



Ezhometech Unicast Tutorial

Ezserver and Ezserver Unicast Player

Revision: 11/15/2021



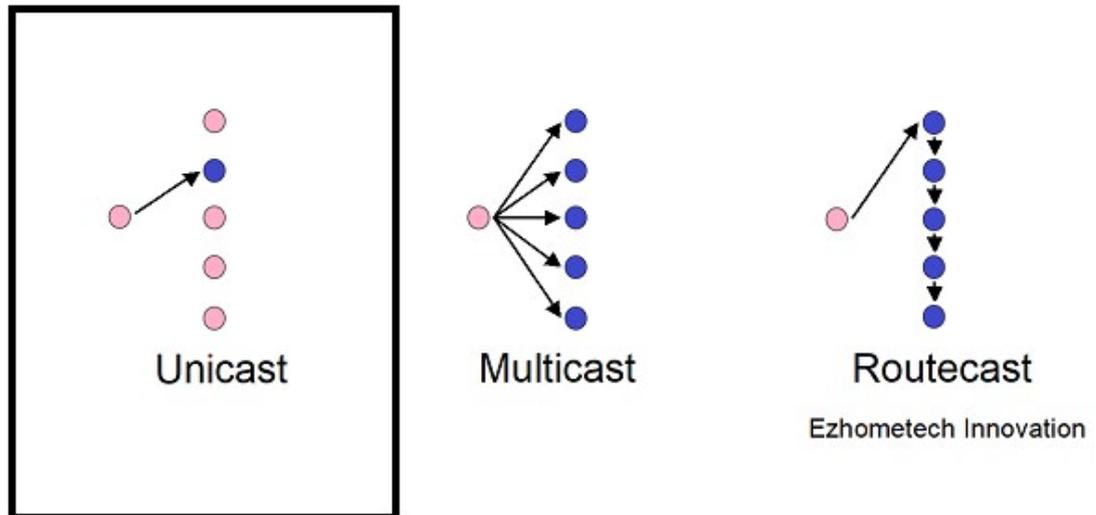
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1 Overview of Ezhometech Unicast

Ezhometech Unicast solution lets **Ezserver** support Ezserver Unicast players to play channels from Ezserver via Internet

1. **Ezserver:** Act Unicast video server
2. **Ezserver Unicast Players:** An OTT Player.



1.1 Related Information

Ezserver Forum:

<https://ezserver.createaforum.com/>

Ezserver Server API website

http://www.ezhometech.com/html/server_api.html

Ezserver Client API website:

http://www.ezhometech.com/html/client_api.html

Ezserver User Guide website:

http://www.ezhometech.com/html/ezserver_user_guide.html

Ezserver Player User Guide:

http://www.ezhometech.com/html/ezserver_user_guide_player.html

2 Ezserver

Ezserver includes OTT / IPTV panel, and Streaming server for Unicast channel video streaming, it also provides API. for 3rd party software integration.

API has 2 types that are for cloud or app software developers.

1. **EZ Server API** provides API for Cloud applications
2. **EZ Client API** provides API for App in mobile, STB and PC.

OTT / IPTV panel:

- **User management:** create, modify and delete users.
- **Channel management:** create, modify and delete channels.
- **Movies management:** create, modify and delete movies.
- **Series management:** create, modify and delete series.
- **Reseller panel:** create, modify and delete his users.

Streaming server:

- **Video format:** H264 and H265.
- **Audio format:** AAC, MP3.

Hardware Requirement:

- **Min. Requirement:** Dual-Core, 8GB RAM, 1GB Network card.
- **More at** http://www.ezhometech.com/html/ezserver_user_guide.html#Hardware%20requirement

Software Requirement:

- **Linux:** Ubuntu 20.04(Recommended), Debian, Centos
- **Windows:** 64-bits

3 Ezserver Panel Setting

Unicast Setting:

- **Disable Routecast option**

1. Routecast:

2. Routecast Cmd Port :

3. Routecast Data Port :

Add users:

- **Add annie user with max connection value 1.**

User No. :

User Name :

Password :

Rating Password :

Group :

Level:

Expired Time : *

IP :

MAC ID :

Max. Connections:

4 Ezserver Unicast Player

Ezserver Unicast Player is an OTT Player that plays channels, movies and series from Ezserver via Internet.

Features:

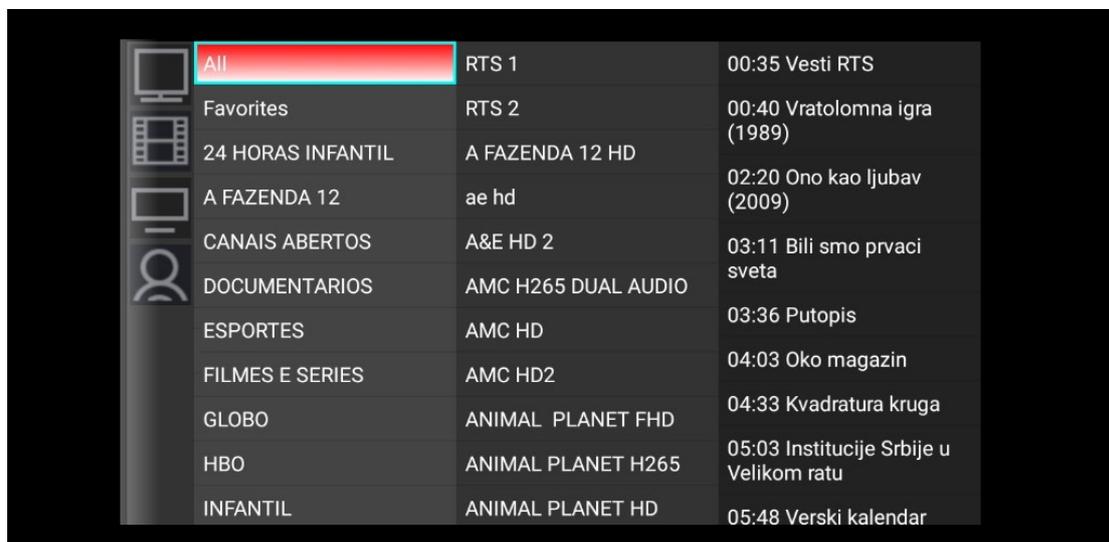
- **TV, Movie and Series**
- **EPG and Catch up TV**
- **Parent Control of adult content**
- **MAC ID Protection**
- **Channel Video Format: MPEG2/H264 Transport Stream**
- **Channel Audio Format: MP3/AAC, ADTS Stream**
- **Movie Format: MP4, MKV**

Hardware Requirement:

- **Min. Requirement:** Above 1.0GHz, 1GB RAM, 802.11 a/b/g/n.

