.11:1935/live/kid -preset ultrafast -vcodec libx264 -b 300k
-bt 500k -s 720x480 -acodec aac -ar 44100 -ab 128k -strict experimental -f mpegts
udp://192.168.0.8:9001?pkt_size=1316
```

- RTMP Input and RTP transport Stream Output
  - Define Channel Name and udp port in Channel Management.
  - The below example defines Channel Name : **robert** and Media Source :  
rtp://9001

Channel	Channel Name	Media Source
1	robert	rtp://9001
2	CTV	rtmp://213.205.104.131/f24_live/f24_live:

ex.

```
./ffmpeg -i rtmp://211.23.12.11:1935/live/kid -preset ultrafast -vcodec libx264 -b
300k -bt 500k -s 720x480 -acodec aac -ar 44100 -ab 128k -strict experimental -f
mpegts rtp://192.168.0.8:9001?pkt_size=1328
```

## Satellite Device to Ezserver

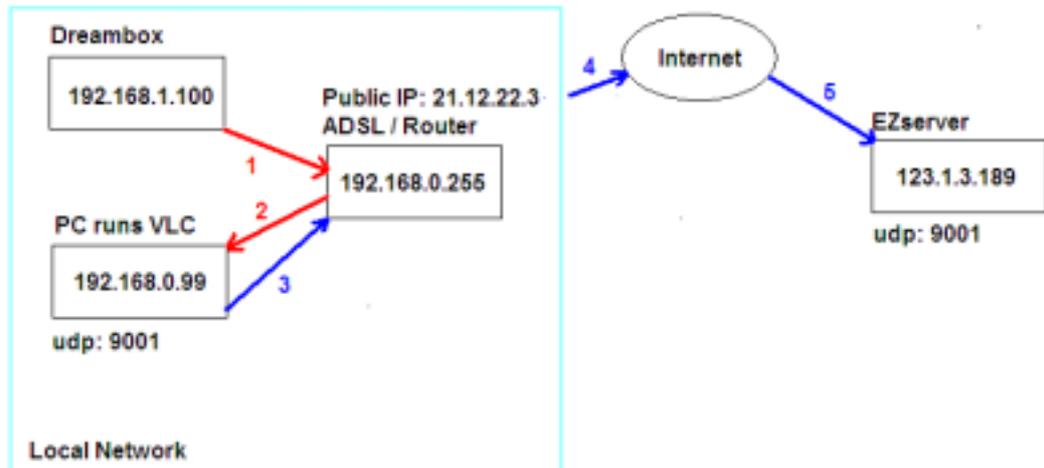
- Dreambox HTTP input and UDP transport Stream Output
  - Create a new channel with udp port in Meida Source in Channel Window.
  - The below example defines Channel Name : **robert** and Medis Source :  
udp://9001

Channel	Channel Name	Media Source
1	robert	udp://9001
2	CTV	rtmp://213.205.104.131/f24_live/f24_live:

- Run VLC command to get http stream and transcode it to Ezserver.
- Check Channel Status ON/OFF

ex.

- a. Ezserver IP: 123.1.3.189
- b. Dreambox IP is local IP (192.168.1.100)
- c. VLC PC IP is local IP (192.168.1.99)
- d. The stream flow is Dreambox->VLC PC->Ezserver.



- e. The vlc command is as below:

