MGAE103 : ADOBE PHOTOSHOP

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MGAE103 : ADOBE PHOTOSHOP

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Unit 1
1.0 Introduction

Adobe Photoshop is a raster graphics editor developed and published by Adobe Systems for Windows and OS X. Photoshop was created in 1988 by Thomas and John Knoll. Since then, it has become the de facto industry standard in raster graphics editing.

Adobe Photoshop is the predominant photo editing and manipulation software on the market. Its uses range from full featured editing of large batches of photos to creating intricate digital paintings and drawings that mimic those done by hand.

1. 1Unit Objectives

- **Image design evolutions from down the ages**
- **Know About Photoshop**
- **What is RGB colour space ?and how it is used to create digital image ?**
- **Advantages and disadvantages of vector and raster images**
- **Identification of image for worldwide web use**

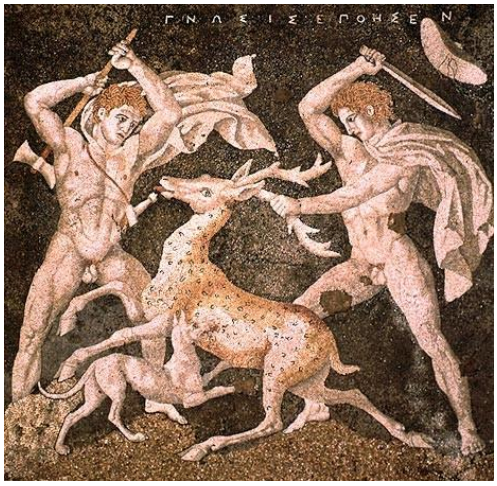
1. 2 Image design evolution from ages

The present state of image design have passed many milestones before it reaches to the current state. Let have a glimpse of various stages of evolution in image design.

1.2.1 Mosaic Form

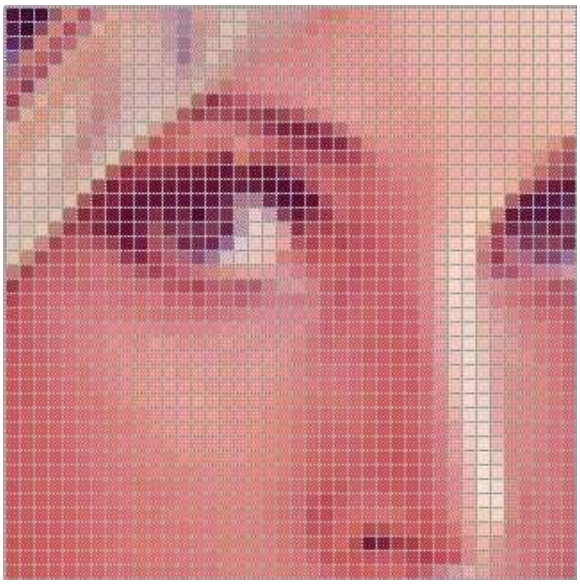
Portray tonality was significant milestone in history of visual art. Change in image which occurs due to change in light or colour is defined as portray tonality. Visual world of shadows and light around us is continuum of blended colours. This produces a three dimensional reality of colour and form. primitive artist did not attempt to express tonality due to lack of technology.

Mosaic is the art of creating images with an assemblage of small pieces of coloredglass, stone, or other materials. It is a technique of decorative art or interior decoration. Most mosaics are made of small, flat, roughly square, pieces of stone or glass of different colours, known as tesserae. Some, especially floor mosaics, are made of small rounded pieces of stone, and called "pebble mosaics". Others are made of other materials.



1.1 Ancient Greek mosaic of a deer hunt, in the House of the Abduction of Helen at Pella, late 4th century BC

the mosaic form as depicted in 1.1 was created thousand years ago and is predecessor of today's Photoshop image . The difference is only that all small partials are replaced with pixels in an image. Once image has been captured, the colour of pixels can be changed individually or in groups by using Photoshop.



1.2

1.2.2 Painting

Painting is the practice of applying paint, pigment, colour or other medium to a solid surface The medium is commonly applied to the base with a brush, but other implements, such as knives, sponges, and airbrushes, can be used.

A portion of the history of painting in both Eastern and Western art is dominated by spiritual motifs and ideas. Examples of this kind of painting range from artwork depicting mythological figures on pottery, to Biblical scenes rendered on the interior walls and ceiling

of the Sistine Chapel, to scenes from the life of Buddha or other images of Eastern religious origin.

Abstract painting uses a visual language of form, color and line to create a composition that may exist with a degree of independence from visual references in the world. Abstract expressionism was an American post-World War IIart movement that combined the emotional intensity and self-denial of the German Expressionists with the anti-figurative aesthetic of the European abstract schools—such as Futurism, the Bauhaus and Synthetic Cubism and the image of being rebellious, anarchic, highly idiosyncratic and, some feel, nihilistic.

1.2.3 Printing

Printmaking is the process of making artworks by printing, normally on paper. Printmaking normally covers only the process of creating prints that have an element of originality, rather than just being a photographic reproduction of a painting. Except in the case of monotyping, the process is capable of producing multiples of a same piece, which is called a print. Each print produced is not considered a "copy" but rather is considered an "original". This is because typically each print varies to an extent due to variables intrinsic to the printmaking process, and also because the imagery of a print is typically not simply a reproduction of another work but rather is often a unique image designed from the start to be expressed in a particular printmaking technique. A print may be known as an impression.



1.3 Ernst Ludwig Kirchner, Portrait of Otto Muller, 1915

Woodcut, a type of relief print, is the earliest printmaking technique, and the only one traditionally used in the Far East. It was probably first developed as a means of printing patterns on cloth, and by the 5th century was used in China for printing text and images on paper. Woodcuts of images on paper developed around 1400 in Japan, and slightly later in Europe. These are the two areas where woodcut has been most extensively used purely as a process for making images without text.

1.2.3 Photograph

Photograph is a picture made using a camera, in which an image is focused on to light-sensitive material and then made visible and permanent by chemical treatment, or stored digitally.

Color photography is almost as old as black-and-white, with early experiments including John Herschel's Anthotype prints in 1842, the pioneering work of Louis Ducos du Hauron in the 1860s, and the Lippmann process unveiled in 1891, but for many years color photography remained little more than a laboratory curiosity. It first became a widespread commercial reality with the introduction of Autochrome plates in 1907, but the plates were very expensive and not suitable for casual snapshot-taking with hand-held cameras.

Non-digital photographs are produced with a two-step chemical process. In the two-step process the light-sensitive film captures a negative image (colors and lights/darks are inverted). To produce a positive image, the negative is most commonly transferred ('printed') onto photographic paper. Printing the negative onto transparent film stock is used to manufacture motion picture films

1. 3 Art forms and styles

The visual arts are art forms such as ceramics, drawing, painting, sculpture, printmaking, design, crafts, photography, video, filmmaking and architecture. Many artistic disciplines (performing arts, conceptual art, textile arts) involve aspects of the visual arts as well as arts of other types. Also included within the visual arts are the applied arts such as industrial design, graphic design, fashion design, interior design and decorative art

1.3.1 Impressionism

Impressionism began in France in the 19th century with a loose association of artists including Claude Monet, Pierre-Auguste Renoir and Paul Cézanne who brought a new freely brushed style to painting, often choosing to paint realistic scenes of modern life outside rather than in the studio. This was achieved through a new expression of aesthetic features demonstrated by brush strokes and the impression of reality. They achieved intense colour vibration by using pure, unmixed colours and short brush strokes. The movement influenced art as a dynamic, moving through time and adjusting to new found techniques and perception of art. Attention to detail became less of a priority in achieving, whilst exploring a biased view of landscapes and nature to the artists eye.

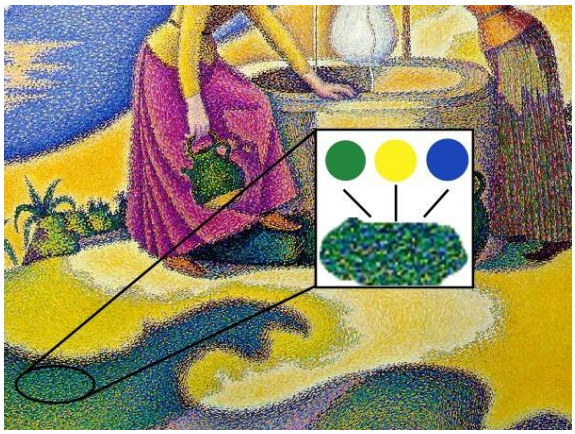


1.4 Paul Gauguin: The Vision After the Sermon (1888)

1.3.2Pointillism

Pointillism is a technique of painting in which small, distinct dots of color are applied in patterns to form an image. Georges Seurat and Paul Signac developed the technique in 1886, branching from Impressionism.

The technique relies on the ability of the eye and mind of the viewer to blend the color spots into a fuller range of tones. It is related to Divisionism, a more technical variant of the method. Divisionism is concerned with color theory, whereas pointillism is more focused on the specific style of brushwork used to apply the paint. It is a technique with few serious practitioners today, and is notably seen in the works of Seurat, Signac and Cross. However, see also Andy Warhol's early works, and Pop Art.



1.5 Paul Signac, Femmes au Puits, 1892, showing a detail with constituent colors.

Pointillism influenced the development process of printing, which uses four colours to produce full colour image. figure 1.6 presents a view of four- colour picture.





1.3.3Surrealism

Surrealism was a cultural movement that began in the early 1920s, and is best known for its visual artworks and writings. The aim was to "resolve the previously contradictory conditions of dream and reality". Artists painted unnerving, illogical scenes with photographic precision, created strange creatures from everyday objects and developed painting techniques that allowed the unconscious to express itself.

The word 'surrealist' was coined by Guillaume Apollinaire and first appeared in the preface to his play Les Mamelles de Tirésias, which was written in 1903 and first performed in 1917.

World War I scattered the writers and artists who had been based in Paris, and in the interim many became involved with Dada, believing that excessive rational thought and bourgeois values had brought the conflict of the war upon the world. The Dadaists protested with anti-art gatherings, performances, writings and art works. After the war, when they returned to Paris, the Dada activities continued.

1.3.3Photomontage

Photomontage is the process and the result of making a composite photograph by cutting, gluing, rearranging and overlapping two or more photographs into a new image. Sometimes the resulting composite image is photographed so that a final image may appear as a seamless photographic print. A similar method, although one that does not use film, is realized today through image-editing software. This latter technique is referred to by professionals as "compositing", and in casual usage is often called "Photoshopping"

Other methods for combining images are also called photomontage, such as Victorian "combination printing", the printing of more than one negative on a single piece of printing paper (e.g. O. G. Rejlander, 1857), front-projection and computer montage techniques. Much as a collage is composed of multiple facets, artists also combine montage techniques.

1. 4 What is Photoshop

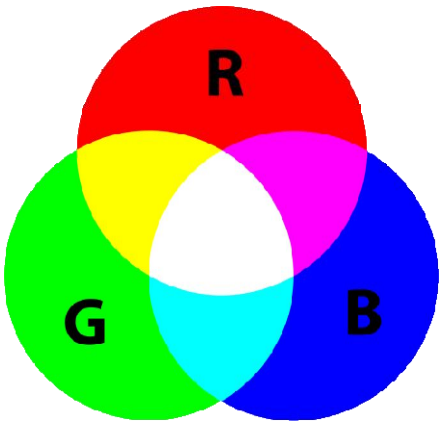
Photoshop was created in 1988 by Thomas and John Knoll. Since then, it has become the de facto industry standard in raster graphics editing, such that the word "Photoshop" has become a verb as in "to Photoshop an image," "photo shopping" and "Photoshop", though Adobe discourages such use. It can edit and compose raster images in multiple layers and supports masks, alpha compositing and several colour models including RGB, CMYK, Lab colour space, spot colour and duotone. Photoshop has vast support for graphic file formats but also uses its own PSD and PSB file formats which support all the aforementioned features
Photoshop was developed in 1987 by the American brothers Thomas and John Knoll, who sold the distribution license to Adobe Systems Incorporated in 1988. Thomas Knoll, a PhD student at the University of Michigan, began writing a program on his Macintosh Plus to

display greyscale images on a monochrome display. This program, called Display, caught the attention of his brother John Knoll, an Industrial Light & Magic employee, who recommended that Thomas turn it into a full-fledged image editing program.

Image technology is one of the methods of producing pictures. The first image was painted on stones. These were actually stone walls of caves and the pigment was extracted from natural materials. In due course of time, humans invented new technologies to express their ideas and experiences visually. The technique of image creation was initially done by skilled hands by artisans and artists. Image technology accelerated speed of invention during industrial development. Now we can see inventions on daily basis. Photoshop is a magical software which gives you freedom of giving visual form to your imagination. Using Photoshop we can compile multiple images, text and vector design forms all together in same image or file. Photoshop is used in commercial printing. with the help of Photoshop one can design Broachers, visiting cards, letterheads, advertisements, etc.

1. 5 RGB Colour space

Before starting working in Photoshop and manipulating digital images, one should must have basic knowledge of colour theory. RGB colour model is an additive colour model which includes red, green and blue colours which are combined in various ways to reproduce other colours. A particular RGB colour space is defined by the three chromaticities of the red, green, and blue additive primaries, and can produce any chromaticity that is the triangle defined by those primary colours. Adobe has recently developed another colour space called Adobe Wide Gamut RGB, which is even larger, in detriment to gamut density. RGB and sRGB is by far the most commonly used RGB colour space, particularly in consumer grade digital cameras, HD video cameras, and computer monitors. RGB spaces are generally specified by defining three primary colours and a white point.



1.7 RGB colour model

An LCD display can be thought of as a grid of thousands of little red, green, and blue lamps, each with their own dimmer switch. The gamut of the display will depend on the three colours used for the red, green and blue lights. A wide-gamut display will have very saturated, "pure" light colours, and thus be able to display very saturated, deep colours.

HSV colour space

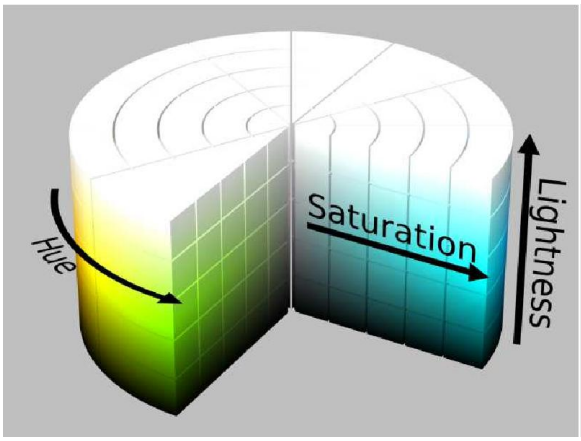
HSV stands for hue, saturation, and value, and is also often called HSB (B for brightness).HSL and HSV are the two most common cylindrical-coordinate representations of points in an RGB color model. The two representations rearrange the geometry of RGB in an attempt to be more intuitive and perceptually relevant than the cartesian (cube) representation. Developed in the 1970s for computer graphics applications, HSL and HSV are used today in color pickers, in image editing software, and less commonly in image analysis and computer vision.

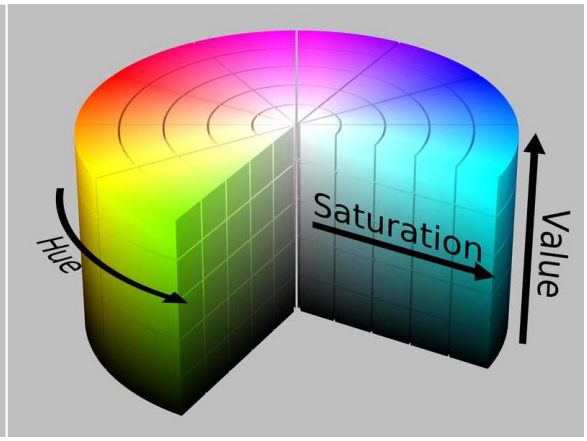
Hue : Hue is one of the main properties of a color, defined technically , as "the degree to which a stimulus can be described as similar to or different from stimuli that are described as red, green, blue, and yellow"

Saturation : The saturation of a colour is determined by a combination of light intensity and how much it is distributed across the spectrum of different wavelengths. The purest (most saturated) colour is achieved by using just one wavelength at a high intensity, such as in laser light.

Value : The brightness of the colour ranges from 0 to 100% is referred as value of colour

HSL and HSV are both cylindrical geometries (fig. 2), with hue, their angular dimension, starting at the red primary at 0°, passing through the green primary at 120° and the blue primary at 240°, and then wrapping back to red at 360°. In each geometry, the central vertical axis comprises the neutral, achromatic, or graycolors, ranging from black at lightness 0 or value 0, the bottom, to white at lightness 1 or value 1, the top.

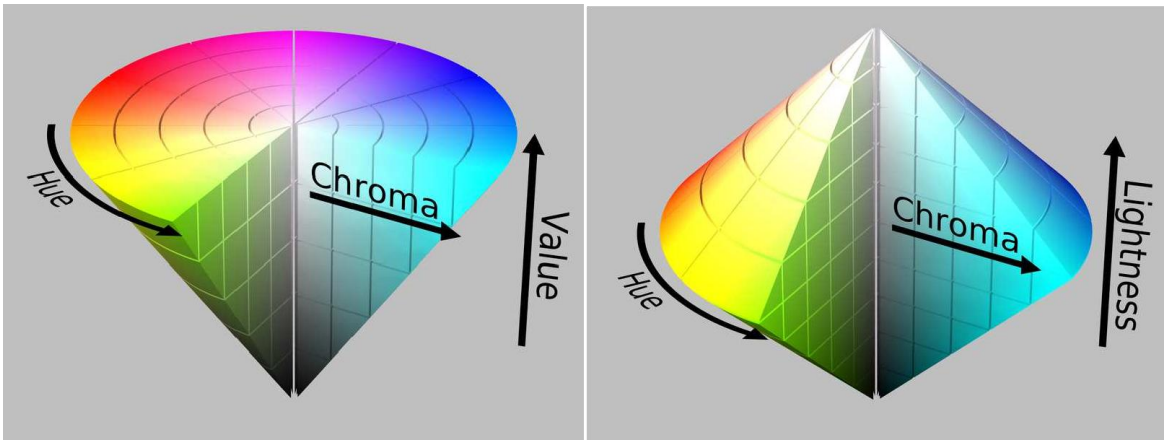




1.8 HSL cylinder.

1.9 HSV cylinder.

In both geometries, the additive primary and secondary colors—red, yellow, green, cyan, blue and magenta—and linear mixtures between adjacent pairs of them, sometimes called pure colors, are arranged around the outside edge of the cylinder with saturation 1. These saturated colors have value 1 in HSV, while in HSL they have lightness ½. In HSV, mixing these pure colors with white—producing so-called tints—reduces saturation, while mixing them with black—producing shades—leaves saturation unchanged. In HSL, both tints and shades have full saturation, and only mixtures with both black and white—called tones—have saturation less than 1.



If we plot hue and (a) HSL lightness or (b) HSV value against chroma rather than saturation, the resulting solid is a bicone or cone, respectively, not a cylinder. Such diagrams often claim to represent HSL or HSV directly, with the chroma dimension deceptively labeled "saturation".

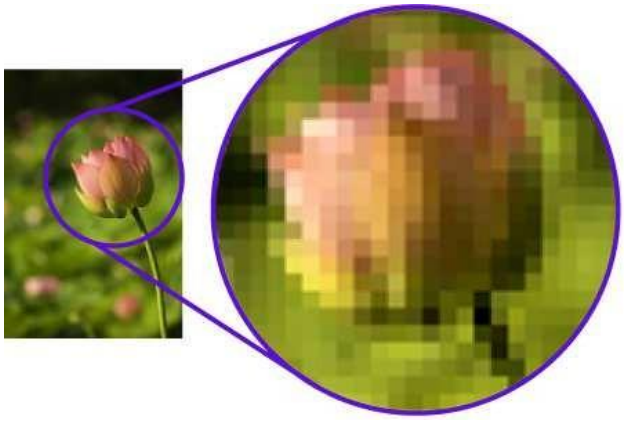
1. 6 Digital image types Vector and Bitmaps

As you start working of digital images, the subject which is most likely to be confusing to use the difference between bitmap and vector images, therefore characteristics and differences between these two types of digital images have been explained in detail in the following section.

1.6.1 Bitmap Images

In computing, a bitmap is a mapping from some domain (for example, a range of integers) to bits, that is, values which are zero or one. It is also called a bit array or bitmap index.In computer graphics, when the domain is a rectangle (indexed by two coordinates) a bitmap gives a way to store a binary image, that is, an image in which each pixel is either black or white.

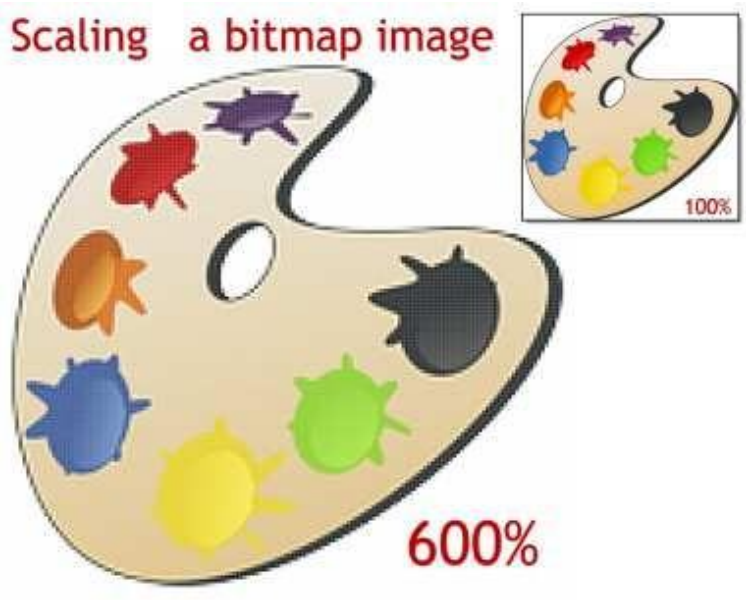
A bitmap is a type of memory organization or image file format used to store digital images. The term bitmap comes from the computer programming terminology, meaning just a map of bits, a spatially mapped array of bits. Now, along with pixmap, it commonly refers to the similar concept of a spatially mapped array of pixels. Raster images in general may be referred to as bitmaps or pixmaps, whether synthetic or photographic, in files or memory. Bitmap images (also known as raster images) are made up of pixels in a grid.Pixels are picture elements; tiny dots of individual color that make up what you see on your screen. All these tiny dots of color come together to form the images you see. Most computer monitors display approximately 70 to 100 pixels per inch--the actual number depends on your monitor and screen settings.



Resolution

Raster graphics are resolution dependent, meaning they cannot scale up to an arbitrary resolution without loss of apparent quality. This property contrasts with the capabilities of vector graphics, which easily scale up to the quality of the device rendering them. Raster graphics deal more practically than vector graphics with photographs and photo-realistic images, while vector graphics often serve better for typesetting or for graphic design. Modern computer-monitors typically display about 72 to 130 pixels per inch (PPI), and some modern consumer printers can resolve 2400 dots per inch (DPI) or more; determining the most appropriate image resolution for a given printer-resolution can pose difficulties, since printed output may have a greater level of detail than a viewer can discern on a monitor. Typically, a resolution of 150 to 300 PPI works well for 4-color process (CMYK) printing

Pixel dimensions measure the total number of pixels along an image's width and height. Resolution is the fineness of detail in a bitmap image and is measured in pixels per inch (ppi). The more pixels per inch, the greater the resolution. Generally, an image with a higher resolution produces a better printed image quality. Your monitor's resolution is described in pixel dimensions. For example, if your monitor resolution and your photo's pixel dimensions are the same size, the photo will fill the screen when viewed at 100%. How large an image appears on-screen depends on a combination of factors—the pixel dimensions of the image, the monitor size, and the monitor resolution setting. In Photoshop, you can change the image magnification on-screen, so you can easily work with images of any pixel dimensions.



Pros and Cons of Bitmap File Formats

Bitmap files are especially suited for the storage of real-world images; complex images can be rasterized in conjunction with video, scanning, and photographic equipment and stored in a bitmap format.

Advantages of bitmap files include the following:

- Bitmap files may be easily created from existing pixel data stored in an array in memory.
- Retrieving pixel data stored in a bitmap file may often be accomplished by using a set of coordinates that allows the data to be conceptualized as a grid.
- Pixel values may be modified individually or as large groups by altering a palette if present.
- Bitmap files may translate well to dot-format output devices such as CRTs and printers.

Bitmap files, however, do have drawbacks:

- They can be very large, particularly if the image contains a large number of colors. Data compression can shrink the size of pixel data, but the data must be expanded before it can be used, and this can slow down the reading and rendering process considerably. Also, the more complex a bitmap image (large number of colors and minute detail), the less efficient the compression process will be.
- They typically do not scale very well. Shrinking an image by decimation (throwing away pixels) can change the image in an unacceptable manner, as can expanding the image through pixel replication. Because of this, bitmap files must usually be printed at the resolution in which they were originally stored.

