

Spectacolo Project

Live
Streaming
Workshop

Centre of Higher education in **theatre studies**

What is Live Streaming?

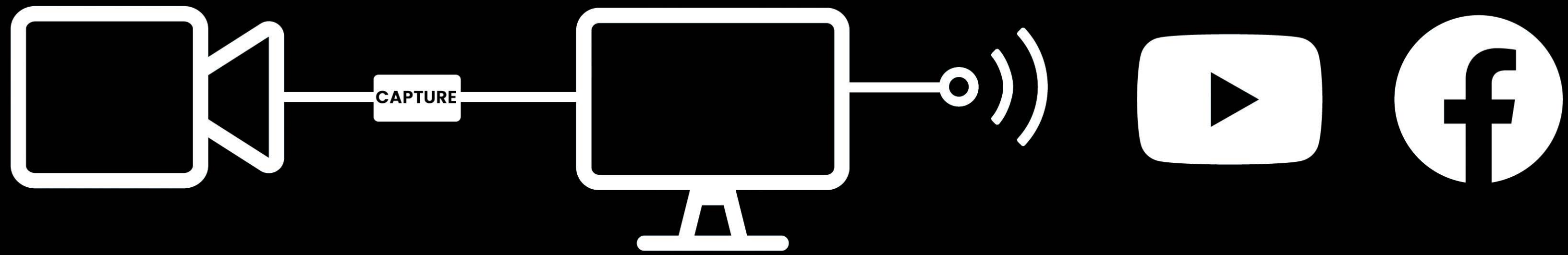
This technology lets you watch, create and share videos in real time, a bit like live TV.

All you need to be able to live stream is an internet enabled device, like a smart phone, tablet, laptop or desktop, and a platform (such as Instagram/Youtube/Twitch...) to live stream from.

Lesson 01

- 1 What is Live Streaming?
- 2 Live Streaming Diagram
- 3 Connection test / bandwidth test
- 4 Youtube platform tutorial
- 5 Preparation on location (Camera Setup)
- 6 Examples (Uganda Akatuuti / Life of Pi)
- 7 Principles of Videography
- 8 Introduction to OBS