Software Requirement:

- **Android 5.0+**



5 EPG and Catup up TV

Panel Setting:

- Source from XMLTV: Input XMLTV http link in item#15

Ezserver

Save

Setting

EPG Setting:

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

15. XMLTV EPG URL: (per day)

- ✧ Note: XMLTV More information in TvProfil XMLTV service:
<http://tvprofil.net/xmltv/>

- Source from Embedded MPEG TS stream: set "1" in item#14

Ezserver

Save

Setting

EPG Setting:

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

15. XMLTV EPG URL: (per day)

- Click Panel EPG button to check Channel EPG available as below:

AI v4.1(08/27/18)

Network interface: eth0
Mac address: 001D090FD6D4

Add Refresh

No.	Start Time YYYY/MM/DD hh:mm:ss	Stop Time YYYY/MM/DD hh:mm:ss	Program Title
1	2018/05/14 00:55:00	2018/05/14 01:55:00	Trezor
2	2018/05/14 01:55:00	2018/05/14 02:40:00	TV lica... Kao sav normalz
3	2018/05/14 02:40:00	2018/05/14 03:15:00	Srpski sanitet u Velikom r
4	2018/05/14 03:15:00	2018/05/14 03:40:00	Srbi u Australiji
5	2018/05/14 03:40:00	2018/05/14 04:05:00	Šest lica tanga

Channel No.: 2 2018 05 Query

EPG

Player Setting

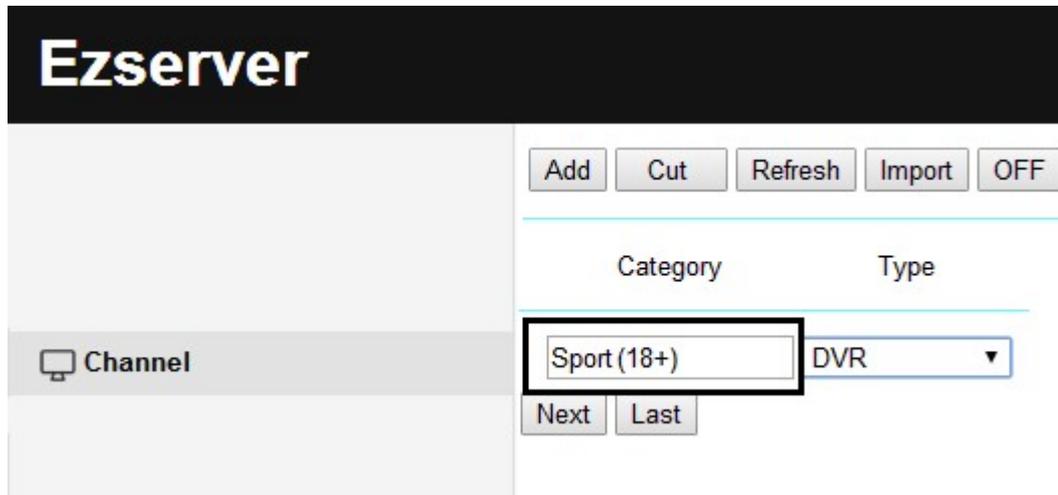
- Click Channel to show the below EPG list of the channel and [*] option of one program name is for Catch up TV that was recorded by its EPG time

Meteo Media HD	[*] 06:00 Prévisions météorologiques
A N	[*] 06:00 Prévisions météorologiques
Cpac	[*] 07:00 Prévisions météorologiques
LCN	[*] 08:00 Prévisions météorologiques
RDI	[*] 09:00 Prévisions météorologiques
TV5	[*] 10:00 Prévisions météorologiques
SMTP1	[*] 11:00 Prévisions météorologiques
ICI Artv	[*] 12:00 Prévisions météorologiques
Unis TV	[*] 13:00 Prévisions météorologiques
Tele Quebec	[*] 14:00 Prévisions météorologiques

6 Parent Control

Panel Setting:

- Add “18+” keyword into channel and movie categories of IPTV Panel

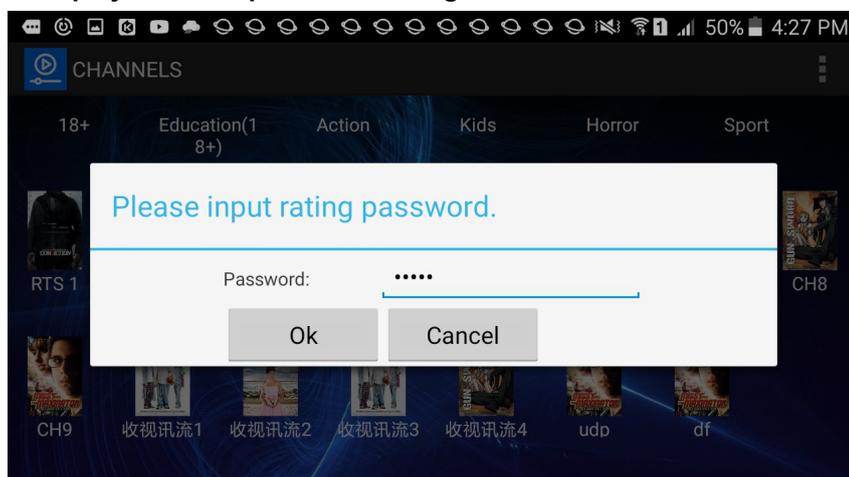


- Input rating password in user more profile as below:

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

Player Side

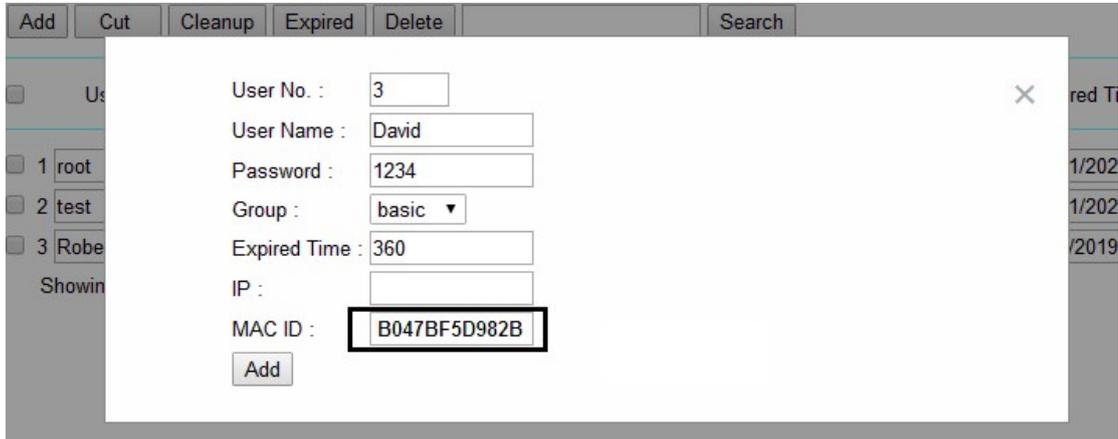
- When one player starts to play the channels or movies of the category, the player shows password dialog as below:



7 MAC ID Protection

Panel Setting:

- Administrator can add new user withj MAC ID.

