

SUPPLEMENTARY



Supplemental Beginner's Guide

This supplemental section focuses on some specific aspects of GIMP aimed toward the absolute beginner. We'll now take a look at the following areas:

- What is GIMP?
- Pixels: The Building Blocks of a Digital Photo
- PPI (Image Resolution)
- Opening, Saving, and Exporting Files in GIMP
- The Free Select Tool
- The Paintbrush Tool
- The Zoom Tool
- The Change Foreground Color Dialog
- Layers and the Layers Dialog
- Layer Blending Modes
- The Layer Mask

For the beginner, navigating GIMP can be a dizzying, overwhelming experience. It's ostensibly the closest thing to Adobe Photoshop there is in a freely distributed open source program. Chapter 1 of *Pro Photo Colorizing With GIMP* provides a basic overview of the program. It's aimed at readers that have had at

least a little experience using other editors, and have a basic grasp of tools, functions, etc.

This *Supplemental Beginner's Guide* is for the benefit of the reader that has no experience in photo editing programs at all. It looks at several elementary aspects such as image resolution, opening and saving files, exporting files, etc.

This guide also zeros in on many of the tools and functions that are specific to the tutorials throughout the book. For example, it looks closely at the default paintbrush tool shape and options, because those are the only ones used in this book. It *doesn't* look at the other, non-default shapes (such as acrylic, chalk, etc.)

■ **Note** To learn how to download and install GIMP, refer to Chapter 1.

What is GIMP?

There probably isn't anyone in the civilized world who hasn't heard of Adobe Photoshop. Most people know it's software designed to edit photographic images, even if they don't have a clue how to use it. It's the industry standard used throughout the world by graphic design firms, photographers, printing companies, etc. As far as photo editing software programs, it's considered the gold standard.

For some people, however, Photoshop is too expensive (or is much more program than needed). Adobe now offers it as SAAS (software as a service) for a monthly fee. If you can no longer afford it and must stop paying, you'll no longer get to use it—at least after a short time.

Fortunately, there is a free alternative. GIMP (which stands for *GNU Image Manipulation Program*). It is an open source, free program. It's available at no cost for Windows, Mac OS, Linux, and Unix operating systems. And it's very powerful—it's used by graphic designers and photographers the world over. For the purpose of colorizing black and white photos, GIMP is ideal.

Whereas programs like Photoshop are proprietary and closed source (meaning it's illegal to freely distribute or modify with the proprietary code that operates the software), GIMP can be freely copied, distributed, or modified by those with coding skills—provided they don't prevent other from doing the same. The terms of use are in the GNU Public License, which can be found here:

<https://www.gimp.org/about/COPYING>

Essentially, what this means for the casual beginner is that the program is free. You can install it on as many computers as you like and give copies away—all perfectly legal, and even encouraged by the developers of GIMP (Figure 1).



1.

2.

Figure 1. GIMP is a free program, and can legally be copied and distributed

Pixels: The Building Blocks of a Digital Photo

GIMP is technically known as a raster image editing program. Raster images are composed of tiny digital squares called *pixels*. Pixels become visible when the digital image is viewed at high magnification (Figure 2).

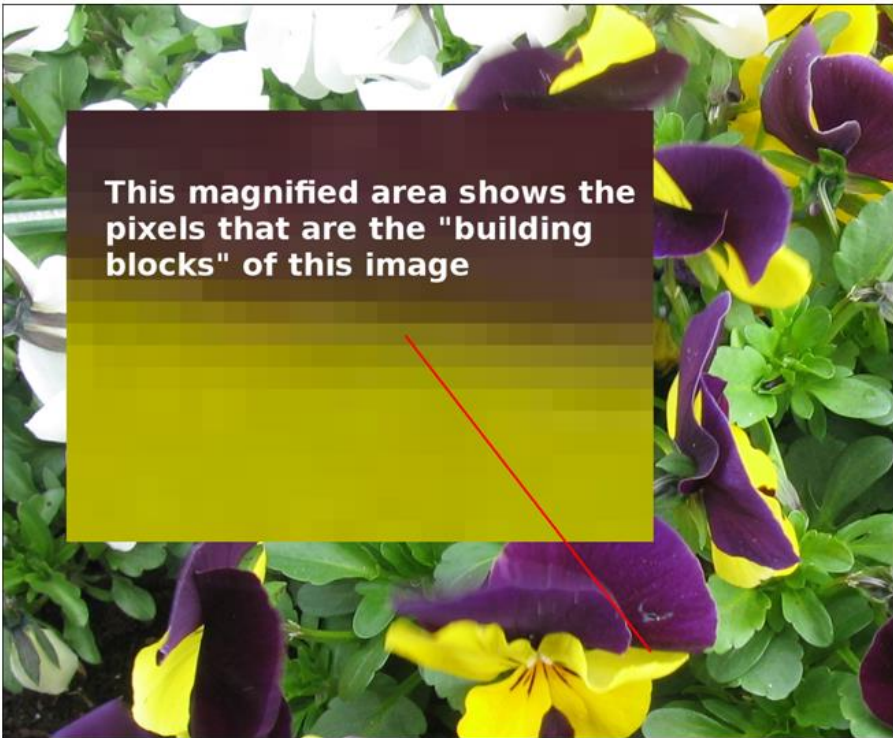


Figure 2. Pixels in this image are visible at high magnification

PPI (Image Resolution)

The resolution of a digital raster image is determined by the number of pixels per inch, or PPI. The more pixels per inch there are in a digital photo, the higher the resolution of the image.

■ **Note** You may have heard of DPI, which stands for *dots per inch*. The expression DPI is sometimes used interchangeably with PPI, but DPI generally refers to the number of dots per inch created by a laser or inkjet printer. Flatbed scanners sometimes express resolution in DPI rather than PPI.

The resolution of (most) the images used for the tutorials are 300 PPI. This resolution is generally considered sufficient for printing (and close-up digital editing). For display on a computer screen, 72 or 96 PPI is the general rule.

When you reach the point you're working with your own images, a good rule of thumb is to scan your photos at 300 PPI (or DPI, if that's the legend used by the scanning software). This way, you can keep a high resolution copy and then duplicate the image and down sample to 72 or 96 PPI using GIMP's Scale Image dialog (Image ► Scale Image) if you need a copy to put on the web. To downsample means to change the resolution from 300 PPI to 72 or 96 (or any PPI number lower than 300) while keeping the height and width of the image the same.

Figure 3 illustrates the difference in resolution between and image scanned at 300 PPI and 72 PPI.



Figure 3. The difference between scanning at 300 PPI and 72 PPI

■ **Note** Transparencies such as slides and negatives have small image areas and generally require scanning at higher resolutions than photographic prints. If your scanner is capable of handling transparencies, refer to it's documentation

Opening, Saving, and Exporting Files in GIMP

Chapter 1 looks at the GIMP interface, including an overview of the Menu Bar. This guide looks closely at how to open, save , and export files using GIMP. After you download the practice images used in the tutorials throughout the book and you're ready to start your first tutorial, you'll open the practice image from the Menu Bar (File ➤ Open) as shown in Figure 4.