Live Streaming Diagram



1. Video camera

2. Computer

3. Broadcast

Bandwith Test

Your Internet speed is

9.1 Mbps

Latency

Unloaded

6_{ms}

Loaded

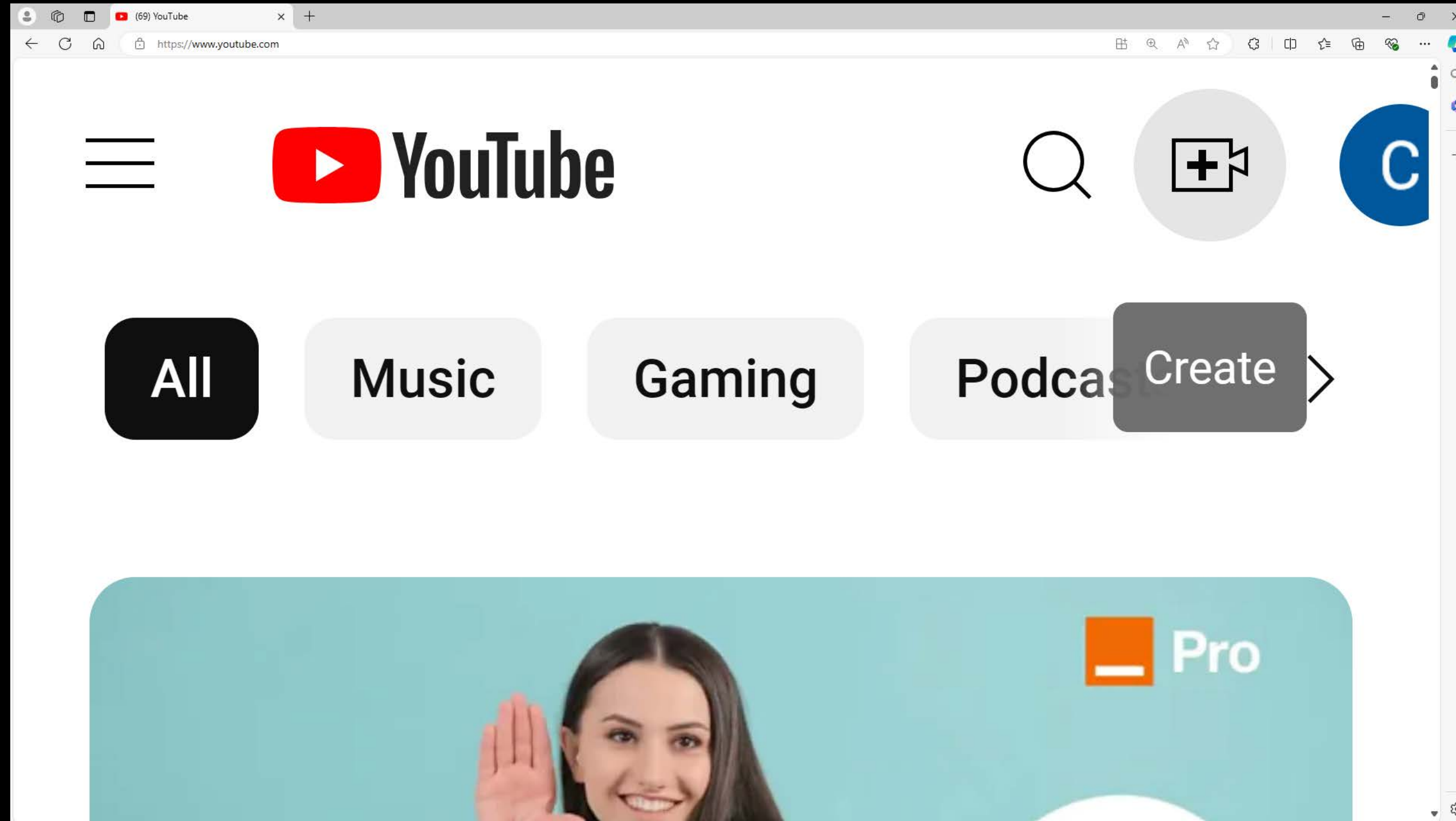
234_{ms}

Upload

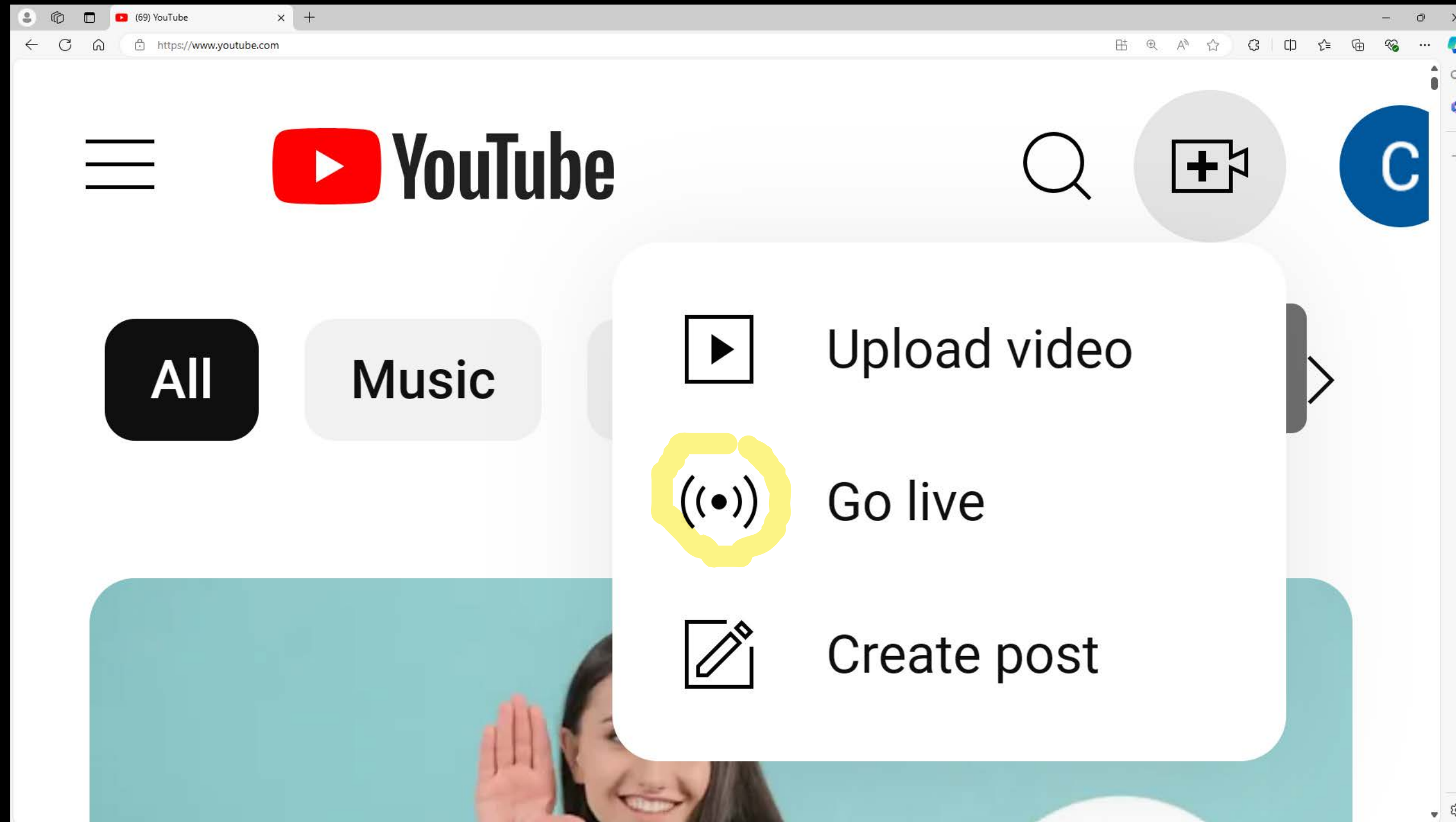
Speed

16_{Mbps}

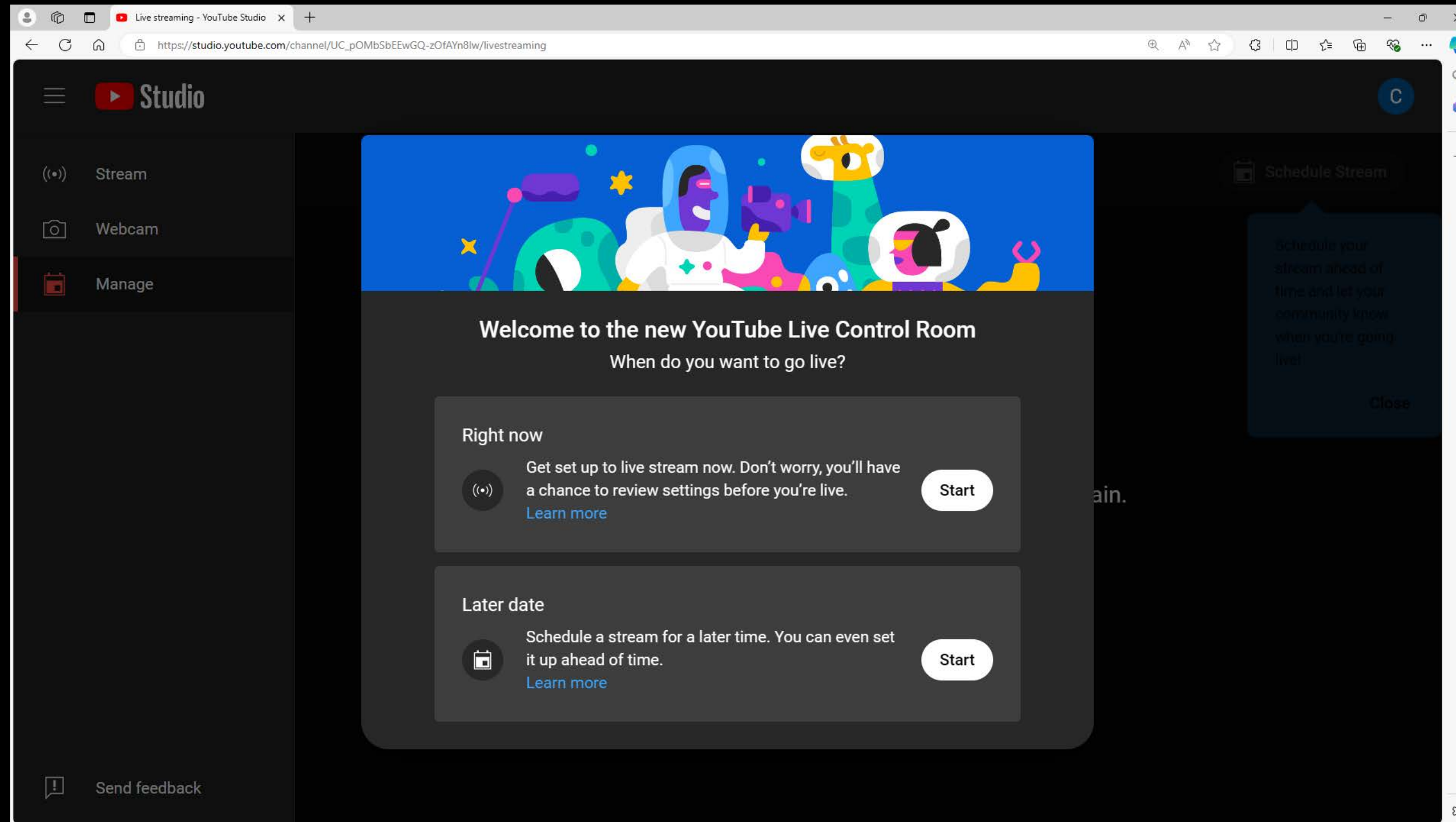
Streaming on youtube



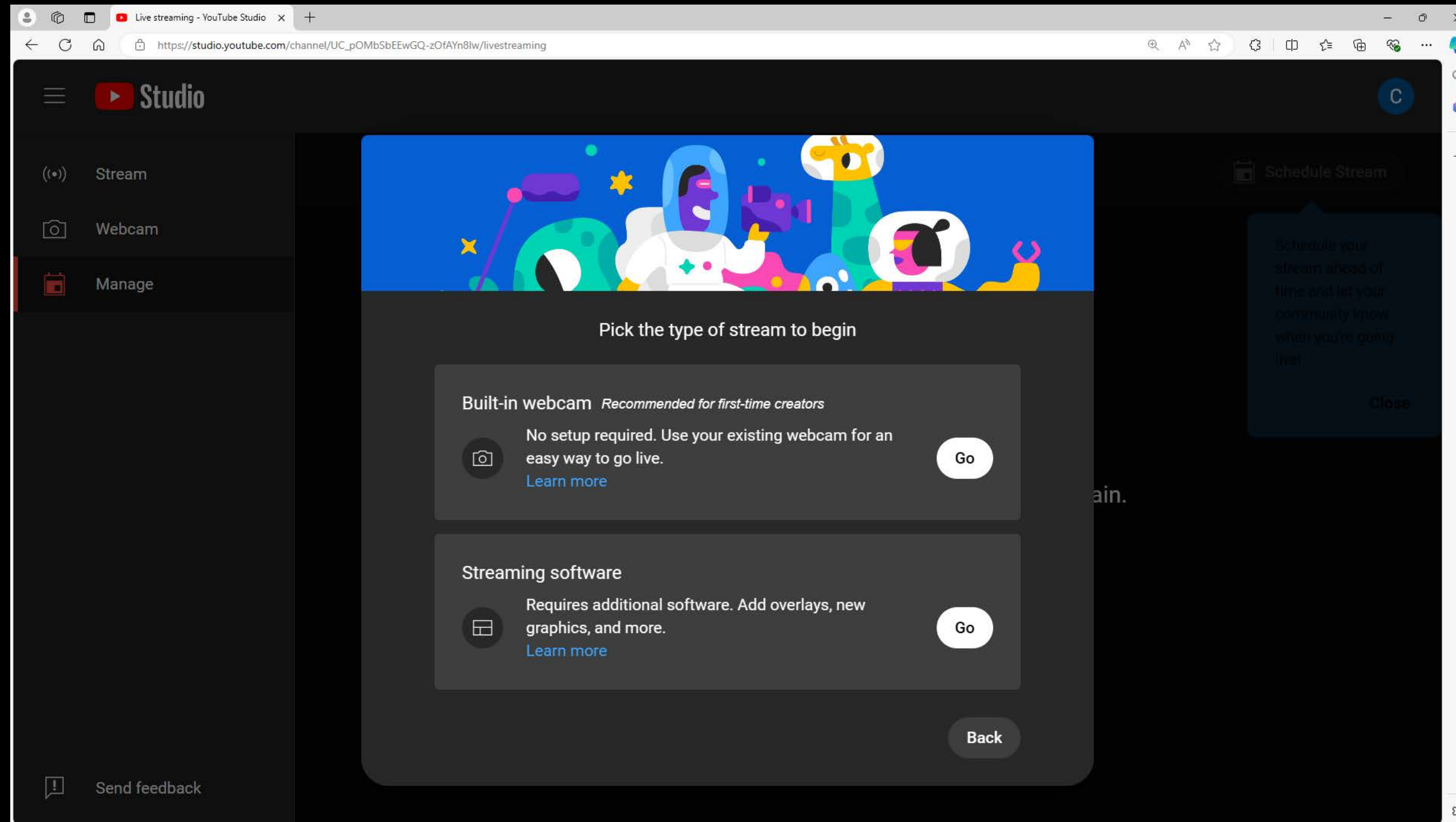
Streaming on youtube



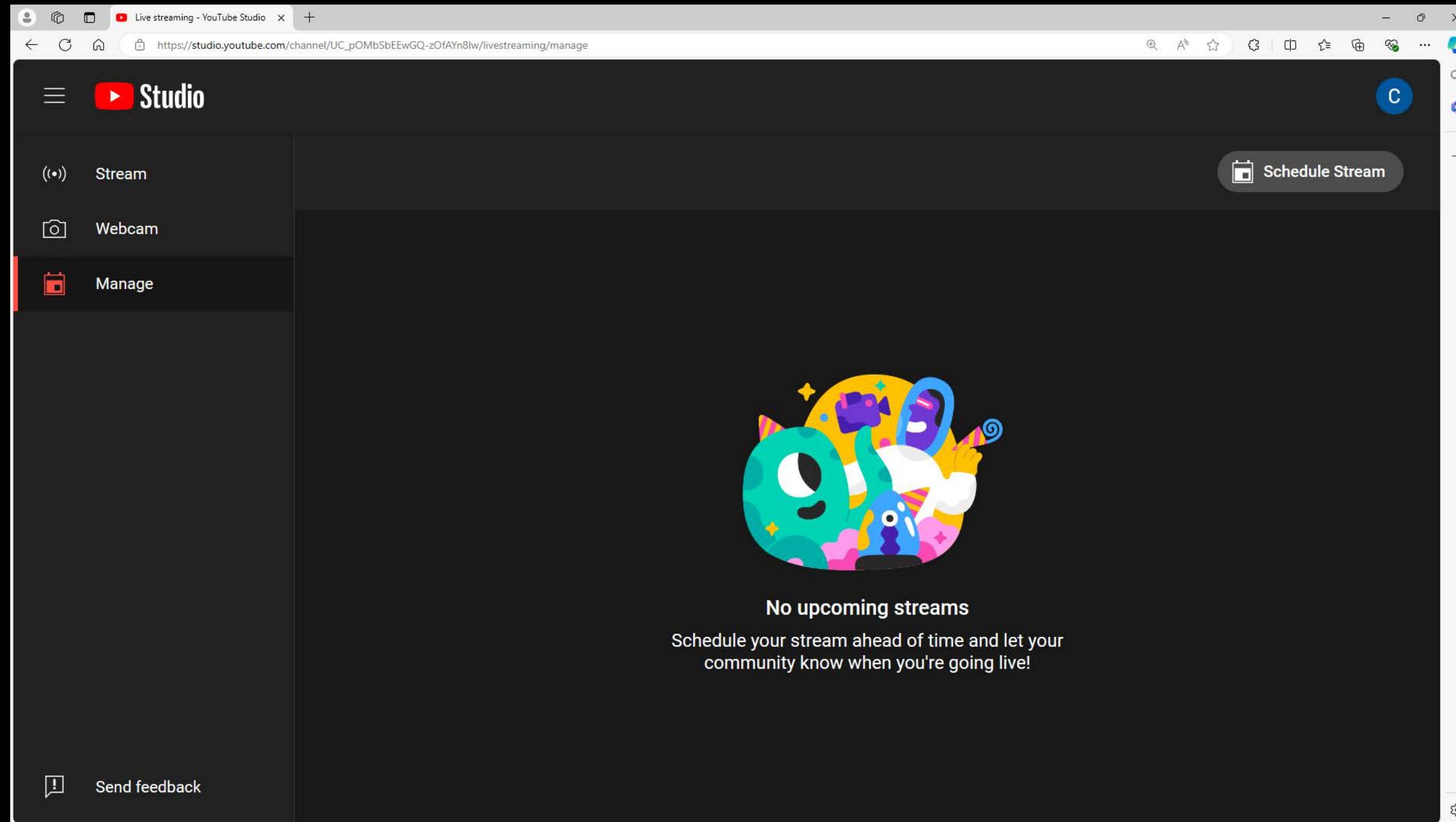
Streaming on youtube



