

Adobe Photoshop CS4: Advanced Part 3: Perspective Editing and Advanced Features

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Introduction

Adobe Photoshop CS4, an industry standard, pushes the boundaries of digital imaging and editing. While widely used by professional photographers as well as web and graphic designers, Photoshop can also provide a creative outlet for amateurs, enthusiasts, and artists alike.

This handout covers how to use the Vanishing Point filter to maintain the fidelity of image perspective. Furthermore, advanced resizing and cropping lessons introduce the Content-Aware Scale feature as well as new cropping techniques.

Downloading the Data Files

This handout includes sample data files that can be used for hands-on practice. The data files are stored in a self-extracting archive. The archive must be downloaded and executed in order to extract the data files.

- The data files used with this handout are available for download at <http://www.calstatela.edu/its/training/datafiles/photoshopcs4advp3.exe>.
- Instructions on how to download and extract the data files are available at <http://www.calstatela.edu/its/docs/download.php>.

Working with Vanishing Point

The term *vanishing point* refers to a point on an image where parallel lines appear to converge (see Figure 1). The following image illustrates a one point perspective, meaning there is one vanishing point (see Figure 1). Vanishing points affect the perspective of an image; users must keep that in mind in order to maintain the fidelity of the image when editing. The following exercises will help users become familiar with Photoshop's Vanishing Point filter for editing images as well as getting creative with it.



Figure 1 – Vanishing Point

Using the Vanishing Point Filter to Add Content

To manipulate an image but make it look realistic, users have to take into account the perspective of the image. In the following exercise, users will learn how to create a plane of reference and add objects to fit the existing perspective of an image.

To add objects to an image with perspective:

1. Start **Adobe Photoshop CS4**.
2. Locate and open the **vanishing_point.psd** file.
3. In the **Layers** panel, select the **Graffiti 1** layer, and then turn on its layer visibility by clicking in the column to the left of the layer (see Figure 2).

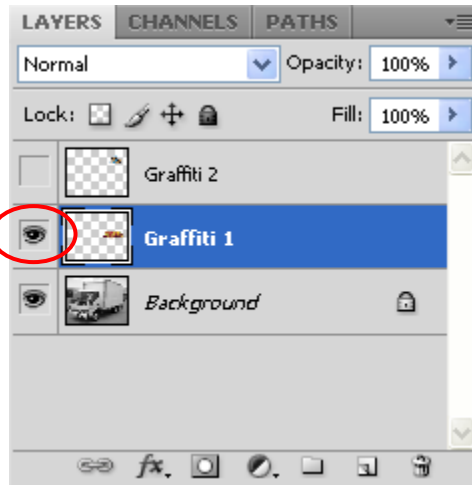


Figure 2 – Graffiti 1 Layer


4. In the **Tools** panel, select the **Rectangular Marquee tool** .
5. In the **Document** window, drag the mouse pointer to make a rectangular selection around the graffiti object (see Figure 3).



Figure 3 – Graffiti Object Selected

6. Click the **Edit** menu and select **Cut**.
7. Click the **Filter** menu and select **Vanishing Point** (see Figure 4). The **Vanishing Point** dialog box opens (see Figure 5).

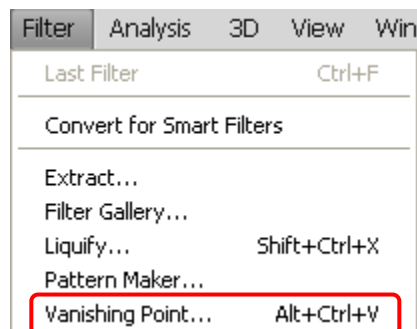



Figure 4 – Vanishing Point Command on the Filter Menu

8. Select the **Create Plane** tool  located on the left side of the dialog box (see Figure 5).

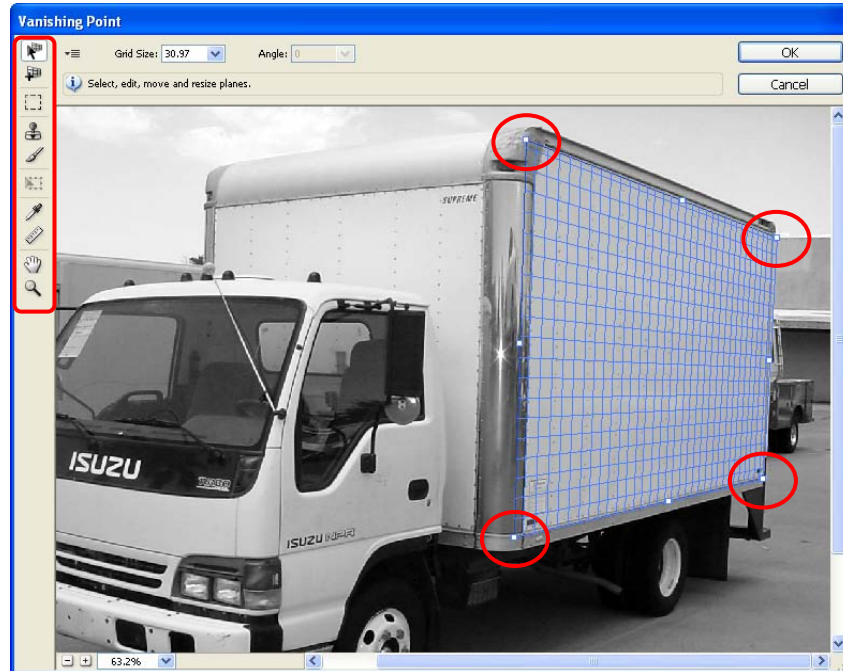




Figure 5 – Vanishing Point Dialog Box

9. Click the upper left corner of the side of the truck, and then create a rectangular grid by clicking each subsequent corner (see Figure 5).

