

Setup your own Web Streaming Server

These instructions are going to be brief. For full instructions, please watch the video on my YouTube channel: https://youtu.be/D-UjQo_8_rY

Caveats

As mentioned in my video, I very highly recommend that you not do this yourself, for the reasons stated in the video. But as a reminder, this is far less than ideal for a few reasons:

1. Bandwidth: Most of us don't have internet connections fast enough to support multiple viewers. Remember that each person watching will take up bandwidth from your connection. If you encode at 3 Mbps, each person watching needs their own 3 Mbps of your bandwidth to stream the video.
2. Data path: Even if you and your viewers do have enough bandwidth to stream the video, physical distance, the number and speed of routers between you and your viewers may make it impossible to get enough bandwidth to watch reliably.
3. Transcoding: If anyone watching your stream, or the path between you, doesn't have enough bandwidth to consistently pull down the files required to watch, you'd need to transcode into alternate, lower quality versions of the file. Setting up servers to do this is difficult and costly.
4. Cost: If your home internet connection isn't fast enough to stream to your viewers, and you move your server to the cloud, you're going to rack up bandwidth charges very quickly.

Downloads

The files you need are available through links on my website. Go to <https://djp.li/rtmpstreaming> for the links for the files you need.

1. Click the "1. NGINX Software" button to get NGINX.
 - a. You'll need the newest 'Gryphon' version of the software.
 - b. Also download vcredist_x86.exe.
2. Click the "2. Configuration Files" button to get the configuration and web server files you'll need. (If you're viewing this document, you already have this file.)

Software Installation

1. Install the vcredist_x86.exe software downloaded above. If you get a message about already having a newer version, cancel out of the installer. You already have the software you need.
2. Create a new folder called NGINX in the root of your C: drive. Extract the contents of the NGINX download from step 1a above to this folder.
3. Extract the contents of the .zip file you downloaded from my website in step 2 above into the C:\NGINX folder as well.

Software Configuration

1. Launch Notepad or another favorite editor, and open C:\NGINX\conf\nginx.conf.
2. Scroll down to the line that says 'application live' and change the word 'live' to whatever you'd like to use for your RTMP server path. It doesn't matter what it is as long as it is made up of letters and numbers. Make a note of what you use, as we'll need that to build the URL for our RTMP server later.

3. Save and close the nginx.conf file.

Web Server Setup

We'll need to create some HTML files for the stream keys that we want to use. If you'll only ever be doing one stream at a time, and are fine using 'stream1' as your stream key, you can skip this section.

1. Open the C:\NGINX\srv folder. This is where the files for your web server will live.
2. You'll need unique copies of viewer.html for each stream key that you want to use. The existing viewer.html is setup for a stream key of stream1. If you had a second stream key of stream2, make one copy of viewer.html, rename it to viewer2.html (or whatever else you'd like), and so forth.
3. For each copy of viewer.html that you made, open the file in Notepad or your favorite editor. Scroll down to the line that starts <source src= ... and change the reference to 'stream1' to use the stream key that you'll be using. Save the changes, close the file, and move on to the next copy until you've modified all of them.

Router Port Forwarding

I'm not going to give explicit instructions on how to do this, as it varies from one model of router to the next, but you'll need to port map two external ports to your computer's IP address:

1935 – RTMP

80 – Web Server

You can use different ports externally if you wish, and I recommend that you do so if your router supports it. Just remember to modify the RTMP and HTTP URLs later with the alternate port numbers.

Start the NGINX software

In C:\NGINX, double-click the 'start.bat' batch file to launch NGINX. Once you're done streaming, double-click 'stop.bat' to stop the NGINX server software.

Start your RTMP encoder

Whether you use RTMP coding software like OBS Studio, or a hardware encoder, you'll need to give it the URL of your RTMP server. This is made up of several components:

RTMP Server: rtmp://computeripaddress/path

Stream Key: (whatever you'd like)

Replace the word 'path' above with the string you used in step 2 of the Software Configuration section above. By default, the configuration file you downloaded from me uses the word 'live.'

You'll need to find out what your public IP address is. If you'd like to use a tool that I've created to do that, go to <https://djp.li/myip> in your web browser.

So if your IP address is 12.34.56.78, and your application path is 'live', and your stream key is 'stream1' your RTMP configuration will look like:

RTMP Server: rtmp://12.34.56.78/live

Stream Key: stream1

Or, if your encoder only has space for a URL and doesn't provide a separate box for the stream key, it will look like this:

Combined URL: `rtmp://12.34.56.78/live/stream1`

If you setup your router to listen on a port other than 1935, add that, preceded by a colon, after the IP address: `rtmp://12.34.56.78:12345/live`

After you've configured your RTMP encoder, you can start streaming.

Start Watching

If you've setup your router correctly to forward port 80 to your computer, the URL that you can enter into your browser to watch your streaming video will be something like:

`http://computeripaddress/viewer.html`

So if your router's IP address is 12.34.56.78, your video will be available at `http://12.34.56.78/viewer.html`.

If you will be offering multiple streams, replace 'viewer.html' with the files you created in step 2 of the Web Server Setup section above.

If you used an alternate port number when you configured port forwarding on your router, add that port number, preceded by a colon, after the IP address: `http://12.34.56.78:12346/viewer.html`

Finishing Up

After your stream has ended, stop your RTMP encoder, then stop NGINX using the `C:\NGINX\stop.bat` file.