

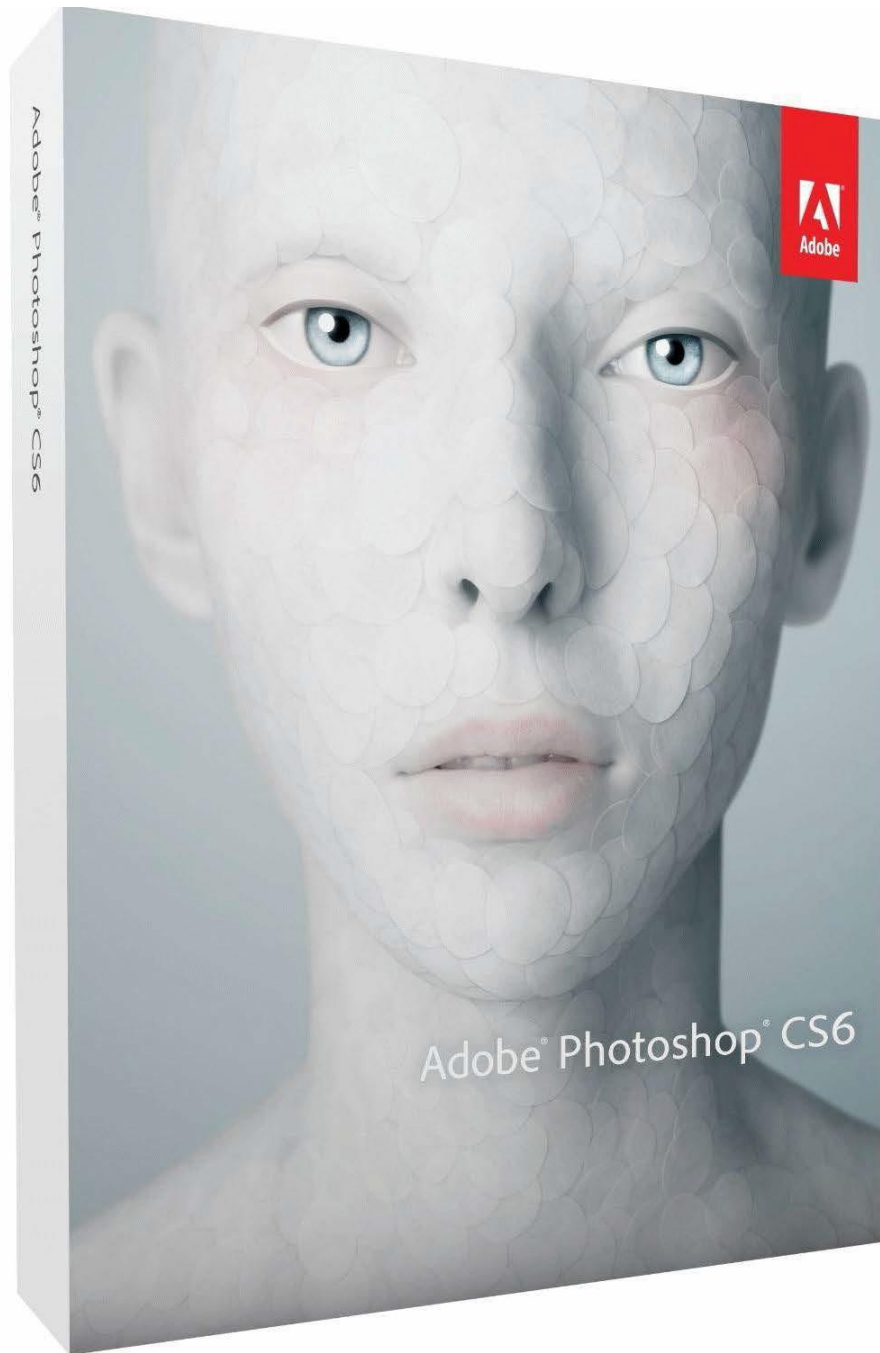


# Photoshop For Photography

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## Introduction

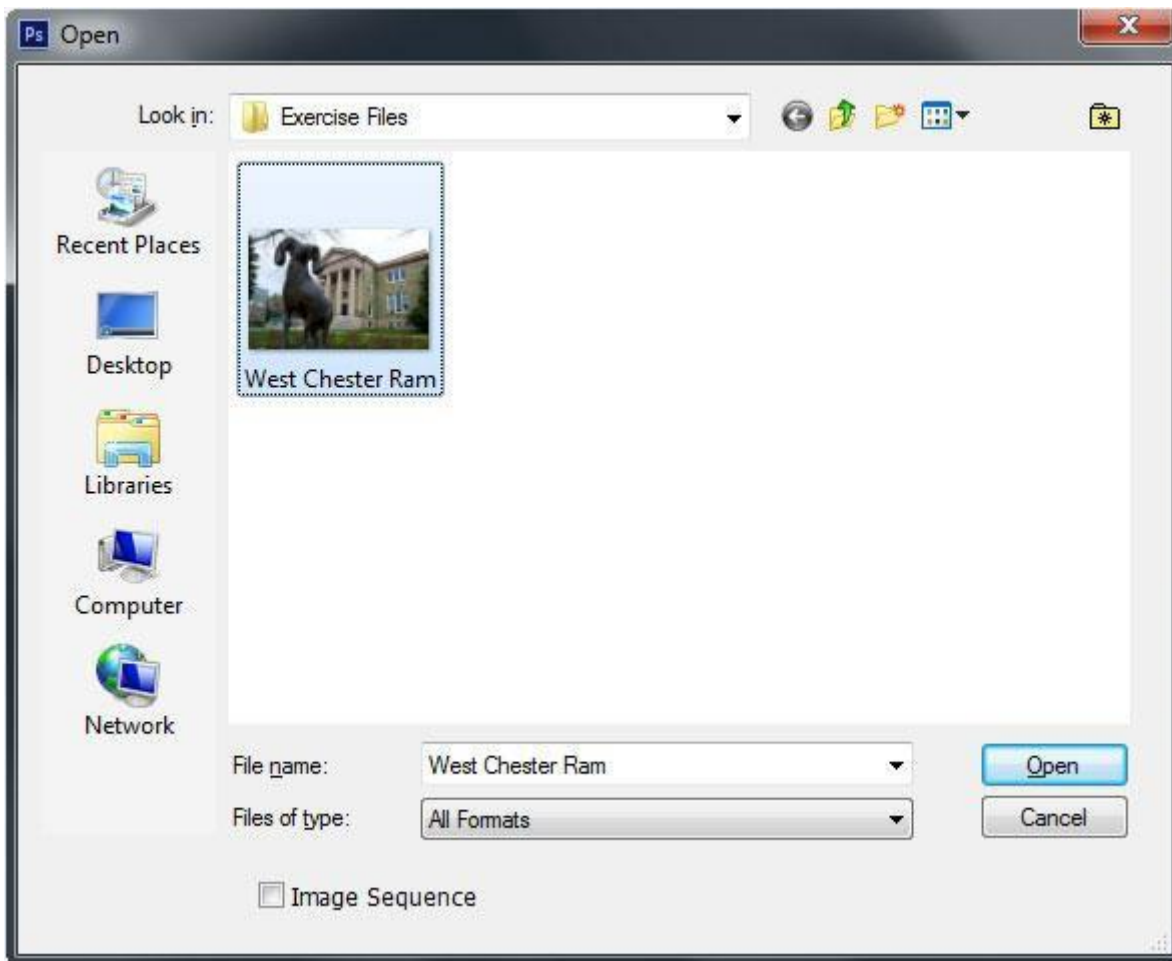


Adobe Photoshop is a graphics editing program, or image editing software, that allows you to create and manipulate visual images on the computer. Editing features in the program help in creating and managing visual images for Internet, print, and other new media disciplines. To begin creating a Photoshop project, start Photoshop CS6 and follow along with the steps below.

## Opening an Image

Before you can start manipulating a visual image, you will need to either open an existing document or create a new one.

- Select **Open...** from the **File** menu in the top menu bar. (Ctrl + O)
- Navigate to image location on your computer. Select the file and click **Open**

