

There are many uses for Smart Objects, but probably they're most handy is to use Smart Objects as a non-destructive way to pull a raw file into Photoshop. For this tutorial, you'll need the file `Smart Object.CR2` from the Chapter 20 section of the companion web site, at www.completedigitalphotography.com/CDP6.

STEP 1: CREATE THE SMART OBJECT

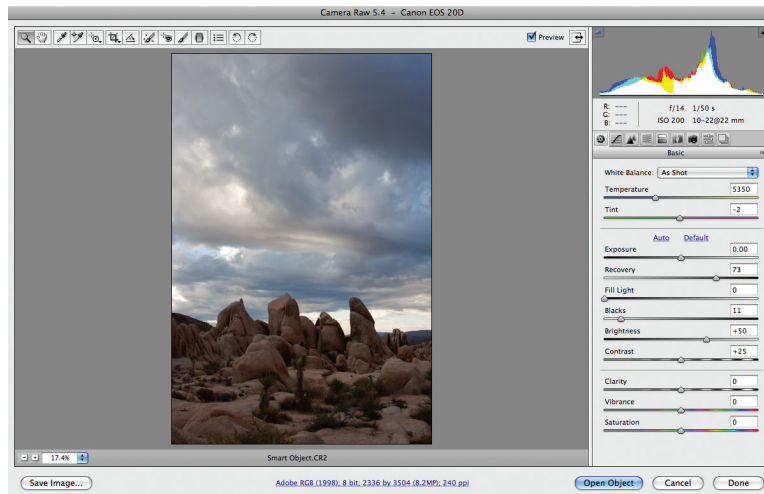
In Photoshop CS4 or later, choose `File > Open as Smart Object` and then select the file you copied to your hard drive.

Smart Objects with CS2

If you're using Photoshop CS2, you'll first need to create a new document with the same pixel dimensions as your raw file. If need be, open the raw file in Camera Raw to take note of the pixel dimensions; then cancel out of Camera Raw and create your document. With your document created, choose `File > Place` and select the file you copied to your hard drive.

STEP 2: CONFIGURE THE RAW CONVERSION

Photoshop will open the file in Photoshop Camera Raw and present you with the standard Camera Raw dialog box. As you may have noticed, the Chapter 20 section of the companion site also contains a file called `Smart Object.xmp`. As you learned in Chapter 11, "Raw Shooting," this file contains raw conversion parameters for the `Smart Object.CR2` file. In this case, the parameters are adjustments that were specified when the file was initially edited. If you download the `Smart Object.xmp` file and place it in the same directory as the raw file, when you open `Smart Object.CR2`, you'll see my edits, which include some highlight recovery and some spot removal (see Figure 1).



We opened this raw file as a Smart Object, which will allow us a truly nondestructive editing workflow. The default, auto settings look fine for our initial viewing.

STEP 3: OPEN THE FILE

Click OK in Camera Raw, and the processed file will open in Photoshop. Look at the Photoshop Layers palette. It should contain one entry that says Smart Object, which shows a thumbnail of your image.

For CS2 Users

If you're using CS2, the raw file will be placed at the full width of your document and will initially provide control handles so you can scale the placed image. Double-click or press Return to accept the document as is. You now have a raw file Smart Object.

If your document and the raw file don't have the same aspect ratio, the canvas may have some extra space in it. Use Photoshop's Trim command (Image > Trim) to cut the canvas size down to match your image.

Opening as a Smart Object from Bridge

If you open an image in Camera Raw by double-clicking it in Bridge, you can convert it to a Smart Object by holding down the Shift key. The Open Image button will change to Open Object. Click the button, and Camera Raw will process the image and open it as a Smart Object in Photoshop.

STEP 4: EXPLORE THE SMART OBJECT

Double-click the icon of the Smart Object layer in the Layers palette. Your image will reopen in Camera Raw, and you can now adjust any raw parameters you want! (If you double-click anywhere else on the layer, you'll get the Layer Style dialog box. Cancel out of this and double-click the icon for the layer.)

Unlike a normal layer, you cannot perform any pixel-level editing on a Smart Object, meaning you can't apply any adjustments directly to the layer, nor can you paint on the layer with the brushes, rubber stamp, or any other tool that needs to alter individual pixels.

However, you can work with Adjustment Layers, just like you would with a normal image, and you can also add Layer Masks to a Smart Object, meaning you can easily create composites that combine different conversions of the same raw file.

For example, this scene has a fairly large dynamic range, and it would be best to expose the sky separately from the foreground. We can do this by compositing two copies of the same Smart Object, with each processed slightly differently. Let's begin by adjusting this Smart Object to expose the sky the way we want it.

STEP 5: ADJUST THE SMART OBJECT

Let's increase the contrast in the sky to go for something a little more dramatic. We don't have to get it right the first time, obviously, because we can always come back and tweak it later. If you're not in Camera Raw, double-click the Smart Object layer to open the Camera Raw dialog box. Then set Exposure to -0.95 , and Contrast to $+59$. Click OK when finished.

STEP 6: DUPLICATE THE SMART OBJECT

The image now has a more dramatic sky, but the foreground is too dark. We're going to create a copy of the Smart Object and adjust the copy's exposure. From the Layer menu, choose Smart Objects > New Smart Object Via Copy. This creates a copy of our Smart Object, and this copy can have its own separate raw conversion parameters. Note that if you try to copy the Smart Object by using the normal duplicate layer commands, you'll end up with both copies having linked raw parameters.