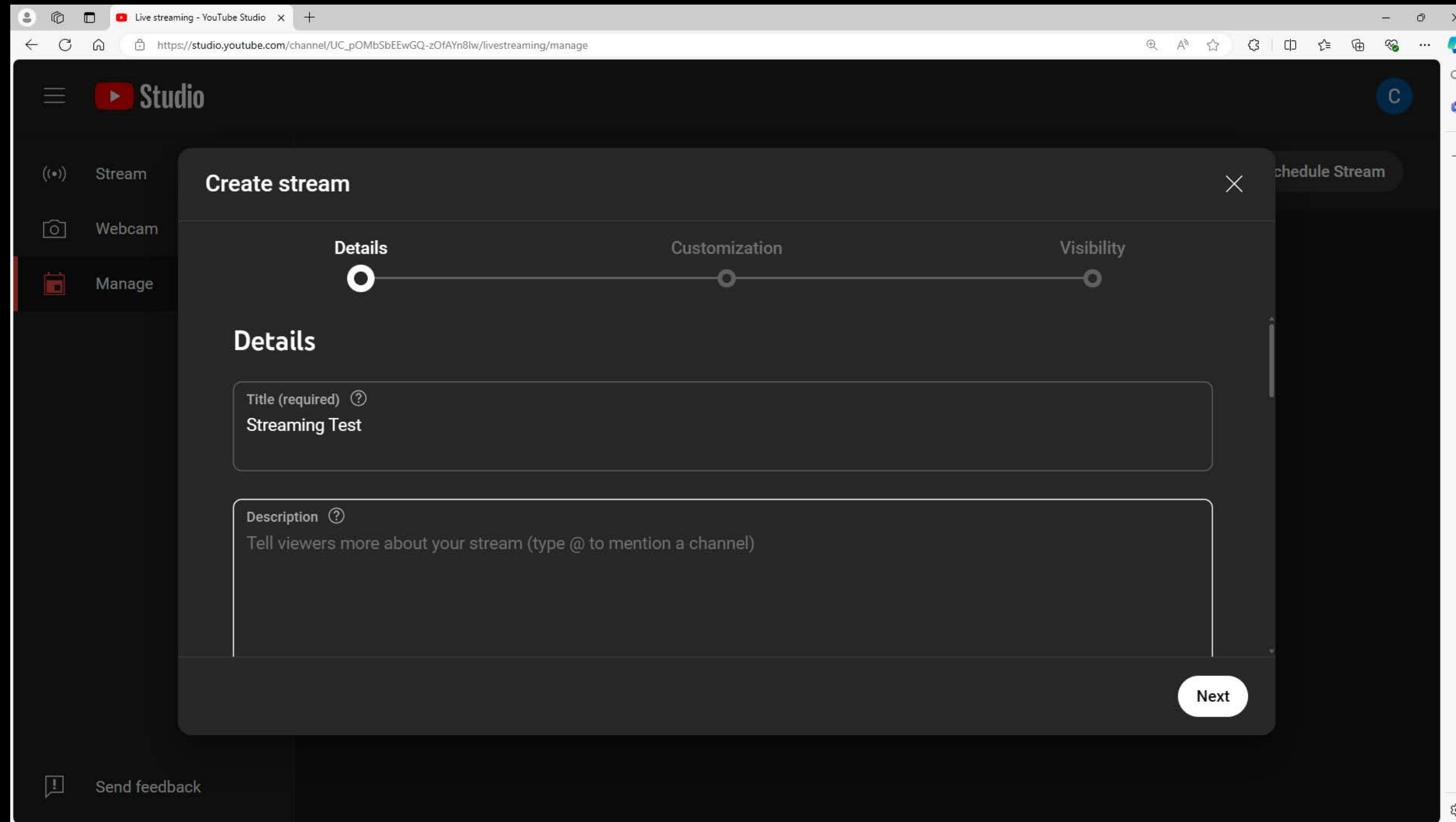
Streaming on youtube



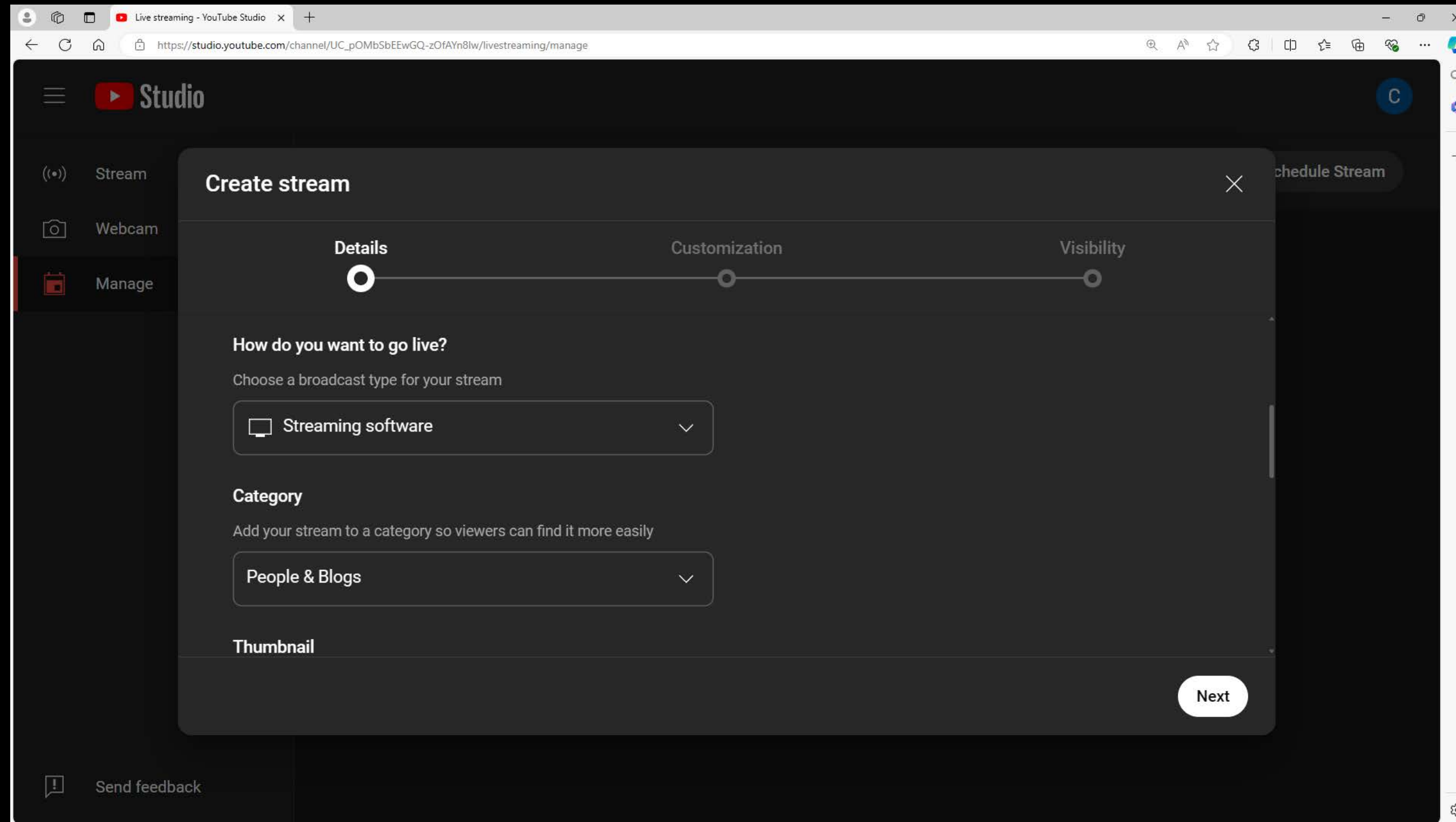
Streaming on youtube



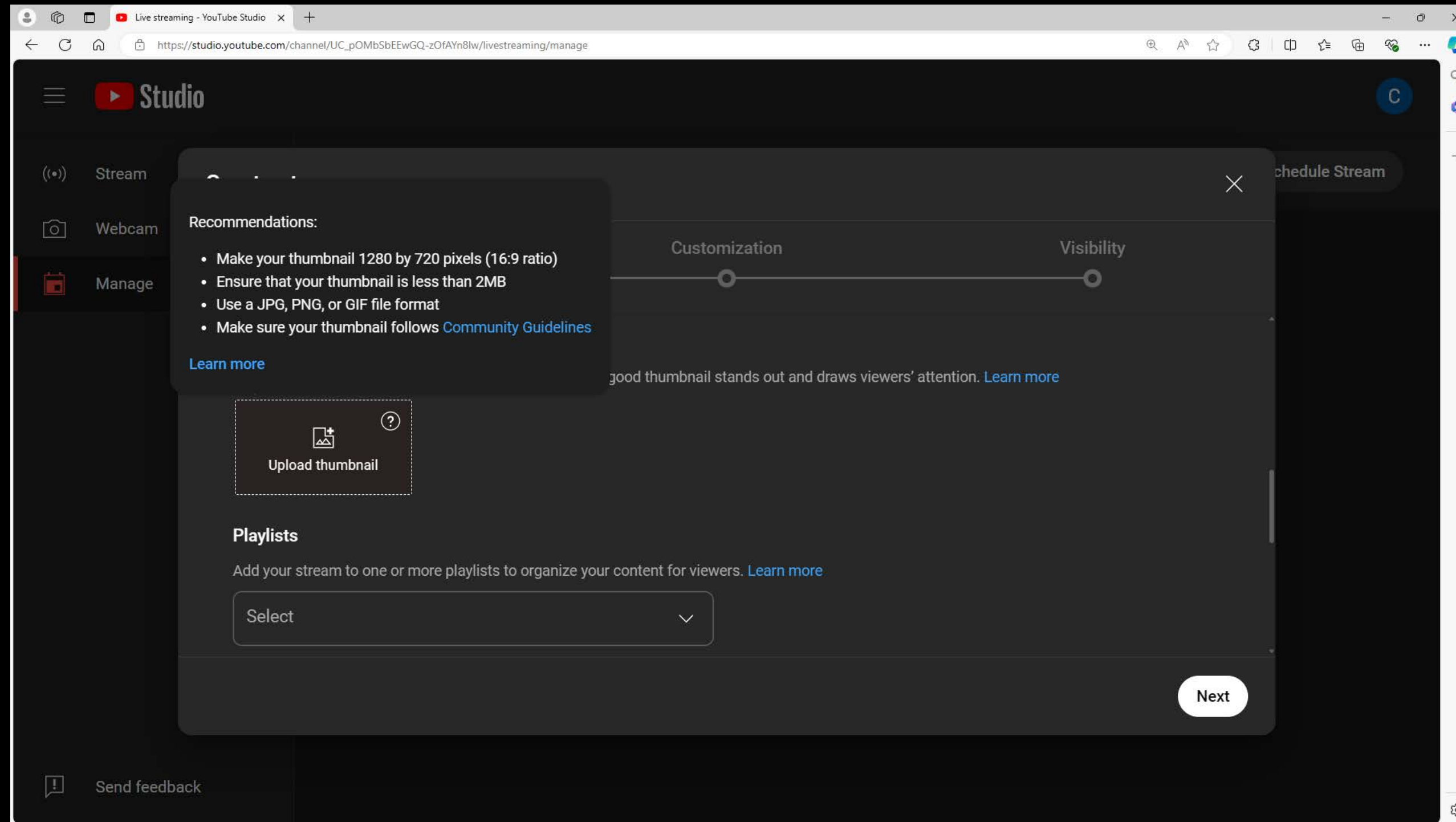
Streaming on youtube



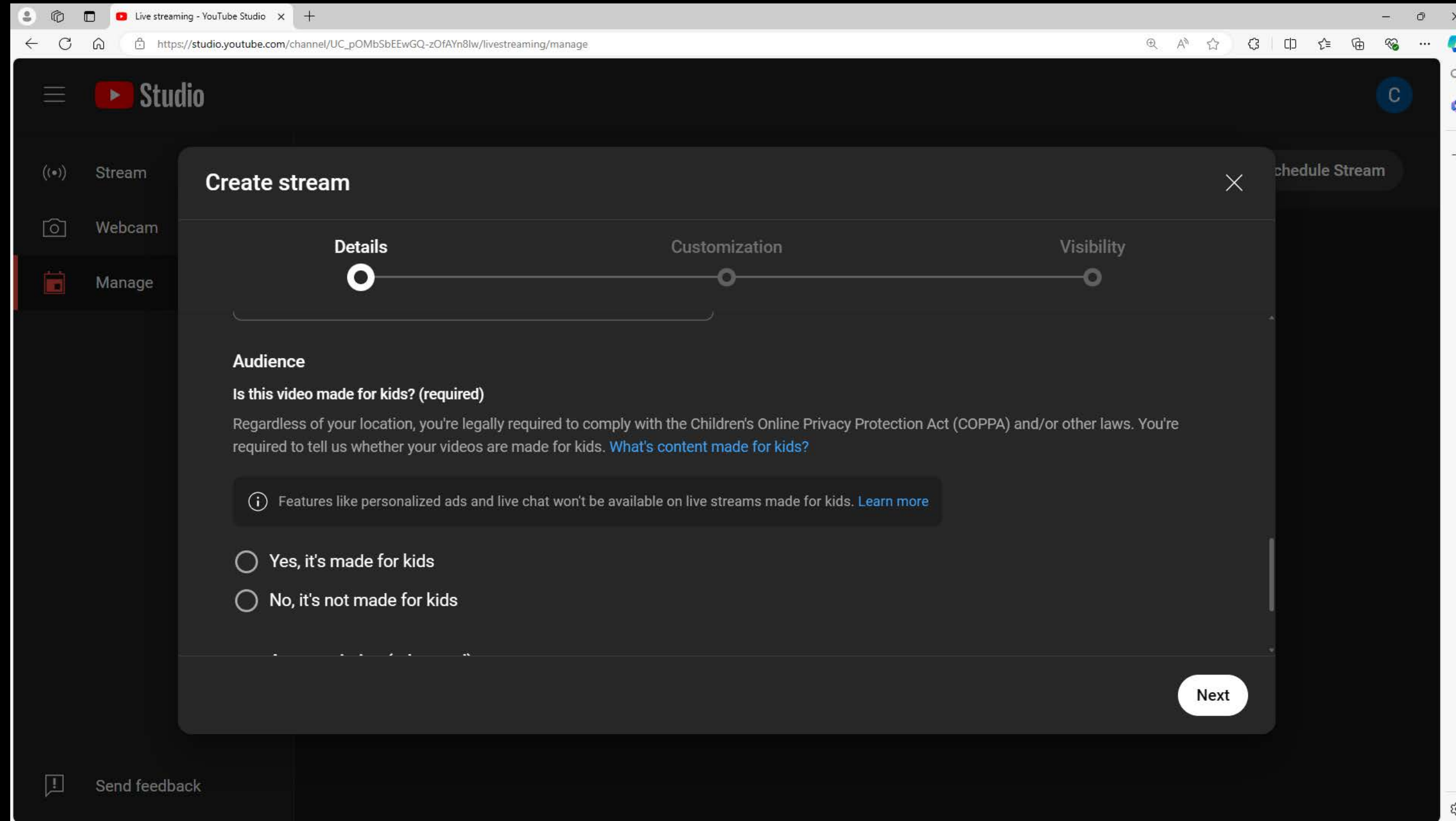
Streaming on youtube



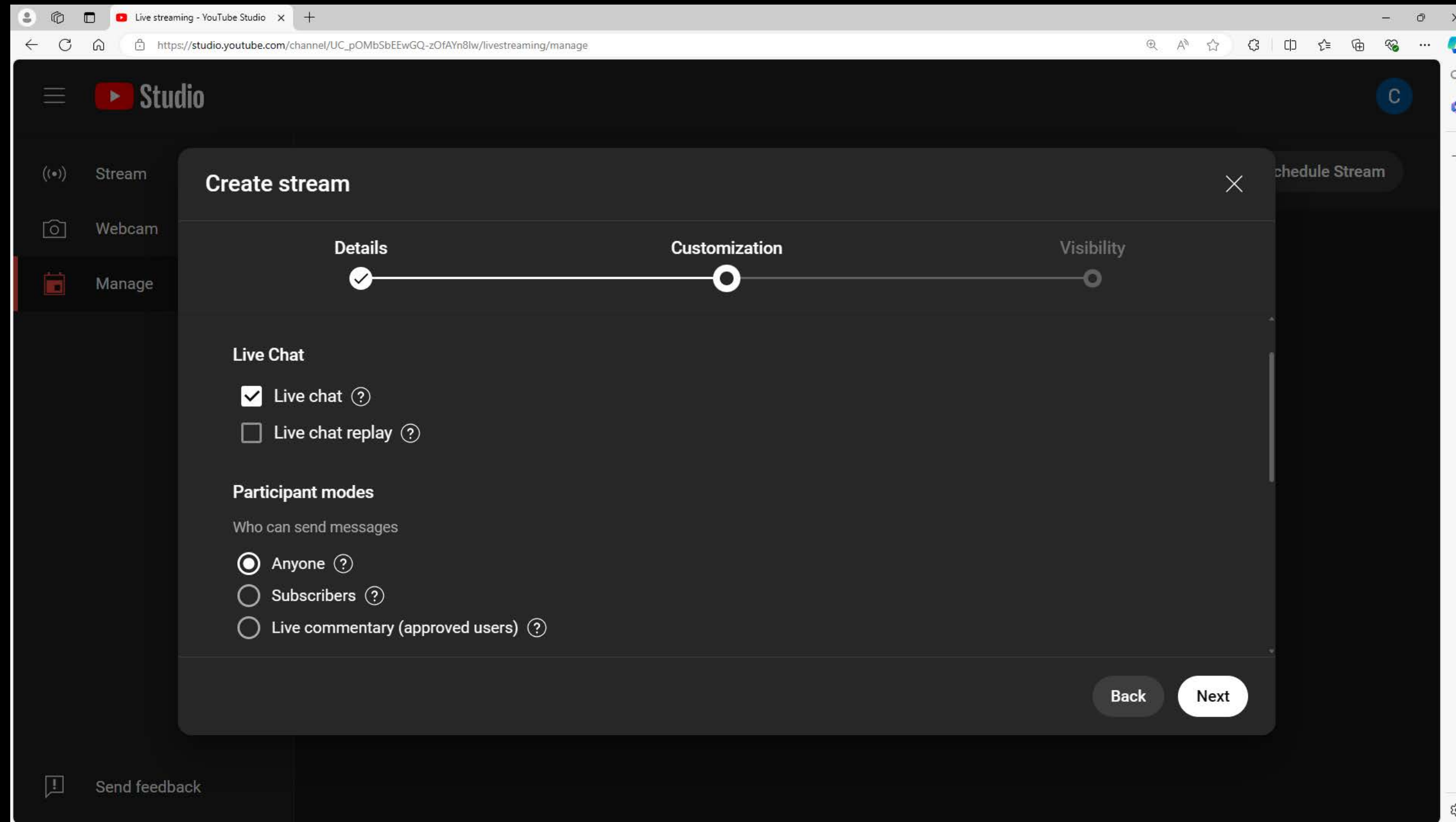
Streaming on youtube



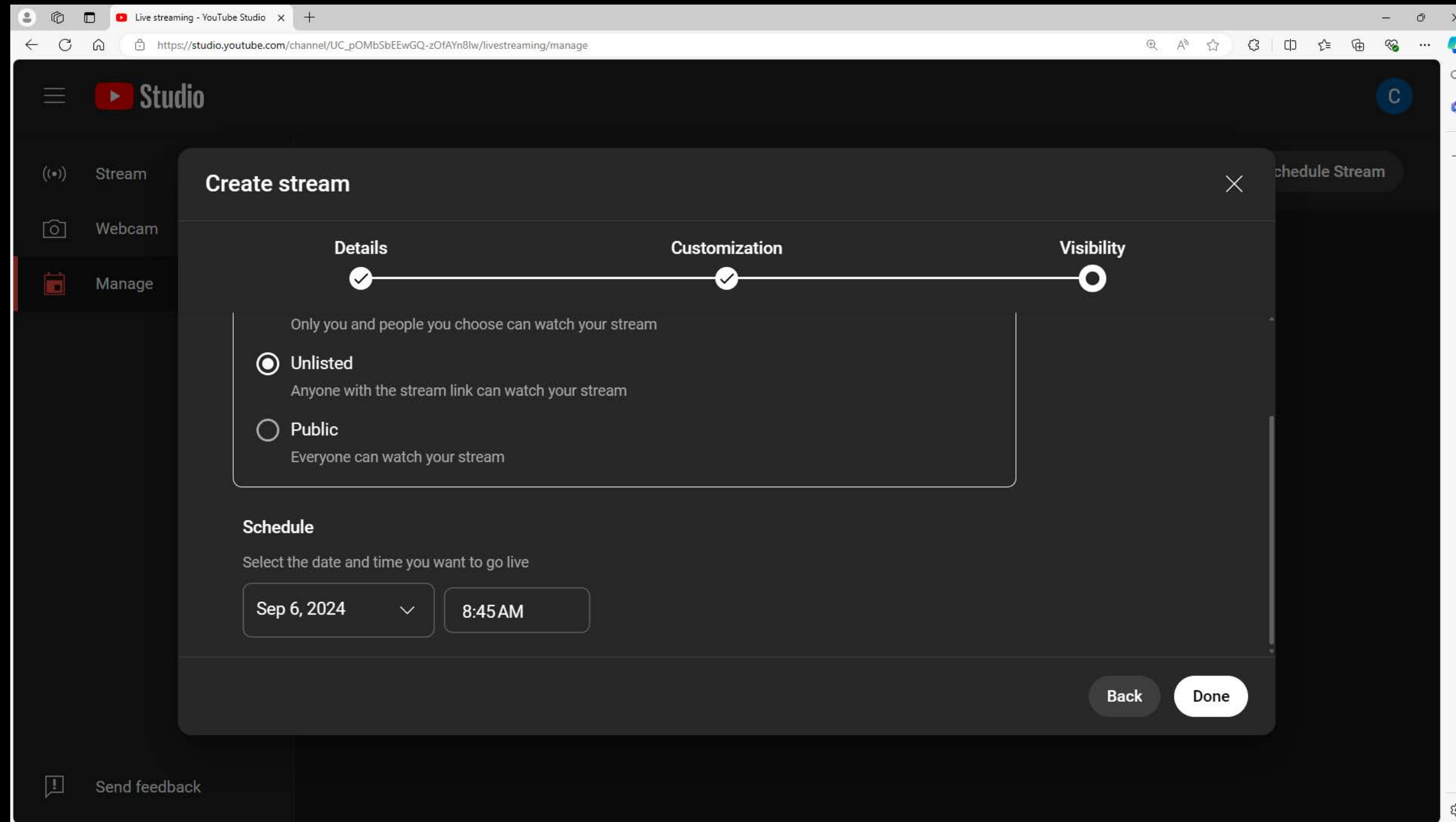
Streaming on youtube



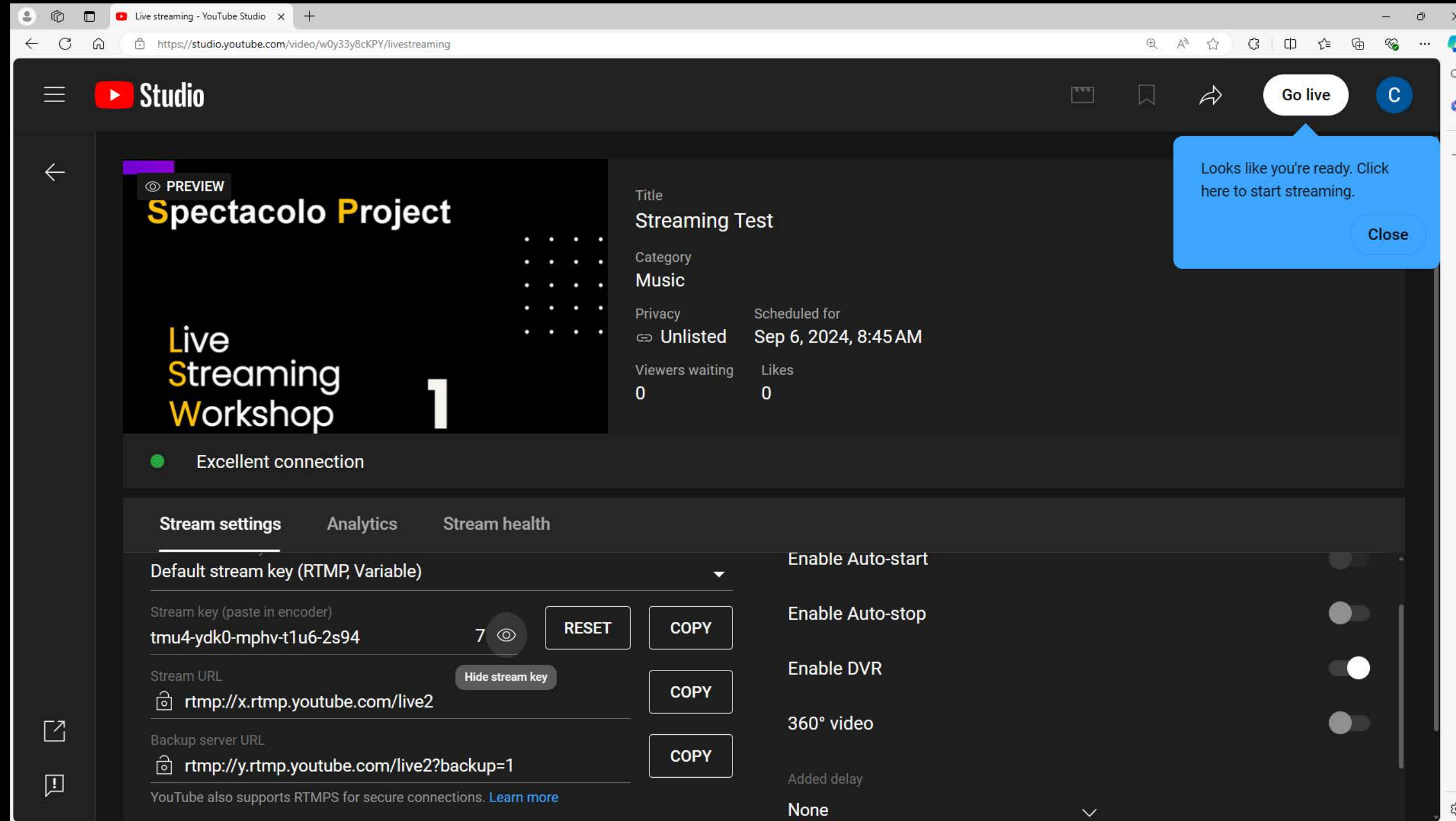
Streaming on youtube



Streaming on youtube