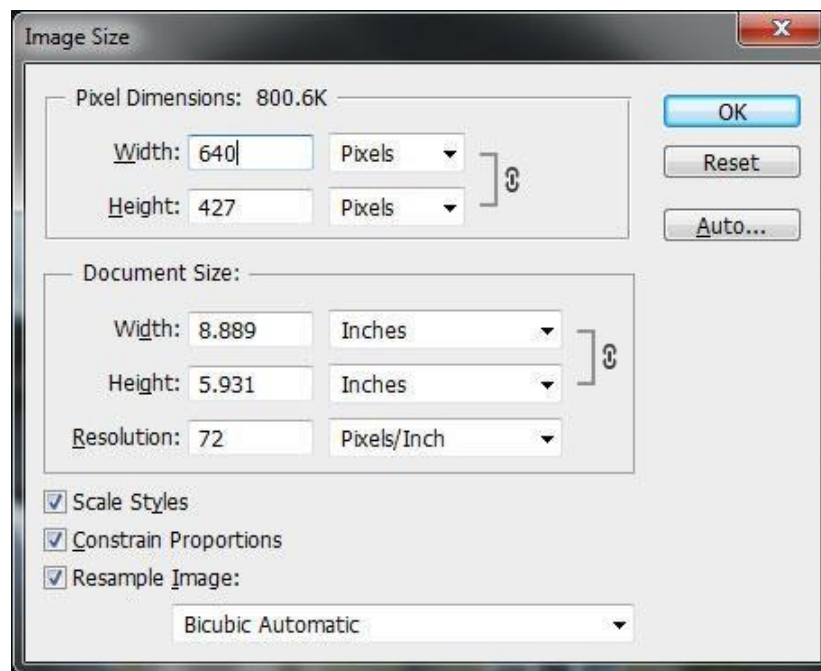


When you open an existing file, Photoshop will put that file into a new document panel on your screen.

## Image Size

When working on an image in Photoshop you must first properly size the image, depending on the media discipline you are using. This is specifically important due to images varying for Web and Print use. Larger images on a website will actually slow the site down, making it difficult for your viewer to see the content. Larger images are used for print in order to ensure that detail of your visual image is present.

- To resize an image, select **Image Size...** from **Image** in the top menu. (Ctrl + Alt + I)
- \*Set your Resolution according to your media discipline\*
  - For **Web** set this to **72**
  - For **Print** set this to **300**
- It is important that you understand your media size when setting your height and width. For web, you always want to ensure that your image will be viewable on any or most screens.

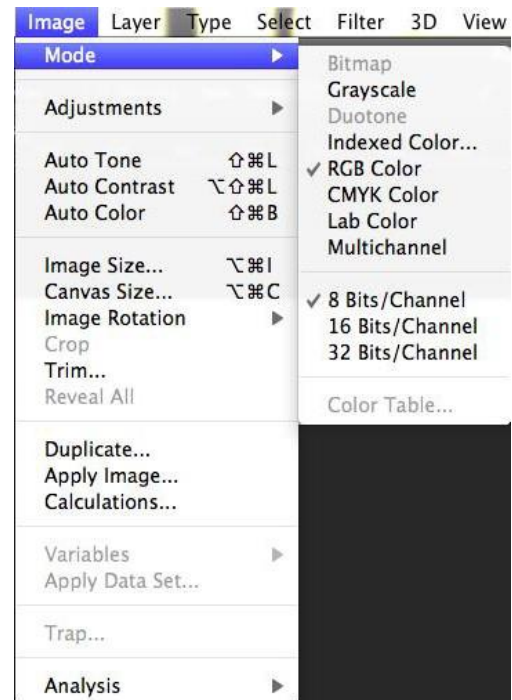


## Color Mode

It is very important to establish your color modes based on the media discipline you are using. Each media output (computer screen, printer, etc.) interprets colors differently, so it is important to be able to set your color mode for the output to understand it.

To change the color mode go to **Image** in the top menu and select **Mode**.

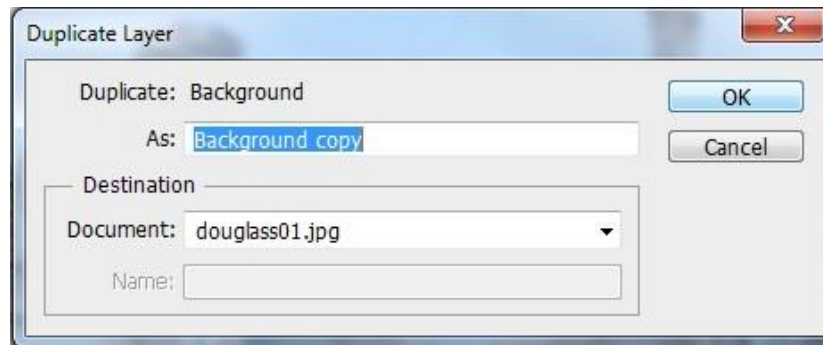
- **RGB**
  - RGB stands for “Red, Green, Blue”
    - These are the three colors on electronic devices (computers, phones, tv, etc.) and therefore used for anything displayed on the screen
  - Additive color mode
    - Red, Green, and Blue add up to make White
- **CMYK**
  - CMYK stands for “Cyan, Magenta, Yellow, Key”
    - Key is black
    - These are the four inks in a standard printer and therefore used for any print materials (photographs, papers, posters, etc.)
  - Subtractive color mode
    - Cyan, Magenta, and Yellow add up to make Black (but not the true “Key” black)



