



Photoshop Version 20

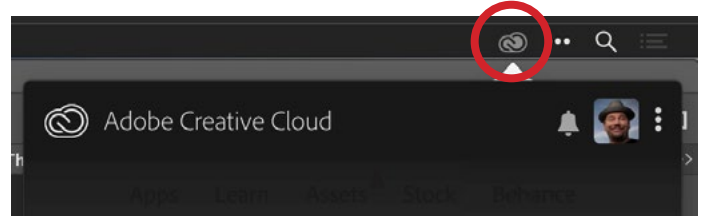
# Photoshop Version 20

In this lesson, we're going to take a look at the changes that were made in the most recent update to Photoshop. With this new update, we are now on Photoshop version 20. Adobe has made some big changes to certain areas of Photoshop and small changes to a bunch of features that you use every single day.

## Updating Photoshop

You should have the Adobe Creative Cloud App installed on your machine and you will see the Creative Cloud icon in the menu bar in the top right corner of your screen. Click on the icon and the Creative Cloud panel will expand. Click on the Apps category at the top of this panel and you will see a list of all your installed Adobe Apps with notifications

of any updates available. Simply click the update button next to Photoshop. If, for some reason, the panel is not showing you that there is an update available for Photoshop, click on the icon that looks like three little dots in the upper right corner of the panel and choose Check for Updates from the menu that appears.

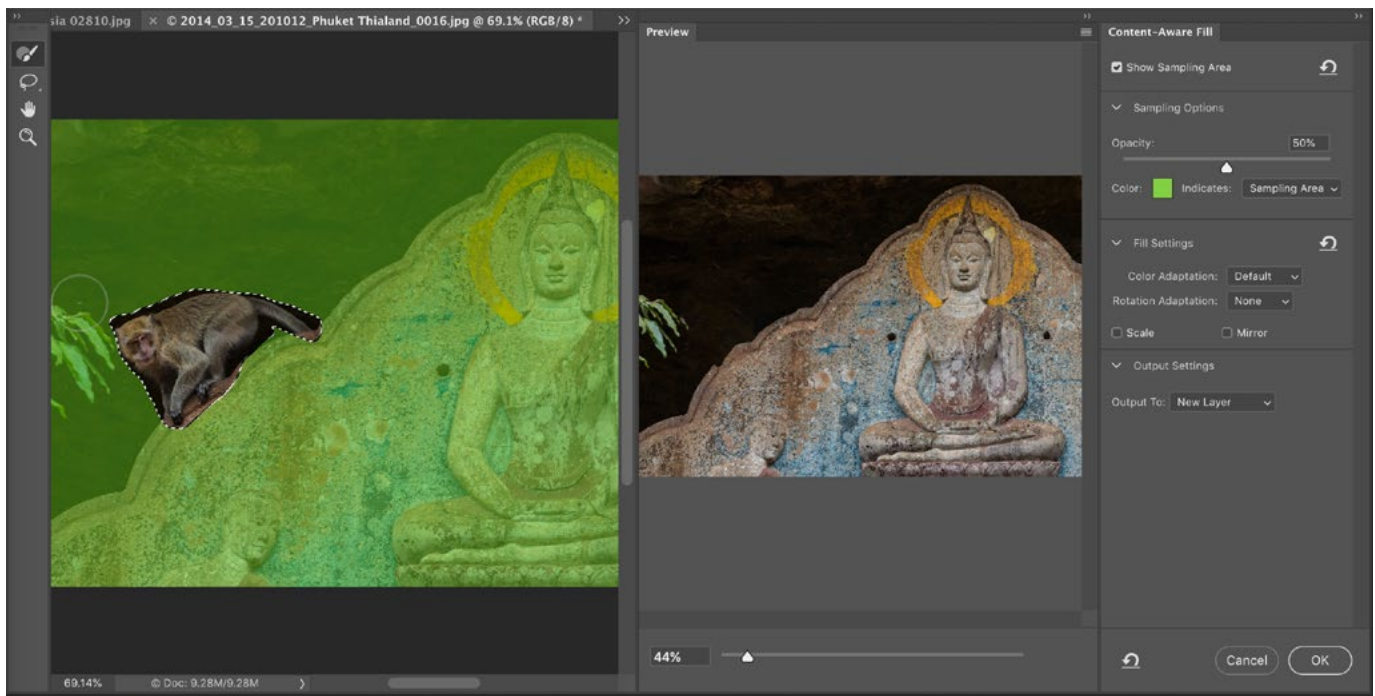


**Access the Creative Cloud panel by clicking the Creative Cloud icon (circled) at the top of the screen. This is where you will go to update to the latest version of Photoshop.**

## Content-Aware Fill

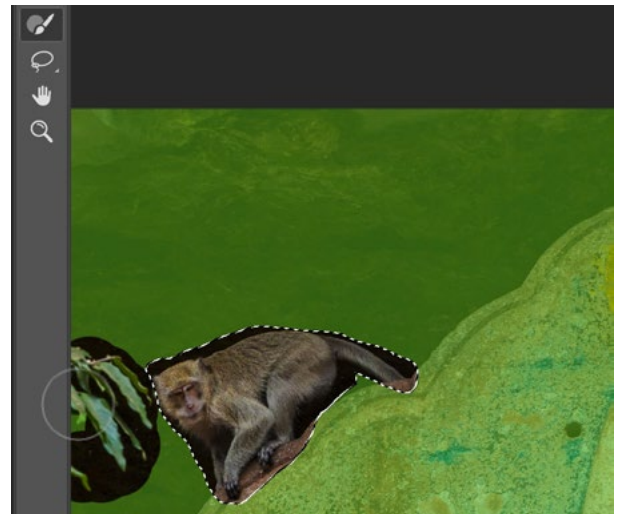
One of the bigger changes that Adobe has made in this version of Photoshop has to do with the Content-Aware Fill feature. This is a feature that has been in Photoshop for a long time. In the past, you would make a selection around the area you want to fill, then you would go to the Edit menu and choose Fill. The Fill dialog box would appear, you would make sure the Contents menu was set to Content-Aware and then you would click OK. This still works, but there is now an alternative method that will give you a lot more control.

Using the new method, you will still begin by making a selection around the area you want to fill. Then, you will go to the Edit menu and choose the new option, titled “Content-Aware Fill.” A new screen will appear (that basically takes over your interface) and it is split into two halves. On the left side, you will see the original image with the selection that you created as well as a green overlay. The area highlighted in green is the area that Photoshop might choose to copy from in order to fill in the selection. On the right side is a preview of what the end result will look like. Use the slider on the bottom of this preview window to zoom in and out on the image.



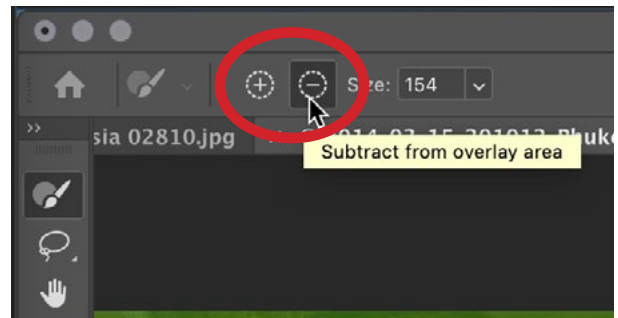
The new Content-Aware Fill window is shown above. On the left is a view of the selection (the area you want to fill) and the right window shows a preview of the result.

Sometimes Photoshop will use some totally inappropriate content to fill in the selected retouch area and we now have some more control in that we can interact with Photoshop, telling it what areas it should not use. Do this by clicking and dragging over the area you do not want to be used to fill in the selection. In the video example, we want our selection to be filled in with clean background content, so we painted over the leaves that were located next to the selection. This removed the green overlay on the area that we painted so we know that it can't be used to fill in the selection.



**We are painting over the leaves next to the retouch area. This is removing the overlay, telling Photoshop that this area can NOT be used to fill the selection.**

If you would like to ADD green overlay (telling Photoshop that it's ok to source from a certain area), hold down the Option key (Alt on Win) and paint over the desired area. If you don't want to use the keyboard shortcut, you can use the little plus and minus buttons at the top of the screen. If the plus icon is active, you will be painting in the green overlay. If the minus icon is active, you will be removing the green overlay. Note that holding down the Option key (Alt on Win)

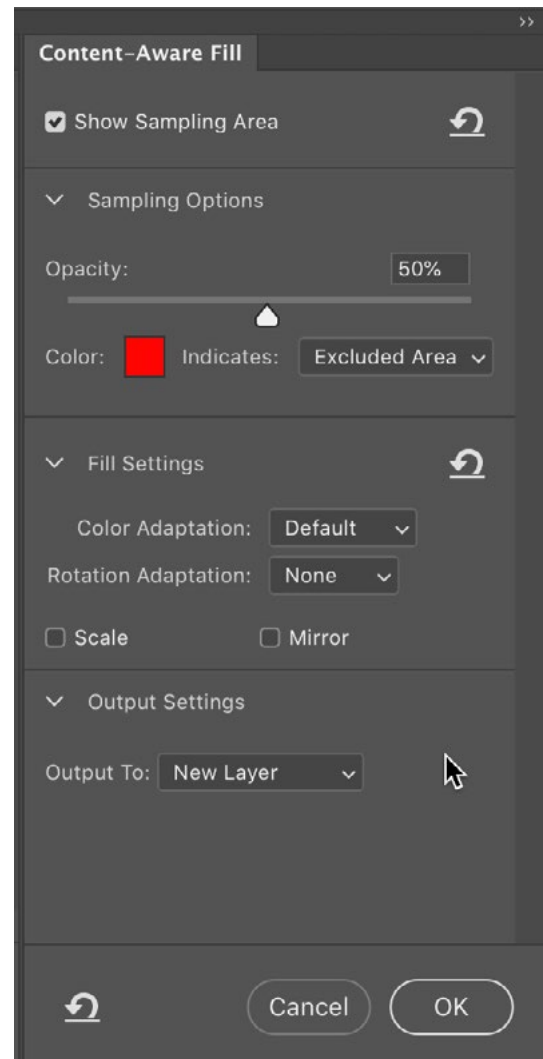


**Use these icons to determine whether your paint strokes will add to the overlay or remove the overlay.**

simply switches the setting to the opposite that is currently active. For example, if the plus sign icon is active and you hold down the Option key (Alt on Win), it will temporarily activate the "subtract the overlay" setting when you paint. When you release the key, it will go back to the "add the overlay" setting. You can also tap the E key to switch between the two modes. To change the brush size, either use the Size setting located in the bar above the image window or you can use the square bracket keys to make the brush bigger ( ] ) or smaller ( [ ).

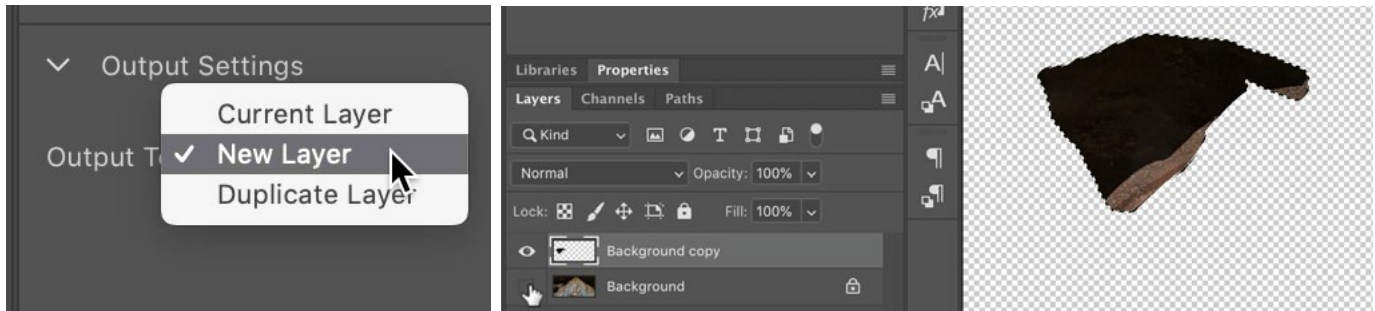
**Sampling Options** There are a series of content-aware settings located on the right side of the screen. The top check box, “Show Sampling Area,” is automatically turned on and this is what allows the green overlay to be visible. Below this check box are the settings for how the overlay looks. You can use the slider to change the opacity of the overlay and you can use the Color setting to change the overlay to a different color. The “Indicates” menu is automatically set to Sampling Area and this means that the overlay will appear over the area that Photoshop might use to fill in the selection. You could switch this to Excluded area if you’d rather the overlay appear over the area that Photoshop can NOT use to sample from.

