Sacrament Meeting Broadcast Using OBS

This document was originally created by a stake in Arizona. Some edits have been made by the Church technology team to avoid confusion. This solution is using OBS with the Church's webcast solution. OBS will also work on several other reputable services if desired.

As we are looking to stay safe during these trying times, we are also seeking to help bring people closer to Christ. One way to do this is using technology to increase our obedience to the commandment to meet together oft. As we seek to include those who are not able to attend in person, whether because of limitations in numbers, age or health concerns, we need to also maintain the sanctity of the Sacrament. As such, there are some guidelines our stake must determine we should follow to ensure this.

- No broadcasting or recording of the ordinance of the Sacrament, including prayers, and passing.
- No recording of the meeting.
- Stake President has approved the use of the webcast portal provided by the Church. Additional options have been suggested as potential solution by the Church such as YouTube and Facebook Live.
- Sacrament Meetings will require a Church account to access. This is a stake specific requirement and not a general requirement for all stakes. Many stakes are allowing access to anyone who may want to view. The Church webcast system does support public events (no Church account required) and private events (Church account required).

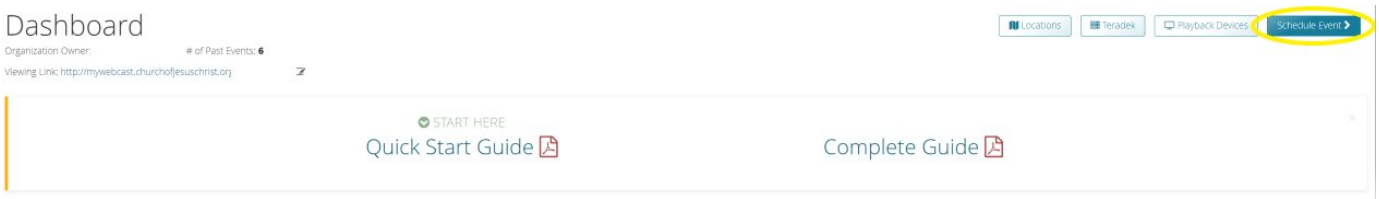
Webcast Portal Usage

The webcast portal provided by the Church is fairly easy to use. There are two parts of it, the first being the stream viewing portal. This is how member will access the streams. The link for this is provided in the stake's webcast portal (webcast.churchofjesuschrist.org) and can be accessed by the STS. This link does not change and will be used every week by the members. We have setup our events as "private", so members will be required to sign in and provide an event code to access a Sacrament meeting.

The scheduling and broadcast portion of the portal is accessed through https://webcast.ChurchofJesusChrist.org. Access is provided based on your Church calling. STS's and assistant STS's are the primary users of the scheduling tool.

To Schedule an Event:

Once inside the portal, to schedule a broadcast event, click the button in the upper right labeled "Schedule Event". A list of scheduled events will appear in the dashboard.

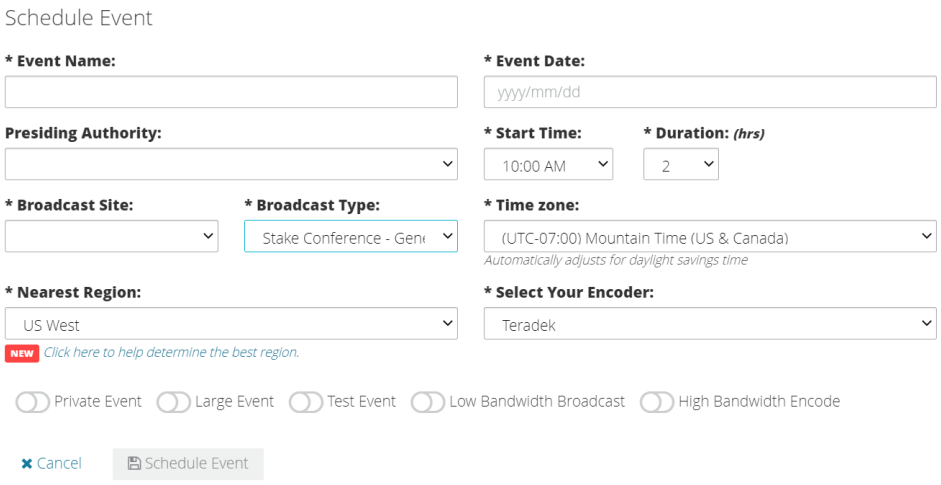


When setting up the event, the following information needs to be filled out:

- Event Name – Use Ward name
- Presiding Authority – Select Bishopric
- Broadcast Site – These are setup by clicking 

on the main dashboard.
- Broadcast Type – Ward Sacrament
- Nearest Region – Pick the unit nearest to your location. If you are unsure click *Click here to help determine the best region.*
- Event Date
- Start time - The portal will automatically start the event 1 hour before the start time to allow for set up and testing.
- Duration - The portal will allow for 15 Minutes of overrun
- Time Zone
- Optional: Make the event Private by flipping the switch as shown in the following image
- Only use the Test Event switch turned to on if performing a test.
- Large Event and Low Bandwidth Broadcast are no longer required.
- High Bandwidth Encode will allow event managers to encode at rates above 2Mbps. It is recommended this is not used on normal broadcasts.