```
cvlc -vvv http://192.168.1.100:8001/1:0:1:135:2:1:5F0B1BF:0:0:0 --sout '#transcode{vcodec=h264,vb=750,fps=24,scale=1,acodec=mp4a,ab=96,channels=2,samplerate=44100}:udp{dst=123.1.3.189,port=9001,mux=ts}'
```

## Multicast Encoder to Ezserver

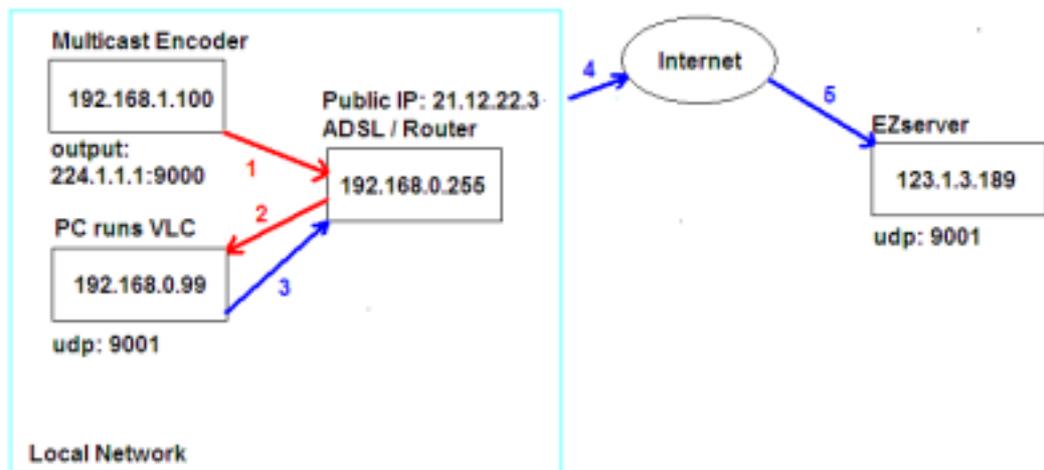
- Multicast UDP input and UDP transport Stream Output
  - Create a new channel with udp port in Meida Source in Channel Window.
  - The below example defines Channel Name : **robert** and Medis Source :  
udp://9001

Channel	Channel Name	Media Source
1	robert	udp://9001
2	CTV	rtmp://213.205.104.131/f24_live/f24_live:

- Run VLC command to get multicast udp stream and transcode it to Ezserver.
- Check Channel Status ON/OFF

ex.

- a. Ezserver IP: 123.1.3.189
- b. Multicast Encoder IP is local IP (192.168.1.100)
- c. VLC PC IP is local IP (192.168.1.99)
- d. The stream flow is Multicast Encoder->VLC PC->Ezserver.



- e. The vlc command is as below:

```

cvlc -vvv udp://224.1.1.1:9000 --sout
'#transcode{vcodec=h264,vb=750,fps=24,scale=1,acodec=mp4a,ab=96,channels=2,
samplerate=44100}:udp{dst=123.1.3.189,port=9001,mux=ts}'
    