**Fill Settings** The next category of settings are the Fill Settings and these are a really great new feature. The old version of Content-Aware fill was not able to rotate or scale things, but these settings now enable us to do that. When you turn on the Scale check box, you are giving Photoshop permission to scale the content as much as it needs to in order to best fill in the selected area. The Rotation Adaptation menu allows us to determine how much freedom we are giving Photoshop to rotate the source content. You have the choices of None, Low, Medium, High and Full. Experiment with these options, watching the preview window to see what kind of effect each setting is giving you. Turning on the Mirror check box will allow Photoshop to mirror content in order to better fill in the selected area. Again, experiment with this setting to see if it gives you a better result.



**The Content-Aware Fill settings are located on the right side of the screen by default and include Sampling Options, Fill Settings and Output Settings.**

**Output Settings** The Output settings are another great new addition. With the old Content-Aware version, you could not use the feature while you were working on an empty layer. This means you had to apply the change directly to your image layer. Now, we can use the Output To menu to decide that we want the results to be placed on a new layer. This will just take the area inside the selection (the retouched area) and place it on its own layer. You can also choose to apply the retouching on a duplicate layer, or on the current layer (as was the default in the past).

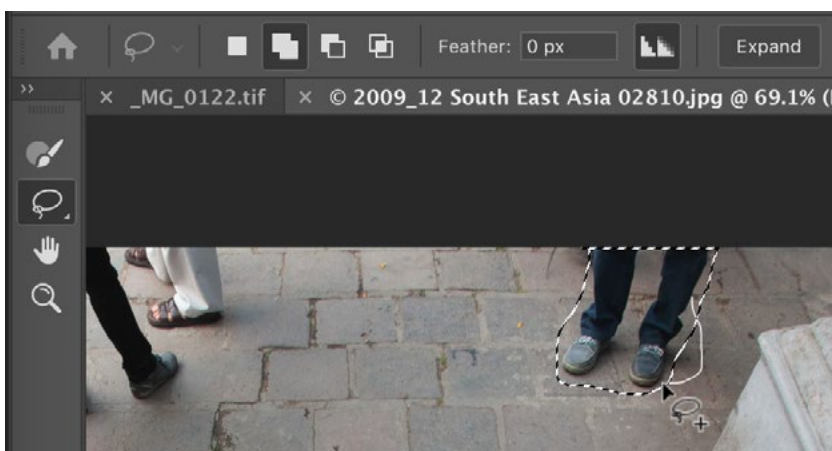
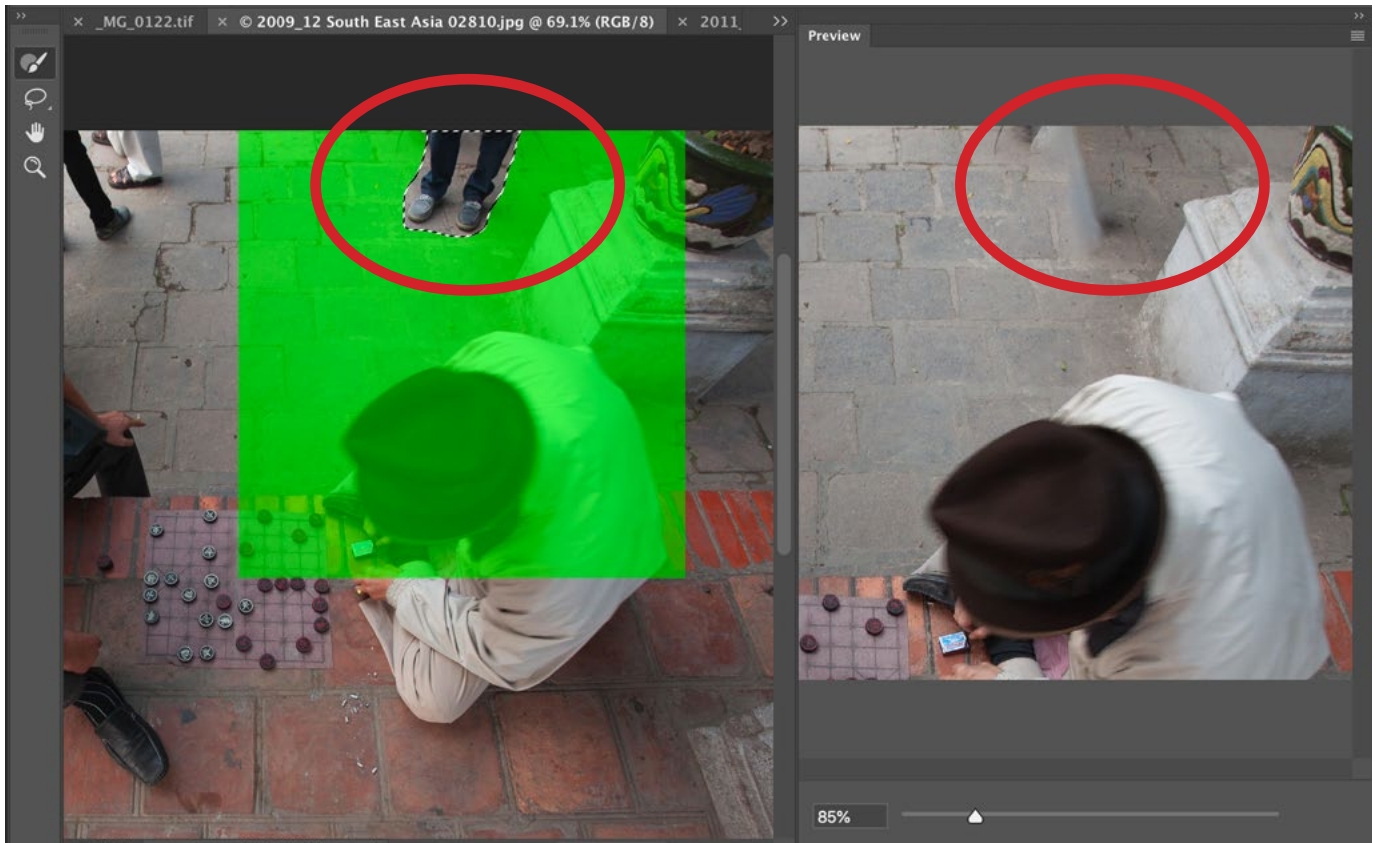


Above, we set the Output To menu to New Layer, which placed the retouch area (the area inside the selection) onto its own layer. The Background image layer stayed unchanged.

**Additional Content-Aware Fill features** There will inevitably be times when you get a tricky image and the Content-Aware Fill feature does not initially create a good result. In a case like this, there are ways in which we can help. In one of the video example images, we have a scene where there are men playing a board game but there are some distracting legs peeking into the top of the frame and we want to remove them. We made a selection around the legs and then opened the Content-Aware Fill window. In the preview window, we saw that the initial result was not ideal. The filled area was blotchy with a dark spot. If this is ever the case, look at your selection in the window on the left. If the edge of the selection runs close to the object you want to remove, Photoshop can get confused. Additionally, take into account any shadows that the unwanted object is casting. In our example, the legs have cast a shadow, but we did not initially include the shadow in the selection. If this ever happens to you, know that you do NOT need to exit the Content-Aware Fill window and remake the selection. We can change the selection right within this

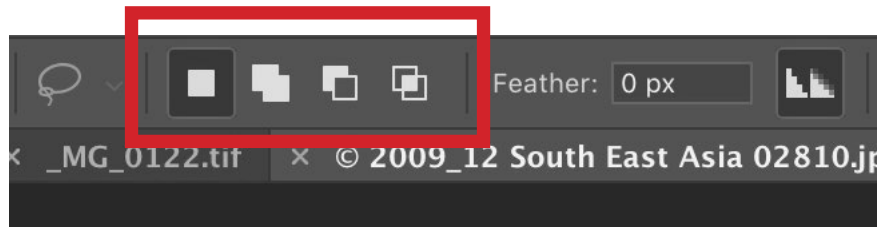


area. Activate the Lasso Tool that is located in the Tool Bar on the left side of the screen and use this tool to click and drag on the image, adding to the selection. In the example, we are extending the selection to include the shadow. In the Preview window, the image will update as you change the selection. Know that you can use the standard keyboard shortcuts for working with the Lasso Tool (Shift key to add to the selection; Option/Alt key to remove from the selection).



Above, you can see the selection we're trying to retouch on the left and the initial result on the right. Looking at the selection, the edge is too close to the legs and the selection does not incorporate the shadow. At left, we are using the Lasso Tool to add to the selection, including the shadow so that the Content-Aware Fill feature can do a better job.

There are also some Lasso Tool settings that appear above the image window, including four icons that determine how the selection is going to be created. When the icon on the left (the solid square)

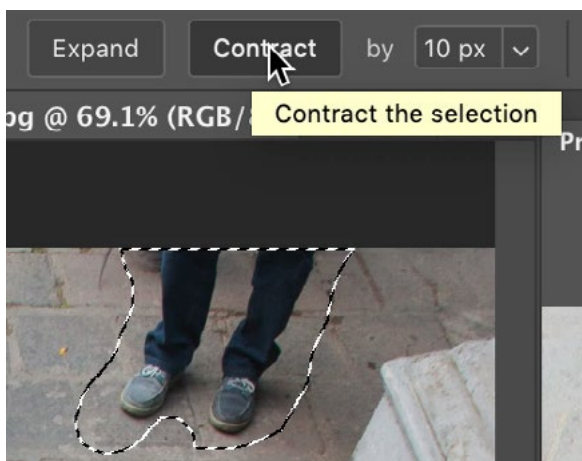


**Use these settings to control how the Lasso Tool works.**

When the icon on the left (the solid square) is active, it means that you're going to be making a brand new selection. When the second icon (two solid squares overlapping) is active, you will be adding to the selection. The third icon will cause the Lasso Tool to take away from the selection. The fourth icon is the intersection option and it allows you to basically crop into a selection, keeping only the part of the active selection that you encircle with the Lasso Tool.

The Feather setting will allow you to create a softer edge to the selection. I find that I usually use a hard-edged brush here, because when you fade out the edges of the selection, Photoshop will not have full control over what's happening to the image all the way out to the edge. This can cause it to blend poorly.

The icon to the right of the Feather setting looks like two triangles. When you turn this setting on, Photoshop will smooth out the edges of your selection to eliminate any jagged edges. I usually keep this setting turned on.



**The Expand & Contract settings allow you to make the selection larger or smaller by a specified number of pixels.**

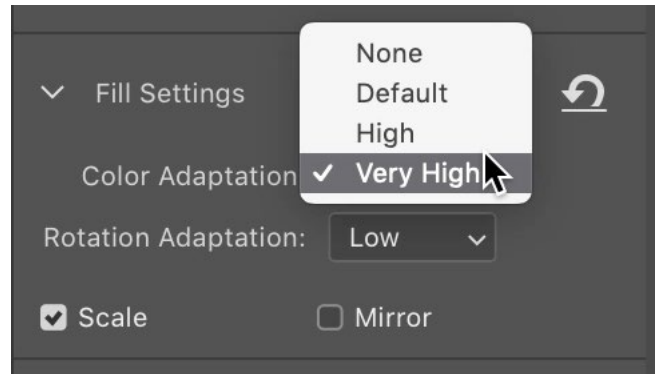
The Expand and Contract settings will allow you to fine-tune your selection by expanding or contracting it by a specific number of pixels. Let's say you want to contract the selection, making it a bit smaller. You will first set the menu (to the right of the Expand/Contract buttons) to the number of pixels you want it to contract by. Then you'd simply click the Contract button and your selection will shrink by that specified number of pixels. Every time you click that Contract button, it will shrink by that specified amount.



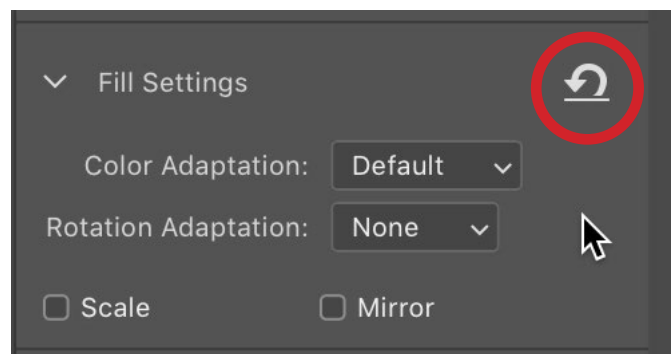
There are times when the Content-Aware Fill results are going to give you areas that are miss-matched in brightness or color. This can often times happen when you have a gradient in a smooth sky. In our video example image, we can see that the pavement on the left is bright, the pavement on the right is dark and the transition between the two areas does not look natural. When this happens, the Color Adaptation setting (on the right side of the interface) can be helpful. Try bumping this setting up, one level at a time, to see if this makes an improvement.

