



Ezserver User Guide

www.ezhometech.com

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1. Introduction

Ezserver is a video server receiving live video from UDP, HTTP, RTMP and HLS links, **recording** 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.

Ezserver version 2.0

Ezserver is software video server for IPTV and VOD market.

- ✓ Time Delay TV
- ✓ Channel on demand
- ✓ Time Shift TV
- ✓ Catch up TV
- ✓ Security Encrypted HLS
- ✓ Multicast MPTS/SPTS Input
- ✓ Unlimited User connections
- ✓ REST API for Middleware Integration
- ✓ [VSPanel](#) for content and user management
- ✓ Reseller panel
- ✓ Fastest Channel Zap Time
- ✓ MAC Address Authorization
- ✓ Channel / Movie Auto-Reconnection
- ✓ Auto Alert for Longer Connections



2. Software Specification

- HTTP / RTMP / HLS / UDP / RTP / input
- HTTP / RTMP / UDP / RTSP / HLS output
- Support H265/HEVC, H264/MPEG4 AVC, MPEG2, AAC/MP3
- Fast Channel Zap Time can be under 0.06 sec.
- Live Video Streaming / Video On Demand / Cache On Demand
- DVR / Delay TV / Catch up TV / EPG
- Unicast / Multicast input
- Unicast / Multicast output
- Support HLS MPEG TS output
- Support RTMP output stream for HTTP/UDP MPEG TS input
- Security Encrypted HLS Channel with AES-128
- Load Balancer for Geo / Bandwidth Limitation
- Support Live Encoder
- Support Apple iOS device, Google Android device, Enigma2 STB, Smart TV and PC
- Channel management / Movie management
- User Management / IP Locking / MAC Address Locking
- Group Management / Concurrent Connection Limitation
- Online Player Management
- Alert Player Management / Restream Detecting and Locking
- EPG Management
- Channel Statistics
- Stream Protection: Player Filter / IP Blocker / Country Filter / MAC ID Protection / Blacklist Management
- Load Balancer
- Reseller Management / Reseller Panel
- Intergration with DASH Transcoder
- Support Adaptive Bitrate Streaming over HTTP
- Integration with Stalker Portal
- Auto Restart on failure, System Log, Statistics
- Support Cache On Demand by a Channel
- Windows : Win XP/Vista, Win 7/8/10, Windows Server 2000/2003/2008/2012
- Linux : Debian / Ubuntu Server / CentOS / Fedora

3. Hardware Requirement

Recommended Minimum Hardware Requirement

- Internet Access: Public Static IP or Domain Name
- Processor: Quad-Core (Intel i7 4970)
- RAM: 16GB
- Network Interface: 1G BASE
- Hard Disk Space: 150MB available space for installation.
- The above specification is for 200 channels and 800 concurrent users.

4. Supported Players

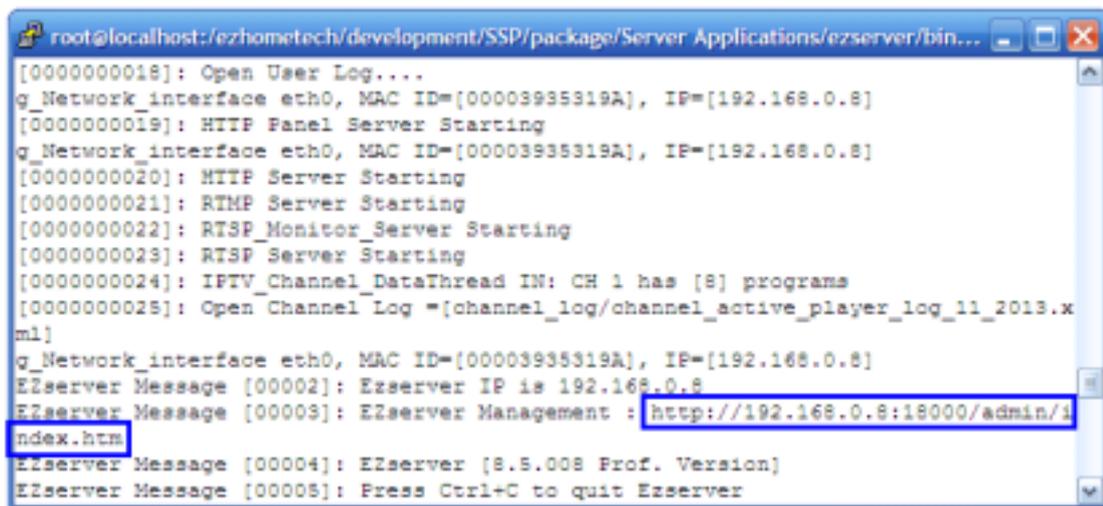
Ezserver supports the below devices and streaming protocol:

- PC VLC, Simple TV and etc...
- Android / iOS Devices with HLS-compatible player
- Ruko Player
- Enigam2 STB
- Mag250 STB

5. Installation

- Linux Installation :
 - `chmod 777 install.sh`
 - `./install.sh`
 - send `serial_number.txt` to `sales@ezhometech.com` for license activation.
 - go to ezserver folder (**ezserver_standard**, **ezserver_premium**, or **ezserver_enterprise**) to start or shutdown ezserver.
 - Start Ezserver
 - ◆ `./start.sh`
 - Shutdown Ezserver
 - ◆ `./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
```

There are two ways to shutdown ezserver

- Press Ctrl + C keys
- Login Ezserver System Management

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...

- **Windows Installation :**

- unzip ezserver zip file (**ezserver_enterprise.zip, ezserver_premium.zip or ezserver_standard.zip**)
- go to ezserver folder (**ezserver_standard, ezserver_premium, or ezserver_enterprise**)
- double click **Ezserver12.exe**
- send **serial_number.txt** to **sales@ezhometech.com** for license activation.
- click **Action: Open Panel** to open Ezserver panel in a browser.



There are two ways to shutdown ezserver

- Select Action:Shutdown
- Login Ezserver System Management

Network Interface for dedicated and VPS Server

The default network interface of Ezserver uses eth0, if the server does not use eth0 or is a Virtual Private Server(VPS), please change the **network_interface** value in **ezserver_config.txt**.

For 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
```

For 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:16384 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
           UP BROADCAST POINTOPOINT RUNNING NOARP MTU:1500 Metric:1
           RX packets:3799 errors:0 dropped:0 overruns:0 frame:0
           TX packets:3835 errors:0 dropped:31 overruns:0 carrier:0
           collisions:0 txqueuelen:0
           RX bytes:266893299 (254.2 MiB) TX bytes:211896448 (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:71.11.244.223 Mask:255.255.255.255
```

```
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=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**.



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**.
- `./auto_ezserver.sh`

6. Software Update

- For Windows version, go to <http://www.ezhometech.com/download.htm> to download **ezserver_update.zip**, then extract the files into ezserver_prof folder.
- For Linux version, there are 2 ways to update software. One is to update patch files. The other way is to update the whole folder.

The first way is to run “**patch .sh**” to download patch files and backup the changed files into ezserver_prof folder. The command in Linux ssh console is as below (**recommended**):

Update patch to the latest version.

- **[./patch.sh](#)**
- **[Input new patch password](#)**

The second way is to run “**update_latest_ezserver.sh**” to backup **ezserver_prof** folder into **ezserver_prof_ddmmyy** folder and download the newest version with the current setting in your server. The command in Linux ssh console is as below:

- **[./update_latest_ezserver.sh](#)**
- **[Input new patch password](#)**

7. VSPanel

VSPanel is a Video Streaming Panel for Ezserver, please use Internet browser such as *Internet Explore, Chrome, Firefox* or *Safari* to login VSPanel by the below URL path.

http://Ezserver_IP:18000/admin/index.htm

Channel Name	Media Source	Icon Path	Category	Type	Status (Open)	Download
1 ch1	http://192.168.0.10:8010/1.ch/rtmpe://live/hls/mediaserver/pictures/1/SPC07		Live	Live	ON (00:00:10)	1071
2 ch2	http://192.168.0.10:8010/2.ch/rtmpe://live/hls/mediaserver/pictures/2/SPC07		Live	Live	ON (00:00:10)	1081
3 ch3	http://192.168.0.10:8010/3.ch/rtmpe://live/hls/mediaserver/pictures/3/SPC07		Live	Live	ON (00:00:10)	1094
4 ch4	http://192.168.0.10:8010/4.ch/rtmpe://live/hls/mediaserver/pictures/4/SPC07		Live	Live	ON (00:00:10)	1091
5 ch5	http://192.168.0.10:8010/5.ch/rtmpe://live/hls/mediaserver/pictures/5/SPC07		Live	Live	ON (00:00:10)	1096
6 ch6	http://192.168.0.10:8010/6.ch/rtmpe://live/hls/mediaserver/pictures/6/KED3		Live	Live	ON (00:00:17)	1094
7 ch7	http://192.168.0.10:8010/7.ch/rtmpe://live/hls/mediaserver/pictures/7/KED3		Live	Live	ON (00:00:17)	1089
8 ch8	http://192.168.0.10:8010/8.ch/rtmpe://live/hls/mediaserver/pictures/8/KED3		Live	Live	ON (00:00:17)	1079
9 ch9	http://192.168.0.10:8010/9.ch/rtmpe://live/hls/mediaserver/pictures/9/KED3		Live	Live	ON (00:00:16)	1085
10 ch10	http://192.168.0.10:8010/10.ch/rtmpe://live/hls/mediaserver/pictures/10/KED3		Live	Live	ON (00:00:16)	1085
11 ch11	http://192.168.0.10:8010/11.ch/rtmpe://live/hls/mediaserver/pictures/11/SPC07		Live	Live	ON (00:00:02)	1026
12 ch12	http://192.168.0.10:8010/12.ch/rtmpe://live/hls/mediaserver/pictures/12/SPC07		Live	Live	ON (00:00:44)	1012
13 ch13	http://192.168.0.10:8010/13.ch/rtmpe://live/hls/mediaserver/pictures/13/SPC07		Live	Live	ON (00:00:11)	1012
14 ch14	http://192.168.0.10:8010/14.ch/rtmpe://live/hls/mediaserver/pictures/14/SPC07		Live	Live	ON (00:00:14)	1045
15 ch15	http://192.168.0.10:8010/15.ch/rtmpe://live/hls/mediaserver/pictures/15/SPC07		Live	Live	ON (00:00:17)	1079
16 ch16	http://192.168.0.10:8010/16.ch/rtmpe://live/hls/mediaserver/pictures/16/KED3		Live	Live	ON (00:00:00)	1306
17 ch17	http://192.168.0.10:8010/17.ch/rtmpe://live/hls/mediaserver/pictures/17/KED3		Live	Live	ON (00:00:23)	1400
18 ch18	http://192.168.0.10:8010/18.ch/rtmpe://live/hls/mediaserver/pictures/18/KED3		Live	Live	ON (00:00:01)	1091
19 ch19	http://192.168.0.10:8010/19.ch/rtmpe://live/hls/mediaserver/pictures/19/KED3		Live	Live	ON (00:00:30)	1080
20 ch20	http://192.168.0.10:8010/20.ch/rtmpe://live/hls/mediaserver/pictures/20/KED3		Live	Live	ON (00:00:21)	0210

VSPanel 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

Ezserver

HOME

System Information

* ezhometech EZserver

* Version: **Release 2.0(01/12/17)**

* Serial Number: 0ACA80D3AEDF9A53B5C846C5C61F5

* Start at: **2017/1/13 18:55:35**

* Uptime: **0 Days 0:01:12**

* Groups: **2**

* Subscribers: **19**

* Streaming Connections: **1**

* Blacklist IP: **0**

* Channels: **30**

* Active Channels: **30**

* Movies: **30**

* Upload Bandwidth: **1.57 Mbps**

* Download Bandwidth: **0.83 Mbps**

* Total / Free Memory: **1.96 / 0.86 GB**

* Ezserver Memory Usage: **0.07 GB**

* Disk Use: **14%**

* Load Average: **0.03**

Content

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	<ul style="list-style-type: none">• Total Movie No.
Upload Bandwidth	<ul style="list-style-type: none">• Total Upload Bandwidth
Download Bandwidth	<ul style="list-style-type: none">• Total Download Bandwidth
Total / Free Memory	<ul style="list-style-type: none">• System total available memory and free memory
Ezserver Memory Usage	<ul style="list-style-type: none">• Ezserver running time memory
Disk Use	<ul style="list-style-type: none">• System Disk use percentage
Load Average	<ul style="list-style-type: none">• System Load average

- Channel



Menu Bar

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

Button

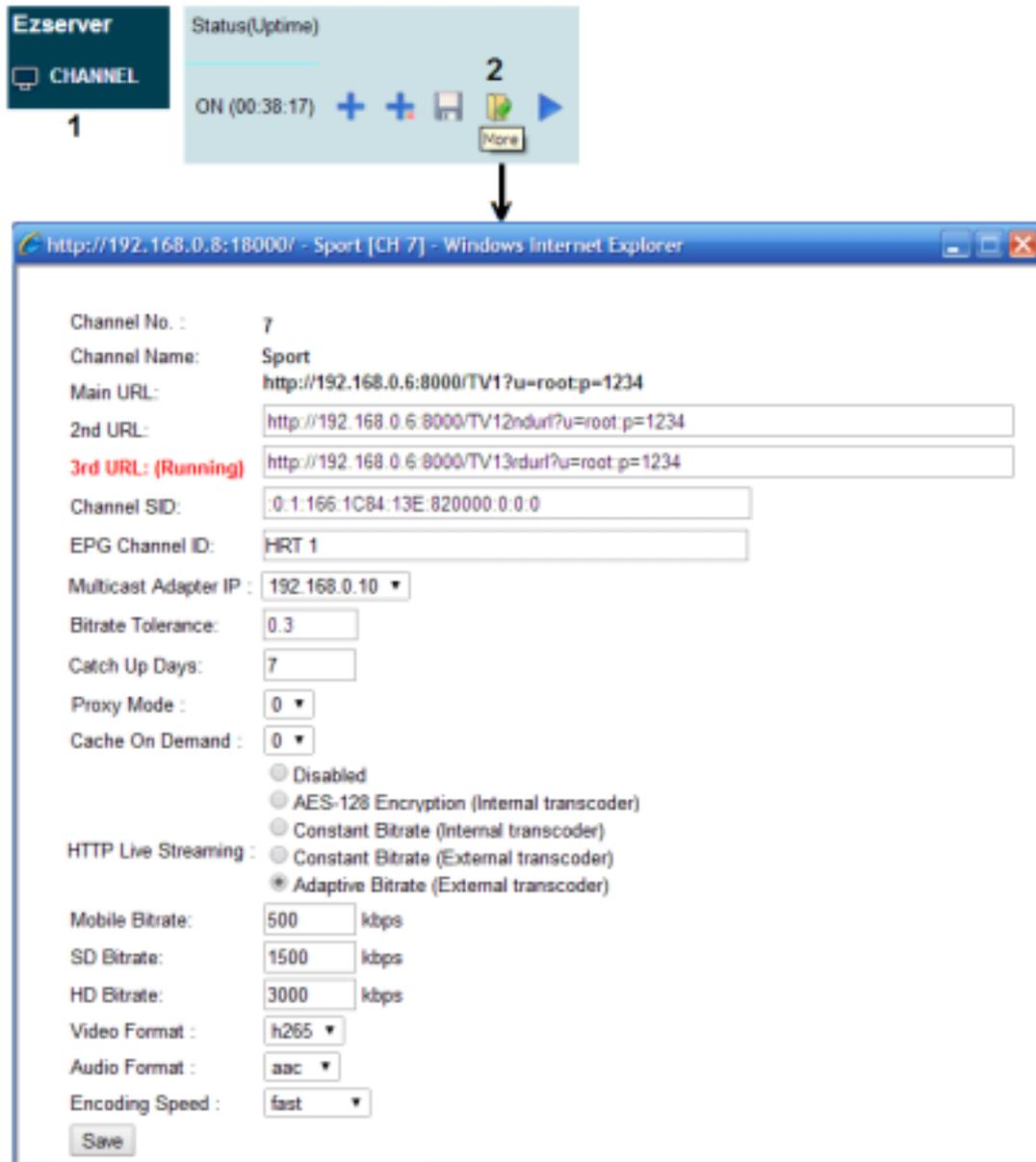
Add	Add a new channel
Copy	Copy 10 channels
Save	Save channel definition
More	More Channel information
Play	Play a channel

Content

Channel No	For player input url by no, ex. http://192.168.0.8:18000/1.ch
Channel Name	For player input url by name. Ex. http://192.18.0.8.1800/tv1
Media Source	<p>For RTP/UDP/HTTP/RTMP/Playlist input.</p> <ul style="list-style-type: none"> ○ Playlist syntax : "playlist:/folder_path" <ul style="list-style-type: none"> ▪ Supports TS, MP4, FLV, AVI, MKV, MP3, JPEG, PNG ▪ The playing sequence of videos is by alphabetical order. ▪ ex. if the url is "playlist://middleware/videos/Movie", you have to create /ezserver_prof/middleware/videos/Movie folder. And upload videos or music into this folder. • RTP syntax : "rtp://por_no" <ul style="list-style-type: none"> • rtp://7001 • UDP syntax : "udp://por_no" <ul style="list-style-type: none"> • udp://7001 • RTMP syntax : "rtmp://url" <ul style="list-style-type: none"> • rtmp://207.182.149.36/live/live1 • HTTP syntax : "http://ip:port_no/path" <ul style="list-style-type: none"> • http://172.16.10.51:7001/1.ch • http://172.16.10.51:7001/1.mp4 • HLS m3u8 syntax : "http://ip:port_no/chx.m3u8" <ul style="list-style-type: none"> • http://172.16.10.51/ch1.m3u8 ○ TS Playlist syntax : "dir:/folder_path" <ul style="list-style-type: none"> • Supports TS Format • Needs to create the folder in ezserver media/videos folder first. • ex. if the url is "dir://media/videos/Movie", you have to create /ezserver_prof/media/videos/Movie folder. And upload TS format videos into this folder • The playing sequence of videos is by alphabetical order.
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"> • ON (Uptime) • OFF • Connecting
Bitrate	<ul style="list-style-type: none"> • Channel Upload Bitrate

- **Channel extra setting**

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



Note 1. 2nd URL and 3rd 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 CHANNEL interface. On the left is a dark sidebar with the Ezserver logo and a 'CHANNEL' menu item. The main area contains a table with columns for 'No.', 'Channel Name', and 'Media Source'. The table lists 11 channels, with the first channel named 'TV1' and the following 10 channels named '(1)-TV1' through '(10)-TV1'. All channels have the same media source: 'rtmp://192.168.0.6/live/1.ch?u=root;'. To the right of the table, there is a status indicator 'ON (02:17:10)', a plus sign, a 'Copy 10 channels' button (highlighted with a red box), another plus sign, and a trash icon. A red box also highlights the first 10 rows of the table.

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

Movie

Movie Name	Media Source	Icon Path	Category	Duration	Size	Status	Actions
1 Movie1	file:///middleware/videos/Sports/1.mp4	file:///middleware/pictures/Sport1.jpg	SPORT	6:50	772 KB	OK	+ + - -
2 Movie2	file:///middleware/videos/Sports/2.mp4	file:///middleware/pictures/Sport2.jpg	SPORT	6:50	772 KB	OK	+ + - -
3 Movie3	file:///middleware/videos/Sports/3.mp4	file:///middleware/pictures/Sport3.jpg	SPORT	6:50	772 KB	OK	+ + - -
4 Movie4	file:///middleware/videos/Sports/4.mp4	file:///middleware/pictures/Sport4.jpg	SPORT	6:50	772 KB	OK	+ + - -
5 Movie5	file:///middleware/videos/Sports/5.mp4	file:///middleware/pictures/Sport5.jpg	SPORT	6:50	772 KB	OK	+ + - -
6 Movie6	file:///middleware/videos/Kids/1.mp4	file:///middleware/pictures/Kids1.jpg	KIDS	3:30	188 KB	OK	+ + - -
7 Movie7	file:///middleware/videos/Kids/2.mp4	file:///middleware/pictures/Kids2.jpg	KIDS	3:30	188 KB	OK	+ + - -
8 Movie8	file:///middleware/videos/Kids/3.mp4	file:///middleware/pictures/Kids3.jpg	KIDS	3:30	188 KB	OK	+ + - -
9 Movie9	file:///middleware/videos/Kids/4.mp4	file:///middleware/pictures/Kids4.jpg	KIDS	3:30	188 KB	OK	+ + - -
10 Movie10	file:///middleware/videos/Kids/5.mp4	file:///middleware/pictures/Kids5.jpg	KIDS	3:30	188 KB	OK	+ + - -

Menu Bar

Refresh	Refresh checked movies
Import	Import Movie List from m3u list URL
Export	Export Movie List
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
Play	Play a movie.

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"> • syntax : "file://path" <ul style="list-style-type: none"> • file:///middleware/videos/Sports/1.mp4 • file:///middleware/videos/Kids/1.flv • file:///middleware/videos/Kids/1.ts • file:///middleware/videos/Kids/1.mov <p>Remote movies</p> <ul style="list-style-type: none"> • syntax : "http://url" <ul style="list-style-type: none"> • http://192.168.0.6/films/1.mp4 • http://192.168.0.6/films/1.ts • http://192.168.0.6/films/1.flv • http://192.168.0.6/films/1.avi
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.