1.6.2 Vector graphics

Vector graphics is the use of polygons to represent images in computer graphics. Vector graphics are based on vectors, which lead through locations called control points or nodes. Each of these points has a definite position on the x and y axes of the work plane and determines the direction of the path; further, each path may be assigned various attributes, including such values as stroke color, shape, curve, thickness, and fill

Unlike JPEGs, GIFs, and BMP images, vector graphics are not made up of a grid of pixels. Instead, vector graphics are comprised of paths, which are defined by a start and end point, along with other points, curves, and angles along the way. A path can be a line, a square, a triangle, or a curvy shape. These paths can be used to create simple drawings or complex diagrams. Paths are even used to define the characters of specific typefaces.

Because vector-based images are not made up of a specific number of dots, they can be scaled to a larger size and not lose any image quality. If you blow up a raster graphic, it will look blocky, or "pixelated." When you blow up a vector graphic, the edges of each object within the graphic stay smooth and clean. This makes vector graphics ideal for logos, which can be small enough to appear on a business card, but can also be scaled to fill a billboard. Common types of vector graphics include Adobe Illustrator, Macromedia Freehand, and EPS files. Many Flash animations also use vector graphics, since they scale better and typically take up less space than bitmap images.

- which they were originally stored.

Printing

Vector art is ideal for printing since the art is made from a series of mathematical curves, it will print very crisply even when resized.For instance, one can print a vector logo on a small sheet of copy paper, and then enlarge the same vector logo to billboard size and keep the same crisp quality. A low-resolution raster graphic would blur or pixelate excessively if it were enlarged from business card size to billboard size. (The precise resolution of a raster graphic necessary for high-quality results depends on the viewing distance; e.g., a billboard may still appear to be of high quality even at low resolution if the viewing distance is great enough.)

If we regard typographic characters as images, then the same considerations that we have made for graphics apply even to composition of written text for printing (typesetting). Older character sets were stored as bitmaps. Therefore, to achieve maximum print quality they had to be used at a given resolution only; these font formats are said to be non-scalable. High quality typography is nowadays based on character drawings (fonts) which are typically stored as vector graphics, and as such are scalable to any size. Examples of these vector formats for characters are Postscript fonts and TrueType fonts.



Original reference photo before vectorization



Detail can be added to or removed from vector art.

Pros and Cons of Vector Files

Advantages of vector files include the following:

- Vector files are useful for storing images composed of line-based elements such as lines and polygons, or those that can be decomposed into simple geometrical objects, such as text. More sophisticated formats can also store 3D objects such as polyhedrons and wire-frame models.
- Vector data can be easily scaled and otherwise manipulated to accommodate the resolution of a spectrum of output devices.
- Many vector files containing only ASCII-format data can be modified with simple text editing tools. Individual elements may be added, removed, or changed without affecting ot er objects in the image.
- It is usually easy to render vector data and save it to a bitmap format file, or, alternately, to convert the

data to another vector format, with good results.

Some drawbacks of vector files include the following:

- Vector files cannot easily be used to store extremely complex images, such as some photographs, where color information is paramount and may vary on a pixel-by-pixel basis.
- The appearance of vector images can vary considerably depending upon the application interpreting the image. Factors include the rendering application's compatibility with the creator application and the sophistication of its toolkit of geometric primitives and drawing operations.
- Vector data also displays best on vectored output devices such as plotters and random scan displays. High-resolution raster displays are needed to display vector graphics as effectively.
- Reconstruction of vector data may take considerably longer than that contained in a bitmap file of equivalent complexity, because each image element must be drawn individually and in sequence.

1. 7 Internet image standards

Images often account for most of the downloaded bytes on a web page and also often occupy a significant amount of visual space. As a result, optimizing images can often yield some of the largest byte savings and performance improvements for your website: the fewer bytes the browser has to download, the less competition there is for the client's bandwidth and the faster the browser can download and render useful content on the screen.

Image optimization is both an art and science: an art because there is no one definitive answer for how best to compress an individual image, and a science because there are many well developed techniques and algorithms that can significantly reduce the size of an image. Finding the optimal settings for your image requires careful analysis along many dimensions: format capabilities, content of encoded data, quality, pixel dimensions, and more.Not optimizing images properly results in extremely slow loading time. When you intend to publish your images online, you have to compromise the quality.

Lossy compression means once you decompress the compressed data, you will not get the exact same image as the original. However, this will only be visible at a closer look. Lossy compression is good for web, because images use small amount of memory, but can be sufficiently like the original image.

When you decompress a lossless image, you will get exactly the same image as the original. This compression uses greater amount of memory, so sometimes it may not be good for web.

Image optimisation

For imagery, optimisation involves choosing a suitable graphic compression format. Compression reduces the image file size and consequently the time it takes to download and display in a browser. Common compression types include GIF, JPEG and PNG. Many compression formats reduce file size by removing information from the image (down sampling). For example, the JPEG format reduces overall tonal range to reduce file size—reducing the tonal range means that highlights and shadows become less pronounced.

Reducing the number, and file size of the images can be a significant issue for websites with large

subscriber bases such as news sites. Site owners are charged for the amount of information (data) downloaded from their sites (traffic). The more popular the site and larger the images the greater the traffic costs.

Check Your Progress

1. What do you understand by saturation of colour?
2. What are advantages of using vector graphics?
3. What is image optimization?
4. Why are photographic images not well suited for vector graphics?

1. 8 Summary

- Photoshop has been in industry for more than three decades. It is a reputed image editing software and provides access to most commonly used editing tools

- Photoshop has enabled the use of old artistic and technical traditions through easy to use tools. Photoshop plays with colours and images to form a final workable output. This output gives a visual look to almost every document created in digital world everyday

- In Photoshop, you can specify image quality, colour display, background transparency or matting and downloading method. However features like slice, links, animation and rollover not preserved.

- The three basic colours red, green, blue gives us RGB theory which basis every image. Blend of these three colours gives you range of all colour image contains.

- Resolution refers to the density of pixels and usually expressed as DPI (dot per inch) or PPI (Pixel per inch) Graphics have different resolutions for different purpose. If low resolution image is printed it looks fuzzy.

- There are two types of images that Photoshop uses one is bitmap and vector. The major difference between these two is enlarging the original size of bitmap image leads to loss of qualitywhere as vector image rescaling does not leads to loss of image quality.

- A bitmap graphics (also known as raster graphic) is large grid of something similar to chess board or any grid with number of little squares, you can build an image square by square. Similarly raster image is made by pixel by pixel.

- In vector graphic, the shape or path of a line is defined by carrying out a small mathematical calculation. lookingat the simplest form, vector graphics are points connected with lines of

different shapes, filled with colour.

- Basic geometrical shapes and lines can be used as starting point of vector graphics. these shapes can be grouped together to form complicated shapes.

- When you prepare image for web use or any other media, you will have to compromise between image display quality and size of image. Photoshop and image ready are two software that provides several controls for compressing the file size of an image while optimizing its online quality.

- Every image posted on internet should pass through certain basic guidelines.

1. 9 Key Terms

Vector graphics: Vector graphics is the use of polygons to represent images in computer graphics. Vector graphics are based on vectors, which lead through locations called control points or nodes.

Bitmap images: In computing, a bitmap is a mapping from some domain (for example, a range of integers) to bits, that is, values which are zero or one. It is also called a bit array or bitmap index.

Pixels: Picture element which is smallest item of graphic information.

Compliance: The act of adhering to and demonstrating adherence to a standard or regulation.

Mosaic: Mosaic is the art of creating images with an assemblage of small pieces of coloredglass, stone, or other materials. It is a technique of decorative art or interior decoration.

Rasterization: Rasterisation (or rasterization) is the task of taking an image described in a vector graphics format (shapes) and converting it into a raster image (pixels or dots) for output on a video display or printer, or for storage in a bitmap file format

1. 10Questions And Exercises

Short Answer Questions

1. What are the factors that determines the quality and appearance of a bitmap image?
2. What do you understand by the term optimization ?
3. List the advantages of bitmap image
4. Name the page layout programs that use vector images

Long Answer questions

Which are the old image editing techniques that are still in use ?
What are the benefits of using Photoshop?
What is the main difference between bitmap and vector image?

Why are some compliance standards required for posting an image on internet?
What is RGB and hoe is it different form HSL?
What is bitmap graphic? What are the factors that make it easy to work with?

Unit 2 Photoshop Workspace

2.0 Introduction

Adobe Photoshop is the industry-standard tool for digital imaging, which makes Photoshop expertise a valuable commodity in the workplace. Learning Photoshop is also a good way to learn imaging concepts. Concepts you learn from working with Photoshop apply to other imaging tools as well (including Photoshop Elements, which has a very similar user interface and features). Adobe Photoshop is hands down, the most popular program for creating and modifying images for the web. This is true not only because Photoshop is available on a wide array of platforms ranging from Mac to Windows to UNIX, but because after four generations of development, Adobe Photoshop has the most intuitive user interface, the most complete set of tools, and the largest number of reference books around.

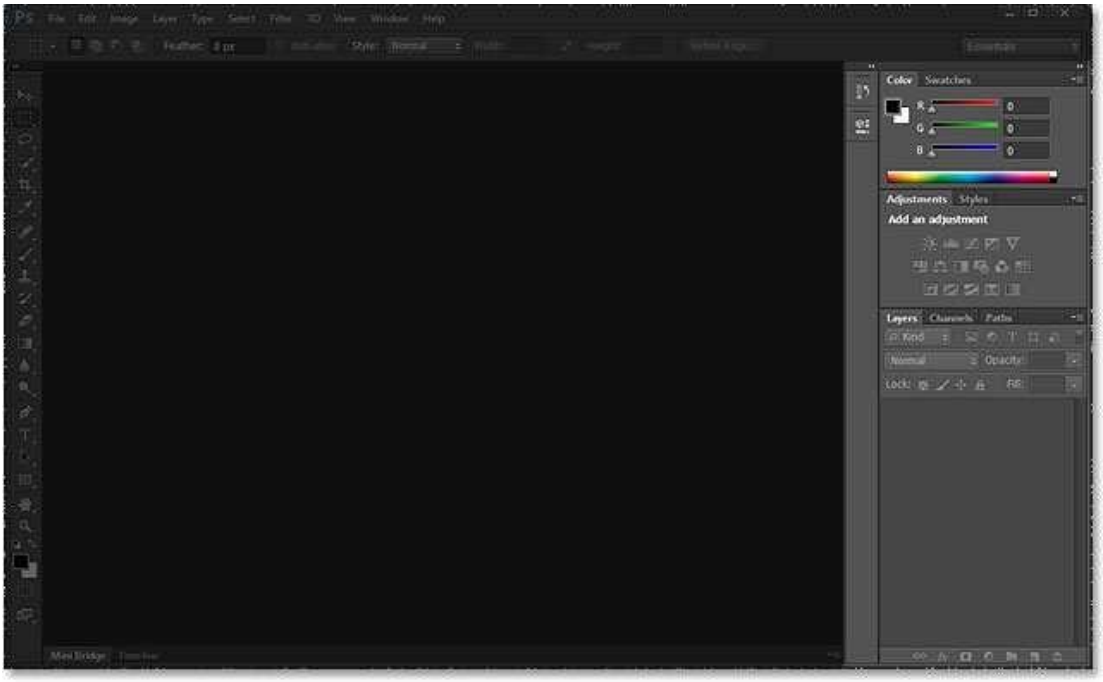
2.1 Unit objectives

- **After going through this unit, you will be able to:**
- **Identify different parts of the image ready CS window**
- **Check the image size and the download times**
- **Identify the tools in image ready toolbox**
- **Move from imageready to photoshop and vice versa**

2.2 The Photoshop Workspace

When we first install Photoshop, we're presented with the default workspace which is called **Essentials.** It's sort of a general purpose workspace containing some of the more commonly used panels, like Layers, Channels, Adjustments and History, plus a few others. As we learned in the Managing Panels in Photoshop CS6 tutorial, the panels are located in two columns along the far right of the screen. There's a **main column** on the right that's expanded so we can see the contents of these panels, and there's also a **secondary panel** to the left of the main panel.

You create and manipulate your documents and files using various elements, such as panels, bars, and windows. Any arrangement of these elements is called a workspace. The workspaces of the different applications in the Creative Suite share the same appearance so you can move between the applications easily. You can also adapt each application to the way you work by selecting from several preset workspaces or by creating one of your own.



Let's take a closer look at the panels that make up the default Essentials workspace. In the main column on the right, we have three panel groups. The first group at the top holds the Color and Swatches panels, the middle group holds the Adjustments and Styles panels, and the bottom group holds three panels - Layers, Channels and Paths. In the secondary column on the left, we have two panels, History on top and Properties below it, both of which are collapsed into just their icon view mode:

2.2.1 Default And Custom Workspace

The workspace in photshop includes the following components

- Menu bar
- Tool panel
- Options bar
- Image window (or document window)
- Panel

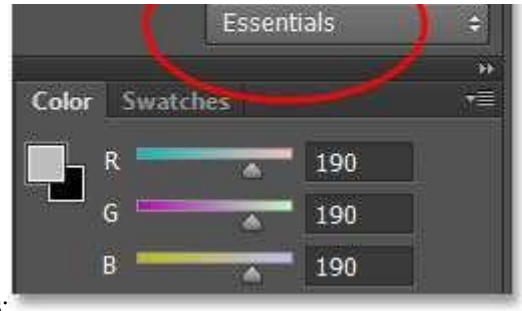
  You can rearrange components on the default Photoshop workspace to create a custom workspace.

Workspace can be changed in any of the following ways:

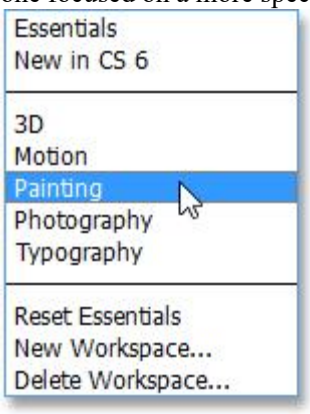
- Save, load, delete and reset workspace in the Windows> workspace menu.
- Save or delete a custom workspace by choosing windows>workspace .
- Load a saved workspace by selecting its name from windows>workspace menu.
- Reset to the default workspace by choosing windows >default workspace.

- You can activate a missing panel by selecting the panel name in the Window menu.

- **Switching Between Workspaces**
- Essentials isn't the only workspace available to us. Photoshop includes other built-in workspaces that we can choose from, and we can select any of them at any time from the workspace selection box in the top right corner of the screen (directly above the main panel column). Here, we can see that by default, the workspace is set to Essentials:



If we click on the box, we open a menu showing the other workspaces we can choose from, each one focused on a more specific task. For example, I'll click on the Painting workspace to select it:



Dock and undock panels

Dock and undock panels A dock is a collection of panels or panel groups displayed together, generally in a vertical orientation. You dock and undock panels by moving them into and out of a dock.

● To dock a panel, drag it by its tab into the dock, at the top, bottom, or in between other panels.

● To dock a panel group, drag it by its title bar (the solid empty bar above the tabs) into the dock.

● To remove a panel or panel group, drag it out of the dock by its tab or title bar. You can drag it into another.

Move panels

Move panels As you move panels, you see blue highlighted drop zones, areas where you can move the panel. For example, you can move a panel up or down in a dock by dragging it to the narrow blue drop zone above or below another panel. If you drag to an area that is not a drop zone, the panel floats freely in the workspace.

Add and remove panels

Add and remove panels If you remove all panels from a dock, the dock disappears. You can create a dock by moving panels to the right edge of the workspace until a drop zone appears.

● To remove a panel, right-click (Windows) or Control-click (Mac) its tab and then select Close, or deselect it from the Window menu.

● To add a panel, select it from the Window menu and dock it wherever you want.

Collapse and expand panel icons GRA617 Photoshop CS6 Basics 3 You can collapse panels to icons to reduce clutter on the workspace. In some cases, panels are collapsed to icons in the default workspace.

Simply by choosing a different workspace, we get a different set of panels on the screen. In this case, the original panel set from the Essentials workspace has been replaced with a set more useful for digital painting. Some of the panels are the same as before, like Layers, Channels, and Paths because they're still useful for painting, but the Adjustments and Styles panels in the middle group have been replaced with the Brush Presets panel, and the Color panel has been replaced with the Navigator panel in the top group



If I make the second panel column a bit wider by clicking and dragging its left edge out further towards the left, we can see not only the icons for the new panels but also their names. Again, we see panels better suited for painting, like the Brush panel, Clone Source and Tool

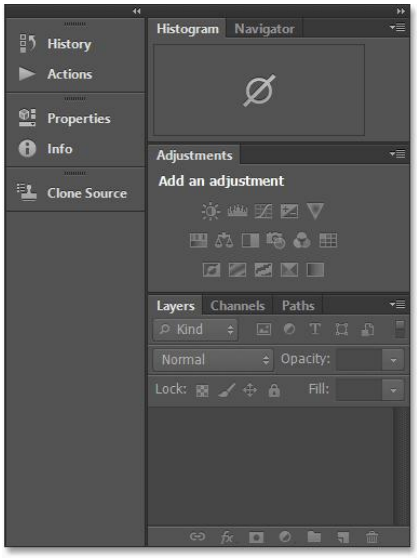
Presets. The History panel is the only hold-over here from the Essentials workspace because it's useful for painting as well



go through all of Photoshop's built-in workspaces since you can easily do that on your own, but as one more quick example, I'll click again on the workspace selection box in the top right corner of the screen and this time, I'll choose the Photography workspace from the menu



Once again, Photoshop displays a different set of panels for us (I've resized the secondary column so we can see the names of the panels along with their icons). The Photography workspace gives us panels we'll most likely need for photo editing, including some new ones like the Histogram, Info and Actions panels

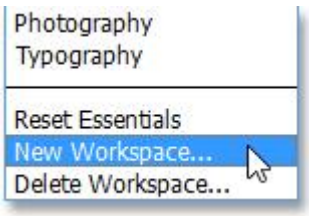


2.2.4 Saving Your Own Custom Workspace

Having these different built-in workspaces to choose from is great, but what's even better is that we can create and save our own custom workspaces. I'm going to switch back to the default Essentials workspace for a moment by clicking on the workspace selection box and choosing Essentials from the very top of the menu



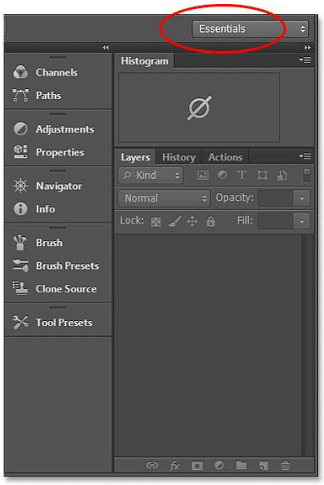
To save your new panel layout as a custom workspace, click again on the workspace selection box in the top right corner of the screen and this time, instead of choosing one of the already existing workspaces, choose New Workspace from the menu



Photoshop will open the New Workspace dialog box for us so we can give our new workspace a name. I'll name mine something highly creative, like "Steve's Workspace", but unless your name also happens to be Steve, you may want to choose something different. At the bottom of the dialog box are options for including custom keyboard shortcuts and menus with our workspace, but I'm going to leave those blank

Resetting A Workspace

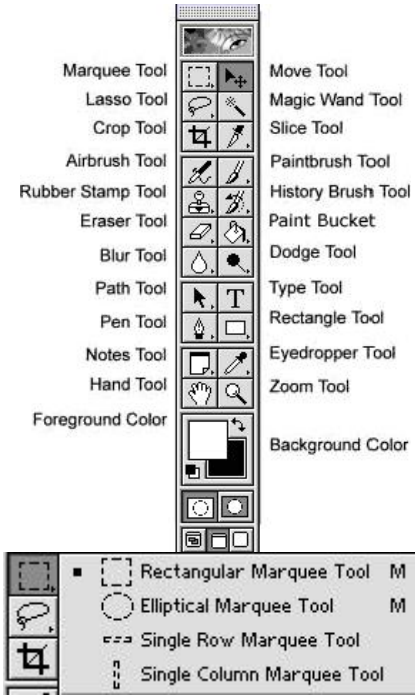
Whenever we make changes to an existing workspace, Photoshop remembers those changes the next time we select the workspace, and this can actually cause a bit of confusion if you're not aware of it. To show you what I mean, a moment ago, I created my own panel layout to save as a custom workspace, but if you remember, I was actually in the default Essentials workspace as I was opening, closing and moving panels around. Now that I've saved my new panel arrangement as a custom workspace, let's see what happens if I switch back to the default Essentials workspace



2.2.2 Photoshop Tools

You select a variety of tools from the **Toolbox** by clicking on the icons. Within each type of tool you can select "hidden" tools by dragging the tool to the side or by pressing on the icon until the hidden options drop to the side. See examples below.

To view the Toolbox Go to **Window** > **Show Tools..**





Selecting Tools:

These tools allow you to select areas in various different ways. Drawing tools and commands only work in selected areas. If no area is selected, tools and commands will work anywhere

Rectangular Marquee

Click once on the Rectangular Marquee tool to choose it. The icon will turn white and the cursor will turn into a cross hair when you move it onto the document.

Select an area: Drag out a rectangular marquee of any size anywhere on the document. Release the mouse and you should have a rectangular area selected. You can tell it is selected because it has the line of ‘marching ants’ moving around it.



Magic Wand Tool

This tool allows you to select areas of images based on color similarities without having to trace its outline.Choose the Magic Wand tool. Click the magic Wand on the white area or the colored area of your image. You will notice how it will only select the white areas. You can specify the tolerance (color range) that you



Zoom Tool

This tool allows you to magnify areas of an image when you are performing close, detailed work, and reduce them to get an overall view of the image.

Zoom in: pick the Zoom Tool. This tool always defaults to zoom in (note: the plus sign in the middle of the magnifying glass icon). This tool works in two ways:Click the icon once in the area you wish to enlarge. The area will be magnified by a factor of two.

Click and drag a rectangle around the area you wish to enlarge and the area will be magnified to fit in the existing window.

Zoom out: Pick the Zoom Tool and hold down the **alt** key (note: the negative sign in the icon). Or, right-click with the mouse and select the zoom-out option from the drop-down.Click on the image and the drawing zooms out in a factor of two.

Type Tools

To insert text into your document, simply click on the Type tool icon on your toolbox and click on the area of your document where you want to insert text.The cursor will highlight and will prompt you to start typing. To change the character font, size and style you can use the top Menu (shown below)or the Character palette (shown on the right). To edit an existing

block of text, select the Type tool from the toolbox, and position the cursor on the text, it will identify the text and allow you to edit it.

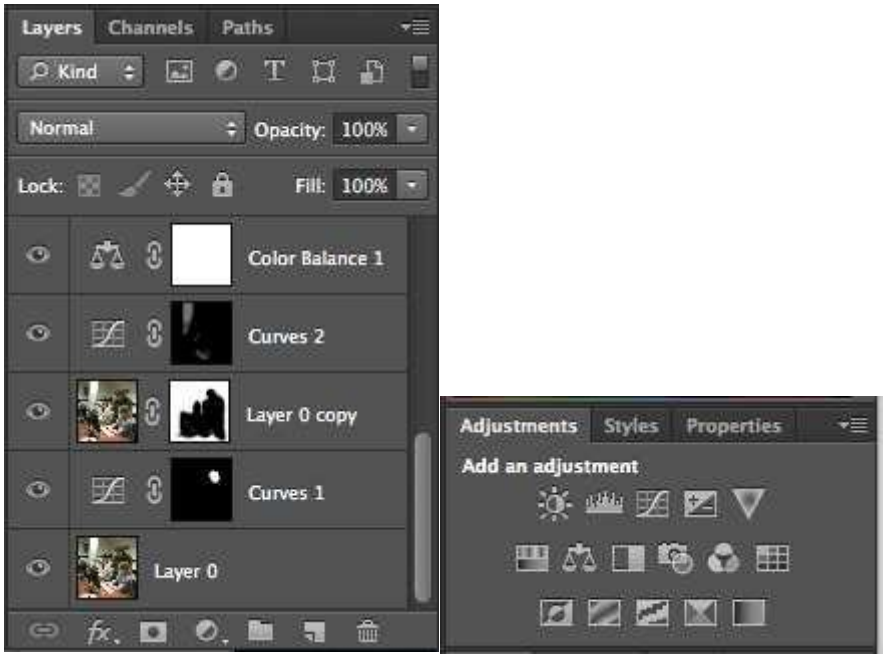
You can apply different styles and formats within one text layer, to do this, you need to select the text with the cursor and apply the changes. If you need to apply one formatting style to ALL the text in the layer, than simply select the layer from the layer window, and make the choices you need.

Palettes

Layers and Adjustments Palettes

The Layers Palette [below; left] is the home of all of your layer information where it can be stored and organized. It lists all layers in an image, and a thumbnail of layer contents appears to the left of the layer name. You use the Layers Palette to create, hide, display, copy, merge, and delete layers. Learn more**.**

The Adjustments Palette [below; right] is where you would select adjustments that you wish to appy to layers. This palette includes many different adjustments including exposure, color balance, saturation, and brightness / contrast.