**Return to default settings** After working with some of the settings on the right side of the interface, you might decide that you don't like the results at all. If this is the case, you can set a particular section of settings back to their default positions by clicking the little U-turn icon to the right of the setting header name. To reset ALL of the settings within the entire panel, click the U-turn icon that's located at the very bottom of the panel.

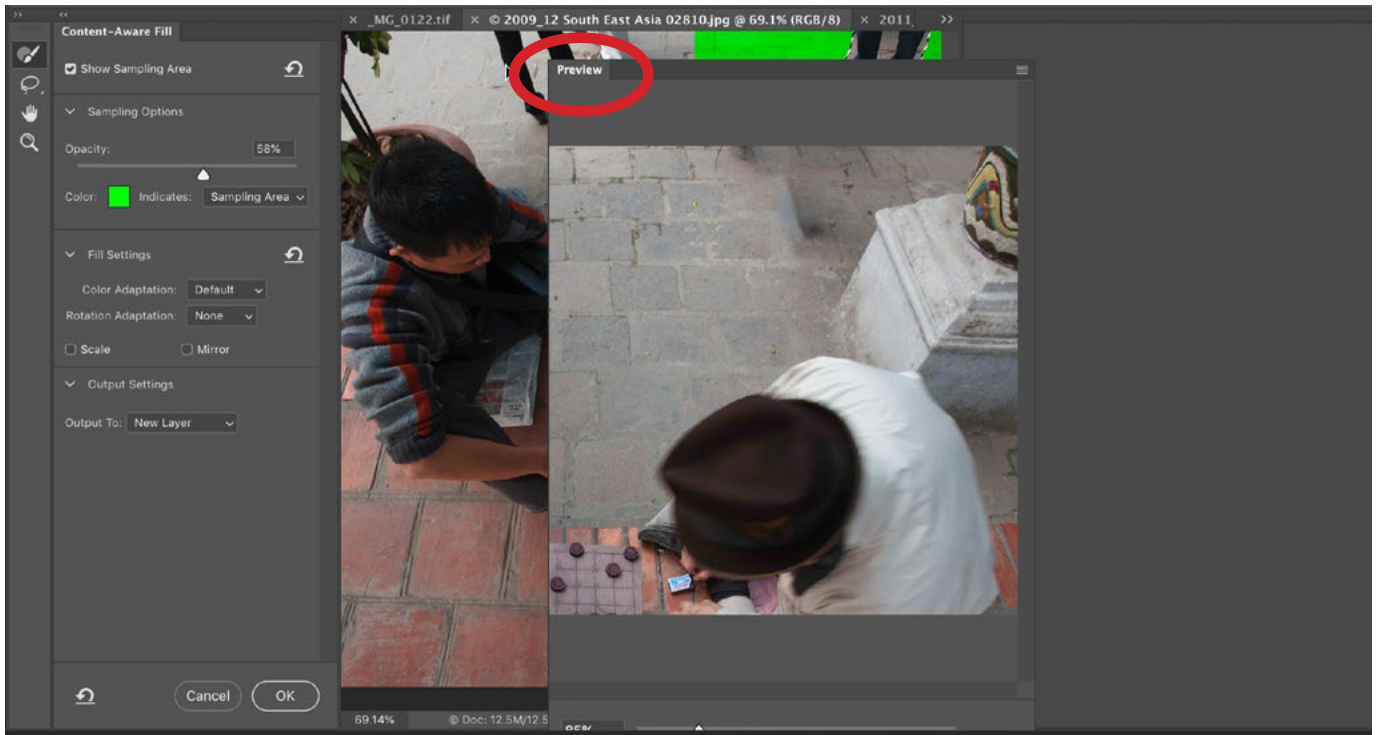
**Rearranging the Content-Aware Fill window layout** You can change the way the Content-Aware Fill windows are arranged by clicking and dragging on the tabs at the top of each panel. Drag the panel around and you will see a blue highlight showing you where the panel will be docked when you release the mouse button. If you release the mouse button when there is no blue highlight, it just means that the panel will be "floating." It will not be docked/attached to any other panels. Per-



**The Color Adaptation setting will attempt to correct for areas of mismatched color or brightness.**



**Click the U-turn icon to revert a section of options back to the default settings.**

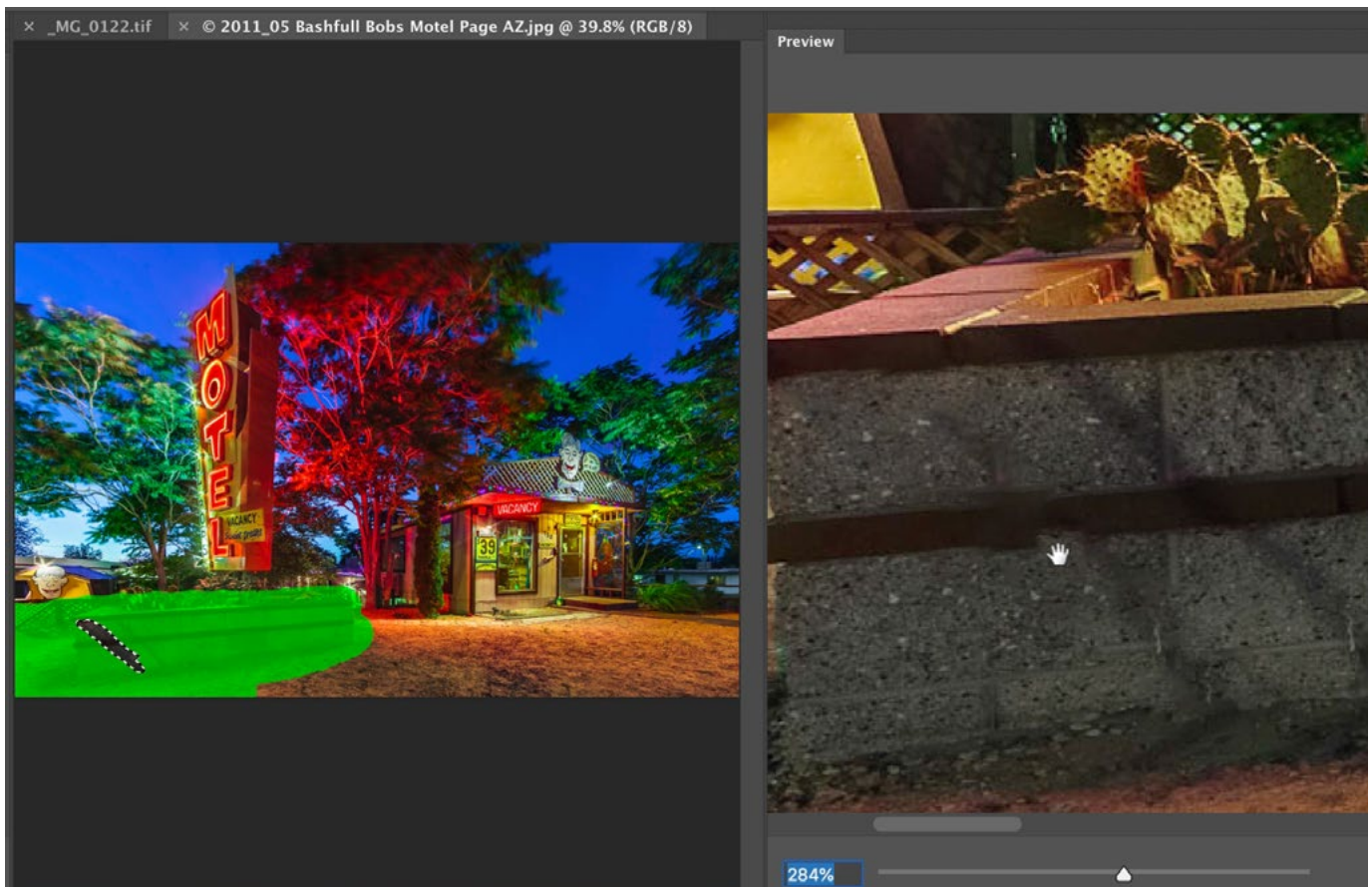


**Click and drag on the tab at the top of a panel (circled) in order to reposition it within the Content-Aware Fill interface.**

sonally, I like to position my settings panel on the left side of the screen instead of the right, which is its default position. To collapse a panel down, click on the little double-arrow icon located at the very top of the panel. Clicking this will contract the panel down to an icon. Click it again to re-expand the panel.

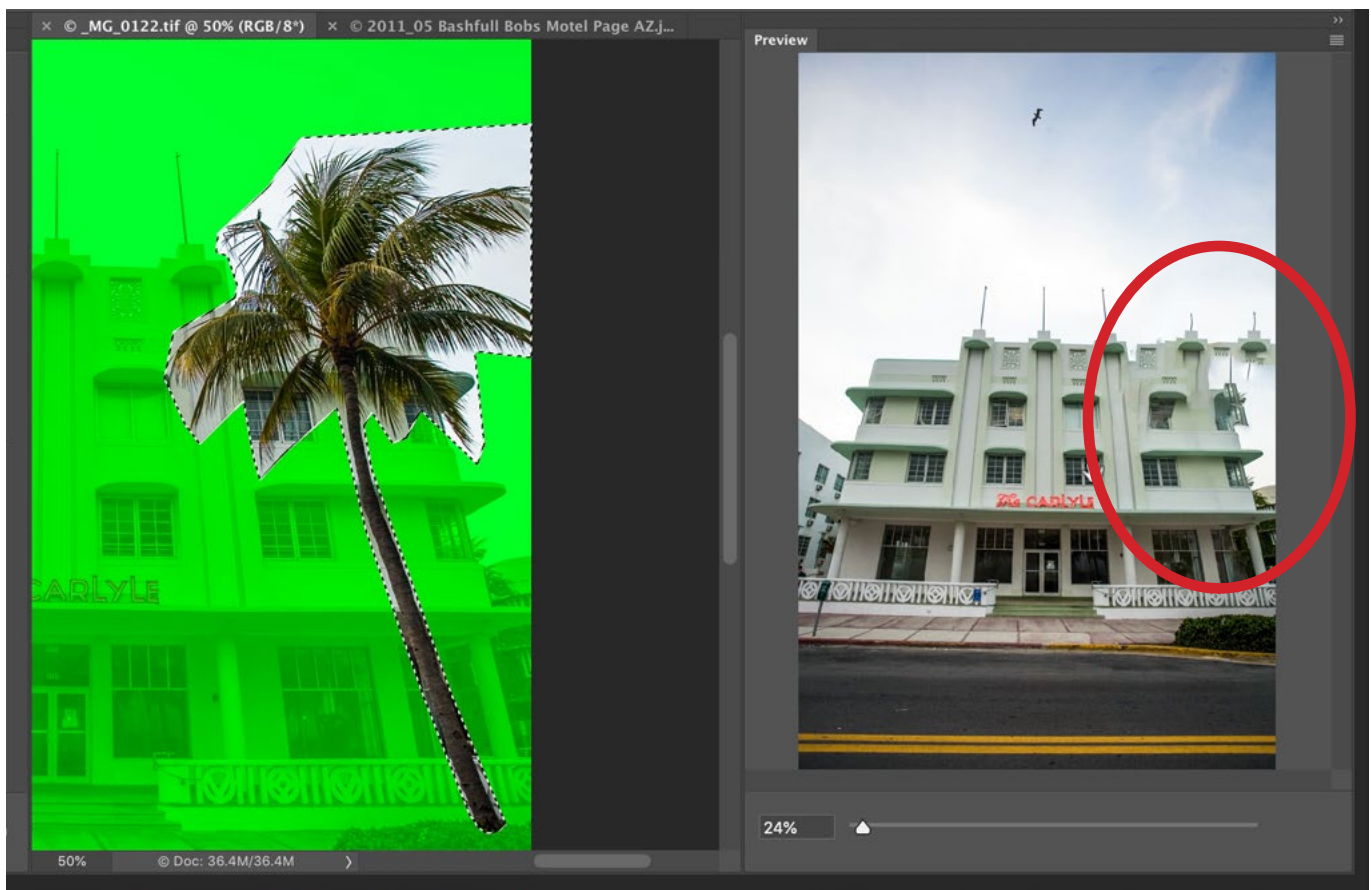
**Zooming and moving around the Content-Aware image window** We mentioned earlier that you can use the slider beneath the preview window to zoom in and out on your image. In the Preview window, you can use the Hand Tool to click and drag within the window to reposition the image so you're looking at the area you want. If you hold down the Shift key while dragging with the Hand Tool, you will be moving the original image on the left as well. This is nice because it allows you to position both windows to the same location in your image at the same time.

