

Understanding **Adobe Photoshop CS6**

THE ESSENTIAL TECHNIQUES FOR IMAGING PROFESSIONALS

Richard Harrington



Understanding Adobe Photoshop CS6: The Essential Techniques for Imaging Professionals

Richard Harrington

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Dedication

To my wife Meghan, your patience and support fill my life with meaning. Thank you for your love and all that you do.

To my children Michael and Colleen, your curiosity and love inspire me. As you grow, you teach me what it means to be a better man.

To my family, thanks for your support and teaching me so much.

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- Ron Hansen and Michael Davidson, who gave me my first job teaching Adobe Photoshop at the Art Institute of Washington.
- Ben Kozuch, who believed in me enough to let me teach Photoshop to a room full of media professionals.
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- To my many students through the years, thanks for the challenges and the motivation.
- To the staff of RHED Pixel for helping to bring the podcasts to life.



Richard Harrington, PMP

Richard has surrounded himself with media for his entire professional career. He's held such diverse jobs as directing television newscasts and publishing a music magazine to managing video production departments and consulting to nonprofit agencies. Currently, Richard is a founder of RHED Pixel (www.RHEDPixel.com), a visual communications company in the Washington, D.C. area.

RHED Pixel is a successful consultancy that provides technical and design services to clients such as the Community Health Charities, National Foundation of Credit Counseling, the Smithsonian Institution, Data Robotics, and the Children's National Medical Center. RHED Pixel creates everything from broadcast commercials to live events to interactive projects for a diverse clientele.

The Project Management Institute certifies Richard Harrington as a Project Management Professional. He holds a master's degree in project management as well. Additionally, Richard is an Adobe Certified Instructor and Apple Certified Trainer. He is a member of the National Association of Photoshop Professionals Instructor Dream Team.

His personal philosophy is communicate, motivate, create. Richard is a firm believer that media can have powerful results. You can follow his evolving interests in all things digital at www.RichardHarringtonBlog.com.

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- Chapter 14 The Guide to Standard Filters

Introduction

The Role of Photoshop in Education

Learning Adobe Photoshop is essential to success in digital media industries. Photoshop is a gateway into several related technologies. From digital image acquisition and processing to typography and compositing, Photoshop is often your first introduction. If you can master this program, you can go on to success with several other technologies. With this in mind, it is important to learn Photoshop with one eye on the present and the other on the future.

The Role of Photoshop in Professional Industries

It's been said that if you know Photoshop, there's always work to be had. Photoshop is used by everyone from photographers to Web developers, video professionals to graphic designers. In fact, Photoshop is used in more places than you'd expect—including the medical, architectural, and legal fields. Adobe Photoshop is a portal to Adobe's other software applications, but it is also much more. Mastering the tools in Photoshop will teach you more about creative technology tools than any other program. With a solid knowledge of Photoshop, you'll be well on your way to being comfortable with an entire digital toolbox.

Purpose of This Book

When I decided to write this book, it was to fill a need. I have worked with Photoshop students of all levels, from the college classroom to working professionals across all industries. What I've heard time and time again is that people wanted an objective book that gave them everything they needed to truly understand Adobe Photoshop. Readers have grown tired of books that talk down to them or waste time promoting only the latest features.

It's not that there's a shortage of good books for the professional; I've read many of them and know several of their authors. But what has happened over the years, as Photoshop has become such an established program, is that we are left with two types of books: those for complete beginners and those for pros looking to dig deep on specific areas of the program. What was missing? A book that addresses the need

of the learner who wants to understand the important features of Adobe Photoshop, as well as the core technology behind it, to build a solid foundation for future learning as well as immediate success.

This book is for learners who learn best by not just reading but by doing. Every chapter contains extensive hands-on exercises and all the files you need to practice. With the purchase of this book you also have immediate access to more than 100 videos that show you advanced skills and special techniques. In addition, interactive quizzes help you check your progress to ensure that the knowledge is “sticking.” The accompanying DVD or digital download has everything you need. And you’ll want to be sure to visit www.richardharringtonblog.com for updates and bonus downloads.

If you are learning Photoshop in a classroom, this book should combine with your instructor’s knowledge to give you a rich, interactive learning experience. For those working professionals looking to fill in their understanding of Photoshop, this book answers and reinforces the essential information that you’ll need. For both audiences, this book teaches you what you need to succeed in the professional workplace. As a teacher and a working pro, it’s my goal to prepare you for professional success.

Suggestions on Learning

Photoshop is a very comprehensive program; don’t try to learn it overnight. In fact, rushing to learn is often what causes problems. In an effort to learn quickly, skills don’t have time to be absorbed. To combat this problem, I have eliminated nonessential topics from this book. I’ve also included a hands-on example or activity for every skill.

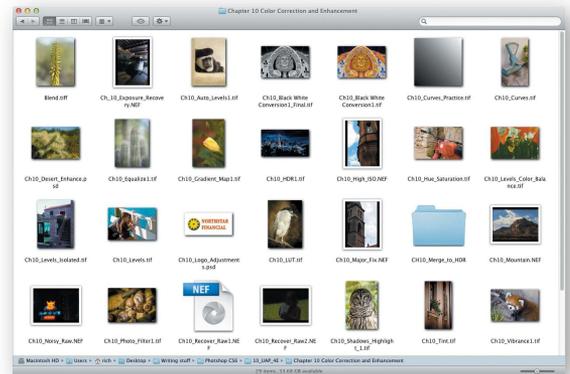
The truth is you’ll learn best by doing. Don’t skip the hands-on activities in a rush to make it through the book. I strongly encourage you to try each one. After completing the book’s activities, you should repeat the techniques with your own photos. Nothing makes a topic as clear as you experiencing it interactively and achieving success. With practice—regular and thorough—you can understand and master Photoshop.

Understanding Adobe Photoshop DVD or Downloads

To help you get the most from Adobe Photoshop CS6, I've included several hands-on and interactive exercises.

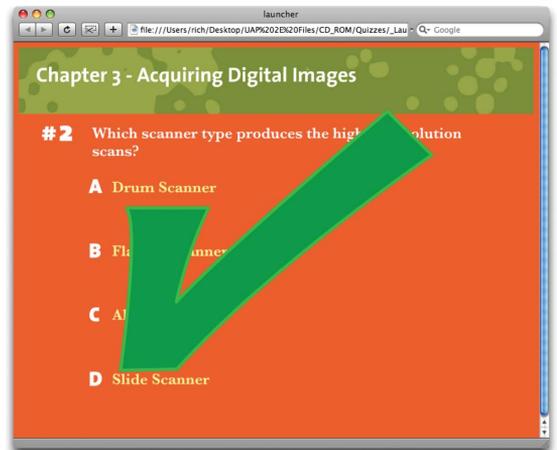
Lesson Files

You'll find more than 250 images as well as Photoshop actions on the DVD or in the download to bring the lessons to life. The hands-on exercises are meant to be fun and informative, so be sure to use the lesson files as part of your learning process.



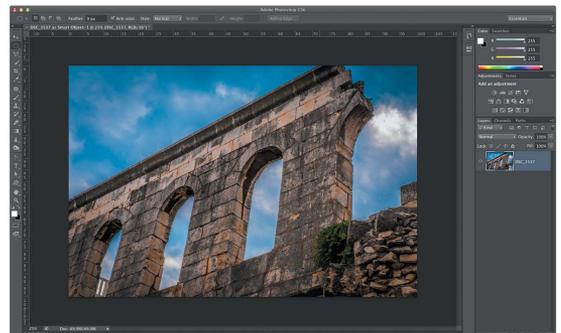
Interactive Quizzes

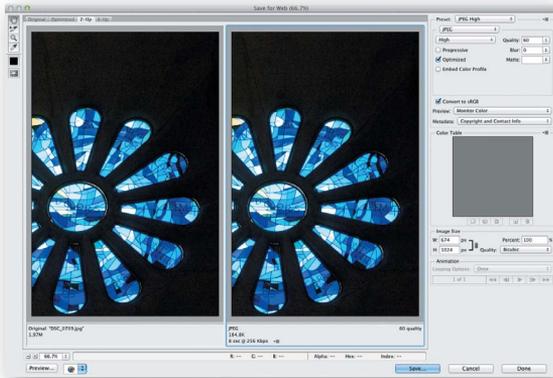
To help measure your progress, you'll find a Quizzes folder. Open the file Launch Quizzes.html with a Web browser and take a short quiz for each chapter. Just answer ten questions and see if you've learned the key concepts from each chapter. The quizzes use Adobe Flash Player 9 or later, so be sure that is loaded on your system.



Video Training

Throughout the book you'll see Video Training icons that call out more than 100 additional modules you can watch. But what fun is just watching? You'll also find extra images in each lesson's folder to use with the videos.





Bonus Exercises

We've included ten additional Photoshop exercises to hone your skills. These projects include all the images you'll need, along with an outline on how to approach the project. These self-paced exercises help you refine your skills and gain important practice.



Resource Blog

The author maintains a resource blog at www.richardharringtonblog.com. Here you'll find news about graphics technology, tutorials, bonus videos, and great resources like free images. You can subscribe to the blog for free with an RSS reader or by email for notification of all posts.

