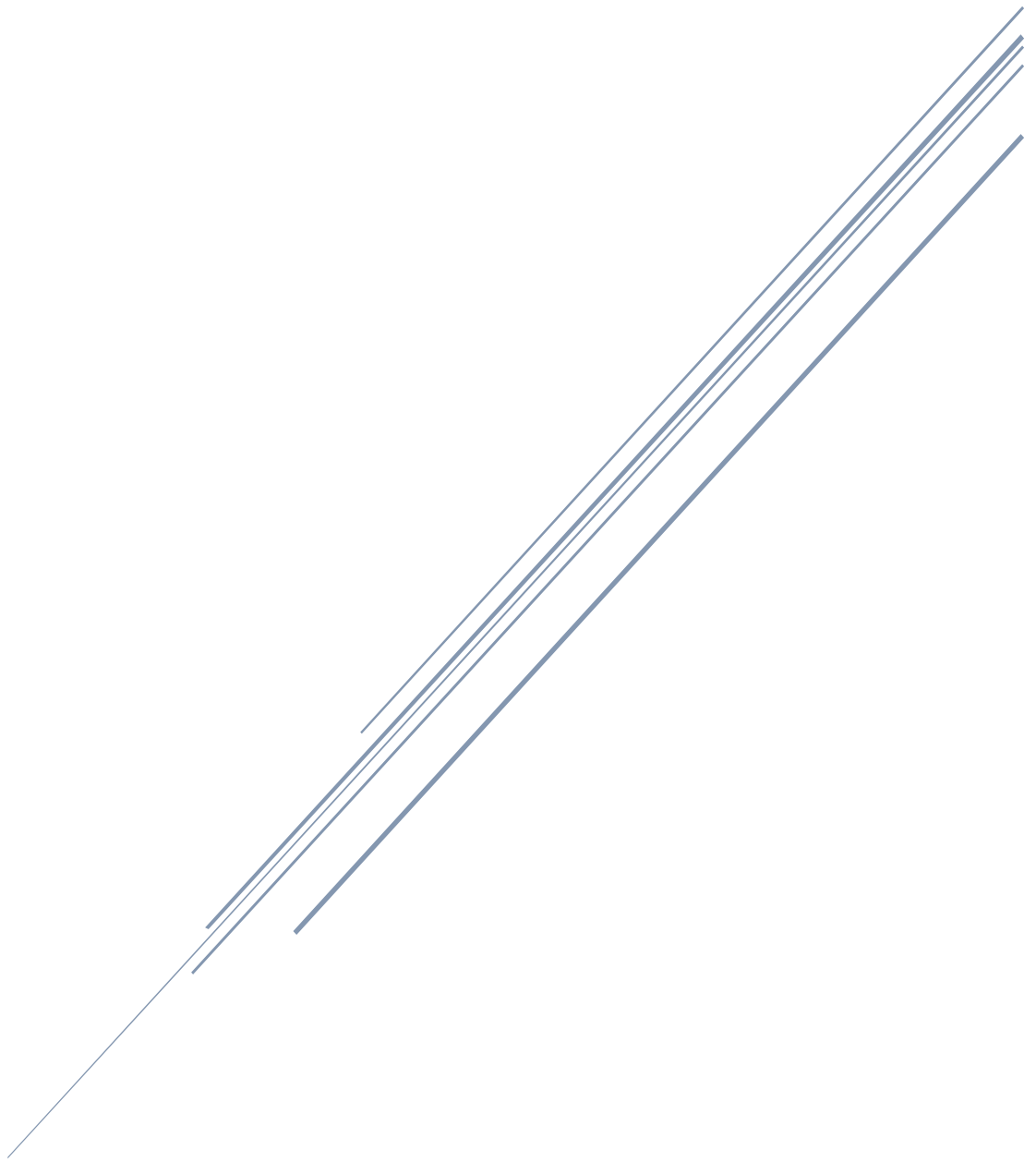


STREAMING

AUDIO E VÍDEO



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1. ¿A que se refire o termo webinar?

Conferencia Web ou conferencia en línea. Consiste nunha transmisión por Internet dalgunha charla, seminario ou taller na que se produce unha interactividade entre os participantes e os conferenciantes de igual forma que si estivesen nun aula ou similar físicamente reunidos.

