

Ezserver Tutorial

Dynamic Streaming Protocol (DSP)

Revision: 09/23/23



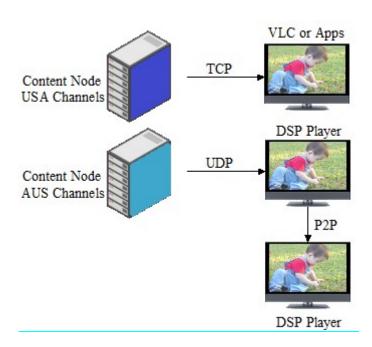
Content

1 Ezserver	
1.1 Blockchain Server (Web 3.0)	5
1.2 Installation and License activation	6
1.3 Start / Restart / Shutdown	7
1.4 Admin Password	8
1.5 Software Update	8
2. IPTV Panel	9
2.1 User Management	10
2.2 Channel Management	13
2.2.1 Add new channel	13
2.2.2 Import channels by m3u link	14
2.3 Movie Management	16
2.3.1. Add TMDB Movie	16
2.3.2. Upload Local movies	17
2.4 Series Management	18
2.5 EPG Management	19
2.6 User Agent Management	22
2.7 Reseller Management	23
3 Reseller Panel	24
4 DSP Players	25
5 Other Panel to Ezserver	28
6 Blockchain Node Setting	29
7 DSP Setting	32
8 Work Folder	33



1 Ezserver

Dynamic Streaming Protocol



The "**Dynamic Streaming Protocol**" represents a revolutionary advancement in the world of video streaming. Designed to adapt seamlessly to varying network conditions and server capacities, this protocol sets a new standard for efficiency, scalability, and user experience. Unlike conventional streaming methods, the "Dynamic Streaming Protocol" intelligently combines unicast TCP streaming with peer-to-peer (P2P) unicast UDP streaming over Web 3.0 blockchain technology, dynamically switching between them based on real-time demands. At the outset, the protocol leverages unicast TCP streaming to deliver content to viewers efficiently. As the number of connections approaches the maximum capacity of a single server, the protocol dynamically transitions to P2P unicast UDP streaming.

By employing P2P technology, the "Dynamic Streaming Protocol" optimizes the distribution of streaming content among connected players, alleviating server load and reducing the burden on network resources. This adaptive approach not only ensures consistent, high-quality video delivery but also significantly minimizes buffering and latency issues.

With the "Dynamic Streaming Protocol," video streaming providers can deliver a smooth and reliable viewing experience to a growing audience without compromising on performance. Whether it's for live events, on-demand content, or interactive applications, this protocol paves the way for a more robust, cost-effective, and future-proof video streaming solution. Embrace the future of video streaming with the "Dynamic Streaming Protocol" and unlock the potential of dynamic, efficient, and uninterrupted content delivery like never before.



Specification:

Web server:

Protocol: HTTP and HTTPS.

Blockchain server:

Protocol: UDP

Video format: H264 and H265.

• Audio format: AAC, MP3.

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.

P2P & Multicast player:

Android App.

Requirement:

Minimum Server Requirement:

• **Linux:** Ubuntu 20.04(Recommended), Debian, Centos

• Windows: 64-bits

CPU: 4v Core

RAM: 8GB

• Storage: 160 GB

• Bandwidth: 1Gbps unmetered

Minimum Android Requirement:

• **CPU:** Dual-Core(1.2xGHz)

RAM: 1GB

Storage: 1 GB

Bandwidth: 1Gbps

Device: STB (recommended), Mobile Phone, Android Smarter TV

Related Information:

Ezserver Official website:

http://www.ezhometech.com/

Ezserver Forum:

https://ezserver.createaforum.com/

Ezserver User Guide website:

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



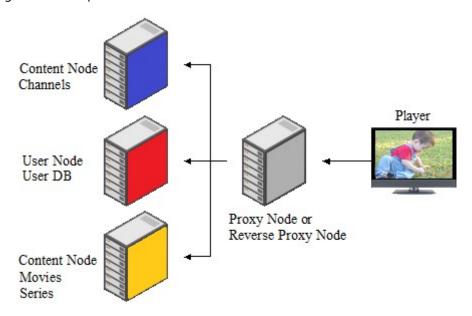
1.1 Blockchain Server (Web 3.0)

It includes Channel Unicast Server, Movie Unicast Server, Episode Unicast Server, XMLTV EPG Parser, MPEG TS EPG Parser, MPTS to SPTS Parser, Authorization Security Server and Authentication Server. It uses **Blockchain technology** instead of loader balance, CDN technology.

Additionally, You can create a new private cloud or join other private cloud networks for enhanced DDoS defense and content exchange capabilities as below network configuration.

