

# **LIVE STREAM ON A MINIMAL BUDGET MANUAL**



# Live stream on a Minimal Budget Manual

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## PREAMBLE

It's a one-camera live-stream with the possibility of changing score, outs, innings. You can also add additional graphics or live commentary.



## WHAT DO YOU NEED

- A laptop with the OBS Studio software (free software)
- Outdoor (action) camera with a 170° angle
- Mini USB to 2.0 USB cable (comes with the camera)
- Internet connection (at least 1MB upload)
- Duct tape or another sophisticated system how to attach the camera
- Platform where to show the video (OTT, YouTube, Facebook)
- Extension cable (USB) if necessary
- Electricity to keep your laptop and the camera alive
- Headset – optional
- Graphics – .jpg or .png files

*Tip – probably the most famous action camera GoPro is cool, but unnecessary for this task. Way cheaper cameras such as Nice Boy or Sencor 3cam 4K02W or others will serve just as well.*

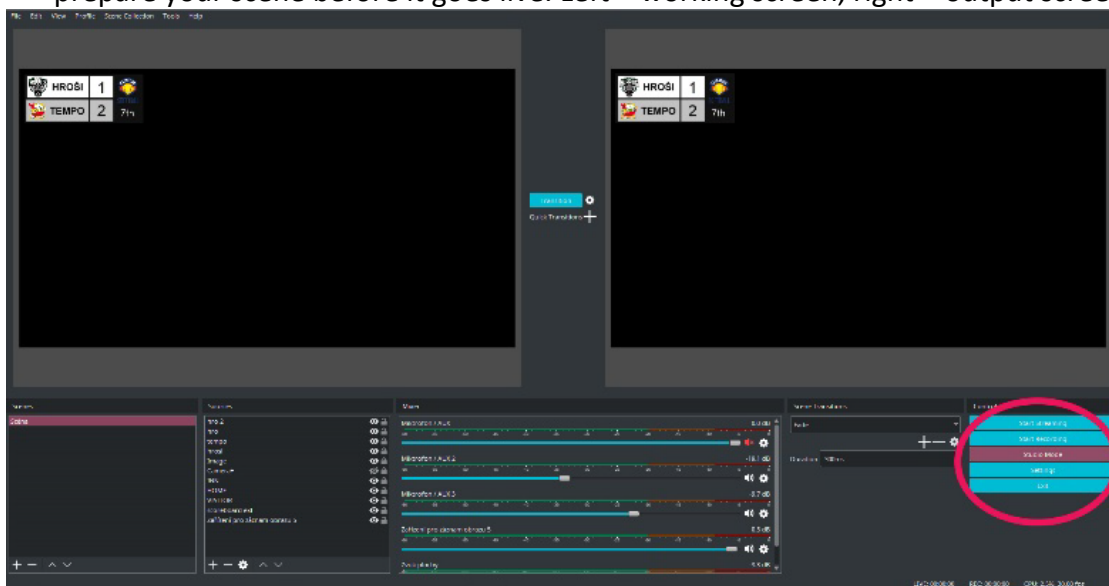
## STEP 1 – DOWNLOAD OBS STUDIO

Download the "OBS Studio" software here: <https://obsproject.com/download>

Install it.

## STEP 2 – SET UP THE OBS STUDIO

- OBS Studio will create and broadcast your feed, plus it will also record and save the footage to your laptop.
- When you open the OBS for the first time, it will want you to set up a bunch of things. You can set them up later as well. So you don't need to worry too much about it at that moment if you're not sure about the details.
- **Studio mode** – in the right bottom corner, click the Studio Mode button. This will help you prepare your scene before it goes live. Left – working screen, right – output screen.