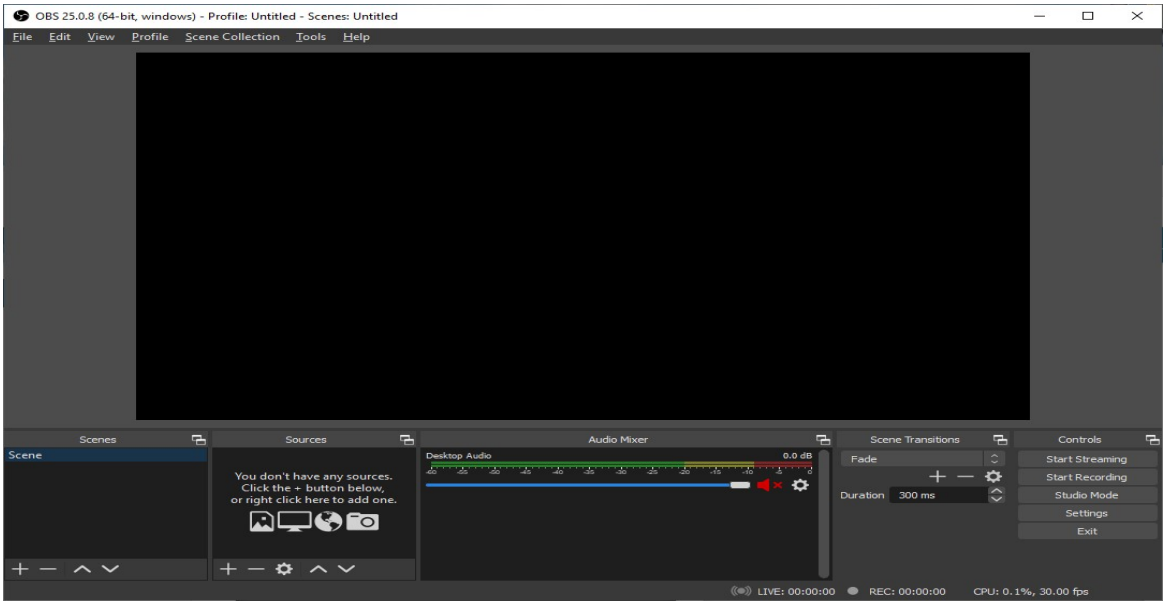
When all looks good, click “Schedule Event” at the bottom of the overlay.



To Set up to Run a Broadcast:

To broadcast, we are using OBS Studio, which is available for Windows, macOS 10.13+, and Linux, and can be obtained for free at https://obsproject.com/download.

Once installed, open up the software and you will see the following screen. We are only going to cover what is needed for a successful broadcast in this, but there are lots of options to customize your experience. Remember that we are trying to preserve the sanctity of the meeting with what we broadcast.



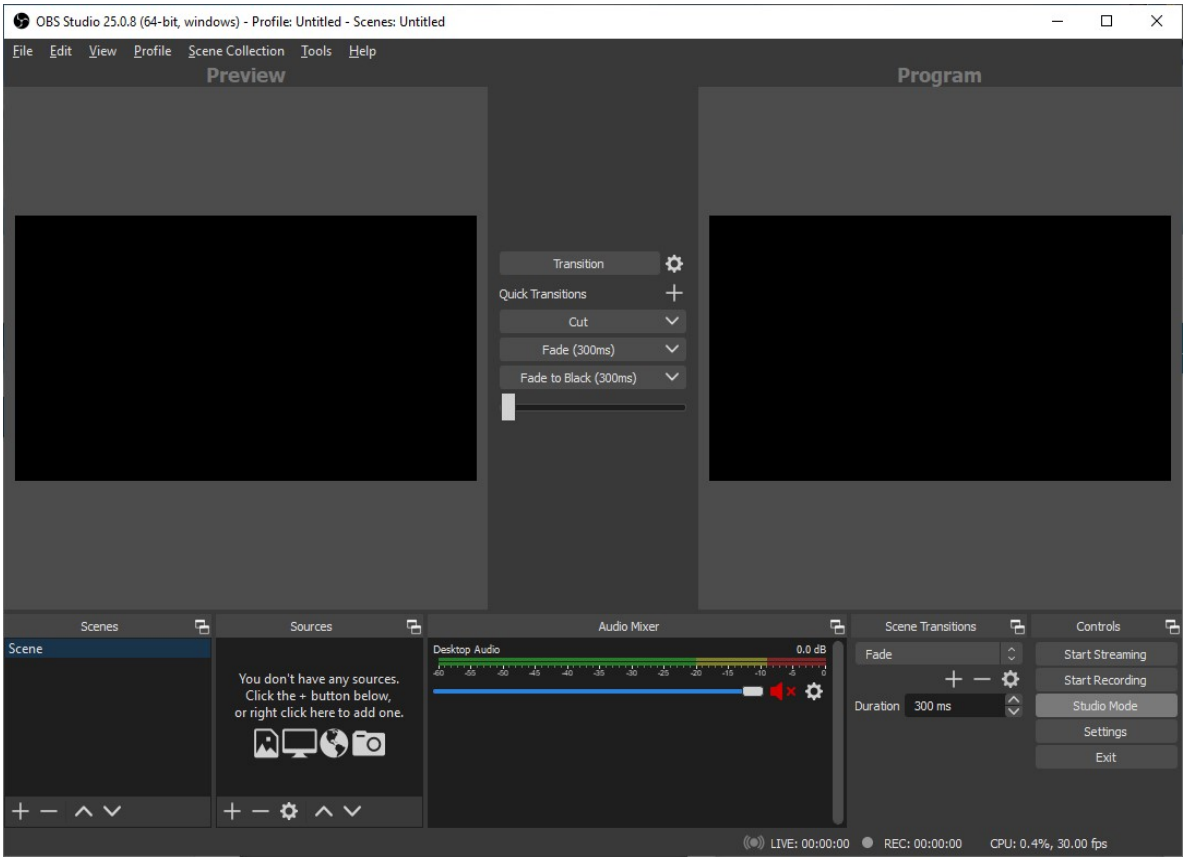
There are two main view modes. The default view, and studio mode. For illustration, we will show Studio Mode. First, we will cover a couple of key concepts.

Source: A form of input, can be audio, video (from camera or other source), text, pictures, music, etc.