The blockchain network consists of 4 pivotal nodes, each playing a crucial role in ensuring a robust and secure ecosystem for content delivery. These nodes are **User Server**, **Content Server**, **Proxy Server** and **Reverse Proxy Server**.

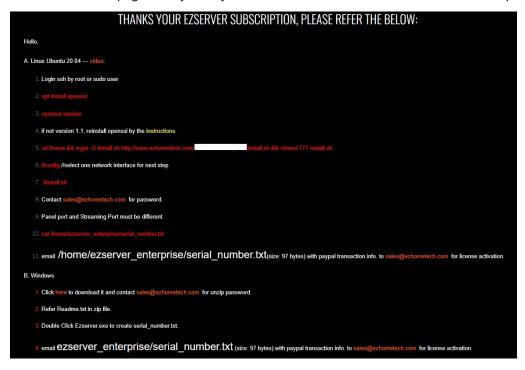
A Proxy Node acts *VPN server* to hide the User and Content Servers, or **A Reverse Proxy Node** hides the User Server, guarding it from direct exposure. This enhances security, load balancing, and overall performance.





1.2 Installation and License activation

Get checkout web page after you buy Ezserver License and contact us for installation password.



Windows version:

- Download ezserver_enterprise.zip from the checkout web page.
- Refer Readme.txt in zip file to run Ezserver.exe.
- Email us the ezserver_enterprise/serial_number.txt (size: 74bytes) to active ezserver license.

Note:

Windows version with multiple network cards

- Open ezserver_config.txt and edit network_interface value..
- network_interface value
 - eth0: the first card
 - eth1: the 2nd card
 - eth2: the 3rd card.
- Delete serial_number.txt and double click Ezserver.ext to create new serial_number.txt to us for license reactivation.

Linux:

- Download install.sh from the checkout web page.
- ./install.sh with installation password
- Email us the ezserver_blockchain/serial_number.txt (size: 74bytes) to active Ezserver license.



1.3 Start / Restart / Shutdown

Windows version:

- Start:
 - ♦ Double Click Ezserver.exe
- Restart: Login Panel and Click the below button



wait 30~60 seconds to relogin panel.

Shutdown:



Linux Version: ezserver at /home/ezserver_blockchain folder

- Start:
- Restart:

 - ♦ ./restart.sh
 - → or Login Panel and Click the below button

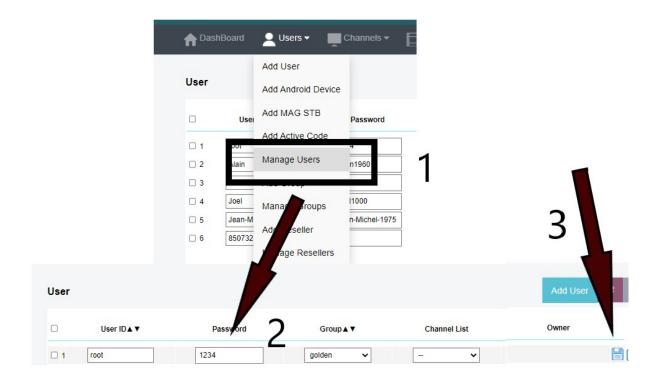


wait 30~60 seconds to relogin panel.

- Shutdown:



1.4 Admin Password



1.5 Software Update

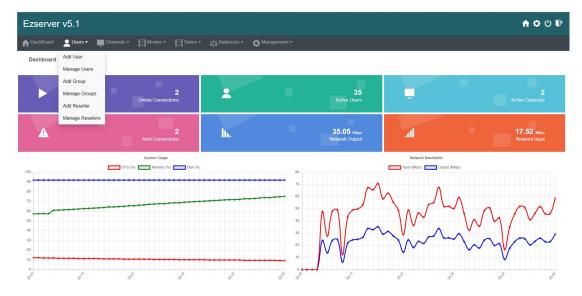
- cd ezserver_blockchain
- ./patch.sh
- input password
- ./restart.sh