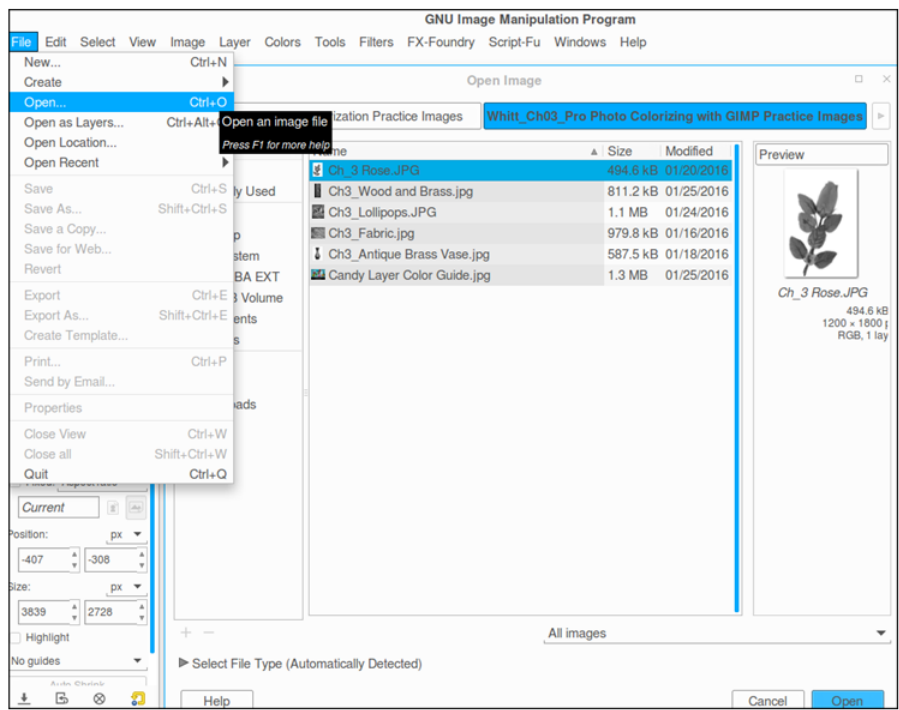


Figure 4. Opening one of the practice images

■ **Note** You may find it helpful to create a folder specifically for storing your practice images-it'll keep them in one place and make finding them easier. Creating and

managing folders is dependent on your computer operating system and many guides are available on the web.

As you work on the tutorials in this book, you might want to save your work with all of the layers intact to refer to in the future (this is generally good practice in any case—there may be times you'll need to modify one or more layers in your own projects).

Saving an image keeps it in the native GIMP XCF format (Figure 5). To save an image, you'll go to the Menu Bar and choose either File ► Save or File ► Save As (this option allows the file to be saved with a different name), or File ► Save a Copy (this option allows a copy to be saved without affecting the source file).

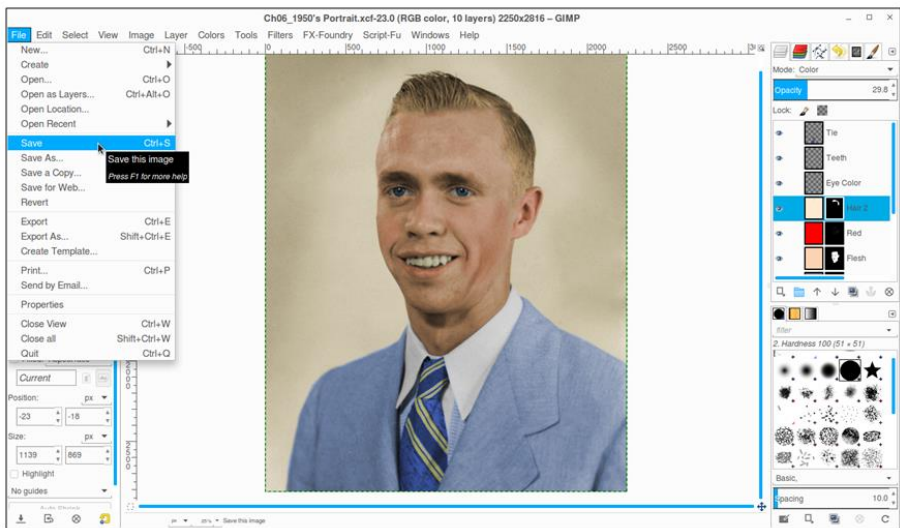


Figure 5. Saving the image as a layered XCF file (GIMP's native file format)

Save for Web (File ► Save for Web) saves the image in a format suitable for the web (such as JPEG). It will allow you to control the quality and smoothing settings for the optimal settings (Figure 6). Higher quality images result in larger file sizes. The file size can be seen near the bottom of the dialog.

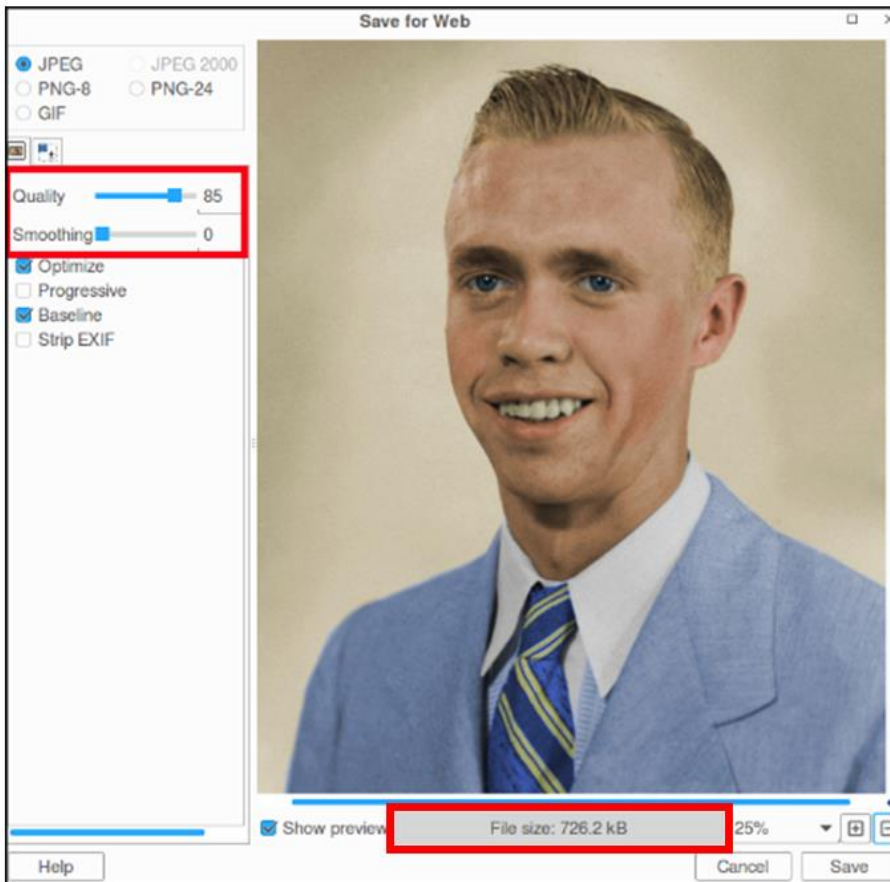


Figure 6. The Quality and Smoothing settings on the Save for Web dialog

The Save for Web dialog also allows you to resize the image, as well as crop it (Figure 7).