I find it can be useful to be zoomed out on the original image on the left so that I can see what areas have an overlay and which don't. To fit the left, original image into the window, use the keyboard shortcut Command+0 (Ctrl+0 on Win). Then, I like to zoom the preview window to the specific retouch area. This way, I can make modifications to the selection and overlay on the left while closely viewing the result on the right.



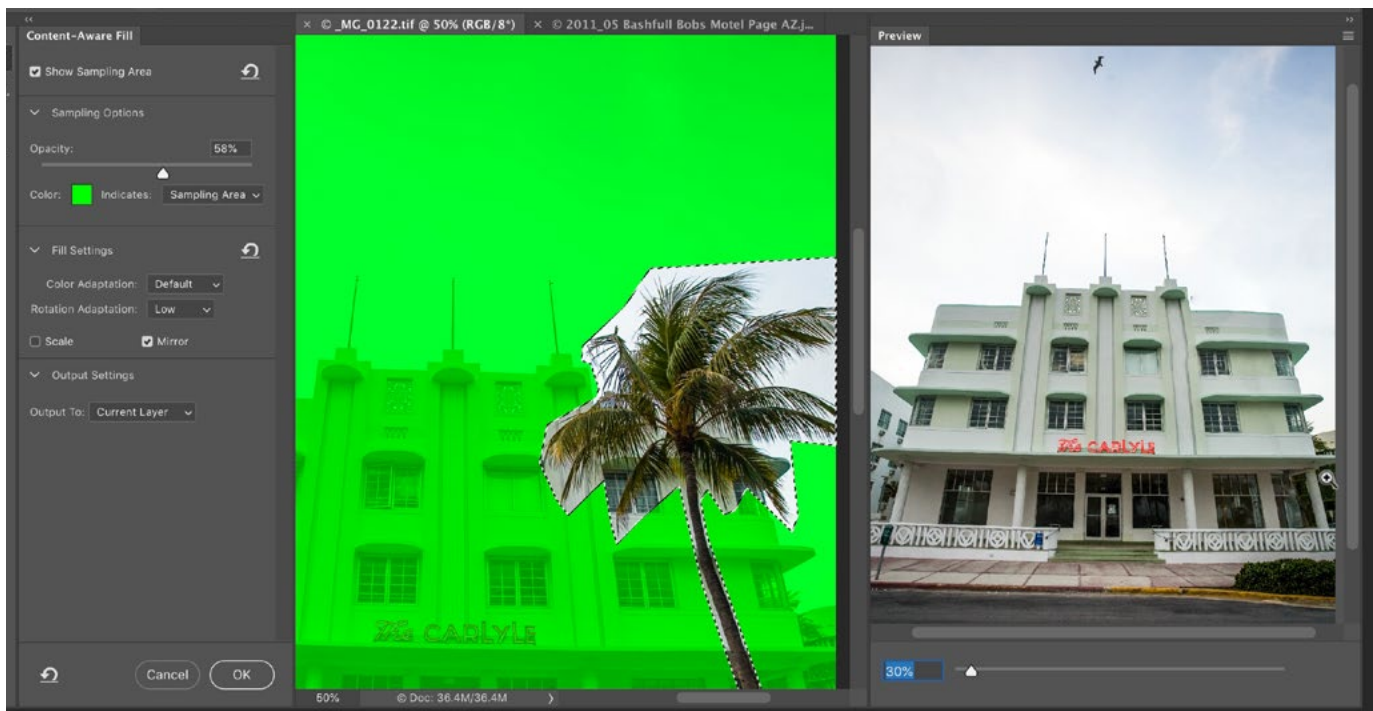
When working with the Content-Aware Fill feature, I often times like to keep a zoomed-out view on the original image on the left (so I can see where the overlays are) and a zoomed-in view on the preview so I can better see the result.

**Tackle a big job one piece at a time** When you have a really complex retouch job, you may not be able to fix everything with one pass through the Content-Aware Fill window. You might have to use the feature multiple times in order to tackle all of the areas you want fixed. In the video example image, we have an art deco building that has a palm tree in front. We want to remove the entire palm tree, which is a big job. After making a selection around the tree, we opened the Content-Aware Fill window. The initial result is very messy, but after we turned on the Mirror check box and set the Rotation Adaptation setting to Low, the result improved dramatically and that's because we gave Photoshop permission to copy content from the left side of the building, mirror it and then use it to fill in the right side of the building.



Here you can see an example of a more complicated retouching job (removing an entire palm tree). After making a selection of the palm tree, we entered the Content-Aware Fill window and you can see that the initial results on the right were very messy.





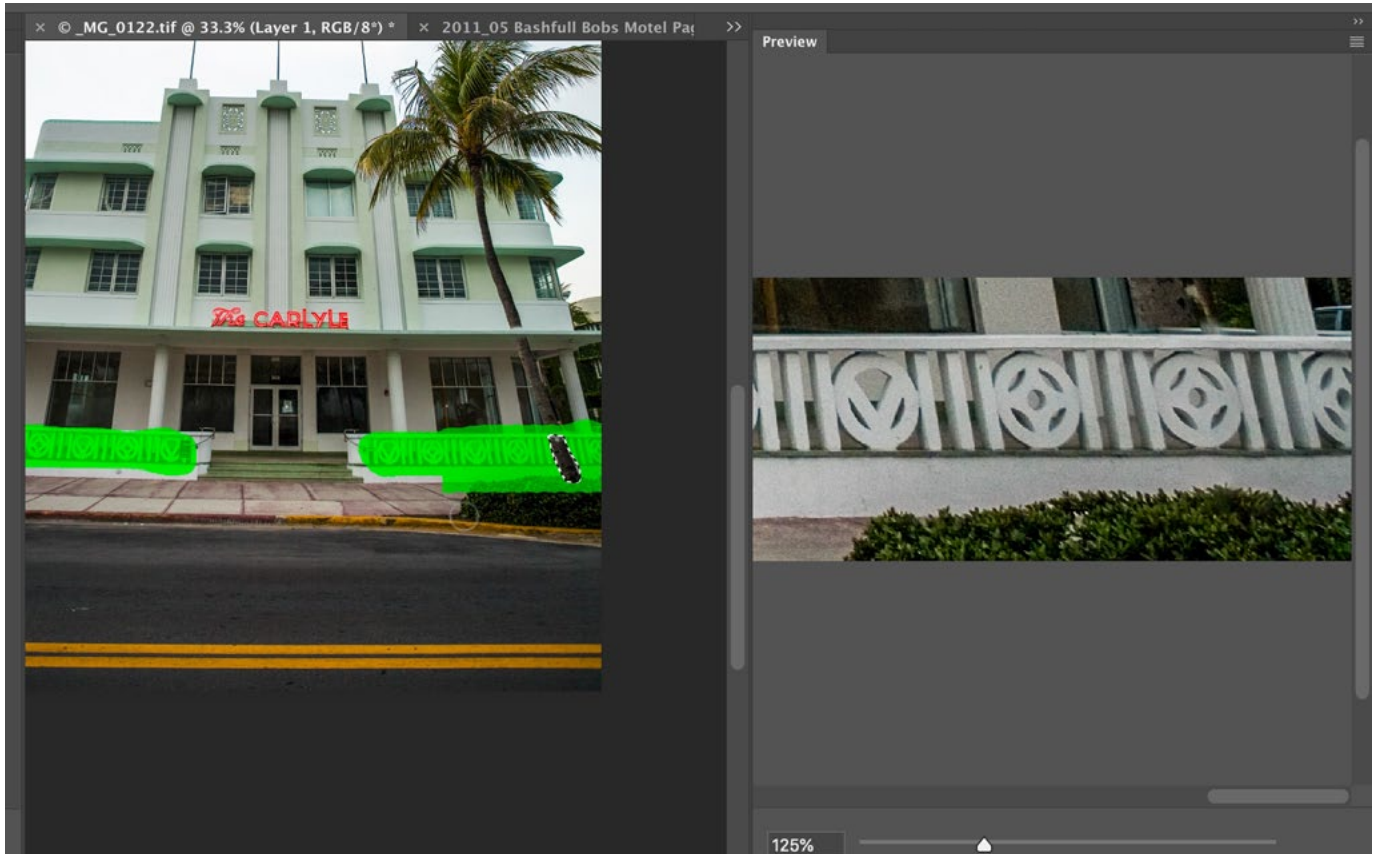
**After turning on the Mirror check box and setting the Rotation Adaptation option to Low, the results improved dramatically.**

While this did an amazing job, I still see some small problems when I zoom in on the image. We'll tackle those problems later, in a separate pass through the Content-Aware Fill window. Before clicking the OK button, however, we're going to set the Output To menu to Duplicate Layer. This will create a new layer that is a duplicate of the original, but it will contain the results of the Content-Aware Fill work. In an instance like this, we do not want to choose to output the result to a New Layer because that new layer would contain only the retouch area and the rest of the layer would be empty. In many cases, this would be fine (desirable even). However, in this case, we want to go back into the Content-Aware Fill feature and it would not work well if a good part of the layer was transparent.

After correcting the biggest problem with the image, we'll move on to the smaller ones. We'll just need to decide the best method of retouching for each additional area that needs to be fixed. The Content-Aware Fill feature might be best to correct some areas while the Clone Stamp Tool might be better to correct other problems.



A different way of tackling a big job like removing the palm tree would be to remove the tree in pieces. We could make a selection just around the bottom part of the trunk and then enter the Content-Aware Fill window to fill in just that piece. Then, we could move on to another part of the tree, and so on. These are just different ways of thinking about how you might tackle a more complicated job.



Here, we are taking a different approach to removing the palm tree. We are instead removing it in pieces, starting with the bottom part of the trunk, where it intersects the fence.

When using the new Content-Aware Fill feature, remember the following:

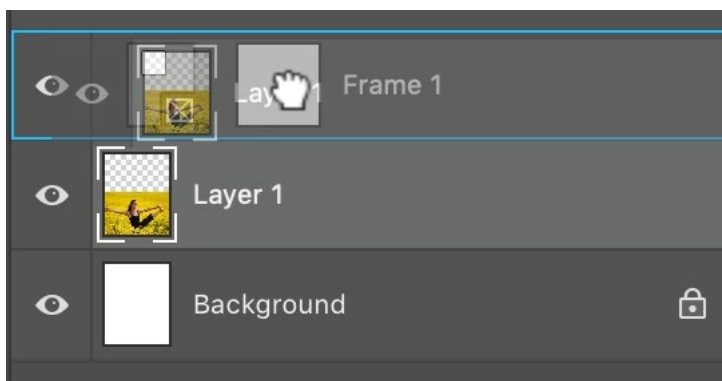
- You must have a selection active before accessing the Content-Aware Fill window.
- The Content-Aware Fill feature will not work on an empty layer (or mostly-empty layer). You CAN, however, save out the retouching results to a new layer.

## Frames

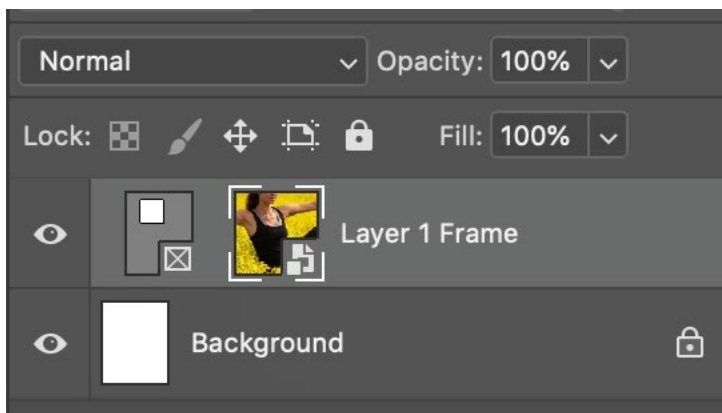
The Frame Tool is another new feature that Adobe has added in this version, and you can find it in the bottom part of the Tool Bar on the left side of the interface. This tool is great for creating templates that will speed up future work. When this tool is active, you will be able to choose between a rectangular frame and a circular frame and this choice can be found in the Options Bar above the main image window.



**The Frame Tool**



**We're placing an image into a frame by dragging the image layer onto the frame layer.**



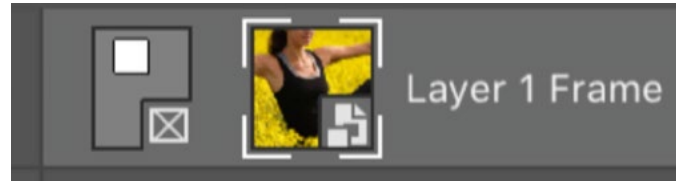
**When an image is placed into a frame, it is automatically converted into a smart object. You can see the smart object icon in the corner of the thumbnail.**

To create a frame, first choose between the rectangular or circular options and then click and drag out the shape in your document. A new frame layer will appear in the Layers panel and it will have the frame icon in the lower right corner of the layer thumbnail. To take the contents of a particular layer and place it inside the frame, simply drag the layer (in the Layers panel) on top of the frame layer and release the mouse button. You will see the image appear inside the frame and it will automatically be converted into a smart object. You can see the smart object icon appear in the lower corner of the frame contents' thumbnail. It does this because it assumes that you're going to be resizing the image a few times. When a layer is a smart object, it is in somewhat of a protective bubble where no quality will be lost when you resize it.

