

Photoshop Basics 1

Digital Photography / Photo Project

MassArt Studio Foundation

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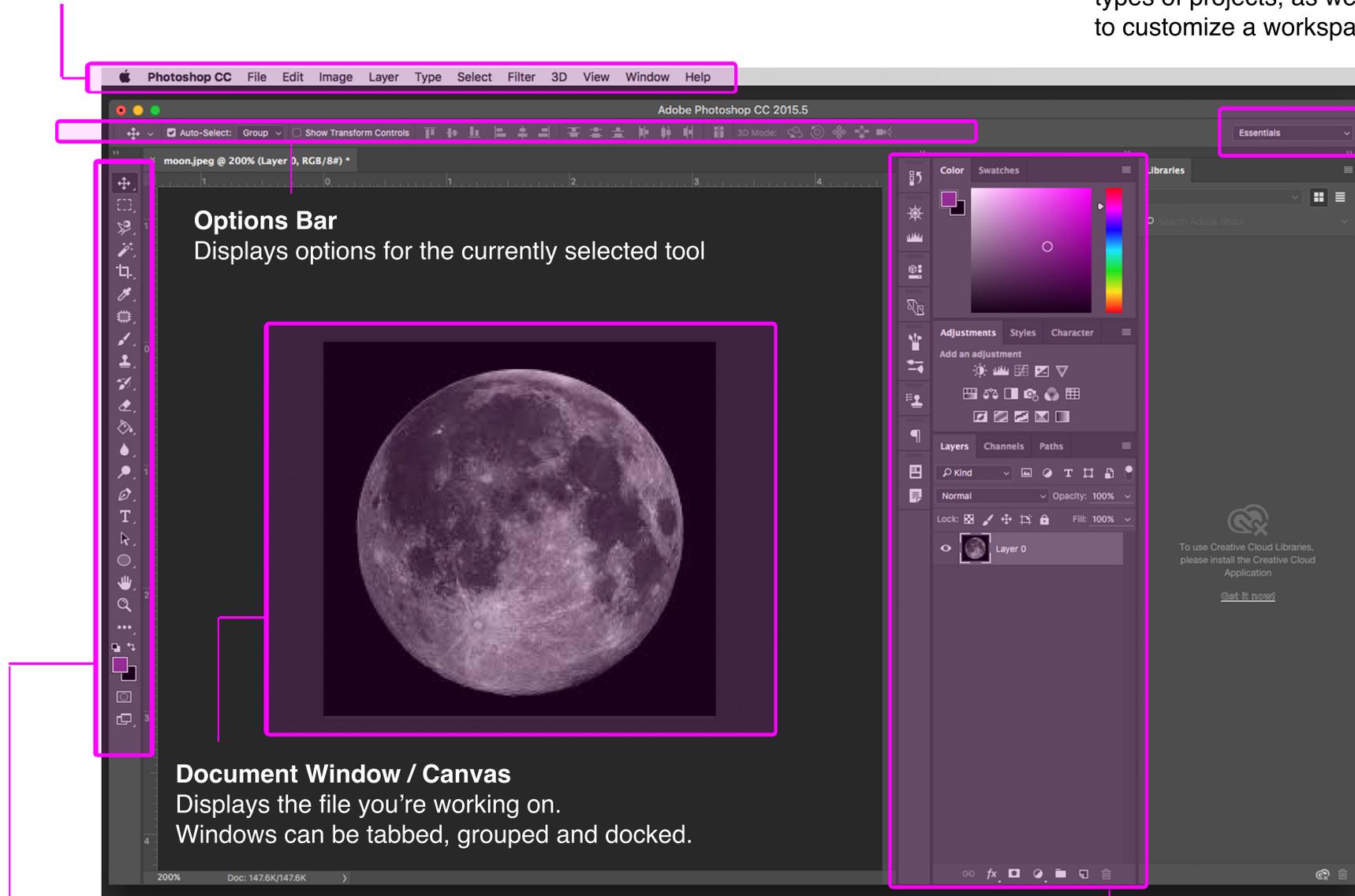
Photoshop Interface (Default Workspace)

Menu Bar

Contains all of Photoshop's available options

Workspace Menu

Preset workspace layouts for certain types of projects, as well as the option to customize a workspace.



Options Bar

Displays options for the currently selected tool

Document Window / Canvas

Displays the file you're working on.
Windows can be tabbed, grouped and docked.

Tools Panel

Related tools are grouped.

See a small triangle at a tool's lower right corner?

Hold down mouse button to view the hidden tools.

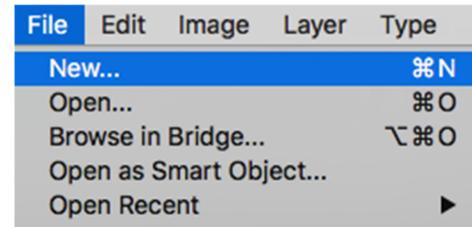
Click a tool to make it active.

Panels

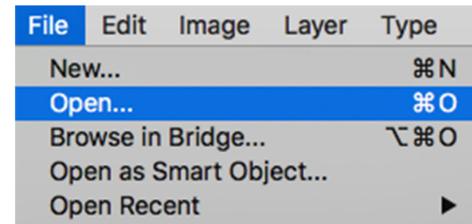
Panels help you monitor/modify work.

They can be grouped, stacked, or docked.

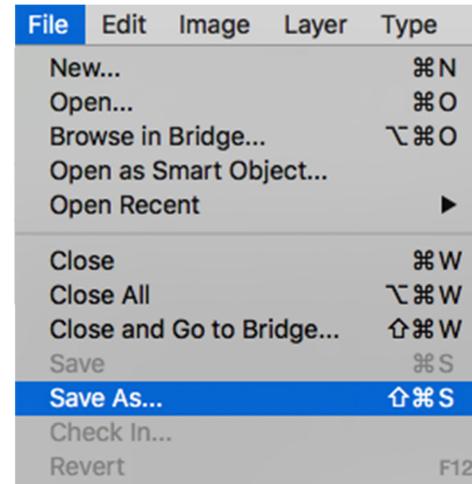
Starting a Photoshop Document



File > New (for a new PS doc)
 Set up doc to suit your needs
See right hand side of page >

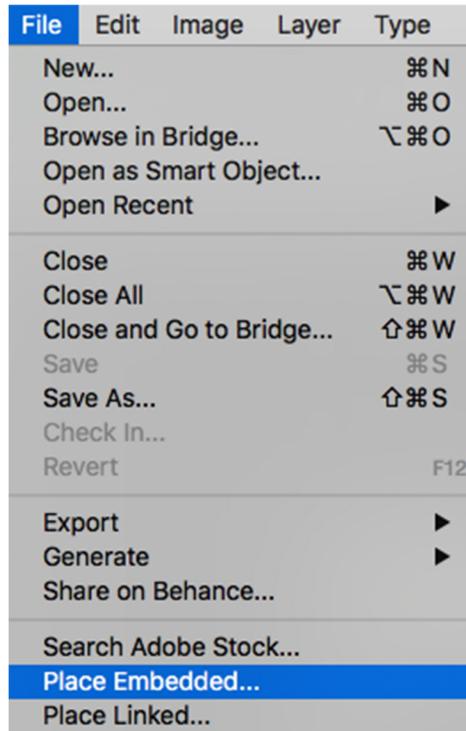


File > Open > (locate file)



File > Save As

Once image has been opened,
 save file as a Photoshop (.psd) file
Save continuously as you work!