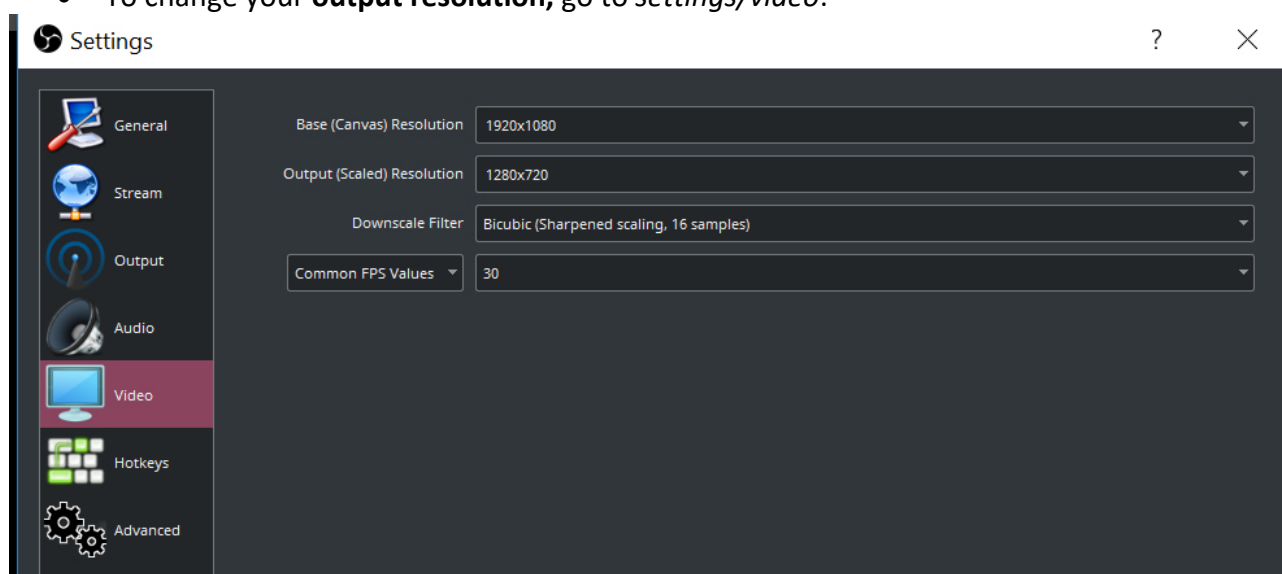
- **Settings** – depending on your internet connection, you will need to set up the quality that you can use for your live-streaming. Go to settings and set up as needed. If you understand these things, do

your thing. If you want to learn about it go [here](#). If you just really want to get it done, follow the next steps for basic set up.

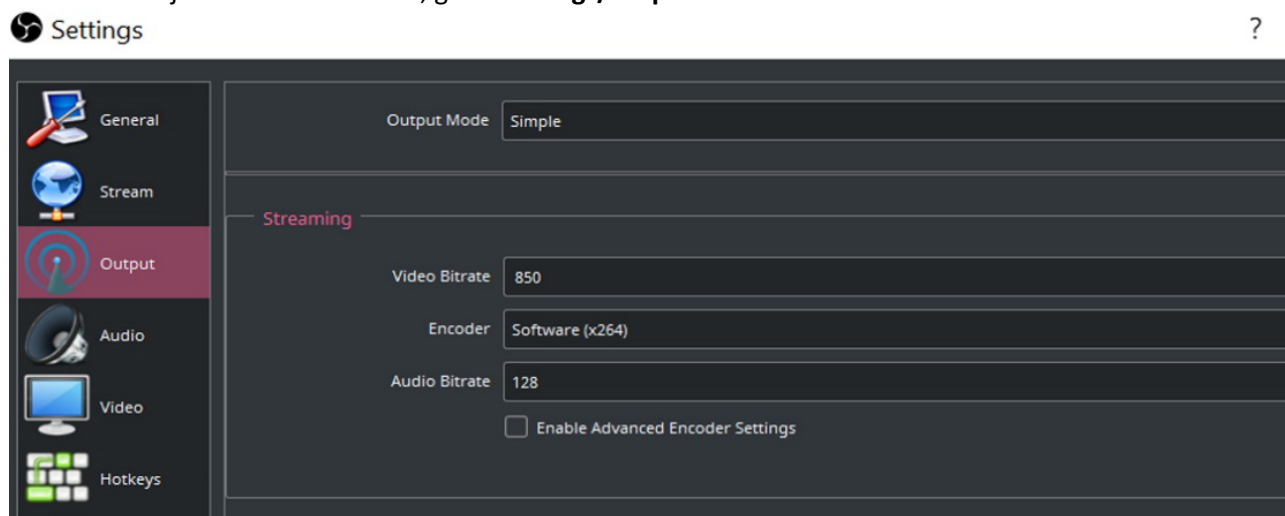
- **Settings/video** – find out what is your internet connection like – more specifically – what is your upload? (go to <http://www.speedtest.net/>) Depending on that number, you will need to set up two things – **Video bitrate, and output resolution**.  
Check out the following table and find the bitrate that is close to, but lower than your upload (1MB upload = resolution 854x480, 2MB upload = resolution 1280x720, etc.)