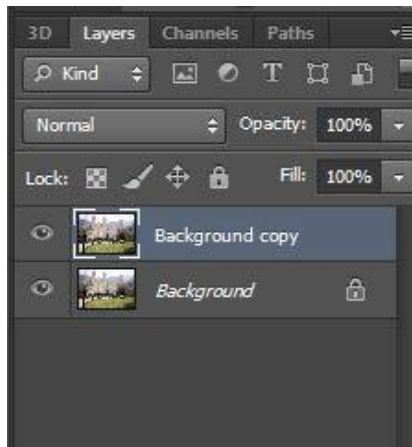
## Duplicating a Layer

One limitation that Photoshop has is how many Undo's you are allowed to make. The application's default settings only allows 20 Undo's. This limit can be adjusted in preferences, however it will greatly decrease the performance of the application. Given this setback, we must remember to take cautious measures to ensure that our work isn't lost. An easy way to ensure this is by duplicating your layers, allowing you to go back to previous states.

- When you open up an image in Photoshop, that image will become the **Background** layer in the **Layers Panel**
  1. Before making any adjustments to your image, make sure that the **Background** layer is selected
  2. Go to **Layer** then **Duplicate Layer...**
    - a. A dialogue box will appear, allowing you to change the duplicate layer's name
    - b. When you are finished click **OK**



- The duplicate layer will now reside in the Layers Panel above your Background layer

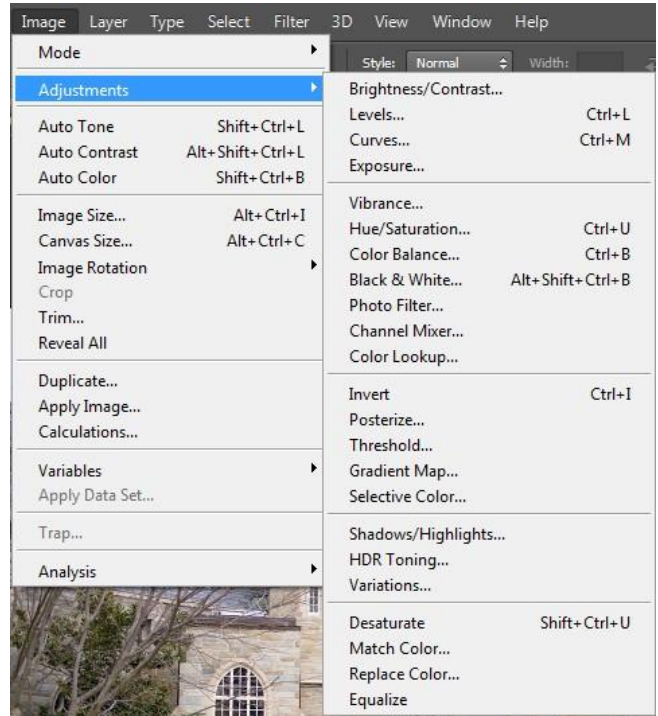


Duplicating your layers allows you to make adjustments to the duplication without affecting the original. Therefore if you do make a mistake, you can always delete the duplication layer and go back to the previous step.

## Image Adjustments

Photoshop comes with various commands that allow you to make common photo edits. These edits allow you to change elements such as contrast, saturation, and color.

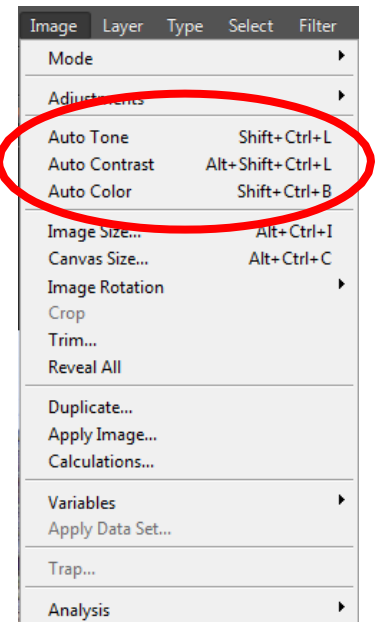
- To find Image Adjustments, go to **Image** at the top menu and hover over **Adjustments**
  - These adjustments, which will be further explained, allow you to make common photo edits



## Auto Adjustments

Photoshop also gives you the ability to let the application decide the best adjustments for your images.