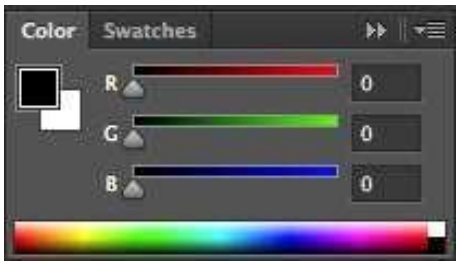


Color Palette

The Color Palette

The Color Palette is where you can select and change our foreground and background colors that will be used with brushes and fills. Look at the screenshot of the Color Palette below and take note of the two stacked boxes, shown as black and white. In the screenshot, note that the foreground color is the top box (black) and the background color is the bottom box (white).

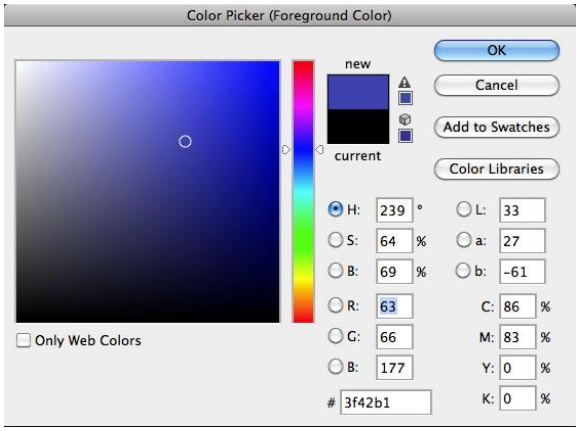
Note: Click on the list icon ( ) in the Color Palette to change the color space from RGB to CMYK, Grayscale, Lab, and more.



Color Palette

To change the color, select either the foreground and background color box in the Color Palette by clicking on it. Then, use either the sliders or click in the spectrum below the sliders to select a new color. If you do not like using the sliders, double click on a color box to bring up the Color Picker [shown right]

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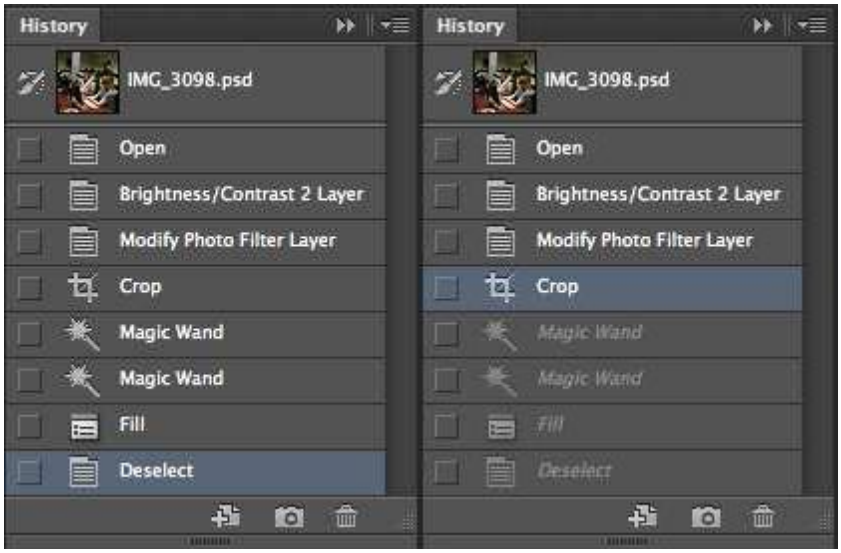


Also know that you can select and change Foreground and Background colors within your Tools Palette by using this mini color palette located near the bottom of the Tools Palette.

History Palette

The History Palette – Saving a Snapshot

The History Palette is a log of all the actions you perform within Photoshop. By default, the History Palette contains the last 20 changes to your image. Each time you change the image, a new state is added to the History Palette. To jump to a particular state, click on that state name in the History Palette and all other actions after that state wil become greyed out and italicized.



Web Graphics Basics Pixels

Computer based images are comprised of thousands of tiny dots of color called pixels. These are the small dots you see if you put your face too close to your television or computer screen. Each digital image is comprised of thousands or millions of individual pixels, each with its own color. When these groups of pixels are viewed as a whole, we see the entire image. Most computer monitors have display sizes of 800x600 pixels, 1024x768 pixels, or 1280x1024 pixels.

Resolution

Resolution indicates the number of pixels that are displayed per inch for an image (or pixels per centimeter). Most computer monitors display at resolutions of 72 pixels per inch or 96 pixels per inch. If an image is 72 pixels wide, then it will display as 1 inch big on a monitor that is set to a resolution of 72 pixels/inch. It is important to remember that for computer graphics, a higher resolution (pixels/inch) does not mean a higher quality image. What is important is the total size, in pixels, of the image.

Graphics for print and graphics for display on computer monitors use different resolutions. While monitors are constrained by the 72 or 96 pixel per inch limitation, standard deskjet printers currently print in the range of 4800x1200 dpi (dots per inch) and pictures in magazines typically print at a resolution of 150 dpi. Unlike computer graphics, with images for print, a higher resolution will yield a higher quality image. Therefore, if you intend to print an image, you want to use a higher resolution than you would for a web graphic to achieve a higher quality print.

So, if you are scanning an image for use on a web page, what resolution should you use? For display on a computer monitor, scanning an image at a higher resolution will simply yield an image that displays larger on the screen, since more total pixels are captured. For example, a 3 inch by 3 inch picture scanned at a resolution of 72 pixels per inch will be 216 pixels wide and 216 pixels high and display as a 3 inch by 3 inch picture when displayed on the computer monitor. A 3 inch by 3 inch picture scanned at a resolution of 144 pixels per inch will be 432 pixels wide and 432 pixels high and display as a 6 inch by 6 inch picture when displayed on most computer monitors.

Therefore, the answer to the question of what resolution to scan images at really depends on the size of the original picture and how big you want the image to appear on the web page. Think about the total number of pixels you are capturing instead of the pixels per inch. It is important to remember, though, that it never hurts to capture an image onto the computer that is larger than you need it (this is true for digital camera settings as well). You can always use a graphics program to reduce the size of an image or crop it without losing quality. If you try to make it larger using a graphics program, however, the image will lose quality. A smaller image means that the image contains fewer pixels, and a larger image has more pixels. You can always throw away pixels that you have, but you can't add pixels that you don't have!

Color depth

Color depth or colour depth (see spelling differences), also known as bit depth, is either the number of bits used to indicate the color of a single pixel, in a bitmapped image or video frame buffer, or the number of bits used for each color component of a single pixel.

- 1-bit color (2^1 = 2 colors): monochrome, often black and white, compact Macintoshes, Atari ST.
- 2-bit color (2^2 = 4 colors): CGA, gray-scale early NeXTstation, color Macintoshes, Atari ST.



2 bits (4 colors)

- 3-bit color (2^3 = 8 colors): many early home computers with TV displays, including the ZX Spectrum and BBC Micro



4 bits (16 colors)

- 4-bit color (2^4 = 16 colors): as used by EGA and by the least common denominator VGA standard at higher resolution, color Macintoshes, Atari ST, Commodore 64, Amstrad CPC.
- 5-bit color (2^5 = 32 colors): Original Amiga chipset
- 6-bit color (2^6 = 64 colors): Original Amiga chipset



8 bits (256 colors)

- 8-bit color (2^8 = 256 colors): most early color Unix workstations, VGA at low resolution, Super VGA, color Macintoshes,Atari TT, Amiga AGA chipset, Falcon030.
- 12-bit color (2^{12} = 4096 colors): some Silicon Graphics systems, Color NeXTstation systems, and Amiga systems in HAMmode.

Dithering

Full-color photographs may contain an almost infinite range of color values. Dithering is the most common means of reducing the color range of images down to the 256 (or fewer) colors seen in 8-bit GIF images.Dithering is the process of juxtaposing pixels of two colors to create the illusion that a third color is present. A simple example is an image with only black and white in the color palette. By combining black and white pixels in complex patterns a graphics program like Adobe Photoshop can create the illusion of gray values

Anti-aliasing

An anti-aliasing filter (AAF) is a filter used before a signal sampler to restrict the bandwidth of a signal to approximately or completely satisfy the sampling theorem over the band of interest. Since the theorem states that unambiguous reconstruction of the signal from its samples is possible when the power of frequencies above the Nyquist frequency is zero, a real anti-aliasing filter trades off between bandwidth and aliasing. A realizable anti-aliasing filter will typically either permit some aliasing to occur or else attenuate some in-band frequencies close to the Nyquist limit. For this reason, many practical systems sample higher than required to ensure that all frequencies of interest can be reconstructed, a practice called oversampling.

2.4..3 Compression and web file formats

Web designers are always caught in a constant compromise between image quality and file size. Generally speaking, the higher the quality of the image, the greater the file size will be. Also, the larger the image, the larger the file size will be.

It is important to consider the file size of images when using them on a web page. Images with large file sizes take longer to load. Long load times can be an annoyance to your audience and may render pages essentially unusable for those with slow Internet connections.

Graphic File Types

There are many different file types associated with graphics, however, only a few types are suitable for web use. The most widely supported web image formats are jpeg, gif, and png. The type of image dictates which image format is best to use.

JPEG (Joint Photographic Experts Group) – The jpeg image format allows up to 16 million colors and is the best choice for image with many colors or color gradations (especially photographs). Jpeg is a “lossy” format which means that each time the image is saved and compressed, image information is lost and quality is degraded. Jpeg images allow for various levels of compression. Low compression means high image quality, but large file size. High compression means lower image quality, but smaller file size.

GIF (Graphic Information Format) Gif is a “lossless” image format, meaning that the quality of the image is not degraded through compression. The limitation of gif images is that the color palette includes only 256 colors. Therefore, the gif format is a good choice for simpler graphics with a smaller number of solid colors. The gif format also allows for transparent backgrounds, which allows the background color of the web page to show behind the graphic.

PNG (Progressive Network Graphics) PNG is a newer image format that provides a combination of many features of both jpeg and gif. The PNG format allows for use of millions of colors as well as providing the ability to have transparent backgrounds. The one drawback to PNG’s is that the format is not supported by all web browsers, particularly older browsers.

Native file formats – Native file formats are the formats that the graphics editing programs use to save the graphic project files in. The native file formats are larger in file size and contain all of the information that allows the image to be edited. Examples of native file formats are .psd for Photoshop and .png for Fireworks.
Other file formats – Computer graphics may also be present in a number of other different formats such as .bmp, .tiff, and .eps. These formats have their particular uses, such as for print graphics, but are not suitable for display on the web. To use one of these types of files on the web, open it in your graphics program and then save it as either a jpeg, gif, or png.

Saving images for web

Option for exporting images for web is found under File > Save for web... — other graphic editors must have something similar, probably under File > Export.

Saving images with many colors

Original image saved at 100% quality [171KB]

Choose File > Save for web...

Since it's a photograph, choose JPEG.

You can check the option Progressive if you like, it's only difference is how the loading will look like. Progressive images first appear blurry, and then become clearer as the image loads. Non-progressive images load line-by-line.

First choose quality level, High if the image will be visible, Medium or Low if it's meant as a background.

To have more control over the quality, use the slider or enter number in the field Quality

Look at the file size and estimated loading time displayed in the lower-left corner while adjusting settings. At the same time, look at the image to decide on what quality looks good enough.

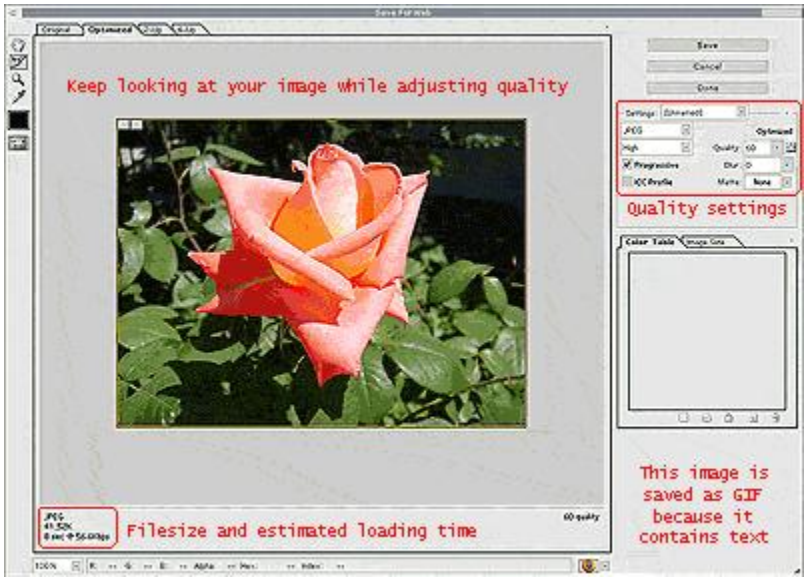
If it's a background, make sure file size is under 5KB, up to 2KB would be better.

If the image is a layout header, up to 40KB is acceptable.

If it's an image to be displayed on the page, up to 70KB is reasonable, depending on dimensions.

Artworks and photographs for your portfolio may be saved in better quality, since people who will look at them already expect to see large images. In this case it's normal to have file sizes from 100 to 200KB, but not more than that.

Once you have found the perfect balance between quality and compression, click the button Save



Save for web window

Image saved at 60% quality [42KB]

The image above would load in about 8 seconds on 56kbps connection. Its quality is not the best, some areas appear blurry, but it's still good enough for web purposes, and we used 75% less memory than before. This is how images with lots of colors should be saved.

Saving flat-color images and charts

Original image saved in JPEG at 100% quality [177KB]

Choose File > Save for web...

Since it has less colors, choose GIF.

If the image contains empty (transparent) pixels, make sure Transparency is checked.

Select the number of colors — try to make the number the smallest you can, while at the same time the image looks decent.

If the image is not in the main focus (ie. background) try adding some Lossyness by dragging the slider to the right. This will reduce the file size.

Once you have found the perfect balance between quality and size, click the button Save

Optimized file formats for the web

You can choose between four formats for the web. Use the following guidelines when choosing the format for your web image:

JPEG

In most cases, this is the best format in which to save photographs.

PNG-24

Like JPEG, this is a good format for photographs. Choose PNG-24 rather than JPEG only when your image contains transparency. (JPEG does not support transparency; you must fill it with a matte color.) PNG-24 files are often much larger than JPEG files of the same image

GIF

GIF is the format to use for line art, illustrations with large areas of solid color and crisp detail, and text. Also, if you want to export an animated image, you must use GIF.

PNG-8

PNG-8 is a lesser-known alternative to GIF. Use it for the same purposes (except animation).

Images in GIF and PNG-8 formats, sometimes called indexed-color images, can display up to 256 colors. To convert an image to indexed-color format, Photoshop Elements builds a color lookup table. If a color in the original image does not appear in the color lookup table, the application either chooses the closest color in the table or simulates the color using a combination of available colors.

JPEG and PNG-24 files support 24-bit color, so they can display up to 16 million colors. Depending on the format, you can specify image quality, background transparency or matting, color display, and the method a browser should use to display the image while downloading.

The appearance of an image on the web also depends on the colors displayed by the computer platform, operating system, monitor, and browser. You may want to preview images in different browsers and on different platforms to see how they will appear on the web.

Tabbed Documents

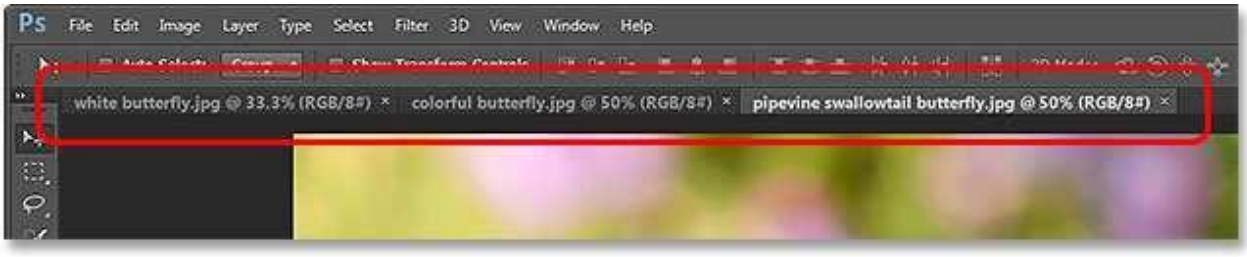
By default, Photoshop CS6 opens our images as tabbed documents. To show you what I mean, here I'm using Adobe Bridge to open a folder containing three images. I want to open all three of them at once in Photoshop, so I'll click on the image thumbnail on the left to select it. Then, I'll hold down my Shift key and click on the image thumbnail on the right. This selects all three images at once (including the one in the middle)



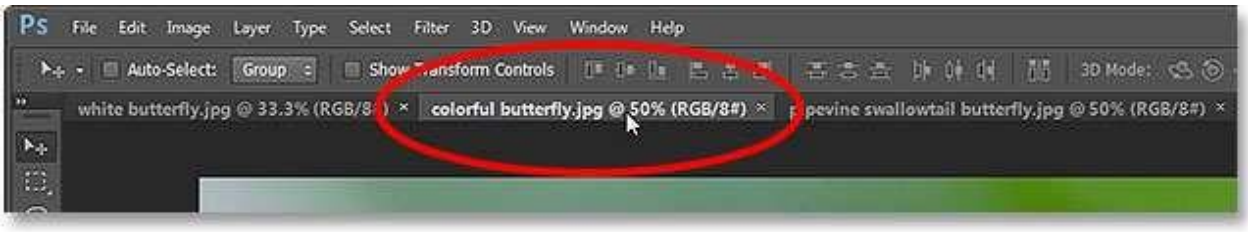
With all of the images selected, I'll double-click on one of the thumbnails to instantly open all three images in Photoshop. At first glance, something may not seem right. I've opened three photos, but only one of them is visible on the screen



Where are the other two photos I opened? Well, they're actually open as well. We just can't see them at the moment, and that's because Photoshop opened the images as a series of tabbed documents. If we look along the top of the photo that's visible on my screen, we see a row of tabs. Each tab represents one of the open photos, and we can see the name of the photo (along with some other information) in its tab. The tab that's highlighted is the one that's currently active, meaning we're seeing its image on the screen. The other tabs are hiding behind it and not currently visible



To switch between the open images, all we need to do is click on their tabs. At the moment, my third image (the tab on the right) is open. I'll click on the tab in the middle to select it



And now we see a different open image on the screen. By default, only one tab can be active and visible at a time, so the image that was visible a moment ago is now hiding in the background



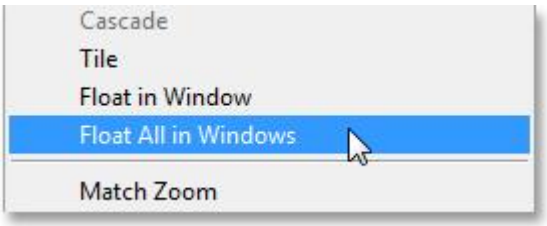
click on the tab on the left to select it and make it active



And now the third of my three open images is visible, with the other two photos hiding behind it



If you want to switch all of your tabbed documents to floating windows, go up to the Window menu in the Menu Bar along the top of the screen, choose Arrange, and then choose Float All in Windows



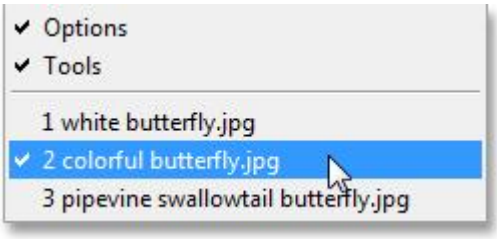
And now all three of my images appear in floating windows, with the currently active window displayed in front of the others. Again, we can move the windows around on the screen to reposition them by clicking and dragging the tab area along the top of each window. To make a different window active and bring it to the front, just click on it



Viewing A List Of Open Documents

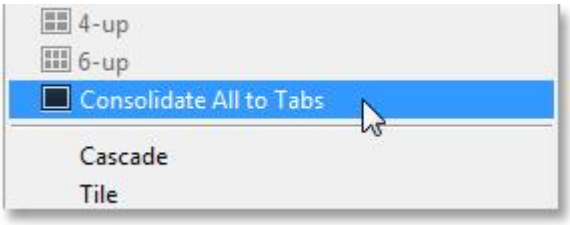
One of the main advantages to viewing our images as floating windows is that we can see more than one image at a time, but that can also cause some problems. If you have too many floating windows open at once, your screen can get cluttered, and some windows can completely block others from view. Fortunately, there's an easy way to select any image that's currently open on your screen.

If you go up to the Window menu at the top of the screen and look down at the very bottom of the menu that appears, you'll see a handy list of every image currently open, each one listed by name. The currently active image has a checkmark beside it. Simply click on any image in the list to select it, which will make it active and bring it to the foreground



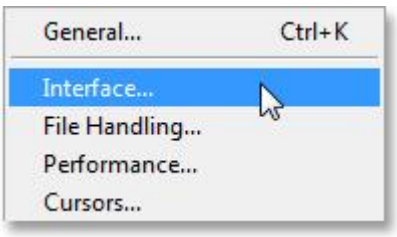
Switching Back To Tabbed Documents

To switch from floating windows back to tabbed documents, go up to the Window menu at the top of the screen, choose Arrange, and then choose Consolidate All to Tabs

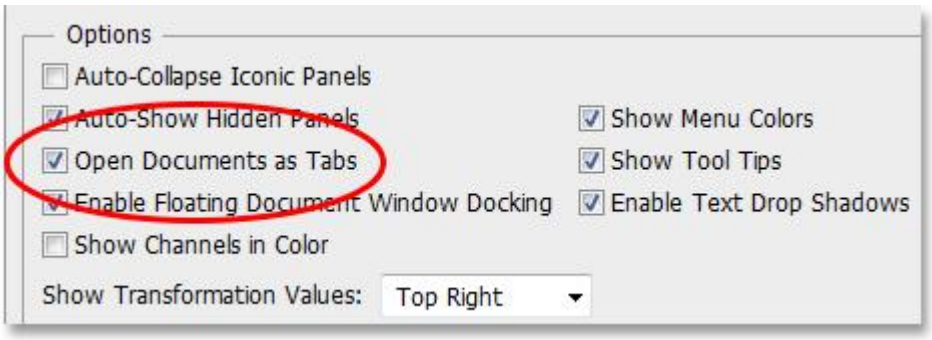


Setting Photoshop's Preferences

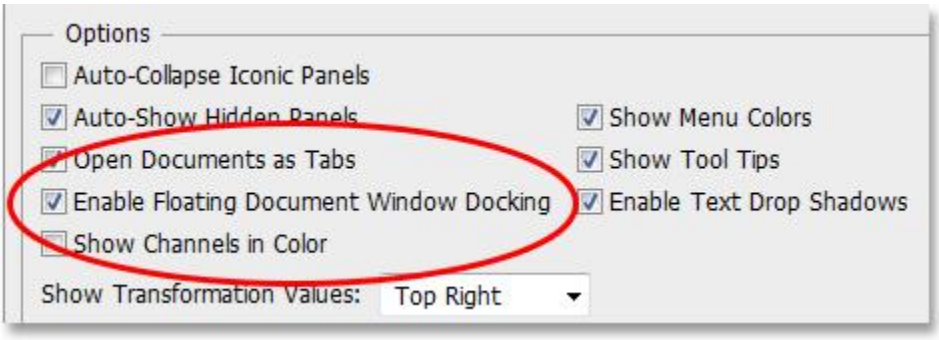
Once you decide which viewing style you like best (tabbed documents or floating windows), you can tell Photoshop to open all future images in that style using an option found in the Preferences. On a Windows PC, go up to the Edit menu at the top of the screen, choose Preferences way down at the bottom of the list, and then choose Interface. On a Mac, go up to the Photoshop menu, choose Preferences, then choose Interface



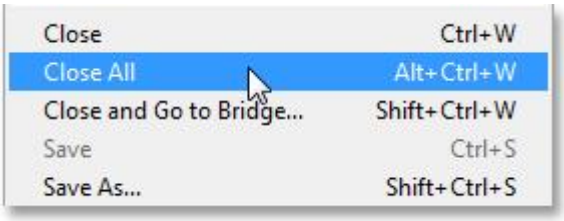
This opens Photoshop's Preferences dialog box set to the Interface options. Near the center of the dialog box is an option that says Open Documents as Tabs. By default, this open is checked, which means that all of your images will open as tabbed documents. If you'd prefer to have them open as floating windows, uncheck this option



There's a second option directly below it that's also important. You may have trouble saying it five times fast, but the Enable Floating Document Window Docking option controls whether or not we can drag one floating window into another and nest them together, creating tabbed documents inside a floating window



To close all open images regardless of which view style you're using, go up to the File menu at the top of the screen and choose Close All



2.3 Preferences

Adobe Photoshop is a powerhouse image editing program full of all kinds of bells and whistles. Whether you are a completely new to Photoshop or you are a seasoned master it is always important to set Photoshop's preferences to fit your equipment and style to avoid any complications and make sure that the program runs for you as smoothly and efficiently as possible. Some people might start Photoshop for the first time and run with default preferences without ever looking or changing any of the settings, but if you are serious about working in Photoshop and getting the most out of that experience I strongly recommend at least quickly going through the preferences and checking if everything is set to the way you would like it to be. You may not need to change any preferences at the beginning, but as you get more familiar with Photoshop and have a solid workflow you may realize that changing some preferences might improve and speed up your methods.

