

# OBS

## Open Broadcaster Software

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# WHIP Streaming Guide

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## General Overview

WHIP is a new protocol that enables broadcasting via WebRTC. WebRTC is a Free/IETF Standard for real-time communication. WebRTC was originally used for conferencing, but is now common in security cameras, robots and other situations that need sub-second latency and have dynamic conditions.

## Why WHIP?

- **Interactive latency** - Easier to interact with audience with only 100ms of delay.
- **Co-Hosting** - Add co-hosts from web browser or anywhere WebRTC is available.
- **P2P** - OBS can connect directly to a browser across networks, no servers needed.
- **E2E Encryption** - When configured servers can't access/modify video. No ad insertion.
- **Mobile Streaming** - WebRTC supports network switching. Move between Wifi/Cellular without disconnects.
- **Simpler Servers** - WebRTC handles publishing and playback. Less code to run when hosting servers.
- **Codec Flexibility** - AV1, H265 and Opus available. Custom codecs are possible.
- **More Platforms** - With WebRTC broadcast or watch from Web, Mobile, microcontrollers and more.

- **Multi-track** - Clients can send multiple feeds. Multi-lingual broadcasts or multiple video angles.

To learn more about WebRTC the protocol [WebRTC for the Curious](#) is a Free/Open Source book on how it works. The WHIP standard is [here](#).

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## Where can I use WHIP?

- [Cloudflare](#)
  - [Dolby.io](#)
  - [Red5](#)
  - [Tencent](#)
  - [Twitch](#)
  - [Broadcast Box](#)
  - [Stage TEN](#)
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## How to use WHIP with OBS Studio

*Note: WHIP is currently not supported in the Ubuntu 24.04 PPA release of OBS Studio. If you require WHIP, use the Flatpak instead.*

Obtain a URL and Bearer Token that you will use for your WHIP Session. A Bearer Token is just the WHIP name for 'Stream Key'.

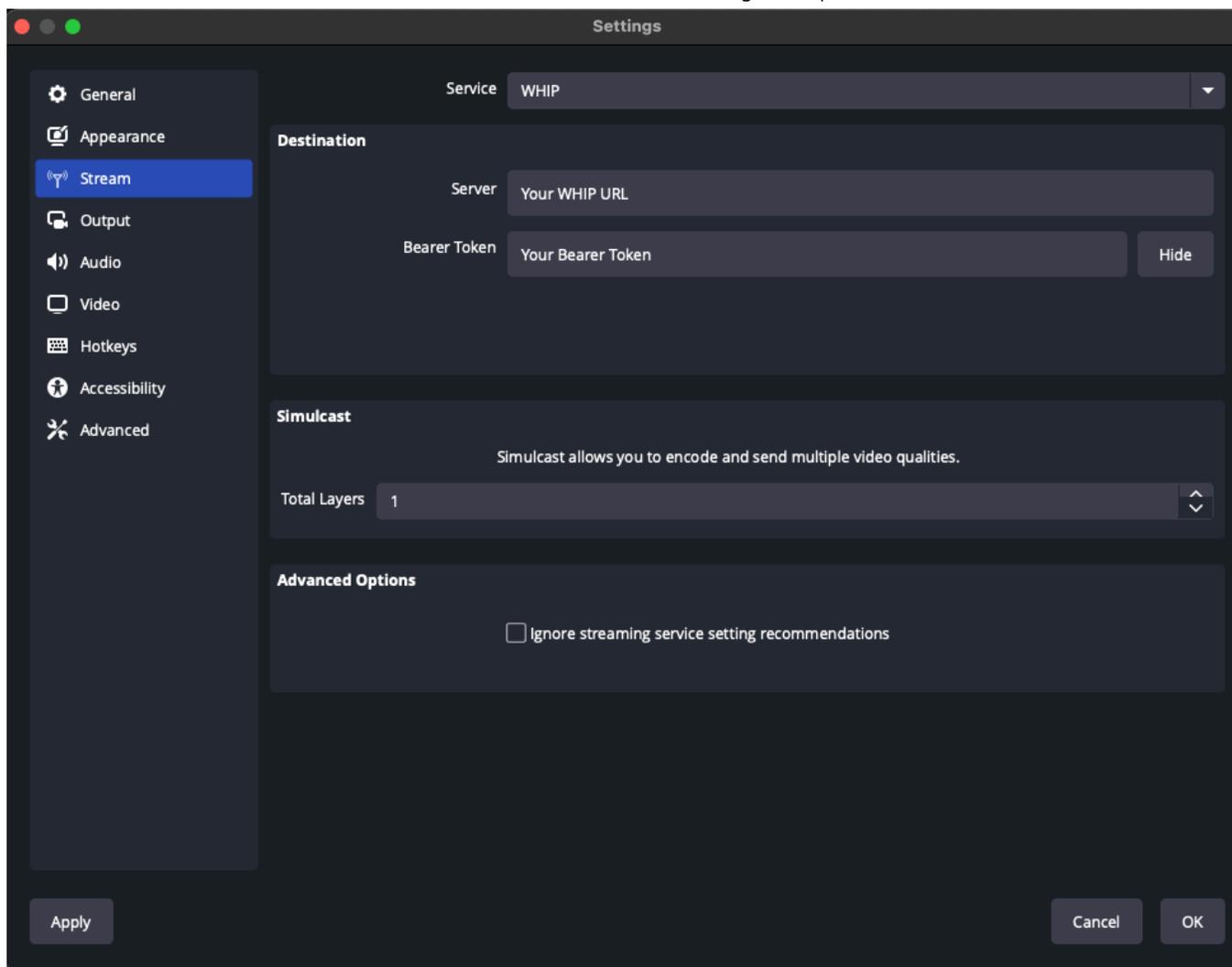
Go to **Settings** -> **Stream** and set the following values.