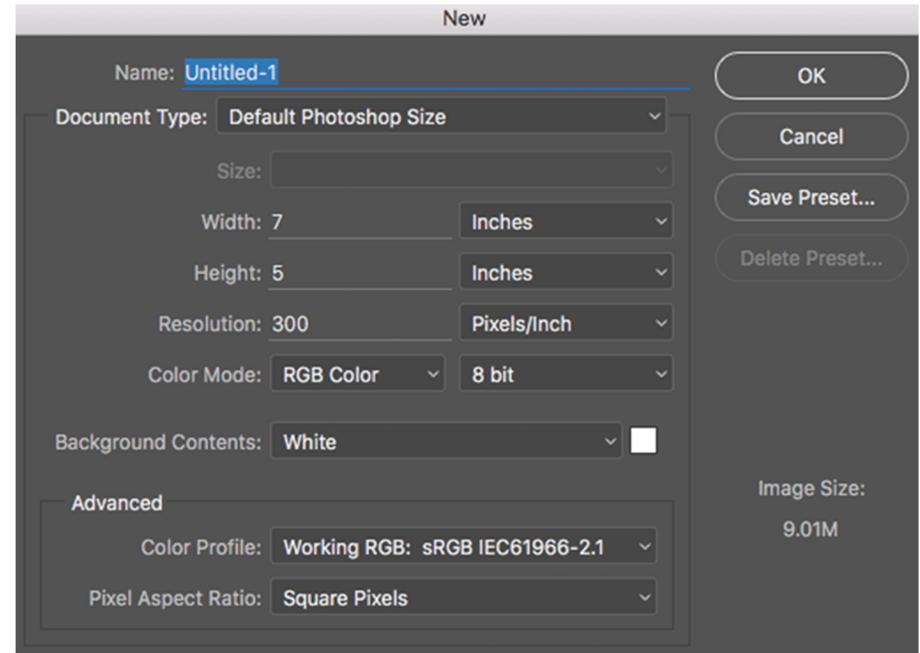
If you started a new doc, use the
 “Place” command to add any
 Photoshop-supported file.
 When you place a file, the file
 becomes a Smart Object which
 can be scaled, positioned,
 skewed, rotated, or warped
 without degrading the image.

File > Place Embedded

To place files as **Smart Objects**
 into an open Photoshop doc

File > Place Linked

To place files as **Linked Smart
 Objects**, which get updated
 when source image file changes



New File Window

Name the document
 Set Width and Height
 Set Resolution (“300” pixels/inch is high quality)
 Select Color Mode (“RGB” is suitable for web-based work)
 Press “OK” to begin new document

Image Size and Resolution

Resolution is fineness of detail, measured in **pixels per inch (ppi)**.

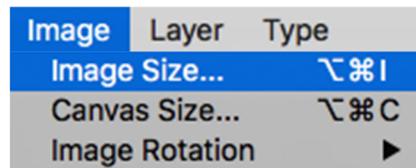
Zoom in (command +) to see the pixels that comprise the image.

If the image's resolution is 300 ppi, there are 300 pixels within each 1-inch row of pixels.

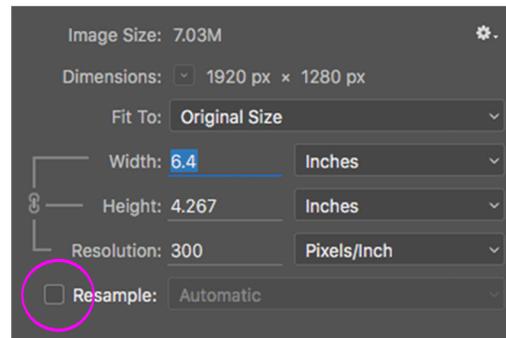
The more pixels per inch, the greater the resolution.

How to resize an image:

1. Select **Image > Image Size**



2. In the Image Size window, Deselect "Resample"



3. Type a new "Width" or "Height" (proportions are constrained)

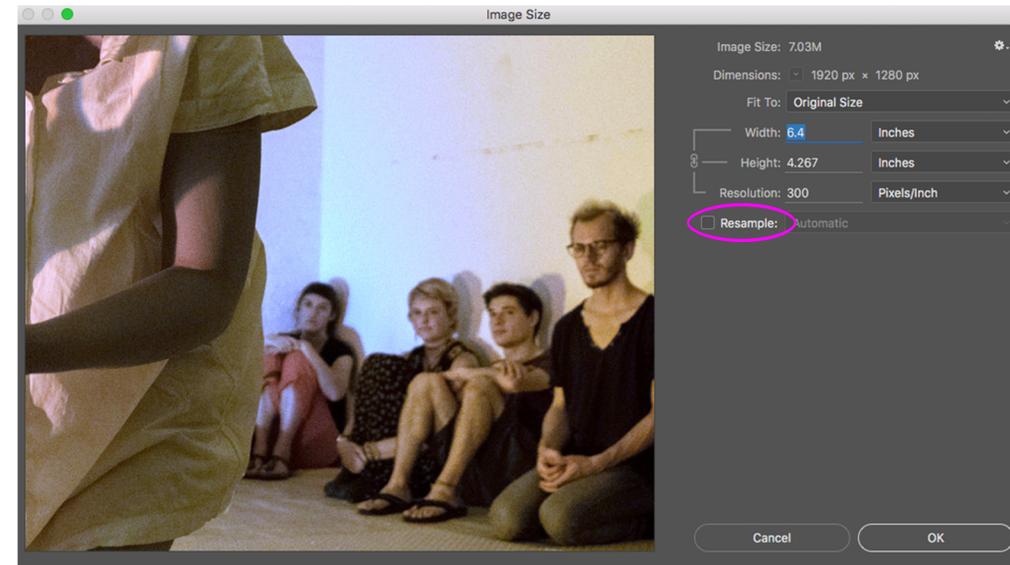
4. If you plan to print the image and want it to look good on paper, change the "Resolution" to 300 (notice that the width and height change to accommodate the change in resolution)

5. Press "OK"

Resampling is changing the amount of image data as you change either the pixel dimensions or the resolution of an image.

Downsample (decrease number of pixels) = info deleted from image
Resample up (increase number of pixels) = new pixels added to image
Interpolation method determines how pixels are added or deleted

1. Go to **Image > Image Size**
2. Check "Resample" (circled below)
3. Type in new values for Width/Height OR a new value for Resolution
4. Press "OK"



Upsampling is an image-editing process that enlarges your original photo, making up (or interpolating) additional pixels to fill in the gaps.

Avoid upsampling by creating an image at sufficiently high resolution.

For example, set your camera to capture high-resolution images.

Print Size and Resolution

Printer resolution is different from, but related to, image resolution.

For a high-quality print from an inkjet printer, aim for an image resolution of at least 220 ppi.

Understanding the Image Size Window

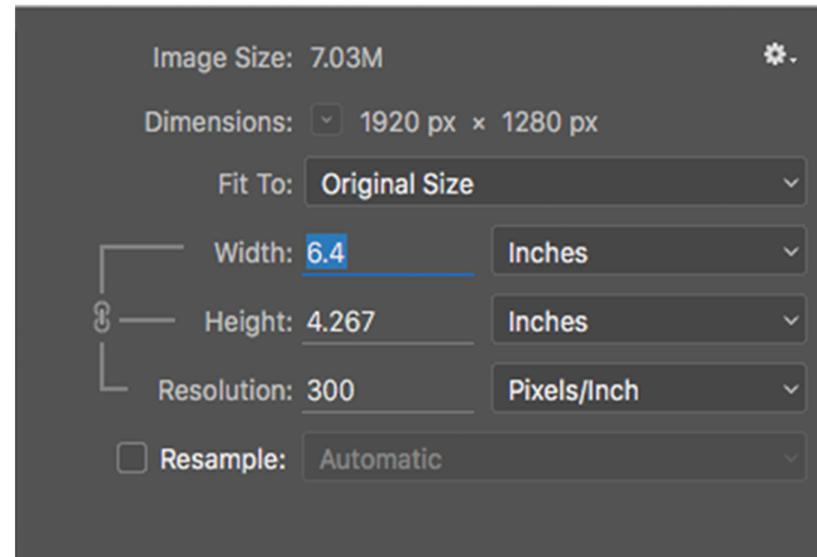


Image Size: 7.03M (the current file size of document)

Dimensions: 1920 px x 1200 px (number of pixels wide/tall of image)

Fit To: Original Size (choose a preset to resize the image)

Width: 6.4 (the image is originally 6.4 inches wide)

Height: 4.267 (the image is originally 4.267 inches tall)

Resolution: 300 (image has a resolution of 300 pixels per inch)

Higher resolution number = more pixels inside every square inch

If you check **Resample**, choose an Interpolation Method (see page 4)

More Info: <https://helpx.adobe.com/photoshop/using/image-size-resolution.html>

The default settings for many digital cameras produce an image that is large in physical dimensions (i.e., width and height), but low in pixels per inch (usually 72 ppi).