When you have a frame layer, you can either work on the frame itself or the contents of the frame. The active part is the part that's going to change when you scale, rotate or transform the layer. If the image is active but the frame is not, we can resize the image inside of the frame, but the frame itself is going to stay the same. Whichever of the two is highlight-

ed with white brackets is the one you're working on. Click between the two thumbnails to change between which one you're working on. Click on the name of the layer to make both of them active at the same time. We can also use the Move Tool to click on the frame outline within the document and this will make the frame active. We can then click and drag on the square frame handles in order to resize it. If you double-click somewhere within the frame, it will make both the frame and the contents active at the same time, so you can move and resize them both together. Double click within the frame a second time and it will activate just the contents of the frame (the picture) so you can move it around independently of the frame.

When working with a frame, you will be able to see both the frame border and the border of the image itself so that you can see how far the image extends beyond the frame boundaries.

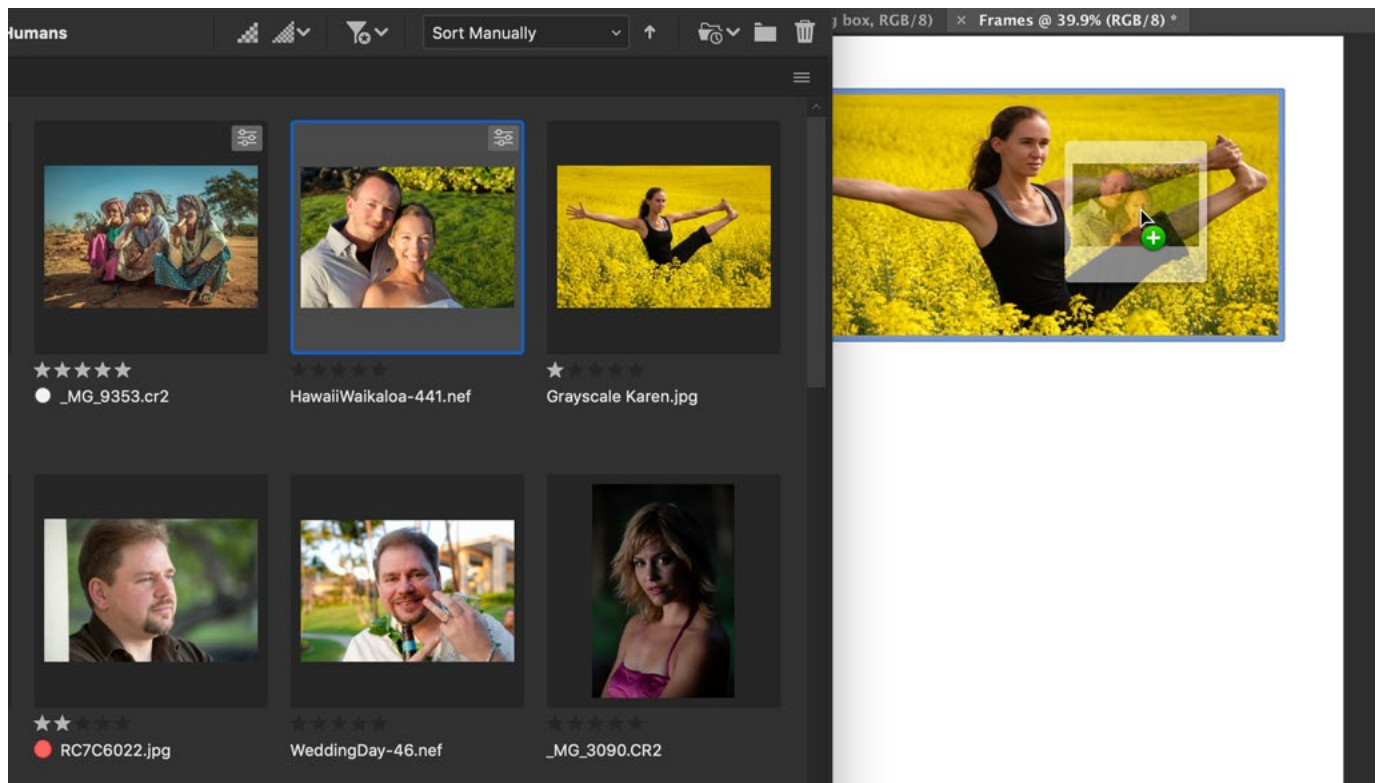


**The white brackets around the thumbnail will indicate which part you're working on. Here, the brackets are around the image, which means that we can resize and transform the image while the frame will stay unchanged.**



**When you're working with an image inside of a frame, you can see the frame edges (blue outline), but you can also see how far the image extends beyond the frame boundaries (gray outline).**

There are other ways to get a photo into an existing frame in your document. If you drag an image from Bridge, Lightroom or the Finder into the Photoshop window and then hover the cursor over the frame, you will see the frame edge become highlighted. When you release the mouse button, the image will be placed inside the frame. If there was already an image in the frame, it will be replaced with the new one.

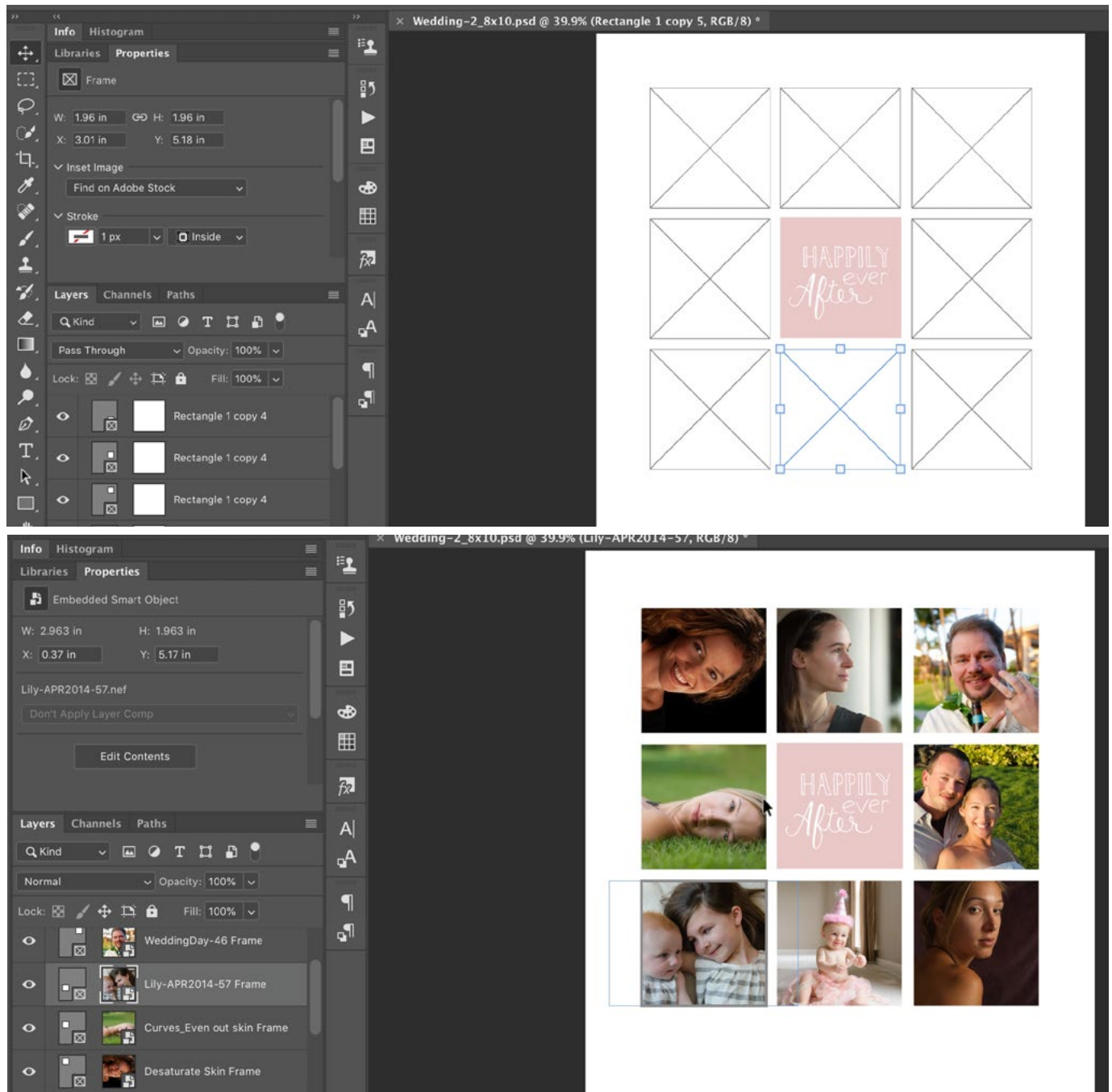


Here, we clicked on an image within Bridge and are dragging it directly into the frame we created in Photoshop.

**Using Frames to create templates** Frames can be used to create a photo layout from a template that we design. This will allow us to quickly drag images into the frames and change them out frequently. To create a template, simply create a series of frames in the layout you want. If you'd like to quickly create a duplicate of an existing frame, hold down the Option key (Alt in Win) while you click and drag on the existing frame. This will drag out a copy of that frame.

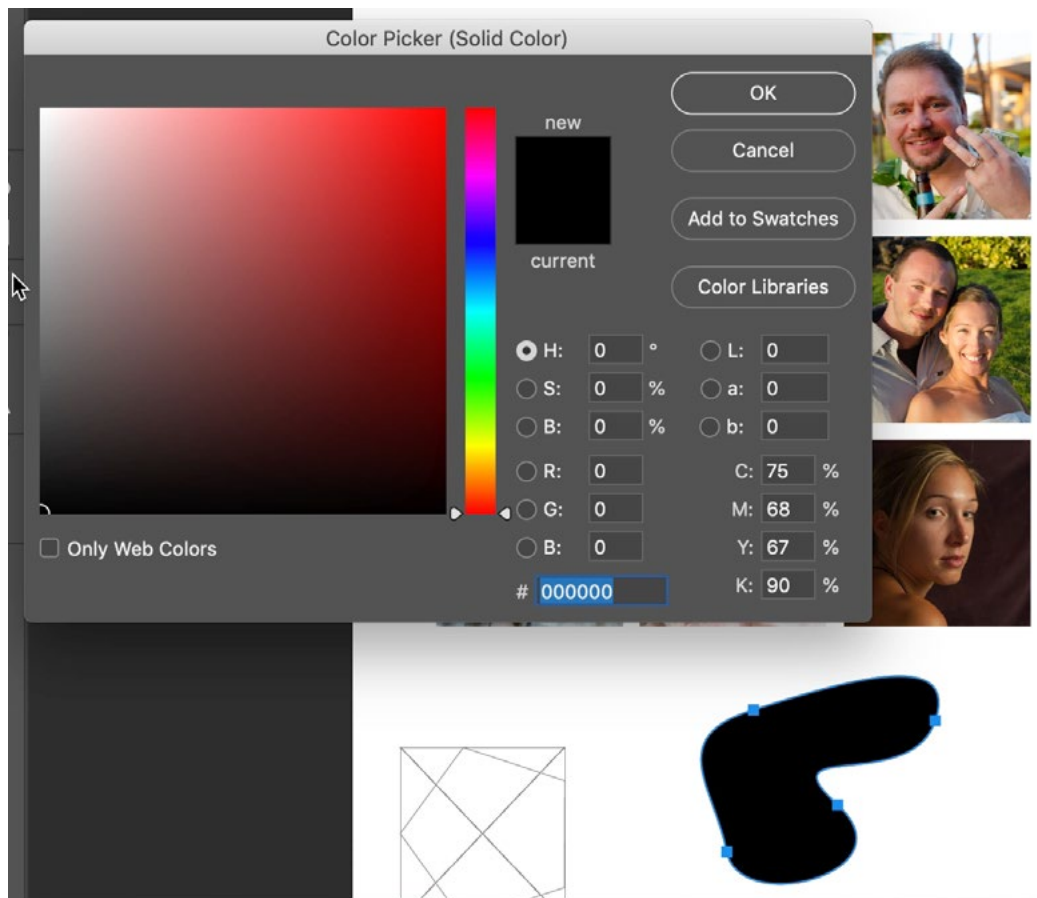


Add images to the template simply by dragging them into the individual frames. Next, you will want to reposition the images within their frames. To reposition an image, make sure that its layer is active and then double-click within the frame to select the image and simply drag it around to position it correctly.