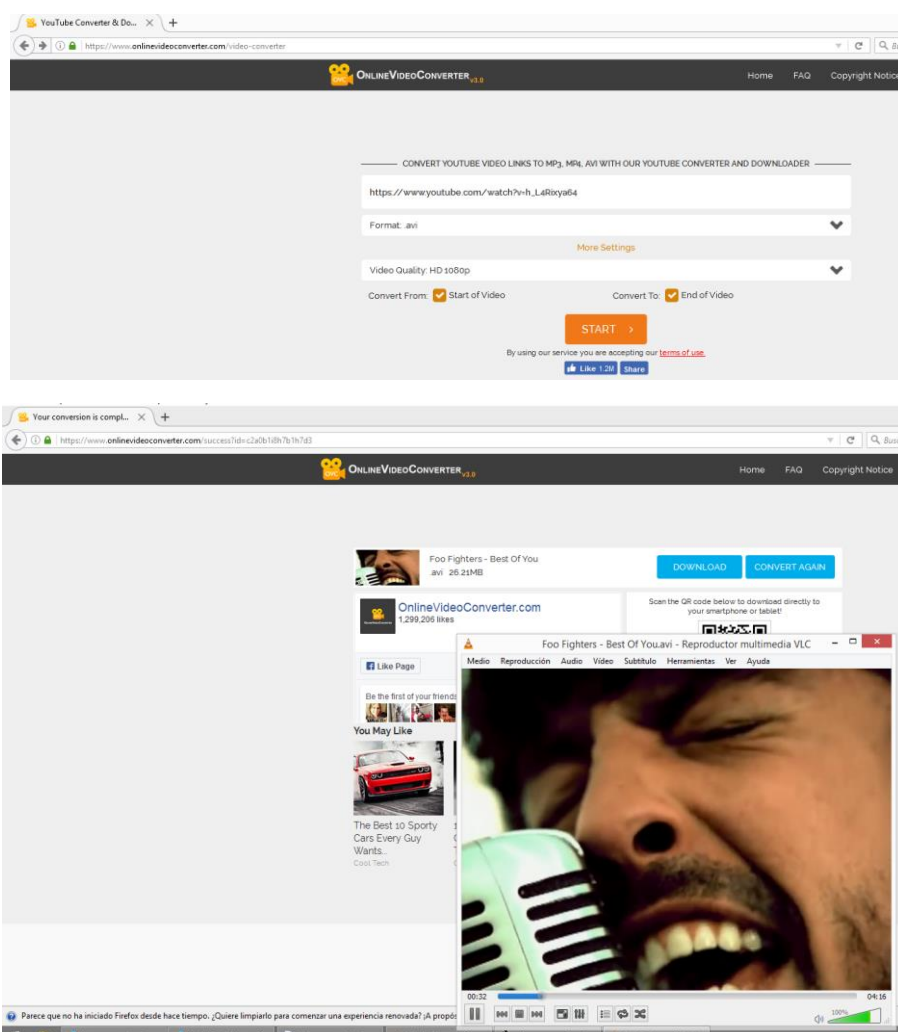
Danse a tempo real a unha fecha e hora previamente especificada e os asistentes poden facer preguntas, comentar e escoitar o resto dos participantes (a diferenza dunha webcast na que soamente o conferenciante e o que fala e o resto dos participantes so escoitan).

2. Averiguar os codecs aplicados a un arquivo determinado

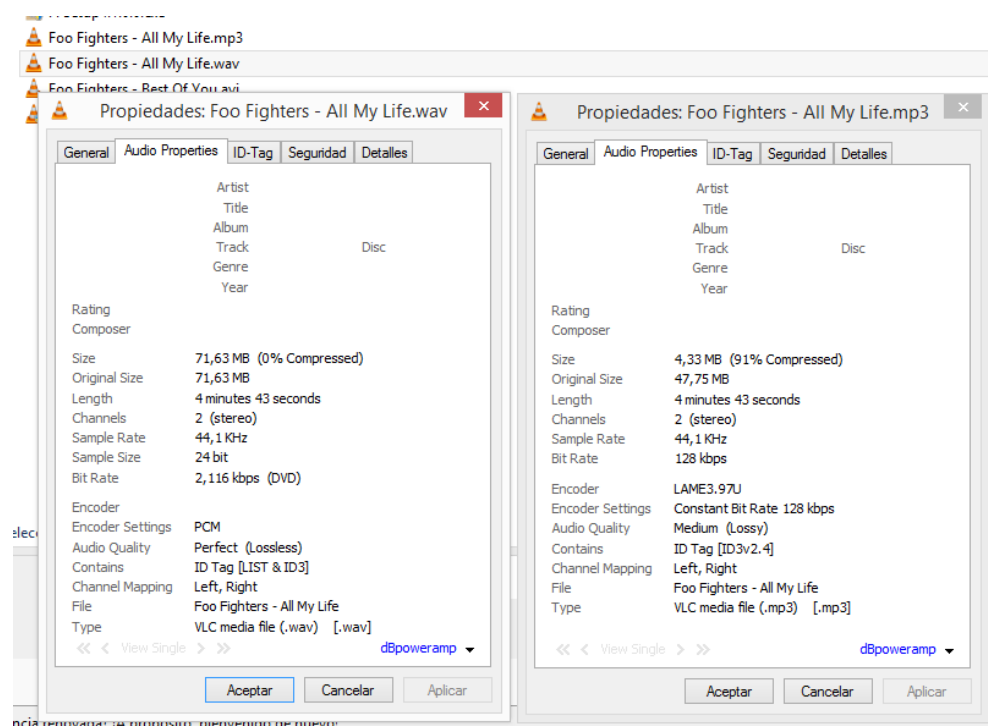
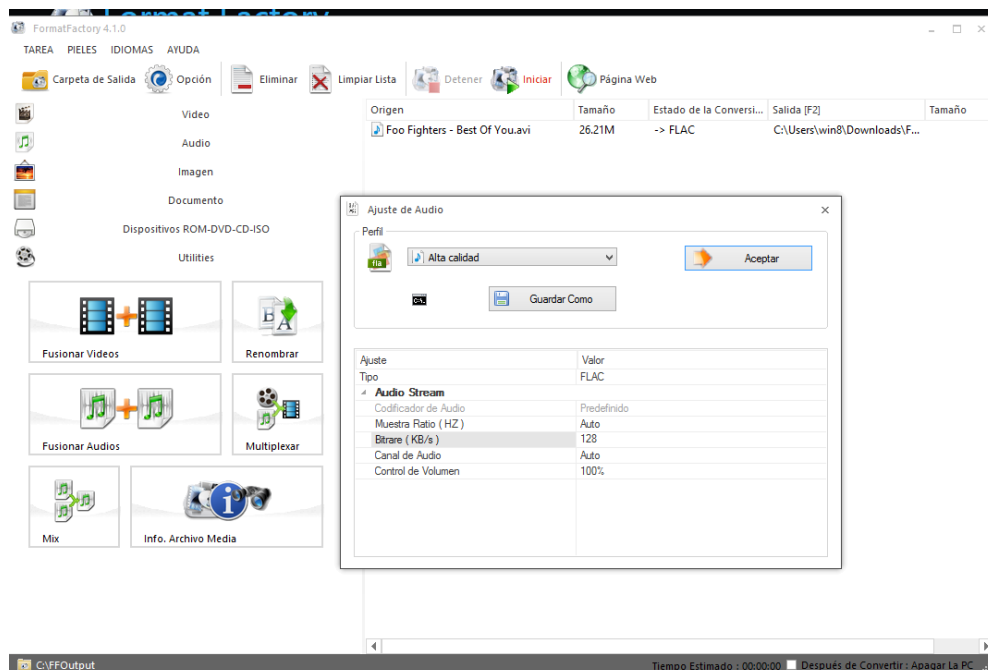
Descarga algún vídeo musical dende Youtube empregando a web