Streaming on youtube

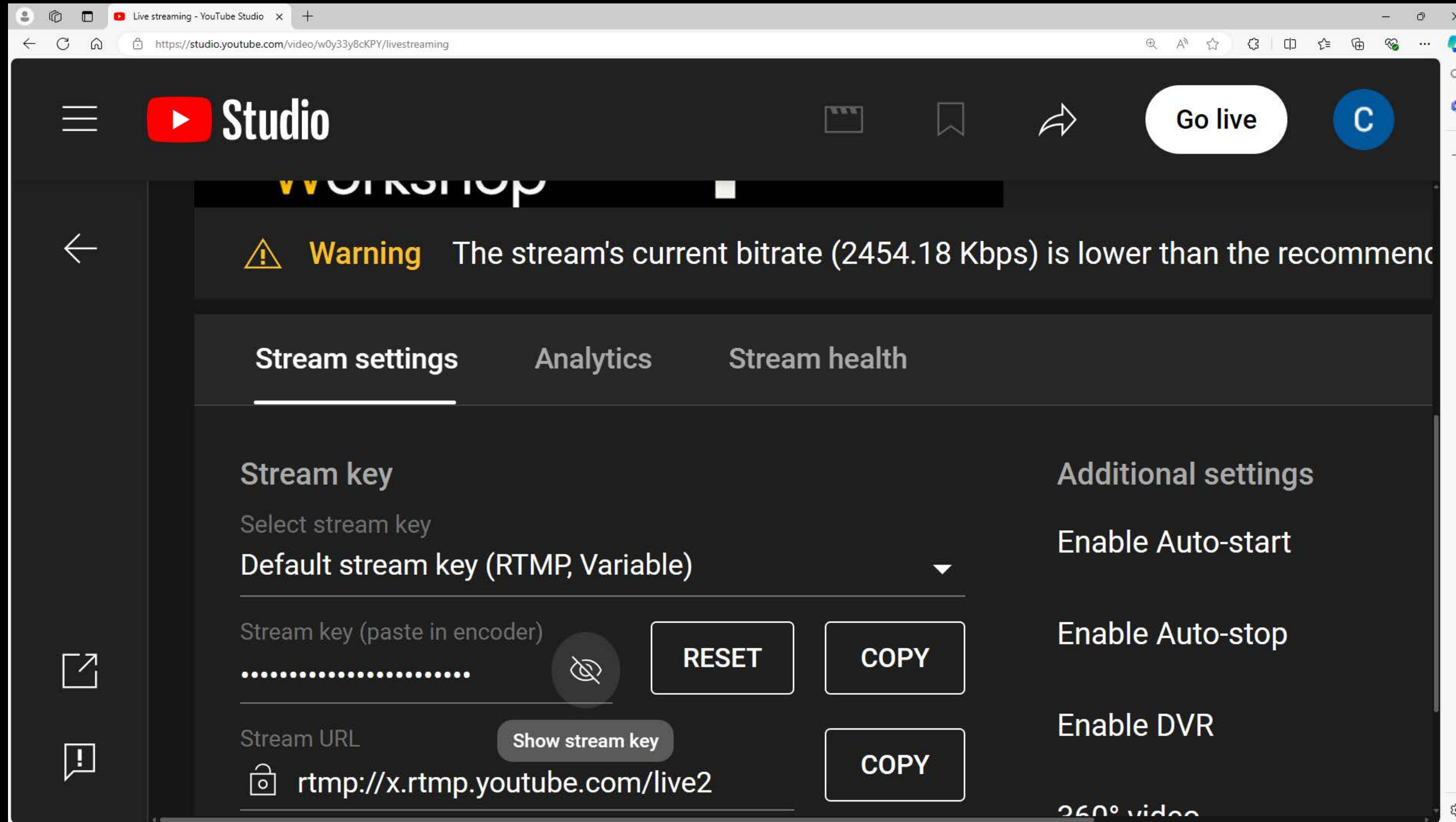


The screenshot shows the YouTube Studio interface for a live stream. The main preview area displays the title "Spectacolo Project" and "Live Streaming Workshop 1". The stream is currently in a "Preview" state. The right-hand panel shows the following details:

- Title: Streaming Test
- Category: Music
- Privacy: Unlisted
- Scheduled for: Sep 6, 2024, 8:45 AM
- Viewers waiting: 0
- Likes: 0

A blue notification bubble in the top right corner says: "Looks like you're ready. Click here to start streaming." with a "Close" button. The "Go live" button is visible in the top right corner of the interface. Below the preview, the "Stream settings" tab is active, showing the default stream key (RTMP, Variable) as "tmu4-ydk0-mphv-t1u6-2s94" and the stream URL as "rtmp://x.rtmp.youtube.com/live2". There are also options for "Enable Auto-start", "Enable Auto-stop", "Enable DVR", and "360° video".

