

Guide: downloading Audacity, recording your voice, viewing the spectrogram and adding annotations.

This guide will help you download and install **Audacity**, an open-source software for digital audio recording and editing, and teach you how to record your voice, view the spectrogram of the recording and add annotations.

1. Download and Install Audacity

Install the latest version of Audacity for your operating system from the official website:

<https://www.audacityteam.org/download/>

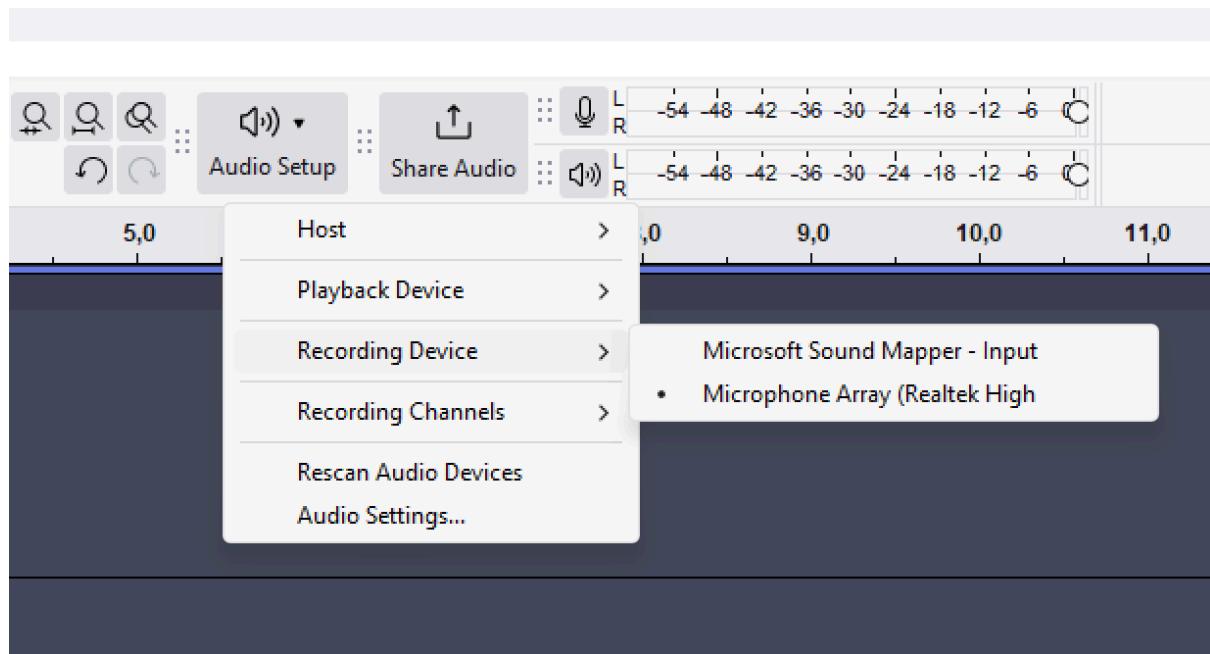
For the purpose of this exercise you won't need Music Hub, so you can choose the 32/64 bit installer (Windows) or the Universal dmg (OSX).

2. Record your voice

After installation, open the Audacity software. You should see the main workspace with a large blank area where you will record your audio. From here:

Step 1: Check Your Microphone and set audio input

- Make sure your microphone is connected and working properly.
- In Audacity, go to *Audio Setup* (top center), and *Recording Device*. Here, you can select your microphone from the dropdown menu if it is not already selected.



Step 2: Start Recording

- Press the red *Record* button (●) at the top left of the screen to start recording your voice.
- Speak clearly into the microphone. You'll see the waveform of your voice appear on the screen as you speak.

Step 3: Stop Recording

- When you're done recording, press the *Stop* button (□) next to the Record button.
- Your voice recording will now appear as a waveform in the workspace.

3. Visualize the spectrogram

Step 1: Open the Spectrogram View

- Audacity allows you to visualize your audio in different ways, including as a *spectrogram*.
- To view your recording as a spectrogram, locate the track's name (usually on the left side of the waveform).
- Click the dropdown menu (three dots) next to the track name.
- From the list, select *Spectrogram*. Your waveform will now convert into a spectrogram display.

Step 2: Understand the Spectrogram

- The X-axis (horizontal) represents *time* (s), or how your audio changes over time.
- The Y-axis (vertical) represents *frequency* (Hz), or how high or low the sound is.
- The colors represent the *sound intensity* (dB) at different frequencies, with brighter colors indicating higher intensity.

4. Annotating the track

Step 1: Adding a label track

First, you need to add a new label track to the project:

- Go to Tracks > Add New > Label Track
- Or right-click below the audio track and choose 'Add Label Track'

Step 2: Adding labels

- Click on a specific point or highlight a region in the audio track where you want to place a label
- Use *Ctrl+B* (or *Cmd+B* for Mac) to add a label
- You can then type text in the label to add annotations

Step 3: Saving the labels

- Saving the Audacity project will save both your audio and the labels
- To export the labels separately, go to File > Export > Export Labels