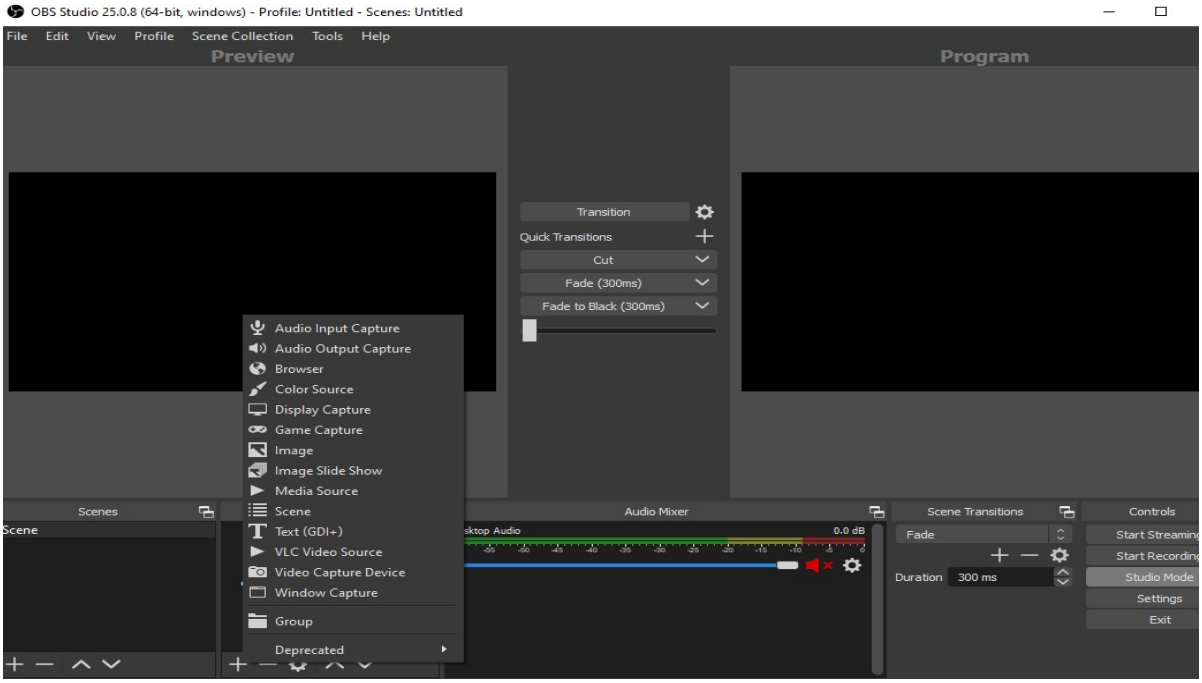
Scene: A scene is a collection of sources to be broadcast together. On OBS, the sources inside the scene can be hidden.

OBS starts off with a Scene called “Scene”. There must always be at least one scene. For Sacrament meeting, we will have two scenes. The first will be the Video Scene (name it however you want) that will consist of the camera and the audio input (through the mic jack on the laptop). The second scene will be the Sacrament scene, which will consist of text of “Sacrament in Progress” and maybe a conservative picture of the Sacrament (we have to consider copyright, so use from the Gospel Media Library and check copyright for home or church use). The Sacrament scene will have NO audio.

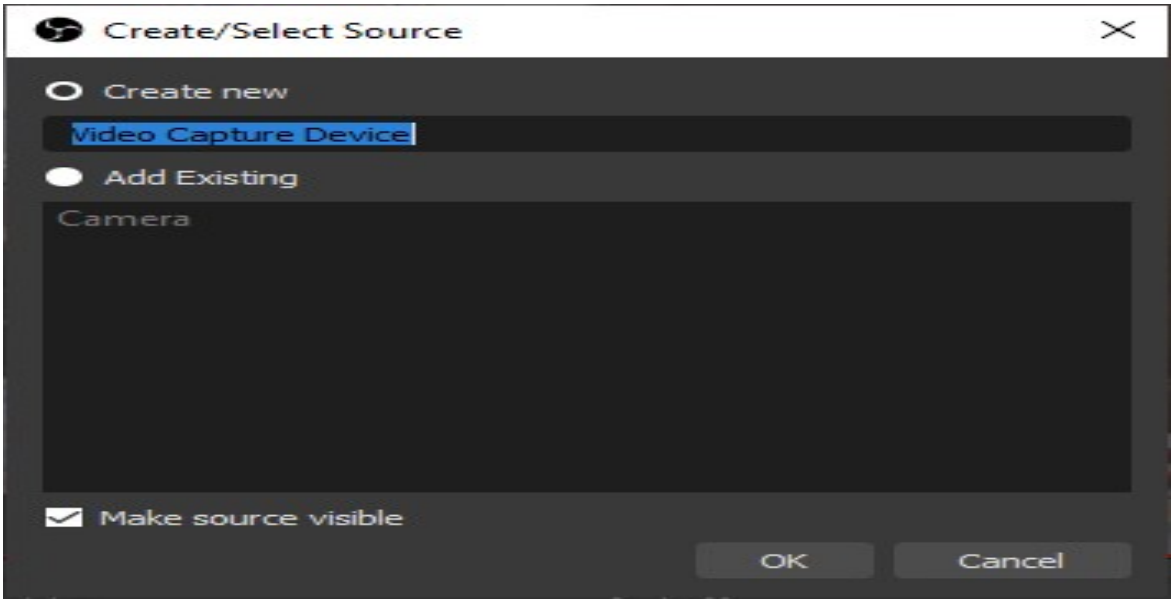
The following pages will go through how to set up these scenes. This should only need to be done once as OBS will remember your configuration when it starts up the next time.

