# Images on the web

For an easy and quick download of a webpage, images must be tiny and have as less KB as possible. Such an image is called: optimised for the web. First read the general principles, then read how to do it .

## General principles

You optimise in 3 steps: crop, resize, compress

1. **Crop**. This means: take only the most important part of the picture. Especially important of you need thumbnail-sized pictures. See below: picture 2 (cropped) still has good portraits, the picture 3 (not cropped) not.

1. original

2.

3.

2. **Resize.** This means: reducing the size (in centimetres, or much more practical: in pixels). Resizing is necessary to reduce file size and to make the image fit in the web design.
Compare below: picture 4 is 250x188 pixels and is 12 KB , picture 5 is 100x75 pixels and is 3,1 KB.

 4.   5.

3. **Compression.** The JPEG image compression system throws out information in a photographic picture that your eye don't miss. Images can be compressed 10 to 1 before visually objectionable artefacts appear. A file size of 290 KB, downloading by a 56K modem in about one minute, results in a file size of 29 KB, downloadable by a 56K modem user in about 5 seconds.

## How to do it?
For image optimizing you need an image editor. Here we guide you a way to crop, resize and compress in 4 image editors.

1. **An online image editor** with jpeg optimizer and file converter: http://www.webbild.com/
It's free. It's excellent. It's offered by a Norwegian photographer, and hopefully he'll keep in online forever. It's very user friendly and includes a good, short user manual.
Disadvantage: if you have slow internet access, optimising big images goes slowly.

2. **Microsoft Photo Editor**. It's part of Microsoft Office, though not always installed. If you have on your computer, it's a good tool for optimizing. There's a handsome manual on the website of the British County Council Hampshire:
http://www.hants.gov.uk/hantsweb/standards/howto/images.html
They put cropping at the end, but read the page in this order:
- Cropping an image
- Resizing images (NB: before resizing in MPE, set 'units' at *pixels* instead of *cm*)
- Optimising for the web
(The manual is also about Microsoft Publisher, that's why they sometimes talk about 'insert or reinsert the image'; this has to do with Publisher so ignore this. And skip the first sections about Microsoft Publisher.)


3. **IrfanView**. It's free, it's reliable. But it is designed for image organizing, and therefore not the very most user-friendly software for image editing. But you can learn to handle it! Download it from http://www.irfanview.com/ and install. To crop, resize and compress:

1. In the menu bar: File > Open …
2. Use the buttons to zoom in or zoom out

**Crop**
3. Click your left mouse button to select an area.
4. If you want, correct the selection:
- to move the selection: put the cursor in the selection, right mouse click, and drag
- to adjust the selection: put the cursor on one of the borders until you see an arrow, then drag
- to restart: left click outside the selection
5. When your selection is fine, choose in the menu bar: Edit > Crop selection

**Resize**
6. In the menu bar: Image > Resize/Resample
7. In the pop up screen:
- check 'Preserve aspect ratio'
- set 'DPI'at 72
- set 'Size method' at 'resample' (and choose slowest filter)
- set 'With' and 'Height' (in pixels)
- OK

**Compress**
8. In the menu bar: File > Save as …
9. In the pop up menu:
- set JPEG quality at 51 (this is a safe choice, 50 sometimes is a turning point and you suddenly loose sharpness)

- all other options unchecked
- select a folder
- eventually type a new file name
- Save


4. **Photoshop**. If you can, spent time in learning to use this program. You can fall in love with Photoshop, because it works so great. And it will not stop to surprise you with possibilities. They are there to be discovered. Everything you need is also offered in Photoshop Elements. To crop, resize and compress:

- First crop the image with the crop tool. (Eventually see Photoshop Help: crop command)

- After cropping, use  in the upper menu bar: File > Save for the web
You'll see the dialog window 'Save for the web':
    - You don't need the tool buttons on the left side upper corner. From the tabs in the upper left corner, choose: show 2-times
    - For the settings on the right side, see in the Photoshop Help, chapter 'Prepare images for the web', and read the following:
        - Optimizing images
        - Dialog window Save for the web
        - Optimizing options for JPEG
        - Enlarge or reduce image size during optimizing

- Tip: if the images is very big, it is easier to resize before you Save for the web. In the upper menu bar: Image > Image size. (Choose new size in pixels; keep proportions: yes; new pixels: yes, bicubic)


## A little more background
See www.e-unions.org > get an answer > graphic design:
- How do I prepare images for the web?
- The difference between gif and jpeg files


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