- Make sure that the layer you would like to adjust is selected
- Go to Image and select either Auto Tone, Auto Contrast, or Auto Color

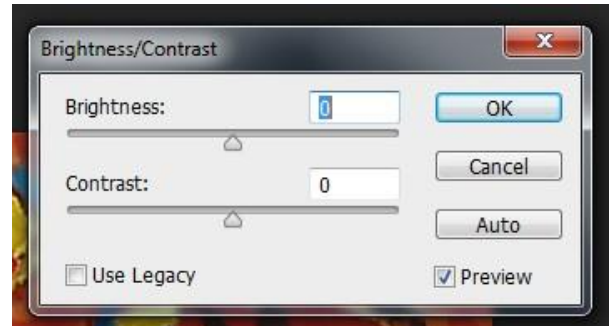




## Brightness and Contrast

The brightness/contrast adjustment will allow you to make simple adjustments to the tonal range of an image.

- Make sure that the layer you would like to adjust is selected
- Go to **Image, Adjustments**, and select **Brightness/Contrast**
- In the window that appears, you will be able to adjust Brightness and Contrast
  - Move the slider to the right on **Brightness** to brighten an image, and to the left to darken
  - Move the slider to the right on **Contrast** to increase the contrast, and to the left to decrease it
- When you are finished click **OK**



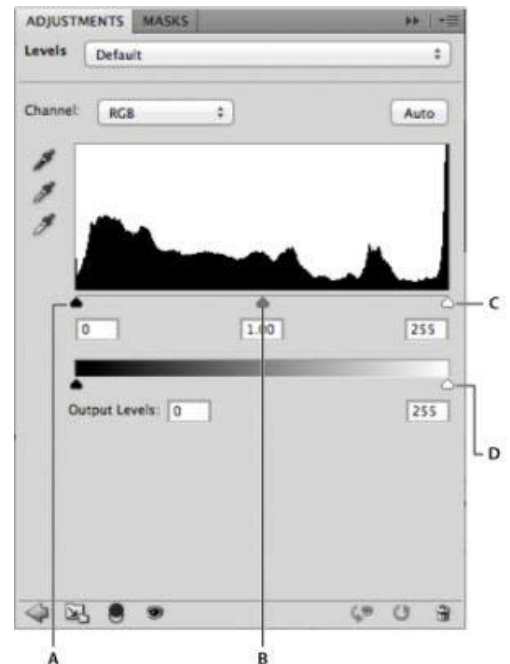
## Levels

Photoshop allows you to correct the overall tonal range and color balance of your image by using Levels. It does this by allowing you to change the darkest darks, brightest lights, and mid-tones of your image.

- Make sure that the layer you would like to adjust is selected
- Go to **Image, Adjustments**, and select **Levels**

What you see in the window that appears is called a “Histogram.” This histogram tells you how the pixels of the image fall into the tonal range of the photo, i.e. how many shadows, midtones, and highlights.

- Shadows** are controlled from the slider on the far left
  - By sliding this to the right, you increase the intensity of the shadows
- Midtones** are controlled from the slider in the middle
  - By sliding this to the left, you lighten the midtones
  - By sliding this to the right, you darken the midtones
- Highlights** are controlled from the slider on the far right
  - By sliding this to the left, you increase the intensity of the highlights



## Curves

The Curves adjustment in Photoshop allows you to adjust points throughout an image's tonal range. Therefore you can adjust certain points within the tone, rather than focusing on a large section, like you can with Levels.

- Make sure that the layer you would like to adjust is selected
- Go to **Image, Adjustments**, and select **Curves**

A window will appear with a curve graph.

- The upper right area represents **highlights**
- The lower left area represents **shadows**

By selecting the horizontal line on the graph, you can control the overall contrast of the image

- A **steeper curve** will produce a higher contrast
- A **flatter curve** will produce a lower contrast



## Hue and Saturation vs. Vibrance

When you want to increase the overall colors in your image, then you want to use 2 tools; Vibrance and Hue and Saturation

### Hue and Saturation

The Hue and Saturation tool allows you to adjust the overall hue (color tone), saturation (color intensity), and lightness of your image.

- Make sure that the layer you would like to adjust is selected
- Go to **Image, Adjustments**, and select **Hue/Saturation**

In this window you can either use the slider to select your hue, saturation, and lightness or you can use the textbox to enter values for each one.

- **Hue:** The hue slider will give you a rainbow spectrum, allowing you to track what color tone you are choosing.
- **Saturation:** By sliding the saturation slider to the right, you are increasing the intensity of color for the entire image. By sliding to the left, you are decreasing the intensity; the lowest point making the image black and white.
- **Lightness:** By moving the slider to the right, you are increasing the lightness of the photo. By moving the slider to the left, you are decreasing the lightness of the photo. (*Note: this is different from brightening the photo, as it increases or decreases the lightness of all tones in the photo*).

