# ImageMagick Image converter and editor

**START HERE**

**`magick <in> <out>`**
Convert by extension

**`magick <in> -resize 800x <out>`**
Resize to width 800

**`magick <in> -crop 400x300+10+20 +repage <out>`**
Cut out a region

**`magick <in> -rotate 90 <out>`**
Rotate clockwise

**`magick <in> -strip -quality 85 <out>`**
Shrink a JPEG

**`magick identify <file>`**
Show size and format

**`magick mogrify -resize 50% *.jpg`**
Batch, overwrites originals

**`magick montage *.jpg -geometry +4+4 <out>`**
Contact sheet

**Read** input files → **Settings** - background, -gravity → **Operators** -resize, -crop... → **Image list** ( ) stacks, -append → **Write** output name sets format

## CONCEPTS

Order matters: settings (-background, -gravity, -quality) must come before the operator that uses them, and options apply to the images read so far.

ImageMagick 7 has one entry point, magick. IM6 used convert, mogrify, identify and montage directly; in IM7 those are subcommands (magick mogrify). Plain convert still works as a legacy alias but is deprecated.

Quote geometry with < > ^ ! and filenames with [ ] so the shell leaves them alone. On Linux, escape stack parentheses as \( and \).

## CONVERT & INSPECT

**`magick <in> <out>`**
Convert; format follows the extension

**`magick identify <file>`**
One-line size, format, depth

**`magick identify -verbose <file>`**
Full metadata and statistics

**`magick identify -format "%wx%h\n" <files>`**
Print just the dimensions
*Escapes: %w width, %h height, %m format, %b size, %f name, %[exif:*] EXIF*

**`magick <fmt>:<in> <out>`**
Force input or output format

**`magick '<in>[0]' <out>`**
Read only the first frame or page

**`magick <in> png:-`**
Write to stdout

**`magick -version`**
Version and delegates

## RESIZE & CROP

**`-resize <WxH>`**
Fit inside the box, keep aspect

**`-resize <W>x`**
Set width, height follows

**`-resize <N>%`**
Scale by percentage

**`-resize 800x600!`**
Force exact size, ignore aspect

## RESIZE & CROP (cont.)

**`-resize 800x600>`**
Shrink only if larger

**`-resize 800x600^`**
Fill the box (minimum size)

**`-thumbnail <WxH>`**
Resize and drop metadata, fast

**`-crop <WxH>+<x>+<y>`**
Cut out a region

**`-crop <WxH> +repage`**
Tile into pieces, reset canvas
*Without +repage the saved page offset can leave the output with a larger canvas.*

**`-gravity center -crop <WxH>+0+0`**
Crop around a gravity point

**`-trim +repage`**
Remove uniform border

**`-extent <WxH>`**
Pad or crop to a canvas size

**`-resize <WxH> -gravity center -extent <WxH>`**
Letterbox into a fixed size

## ROTATE & ORIENT

**`-rotate <deg>`**
Rotate clockwise, fills with background

**`-auto-orient`**
Apply the EXIF orientation

**`-flip / -flop`**
Mirror vertically / horizontally

**`-background <color> -rotate <deg>`**
Choose the fill for new corners

**`-gravity <dir>`**
Anchor for crop, extent, annotate, composite
*Directions: NorthWest, North, NorthEast, West, Center, East, SouthWest, South, SouthEast*

## QUALITY & COLOUR

**`-quality <N>`**
JPEG/WebP quality 1-100 (PNG: compression)

**`-strip`**
Remove EXIF, profiles and comments

**`-colorspace Gray`**
Convert to grayscale

**`-colorspace sRGB`**
Convert to sRGB

## QUALITY & COLOUR (cont.)

**`-interlace Plane`**
Progressive JPEG
*Also makes interlaced PNG and GIF; -interlace None gives a baseline JPEG.*

**`-density <dpi>`**
Set resolution metadata or PDF render DPI
*Put -density before the input to rasterise a PDF or SVG at that resolution.*

**`-normalize`**
Stretch contrast to the full range

**`-brightness-contrast <b>x<c>`**
Adjust brightness and contrast

**`-modulate <b>,<s>,<h>`**
Brightness, saturation, hue (100 = no change)

**`-blur <r>x<sigma>`**
Gaussian blur

**`-sharpen <r>x<sigma>`**
Sharpen

**`-unsharp <r>x<s>+<gain>+<thr>`**
Unsharp mask, good after downsizing

## TRANSPARENCY & COMPOSE

**`-alpha set / -alpha off`**
Add or drop the alpha channel

**`-background <color> -alpha remove`**
Flatten transparency onto a colour

**`-background <color> -flatten`**
Merge layers onto a background

**`-transparent <color>`**
Make one colour transparent

**`magick <base> <over> -composite <out>`**
Overlay one image on another

**`magick <base> <over> -gravity <dir> -geometry +<x>+<y> -composite <out>`**
Place an overlay at an anchor

**`-append / +append`**
Stack vertically / side by side

**`\( <in> -resize <WxH> \)`**
Group operations on a sub-list

## TEXT & DRAWING

**`-gravity South -annotate +0+10 "<text>"`**
Draw text at an anchor

**`-font <name or file>`**
Set the font

**`-pointsize <N>`**
Set the text size

**`-fill <color>`**
Fill colour for text and shapes

**`-size <WxH> xc:<color> <out>`**
Create a plain canvas

**`-size <W>x label:"<text>"`**
Render text as an image

## BATCH & MONTAGE

**`magick mogrify -resize <WxH> <files>`**
Edit files in place (overwrites)
*Test on copies first; mogrify replaces the originals unless -format or -path is used.*

**`magick mogrify -format jpg *.png`**
Convert to new files, keep originals

**`magick mogrify -path <dir> -resize <WxH> <files>`**
Write results to another folder

**`magick montage <files> -geometry +4+4 <out>`**
Tile images into a contact sheet

**`magick <in.pdf> page-%d.png`**
One image per PDF page

**`magick <files> <out.pdf>`**
Combine images into a PDF

## RECIPES

**Web thumbnails, safe and small**

```
# originals stay untouched
mkdir -p out
magick mogrify -path out -auto-orient \
  -thumbnail '400x400>' -strip -quality 82 *.jpg
```

**Watermark in the corner**

```
magick <in> \( <logo.png> -resize 20% \) \
  -gravity SouthEast -geometry +16+16 \
  -composite <out>
```

**Square avatar from any photo**

```
magick <in> -auto-orient -resize 256x256^ \
  -gravity center -extent 256x256 <out>
```