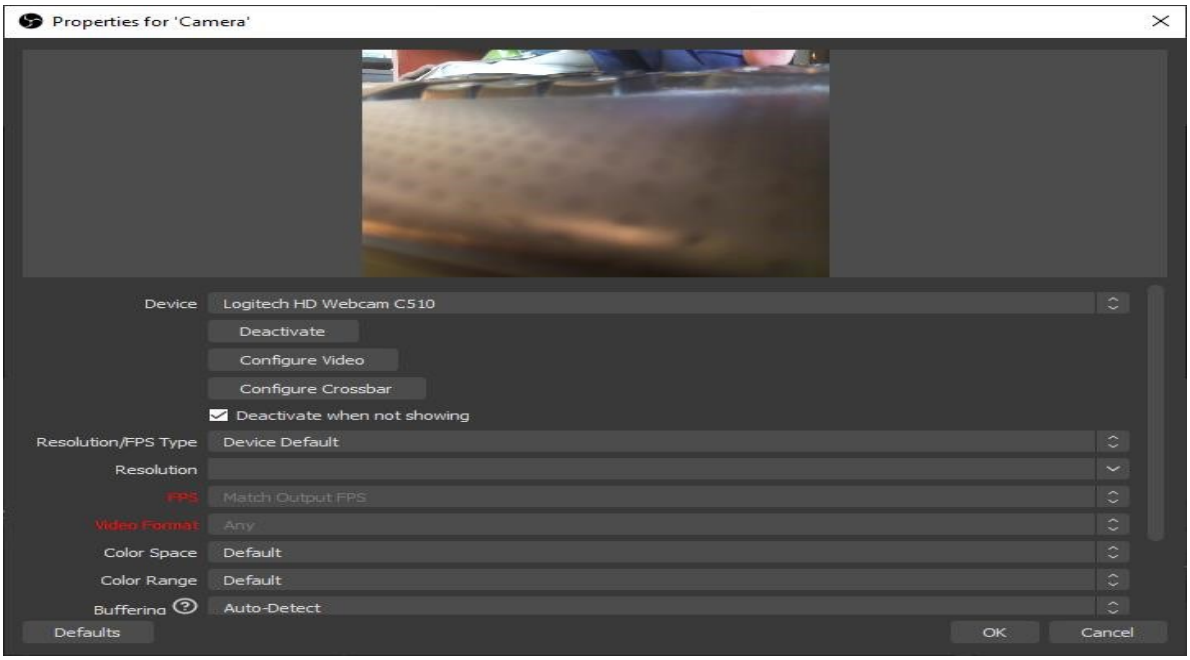


To add a source to the scene, click the "+" under the "Sources" box on the bottom left. This will show the options indicated in the following image. To add a camera, click "Video Capture Device".



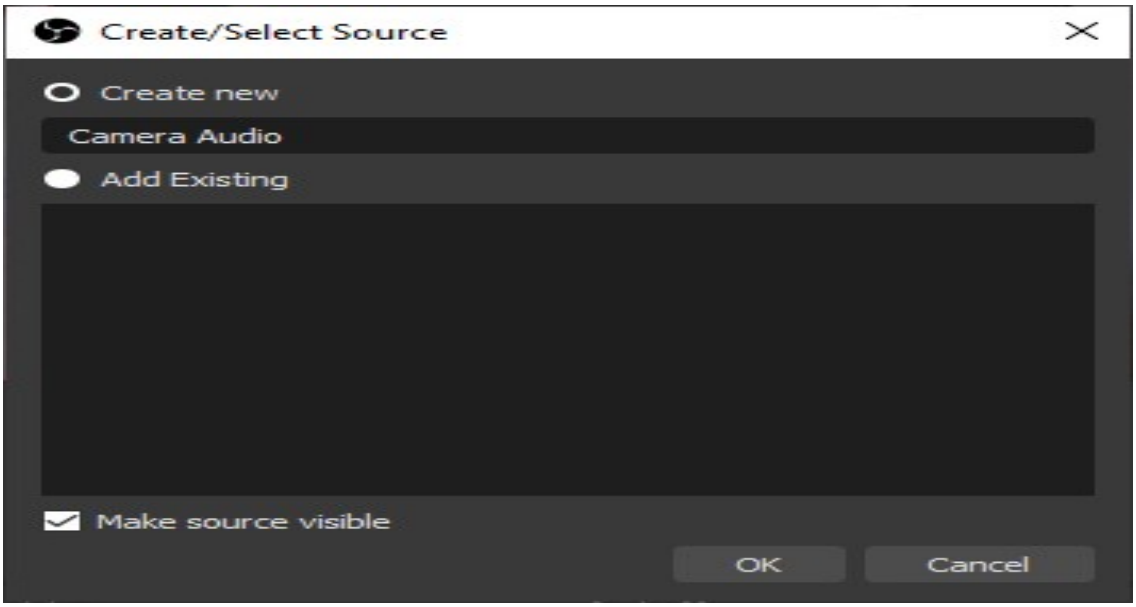
Video Capture Device setup will show the following menu to select the camera (See following images). First name the source (this is what will display under the scene), and then click OK. Select the camera from the drop down (may be auto selected). Mine works fine with the defaults selected. Click Ok when done.