How to decrease the size of a digital camera image and increase its resolution without losing quality:

1. Select **Image > Image Size**
2. In the Image Size dialog box, deselect the Resample check box (makes Width, Height, and Resolution values interdependent)
3. Change the Resolution from 72 pixels/inch to 300 pixels/inch (Width/Height values change in proportion to change in Resolution)
4. Click "OK" to apply the changes

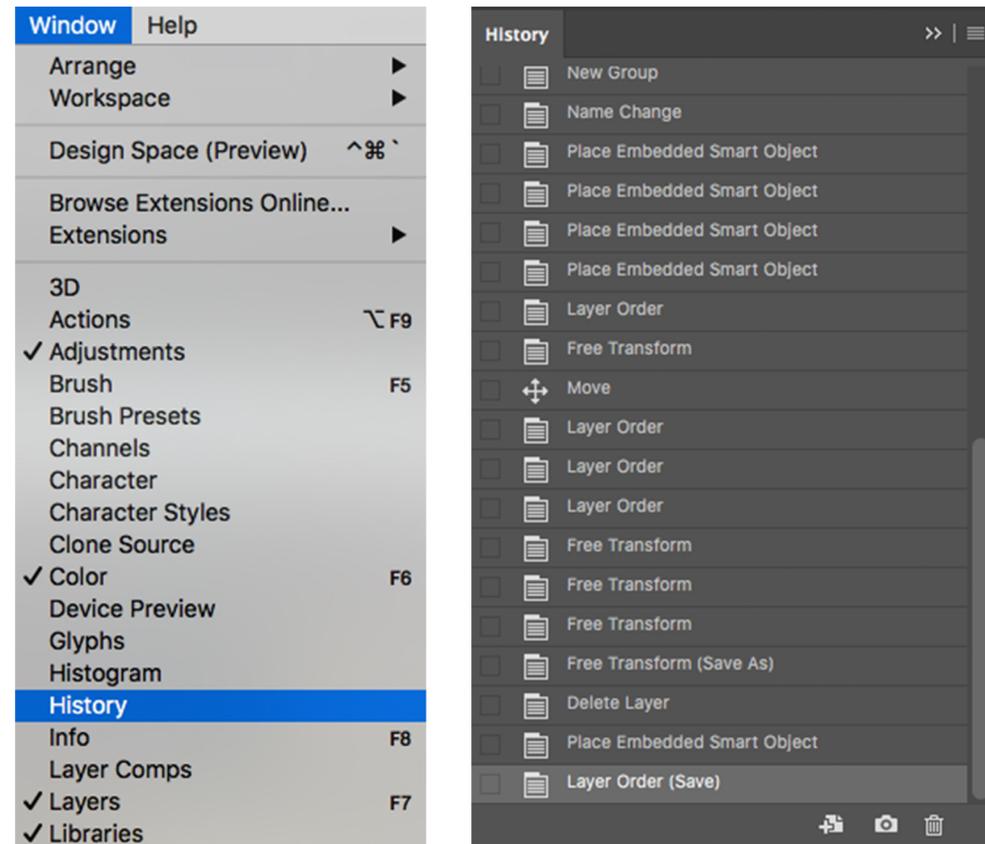


Photoshop Workflow Features

To **UNDO**, Choose “Edit > Undo” or “Command Z”

To **REDO**, Choose “Edit > Redo” or “Command Z”

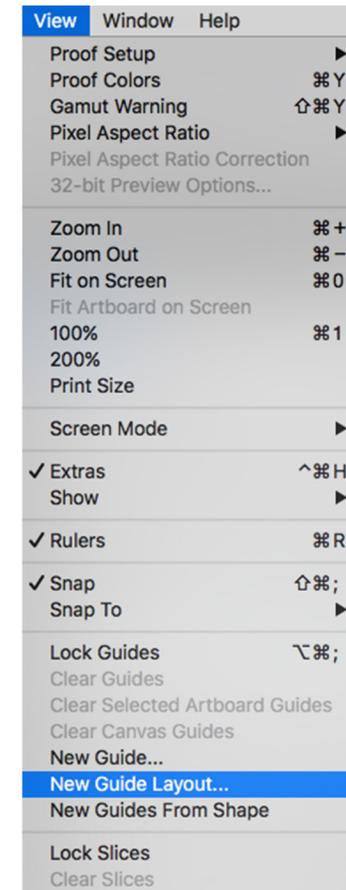
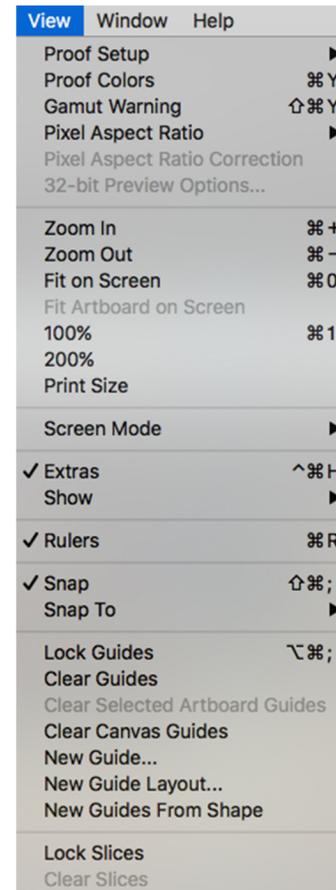
Window > History (to display the History panel)



You can use the History panel to 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 panel.

More Info: <https://helpx.adobe.com/photoshop/using/undo-history.html>



Guides and the **Grid** help you position images or elements precisely.

Guides appear as nonprinting lines that float over the image. You can move and remove guides. You can also lock them. (use the View menu to show, lock and clear guides)

Smart Guides help you align shapes, slices, and selections. They appear automatically. You can hide Smart Guides if you need to.

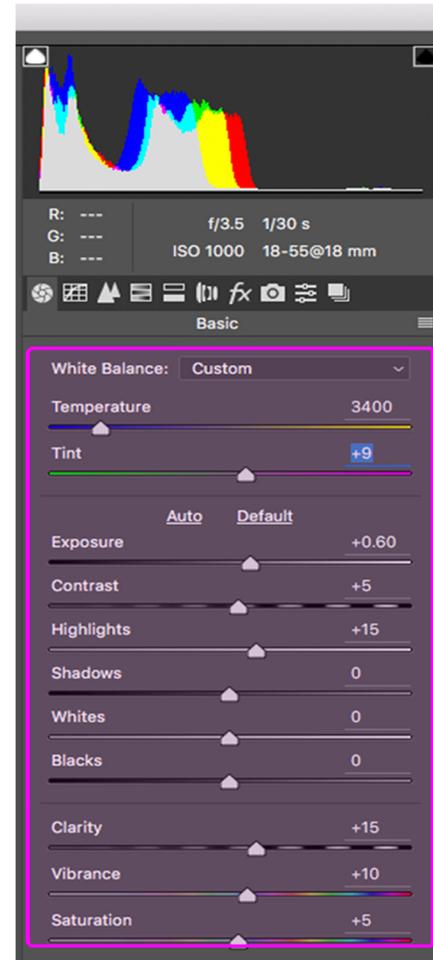
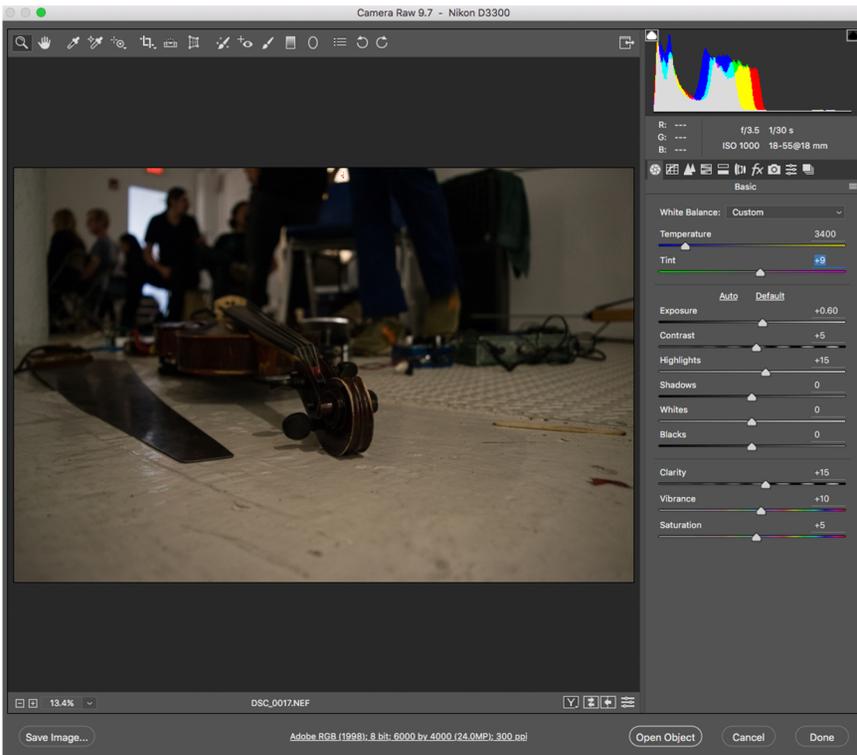
Grid is useful for laying out elements symmetrically. The grid appears by default as nonprinting lines but can also be displayed as dots.