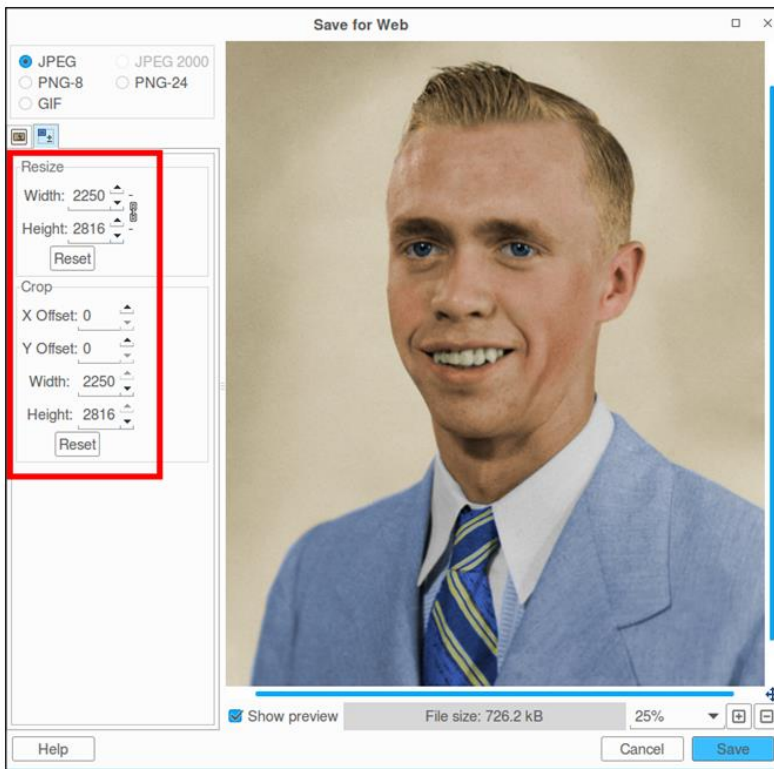


Figure 7. The Resize and Crop settings on the Save for Web dialog

Exporting an image lets you create a copy in a different file format. This action generally loses most (or all) of the properties that would be in place when saving the file in the XCF format. For example, exporting an XCF file with layers as a JPEG file, the exported image is flattened. There are many format options (including Photoshop). Figure 8 illustrates exporting the XCF file to a TIFF (Tagged Image File Format) version.

■ **Note** JPEG is the most commonly used file format for photographic images. The JPEG file uses lossy compression that discards some image data to reduce the file size. The TIFF file is a lossless format (although it does offer a few compression options) that retains the image data, but results in a large file size. The GIMP User Manual provides more detailed explanations of file formats

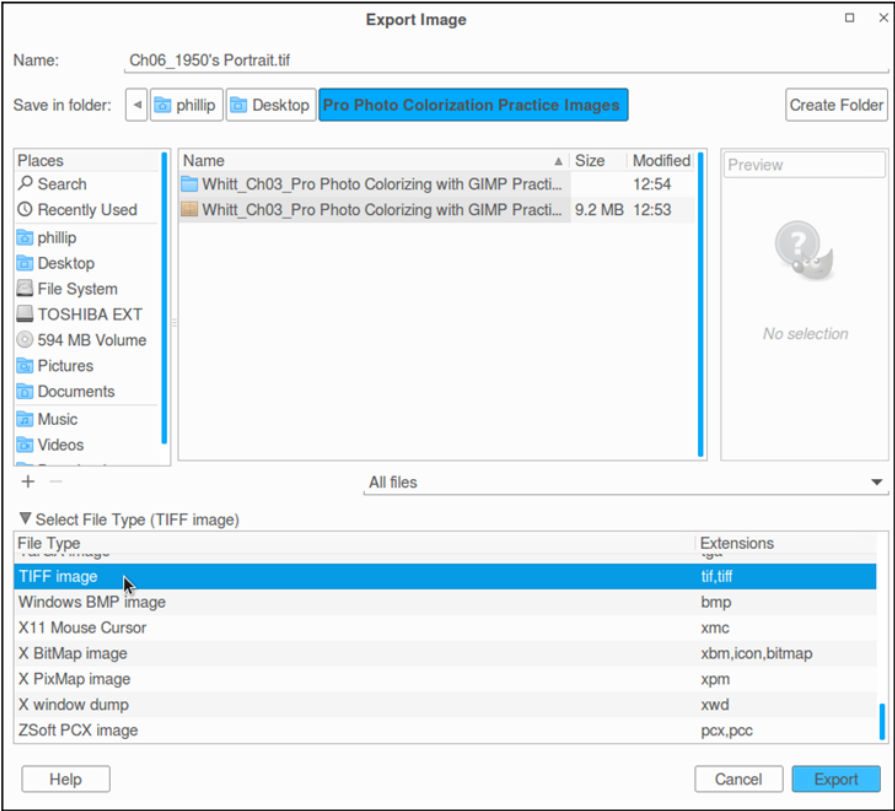


Figure 8. Exporting an image as a TIFF file

The Free Select Tool

GIMP offers a variety of selection tools located in the Toolbox, which allows you to isolate a part of an image to edit. Edits can only then be done to the selected area. Nothing outside of the selected area will be affected. The tool we'll focus on is the Free Select tool, which is used a time or two in this book.

The Free Select tool (represented by the lasso icon) is accessed from the toolbox (Figure 9).



Figure 9. The Free Select tool

The Free Select tool is very useful for isolating irregular shapes (Figure 10). By default, the Antialiasing option is checked, which very slightly softens the edge so the selected portion doesn't have a hard edge.