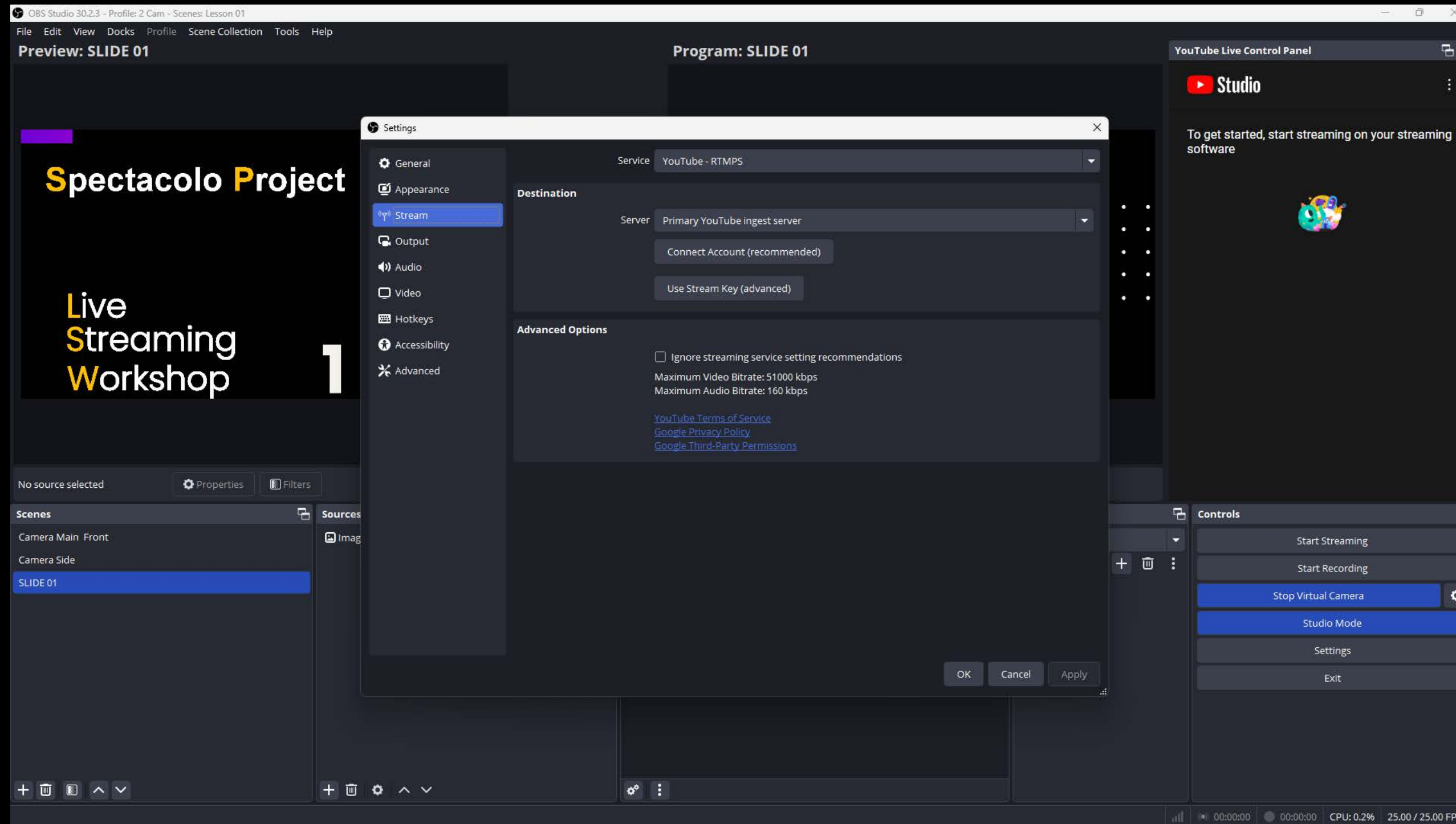
Streaming on youtube



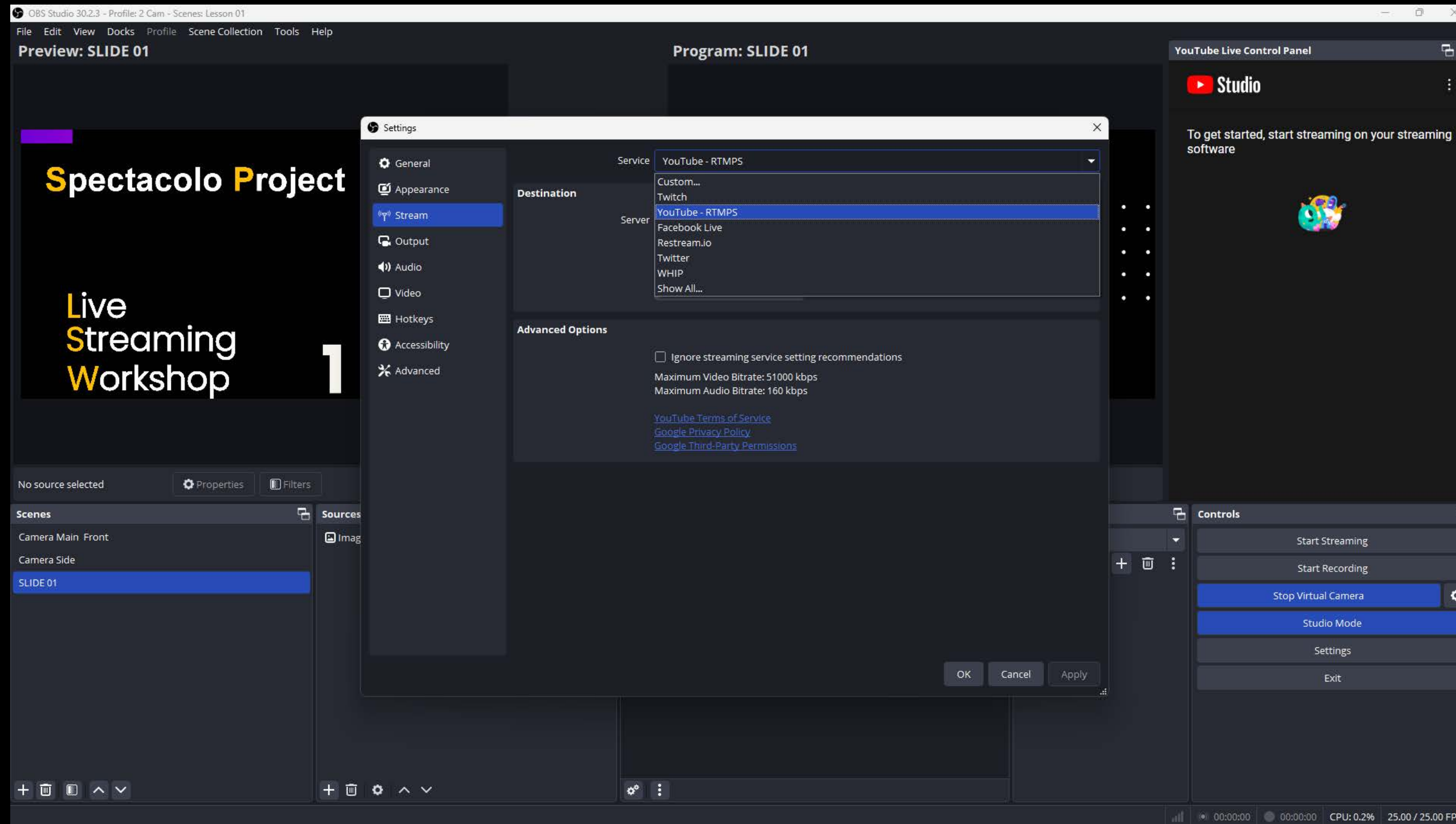
Streaming on youtube

The screenshot shows the YouTube Studio interface for live streaming. At the top, there's a navigation bar with the YouTube Studio logo, a 'Go live' button, and a user profile icon. Below this, a warning message states: 'Warning The stream's current bitrate (2454.18 Kbps) is lower than the recommend'. The main content area is divided into three tabs: 'Stream settings', 'Analytics', and 'Stream health'. Under 'Stream settings', there are sections for 'Stream key' and 'Stream URL'. The 'Stream key' section shows a dropdown menu set to 'Default stream key (RTMP, Variable)', a text input field containing 'tmu4-ydk0-mphv-t1u€ 3' (with a copy icon), and 'RESET' and 'COPY' buttons. The 'Stream URL' section shows a text input field containing 'rtmp://x.rtmp.youtube.com/live2' and a 'COPY' button. On the right side, under 'Additional settings', there are three toggle switches: 'Enable Auto-start', 'Enable Auto-stop', and 'Enable DVR'. A '360° video' option is partially visible at the bottom right.

