

Batch Converting jp2 images to jpgs, and pdfs using ImageMagick

From time to time you may have a need to convert a series of jpeg2000 or `.jp2` images to a more accessible format such as `.jpgs` or `.pngs`. The ultra-powerful commandline image processing tool, [ImageMagick](http://www.imagemagick.org/index.php), is ideal for this. ImageMagick is available for Linux, Mac, iOS, and Windows. The examples shown here are on a Linux operating system, but the same commands should work for the other operating systems.

Assuming you have your selection of `.jp2` files in a directory it is worth creating a new directory within it to hold your processed image files. In this example I have created the *Processed* directory to receive the `.jpgs`.



To process the `.jp2` files we will use ImageMagick version 6's batch processing `mogrify` command. In ImageMagick version 7, the `mogrify` command is still present as a legacy function but as I understand it the new command is `magick mogrify`. `Mogrify` is a slightly dangerous command because it can overwrite the original files. Because we are converting the images into a different format with different file extension and putting them into a new directory, this is not a problem. The `mogrify` command as we will use it here will process all files in the active directory with the file extension `.jp2`. This means the `.jp2` files can have any filename and don't need to conform to any common naming convention. `Mogrify` preserves the base filenames through the process.

Opening a command line console in the directory with our `.jp2` files – in my example I have the `.jp2` files in the `/home/hamy/Documents/JP2_Wrangling/2DArtist-66` directory. We use the command;

```
mogrify -path '/home/hamy/Documents/JP2_Wrangling/2DArtist_066/Processed' -verbose -quality 95 -format jpg *.jp2
```

`-path`

This is the directory were the processed files will be deposited. If it is left out, the processed files will be put into the directory alongside the `.jp2` source files.

Batch Converting jp2 images to jpgs, and pdfs using ImageMagick

`-verbose`

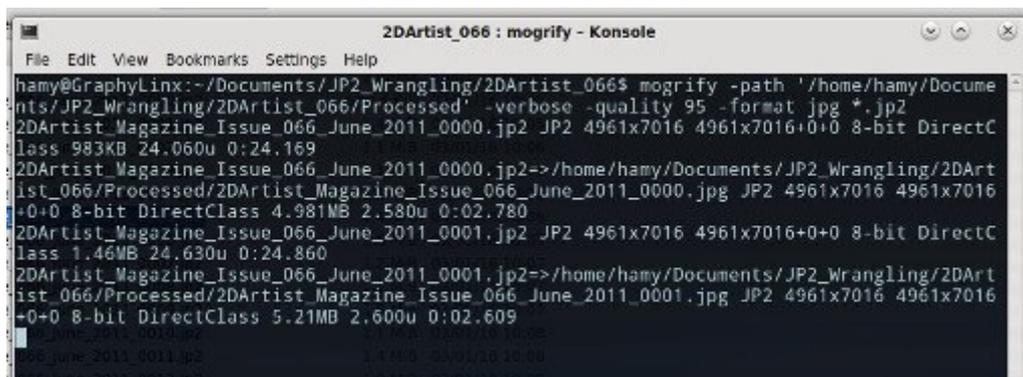
This simply provides a bit more feedback about how far through the process you are. It also provides potentially useful information about the image sizes being processed.

`-quality`

is for specifying the quality of the `.jpgs` being produced. The lower the number the worse the quality but the smaller the file size.

`-format`

is where the output format is specified.



```
2DArtist_066 : mogrify - Konsole
File Edit View Bookmarks Settings Help
hamy@GraphyLinux:~/Documents/JP2_Wrangling/2DArtist_066$ mogrify -path '/home/hamy/Documents/JP2_Wrangling/2DArtist_066/Processed' -verbose -quality 95 -format jpg *.jp2
2DArtist_Magazine_Issue_066_June_2011_0000.jp2 JP2 4961x7016 4961x7016+0+0 8-bit DirectClass 983KB 24.060u 0:24.169
2DArtist_Magazine_Issue_066_June_2011_0000.jp2=>/home/hamy/Documents/JP2_Wrangling/2DArtist_066/Processed/2DArtist_Magazine_Issue_066_June_2011_0000.jpg JP2 4961x7016 4961x7016+0+0 8-bit DirectClass 4.981MB 2.580u 0:02.780
2DArtist_Magazine_Issue_066_June_2011_0001.jp2 JP2 4961x7016 4961x7016+0+0 8-bit DirectClass 1.46MB 24.630u 0:24.860
2DArtist_Magazine_Issue_066_June_2011_0001.jp2=>/home/hamy/Documents/JP2_Wrangling/2DArtist_066/Processed/2DArtist_Magazine_Issue_066_June_2011_0001.jpg JP2 4961x7016 4961x7016+0+0 8-bit DirectClass 5.21MB 2.600u 0:02.609
```

As you can see from the console output, the `-verbose` option is reporting the image it has processed, and useful things like the image size, and file size. Converting from `.jp2` to `.jpg` will result in significantly larger image files being produced.

A couple of other useful `mogrify` options are;

`mogrify -help`

which yields a large list of settings, operators, and options for using with `mogrify`.

`-resize`, `-scale`, `-crop` are all useful for further processing the images. For instance you may find the `.jp2` file is quite high resolution. Including `-resize` with some pixel sizes or a percentage will change the resolution of your image. In the example below the `.jpg` files produced would be resized to best fit one or other of the 2480 x 3580 pixel dimensions while maintaining the image aspect ratio.

```
mogrify -path '/home/hamy/Documents/JP2_Wrangling/2DArtist_066/Processed' -verbose -resize 2480x3580 -quality 95 -format jpg *.jp2
```

Batch Converting jp2 images to jpgs, and pdfs using ImageMagick

At the end of the process you will have a directory full of .jpg files.



Once you have your directory of images processed to .jpgs, you can then use ImageMagick to compile them into a pdf, or you can simply zip them up and create a **Comic Book Zip** (.cbr) or **Comic Book Rar** (.cbr) format ebook.

The most basic command structure for turning the images into a .pdf is;

```
convert *.jpg Output.pdf
```

Adding the `-verbose` option here is useful for keeping track of progress. I believe there are occasionally errors thrown up by this simplistic `convert` command structure for building pdfs, but I have yet to observe them. As I understand it the equivalent ImageMagick version 7 command would be;

```
magick *.jpg Output.pdf
```

Comic Book Formats – .cbr and .cbz

I feel these are my new best friend for packaging bunches of images as an ebook. I am not sure what opens them in Windows and Macs but presume the Adobe Reader probably does. In the Linux world, I find **Okular** a great viewer for ebook formats including .cbr and .cbz formats. The advantage of the comic book formats is that they are quicker to handle than image-heavy pdfs.

To turn your series of images into a comic book format, just zip (or rar) them up, and change the filename extension to either .cdz or .cbr depending on whether you zipped it or rar-ed it.