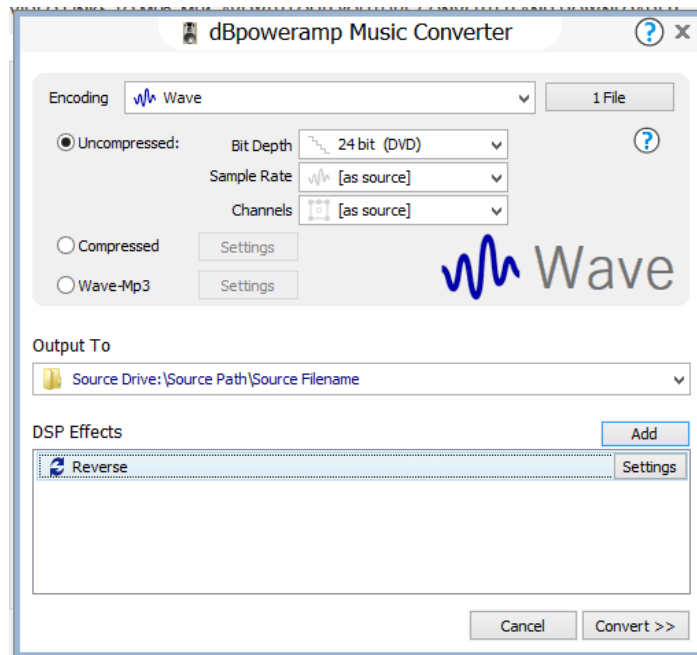
<https://www.onlinevideoconverter.com>

Descárgao nos formatos ogg, mp3, wav, avi, flv e mp4. Ten conta das diferenzas de tamaño existentes.



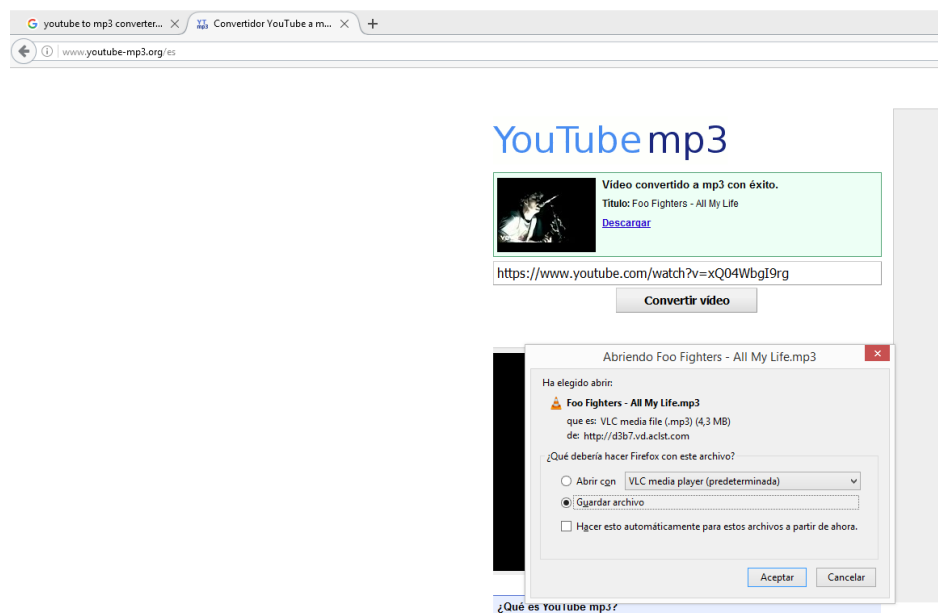
Descarga as ferramentas **FormatFactory** e **dbPowerAmp** para cambiar o ficheiro descargado de formato. Aplica diferentes bitrates e frecuencias.