- **Create multiple movies**

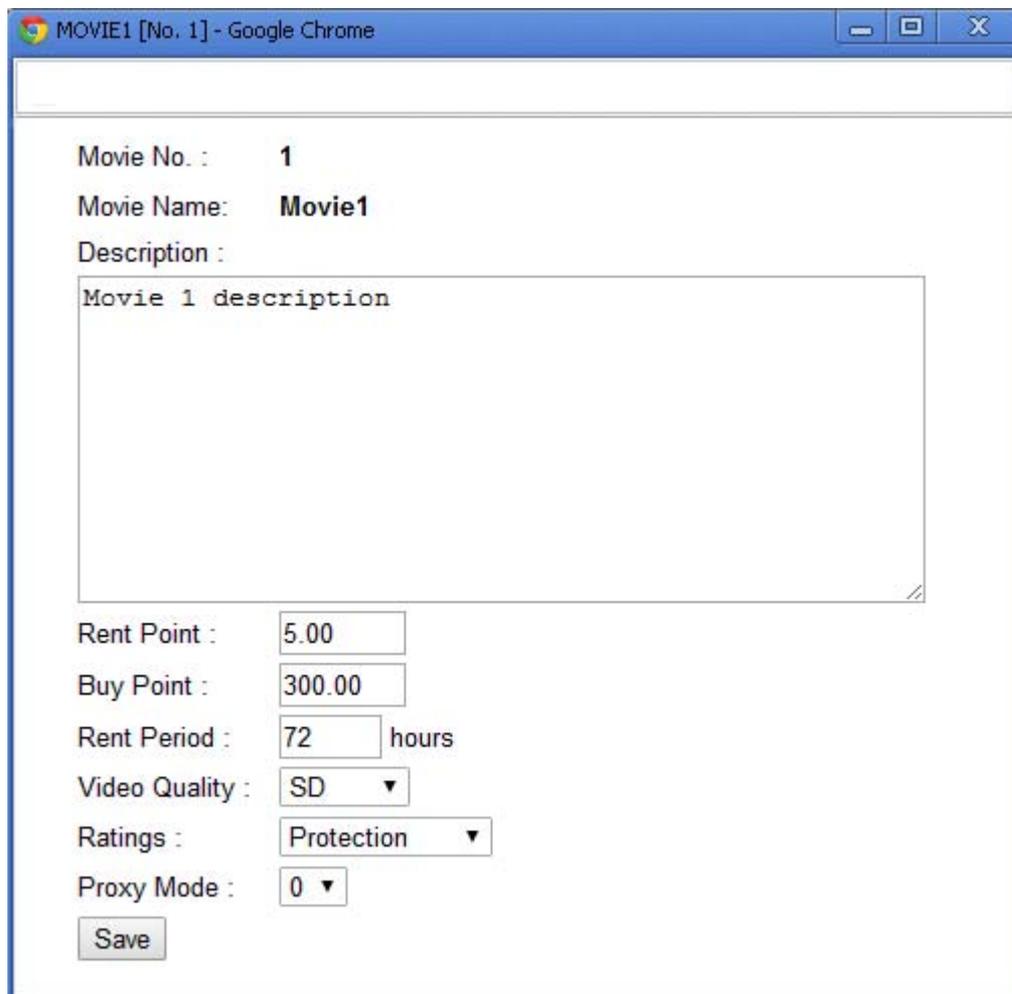
Use copy button to create 10 movies with the current movie information.

The screenshot shows the Ezserver interface with a table of movies. The table has columns for No, Movie Name, Media Source, and Status. The first row is 'MOVIE1' with media source 'file://middleware/videos/Sports/1.mp4' and status 'ON'. A red box highlights the 'Copy 10 Movies' button and the first 10 rows of the table, which are numbered (1) through (10) and have the same media source as the first row.

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	

Movie more setting

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

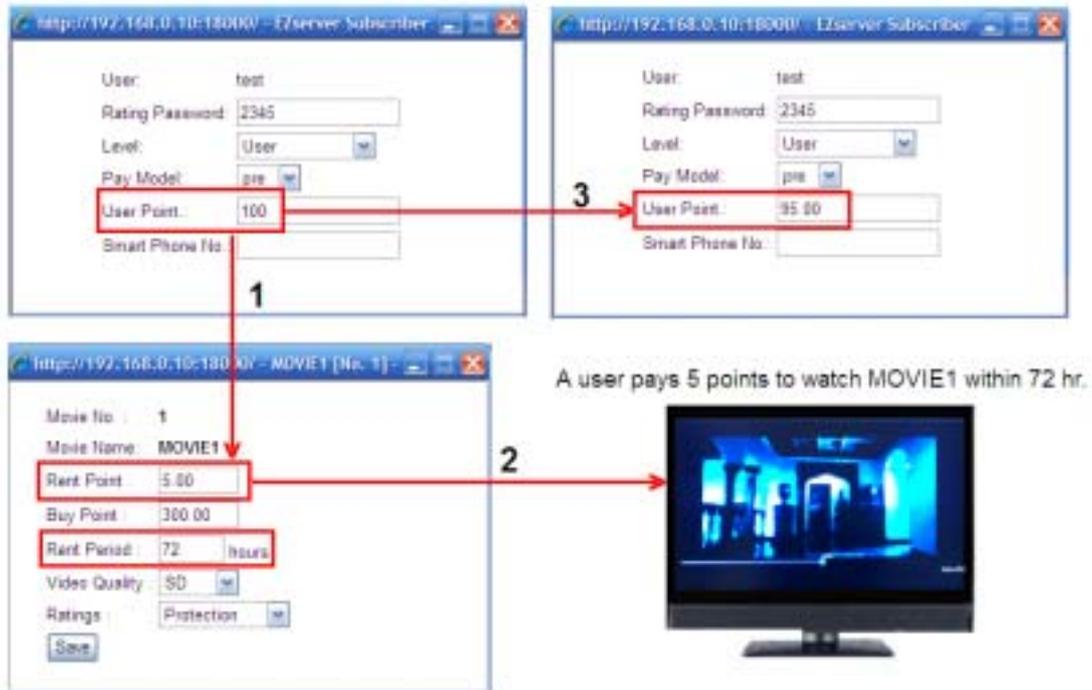


The screenshot shows a web browser window titled "MOVIE1 [No. 1] - Google Chrome". The page displays the following settings for a movie:

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

A "Save" button is located at the bottom left of the form.

- Pay Per View Flow



- 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

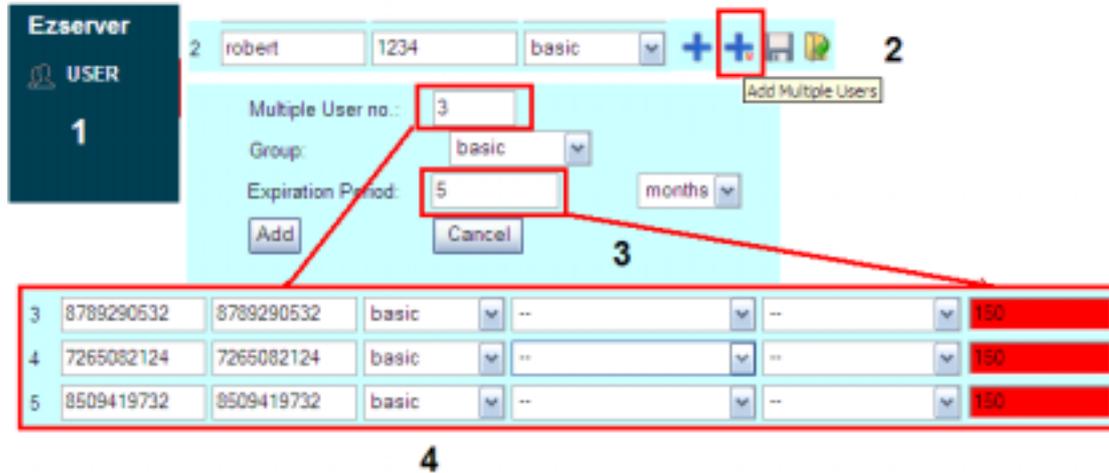
Cut / Paste	Cut / Paste checked users
Export	Export User List
Cleanup	Cleanup Expired Users
Delete	Delete checked users
Search	Search User name

Button

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

- Add multiple users**

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



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
CH List	Create Ch list for Enigma, M3u8, XBMC, etc.
Movie List	Create Movie list for Enigam and M3U.
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	Add, Save, Del, More

- **User More window**

The screenshot shows a web browser window titled "EZserver Subscriber - Windows Internet Explorer" with the address bar showing "about:blank". The page content is a user configuration form. On the left is a dark sidebar with the "Ezserver" logo and a "USER" section with a person icon. The main form area contains 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 menu)
- Pay Model: free (dropdown menu)
- 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 left of the form area.

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

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

• 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.

Add a super reseller into user window:

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

The screenshot shows the 'Ezserver' interface with the 'USER' section active. The 'Level' dropdown menu is open, showing options: User, Administrator, Super Reseller (highlighted), and Reseller. A red box highlights the dropdown menu.

Add a reseller into user window:

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

The screenshot shows the 'Ezserver' interface with the 'USER' section active. The 'Level' dropdown menu is open, showing options: Reseller (highlighted), User, Administrator, Super Reseller, and Reseller. A red box highlights the dropdown menu.

Check him in reseller window.

Ezserver		Total: 2						
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

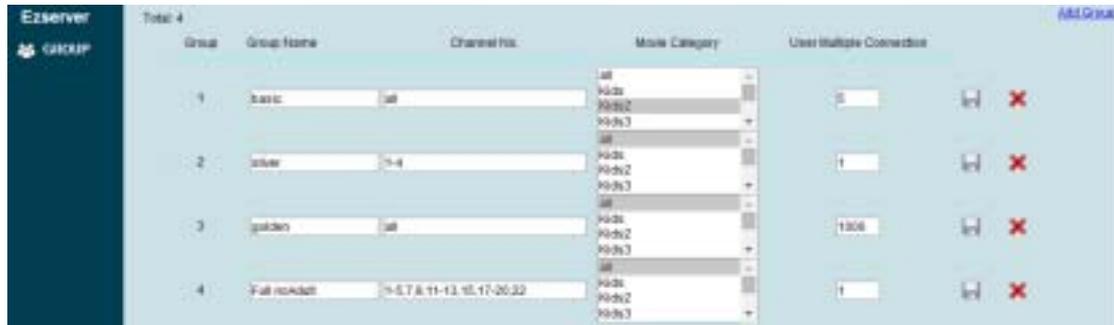
Save	Save Credit items
-------------	-------------------

Content

Reseller Name	Reseller name MUST be created by user panel first
Credit Option	Enable / Disable Reseller Credit
Credit	Total Credit for the monthly fee of his users
Credit Unit	Monthly fee unit. Ex. the monthly fee of a user for watch video is US\$5, then its value is 5.
Creator	The person created the reseller.
Type	Super Reseller or Reseller.

- 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 Bar

Total	The total no of Group
Add Group	Add new Group

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.</p> <p>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	RTMP TEST (1)	2015-11-19 07:11:00.000000	192.168.1.1	00:00:00:00:00:00	USA	HTTP
1	test	1	Test4430	RTMP TEST (1)	2015-11-19 07:11:00.000000	192.168.1.1	00:00:00:00:00:00	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 County Name

- EPG



Menu Bar

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 Content

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	Value=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

Alert Player

No.	Subscriber	Service No.	Player Name	Watching CH Name	Starting Time	Watch Hours	IP	MAC Address	Country	Protocol
2	adsl	2	14075-0120	RTMP TEST (1)	2023/11/08 21:00	5.00	10.100.0.1	N/A	N/A	RTMP
1	adsl	1	70222118075122	RTMP TEST (1)	2023/11/08 20:00	12.0	10.100.0.2	N/A	N/A	RTMP

Menu Bar

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
- If you need to block and stop players over Watching Hours, you can add **alert_player_blacklist=1** in ezserver_config.txt and restart ezserver.

- 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 Bar

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 Addr.**

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



Menu Bar

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"> • Player MAC Address sent by Sample player • Format: aabbccddeeff • Byte No.: 12
-----------------------------	--

- 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	Remove
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 Bar

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	<input type="text"/>	free	2000
12/31/2024	192.168.0.6	post	2000
12/31/2024	<input type="text"/>	pre	2000
12/31/2024	<input type="text"/>	pre	2000

- **Balancer**

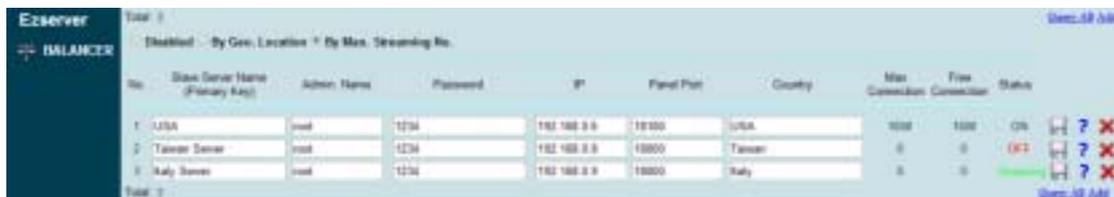
Load Balancer can redirect the player request by **Geo. Location** or **Max. Streaming No.** of the server to slave servers.

- **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	18100	USA	1000	1000	On
2	Taiwan Server	root	1234	192.168.8.9	18000	Taiwan	0	0	Off
3	Italy Server	root	1234	192.168.8.9	18000	Italy	0	0	On

Menu Bar

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">• By Geo. Location depends on Player Location to redirect it to Slave Server.• By Max. Streaming No. depends on the Max Streaming Limitation to provide the streaming or redirect it to other slave servers.

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 Settings:

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

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

System Setting	
Max Streaming No.	<ul style="list-style-type: none">○ The Max. Connection no. for players.
System Log Lines	<ul style="list-style-type: none">○ It is for log line no, ex. 1000 means 1000 log lines in log/system.log,○ If 1 means ezserver will write the all log in log/system.log,○ If 0 means no any log in log/system.log.
Admin System Log Lines	<ul style="list-style-type: none">○ It is for channel input connection and panel○ It is for log line no, ex. 1000 means 1000 log lines in log/admin_system.log,○ If 1 means ezserver will write the all log in log/admin_system.log,○ If 0 means no any log in log/admin_system.log.
Pagination Limit Number	<ul style="list-style-type: none">○ Pagination Limit Number for Channel / Movie / User window.
Player Setting	
Blacklist Option	<ul style="list-style-type: none">○ disable/enable blacklist for illegal player connection.
Alter Player Duration	<ul style="list-style-type: none">○ 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

- 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 (5558 6000)
	2	ABAYROD FILE	0	0	0 days 00:05:01	ON
	3	体育新闻	0	0	0 days 00:03:25	ON (5557 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 Bar

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.

- Shutdown



The screenshot displays the Ezserver web interface. On the left, a dark blue sidebar contains the text "Ezserver" and a power icon followed by "SHUTDOWN". The main content area, titled "System Information", lists the following details:

- * ezhometech EZserver
- * Version: Release 1.2(06/04/16)
- * Serial Number: 076244D61D693281E50708214B438C041
- * Start at: 20...
- * Uptime: 0:0...
- * Subscriber...
- * Channel N...
- * Online Play...
- * Group No.:...
- * Blacklist IP No.: 0

Overlaid on the system information is a "Message from webpage" dialog box. The dialog box has a blue title bar with a close button (X) and contains a question mark icon and the text "Shutdown EZserver?". At the bottom of the dialog are two buttons: "確定" (OK) and "取消" (Cancel).

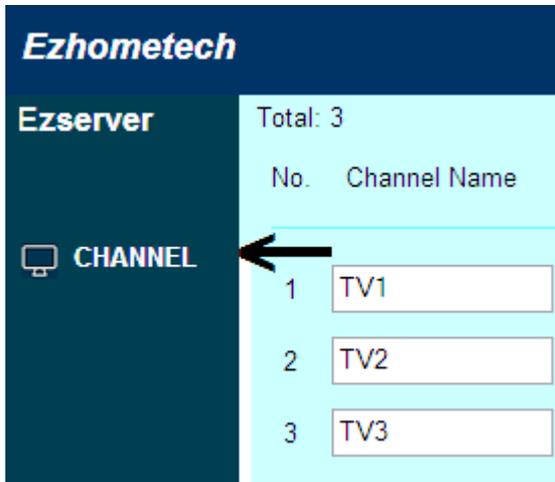
- Log

```
Ezserver [0000000011]: EZserver Starts at 2015/12/17 8:11:53
LOG [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
```

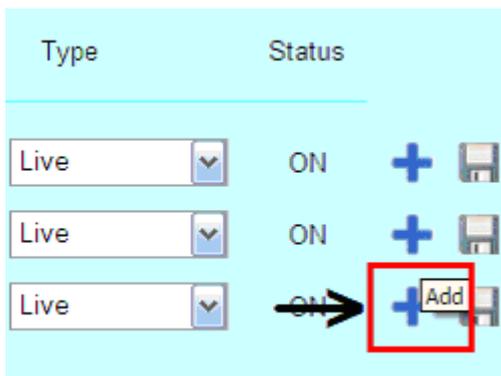
8. Add New Channel

Follow the below steps to add new channel.

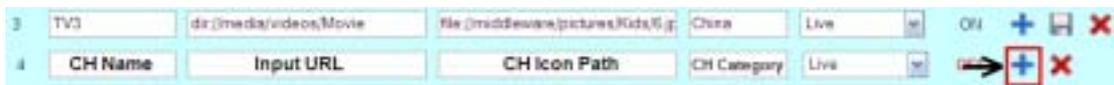
Step1: Click "Channel" Button.



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



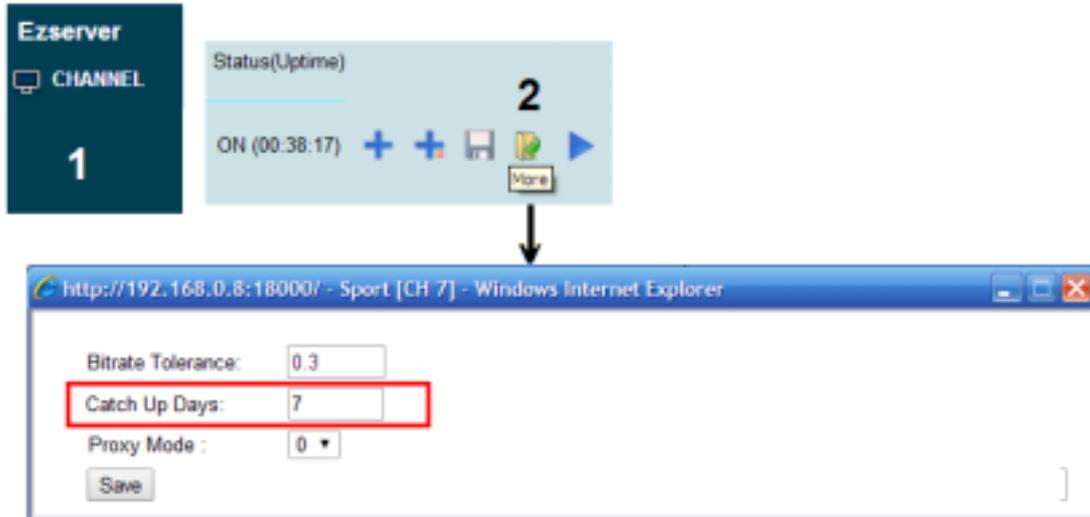
Step3: Input Channel Name, input URL, Channel Icon Path Catalog and Type, then click "+" button.



9. Catch up TV

This function is to record live channel into VOD movies by EPG information. Administrator follows up the below steps to enable the live channel record:

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



- 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' (Electronic Program Guide) interface in Ezserver. It displays 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	2015/05/11 00:30:00	2015/05/11 00:30:00	Week RTS	Agropole wlat. wlatte / zvezdag za lca		ON
2	2015/05/11 00:30:00	2015/05/11 00:30:00	Stroudler (2005)	Mladog / zvezdovary stroudler		ON
3	2015/05/11 02:30:00	2015/05/11 03:10:00	Cvet lca na Ballona	Chuvstvenna kupa		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/pictures/Sporn1.jpg	SPORT	6:59	772:36	ON
2 Movie2	file:///middlew/ntv/Sporn2.mpl	file:///middlew/pictures/Sporn2.jpg	SPORT	6:59	772:36	ON
3 Movie3	file:///middlew/ntv/Sporn3.mpl	file:///middlew/pictures/Sporn3.jpg	SPORT	6:59	772:36	ON
4 Movie4	file:///middlew/ntv/Sporn4.mpl	file:///middlew/pictures/Sporn4.jpg	SPORT	6:59	772:36	ON
5 Movie5	file:///middlew/ntv/Sporn5.mpl	file:///middlew/pictures/Sporn5.jpg	SPORT	6:59	772:36	ON
6 Movie6	file:///middlew/ntv/Kudu1.mpl	file:///middlew/pictures/Kudu1.jpg	KIDS	3:51	189:36	ON
7 Movie7	file:///middlew/ntv/Kudu2.mpl	file:///middlew/pictures/Kudu2.jpg	KIDS	3:51	189:36	ON
8 Movie8	file:///middlew/ntv/Kudu3.mpl	file:///middlew/pictures/Kudu3.jpg	KIDS	3:51	189:36	ON
9 Movie9	file:///middlew/ntv/Kudu4.mpl	file:///middlew/pictures/Kudu4.jpg	KIDS	3:51	189:36	ON
10 Movie10	file:///middlew/ntv/Kudu5.mpl	file:///middlew/pictures/Kudu5.jpg	KIDS	3:51	189:36	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/pictures/0du1.jpg	India	Live
2	POSTE NEWS	http://nt1.cwcast.com/gandhi	file:///middlew/pictures/0du2.jpg	USA	Live
3	AUC NEWS	http://wp.informasi.ch/vecast	file:///middlew/pictures/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:///program_archive/India/Football	file:///middlew/pictures/Sporn1.jpg	India	0:304	1322:06	ON
2	Baseball News	file:///program_archive/India/Baseball	file:///middlew/pictures/Sporn1.jpg	India	0:064	1322:06	ON

Note: The recorded file is

ezserver_prof/tv_program_archive/2015_05_04/CH0001_10_00.ts

10. Delay TV

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. Ezserver uses **triple space** for one channel, so the total size is **1.35G** 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

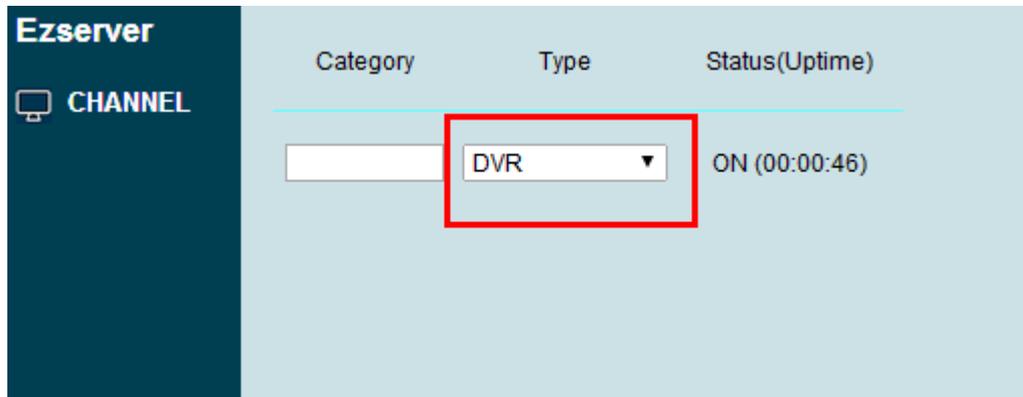
Video Format :

Audio Format :

Encoding Speed :

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



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.