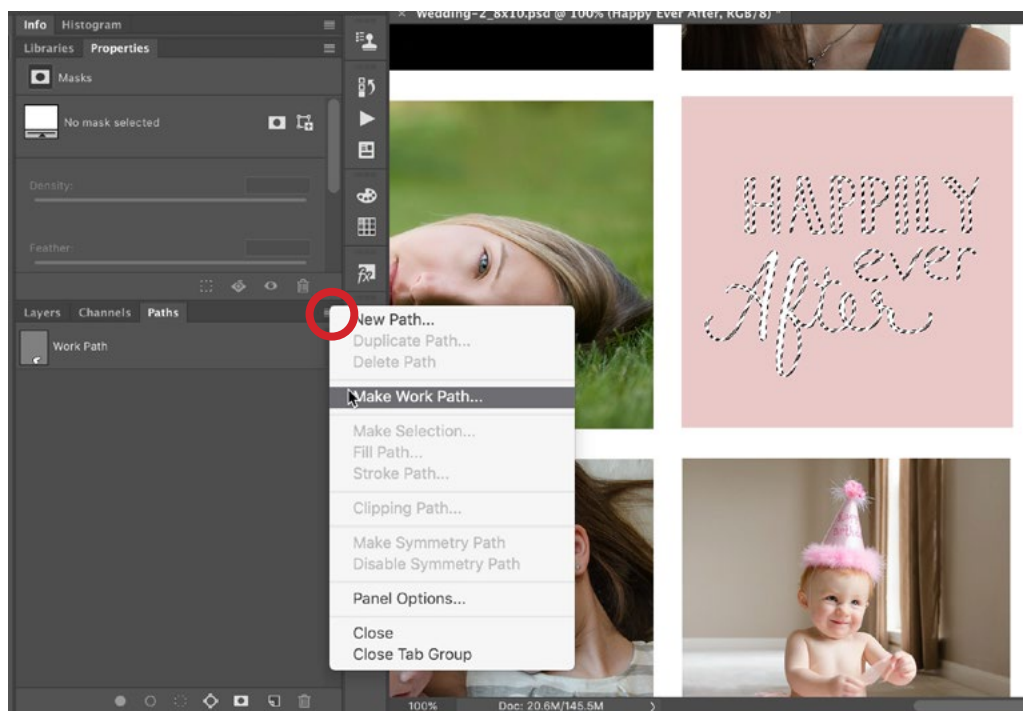
**Different ways of creating frames** Outside of using the Frame Tool, there are a couple of other methods you can use to create frames. You can take an existing shape layer and turn it into a frame so that you can easily place an image inside it. To do this, right-click on the name of the shape layer in the Layers panel and when the pop-up menu appears, choose to Convert to Frame. A small dialog will appear where you can give the frame a name and then click OK. This allows you to have frames that are different shapes (not just circular and rectangular). You can also create a frame from a shape layer that was created from a path. To do this, you would use the Pen Tool to create a custom path. Then, with the path active, you would click on the Adjustment Layer icon at the bottom of the Layers panel and choose Solid Color. Choose any color from the Color Picker that appears and click OK. This will take that path and turn it into a shape layer. Then, you can right-click on the name of the shape layer and choose Convert to Frame from the menu that appears.



Here, we are taking a custom path and turning it into a frame. With the path active, we clicked on the Adjustment layer icon at the bottom of the Layers panel and chose Solid Color from the pop-up menu. The Color Picker appeared (shown at left) and we can choose any color and click OK. This will turn the path into a shape layer.

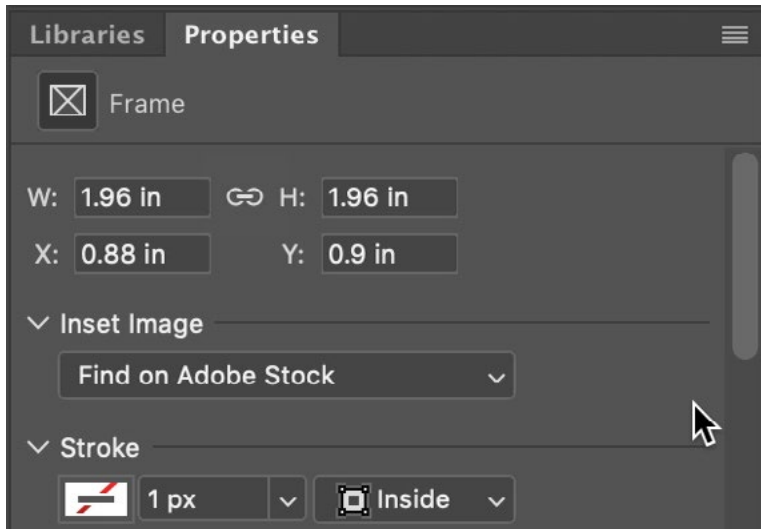
A text layer can be used as a frame as well. You would follow the same steps. Create the text layer, right click on the layer name in the Layers panel and choose to Convert to frame from the menu that appears.

Let's say that you have a object that is NOT a shape layer and was not created from a path or text. There is a trick for turning it into a frame. First, you'd need to create a selection from that object. To easily create a selection around the entire contents of a layer, hold down the Command key (Ctrl on Win) and click on the layer thumbnail in the Layers panel. This works the same way for the contents of a mask. In the video example, we created a selection based on the contents of a mask (some hand-drawn text) by holding the Command key and clicking on the thumbnail for the mask. With the selection active, open the Paths panel and click on the little menu in the top right corner of the panel. When the pop-up menu appears, choose Make Work Path. A dialog box will appear, asking you to type in a Tolerance setting. This just specifies how closely Photoshop should try to match the selection when creating the path, and how smooth the edges should be. We chose 2 in the video example but you can experiment with other numbers to see what works for you. Click OK and a path will be created from the selection that was active.



**We are creating a path from an active selection. With the Paths panel open, we clicked on the corner menu (circled) and are choosing to Make Work Path.**

Make sure the path is active, go back to the Layers panel, click on the Adjustment Layer icon at the bottom of the panel and choose Solid Color from the pop-up menu. The Color Picker will appear, choose any color and click OK. Now you will have a shape layer based on that path. Right-click on the name of the shape layer and choose Convert to Frame from the pop-up menu.



**When a frame is active in the Layers panel, the Properties panel will contain a series of settings relating to that frame.**

**The Frame Properties panel** When you have a frame layer active, the Properties panel will contain various settings relating to that frame. You can use the options in the Properties panel to fine-tune the size of the frame and choose what image should be inserted into the frame. You can also use the Stroke setting to add a border around the frame, and it allows you to specify the thickness and color of that border.

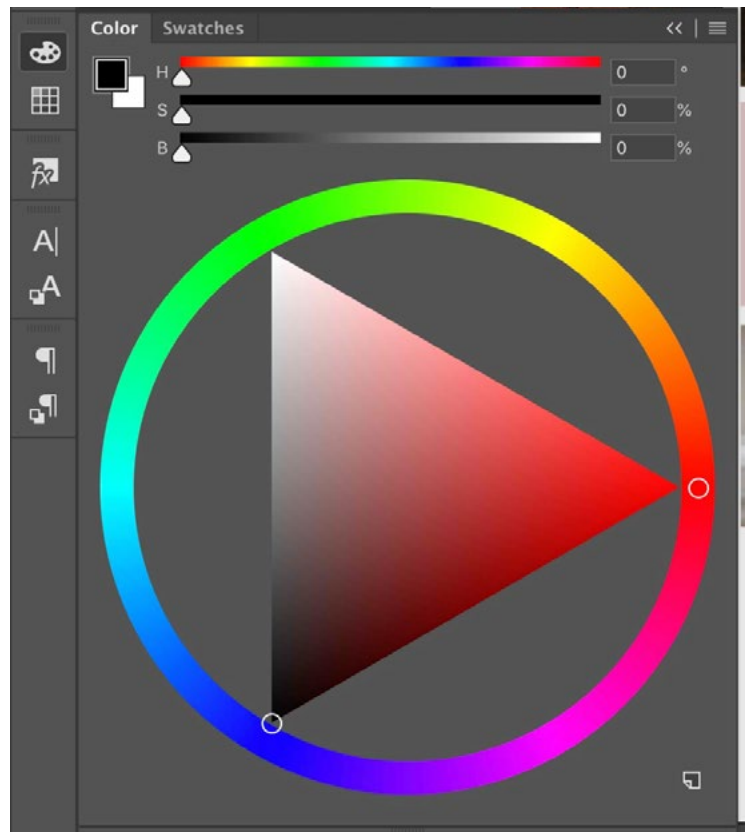
**Filling a frame with a linked smart object** We mentioned before that you can drag an image from another program (Lightroom, Bridge, etc.) into a frame. If you hold down the Option key (Alt on Win) while dragging the image, it will create a linked smart object. A linked smart object is special because it will automatically update if any changes are made to it. If you make a change to the original file, that change will be updated in any Photoshop documents using that file as a linked smart object. Note that if making the changes in Lightroom, you must be saving to xmp files in order for those images to be updated as linked smart objects. You can quickly save out xmp files by selecting the image (or images) in Lightroom and then using the Save command, Command+S (Ctrl+S in Win).

## The Color Wheel

The Color panel has been around for a while, but a new feature has been added to it with this update to Photoshop. If the Color panel is not visible in your interface, you can access it by going to the Window menu and choosing Color. This panel basically contains the equivalent to the Color Picker. You can use it to choose your foreground and background colors. The new feature added in Photoshop version 20 is the color wheel and you can find it by clicking on the “hamburger menu” in the top right corner of the panel and choosing Color Wheel from the pop-up menu.

The color wheel gives us a new way of choosing colors and it consists of a ring that allows us to choose the basic color and a triangle that allows us to determine the brightness and saturation.

You will first choose the basic color that you want by clicking on the ring. Then, you determine how bright and saturated that color should be by clicking within the triangle. Clicking on the far left side of the triangle will give you very little color and clicking on the right side will give you the most saturated color. How high or low you click will determine how bright the color will be.



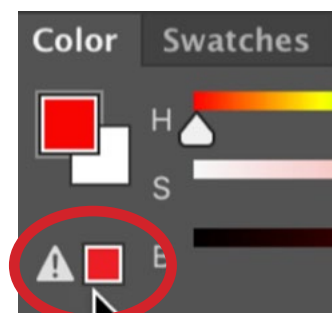
**Above is the new color wheel feature that can be accessed via the menu in the top right corner of the Color panel.**

**Using the color wheel for color correction** The color wheel can also be used to see what a color's opposite is and this can help us with color correction. When there is a color cast to your image, you can remove the cast by introducing more of the color's opposite, and you can see what that opposite is by looking at the color wheel. For example, if our image has a blue color cast, we can look at the color wheel and find blue. Then, we'll look directly across from blue to find what its opposite is, which is yellow. We could then introduce more yellow into the image in order to remove the blue cast.

The color wheel can also help us choose colors that work together. If we look at the wheel and choose colors that are equally spaced apart from each other, we'll know that they are equally different in color and may therefore work better together.

**HSB sliders** Above the color wheel, you will find HSB sliders. These stand for Hue, Saturation and Brightness. The Hue slider controls the basic color and moving this slider is the same as working your way around the color wheel ring. The Saturation slider controls how colorful the chosen hue is and moving this slider is the same as moving left and right in the triangle. Moving the Brightness slider is the same as moving up or down in the triangle. The numbers to the right of each slider basically give you a way of describing the color you've chosen. If you need to tell someone else how to create the same color, you would simply give them the number values for the Hue, Saturation and Brightness.

**Out of gamut colors** Note that there are some colors that you can create with the color wheel that will not be able to be used within your document. Each document has a designated color space and this color space determines how vivid of a color you can create. The most common color spaces are sRGB, Adobe RGB and ProPhoto RGB. If you ever use the color wheel to choose a color that can't be used in your document, a warning symbol will appear to the left of the HSB sliders. It looks like an exclamation point icon and it means that the color is out of gamut and it can't be used in the document. Click on the warning icon and it will give you the next-closest usable color.



**The out of gamut warning is circled above.**



**Foreground and background colors** The swatches in the upper left corner of the panel represent the foreground and background colors. One of these swatches will have a border around it and that is the color that you're changing by using the color wheel. If you'd like to switch what color you're working on, simply click between the two swatches.



