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## OpenSimulator with Dreamworld/Dreamgrid and IceCast Server

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#### Disclaimer

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#### Introduction

This will guide you step-by-step on how you can broadcast music using the free Winamp media player, a streaming tool called BUTT, and a self-hosted Icecast server that comes included with DreamWorld/DreamGrid software, into an online virtual world running OpenSimulator.

#### **Prerequisites**

- 1. A computer running the Microsoft Windows operating system.
- 2. Forwarded port numbers 8000 and 80811
- 3. The latest version of OpenSimulator, DreamGrid/DreamWorld.

It is beyond the scope of this guide to describe how to install and setup Opensimulator, Dreamgrid/Dreamworld or to enable port-forwarding.

<sup>1 -</sup> Your ports may be different - 8080 and 8081 - See the documentation that came with your DreamWorld/DreamGrid software.

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#### Setting up IceCast in DreamGrid/DreamWorld

Before running your OpenSimulator, start up just the DreamGrid/DreamWorld application.

- Select the Settings tab from the top of the main menu, and then Settings from the drop-down (see Figure 1).
- The Common Settings window will open. Click on the **Icecast Setup** button (see figure 2).
- At the IceCast window, put a check mark in 'Enable' and 'Show Status' (see Figure 3).
- Enter **8000**<sup>2</sup> for Port and **8081** for Port2. (These ports you must have already opened.)
- Once you have finished entering the details you can close the IceCast window, and the Common Settings window.

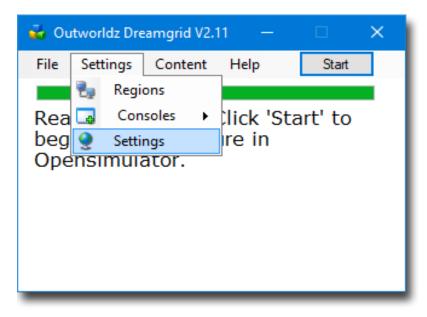


Figure 1 - Main Menu

<sup>2 -</sup> Your ports may be different - 8080 and 8081 - See the documentation that came with your DreamWorld/DreamGrid software.

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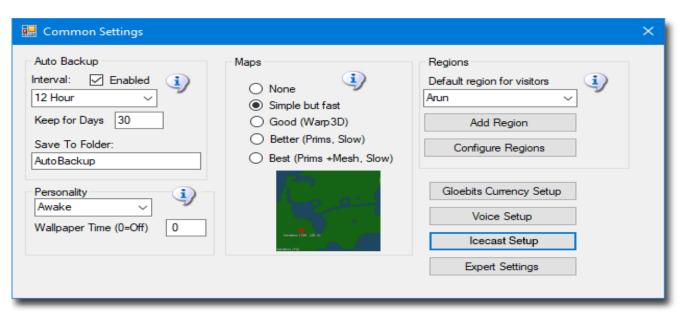


Figure 2 - Common Settings Window

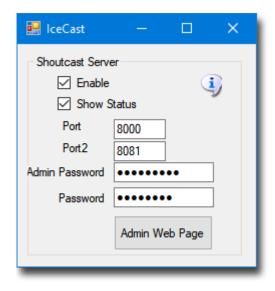


Figure 3 - IceCast Window

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#### Downloading and installing the Winamp media player

If you have Winamp already installed you can skip this part and go to the Downloading and Installing the BUTT streaming tool section.

Download a copy of Winamp 5.666 Full from; <a href="http://forums.winamp.com/showthread.php?">http://forums.winamp.com/showthread.php?</a>

You should save the file to to some place that you will remember. When the download is complete go to where you saved the file and double-click on it to install. Always read security warnings carefully, Winamp will not hurt your computer and you can accept any warning messages that appear.

Follow the on-screen prompts to install Winamp. The default settings do not need to be changed for the purposes of this guide. In some cases you may need to restart your PC after installation, if prompted click **yes** and restart your PC.

## Downloading and installing the BUTT streaming tool

Winamp is a great player but it can't do everything. You are going to install the BUTT streaming tool that lets you broadcast your music.

Close Winamp if it's open, and download the BUTT streaming tool from; <a href="https://sourceforge.net/projects/butt/">https://sourceforge.net/projects/butt/</a>

You should save the file to to some place that you will remember. When the download is complete go to where you saved the file and double-click on it and follow the on-screen prompts to install it. Always read security warnings carefully, the tool will not hurt your computer and you can accept any warning messages that appear.

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#### How to add a server in BUTT

Locate and start BUTT before you continue. In the BUTT window, click the **Settings** button to open up the settings window if not already open (see Figure 4).