```

## 9. Video Streaming URL

### Streaming URL output

#### Get Channel and Movie List by one URL:

Get all channels and movies with channel name, movie name, categories and icon.

- Syntax:
  - `http://ip_address:port/getlink?username=xxxx:password=xxxx:type=xxxx:content=xxx`
  - type **has 4 options**: m3u, hls, rtmp, pure
  - content **has 4 options**: master\_channel, master\_movie, movie, all.
    - master\_channel option gets channel list from current server
    - master\_movie option gets movie list from current server
    - other options get channel or movie list from current server and balancer servers

Examples:

Get Channel links:

- `http://192.168.0.6:17000/getlink?username=root:password=1234:type=m3u`
- `http://192.168.0.6:17000/getlink?username=root:password=1234:type=hls`
- `http://192.168.0.6:17000/getlink?username=root:password=1234:type=rtmp`
- `http://192.168.0.6:17000/getlink?username=root:password=1234:type=pure`
- `http://192.168.0.6:17000/getlink?username=root:password=1234:type=pure:content=master_channel`

Get Movie links:

- `http://192.168.0.6:17000/getlink?username=root:password=1234:type=m3u:content=movie`
- `http://192.168.0.6:17000/getlink?username=root:password=1234:type=m3u:content=master_movie`

Get Channel and Movie links:

- `http://192.168.0.6:17000/getlink?username=root:password=1234:type=m3u:content=all`

## HTTP output URL by channel name:

Syntax1: `http://ip_address:port/channel_name?u=xxxx:p=xxxx`

Syntax2: `http://username:password@ip_address:port/channel_name`

Syntax3: `http://username:password@ip_address:port/channel_name.m3u8`

`http://172.16.10.50:8000/robert?u= test:p=1234`

`http://test:1234@172.16.10.50:8000/robert`

`http://test:1234@172.16.10.50:8000/robert.m3u8`

**Note:** for some players as vlc, need to replace blank space inside channel name by %20

`http://test:1234@172.16.10.50:8000/NBC%20SPORT%20NEWS`

## HTTP output URL by channel no.:

Syntax1: `http://ip_address:port/x.ch?u=xxxx:p=xxxx`

Syntax2: for secure way: `http://ip_address:port/x.ch?token=x.xxxxxx,x.xxxxxx` (token is creates by Ezserver API: createtoken or createtokebase64)

Syntax3: `http://username:password@ip_address:port/x.ch`

Syntax4: for HLS Streaming: `http://ip_address:port/chx.m3u8?u=xxxx:p=xxxx`

Syntax5: `http://username:password@ip_address:port/chx.m3u8`

Syntax6: for ts transcoder: `http://ip_address:port/x.ch?u=xxxx:p=xxxx:muxer=ts`

Syntax7: for flv transcoder: `http://ip_address:port/x.ch?u=xxxx:p=xxxx:muxer=flv`

`http://172.16.10.50:8000/1.ch?u=test:p=1234`

`http://172.16.10.50:8000/1.ch? Token=0.300000,0.576543`

`http://test:1234@172.16.10.50:8000/1.ch`

`http://172.16.10.50:8000/ch1.m3u8?u=test:p=1234`

`http://test:1234@172.16.10.50:8000/ch1.m3u8`

`http://172.16.10.50:8000/1.ch?u= test:p=1234:muxer=ts`

`http://172.16.10.50:8000/1.ch?u= test:p=1234:muxer=flv`

## HTTP output URL by movie name:

Syntax1: `http://ip_address:port/movie_name?u=xxxx;p=xxxx`

Syntax2: `http://username:password@ip_address:port/movie_name`

`http://172.16.10.50:8000/MOVIE1?u=test;p=1234`

`http://test:1234@172.16.10.50:8000/MOVIE1`

## HTTP output URL by file name:

Syntax1: `http://ip_address:port/movie_path?u=xxxx;p=xxxx`

Syntax2: `http://username:password@ip_address:port/movie_path`

`http://172.16.10.50:8000/media/videos/Movie/1.ts?u=test;p=1234`

`http://172.16.10.50:8000/media/videos/Movie/1.flv?u= test;p=1234`

## RTMP output URL by channel name:

Syntax: `rtmp://ip_address:port/live/channel_name?u=xxxx;p=xxxx`

`rtmp://172.16.10.50/live/TV1?u=test;p=1234`

## RTMP output URL by channel no.:

Syntax: `rtmp://ip_address:port/live/x.ch?u=xxxx;p=xxxx`

`rtmp://172.16.10.50/live/1.ch?u=test;p=1234`

## Deprecated URL:

- Channel Syntax:
  - `http://ip_address:port/server/get_user_chlist?username=xxxx:password=xxxx:ch_list_type=m3u`
  - `http://ip_address:port/server/get_user_chlist?username=xxxx:password=xxxx:ch_list_type=m3u8`

### Examples:

- `http://192.168.0.8:17000/get.php?username=test:password=1234`
- `http://192.168.0.8:17000/server/get_user_chlist?username=test:password=1234:ch_list_type=m3u`
- `http://192.168.0.8:17000/server/get_user_chlist?username=test:password=1234:ch_list_type=m3u8`
- Movie Syntax:
  - `http://ip_address:port/server/get_user_movielist?username=xxxx:password=xxxx:movie_list_type=m3u`

### Examples:

- `http://192.168.0.8:17000/server/get_user_movielist?username=test:password=1234:movie_list_type=m3u`
- Channel and Movie Syntax:
  - `http://ip_address:port/server/get_user_videolist?username=xxxx:password=xxxx:video_list_type=m3u`
  - `http://ip_address:port/server/get_user_videolist?username=xxxx:password=xxxx:video_list_type=m3u8`

### Examples:

- `http://192.168.0.8:17000/server/get_user_videolist?username=test:password=1234:video_list_type=m3u`
- `http://192.168.0.8:17000/server/get_user_videolist?username=test:password=1234:video_list_type=m3u8`

## RTSP Channel URL:

`rtsp://172.16.10.50:5544/1.ch?u=test:p=1234`

### A. RTSP Movie URL:

`rtsp://172.16.10.50:5544/media/videos/Movie/1.ts?u=test:p=1234`