### Vibrance

The Vibrance tool also allows you to increase the color intensity of your image, however it will only affect the colors that lower-saturated, not the ones that are already intense. The image below demonstrates a photo with Saturation at its +75 and Vibrance at its +75.

Saturation = +75



Vibrance = +75

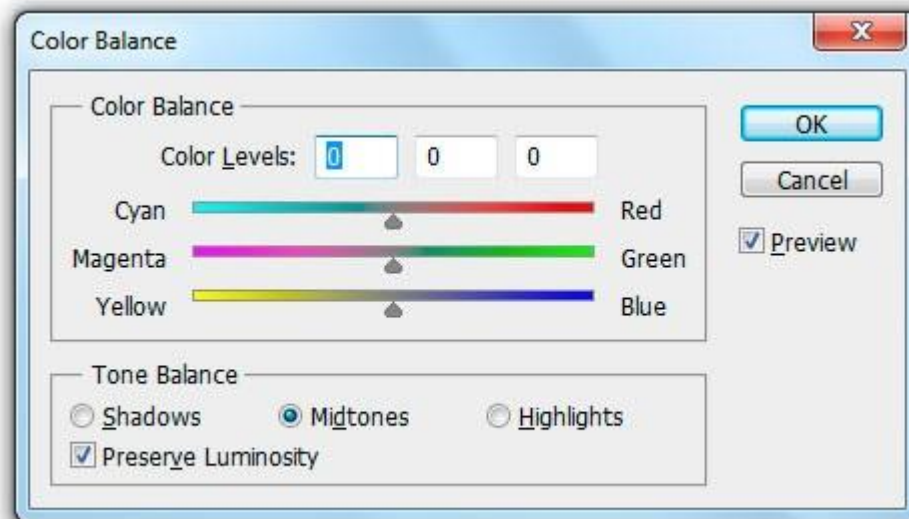


As you can see the image with the Saturation adjustment looks too heavy and unrealistic. Because of this, it is important to use the Vibrance tool, as it allows you to realistically adjust your image's color intensity.

## Color Balance

Photoshop allows you to alter the overall colors in an image using Color Balance, in order to correct color. For example, this tool can be used in situations where you took a picture in a room with a yellow tint and need to change it.

- Make sure that the layer you would like to adjust is selected
- Go to **Image, Adjustments**, and select **Color Balance**



In this window you can move each slider to change the overall color of an image, or input values above. You also have the option to change the colors of a specific tone (shadows, midtones, and highlights), which can be done under **Tone Balance**.

## Black & White

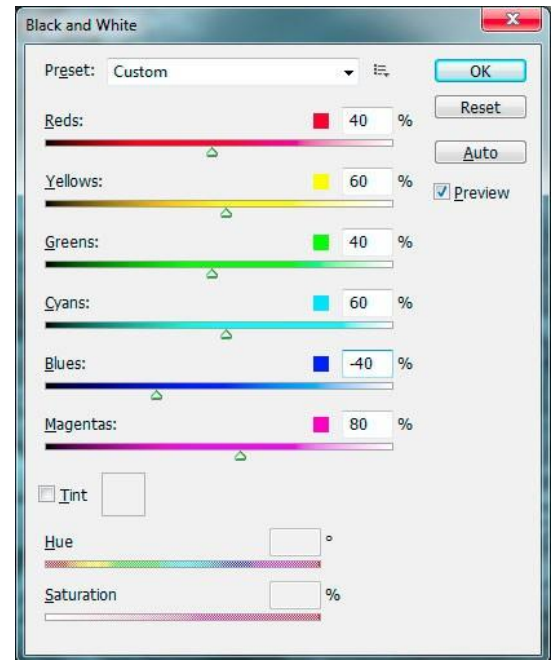
The Black & White adjustment in Photoshop not only allows you to change your image to greyscale, but also gives you control over how each color in a photo is converted. For example, you can make the greens in your image dark or light.

- Make sure that the layer you would like to adjust is selected
- Go to **Image, Adjustments**, and select **Black & White**

You will see sliders for each color in the window that appears.

- Move the slider to the right to make the selected color **darker**
- Move the slider to the left to make the selected color **lighter**

Photoshop has built-in presets that you can try on your image, as well as an option to **tint** your photo, allowing you to create a sepia effect.