General Preferences

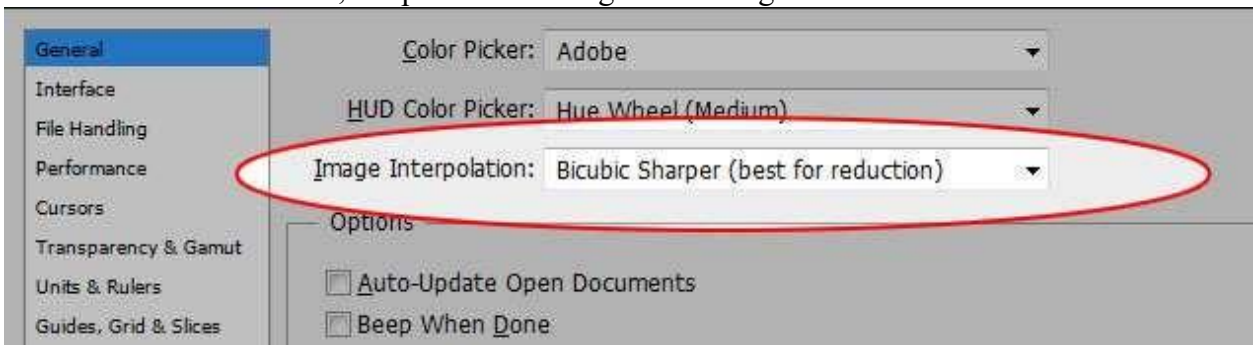


Let's start with General Preferences. You can access this tab by going to Edit menu in the top navigation bar, select Preferences and then choose General on Windows machines or

Photoshop>Preferences>General on Macs. You can also access it quicker by using a keyboard shortcut: [Ctrl]+[K] for Windows or [Cmd]+[K] for Mac. Either way you choose to access it you will see the General Preferences window with all the other preferences (such as Interface, Performance and all the others) in the left tab of that window.

Image Interpolation

The next setting we need to look at is Image Interpolation. This option tells Photoshop how to handle the pixels when images are resized. While Photoshop is an excellent program for image editing it does not do a particularly good job at enlarging images. There are programs which a far better at enlarging images for print but they are typically sold to printing industry experts and cost much more than Photoshop does. Besides, with all the modern high megapixel cameras there is very little need for upsampling. In my personal workflow I only downsize images from original resolution; in that case I would recommend setting Image Interpolation to Bicubic Sharper. This is the best algorithm for reducing images and preserving good quality. This preference will be in effect when you change image size with Free Transform command, Crop Tool and Image size dialog box.



Interface



Interface section of Photoshop Preferences is responsible for the way PS is presented on your screen. You can access it by selecting 'Interface' in the left tab section in the Preferences window. This is where you can change the color of the entire or just sections of the program. None of the changes here will have much impact on the performance but will have a big impact on the look and feel of the application overall.

File Handling

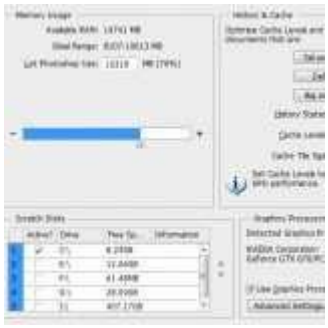
Photoshop CS6 File Handling PreferencesAs its title suggests File Handling tab where you can specify the way Photoshop handles files when opening and saving. To access this tab go to Preferences and select ‘File Handling’ from the left navigation window.

File Saving Options

This section will look slightly different depending whether you are using Windows or Mac versions but in essence all of the options do the same thing.

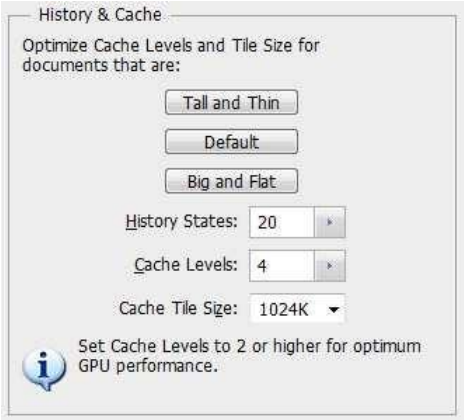


Performance



Photoshop CS6 Performance Preferences section can be found in Preferences window left sections list. As its name implies, this section is responsible for the Performance of Photoshop CS6, so naturally this is the area you should get familiar with if your PS is not behaving as well as you would like it to.

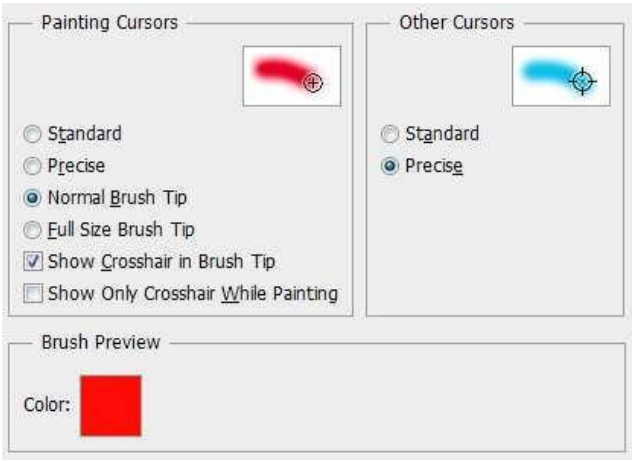
History & Cache



This section is also responsible for performance, but it is putting emphasis on your style of image editing. Here you'll see three buttons Tall and Thin, Default, Big and Flat. No, these options are not asking you to define your body shape. They are merely trying to get an idea what kind of files you are typically working with. If you are working with small files but create a lot of layers, try Tall and Thin option. If you have large files with few layers, consider using Big and Flat option. Otherwise, set Default option.

Cursors

Photoshop CS6 Cursors Preferences Cursors category can be found in Preferences window left navigation panel. Cursors section is pretty straight forward. Here you can select how your cursors are displayed. Painting Cursors section deals with brush-related tools. The Normal Brush Tip usually works well for most people. Feel free to try other options and see if you might like them. One thing I would recommend is selecting Show Crosshair on Brush Tip, this usually helps with accuracy. Other Cursors section is responsible for the rest of the cursors. I would typically recommend setting it to Precise for accuracy. And finally, in the Brush Preview section you can set the color of the Brush in the Heads Up Display. To access HUD in Photoshop CS6 press [Shift]+[Alt]+[Right Click] on Windows or [Ctrl]+[Option]+[Cmd] on Mac



2.3 Summary

- Adobe Photoshop is graphics editing software
- Photoshop's current workspace provides a set of tools and convenience to make Photoshop a little more intuitive.
- The workspace in Photoshop includes the following components
  - Menu Bar
  - Tools Panel
  - Option Bar
  - Image window
  - Panels

- Menu bar extends horizontally across the top of the screen provides access to all the Photoshop command
- Options Bar is the horizontal bar above the image window area and under the application bar.
- Tools panel is the verticle list of tools icon on the far left side of the work area.
- An image window or document window shows the part of Photoshop work area that displays an image
- Preferences menu allows the access to a number of dialog boxes that can be set in a similar fashion as the other functions in the Photoshop. Preferences can be accessed Edit > Preferences > General/ Photoshop > Preferences General.
- Resizing an entire image or an object i.e. changing the total number of pixels is called resampling.
- Image ready provides many tools that enable you to create stunning web graphics
- While selecting screen area setting for a computer monitor, three possible settings are available. These are 800 pixels x 600 pixels, 640 pixels x 480 pixels and 1024 pixels x 768 pixels
- Dithering is defined as mixing of two colours that are available in an images colour palette to create approximation of colour.

2.4 Key Terms

- **Menu Bar :** A bar that stretches across the top of the screen and provides access to all the Photoshop commands

- **Application Bar :**A bar that allows convenient access to some useful and commonly used features.

- **ColourPicker :**The most common option used to select a colour.

- **Dithering :**The mixing of two colours that are available in image's colour palette.

2.5 Question and Exercises

Short-Answer Questions

1. What is the importance of an application frame in Photoshop?
2. What are the key features of the Option Bar?
3. What are the different options in the panels preference?
4. What are the different type of Cursor preferences?

Long-Answers Questions

1. What are the image size details that should be kept in mind while working on Image Ready?
2. How do the number of colours and the depth of each colour effect the image ?
3. What are Web-safe colours and why are they important ?
4. What are the characteristics of PNG format ?

Unit 3
Creating Images

3.0 Introduction

Digital imaging or digital image acquisition is the creation of photographic images, such as of a physical scene or of the interior structure of an object. The term is often assumed to imply or include the processing, compression, storage, printing, and display of such images.

3.1 Unit Objectives

After going through this unit, you will be able to

- Create and edit image in Photoshop
- Scan image in to Photoshop and work on the scanned images
- Import images from digital camera to Photoshop
- Understand how to use the snapshot feature
- Learn about the function of The History Palette

3.2 Creating New Images

Before you learn how to create new images, it is important to understand certain basic points about images and related terms.
Broadly images can be classified in two into two categories

Bitmap or Raster images:A bitmap (or raster) image is one of the two major graphic types (the other being vector). Bitmap-based images are comprised of pixels in a grid. Each pixel or "bit" in the image contains information about the color to be displayed. Bitmap images have a fixed resolution and cannot be resized without losing image quality.

Each pixel on your screen is, in very simple terms, a "bit" of colour information used to display the image on a screen. That screen could be as small as the one on an Apple Watch or as large as a Pixel Board found in Times Square.

Along with needing to know the three colours- Red, Green, Blue- applied to the pixel another "bit" of information is where, exactly, that pixel is located in the image. These pixels are created when the image is captured. Thus if your camera captures an image at 1280 pixels across and 720 pixels down there are 921,600 individual pixels in the image and each pixel's colour and location must be remembered and rendered.

Vector graphics :Vector graphics is the use of polygons to represent images in computer graphics. Vector graphics are based on vectors, which lead through locations called control points or nodes. Each of these points has a definite position on the x and y axes of the work

plane and determines the direction of the path; further, each path may be assigned various attributes, including such values as stroke color, shape, curve, thickness, and fill

If you double the size of the image, all that happens is the pixels get larger and the file size increases because the same number of pixels are now in a larger area. No pixels are added. If you reduce the size of the image the same number of pixels are in a smaller area and, as such, the file size reduces.

One other factor that affects bitmaps is resolution. The resolution is fixed when the image is created. Many of today's modern digital cameras, for example, capture images with a 300 dpi reolution. All that means is there are 300 pixels in every linear inch of the image. This explains why digital camera images can be rather huge. There are a ton more pixels to be mapped and coloured than commonly found on a normal computer display.

Photoshop RGB Color mode uses the RGB model, assigning an intensity value to each pixel. In 8-bits-per-channel images, the intensity values range from 0 (black) to 255 (white) for each of the RGB (red, green, blue) components in a color image. For example, a bright red color has an R value of 246, a G value of 20, and a B value of 50. When the values of all three components are equal, the result is a shade of neutral gray. When the values of all components are 255, the result is pure white; when the values are 0, pure black.

RGB images use three colors, or channels, to reproduce colors on screen. In 8-bits-per-channel images, the three channels translate to 24 (8 bits x 3 channels) bits of color information per pixel. With 24-bit images, the three channels can reproduce up to 16.7 million colors per pixel. With 48-bit (16-bits-per-channel) and 96-bit (32-bits-per-channel) images, even more colors can be reproduced per pixel. In addition to being the default mode for new Photoshop images, the RGB model is used by computer monitors to display colors. This means that when working in color modes other than RGB, such as CMYK, Photoshop converts the CMYK image to RGB for display on screen.

In the CMYK mode, each pixel is assigned a percentage value for each of the process inks. The lightest (highlight) colors are assigned small percentages of process ink colors; the darker (shadow) colors higher percentages. For example, a bright red might contain 2% cyan, 93% magenta, 90% yellow, and 0% black. In CMYK images, pure white is generated when all four components have values of 0%.

Use the CMYK mode when preparing an image to be printed using process colors. Converting an RGB image into CMYK creates a color separation. If you start with an RGB image, it’s best to edit first in RGB and then convert to CMYK at the end of your editing process. In RGB mode, you can use the Proof Setup commands to simulate the effects of a CMYK conversion without changing the actual image data. You can also use CMYK mode to work directly with CMYK images scanned or imported from high-end systems.

3.2.1 Settings Preferences and Contents

Preferences

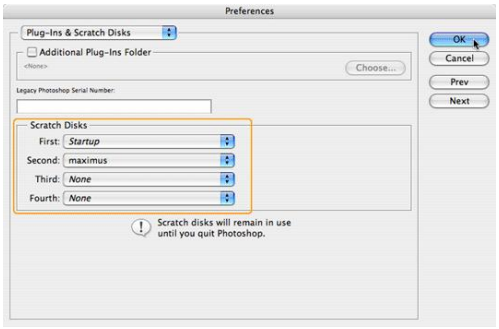
If you don't have much experience with Photoshop, chances are you won't need to modify its preferences. However, if you'd like to poke through the preferences to see what options you

can modify, simply choose Photoshop > Preferences > General (Mac) or Edit > Preferences > General (Windows). Alternately, you can press the keyboard shortcut Cmd+K (Mac) or Ctrl+K (Windows) to access Photoshop's preferences.
The preferences are broken up into nine sections: General, File Handling, Display & Cursors, Transparency & Gamut, Units and Rulers, Guides, Grid & Slices, Plug-Ins & Scratch Disks, Memory & Image Cache, and File Browser. Most of these options you don't need to worry about and their default settings are fine. In latter articles I will address some of these preferences in detail



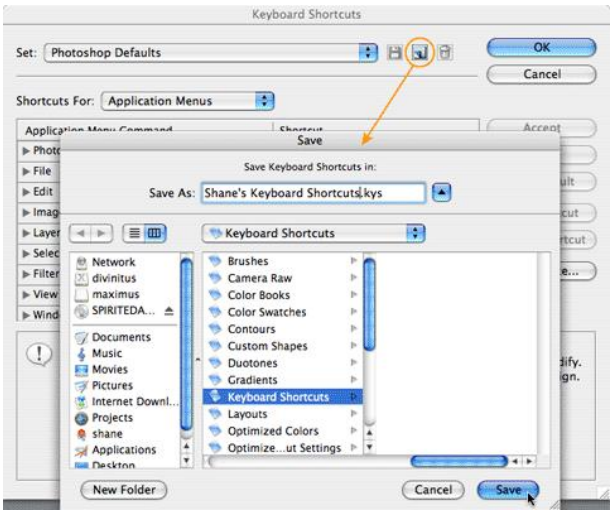
Scratch Disks

One preference setting that you should look at before you start getting heavily into Photoshop—especially if you have more then one hard drive installed in your computer—is the Scratch Disks preference. If you open the Preferences window, and navigate to the Plug-Ins & Scratch Disks section—by choosing it from the pull-down menu at the top of the window—you'll notice that there are some options available for specifying a scratch disk. When you open and work on images, Photoshop first uses your computers RAM to store information about the image you're currently working on. If Photoshop runs out of its available RAM, it uses your hard drive space to store this information. Which hard drive Photoshop writes this information to is called the Scratch Disk. In Photoshop's preferences, as you can see, you can specify up to four hard drives to use as scratch disk space. If you have multiple hard drives, you can select them from the Scratch Disks pull-down menus so Photoshop can make use of them as you're working on images. The general rule is that you should have approximately three to four times the amount of hard drive space than the file size of the image. So if you're working on an image that is 100 Megabytes (MB) in size, you should have at least 300 to 400 MB of free hard drive space on your scratch disk(s). Various factors can effect this "rule", such as how much RAM you have, how many changes you make to the image, and so forth, but it's always best to have as much free hard drive space as possible on your primary scratch disk when working on an image.



Keyboard Shortcuts

New to Photoshop CS, by choosing Edit > Keyboard Shortcuts, you can now modify the keyboard shortcuts of nearly any shortcut in Photoshop CS. To modify the keyboard shortcuts, you first have to create a new keyboard shortcut set by clicking on the New Keyboard Set button. After clicking on the new keyboard set button, you'll be prompted to save your keyboard shortcut set. Give it a name and save it in the Presets> Keyboard Shortcuts folder in your Adobe Photoshop CS folder.



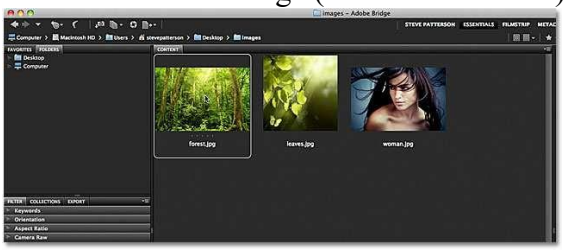
3.2.3 Opening images

It's very common in Photoshop to work with multiple images inside the same document, with each image on its own layer so we can blend and combine them in various ways to create interesting designs, collages or effects. It's easy to select and open multiple photos at once from inside Adobe Bridge, but normally, Photoshop opens each photo in its own separate document, forcing us to manually duplicate, copy or drag each image from its own document into the main document we're working on.

In Photoshop, Adobe introduced a great new time-saving feature to Bridge - the Load Files into Photoshop Layers command. If you know in advance that you're going to be working with multiple images inside your document and you know which specific images you'll need, Photoshop can now open and load all of your images into the same document and automatically place each image on its own layer! Here's how it works. You'll need Photoshop or higher to follow along

Select Your Images In Bridge

Begin by opening Adobe Bridge and navigate to the folder that contains the images you want to add to your document. Bridge open to a folder on Desktop with three photos inside of it. I'll select the first image (the one on the left) by clicking on its thumbnail

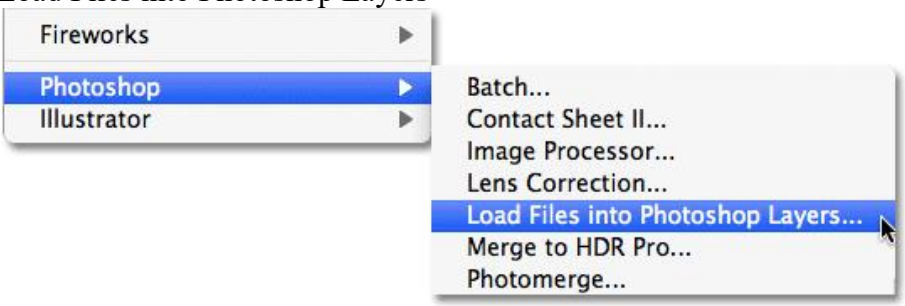


Then, to select the other two images as well, hold down Shift key and click on the last of the three images (the one on the right). All three images are now highlighted and selected



Select The "Load Files into Photoshop Layers" Command

With all of the images selected, go up to the Tools menu in the Menu Bar along the top of the screen in Bridge, choose Photoshop for a list of Photoshop-specific options, then choose Load Files into Photoshop Layers

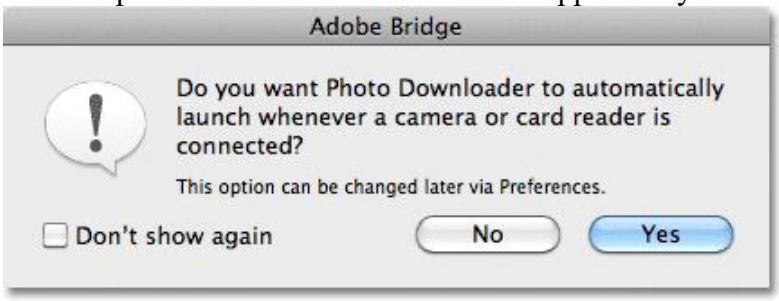


And that's all there is to it! Photoshop will open automatically if it's not open already and will add all three images (or as many images as you selected) into the same document. It may take a few moments for Photoshop to process everything, but when it's done, you'll see a single document open on your screen containing all of your photos



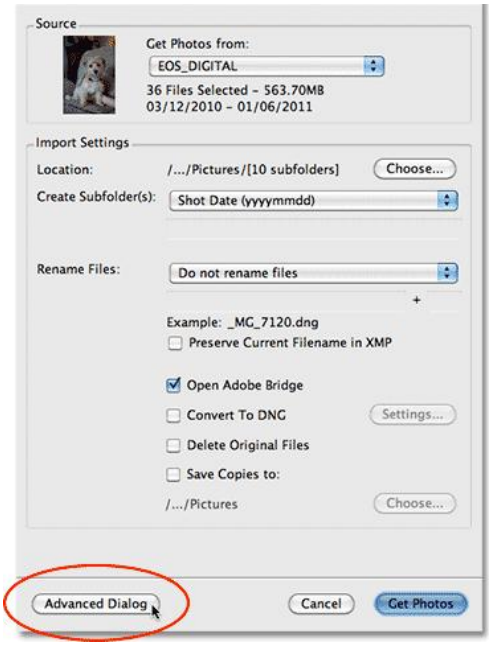
To open digital camera image

Bridge will ask if you want the Photo Downloader to open automatically from now on whenever it detects that a camera or memory card has been connected. Choosing Yes or No will select or deselect the same option in the Preferences. Again, you can go back to the Preferences at any time to change your mind. Click Yes or No to close out of the dialog box, at which point the Photo Downloader will appear on your screen



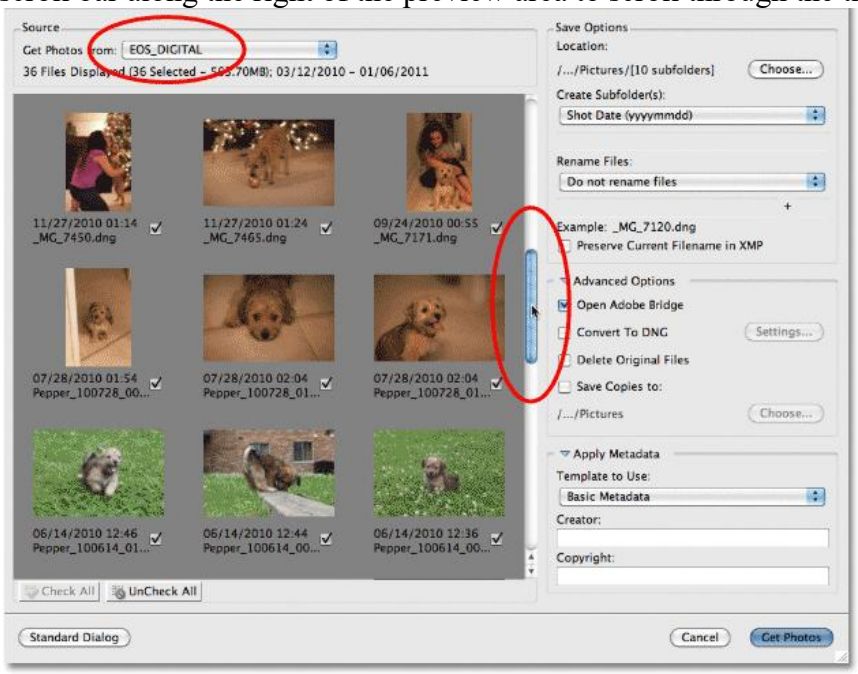
Select The Advanced Dialog Box

The Photo Downloader first appears in its Standard Dialog format with some basic options like choosing a folder on your computer to download the images into, renaming files if needed, and other options we'll look at in a moment. Problem is, there's no way to actually see the images you're about to download, so rather than being forced to blindly grab every single image off the camera or memory card whether you want them all or not, ignore all of the options in the Standard Dialog and click on the Advanced Dialog button in the bottom left corner



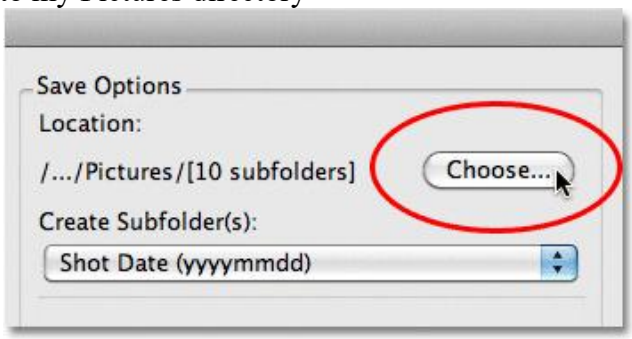
This switches the Photo Downloader to its much more useful Advanced Dialog format, which includes the same options from the Standard Dialog and adds a large preview area where we can see thumbnails of all the images we're about to download. It also gives us the ability to add author and copyright information to our images. If you're not seeing your images, select your camera or memory card from the Source option above the preview area, then use the scroll bar along the right of the preview area to scroll through the thumbnails

This switches the Photo Downloader to its much more useful Advanced Dialog format, which includes the same options from the Standard Dialog and adds a large preview area where we can see thumbnails of all the images we're about to download. It also gives us the ability to add author and copyright information to our images. If you're not seeing your images, select your camera or memory card from the Source option above the preview area, then use the scroll bar along the right of the preview area to scroll through the thumbnails

