Muse Developer Resources

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Tutorial

Where to Find MuseIO

On **Mac** (bash) and **Linux**, "muse-io" should already be in your path.

On **Windows**, navigate to "C:\Program Files (x86)\Muse".

Running MuseIO

Running MuseIO is as easy as running the command `muse-io` from the command line. However, there are several options available that allow you to configure your Muse and where and how Muse data will be sent out.

For example, a simple scenario:

```
muse-io --preset 14 --device <DEVICE_NAME> --osc
osc.udp://localhost:5000
```

Where <DEVICE_NAME> is the bluetooth name of your device. If your device is named "Muse-ABCD", you would put that there. For the consumer version of Muse, the default bluetooth name is simply "Muse".

This will connect to Muse and configure it with preset "14" and start sending OSC data to localhost:5000 using UDP (rather than TCP). Presets configure certain aspects of the data stream from Muse, such as sample rate, 50/60Hz notch filtering, etc. The definition of each preset can found here: Available Data Modes.

Once running, MuseIO will print out a bunch of information about how Muse has been configured, where data is being sent, the number of dropped packets, and much more. Below is an example of this output.

The text in white displays the various configured parameters. The text in green and red shows real time data about Muse and the quality of the connection, specifically:

bits/second - Literally the rate of data transfer between Muse and the host computer running MuseIO.
receiving at - The sampling rate as estimated by MuseIO. This particular estimation is based on the frequency of received packets.
dropped samples - The cumulative number of dropped samples over the duration of the connection.
Battery - The charge percentage of the Muse battery.
voltage - The current output voltage of the Muse battery.
Noise - An estimate of the amount of noise in each channel/electrode. This is presented in the standard Muse electrode order: Left Ear, Left Forehead, Right Forehead, Right Ear.

Getting More Help with MuseIO

To get additional information about all the options you can use to configure MuseIO, take a look at the command line options. To learn more about what kinds of data can be obtained from MuseIO, check out the OSC Paths documentation for your version.

Dump the OSC Output

The OSC messages output by Muse-IO are listed here.

The easiest way to see them is to use MusePlayer. The following commands will output the OSC messages being sent to port 5000:

Using TCP (the default):

```
muse-player -l 5000 -D
```

Using UDP:

```
muse-player -l udp:5000 -D
```

You can filter out particular messages by using "grep". For example, to see only accelerometer data, you can do this:

```
muse-player -l 5000 -D | grep /muse/acc
```

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