View > New Guide Layout

Lets you make a guide layout with columns, rows, margins, etc.

Camera Raw

Open a “.NEF” file and notice the Camera Raw window (seen on left)



Experiment with the options on the right-hand side of window

Notice the ways in which you can alter the original image

When you're ready to edit digital photos in Photoshop, be sure to copy the image files from the camera's memory card to your external hard drive.

If you used the Nikon D3300 and set the Image Quality to “NEF + JPEG”, you can open one of those “.NEF” (RAW) files with Photoshop and edit the image in a program called Camera Raw (which should automatically open whenever you bring a “.NEF” file into Photoshop).

A RAW file contains unprocessed image data direct from the camera sensor. RAW allows for more control over aspects of image development and exposure.

Save Image...

Select “Save Image...”
To save changes made, Save the “.DNG” file in a folder on your hard-drive

Open Object

Select “Open Object”
When ready to open image in Photoshop for further editing

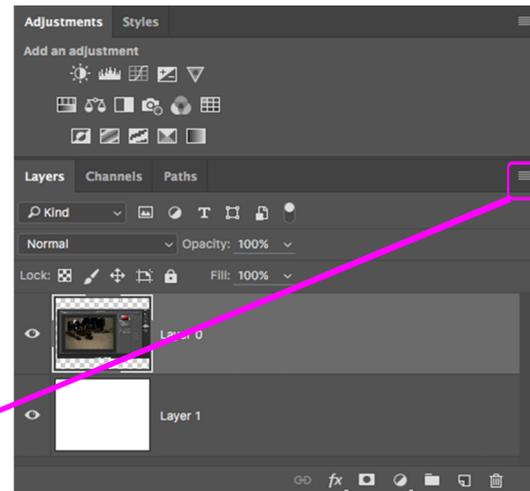
Layers

Go to **Window > Layers**

The **Layers panel (lower right)** lists all layers, layer groups and layer effects in an image.

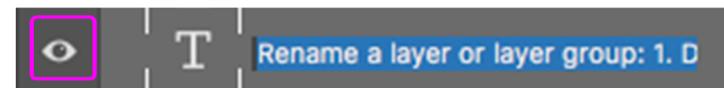
Use the Layers panel to show and hide layers, create layers and group layers.

Access more commands and options in Layers panel menu.



Managing layers keeps your project organized.

Rename a layer or layer group: double click on layer/group name



Hide/Show layer: click on the eyeball to the left of the layer name

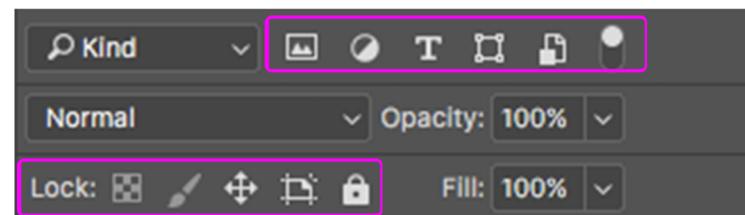
Move layer: click once on layer, hold mouse down to move up/down

Delete layer: select layer and press “delete” (command+z to undo)

Merge layers: select layers, press command+e

Filter for different kinds of layers:

Adjustment layers or text layers or pixel layers, etc.



Lock a layer or group: select layer and click on a “Lock” icon
You can lock image pixels, lock position, lock all, etc.

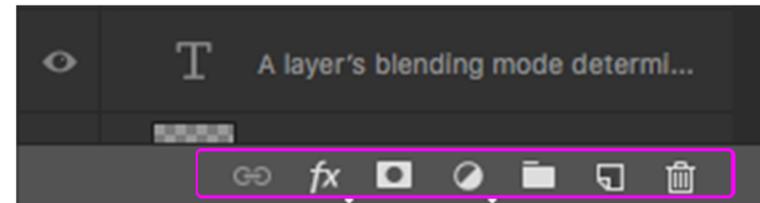
More Info: <https://helpx.adobe.com/photoshop/using/layers.html>

Layers determine **the order in which objects appear.**

You can only edit the currently selected layer.

Use layers to perform tasks such as compositing multiple images, adding text to an image or adding vector graphic shapes.

Layer options (from left to right):



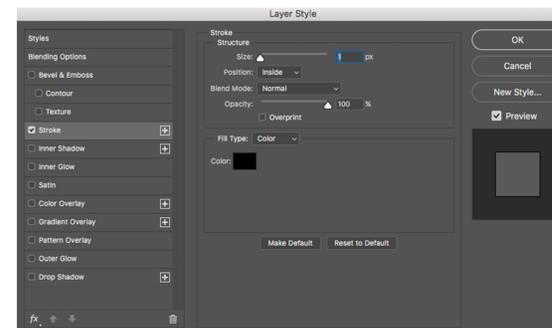
Link layers // Add a layer style // Add layer mask //

Create new fill or adjustment layer // Create a new group //

Create a new layer // Delete layer

Add a Layer Style (example: a drop shadow or a stroke):

1. Select a layer (layer will be highlighted when selected)
2. Click on “fx” button in the layer options bar (bottom of Layers panel)
3. Choose a style from the menu
4. Set effect options in the Layer Style dialog box.



Edit multiple effects w/o closing Layer Style dialog box.

Click the name of an effect on the left side of the dialog box to display its options.

Non-destructive Editing With Adjustment Layers

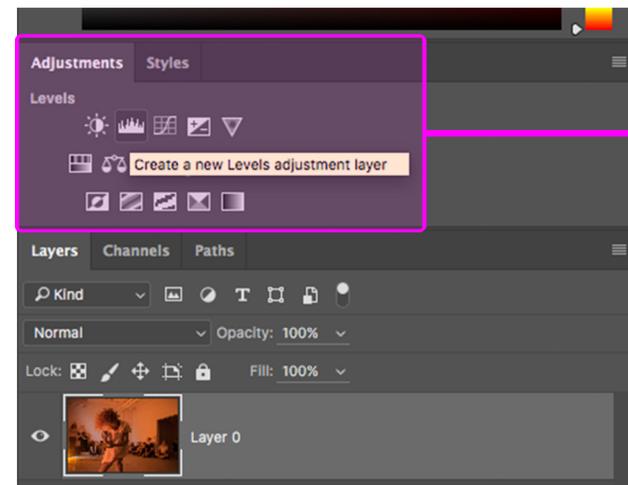
Non-destructive editing allows you to make changes to an image without overwriting the original image data.

The original data remains available to you if you want to revert to it.

Since non-destructive editing doesn't remove data from an image, the image quality doesn't degrade when you make edits.

You can perform non-destructive editing in several ways.