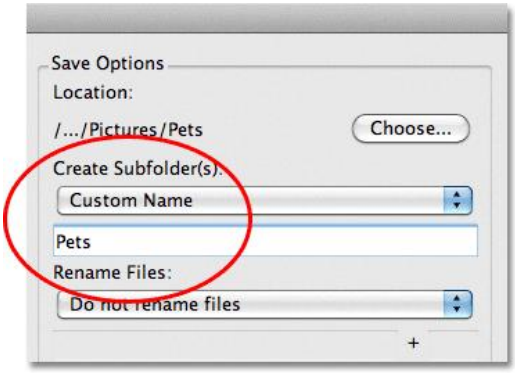


Choose A Location To Save The Files

With all of the images we want to download selected, the next task is to tell the Photo Downloader which folder we want to download the images into on our computer, and we do that using the Save Options in the top left corner of the dialog box. By default, it assumes we want to save them to our main Pictures folder. If you have a different location in mind, click on the Choose button, then navigate to the folder you want to save them to. I'll leave mine set to my Pictures directory

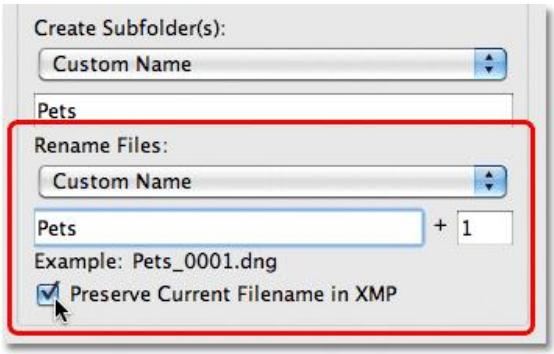


The Photo Downloader will automatically create a subfolder inside the save location you specified a moment ago and place your imported images inside the subfolder. This is a great way to help keep your images organized, but by default, it will give the subfolder a name based only on the date the photos were taken, which I don't find particularly useful since I have a hard enough time remembering what today's date is. If you want to name the subfolder something more descriptive, select Custom Name from the drop-down list directly below where it says "Create Subfolder(s)", then type in the name you want. I'll name my folder "Pets"



Rename The Files If Needed

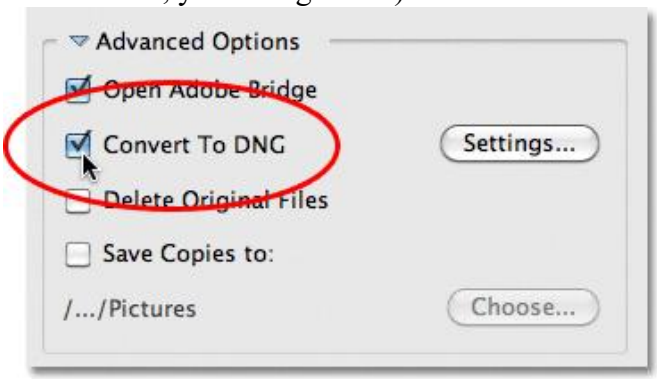
Another option the Photo Downloader gives us is to rename the images as they're being downloaded. By default, it won't rename them, but just as with the date the photos were taken, I don't find the names my camera gives them (like "_MG_2301") all that helpful. If you click on the Rename Files drop-down list (directly below the Create Subfolder(s) option), you'll bring up a list with lots of renaming choices. I'm going to again choose Custom Name, and I'll again type "Pets" into the name field below the drop-down box. Bridge will now rename the files as they're being imported based on my custom name plus a 4-digital extension ("Pets_0001", for example). You can enter a new starting number for the 4-digit extension into the input box directly across from the name field, or leave it at its default value of 1. Select the Preserve Current Filename in XMP option if you want to embed the original name in with the image file. You'll probably never need it, but at least it will be there if you do



Convert RAW Files To DNG

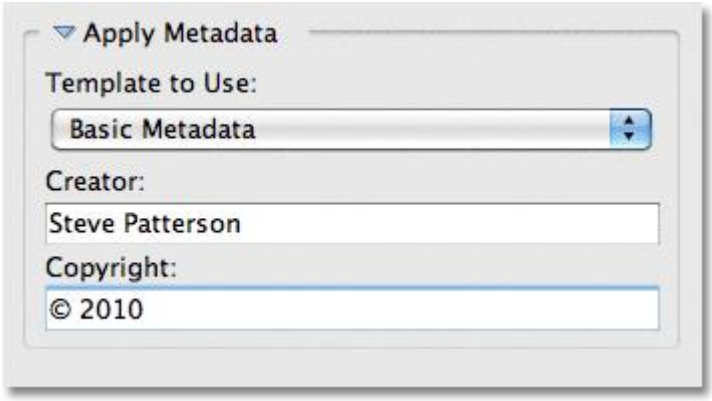
Below the Save Options are the Advanced Options. The first one, Open Adobe Bridge, is selected by default and will open the images for you in Bridge once they've finished downloading. If you uncheck this option, you'll need to manually navigate to the folder yourself to view the images, so there's really no point in unchecking it.

The option below it, Convert To DNG, is much more important. DNG stands for "digital negative", and if your images were saved by your camera in the raw format, it's a very good idea to select this option and convert your raw files into DNG files. This will help "future proof" your images, since there's no guarantee that your camera's specific type of raw format will always be compatible with future versions of Photoshop or with any other programs you may want to use them with. We won't get into technical details here, but DNG is a public, open standard format for raw files and if you want to keep the chances high that you'll be able to access your raw files down the road, select this option (if your images were saved as JPEG or TIFF files, you can ignore it)

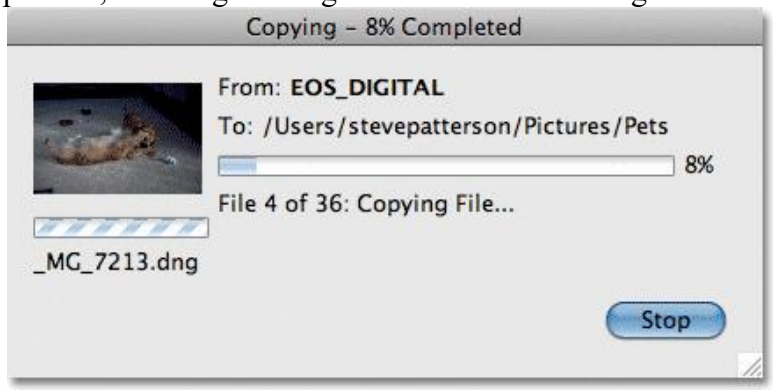


Add Author And Copyright Information

Finally, below the Advanced Options is the Apply Metadata section. Metadata, in this case anyway, means "information about your images". Enter your name into the Creator field and your copyright info into the Copyright field. If you've created your own custom metadata template (which we'll see how to do in another tutorial), you can select it from the Template to Use drop-down list, but we'll just stick with the basic information for now. To add the copyright symbol, on a PC, hold down your Alt key and type 0169 on the numeric keypad. On a Mac, hold down your Option key and press the letter G

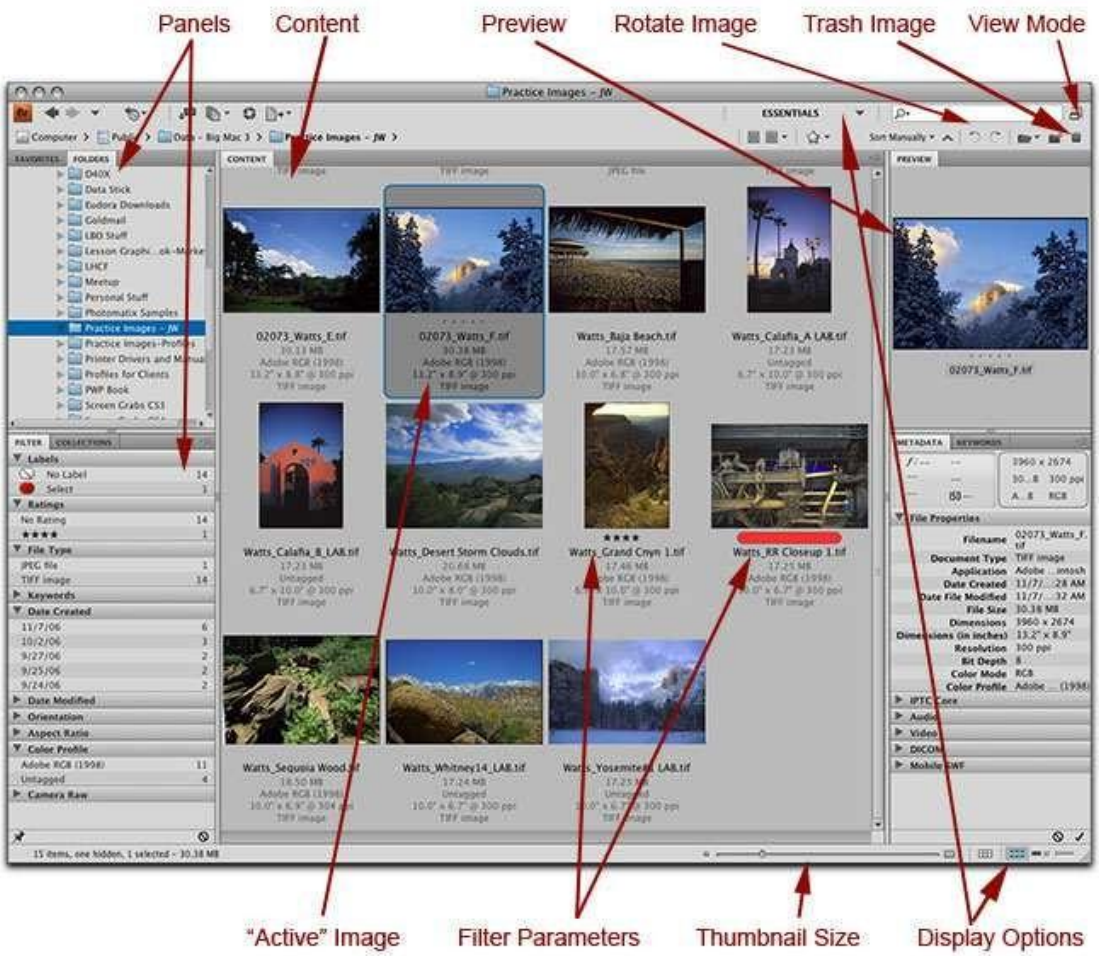


A small dialog box will appear showing the download progress. Click the Stop button if you need to cancel it before it finishes, or just sit back, relax and wait. If you're importing an entire day's worth of shots, all high resolution raw files, and converting them to DNG in the process, now might be a good time to take the dog outside



3.3 Bridge

Adobe Bridge is a stand-alone program that comes with Photoshop and other Adobe Creative Suite programs. It allows you to organize, browse, locate, and edit your image files. There is more flexibility in Bridge than I can cover here. If you desire to know more, use the Photoshop/Bridge Help section. In keeping with the spirit of K.I.S.S. (“Keep It Super Simple”), I am going to cover the most useful features for a photographer.



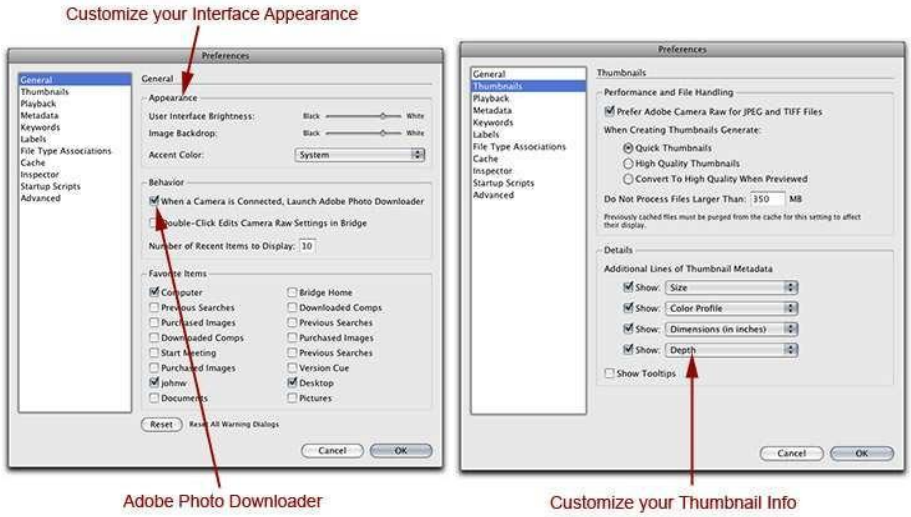
There are three ways to access Bridge:

1. You can access Bridge by clicking on the “Bridge” icon on the Menu Bar.

2. You can also go to “File” -> “Browse (or Browse in Bridge)…” in Photoshop, and Bridge will open.

3. A third option is to have Bridge open automatically when you open Photoshop. Just click “Automatically Launch Bridge” in the “General” or “Advanced” section of Photoshop “Preferences”.

To access:
Menu:“Photoshop” -> “Preferences…” on a Mac, “Edit” -> “Preferences…” on a PC.
Or Speed Keys: “Command + K” on a Mac, “Control + K” on a PC.



Bridge Preferences

To access (with Bridge open):

Menu:“Bridge” -> “Preferences…” on a Mac,
“Edit” -> “Preferences…” on a PC.

Or Speed Keys:“Command + K” on a Mac,
“Control + K” on a PC.

Under “General”:

Under “Appearance”, you can customize how your interface looks by choosing your background and accent colors.

You have the option of using Adobe’s Photo Downloader by checking the appropriate box.

Under “Thumbnails”:

You can choose up to 4 lines of information to appear under the image Thumbnails, such as Image Size, Color Profile, Dimensions, Bit Depth, Date Created, and more.

An Explanation of Some of the Features

1. Panels – Each Panel gives you different information. You can choose which Panels you want showing by going to the “Window” menu in Bridge. Those that are showing will have a checkmark beside them. In addition, you can save your Workspace the same way you did for Photoshop in this previous Apogee Article. The view shown in the above example is similar to the “Default” workspace.

2. Content Panel – Here you can view the content of your computer/folders. You can change the wayBridge sorts your images by going to the “View” menu -> “Sort”. I have mine sorted in “Ascending Order” by “Filename”.

3. Resize Workspace – By dragging these vertical dividers, you can change the size of your workspace. Simply click on the area shown and drag.

4. Preview – This shows a preview of your active image. By the way, if you choose more than one image to be active ("Shift" + mouse click), more than one preview will show up.

5. Rotate Image – This gives you the ability to rotate the active image(s).

6. Trash image – This gives you the ability to permanently trash the active image(s) as you are editing.

7. View Mode – Click on this to switch between "Compact Mode" and "Full Mode". This is a great way to move Bridge out of the way quickly.

8. Show / Hide Panels – Toggling this will leave only the "Content" Panel showing.

9. "Active" Image – The Active Image (or images) will be outlined in a different shade of gray than your Image Backdrop. In the example above, the Active image is darker than the inactive image.

10. Filter Parameters – As you are editing, this gives you a way to separate your good images from your great images. There are two parameters that you can use to identify and separate your images



Metadata Focus

Rate with Stars – You will notice 5 dots underneath your active image(s). By clicking on these, you can add or subtract "stars" to rate your images.

Rate with Colored Labels – By right-mouse clicking on the active image, you'll see lots of options: to change the color of your label, choose "Label".

By the way, by going to the "Label" menu in Bridge, you will see various speed keys to organize your editing quickly.

11. Thumbnail Size – By moving this slider, you can change the size of your previews in your Content Panel.

12. Display Options – This is one of the most useful features of Bridge.

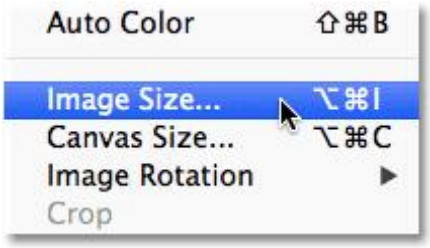
By clicking on the buttons at the bottom right, you can choose how you view, edit and preview your images. The example above is the “Default” view, while the examples to the right are the “Horizontal Filmstrip” and “Metadata Focus” views. You can customize these and choose other views, including your Default Workspace, by clicking and holding down the left mouse button until a menu pops up with the available options.
By the way, if you use the “Filmstrip” view. It is very handy to use the “Arrow” keys on your keyboard to move from one image to another.

Other Useful Features
Another neat feature is the “Slideshow”: Go to “View” -> Slideshow” in the Bridge menu, and your images will show up maximized on your screen, with no distractions.
And renaming your images as a batch is easy with the “Batch Rename” feature. Go to “Tools” -> “Batch Rename…” to explore this.

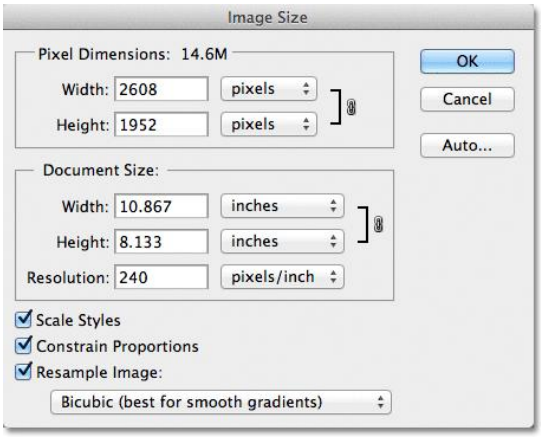
3.4 Image Resizing: Magnification And Reduction

Resizing an image is one of the most commonly used skills in all of Photoshop. It's so common, in fact, that even people who know virtually nothing about Photoshop still manage to use it to resize their images, which should give you an idea of how easy it is to do.

In this tutorial, we'll learn how to resize images, as well as a general rule to keep in mind so your resized photos remain crisp and sharp. using Photoshop here but the steps are the same with any recent version of the program
use the Image Size command which we can get to by going up to the Image menu in the Menu Bar along the top of the screen and choosing Image Size



This will bring up the Image Size dialog box, as shown below:



This screenshot of the Image Size dialog box was taken immediately after I opened the original photo, before I resized it to a smaller version for displaying on the page. If you look closely, you'll notice that the dialog box is divided into two main sections - Pixel Dimensions and Document Size - each showing different measurements. Since this tutorial is all about how to resize an image, we only need to concern ourselves with the top section, Pixel Dimensions, since it's the one that controls the actual, physical dimensions (in pixels) of the photo.

Let's look more closely, then, at the Pixel Dimensions section, which tells us two things about our image. First, if we look directly to the right of the words "Pixel Dimensions", we can see the current file size of the image. In my case, it's telling me that my photo is 14.6 M (the "M" stands for megabytes, or "millions of bytes")



Knowing the file size of the image can be useful if you want to compare the size of the original version with the resized version, but it doesn't help us actually resize our image. For that, we need the other bit of information that the Pixel Dimensions section is telling us - the current Width and Height of our image

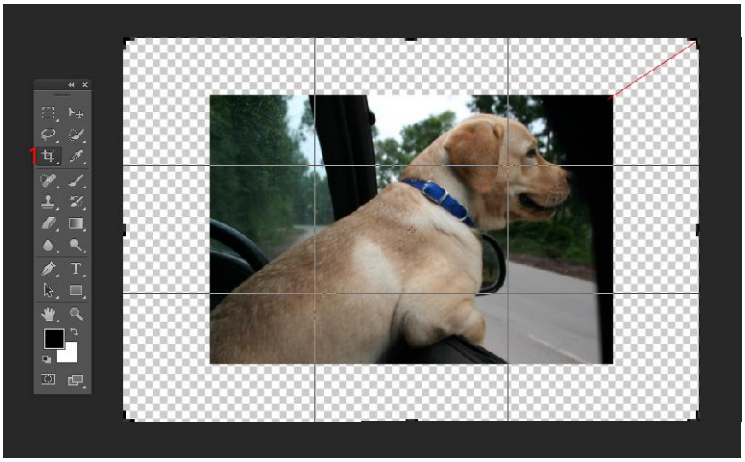
Normally, you wouldn't change the width of a photo without changing the height as well, otherwise things will look distorted. Photoshop lets us know that the width and height values of the image are currently linked together by displaying a linked icon to the right of the value



If you look near the bottom of the Image Size dialog box, you'll see the Constrain Proportions option which controls whether the width and height are linked. By default, the option is selected, but if you need to change the width and height separately, simply uncheck this option

3.4.2 Resizing The Canvas

Resizing the image canvas is probably one of the most frequent tasks you do in Photoshop. It’s fairly easy too, and works in all versions of Photoshop. Choose Image > Canvas Size (or press Alt+Ctrl+C) and enter the new values.



1. Choose the Crop tool. The Crop handles appear on the edges of the picture.

2. Drag the handles outwards to resize the canvas. (Press Alt/Option to resize from the center)

3. Press Enter (Windows) or Return (Mac OS) to commit the changes

crop an image using the Trim command

The Trim command crops an image by removing unwanted image data in different ways than the Crop command. You can crop an image by trimming surrounding tr nsparent pixels, or background pixels of the color you specify.

1. Choose Image > Trim.
2. In the Trim dialog box, select an option:
    - Transparent Pixels to trim away transparency at the edges of the image, leaving the smallest image containing nontransparent pixels.
    - Top Left Pixel Color to remove an area the color of the u ɼ per-left pixel from the image.
    - Bottom Right Pixel Color to remove an area the color of t l e lower right pixel from the image.
3. Select one or more areas of the image to trim away: Top, Bottom, I eft, or Right.

Change the canvas size

The canvas size is the full editable area of an image. The Canvas Size comman c lets you increase or decrease an image's canvas size. Increasing the canvas size adds space around an existing image. Decreasing an image's canvas size crops into the image. If you increase the canvas size of an image with a transparent background, the added canvas is transparent. If the image doesn't have a transparent background, there are several options for determining the color of the added canvas.

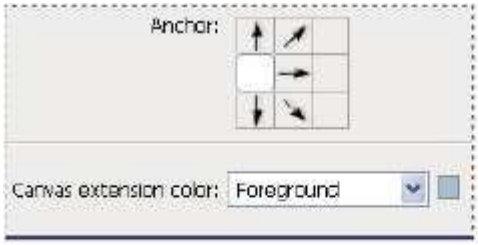
1. Choose Image > Canvas Size.
2. Do one of the following:

- Enter the dimensions for the canvas in the Width and Height boxes. Choose the units of measurement you want from the pop-up menus next to the Width and Height boxes.
- Select Relative, and enter the amount you want to add or subtract from the image's current canvas size. Enter a positive number to add to the canvas, and enter a negative number to subtract from the canvas.

3. For Anchor, click a square to indicate where to position the existing image on the new canvas.
4. Choose an option from the Canvas Extension Color menu:
    - Foreground to fill the new canvas with the current foreground color
    - Background to fill the new canvas with the current background color
    - White, Black, or Gray to fill the new canvas with that color
    - Other to select a new canvas color using the Color Picker

    Note:
    You can also click the white square to the right of the Canvas Extension Color menu to open the Color Picker.

    The Canvas Extension Color menu isn't available if an image doesn't contain a background layer.
5. Click OK.





Original canvas, and canvas added to right side of image using the foreground color

3.5 Scanning image into Photoshop

If you have Photoshop CS5 running in its normal 64-bit mode, and your scanner is available in the File > Import > … menu, then the scanner will continue to work in CS6. To be sure Photoshop CS5 is running in 64-bit mode, select the Photoshop CS5 application icon in the Finder, choose File > Get Info, and then make sure the checkbox labeled Open in 32-bit

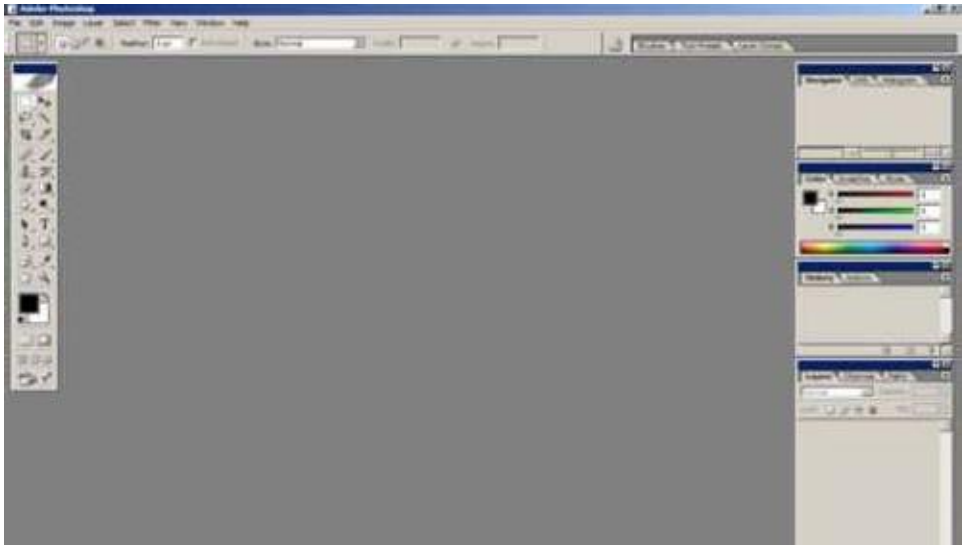
Mode is unchecked. Conversely, if you want to scan in 32-bit mode (or use any other plug-ins that are operative only in 32-bit mode) in Photoshop CS5, you would make sure the 32-bit Mode box is checked.