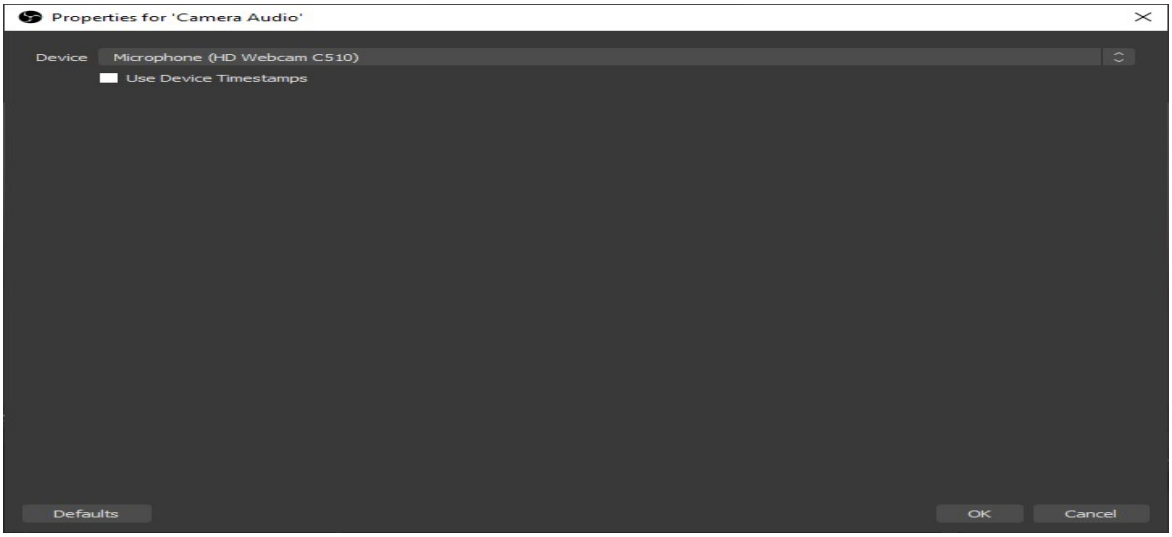


Once the camera is added to the scene, the image will display in the scene preview as shown in the image below. It will default to the upper left of the scene view at the default resolution. Use the mouse or touchpad to increase the size and center the image in the scene. Be careful not to stretch it as that will decrease image quality.

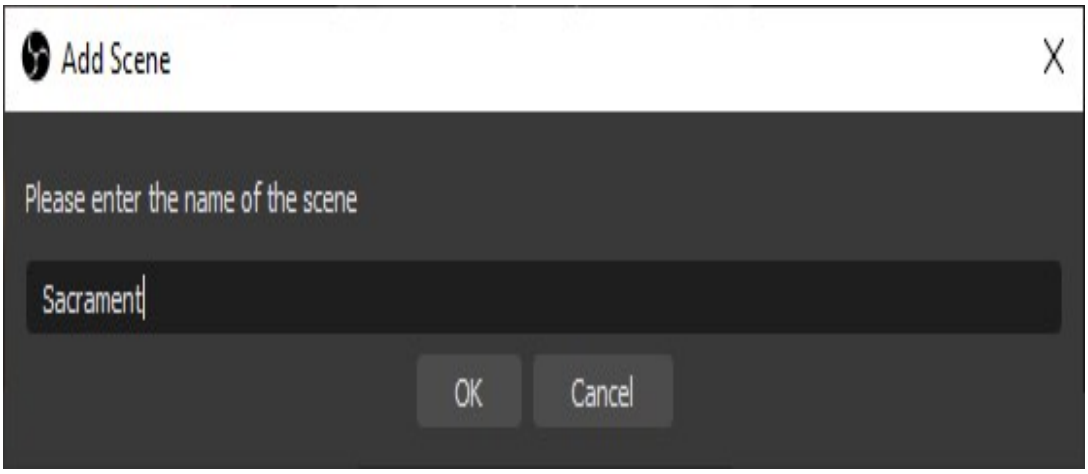
To add the audio, click the “+” under the scene and select “Audio Input Capture”.



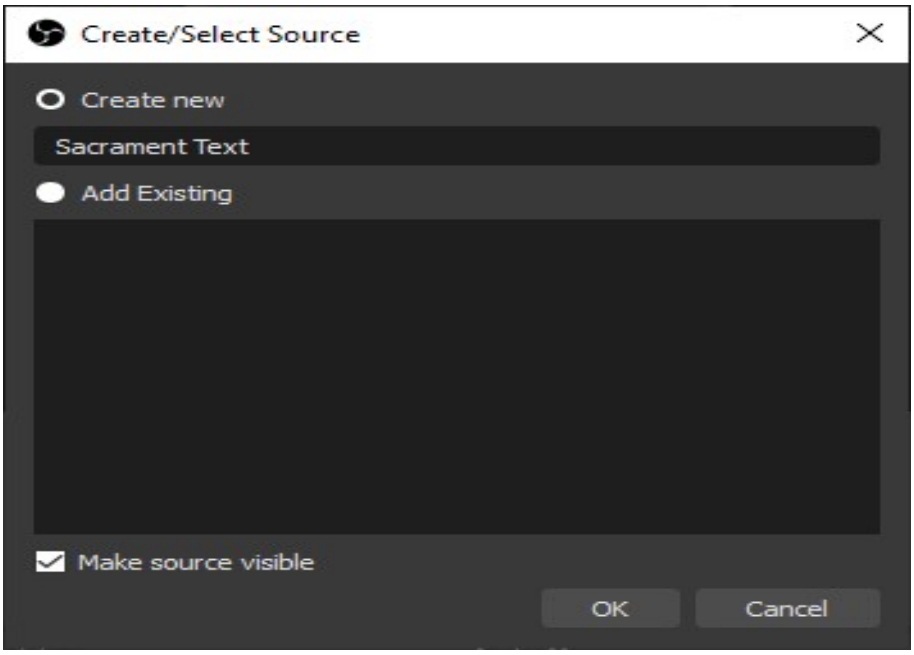
Name the source, and the pick the audio input device.