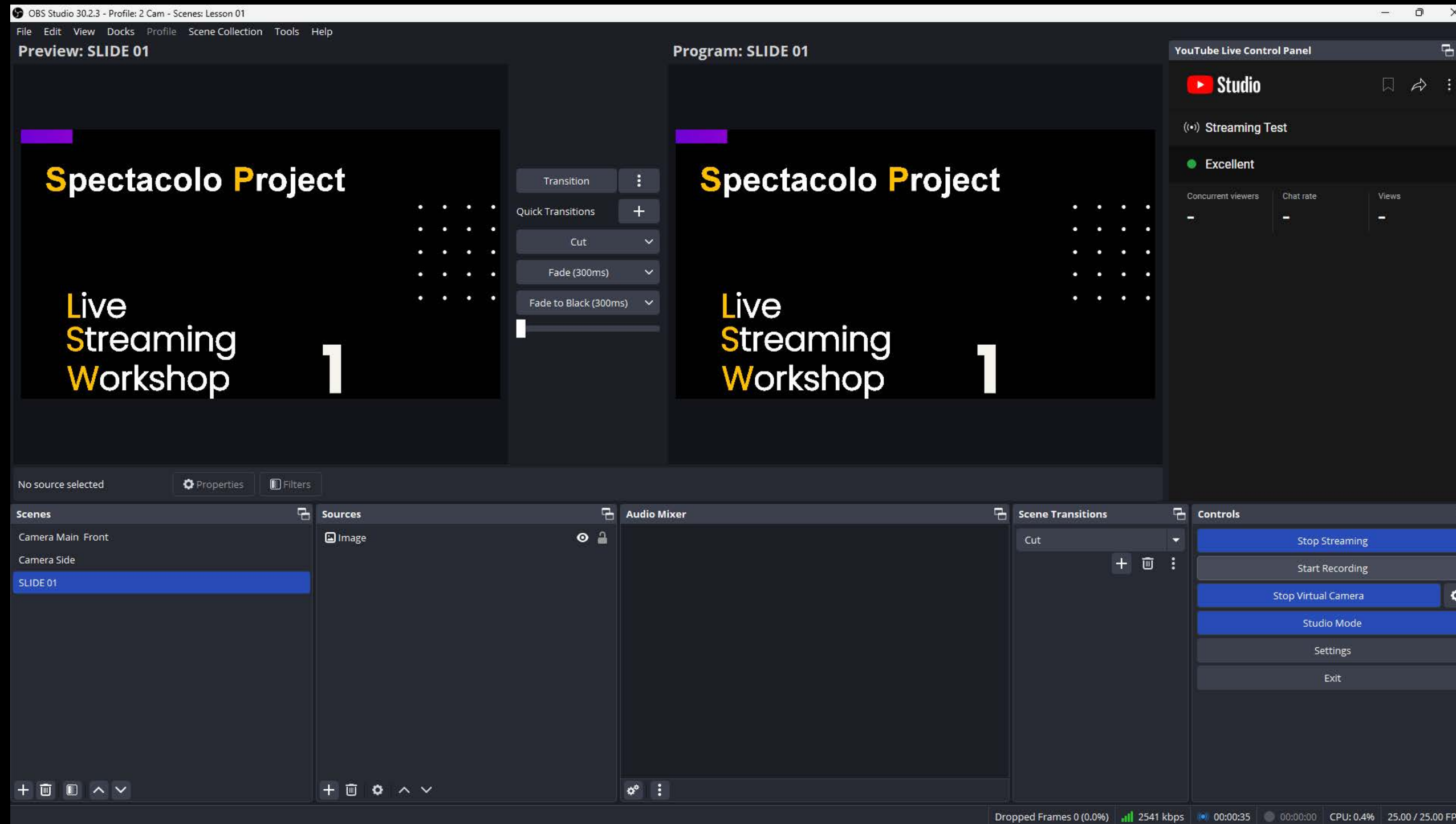
Copy your stream Key inside OBS



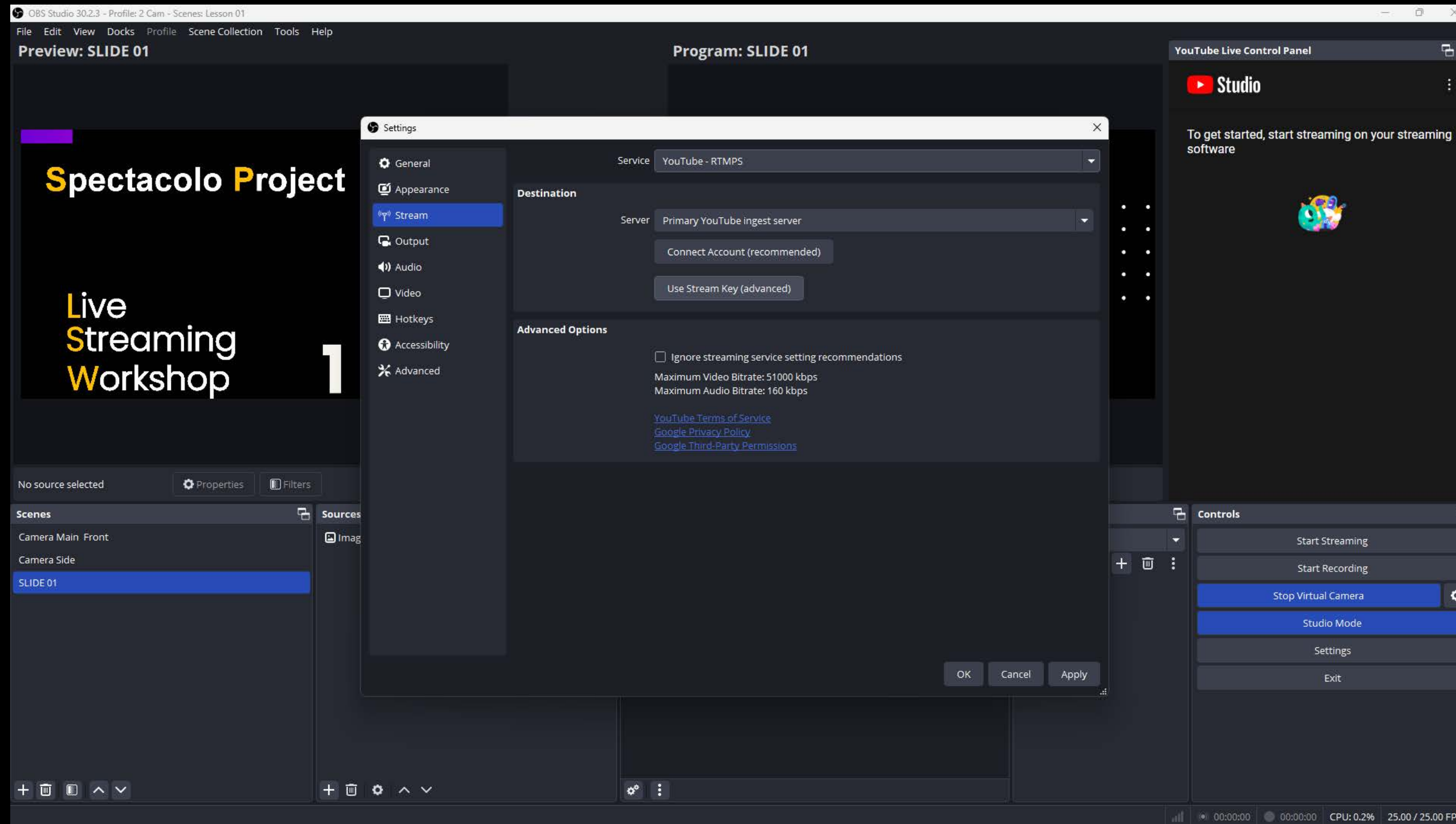
Copy your stream Key inside OBS



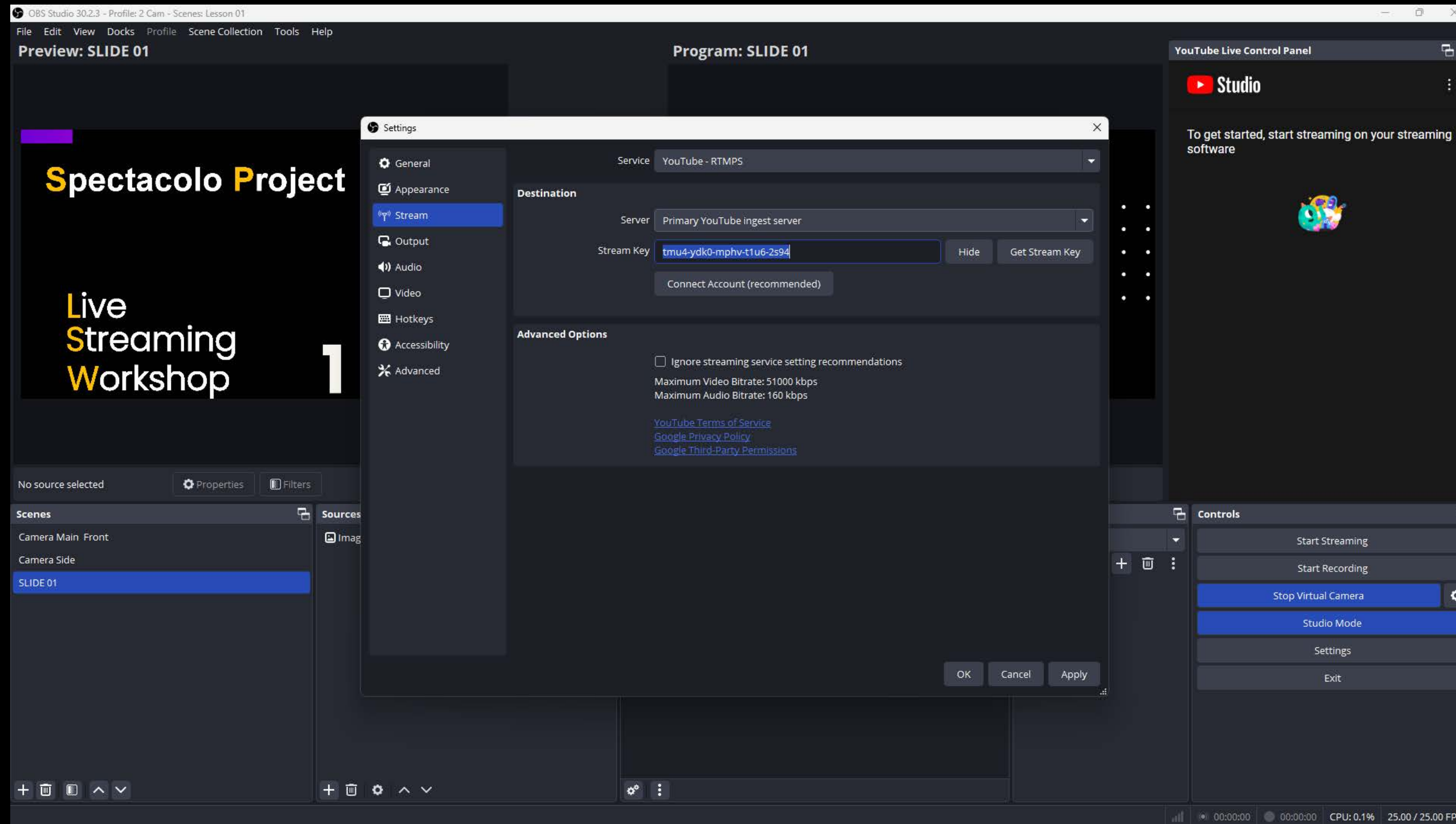
Copy your stream Key inside OBS



Copy your stream Key inside OBS



Copy your stream Key inside OBS



Preparation on location (Camera Setup)



Left Mid/close

Right Mid/close

Main Wide Cam

3 Camera Setup

Principles of Videography

Frame Rate

Frame rate describes the number of frames, or images, that are displayed per second of video. The human eye can detect jumps in anything below about 15 frames per second, but every video standard is well above this number.

The NTSC standard frame rate, for instance, shows 29.97 frames every second.

In Europe and Africa we will be using 25 Fps

Principles of Videography

Resolution

Great strides have been made in the realm of resolution.

When you pop in a standard definition DVD and sit down to watch, you're looking at video that is 720*480, or 720 pixels wide by 480 pixels high, which is a total of 345,600 pixels.

High-definition video starts at the 720p standard and goes up from there. 720p is 1280×720, or 921,600 pixels of resolution. There is also 1080p and 1080i, and most of cameras nowadays can record and broadcast up to 3840 * 2160 (Ultra HD)

In most situations we can stream in 1920 * 1080 pixels resolution
Full HS

Principles of Videography

ISO Sensitivity

From iso 100 for a scene with a lot of light to 1600 and more for a scene with low light

Principles of Videography

Aperture

Influence the amount of light coming through the lens.
The lower the number ie F 1 the more light coming in.

Principles of Videography

Shutter Speed

1/50 is preferred when broadcasting in 25p
You need to double the number according to the
framerate. If you broadcast in 50p your shutter
speed should be 1/100

Principles of Videography

White Balance

Influences the color rendition. Preferably set it in Kelvin, Interiors 4200K exteriors 5400k.

