

User and Technical Documentation

Streamsicle v. 2.0

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Configuration

The following properties are located in the `web/WEB-INF/conf/streamsicle.conf` configuration file;

Play directory

`Streamsicle.playdir`: This parameter specifies which directory Streamsicle will use to load its mp3 files from. When specifying the directory, **MAKE SURE TO USE DOUBLE SLASHES**. An example directory would be

```
c:\my music\\here
```

Note that there is only one slash after the drive name.

The play directory can also be a list of multiple directories delimited by a semi-colon. An example following this usage of the `playdir` property is listed below:

```
c:\music\\Alternative;c:\music\\Electronica
```

When using multiple directories, Streamsicle will randomly choose songs from all directories specified by default. This master directory will be displayed as the 'Virtual Directory' in Streamsicle's web interface.

Streamsicle Host Information

`Streamsicle.host`: This is the host name of the server hosting the Streamsicle server.

- **GLOBAL ACCESS**: If Streamsicle is to be used by anyone on the Internet, a valid host name or IP address that's accessible to anyone on the Internet must be used.
- **INTRANET/LAN ACCESS**: If this is to be used on a LAN **only**, then an address that's applicable on your LAN should be used instead. The address specified here is the address that listeners will use to connect to the server. Be sure to provide a valid address here. Otherwise, users will have trouble connecting to your stream.

Server description, GUI, Maximum Client Cap, and Administrator Password

`Streamsicle.description`: This is the server description that will be sent via meta-information to listeners that use players that support this feature. Players that support this include Winamp and FreeAmp.

`Streamsicle.gui`: This specifies whether or not Streamsicle's GUI should be displayed when Streamsicle is started. Displaying the GUI allows for easy customization and control of the Streamsicle server, but at present, not all aspects of the server can be configured via the GUI.

`Streamsicle.adminPassword`: This specifies the 'admin' password. Currently this is needed to force the server to reload the files. If it is empty or undefined, then anyone can reload the files on the server.

`Streamsicle.maxclients`: The maximum number of clients to allow for this server. The default is 0, which means an unlimited number of clients can connect. Anything greater than zero limits the number of connections to the set value.

Audio Stream Port

`Streamsicle.port`: This is the port listeners use to listen to the stream being broadcasted by Streamsicle. NOTE: This is NOT the port the web interface of Streamsicle runs on (see below.) By default, this is 4711.

Randomizer Schemes

`Streamsicle.randomizer`: Streamsicle has several methods for randomly selecting music when nothing else is in the queue. Available options include:

`com.Streamsicle.RandomSelector`

This is the default random song selector originally found in Streamsicle. It simply picks any song from the list of available files, irrespective of how many times, or the last time a song was requested.

`com.Streamsicle.RandomWithHistorySelector`

This selector will randomly choose songs from the list of available files without repetition until all available files have been selected one time each. When all the files have been selected, they become available for selection again, and the process repeats.

`com.Streamsicle.WeightedRandomSelector`

This selector provides random songs based on a weighted selection scheme. In short, the more a song is requested, the more often it will be randomly selected.

In addition, songs requested more recently will have a higher weight. Using these two selection schemes together should more or less provide a radio station-like popularity selection routine.

Web Interface and Audio Stream Ports

The default port for the web interface is 8080. If this is conflicting with something in your system, you can change the port in the file `/tomcat/conf/server.xml`. The port is set on line 225, or you can search for “8080” and replace it with another value. The port is only listed once in the file, so only one value has to be modified.

As noted above, the default stream port is 4711. If need be, this can be reconfigured by changing the `Streamsicle.port` property located in the file `web/WEB-INF/conf/streamsicle.conf`.

User Setup

Users can be permitted to interact with Streamsicle on a per IP basis. The rules that define who has access to this stream and who doesn’t is found in the `web/WEB-INF/conf/hosts.rules` file.

By default, the only line in this file is `+ ALL`, which permits any user to interact with Streamsicle. The file contains a list of IP addresses prefixed with a `+` or `-` sign. A `+` allows an IP address interaction, and a `-` denies. The keyword ‘ALL’ is also understood by Streamsicle. Wildcards can be specified with the asterisk (`*`), so the rule

`- 10.1.1.*`

would deny everyone who has an IP of 10.1.1.0 through 10.1.1.255. By definition, `*.*.*.*` is equivalent to ‘ALL’.