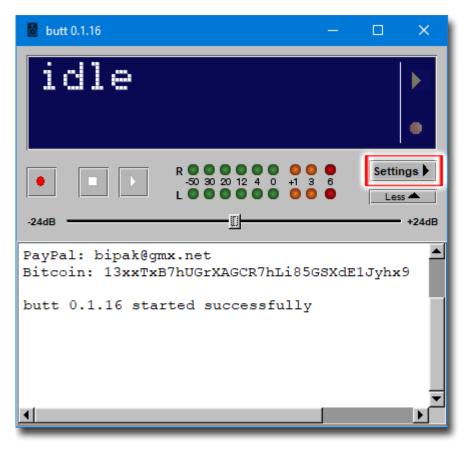


Figure 4 - BUTT Main Window

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Select the **Main** tab at the top of the BUTT settings window then click the **ADD** button under Server (see Figure 5).

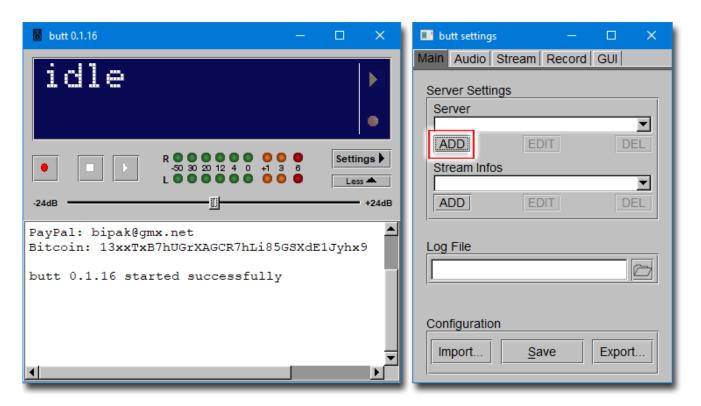


Figure 5 - BUTT Settings (Main)

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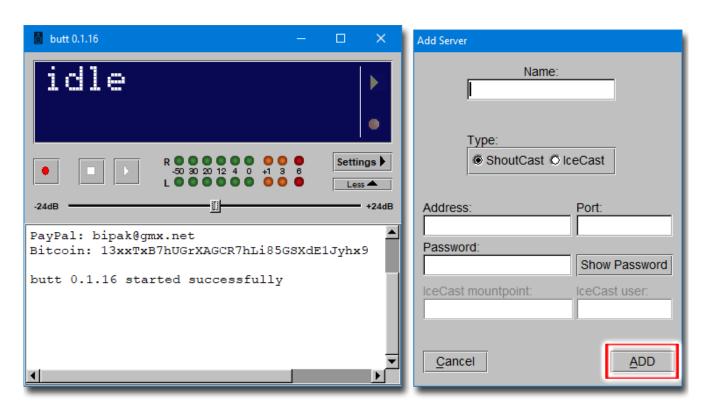


Figure 6 - Add Server

At the Add Server window (see Figure 6), fill in your server details as follows;

- Name: This is used to identify the connection in BUTT Type anything here
- Type: Select the server to connect to Select IceCast
- Address: e.g. transcoder.com Type in the word localhost
- Port: 4 digit number Type in the number 8000<sup>3</sup>
- Password: Your password Type in the same password you entered in the Icecast Setup (see Figure 3). Note: Do not enter the admin password.
- IceCast mountpoint: This is needed for IceCast so type in /stream
- IceCast user: This is the BUTT tool Type in the word source

<sup>3 -</sup> Your port may be different - 8080 - See the documentation that came with your DreamWorld/DreamGrid software.

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Once complete, click the **ADD** button at the bottom of the Add Server window to add the server (see Figure 6).

### Adding Station Information in BUTT

For BUTT to connect to your server, the stream information must be defined. Still in the Menu tab at the top of the BUTT Settings click on the **ADD** button under Stream Infos (see Figure 7).