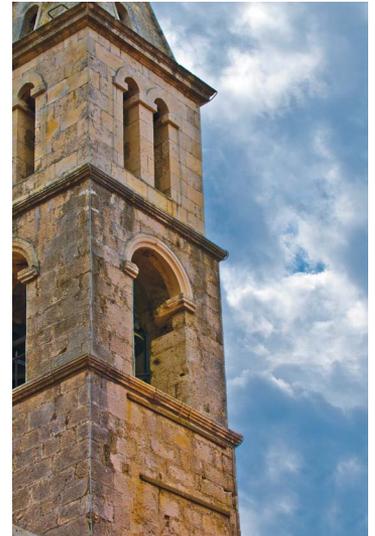
Color Correction and Enhancement

10

The primary purpose of Photoshop is to act as a digital darkroom where images can be corrected, enhanced, and refined. How do you know an image needs touch-up? You can pretty much assume every image can look a little (or even a lot) better than how the camera captured it. Whether it's adjusting the exposure, increasing contrast, or boosting saturation, Photoshop is the place to improve an image.

Learning how to spot problems and then choosing the right correction technique is an essential part of mastering Photoshop.

Several different tools are available, some more useful than others. By analyzing the most important tools and determining in which situations they might help you, you can achieve a more thorough understanding of color correction.

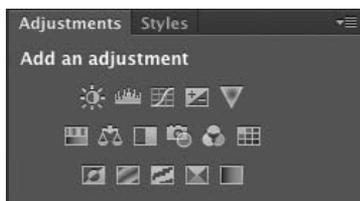


The left image is as shot by the camera. The right image has been refined using the Camera Raw plugin. You can open the Ch10_Major_Fix.NEF file to experiment.

Approach to Color Correction

New users often have a difficult time when color correcting or enhancing images. They generally lose sight of the goal: making the image look better while still being believable. Many users go “too far” in their quest to fix images. If the image starts to look fake or too altered, it will be distracting. Although getting it “right” requires some practice, here’s some general advice to get you started:

- **Identify what's wrong.** Before you can fix a picture, be sure you have decided on what's wrong. Is it too dark? Is the sky washed out? Has the picture faded over time? Make a list and prioritize the issues you find in each image. It's easiest to fix one problem at a time, and if you identify those problems, you'll know when to stop twiddling with the image.
- **Work with a copy of the image.** Before you start to color correct an image, you should duplicate it. This way you can return to an original version if you make a mistake or go too far in your image touch-up. After opening your file, choose File > Save As and name the duplicate version that will be corrected. Color correction can be a *destructive* process, meaning that you cannot revert to the original state at a later time. By preserving an original version of the image or employing adjustment layers, you make *nondestructive* editing possible. Some users also choose to duplicate the *Background* layer at the bottom of the layer stack.



- **Edit with adjustment layers.** Adjustment layers allow you to apply most of the image correction commands as nondestructive effects. They are added as a layer above the actual image; the adjustment layer can be blended, masked, or deleted at any time. Additionally, if you select the adjustment layer, you can modify its properties in the Adjustments panel. The same modifications are available in both the Adjustments menu and Adjustments panel. You should work with an adjustment layer whenever possible because its flexibility will be important for future revisions.
- **Get a fresh opinion.** It's not a bad idea to step back and examine your work. Open the backup copy of the original image and compare it to the image you've been working on. This before-and-after comparison can be very useful. If you have a fresh set of eyes nearby, ask that person for his or her opinion.
- **Use Smart Filters.** This will open up most of the filters and several of the image adjustments including the Shadows/Highlights command and Variations. Just choose Filter > Convert for Smart Filters.

Primary Image Adjustments

Photoshop offers several image adjustments, but only a few are used most often. Commands such as Levels and Curves are used by professionals to achieve outstanding results. These professional imaging techniques may take a little time to get comfortable with, but the power they offer is worth your investment.

Levels

The Levels command corrects tonal ranges and color balance issues. With this command you can fix poor exposure. Additionally, you can perform color correction by manually identifying a white point and black point in the image. Nearly every image can benefit from making a Levels adjustment.

To understand Levels, you must be able to read a histogram. This graph works as a visual guide for adjusting the image. The Levels adjustment has its own histogram that is visible when working in the Adjustments panel. You may also want to call up the Histogram panel (Window > Histogram) and leave it open while color correcting to help you spot issues in color and contrast. You can also expand the Histogram panel by clicking the submenu and choosing All Channels View. Let's give the command a try.



1. Close any open files, and then open the file Ch10_Levels.tif from the Chapter 10 folder.
2. Add a Levels adjustment layer by clicking the Levels icon in the Adjustments panel. Levels is also available from the Adjustments menu (Image > Adjustments), but the adjustment layer is more flexible for future modifications.

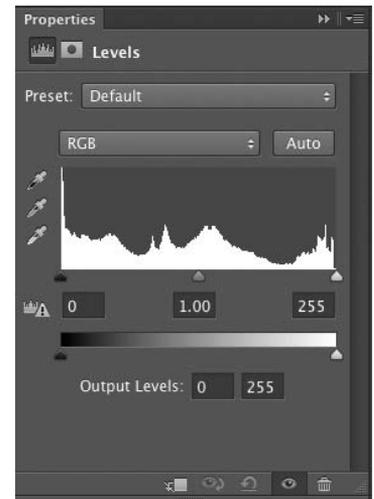


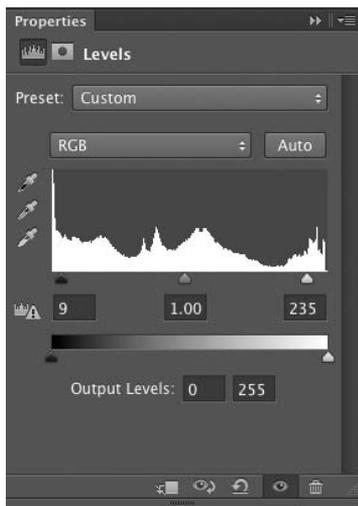
3. This photo was shot under mixed light, but you can reset the black and white points of the image to fix the exposure. In the Adjustments panel, move the white Input Levels slider to the left. This affects the image's white point and allows you to reassign where white should begin in the image.

NOTE

Levels Beats Brightness/Contrast

A Brightness/Contrast command does exist, but the Levels adjustment lets you perform several improvements with one command. Using a single image process cuts down on the loss of quality introduced from multiple image-processing steps.

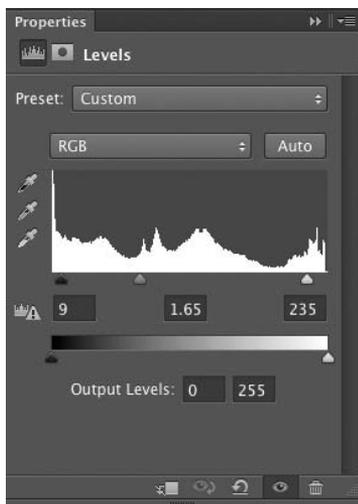




4. Move the black Input Levels slider slowly to the right. The more you move the black slider to the right, the more contrast is introduced into the image.



5. The true power lies in the middle (gray) Input Levels slider. By moving this slider, you can modify the gamma setting. Effectively, you can use the middle Input Levels slider to change the intensity of the midtones. This adjustment can be made without making dramatic changes to the highlights and shadows, and lets you better expose an image. Move the slider to the left to add light; move the slider to the right to subtract light.



6. In the future if you need to edit the adjustment, simply select the adjustment layer in the Layers panel and manipulate the controls in the Adjustments panel.

TIP

Rinse and Repeat

If you have several images from the same camera or shoot, they may need the same Levels adjustment. The Save button allows you to save a Levels adjustment (to the folder that contains the image is a good place). You can then click the Load button to apply that adjustment to another image.

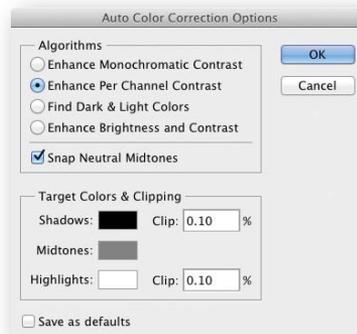
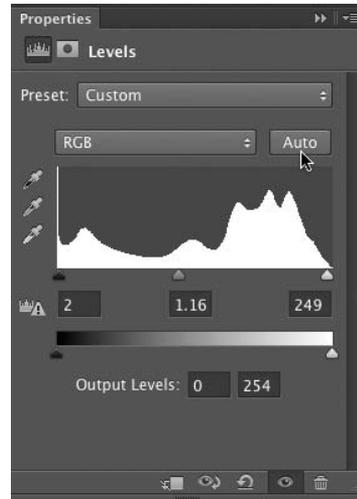


VIDEO 61:
Levels Command

Auto-Levels

When working with the Levels adjustment layer, you may have noticed the Auto button. This command button triggers an analysis of the histogram data by Photoshop that is then used to modify the individual controls of the Levels adjustment. In many cases this results in an image that is properly adjusted for color balance and exposure issues. In others it will get you closer to a corrected image.

1. Close any open files, and then Open the file Ch10_Auto_Levels1.tif from the Chapter 10 folder.
2. Add a Levels adjustment layer by clicking the Levels icon in the Adjustments panel.
3. Click the Auto button to perform an automated adjustment for the image. The image's levels and color are adjusted.
4. To refine how the automatic adjustment works, hold down the Option (Alt) key and click the Auto button again. A new dialog box opens.
5. Select Enhance Per Channel Contrast and Snap Neutral Midtones to create a very natural balance of colors for the image.
6. Click OK to close the dialog box.
7. Adjust the middle slider (gray) to refine the Levels adjustment to taste.