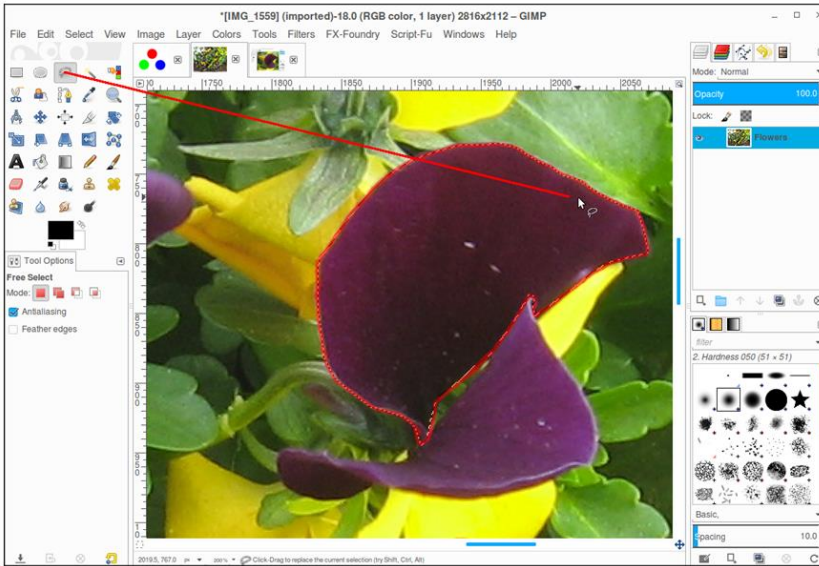


Figure 10. The Free Select tool is useful for isolating irregular shaped objects

The Feather edges option allows creating a soft edge. Whereas the Antialiasing option creates a very slight soft edge, the Feather edges option is used when a strong effect is needed (such as a vignetted look) The higher the radius is set, the softer the edge will be. Figure 11 shows how soft the flower edges are at a radius set to 20.

■ **Note** As you use GIMP, there is a good chance that one of the palettes will “get lost” accidentally—usually because it was closed inadvertently. They can sometimes be difficult to recover. By resetting to the default window settings (Edit ► Preferences ► Window Management ► Reset Saved Window Positions to Default Values ► OK. The next time GIMP is opened, it will be in the default Multi Window mode.

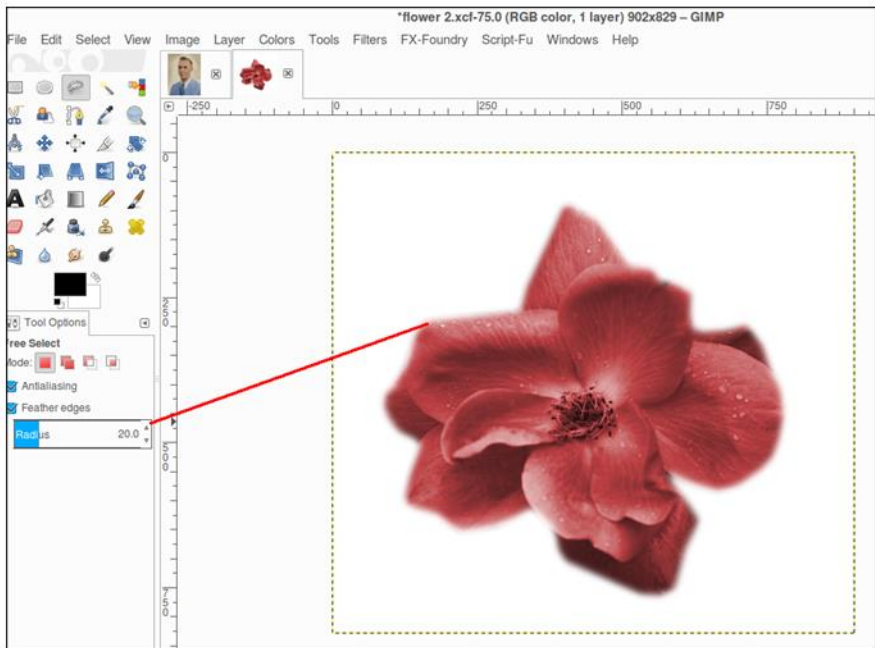


Figure 11. The Feather edges option creates a soft edge

By holding the mouse button down, you can draw a continuous line (until it contacts the starting point) around the area you want to select. By clicking the mouse at various intervals, you can make a point-to-point selection (Figure 12). Using this method, the selected points can be moved to make fine adjustments to the selection in progress.



Figure 12. A continuous line selection and a point-to-point selection

The Paintbrush Tool

This is the tool you'll be using much of the time in the tutorials in this book. This tool offers a wide variety of brush shapes, but we'll only be looking at the round default brushes. There are four hardness options, allowing the brush stroke to range from a soft edge to a hard edge (Figure 13).

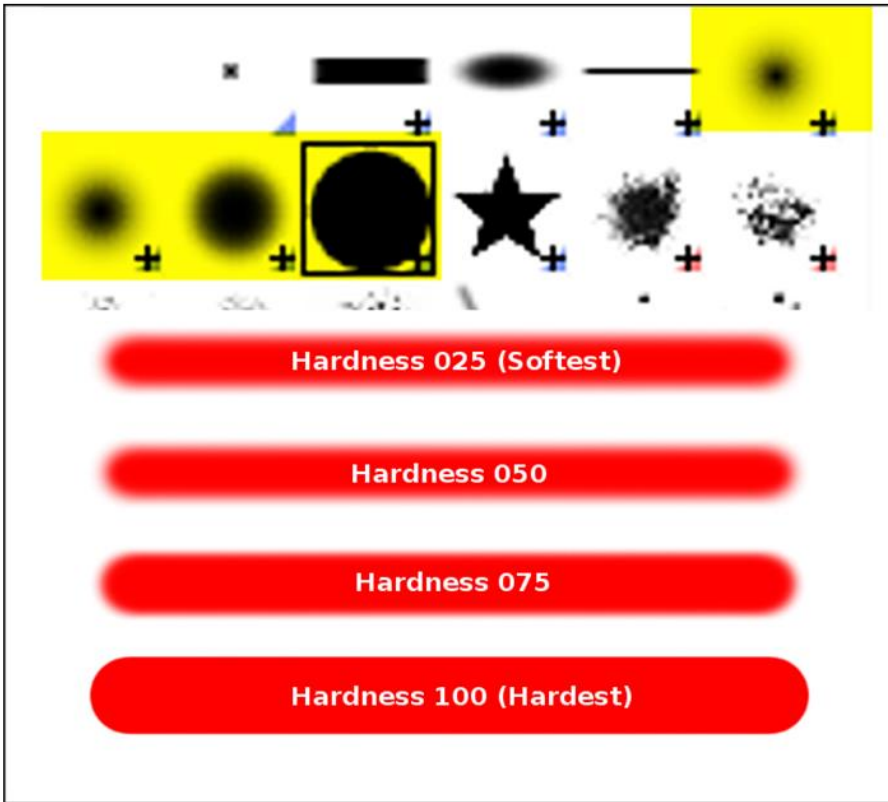


Figure 13. Brush strokes ranging from softest to hardest

Under the Tool Options, the brush settings such as size, opacity, and shape can be adjusted (Figure 14). As you work on the tutorials, there will be times you'll need to change the brush size from large to small, then back again as you apply color. The easiest and quickest way to do this is to use the bracket keys []. The left bracket reduces the brush diameter, and the right bracket increases it. You can also click in the size option and drag left or right to adjust the brush size. The brush size can also be changed by inputting a numeric value or using the small up/down triangles.