NOTE: A blue grid indicates correct perspective. If a yellow or red grid appears, select the **Edit Plane** tool  and move the corners of the grid until it turns blue.

10. Press **Ctrl+V** to paste the graffiti object.
 11. Use the **Transform** tool  to rotate and/or resize the graffiti object (see Figure 5).
- NOTE: Hold down the **Shift** key to keep the same aspect ratio.
12. Drag the graffiti object to the area of the truck where the vanishing point plane was created (see Figure 6).


NOTE: Use the **Transform** tool  to resize further.



Figure 6 – Adding Objects with Correct Perspective

13. When finished, click the **OK** button to return to the canvas (see Figure 5).



Figure 7 – Before and After Using the Vanishing Point Filter

Editing Images with Correct Perspective

When editing an image with perspective, users should do it in the Vanishing Point dialog box in order to maintain that same perspective without compromise. In the following exercise, users will practice using the *Stamp* tool located within the Vanishing Point dialog box to remove items from an image.

To edit an image using the Vanishing Point filter:



1. Locate and open the **editing_vanishing_point.psd** file.
2. Click the **Filter** menu and select **Vanishing Point**. The **Vanishing Point** dialog box opens.
3. If necessary, use the **Edit Plane** tool  to adjust the already created plane.
4. To remove the brush from the scene, select the **Stamp** tool .
5. Hold down the **Alt** key and click on an empty area of the deck near the brush, and then release the **Alt** key.
6. Hover the mouse pointer over the brush to see a live preview of the sampled area (see Figure 8).



Figure 8 – Stamp Tool Live Preview

NOTE: If the sampled area is too large or too small, decrease or increase the **Diameter**

Diameter: of the **Stamp** tool located at the top of the **Vanishing Point** dialog box, and then sample the area again.

7. Align the sample over the desired area, then using the lines of the deck as reference, click on the area that needs to be replaced.

- Repeat steps 5 through 7 over the entirety of the brush.
NOTE: Sampling often will allow users to achieve the most accurate and realistic results.
- When finished, click the **OK** button to return to the canvas.

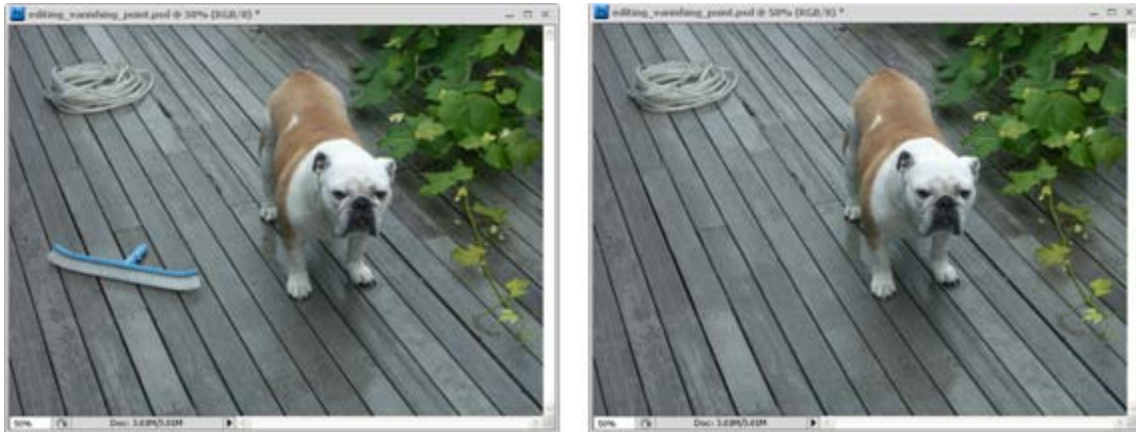


Figure 9 – Before and After Editing an Image with the Vanishing Point Filter

Resizing with Content-Aware Scale

The *Content-Aware Scale* feature, new to Photoshop CS4, allows users to resize only a part of an image without adjusting the rest of it. This can especially come in handy when trying to fit an image to standard photographic dimensions (e.g., 4x6 inches or 8x10 inches).

To resize an image using content-aware scaling:


- Locate and open the **content_aware_scale.psd** file.
- In the **Tools** panel, select the **Lasso** tool .
- With the **Mantis** layer selected in the **Layers** panel, drag the mouse pointer make a selection around the praying mantis and its shadow (see Figure 10).



Figure 10 – Selecting Using the Lasso Tool

- Click the **Select** menu and select **Save Selection**. The **Save Selection** dialog box opens (see Figure 11).
- Click the **OK** button.