VIDEO 62:
Correcting Color Cast
with Levels



VIDEO 63:
Adjusting Levels
per Channel

Color cast

In the first Levels example you made a Levels adjustment to all the channels evenly. In the Auto-Levels example, you let Photoshop adjust the levels and remove color cast using an automated algorithm. The Levels command can be further isolated to a specific channel by clicking the drop-down list in the center of the Levels dialog box. This allows you to tackle color cast issues, such as spill from a background, a bad white balance, or a photo shot under mixed or colored lighting.



1. Close any open files, and then open the file Ch10_Levels_Color_Balance.tif from the Chapter 10 folder. Notice how the image has a greenish tint.
2. Add a Levels adjustment layer using the Adjustments panel. You will use the Levels command to fix color and exposure issues.
3. Select the Set White Point (white eyedropper) in the Levels dialog box. Click an area that should be pure white. For this image, click a bright area in the white pillar. If you



click an area that is not bright enough, the whites in the image will overexpose. (You can click the Reset button—it looks like a circular arrow—at the bottom of the Adjustments panel to reset the Levels command, if needed.) After you click, you'll see that some of the color spill has been removed.



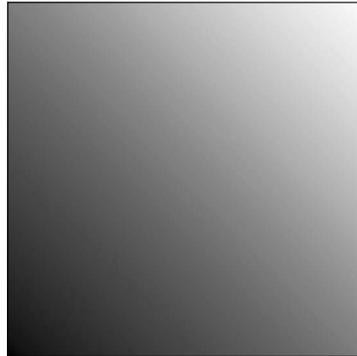
4. Select the Set Black Point (black eyedropper) in the Levels dialog box. Click an area that should be pure black. Choose an area such as a jacket or a dark shadow. This will adjust the color balance and the exposure.
5. The image's color balance should now be better. Adjust the middle Input Levels slider to brighten the image.

Curves

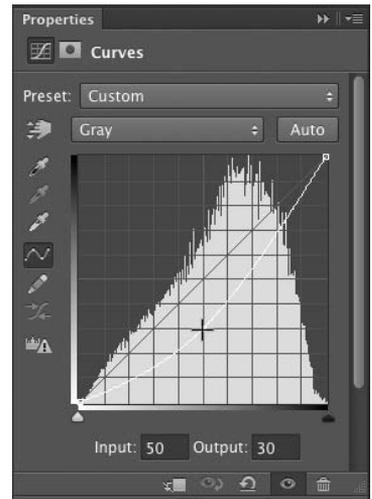
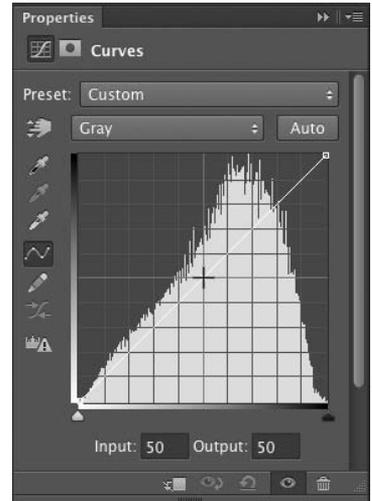
Most users will either use Curves a lot or they won't use it at all. The Curves interface is more complex than Levels, which scares away many users. Although Levels gives you three control points (highlights, midtones, and shadows), the Curves adjustment allows for up to 16 control points. This can significantly open up more options when adjusting color and exposure.

Let's try the Curves command on a practice image.

1. Close any open files, and then open the file Ch10_Curves_Practice.tif from the Chapter 10 folder.
2. Add a Curves adjustment layer by clicking the Curves button in the Adjustments panel. When you first open the Curves interface, there are two points (one for white and one for black).
3. Add a single control point in the middle of the line (click at an Input Value of 50%).
4. Pull this new control point down to lighten the image (toward the lighter area on the Y axis). You can pull the point up to darken the image. Notice that the Input and Output values update as you drag.
5. The adjustment is applied gradually throughout the entire image. Multiple points can be employed for contrast adjustments based on tonal range.



VIDEO 64:
Working with Curves



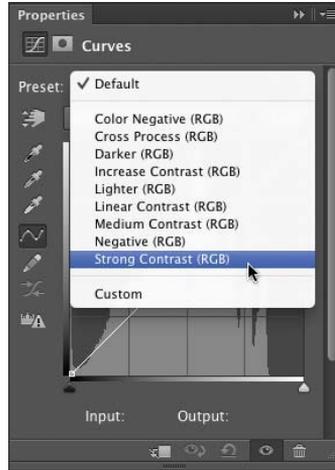
The primary advantage of Curves is that you have precise control over which points get mapped (whereas in Levels you do not). Another benefit is that Curves adjustments can use several points

NOTE**RGB Reverse**

You're about to work with an RGB image; the direction of darks and lights will be reversed from the Grayscale image.

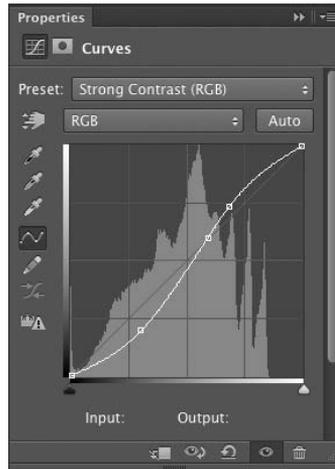
connected by a curved line (as opposed to Levels, which uses only three control points) to make adjustments. So, color correction can be applied in a more gradual manner (without the hard clipping that can be associated with Levels).

1. Close any open files, and then open the image Ch10_Curves.tif from the Chapter 10 folder.



2. Add a Curves adjustment layer by clicking the Curves icon in the Adjustments panel. The curve has only two points on it—one representing the black point; the other, the white point.

3. It's now time to add more control points to refine the curve. To do this, you'll use a Curves preset. Click the menu to select a Curves preset in the Adjustments panel. Choose the Strong Contrast (RGB) preset. Notice that the image now has more contrast in the shadows and highlights, and more visual "pop."



4. Experiment by adjusting the five control points. Try to further emphasize the shadows in the image. Continue to experiment by moving the control points (you can use the up and down arrow keys for precise control).

TIP**Easy Curves**

When the Curves Editor is open, you can easily add control points. Click the icon that looks like a pointing finger, and then just click and drag in the image to modify the curve. The control points will appear in the editor.

NOTE**Pay Attention to Your Axes**

When working with a grayscale or CMYK file, the axes go from light to dark. When working with RGB images, the scales are reversed. This means that pulling a control point up or down may have a different effect.

Hue/Saturation

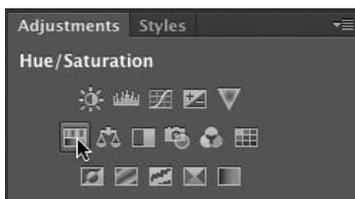
The Hue/Saturation command lets you adjust the hue, saturation, and lightness of color components in an image. Additionally, you can simultaneously adjust all the colors in an image. This command can work in two ways:

- To adjust colors in an image that appears slightly out of phase or skewed toward a color, such as an image that appears to have a blue overcast
- To create stylistic changes by dramatically changing colors in an object, such as trying out different combinations of colors in a logo

When combined with a selection command (such as Color Range), the Hue/Saturation command can be used to selectively enhance colors in an image.

Let's give the command a try.

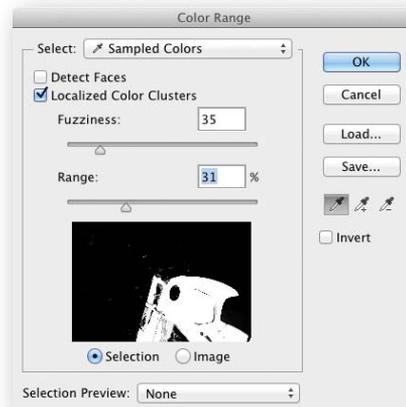
1. Close any open files, and then open the file Ch10_Hue_Saturation.tif from the Chapter 10 folder. You'll subtly tweak the color in the motorcycle.
2. Choose **Select > Color Range** and click the motorcycle body to make an initial selection. Hold down the Shift key to add to the selection. Adjust the Fuzziness slider to soften the selection. Use the Localized Color Clusters to further constrain the selection. Click OK when you have a suitable selection.
3. Click the Hue/Saturation button in the Adjustments panel to add an adjustment layer.



TIP

The Five Most Useful Image Adjustments

- Levels
- Curves
- Black & White
- Vibrance
- Shadow/Highlights





4. The two color bars at the bottom of the dialog box represent the colors in the color wheel. The upper bar shows the initial color; the lower bar shows the new color. Drag the Hue slider to the left until maroon appears under red.
5. Additionally, you can adjust Saturation (which is the intensity of the color) and adjust Lightness (which adds white or black to the image). Increase Saturation to +15 and decrease Lightness to -20.



NOTE

A Better Saturation

If you need a more robust saturation control, be sure to try out the Vibrance adjustment. It offers its own saturation control that uses a different method to control saturation. It tends to produce better changes, but doesn't offer Hue or Lightness controls.