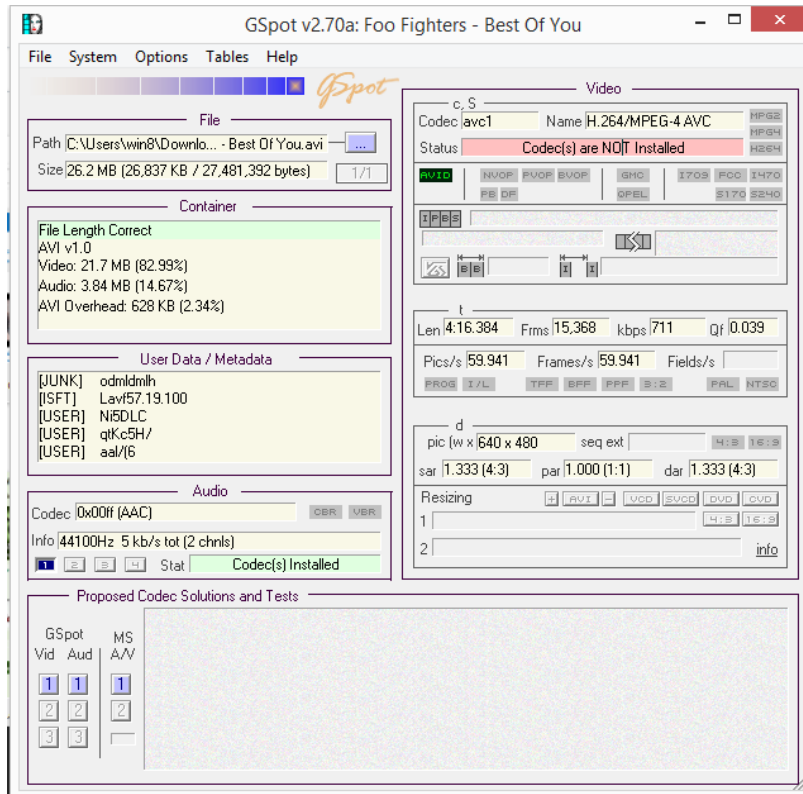
Tamén podes probar a ferramenta Youtube to mp3 converter. Cal é a súa finalidade?

Convertir un video de Youtube nun formato de audio mp3, loxicamente a calidade disminue un pouco.