## Shadows and Highlights

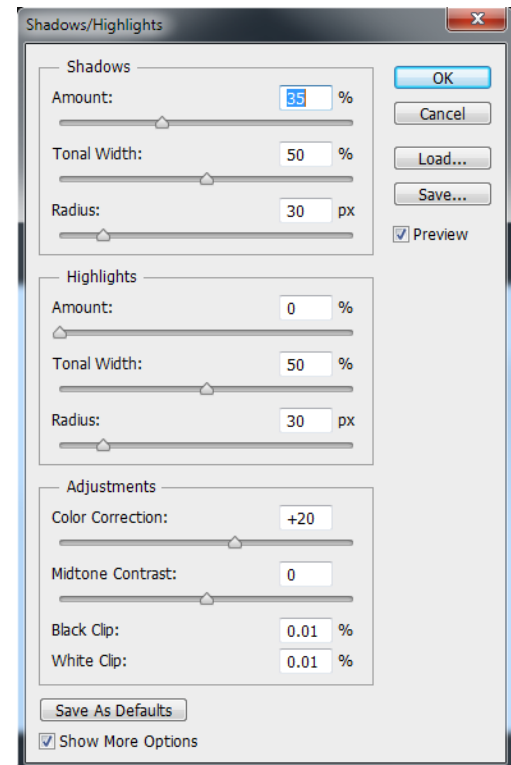
The Shadows and Highlights tool allows you to correct the different tones within your photo. These refer to the image's highlights, middle tones, and shadows. Using this tool allows you to alter the brightness or darkness of each range.

- Make sure that the layer you would like to adjust is selected
- Go to **Image, Adjustments**, and select **Shadows and Highlights**

The window is broken up into three categories; Shadows, Highlights, and Adjustments. Each slider represents different adjustments to that particular category

- **Amount:** Controls how much of a correction you want to make
  - Increasing the value in the **Shadows** category lightens the shadows
  - Increasing the value in the **Highlights** category darkens the highlights
- **Tonal Width:** Controls the range of tones selected in the shadow or highlights
  - Smaller values grab a smaller range of tones
  - Higher values grab a higher range of tones
- **Radius:** Determines how the adjusted areas of the image will blend in with the rest of the photo
  - In general, a photo will look better with a higher value, as it will blend in much nicer.

**Adjustment** will also allow you to control color correction of the photo as well as the contrast of middle values.



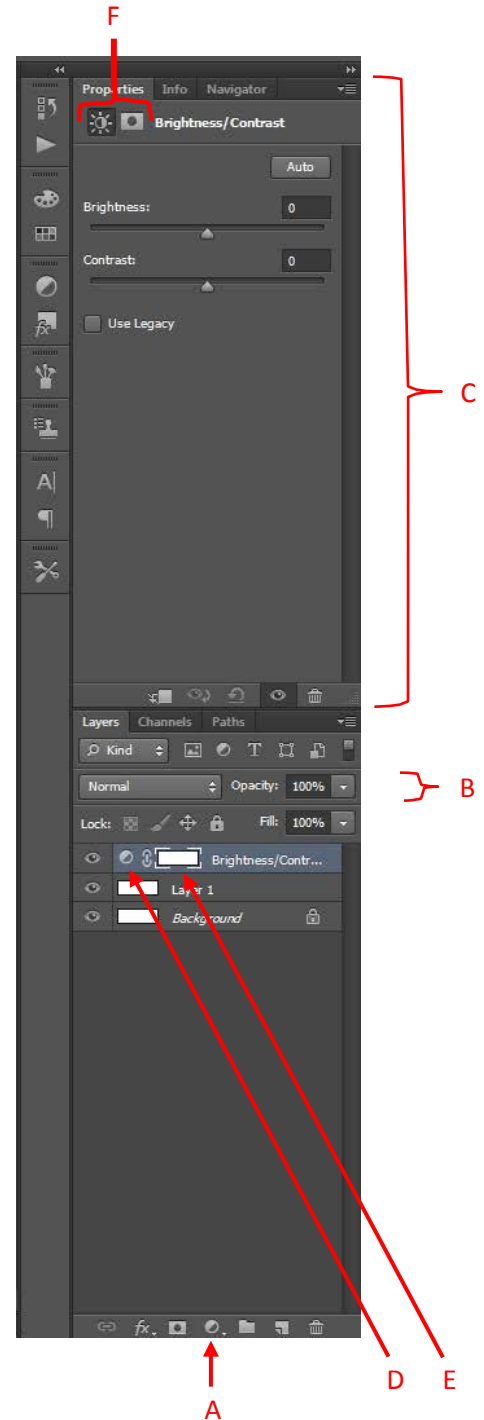
## Using Adjustments in the Layer Panel

Although Photoshop allows you to utilize Image Adjustments within the Menu Bar, they also give you the option of using **Adjustment Layers** from the **Layers** panel. By adding an Adjustment Layer, you are altering your photo using the same attributes as in the Menu Bar, however it will work like a layer. This allows you to add opacities, blending modes, and layers masks to your adjustments.