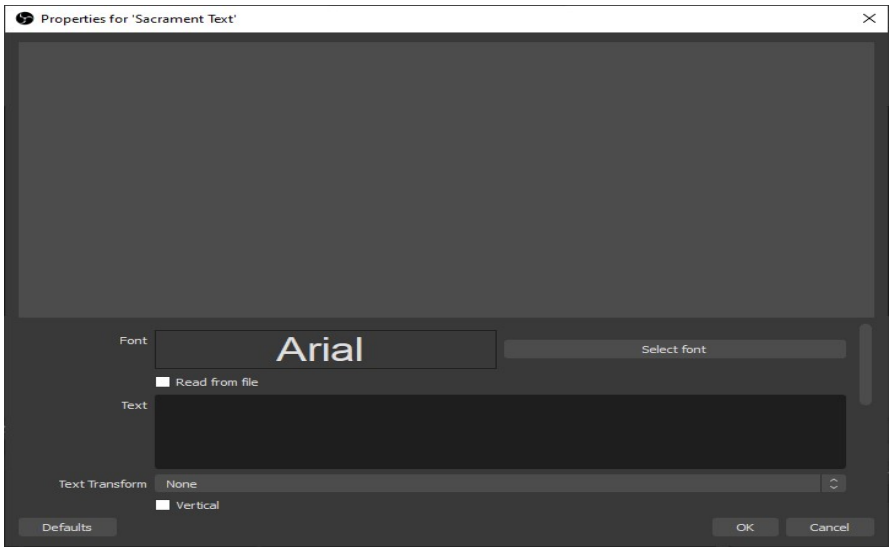
To add the second scene, click the “+” under the scenes box. This will bring up a window for you to name the scene.



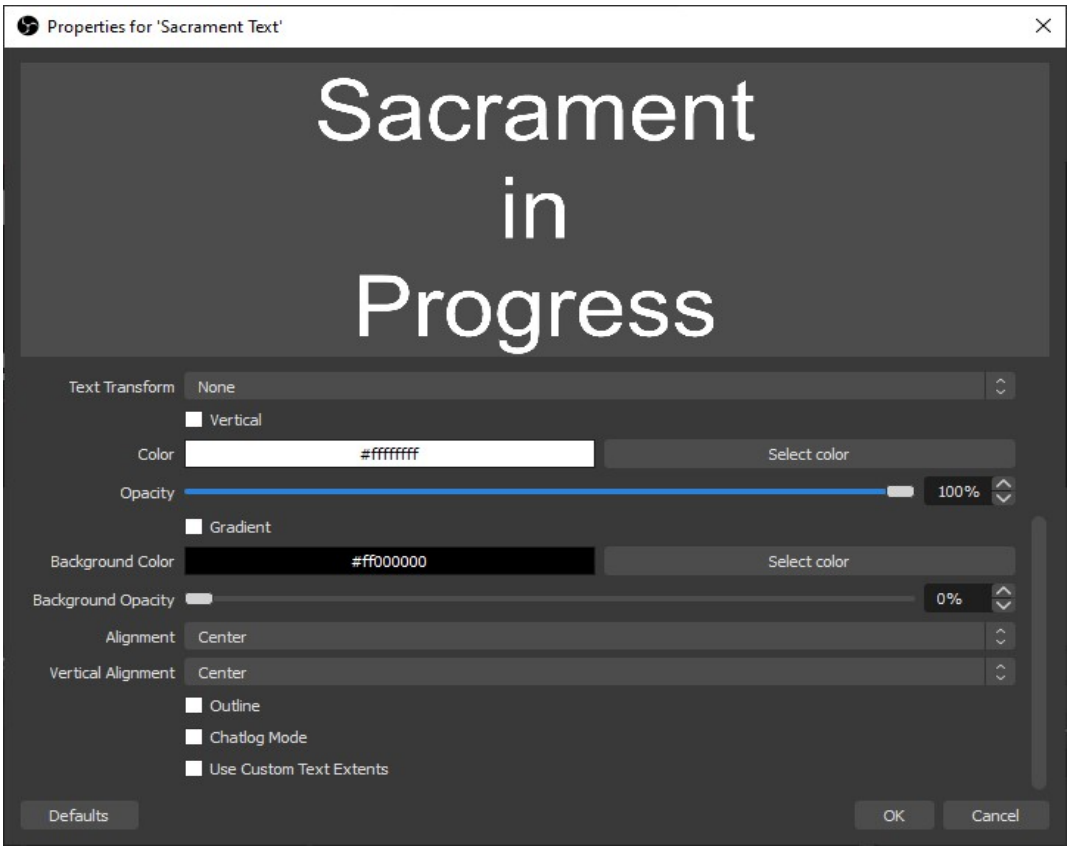
To this scene, we will add a “Text (GDI+)” source to display that the Sacrament is in progress.