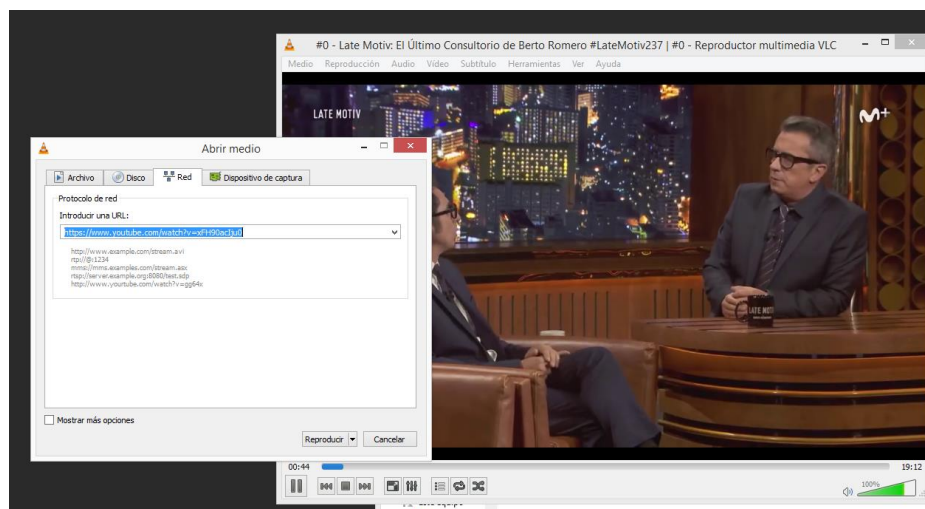


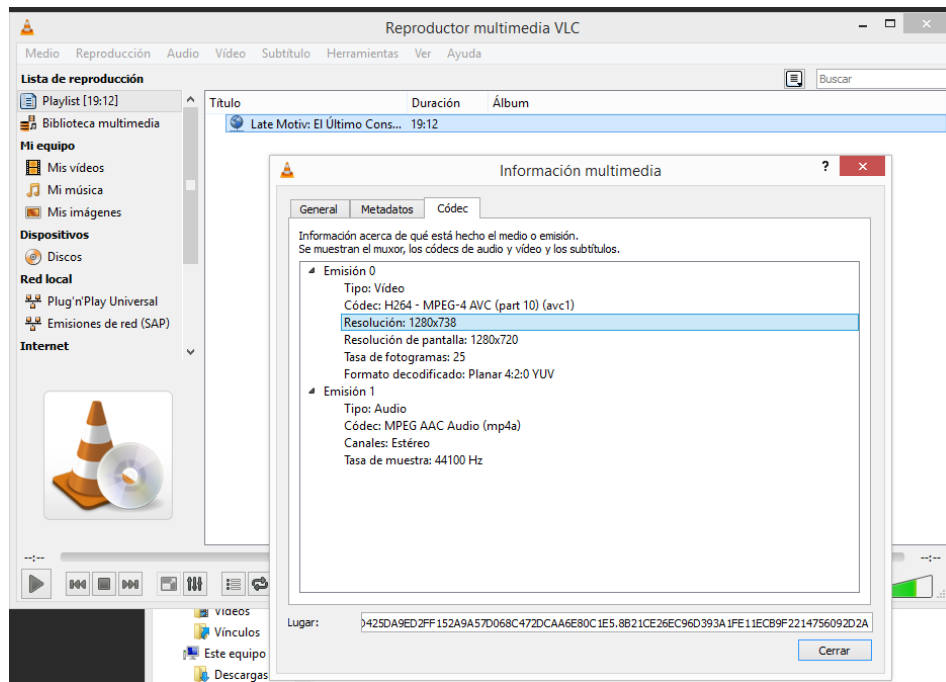
3. Averiguar os codecs aplicados a un arquivo determinado

Emprega as ferramentas **Gspot** e **AVIcodec** para analizar os codecs aplicados a un ficheiro, e que por tanto son precisos para a súa reprodución.

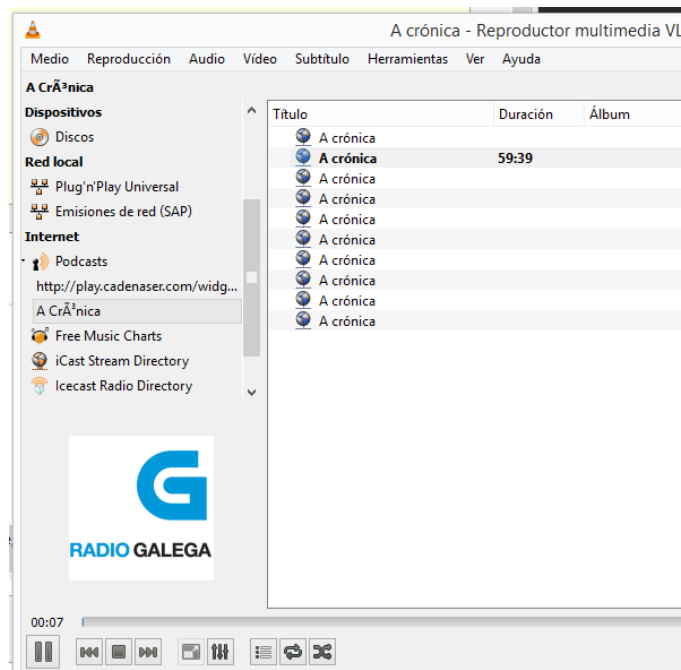


4. VLC





iCatMón	Barcelona	64 Kbps	Urban/World music
totCat	Barcelona	64 Kbps	Catalan music
iCatRumba	Barcelona	64 Kbps	Rumba music
Central FM	Arroyo de la Miel	64 Kbps	Top 40 (in English)
Chanquete FM	Malaga	128 Kbps	Spanish Pop
Coast FM	Tenerife	128 Kbps	Top 40 (in English)
Cool FM	Costa Blanca	64 Kbps 32 Kbps	Current/classic hits (in English)
COM Radio	Barcelona	80 Kbps	News/talk
COPE Cantabria	Santander	24 Kbps	News/talk
Crónicas Radio	Lanzarote	64 Kbps	News/information/music
Disco Music Radio	Valencia	128 Kbps	Pop hits
EITB Euskadi Irratia	San Sebastián	96 Kbps	Basque news/features/music



5. Instalación e configuración de Icecast

Instalamos Icecast2 e ices2.

```
sudo apt-get install icecast2 ices2 vorbis-tools
```

Configuramos icecast2, editamos o ficheiro de configuración /etc/icecast2/icecast.xml

Cambiamos as passwords e establecemos o hostname.

```

agl_US32-16.4_SERI_icecast2 [Corriendo] - Oracle VM VirtualBox
GNU nano 2.5.3 Ficheiro: /etc/icecast2/icecast.xml

<authentication>
  <!-- Sources log in with username 'source' -->
  <source-password>abc123.</source-password>
  <!-- Relays log in with username 'relay' -->
  <relay-password>abc123.</relay-password>

  <!-- Admin logs in with the username given below -->
  <admin-user>admin</admin-user>
  <admin-password>abc123.</admin-password>
</authentication>

<!-- set the mountpoint for a shoutcast source to use, the default if not
specified is /stream but you can change it here if an alternative is
wanted or an extension is required
<shoutcast-mount>/live.nsv</shoutcast-mount>
-->

<!-- Uncomment this if you want directory listings -->
<!--
<directory>
  <yp-url-timeout>15</yp-url-timeout>
  <yp-url>http://dir.xiph.org/cgi-bin/yp-cgi</yp-url>
</directory>
-->

<!-- This is the hostname other people will use to connect to your server.
It affects mainly the urls generated by Icecast for playlists and yp
listings. You MUST configure it properly for YP listings to work!
-->
<hostname>www.asirb.gal</hostname>

<!-- You may have multiple <listener> elements -->