2. IPTV Panel

Admin Panel Input URL: http://domain:port

Reseller Panel URL: http://domain:port/reseller/index.htm



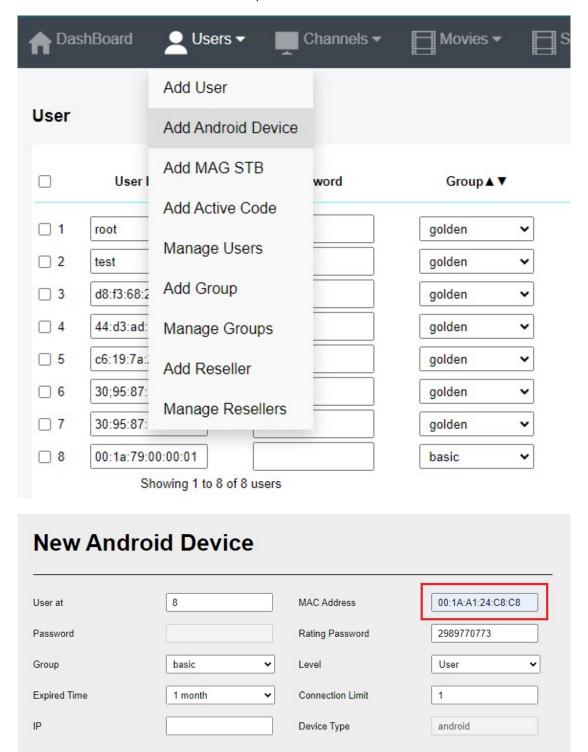
- User / Group / Reseller management: create, modify and delete users, groups,
 Reseller.
- Channel / EPG management: create, modify, delete or import channels,, epg.
- Movies management: create, modify, delete or import movies.
- Series management: create series.
- User Agent Protection: Add, delete User Agent for Player protection
- Blacklist management: show and delete Locked IP.
- **Statistics:** show Channel and Movies watched information.
- Setting



2.1 User Management

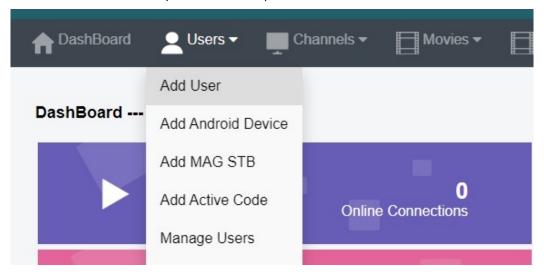
There are 3 options for player activation.

Click "Add Android Device" and Input Device Mac Address





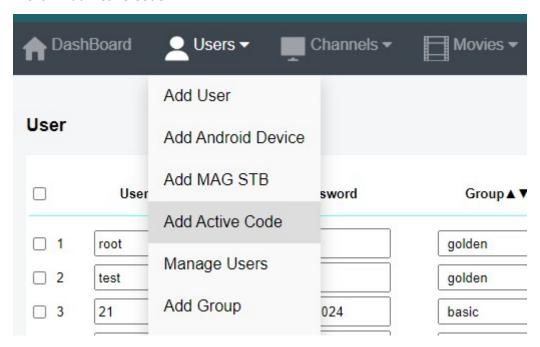
• Click "Add User" and Input User name / password

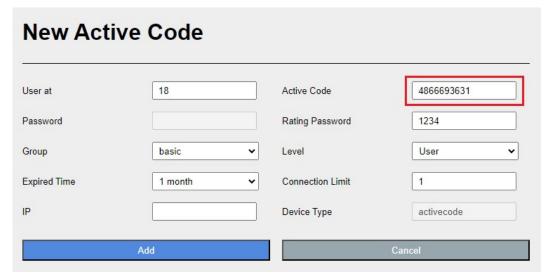






• Click "Add Active Code"





- Active Code is auto geenerated by system random generator.
- ♦ Each active code is limited by one device.



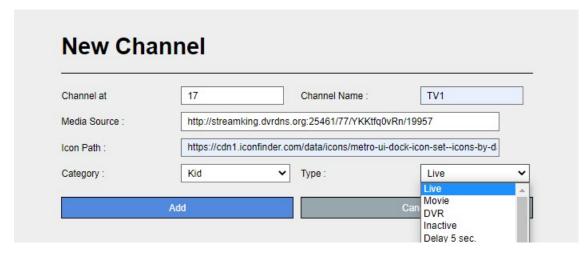
2.2 Channel Management

2.2.1 Add new channel

1.

♠ DashBoa	ard	Q Users ▼	Channels ▼	Movies ▼	Series
			Add Channel		
Channel			Manage Channels	s	
		Channel Nar	Manage EPG	Vledia Source	
	□ 1	RTS 1	dir://medi	a/videos/Movie/	
	□ 2	TV3	http://bitc	dn-kronehit.bitmovin.co	m/v2/r
	□ 3	RTS 2	dir://medi	a/videos/Movie/	

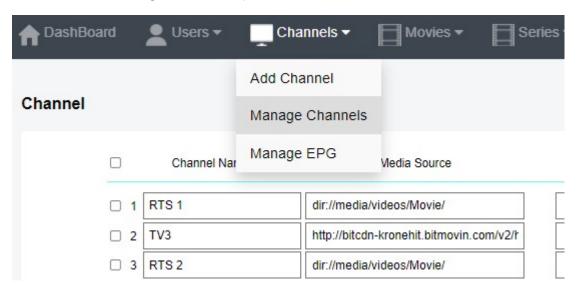
2.