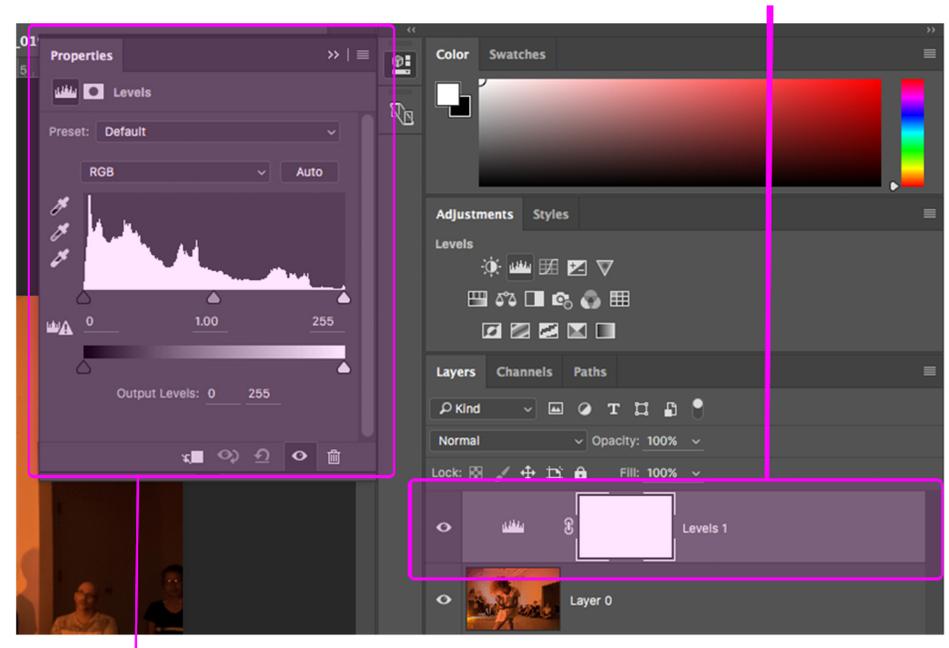
One way is to use **Adjustment Layers**, which apply color and tonal adjustments to an image without permanently changing pixel values.



Click on an icon to add adjustment layer

1. Locate the layers panel and select the layer
2. Go to **Window > Adjustments** (to show the Adjustments Panel)
3. Choose an Adjustment Layer from the icons (try "Levels", 2nd one)

After choosing an adjustment layer, it occupies its own layer.



Use the Properties panel to make adjustments to your image.

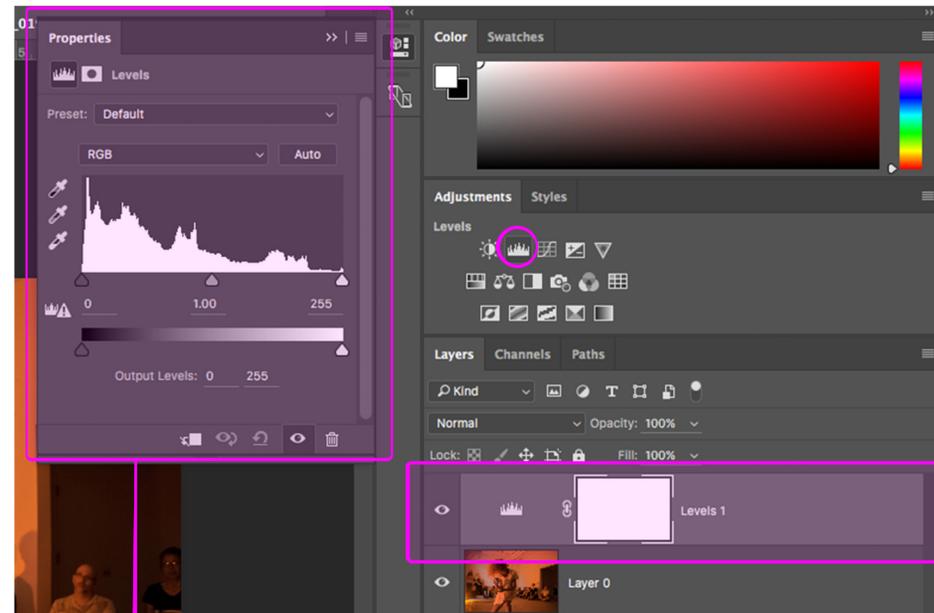
1. Click on the Adjustment layer in the layers panel.
2. Navigate to the Properties panel to begin making adjustments (if you don't see Properties panel, go to **Window > Properties**)
3. Experiment using different Adjustment Layers: Brightness/Contrast, Levels, Curves, Exposure, Vibrance, etc.



Note: clicking on "clip to layer" icon in Properties panel will make Adjustment layer "clip" to and affect only the layer directly beneath.

Levels and Curves

Use the **Levels** adjustment (circled below) to alter tonal range and color balance by adjusting shadows, midtones and highlights.



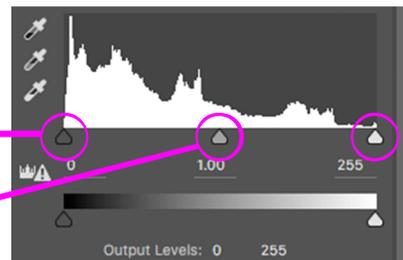
Use the Properties panel to make adjustments to your image.

Adjust shadows and highlights:

Drag black and white Input Levels sliders to the edge of the first group of pixels at either end of histogram.

Adjust midtones:

Use the middle Input slider



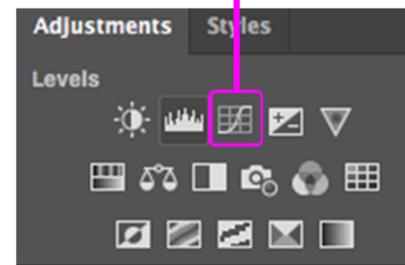
Histograms illustrate how pixels in an image are distributed by graphing the number of pixels at each color intensity level.

Histograms show detail in the shadows (shown on the left side), midtones (in the middle) and highlights (on the right side).

More Info: <https://helpx.adobe.com/photoshop/using/levels-adjustment.html>

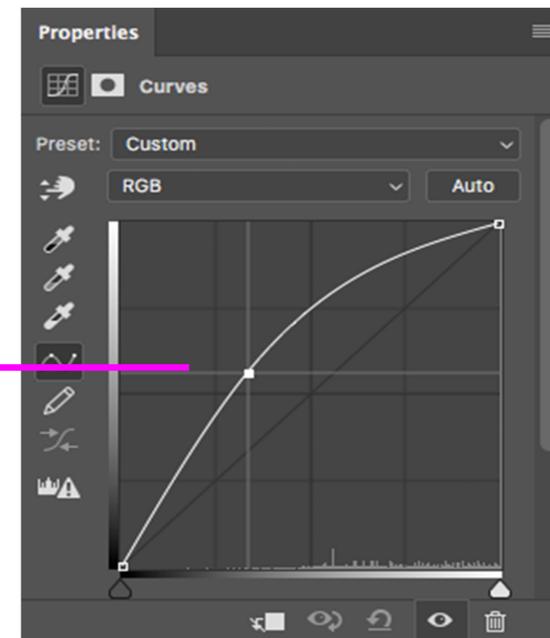
Use **Curves** adjustment to brighten/darken, add contrast, shift colors.

