

abcde – A Better CD Encoder

Music was my first love...

abcde [1] is a small shell script that reads your favorite CDs from the command line. With it you can convert tracks to MP3 or Ogg format and add or manipulate the ID3 tags so that you can find them again. You will be impressed with what you can do with a single command.

BY HEIKE JURZIK



As the script accesses other programs, you will need to pre-install the following tools:

- an Ogg encoder, such as *oggenc* or *vorbize*
- alternatively an MP3 encoder, such as *lame* or *bladeenc*
- *cdparanoia* or *cdda2wav*, so-called audio extraction tools that create WAV files from audio CDs
- *cd-discid*, a **CDDB** tool
- *wget*, a program that mirrors WWW files
- optional: an ID3 tag editor, such as *ide3* or *ide3v2*

Just around the corner

Debian users will be pleased to hear that version 2.0.3 of the program is available in the form of packages for *woody* (“stable”), *sarge* (“testing”) and *sid* (“unstable”). You can install *abcde* by typing *apt-get install abcde*.

Any tools that may be missing are installed at the same time. The *abcde_2.0.3-1_all.deb* package is also included on this month’s subscription CD, below */content/abcde/*. After mounting the CD,

type *dpkg -i abcde_2.0.3-1_all.deb* to install the package. If your machine complains about unresolved dependencies, take a look at [4] and install the missing programs manually.

Users of other distributions will also find the sources for the program below */content/abcde/* on the subscription CD. To install them, first mount the CD and then:

```
asteroid:~# cd /usr/local/bin/
asteroid:/usr/local/bin# ➤
tar xzvf /cdrom/content/abcde/➤
abcde_2.0.3.orig.tar.gz
```

The newly created *abcde-2.0.3* directory contains the *abcde* executable. If */usr/*

local/bin is in your **path**, you can now type *abcde* to launch the program from the command line (alternatively, you can supply the full path: */usr/local/bin/abcde*).

Let there be light

abcde -h displays the help text for the options offered by the program. Running the program without any parameters selects interactive mode:

```
huhn@asteroid:~$ abcde
Getting CD track info...
Grabbing entire CD - tracks:
1 2 3 4 5 6 7 8 9 10 11 12
Retrieving 1 CDDB match...done.
-- Christy Moore / Traveller --
1: Urgency Culture
2: Raggle Taggle Gypsy
3: I loved Her
4: Tell it unto me
5: Rocky Road
6: Last Cold Kiss
[...]
```

```
Edit selected CDDB data?
[y/n] (n):
```

INFO

- [1] <http://lly.org/~rcw/abcde/page/>
- [2] <http://www.id3.org/>
- [3] <http://www.freedb.org/>
- [4] <http://packages.debian.org/>
- [5] <http://www.xiph.org/ogg/vorbis/index.html>
- [6] <http://www.mp3dev.org/mp3/>



Figure 1: Create your own titles – editing the CDDB entry

By default, any tracks you grab appear in a new directory (*Artist/Title.(mp3/ogg)*), that is, *Christy_Moore/Last_Cold_Kiss.ogg* – spaces are converted to underscores, and special characters (such as apostrophes) are filtered out. You can edit the CDDB list: type *y* to edit the track name. The program will initially attempt to interpret your *\$EDITOR* environment variable, and default to *vi* if this is not set. If your favorite editor happens to be Emacs, you might like to try *export EDITOR = emacs*.

Multi-artist CDs can be specified by saying yes to the following question (*Is the CD multi-artist? [y/n] (n):*), this affects the way artist and track information is created from CDDB entries.

Then it's off to work for *abcde*; an ASCII display indicates the tool's progress (Listing 1). As the output shows, *abcde* creates a temporary directory called *abcde.[discID]* that contains

information for the CD. If the grabbing process happens to be interrupted, you can simply restart *abcde* to carry on where you left off.

To grab individual tracks, simply pass the track number to the program: *abcde 1 3*. There are a few other useful options, such as *-a [action]* which launches some of the program's individual features (*cddb*, *read*, *encode*), *-d [device]*, to specify the CD ROM device (*-d /dev/cdrom*), or *-o [format]* for the output format (*-o mp3*, *-o ogg*).

Just for the record

abcde's operations are controlled by a global configuration file called */etc/abcde.conf*. You can copy this file to your home directory (*cp /etc/abcde.conf ~/ .abcde.conf*), and edit the file. The file allows you to specify the CDDB server you want to contact, your own CD ROM drive, where to store MP3s/Oggs, and

what names to give them. If you are not happy with the default setting (*Artist/Track.(mp3/ogg)*), simply change the *# Output filename format...* entry in the file. Specifying your output like so:

```
OUTPUTFORMAT='${ARTISTFILE}/➤
${ALBUMFILE}_-${TRACKFILE}.➤
${OUTPUTTYPE}'
```

will add the title of the album to the file name (*Christy_Moore/Traveller_-_Last_Cold_Kiss.ogg*).

GLOSSARY

ID3: MP3 files can additionally store information on tracks, such as the name of the artist, or group, the genre or the track name. Most players are capable of displaying this information when playing the track. Version 1 (ID3v1) reserves the last 128 bytes of the file for title information, however, ID3v2 tags are stored at the beginning of the file, are far more complex, and can be up to 256 MB (see also [2]). There are a number of Internet based databases full of ID3 data, or CDDBs, that save you typing all this information manually.

CDDB: means Compact Disc DataBase, an Internet based database that stores track information for audio CDs. Many programs used for playing or grabbing CDs use FreeDB [3] an online resource.

Path: The *\$PATH* environment variable contains a collection of colon-separated directory paths that the shell searches for programs or commands entered without specifying the full path, such as "*abcde*" instead of "*/usr/local/bin/abcde*". The "echo *\$PATH*" syntax allows you to display a list of directories that the shell searches in. The *\$PATH* can either be temporarily modified for your current shell session by typing "export *PATH=\$PATH:/usr/local/bin/*" or permanently by editing the appropriate entry in your ".bashrc".

Listing 1: abcde in action

```
Ripping from sector      0 (track  1 [0:00.00])
      to sector      9443 (track  1 [2:05.68])
outputting to /home/huhn/abcde.a40c120c/track1.wav
(== PROGRESS == [          | 009443 00 ] == :^D * ==)
Done.

Grabbing track 6: Last Cold Kiss...
[...]
Encoding "/home/huhn/abcde.a40c120c/track6.wav" to
      "/home/huhn/abcde.a40c120c/track6.ogg" at quality 3.00
Encoding with VBR
      [ 28.9% ] [ 1m04s remaining ] \
```

THE AUTHOR

Heike Jurzik studied German, Computer Science and English at the University of Cologne, Germany. She discovered Linux in 1996 and has been fascinated with the scope of the Linux command line ever since. In her leisure time you might find Heike hanging out at Irish folk sessions or visiting Ireland.

