

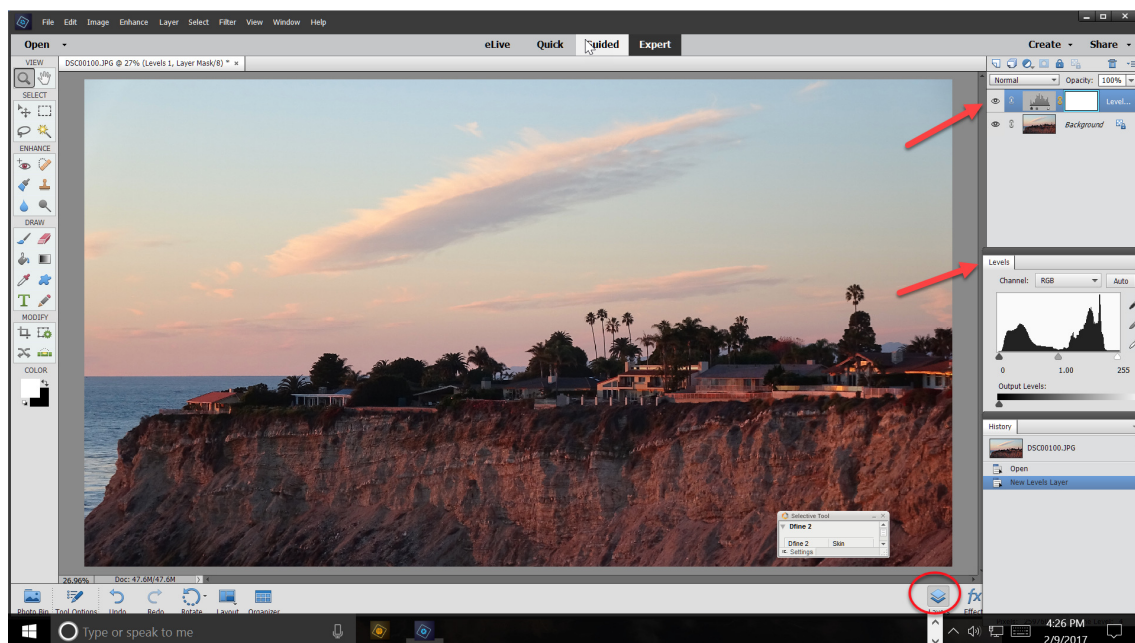
PSE 15 Using the Levels Command

In this tutorial, you will learn how to use the Levels command and Adjustment Layers. Using the full Levels command capabilities provides a much more powerful and flexible tool than simply using Auto Levels. Brightness, contrast, and color balance can all adjusted using it.

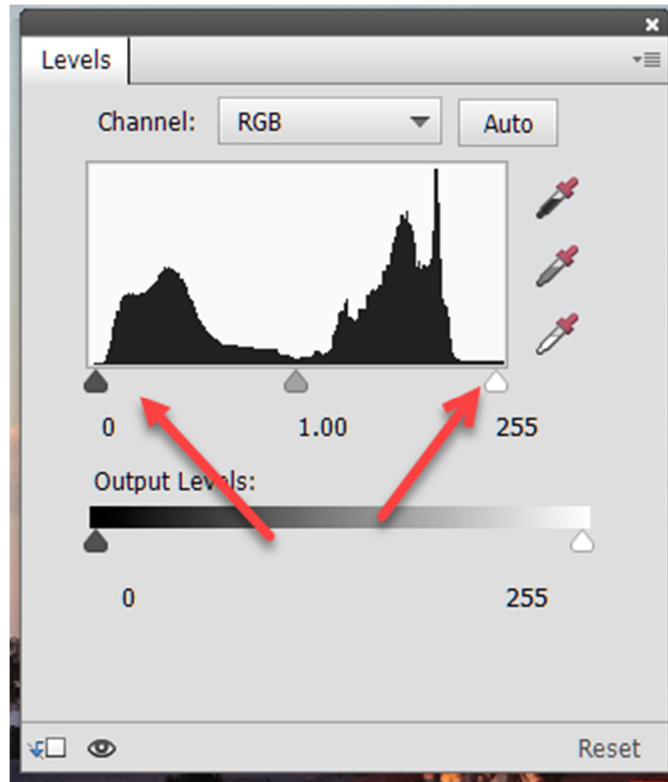
First, we will use the Levels command sliders to adjust the tone levels for the image. Next, we will use the eyedroppers to make similar adjustments.

Using the Histogram Sliders

1. With the selected image opened in the Expert Editor workspace, create an Adjustment Layer by clicking on Layer > New Adjustment Layer > Levels on the Menu bar. Keep the default name, and click Ok. The Levels dialog box appears. Also, the Layers panel should be open in the right panel. If it is not open, click on the Layers icon in the bottom right corner of the screen. Your screen should resemble the figure below.