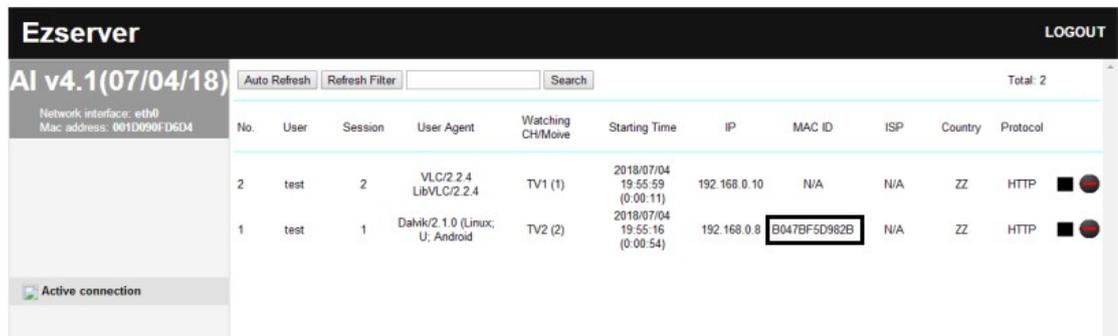


The screenshot shows a web interface with a modal window for adding a new user. The modal contains the following fields:

- User No. : 3
- User Name : David
- Password : 1234
- Group : basic
- Expired Time : 360
- IP :
- MAC ID : B047BF5D982B (highlighted with a red box)

An "Add" button is located at the bottom of the modal.

- When the player connects EZserver, EZserver will check its MAC Address for the legal connection. If the player has correct MAC Address with its user name, EZserver will show its connection in Player panel with its MAC Address



The screenshot shows the Ezserver dashboard with the following information:

- Network interface: eth0
- Mac address: 901D090FD6D4
- AI v4.1(07/04/18)
- Auto Refresh, Refresh Filter, Search, Total: 2

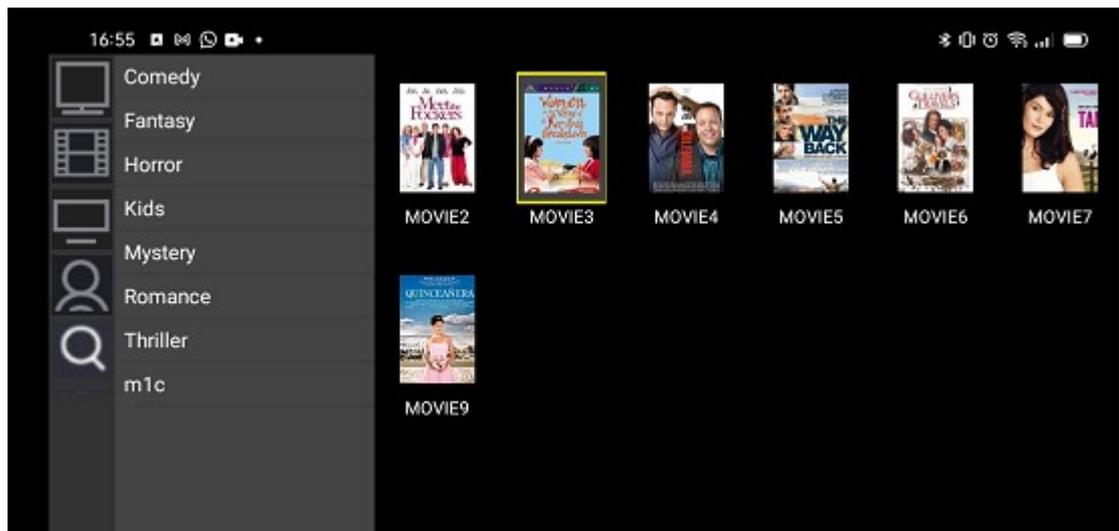
No.	User	Session	User Agent	Watching CH/Move	Starting Time	IP	MAC ID	ISP	Country	Protocol
2	test	2	VLC/2.2.4 LibVLC/2.2.4	TV1 (1)	2018/07/04 19:55:59 (0:00:11)	192.168.0.10	N/A	N/A	ZZ	HTTP
1	test	1	Dahiki/2.1.0 (Linux; U; Android	TV2 (2)	2018/07/04 19:55:16 (0:00:54)	192.168.0.8	B047BF5D982B	N/A	ZZ	HTTP

Active connection

8 Movies and Series

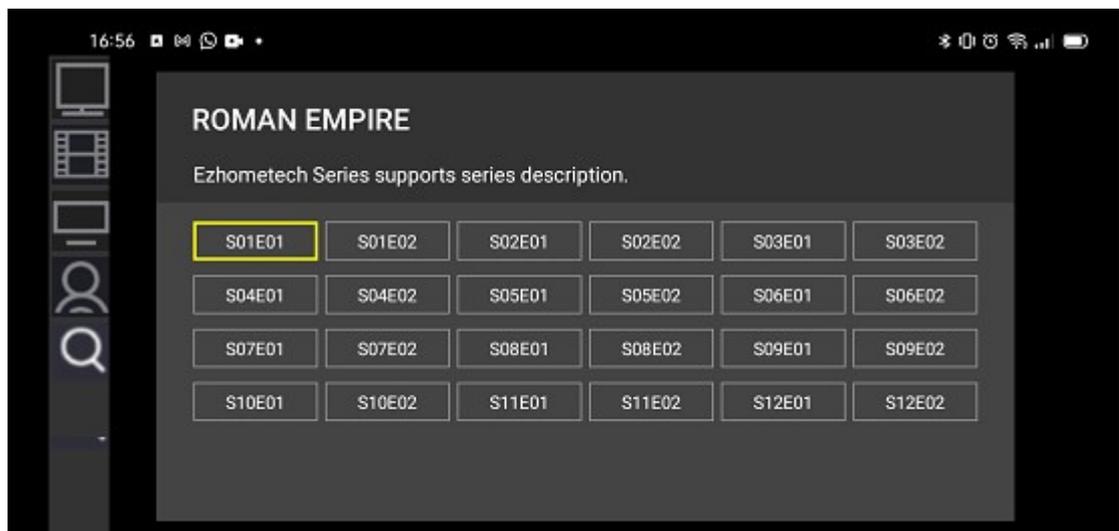
Movies:

- Select  in main menu to get all movies with categories as below:



Series:

- Select  in main menu to get all series with categories as below:





Ezhometech Multicast Tutorial

Ezserver and Ezserver Multicast Player

Revision: 11/15/2021



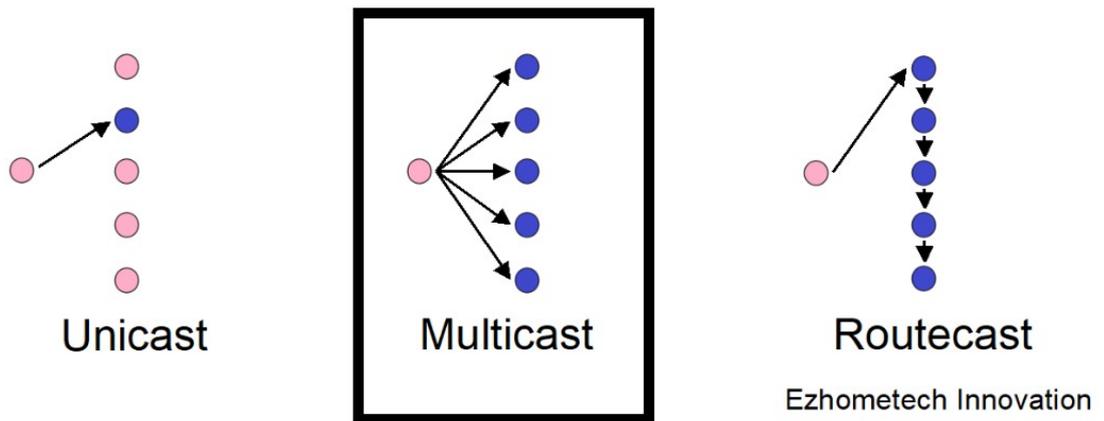
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1 Overview of Ezhometech Multicast

Ezhometech Multicast solution lets **Ezserver** support Ezserver Multicast players to play channels from Ezserver via UDP Protocol

1. **Ezserver:** Act Multicast video server
2. **Ezserver Multicast Players:** An IPTV Player.



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Ezserver Client API website:

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Ezserver User Guide website:

http://www.ezhometech.com/html/ezserver_user_guide.html

Ezserver Player User Guide:

http://www.ezhometech.com/html/ezserver_user_guide_player.html

2 Ezserver

Ezserver includes OTT / IPTV panel, and Streaming server for Multicast channel video streaming, it also provides API. for 3rd party software integration.

API has 2 types that are for cloud or app software developers.

1. **EZ Server API** provides API for Cloud applications
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OTT / IPTV panel:

- **User management:** create, modify and delete users.
- **Channel management:** create, modify and delete channels.
- **Movies management:** create, modify and delete movies.
- **Series management:** create, modify and delete series.
- **Reseller panel:** create, modify and delete his users.

Streaming server:

- **Video format:** H264 and H265.
- **Audio format:** AAC, MP3.

Hardware Requirement:

- **Min. Requirement:** Dual-Core, 8GB RAM, 1GB Network card.
- **More at** http://www.ezhometech.com/html/ezserver_user_guide.html#Hardware%20requirement

Software Requirement:

- **Linux:** Ubuntu 20.04(Recommended), Debian, Centos
- **Windows:** 64-bits

3 Ezserver Panel Setting

Multicast Setting:

- **Disable Routecast option**

Save

1. Routecast:

2. Routecast Cmd Port :

3. Routecast Data Port :

- **Set Multicast output IP and Port**

Ezserver

⚙️ Setting

Save

Multicasting Streaming Setting:

6. Multicast IP :

7. Multicast port:

Add users:

- **Add annie user with max connection value 1.**

User No. :

User Name :

Password :

Rating Password :

Group :

Level:

Expired Time : *

IP :

MAC ID :

Max. Connections:

Add

4 Ezserver Multicast Player

Ezserver Multicast Player is an OTT Player that plays channels, movies and series from Ezserver via Internet.

Features:

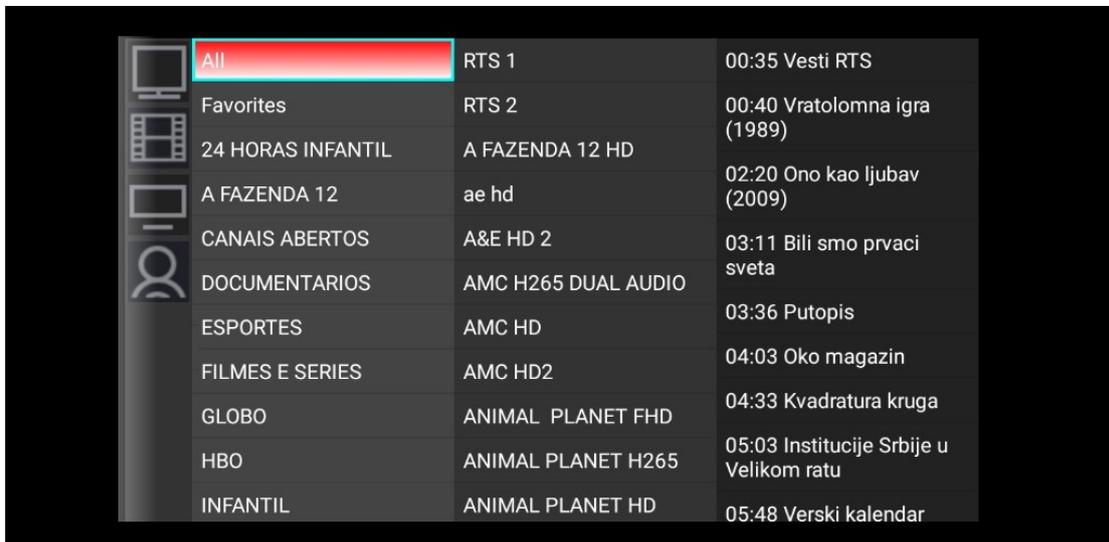
- **Save Server Bandwidth**
- **TV, Movie and Series**
- **EPG and Catch up TV**
- **Parent Control of adult content**
- **MAC ID Protection**
- **Channel Video Format: MPEG2/H264 Transport Stream**
- **Channel Audio Format: MP3/AAC, ADTS Stream**
- **Movie Format: MP4, MKV**

Hardware Requirement:

- **Min. Requirement:** Above 1.0GHz, 1GB RAM, 802.11 a/b/g/n.