|  |   |
|--|---|
| 1080p  | ^ |
| <ul style="list-style-type: none"> <li>• Resolution: 1920x1080</li> <li>• Video Bitrate Range: 3,000 - 6,000 Kbps</li> </ul> |   |
| 720p @60fps  | v |
| 720p   | ^ |
| <ul style="list-style-type: none"> <li>• Resolution: 1280x720</li> <li>• Video Bitrate Range: 1,500 - 4,000 Kbps</li> </ul>  |   |
| 480p   | ^ |
| <ul style="list-style-type: none"> <li>• Resolution: 854x480</li> <li>• Video Bitrate Range: 500 - 2,000 Kbps</li> </ul>     |   |

- For all values, go to: <https://support.google.com/youtube/answer/2853702?hl=en>
- To change your **output resolution**, go to *settings/video*:



- To adjust the video bitrate, go to **settings/output**:



### STEP 3 – AT HOME – SEND FEED (TEST)

Where will you live-stream to? To YouTube? To an OTT platform? To Facebook?

The OBS Studio creates a signal (a feed) that needs to be sent somewhere to be displayed and available for viewers.

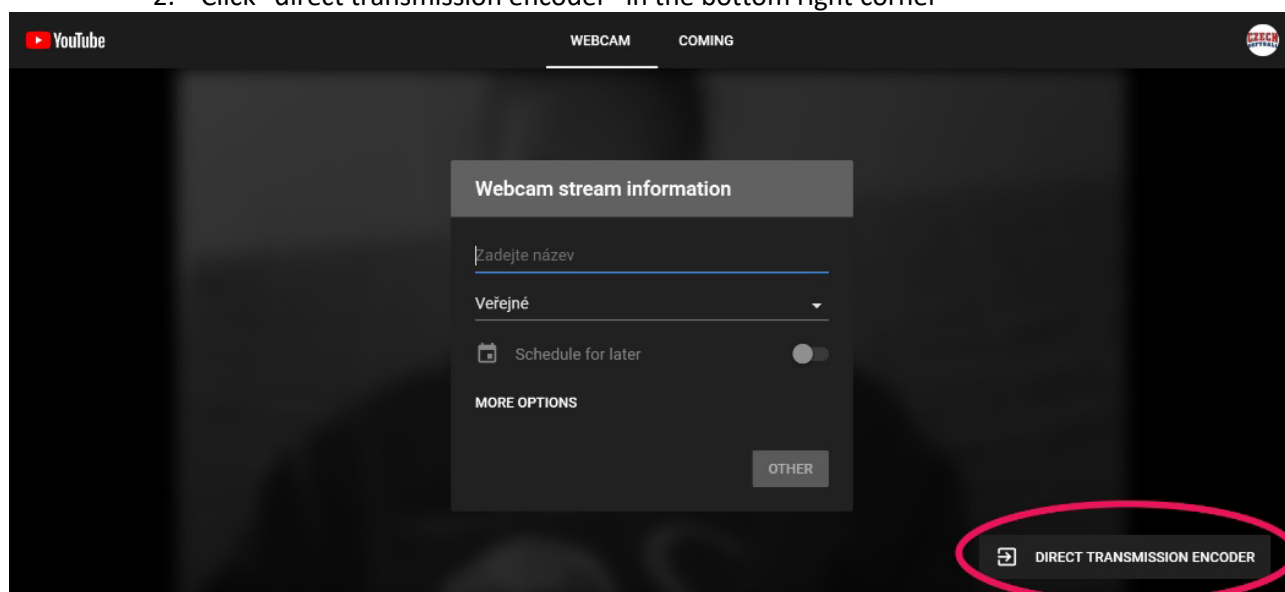
In whatever service you may choose to use, you will find a rtmp/server url and a stream key, you need to copy and paste both to settings/stream in your OBS Studio

- YouTube:**

- At your main page hit the camera button and choose "start"