Recolor

A Hue/Saturation adjustment can be a fast way to experiment with color options. You can use it to quickly change the fill colors of an object by making a global adjustment. This works well when you are experimenting with different color combinations. Let's try it out.

1. Close any open files, and then open the file Ch10_Logo_Adjustments.psd from the Chapter 10 folder.
2. Select the layer thumbnail of the Hue/Saturation adjustment layer to access its controls in the Adjustments panel.
3. Adjust the Hue slider to try out different color combinations.



**NORTHSTAR
FINANCIAL**

Tinting a photo

You can also use the Hue/Saturation command to tint an image. If you are working with a grayscale image, you need to convert it to an RGB image first.

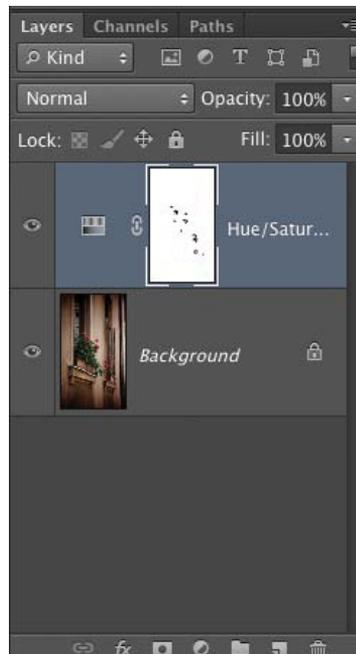
1. Close any open files, and then open the file Ch10_Tint.tif from the Chapter 10 folder.
2. Add a Hue/Saturation adjustment layer.
3. Click the Colorize box to tint the image.
4. Adjust the Hue slider to try out different color combinations. Adjust Saturation and Lightness to refine the tint.

The adjustment layer automatically has a Layer Mask attached, which allows you to mask the effect.

5. Click the Layer Mask icon for the Hue/Saturation adjustment layer.
6. Select your Brush tool and press D to load the default colors of black and white.
7. With a small black brush, paint the flowers so the original red shows through. If you make a mistake, you can press X to toggle back to white for touch-up.



VIDEO 65:
Tinting a Photo





VIDEO 66:
Vibrance

Vibrance

When working with photos, many choose to have very saturated and rich colors. The problem with too much saturation is that it can cause clipping (a flattening of the range of colors). To help with this, Photoshop offers the Vibrance command. Unlike Saturation, Vibrance only boosts those parts of a photo that are less saturated. It also respects skin tones, which means photos look more natural when pumping up the intensity of color.



Original image.

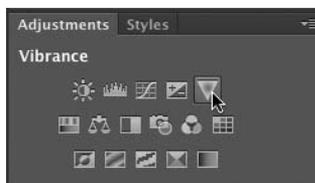


Hue/Saturation begins to posterize the reddish areas of the image.



A Vibrance adjustment increased saturation selectively.

1. From the Chapter 10 folder, open the image Ch10_Vibrance1.tif.
2. You'll first add a Saturation adjustment layer for comparison. In the Adjustments panel, click Saturation icon to add a new adjustment layer.
3. Drag the Saturation slider to the right until the colors in the image start to clip.
4. Discard the Saturation adjustment layer by clicking the trash icon at the bottom of the Adjustments panel. Click Yes in the dialog box that appears.
5. In the Adjustments panel, click the Vibrance icon to add a new adjustment layer.



6. Drag the Vibrance slider to the right to increase saturation without color clipping.
7. To add a little more saturation overall (in a gentler fashion than the Saturation adjustment layer), use the Saturation slider in the Vibrance adjustment layer.

Useful Image Adjustments

Although a Levels or Curves command can usually get the color-correction job done, there are often atypical problems that require particular commands. Let's explore some other commands that have special purposes and should generally be reserved for the unique problems they address. Let's take a look at the specialty commands.

Black & White

If you want to create a dramatic grayscale or duotone effect, the most effective way is to use a Black & White adjustment layer. Unlike a simple saturation adjustment, you maintain full control over how individual colors are converted. This allows you to emphasize or deemphasize specific colors and tonal ranges. Additionally, you can tint the grayscale by applying a color tone to the image (such as a sepia tone).

1. Close any open files, and then open the file Ch10_Black White Conversion.tif from the Chapter 10 folder.
2. Click the Black & White icon in the Adjustments panel.
3. Photoshop performs a default grayscale conversion. You'll want to adjust the conversion using the color sliders. You can also apply an Auto conversion or use a saved custom mix.

You can adjust the color sliders to emphasize gray tones of specific colors in an image. Each image is unique, so you'll need to find the right balance. Drag a slider to the left to darken or to the right to lighten. Be sure to select the Preview check box so you can see the results of your changes.

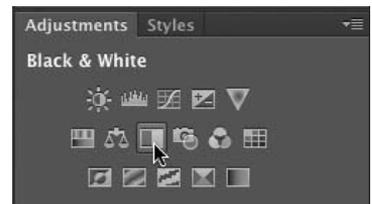
TIP

Black & White Auto—A Good Start

Normally, I recommend avoiding the Auto buttons, but with the Black & White adjustment layer it works well. Auto sets a grayscale mix based on the image's color values. It attempts to maximize the distribution of gray values. The Auto mix often produces excellent results and can serve as the starting point for tweaking gray values using the color sliders.



VIDEO 67:
Black and White
Adjustments

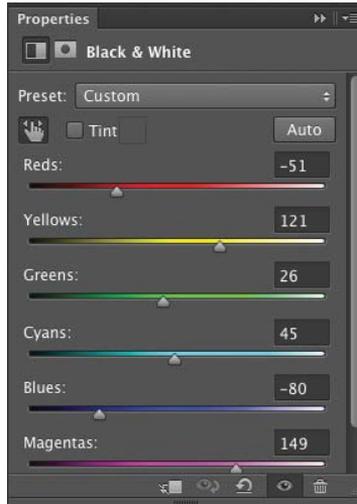
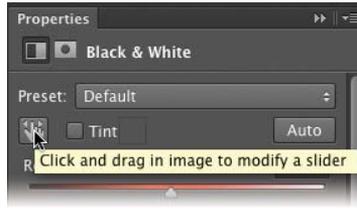


TIP**Blended Black and White**

Be sure to try out blending modes with your adjustment layers. The Black & White adjustments look great blended. Try Multiply or Overlay for this exercise.



VIDEO 68:
Creative Sepia Tones

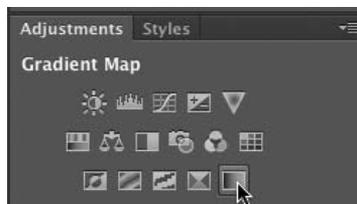


4. With the Black & White command window open, click the icon in the Adjustments panel that looks like a pointing finger.
5. You can click on the image to sample a target. The mouse pointer changes to an eyedropper if you move it over the image. Just click and hold on an image area to target the right color slider for the strongest color at that location. You can then drag to shift the color slider for that color, thus making it lighter or darker.
6. To create a duotone effect, select the Tint option. To change the tint color, click its swatch and use the Color Picker to choose a new color that matches your needs.

Gradient Map

You can use the Gradient Map to dramatically or subtly stylize images. The effect works best when used as an adjustment layer. The command works by mapping the colors of a gradient to the image based on the luminance values of the source image. Let's give the technique a try.

1. Close any open files, and then open the image Ch10_Gradient_Map1.tif from the Chapter 10 folder.
2. Click the Gradient Map icon in the Adjustments panel.



3. In the Properties panel, click the gradient to open the Gradient Editor.
4. In the Gradient Editor, choose a loaded gradient or load a new set to taste. For more on gradients, see Chapter 6, “Painting and Drawing Tools.” Click OK when you’re satisfied.
5. To soften the effect, you can change the adjustment layer’s blending mode. Setting it to Hue or Color creates a nice tint effect.

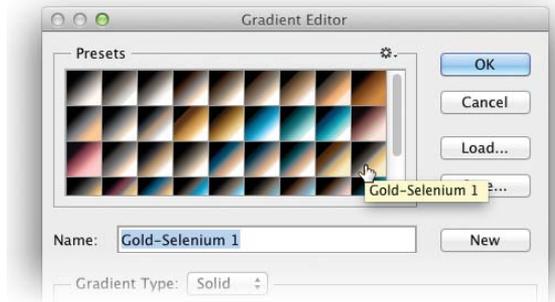


Photo Filter

Professional photographers often place glass filters in front of the camera lens. These can be used to “cool” or “warm” a picture, or to add special effects. Since Photoshop often tries to simulate or correct for steps not taken in the field, the addition of Photo Filters was a logical evolution for Photoshop.

Adobe added to the “real-time,” color-correction options with the addition of 20 different adjustments. These layers simulate the traditional colored glass filters. Besides the built-in presets, you can also choose custom colors from the Photo Filter interface using the standard Color Picker.

There are three main groupings for color effects:

- **Warming Filter (85 and LBA) and Cooling Filter (80 and LBB).** These adjustment layers are meant to even out photos that were not properly white balanced. The Cooling Filter (80 or LBB) makes images bluer to simulate cooler ambient light. The Warming Filter (85 or LBA) makes images warmer to simulate hotter ambient light.
- **Warming Filter (81) and Cooling Filter (82).** These adjustment layers are similar to the previous filters but cast a more pronounced color. The Warming Filter (81) makes the photo more yellow, and the Cooling Filter (82) makes the photo bluer.
- **Individual Colors.** The Photo Filter also has 14 preset colors to choose from. These can be used for two primary purposes: to add a complementary color to a scene to remove color cast or for stylistic reasons.