Encrypted Time Shift TV setting:

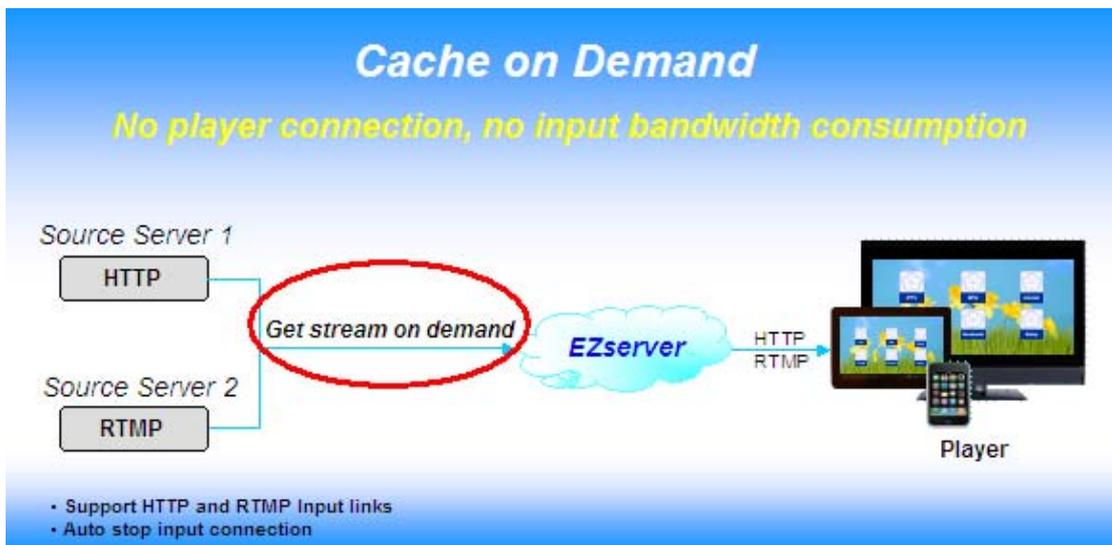
- Click Channel Button and Click More icon
- Select HLS option to **AES-128 Encryption (internal transcoder)**

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

HTTP Live Streaming :

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

12. Channel on demand TV



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.

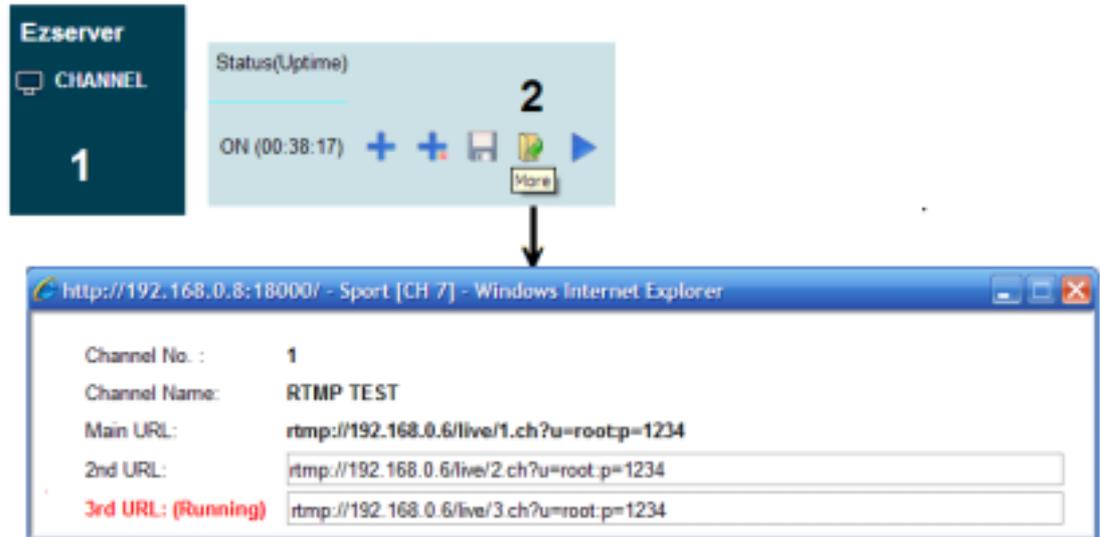
- If its value is 0, ezserver does not stop the connection of input server to get the video into cache memory.

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.

3. Please check more in Ezserver_Internal_File_Structure.pdf

13. Add Channel backup source URLs

- Login Panel
- Click Channel Button
- Click More Button of a channel
- Input URL into 2nd URL and 3rd URL

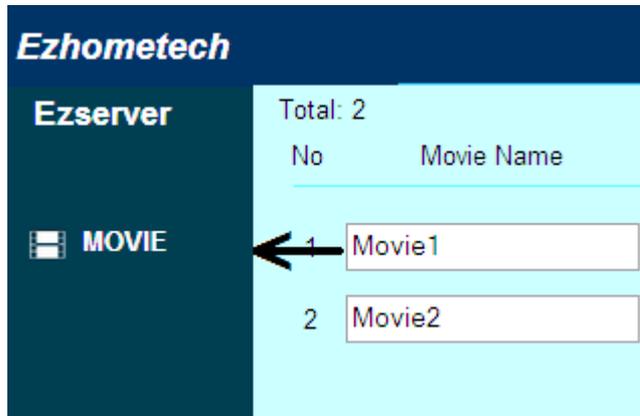


- Click Save Button

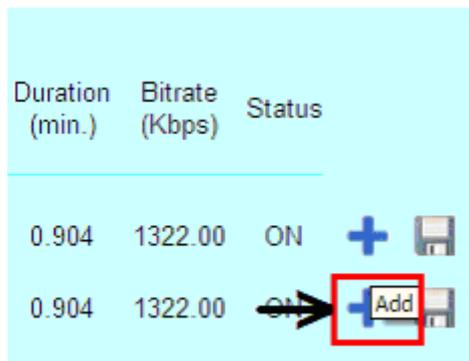
14. Add New Movie

Follow the below steps to add new movie.

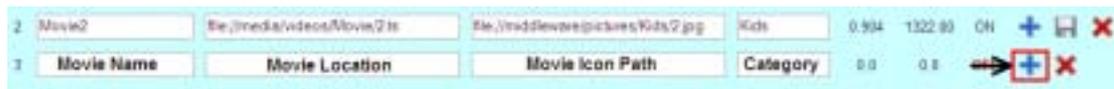
Step1: Click "Movie" Button.



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.



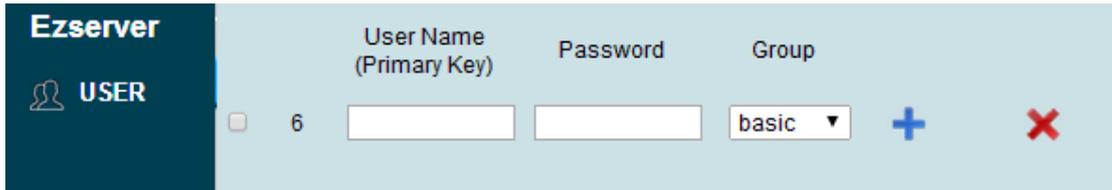
15. Create New User

- 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 input fields labeled 'MAC ID' and 'Reseller'. A red box highlights a blue '+' button next to the 'Reseller' field.

- 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 three input fields labeled 'User Name (Primary Key)', 'Password', and 'Group'. A red box highlights a blue '+' button next to the 'Group' field.

- 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 three input fields labeled 'User Name (Primary Key)', 'Password', and 'Group'. The 'User Name' field contains 'test', the 'Password' field contains '1234', and the 'Group' dropdown is set to 'basic'. A red box highlights a blue '+' button next to the 'Group' field.

16. User Max. Concurrent Connections

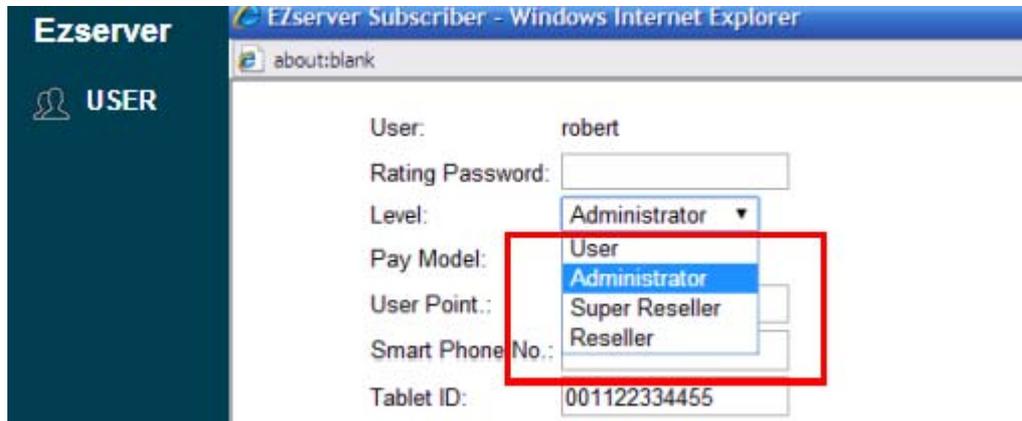
Administrator can click User button and select More icon to set user max. connections as below:



The screenshot shows the 'Ezserver' interface with a dark blue sidebar containing a 'USER' button. The main panel has a light blue background with various configuration fields. A red box highlights the 'Max. Connections' field, which is set to '1'. Other fields include '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', and 'User Point: 2000.00'.

17. 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:



The screenshot shows a web browser window titled "EZserver Subscriber - Windows Internet Explorer" with the address bar showing "about:blank". On the left, there is a dark blue sidebar with the "Ezserver" logo and a "USER" button with a person icon. The main content area contains a form with the following fields:

- User: robert
- Rating Password:
- Level: (dropdown menu open showing: User, Administrator, Super Reseller, Reseller)
- Pay Model:
- User Point.:
- Smart Phone No.:
- Tablet ID: 001122334455

- 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

18. Create a Reseller

Administrator can a new supper reseller or reseller.

Add a super reseller into user window:

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

The screenshot shows the Ezserver application interface. On the left is a dark blue sidebar with the Ezserver logo and a 'USER' button with a person icon. The main content area is a form titled 'EZserver Subscriber - Windows Internet Explorer'. 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 the Level field, which contains the options: User, Administrator, Super Reseller (highlighted in blue), and Reseller.

Add a reseller into user window:

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

The screenshot shows the Ezserver application interface. On the left is a dark blue sidebar with the Ezserver logo and a 'USER' button with a person icon. The main content area is a form titled 'EZserver Subscriber - Windows Internet Explorer'. 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 the Level field, which contains the options: User, Administrator, Super Reseller, and Reseller (highlighted in blue).

19. Streaming URL output

A. Get Channel and Movie List from Ezserver

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

For Ezserver v2.0

- **Syntax:**
 - `http://ip_address:port/getlink?username=xxxx:password=xxxx:type=xxxx:content=xxx`
 - **type** has 4 options: **m3u**, **hls**, **rtmp**, **pure**
 - **content** has 2 options: **movie**, **all**

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`

Get Movie links:

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

Get Channel and Movie links:

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

For Ezserver v1.2

- **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`

B. HTTP Channel 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 created 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`

Ex.

`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`

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`

Ex.

`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`

C. HTTP Movie URL:

By Path:

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

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

Ex.

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

By Movie Name:

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

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

Ex.

If movie name of http://172.16.10.50:8000/media/videos/Movie/1.ts?u=test;p=1234 is

“MOVIE1”, then

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

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

D. RTSP Channel URL:

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

E. RTSP Movie URL:

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

F. RTMP Link Re-Streaming:

Syntax1: rtmp://ip_address:port/live/x.ch?u=xxxx;p=xxxx

Syntax2: rtmp://ip_address:port/live/channel_name?u=xxxx;p=xxxx

EX.

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

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

20. HLS channel output

Enable one channel with HLS output:

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

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 :

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

Streaming URL:

- **Single channel:**

Syntax: `http://ip_address:port/chx.m3u8?u=xxxx;p=xxxx`

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

- **All channels:**

Syntax:

`http://ip_address:port/server/get_user_chlist?username=xxxx;password=xxxx`
`:ch_list_type=m3u8`

Ex.

`http://192.168.0.8:17000/server/get_user_chlist?username=test;password=1234`
`:ch_list_type=m3u8`

Download m3u8 ch list from panel:

The screenshot shows the Ezserver interface with a table of users and a dropdown menu for selecting a CH List. The table has columns for User no, User Name (Primary Key), Password, and Group. The CH List dropdown is open, showing various options including Enigma, Enigma 1.6, Enigma(RTMP), Enigma 1.6(RTMP), m3u, m3u(MPEG TS), m3u(FLV), m3u(chno), m3u(chno with suffix), m3u(chname with suffix), m3u(RTMP), m3u8, octagon, ariva, XBMC, Pure, Optumuss, and Amiko. The 'm3u8' option is highlighted with a blue box. A black box with the text 'Select m3u8' is overlaid on the table, pointing to the 'm3u8' option in the dropdown.

User no	User Name (Primary Key)	Password	Group	CH List
1	root	1234	golden	--
2	robert	1234	basic	--
3	5586688948	5586688948	basic	Enigma
4	8698527291	8698527291	basic	Enigma 1.6
5	4395840282	4395840282	basic	Enigma(RTMP)
6	8789290532	8789290532	basic	Enigma 1.6(RTMP)
7	7265082124	7265082124	basic	m3u
8	8509419732	8509419732	basic	m3u(MPEG TS)
9	9817122342			m3u(FLV)
10	6428111621			m3u(chno)
11	4653669740			m3u(chno with suffix)
12	9006398696			m3u(chname with suffix)
13	4707250525	4707250525	basic	m3u(RTMP)
14	9292189360	9292189360	basic	m3u8
15	3845085616	3845085616	basic	octagon
				ariva
				XBMC
				Pure
				Optumuss
				Amiko

21. HLS Web Player

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

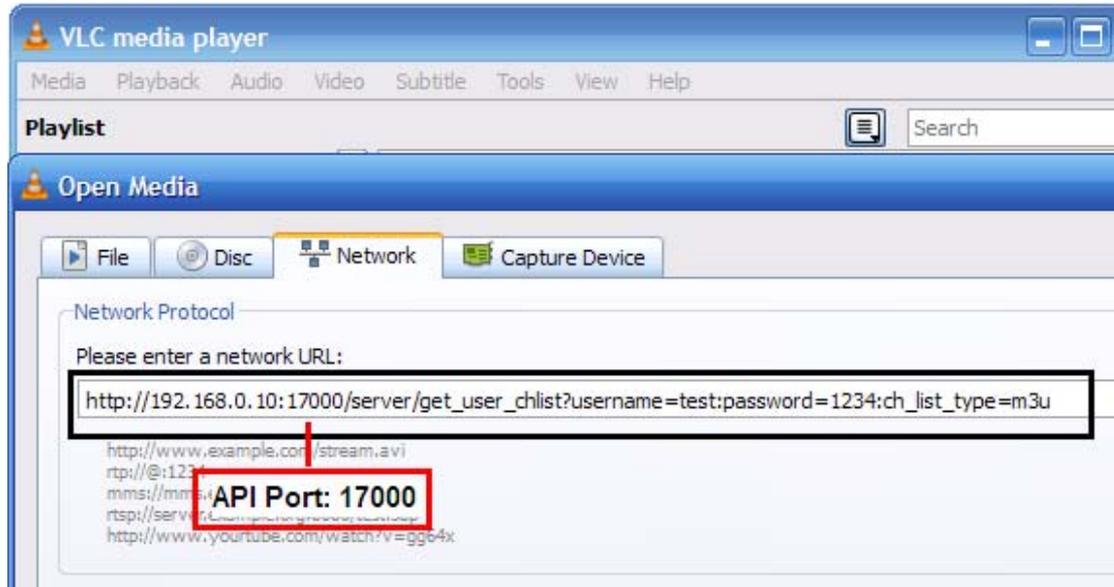
Streaming URL on Web players:

- Syntax: `http://ip_address:port/chx.m3u8?u=xxxx;p=xxxx`
- Ex.: `http://192.168.0.10:8000/ch1.m3u8?u=test;p=1234`
- For Safari, directly input the above URL into URL input bar.
- For Chrome, IE, Edge and Firefox, input the below URL into the below links:
 - ◆ `https://www.hlsplayer.net/`
 - ◆ `http://www.flashls.org/latest/examples/chromeless/`

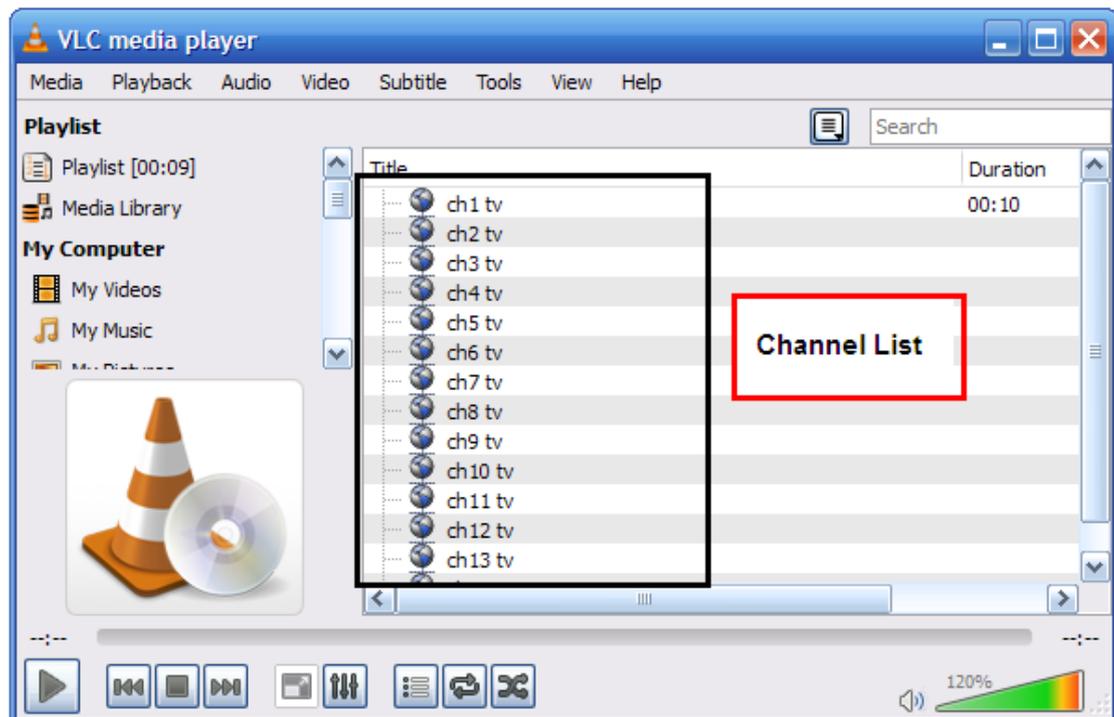
22. VLC Player

Get channel list by Ezserver API with API port(17000), ex.