- Click "direct transmission encoder" in the bottom right corner



### 3. Scroll down to find the Encoder Settings

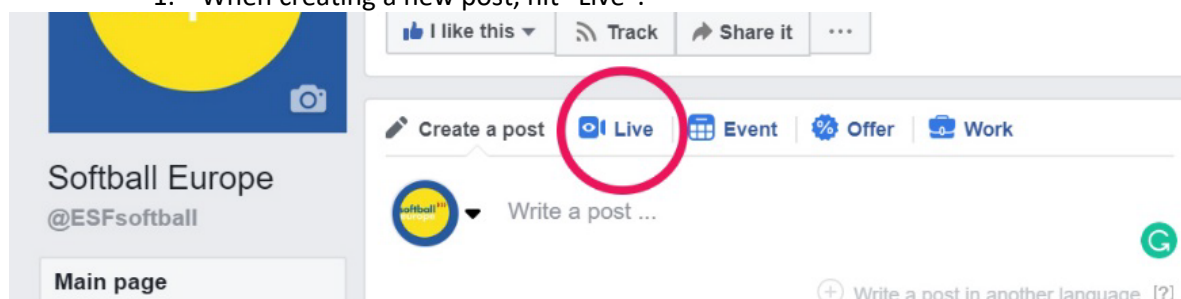
## ENCODER SETTINGS

Server URL

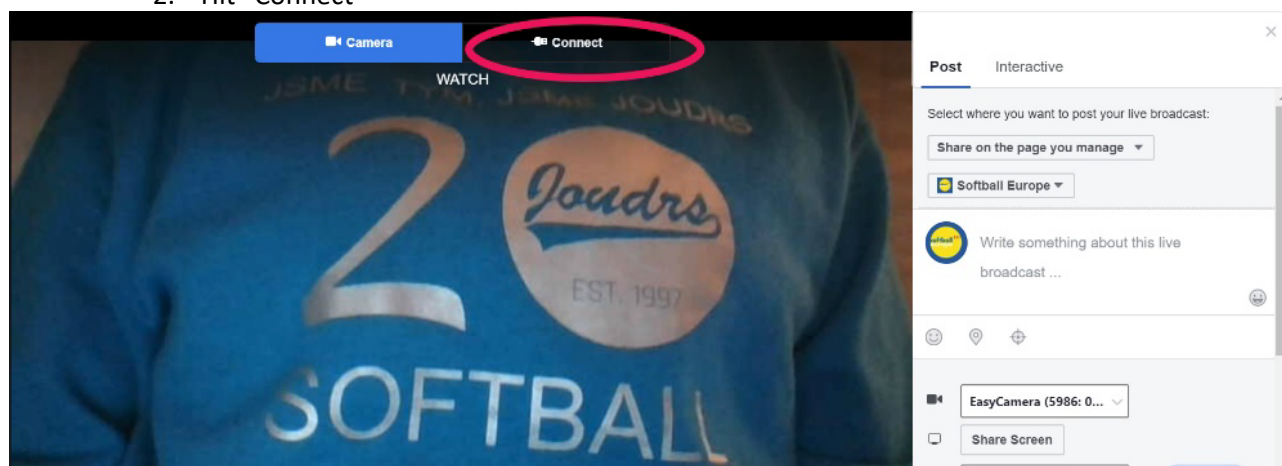
Stream / key name