Stream Interaction and Usage

By default, the web interface to Streamsicle can be found at the address specified in the configuration file. Streamsicle listens to port 8080, unless this is changed by the user (see above.) A sample URL would look like

`http://www.myserveraddress.com:8080`

Opening this address in a web browser will display the Streamsicle web interface.

Playback Controls

At the very top, on the right side of the page are three big buttons. The left button connects the user to the Streamsicle stream ('play'). The middle button skips the stream to the next song in the queue, and the right-most button allows the user to set a listening timer, similar to those found on TV's and clock radios.

Current Song

The interface is partitioned into several sections. At the top left corner is the currently playing song. Clicking the round button to the left of the song title brings up a context menu with the following options:

- View Entire Album
- View ID3 Info – opens a window with full ID3 information for the current song.
- View Allmusic Entry – opens a new window and connects to Allmusic.com for further song and artist information.
- Skip This Song – skips to the next song in the queue.
- [close] – closes the menu. Clicking anywhere outside the menu also closes it.

Song Queue

Under the current song is a list of queued songs that will be played after the current song is finished. Each of the queue entries has a round button associated with it to the left of the song. Clicking the button brings up a context menu with the following options:

- Remove From Queue – removes entry from the queue.
- Move To Top – moves the entry to the top of the queue.
- Move Up 1 Space – moves the entry up one spot in the queue.

- Move Down 1 Space – moves the entry down one spot in the queue.
- Move To Bottom – moves the entry to the bottom of the queue.
- Randomize Queue – randomizes the queue using the random selection method chosen in the configuration file.
- Clear Queue – empties the queue. If you remove the last song from the queue, Streamsicle will automatically pick another song to insert into the queue.
- View Entire Album
- View ID3 Info – opens a window with full ID3 information for the current song.
- View Allmusic Entry – opens a new window and connects to Allmusic.com for further song and artist information.
- Skip This Song – skips to the next song in the queue.
- [close] – closes the menu. Clicking anywhere outside the menu also closes it.

Current Directory Source – Playing From

Below the song queue, Streamsicle shows the directory songs are currently being selected from. Clicking the round button associated with the directory brings up a context menu with the following options:

- Play From Top Directory
- [close]

The first selection changes the play directory back to the top directory. The second selection closes the menu. Clicking anywhere outside the menu also closes it.

The directory structure is interactive. Selecting any part of the directory structure takes the user to that directory temporarily. For example, the current play directory is

`/My Music/This Band/Album One`

Clicking on This Band takes you to that directory, while clicking on My Music takes you to the top level directory, in this case My Music. The only way to permanently change back to the top level directory is by using the context menu option described above.

Listener List

The fourth section on the left hand side of the browser displays information about the current users connected; it includes who is connected. It also shows how many people are connected if an upper limit has been set.

Main Panel

The Request Tab

To the right is a panel with three tabs. By default you will see the contents of the request tab. This mirrors the underlying directory structure on the file system Streamsicle loaded its mp3s from. Sub-directories are listed at the top, with songs in the current directory below. Clicking on a directory in this panel will display the contents of the directory selected. Clicking on a file will add the file to the queue.

If a file is added to the queue and there is only one file queued in Streamsicle and this file was also randomly selected by Streamsicle, this file will be replaced by the file chosen by the user.

Playlist (MU3) Files

If any m3u files are present in the current directory, clicking on one of these will add all songs in the m3u file in the order specified by the m3u file to Streamsicle's queue. The round button next to each entry, directory or file, brings up a context menu for that item. For a directory, choosing Play Songs From This Directory sets the directory source, as described above. The context menu for a song lets you view ID3 information and look up the entry at Allmusic.com.

The History Tab

The second tab on the right side of the browser window is the history tab. This will display the names of the last ten songs played by Streamsicle. Each song has an associated context menu, accessed through the yellow button that allows the user to view ID3 information, the entire album, and its Allmusic.com entry

The Search Tab

The third tab is the search tab. Typing in a song or directory name will display all matches of both files and songs meeting the search criteria. Clicking on a directory in this window will change the tab to the request tab and display the contents of the selected directory. Clicking on a song here will simply add it to the queue. If no matches were found meeting the search criteria, Streamsicle will display a 'No matches' message.

At the very bottom of the page are two links. The first will take you to the Streamsicle project homepage. The second link is for reloading the files. This is useful when you've added songs to your directory structure, and you need to let Streamsicle know of the changes without restarting the server. During the reload process, Streamsicle will display a message about the server (re)initializing. When Streamsicle has finished refreshing its internal file list, the normal Streamsicle page will be displayed. If an admin password was set during setup of Streamsicle, you will have to enter this in the prompt before the reload will take place.