`http://192.168.0.10:17000/server/get_user_chlist?username=test:password=1234:ch_list_type=m3u`
e=m3u

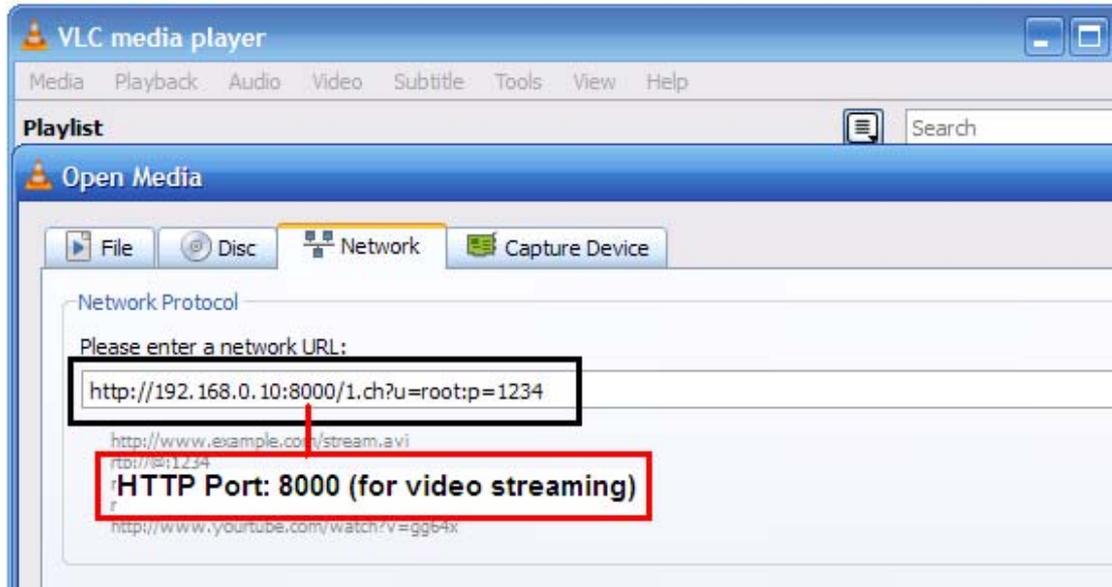


Channel List from Ezserver response:



Play a channel with HTTP port(8000), ex.

`http://192.168.0.10:8000/1.ch?u=root;p=1234`



More Options are in **Streaming URL** output.

23. iOS devices

Step1: Select **App Store** to install the app of the below links:

- **GSE SMART IPTV**
- **OttPlayer**

Step2: Click “+” to add new URL and select “**Add M3U URL**” option. Add the Ezserver M3U URL into the app

Syntax: `http://ip_address:api_port/getlink?username=xxxx:password=xxxx:type=m3u`

Ex.

`http://192.168.0.6:17000/server/getlink?username=test:password=1234:type=m3u`

24. Android devices

Refre **Google Play Store**

- **Perfect Player**
 - `https://play.google.com/store/apps/details?id=com.niklabs.pp`
- **IPTV Player (Online TV)**
 - `https://play.google.com/store/apps/details?id=veg.iptv.mediaplayer`
- **IPTV**
 - `https://play.google.com/store/apps/details?id=ru.iptvremote.android.iptv`
- **OttPlayer**
 - `https://play.google.com/store/apps/details?id=es.ottpayer.tv`

Add the Ezserver M3U URL into the app.

Syntax: Syntax:

`http://ip_address:api_port/getlink?username=xxxx:password=xxxx:type=m3u`

Ex.

`http://192.168.0.6:17000/server/getlink?username=test:password=1234:type=m3u`

25. Roku player

Step1:

- Administrator sets all channels to HLS type.
- Login Panel
- Click Channel Button and Click More icon
- Select option to **Constant Bitrate (internal transcoder)**

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

HTTP Live Streaming :

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

Step2:

- unzip the RokuSDK/examples/zips/simplevideoplayer.zip
- edit the simplevideoplayer/source/appMain.brs as follows:

```
urls = ["http://192.168.0.10:17000/server/get_user_videolist?username=test;password=1234"]  
qualities = ["SD"]  
StreamFormat = "hls"  
srt = ""  
title = "Ezserver Test Stream"
```

- zip simplevideoplayer folder into simplevideoplayer_ez.zip
- refer "Run the package Utility" instructions
- upload simplevideoplayer_ez.zip
- register your application to the Roku player

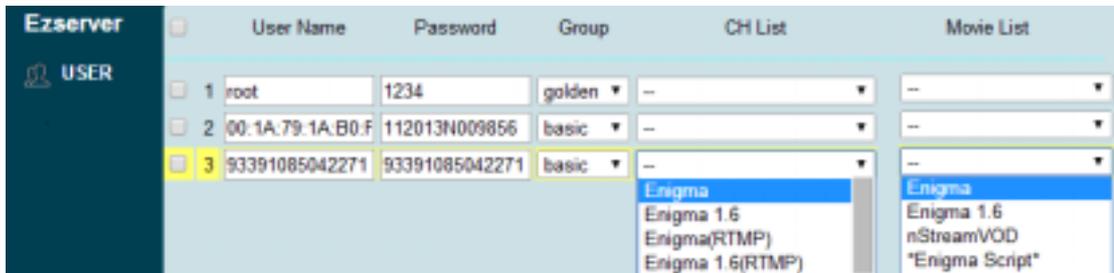
26. Enigma STB

Use **bouquets.tv** to play channels from Ezserver on enigma stb.

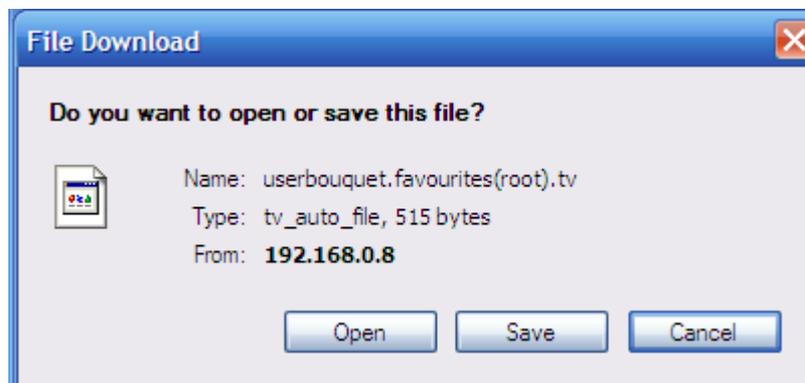
A. by bouquets.tv:

■ Download .tv file:

- Go to Ezserver Panel to click User Button and select enigma or enigam16 to download it.



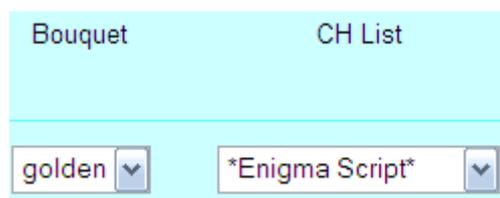
- Save the .tv file



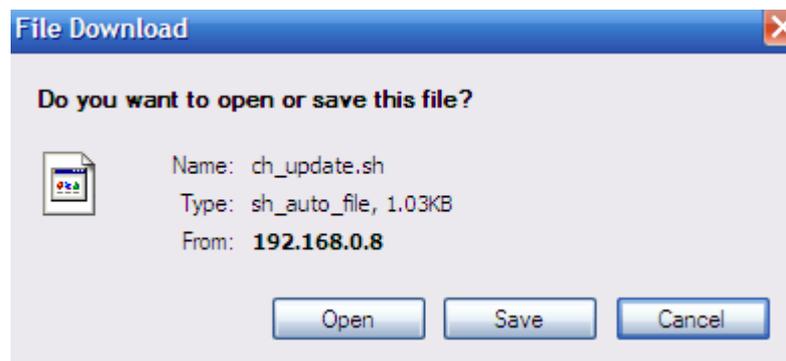
- Copy the .tv file into /etc/enigma2/ folder

■ Download update script

- Select Enigma Script or Enigma16 Script



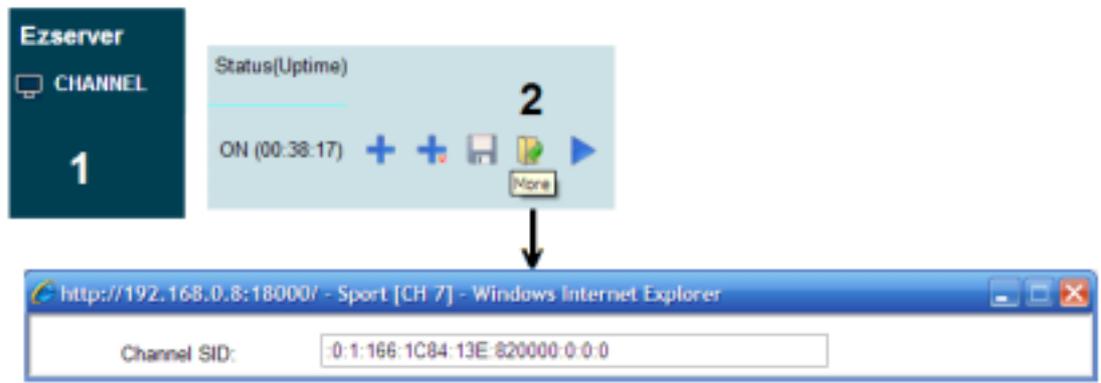
- Save ch_update.sh



- Copy ch_update.sh into /usr/script
- chmod 777 ch_update.sh
- Create /usr/bin/enigma2_pre_start.sh and add the below line:
/bin/sh /usr/script/ch_update.sh > /dev/null 2>&1 &

■ **Set SID for epkg:**

- Login Panel
- Click Channel Button
- Click More Button of a channel
- Input Channel SID (ex. :0:1:13F:157C:13E:820000:0:0:0)



- Click Save Button.

27. Enigma STB by MAC Protection

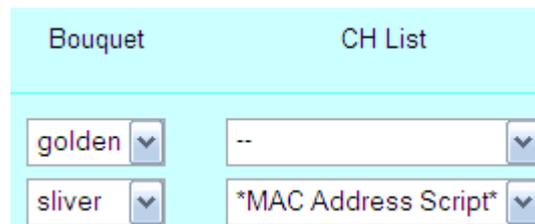
Ezserver enhances MAC protection with Enigma STB by a Linux script. The script is created by per user in Ezserver Panel and will be stored into enigma stb without any modification in enigma setting. Then Ezserver panel can control all enigma stb for authorization.

There are three steps to protect your content accessed by pre-defined MAC address. The first step is to define MAC address in Ezserver Panel, the second step is to download “mac.sh” from Ezserver Panel and finally copy it into Enigma STB.

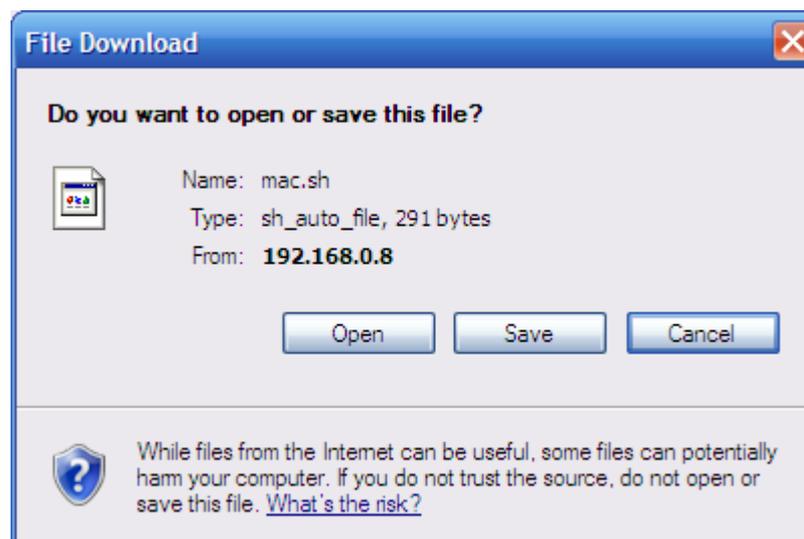
- Click MAC Addr. Button to add MAC address in the Accepted List



- Click User Button and select “MAC Address Script” to download “mac.sh”
 - Go to Ezserver Panel to click **User button**
 - Select MAC Address Script



- Save mac.sh



- **Copy mac.sh into Enigma STB**
 - Copy mac.sh into /usr/script

- `chmod 777 mac.sh`
- Create `/usr/bin/enigma2_pre_start.sh` and add the below line:
`/bin/sh /usr/script/mac.sh > /dev/null 2>&1 &`

28. MAG STB

Download m3u channel list from VSPanel and copy it to MAG stb as below:

- Select **m3u** of CH List filed in User panel to download it to your PC.
- Copy the m3u file into a USB and insert it to MAG stb
- Open MAG stb and go to “**Home Media**”
- Select the m3u file in the USB
- Press **F3** to save all links into MAG stb
- Go to **IPTV channels** to play all links

The screenshot shows the Ezserver VSPanel interface. On the left, there is a dark sidebar with the Ezserver logo and a 'USER' section. The main area displays a table of users with columns for 'User no', 'User Name (Primary Key)', 'Password', and 'Group'. A dropdown menu is open for the 'CH List' column, showing various options including 'Enigma', 'Enigma 1.6', 'Enigma(RTMP)', 'Enigma 1.6(RTMP)', 'Enigma(chno)', 'Enigma 1.6(chno)', 'Enigma(RTMP/chno)', 'Enigma 1.6(RTMP/chno)', 'm3u', 'm3u(MPEG TS)', 'm3u(FLV)', 'm3u(chno)', 'm3u(chno with suffix)', 'm3u(chname with suffix)', 'm3u(RTMP)', 'm3u8', 'octagon', 'ariva', and 'XBMC'. The 'm3u' option is highlighted in blue. A blue callout box with the text 'select m3u option' is overlaid on the table, pointing to the 'm3u' option in the dropdown menu.

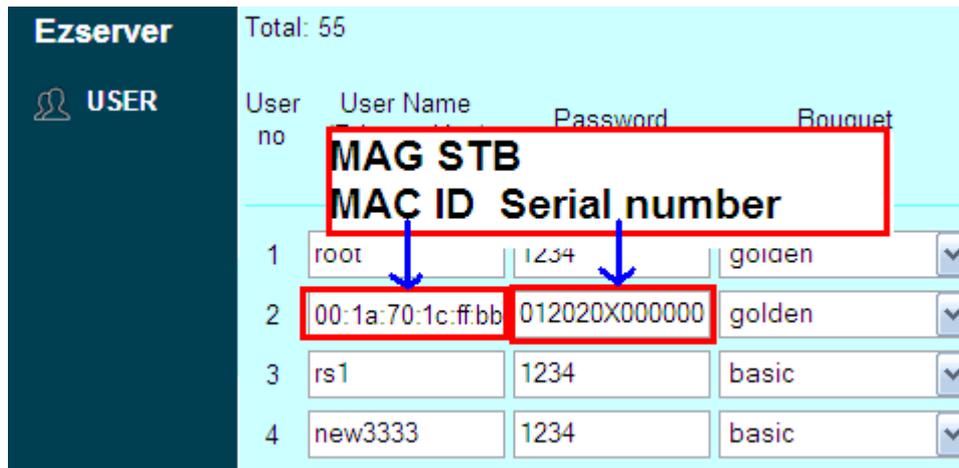
User no	User Name (Primary Key)	Password	Group	CH List
1	root	1234	golden	--
2	robert	1234	basic	--
3	5586688948	5586688948	basic	Enigma
4	8698527291	8698527291	basic	Enigma 1.6
5	4395840282	4395840282	basic	Enigma(RTMP)
6	8789290532	8789290532	basic	Enigma 1.6(RTMP)
7	7265082124	7265082124	basic	Enigma(chno)
8	8509419732	8509419732	basic	Enigma 1.6(chno)
9	9817122342	9817122342	basic	Enigma(RTMP/chno)
10	6428111621	6428111621	basic	Enigma 1.6(RTMP/chno)
11	4653669740	4653669740	basic	m3u
12	9006398696	9006398696	basic	m3u(MPEG TS)
13	4707250525	4707250525	basic	m3u(FLV)
14	9292189360	9292189360	basic	m3u(chno)
15	3845085616	3845085616	basic	m3u(chno with suffix)

29. Ezserver and Stalker integration

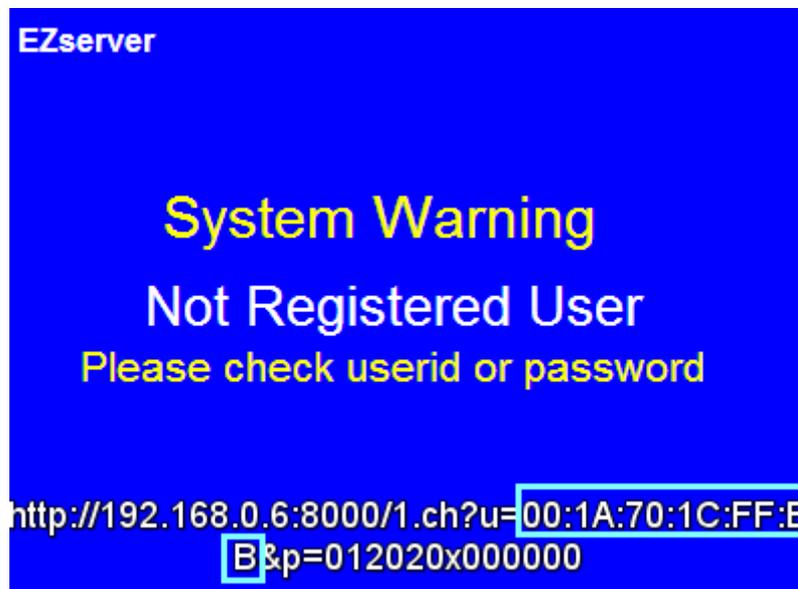
There are two ways to integrate MAG STB with Ezserver, they are to use Stalker with original MAG UI

You need to add a user with password in Ezserver Panel first:

- Add a user by MAC Address and Serial Number in Ezserver User Panel. **Take care the case sensitivity of MAC ID from MAG box** with User Name of Ezserver Panel.



- If you see the below screen, it means the Username of Ezserver Panel and MAC ID from Mag box are not same for the case sensitivity.



Ex. The MAC ID of MAG stb is **00:1A:70:1C:FF:BB**, the **username** is defined by **00:1a:70:1c:ff:bb**, so change **username** to **00:1A:70:1C:FF:BB**.

A. Source URL without protection

- Create a user in EZserver Panel (ex. username: test, password: 1234)
- Login stalker portal

- **stalker V4 version**
 - ◆ line 2435 : `this.create_link('remote_pvr', cmd, 0);`
 - ◆ Add `cmd.cmd += '?u='+stb.mac+';p='+stb.serial_number;` before line 2435
- Ex :
 - ◆ Line 2435: `cmd.cmd += '?u='+stb.mac+';p='+stb.serial_number;`
 - ◆ Line 2436: `this.create_link('remote_pvr', cmd, 0);`
- **stalker V5 version**
 - ◆ line 2438: `this.play_now(cmd);`
 - ◆ Add `cmd += '?u='+stb.mac+';p='+stb.serial_number;` before line 2438
- Ex :
 - ◆ Line 2438: `cmd += '?u='+stb.mac+';p='+stb.serial_number;`
 - ◆ Line 2439: `this.play_now(cmd);`

30. Kodi

Download Kodi channel list by each user.

- Select XBMC of CH List filed in User panel to download it to your PC.

The screenshot shows the Ezserver user management interface. On the left is a dark sidebar with the Ezserver logo and a 'USER' profile icon. The main area displays a table of users with columns for 'User no', 'User Name (Primary Key)', 'Password', and 'Group'. A 'Total: 141' indicator is at the top. A dropdown menu is open for the 'CH List' column of the first user (root), showing a list of channel lists including 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, priv, XBMC, Pure, Optumuss, Amiko, Spark, Tiger, Bluestar, and nStreamVOD. A blue box highlights 'XBMC' in the dropdown, and a blue box with the text 'Kodi Channel List' is overlaid on the table.

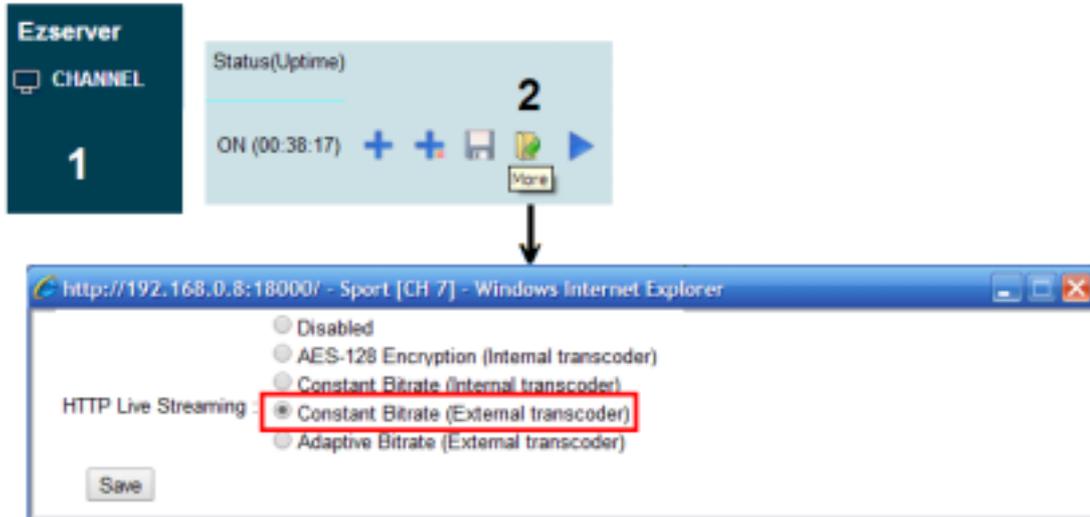
User no	User Name (Primary Key)	Password	Group	CH List
1	root	1234	golden	--
2	robert	1234	basic	--
3	5586688948	5586688948	basic	--
4	8698527291	8698527291	basic	--
5	4395840282	4395840282	basic	--
6	8789290532	8789290532	basic	--
7	7265082124	7265082124	basic	--
8	8509419732	8509419732	basic	--
9	9817122342	9817122342	basic	--
10	6428111621	6428111621	basic	--
11	4653669740	4653669740	basic	--
12	9006398696	9006398696	basic	--
13	4707250525	4707250525	basic	--
14	9292189360	9292189360	basic	--
15	3845085616	3845085616	basic	--

- save it to C:\Desktop\xxxx\Document\ezserver_ch_list(root).strm and share the folder for SMB.
- For PC
 - Open Kodi to Videos >> Files >> Add video source >> Browser >>C, then press OK.
- For Mobile
 - Open Kodi to Videos >> Files >> Add video source >> Browser >> Windows Network (SMB)
 - You can see your PC with shared folder xxxx, then press OK.
 - Click ezserver_ch_list(root).strm to play all channels.