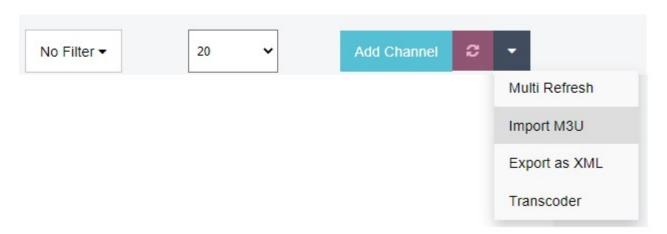


2.2.2 Import channels by m3u link

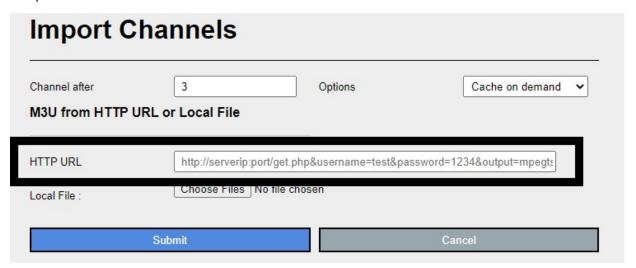
1. Click Channels: Manage Channels: Import M3U



2. Click Import M3U



3. Input HTTP M3U Link and Click Submit button

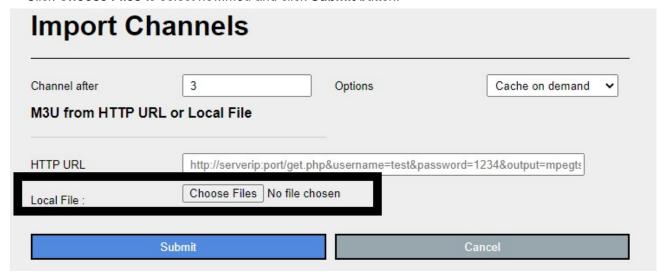




4. Then restart ezserver by ./restart.sh cmd in ssh console or click panel power off button, then wait for 1~2 min. to login panel again.



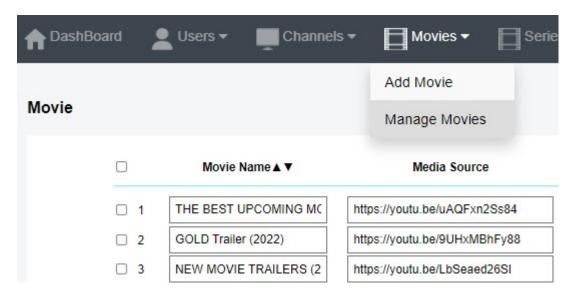
- 5. if any issue after import by the above way., you can refer the below steps
 - Use Chrome to download your m3u link and rename it to new.m3u
 - Click Choose Files to select new.m3u and click Submit button.



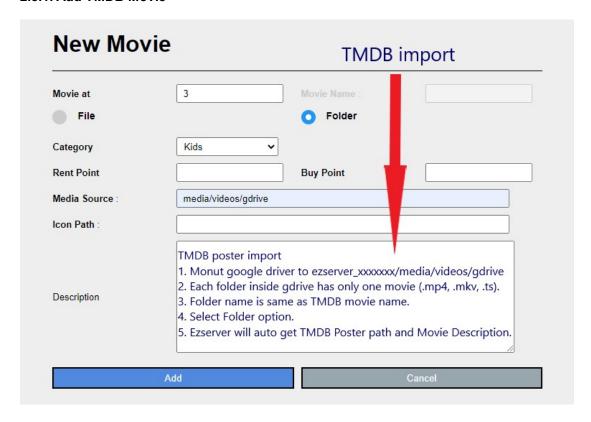
- 6. if any issue after import by the above way., you can refer the below steps
 - Use Chrome to download your m3u link and rename it to new.m3u
 - Upload new.m3u into server /home/ezserver_enterprise folder
 - Open /home/ezserver_enterprise/channel_definition.xml
 - Remove all lines except the 1st line and save it.
 - Restart ezserver by ./restart.sh in ssh console again
 - Import it again by new URL: http://ezserverlP:panel_port/new.m3u
 - Login panel to check it again.