Password-protecting the Web Interface

Note that this does not protect the stream itself – if somebody knows how to access your stream directly with their media player, then they can still listen in. However, this enables you to control access to the Web interface.

1. Open up the file `STREAMSICLE_PATH/web/WEB-INF/web.xml` in a text editor. Add this text starting right after the line that reads `<web-app>`:

```
<security-constraint>
<web-resource-collection>
<web-resource-name>
PasswordProtection
</web-resource-name>
<url-pattern>
/servlet/Streamsicle
</url-pattern>
<http-method>
GET
</http-method>
<http-method>
POST
</http-method>
</web-resource-collection>
<auth-constraint>
<role-name>
streamsicle
</role-name>
</auth-constraint>
</security-constraint>

<login-config>
<auth-method>
BASIC
</auth-method>
<realm-name>
Private
</realm-name>
</login-config>
```

```
<security-role>
<role-name>
streamsicle
</role-name>
</security-role>
```

- 2) Next, open up the file `STREAMSICLE_PATH/tomcat/conf/tomcat-users.xml` in a text editor. You will see three default users defined. Add a new user like this right after the line that reads `<tomcat-users>` :

```
<user name="USERNAME" password="PASSWORD" roles="streamsicle" />
```

on a single line. Of course, you should change USERNAME and PASSWORD to whatever you would like it to be.

Frequently Asked Questions (FAQ)

1. How do I change the port of the web interface?

The default port for the web interface is 8080. If this is conflicting with something in your system, you can change the port in the `STREAMSICLE_PATH/tomcat/conf/server.xml` file. The port is set on line 225, or you can search for “8080” and replace it with another value. The port is only listed once in the file, so only one value has to be modified.

2. I’d like to customize the look of the web interface. How do I do that?

Currently, the only way to change the way Streamsicle looks is to edit the `.jsp` files in `STREAMSICLE_PATH/web` manually. If you installed Streamsicle using the web-installer, these files weren’t included, so you have to download the zip file from the Streamsicle web page.

3. How do I configure a router to allow Streamsicle access to the outside world?

The short answer is to forward port 4711 for the stream, and 8080 for the web interface. If you set the web interface to connect at a different port than 8080, remember to forward this port instead.

Routers come in many configurations. If this procedure fails to work for you, access the Streamsicle help forum on our web page for more assistance.

4. I'd like to run Streamsicle as a service in Windows 2000. What's the procedure for that?

You have two options for this; if you have the files `instsrv.exe` and `srvany.exe` in your Windows 2000 system32 directory, do the following steps:

1. Open a command prompt and run (e.g.) `instsrv Serv_sicle %systemroot%\srvany.exe`
2. Open up registry editor (run `regedit.exe`.) Navigate to `HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\streamsicle\Parameters`.
3. Create 2 string values here:
 - a. `AppDirectory = "C:\Program Files\Stremsicle"`
 - b. `Appliaction = "C:\Program Files\Stremsicle\streamsicle.exe"`
4. Job done! Bbefore you start the service, ensure you've configured Streamsicle from the GUI. Once the service starts, you won't be able to see or run another instance of Streamsicle.

Always remember to back up your Windows Registry before modifying it. Failure to do so may render your system useless.

If you don't have these files, you can download the free version of FireDaemon from <http://www.firedaemon.com>. Then use this to run Streamsicle as a service, following the FireDaemon setup instructions.

5. How do I get Streamsicle to run on Novell Netware 6?

Preliminaries:

Make sure that you are running Java v. 1.31 or newer and that you have Tomcat v. 3.3 or newer.

Also make sure you have an Apache instance working in a separate memory space (so it won't conflict with the remote manager).