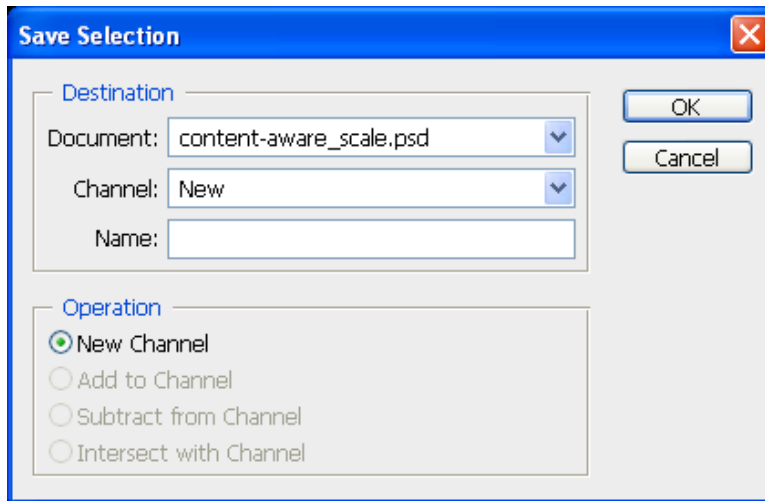


Figure 11 – Save Selection Dialog Box

6. Click the **Select** menu and select **Deselect**.
7. Click the **Edit** menu and select **Content-Aware Scale** (see Figure 12).

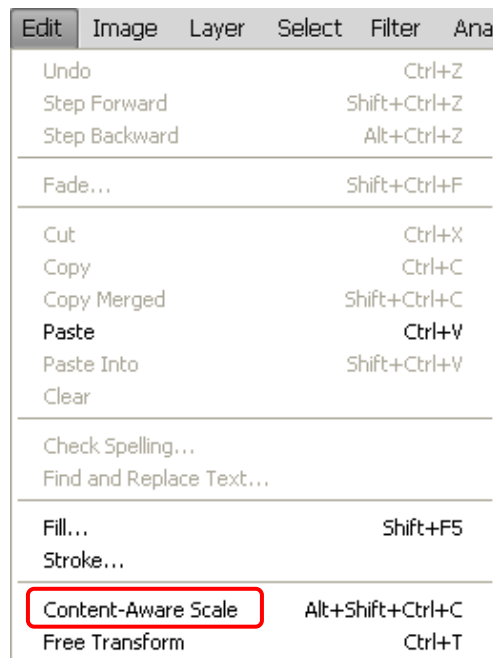


Figure 12 – Content-Aware Scale Command on the Edit Menu

8. On the **Options** bar, click the **Protect** arrow and select **Alpha 1** from the list (see Figure 13).



Figure 13 – Protect List on the Options Bar


9. Drag a side or corner handle on the border of the bounding box to resize the image.
10. When finished, click the **Commit** button  on the **Options** bar.



Figure 14 – Before and After Resizing an Image with Content-Aware Scale

Advanced Cropping

The following lessons will show users how to crop an image to a specific size and how to maintain the same aspect ratio as the original image when cropping. Both techniques can be used to fit or maintain standard photographic dimensions or any desired size, depending on the intent of the project at hand.

Cropping to a Specific Size

When the Crop tool is selected, the Options bar will change, showing additional cropping options.

To crop an image to a specific size:


1. Locate and open the **cropping_4by6.psd** file.
2. In the **Tools** panel, select the **Crop** tool .
3. On the **Options** bar, type **6** in the **Width** box and **4** in the **Height** box (see Figure 15).




Figure 15 – Setting the Width to Height Cropping Ratio

4. Leave the **Resolution** box empty; however, make sure the unit is set to **pixels/inch** (see Figure 15).
5. On the canvas, drag the mouse pointer to create a cropping border (see Figure 16).

NOTE: Once the mouse button is released, users can adjust the cropping border by dragging the corner handles (see Figure 16). The area within the border will remain 6 inches by 4 inches no matter how big or small it is. However, the resolution will change accordingly.



Figure 16 – Adjusting the Cropping Border

- To complete the crop, press the **Enter** key. Or, click the **Commit** button  on the **Options** bar.

Maintaining the Same Width to Height Ratio When Cropping

The following steps will show users how to crop an image while maintaining the same aspect ratio as the original image, no matter what the size.

To maintain the same aspect ratio as the original image:

- Locate and open the **aspect_ratio_cropping.psd** file.
- Click the **Select** menu and select **All** (see Figure 17).

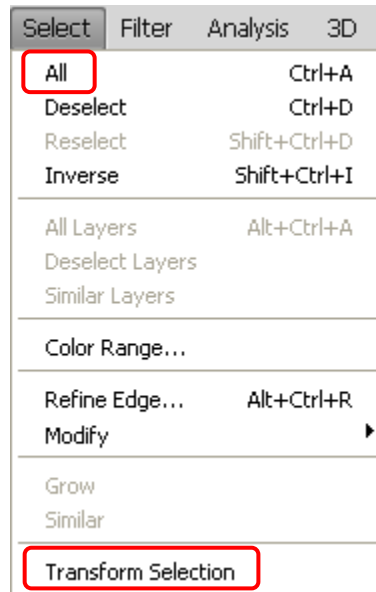


Figure 17 – All and Transform Selection Commands on the Select Menu

- Click the **Select** menu and select **Transform Selection** (see Figure 17).
- Hold down the **Shift** key and drag a corner handle of the bounding box to resize the selection (see Figure 18).