Select Curves icon in Adjustments panel



Use the Properties panel to make adjustments

Go to **Window > Properties**



- Move a point in the top portion of the curve to adjust highlights
- Move a point in the center of the curve to adjust midtones
- Move a point in the bottom section of the curve to adjust shadows
- Move a point near the top of the curve downward to darken highlights
- Move a point near the bottom of the curve upward to lighten shadows
- Moving a point either down or to the right maps the Input value to a lower Output value and the image darkens
- Moving a point either up or to the left maps a lower Input value to a higher Output value and the image lightens

More Info: <https://helpx.adobe.com/photoshop/using/curves-adjustment.html>

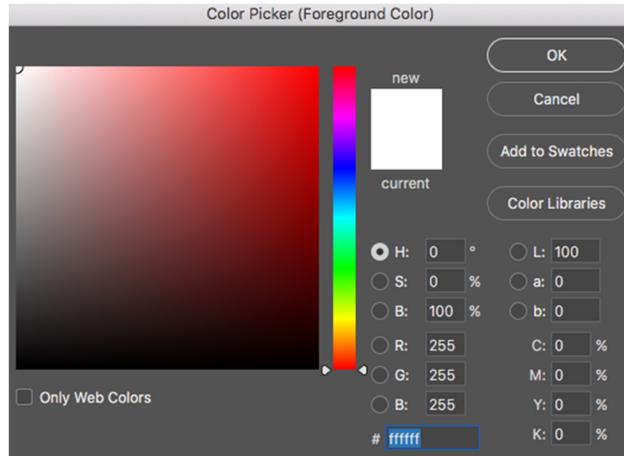
Color Adjustments

In addition to Levels and Curves, there are several ways to adjust color.

To change foreground and background colors:

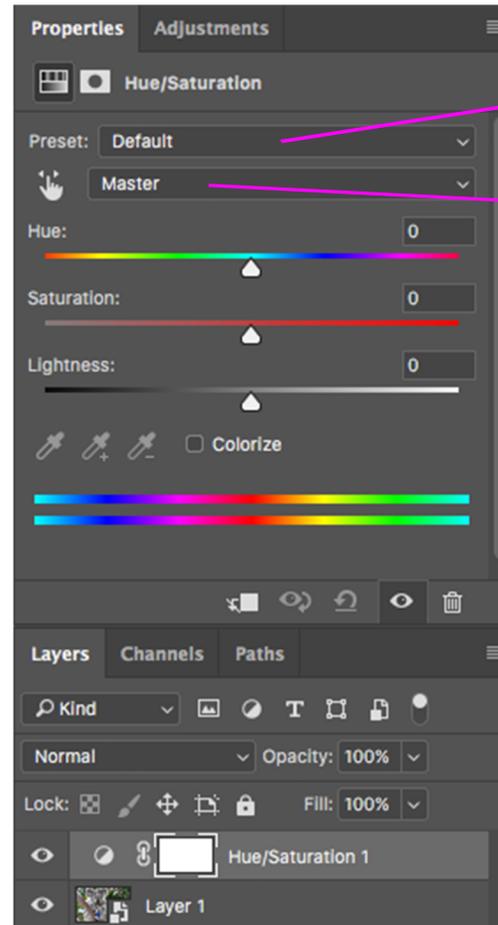
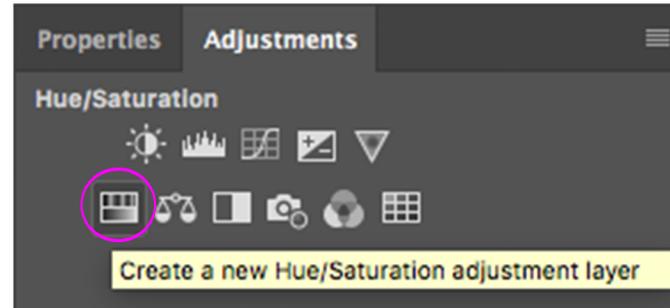


1. Double click a square



2. Select a color using the Color Picker (window pops up)

To change the hue and saturation of an image:



Choose a Hue/Saturation preset from the Preset menu

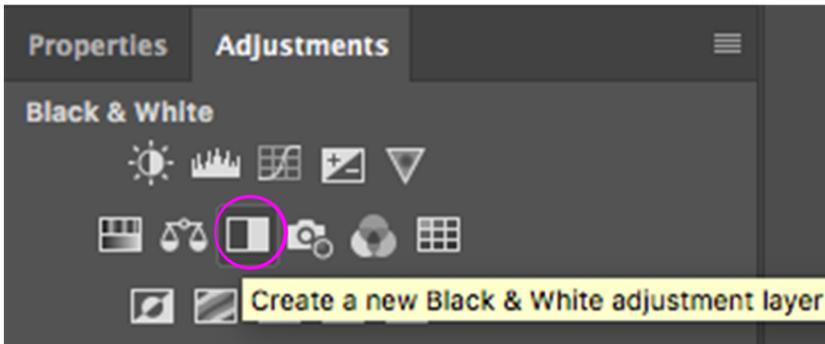
Choose Master to adjust all colors at once

Experiment adjusting Hue, Saturation and Lightness levels

The two color bars in the dialog box represent the colors in their order on the color wheel. The upper color bar shows the color before the adjustment; the lower bar shows how the adjustment affects all of the hues at full saturation.

< adjustment layer

To add a Black and White adjustment layer:

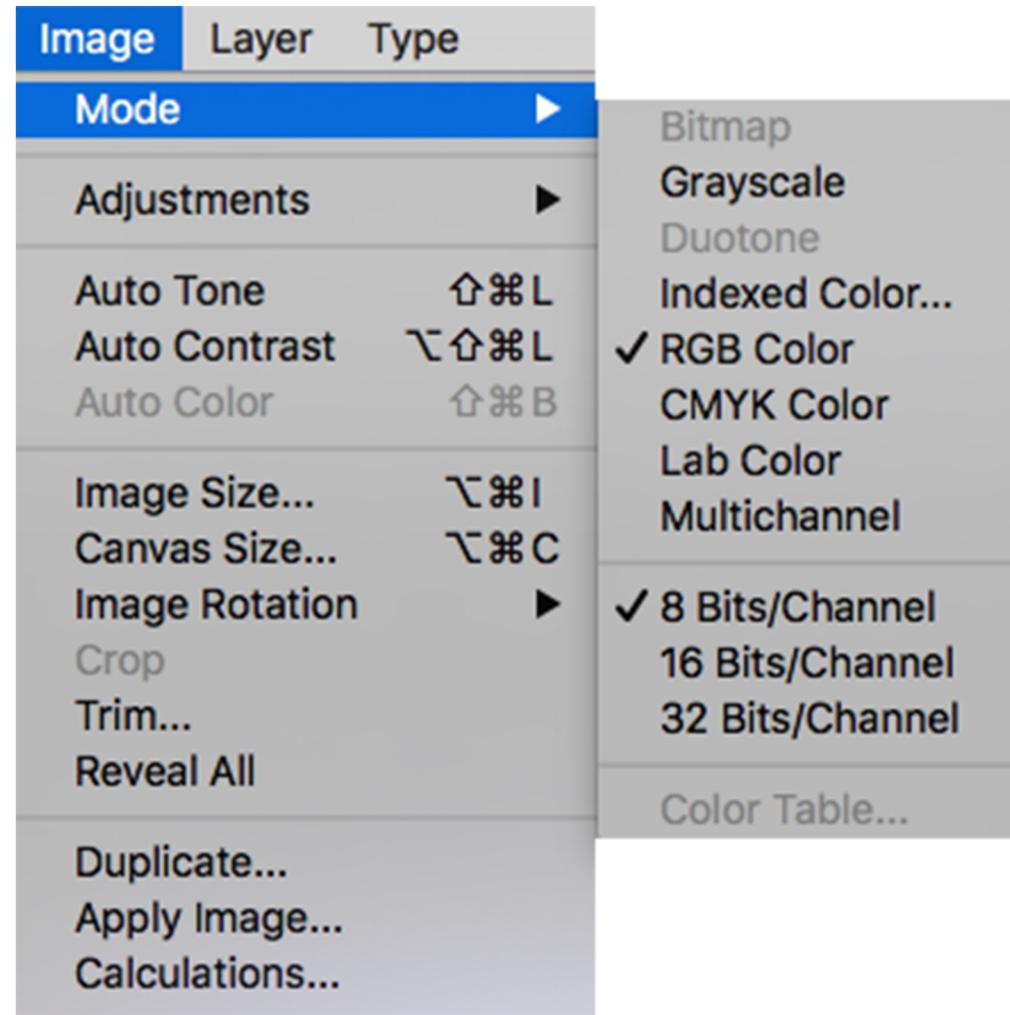


1. Go to Window > Adjustments to see Adjustments panel
2. Select Black & White adjustment layer icon (circled above)

Image Color Basics

Convert a Photoshop Document to Grayscale Mode:

Select **Image > Mode > Grayscale**



RGB Color Mode

RGB images use three colors, or channels, to reproduce colors on screen.