1. Copy `sys:\tomcat\33` to `sys:\tomcat\streamsicle`
2. Delete all applications from `sys:\tomcat\streamsicle\webapps`.
3. Delete all `*.ncf` scripts from `sys:\tomcat\streamsicle\bin`
4. Delete all `nw*.xml` from `sys:\tomcat\streamsicle\conf`
5. Copy `streamsicle.war` to `sys:\tomcat\streamsicle\webapps`
6. Create a new `sys:\tomcat\streamsicle\bin\tom_stream.ncf` like this:

```
load java
envset TOMCAT_STREAM=SYS:\tomcat\STREAMSICLE
envset TOMCAT_CLASSPATH2=sys:\java\lib\classes.zip
```

```

envset TOMCAT_CLASSPATH2=$TOMCAT_CLASSPATH2;$TOMCAT_STREAM\lib\tomcat.jar
envset TOMCAT_CLASSPATH2=$TOMCAT_CLASSPATH2;SYS:\java\njclv2\lib\jndi.jar
envset TOMCAT_CLASSPATH2=$TOMCAT_CLASSPATH2;SYS:\java\njclv2\lib\njclv2.jar
envset TOMCAT_CLASSPATH2=$TOMCAT_CLASSPATH2;SYS:\tomcat\STREAMSICLE\lib\common\jnet.jar
envset TOMCAT_CLASSPATH2=$TOMCAT_CLASSPATH2;SYS:\tomcat\STREAMSICLE\lib\common\jcert.jar
envset TOMCAT_CLASSPATH2=$TOMCAT_CLASSPATH2;SYS:\tomcat\STREAMSICLE\lib\common\jsse.jar
envset TOMCAT_CLASSPATH2=$TOMCAT_CLASSPATH2;SYS:\java\lib\jclient.jar

```

```

java -envCWD=$TOMCAT_STREAM -classpath
$TOMCAT_CLASSPATH2 -
Dtomcat.home=SYS:\tomcat\STREAMSICLE
org.apache.tomcat.startup.Main -f
sys:/tomcat/STREAMSICLE/conf/server.xml %1

```

7. Edit sys:\tomcat\streamsicle\server.xml and change the following:
 - a. Change <Ajpl2Connector> from 8007 to 8017
 - b. Change <Ajpl3Connector> from 8009 to 8019
 - c. <Http10Connector port="xxxx"> should read whatever port you would like Streamsicle to present the Web interface on.
 - d. Edit the Apacheconfig directive to read: <ApacheConfig forwardAll="true" />. This is the only Apacheconfig directive that should be active.
8. Edit sys:\tomcat\streamsicle\jk\workers.properties and change the following:
 - a. Change the entry located under #-----DEFAULT ajpl2 WORKER DEFINITION -----# for worker.ajpl2 from port 8007 to port 8017.
 - b. Change the entry located under #-----DEFAULT ajpl3 WORKER DEFINITION -----# for worker.ajpl3 from port 8009 to port 8019.
9. Run sys:\tomcat\streamsicle\tom_stream.ncf jkconf. This will generate the mod_jk.conf in sys:\tomcat\streamsicle\conf\auto
10. Edit the apache instance you wish to use for this and add the following line to the bottom of the file:


```
Include sys:/tomcat/streamsicle/conf/auto/mod_jk.conf
```

6. I'd like to decrease the streaming bit rate. How do I do that?

This HOWTO was posted by James Drake on the Streamsicle message boards. Streamsicle has not verified the correctness or accuracy of the following information.

I had the problem of most of my MP3s being 128kbit+ and only having a busy 256kbit upload to stream them over. Streamsicle is the best front-end I've seen to play and request songs, however I needed a way to lower the bit rate of my mp3's when streaming them.

OS: Windows XP with Service Pack One.

Streamsicle 1.2b

Icecast: latest win32 build

Stream Transcoder 0.2.0 win32 build

Girder 3.2.6b

If you are not aware, Girder is a free utility that can manipulate and send commands to programs amongst other things.

1. Girder starts up automatically (WinXP is set to auto-logon)
2. Girder has a multi-group setup that:
 - a. Runs Streamsicle.
 - b. Waits for a few seconds then runs Icecast. Icecast has an alias setup which points to the Streamsicle stream.
 - c. Waits for a few seconds and starts Stream Transcoder, sends the command to press the 'connect' button. Stream Transcoder can take Icecast streams and lower the bit rate and then push them out as WMA, mp3 or Ogg Vorbis.

All my mp3s are now 'transcoded' to 32kbit, which saves a lot of bandwidth and is OK for me. I tried to bypass the Icecast part and take the stream from Streamsicle, but I couldn't get this to work. Now I can use Streamsicle to select songs and listen by pointing media player directly to the Stream Transcoder stream instead.

Issues:

1. The song change will take about 10 seconds as it is going through various stages in recompression.
2. Stream Transcoder seems to just stop if you don't listen to the stream after about an hour. With an active connection to the transcoded stream, it seems to stay 'live' for at least seven hours (the longest I have listened).
3. The 'listen now' button in Streamsicle obviously now doesn't point to the transcoded stream. I'm sure this can be changed in the source code if this is allowed?
4. Of course it would be better to have one program do this, but I think this is a good alternative for now.