Service: WHIP

Server: Server from WHIP Provider

Bearer Token: Bearer Token from WHIP Provider

Your settings page should look like this:



# Simulcast

*Note: This section describes possible future functionality that is not yet included in any release of OBS Studio (as of 32.0.1).*

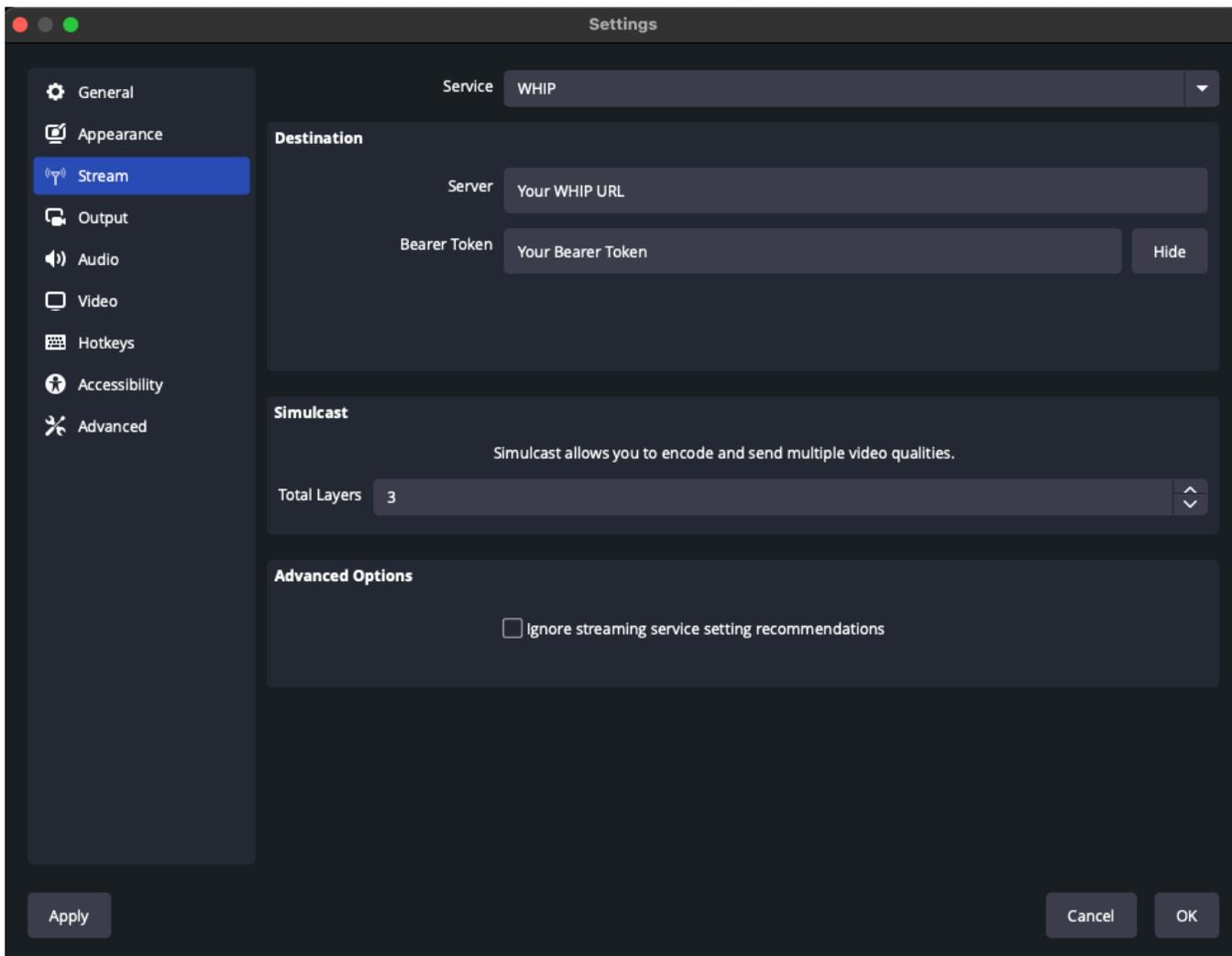
Simulcast allows OBS to send multiple quality levels of video. Simulcast is used for the following reasons.

- Generation Loss - Transcoding causes generational loss. Encoding once is higher quality.
- More control - Users control the exact encoding settings.
- Lower Latency - No transcode reduces latency.
- Simpler Servers - Transcoding is CPU intensive making it hard to manage.

OBS allows for between 1 and 4 layers to be sent. Each layers bitrate/resolution is taken as a percentage of the global setting.

- **Total Layers 1**
  - 100% Resolution and Bitrate
- **Total Layers 2**
  - 100% Resolution and Bitrate
  - 50% Resolution and Bitrate
- **Total Layers 3**
  - 100% Resolution and Bitrate
  - 66% Resolution and Bitrate
  - 33% Resolution and Bitrate
- **Total Layers 4**
  - 100% Resolution and Bitrate
  - 75% Resolution and Bitrate
  - 50% Resolution and Bitrate
  - 25% Resolution and Bitrate

Simulcast is configured on the **Settings** -> **Stream** page. Below is a session that is configured to send 3 layers.



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