2.3 Movie Management



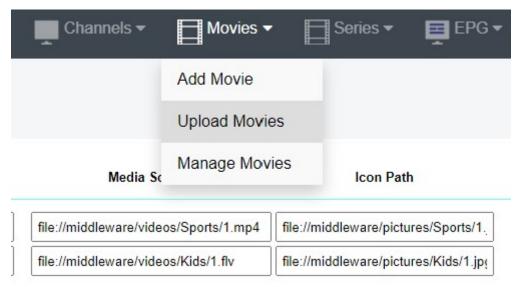
2.3.1. Add TMDB Movie



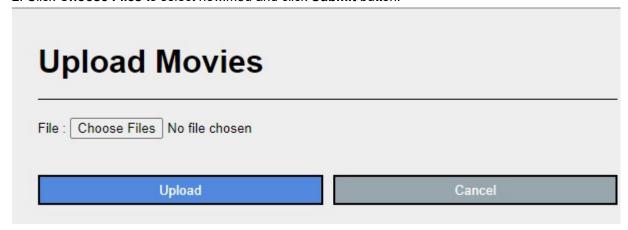


2.3.2. Upload Local movies

1. Click Movies: Upload Movies

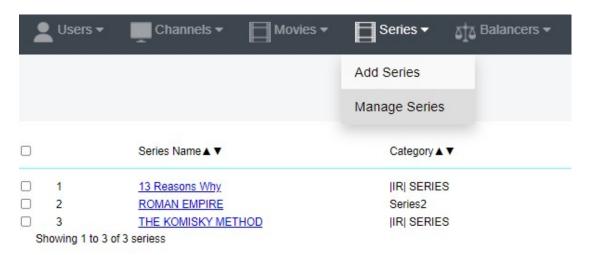


2. Click Choose Files to select new.m3u and click Submit button.





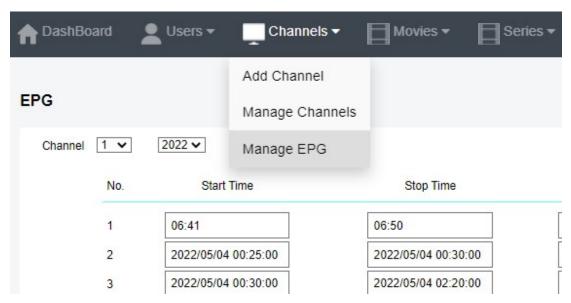
2.4 Series Management







2.5 EPG Management



There are 3 ways to add EPG to Ezserver, one is from XMLTV URL, the other is from UDP Stream, another is manual insertion.

XMLTV URL





UDP Stream

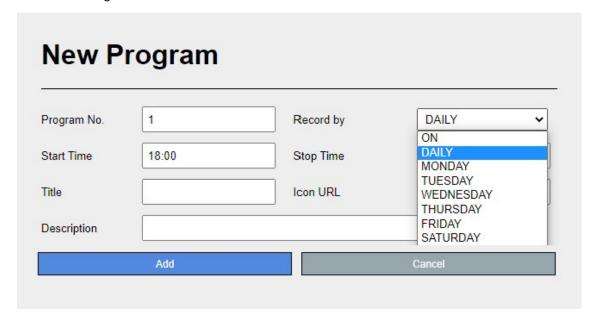
Add channels by multicast URL as below and enable MPEG EPG Extraction option

		Channel Name ▲ ▼	Media Source	
	1	Euronews	udp://239.0.0.4:1234	
	2	Eurosport	udp://239.0.0.5:1234	
	3	HSE24 Extra	udp://239.0.0.6:1234	
	4	Kabel 1	udp://239.0.0.8:1234	
Ch	annel	Streaming Prebuffer No.	2000	0
Ch	annel	Reconnection Interval	6	0
MF	EG E	PG Extraction	•	$\overline{1}$
			0	
100	36 886			
Pa	ginatio	on Limit Number	100	•



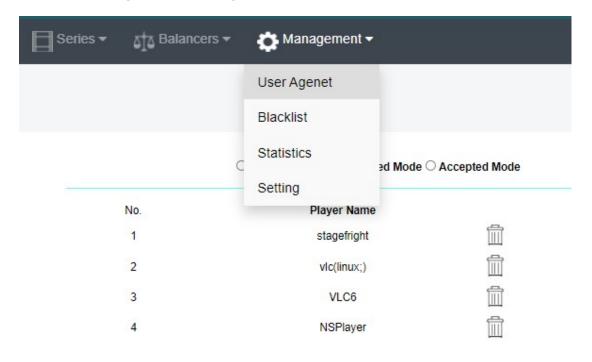
Manual insertion

Select DAILY, MONDAY, or others with Start time, then Ezserver will record video by the option into local storage and insert the video into Movie menu.





