



EvoStream Media Server Web User Interface User's Guide

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About this Document

Intent

This document provides instructions on how to use the Web-based User Interface for the EvoStream Media Server. It will cover the basics of installing and using the Web-based User Interface

Audience

This document is written for users of the EvoStream Media Server. **It is expected that you already have a basic functional knowledge of the EvoStream Media Server.** Please read the **EMS User Guide** prior to working with the Web UI!

Document Definitions

CDN	Content Delivery Network
EMS	EvoStream Media Server
HTTP	Hypertext Transfer Protocol. The protocol used for standard web pages
IDR	Instantaneous Decoding Refresh – This is a specific packet in the H.264 video encoding specification. It is a full snapshot of the video at a specific instance (one full frame). Video players require an IDR frame to start playing any video. “Frames” that occur between IDR Frames are simply offsets/differences from the first IDR.
JSON	JavaScript Object Notation
Lua	A lightweight multi-paradigm programming language
RTCP	Real Time Control Protocol – An protocol that is typically used with RTSP to synchronize two RTP streams, often audio and video streams
RTMP	Real Time Messaging Protocol – Used with Adobe Flash players
RTMPT	Real Time Messaging Protocol Tunneled – Essentially RTMP over HTTP
RTP	Real-Time Transport Protocol – A simple protocol used to stream data, typically audio or video data.
RTSP	Real Time Streaming Protocol – Used with Android devices and live streaming clients like VLC or QuickTime. RTSP does not actually transport the audio/video data, it is simply a negotiation protocol. It is normally paired with a protocol like RTP, which will handle the actual data transport.
swfURL	Used in the RTMP protocol, this field is used to designate the URL/address of the Adobe Flash Applet being used to generate the stream (if any).
tcURL	Used in the RTMP protocol, this field is used to designate the URL/address of the originating stream server.
URI	Universal Resource Identifier. The generic form of a “URL”. URI’s are used to specify the location and type of streams.
VOD	Video On Demand

Installation and Startup

Install and Configure the EMS

Following the instructions that can be found in the **EMS User Guide**, install the EMS and verify that it is functioning on your platform. You must be sure that the EMS is functional on your system prior to working with the UI. This will greatly simplify any problem solving that may need to be done with the installation of the Web UI!

Environment Installation

The Web-based UI requires a web server, like Apache or Windows IIS, which has been configured to use appropriate PHP and PHP_CURL modules.

Some Recommended Web Servers:

- 1) NGINX
- 2) LIGHTTPD
- 3) Apache: WAMP/LAMP, XAMPP, etc.

Required Modules to Install:

- 1) PHP5 – PHP language translation modules
- 2) PHP_CURL* – Handles external HTTP Post/Get requests. Required to interact with the EMS.

*Some recent distributions of WAMP/LAMP have been released with corrupt PHP_CURL modules! If the Web UI does not cause any logging events on the EMS (see below), then your CURL module may be inactive or corrupt.

Please refer to the documents of your chosen web server for installation and configuration directions.

Web UI Installation

To install the Web UI, simply copy the contents of the EMS Web UI download into your Web Server's web root.

Test the installation by navigating to:

`http://localhost/ems_ui/`

You should see the following screen:



EvoStream

Your Media. Delivered Anywhere.

The **EvoStream Media Server (EMS)** allows you to distribute video to any type of screen you wish to reach. Enter the IP address of your EMS server below to get started. Tell the EMS to go get a new video stream by using the "Add an inbound stream" command.

Enter IP address of EMS:

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To check your connection to the running EMS (make sure you have an instance of the EMS running), enter the IP in the field provided and click connect. You should see the following screen:



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Enter IP address of EMS:

✓ Server connected. ✕

Server Commands

-- Choose --


Stream List

ID	Name	URI	Type
-	-	No stream available...	-

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If you see the following error, than your web server is not properly installed. It is likely that PHP is not properly installed or configured. Please also check to see if the PHP_CURL module is installed and active.

PLEASE BE ADVISED: Some recent versions of WAMP have had a bad/invalid PHP_CURL.dll file that would indicate it is loaded but is indeed non-functional.



The EvoStream Media Server (EMS) allows you to distribute video to any type of screen you wish to reach. Enter the IP address of your EMS server below to get started. Tell the EMS to go get a new video stream by using the "Add an inbound stream" command.

Enter IP address of EMS:

✗ Ajax error! Status: parsererror! ✗

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If you see this next error, then you have entered the wrong IP address or the EMS is not actually running!



The EvoStream Media Server (EMS) allows you to distribute video to any type of screen you wish to reach. Enter the IP address of your EMS server below to get started. Tell the EMS to go get a new video stream by using the "Add an inbound stream" command.