Software Requirement:

- **Android 5.0+**



All	RTS 1	00:35 Vesti RTS
Favorites	RTS 2	00:40 Vratolomna igra (1989)
24 HORAS INFANTIL	A FAZENDA 12 HD	02:20 Ono kao ljubav (2009)
A FAZENDA 12	ae hd	03:11 Bili smo prvaci sveta
CANAIS ABERTOS	A&E HD 2	03:36 Putopis
DOCUMENTARIOS	AMC H265 DUAL AUDIO	04:03 Oko magazin
ESPORTES	AMC HD	04:33 Kvadratura kruga
FILMES E SERIES	AMC HD2	05:03 Institucije Srbije u Velikom ratu
GLOBO	ANIMAL PLANET FHD	05:48 Verski kalendar
HBO	ANIMAL PLANET H265	
INFANTIL	ANIMAL PLANET HD	

5 EPG and Catup up TV

Panel Setting:

- Source from XMLTV: Input XMLTV http link in item#15

Ezserver

Save

Setting

EPG Setting:

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

15. XMLTV EPG URL: (per day)

- ✧ Note: XMLTV More information in TvProfil XMLTV service:
<http://tvprofil.net/xmltv/>

- Source from Embedded MPEG TS stream: set "1" in item#14

Ezserver

Save

Setting

EPG Setting:

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

15. XMLTV EPG URL: (per day)

- Click Panel EPG button to check Channel EPG available as below:

AI v4.1(08/27/18)

Add Refresh

Channel No.: 2018 05 Query

No.	Start Time YYYY/MM/DD hh:mm:ss	Stop Time YYYY/MM/DD hh:mm:ss	Program Title	Program
1	2018/05/14 00:55:00	2018/05/14 01:55:00	Trezor	02
2	2018/05/14 01:55:00	2018/05/14 02:40:00	TV lica... Kao sav normal	03
3	2018/05/14 02:40:00	2018/05/14 03:15:00	Srpski sanitet u Velikom r	04
4	2018/05/14 03:15:00	2018/05/14 03:40:00	Srbi u Australiji	05
5	2018/05/14 03:40:00	2018/05/14 04:05:00	Šest lica tanga	06

Player Setting

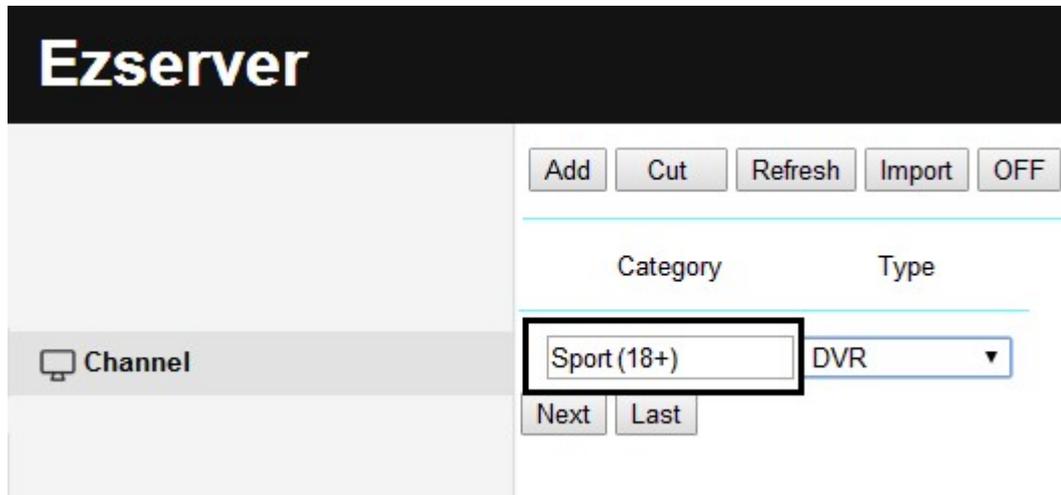
- Click Channel to show the below EPG list of the channel and [*] option of one program name is for Catch up TV that was recorded by its EPG time

Meteo Media HD	[*] 06:00 Prévisions météorologiques
A N	[*] 06:00 Prévisions météorologiques
Cpac	[*] 07:00 Prévisions météorologiques
LCN	[*] 08:00 Prévisions météorologiques
RDI	[*] 09:00 Prévisions météorologiques
TV5	[*] 10:00 Prévisions météorologiques
SMTP1	[*] 11:00 Prévisions météorologiques
ICI Artv	[*] 12:00 Prévisions météorologiques
Unis TV	[*] 13:00 Prévisions météorologiques
Tele Quebec	[*] 14:00 Prévisions météorologiques

6 Parent Control

Panel Setting:

- Add “18+” keyword into channel and movie categories of IPTV Panel

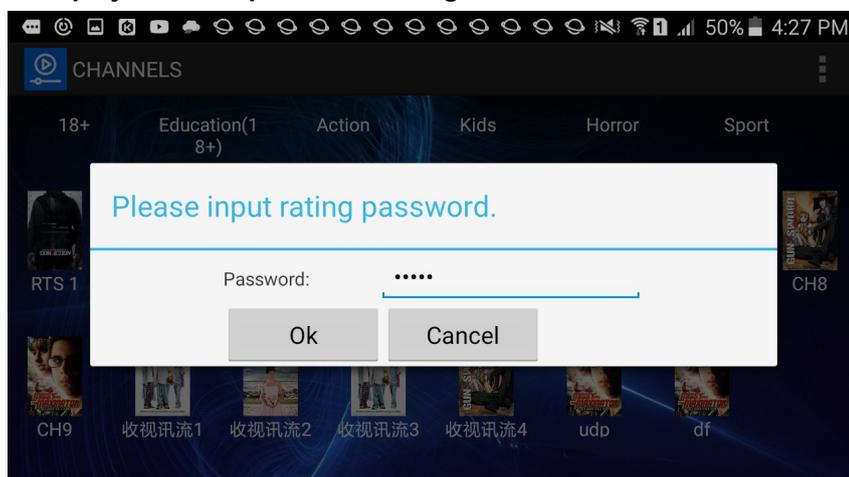


- Input rating password in user more profile as below:

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

Player Side

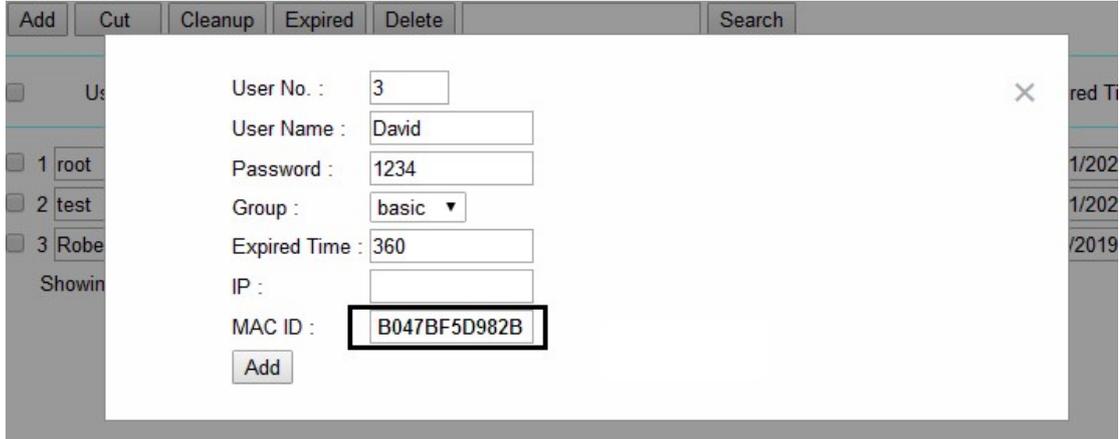
- When one player starts to play the channels or movies of the category, the player shows password dialog as below:



7 MAC ID Protection

Panel Setting:

- Administrator can add new user withj MAC ID.

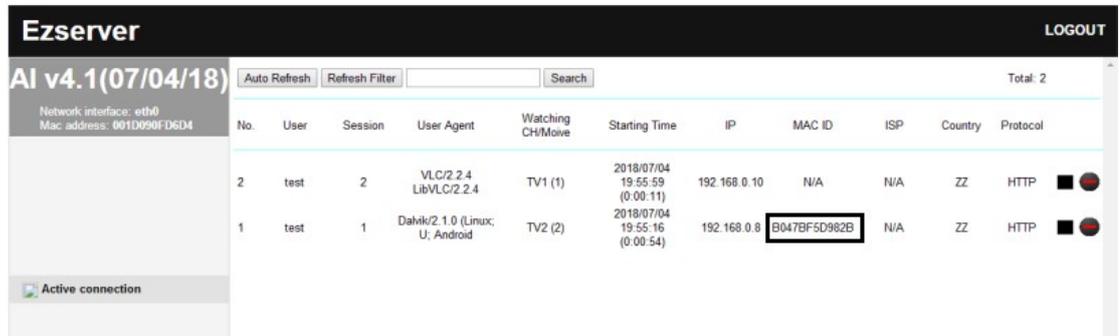


The screenshot shows a web interface for user management. A modal window is open for adding a new user. The form contains the following fields:

- User No.: 3
- User Name: David
- Password: 1234
- Group: basic (dropdown menu)
- Expired Time: 360
- IP: (empty field)
- MAC ID: B047BF5D982B (highlighted with a red box)

An "Add" button is located at the bottom of the form.

- When the player connects EZserver, EZserver will check its MAC Address for the legal connection. If the player has correct MAC Address with its user name, EZserver will show its connection in Player panel with its MAC Address



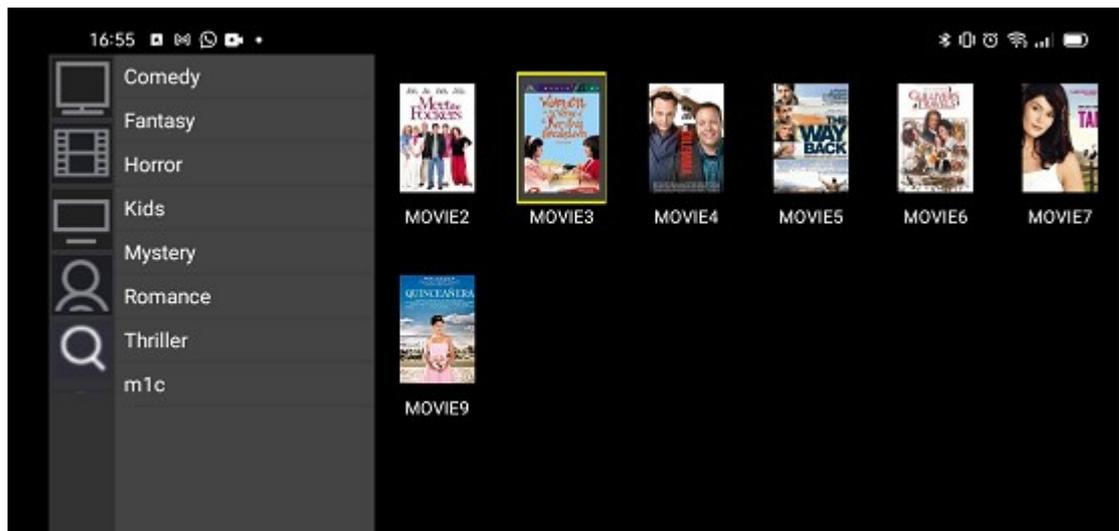
The screenshot shows the EZserver interface with a table of active connections. The table has the following columns: No., User, Session, User Agent, Watching CH/Move, Starting Time, IP, MAC ID, ISP, Country, and Protocol. The MAC ID column for the second connection is highlighted with a red box.

No.	User	Session	User Agent	Watching CH/Move	Starting Time	IP	MAC ID	ISP	Country	Protocol
2	test	2	VLC/2.2.4 LibVLC/2.2.4	TV1 (1)	2018/07/04 19:55:59 (0:00:11)	192.168.0.10	N/A	N/A	ZZ	HTTP
1	test	1	Dahiki/2.1.0 (Linux; U; Android	TV2 (2)	2018/07/04 19:55:16 (0:00:54)	192.168.0.8	B047BF5D982B	N/A	ZZ	HTTP

8 Movies and Series

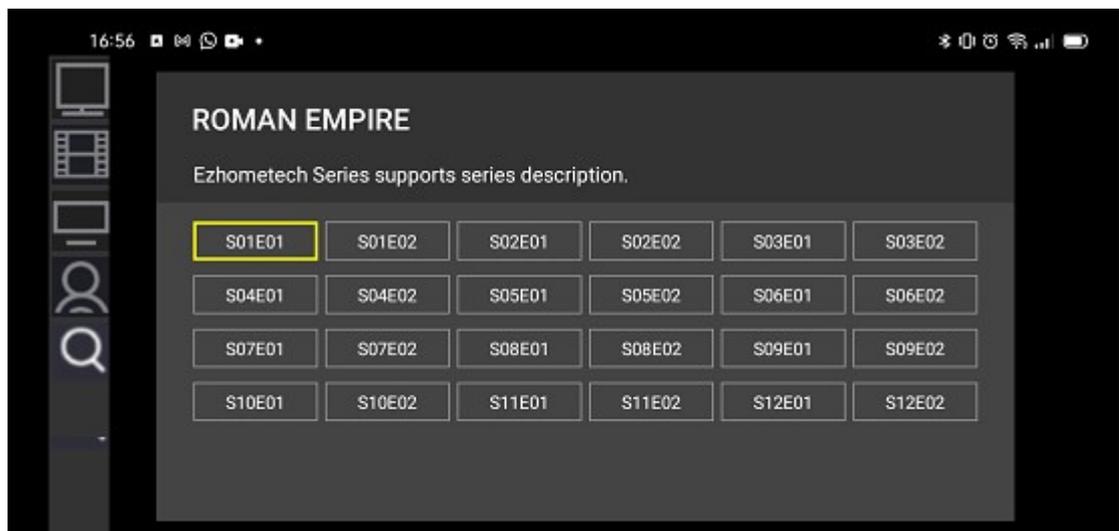
Movies:

- Select  in main menu to get all movies with categories as below:



Series:

- Select  in main menu to get all series with categories as below:





Ezhometech Routecast Tutorial

Ezserver and Ezserver Routecast Player

Revision: 11/15/2021



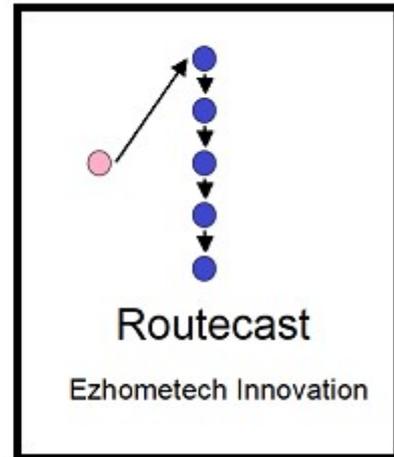
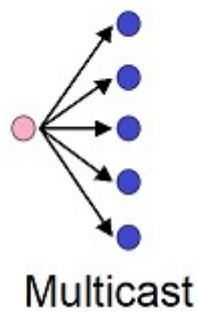
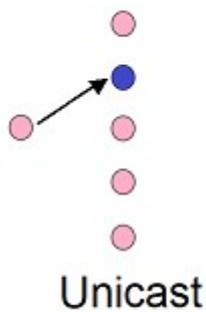
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8 Restrict Channel Restreaming	13

1 Overview of Ezhometech Routecast

Ezhometech Routecast solution includes **Ezserver** and **Ezserver Routecast Player** can play automatically channels from Ezserver or Ezserver Routecast Player via Internet

1. **Ezserver:** Act Routecast video server
2. **Ezserver Routecast Player:** Routecast video player



1.1 Related Information

Ezserver Forum:

<https://ezserver.createaforum.com/>

Ezserver Server API website

http://www.ezhometech.com/html/server_api.html

Ezserver Client API website:

http://www.ezhometech.com/html/client_api.html

Ezserver User Guide website:

http://www.ezhometech.com/html/ezserver_user_guide.html

Ezserver Routecast Player User Guide:

http://www.ezhometech.com/document/Ezserver_External_Player_User_Guide.pdf

2 Ezserver

Ezserver includes OTT / IPTV panel, Streaming server and Stun server for Routecast channel video streaming, it also provides API. for 3rd party software integration.

API has 2 types that are for cloud or app software developers.

1. **EZ Server API** provides API for Cloud applications
2. **EZ Client API** provides API for App in mobile, STB and PC.

OTT / IPTV panel:

- **User management:** create, modify and delete users.
- **Channel management:** create, modify and delete channels.
- **Movies management:** create, modify and delete movies.
- **Series management:** create, modify and delete series.
- **Reseller panel:** create, modify and delete his users.

Streaming server:

- **Video format:** H264 and H265.
- **Audio format:** AAC, MP3.

Stun server:

- **Routecast connection:** allows clients to find out their public address, the type of NAT they are behind and the Internet side port associated by the NAT with a particular local port.

Hardware Requirement:

- **Min. Requirement:** Dual-Core, 8GB RAM, 1GB Network card.

Software Requirement:

- **Linux:** Ubuntu 20.04(Recommended), Debian, Centos
- **Windows:** 64-bits

3 Ezserver Panel Setting

Routecast Setting:

- **Enable Routecast option and open Routecast port in server router.**

1. Routecast:

2. Routecast Cmd Port :

3. Routecast Data Port :

Add 2 users:

- **Add annie user with max connection value 1.**

User No. :

User Name :

Password :

Rating Password :

Group :

Level:

Expired Time : *

IP :

MAC ID :

Max. Connections:

- **Add robert user with max connection value 1.**



User No. :	<input type="text" value="4"/>
User Name :	<input type="text" value="robert"/>
Password :	<input type="text" value="1234"/>
Rating Password :	<input type="text" value="1234"/>
Group :	<input type="text" value="golden"/>
Level:	<input type="text" value="User"/>
Expired Time : *	<input type="text" value="1 month"/>
IP :	<input type="text"/>
MAC ID :	<input type="text"/>
Max. Connections:	<input type="text" value="1"/>

4 Ezserver Routecast Player

Ezserver Routecast Player is not standalone player, it is embedded into popular App.

Supported App:

- **IPTV Smarter**
- **IPTV Extreme**
- **IPTV Player**
- **GSE Smater IPTV**

Intent URL Format: App calls Ezserver Routecast Player by intent filter is http://

- **Syntax 1: http://IP:Port/live/username/password/x.ts**
 - ◇ Ex1. http://188.177.119.111:8000/live/test/1234/1.ts
 - ◇ Ex2. http://188.177.119.111:8000/live/test/1234/2.ts
- **Syntax 2: http://IP:Port/ch_name?u=username:p=password**
 - ◇ Ex1. http://188.177.119.111:8000/TV1?u=test:p=1234
 - ◇ Ex2. http://188.177.119.111:8000/ TV2?u=test:p=1234

Hardware Requirement:

- **Min. Requirement:** Above 1.0GHz, 1GB RAM, 802.11 a/b/g/n.