The bottom line is that TWAIN drivers are on their way out, and ImageKit drivers are now the standard.

3.5.2 Scanning into Photoshop

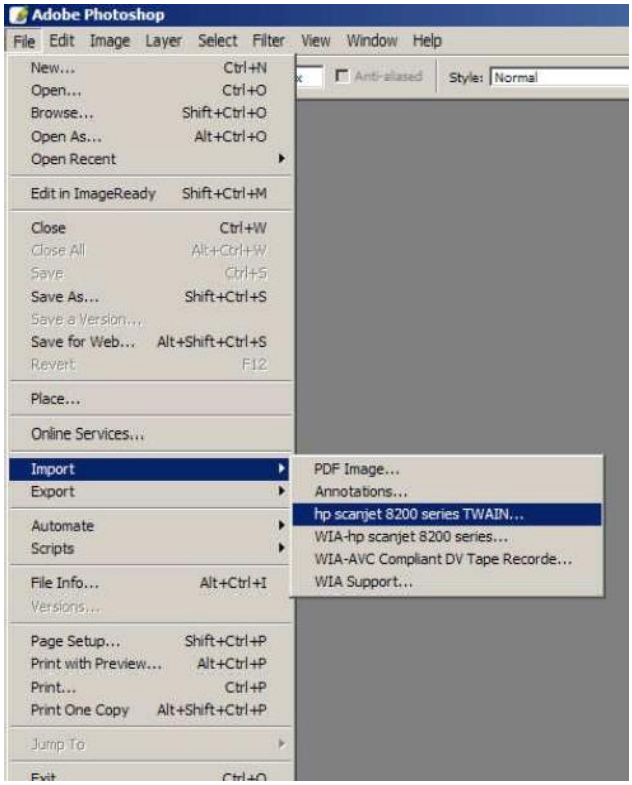
This guide is for how to scan in an image file. It is recommended for individuals scanning images for PowerPoint slides, online photo albums, websites, or anytime the image will be saved as an image file (.jpg).

1. Open Photoshop.

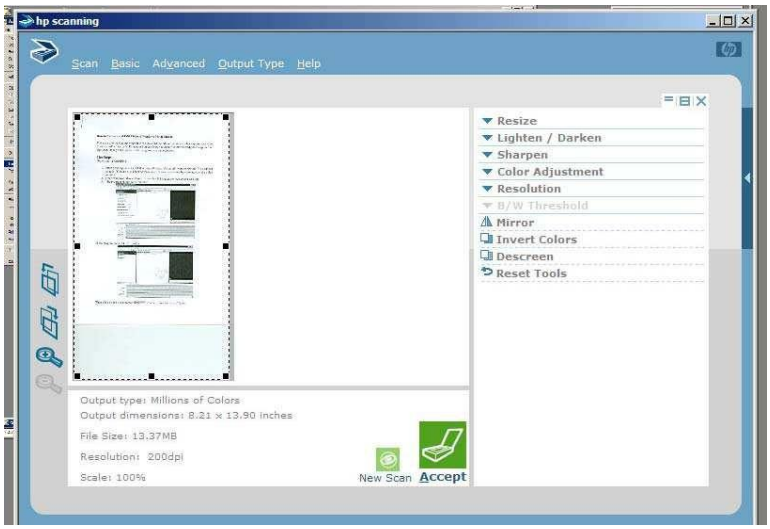


2. Place the image on the flatbed scanner. You can flip it and crop it later if it's not fitting right on the scanner.

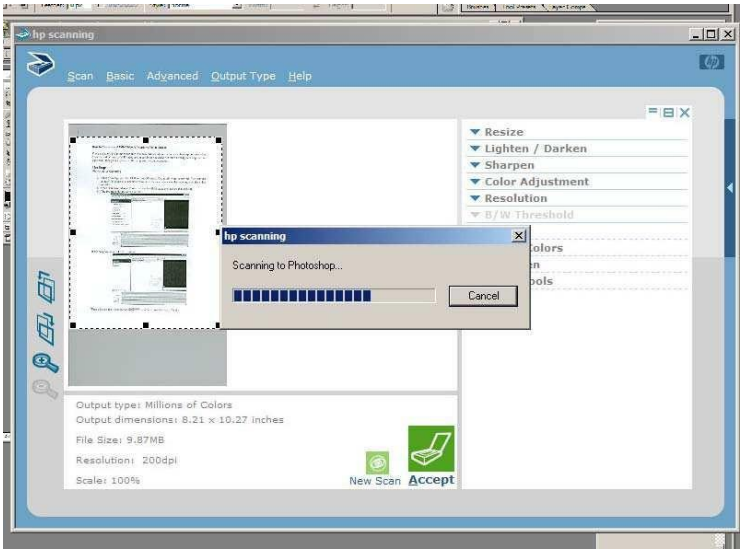
3. Click on File Æ Import, and choose hpscanjet 8200 series TWAIN. The other scanners listed will not give you as many options as the hpscanjet TWAIN does for editing your image before you scan. This one is recommended.



4. The scanner will do a preliminary scan of the image and let you preview it. Do not remove the image from the scanner. You can use the options on the left side to flip the image until it is right-side up. You can also click on the corners of the image where you see little black boxes and drag the edges of the image inward in order to crop out the excess areas. There are more editing options on the right side of the box.

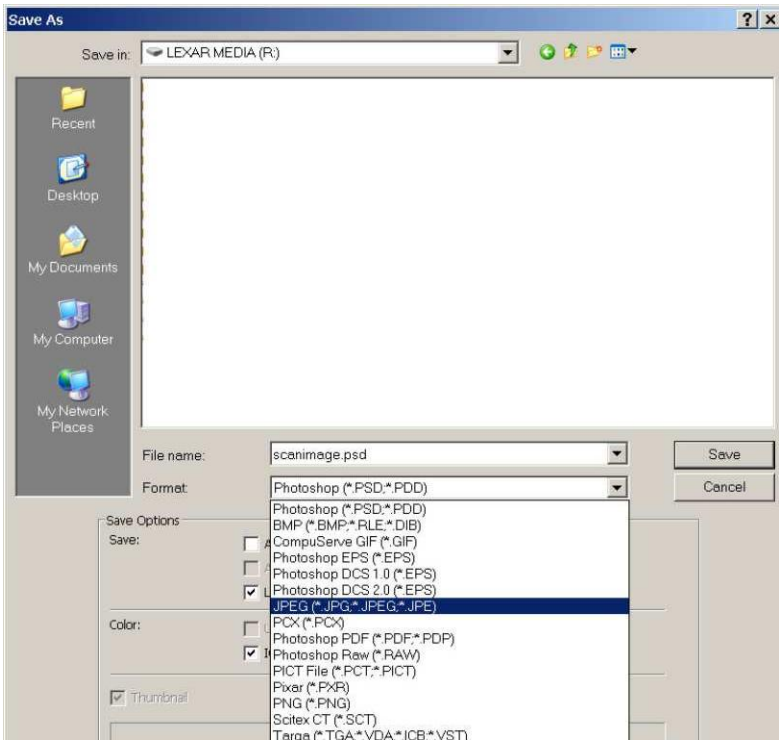


5. Click on Accept to scan. The scanner will scan the image again, flipping and cropping it to your specifications.



6. If the image is still not correct, you can do some editing with Photoshop (see below).

7. When you've got a finished image, go to File Save As... to save your image. You can save it to the F ("Save Here") drive on the DLL machines, or your own storage device. Make sure you change the image type from .psd (Photoshop document) to .jpg (JPEG) in the pull-down menu. .psd files can only be viewed in Photoshop, but .jpg can be viewed anywhere.



3.6 Importing images

You import Photoshop files into Final Cut Pro X the same way you import any media: Select an event in the event library (or create a new one), and then choose File > Import > Media or press Command-I. In the Media Import window that appears, navigate to the file(s) or folder(s) to import, select them, and click Import Selected. To keep your media organized, you may want to check the Copy Files to Final Cut Events folder checkbox. If you are importing folders that have useful names, check the Import folders as Keyword Collections checkbox to make locating your files in Final Cut Pro easier.

I prefer to set the event browser to filmstrip view (View > Event Browser > as Filmstrips) with the duration slider all the way to the right so that I can see individual thumbnails of the imported files. Photoshop file thumbnails appear with an aspect ratio matching that of the original file, so some may appear tall while others look square or wide. If the Photoshop file contains more than one layer, a small badge appears at the top-left corner of the thumbnail, identifying the file as a Layered Graphic clip type. (Tip: You can create a smart collection based on this clip type that shows all layered graphics in your event.)



Photoshop file icons appear in the event browser with their native aspect ratios. If a file has more than one layer, it displays a Layered Graphic badge in the top-left corner.

Changing the printing resolution

One of the things that can be the hardest to get your head around when you start down the digital path is resolution. This confusion is compounded by the fact that there are two different kinds of resolution in the digital world. One is dots per inch, and the other is pixels per inch.

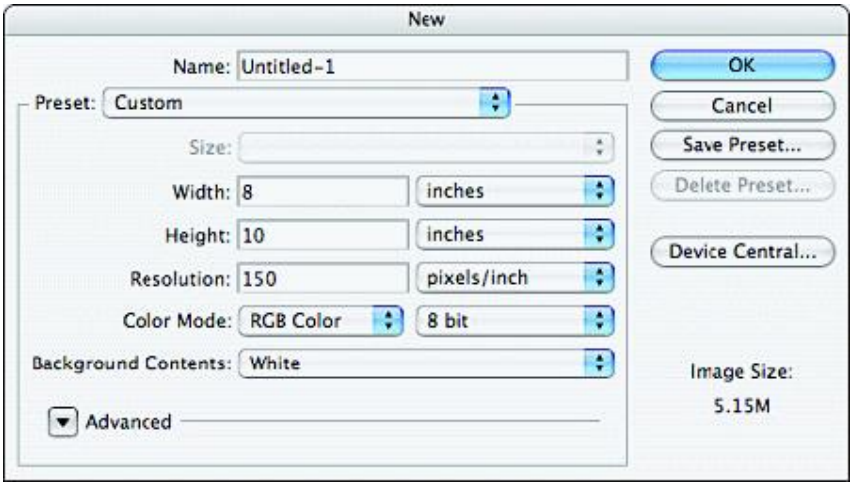
Dots per inch (dpi). This refers to the number of dots per inch that an inkjet printer is capable of applying to a sheet of paper. It can range from 720 to 2800 and more. The closer these dots are to each other, the more they blend together forming continuous tones on the print. Naturally, this depends on the paper that's being printed on. If the paper is porous watercolor paper, the dots soak in and blend just fine at lower dpi settings like 720. On glossy photo papers, a higher setting—such as 1440—is needed because the ink dries on the surface. About the only time people discuss dpi is when they are talking about a printer.

Pixels per inch (ppi). This is what is usually discussed when talking about resolution in digital photography. It refers to the distance between the pixels that make up digital images. Pixels per inch is an important setting because it determines what digital images look like when they're displayed and printed. Sometimes a lower value is desirable, and other times a higher value is preferred.

Choose File > New to create a new file. The New dialog box appears.

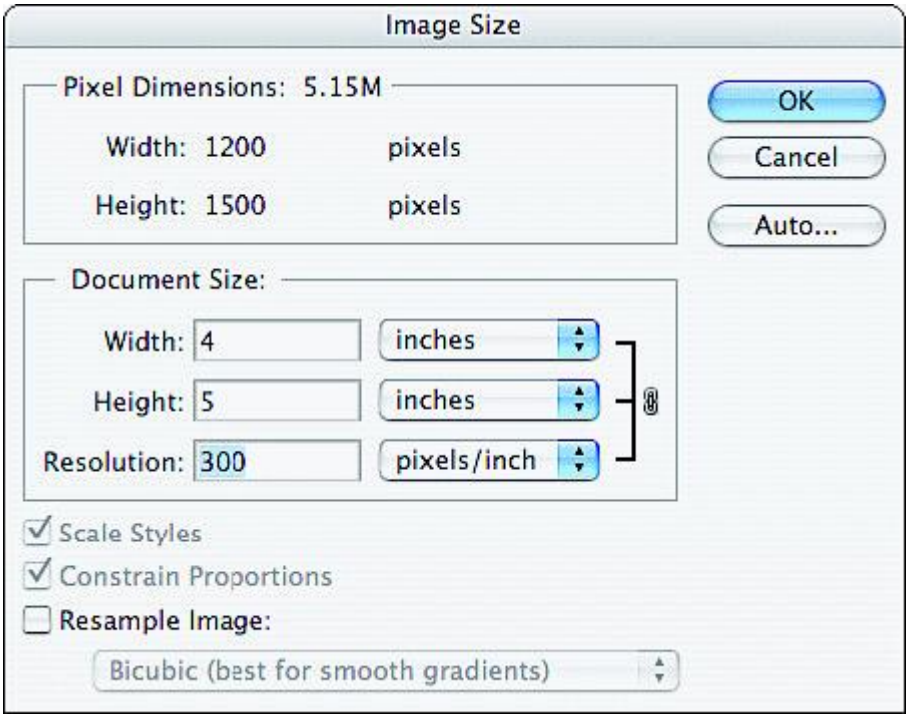
Set the following attributes, as shown below, and then click OK to open the new file:

Width = 8 inches
Height = 10 inches
Resolution = 150
Color Mode = RGB Color, 8-bit



- **Choose Image > Image Size (Alt+Command+I/ Alt+Ctrl+I).** The Image Size dialog box appears. Notice that the starting dimensions are the same as what you specified with the New File command.
- **Deselect the Resample Image option.** Notice that the Pixel Dimensions area at the top of the Image Size window goes gray when Resample Image is turned off. That means that the number of pixels being used in your image is fixed at 1200 × 1500 pixels.

- **Deselect the Resample Image option.** Notice that the Pixel Dimensions area at the top of the Image Size window goes gray when Resample Image is turned off. That means that the number of pixels being used in your image is fi xed at 1200 × 1500 pixels.
- **Change the resolution setting to 300.** Leave the measurement at pixels/inch. Notice that the size of the image goes from 8" × 10" to 4" × 5", as shown below. That's because you're only changing the distance between pixels as you modify the resolution of the file. You have fixed overall pixel dimensions of 1200 × 1500. When you set your resolution to 300 ppi, the math dictates that the image is 4" × 5" (4" × 300 ppi = 1200 pixels, and 5" × 300 ppi = 1500 pixels). When the resolution is set to 150 ppi, the image must be 8" × 10" in size (8" × 150 ppi = 1200 pixels, and 10" × 150 ppi = 1500 pixels).



Resampling the Image Size

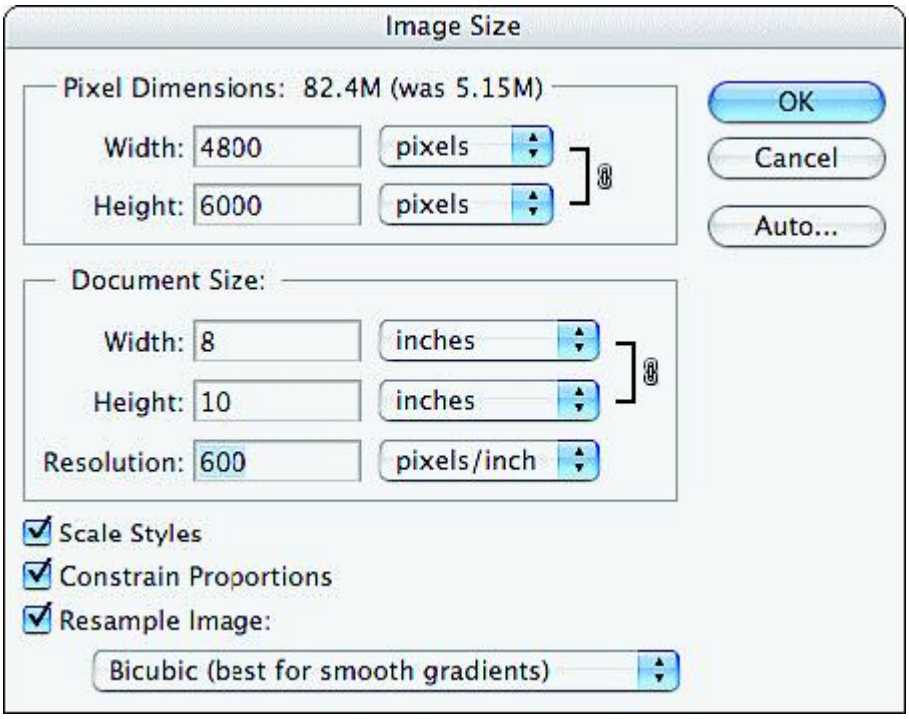
In the previous example, you were asked to turn off Resample Image because Resample Image has a special function that affects the math involved in resizing an image. When you turned off Resample Image, the Pixel Dimensions remain fixed when you changed the resolution value. Take a look at what happens when Resample is turned on:

1. Begin with the file you created in the previous set of steps, and return to its original state using the History panel. If you closed it, then go back and complete Steps 1 and 2.

Tip: If you still have the Image Size window open from the preceding example, you can reset it to the settings it had when you opened it by holding down Alt and clicking Reset—where the Cancel button used to be. This works with almost every dialog box where you see a Cancel button.

2. Choose Image > Image Size (Alt+Command+I/ Alt+Ctrl+I). The Image Size dialog box appears.
3. Leave the Resample Image option selected or select it if it isn't already checked.

4. Change the Resolution to 300. Leave the dimensions at pixels/inch. Notice that the Image Size remains at 8" × 10". What changed was the Pixel Dimensions at the top of the window. They went from 1200 × 1500 to 2400 × 3000.
5. Change the Resolution to 600. Now the Pixel Dimensions changes to 4800 × 6000, but the Document Size remains fixed, as shown below.



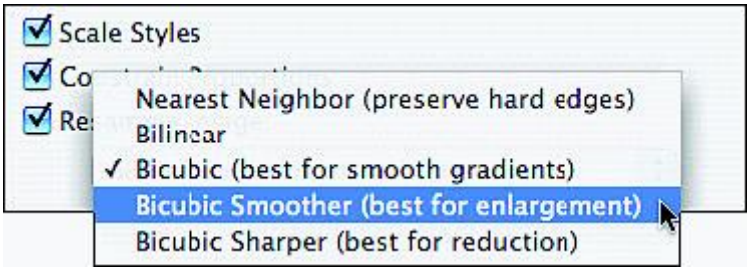
Something to notice when comparing the two previous illustrations is the little chain icon that appears to the right of the Document Size settings. This icon indicates that these values are linked. When one value is changed, the other linked value is affected. In the first illustration, where Resample is off, the Width, Height, and Resolution settings are all linked. In the second, where Resample is on, only the Width and Height values are linked. Resolution is not be affected by changes to these values. This is a great way to remember which Resample setting to choose.

Relationship Among Inches, Resolution, Pixels, and File Size

Size in Inches	*Resolution*	*Pixel Dimensions*	*File Size*
8 × 10	150	1200 × 1500	5.15M
4 × 5	300	1200 × 1500	5.15M
8 × 10	300	2400 × 3000	20.6M
8 × 10	600	4800 × 6000	82.4M

Using the Correct Image Interpolation Method

There's one more wrinkle to throw at you before moving on. In the previous examples, you probably noticed a pop-up menu next to Resample Image in the Image Size dialog box, as shown below.



This box allows you to change the image interpolation that's used when you resample an image. Different interpolation settings affect the way new pixels are assigned color based on the pixels that surround them. There are five options in this menu:

- **Nearest Neighbor.** Fast, but not very precise; best for illustrations with edges that are not anti-aliased rather than photos. It preserves hard edges.
- **Bilinear.** Medium quality results with most types of images.
- **Bicubic.** Slower but more precise; produces smoother graduations than the two previous methods.
- **Bicubic Smoother.** Based on Bicubic Interpolation, but designed for enlarging images.
- **Bicubic Sharper.** Based on Bicubic Interpolation, but designed for reducing image size because it maintains the detail of the original image.

Changing Size and Resolution Together

Sometimes it's necessary to change the document size and resolution at the same time. For example, suppose you have a file that's sized to 8" × 10" at 250 ppi, and you need to change it to a 4" × 5" at 300ppi. Making this change with the Image Size command requires two steps. You can carry out both in one use of the Image Size command:

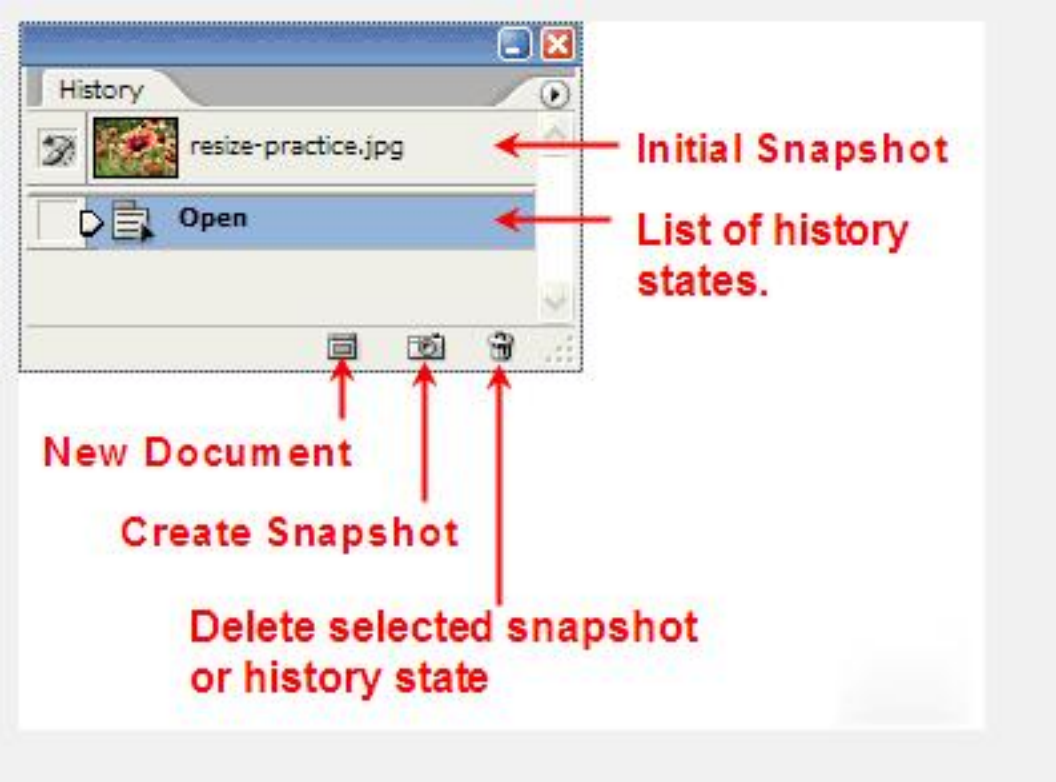
1. **Choose File > New to open the New dialog box; make the file measure 8" × 10" at 250 ppi.**
2. **Choose Image > Image Size (Alt+Ctrl+I).** The Image Size dialog box appears.
3. **Deselect the Resample Image option, and change the resolution to 300.** Notice that the Document Size changes to 6.67" × 8.33" because you're moving the pixels closer together.
4. **Select Resample with the Bicubic Sharper option from the Resample Image menu, and change the Document Size Width to 4 inches.**
5. **Click OK.** Now you have a file that is 4" 4 × 5" at 300 ppi.

3.7 History Palette

The History palette in Photoshop is the command center for keeping track of changes to your images, undoing editing steps, and correcting mistakes. Not only can the history palette undo

and redo changes to your images, it can save snapshots of your work in progress so you can go back to an earlier state or compare multiple revisions of an image.

Open any image and look at the history palette now. At the top of the palette is a small thumbnail icon and the file name of your image. Whenever you open an image, Photoshop creates an initial "snapshot" of the image and lists it here in the history palette. A quick way to revert your image is to click this initial snapshot.



s most of other editing software, Photoshop also uses the command CTRL Z to undo the last operation done. However you only have ONE time undo, using CRTL Z. The good news in Photoshop to help you correct mistakes is the History palette.

The History palette lets you jump to any recent state of the image created during the current working session. Each time you apply a change to an image, the new state of that image is added to the palette.

To revert to a previous state of the image click the name of the state on the History palette

Here are some guidelines to help you use the History palette:

1. Changes done to Photoshop's display interface, like preferences and palette settings are not recorded in the History palette. Only changes applied to your document will be collected in the palette.

2. By default the History palette records the previous 20 states, older states are automatically deleted in order to free memory for photoshop.

3. Once you close and re-open a document, all states and snapshots of the last session are cleared from the session

4. States are added from the top down.

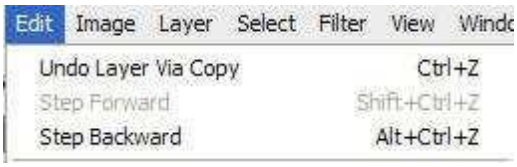
5. Each state is listed with the name of the tool or command used to edit the image.

To reverse all changes made to the image since it was last saved:

Choose File > Revert, and click Revert.