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.

The RGB model is used by computer monitors to display colors.

CMYK Color mode

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.

You can also use CMYK mode to work directly with CMYK images scanned or imported from high-end systems.

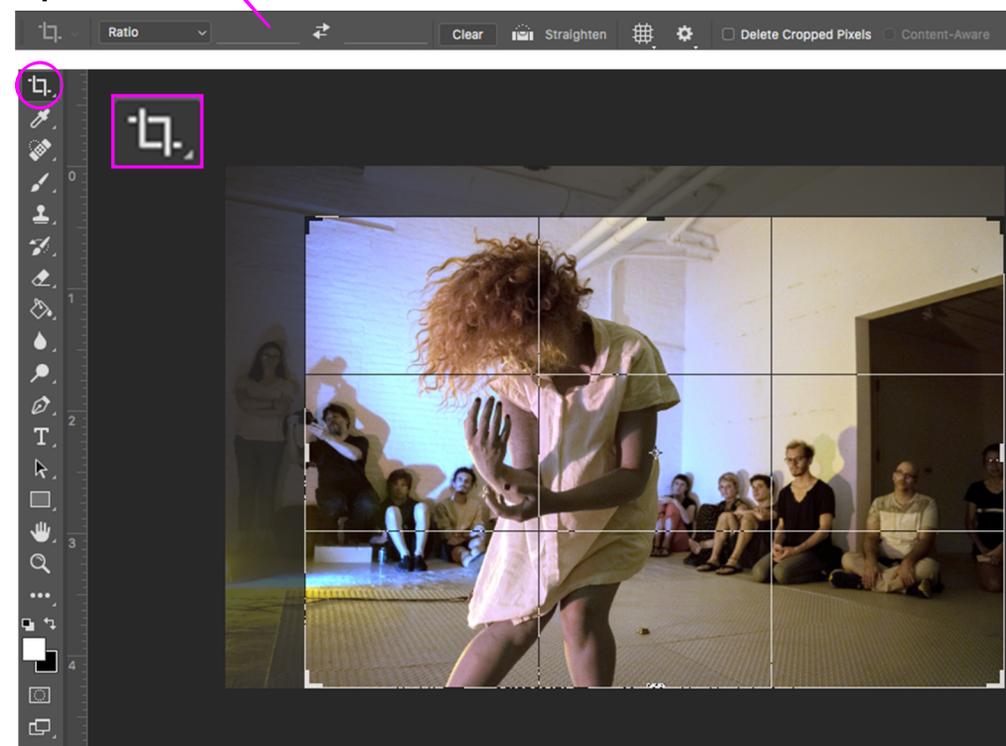
Crop and Transform

The Crop tool is non-destructive and you can choose to retain the cropped pixels to optimize the crop boundaries later (to do so, uncheck “Delete Cropped Pixels” in Options bar)

1. Select Crop Tool in toolbar (crop borders display on edges of image)
2. Draw a new cropping area or drag the corner and edge handles to specify the crop boundaries in your photo

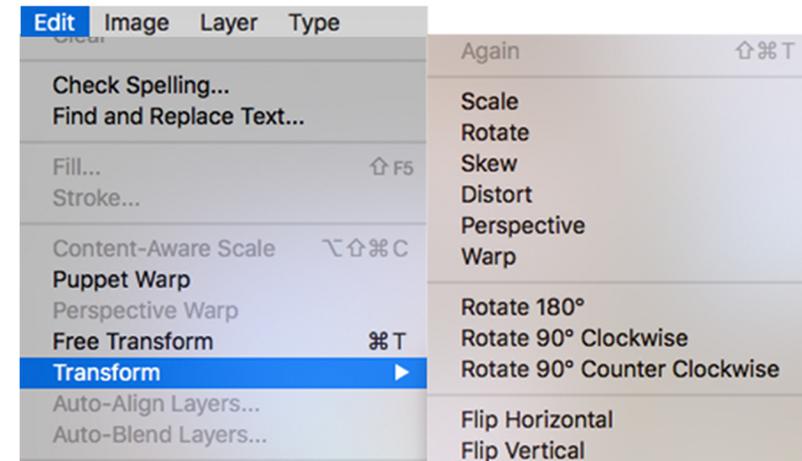
To straighten an image, click “Straighten” in the Options bar and then using the Straighten tool, draw a reference line to straighten the image (example: draw a line along horizon to straighten the image along it)

Options menu



Transforming scales, rotates, skews, stretches, or warps an image

1. Highlight the layer in the Layers panel
2. Select **Edit > Transform >** (select what you want to transform)



3. If you chose:

Scale: drag a handle on the bounding box
Press Shift as you drag a corner handle to scale proportionately

Rotate: move the pointer outside the bounding border (it becomes a curved, two-sided arrow) and then drag
Press Shift to constrain the rotation to 15° increments

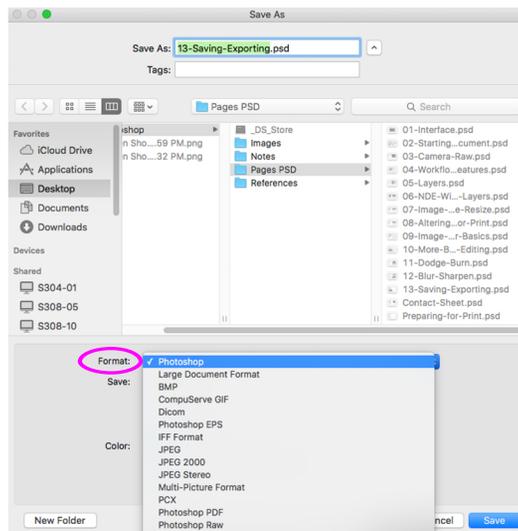
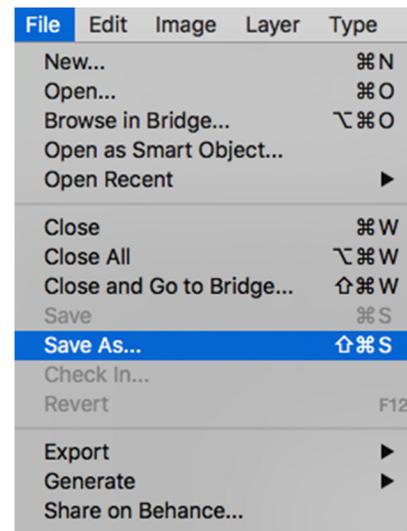
Skew: drag a side handle to slant the bounding box

Distort: drag a corner handle to stretch the bounding box

Perspective: drag a corner handle to apply perspective to the bounding box

Warp: choose a warp from the Warp Style pop-up menu in the options bar, or to perform a custom warp, drag the control points, a line, or an area within the mesh to change the shape of the bounding box and mesh

Save and Export



Save As window

1. Choose **File > Save As**

2. Choose a format from the Format menu (ex: "Photoshop")

3. Specify a filename and a location for the file

You may want to save the file inside a project folder on your hard drive

4. Select "Save"

IMPORTANT:

Save a copy of the file in Photoshop (.psd) format.

The Photoshop (.psd) format supports all the image data and retains all the layers, whereas JPG/PNG/TIFF formats do not.

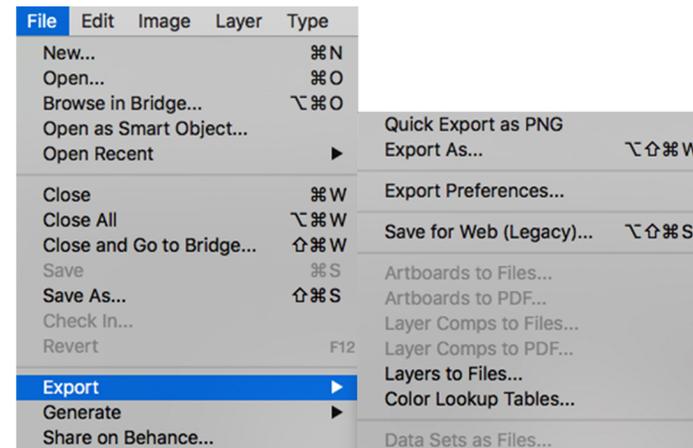
Save often while you work to minimize potential work loss due to technical difficulties or unforeseen events.