Software Requirement:

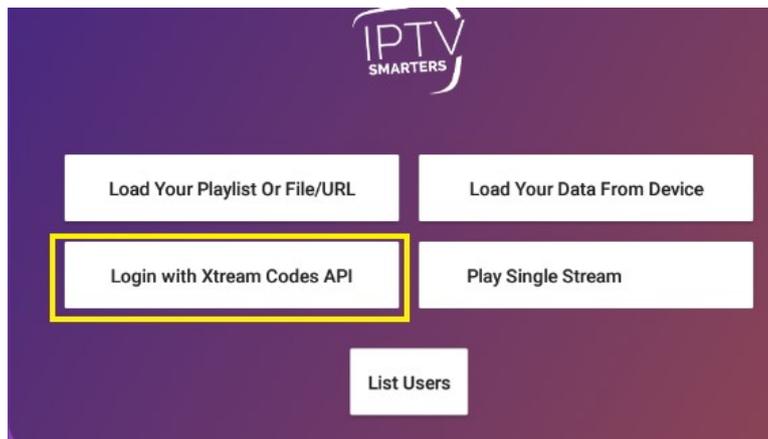
- **Android 5.0+**

5 IPTV Smarter Setting

Add one user and Ezserver Routecast Player into IPTV Smarter Setting

Add one user

- **Select Xtream API**



- **Add User Login Details**



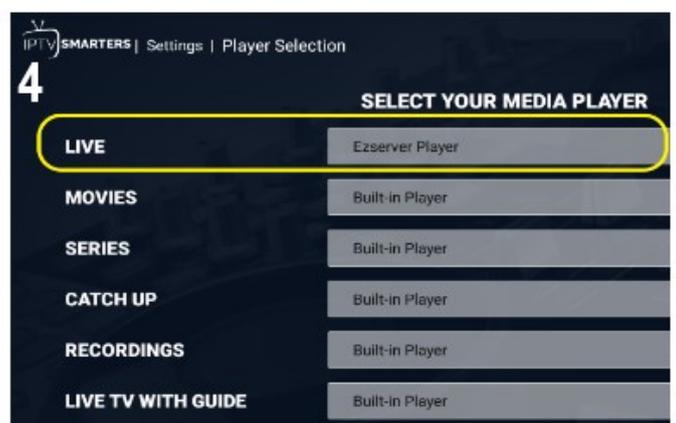
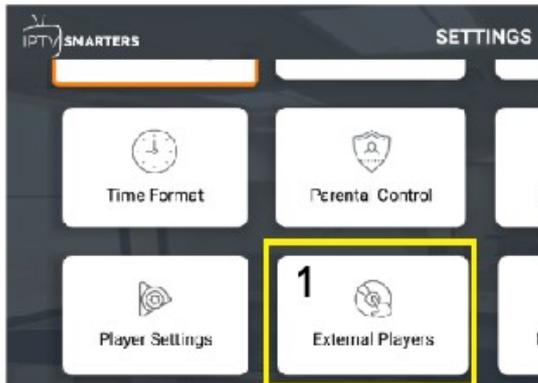
Save

Unicast Streaming Setting:

- | | | |
|----------------|------------------------------------|----------------------------------------|
| 1. Panel port: | <input type="text" value="18000"/> | --- Administrator Panel Port |
| 2. API port: | <input type="text" value="17000"/> | --- Application Program Interface Port |
| 3. HTTP port: | <input type="text" value="8000"/> | --- HTTP Streaming Port for players |

IPTV Smarter Setting:

- **Add External Player and select it in Live option**



- **Play channel in FULL screen mode**



- **Change channel by NEXT/PREV Button**

6 Routecast Verification Testing

User IP:

- Different users from different public IP.
- Play same channel.

Click Ezserver Panel: Active connection to check their status as below:

No.	User	Session	User Agent	Watching CH/Moive	Starting Time	IP	MAC ID	Country	Protocol
1	annie	4	Ezserver Player	TV1 (1)	2021/08/29 09:58:46 (0:00:12)	111.250.36.210	9c5c8e10be2d	TW	HTTP
2	robert	5	Ezserver Player	TV1 (1)	2021/08/29 09:58:54 (0:00:04)	114.34.8.11	44d3ade87d73	TW	P2P

Showing 0 to 0 of 0 connections

- Protocol HTTP means streaming from Ezserver.
- Protocol P2P means streaming from Ezserver Routecast Player instead of Ezserver

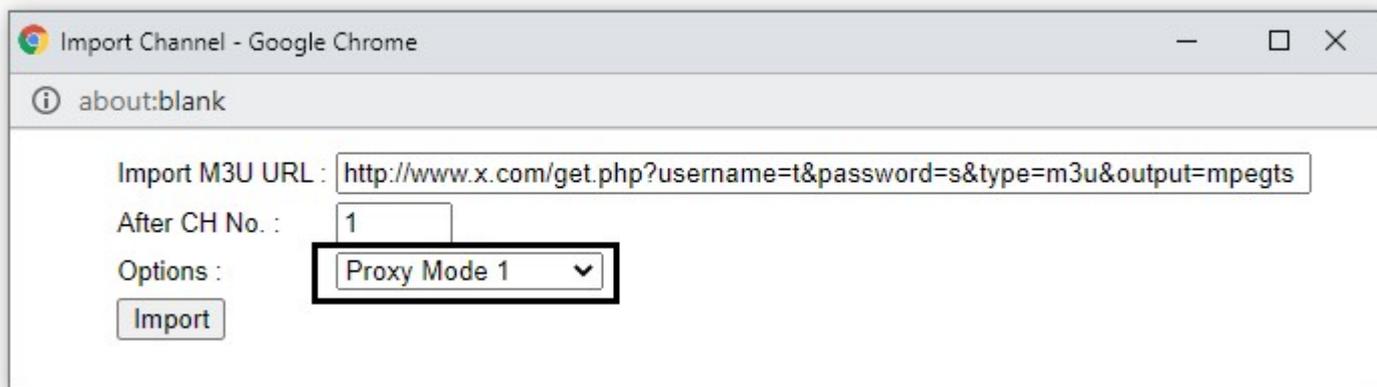
7 Xstream UI Integration for Routecast

Ezserver acts Routecast Stun server for XC UI. All streams are still from XC UI with lower download bandwidth:

Login Ezserver Panel and Click Channel button.

Use import button:

- Import all channels with Proxy mode from Xstream UI by get.php API.



Import Channel - Google Chrome

about:blank

Import M3U URL :

After CH No. :

Options :

Use Add button:

- Add one channel from Xstream UI

Channel No. :

Channel Name :

Media Source :

Icon Path :

Category :

Type :

- Click Edit more options

5 XC UI Channel

- Set Proxy mode

Channel No. :	5 / 5
Channel Name:	XC UI Channel
Main URL: (Running)	http://www.x.com/live/t/s/45678
2nd URL:	<input type="text"/>
3rd URL:	<input type="text"/>
Channel SID:	<input type="text"/>
EPG Channel ID:	XC UI Channel
HTTP User Agent:	Ezhometech(Ezserver/v4.5)
Multicast Adapter IP :	192.168.0.171 ▾
Bitrate Tolerance:	0.89
Catch Up Days:	0
Proxy Mode :	1 ▾
Cache On Demand :	0 ▾

8 Restrict Channel Restreaming

- Add **P2PRestream=0** in ezserver_enterprise/ezserver_config.txt
- Enable Routecast option and open Routecast port in server router.

Save

1. Routecast:

2. Routecast Cmd Port :

3. Routecast Data Port :

- **./restart.sh**