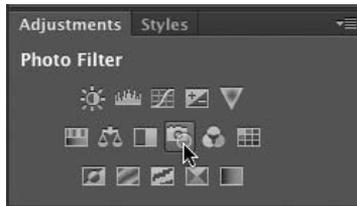


VIDEO 69:
Stealing Sunsets



Let's try applying a Photo Filter adjustment layer.

1. Close any open files, and then open the file Ch10_Photo_Filter.tif from the Chapter 10 folder.
2. Click the Photo Filter icon in the Adjustments panel.



3. In the Filter area, choose Warming Filter (85) to adjust the temperature of the photo.
4. Deselect the Preserve Luminosity option to allow the image to darken.
5. Adjust the slider to taste.

The sky and the image should be “warmer.” You can adjust the Density slider to control the intensity of the effect.



Shadows/Highlights

Exposure problems often plague photos. Dark shadows may make a photo seem unusable, but Photoshop offers a powerful command for fixing these problems. The image command Shadows/Highlights is very flexible for solving problems. The command can help salvage images where the subject is silhouetted from strong backlight. You can also use the command to improve subjects who have been washed out by the camera's flash.

The Shadows/Highlights command does more than lighten or darken an image. It makes adjustments by analyzing neighboring pixels. However, when first opened, the tool is very basic. It is important to select the Show More Options check box, which adds significant control. Let's give the command a try.

1. Close any open files, and then open the file Ch10_Shadows_Highlight_1.tif from the Chapter 10 folder.

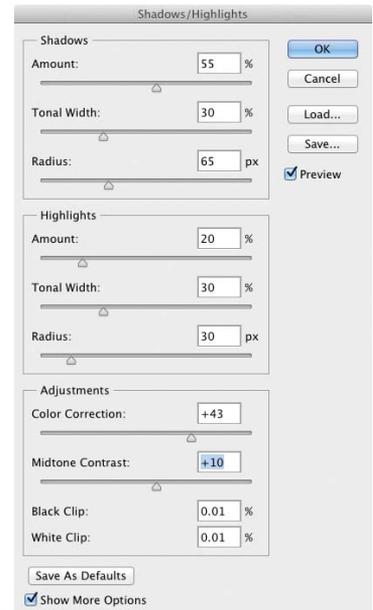
The Shadow/Highlights command is not available as an adjustment layer. You can still apply it in a nondestructive manner by first converting the photo to a Smart Object.

2. Choose Layer > Smart Objects > Convert to Smart Object.
3. Choose Image > Adjustments > Shadows/Highlights. The image is brightened automatically because the command boosts the shadowed areas by default.
4. Select the Show More Options check box and be sure to select the Preview check box.
5. Adjust the Shadows and Highlights of the image:
 - **Amount.** This value determines how strong of an adjustment is made to the image.
 - **Tonal Width.** Small values affect a reduced region; larger values include the midtones. If pushed too high, halos appear around the edges of the image.
 - **Radius.** Is a tolerance setting that examines neighboring pixels to determine the affected area.
6. Modify the image adjustments to improve image quality:
 - **Color Correction.** This slider modifies the saturation of the adjusted areas. Essentially, it can counterbalance washed-out images.
 - **Brightness.** If you're working on a grayscale image, Color Correction is replaced by a Brightness control.
 - **Midtone Contrast.** This adjustment affects the contrast in the midtones of a photo. Positive values increase contrast, whereas negative values reduce contrast.
 - **Black Clip and White Clip.** This adjustment modifies the black point of shadows and lowers the white point of highlights. This can lower the intensity of the effect.
7. Click Save if you'd like to store the adjustment to use on another photo. When you're satisfied, click OK to apply the adjustment.

If you'd like extra practice, you'll find additional images in the Chapter 10 Extras folder.



VIDEO 70:
Shadows/Highlights



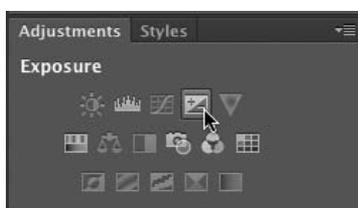
Exposure

Starting with Photoshop CS2, support was added for 32-bit images. Generally referred to as high dynamic range (HDR), these images offer great flexibility in exposure. These images can better handle re-creating the wide range of exposures found in outdoor scenes or intense lighting conditions. The Exposure adjustment is usually used on images that exist in 32-bit space and is said to be a 32-bit floating point operation (often shortened to *float*).

Creating an HDR image is a combination of shooting techniques and a Photoshop command. It requires that the camera be secured firmly to a tripod and that you be careful when triggering or adjusting the camera to not move it (or allow anything to move in the shot either). Several photos at various exposures are taken of the same scene (a minimum of three; usually five to seven is adequate). The camera should have its auto-bracket and ISO features disabled. Each shot should be about two f-stops apart. The user then harnesses the Merge to HDR command (File > Automate > Merge to HDR) to create the 32-bit image. You'll create an HDR image later in the book, but for now let's jump ahead to an HDR image that's already built.



1. Close any open files, and then open the file Ch10_HDR1.tif. If you click in your menus, you'll notice that several features are grayed out. Most image adjustments do not work for a 32-bit image. This image was taken in a very low-light environment, but by combining multiple exposures together into the HDR image, I captured a much better photo.

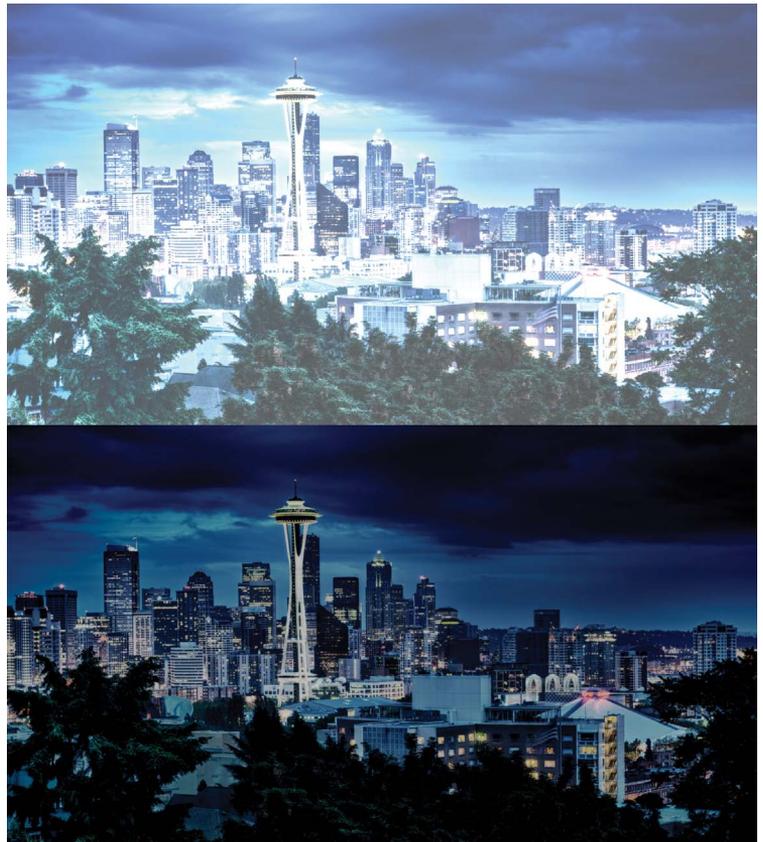


2. Click the Exposure icon in the Adjustments panel. This command makes tonal adjustments by performing calculations in a linear color space (Gamma 1.0) rather than the current color space. This offers extreme flexibility for future changes.

3. Three properties can be modified:
 - **Exposure.** Modifies the highlight end of the tonal range with little effect on the extreme shadows.
 - **Offset.** Darkens the shadows and midtones with little effect on highlights.
 - **Gamma.** Adjusts the gamma of the photo.
4. Additionally, three eyedroppers adjust the image's luminance values:
 - **Set Black Point eyedropper.** Sets the Offset, which shifts the selected pixel to zero.
 - **Set White Point eyedropper.** Sets the Exposure, which shifts the selected pixel to white (1.0 for HDR images).
 - **Midtone eyedropper.** Sets the Exposure, which shifts the selected pixel to the middle gray.
5. Make a dramatic adjustment and click OK. Let the image blow out, because this will show you the flexibility of HDR images.
6. Apply a second Exposure adjustment and bring the image back into a more accurate exposure. Notice that the blown-out areas are restored (this is often impossible with 8- or 16-bit images captured in a single exposure because overexposed or underexposed data is discarded).



VIDEO 71:
Merge to High Dynamic
Range Pro





VIDEO 72:
Equalize



Equalize

The Equalize command can restore contrast to a washed-out photo. The command attempts to redistribute pixels so that they are equally balanced across the entire range of brightness values. The command works best when you sample a small area that will drive the overall adjustment. The Equalize command takes the



lightest area and remaps it to pure white, and takes the darkest area and remaps it to pure black. Let's give it a try.