- At the bottom of your **Layers** panel, select the **New Adjustment Layer** button
- A fly out menu will appear. Choose any of the adjustments you would like.
- When you select an adjustment, a new layer will appear in your **Layers** panel, and the **Properties** panel will pop-up
  - This will show you your options for the adjustment chosen.
  - Just like the Adjustments in the Menu Bar, the Properties panel will have the exact same options.

The benefit to using **Adjustment Layers** rather than going to the Menu Bar and using Image Adjustments, is that you are able to reedit your adjustments.

- To change your Adjustment, click on the **Adjustment Layer icon**, next to the layer thumbnail
- Note: If you click on the layer mask instead of the Adjustment Layer icon, you will open the **Masks** portion of the **Properties** panel.
  - To switch back, either click on the **Adjustment Layer icon** in the **Layers** panel, or at the top of the **Properties** panel.




- A. Create a new Adjustment Layer
- B. Adjustment Layer
- C. Properties Panel
- D. Adjustment Layer icon
- E. Layer Mask
- F. Switch between Adjustment and Layer Mask

## Cleaning Up a Photo

Photoshop gives users a multitude of tools to help clean up your photos. It can help you take objects out of an image or edit them seamlessly.

### Clone Stamp tool

The **Clone Stamp tool** uses a point of reference in your photo to paint over another part of your photo. Just as the name suggests, this tool copies the point you are sampling and pastes the exact image over top of another section.



- In your **Tools** bar, select the **Clone Stamp** tool 
- To select the area you would like to sample, hold down **Alt** key (windows) or the **Option** key (mac) and click on the point of the photo
- Move your cursor to the part of the photo you would like to fix and begin to paint



*Altering an image with the Clone Stamp tool*



## Healing Brush vs. Spot Healing Brush

The **Healing Brush**  and **Spot Healing Brush**  tool allows you to correct imperfections in your photos and make them disappear. This is different from the **Clone Stamp** tool as your selection blends in with the surrounding area.

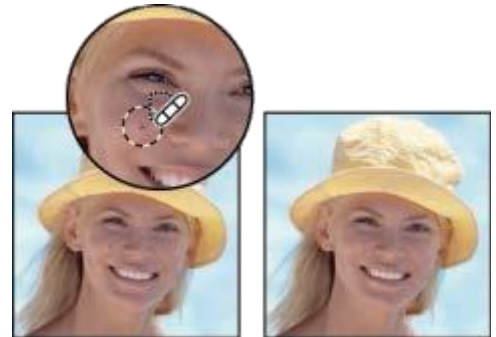
### Healing Brush vs. Spot Healing Brush

- **Healing Brush:** Matches the texture, lighting, transparency, and shading of the area you select to the area being healed
- **Spot Healing Brush:** Does the same task as the Healing Brush, however no area is sampled. It instead samples from the area around your retouching.

You can access these brushes in the **Tools** bar. Both brushes are under the same tool, and can be accessed by expanding the tool.




*Sampled pixels and healed image using Healing Brush*



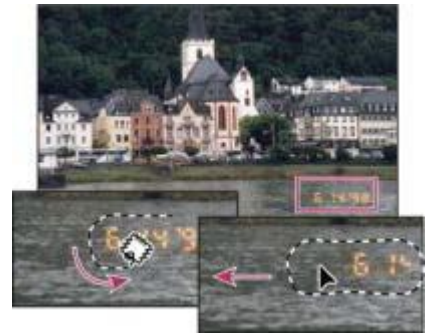
*Using the Spot Healing Brush to remove a blemish*

## Patch Tool

The **Patch Tool** lets you repair a selected area with pixels from another area or a pattern. Like the Healing Brush tool, the Patch tool matches the texture, lighting, and shading of the sampled pixels to the source pixels.

- In your **Tools** bar, select the **Patch Tool** 
- Click and grab to select the area of the image you want to fix
- Move your mouse over your selection, click, hold, and drag the selection to the area you would like to sample

The Patch Tool can work like the Clone Stamp tool, where it takes the same exact part you sampled and overlays it. You can also set the Patch Tool to use **Content Aware**, which blends the area you sampled with the area around your original selection. You can change this setting in your **Options** bar.



*Using the Patch tool to replace pixels*



*Patched image*