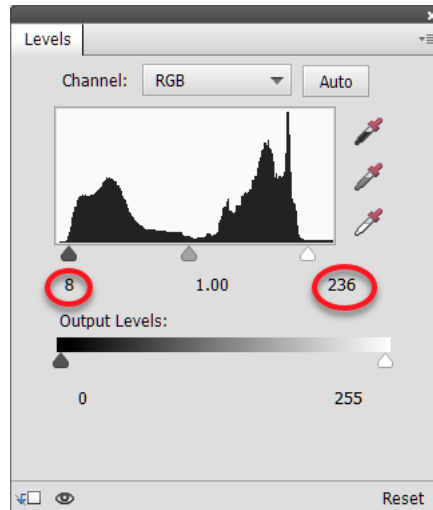
2. With the Levels Adjustment layer, active, first try Auto Levels by clicking on the Auto button in the dialog box.
3. Undo the Auto Levels by clicking on CTRL-Z or using the Undo icon in the lower left portion of the workspace.



Levels Dialog Box

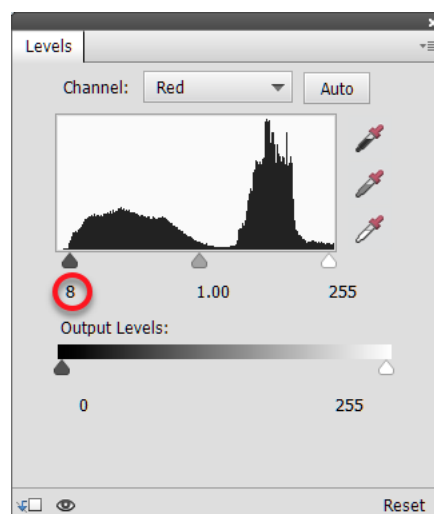
4. Referring to the above figure, note the following points regarding the Levels command and its use:
 - The graph in the center of dialog box is called a histogram. It plots the number of pixels at each of the 256 brightness levels in the image (0 to 255).
 - The shadows are on the left of the graph with pure black, or zero, above the black triangle slider.
 - The highlights are on the right side, with pure white (255) above the white triangle slider on the right.
 - As shown in the figure we are currently looking at the composite RGB channel, as indicated by the “RGB” in the white box to the right of the word, “Channel” above the graph.
 - We want the histogram to extend all the way from the left border of the plot area to the right border. Note that this image’s histogram does not really do this on the left nor the right side of the graph, as shown in the above figure.
 - We can stretch the histogram (remap the tone levels) by moving the outer triangle sliders on the bottom line of the histogram inward. This adjusts the contrast of the image. The right slider sets the white point (255), and the left one sets the black point (0).
 - The slider in the center is used to adjust the brightness level of the mid tones.
5. Before beginning to adjust any color balance problems, first adjust the overall brightness and contrast of the image.

- Move the left and right sliders inward to the point where the histogram just rises above the bottom edge of the graph border. Generally, do not go inside the histogram or clipping will occur.
- Move the center slider left or right to adjust the brightness of the mid-tones as desired. Note the position of the triangles and the numbers displayed in the Input Levels boxes in the figure below for the example image.



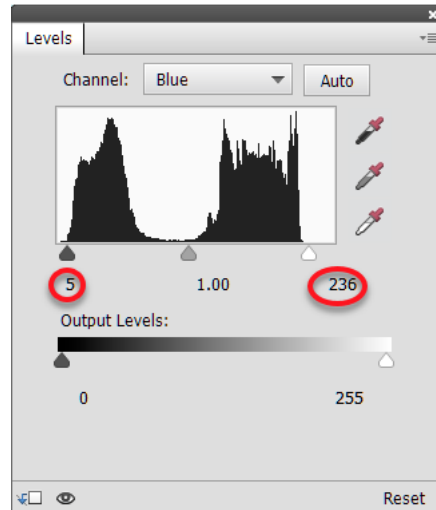
Initial Levels Adjustments for the RGB Channel

- Whereas the levels for the two outer triangle sliders range from 0 to 255, the center slider started at 1.00 and hovers around one as you move it. It is adjusting gamma for the image.
 - Instead of moving the sliders, you can type in the exact numbers you want in the appropriate white box.
6. Next set the “white and “black” points for the Red, Green, and Blue Channels in turn. Click on the down arrow to the right of the RGB, and select the Red channel. See an example for this image below.



Adjusted Red Channel Histogram

7. Move only the Left and Right triangle sliders inward until they line up with where the histogram just lefts above the bottom edge of the graph. Do not worry about the color shift at this point.
8. Repeat Steps 6 and 7, for the Green and Blue Channels. See an example for the Blue Channel for the subject image below.