```

Editamos o ficheiro /etc/default/icecast2, habilitamos a true o arrinque de Icecast2.

```

agl_US32-16.4_SERI_icecast2 [Corriendo] - Oracle VM VirtualBox
GNU nano 2.5.3 Ficheiro: /etc/default/icecast2

# Defaults for icecast2 initscript
# sourced by /etc/init.d/icecast2
# installed at /etc/default/icecast2 by the maintainer scripts

#
# This is a POSIX shell fragment
#

# Full path to the server configuration file
CONFIGFILE="/etc/icecast2/icecast.xml"

# Name or ID of the user and group the daemon should run under
USERID=icecast2
GROUPID=icecast

# Edit /etc/icecast2/icecast.xml and change at least the passwords.
# Change this to true when done to enable the init.d script
ENABLE=true

```


Reiniciamos icecast2 e comprobamos o estado do servizo e que esté escoitando no porto por defecto 8000.

```

agl_US32-16.4_SERI_icecast2 [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
uadmin@www:~$ sudo service icecast2 restart
[sudo] password for uadmin:
uadmin@www:~$ sudo service icecast2 status
• icecast2.service - LSB: Icecast2 streaming media server
   Loaded: loaded (/etc/init.d/icecast2; bad: vendor preset: enabled)
   Active: active (running) since Ven 2017-05-26 22:17:09 CEST; 3s ago
     Docs: man:systemd-sysv-generator(8)
  Process: 18272 ExecStop=/etc/init.d/icecast2 stop (code=exited, status=0/SUCCESS)
  Process: 18280 ExecStart=/etc/init.d/icecast2 start (code=exited, status=0/SUCCESS)
    Tasks: 4
   Memory: 888.0K
      CPU: 13ms
   CGroup: /system.slice/icecast2.service
           └─18289 /usr/bin/icecast2 -b -c /etc/icecast2/icecast.xml

Mai 26 22:17:09 www.asirb.gal systemd[1]: Stopped LSB: Icecast2 streaming media server.
Mai 26 22:17:09 www.asirb.gal systemd[1]: Starting LSB: Icecast2 streaming media server...
Mai 26 22:17:09 www.asirb.gal icecast2[18280]: * Starting streaming media server icecast2
Mai 26 22:17:09 www.asirb.gal icecast2[18280]: ...done.
Mai 26 22:17:09 www.asirb.gal systemd[1]: Started LSB: Icecast2 streaming media server.
Mai 26 22:17:09 www.asirb.gal icecast2[18280]: [2017-05-26 22:17:09] WARN CONFIG/_parse_root Warnin
Mai 26 22:17:09 www.asirb.gal icecast2[18280]: [2017-05-26 22:17:09] WARN CONFIG/_parse_root Warnin
uadmin@www:~$ netstat -ltn
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
tcp        0      0 0.0.0.0:8000             0.0.0.0:*               LISTEN
tcp        0      0 0.0.0.0:22               0.0.0.0:*               LISTEN
tcp6       0      0 :::22                   :::*                    LISTEN
uadmin@www:~$

```

Creamos agora a estrutura de directorios para ices2, que será o codec necesario para a reprodución de ficheiros .ogg (neste caso). Copiamos un ficheiro de audio .ogg o servidor, creamos o ficheiro “musica.txt” o cal conterá o path onde se aloxa o ficheiro real .ogg. Indicando así a súa ubicación.

```

agl_US32-16.4_SERI_icecast2 [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
uadmin@www:/etc/ices2$ tree
.
├── ices-playlist.xml
└── musica.txt

0 directories, 2 files
uadmin@www:/etc/ices2$ cat musica.txt
/home/uadmin/MClan.ogg
uadmin@www:/etc/ices2$ ls /home/uadmin
jcameron-key.asc  MClan.ogg
uadmin@www:/etc/ices2$ _

```

```

agl_US32-16.4_SERI_icecast2 [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
uadmin@www:/etc/ices2$ tree /var/log/ices2/
/var/log/ices2/
├── ices2.log

0 directories, 1 file
uadmin@www:/etc/ices2$ tree
.
├── ices-playlist.xml
└── musica.txt

0 directories, 2 files
uadmin@www:/etc/ices2$ cat musica.txt
/home/uadmin/MClan.ogg
uadmin@www:/etc/ices2$ ls /home/uadmin
jcameron-key.asc  MClan.ogg
uadmin@www:/etc/ices2$

```

Copiamos o ficheiro “ices-playlist.xml” no directorio creado /etc/ices2/.

```
cp /usr/share/doc/ices2/examples/ices-playlist.xml /etc/ices2/
```

Configuramos dito ficheiro establecendo o path de logs (creados previamente e manualmente como se amosa na captura de pantalla anterior).