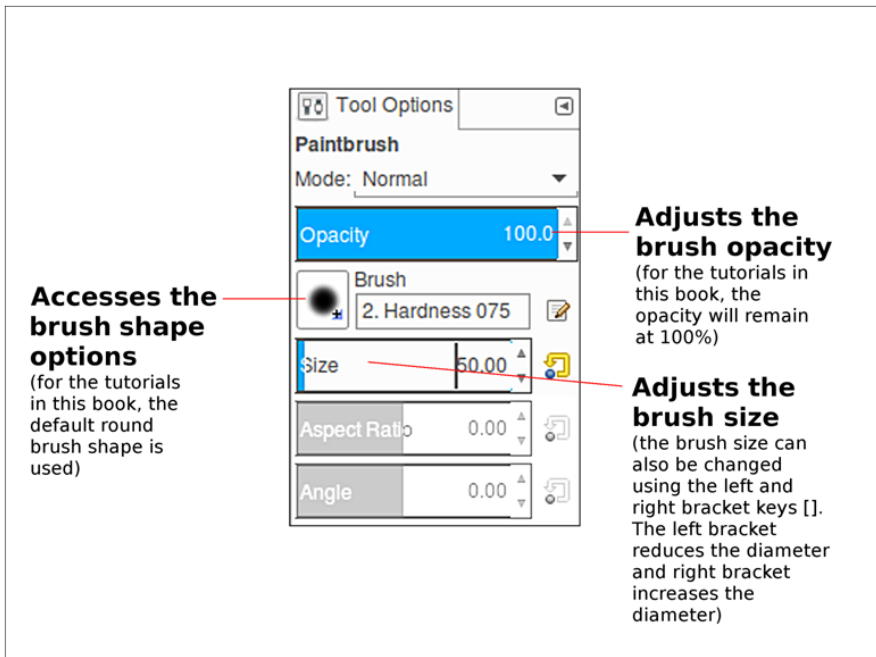


Figure 14. The Tool Options lets you adjust the paintbrush settings

The Zoom Tool

This is another tool that will see a lot of use as you work on your tutorials. Represented by a magnifying glass icon, this lets you magnify those small areas and apply color with precision. The Zoom Tool is accessed from the Toolbox. Click to zoom in just a bit. For higher magnification, drag a rectangle around a specific area and you can zoom right in (Figure 15).

To zoom out, hold the Control (Command on Mac OS) key and click.



Figure 15. The Zoom Tool magnifies the area for close up viewing

You can also hold the Control (Command on Mac OS) key and use the mouse scroll wheel to zoom in and out when the Zoom Tool is active.

The Change Foreground Color Dialog

This is yet another feature that will get a lot of use. It has a quite number of options, but for the tutorials we'll only be using a few, so that will be the focus in this guide. To access this dialog, click in the foreground color tool. Because we'll be working in the RGB color mode, the numbers we'll be most concerned with are the Red, Green, and Blue numeric settings in the red boundary (Figure 16). In the RGB mode, colors are made of combinations of red, green, and blue light. Each channel has a maximum value of 255, with zero being the lowest.

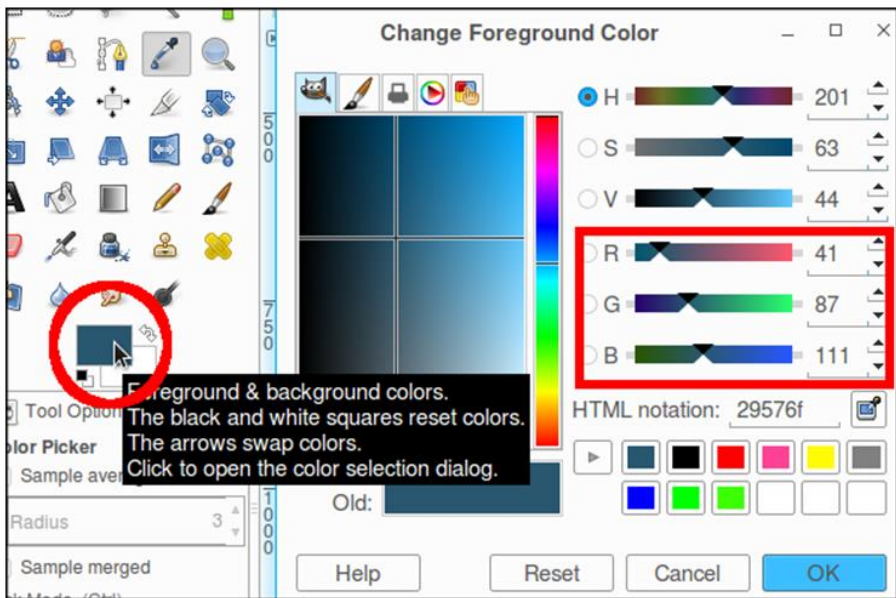


Figure 16. The red, green, and blue numeric values in the Change Foreground Color dialog

You'll be given the numeric inputs to use for the tutorials in this book. They can be input by using the sliders, or entering the number directly. Changing the numeric inputs according to the instructions will provide you with the color the tutorial calls for.

■ **Note** There will be occasions in this book where it's necessary to use a percentage of gray. You can, for example, get a 50% gray by using 128 for the red, green, and blue settings. For a 25% gray, just use 64 for the red, green, and blue settings.

Layers and the Layers Dialog

Layers were discussed briefly in Chapter 1. Layers can be thought of as digital sheets on which graphical elements, text, or color is placed. In Figure 17, every item that has been colorized is on its own layer, many of them shown in the layers dialog, also called layers palette (Windows > Dockable Dialogs > Layers).