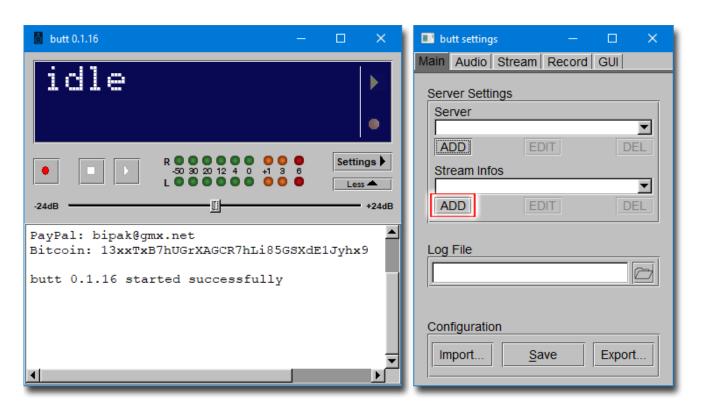


Figure 7 - Add Stream Infos

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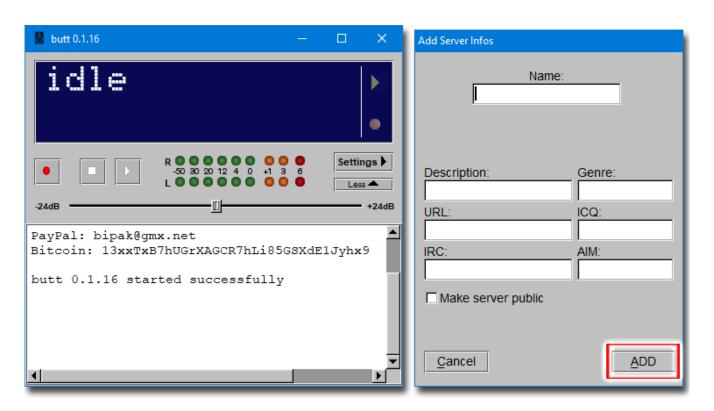


Figure 8 - Add Server Infos

At the Add Server Infos window (see Figure 8), fill in your stream info as follows;

- Name: This can be any name, even your own
- Description: A short description of your stream, like 'Listen to me live!'
- Genre: The type of music you will be streaming, e.g. Trance, Rock, etc.
- URL: This can be the address of your website, e.g. http://havensrealm.ddns.net:8002
- ICQ, IRC and AIM can be left as they are for now.

The Make server public checkbox should be left blank at this stage(unchecked).

Once you have entered all the information click the **ADD** button at the bottom to save the details (see Figure 8).

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#### **Setup BUTT Audio Settings**

You now need to setup your audio device. This can be changed to which ever connected device you wish to broadcast.

For BUTT to work optimally with most servers, it is advised to match the streaming bitrate with the station output. By default, most servers will broadcast in Stereo MP3 at 128Kbps.

Select the **Audio** tab at the top of the BUTT Settings window (see Figure 9).

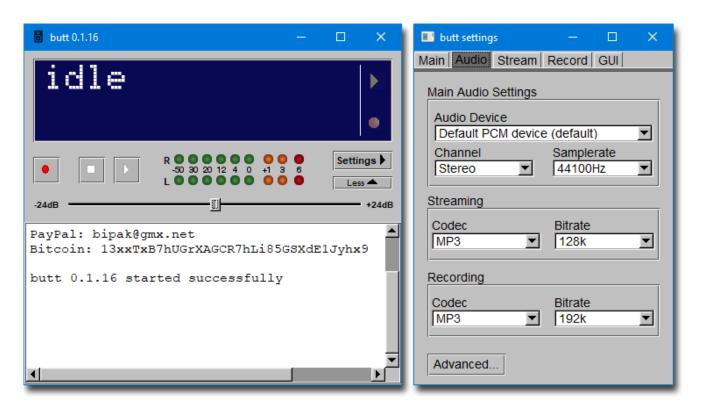


Figure 9 - BUTT Settings (Audio)

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In the Main Audio Settings group, select your audio details as follows;

- Audio Device: This is usually set to Default PCM device (default)
- Channel: Select either Stereo or Mono from the dropdown list
- Samplerate: Normally this will be 44100Hz

In the Streaming group, select your streaming details as follows;

- Codec: This will be the type of files you will be streaming Select MP3
- Bitrate: Change this to your streaming bit rate Select 128k

In the Recording group, select the recording details - This section is if you want to save your stream to a storage device, like a hard drive or memory stick.

- Codec: This will be the type of file you will want to record them at, e.g. FLAC
- Bitrate: Change this to bit rate you want to save it at, e.g. 192k

Once completed go back to the **Main** tab and click on the **Save** button at the bottom. You can now close the BUTT settings window (see Figure 10).