Establecemos tamén unha metada.

```

<?xml version="1.0"?>
<ices>
  <!-- run in background -->
  <background>0</background>
  <!-- where logs, etc go. -->
  <logpath>/var/log/ices2</logpath>
  <logfile>ices2.log</logfile>
  <!-- 1=error,2=warn,3=info,4=debug -->
  <loglevel>4</loglevel>
  <!-- set this to 1 to log to the console instead of to the file above -->
  <consolelog>0</consolelog>

  <!-- optional filename to write process id to -->
  <!-- <pidfile>/home/ices/ices.pid</pidfile> -->

  <stream>
    <!-- metadata used for stream listing (not currently used) -->
    <metadata>
      <name>ASIRB CARBALLEIRA</name>
      <genre>Edu</genre>
      <description>Emisora ASIRB ' @adrianlois' </description>
    </metadata>

    <!-- input module

```

No mesmo ficheiro, a continuación, indicamos o path da lista de reprodución (este ficheiro tamén foi creado previamente como se comentaba nunha captura anterior). Para rematar esta configuración establecemos tamén o hostname, password e un directorio de montaxe.

```

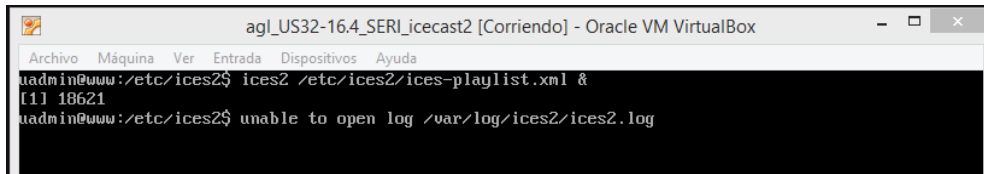
<param name="file">/etc/ices2/musica.txt</param>
<!-- random play -->
<param name="random">0</param>
<!-- if the playlist get updated that start at the beginning -->
<param name="restart-after-reread">0</param>
<!-- if set to 1 , plays once through, then exits. -->
<param name="once">0</param>
</input>

<!-- Stream instance
You may have one or more instances here. This allows you to
send the same input data to one or more servers (or to different
mountpoints on the same server). Each of them can have different
parameters. This is primarily useful for a) relaying to multiple
independent servers, and b) encoding/reencoding to multiple
bitrates.
If one instance fails (for example, the associated server goes
down, etc), the others will continue to function correctly.
This example defines two instances as two mountpoints on the
same server. -->
<instance>
  <!-- Server details:
  You define hostname and port for the server here, along with
  the source password and mountpoint. -->
  <hostname>www.asirb.gal</hostname>
  <port>8000</port>
  <password>abc123.</password>
  <mount>/endirecto</mount>

  <!-- Reconnect parameters:
  When something goes wrong (e.g. the server crashes, or the
  network drops) and ices disconnects from the server, these

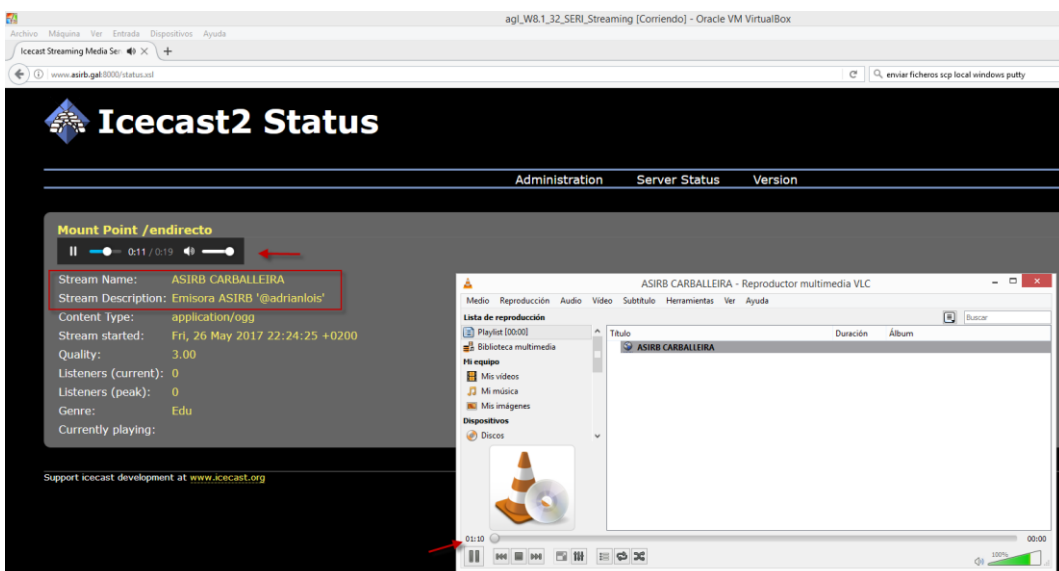
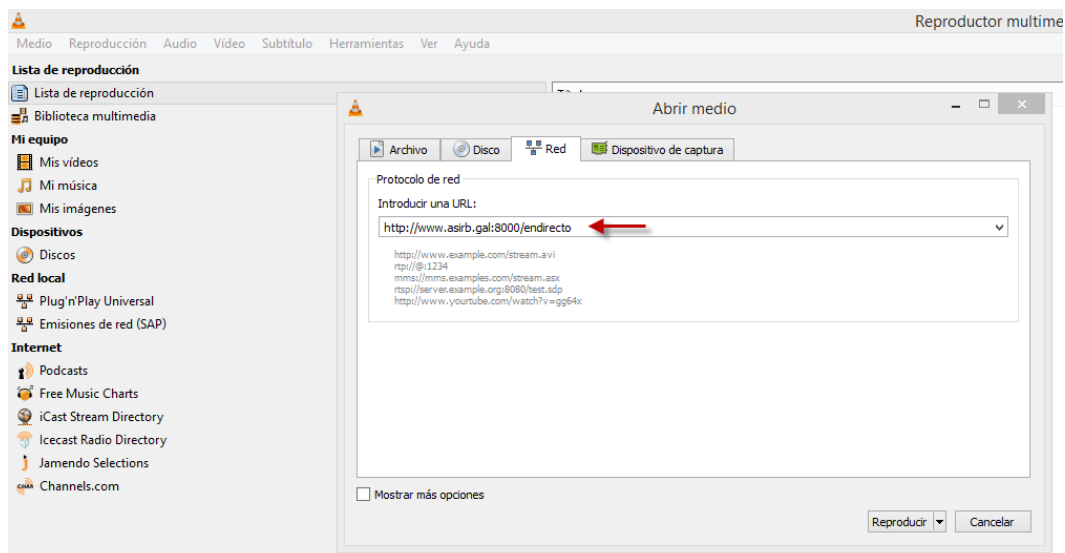
```