1. Close any open files, and then open the file Ch10_Equalize1.tif from the Chapter 10 folder.
2. With the Rectangular Marquee tool, make a selection inside the largest cactus branch.
3. Choose Image > Adjustments > Equalize to repair the image.
4. Make sure the Equalize entire image based on selected area check box is selected, and then click OK.
5. If the image appears overexposed, you can choose Edit > Fade to reduce the intensity of the Equalize command.

NOTE

What's a LUT?

Historically, LUTs have been used by the digital cinema industry to apply color adjustments between different applications. They work by building a new table of colors that completely remap the colors in use.

NOTE

Create Your Own LUTs?

In Photoshop CS6, LUTs are meant to be applied, not created. You can use an application like Adobe SpeedGrade to make custom LUTs or download them from many websites.

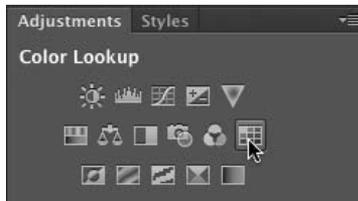
Color Lookup

A new option for color grading in Photoshop CS6 is the ability to apply a Color Lookup adjustment layer. The adjustment lets you choose from several different included presets (organized into three categories: 3DLUT File, Abstract, and Device Link). Each method uses a LUT (or lookup table). The benefits of using a LUT are that color changes are absolute and work well across multiple images for consistent adjustments.

1. Close any open files, and then open the Ch10_LUT.tif file from the Chapter 10 folder.

This image already has a few LUTs applied so you can see the results of the adjustments.

2. Click the visibility icon next to each LUT adjustment layer. Have only one turned on at a time for the best results.
3. To apply a new LUT, click the Color Lookup icon in the Adjustments panel.



4. In the Properties panel, choose a loaded preset from one of the three pop-up menus.
5. Modify the adjustment layer to taste and experiment with opacity and blending modes.

TIP

Tweak a LUT

Remember that you can adjust the opacity and blending mode for a LUT adjustment layer. This leads to several choices when designing.

Using Camera Raw

The Camera Raw support in Photoshop is enabled by a plug-in (essentially an application that runs inside Photoshop). With Camera Raw you can import and develop raw files, and then pass them on to Adobe Photoshop. Camera Raw is designed to work with the native files recorded by many cameras.

A Camera Raw file contains unprocessed and uncompressed data, as captured by the digital camera's image sensor. These native files contain much more color and exposure information than a JPEG or TIFF file. The camera also includes metadata, such as white balance, exposure, and more, specifying how that information should be treated.



VIDEO 73:
Recovering a Raw File

NOTE**What's the raw extension?**

Raw files are not really a file type but rather a description for several manufacturer-specific file formats. You'll find several different file formats in use, and they will vary by camera manufacturer.

NOTE**Can I Use Camera Raw?**

Not all cameras work with Photoshop Camera Raw (although the list is very long). Adobe keeps updating the plug-in to support new cameras all the time. To keep track of Camera Raw and for a list of supported cameras, visit www.adobe.com/go/learn_ps_cameraraw.

Opening a Raw File

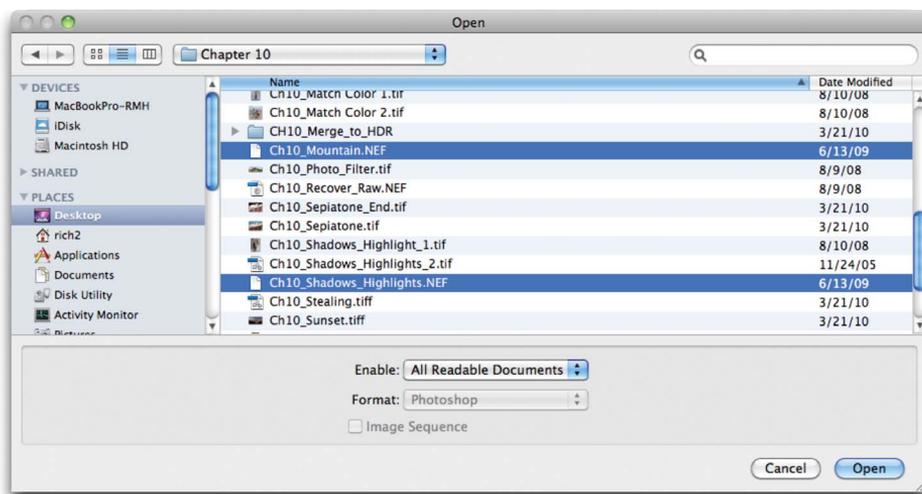
To process a raw file, you'll need to open it with Photoshop Camera Raw. Essentially, you need to develop the file, deciding during the editing stages which information to include. The Camera Raw software interprets the metadata and raw file information to generate a new image.

The good news is that adjustments you make to a raw file are all stored as metadata. The adjustments essentially reprocess the raw file data. The Camera Raw plug-in writes to a sidecar file, which contains instructions on how to treat the raw data. In fact, you can have multiple sidecar settings for each raw image.

Let's try opening a file.

1. Close any open files, and then choose File > Open.
2. Navigate to the Chapter 10 folder and select Ch10_Mountain.NEF. Do not open the file yet.

You can choose more than one file at a time to process with the Camera Raw dialog box.



3. Hold down the Command (Ctrl) key and select the Ch10_Recover_Raw.NEF file.
4. Click the Open button to open both images into the Camera Raw window.

Now that you have something to look at, let's take a quick look at the dialog box and its controls.

An Overview of the Camera Raw Dialog Box

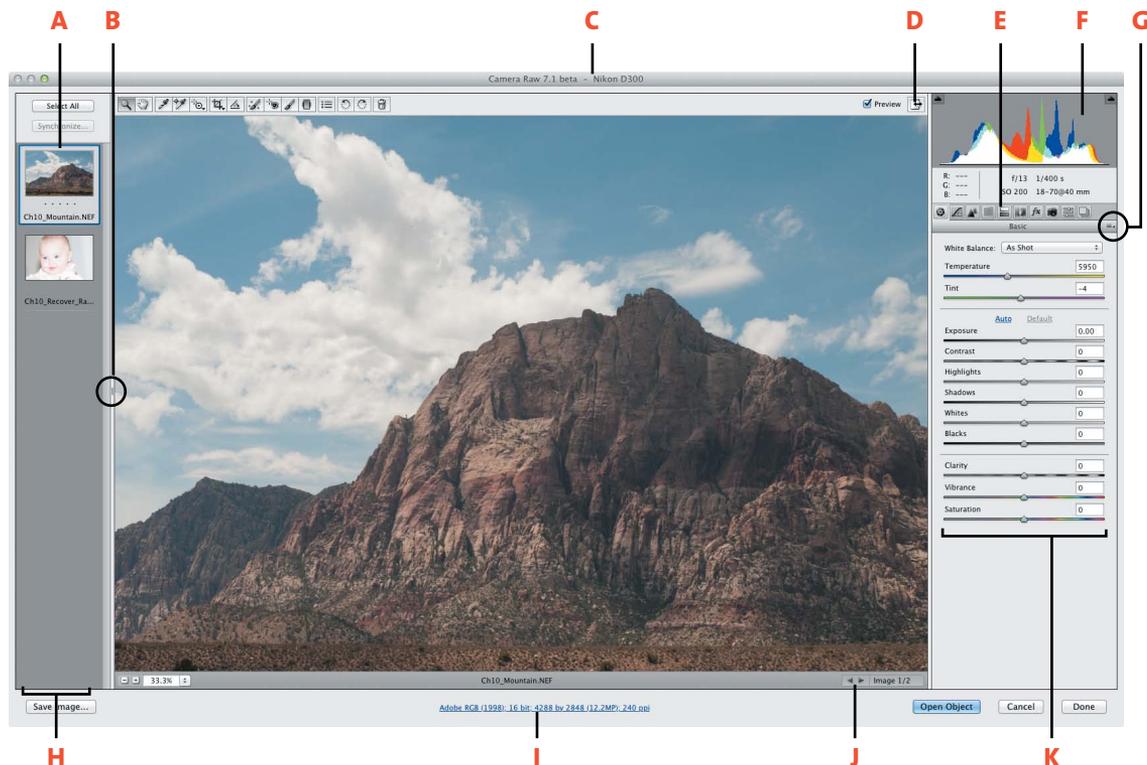
At first glance, the Camera Raw dialog box can be a little overwhelming. It's okay to feel this way, because there truly are a lot of sliders and tabs. What you'll find, however, is that the controls are fairly intuitive and very powerful. Here's a quick overview of what you'll find:

- A Filmstrip.** If you select more than a single image to open, the images will display here. It is possible to apply star rankings to images in the Filmstrip. You can also synchronize the settings between multiple clips. Just adjust one image, select similar images, and then click the Synchronize button.
- B Toggle Filmstrip.** If you don't want to see the Filmstrip, just double-click the bar. You can also drag to resize the preview thumbnails.
- C Camera name or file format.** The camera name and model appears at the top of the window so you know more about the file.

TIP

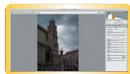
Clipped Warnings

As you make adjustments to the developed image, it's possible to clip data (essentially a loss of detail). In the Histogram display, you'll see two small triangles. You can click the one on the left for shadows and the one on the right for highlights. When enabled, clipped shadows appear in blue, and clipped highlights appear in red. Highlight clipping will warn you if any one of the three RGB channels is clipped (fully saturated with no detail). Shadow clipping will warn you if all three RGB channels are clipped (black with no detail).