The foreground and background color swatches. The foreground color is the one we're working on here.

**Save to swatches** In the lower right corner of the panel, there is an icon. Clicking this icon would add the current color to your Swatches panel. You will first be presented with a small dialog where you will be prompted to give the new color swatch a name decide whether you'd like the swatch to be added to your current library.



Clicking this icon in the lower right corner of the panel will add the current color to the Swatches panel.

## Smaller changes [but still useful!] changes to Photoshop

**Text** A few small changes have been made to the way the Text Tool works. To add text, you first activate the Text Tool (within the Tool Bar on the left side of the screen) and then click within your document. In the past, when you clicked within the document to add text, it simply placed a cursor so that you could start typing. Now, it inserts a bit of placeholder text that is automatically selected. It is selected so that you can change the font, size, etc. within the Options Bar and see that placeholder text update with the changes. This allows you to determine the look of the text before you even start typing. When you do start typing, it replaces the placeholder text with the text that you type in.

Lorem Ipsum

**When using the Text Tool, click once within your document and Photoshop will create placeholder text that is automatically selected.**

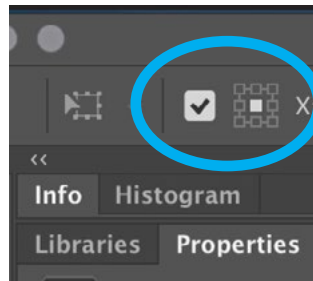
With this newest version, it is now much easier to edit text while in the Move Tool. It used to be that you would need to switch to the Text Tool in order to work with text. Now, if you have the Move Tool active, you can double-click on an area of text and it will automatically switch you to the Text Tool. It will also select the text so that you can quickly make changes to it. When you're done working with the text, you can simply switch to a different tool or a different layer and it will automatically commit to the changes you've made.

**Free Transform** We just mentioned that when you are working with Text, you can simply switch to a different tool or a different layer and it will automatically commit to the changes you made to the text. This functionality now works with other Photoshop features as well, including the Free Transform feature. You can free transform a layer or the contents of a selection by clicking on the Edit menu and choosing Free Transform. Alternatively, you can use the keyboard shortcut Command+T (Ctrl+T on Win). After using the transform handles to change the layer or object, you used to have to click the Return/Enter key or click the check mark in the Options Bar to tell Photoshop to Exit the free transform feature. Now, you can simply click away from the free transform box to commit the changes and remove the transform handles. You can also click on a different tool or a different layer to commit the changes and exit the free transform feature.

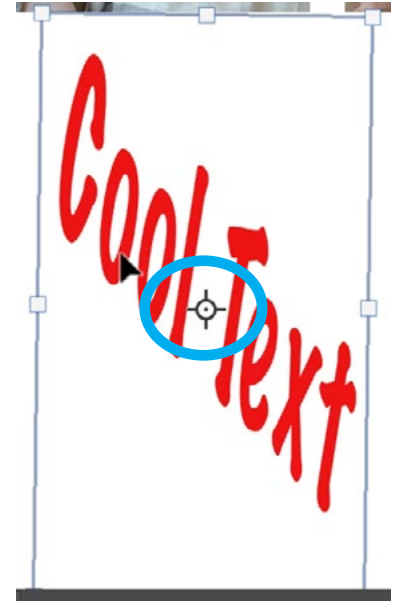
In the past, when working with the Free Transform command, you would compress or expand the targeted object by dragging the transform handles. If you wanted to maintain the proportions, you would need to hold down the Shift key. Now, the Free Transform feature will constrain the transformation so that the proportions stay the same. You no longer need to hold down the Shift key.

When you rotate something using the Free Transform command, it's going to rotate around the center point. In previous versions of Photoshop, there used to be a crosshair in the center of the free transform box and you could reposition this crosshair to determine the rotation point. This crosshair is now hidden by default but you can make it visible again by turning on the anchor point check box located within the Options Bar. (Note that the Free Transform command must be active in order for you to access this check box.)

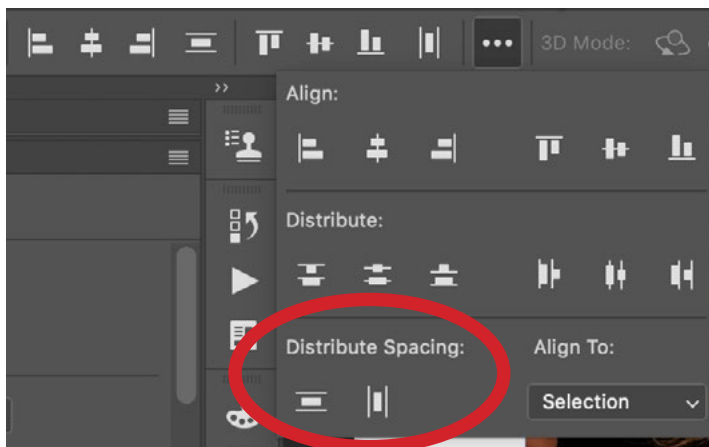
If you would like the crosshair to show up by default every time you use the Free Transform command, there is a setting you can change for that. Click on the Photoshop menu and choose Preferences > Tools. (In Windows, the Preferences can be found under the Edit menu.) Then turn on the “Show Reference point when using Transform” check box. You can now also change the color of the control points and you would do this within the Preferences dialog as well. Click on the Guides, Grid & Slices category within the Preferences dialog and use the Control Color menu to specify the color.



**Turn on the Reference Point check box (circled above) to make the center crosshair visible inside the free transform box (right).**



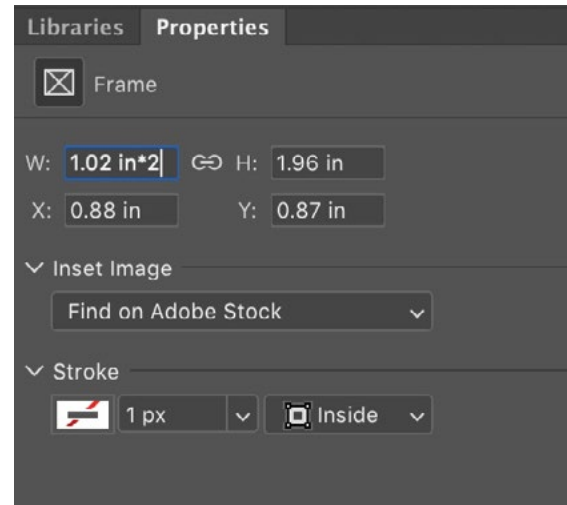
**Distribute objects based on space between them** When you have more than one layer selected, a series of alignment controls will appear in the Options Bar above the main image window. Click on the ellipsis icon ( ... ) to access more icons, including the settings for distributing the selected layers an equal distance from each other. In the past, there were only settings to distribute based on the center point.



**When more than one layer is selected and the Move Tool is active, the alignment icons will appear in the Options Bar. There are now two additional alignment settings (circled) that will allow us to place equal space between objects.**

This would work fine if all of the objects were the same size. If the objects were not the same size, however, they would not look like they were evenly distributed. Now, with this version of Photoshop, there are two additional options and these let us distribute objects so that there is an equal amount of space between them. One of the settings will distribute the objects horizontally and the other will distribute the objects vertically.

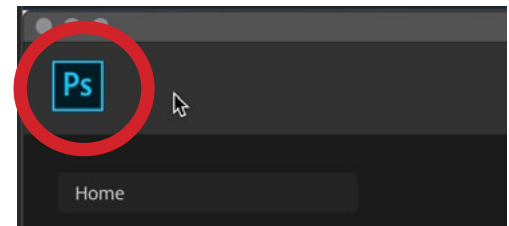
**Adding math into text fields** Photoshop now allows us to “do math” in any of the numeric text fields. For example, let’s say that we want to make a frame twice as wide as it currently is. We could open the Frame Properties panel and work with the Width field. Instead of calculating in your head what the width dimension would be if it were doubled, we can simply add \*2 at the end of the number. Photoshop will automatically multiply the number by two. If you wanted it to be half as wide, you would simply add /2 at the end and Photoshop will do the division. With this feature, you can use addition, subtraction, multiplication and division, and you can also work in percentages.



**We can now use math within numeric fields. Here, we’re adding \*2 to the width field to make the active frame twice as wide.**

**Instant blending mode preview** In the past, you’d have to use a keyboard shortcut in order to cycle through the different blending modes to see how each one affected the active layer. Now, you can click on the blending mode menu and, as you hover your cursor over the different modes, there will be an instantaneous preview in your document.

**The Photoshop home screen** When you close your Photoshop document, the Photoshop home screen will appear. In the past, if you did not want to see the Photoshop home screen, you would need to switch to a different workspace. Now, you can simply click the Photoshop icon in the upper left corner and it will take you back to Photoshop’s main interface.



**Click the Photoshop icon in the home screen to return to the main interface.**

On the far left side of the Options Bar, we used to be able to find an icon for the active tool. That is still there. It has just moved to the right by one slot. Now, on the far left side of the Options Bar is a little Home icon. Clicking this will bring up Photoshop's home screen.



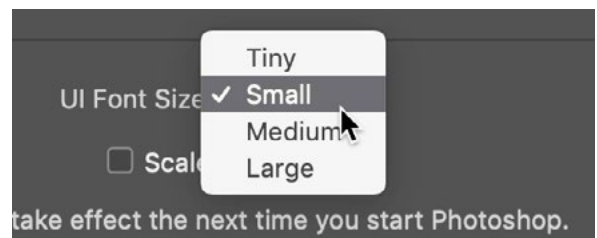
**Click on the home icon on the left side of the Options Bar to return to Photoshop's home screen.**

The home screen will display all of your recently-opened images, including all of the images you currently have open. If you have many images open, it can be challenging to try to switch between them, or find a particular one, via the document tabs at the top of the image window. It might be easier to click on that home icon and simply select the image you want to switch to from the home screen.

On the left side of Photoshop's home screen, there is now an added option called LR Photos. Clicking this will show you all the photos that you have uploaded to the Cloud via Lightroom.

**Lock Workspace** If you always like your Photoshop tools set up the same way, you can now use the Lock Workspace setting, which can be found by clicking on the Window menu and choosing Workspace > Lock Workspace. When your workspace is locked, you will not be able to reposition or rearrange tools or panels.

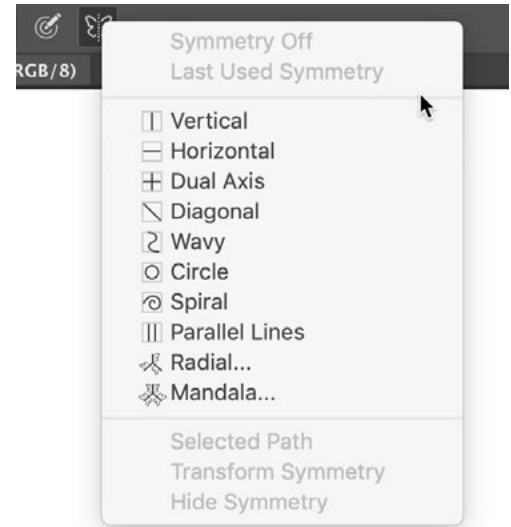
**Interface font size** Photoshop's preferences allow you to change the font size of the user interface in some panels. Go to the Photoshop menu and choose Preferences > Interface. (On Windows, the Preferences can be found under the Edit menu.) Here, you will find the UI Font Size menu. This will change the font size in some areas of Photoshop. This feature is not new. What IS new is the "Scale UI to Font" check box. When you turn this check box on, it will look at the size setting you are using in the "UI Font Size" menu and it will scale the rest of Photoshop's interface an equal amount. For example, if we set the menu to Large, it means that Photoshop's icons will also get larger.