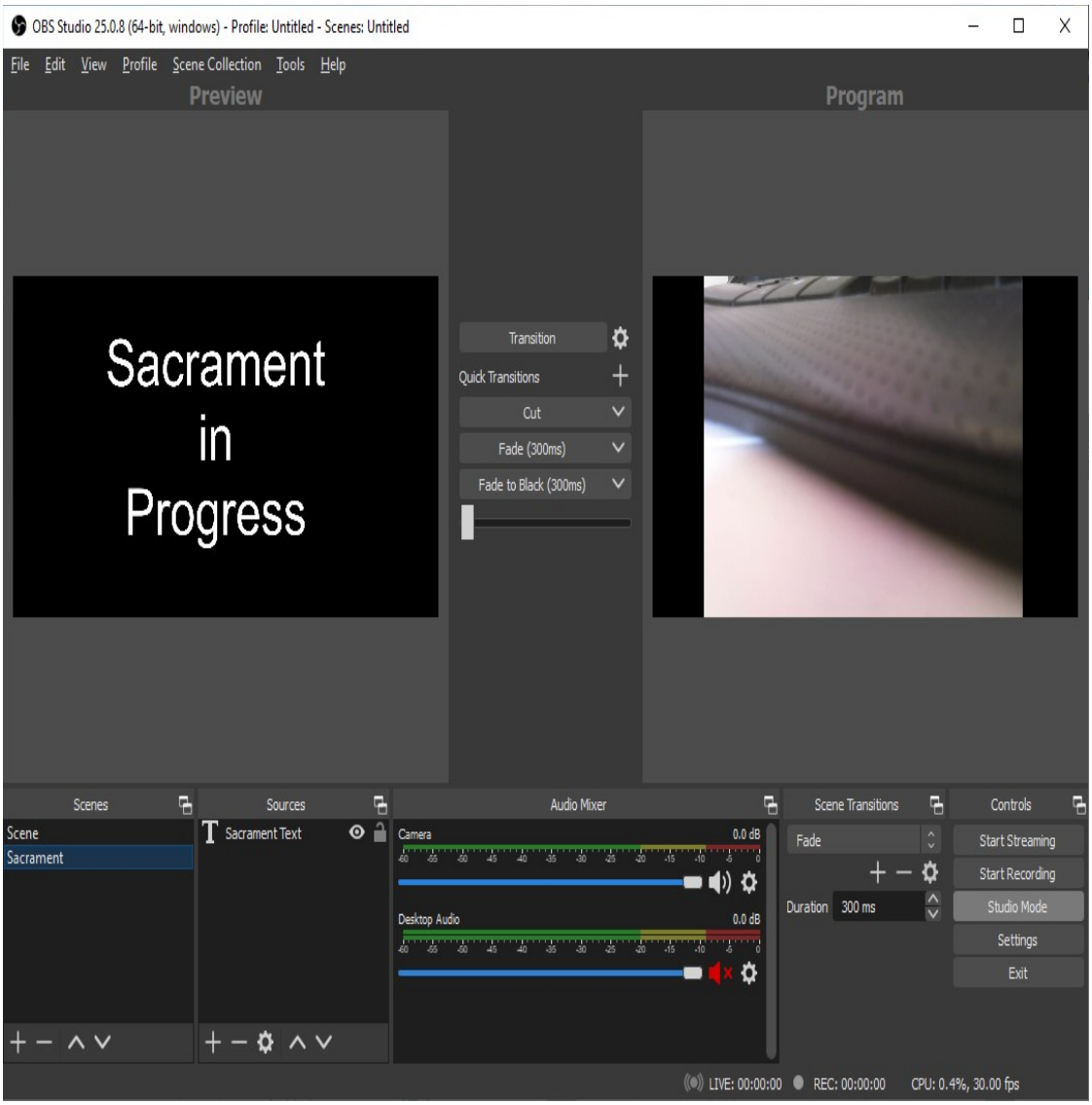


First, name the scene and click OK. In the next window, click the “Defaults” button. This will bring up advanced options we will use.



Type in the text as shown below. Don't worry about centering anything yet. In the options below the text, set the "Alignment" and "Vertical Alignment" fields to a value of "Center". Then click OK.

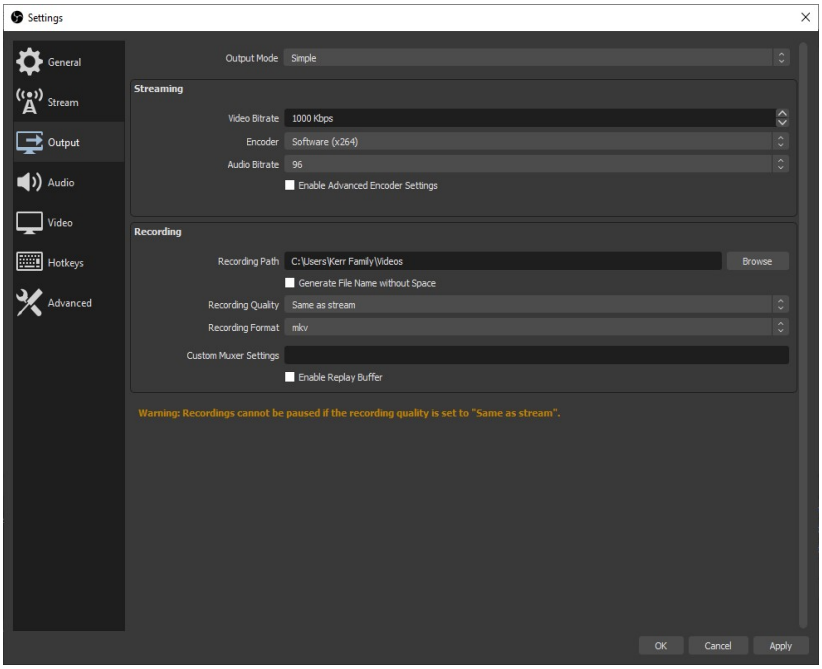




In studio mode, the view on the right is what is broadcasting, the view on the left is what is queued up. To switch between scenes in studio mode, the toggle between the two views can be used. Also, the buttons “Cut” and “Fade” can be used. Cut will immediately switch the views, and Fade will transition them over a period of time.

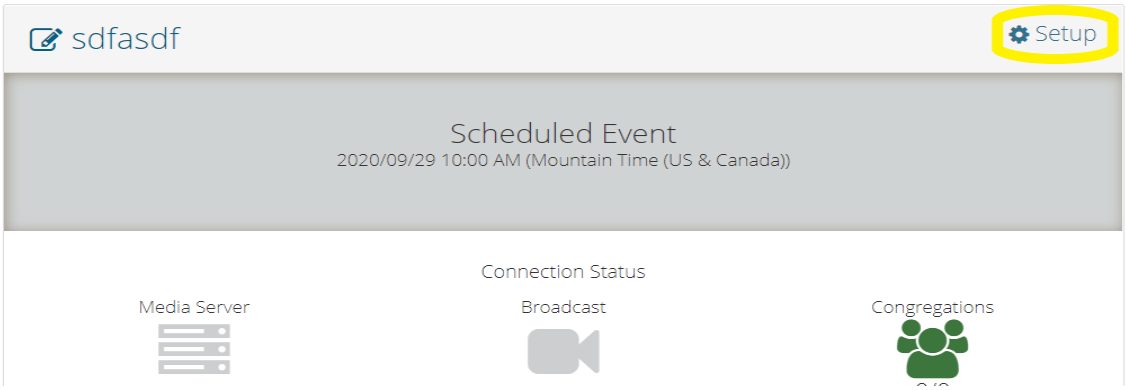
Configuring the Stream

To configure the stream, in the bottom right of the main screen click the “Settings” button and go to the “Output” tab. In this tab, the setting to change is the video bitrate. Based on the internet upload speeds at the buildings, we recommend using 500 Kbps, 750 Kbps, 1000 Kbps, or 1250 Kbps. The Church will also support 2000 Kbps, but we do not recommend it. For audio bitrate, select 96.