TIP**Go Big**

One of the major benefits of shooting raw is an increased bit depth. Be sure to click the Workflow Options link and set Camera Raw to develop 16-bit files. In the Workflow Options dialog box, you can also choose Open in Photoshop as Smart Objects.



VIDEO 74:
Working with Shadows
and Highlights in Raw

- D Toggle full-screen mode.** It is possible to maximize the Camera Raw window to see more details and a larger interface. Click to toggle between the larger and default view.
- E Image adjustment tabs.** There are ten tabs in total for controlling the development of Camera Raw files. More on these in the next section.
- F Histogram.** The Histogram displays the tonal range of the developing image. The left edge shows the shadows, whereas the right shows the highlights.
- G Camera Raw Settings menu.** Click this submenu to access controls for saving and loading custom settings.
- H Zoom levels.** You can adjust the magnification level of the image. The most accurate view is 100%, but you'll likely choose to zoom out to see the entire image in full.
- I Workflow options.** You can specify how images should be saved from Camera Raw and how they should be opened in Photoshop. Clicking the blue hyperlinked text lets you choose a color mode, bit depth, file size, and resolution.
- J Navigation arrows.** Let you switch between multiple images. These work well if the Filmstrip is hidden.
- K Adjustment sliders.** For each adjustment tab, you'll find a set of sliders. These controls are essential for developing the image.

Image Adjustments Tabs

The Camera Raw dialog box offers ten tabs to process your raw files. The tabs are organized by task. Normally, you'll use only some of the tabs to adjust each image. For learning purposes, let's take a quick look at each.

Basic

The Basic tab lets you make primary adjustments to white balance, color saturation, and tonality. These are the most important controls and the ones you're most likely to change.

1. Click the White Balance list and choose Auto to have Camera Raw attempt to automatically adjust white balance.
2. Let's set a different white balance. Select the White Balance tool and click on one of the clouds in the sky.

THE RAW TOOLBAR

Across the Camera Raw window is its own toolbar. You'll see several similarities to the Photoshop tools you're already familiar with:



- A ZOOM TOOL (Z).** You can click on an image to zoom into an area. You can also click and drag to make a selection for zooming.
- B HAND TOOL (H).** When zoomed, you can use the Hand tool to pan across an image. Hold down the spacebar to temporarily switch to the Hand tool.
- C WHITE BALANCE TOOL (I).** You can override the white balance settings written by the camera. Just click to select the tool, and then click on an area of the image that should be white or gray.
- D COLOR SAMPLER TOOL (S).** You can add up to eight sample points. These are useful ways to track changes in color as you make adjustments to an image. Many users will place a sampler on a white and black area of an image to track any shifts in color.
- E TARGETED ADJUSTMENT TOOL (T).** There are five different tools to choose from. Click and hold to select specific tools.
- F CROP TOOL (C).** You can crop freely or select from several preset aspect ratios. Remember that any adjustments you make are nondestructive. The cropping will be applied when the image is opened.
- G STRAIGHTEN TOOL (A).** If your photo is crooked, just select the Straighten tool. Click and drag with the Straighten tool in the preview image to establish a horizontal or vertical angle.
- H SPOT REMOVAL TOOL (B).** The Spot Removal tool lets you heal or clone imperfections in the raw file. The most typical problem you'll need to tackle is sensor or lens dust.
- I RED EYE REMOVAL TOOL (E).** If an image has red eye, select this tool and click on the center of the pupil.
- J ADJUSTMENTS BRUSH (K).** This powerful tool lets you brush in localized color and exposure adjustments. Click and brush over an area to define it, and then adjust settings with the Adjustment sliders.
- K GRADUATED FILTER (G).** This tool is similar to the Adjustments Brush except it allows you to create a transitioned adjustment gradually between two points. This is most typically used to fix areas like a sky.
- L OPEN PREFERENCES DIALOG BOX (COMMAND+K OR CTRL+K)**
- M ROTATE IMAGE LEFT (L).** Rotates the image 90° counterclockwise.
- N ROTATE IMAGE RIGHT (R).** Rotates the image 90° clockwise.

3. In the Basic controls, click Auto to have Camera Raw analyze the image and make adjustments.

4. Drag the Exposure slide to +0.35 to brighten the image.

The image is now brighter, but some of the highlights are too bright.

5. Drag the Highlights slider to -25 to recover detail in the brightest areas.

Let's put a little more color into the image.

6. Boost the Saturation to +45 to increase the overall color in the shot.

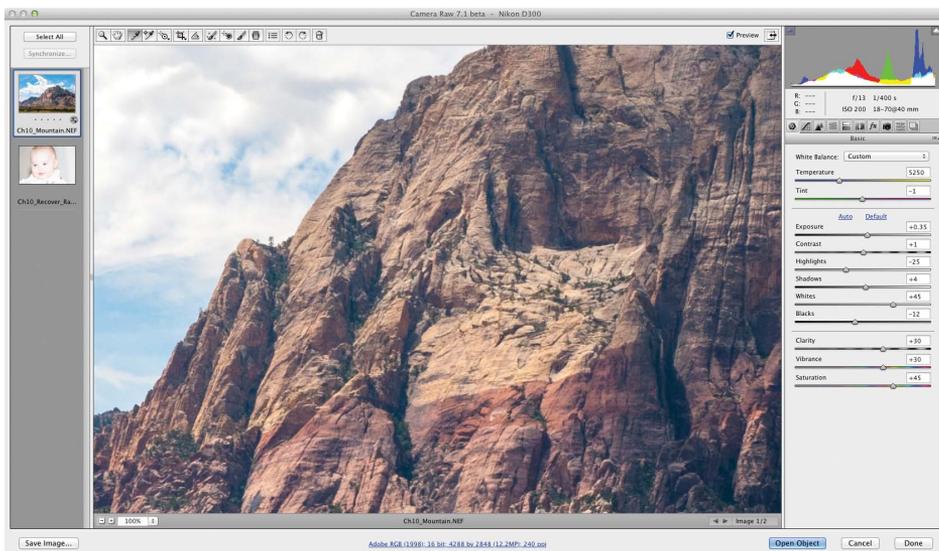
7. Let's bring the color in the sky out a bit more. Increase the Vibrance slider to +30 to richen the sky without oversaturating the reds in the photo.

Now that color is correct, let's enhance Contrast. The Clarity slider is best for this. To accurately judge clarity, you'll need to change your view.

8. Double-click the Zoom tool to switch to 100% magnification.

9. Drag the Clarity slider to the right slowly. Stop when you start to notice halos near the edge of details.

Around +45 you should notice a blooming effect; at this point you have too much clarity.



10. Drag the Clarity slider back to the left until the halos disappear. A value of 30 for this image seems to work well.
11. Click the Zoom Levels presets list and choose Fit In View.
12. Toggle the check box for Preview (near the top of the window) to see the before and after states.
13. Make sure the Preview check box is selected, and then click the Tone Curve tab.

Tone Curve

With the Tone Curve, you can fine-tune tonality in an image with controls similar to Photoshop's Curves adjustment. You can choose to use either a Parametric curve or a Point curve.

1. In the Tone Curve controls, click the Point tab.
2. From the Curve presets list, choose Strong Contrast.

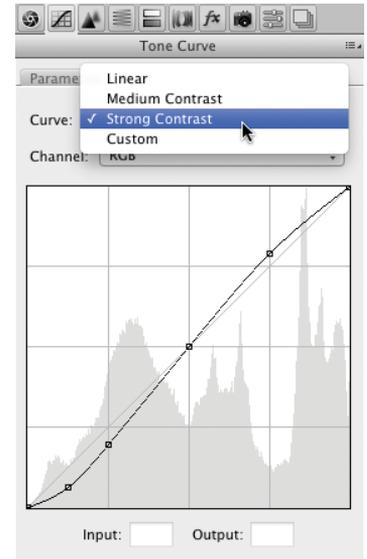
You can also click the curve and make adjustments like the Curves adjustment layer that you learned earlier.
3. Toggle the check box for Preview (near the top of the window) to see the before and after states.
4. Make sure the Preview check box is selected, and then click the Detail tab.

Detail

The Detail tab offers precise control over both sharpening an image as well as reducing noise. All raw images will need some sharpening. Noise, on the other hand, may not appear unless the image was shot with a high ISO setting or under low light.

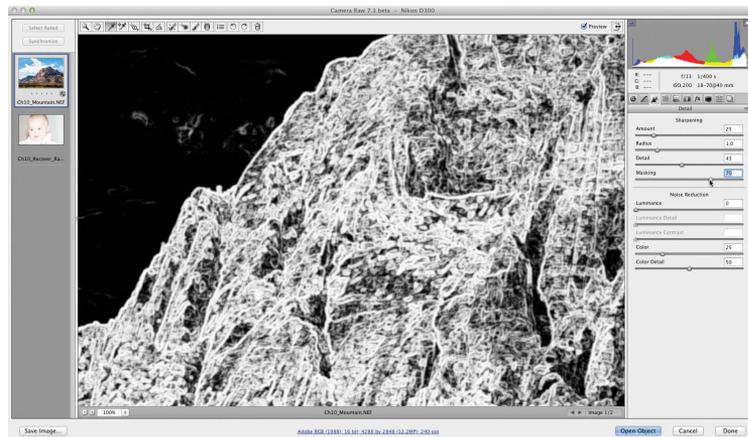
1. Double-click the Zoom tool to switch to 100% magnification.