More Info: <https://helpx.adobe.com/photoshop/using/saving-images.html>

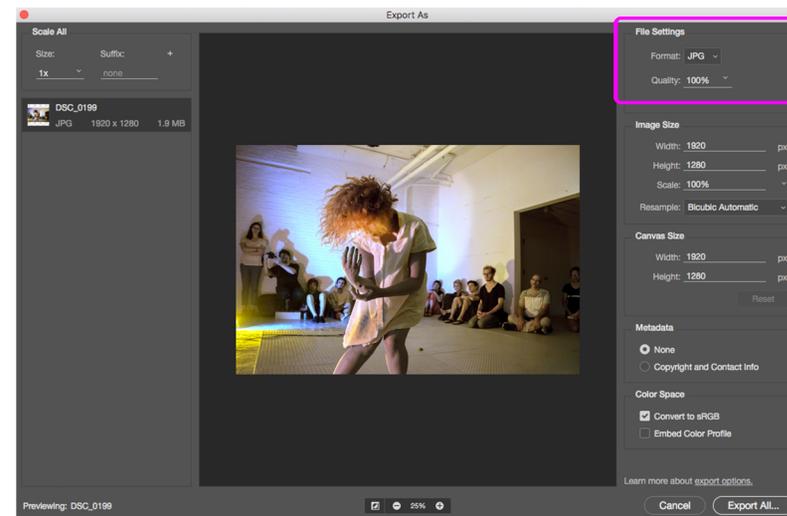
You can save work in different file formats.

If you plan to put an image on the web, try **exporting** to JPEG or PNG.

1. Go to **File > Export > Export As...**



2. Choose a file format (right-hand side of window at the top)

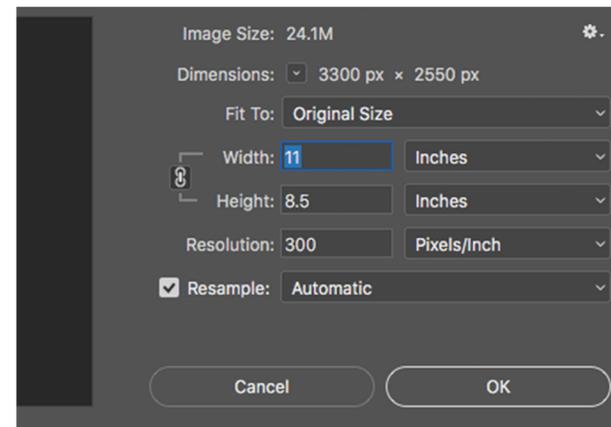


3. Click "Export All..." and save the file to your hard drive

Print Images

What is the size and resolution of your image?

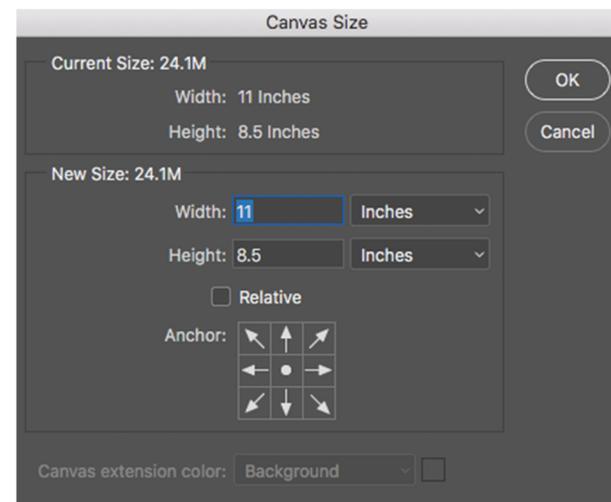
Go to Image > Image Size



The document is 11x8.5 with a resolution of 300 ppi (pixels per inch)

Do you need to change the size of your canvas?

If so, go to Image > Canvas Size



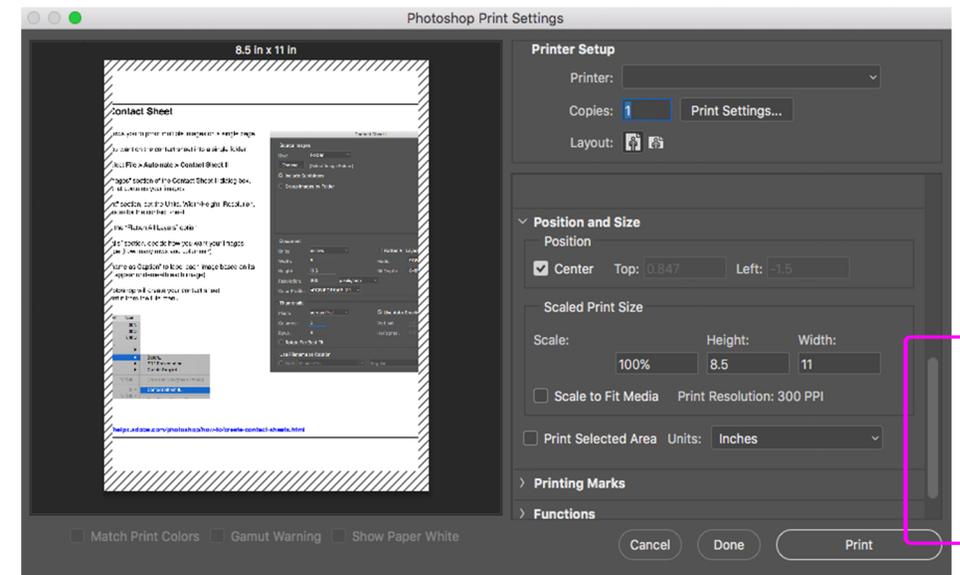
You can change the size of your canvas without altering the pixel information. If you enlarge the canvas, you will likely see a transparent background in the areas to which your existing imagery doesn't extend

You can print images directly from Photoshop.

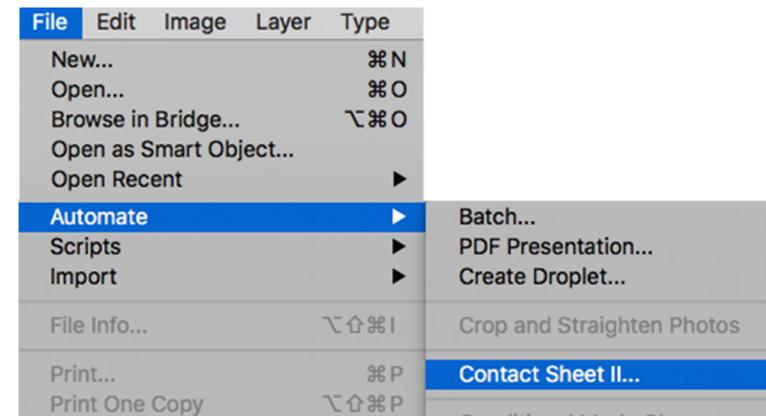
Select **File > Print...**

Use the Photoshop **Print Settings** window to specify printer, layout, position and size, etc.

Use the scroll bar on the right-hand side of the window to access position and size details.



Contact Sheet



A Contact Sheet lets you proof multiple images on a single page.

1. Put all images you want on the contact sheet into a single folder
2. In Photoshop, select **File > Automate > Contact Sheet II**
3. In the “Source Images” section of the Contact Sheet II dialog box, choose the Folder that contains your images
4. Under “Document” section, set the Units, Width/Height, Resolution, and Mode (color mode) for the contact sheet
5. If desired, select the “Flatten All Layers” option
6. Under “Thumbnails” section, decide how you want your images arranged on the page (how many rows and columns?)
7. Select “Use Filename as Caption” to label each image based on its file name (label will appear underneath each image)
8. Click OK and Photoshop will create your contact sheet. You can save or print it from the File menu.