- **Facebook:**

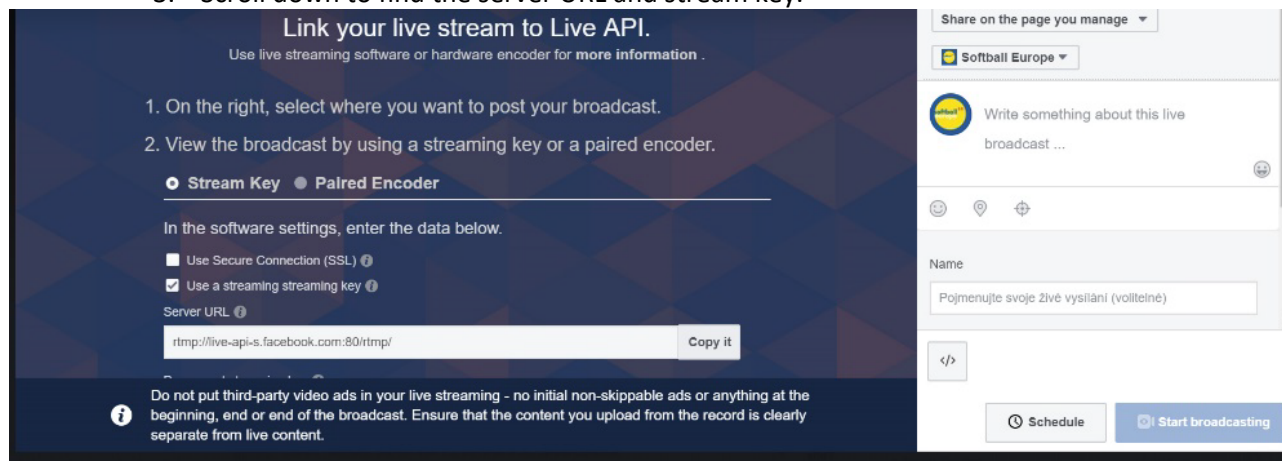
#### 1. When creating a new post, hit "Live".



#### 2. Hit "Connect"



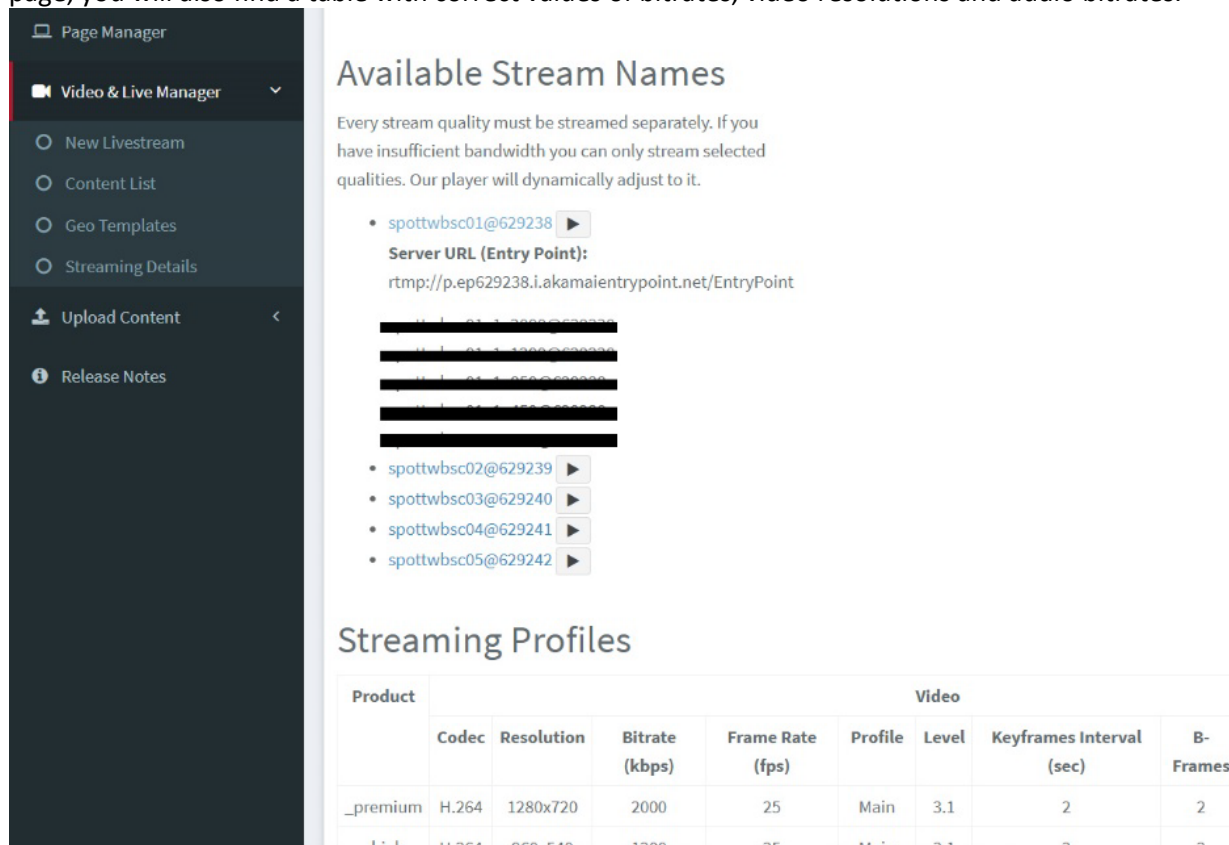
#### 3. Scroll down to find the server URL and stream key.