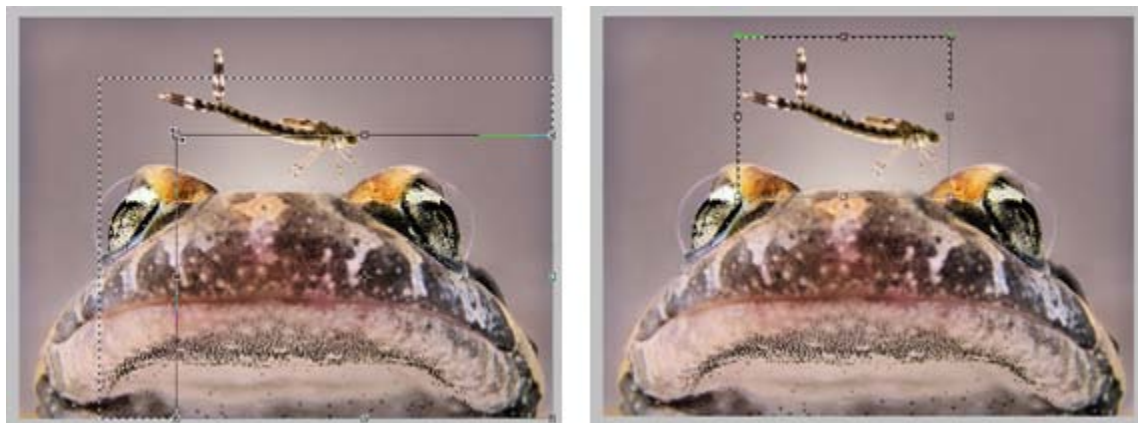



Figure 18 – Transforming and Dragging the Selection



- Drag the selection to the desired area to be cropped (see Figure 18).
- When finished, press the **Enter** key. Or, click the **Commit** button  on the **Options** bar.

7. Click the **Image** menu and select **Crop**.
8. Click the **Select** menu and select **Deselect**.

Increasing Depth of Field

Close up photography can create dramatic imagery; however, using a macro lens will produce an image with a shallow depth of field, meaning only parts of the image will be in focus while the rest might be blurry. The following lesson will use the *Auto-Blend Layers* feature in Photoshop CS4 to increase the depth of field and create an image where everything is in focus.

To increase the depth of field in an image:

1. Locate and open the **dof1.psd**, **dof2.psd**, **dof3.psd**, and **dof4.psd** files.
2. On the **Application** bar, click the **Arrange Documents** button  and select **4 Up**  (see Figure 19).

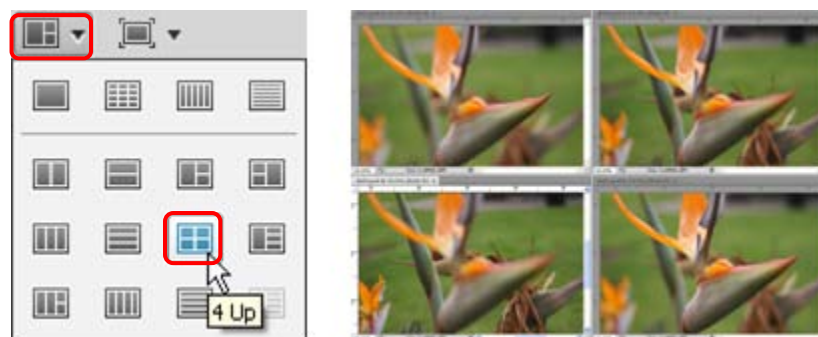


Figure 19 – Arrange Documents 4 Up

3. To get all four images into one document, click the **File** menu, point to **Scripts**, and select **Load Files into Stack** (see Figure 20). The **Load Layers** dialog box opens (see Figure 21).

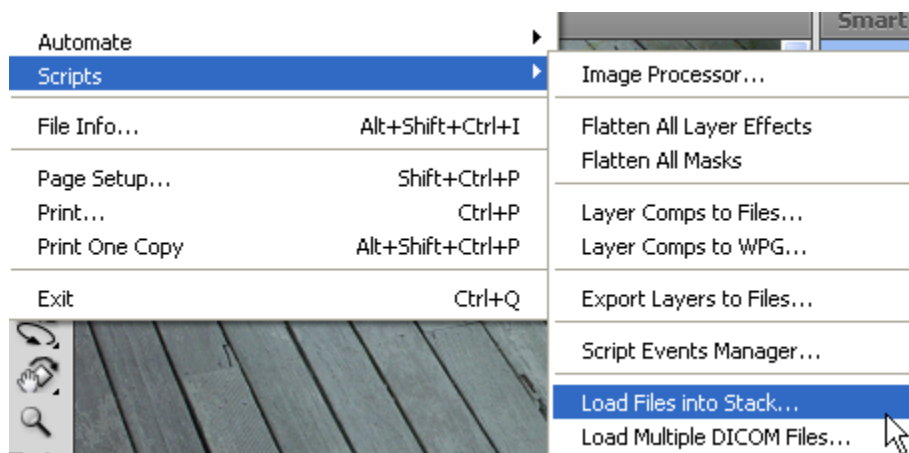


Figure 20 – Load Files into Stack Command on the File Menu

4. Click the **Add Open Files** button (see Figure 21).
5. Select the **Attempt to Automatically Align Source Images** check box (see Figure 21).