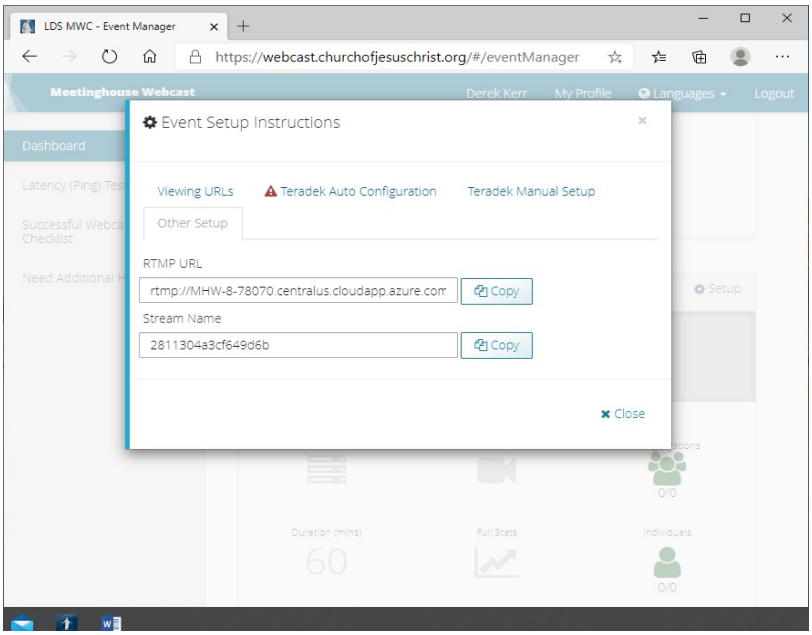


Setting Up The Stream – setup above is done once but the setting below will be done each event.

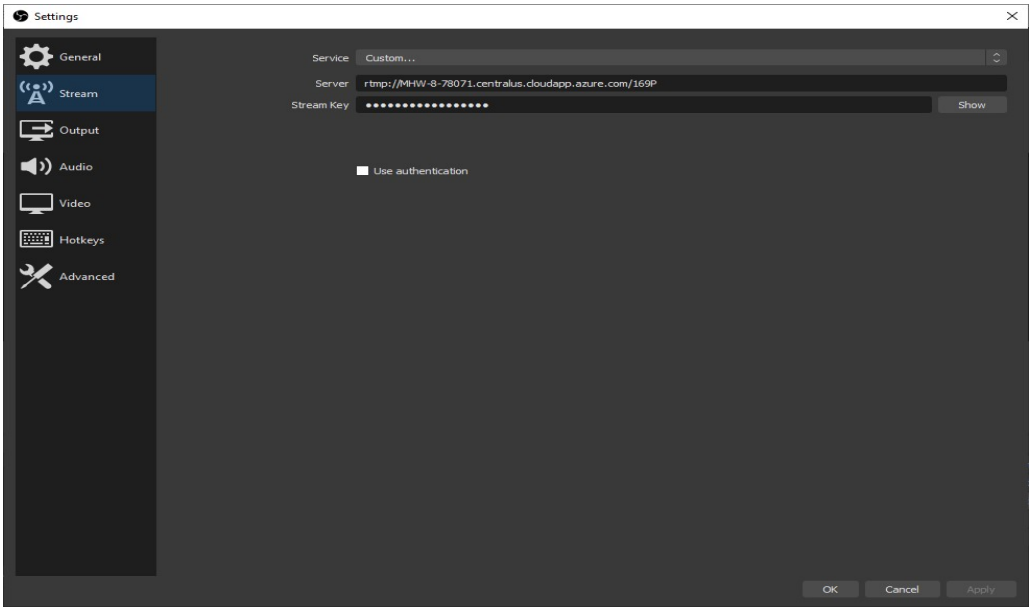
From the dashboard on the portal, select the Cog next to the event.



This will bring up a settings page. On the settings page, select the “Other Setup” tab which will display the RMTP URL and Stream Name.



In the OBS Setting menu, on the Stream Tab, select “Custom” for the Service. Copy the RTMP URL from the portal and paste it in the Server text box. Do the same with the Stream Name into the Stream Key text box. Click OK to apply the settings and close the settings window. The URL and Stream Name will be generated when the event is created so it can be inputted prior to the day of the broadcast if needed.



Running the broadcast

To start the broadcast, click “Start Streaming” in the lower right of OBS. REMEMBER: Do not record the broadcast. The button is close. The button will highlight when successfully connected to the server. It takes a little bit of time for the server to create a buffer of what you are broadcasting and then the receiver viewing the broadcast has a buffer that is set to 2 minutes by default. We recommend having a “Spotter” to help out. This could be the corresponding helper in your ward. The spotter would set their buffer to 30 seconds and watch the stream from home and provide any feedback that is needed. This

provides a reliable source of information from someone who has some experience to help resolve the problem.

The Webcast Portal has a feature to see the status of an event, including the stability of the broadcast server, and the number of viewers watching, and who is watching. To access it, click on the “Full Stats” icon on the dashboard for the event.