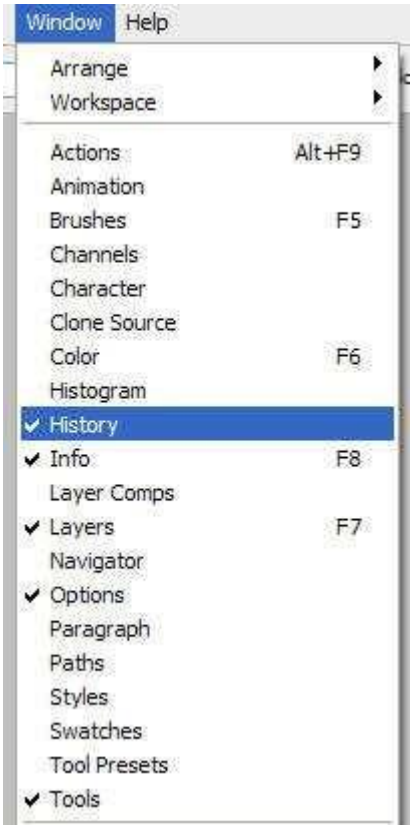
3.8 Taking Snapshot

f you are going back one step, this is fine, though I still prefer the methods I will show you in a moment. If you want to quickly undo your last step, instead of going under EDIT – and UNDO or STEP BACKWARDS, try using the keyboard shortcuts, "Ctrl+Z" and "ALT+CTRL+Z" (or on a Mac – "Command+Z" or "Command+Option+Z"



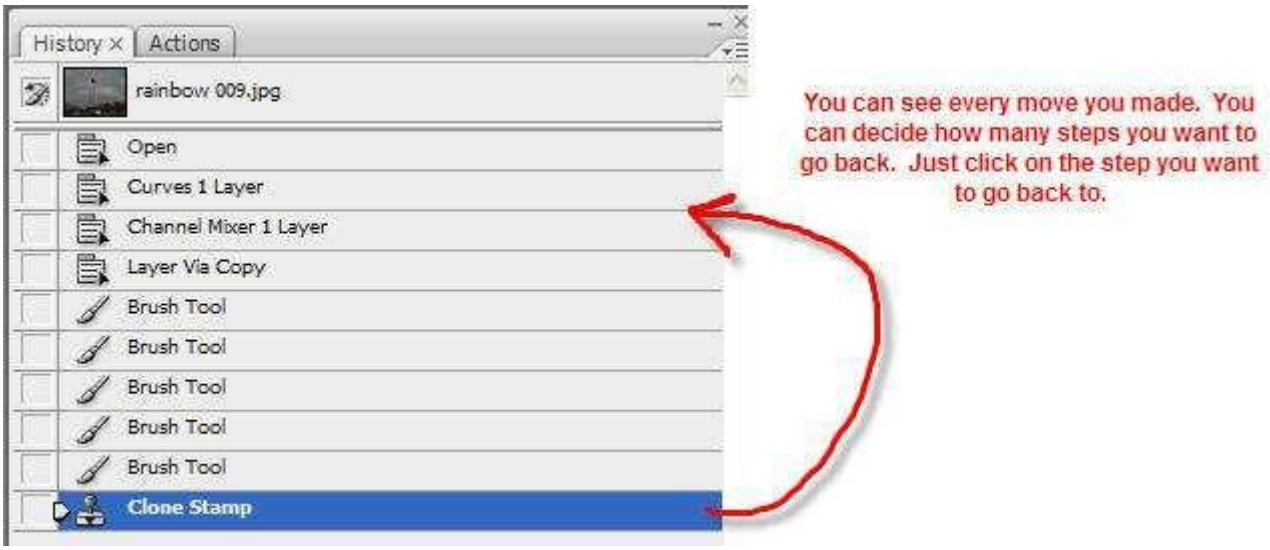
Now for the more effective way of going backward – "The HISTORY PALETTE."

To pull up your HISTORY PALETTE, go under WINDOW – and CHECK OFF HISTORY.

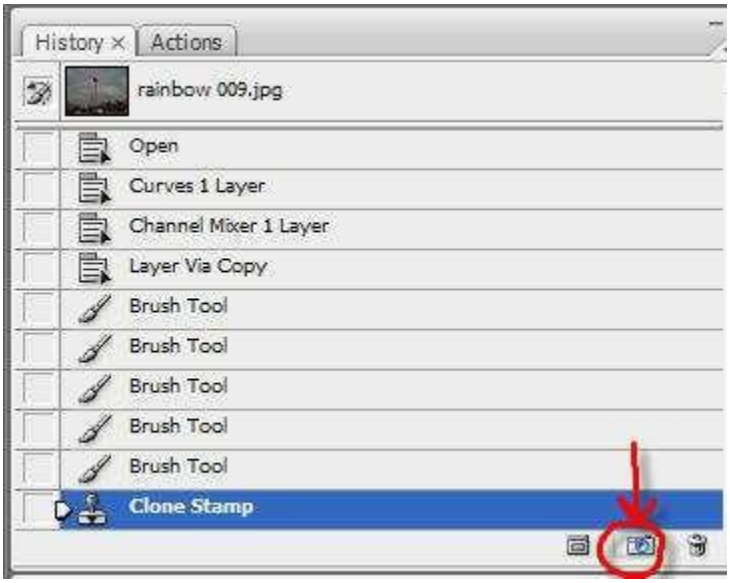


Once you do this, you will have a history palette as shown here.

You literally click on the step you want to go back to. By default, you get 20 history states. You can add more by changing your preferences before editing but the more states, the more memory. I keep mine at the default. You can see your original at the top – and you can click on that to start your editing from scratch. But what if 20 is not enough, or what if you want to try a few different things with your photo, such as a color pop action and a black and white version? That is where Snapshots come in handy.



Making a Snapshot is easy. You just click on the camera icon at the bottom of the palette. This takes a "snapshot" of your photo exactly where you are in your editing process.



You can rename each snapshot or just use the default “snapshot1″ then “2” and so on.



Here is an example of a typical time I would use a snapshot.

Using my Quickie Collection Actions to edit a photo. I run “Crackle” then “Under Exposure Fixer.” I like this base editing, but now I want to try a few color actions: “Color Sensation” and “Night Color” to see which I like best. So I make a snapshot after using “Crackle” and “Under Exposure Fixer.” I usually rename it so I know what I did to that point. Then I can run one of those other actions. Make a new snapshot and name it with the action name. Then go back to the first snapshot. Run the second color action and make a snapshot. Then I can click the different snapshots to compare and see which I prefer. This works great anytime you have multiple directions you want to take a photo, after doing some base work that you would want to retain no matter what you do for the rest of the conversion.

3.9 Summary

- Vector images are resolution-independent and get their details from the shapes and lines that are mathematically calculated.

- Bit depth of an image determines how many different colours the image can contain.

- Column size section under the Units and Ruler Preference dialog box is used to set the width of the columns, along with the gutter size.

- Bridge's Photo Downloader automatically finds the camera's images and allows you to choose a location on your computer to copy the images to and create a new subfolder to put them in.

- The Move Tool can be used to drag and drop an image from one Photoshop document into another or copy and paste an image from one Photoshop document into another.

- to straighten an image using the Ruler tool, drag the Ruler tool along its edge, choose Image Image Rotation Arbitrary.

- A data source maneger transfers data between the scanner and the Photoshop.

- Photo Downloader opens in the standerd mode by default and offers limited options for downloading.

- The Scale value in the Print dialog box value has no effect on the size and resolution of an image imported into an object-oriented application.

- Mac computers don't need file type identification resides in the resource fork.

- The History Palette in Photoshop is the command centre for keeping track of the changes made to your images, undoing editing steps and correcting mistakes.

3.10 Key Terms

- **Snapshots :** The duplicates of an image captured by Photoshop at particular points in time.

- **Vector Images :** Images that are not dependent on their resolution.

- **TWAIN :** The standard software used to connect image applications and images acquiring devices like scanners.

LONG-ANSWER QUESTIONS

1. Explain the various steps involved in creating new images in Photoshop.
2. Discuss the important points to be kept in mind while magnifying or reducing an image in Photoshop.
3. Discuss different types of interpolation methods in Photoshop. State their pros and cons.

UNIT 4

CREATING AND USING SELECTIONS

4.1 Selections and Channels

One of the primary features you use when editing and manipulating images are Selections. Selections are areas of an image you choose to isolate from the rest of the image to make modifications to or to copy and paste into other images or even the same image again. For instance, you might want to re-color someone's eyes. To do so, you would use one of Photoshop's numerous Selection Tools and methods to isolate the area around the pupils on both eyes and make color adjustments accordingly. If you do not create a Selection then the entire image is affected by your color adjustments.

Photoshop does not save selections automatically. For instance, having used the Selection Tools top isolate or select the color around the pupils of the eyes, and having made appropriate color adjustments, your client requests yet another change to the color. When you import or load your image into Photoshop again, you have to re-select the color around the pupils unless you tell Photoshop to save the Selection you have created. Photoshop saves Selections in Channels. Channels are part of the Layers Palette group. Be patient. We will get into Channels and how they operate further on in this chapter.

4.1.1 Marquee Tool

The Marquee Tool is used to create regular shaped selection. A Marquee represents the shape of your selection; a line of cycling black and white squares in constant motion. The Marquee is also known as a selection path. Available shapes include a Rectangular Marquee for square and rectangular Selections, Elliptical Marquee for circular and oval Selections and Single Row and Single Column marquee to select single rows or columns of pixels. To access the supplementary Marquee Tools you simply { Click } and hold your mouse button on the Rectangular Marquee Button in the Toolbox. A Fly-Out Menu appears giving you access to the rest of the tools.

To constrain the shape of the rectangular, elliptical or crop Tools hold the [SHIFT] key as you {Click} and drag to create your Selection. Perfectly square and circular selections result.

4.1.2 Crop Tool

Use the Crop Tool to cut all non-selected content from your image. This tool is very useful for tweaking the composition of a photograph as it allows you to remove extraneous material quickly and easily. The Crop Tool is limited to rectangular shapes.

Open the Photoshop file goldseal from the chapter004 folder in photoshopp6xfiles. Selected the Rectangular Marquee. {Click} and drag a rectangular Selection over the circular emblem in the center of the image. Use the Airbrush Tool to paint over the image. You'll notice that painting only occurs within the Selection area because the selection designates that this area, and only this area, is subject to modifications.

Use the History Palette to remove the modifications you've just done. Try out the other Shapes in the Marquee Tool.

When you get to the Crop Tool, you'll notice boxes located at the corners of the Marquee as well as in the center of each side. You can {Click} and drag of the Marquee as well as in the center of each side. You can {Click} and drag these to resize the selection path or marquee. Press [ENTER] on your keyboard to crop the image. What happens? The image data outside of the Crop Tool's selection is erased and the image scales to the data within the selection. Notice that all material outside of the crop marquee has been grayed out so as to give you a better idea of how your content will look once it has been cropped. You can use the History Palette to restore the image back to its original state.

4.2 Multiple Selections

You may want to isolate more than one area of the image for modifications. To do so simply create your initial selection and hold the [SHIFT] key down as you create other selections. {Shift-Clicking} within a selection, adds to the selection.

4.3 Modifying Selections

You will have noticed that modifying or resizing the Crop Tool's selection path is easy. You simply {Click} and drag the square handles accordingly. To do the same top a regular selection select Select/Transform Selection. {Click} and drag to resize the Selection as you wish. Press [ENTER] to affect the changes. Press [ESC] to cancel the modifications.

4.4 The Info Palette

{Click} the Info Tab in the Navigator Palette group.

Pass or roll the mouse pointer over the image. Notice that the Info Palette immediately returns information to you move your mouse around. As your mouse passes over part of the image data the

Info Palette gives you RGB and CMYK (a color mode for Print) information, as well as the location of the pointer within the image, expressed in terms of X and Y coordinates in pixels (if you selected "pixels" as your base unit of measurement in File/Preferences/Units & Rulers). You'll notice a Width(W) and Height(H) indicator in the bottom right corner of the Info Palette. This returns the dimensions of your selections. Make a Rectangular selection anywhere within the goldseal image. You'll notice the Info Palette returns the width and height values of the Selection in pixels. You can use the Info Palette when creating selections for precise measurements and accuracy.

4.5 Moving Selections

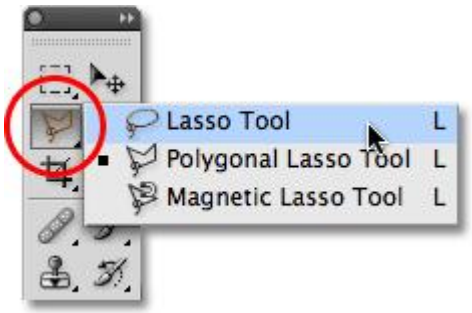
To move a Selection around the image simply {Click}within the Selection you have created and drag.

In addition to using the Move Tool to move the Toolbox, Palettes and Images around the Photoshop workspace, you can also use the Move Tool to move selections. Any image data within the Selection area moves with the selection.

To move only the Selection Marquee, not the image data within it, make sure you have any one of the Selection Tools selected in the Toolbox and {Click} inside a Selection area, hold, and drag the Selection.

4.5.1 The Lasso Tools

{Click} and hold down on the current Lasso Tool in the Toolbox to view the fly-out menu.



4.5.2 Lasso Tool

The Lasso Tool is used create irregularly shaped Selections. The Lasso Tool includes the Lasso for freehand Selections, similar to drawing with the mouse as you would with a pencil on paper. {Click}, hold and drag to create your Selection, {Release} the mouse button to close the Selection.

4.5.3 Polygon Lasso Tool

The Polygon Lasso Tool is used to make Selections by drawing a series of straight lines to make a polygonal shape. {Click} within the image to start or begin creating your Selection. As you drag the mouse (having released the button) a line extends from your start point. To begin another line {Click} again and continue until you have created the desired Selection shape. To close a Polygonal

Selection either {Click} the start point again or {Double-Click} to make Photoshop draw the final line to the start point for you.

4.5.4 Magnetic Lasso Tool

The Magnetic Lasso Tool works similarly to the Polygonal Lasso Tool in that you {Click} within the image to start or begin creating your Selection and drag the mouse (having released the button) to create the Selection path. However, whereas with the other Selection tools you determined the path or shape of your Selection, the Magnetic Lasso attempts to create the path itself. You act as a guide by directing the Lasso around or close to the area you desire to select.

Open the file fudog from the chapter004 folder. Select the Magnetic Lasso Tool and {Click} on one side of the statue. Begin to guide the mouse pointer along the side of the statue. You'll notice that the path automatically snaps to the edge of the statue. The Magnetic Lasso uses color contrast to decide where to create the Selection path or shape. To increase the Magnetic Lasso's accuracy {Click} frequently as you guide the Lasso. Click points, represented by small boxes, become visible along the selection path. To close the Selection path {Click} again at the start point or {Double- Click} to make Photoshop close the Selection for you. Presently, just select the head of the dog statue. Use the Move Tool to move your Selection to the left of the statue. Select Select/Deselect to remove the Marquee or Selection path that surrounds your Selection. You'll see that an accurate copy of the top of the statue has been made. Notice that the current Background Color fills the Selection area when you move it. To increase accuracy you could use the Magnification Tools or you can modify the behavior and sensitivity of the Magnetic Lasso by modifying the parameters in the Options Bar.

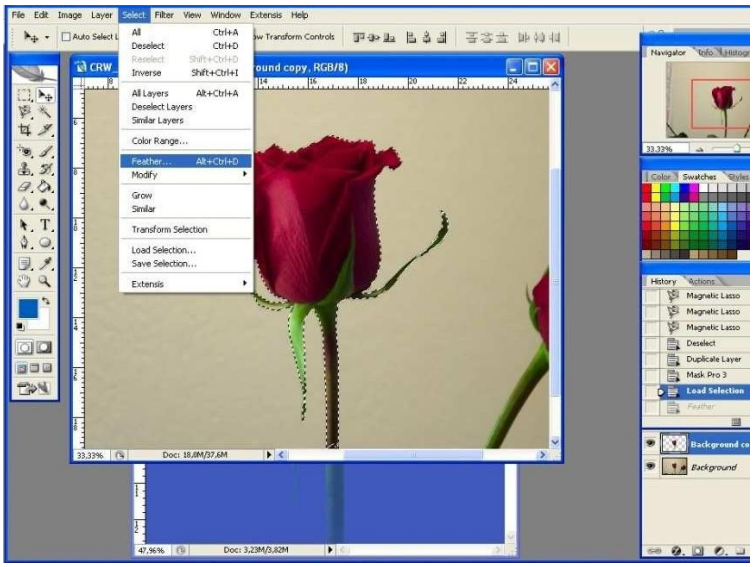
Having used the Magnetic Lasso Tool to isolate the top of the statue, use the Move Tool to move the Selection to another area of the image.

4.6 Selection Tool Options

As you know, the Options Bar displays a number of different options depending on the Tool you are currently using. All of the Selection Tools have a set of options, but some differ from other. The Magnetic Lasso has the most.

4.6.1 Feather

Feathering your Selection creates a gradual softening effect, from solid color to transparency, similar to how the feathers on a bird's wing gradually become transparent at the tips. To examine the effects of feathering select the Elliptical Marquee Tool. Before making a Selection of the top half of the statue, enter a value of 20 in the Feather field. Make sure Anti-alias ed is checked. Recall that Anti-aliasing softens the transition from the edge of an image or Selection to the color the edge is placed against. Leave Style as default, Normal. Select the top half of the statue. Select the Move Tool and move your Selection toward the bottom of the image. You'll notice the area you've moved the image data from fills with the current background color. You'll also notice how the background color gradually fades or feathers into the surrounding color. Deselect your Selection. Notice how the edges feather into the background as well, becoming transparent toward the edge.



4.6.2 Lasso Width

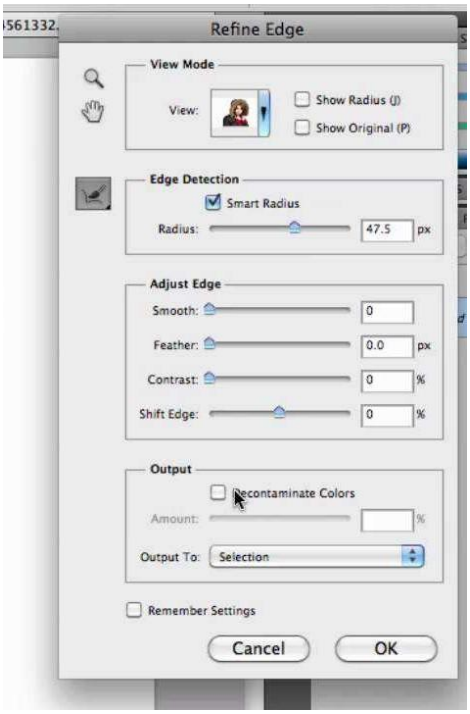
Recall that the Magnetic Lasso searches for edges to attach to. The Lasso Width defines the range of pixels within which the Tool will search for edges. The range is limited to values from 1 to 40.

4.6.3 Frequency

Frequency determines how often the Magnetic Lasso creates anchor points along the Selection path. Each another point acts effectively as a fresh start to edge detection, increasing accuracy. The range is limited to values from 0 to 100.

4.6.4 Edge Contrast

Edge Contrast adjusts the sensitivity of the Magnetic Lasso's edge detection. The range is limited to values from 1% to 100%. Higher values require increased contrast between the edge you desire to select and the image data that surrounds it. Experiment with the options to see how they affect the behavior of the Magnetic Lasso.



4.6.5 Magic Wand Tool

The Magic Wand tool differs from the other Selection Tools in that rather than drawing a path yourself you simply {Click} the Magic Wand in the area you wish to select and the Magic Wand creates the Selection for you. It creates the Selection based on a range of related colors. The range of colors is set in the Options Bar by adjusting the Tolerance setting. Increasing the value increases the color range.

Make sure the fudog image is open and in its original state (you can reload the image or use the History Palette to delete your modifications.) Select the Magic Wand Tool. In the Options Bar, set the Tolerance level to 20. Uncheck Contiguous. Now {Click} any area of the black background around the statue. A Selection path is created that surrounds most of the background. The color of the area that you clicked on becomes the base color that establishes the related color range, in this case shades of black. However, it does not surround the entire area. Deselect select the Selection. Change the Tolerance to 30 and {Click} the statue again. The Selection path should encompass the entirely of the black background that surrounds the statue. Deselect the Selection again.

Check Contiguous and reselect the black background. You'll notice the entire background is no longer selected. Why? Because the parts of the background that remain unselected are separated by colors currently outside of the range established by {Clicking} to create your Selection and establishing a tolerance level. By checking Contiguous you force the Magic Wand to select a color range that is uninterrupted by colors outside the range. When Contiguous is unchecked, the Magic Wand selects all the entire image. The Use All Layers feature is covered later.



Make sure the fudog image is open and in its original state (you can reload the image or usethe History Palette to delete your modifications.) Select the Magic Wand Tool. In the Options Bar, set the Tolerance level to 20. Uncheck Contiguous. Now {Click} any area of the black background around the statue. A Selection path is created that surrounds most of the background. The color of the area that you clicked on becomes the base color that establishes the related color range, in this case shades of black. However, it does not surround the entire area. Deselect select the Selection. Change the Tolerance to 30 and {Click} the statue again. The Selection path should encompass the entirely of the black background that surrounds the statue. Deselect the Selection again.

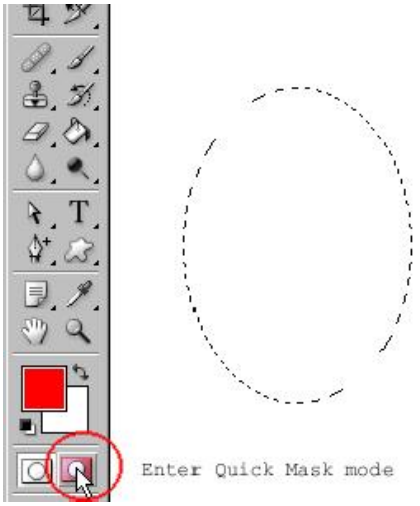
Check Contiguous and reselect the black background. You'll notice that the entire background I no longer selected. Why? Because the parts of the background that remain unselected are separated by colors currently outside of the range established by {Clicking} to create your Selection and establishing a tolerance level. By checking Contiguous you force the Magic Wand to select a color range that is uninterrupted by colors outside the range. When Contiguous is unchecked, the Magic Wand selects all the areas that fall within its color range within the entire image. The Use All Layers feature is covered later.

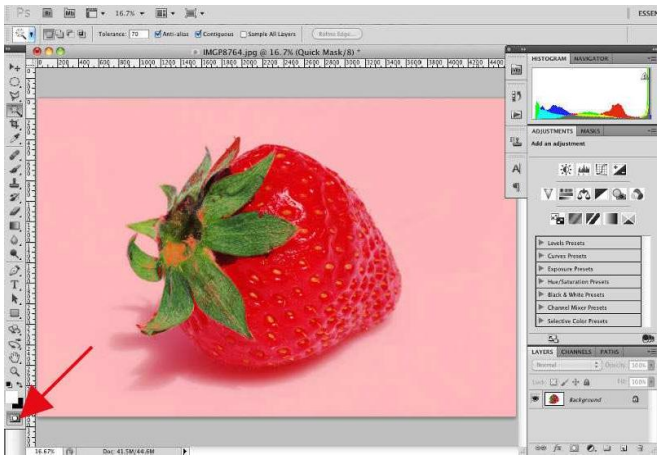
4.7 Creating Selection in Quick Mask Mode

Photoshop also permits you to use the various Painting Tools to create Selections. We won't be covering the Painting Tools just yet. However, an introduction to how the Painting Tools function in Quick Mask Mode is essential.

Restore the fudog image to its original state by using the History Palette or by reloading the image. {Click} the edit in Quick Mask Mode button on the Toolbox. Make sure the Background and Foreground colors are at default.

Select the Airbrush Tool and begin painting over one of the statue's legs by {Clicking}and holding. You'll notice that instead of painting with Black, a very light red color results. In effect, you are painting the area you wish to make into a Selection. Black adds to the selection, white subtracts from the selection. If you {Click} the Swatches Tab in the Color Palette Group you'll notice that all of you {Click}





the Swatches are different shades of gray. Selecting different shades adds transparency to your selection, similar to the Feather effect, the darker the color the greater the transparency. Once you are familiar with the Painting Tools, you can use them to make very complex Selections

{Click} Edit in Standard Mode to exit Quick Mask Mode. You'll notice that the Marquee or Selection area is outside the area you painted. To reverse the Selection select Select/Inverse. To force Photoshop to make the area you painted the Selection area you have to set the Quick Mask Mode is essential.

Restore the fudog image to its original state by using the History Palette or by reloading the image. {Click} the Edit in Quick Mask Mode button on the Toolbox. Make sure the Background and Foreground colors are at default.