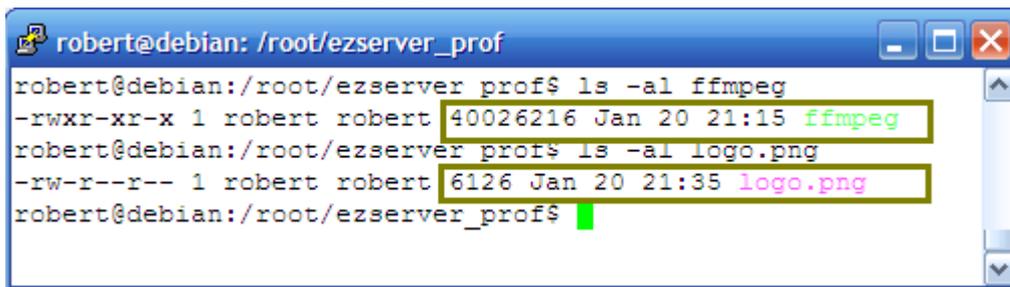
31. Channel with Logo Watermark

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_prof or ezserver_standard 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

32. MPTS Input / SPTS output

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

Channel Total: 3

Cut Copy Paste [Delete](#) [Refresh](#) [Preview](#) [Auto Query](#) Import [Export](#)

<input type="checkbox"/>	Channel Name	Media Source	Icon Path
<input type="checkbox"/>	1 MPTS INPUT1	udp://224.0.0.1:1234/1007	file://media/pictures/News
<input type="checkbox"/>	2 MPTS INPUT2	udp://224.0.0.1:1234/1008	file://media/pictures/Sport
<input type="checkbox"/>	3 MPTS INPUT3	udp://224.0.0.1:1234/1009	file://media/pictures/Kids/

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:

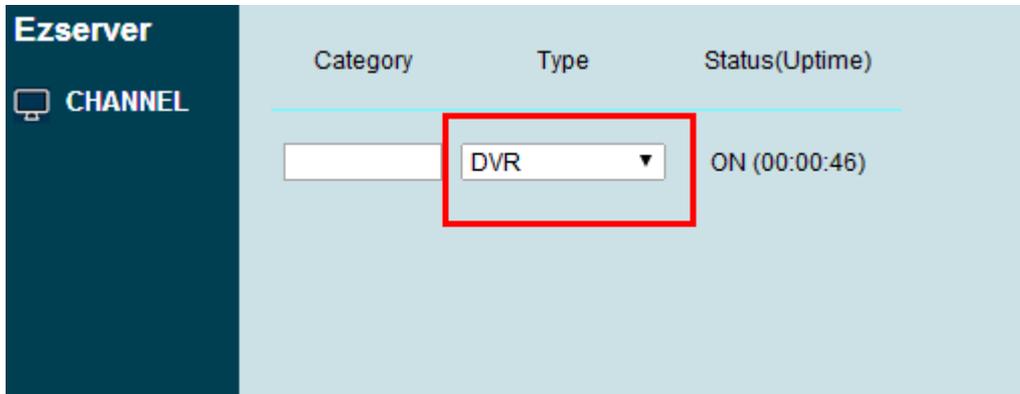
The image shows the Ezserver interface. On the left, a dark blue sidebar contains 'Ezserver' and 'CHANNEL 1' with a large '1' icon. The main area shows 'Status(Uptime)' as 'ON (00:38:17)' and a '2' icon. Below the status are several icons: a plus sign, a minus sign, a folder icon, a document icon, and a 'More' icon. An arrow points from the 'More' icon to a web browser window. The browser window title is 'http://192.168.0.8:18000/ - Sport [CH 7] - Windows Internet Explorer'. The page content includes: 'Channel No. : 2', 'Channel Name: TV2', 'Main URL: (Running) udp://224.1.1.1:9002', '2nd URL:', '3rd URL:', 'Multicast Adapter IP : 192.168.0.10', 'Channel SID: 192.168.0.10', '192.168.0.9', 'Bitrate Tolerance: 0', and a 'Save' button.

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

33. DVR Time Shift with timestamp option in URL

This function is to play DVR channel by **timestamp** option. Administrator need to follow up the below steps :

- Set Channel Type to **DVR**.



- Set **DVR Duration**



A player can use timestamp option to do **backward** and **forward** function in channel URL as below:

- 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.

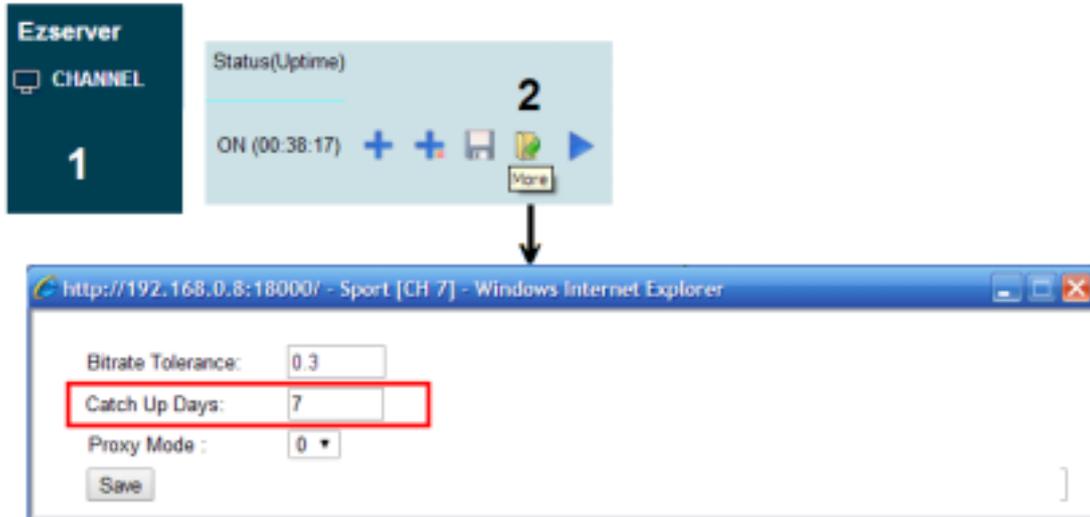
A player can use .m3u8 URL without timestamp option for live (**back to now**) as below:

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

34. EPG Time Shift with utc option in URL

This function is to play recorded video by EPG Epoch Timestamp. Administrator need to follow up the below steps :

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



- Use EpochConverter (<http://www.epochconverter.com>) to create Epoch Timestamp from Human date(YYYY/MM/DD mm:ss).
- Click EPG button to check if Human date is in EPG List

The screenshot shows the 'EPG' section of the Ezhometech interface. It displays a table with columns: No, Start Time (YYYYMMDD hh:mm:ss), Stop Time (YYYYMMDD hh:mm:ss), Program Title, Program Description, Record Icon Path, and Record. Three programs are listed:

No	Start Time YYYYMMDD hh:mm:ss	Stop Time YYYYMMDD hh:mm:ss	Program Title	Program Description	Record Icon Path	Record
1	2015/05/11 00:30:00	2015/05/11 00:30:00	Week RTS	Agornije evst. avstria (srednj. av. ita)		CH + - [X] +
2	2015/05/11 00:30:00	2015/05/11 00:30:00	Stroudler 2000	Strouding i stroudlering stroudler		CH + - [X] +
3	2015/05/11 02:30:00	2015/05/11 02:30:00	Cvetice na Balkanu	Chukovnikani enija		CH + - [X] +

- Click Movie button to check if the program is in Movie List.

The screenshot shows the 'MOVIE' section of the Ezhometech interface. It displays a table with columns: Movie Name, Media Source, Icon Path, Category, Duration (min:sec), and Status. Ten movies are listed:

Movie Name	Media Source	Icon Path	Category	Duration (min:sec)	Status
1. Movie1	file:///media/xxxx/Movies/Sports1.mpg	file:///media/xxxx/pictures/Sports1.jpg	SPORT	0:300	772.00 CH + - [X] +
2. Movie2	file:///media/xxxx/Movies/Sports2.mpg	file:///media/xxxx/pictures/Sports2.jpg	SPORT	0:300	772.00 CH + - [X] +
3. Movie3	file:///media/xxxx/Movies/Sports3.mpg	file:///media/xxxx/pictures/Sports3.jpg	SPORT	0:300	772.00 CH + - [X] +
4. Movie4	file:///media/xxxx/Movies/Sports4.mpg	file:///media/xxxx/pictures/Sports4.jpg	SPORT	0:300	772.00 CH + - [X] +
5. Movie5	file:///media/xxxx/Movies/Sports5.mpg	file:///media/xxxx/pictures/Sports5.jpg	SPORT	0:300	772.00 CH + - [X] +
6. Movie6	file:///media/xxxx/Movies/Kids1.mpg	file:///media/xxxx/pictures/Kids1.jpg	KIDS	1:001	1000.00 CH + - [X] +
7. Movie7	file:///media/xxxx/Movies/Kids2.mpg	file:///media/xxxx/pictures/Kids2.jpg	KIDS	1:001	1000.00 CH + - [X] +
8. Movie8	file:///media/xxxx/Movies/Kids3.mpg	file:///media/xxxx/pictures/Kids3.jpg	KIDS	1:001	1000.00 CH + - [X] +
9. Movie9	file:///media/xxxx/Movies/Kids4.mpg	file:///media/xxxx/pictures/Kids4.jpg	KIDS	1:001	1000.00 CH + - [X] +
10. Movie10	file:///media/xxxx/Movies/Kids5.mpg	file:///media/xxxx/pictures/Kids5.jpg	KIDS	1:001	1000.00 CH + - [X] +

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

35. 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 management interface. On the left is a dark sidebar with the Ezserver logo and 'USER' text. The main area has a light blue header with 'Total: 141' and a table with columns: 'User no', 'User Name (Primary Key)', 'Password', 'Group', and 'CH List'. The table lists 15 users. The 'CH List' column for the first two users shows '--'. The third user's dropdown is open, showing a list of options including 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. A red box highlights the dropdown menu.

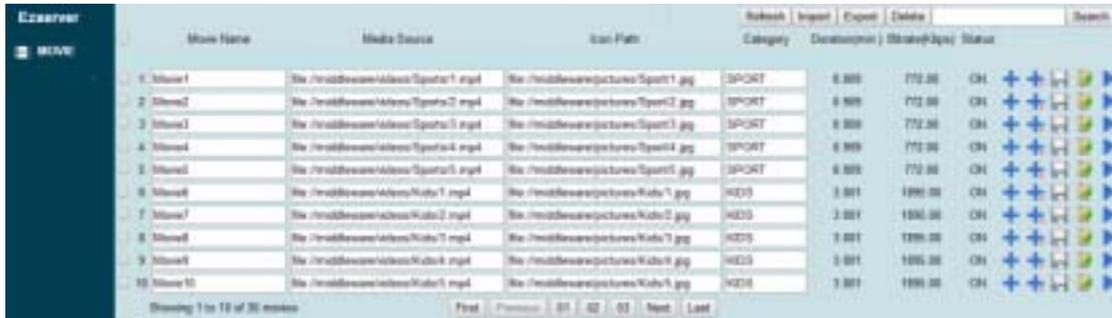
User no	User Name (Primary Key)	Password	Group	CH List
1	root	1234	golden	--
2	robert	1234	basic	--
3	5586688948	5586688948	basic	Enigma
4	8698527291	8698527291	basic	Enigma 1.6
5	4395840282	4395840282	basic	Enigma(RTMP)
6	8789290532	8789290532	basic	Enigma 1.6(RTMP)
7	7265082124	7265082124	basic	m3u(chno)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

36. Subtitle for Movie

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.

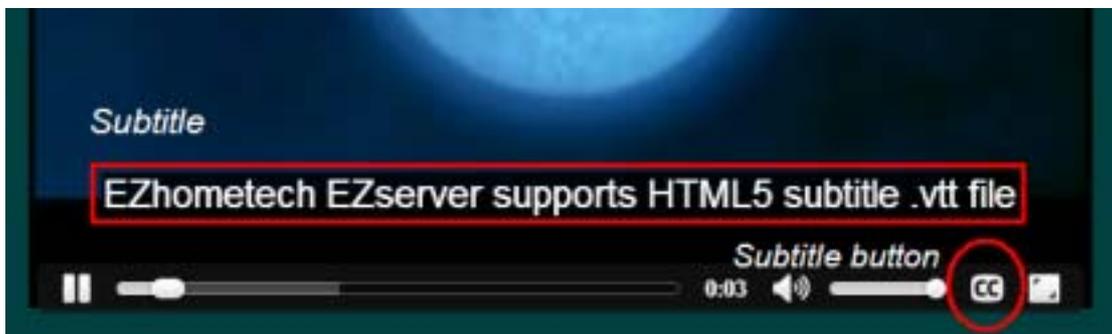
When a movie Media Source is file://middleware/videos/Sports/1.mp4, then need to put a subtitle file in ezserver_prof/middleware/videos/Sports/1.vtt



Movie Name	Media Source	Icon Path	Category	Duration	Size	Status
1 Movie1	file://middleware/videos/Sports/1.mp4	file://middleware/pictures/Sport1.jpg	SPORT	0:30	772 KB	ON
2 Movie2	file://middleware/videos/Sports/2.mp4	file://middleware/pictures/Sport2.jpg	SPORT	0:30	772 KB	ON
3 Movie3	file://middleware/videos/Sports/3.mp4	file://middleware/pictures/Sport3.jpg	SPORT	0:30	772 KB	ON
4 Movie4	file://middleware/videos/Sports/4.mp4	file://middleware/pictures/Sport4.jpg	SPORT	0:30	772 KB	ON
5 Movie5	file://middleware/videos/Sports/5.mp4	file://middleware/pictures/Sport5.jpg	SPORT	0:30	772 KB	ON
6 Movie6	file://middleware/videos/Kids/1.mp4	file://middleware/pictures/Kids1.jpg	KIDS	1:01	189 KB	ON
7 Movie7	file://middleware/videos/Kids/2.mp4	file://middleware/pictures/Kids2.jpg	KIDS	1:01	189 KB	ON
8 Movie8	file://middleware/videos/Kids/3.mp4	file://middleware/pictures/Kids3.jpg	KIDS	1:01	189 KB	ON
9 Movie9	file://middleware/videos/Kids/4.mp4	file://middleware/pictures/Kids4.jpg	KIDS	1:01	189 KB	ON
10 Movie10	file://middleware/videos/Kids/5.mp4	file://middleware/pictures/Kids5.jpg	KIDS	1:01	189 KB	ON

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



37. Migration to Ezserver

Migrating your panel or server to Ezserver is to copy channel input links and user profiles of your panel or server to Ezserver database. The channel input links are in a m3u file and user profiles is in a txt file.

Migration Steps for Linux:

```
ezserver_prof# ./migration.sh
```

Migration channel filename (.m3u)? **ch.m3u**

Migration user filename (.txt)? **user.txt**

Migration to Ezserver Finished...

Ex1:

```
ezserver_prof# ./migration.sh
```

Migration channel filename (.m3u)? **ch.m3u**

Media Name=RTMP1

Media Source= rtmp://192.168.0.10/test/tv1

Media Name=RTMP2

Media Source= rtmp://192.168.0.10/test/tv2

Media Name=HLS1

Media Source= http://192.168.0.10/test/tv2.m3u8

Total [3] M3U URL is converted to channel_definition.xml

Migration user filename (.txt)? **user.txt**

User Name=test1, Password=12341

Date=1/1/2029

User Name=test2, Password=12342

User Name=test3, Password=12343

Day=60

User Name=test4, Password=12344

Date=2/1/2029

User Name=test5, Password=12345

Day=90

Total [5] Users is converted to user_profile.xml

Migration to Ezserver Finished...

Migration Input file format

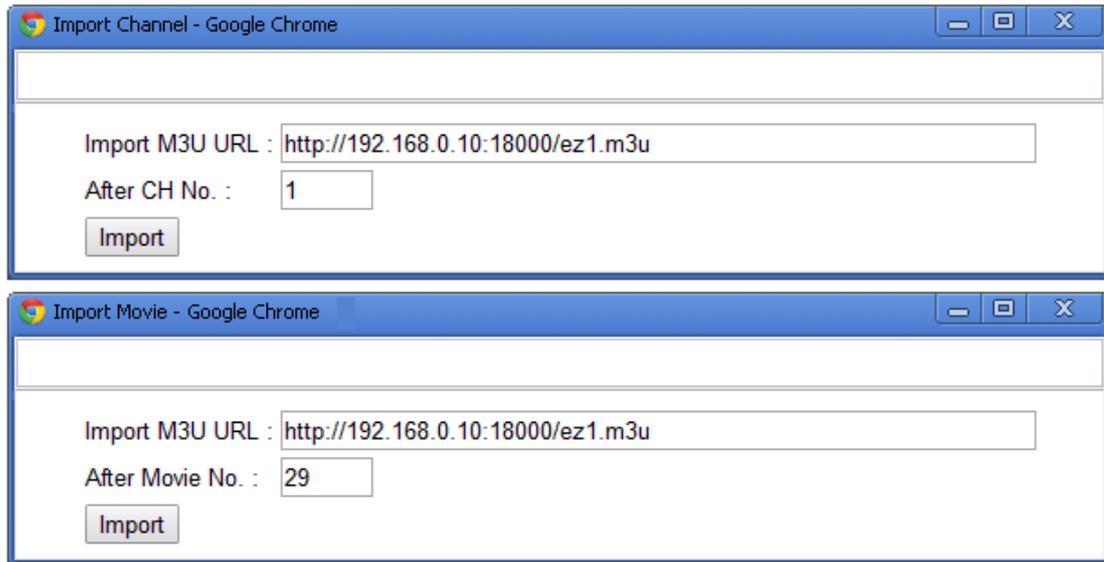
Channel m3u
<p>Ex1:</p> <pre>#EXTM3U #EXTINF:-1,RTMP1 rtmp://192.168.0.10/test/tv1 #EXTINF:-1,HLS1 http://192.168.0.10/test/tv2.m3u8 #EXT-X-ENDLIST</pre>

User profile text
<p>Syntax1:</p> <pre>http://URL/get.php?username=NAME&password=PASSWORD&type=m3u&output=mpegts http://URL/get.php?username=NAME&password=PASSWORD&type=m3u&output=mpegts&date=MM/DD/YYYY http://URL/get.php?username=NAME&password=PASSWORD&type=m3u&output=mpegts&&day=NUMBER</pre>
<p>Syntax2:</p> <pre>username=NAME&password=PASSWORD username=NAME&password=PASSWORD&date=MM/DD/YYYY username=NAME&password=PASSWORD&&day=NUMBER</pre>
<p>Ex1:</p> <pre>http://192.168.0.10:8000/get.php?username=test1&password=1234&type=m3u&output=mpegts&date=1/1/2029 http://192.168.0.10:8000/get.php?username=test2&password=1234&type=m3u&output=mpegts http://192.168.0.10:8000/get.php?username=test3&password=1234&type=m3u&output=mpegts&day=60</pre>
<p>Ex2:</p> <pre>username=test1&password=1234&date=1/1/2029 username=test2&password=1234 username=test3&password=1234&day=60</pre>
<p>Note:</p> <ul style="list-style-type: none">○ Date option is for user expired date.○ Day option is available days. Once the user plays channel, Day option becomes Date option.

38. Import M3U File into Ezserver Panel

There are 2 ways to import m3u list into Ezserver Panel. One is to use import button of Ezserver panel, the other is to use a tool to do it.