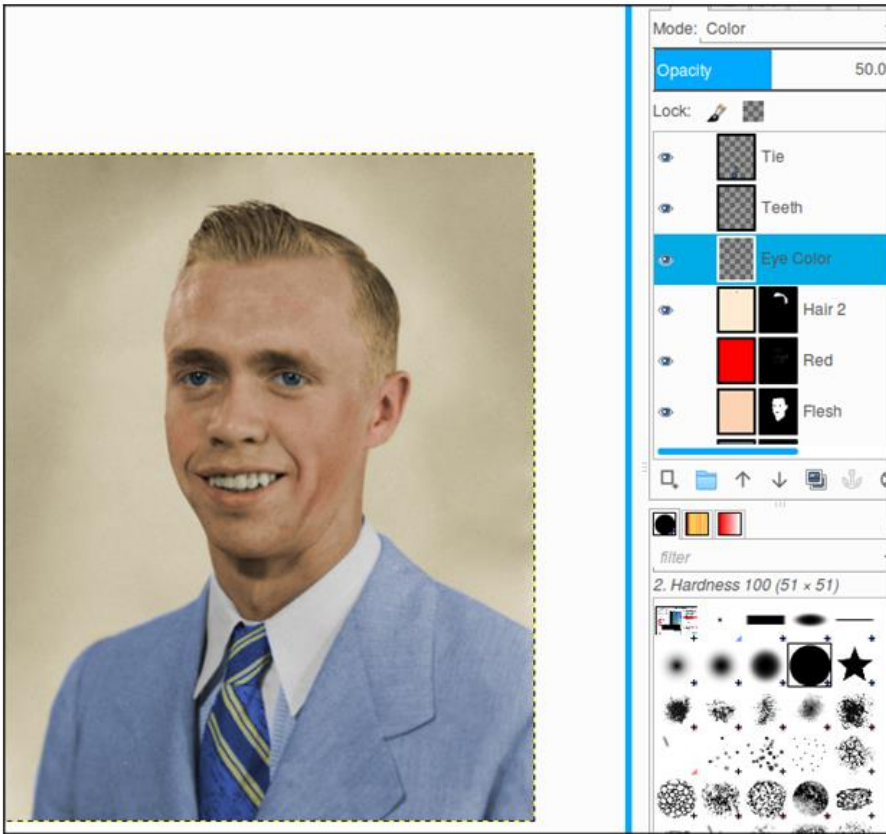


Figure 17. Every colorized item is on its own layer

Layers allow one to edit an image without affecting the rest of the composite image. If a mistake is made on a layer, it can be deleted leaving the rest of the image intact.

At the bottom of the dialog, there are several functions available for creating new layers, etc. (Figure 18).

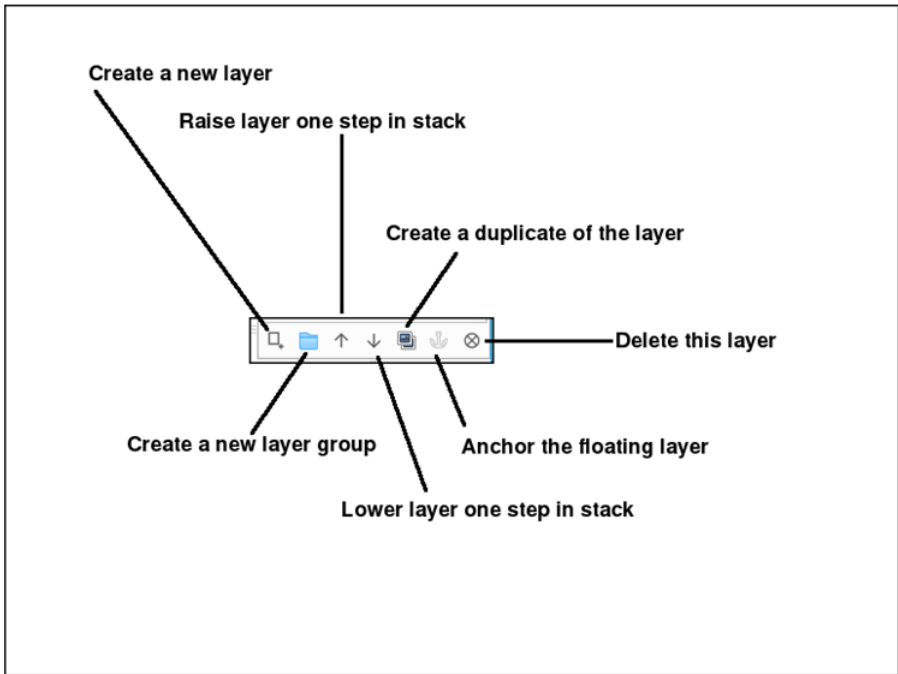


Figure 18. The options available at the bottom of the layers dialog

Layer Blending Modes

Layer blending modes were discussed briefly in Chapter 1. Blending modes essentially change the way colors or lightness values interact with the layer beneath it. In this book, we mainly use either Overlay or Color (and Multiply on one or two instances). Figure 19 shows how a layer filled with red interacts with the image beneath it.

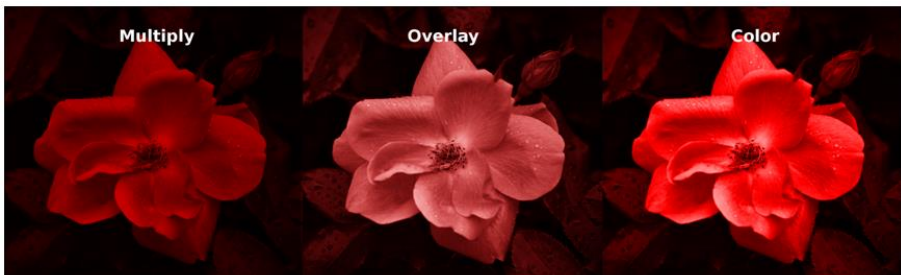


Figure 19. The Multiply, Overlay, and Color Blending modes

The majority of the time, we'll be using Color mode in the tutorials. In a few other cases, the Overlay mode will be used. Both apply a translucent layer of color, but overlay is more subdued (Figure 20).

The Color blending mode works well in most cases-when the color is too intense the layer's opacity can be lowered. On the other hand, Overlay might be too dull in some cases but is good for colors with less intensity. The Multiply blending mode essentially multiplies pixel values of the layer with those of the layer underneath it, resulting in a darker image (black and white pixels remain the same).