Select the Airbrush Tool and begin painting over one of the statue's legs by {Clicking} and holding. You'll notice that instead of painting with Black, a very light Red color results. In effect, you are painting the area you wish to make into a Selection. Black adds to the selection, white subtracts from the selection. If you {Click} the Swatches Tab in the color Palette Group you'll notice that all of the Swatches are different shades of gay. Selecting different shades adds transparency to your selection, similar to the Feather effect, the darker the color the greater the transparency. Once you are familiar with the Painting Tools, you can use them to make very complex Selections.

{Click} Edit in Standard Mode to exit Quick Mask Mode. You'll notice that Marquee or Selection area is outside the area you painted. To reverse the Selection select Select/Inverse. To force Photoshop to make the area you painted the selection area you have to set the Quick Mask Options.

Color Indicates

Check Selected Areas to force Photoshop to make the area you paint with any of the Painting Tools the Selection area. Selected Masked Areas to force Photoshop to make the area outside of your painting area the Selection.

Color

{Click} the Color swatch to change the mask color from default Red to something else. You'll find useful when you have to select an area with the same color as the Mask. Changing it will make your editing easier.

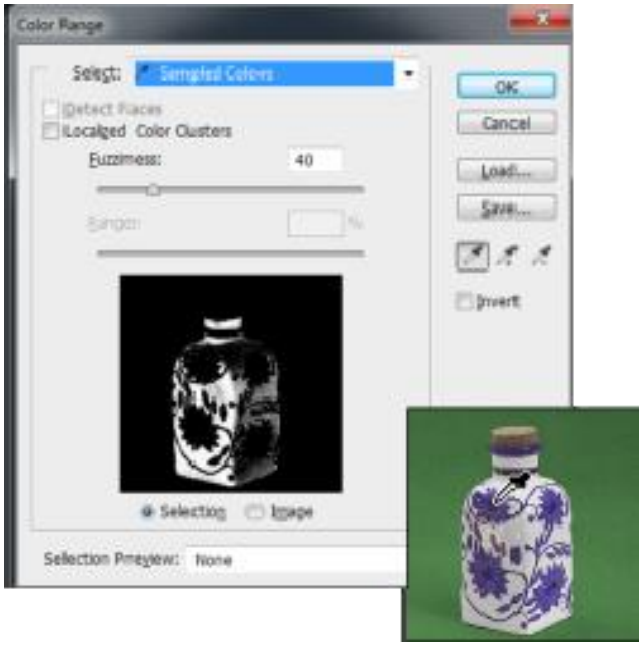
Enter a different value in the Opacity field to increase or decrease the opacity of the Mask. This has no effect on the opacity level of the actual Selection, it affects how muc of the image you can see while creating the Mask.

4.7.2 Creating a Selection with Color Range

Recall how the Magic Wand works. The Selection is created by analyzing a base color (which you designate by {Clicking} on it) and a range of related colors you determine by setting Tolerance. You can also use the Select by Color Range function by selecting Select/Color Range. The Color Range dialog-box appears.

Color Range Dialog-Box

The Color Range dialog-box consists of a Selection option drop-down menu, Fuzziness controls (for fine tuning the range of your Selections), an Image Box with the current image or Selection, Selection Preview options and 3 Color Pickers.



Select

Use the items in this menu to define how you are going to create your Selection. You can choose by color range (from Reds, Yellows, Greens, Cyans, Blues, Magentas), by Sampled Colors (colors you select with the Color Pickers) by Contrast (Highlights, Mid-tones, Shadows), and Out of Gamut (which applies to images created for Print.) Generally, you'll use Sampled Colors.

Fuzziness

Use the Fuzziness to increase or decrease the selected color range.

Selection or Image

Check Selection to display Selection data in the Image box. Check Image to display the Image.

Selection Preview

Select from None, Grayscale, Black Matte, White Matte, and Quick display the Selection area and control how the Selection is displayed within the Image Window.

Color Pickers

There are three-color pickers. Use the Color Picker without a "+" or "-" symbol to select one color as the basis for creating your Selection and define the range by using the Fuzziness slider. To add additional colors to your Selection use the Color Picker with the "+" sign. To remove colors from your Selection use the Color Picker with the "-" sign.

Invert

{Click} Invert to reverse your current Selection.

Restore the fudog image to its initial state. Select Select/Color range.

Make sure Selection is checked below the Image Box. Select the Color Picker without any signs. You can use the Color Picker within the Image Box or on the Image itself. {Click} on the Black Area of the fudog image. A black mask covers most of the statue in the Image Box, indicating the unselected area. {Click} and drag the fuzziness slider to a across its range to see how the selection is affected. Adjust the Fuzziness slider so that the statue is almost completely black and the background almost completely white. {Click} Invert to reverse the Selection. {Click} OK. A Selection marquee surrounds the statue.

4.7.3 Saving Selections with the Channels Palette

You might want to save your selections for future use as well. To do so you use the Channels Palette.



Restore the fudog image to its original state by using the History Palette or by reloading the image. Create a Selection using any one of the Selection Tools you wish , but make sure Feathering is set to 0. {Click} the Channels Tab in the Layers Palette group. You will see four channels: RGB, Red, Green, and Blue. The RGB channel is a composite of the Red, Green and Blue channels.

Color Channels

There are two types of Channels in Photoshop: Alpha and Color. The fudog image is made of a combination of three color Channels, each containing a range of data relating to the primary colors in digital imaging, Red, Green, and Blue. Recall that combining variations of Red, Green and Blue can produce over 16 million colors. Photoshop keeps the primary color information separate for editing purposes, most specifically for modifying color. We will use Channels further on. For now, {Click} the Visibility (the eye) Toggle beside the Channel thumbnails to Toggle the visibility of a color channel. Notice how the color in the image drastically changes. To restore the Channels simply {Click} the visibility Toggle beside each invisible channel or {Click} the Visibility Toggle of the RGB Channel to activate all the Channels.

Alpha Channels.

We use Alpha Channels to save our Selections. Alpha Channels do not store color data ,rather they store gray-scale data used to define and store Selections. {Click} Save Selection as Channel at the bottom of the Channels Palette. An Alpha Channel is added below the color channels titled, "Alpha 1." To rename the channel simply {Double-Click} the Channel Box. Rename accordingly.

Examine the Alpha Channel thumbnail. You'll notice that the channel is made up pure black and white. The black indicates the area of the image not selected and the white the area of the image selected. If you haven't already, deselect the Selection. {Click} the Visibility Toggle beside the Alpha Channel. The resulting composite now has a pinkish hue over the image with regular color showing through where the Selection was. {Click} the Visibility Toggle of all the color channels to make them invisible. Only the Alpha Channel is visible. Notice again that the black area of the image that is selected. In effect, you can look at the Alpha Channel as a mask. The white area is the hole in the mask. When active as a Selection we can only manipulate the area of the image we see through that hole.

Recall that we mentioned Alpha Channels store gray-scale data to define and store Selections. Our current Alpha Channel has only black and white. Different values or levels of gray indicate transparency when working with Selection Masks, that is, as the color range shifts from black, which is absolute opacity, various levels of transparency occur. Recall what occurs when we feather a Selection. The edge of the Selection gradually shifted to complete transparency. Anything below the translucent or partially transparent areas shows through or mixes with the image above.

To demonstrate lets create an elliptical Selection with a Feather value of 20. First, Toggle the visibility of the Alpha Channel to off and restore the color channels by toggling the visibility of the RGB Channel to on. Next, select the Elliptical Selection Tool and set Feathering to 20 in the Option Palette. Create an elliptical Selection with the fudog image. Now use the Channels Palette to create an Alpha Channel based on your new Selection. Deselect your Selection and examine the new Alpha Channel by toggling the visibility of the other Channels. Notice the elliptical area is pure white at the center and fades close to complete transparency toward the edge as color shifts to various shades of gray. This is why Alpha Channels work in gray-scale, using 256 shades of gray to define transparency.

4.7.4 Restoring Your Selection

We created Alpha Channels based on our on our Selection so that we can restore the Selections at a later time. When you save an image as a Photoshop native document the Alpha

Channels are saved with the file. We'll pretend that we saved the fudog image and have just reloaded it . (You can save it as fudogchannel if you wish, close it and reopen it.) Make sure both Alpha Channels are not visible by toggling visibility of the RGB Channel to on. To restore your selection select Select/Load Selection. The Load Selection dialog box appears.

Source

Indicates the source filename of the Alpha channels, in this case "fudogchannel.psd."

Channel

Use the drop-down arrow to select which channel you want to restore the Selection from: either Alpha 1 or Alpha 2 unless renamed the channels.

Invert

{Clicking} Invert reverses the Alpha Channel values, switching black to white; white to black, and any intermediate grays accordingly. As a result, your Selection will be inverted or reversed. Modifications occur in the area of the image you did not initially select.

Operation

Select New selection, Add to Selection, Subtract from Selection, and Intersect with Selection as you desire. For the most part, you will select New Selection. The other options are only available if the image already has an existing Selection active. Experiment with these settings if you wish.

4.8 Summary

As a result of this chapter, you should be able to

- Understand and create Selections.
- Understand Channels
- Use the Channels Palette to save Selections.

4.9 Self Assessment Test

Short Answer Questions

1. Explain Selections and Channels in Photoshop.

2. Explain how to create selections in Quick Mask Mode.

Long-Answers Questions

1. Explain- Multiple Selections.

2. Write a short note on Lasso Tool.

3. Write a short note on Polygonal Lasso tool.

4. Write a short note on Magnetic Lasso Tool.

5. Write a short note on Magic Wand Tool.

6. Explain how to restore your selection.

UNIT 5

PHOTOSHOP'S LAYERS

Learning Objective's

This chapter introduces you to Photoshop's Layers, aa powerful feature essential in digital image editing. Upon completing this section, you should be able to:

Understand the Concept of Layers.
Use all the Options in the Layers Palette.
Manage and Organize Layers.
Use Layers to create digital images.

Structure

5.1 Layers
- 5.1.1 Layers Palette
- 5.1.2 Layer Name
- 5.1.3Thumbnail
- 5.1.4Paint or Linking Toggle
- 5.1.5Visibility Toggle
- 5.1.6Blend Mode
- 5.1.7Lock Transparency, Pixels, Position and Layer

5.2 Using Layers
- 5.2.1 Transparency
- 5.2.2 Moving Layers
- 5.2.3 Lock Transparency, Lock Pixels, Lock Position.

5.3 Creating New Layers
5.4 Text and Layers
5.5 Layer Styles
5.6 Managing Layers
- 5.6.1 Changing the Stacking Order
- 5.6.2 Duplicating Layers
- 5.6.3 Merge Options
- 5.6.4 Color-coding Layers
- 5.6.5 Layer Sets

5.7 Summary
5.8 Self Assessment Test

5.1 Layers

One of Photoshop's most powerful and most popular features is Layers. Layers are similar to acetate or transparent paper. Each layer in a Photoshop document or image can contain image data that adds to the image data placed on the Layer below. Effectively, each Layer is an entire image unto itself within a master image. By combining these image composed of many different elements, in this case made up of multiple Layers. The best way to understand the concept of Layers, how they work, and why they are so powerful is to use them.

Open priest and gates from the chapter005 folder in photoshop6xfiles.Make gates active by {Clicking} on the Image Window Title Bar. You'll notice the color mode is CMYK rather than RGB. CMYK is a color space suited for Print production, such as magazines or flyers. Examine the Channels Palette. CMYK images are made of a composite of 4 color channels. Because we are developing for the Internet, we need to convert from CMYK to RGB Image Mode. Select Image/Mode/RGB color. Examine the Channels Palette. You'll see only 3 primary color channels and the composite RGB channel.

We're going to use Layers to add text to the gates image and add some content from the priest image. We'll be using some of the Selections Tools as well. We'll begin by examining the Layers Palette. {Click} the Layers Tab in the Layers Palette Group.

5.1.1 Layers Palette

The Layers Palette is divided into 8 distinct controls, which include Layers, Blend Mode, Opacity, Layer Lock Options and the Layer Style, Layer Mask, New Layer, New Layer Set, New Adjustment Layer and Trash Icon set. It's important to note that Layers have a stacking order, from the bottom up, meaning the Layer at the very bottom of the Layers Palette is the last or bottom Layer.

Layers

Each Layer contains a Layer Name, Thumbnail, Paint or Linking Toggle and Visibility Toggle.

5.1.2 Layer Name

It's a good idea to name your Layers for easy reference and organization. By default Photoshop names each new Layer "Layer x" where x represents a number, starting at 1. If you import a flat image (meaning an image with only one Layer, such as fudog, Photoshop defaults to naming the Layer "Background" in italics. The Italics indicate that no other Layer can be placed beneath it, in effect locking the Layer as the bottom Layer. To change the name of the " Background" Layer simply {Double-Click} the Layer and enter a new Name in the Name field. When you rename the "Background" Layer it is no longer fixed to the bottom of the stack. To rename any other Layer, select it in the Palette and then select Layer Properties from the Palette's fly-out menu. You can also {Double-Click} a Layer while pressing the [ALT] key to rename a Layer.

5.1.3 Thumbnail

The Thumbnail is a visual representation of the Layer's content. By default, Photoshop uses the smallest Thumbnail size. To change the size or disable the Thumbnail {Click} the Options

Triangle and select Palette Options. Check the Thumbnail size you desire in the Layers Palette Options dialog box.

5.1.4 Paint or Linking Toggle

When a Layer is active or selected (by {Clicking} on it) a Paintbrush icon appears in the Toggle box beside the Thumbnail, indicating the Layer can be painted on. When you {Click} in the Toggle box of an inactive or unselected Layer you "Link" that Layers content to the current active Layer, no matter where the active Layer is in the stacking order. Changes in position and various effects you apply to the active Layer are also applied to the LinkedLayer. A Chain icon appears to indicate Linking.

5.1.5 Visibility Toggle.

{Clicking} the Visibility Toggle makes Layers visible or invisible in the Image Window. It's important to note that even though a Layer may be invisible. If it's the active Layer or is linked to an active layer any changes you perform still occur.

5.1.6 Blend Mode

You can select from 17 different blending options to affect how the Image data in a Layer mixes or blends with other Layers. Usually you'll use Normal mode. Some of the other Blend Mode produces interesting effects. By experimenting and practicing as you compose your images, you will become familiar with the most, if not all the Blend Modes. You must have at least two Layers in your image use Blend Mode.

5.1.7 Lock Transparency, Pixels, Position and Layer

Check the Lock Transparency checkbox to limit painting and editing effects to areas of a Layer that are not transparent. You can also lock the pixels themselves or the position of the pixels by {Clicking} on the appropriate checkbox.

Layer Style, Layer Mask, New Adjustment Layer, New Layer Set, New Layer, Trashcan

{Clicking} the layer Effect button allows you to apply prepackaged styles to the content of the selected Layer.

{Clicking} the Layer Mask button adds a Mask to the currently active Layer. Layer Masks are covered in depth later.

{Clicking} the New Adjustment Layer button inserts a Layer that allows the designer to apply tonal and color modifications to their image without having to affect the image content in any way.

{Clicking} the Create New Layer Set button creates a new Layer set above the currently selected Layer or Layer Set.

{Clicking} the Create New Layer button creates a Layer above the currently active Layer.

{Clicking}, dragging and releasing a Layer over top of the Trashcan deletes the Layer.

5.2 Using Layers

Make sure you have both priests and gates open and that you have changed the Image Mode of gates of RGB. Make priests active.

Make a Selection around the Priests in the orange and green robes in priests. Their shapes are somewhat irregular so a selection has been saved with the image for your convenience. Try to make the selection on your own or load the selection included . Once loaded, select Edit/Copy to copy the contents of your Selection to the clipboard. The clipboard is Photoshop's storage area for image data you copy and paste.

Make gates active. Select Edit/Paste. Your Selection (the Priests) is pasted into gates in a new Layer. Photoshop automatically titles the Layer "Layer-1." Select the new Layer and rename it "Priest." Alternatively, you can use the Move Tool to {Click}, drag and drop your selection from priests to gates.

5.2.1 Transparency

Examine the Layers Palette. The Priests Layer sits on top of the Background Layer and in the Image Window the priests sit on top of the Gate image. You can see the gate, tree and landscape around the Priests because, by default, Layers are transparent. Pasting the selection into gates has created a new Layer with a transparent background in which the Priest selection sits. Recall when we created a new image we selected a transparent background. Transparency is represented by a gray and white checkerboard. {Click} the Visibility Toggle in the background Layer. The gate disappears. You see only the Priests and the transparent background that surrounds them.

Make sure the Priest Layer is active. Layers are active when colored blue. A Paintbrush icon also appears in the Paint or Link Toggle box. {Click} the Opacity control and drag the slider back and forth. You begin to see the Gate and Trees in the background through the Priests as you decrease its opacity. As you create images you'll find Transparency a powerful tool.

5.2.2 Moving Layers

Select the Move Tool. Make sure the Priest Layer is active. {Click} and drag the Priests in the Image Window. You'll notice that you can move the Priests or part of Priests outside the edges of the Image window. With, Layers you can think of the Image dimensions as the dimensions of a virtual window through which we see the image data. Photoshop permits you to move image data outside of the virtual window. As a result, we can do things like drag the Priests to the bottom right corner of the screen so that only their faces appear. You'll find this flexibility a great creative aid when composing images.

5.2.3 Lock Transparency, Lock Pixels, Lock Position

Select the Airbrush Tool. Make sure the Priest Layer is active. Check the Lock Transparency checkbox. Paint on the Priest Layer. You'll notice that your paint strokes are limited to areas that contain image data, in this case the Priests. The effect is similar to painting a Selection. By selecting Lock Transparency, you are restricting changes to the image data contained within the Layer. Us e the History Palette to remove your brush strokes and uncheck Preserve Transparency.

Locking the Layer's pixels will allow you to reposition the content of the Layer but not change or modify the pixels themselves. You cannot, for example, use the Airbrush Tool to change the color of an object on a Layer with locked pixels.

Locking the Position of content on a Layer allows you to paint or edit it but not move it.

We're going to remove the Priest in the green robe from the picture. Make sure the Foreground Color is Black. Start painting over the Priest's robe until the body of the Duck is roughly circular. If you examine the Thumbnails in the Layer, you'll notice the Mask Thumbnail displays Black where you've applied your paint strokes, making those areas taken up by the Priest in the green robe transparent. The Priest Thumbnail looks the same because you haven't actually erased the Priest; you're merely hiding or masking him.

{Click} the Link Icon in between the Thumbnails of the Priests Layer. Move the Priests. You'll notice that the Mask remains in place. To move the Mask with the image data keep the thumbnails linked.

To remove the Layer Mask {Right Click} on the Mask's Thumbnail in the Layer's Palette and select an option from the Context Sensitive Menu that appears. You have the choice of either discarding or applying the Mask. {Click} "Discard" to remove the Mask and restore the Priest to its original state. If you {Click} "Apply'" the masked areas of the Priest are erased and the Mask Thumbnail removed. Selecting "Disable Layer Mask" keeps the Mask but does not apply it to the Layer. A red "X" appears over the Mask Thumbnail. To reapply the Mask select "Enable Layer Mask" from the Context Sensitive Menu.

Recall making Selections into Alpha Channels. If you {Click} the "Channels Palette" you'll see that adding a Layer Mask creates and Alpha Channel in the "Channel's Palette."

5.3 Creating New Layers

To create a new Layer {Click} the Create New Layer button at the bottom of the Layers palette. A Layer is added above the currently active Layer. Make the new Layer active and rename it Garbage Can."

Make the Background Layer active. Make a Selection around the White Garbage can and Sign on the bottom left hand side of the image. If the Priest is obscuring that part of the image you can move him away or turn the Priest Layer's Visibility off.

Having made your Selection, copy it to the Clipboard by selecting Edit/Copy. Make the "Garbage Can" Layer active. Select Edit/Paste. Your Selection, in this case the Garbage can, is placed into the Layer. You may have to move the content on the Layer to reposition it exactly where it's placed on the original image (the Background Layer.) As an alternate, you can select Edit/Paste Into. A new Layer is created and the image data in the Selection is copied to the precise position it was copied from. In addition, a Layer Mask is automatically created based on the Selection.

Move the Priest Layer so that Priest is behind the Garbage Can in the “Garbage Can” Layer. We’ve now added depth to the image. The Priest appears behind the Garbage Can and a measure of realism has been added to the photograph. You’ve created an image or composite using Layers. By isolating different elements or components of an image in Layers, you have a great ideal of creative flexibility. Imagine creating this image without Layers. You would have to make very precise selections and use the History Palette extensively. It would also take up much more time.

5.4 Text and Layers

When you add Text to an image by selecting the Type Tool and {Clicking} in the Image Window at the location you want your text to appear, a Layer is automatically created above the currently active Layer. The name of the Layer defaults to the text your input.

Photoshop 6 allows you to type text directly into your document. Other image-edit programs and previous versions of Photoshop required that you type your text into a specialized dialog box. Now all the user need do is select the Type Tool, place their cursor in their Image Window, and begin to type.

Make sure the top layer in the Layers Palette is active and the Foreground Color is white. Select the Type Tool and {Click} toward the top left corner of the image. At this point, we won’t go through the Type Tool options. For now input “Japanese Shrines” and input a value from 12-18 in the Size field. {Click} OK. Your type is created in its own Layer.

At this point, the type can be re-edited or changed by highlighting the text in the Image Window with the Type Tool in the Layer. Editable type is indicated by the capital “T” that sits in the Thumbnail of the Layer. By {Right-Clicking} on the “T” and selecting rasterize Layer you convert the type to a graphic, making it no longer editable. You can position the type as close to the top left corner as you wish.

5.5 Layer Styles

Layer Styles are pre-defined special effects applied to the image data contained in the Layer. To apply a Layer Style, select the Layer you want to apply the effect to and {Click} on the Add a Layer Style button at the bottom of the Layers Palette. In this instance, apply a Drop Shadow to your Type Layer.

From the Styles drop-down, select Drop Shadow. A rather substantial dialog box appears with options to adjust the appearance of the Drop Shadow. Use the Layer Style dialog box to add, remove, and modify. Styles on your Layers. {Click} on a Layer Style checkbox to add a Style and {Click} on the Style label to modify its properties. We’ll take a closer look at the Styles later in the manual so stick with the Drop Shadow for the time being. {Click} OK to close the Layer Style dialog box. Take

a look at your Image Window. You'll notice a soft shadow behind the type. The type appears to be floating in from of the image. A lower-case italic "f" appears in the Layer indicating that an effect has been applied.

{Click} on the small gray triangle beside the Style icon on the Layer to reveal the individual Styles that have been applied to it. Each Layer Effect has a set of properties that change according to the effect. If you'd like to adjust these settings {Double-Click} on the Style's label in the Layer Palette and the Layer Style dialog box appears. Each effect also has its own Visibility Toggle as well. Experiment with properties to customize the effect.

5.6 Managing Layers

5.6.1 Changing the Stacking Order

To change the stacking order of Layers simply {Click} and drag the Layer above or below other Layers. A solid black line indicates the Layer is ready to be dropped. {Release} the mouse button.

5.6.2 Duplicating Layers

Use the Options Triangle and select Duplicate Layer to make a copy of the Layer. You can title the Layer and choose to copy it to the same image, another image you have opened, or create a new image with the contents of the Layer.

5.6.3 Merge Options

Selecting Merge Down from the Options Triangle merges the contents of the currently active Layer with the Layer below it.

Selecting Merge Visible from the Options Triangle merges the all currently visible Layers. The bottom Layer must be visible and the currently active Layer.

Select Layer/Merge Linked to Merge Layers you have linked together using the link Toggle box.

Select Flatten Image from the Options Triangle to merge all Layers. This removes all the flexibility you have with layers.

5.6.4 Color-Coding Layers.

Photoshop6 has made managing Layers much easier by allowing the user to color-code them in the Layers Palette. Select Layer Properties from the Options Triangle, select the color from the drop-down menu and {Click} OK.

5.6.5 Layer Sets

Photoshop 6 also allows the user to group similar content into what are known as Layer Sets. Layer Sets are easier to understand if you think of them as folders and the individual Layers as papers

inside the folders. Create a Layer Set by clicking on the New Layer Set button at the bottom of the Layer's Palette.

A new set added called "Set 1."

The New set which is named "Set 1" by default, is added one below your currently selected Layer. Rename the Set by {Double-Clicking} on it and inputting a name in the dialog box that appears. You can also give the Set a color if you wish. It is important to remember that the color settings for your Sets override any individual color setting you have given individual Layers.

To place a Layer in a Set you {Click} and drag it into the Set's Folder Icon. You need to place it directly on the Icon or the move won't take place. A successfully relocated Layer will appear below the Set and its Thumbnail will be slightly indented. Sets can be minimized and maximized by {Clicking} on the small gray rectangle beside the Set's name.

5.7 Summary

As a result of this chapter, you should be able to

- Understand the Concept of Layers.
- Use all the Options in the Layers Palette.
- Manage and Organize Layers.
- Use Layers to create digital images.

5.8 Self Assessment Test

Short Answer Questions

1. Explain the Concept of Layers.
2. Explain how to use Layers to Create Digital Images.

Long-Answers Questions

1. Explain Visibility Toggle.
2. Explain Blend Mode.
3. Explain Lock Transparency, Pixels, Position and Layer.
4. Explain Lock Transparency, Lock Pixels, Lock Position.
5. Explain how to create New Layers.
6. Explain Layer Styles.