1. by panel:



2. Convert m3u8 file into Ezserver channel or movie list : channel_definition.xml / movie_definition.xml

Command Options:

Function:

Convert m3u file into Ezserver Channel or Movie database

Usage:

```
ezchconverter [-c | -m] filename(m3u)
```

Options:

-c Convert m3u file to channel_definition.xml (Default)

-m Convert m3u file to movie_definition.xml

Examples:

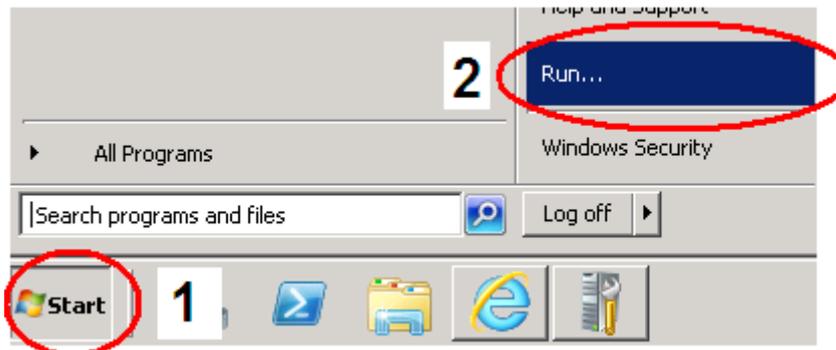
```
>ezchconverter 1.m3u ... Convert 1.m3u to channel_definition.xml
```

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

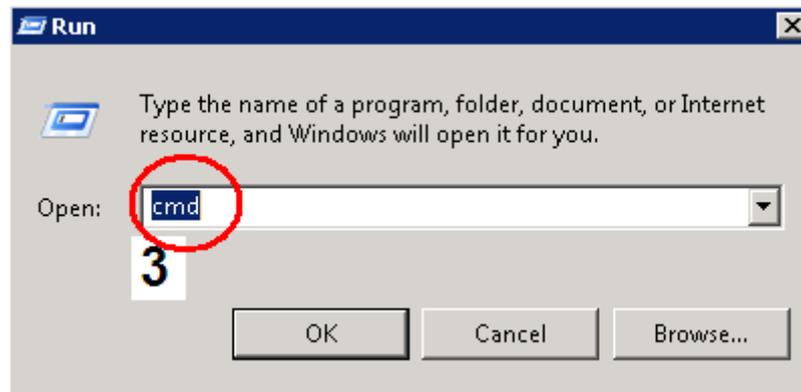
```
>ezchconverter -m 1.m3u ... Convert 1.m3u to movie_definition.xml
```

- **Windows Version:**

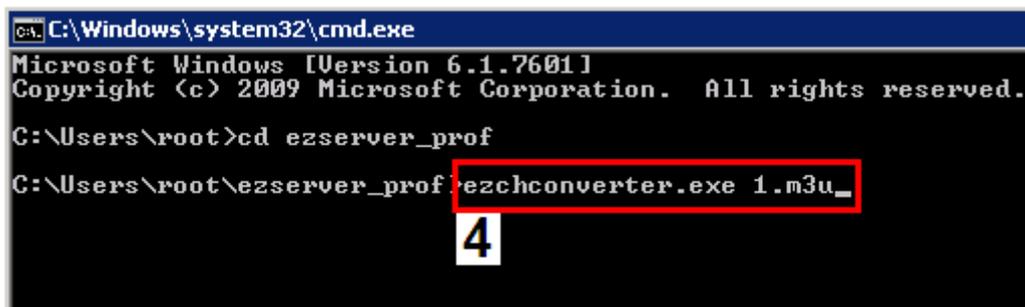
- Click Start: Run



- o Typ "cmd"

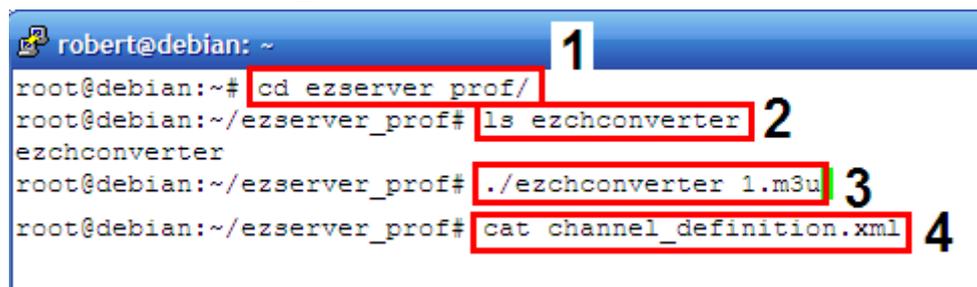


- o Run "ezchconverter.exe 1.m3u"



- Linux Version:

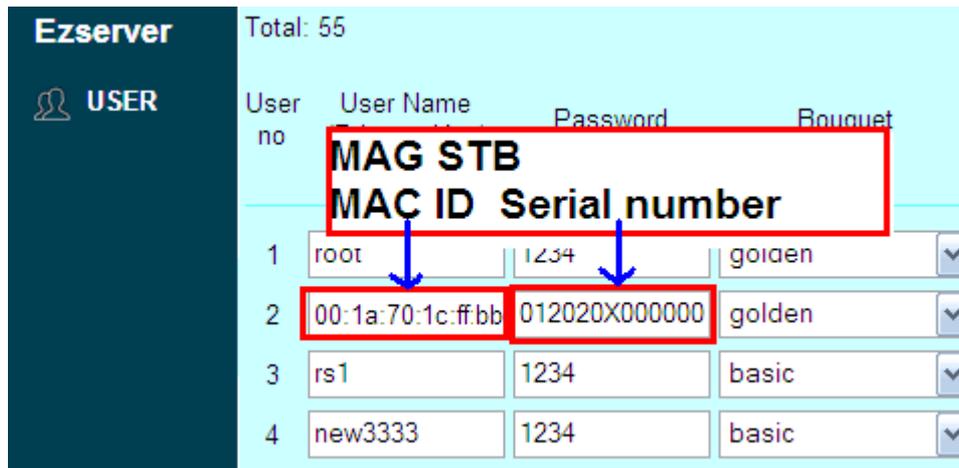
- o cd ezserver_prof/
- o ls ezchconverter
- o ./ezchconverter 1.m3u
- o cat channel_definition.xml



39. Stalker with Protection Links from Ezserver

Stalker IPTV channel management provides channel input URLs to MAG player. This way is possible to let users know source FULL URL. Ezserver provides the below way to let stalker with protection URLs:

- Add a user by MAC Address and Serila Number in Ezserver User Panel. **Take care the case sensitivity of MAC ID from MAG box** with User Name of Ezserver Panel.



- Login stalker portal
- Click "IPTV channels"
- add ezserver links as below into **IPTV Channels**
 - `http://ezserver_ip:port/ChannelName`
 - ex. `http://192.168.0.8:8000/TV1`
- add the extra code in `stalker_portal-x.x.x/c/player.js`
 - Find line 2435 or 2438:
 - ◆ line 2435 : `this.create_link('remote_pvr', cmd, 0);`
 - ◆ Add `cmd.cmd += '?u='+stb.mac+':p='+stb.serial_number;` before line 2435
 - or (stalker V5 version)
 - ◆ line 2438: `this.play_now(cmd);`
 - ◆ Add `cmd += '?u='+stb.mac+':p='+stb.serial_number;` before line 2438
 - Ex 1:
 - ◆ Line 2435: `cmd.cmd += '?u='+stb.mac+':p='+stb.serial_number;`
 - ◆ Line 2436: `this.create_link('remote_pvr', cmd, 0);`
 - Ex 2: (stalker V5 version)
 - ◆ Line 2438: `cmd += '?u='+stb.mac+':p='+stb.serial_number;`
 - ◆ Line 2439: `this.play_now(cmd);`

40. Automatic EPG Generation

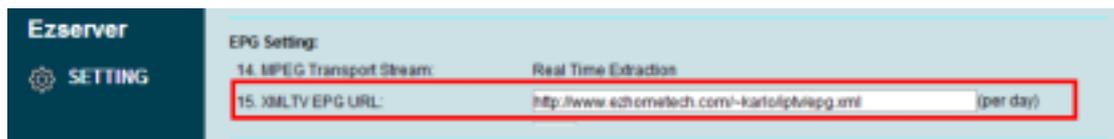
There are two ways to generate Channel EPG into Panel. One is from MPEG TS stream with EPG packets. The other way is from XMLTV URL.

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.



41. Encrypted Streaming with AES-128

Step1:

- 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 :

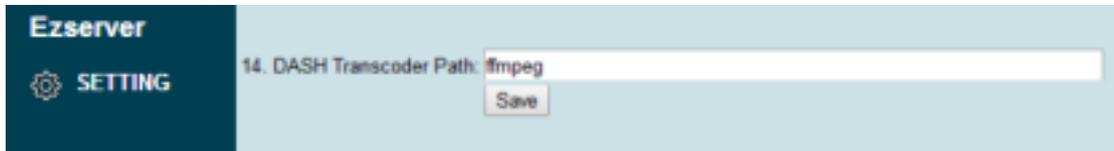
Step2:

- Input URL into with VLC
 - Syntax: `http://ip_address:port/chx.m3u8?u=xxxx;p=xxxx`
 - Syntax: `http://ip_address:port/x.ch?u=xxxx;p=xxxx`
 - Syntax: `http://ip_address:port/channe_name?u=xxxx;p=xxxx`
- Ex.1: **`http://192.168.0.10:8000/ch1.m3u8?u=test;p=1234`**
- Ex.2: **`http://192.168.0.10:8000/1.ch1?u=test;p=1234`**
- Ex.3: **`http://192.168.0.10:8000/TV1?u=test;p=1234`**

42. DASH Setting for 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:

- Option 1: Adaptive Bitrate Streaming

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"/>	▼

- Option2: Constant Bitrate Streaming:

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="0"/>	kbps
SD Bitrate:	<input type="text" value="0"/>	kbps
HD Bitrate:	<input type="text" value="0"/>	kbps
Video Format :	<input type="text" value="h264"/>	▼
Audio Format :	<input type="text" value="aac"/>	▼
Encoding Speed :	<input type="text" value="ultrafast"/>	▼

- **Player URL Syntax4:**

http://ip_address:port/ChannelName?u=xxxx:p=xxxx

http://ip_address:port/chx.m3u8?u=xxxx:p=xxxx

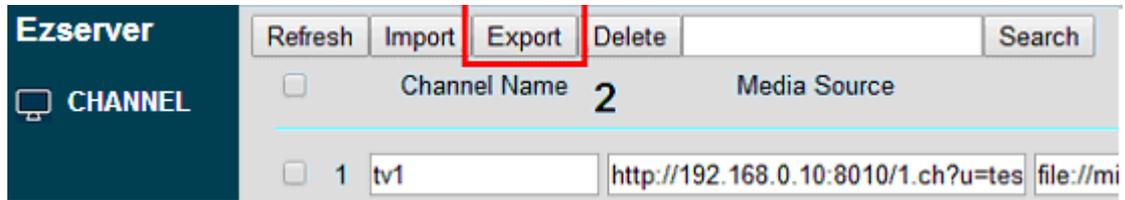
Ex. 1: http://test:1234@172.16.10.50:8000/TV1

Ex. 2: http://test:1234@172.16.10.50:8000/ch4.m3u8

43. Backup Channel URLs

Follow the below steps to export current channel definition to other ezservers:

Step1: Click "Channel", then click Export button



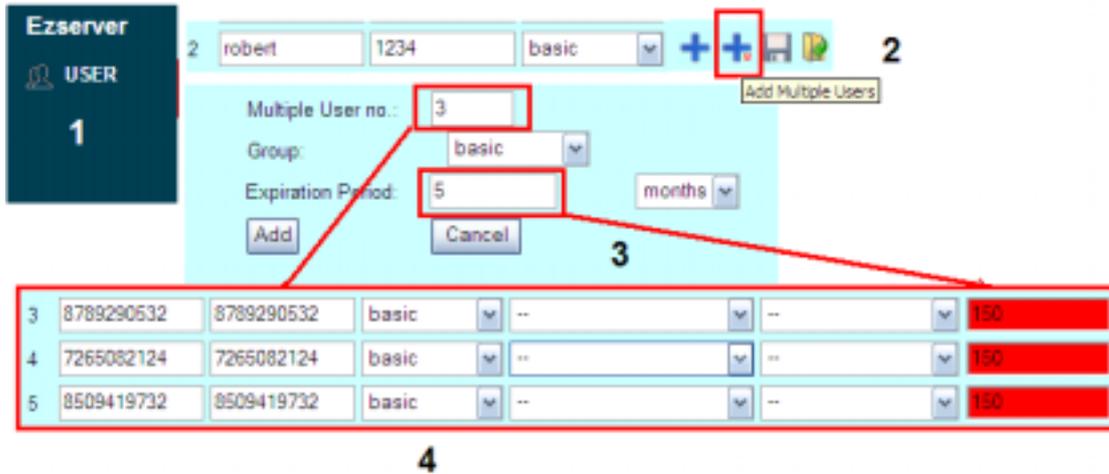
Step2: Save it by channel_definition.xml



Step4: copy channel_definition.xml to other ezserver folders

44. Active Code Mode Setting

- 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.

45. Reseller Management

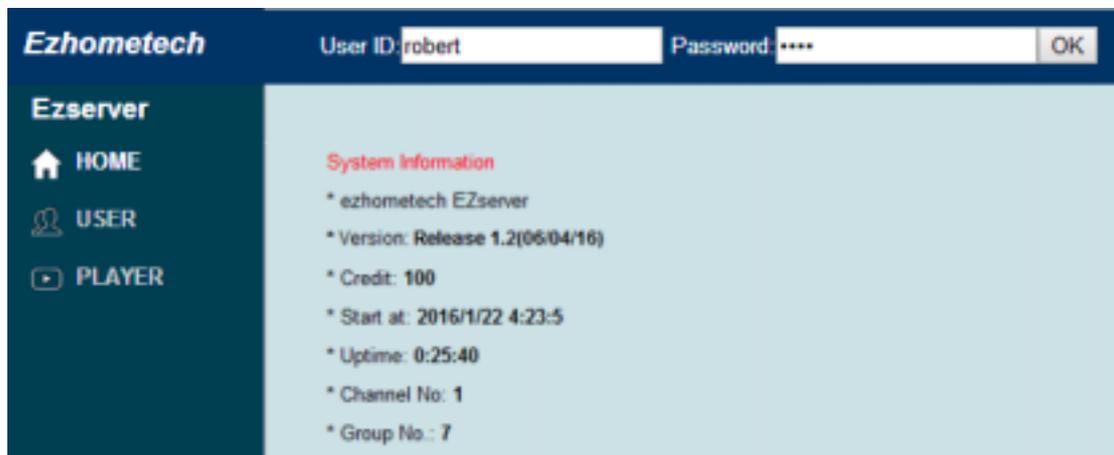
Reseller management has two modes, one is for Super Reseller, the other is for Reseller. The difference between them is that Super Reseller can manage his reseller.

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:

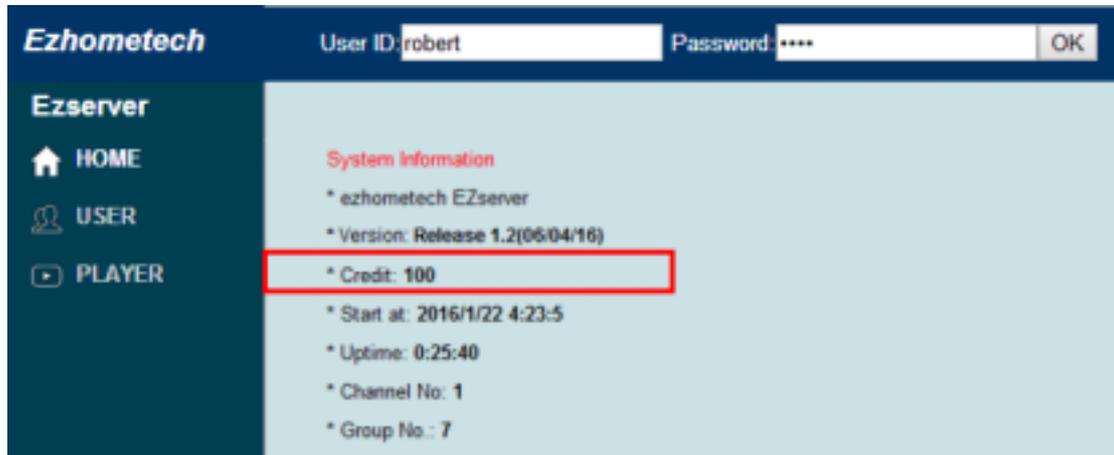


Reseller Panel:



Reseller Credit:

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



The screenshot displays the Ezhometech EZserver interface. At the top, there is a header with the Ezhometech logo on the left and a login form on the right containing fields for 'User ID: robert' and 'Password: ****', with an 'OK' button. Below the header is a dark blue sidebar menu with the title 'Ezserver' and three items: 'HOME' (with a house icon), 'USER' (with a person icon), and 'PLAYER' (with a play button icon). The main content area is light blue and titled 'System Information' in red. It lists several system details: '* ezhometech EZserver', '* Version: Release 1.2(06/04/16)', '* Credit: 100' (which is enclosed in a red rectangular box), '* Start at: 2016/1/22 4:23:5', '* Uptime: 0:25:40', '* Channel No: 1', and '* Group No.: 7'.

46. Notice Video Setting

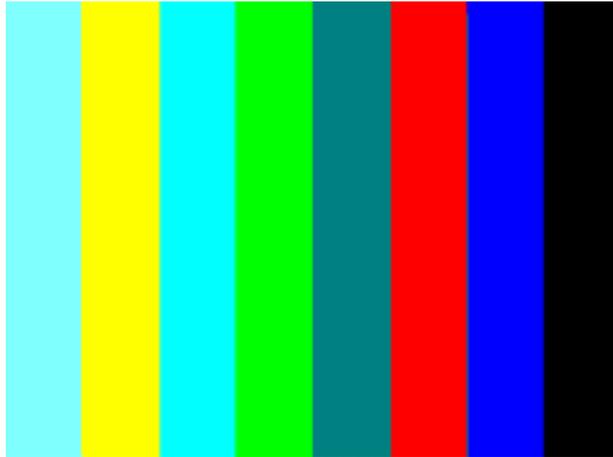
Offline Channel Setting

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



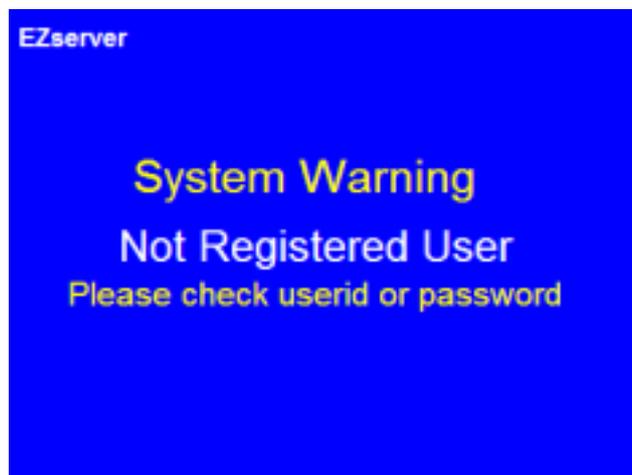
Not Registered User Setting

When a user connects ezserver with wrong userid or password, 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



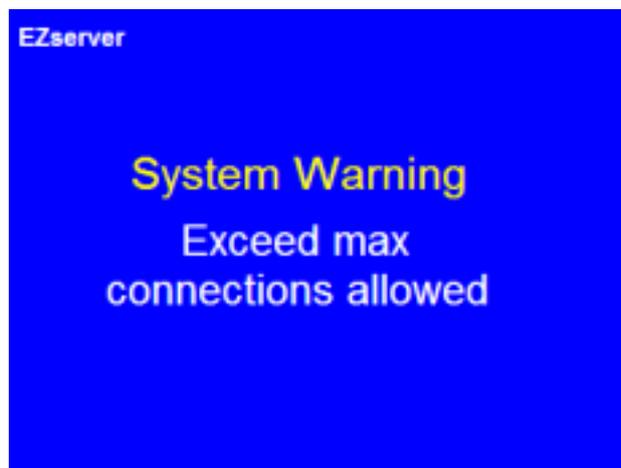
Exceed max connections allowed

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

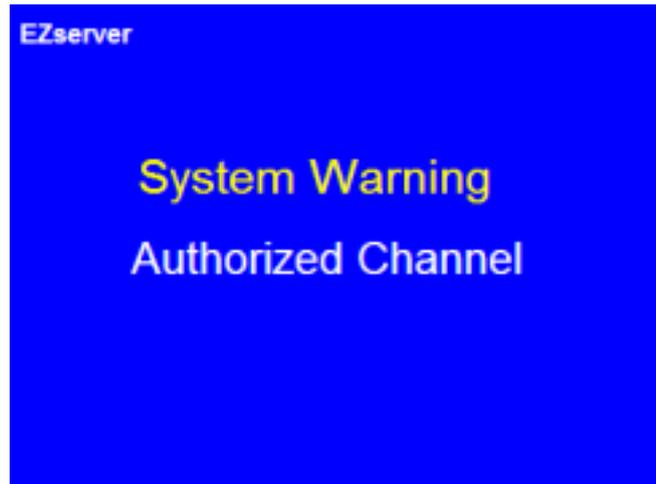


Unauthorized Channel Setting

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`



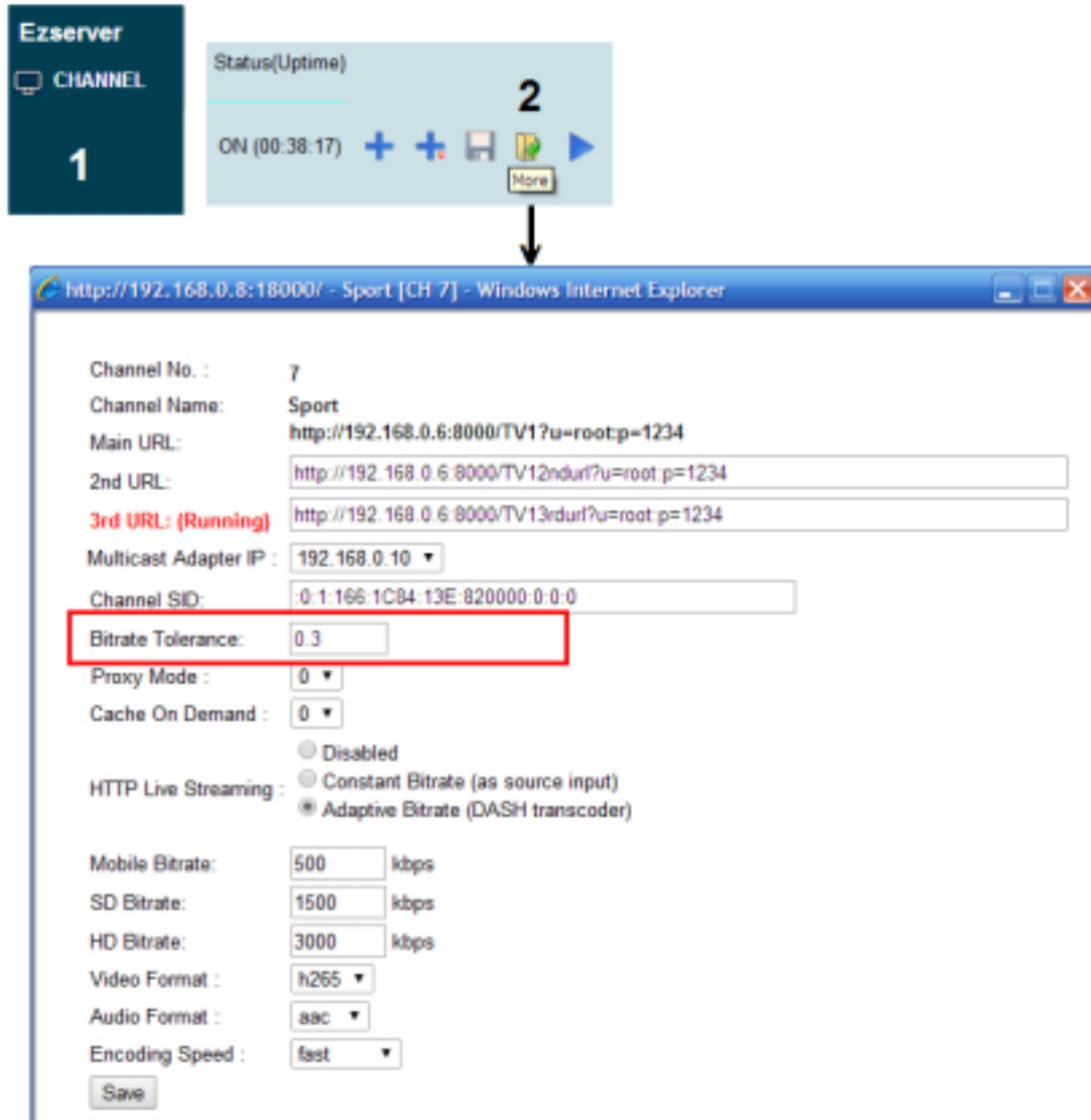
47. Administrator password change

Use Internet browser such as *Internet Explore, Chrome, Firefox* or *Safari* to enter System Management by the URL path : **http://Server_IP:18000/admin/index.htm**

Login Panel by user id "**root**" and password, then click **User Button** to change root password.