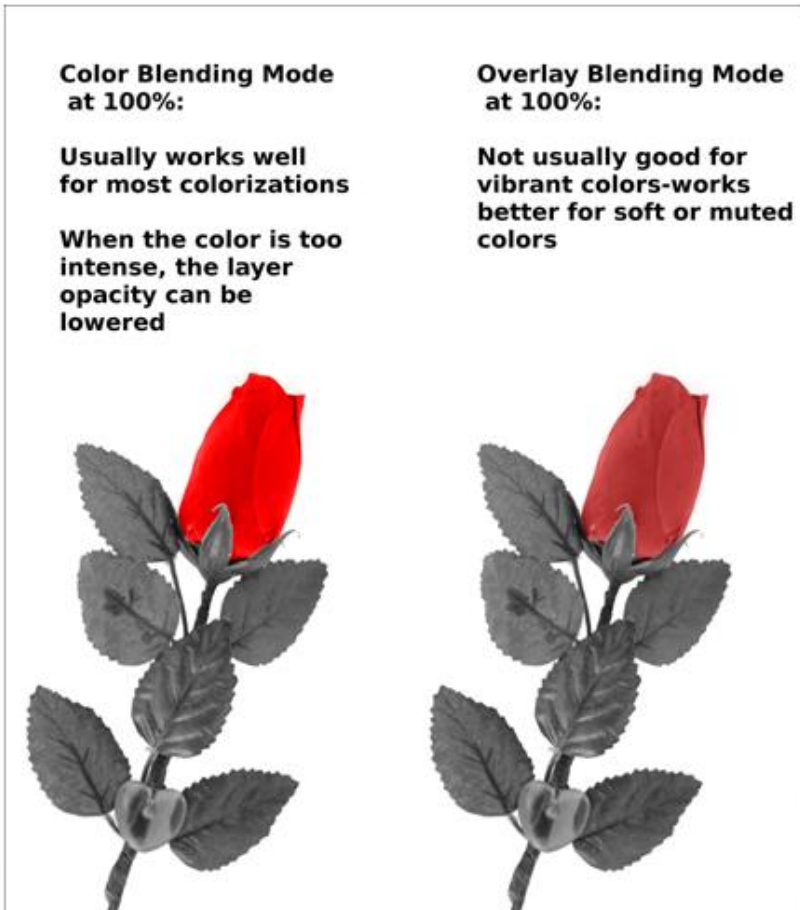


Figure 20. A comparison of the Color and Overlay blending modes

The Layer Mask

Chapter 1 looks briefly at layer masks, and we'll go a little more in-depth here (while still focusing on the aspects relevant to the book). The *Layer Mask* is a feature that allows you to control the transparency of the pixels in an active layer. Essentially, you can make pixels opaque, semi-transparent, or transparent by applying white, various shades of gray, or black to the layer mask.

You'll be using the Layer Mask for most of the tutorials in this book—it allows for a great deal of precision when colorizing images.

When the layer mask is added to a layer (Layer ➤ Add Layer Mask), you'll be presented with several options to initialize. For the tutorials in this book, we'll be using either the White (full opacity) or Black (full transparency) options shown in Figure 21.

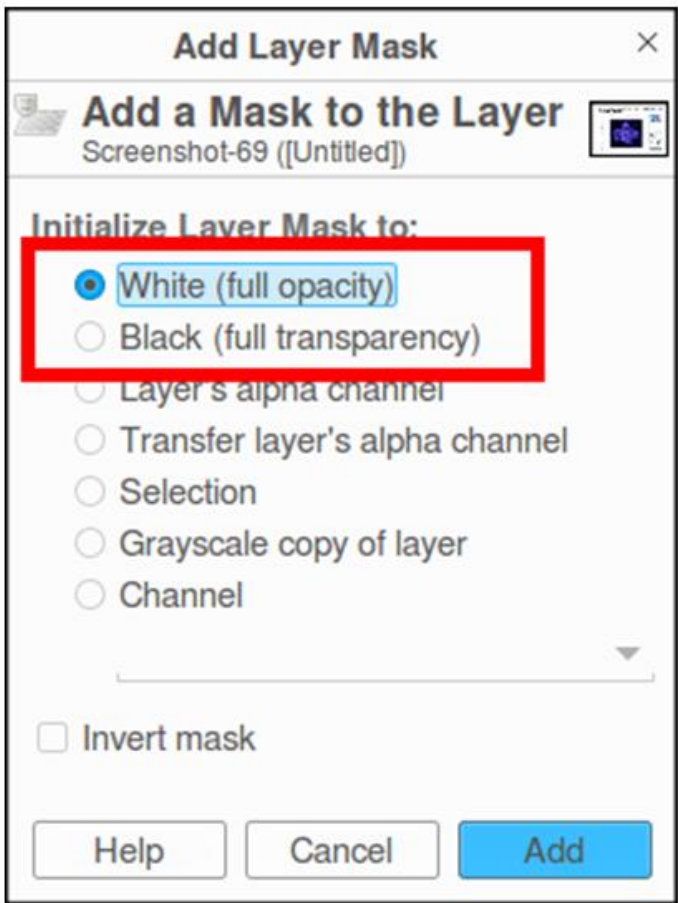


Figure 21. The initialization options used in this book

A layer filled with blue and the blend mode set to Overlay was added over the black and white flower image. When a layer mask initialized to white is added to the layer, the pixels remain as-is (Figure 22).

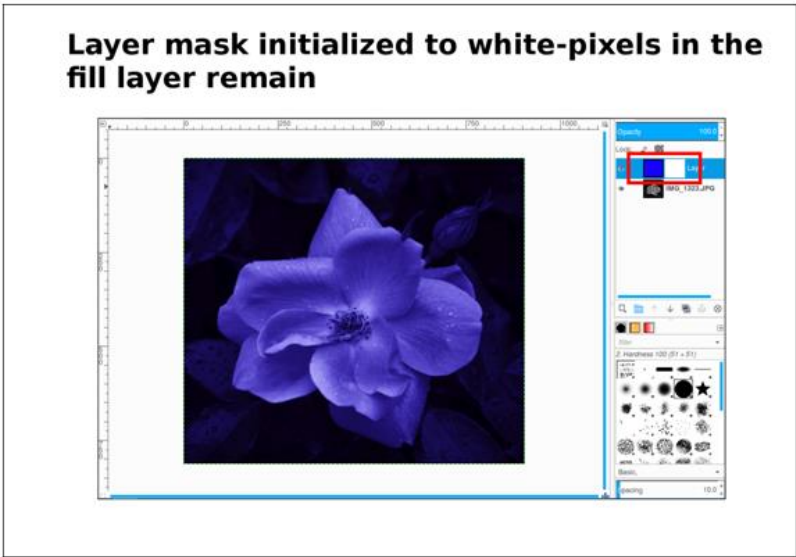


Figure 22. The layer mask initialized to white

When black is applied to the layer mask with the Paintbrush tool, the pixels become transparent, revealing the black and white flower (Figure 23).

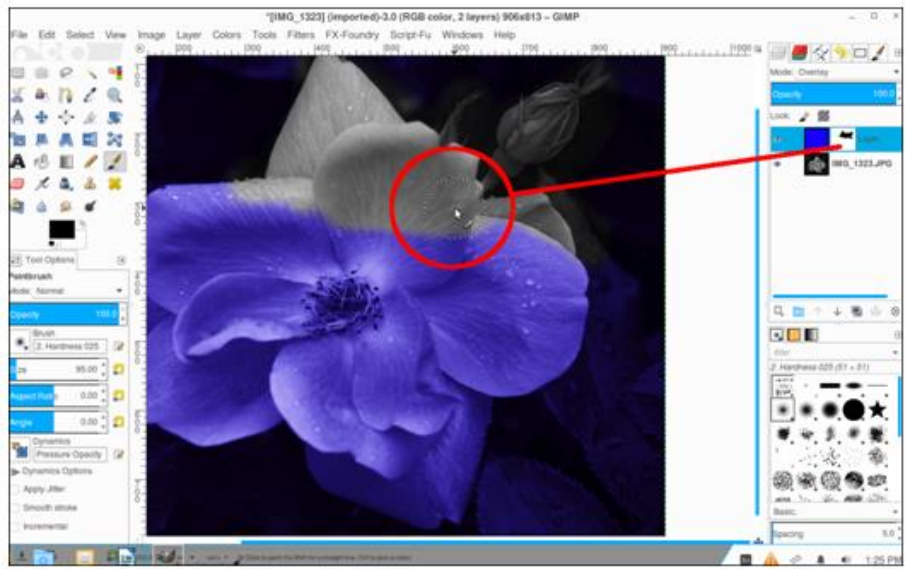


Figure 23. Painting in the layer mask with black makes the pixels in the fill layer transparent

When a layer mask initialized to black is used, the pixels in the fill layer are transparent-the blue fill color isn't visible over the black and white flower image (Figure 24).