It's easiest to accurately judge both sharpening and noise at a 100% view.
2. In the Detail tab, you can adjust sharpening to bring out fine image details:
 - **Amount.** Increases definition at the edges of an image. Use a lower amount for a cleaner image. When you open the file, the Camera Raw plug-in calculates the settings to use based on camera model, ISO, and exposure compensation. For this image, enter **35**.



- **Radius.** Use a low number for fine detail and a higher number if the photo lacks much detail. For this image use a lower number like **1.2** to preserve detail in the rocks.
- **Detail.** Controls how much high-frequency information is sharpened in the image and how the edges are emphasized. For this image, try a value of **50** to bring out lots of detail.
- **Masking.** Controls the edge of the mask. Using a value of zero means that everything receives the same amount of sharpening. A higher number limits the sharpening to those areas near the strongest edges.

An easy way to tell how much masking to use is to hold down the Option (Alt) key while dragging. White areas will be sharpened; black areas are ignored (masked). Try this out: Hold down the Option (Alt) key and drag slowly to the right. A value of 50 seems to be the right balance for this image.



3. Noise reduction controls let you remove extra grain from the image:
 - **Luminance.** Reduces luminance noise. Set this to **10** for this image (it's not very noisy).
 - **Luminance Detail.** Sets a threshold for the noise reduction. Higher values preserve detail but can produce noisier results. Lower values tend to produce cleaner results but likely remove some detail. Use a value of **80** to preserve more details.

- **Luminance Contrast.** Works best for very noisy photos. A value of **80** works well for this image.
- **Color.** Reduces color noise. The default is fine for this image.
- **Color Detail.** Use a higher value to protect detailed edges. A lower value preserves more color but can result in color bleeding. The default is fine for this image.



4. Toggle the check box for Preview to see the before and after states. This image is very subtly changed.
5. Click the Zoom Levels presets list and choose Fit In View.
6. Make sure the Preview check box is selected, and then click the HSL/Grayscale tab.

HSL/Grayscale

The HSL/Grayscale tab offers fine-tuning controls for Hue, Saturation, and Luminance adjustments. The most typical use of this tab is to target a particular color or tone that needs emphasis.

1. Select the Saturation tab.
2. Drag the Red slider to the left to deemphasize the Red tones. Try a value of **-10** for this image.
3. Drag the Blue slider to the right to boost the sky further. Try a value of **+25** for this image.

The image on the top is prior to adjustments. On the bottom, the increased saturation comes through.



Before



After

4. Switch to the Luminance tab to change the brightness of a color range.
5. Enter a value of +15 for both the Red and Orange sliders to lighten the rocky areas of the mountain.



6. Toggle the check box for Preview to see the before and after states.
7. Make sure the Preview check box is selected, and then click the Split Toning tab.

Split Toning

The Split Toning controls are used when you want to color a grayscale image. It only works if you select the Convert To Grayscale in the HSL/Grayscale tab or work with a grayscale image.

Click the Lens Corrections tab.



VIDEO 75:
Lens Correction in Raw

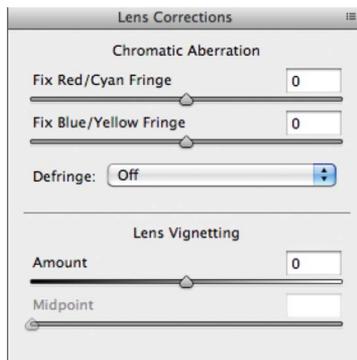
Lens Corrections

The Lens Corrections tab attempts to compensate for defects in lens technology. The first tab lets you automatically compensate for any physical distortion based on a lens profile.

1. Click the option for the Enable Lens Profile Corrections.

Photoshop automatically removes some of the wide-angle distortion from the image. You can refine the adjustment using the third tab (Manual).

- At the bottom, you can adjust for lens vignetting. This lets you compensate for shadows caused by the lens or hood.
- Click the second tab (Color) to adjust for common problems like chromatic aberration.



This particular image suffers from neither issue.

Chromatic aberration shows as fringing in the color, particularly at the edges of the image. It is easiest to see aberration at 100% magnification.

- Click the Effects tab.

Effects

The Effects tab can be used to stylize the image. It is used to add photographic imperfections that were more typical with film-based cameras. You can choose to simulate film grain or apply a post crop vignette to the edges.

- Double-click the Zoom tool to switch to 100% magnification. It's easiest to accurately judge grain at a 100% view.
- Set grain to a value of 15 and a size of 35 to create a filmic type noise in the image.



TIP**More Practice**

You'll find additional raw files in the Chapter 10 folder to practice with. These include overexposed and underexposed images as well as grainy and noisy images for cleanup.

3. Click the Zoom Levels presets list and choose **Fit In View**.
4. You can use a post crop vignette to stylize the images edges:
 - **Style.** You'll find three different options for how the vignette shades the image. The default, **Highlight** variety, works best for this image.
 - **Amount.** Use a negative value to darken the edges or a positive to brighten them. For this image, enter **-25**.
 - **Midpoint.** Controls how close the vignette appears to the corner of the image. Enter **60** to push out the edges.
 - **Roundness.** A positive value creates a circular effect, whereas a negative value takes on an oval shape. The default is fine for this image.
 - **Feather.** Can create a gentler transition between the affected areas. The default is fine for this image.



- **Highlights.** If you're using a very dark vignette, the **Highlights** slider can be used to protect the brightest tones in your image.
5. Make sure the **Preview** check box is selected, and then click the **Camera Calibration** tab.

Camera Calibration

The Camera Calibration tab is used to apply specific profiles to raw images. Typically, you'll use it to correct for color cast (unwanted spill) in an image. It can also compensate for unwanted behaviors by a camera's image sensor.

- **Process.** The process list lets you choose a decode technique. The newer 2010 process is a significant improvement that ships with Photoshop CS6. If you're working with raw files you've processed with an older decoder, be sure to switch and update the file for greater control and quality.
- **Camera Profile.** You'll find three types of camera profiles. The ACR options are compatible with older versions of Camera Raw. The Adobe Standard option works best for Photoshop CS6. You'll also find profiles that attempt to match the manufacturer's presets for shooting modes like neutral, standard, and vivid. In most cases (including this one) Adobe Standard is best.

Make sure the Preview check box is selected, and then click the Presets tab.

Presets

If you like a setting you've created, you can save it as a preset, which makes it easier to reload in the future. Remember that custom presets can serve as a great starting point (especially if you have several images from the same shoot). To make a preset, just click the pad-shaped button at the bottom of the window.

Make sure the Preview check box is selected, and then click the Snapshots tab.

Snapshots

Another way to store a version of your image is to create a snapshot. Each snapshot is essentially a recording of the image's current state. You can in fact create multiple snapshots for a raw file and easily switch between them.



VIDEO 76:
Removing Noise
in a Raw File



TIP

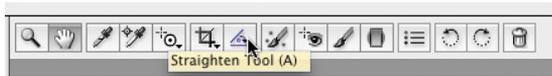
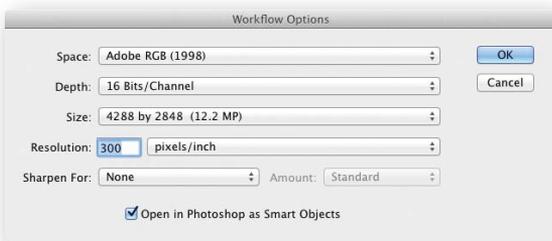
Other Than Raw Files?

You can in fact open TIFF and JPEG files using the Camera Raw plug-in. You need to switch to Adobe Bridge and select the desired files. Then choose File > Open In Camera Raw. You won't see any major benefits to image quality, but you can use the Camera Raw dialog box to adjust the images.

Finish the Process

When you are satisfied with the settings you've entered into the Adjustment sliders, you can decide what to do with the file. Before you open (or close) the file, you should check a few things.

1. Click the Workflow Options text at the bottom of the image.
2. Set the Depth to 16 Bits/Channel for the maximum tonal fidelity.



The image on the left is unprocessed, whereas the image on the right has had many settings adjusted.

3. Set the resolution to 300 pixels per inch.
4. Select the Open in Photoshop as Smart Objects check box to ensure future ease in readjusting the raw processing.
5. Click OK to store the settings.
6. Select the Straighten tool (A).
7. Drag across the horizon line at the base of the mountain to straighten the image.

When you release, you'll see a new crop box drawn on the image. If you need to reset the crop, click the Crop tool in the Tools panel and choose Clear Crop.

8. You now must choose what to do with the file. Clicking the Done button stores the Camera Raw settings in a sidecar file (or database) without opening the image in Photoshop. For this image, click Open Object to develop the raw file and send it to Photoshop.

A new file opens in Photoshop with the raw file added as a Smart Object.

You can now use any of the adjustment techniques you've learned in this chapter. Be sure to save the file as a layered

Photoshop or TIFF file. If you need to reprocess the raw file, just double-click its thumbnail in the Layers panel to reopen the image into Camera Raw.

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