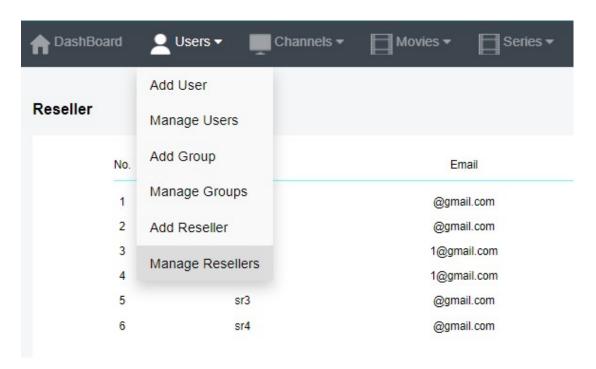
2.6 User Agent Management

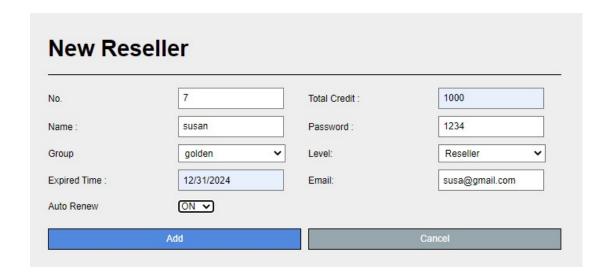






2.7 Reseller Management



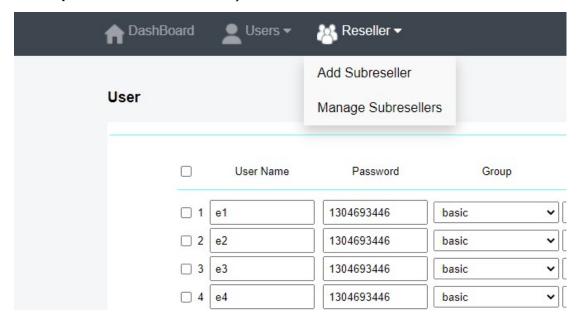




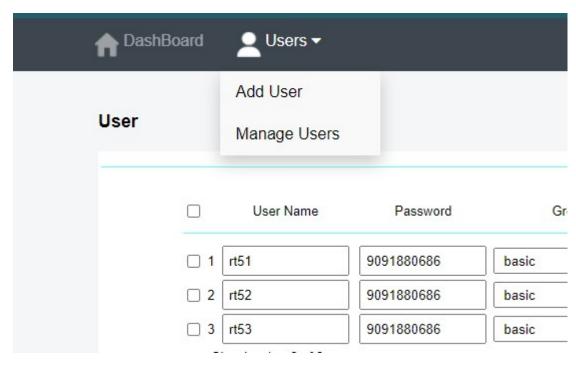
3 Reseller Panel

Input URL: http://domain:port/reseller/index.htm in Chrome

• Super reseller can create, modify and delete Resellers and users



• **Reseller** can create, modify and delete users only.





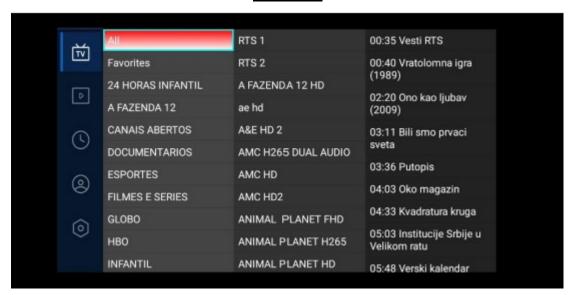
4 DSP Players

DSP Player is an **Blockchain P2P Player** that plays channels, movies and series from Ezserver for internet users.

Features:

- TV, Movie and Series
- Support Youtube Channel Links
- 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

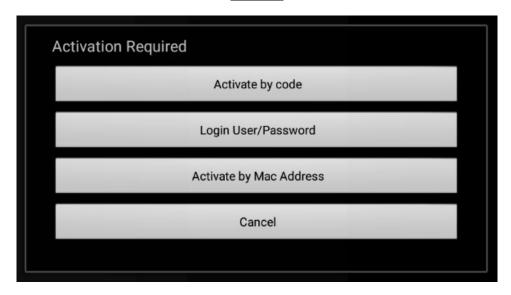
Main Menu





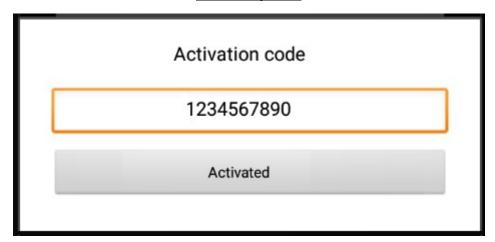
Account activation supports 3 options as below:

Account



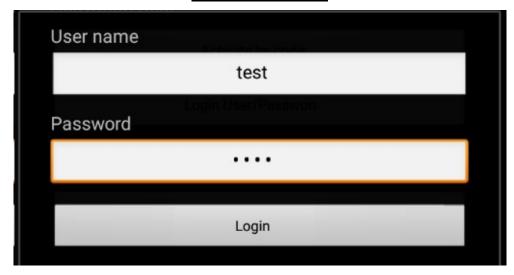
- Activate by code: Login by Active code with device mac address
- Login User/Password: Login by User name and password
- Activate by Mac Address : Login by device mac address.