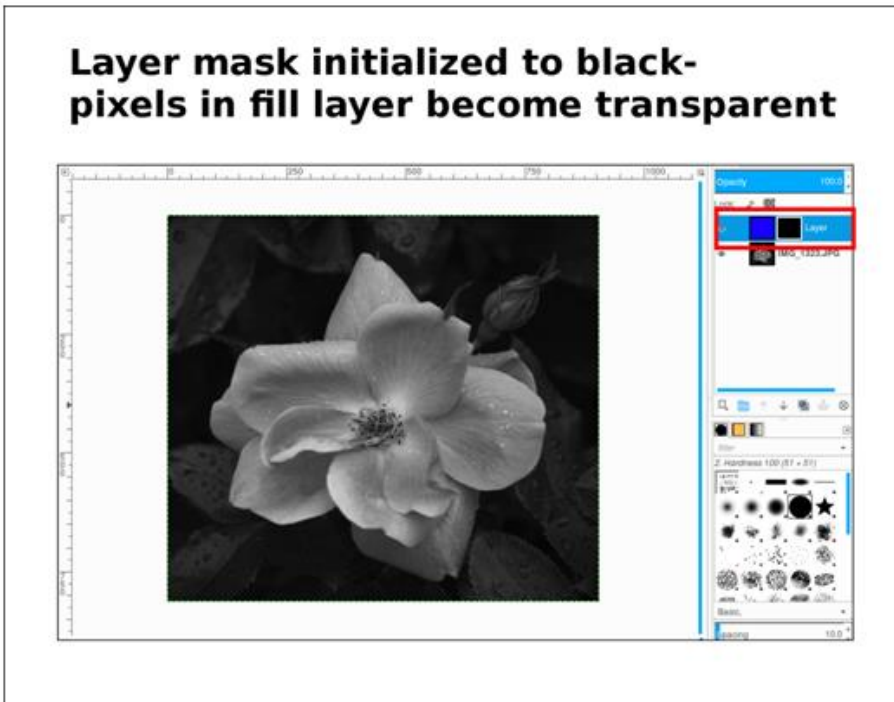


Figure 24. The layer mask initialized to black

When white is applied to the layer mask with the Paintbrush tool, the pixels become appear, revealing the color overlay (Figure 25).

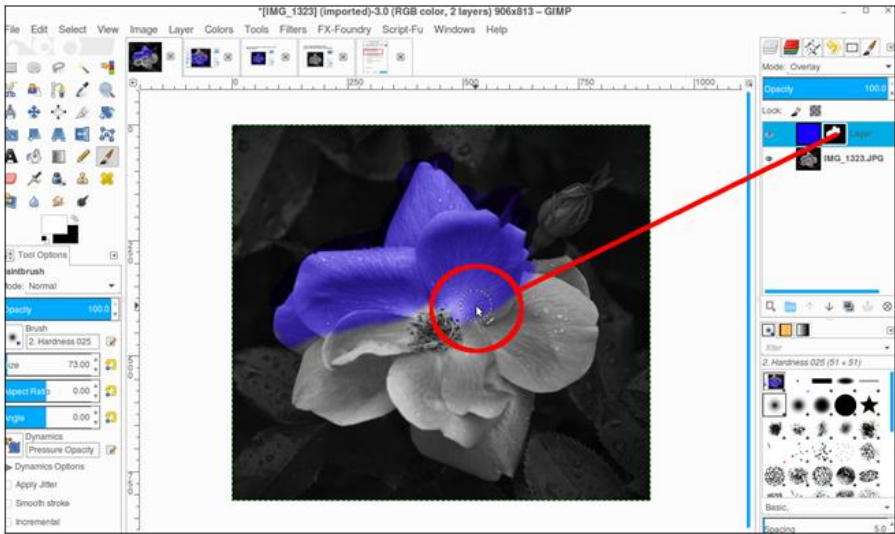


Figure 25. Painting in the layer mask with white makes the pixels in the fill layer appear

When painting in the layer mask with 50% gray, the fill layer is 50% transparent, revealing only half of the color value (Figure 26).

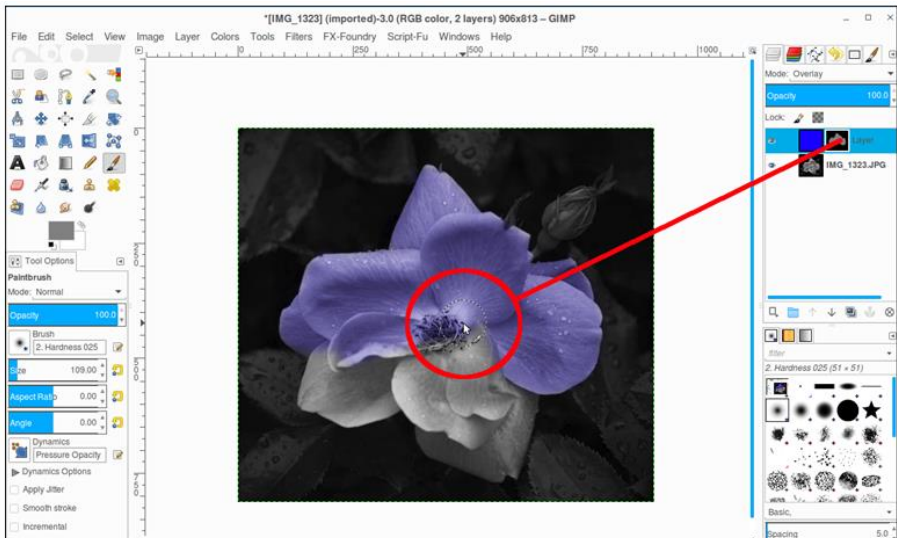


Figure 26. Painting in the layer mask with 50% gray makes the fill layer semi-transparent

Summary

This supplemental guide is aimed for those who are new to image editing. While Chapter 1 provides a general overview of GIMP, this guide focuses on many of the tools and features that are pertinent to the tutorials in this book.

It's certainly not a complete guide to GIMP, but hopefully provides the new user with enough guidance to start the lessons with as little delay as possible.

It's important to remember that the GIMP User Manual provides information on every aspect of this powerful program. The English version can be accessed by clicking the link below:

<http://docs.gimp.org/2.8/en/>