Por último arrincamos ices2. Invocando o ficheiro “ices-playlist.xml”. (O & permite mantelo en segundo plano).

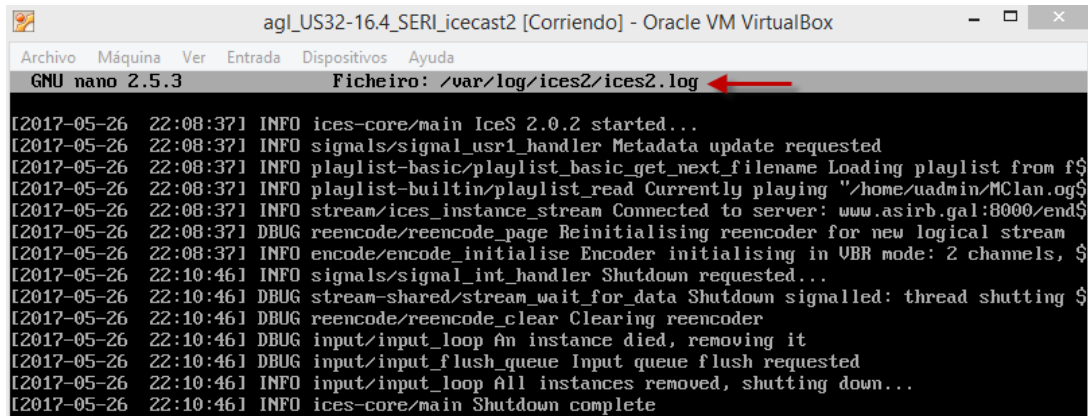


Dende o equipo cliente (un windows 8.1) probamos que temos conexión con icecast2, e vemos como o audio estase a reproducir, podemos probar a conectarnos con VLC Player dende unha ubicación de red, onde estableceremos a dirección do hostname ou dirección IP no seu defecto:porto/endpoint. Sendo “/endpoint” o directorio de montaxe creado no ficheiro “ices-playlist.xml”.

O non ter un servidor DNS configurado, neste caso a modo de proba, editaremos o ficheiro hosts do cliente para que resolva o nome “www.asirb.gal” na dirección IP do servidor 192.168.1.1



No servidor podemos comprobar os logs de ices2 donde se pode ver a conexión establecida hacia o cliente.



```
agl_US32-16.4_SERI_icecast2 [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
GNU nano 2.5.3      Ficheiro: /var/log/ices2/ices2.log
[2017-05-26 22:08:37] INFO ices-core/main IceS 2.0.2 started...
[2017-05-26 22:08:37] INFO signals/signal_usr1_handler Metadata update requested
[2017-05-26 22:08:37] INFO playlist-basic/playlist_basic_get_next_filename Loading playlist from f$
[2017-05-26 22:08:37] INFO playlist-builtin/playlist_read Currently playing "/home/uadmin/MClan.og$
[2017-05-26 22:08:37] INFO stream/ices_instance_stream Connected to server: www.asirb.gal:8000/end$
[2017-05-26 22:08:37] DEBUG reencode/reencode_page Reinitialising reencoder for new logical stream
[2017-05-26 22:08:37] INFO encode/encode_initialise Encoder initialising in VBR mode: 2 channels, $
[2017-05-26 22:10:46] INFO signals/signal_int_handler Shutdown requested...
[2017-05-26 22:10:46] DEBUG stream-shared/stream_wait_for_data Shutdown signalled: thread shutting $
[2017-05-26 22:10:46] DEBUG reencode/reencode_clear Clearing reencoder
[2017-05-26 22:10:46] DEBUG input/input_loop An instance died, removing it
[2017-05-26 22:10:46] DEBUG input/input_flush_queue Input queue flush requested
[2017-05-26 22:10:46] INFO input/input_loop All instances removed, shutting down...
[2017-05-26 22:10:46] INFO ices-core/main Shutdown complete
```