Level Adjustment for Blue Channel

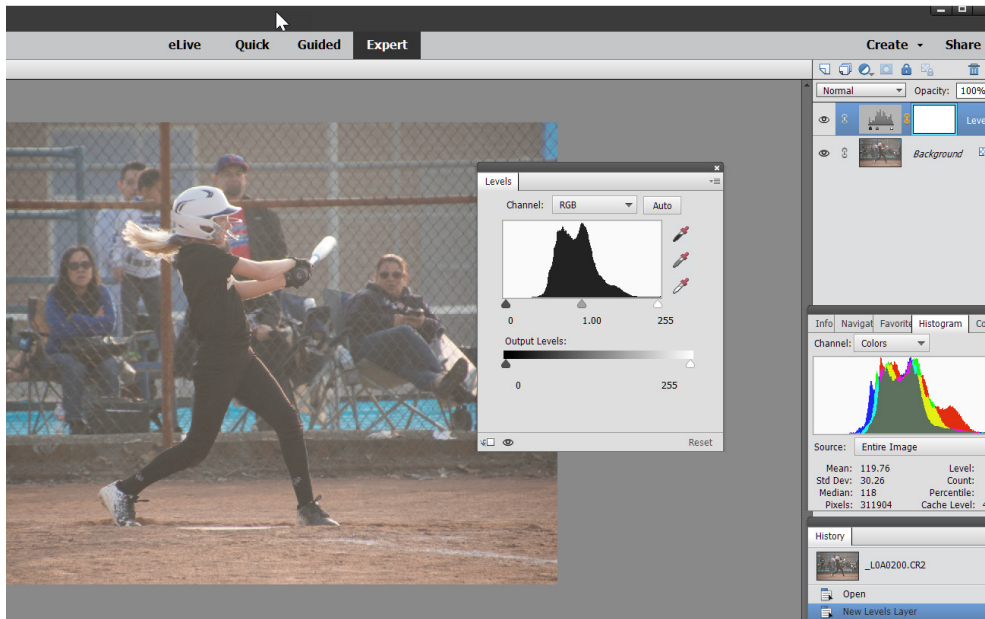
9. Return to the RGB channel by clicking on the down arrow on the Channels line and selecting RGB. Readjust the left and right triangle sliders until they again line up with where the histogram just rises above the bottom edge of the graph. Depending upon the amount of the corrections applied to the Red, Green, and Blue Channels, the triangles may not be at the edge of the histogram anymore.
10. While still on the RGB Channel, adjust the center slider to fine tune the mid tone brightness of the image.
11. Fine tune the color balance by returning to the Red, Green, or Blue Channels as required and adjusting their center sliders as needed.
12. When you are satisfied with your adjustments, you can temporarily close the Levels dialog box.
13. We can reenter the Levels Adjustments dialog box by double clicking on the image's thumbnail on the Levels 1 Layer. Doing that we see that it is exactly the way we left it, including the position of the triangle sliders. This illustrates one of the key advantages of using Adjustment Layers whenever possible. The corrections are not baked into the image, until we flatten it.
14. Also, you can turn off/on the visibility of a selected layer by cycling the eye symbol on the left of each layer.

Note: Steps 1-9 are essentially done by rote. It is not until Step 10, that we begin to review the image and fine tune its tone and color balance.

Using the Levels Command Eye Droppers

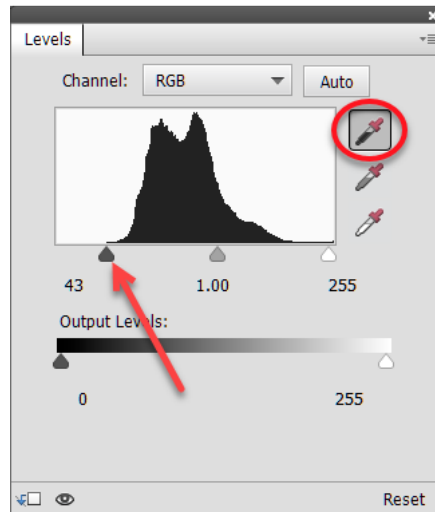
As an alternate approach to using the Levels command, we will use the eye droppers in the Levels command to set the white and black points of the image and to remove any color cast. This essentially accomplishes the same thing as adjusting the sliders on the histogram, but is often easier to do. We will also use layers to selectively lighten part of an image it.

1. Open the desired image in the Expert Editor of PSE 15.
2. Make a new Adjustment Layer by clicking Layer > New Adjustment Layer > Levels. Keep default name.



The Layers Pallet and Levels Dialog Box

3. Set the Black Point on the image: Click on the Black Eye Dropper in the Levels dialog box, and then click on a point in the image that is black or very close to black.
Hint: Alternately, hold down the Alt-Key as you begin to move the black slider.



Levels Dialog Box with Black Point Identified

4. Set the White Point on the image: Click on the White Eye Dropper in the Levels dialog box, and then click on a point in the image that is white or should be white.
Hint: Alternately, hold down the Alt-Key as you begin to move the slider. The preview window begins as pure black. Release the mouse button as soon as an area begins to turn white.

Repeat the process by clicking on the center, Gray Eye Dropper, and then clicking on an area in the picture that should be neutral gray. This will often remove any strong color cast in the image.

5. Close the Levels Dialog box.
6. Assuming you are going to save the edited version as a JPEG image, click on Layer > Flatten Image.