Activate by code

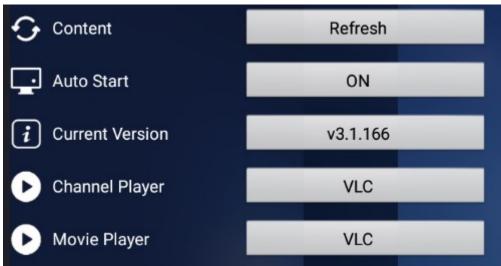




Login User/Password



Setting



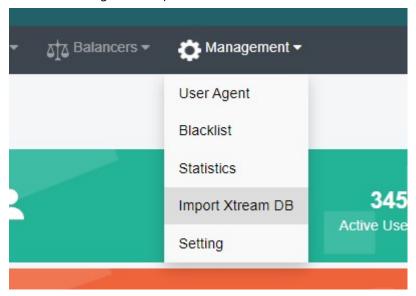
- Refresh button : Refresh content
- Auto Start : Enable App start when android device power on
- Channel / Movie Player : Support VLC and Exo Player



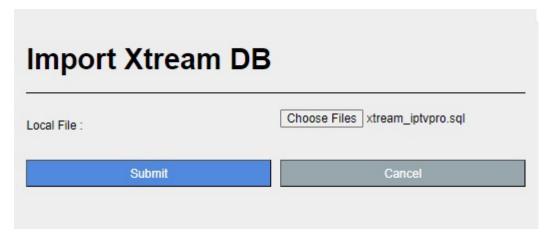
5 Other Panel to Ezserver

Migrate Xtream Users and Resllers to Ezserver

Click management:Import Xtream DB button



- Upload xtream_iptvpro.sql
- Click Submit button



*** Restart ezserver after import xtream DB. ***



6 Blockchain Node Setting

The blockchain network consists of 4 pivotal nodes, each playing a crucial role in ensuring a robust and secure ecosystem for content delivery. These nodes are **User Server**, **Content**

- Server, Proxy Server and Reverse Proxy Server
 - **Content node**: It can be for channel or movie streaming.

User node: management user information.

- Reverse Proxy node : hide the User.
- Proxy node: acts VPN server to hide the User and Content Servers.
- Proxy node (www.your_domain_name.com)
 - Add proxy_server=1 in ezserver_blockchain/ezserver_config.txt
 - ♦ Delete all users except root and channels, movies and series.
 - ♦ Enable Main / Slave Node option
 - ♦ Define Control port



- Reverse Proxy node (www.your_domain_name.com)
 - ♦ Delete all users except root and channels, movies and series.
 - ♦ Enable Main / Slave Node option
 - ♦ Define Control port





User Node

Acts Main node

- ♦ Delete channels, movies and series.
- ♦ Enable Main / Slave Node option
- ♦ Define Control port



Otherwise (Slave Node)

- ♦ Delete channels, movies and series.
- ♦ Disable Main / Slave Node option
- ♦ Input User Node Domain Name
- ♦ Input User Node Control port



Content Node

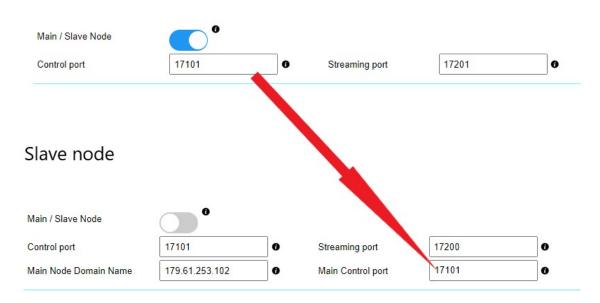
- ♦ Delete all users except root
- ♦ Disable Main / Slave Node option
- ♦ Input User Node Domain Name
- ♦ Input User Node Control port



