

Why home streaming server? Convenience, because we can

What to use? DLNA – supported by my Roku and others

DLNA stands for "Digital Living Network Alliance" and it is a group of technology companies that worked to establish a set of interoperability guidelines.

This may also be referred to as universal plug and play (UPnP) streaming. UPnP is the networking protocol that the DLNA servers and clients use to discover one another.

The important thing to note is that if a device advertises DLNA compliance, or that it is capable of streaming using DLNA or UPnP streaming, you can use it to natively play back media from a DLNA server.

DLNA serving is supported by Windows 10 and 11 media support. Some limitations – you may want to install a dedicated server.

<https://www.howtogeek.com/215400/how-to-turn-your-computer-into-a-dlna-media-server/>

Dozens of servers - more popular ones - Plex, Jellyfin, Kodi, Universal Media Server

I decided to use jellyfin (<https://jellyfin.org/>). Open source, free, had the features I wanted without extra complexity.

<https://www.howtogeek.com/876195/why-jellyfin-is-the-plex-alternative-youve-been-waiting-for/>

## How to get video content – ripping your DVDs.

There are Copyright implications. Copying your existing media to a different format generally comes under “fair use”. If you sell, trade etc and get noticed you could be in trouble.

I use Handbrake. It is a transcoder to reformat video and audio files. It is supported on Linux and Windows. <https://handbrake.fr/>

The base program doesn't support ripping copy protected DVD. You need to install libdvdcss to process protected DVDs.

For windows download from <https://download.videolan.org/libdvdcss/1.2.11/win64/> and copy to C:\Program Files\Handbrake folder. Windows won't download directly to system folders.

For Ubuntu `sudo apt install libdvd-pkg`

## How to get audio content from CDs

Jellyfin also supports audio streaming.

I use K3b for ripping audio. If you are using Windows you will have to find something else. If there is no track info using K3b you need to install a data base.

`sudo apt install kde-config-cddb`

If it still doesn't work go to Settings CDDb and use gnudb.gnudb.org for the server for Lookup and Submit. (The old data base used has disappeared.)

There are also many audio streaming units that can be used. I used the AudioCast M5

(<https://audiocast.io/>). It is cheap (\$25-\$40) and sounds good to my old ears. (If any of you youngsters with hearing above 5KHz want to come over and listen let me know.)

## Dedicated server

You may want to set up a dedicated server for streaming. I use an old (~10 years) HP that I got when my son upgraded. It is fine for serving ripped DVD but is too slow to do the ripping. It also lacks compute power to do complex transcoding on the fly.

If you don't have an old machine around I would suggest looking at a refurbished computer. There are some relatively powerful machines for reasonable prices. Pricing is not always an indicator of features. I have seen 3<sup>rd</sup> generation I3 with 4 GB memory and 500GB hard disk at the same price as a 5<sup>th</sup> generation I5 with 8GB of memory and a 500GB SSD. (For the non geeks the second one is a much better value.) Search on Amazon or Newegg for *refurbished computer*. They have some minimal standards for partners and can help if there are problems.

If you are going to use it for ripping you should get one with a DVD drive and a fairly powerful processor. If the system doesn't come with a DVD see if the reseller will add one – usually a few dollars more. Otherwise new DVD drives are relatively cheap (~\$25). If you are getting a new drive you may want to get a USB external drive for a few dollars more if think you might use it with other machines.

Most of the refurbished machines are Dell, HP or Lenovo. You can use the model numbers to look them up to see what the original capabilities were. This can be helpful if you are thinking of expanding beyond what the reseller provides. For example the small, slim form factors may have limited space for drives or even memory if they used a small mother board.

## Other dedicated server considerations

I have the server in the basement and we do our TV viewing on the main floor. I set the server up for Wake up on LAN. This allows an android app to turn the machine on remotely. (Yes even 10 yr old machines support Wake up on LAN.) This is a two step process. It must be enabled in the BIOS and then configured in the LAN adapter setting via the operating system. The details will depend on your hardware and OS. A few searches with *wake up on lan* and your particular system should give details. (It is not hard – just not standardized.)

At first I just set up a cron job to turn it off at midnight (we are in bed by then). Later I set up an SSH app on my phone so I could remotely power down.

You may want to configure it with a fixed IP address. Some clients have trouble with discovery and need the LAN address.