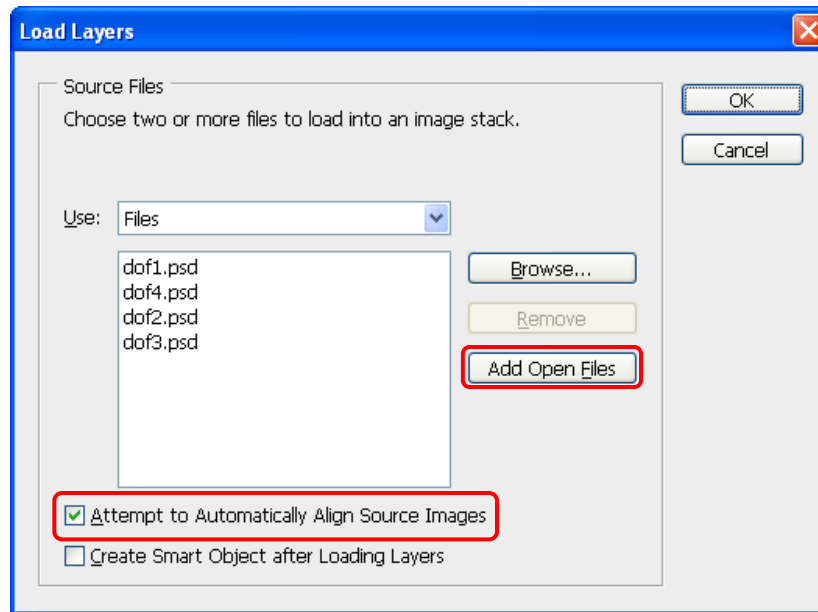


Figure 21 – Load Layers Dialog Box

6. Click the **OK** button (see Figure 21). Photoshop creates a new document titled **Untitled1** with all four images perfectly aligned.
7. Close the **dof1.psd**, **dof2.psd**, **dof3.psd**, and **dof4.psd** files.
8. With only the **Untitled1** document open, select all layers in the **Layers** panel, (see Figure 22).

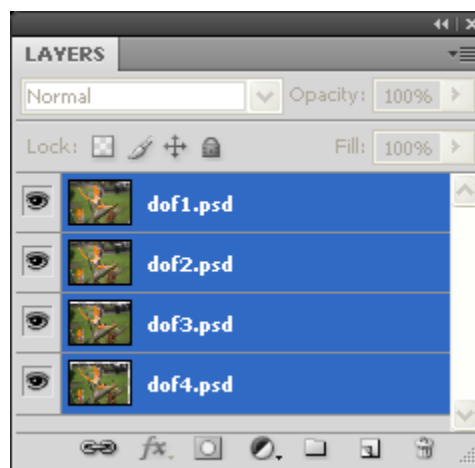


Figure 22 – All Layers Selected in the Layers Panel

9. Click the **Edit** menu and select **Auto-Blend Layers** (see Figure 23). The **Auto-Blend Layers** dialog box opens (see Figure 24).

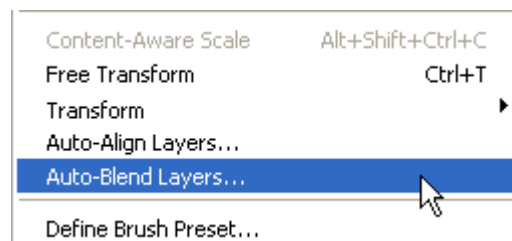


Figure 23 – Auto-Blend Layers Command on the Edit Menu

10. Under **Blend Method**, select the **Stack Images** option (see Figure 24).

11. Select the **Seamless Tones and Colors** check box (see Figure 24).

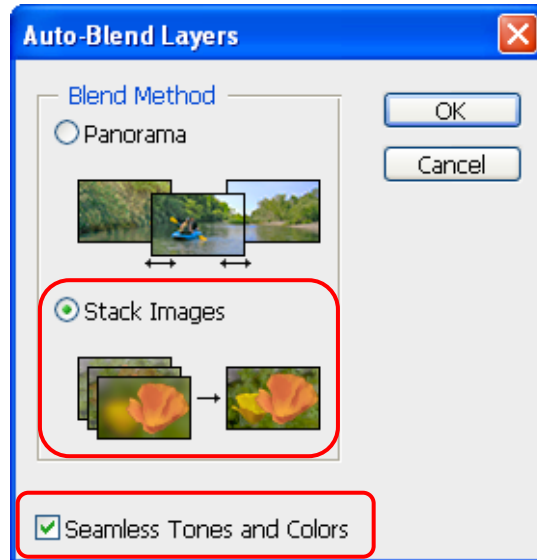


Figure 24 – Auto-Blend Layers Dialog Box

12. When finished, click the **OK** button (see Figure 24).

NOTE: Before printing, users should click the **Layer** menu and select **Flatten Image**.

Fixing Skies from Gray to Dynamic

When shooting landscapes, photographers will use a neutral density filter in order to get a well exposed foreground as well as background (e.g., sky). Without it, the sky can look gray, or if the sky is well exposed, the foreground will turn out too dark. The neutral density filter is dark at the top and graduates down to transparent at the bottom so that the entire image is well exposed. Photoshop can replicate this graduated effect.