48. Video 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:



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)

49. Ezserver 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_prof 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_prof folder.
 - ◆ create **ezserver_backup_setting.tar**
- **restore_setting.sh**
 - ◆ This script is to restore the current setting into the new ezserver_prof folder.
 - ◆ restore setting from **ezserver_backup_setting.tar**

50. Linux Network Performance Increasing

You can use the below Linux commands to adjust Linux system and tcp buffer size to get the better network performance. This setting is also added by setup.sh

Ex 1. Set Linux System and TCP max buffer size to 12Mbytes (12582912)

```
# echo 'net.core.wmem_max=12582912' >> /etc/sysctl.conf
# echo 'net.core.rmem_max=12582912' >> /etc/sysctl.conf
# echo 'net.ipv4.tcp_rmem= 10240 87380 12582912' >> /etc/sysctl.conf
# echo 'net.ipv4.tcp_wmem= 10240 87380 12582912' >> /etc/sysctl.conf
# echo 'net.ipv4.tcp_window_scaling = 1' >> /etc/sysctl.conf
# echo 'net.ipv4.tcp_timestamps = 1' >> /etc/sysctl.conf
# echo 'net.ipv4.tcp_sack = 1' >> /etc/sysctl.conf
# echo 'net.ipv4.tcp_no_metrics_save = 1' >> /etc/sysctl.conf
# echo 'net.core.netdev_max_backlog = 5000' >> /etc/sysctl.conf
# echo 'net.ipv4.route.flush=1' >> /etc/sysctl.conf
# sysctl -p
```

Ex 2. Set Linux System and TCP max buffer size to 1,677Mbytes (1677721600)

```
# echo 'net.core.wmem_max= 1677721600' >> /etc/sysctl.conf
# echo 'net.core.rmem_max= 1677721600' >> /etc/sysctl.conf
# echo 'net.ipv4.tcp_rmem= 1024000 8738000 1677721600' >> /etc/sysctl.conf
# echo 'net.ipv4.tcp_wmem= 1024000 8738000 1677721600' >> /etc/sysctl.conf
# echo 'net.ipv4.tcp_window_scaling = 1' >> /etc/sysctl.conf
# echo 'net.ipv4.tcp_timestamps = 1' >> /etc/sysctl.conf
# echo 'net.ipv4.tcp_sack = 1' >> /etc/sysctl.conf
# echo 'net.ipv4.tcp_no_metrics_save = 1' >> /etc/sysctl.conf
# echo 'net.core.netdev_max_backlog = 5000' >> /etc/sysctl.conf
# echo 'net.ipv4.route.flush=1' >> /etc/sysctl.conf
# sysctl -p
```

51. Subscribers by User/Password and Top-up Card

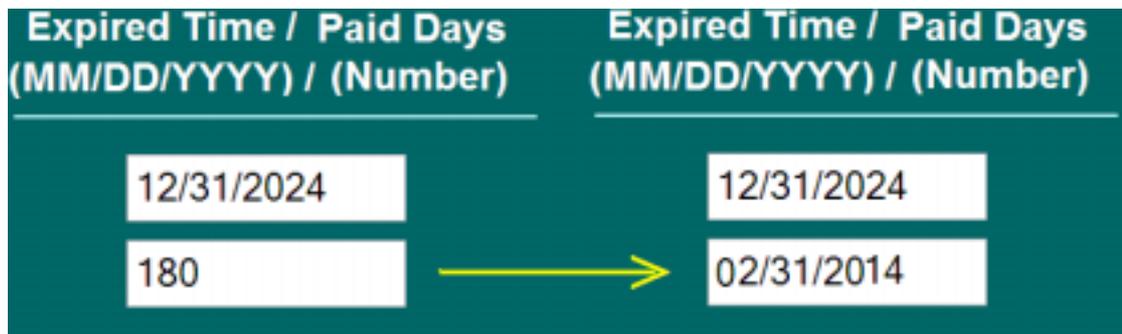
Each subscriber can be used by User/Password mode or Top-up Card mode.

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 / Paid Days	Date Format: MM/DD/YYYY . ex. 12/31/2014 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/ezserver_config.txt. For Top-up Card mode, Ezserver administrator needs to set **user_authorization=2**.

```
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
iptv_time_shift_record_duration=5
tv_on_demand_record_duration=60
bitrate_constant=0
system_log=0
user_authorization=1
ovp_player_register=0
videopath=media/videos
picturepath=media/pictures
runningtextpath=media/runningtext
```

52. 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*

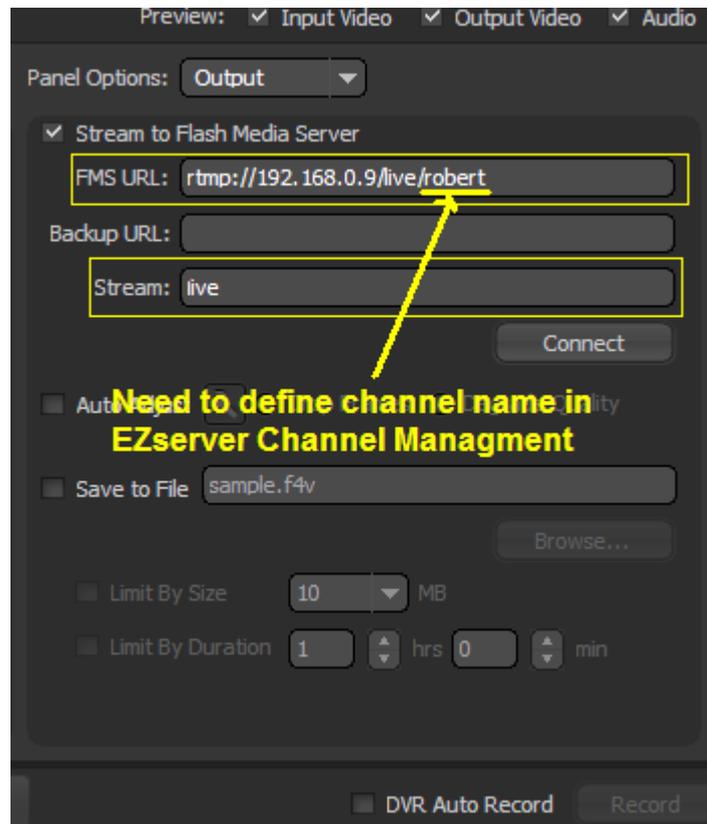
Channel	Channel Name	Media Source
1	robert	rtmpencoder
2	CTV	rtmp://213.205.104.131/f24_live/f24_live

- Set rtmp port to 1935 in Streaming Ports Panel

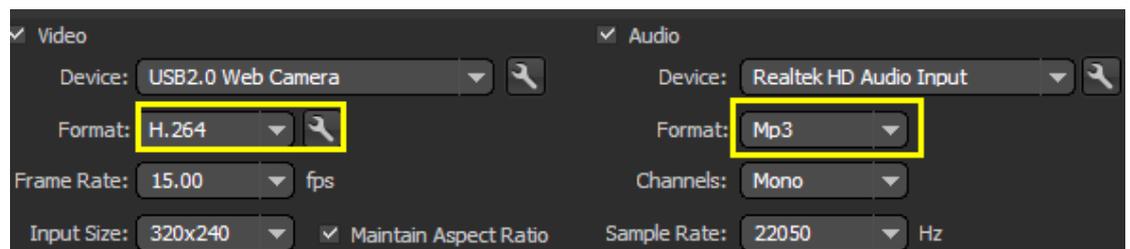
Ezserver	
 SETTING	
3. HTTP port:	<input type="text" value="8000"/> -- HTTP Streaming Port for players
4. RTMP port:	<input type="text" value="1935"/> -- RTMP Streaming Port for players
5. RTSP port:	<input type="text" value="5544"/> -- RTSP Streaming Port for players

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)



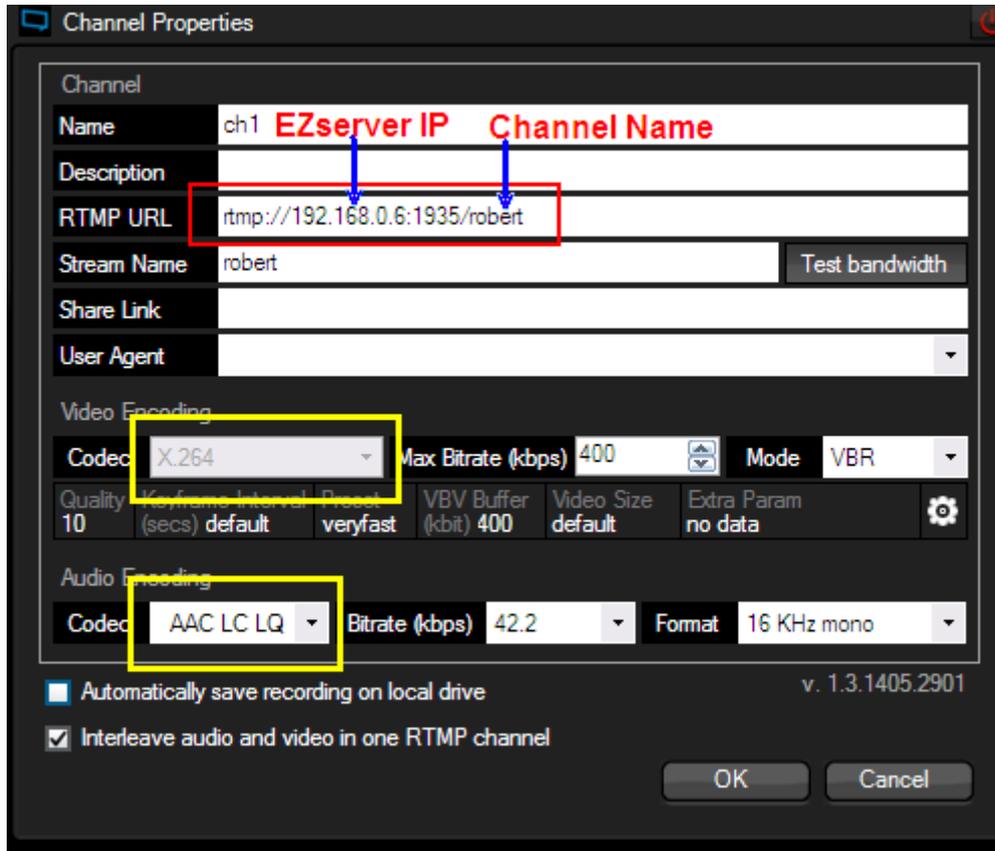
- Select Video Format : H.264 and Audio format : Mp3/AAC, Stereo



- 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

53. FFMPEG Encoder to Ezserver

Install ffmpeg first by `ffmepg.sh` and use `udp.sh` to send video into ezserver.

1. Install ffmpeg as below:

- Login your server by putty
- `cd /root/ezserver_prof`
- `chmod 777 ffmpeg.sh`
- `./ffmpeg.sh`

After above steps, ffmpeg is installed in `/ezserver_prof/transcoder` 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. Change the below http url to your source url in `udp.sh` as below:

- `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. Send transcoding stream into Ezserver as below:

- Login your server by putty
- `cd /root/ezserver_prof`
- `cd transcoder`
- `chmod 777 udp.sh`
- `./udp.sh`

5. 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 -list_devices true -f dshow -i dummy`
- Rtmp command syntax is below:
 - ◆ `ffmpeg -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 -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 **Medis 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 **Medis 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
```

54. Satellite Device to Ezserver

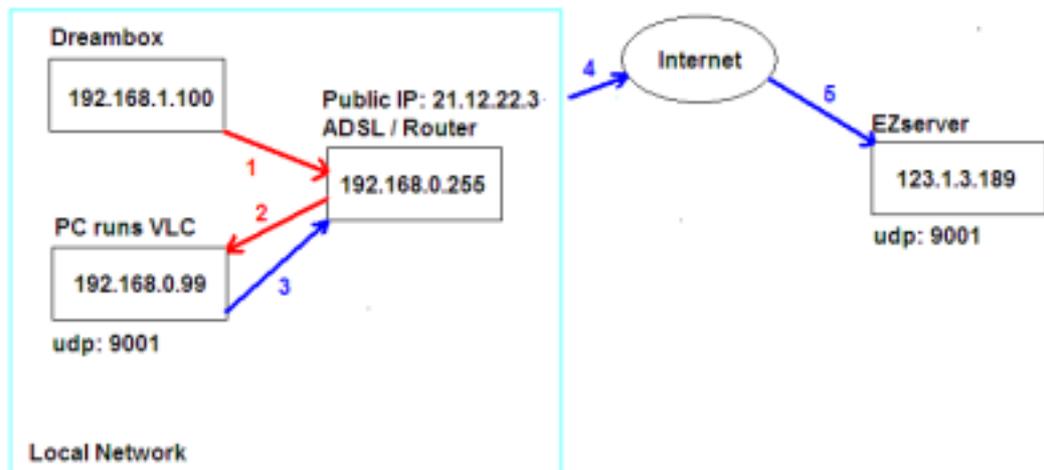
- **Dreambox HTTP input and UDP transport Stream Output**
 - Create a new channel with udp port in Meida Source in Channel Window.
 - The below example defines **Channel Name** : *robert* and **Medis Source** :
udp://9001

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}'
```

55. Multicast Encoder to Ezserver

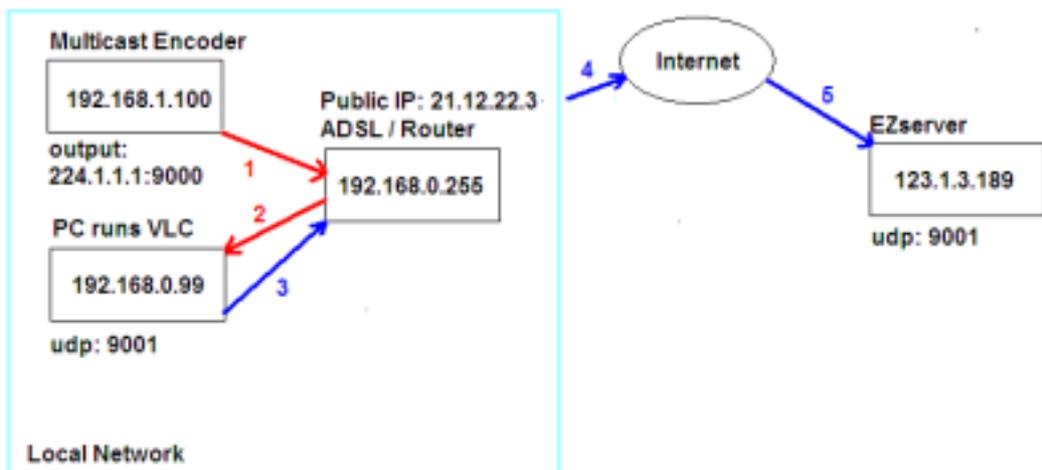
- **Multicast UDP input and UDP transport Stream Output**
 - Create a new channel with udp port in Meida Source in Channel Window.
 - The below example defines **Channel Name** : *robert* and **Medis Source** :
udp://9001

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}'
  
```

56. DNS Server IP Setting

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

- Open **ezt_dns.txt** to change the default DNS IP(168.95.192.1) to the DNS IP of your ISP.

57. System Log / Dump

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=xxx**" : 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**.

58. Auto start Ezserver in Linux

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_prof` folder to select “y” in auto start setting.

Option B: Run `./setup.sh` in `/root/ezserver_prof` 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_prof/checkmo.sh
```

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

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.

59. External Folder or Storage Server for Movies

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

- o mkdir /root/movie
- o upload your movie into /root/movie folder
- o cd /root/ezserver_prof
- o ln /root/media -s media/videos/
- o 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

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

Login server 192.168.0.10

- o cd /root/ezserver_prof
- o mount -t nfs 192.168.0.8:/root/movie media/videos/
- o login panel to set channel type to DVR

60. External Storage Server for DVR channels

For DVR Channels, Administrator can use Linux NFS to store live channel videos into external server.

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

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

Login server 192.168.0.10

- o cd /root/ezserver_prof
- o mount -t nfs 192.168.0.8:/root/dvr tv_program_archive/
- o login panel to set channel type to DVR

61. New installation with original setting

follow the below steps (Example for /root/ezserver prof.)