- **Baseballsoftball.tv** (OTT platform by sportradar)

In the OTT backend, go to **Video & Live Manager/Streaming Details**, find your server URL, and your stream key right under that – pick the correct one suitable with your bitrate. When you scroll down the page, you will also find a table with correct values of bitrates, video resolutions and audio bitrates.



**Available Stream Names**

Every stream quality must be streamed separately. If you have insufficient bandwidth you can only stream selected qualities. Our player will dynamically adjust to it.

- spottwbsc01@629238 ▶

**Server URL (Entry Point):**  
rtmp://p.ep629238.i.akamaientrypoint.net/EntryPoint

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

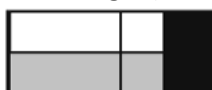
- spottwbsc02@629239 ▶
- spottwbsc03@629240 ▶
- spottwbsc04@629241 ▶
- spottwbsc05@629242 ▶

**Streaming Profiles**

| Product  | Video |            |                |                  |         |       |                          |          |
|----------|-------|------------|----------------|------------------|---------|-------|--------------------------|----------|
|          | Codec | Resolution | Bitrate (kbps) | Frame Rate (fps) | Profile | Level | Keyframes Interval (sec) | B-Frames |
| _premium | H.264 | 1280x720   | 2000           | 25               | Main    | 3.1   | 2                        | 2        |
| high     | H.264 | 860x540    | 1700           | 25               | Main    | 3.1   | 2                        | 2        |

## STEP 4 – AT HOME – SET UP YOUR SCENE

- Prepare your graphics, logos, flags, etc. In the OBS Studio, you can add text layers as you wish, you just need some graphics as a background for the texts (such as scores, team names, number of innings...)