To clear up gray skies:

1. Click the **File** menu and select **Open As** (see Figure 25). The **Open As** dialog box opens.

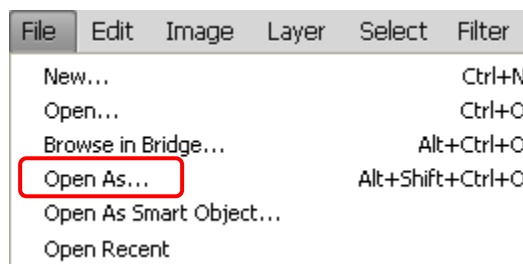


Figure 25 – Open As Command on the File Menu

2. Locate and select the **neutral_density_filter.tif** file, and then click the **Open As** arrow and select **Camera Raw** from the list (see Figure 26).

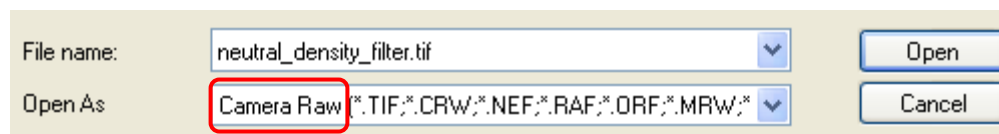


Figure 26 – Camera Raw Selected from the Open As List

3. Click the **Open** button (see Figure 26). The **Camera Raw 5.0** dialog box opens.
4. In the **Basic** panel, click the **White Balance** arrow and select **Auto** from the list (see Figure 27).

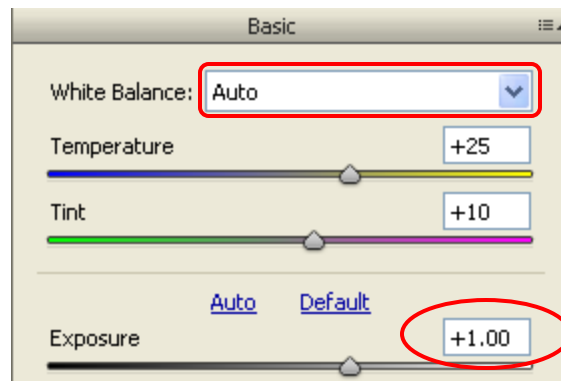



Figure 27 – Basic Panel

5. Drag the **Exposure** slider to **+1.00** (see Figure 27).
6. Select the **Graduated Filter** tool  on the **Camera Raw** toolbar (see Figure 28).

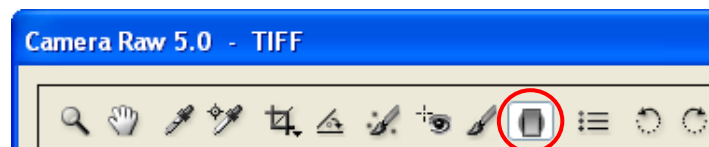


Figure 28 – Camera Raw 5.0 Toolbar

7. While holding down the **Shift** key, click at the top of the image and drag the mouse pointer straight down to the horizon line (see Figure 29).

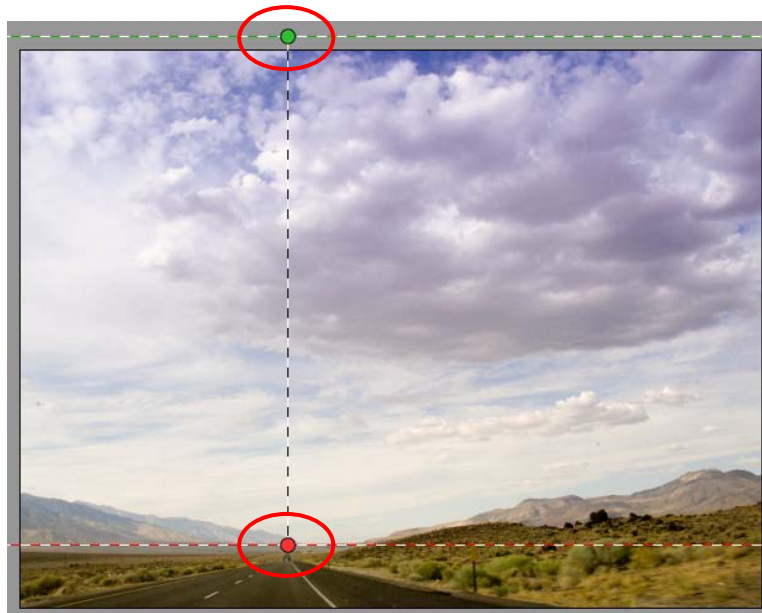


Figure 29 – Graduated Filter Line

8. In the **Graduated Filter** panel, drag the **Exposure** slider to **-0.75** (see Figure 30).

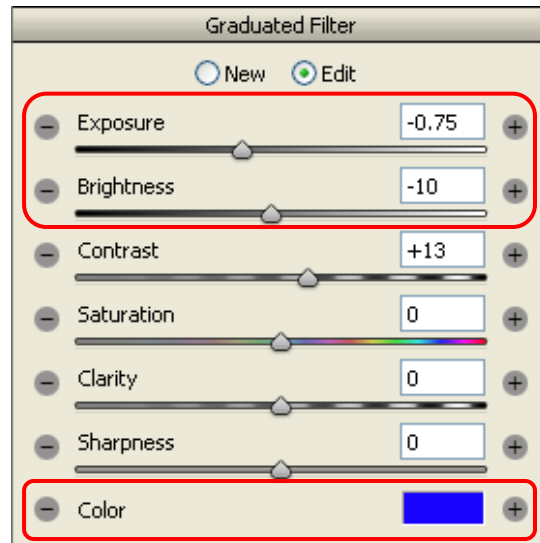


Figure 30 – Graduated Filter Panel

9. Drag the **Brightness** slider to **-0.10** (see Figure 30).
10. Click the color swatch next to **Color** to open the **Color Picker** dialog box, and then use the dropper to select a rich, blue tone (see Figure 31).