- rename **ezserver_prof** to **ezserver_prof_old**
- go to **ezserver_prof_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 installaton files
- input password
- **cp /root/ezserver_prof_old/ezserver_backup_setting.tar /root/ezserver_prof/**
- run **./restore_setting.sh** to restore setting from **ezserver_backup_setting.tar**
- run **./start.sh** to start ezserver

62. Backup / Restore Setting and Channel / Movie links

- 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**

63. 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**

64. 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_prof/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>
```

65. 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.

66. 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 multicast 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.

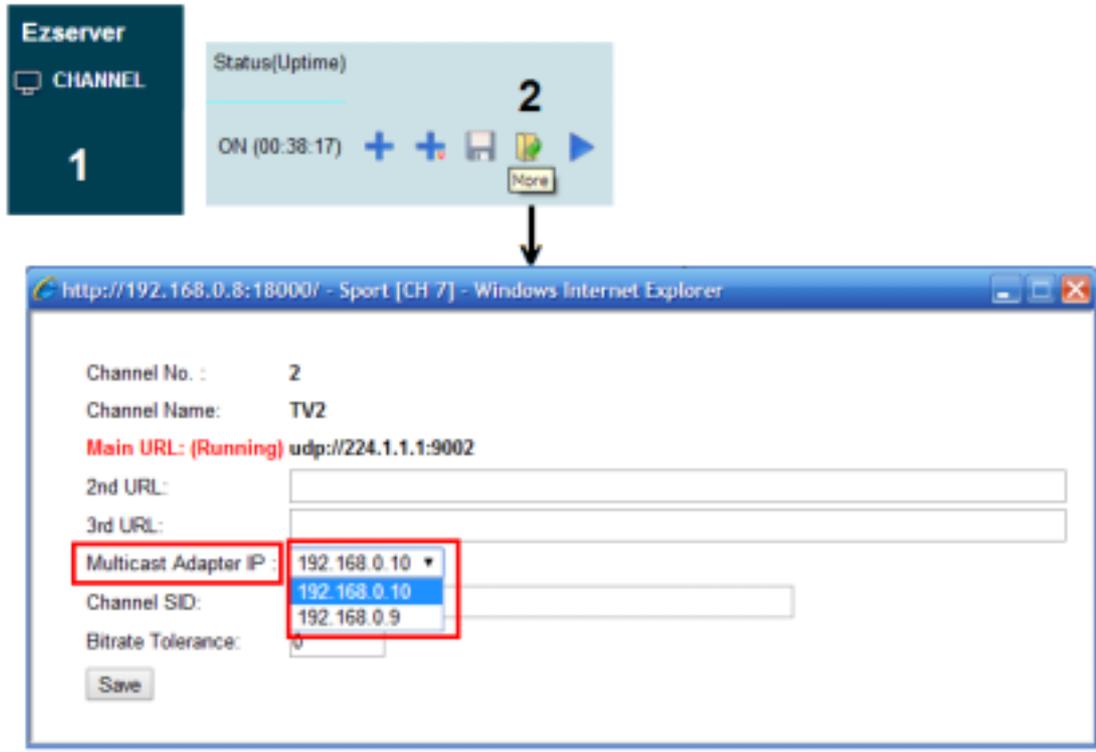
Channel	Channel Name	Media Source
1	Local EZserver CH1	http://robert:1234@189.1.99.4:9000/1.ch
2	Local EZserver CH2	http://robert:1234@189.1.99.4:9000/2.ch
3	Local EZserver CH3	http://robert:1234@189.1.99.4:9000/3.ch

- b. Interent Ezserver can provide 3 channels to players

67. Multicast Input from Multiple Network cards

When a server has 2 network cards, you can set the 2nd 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 2nd 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

68. Restream Videos from Reverse Proxy (Nginx)

Ezserver supports video streams from reverse proxy by **HTTP protocol** as Nginx, etc...,

There are two video types in configuration file for nginx, one is for MPEG Transport Stream, the other is for Adobe FLV Stream as below:

MP2T stream from Nginx:

```
http {
    include      mime.types;
    default_type video/mp2t;
    .
    .
    .
}
```

FLV from Nginx:

```
http {
    include      mime.types;
    default_type video/x-flv;
    .
    .
    .
}
```

then you can add **http url links** into Ezserver Channel Panel

69. 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

rtmp://master_ezserver/live/1.ch?u=userid:p=password

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

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

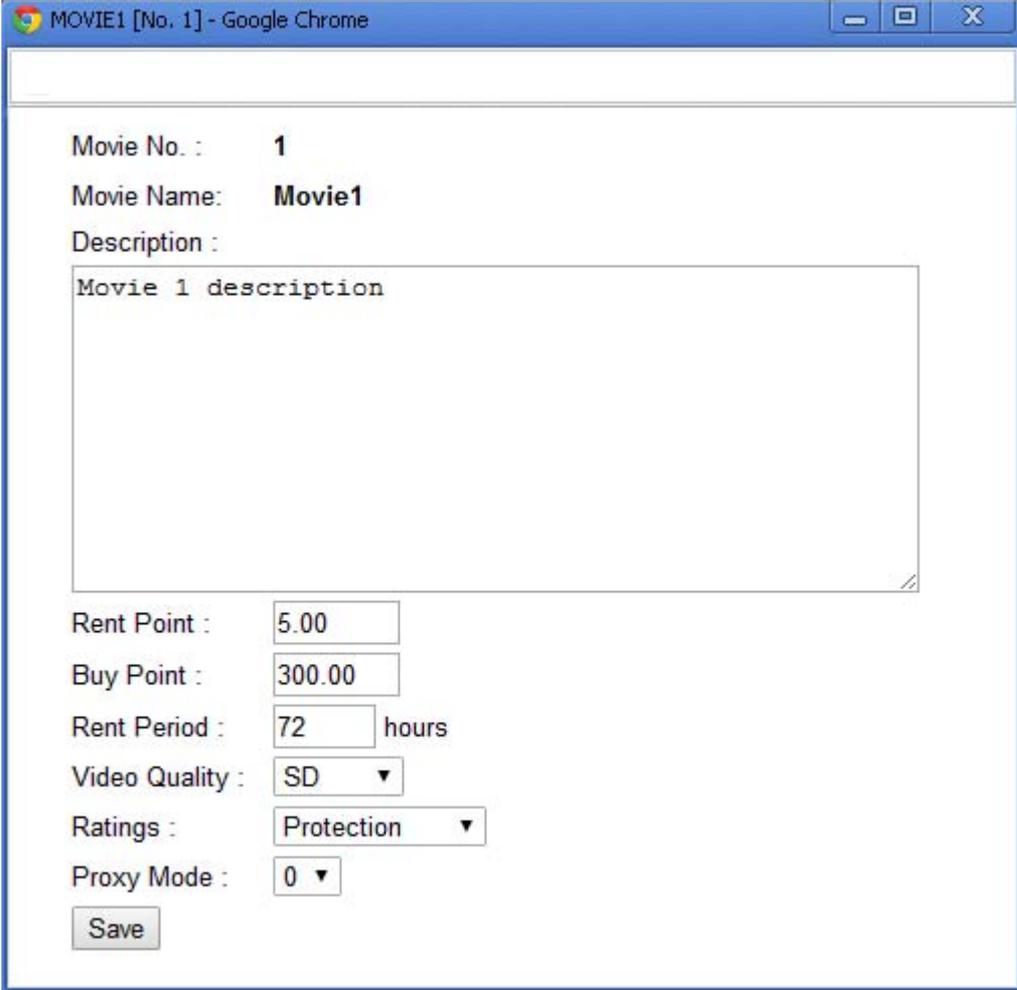
If 3rd ezserver wants get videos from 1st and 2nd ezserver, then its channel media sources as below:

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

70. Pay Per View

- **Set Movie Point**

Click the more button of Movie Panel to set **Rent Point**, **Buy Point**, **Rent Period**, and **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 : ▼
-

- **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 open, showing three options: 'pre', 'post', and 'free'. The 'pre' option is currently selected and highlighted in blue.

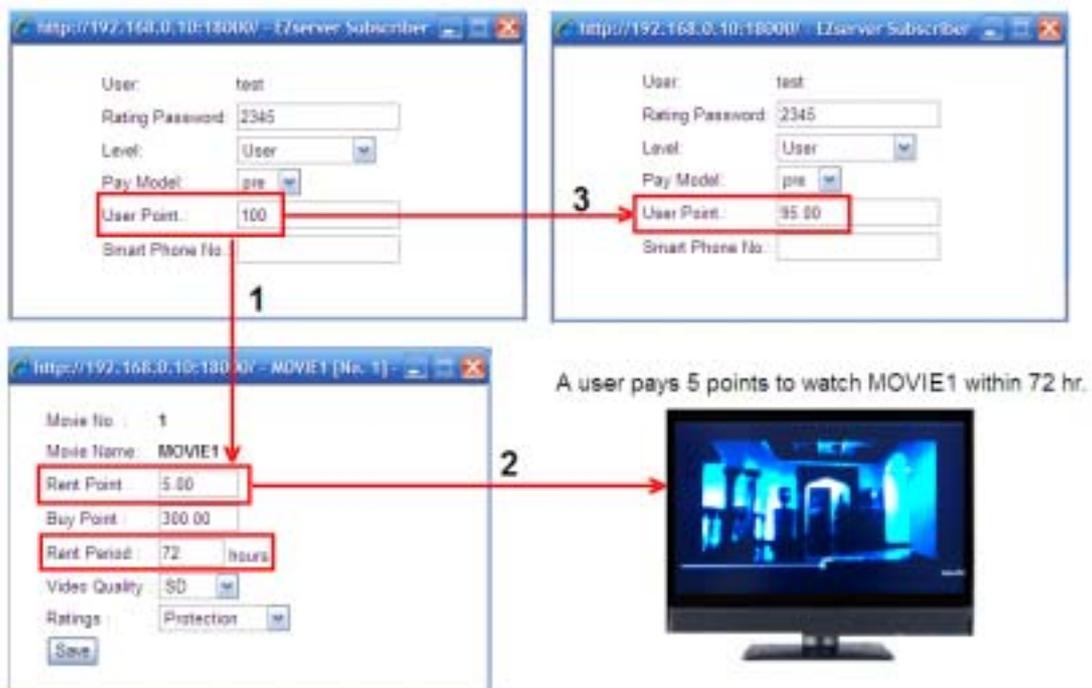
- **Set User Point**

- ◆ 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.

EZserver Subscriber - Google Chrome
about:blank

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

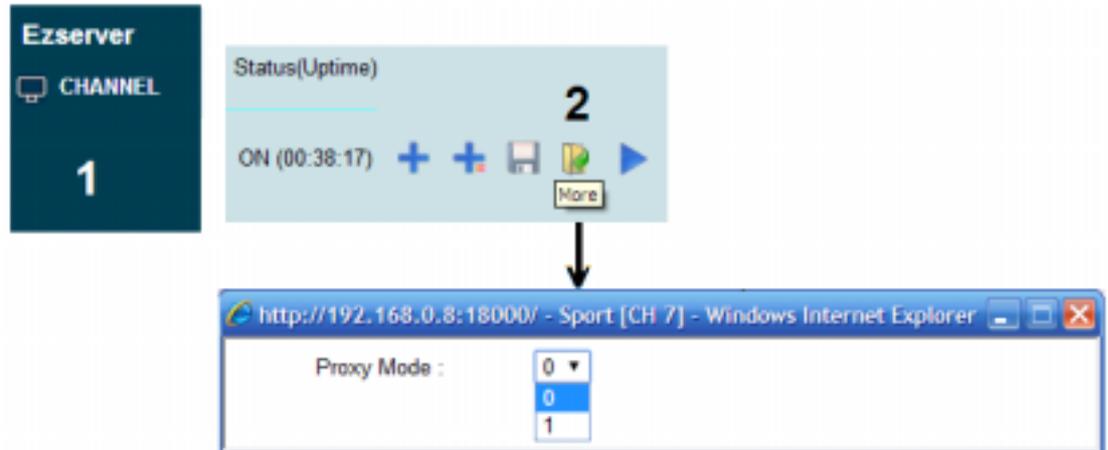
- **PPV Flow**



- **Ezserver PPV API**
 - ◆ createtokenbased64
 - ◆ destroytoken
 - ◆ check_user_ppv
 - ◆ charge_user_ppv
 - ◆ get_movie_ratings
 - ◆ check_user_ratings_password
 - ◆ PPV API Example is at
 - http://www.ezhometech.com/ezserver_api_examples.htm

71. Channel Proxy Mode

- Login Panel
- Click Channel Button
- Click More Button of a channel
- Set Channel Proxy mode to 1



- Click Save Button

72. IP Blocker

IP Blocker blocks IP to reject or allow to access video from Ezserver. Rejected IP and accepted IP is exclusive, so an administrator only selects one of them to do the 2nd-level protection of ezserver.

IP Blocker defines them in a xml file that is stored in ezserver_prof/security/security_definition.xml

1. Example for rejected IP

```
<rejected_ip>192.168.0.6</rejected_ip>
<rejected_ip>192.168.0.67</rejected_ip>
<rejected_ip>192.168.0.68</rejected_ip>
```

2. Example for accepted IP

```
<accepted_ip>192.168.0.6</accepted_ip>
<accepted_ip>192.168.0.7</accepted_ip>
<accepted_ip>192.168.0.8</accepted_ip>
```

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

73. 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, so an administrator only selects one of them to do the 2nd-level protection of ezserver.

Player Filter defines them in a xml file that is stored in ezserver_prof/security/security_definition.xml.

1. Example for rejected player

```
<rejected_player>VLC</rejected_player>
<rejected_player>NSPlayer</rejected_player>
<rejected_player>null</rejected_player>
```

2. Example for accepted player

```
<accepted_player>Mozilla</accepted_player>
<accepted_player>Safari</accepted_player>
<accepted_player>Chrome</accepted_player>
<accepted_player>AppleWebKit</accepted_player>
<accepted_player>MSIE</accepted_player>
<accepted_player>Windows-Media-Player</accepted_player>
<accepted_player>AppleCoreMedia</accepted_player>
<accepted_player>stagefright</accepted_player>
```

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

74. 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_prof/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.

75. MAC ID Blocker

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

MAC ID Blocker defines them in a xml file that is stored in ezserver_prof/security/mac_definition.xml.

1. Example

```
<?xml version="1.0" encoding="iso-8859-1" ?>
<accepted_macid>56bd73e7fe25</accepted_macid>
<accepted_macid>9AE4C6792C73</accepted_macid>
<accepted_macid>F6B820FB1D2A</accepted_macid>
<accepted_macid>004400001bdc</accepted_macid>
```

76. Adobe Flash Player

For IPTV channels, Ezserver can get Live Video from RTMP links and restream them by HTTP protocol to Adobe Flash Player.

For VOD, Ezserver supports FLV format by HTTP protocol for Adobe Flash Player, too.

- Copy the below codes into your web HTML page that is in ezserver folder and modify the **URL IP**.

A. for Microsoft IE

1. IPTV Channel by HTTP Protocol

```
<html>
<head>
<title>EZserver for RTMP to HTTP</title>
</head>
<body>
<object width="600" height="409">
<param name="allowFullScreen" value="true"></param>
<param name="allowscriptaccess" value="always"></param>
<embed src="/flash_player10_1/StrobeMediaPlayback.swf" type="application/x-shockwave-flash"
allowscriptaccess="always" allowfullscreen="true" width="600" height="409"
flashvars="src=http://172.16.10.50:8000/ch1.flv?u=test:p=1234"></embed>
</object>
</body>
</html>
```

* The channel syntax is [chx.flv](#), for example, ch1.flv for Channel 1, ch2.flv for Channel 2, etc...

2. Video on Demand by HTTP Protocol

```
<html>
<head>
<title>EZserver for FLV VOD</title>
</head>
<body>
<object width="600" height="409">
<param name="allowFullScreen" value="true"></param>
<param name="allowscriptaccess" value="always"></param>
<embed src="/flash_player10_1/StrobeMediaPlayback.swf" type="application/x-shockwave-flash"
allowscriptaccess="always" allowfullscreen="true" width="600" height="409"
flashvars="src=http://172.16.10.50:8000/media/videos/1.flv?u=test:p=1234"></embed>
```

```
</object>
</body>
</html>
```

B. for Mozilla Firefox, Google Chrome

1. IPTV Channel by HTTP Protocol

```
<html>
<head>
<title>EZserver for RTMP to HTTP</title>
</head>
<body>
<embed width="600" height="409">
<param name="allowFullScreen" value="true"></param>
<param name="allowscriptaccess" value="always"></param>
<embed src="/flash_player10_1/StrobeMediaPlayback.swf" type="application/x-shockwave-flash"
allowscriptaccess="always" allowfullscreen="true" width="600" height="409"
flashvars="src=http://172.16.10.50:8000/ch1.flv?u=test:p=1234"></embed>
</embed>
</body>
</html>
```

2. Video on Demand by HTTP Protocol

```
<html>
<head>
<title>EZserver for FLV VOD</title>
</head>
<body>
<embed width="600" height="409">
<param name="allowFullScreen" value="true"></param>
<param name="allowscriptaccess" value="always"></param>
<embed src="/flash_player10_1/StrobeMediaPlayback.swf" type="application/x-shockwave-flash"
allowscriptaccess="always" allowfullscreen="true" width="600" height="409"
flashvars="src=http://172.16.10.50:8000/media/videos/1.flv?u=test:p=1234"></embed>
</embed>
</body>
</html>
```

77. HTML5 Browser for Video Player

Use HTML5 video tag to connect Ezserver for video streaming as below:

Video on Demand:

```
<html>
<head>
<title>EZhometech Ezserver</title>
</head>
<body>
<video width="720" height="480"
src="http://172.16.10.50:8000/media/videos/Movie/mp4/1.mp4?u=test:p=1234"
controls autoplay>
</body>
```

IPTV Channel:

```
<html>
<head>
<title>EZhometech Ezserver</title>
</head>
<body>
<video width="720" height="480"
src="http://172.16.10.50:8000/ch1.m3u8?u=test:p=1234" controls autoplay>
</body>
```

78. Web Plug-in Microsoft Media Player

- Install MPEG2/H264 TS codec (download *K-Lite Codec Pack* from internet)
- Copy the below codes into your web HTML page that is in ezserver folder and modify the **URL IP**.

1. IPTV Channel by HTTP Protocol

```
<head>
<title>EZhometech Ezserver</title>
</head>
<body>
<OBJECT id="VIDEO" width="320" height="240"
style="position:absolute; left:0;top:0;"
CLASSID="CLSID:6BF52A52-394A-11d3-B153-00C04F79FAA6"
type="application/x-oleobject">
<PARAM NAME="URL" VALUE="http://172.16.10.50:8000/1.ch?u=test:p=1234">
<PARAM NAME="SendPlayStateChangeEvents" VALUE="True">
<PARAM NAME="AutoStart" VALUE="True">
</OBJECT>
</body>
```

2. Video on Demand by HTTP Protocol

```
<head>
<title>EZhometech Ezserver</title>
</head>
<body>
<OBJECT id="VIDEO" width="320" height="240"
style="position:absolute; left:0;top:0;"
CLASSID="CLSID:6BF52A52-394A-11d3-B153-00C04F79FAA6"
type="application/x-oleobject">
<PARAM NAME="URL"
VALUE="http://172.16.10.50:8000/media/videos/Movie/1.ts?u=test:p=1234">
<PARAM NAME="SendPlayStateChangeEvents" VALUE="True">
<PARAM NAME="AutoStart" VALUE="True">
</OBJECT>
</body>
```

79. Web Plug-in VLC Player

- Copy the below codes into your web HTML page that is in ezserver folder and modify the **URL IP**.

A. for Microsoft IE

1. IPTV Channel by **HTTP** Protocol

```
<html>
<head>
<title>Ezserver</title>
</head>
  <body>
    <object type="application/x-vlc-plugin" pluginspage="http://www.videolan.org"
version="VideoLAN.VLCPlugin.2" id="vlc" events="True"
classid="clsid:9BE31822-FDAD-461B-AD51-BE1D1C159921" width="504" height="442" >
      <param name="AutoLoop" value="0">
      <param name="AutoPlay" value="1">
      <param name="Toolbar" value="1">
      <param name="ExtentWidth" value="13335">
      <param name="ExtentHeight" value="11695">
      <param name="MRL" value="http://172.16.10.50:8000/1.ch?u=test:p=1234">
      <param name="Visible" value="-1">
      <param name="Volume" value="50">
      <param name="StartTime" value="0">
      <param name="BackColor" value="0">
      <param name="FullscreenEnabled" value="-1">
    </object>
  </body>
</html>
```

2. Video on Demand by **HTTP** Protocol

```
<html>
<head>
<title>Ezserver</title>
</head>
  <body>
    <object type="application/x-vlc-plugin" pluginspage="http://www.videolan.org"
version="VideoLAN.VLCPlugin.2" id="vlc" events="True"
classid="clsid:9BE31822-FDAD-461B-AD51-BE1D1C159921" width="504" height="442" >
      <param name="AutoLoop" value="0">
```

```
<param name="AutoPlay" value="1">
<param name="Toolbar" value="1">
<param name="ExtentWidth" value="13335">
<param name="ExtentHeight" value="11695">
<param name="MRL" value="http://172.16.10.50:8000/media/videos/Movie/1.ts?u=test:p=1234">
<param name="Visible" value="-1">
<param name="Volume" value="50">
<param name="StartTime" value="0">
<param name="BackColor" value="0">
<param name="FullscreenEnabled" value="-1">
</object>
```

```
</body>
```

```
</html>
```

3. IPTV Channel by RTSP Protocol

```
<html>
```

```
<head>
```

```
<title>Ezserver</title>
```

```
</head>
```

```
  <body>
```

```
    <object type="application/x-vlc-plugin" pluginspage="http://www.videolan.org"
```

```
version="VideoLAN.VLCPlugin.2" id="vlc" events="True"
```

```
classid="clsid:9BE31822-FDAD-461B-AD51-BE1D1C159921" width="504" height="442" >
```

```
  <param name="AutoLoop" value="0">
```

```
  <param name="AutoPlay" value="1">
```

```
  <param name="Toolbar" value="1">
```

```
  <param name="ExtentWidth" value="13335">
```

```
  <param name="ExtentHeight" value="11695">
```

```
  <param name="MRL" value="rtsp://172.16.10.50:5544/1.ch?u=test:p=1234">
```

```
  <param name="Visible" value="-1">
```

```
  <param name="Volume" value="50">
```

```
  <param name="StartTime" value="0">
```

```
  <param name="BackColor" value="0">
```

```
  <param name="FullscreenEnabled" value="-1">
```

```
</object>
```

```
</body>
```

```
</html>
```

4. Video on Demand by RTSP Protocol

```
<html>
```

```
<head>
<title>Ezserver</title>
</head>
  <body>
    <object type="application/x-vlc-plugin" pluginspage="http://www.videolan.org"
version="VideoLAN.VLCPlugin.2" id="vlc" events="True"
classid="clsid:9BE31822-FDAD-461B-AD51-BE1D1C159921" width="504" height="442" >
      <param name="AutoLoop" value="0">
      <param name="AutoPlay" value="1">
      <param name="Toolbar" value="1">
      <param name="ExtentWidth" value="13335">
      <param name="ExtentHeight" value="11695">
      <param name="MRL" value="rtsp://172.16.10.50:5544/media/videos/Movie/1.ts?u=test;p=1234">
      <param name="Visible" value="-1">
      <param name="Volume" value="50">
      <param name="StartTime" value="0">
      <param name="BackColor" value="0">
      <param name="FullscreenEnabled" value="-1">
    </object>
  </body>
</html>
```

B. for Mozilla Firefox, Google Chrome

1. IPTV Channel by HTTP Protocol

```
<head>
<title>EZhometech Ezserver</title>
</head>
<body>
<embed type="application/x-vlc-plugin" name="player" autoplay="no" loop="no"
target="http://172.16.10.50:8000/1.ch?u=test;p=1234">
</body>
```

2. Video on Demand by HTTP Protocol

```
<head>
<title>EZhometech Ezserver</title>
</head>
<body>
<embed type="application/x-vlc-plugin" name="player" autoplay="no" loop="no" target="http://
```

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

```
</body>
```

3. IPTV Channel by RTSP Protocol

```
<head>
```

```
<title>EZhometech Ezserver</title>
```

```
</head>
```

```
<body>
```

```
<embed type="application/x-vlc-plugin" name="player" autoplay="no" loop="no" target="rtsp://
```

```
172.16.10.50.3:5544/1.ch?u=test:p=1234">
```

```
</body>
```

4. Video on Demand by RTSP Protocol

```
<head>
```

```
<title>EZhometech Ezserver</title>
```

```
</head>
```

```
<body>
```

```
<embed type="application/x-vlc-plugin" name="player" autoplay="no" loop="no" target="rtsp://
```

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

```
</body>
```