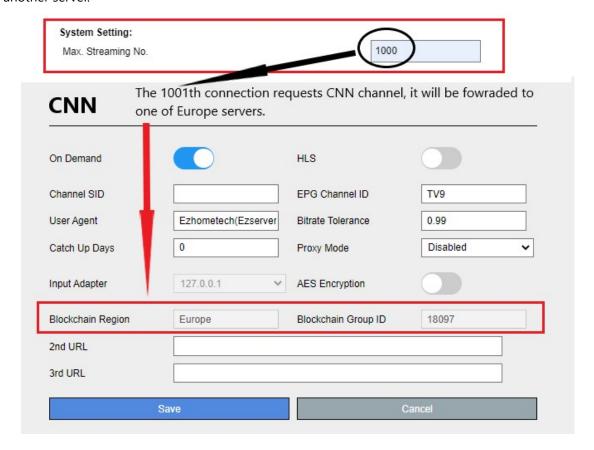


Example:

Main node



When a server has full connections, Ezserver invokes Blockchain function to let other servers serve the new connection and shows protocol BVP instead of HTTP in current server and BCP in another server.

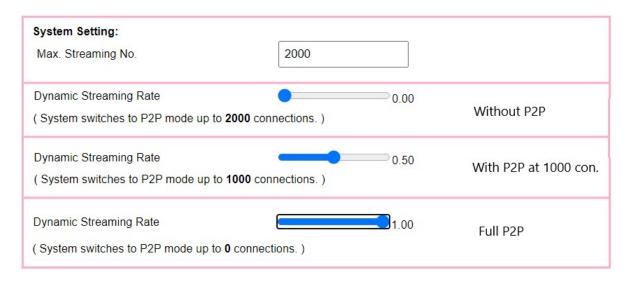




7 DSP Setting

DSP setting sets connection threadhold value in order to switch video streaming mode to P2P mode to save server resource load and download bandwidth.

- Administrator sets DSP rate to 0, video streaming is **pure IPTV video streaming**.
- Administrator Sets it to 1, video streaming is pure P2P video streaming.

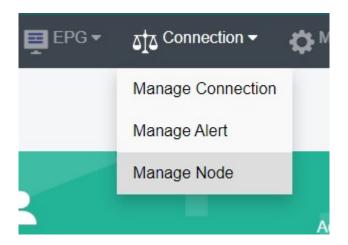




8 Work Folder

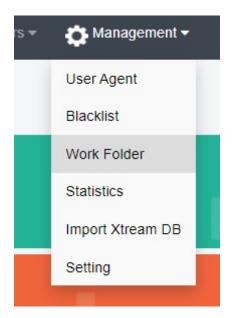
Assign movie and series folder path of Content Nodes in Main server Panel.

Check Content Nodes in main server first



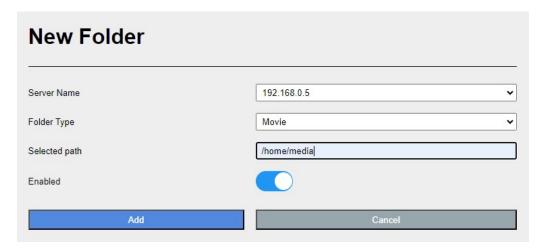
Nodes						
	No.	Node	Region	Group ID		
	1	192.168.0.9	Asia	18000		
	2	192.168.0.5	Europe	18000		
	Showing 1 to 2 of 2 nodes					

Create Work Folder of Content Nodes in main server

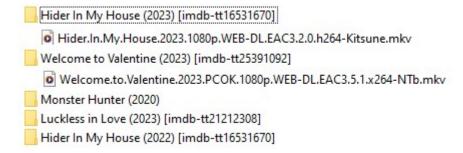




Create Movie Folder



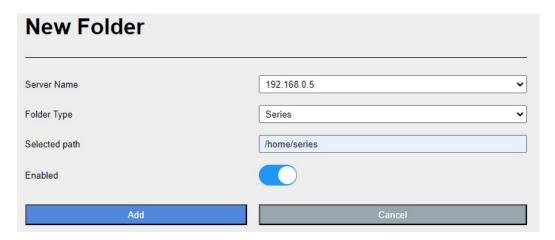
• Add new folder (/home/media) for Movie that ezserver auto refreshes movie per hour



- How to add films into movie folder
 - Create folder name by movie name
 - ♦ Upload one film into the movie folder



Create Series Folder



- Add new folder (/home/series) for Series that ezserver auto refreshes series per hour
- /home/series has the below kinds of files
- used US S01E01 WEBDL-720p.mkv
- used US S01E02 WEBDL-720p.mp4
- bhagya-lakshmi S01E05 WEBDL-720p.mp4
- bhagya-lakshmi S01E04 WEBDL-720p.mp4
- o bhagya-lakshmi S01E03 WEBDL-720p.mp4
- bhagya-lakshmi S01E02 WEBDL-720p.mp4
- bhagya-lakshmi S01E01 WEBDL-720p.mp4