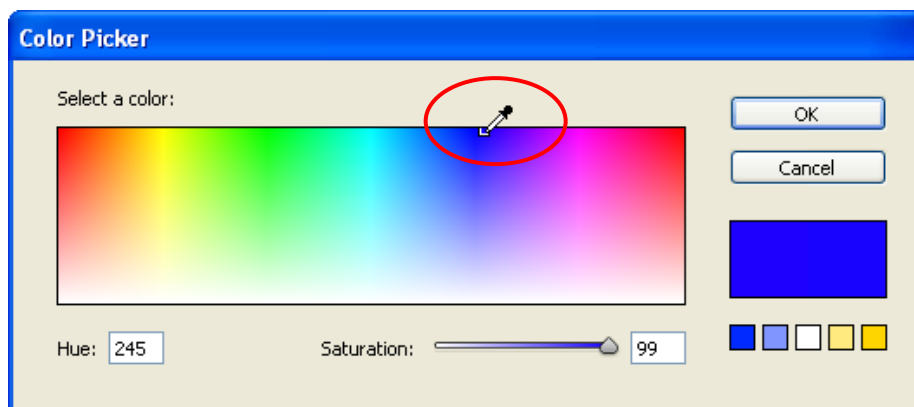


Figure 31 – Color Picker Dialog Box

11. When finished, click the **OK** button (see Figure 31).
12. In the **Camera Raw 5.0** dialog box, do one of the following:
 - To open the image in Photoshop, click the **Open Image** button.
 - To apply the changes without opening the image, click the **Done** button.

Creating High Dynamic Range (HDR) Images

In image processing, computer graphics, and photography, *high dynamic range (HDR)* imaging is a set of techniques that allows a greater dynamic range of luminance between the lightest and darkest areas of an image than standard digital imaging techniques or photographic methods. This wider dynamic range allows HDR images to more accurately represent the wide range of intensity levels found in real scenes, ranging from direct sunlight to faint starlight.

NOTE: Users will need at least three identically composed images with varying degrees of exposure (e.g., normal exposure, one stop underexposed, and one stop overexposed) in order to use the Merge to HDR feature in Photoshop.

To create an HDR image:

1. Locate and open the **1.psd**, **2.psd**, **3.psd**, and **4.psd** files.
2. Click the **File** menu, point to **Automate**, and select **Merge to HDR**.
3. In the **Merge to HDR** dialog box, click the **Add Open Files** button (see Figure 32).

NOTE: If the files are not open already, click the **Browse** button instead to locate and add the necessary files for merging to HDR (see Figure 32).

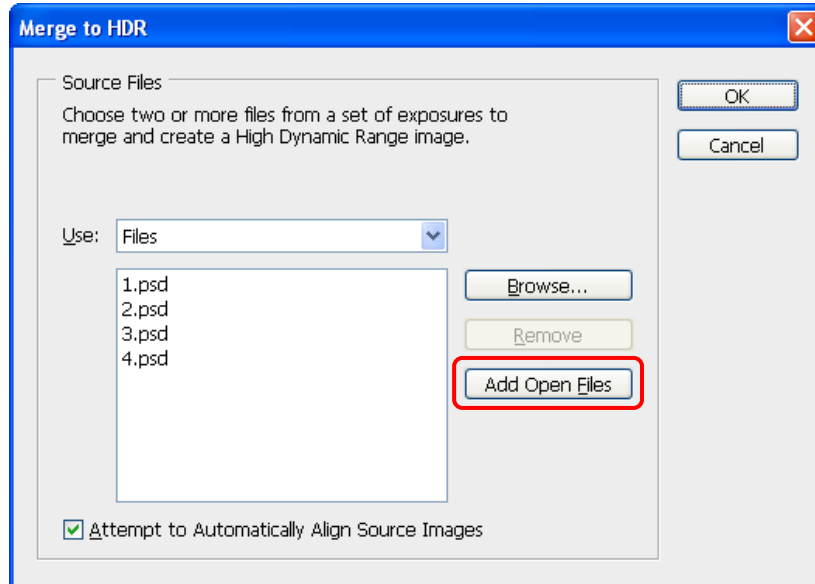


Figure 32 – Merge to HDR Dialog Box

4. Click the **OK** button (see Figure 32). A second **Merge to HDR** dialog box opens.
5. Click the **OK** button. A third **Merge to HDR** dialog box opens (see Figure 33).
6. Click the **OK** button to create the merged image (see Figure 33).

