

# Live Streaming

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Lately, I've started to stream some live events on YouTube on behalf of VSHN. I was an absolute live streaming beginner, so I had to learn a few tricks.

Currently, I have a setup that works quite well, running 100% on Linux-Ubuntu 20.04, for the curious amongst you. It should also work without problem on a Mac or Windows, too.

- I'm using OBS Studio, of course. This app gathers all inputs from various sources and allows the creation of nice scenes ready to be streamed. At this moment, I'm streaming directly to YouTube. Still, the idea will be in the future to use Restream to broadcast to as many platforms as possible simultaneously: YouTube, of course, but soon also Twitch, LinkedIn, and others.
- In terms of cameras I'm using:
  - A [Logitech C920s webcam is mounted on a tripod and connected to the laptop via USB.
  - An iPhone camera (could also be an Android device) using the Droid-Cam application streams via wifi into OBS thanks to the DroidCam OBS Plugin.
  - A DJI Pocket 2 camera, live streaming to a containerized RTMP server running on the laptop (connected via wifi), used by OBS Studio as a Media Source. The good thing is that the RTMP stream generated by the DJI Pocket 2 camera also contains audio. The bad news is that when the DJI Pocket 2 is in live streaming mode, its wireless clip microphone doesn't work. Go figure.
- Presentation slides: this is taken directly via an **HDMI splitter** and fed into the laptop using a Sandberg HDMI Capture Link to USB, which OBS Studio can use as another video input.
- Speaker Audio: crucial for an excellent final product, I use a Røde clip microphone, with a reasonably long wired extension, directly plugged into the laptop running OBS.

I also usually carry an HDMI extension cable and all the power cords to ensure you don't run out of juice during the transmission. A set of headphones also helps to monitor that the output audio is working properly.

So far, the only issue I've had is that my current HDMI splitter does not work correctly with 2016-20 Macs using the providential USB-C to HDMI dongle. Even the built-in HDMI port in a 2021 MacBook Pro wouldn't work correctly, and lo and behold, *we had to use a dongle with that laptop*. Like, seriously.

On the other hand, I've tested this setup with Windows and Linux laptops and even with older MacBooks with built-in HDMI ports, and I've had no problem with those. Apple has completely forgotten how to make MacBooks that are good presentation laptops.

If you want to see the result of this setup, here are three videos for you:

- Switzerland GitLab Meetup – 2022-04-27
- Cloud-Native Computing Switzerland Meetup – 2022-05-12
- Liran Tal on NPM Package Security – 2022-05-19