## 10. Restream Videos among Ezservers

Ezserver uses http protocol to restream mpeg ts channels and rtmp protocol to restream rtmp channels among Ezservers.

The syntax of Media Source of ezserver channels for Master Ezserver Channel1 is as below:

[http://userid:password@master\\_ezserver:portno/1.ch](http://userid:password@master_ezserver:portno/1.ch)

[rtmp://master\\_ezserver/live/1.ch?u=userid;p=password](rtmp://master_ezserver/live/1.ch?u=userid;p=password)

For example, there are 3 x ezservers in the net,

- 1<sup>st</sup> ezserver
  - ◆ ip: 192.168.0.1, port: 7000, has 3 channels
  - ◆ user id: robert, password: 1234 and his connections of group is 3
- 2<sup>nd</sup> ezserver
  - ◆ ip: 192.168.0.2, port 8000 has 2 channels
  - ◆ user id: susan, password: 1234 and his connections of group is 2
- 3<sup>rd</sup> ezserver
  - ◆ ip: 192.168.0.3, port 9000 has 5 channels.

If 3<sup>rd</sup> ezserver wants get videos from 1<sup>st</sup> and 2<sup>nd</sup> ezserver, then its channel media sources as below:

Channel	Channel Name	Media Source
1	1st EZserver CH1	<a href="http://robert:1234@192.168.0.1/1.ch">http://robert:1234@192.168.0.1/1.ch</a>
2	1st EZserver CH2	<a href="http://robert:1234@192.168.0.1/2.ch">http://robert:1234@192.168.0.1/2.ch</a>
3	1st EZserver CH3	<a href="http://robert:1234@192.168.0.1/3.ch">http://robert:1234@192.168.0.1/3.ch</a>
4	2nd EZserver CH1	<a href="http://susan:1234@192.168.0.2/1.ch">http://susan:1234@192.168.0.2/1.ch</a>
5	2nd EZserver CH2	<a href="http://susan:1234@192.168.0.2/2.ch">http://susan:1234@192.168.0.2/2.ch</a>

# 11. Multicast Stream to Internet

When you have multicast streams from an encoder in Local LAN and you would like to send them to Internet Ezserver in dedicated or VPS server. Please follow the below steps:

1. Install a local Ezserver with public IP to get all local multicast Streams.
2. Input the local Ezserver channels into Internet Ezserver by http protocol.

For example:

1. An encoder can stream multicast videos by 224.1.1.1:9001, 224.1.1.2:9001 and 224.1.1.3:9001.
2. A local Ezserver with public IP : 189.1.99.4, HTTP port : 9000
  - a. Input the mulicast IP and port into Media Source as below

Channel	Channel Name	Media Source
1	Local Stream 1	udp://224.1.1.1:9001
2	Local Stream 2	udp://224.1.1.2:9001
3	Local Stream 3	udp://224.1.1.3:9001

- b. Set golden group with ch1, ch2, ch3 right and concurrent connection no to 3.

Group	Group Name	Group Source	Concurrent Connection
1	basic	1,2,3,4,5,109,110	1
2	sliver	1,2,3,4	1
3	golden	1,2,3	3

- c. Set user: robert to golden group

User no	User Name	Password	Group
1	root	1234	golden
2	robert	1234	golden

- 3. A Internet Ezserver with public IP: 156.19.45.99, HTTP port: 8000
  - a. Input local Ezserver ch1, ch2 and ch3 into Media Source of Internet Ezserver.

Channel	Channel Name	Media Source
1	Local EZserver CH1	http://robert:1234@189.1.99.4:9000/1.ch
2	Local EZserver CH2	http://robert:1234@189.1.99.4:9000/2.ch
3	Local EZserver CH3	http://robert:1234@189.1.99.4:9000/3.ch

- b. Interent Ezserver can provide 3 channels to players

## 12. Access Authentication

Ezserver supports two methods for video access authentications as below:

- **Security-Token String**
  - **URL Query String**
- a. Security-Token authentication (Token is created by Ezserver HTTP API)
1. IPTV example:
    - `http://172.16.10.50:8000/1.ch?token=128765`
    - `rtmp://172.16.10.50:1935/live/1.ch?token=128765`
  2. VOD example:
    - `http://172.16.10.50:8000/media/videos/Movie/1.flv?token=128765`
- b. URL Query String
1. IPTV example:
    - `http://172.16.10.50:8000/1.ch?u=test&p=1234`
    - `http://172.16.10.50:8000/1.ch?u=test:p=1234`
    - `rtmp://172.16.10.50:1935/live/1.ch?u=test:p=1234`
    - `rtsp://172.16.10.50:5544/1.ch?u=test:p=1234`
  2. VOD example:
    - `http://172.16.10.50:8000/media/videos/Movie/1.flv?u=test:p=1234`
    - `rtsp://172.16.10.50:5544/media/videos/Movie/1.ts?u=test:p=1234`

## 13. HTML Access Protection

HTML Access Protection allows per-directory access control requiring a username or groupname to access the content. It defines them in a xml file that is stored in ezserver\_enterprise /security/folder\_access.xml that has 3 tags, <folder>, <userid> and <group>. It can define the folder accessed by a user or by a group.

### 1. Example

```
<?xml version="1.0" encoding="iso-8859-1" ?>
<folder>admin</folder>
<userid>root</userid>
<folder>security</folder>
<userid>root</userid>
<folder>users</folder>
<userid>root</userid>
<folder>middleware</folder>
<group>golden</group>
<folder>middleware</folder>
<group>basic</group>
```

## 14. Country Filter

Country Filter is to filter all players by Countries to access video from Ezserver.

Country Filter defines them in a xml file that is stored in ezserver\_enterprise /security/security\_definition.xml.

### 1. Example for accepted IP

```
<accepted_country>TAIWAN</accepted_country>
<accepted_country>USA</accepted_country>
<accepted_country>CHINA</accepted_country>
```

\* Country Name must be capital and defined in users/user\_ip\_country.csv

2. Use reload filter button in *Online Player panel* to reload new definition of the xml file.