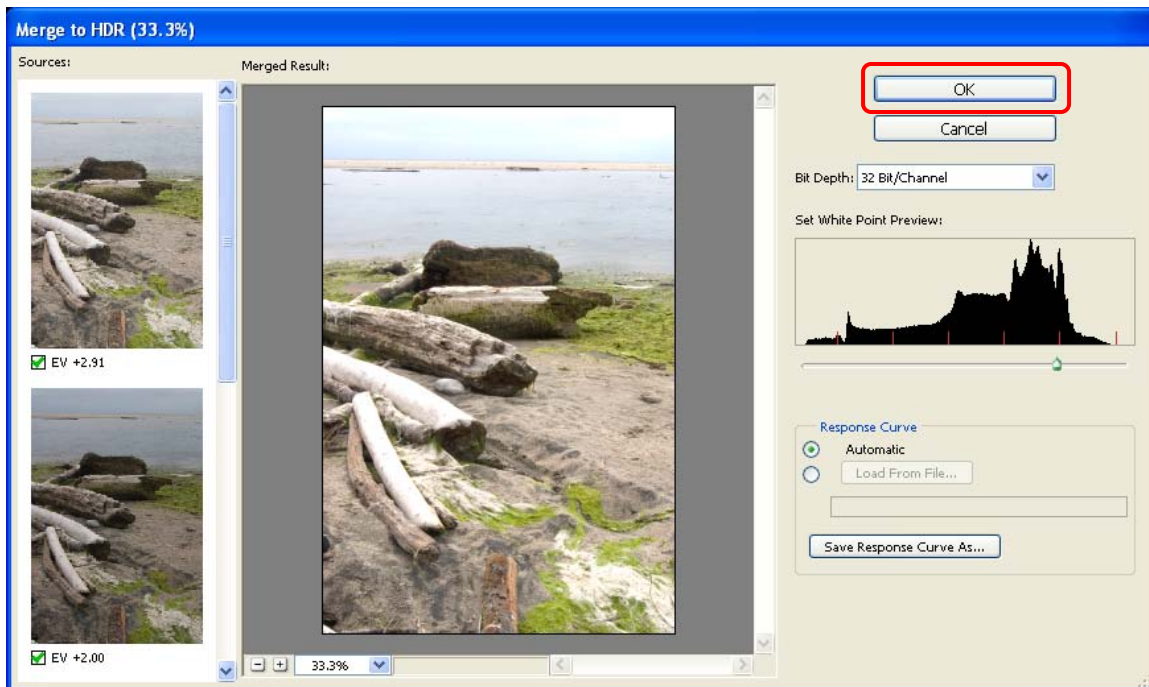


Figure 33 – Second Merge to HDR Dialog Box

7. In Photoshop, click the **Image** menu, point to **Mode**, and select **8 Bits/Channel** (see Figure 34).

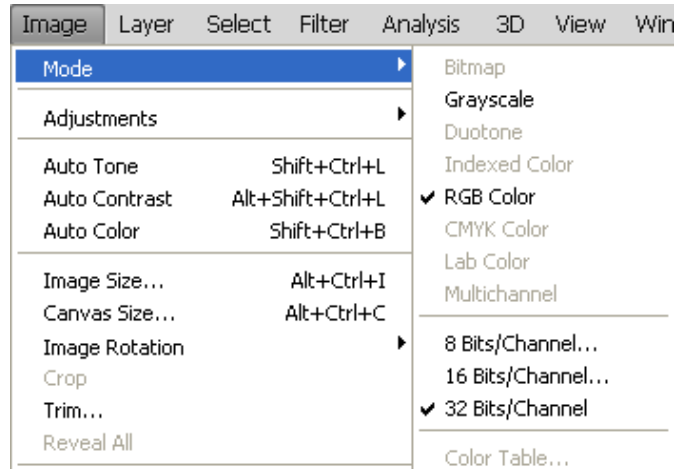


Figure 34 – 8 Bits/Channel Command on the Image Menu

8. In the **HDR Conversion** dialog box, click the **Method** arrow and select **Local Adaptation** (see Figure 35).

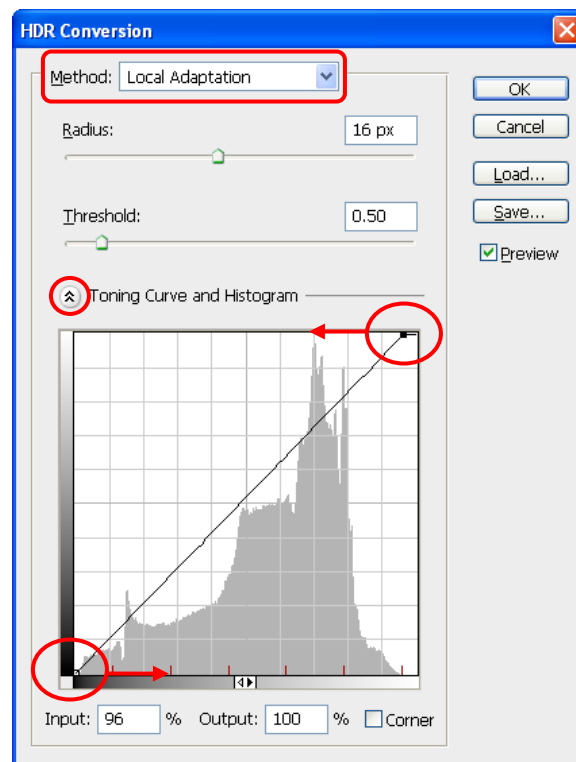



Figure 35 – HDR Conversion Dialog Box

9. Expand the **Toning Curve and Histogram** section by clicking the arrow  next to it (see Figure 35).
10. To balance out the tones in the image, drag the point located in the upper right corner of the chart to the left, towards the edge of the gray histogram (see Figure 35). If necessary, drag the shadow point located in the lower left corner of the chart to the right, towards the other edge of the gray histogram (see Figure 35).
11. When finished, click the **OK** button (see Figure 35).