STEP 7: ADJUST THE DUPLICATE

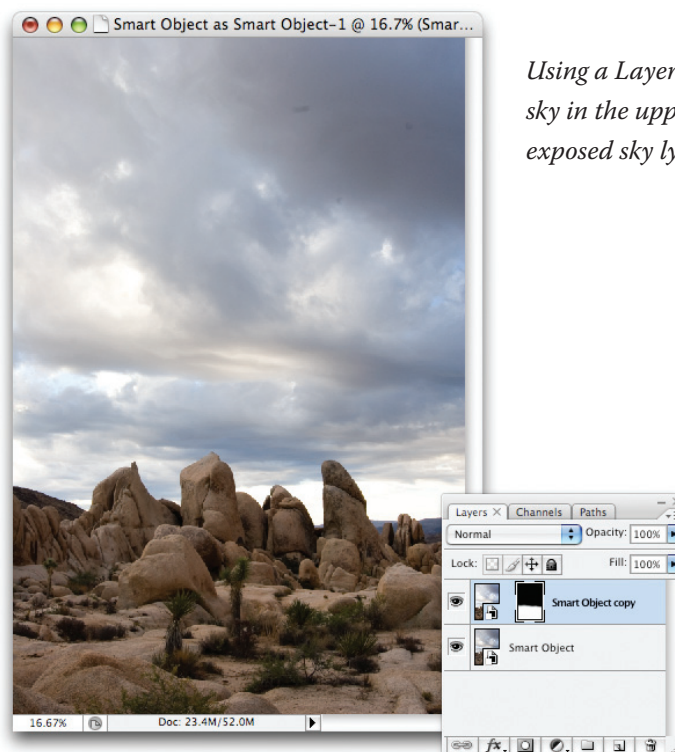
In the Layers palette, double-click the Smart Object copy layer to open its raw conversion dialog box. We want to brighten the foreground. Set Exposure to +.25 and Contrast to +79. This will also brighten the sky, but don't worry about that right now. Click OK.

STEP 8: ADD A LAYER MASK TO THE COPY

With the copy of the Smart Object selected, choose Layer > Layer Mask > Reveal All. This will create a Layer Mask that's full of white, meaning that right now, we're seeing all of the upper layer.

STEP 9: BUILD YOUR LAYER MASK

We're now going to use some of the same Layer Masking tricks we learned earlier. We're going to begin by filling most of the upper part of the Layer Mask with black to reveal the sky from the lower layer. Set black as the foreground color and begin painting black over the sky. As you paint, you'll be filling the mask of the upper layer with black, blocking up those areas, and thus revealing the underlying layer (see Figure 2).



Using a Layer Mask, we can mask out the sky in the upper layer to reveal the better-exposed sky lying below.

Don't paint all the way down to the rocks. Painting a clean mask around the rocks is very difficult, so we're going to take advantage of the fact that a cloudy sky is a diffuse, variable texture that can hide the boundary of our mask. Paint along the boundaries of some of the darker, lower clouds, so you can't see where the mask ends.

Now we can refine our composite further.

STEP 10: FIX THE SKY

With our composite in place, we can see that our sky adjustment is a little extreme. It looks a little too much like a fake sky composited into the background. Let's back off on our sky adjustment a little bit. Double-click the Smart Object layer (the lower layer) to open the Camera Raw editor. Set Exposure to $-.25$ and Contrast to $+30$. This creates a more believable composite.

STEP 11: ADD HIGHLIGHTS TO THE FOREGROUND

The foreground is a little flat, due to the cloudy lighting overhead. By painting in some highlights, we can add a little depth and dimension to the rocks. Click the upper layer (Smart Object copy) and then add a new Levels Adjustment Layer. Drag the White point slider to the left to around 217. The entire image will get brighter. We need to constrain the effects of our Levels Adjustment Layer with a Layer Mask.

STEP 12: BUILD THE LEVELS LAYER MASK

Choose Edit > Fill. In the resulting dialog box, change the Use pop-up menu to Black and then click OK. Your Levels Adjustment Layer will fill with black, blocking out all its effect.

Select white as your foreground color, select a smallish paintbrush, and begin painting white onto the bright sides of the rocks. This will add highlights to those areas and will create more of a sense of depth.

STEP 13: SAVE THE IMAGE

Choose File > Save and then save the image in Photoshop format to your hard drive. At any time, you'll be able to return to this image and re-edit any of the parameters we've been adjusting.

STEP 14: FINAL OUTPUT

Choose Layer > Flatten Image. This will reduce your file to a regular, editable image layer. You can see the final image in Figure 3.



Our final rock image after painting some highlights on the brighter rock faces.

Because we saved a layered version first, we still have an editable version of the document, if we want to make additional changes. Use Save As to save this flattened version. With it, you can apply pixel-level edits such as clones, paint brush strokes, and so on.

As you can see, while Smart Objects don't allow you to treat a raw document as a completely editable and paintable layer, they do provide a tremendous amount of flexibility when combined with Adjustment Layers and Smart Object copies. Being able to work nondestructively can greatly ease your workflow and provide you with far more creative flexibility.

If you're using Photoshop CS3 or later, note that you also have access to Smart Filters. Select a Smart Object Layer and choose any filter from the Filter menu. That filter will be added as a Smart Layer, which simply means that it will be applied nondestructively. In the Layers palette, a new entry for that filter will appear, and you can double-click that Smart Filter to adjust its parameters at any time. Note that Smart Filters only affect the Smart Object that they're attached to. They're not like Adjustment Layers, which affect everything lower in the Layer Stack.