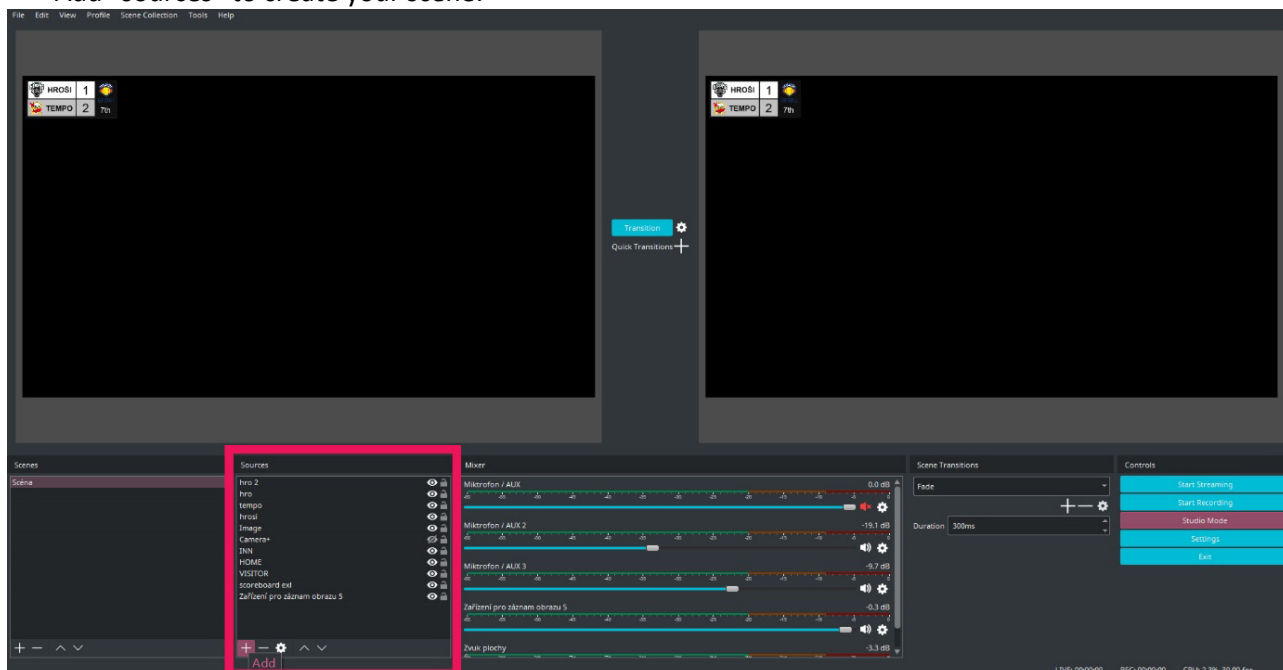


*A tip – A simple template with a space for team name, logo/flag, and the score will do. You also need a space for the number of innings and outs if you wish.*

*A logo of the tournament or league can be added separately. I use a simple template like the first one (on the left) above. For each game, I add new logos, the remaining information is changed in the OBS (the text layers) before each new game.*

*You can also go more professional and run live-scoring software at the same time and use that as a source of scoring graphics (<https://www.live-score-app.com/tutorials/obs-with-screen-capture>)*

- Add “sources” to create your scene:



Anything you want to display in your scene, you need to add as a layer to the “Sources” window. You will probably add a bunch of images – the OBS will let you browse your computer to choose the one you’ve prepared.

You can also add texts and choose the right color or font for them. You can adjust the size by pulling the image’s corners in the scene. You can move the images and texts and other layers around by clicking on them and pulling them.

Layers placed higher in the Sources window will appear in the scene above those placed lower in the Sources window.

When ready to live-stream, you will also add a Video Capture Device to connect your camera to the OBS.

**By clicking the eye icon, each layer will become visible or invisible.**

*A tip – You can broadcast advertisements, additional information in between the innings, or temporary signs like “!!!HOME RUN!!!” by turning the visibility of those layers on and off when needed.*

## STEP 5 – ON THE FIELD – PREPARATION

- Find your favorite spot behind the backstop, prepare a table where you can place your laptop, get your electricity connection ready, connect your laptop to the Internet.
- Attach the camera to the fence (using duct tape or go smarter with the Lynksynder <https://lynksynder.com/>) or place it wherever you like. Switch it on. Plug in the mini-USB cable which is also connected to your laptop. The camera will either offer you the “PC camera” mode itself or you need to find how to switch it to that mode. Usually, a button on the side of the camera sets this up.
- Add the “Video Capture Device” in the Sources window. The default option would be your webcam, you need to change this to the other possibility that should be the camera connected by the USB.
- When you add this new layer (it may take a few seconds till it displays properly) you should see the view of the camera. Fix the positioning and angle of your camera if needed.
- Make sure that the camera layer is at the very bottom of the Sources window, so all your graphics are on top of the game-scene.



## STEP 6 – LIVESTREAM

- Depending on the platform (YouTube, Facebook, baseballsoftball.tv) you may need to create an “event” that will show on the platform before you start the streaming, and will go live (or will need to be switched to live when you start sending the feed). This is the case of baseballsoftball.tv as well as optionally YouTube.
- When your camera is delivering the feed to the OBS and all your graphics are set, you can start the live stream.
- Check that you rtmp and stream key are correct, that your video bitrate and output resolution are adjusted to your upload speed.
- Hit “Start Streaming”. What you can see in your output screen is now being sent to your platform.
- If needed, set your pre-set event to live.
- Share the link of your live stream with your audience.
- Add source of sound (source window and settings/audio) and adjust its volume in the Mixer window.

## STEP 7 – KEEP UPDATING

- Keep updating the number of innings, scores, and other information you have on the screen. Click “transition” between the working screen and output screen to show the changes to your audience.

## STEP 8 – FINISH

- To end the live-stream hit “Stop Streaming”. You may also need to switch your event to “delivered”.
- The whole game is now saved in a .flv format in your laptop and can be converted to .mp4 in the OBS Studio at File/Remux Recordings.

*This document was created and based on experience and exploring options during one softball season by Helena Novotna. This solution worked the best for me in given conditions. There are other ways how to live-stream, and this may not be the best or perfect way for you.*

*If there's a mistake in the document or you come up with a few hacks or advice or other low-budget solution, please send your thoughts to [eghilardi@wbsceurope.org](mailto:eghilardi@wbsceurope.org), so this document can help others even more.*

*Thank you.*

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