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How to Use the NGINX RTMP Module to Setup a Streaming Server

Created [January 6, 2021](#) | Author [Mark Lahn](#) | Category [Media Streaming](#) | Comments [12](#)

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One of the most common video streaming protocols is an [HLS Streaming Server](#). HLS is an adaptive streaming technology which allows you to stream media content that is tailored to the user's device and network conditions for the best streaming performance.

HLS and RTMP can be easily integrated with the Nginx web server using the Nginx RTMP module. In this tutorial, we'll show you how to setup an HLS live streaming server on Ubuntu.

See Also: [ServerMania Media Streaming Server Solutions](#)

What is Nginx RTMP?

Nginx RTMP is an Nginx module which allows you to add RTMP and HLS streaming to your media server. Previously, the RTMP and HLS modules were separate Nginx modules, but they can now all be added to Nginx as a single module.

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Server Requirements

- Ubuntu OS (May work on other Operating Systems with command modifications)
- Minimum 2GB RAM
- Disk space as required for any media files
- ServerMania [Hybrid](#) or [Dedicated Server](#)

Installation Instructions

Step 1: Login via SSH to the server

Login as root or a user with sudo access on the server. If you are using a user with sudo access, then add sudo before each command in the tutorial:

```
ssh root@server-ip
```

Step 2: Download required software

Start by updating the apt repository:

```
apt-get update
```

If this is a new server, you should consider updating the system software:

```
apt-get Upgrade
```

Step 3: Clone Module

```
git clone https://github.com/sergey-dryabzhinsky/nginx-rtmp-module.git
```

Step 4: Download Nginx

Copy the latest download link from the [Nginx website](#) and decompress the files:

```
wget http://nginx.org/download/nginx-1.17.6.tar.gz
tar -xf nginx-1.17.6.tar.gz
cd nginx-1.17.6
```

Step 5: Configure Nginx

```
./configure --prefix=/usr/local/nginx --with-http_ssl_module --add-module=../nginx-rtmp-module
make -j 1
make install
```

Step 6: Configure Nginx

```
rm /usr/local/nginx/conf/nginx.conf
```

```
nano /usr/local/nginx/conf/nginx.conf
```

Copy the following contents into the file and save it:

```
worker_processes auto;
events {
worker_connections 1024;
}

# RTMP configuration
rtmp {
server {
listen 1935; # Listen on standard RTMP port
```

```

hls on;
hls_path /mnt/hls/;
hls_fragment 3;
hls_playlist_length 60;
# disable consuming the stream from nginx as rtmp
deny play all;
}
}
}

http {
sendfile off;
tcp_nopush on;
directio 512;
default_type application/octet-stream;

server {
listen 8080;

location / {
# Disable cache
add_header 'Cache-Control' 'no-cache';

# CORS setup
add_header 'Access-Control-Allow-Origin' '*' always;
add_header 'Access-Control-Expose-Headers' 'Content-Length';

# allow CORS preflight requests
if ($request_method = 'OPTIONS') {
add_header 'Access-Control-Allow-Origin' '*';
add_header 'Access-Control-Max-Age' 1728000;
add_header 'Content-Type' 'text/plain charset=UTF-8';
add_header 'Content-Length' 0;
return 204;
}

types {
application/dash+xml mpd;
application/vnd.apple.mpegurl m3u8;
video/mp2t ts;
}

```

Step 7: Start Nginx

Start Nginx

```
/usr/local/nginx/sbin/nginx
```

Step 8: Start Streaming

This server can stream from a variety of sources including a static file, webcam, etc.

We previously installed ffmpeg. We'll start streaming **example-vid.mp4** to our <http://localhost/show/stream>

```
ffmpeg -re -i example-vid.mp4 -vcodec libx264 -vprofile baseline -g 30 -acodec aac -strict
```

Step 9: Integrate into Player

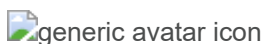
The stream can now be integrated into a javascript HLS player as per your requirements.

Deploying An Nginx RTMP Server

If you have any questions about deploying a new Nginx RTMP or HLS server, you should consider [booking a free consultation](#). We can help you choose the right server hardware for your media streaming project.

Now that you've learned about creating an Nginx RTMP server, why not read about: [What is RTMP?](#)

About The Author



Mark Lahn

Mark is the Content Marketing Manager at ServerMania. He focuses on providing engaging and easy to follow content to help users navigate the hosting industry.

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mjayson

January 6, 2020

is there a way to stream from mobile camera? maybe using flutter?or ionic?

👍 1

💬 0

General Chicken

November 27, 2020

You can stream from a mobile phone by using the phone as a source in OBS. Lookup "using xxx as a webcam over wifi on yyy" where xxx is your phone and yyy is your operating system. There are several apps.

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[Reply to General Chicken](#)

Sergey

January 15, 2020

How to catch streaming events, for example, that the streaming has not yet begun, or that the straming has already ended?

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[Reply to Sergey](#)

Thomas

February 14, 2020

how can I add the module, if I've already installed nginx?

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[Reply to Thomas](#)

UpDownLeftDie

April 1, 2020

Pretty sure you can't. You have to build from source for custom modules or pay for Nginx Plus

<https://www.nginx.com/products/nginx/modules/rtmp-media-streaming/>

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Reply to UpDownLeftDie

Alan

April 13, 2020

If you are running debian buster, there is a package you can add.

`sudo apt-get install libnginx-mod-rtmp` will get you going 😊

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Reply to Alan

Fitzmurphy

April 16, 2020

Mark, thanks for the write up – clear and easy to follow. I'm running into a 403 "forbidden" error however when running the ffmpeg command. I have a small mp4 that I'm feeding into "rtmp://localhost/show/stream" but the file downloads instead of showing up as video in my browser (I have an hls extension installed in my chrome

 2 0[Reply to Fitzmurphy](#)

AaplMike

April 23, 2020

Thanks for this! What would be the URI for consuming a stream be, given your example config?

 1 0[Reply to AaplMike](#)

Matt

May 1, 2020

I suspect it's `rtmp://localhost:1935/show`.

 0 1[Reply to Matt](#)

Tron

September 29, 2020

But am unable to find the correct address.

Please add this last part to the guide.

 2 0[Reply to Tron](#)

Frank

November 19, 2020

for all seekers:

the stream could be caught with:

<https:///hls/stream.m3u8>

 0 0[Reply to Frank](#)

Frank

November 19, 2020

sorry:

<http://-your-server-/hls/stream.m3u8>

 2 0[Reply to Frank](#)

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Deploying An Nginx RTMP Server



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