Enter IP address of EMS:

✗ Could not connect to 5.5.5.5! ✗

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Using the Web UI

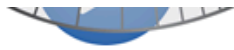
My First Stream

To bring a stream into the EMS for distribution, use the “Add an inbound stream” command in the dropdown menu. As a test we can utilize this video provided courtesy of NASA:

`rtmp://cp76072.live.edgefcs.net/live/MED-HQ-Flash@42814`

Select the “Add an Inbound Stream” command in the UI and simply copy this URI (you can think of URIs as media web links) into the “Stream Source” input box. Then give your stream a name. This name will be used from now on to reference the stream within the EMS. Think of it as an alias for your stream.

Please note that stream names can only be used once!



Your Media. Delivered Anywhere.

The **EvoStream Media Server (EMS)** allows you to distribute video to any type of screen you wish to reach. Enter the IP address of your EMS server below to get started. Tell the EMS to go get a new video stream by using the "Add an inbound stream" command.

Enter IP address of EMS: 192.168.1.78

[Connect...](#)

✓ Server connected.

Server Commands

Add an inbound stream

Stream Name: TestStream1

Stream Source: rtmp://cp76072.live.edgefcs.net/live/MED-HQ-Flash@42

☒ Force TCP

Enter the required parameters then hit the 'Add Stream' button.

[+ Add Stream](#)

Stream List

ID	Name	URI	Type
-	-	No stream available...	-

Click "Add Stream" to tell the EMS to go and get the stream!

Once the stream has been added you will be notified on the UI and the stream will appear in the “Streams List”. If you select your stream in the Streams List you can play it using the embedded player:

Stream List

ID	Name	URI	Type
95	TestStream1	rtmp://cp76072.live.edgefcs.net/live/MED-HQ-Flash@42814	pull

Stream Details

Name: TestStream1

Source: rtmp://cp76072.live.edgefcs.net/live/MED-HQ-Flash@42814

RTMP: rtmp://192.168.1.78/live/TestStream1

RTSP: rtsp://192.168.1.78:5544/TestStream1

 Play Video



Stream Details

When streams are selected in the Stream List, the EMS will display the URIs that can be used to get the stream from the EMS. The RTMP URI can be used by Flash-Based video players. The RTSP URI can be used by players such as VLC, QuickTime and by Android devices.

Creating HLS (HTTP Live Streaming)

The EMS can create an HLS stream out of your source stream so that it can be viewed by Apple iOS devices (iPhone, iPad, etc). Use the “Create an HLS Stream” command to create the HLS stream:

Server Commands

Create an HLS stream

Target Folder: /var/www/hls

Group Name: HLS_Test

Chunk Length: 10

Create HLS stream for "TestStream1"?

Create HLS Stream

Stream List

ID	Name	URI	Type
100	TestStream1	rtmp://cp76072.live.edgefcs.net/live/MED-HQ-Flash@42814	pull

Stream Details

The parameters you choose are important so be cautious of what you use.

The Target Folder must be the “web root”, or the public folder, of a web server. It will probably make a lot of sense to use the same destination where you installed this UI. The EMS also provides its own HTTP file server that is capable of serving HLS. The “web root” for the EMS HTTP server is, by default, the **[EMS]/media/** folder and operates over port 8080. These values can be changed in the **config/evohttp.lua** file.

The Group Name is used to organize your HLS stream. If you have multiple copies of the SAME stream (usually at different bit-rates) you should use the same Group Name. Otherwise, it is Important for you to use different Group Names for different streams!

The Chunk Length parameter defines how big (in seconds) the HLS file chunks are going to be. It is best to leave this at 10, unless you are confident in what you are doing. Using a number that is too small will cause iOS devices to be constantly downloading files and will severely impact performance.

Send MPEG-TS

The Send MPEG-TS command allows you to create a UDP based MPEG Transport Stream to some destination. The destination IP can be a unicast, broadcast or multicast address. Be careful not to use a port that is reserved or already in use!

✓ MPEG-TS packets of "TestStream1" being sent to 225.5.5.5:5555. ×

Server Commands

Send MPEG-TS

Target Address225.5.5.5

Target Port5555

Create MPEG-TS for "TestStream1"?

Send MPEG-TS Stream

Stop all MPEG-TS Streams

Stream List

ID	Name	URI	Type
100	TestStream1	rtmp://cp76072.live.edgefcs.net/live/MED-HQ-Flash@42814	pull
101	TestStream1	mpegsudp://225.5.5.5:5555	push

Stream Details