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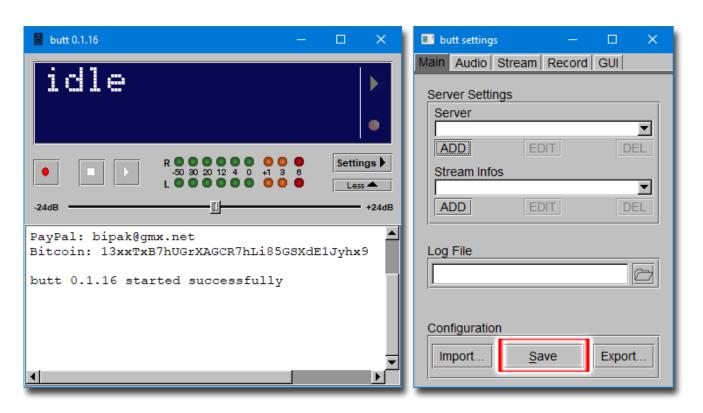


Figure 10 - BUTT Settings (Main)

## **Broadcasting your stream**

At this point you will need to ensure you have your IceCast server and OpenSimulator running. Once they are running, and you can see the IceCast window open, you can start broadcasting to your server. Click the **play** button in the main BUTT window - it's the one with the white, right pointing triangle on ( ) ( ) (see Figure 11).

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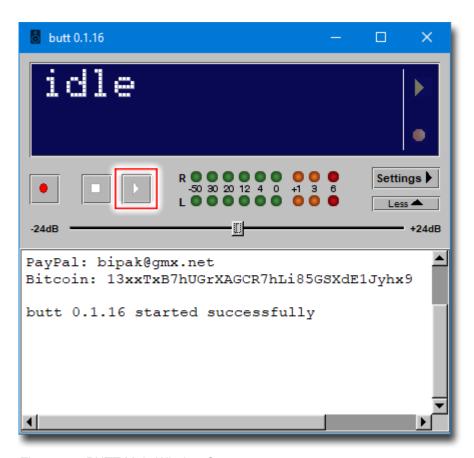


Figure 11 - BUTT Main Window Start

The message in the display area of BUTT should change from **info: idle** to **info: on air** and **stream time: 00:00**. You will also notice a right pointing yellow triangle( ▶ ) on the top right-hand side, this inicates that you are connected and streaming (see Figure 12).

To stop the stream at any time just click the stop button - it's the one with the white box on (■).

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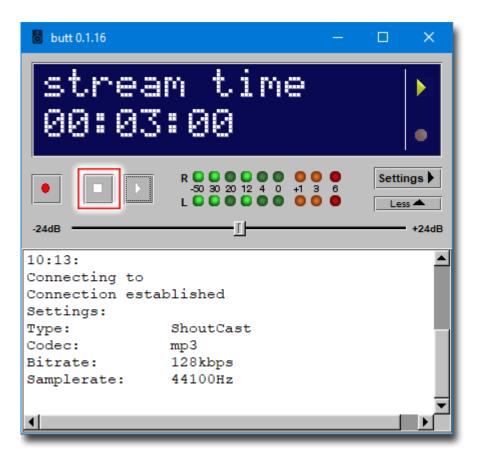


Figure 12 - BUTT Main Window Stop

#### Setting up your stream in OpenSimulator

You are now ready to start streaming so select some music and start playing it. You need to add your stream URL to the parcel of land in OpenSimulator so that all visitors to that parcel will hear your music stream.

If you own the land yourself teleport to it now and go to the **World** menu in your viewer and then select **About Land**. Click on the **Sound** tab and type in your stream URL, e.g.

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http://havensrealm.ddns.net:8000/stream, into the **Music URL** box. Close the window, and when you press play, on the music player in your viewer, you should hear your own stream.

If you do not own the land ask the club owner or manager to change the URL for you. Some clubs have a device that allows you to change the land music URL through a menu-driven system. Ask the club owner or manager to add you to the device's access list and put your stream URL in there.

#### **Hints & Tips**

- 1. When streaming <u>do not</u> play music in Winamp and listen to it in OpenSimulator at the same time. It uses a lot of your internet bandwidth and may cause skipping. Only listen with Winamp, and <u>turn off</u> the music in your viewer.
- 2. A delay of around 20 to 30 seconds on the stream is normal (between you playing a song and everyone hearing it). The server keeps a buffer of 20 seconds worth of music in case anything goes wrong with the connection, e.g. disconnects. If your connection fails for a few seconds it keeps playing the buffer, giving itself time to fix the problem. It's a feature not a bug.
- 3. Using the volume control in Winamp only affects your local volume, not the volume for everyone else.
- 4. A lot of DJ's use a second computer for streaming music. That way it spreads the CPU demands onto two computers, and allows you to use more advanced DJ software, and if the OpenSimulator viewer crashes it won't take your DJ stream and software down with it.

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## **Revision History**

Version Number	Purpose/Change	Author	Date (yyyy-mm-dd)
1.1	Corrected spelling. and formatting. Added notes on ports. Added License details.	Billie Marchant	2018-04-08
1.2	Figure 2 was for Shoutcast - Changed to Icecast one.	Billie Marchant	2018-04-09