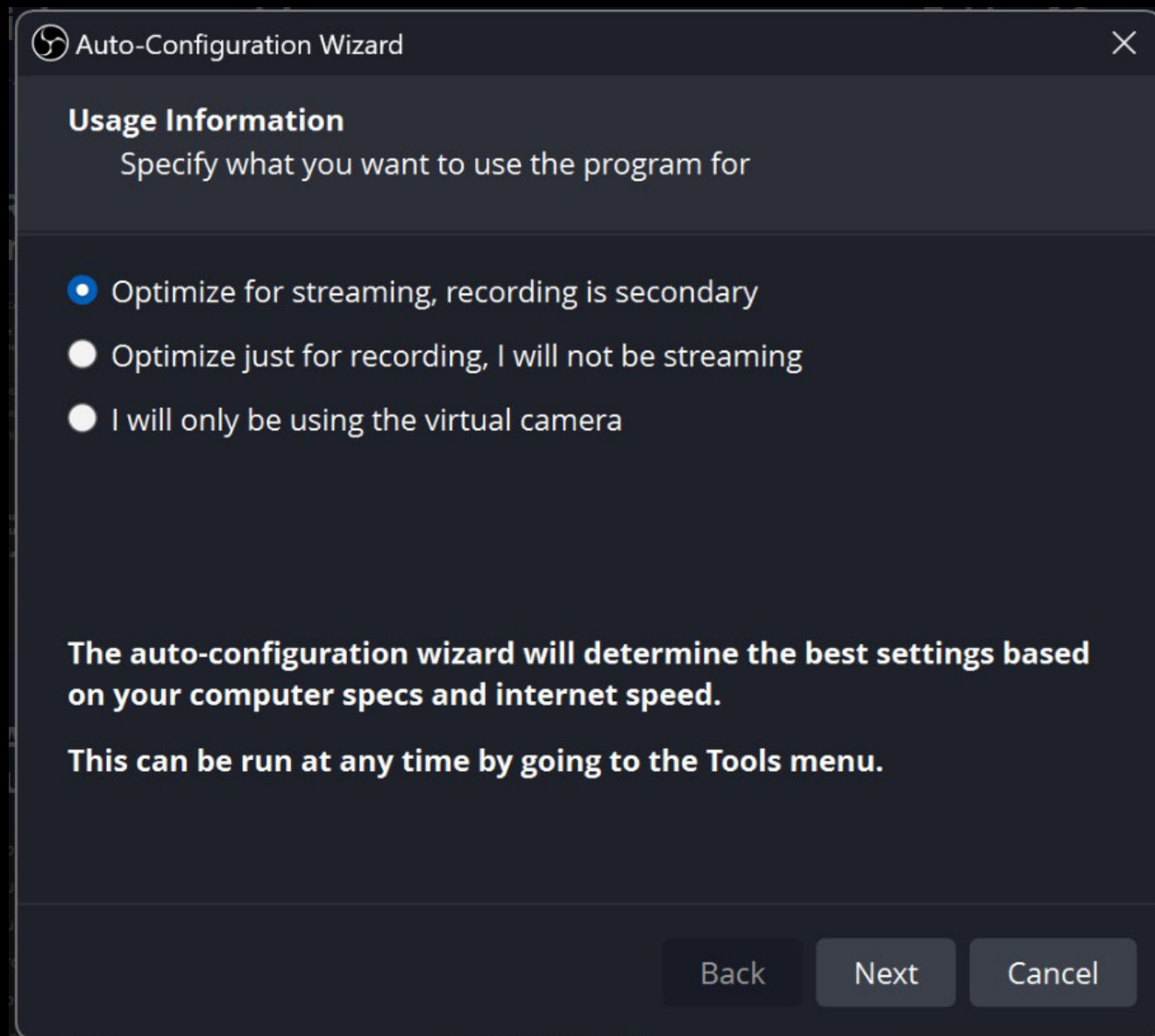
Using OBS Open Broadcaster software

OBS is the software we will be studying throughout the lessons. It enable its users to encode our broadcast so as to be able to stream it on a social media platform.

This software acts like a virtual mixer and can be installed on a desktop or a laptop. Just like a professional mixer it gives the possibilities to 'switch' from one source (a webcam, a camera, a picture, a video...) to another source. With this software you can as well record the entire broadcast on your harddisk.

Using OBS Open Broadcaster software

1. Run the Auto-Configuration Wizard

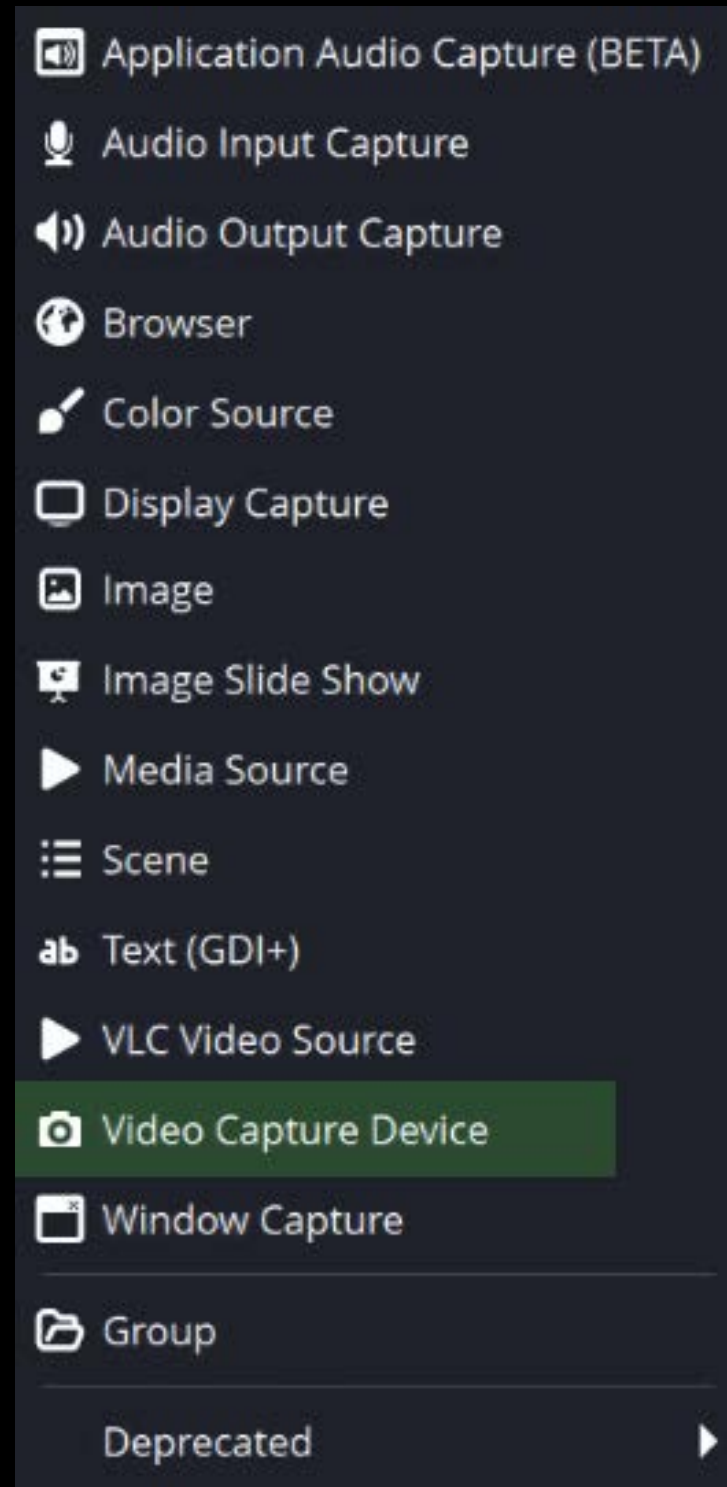


The Auto-Configuration Wizard optimises OBS Studio for your needs, whether you're streaming or recording high-fidelity video.

It takes into account what you want to do in OBS Studio, your computer's hardware resources, and your network conditions (if you're streaming).

The wizard shows the first time you run OBS Studio. If you wish to use it again, click on the Tools menu → Auto-Configuration Wizard.

2. Add Sources to your Scenes

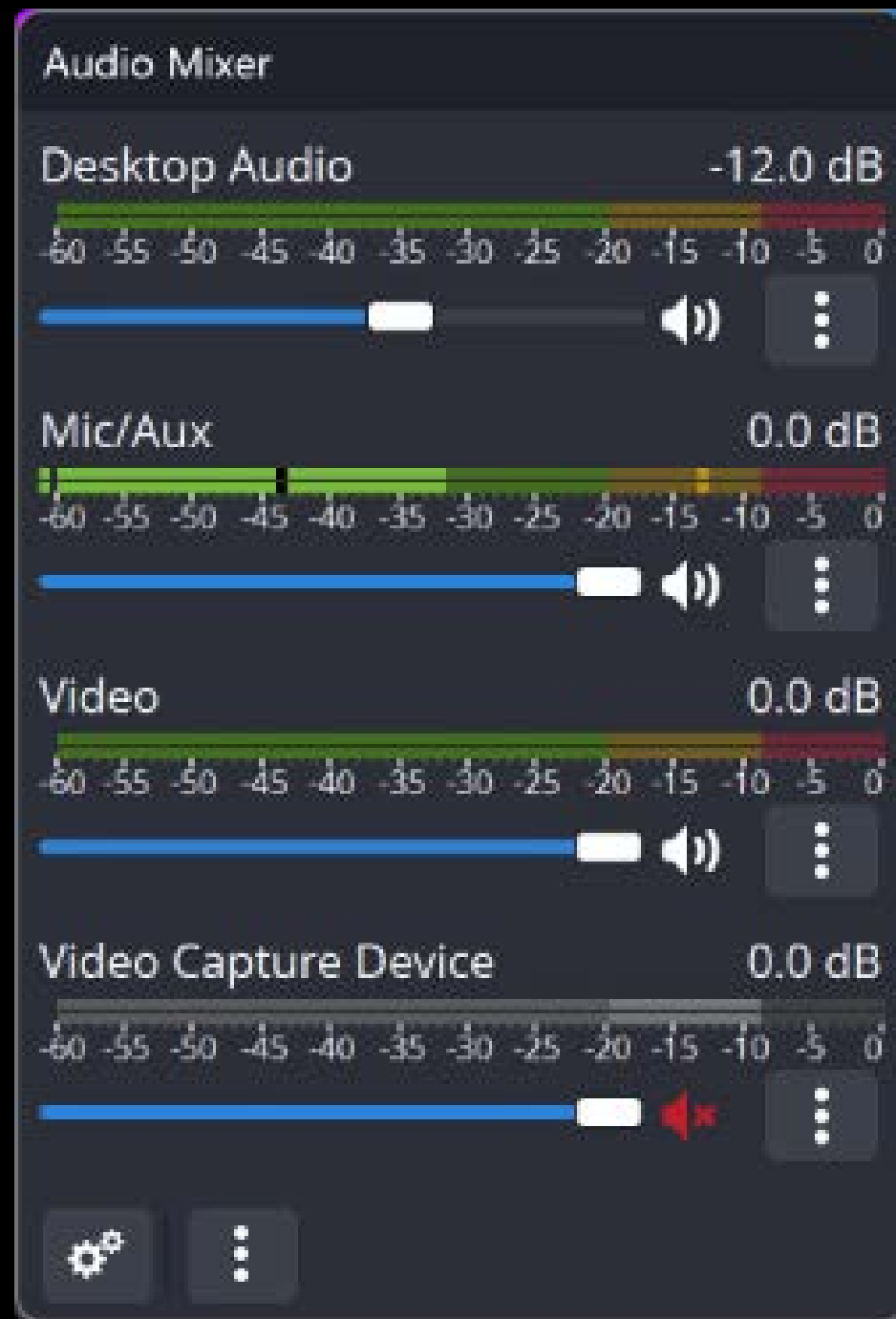


When you start OBS Studio, you start with a blank scene by default. You can add all kinds of Sources — to show images, text, video, your webcam, game play, desktop, etc.

At the bottom of the main window is the Sources Dock. Click on the + symbol to add a source of your choice. Here is the most important source to get you started:

Video Capture Video Capture Source to capture your webcam and/or capture cards/camera

3. Set up your Audio



By default, OBS Studio is set to capture your desktop audio and microphone. You can verify this by looking at the volume meters in the Audio Mixer (pictured left) at the bottom of the main OBS Studio window.

If they aren't moving, or you suspect the wrong device is being captured, click on Settings → Audio and select the devices manually.

4. Test your Settings



Double check that all your settings are how you want them in Settings → Output. Then, click Start Recording or Start Streaming on the Controls Dock (pictured left).

Make sure to run a test for a few minutes to be certain that there are no issues, rather than just jumping in to your first stream or recording.