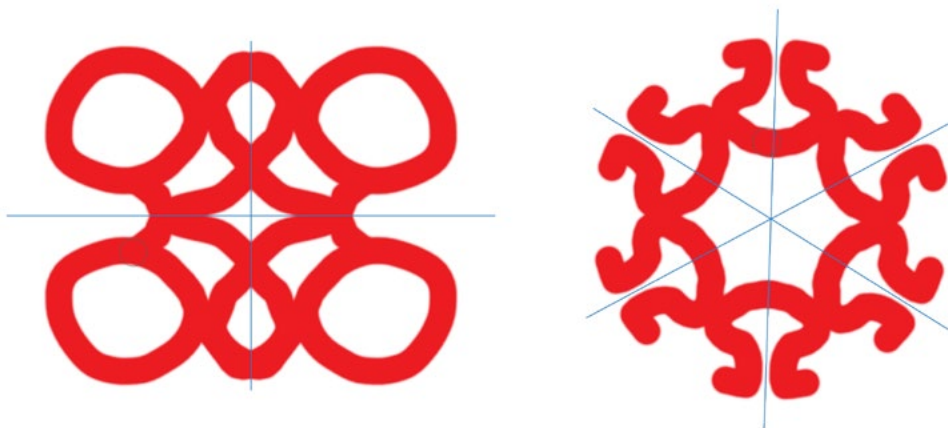
**In the Interface section of Photoshop's Preferences, you can choose the font size and then specify that the rest of the interface be scaled to match.**



**Symmetry mode** When the Brush Tool is active, there is a setting in the Options Bar called Symmetry Mode. Its icon looks like a butterfly. This is not actually a new feature, but you had to manually enable it in the past (via the Preferences dialog). Now, it always appears in the Options Bar. This feature allows you to paint symmetrical designs using all different types of symmetry. If you choose the vertical line from the dropdown menu, then it will overlay a vertical line on your document and anything you paint on the left side will be duplicated and mirrored on the right side, and vice versa. If you choose the Dual Axis option, what you paint will be duplicated and mirrored in quadrants. Some of the symmetry options are fancier, like the Mandala mode. When you choose this, you'll be prompted to choose how many segments you want and this will determine how many times your strokes will be duplicated in a circular fashion. If you created a design using Symmetry mode and you wanted to move it around in your document, click on the Symmetry icon and choose Transform Symmetry from the menu that pops up. Transform handles will appear around the design so you can move, rotate or scale it. When you're finished creating a design in Symmetry mode, click on the icon again and choose Symmetry Off from the menu.



**When the Brush Tool is active, the Symmetry Mode menu will be available in the Options Bar.**

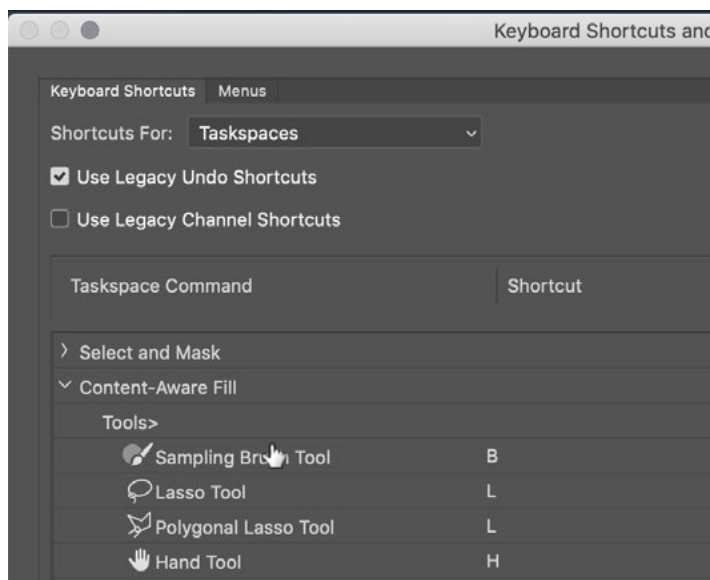


**FAR LEFT:** The Quadrant setting is being used in Symmetry mode.  
**DIRECTLY LEFT:** The Mandala setting is being used and we chose to use six segments.

**Undos** The keyboard shortcut for undoing something is Command+Z (Ctrl+Z on Win). In the past, you could only use this to undo the very last thing you did. If you tried to use it again, it would redo the step (instead of undo it). That has now been changed. Now, you can use the Undo command multiple times and it will keep taking you backwards in your Photoshop history. This would be the same thing as going to your History panel and clicking back through the steps. If you want to redo the steps you undid, you will simply hold down the Shift key in addition to Command+Z.

If you are very accustomed to the old keyboard shortcuts for undoing, or stepping backward, and you are not ready to commit to the new method, you can get those shortcuts back by doing the following. Go to the Edit menu and choose Keyboard Shortcuts. The dialog box will appear and near the top is a check box, titled “Use Legacy Undo Shortcuts.” Turn this on and the old shortcuts will work for you. (Note that you will have to restart Photoshop before this change takes effect.)

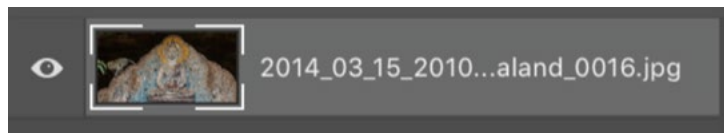
**New keyboard shortcut options** We mentioned above that you can access the Keyboard Shortcuts dialog by going to the Edit menu and choosing Keyboard Shortcuts. Near the top of the dialog is a “Shortcuts For” menu and there is now



**Within the Keyboard Shortcuts dialog, you now have the option to assign shortcuts to the settings within the Content-Aware Fill and Select and Mask interfaces.**

a new item here called Taskspaces. If you select this, you will be able to assign different keyboard shortcuts for the different settings within the new Content-Aware Fill interface as well as the Select and Mask interface. If you click on the “Shortcuts For” menu and choose Tools, there are also a few new items at the bottom of the tools list. These will allow you to assign custom keyboard shortcuts for Toggling Symmetry On/Off, as well as toggling Symmetry Visibility.

**Layer names** In the past, if the name of your layer was very long, it would show the beginning part of the name followed by “ ...”. Now, the ellipsis ( ... ) will appear in the middle of the layer name and you will be able to see what’s at the very end of the lay-



**If you have a long layer name, an ellipsis will appear in the middle, but you will be able to see what’s at the very beginning and the very end.**

er name. Note that if you hover your cursor over the layer name and pause, a little tool tip box will appear that contains the entire name. This can be convenient if your layer name is really long and you need to read the whole thing.

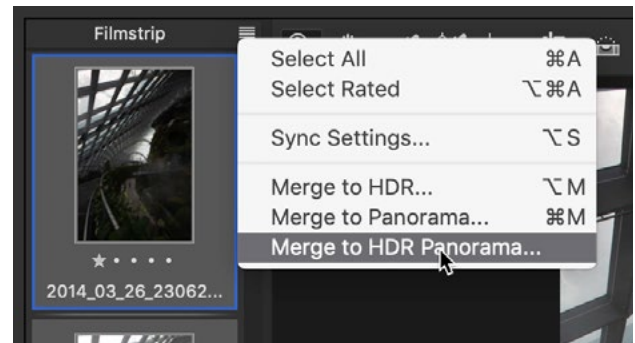
**Flip Horizontal** If you click on the View menu, there is now an option called Flip Horizontal. This is not actually going to change your image by flipping it. It’s just going to change your view of it. It will LOOK as if you flipped it, but if you save it and close it, you can look at it later and see that it was not, in fact, flipped. Flipping your view can sometimes make it easier to evaluate your picture because you will be looking at it in a different light. That’s why the feature exists.

## Changes to Adobe Camera Raw

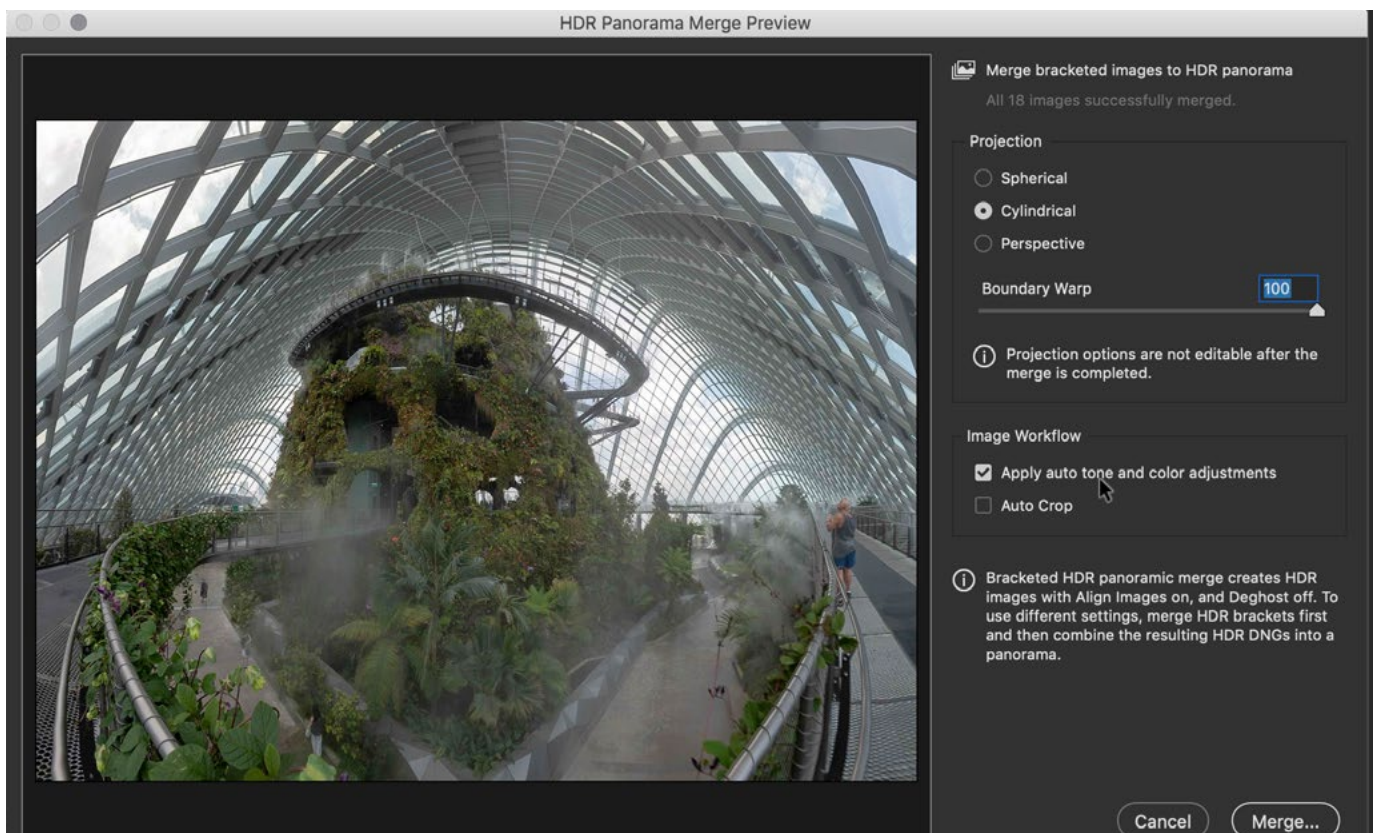
**HDR Panorama Merge** With this new update, Adobe has made it much easier to merge HDR panoramas. An HDR panorama is basically a panorama that is merged from a series of images that were already merged for HDR. That’s a lot of merging! In the past, we would first have to take each individual panorama frame (that was shot for HDR) and merge the HDR images. Then, we would take those merged images and merge them into a panorama.

Now, the process is different. In Bridge, select all of the images that were shot to create the panorama. This includes each individual image in the HDR brackets. Then, go to the File menu and choose Open in Camera Raw. All of the images will appear in the Filmstrip on the left side of the Camera Raw interface. Click on the little menu in the top right corner of the Filmstrip and choose Select All. With all of the images selected, click on that menu again and choose Merge to HDR Panorama.

The HDR Panorama Merge Preview window will appear and it is very similar to what you're used to seeing with the regular Panorama Merge window. Toggle the Projection setting between Spherical, Cylindrical and Perspective to see which looks best to you. The Boundary Warp slider will attempt to make the edges of the panorama extend to the edge of the frame (if the Auto Crop setting is turned off). The Auto Crop check box will crop out any transparent areas along the edges of the frame. Because we used HDR images, there is also a check box titled "Apply auto tone and color adjustments." Turn this on in order to see the full brightness range captured by the HDR images. You don't need to turn this on, but if you leave it off, know that you will need to adjust the end result.



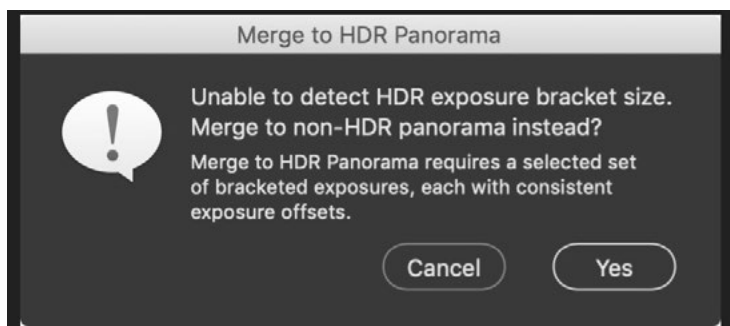
**With all of the images selected in Camera Raw, click on the menu in the upper right of the filmstrip and choose "Merge to HDR Panorama."**



**The new HDR Panorama Merge window in Adobe Camera Raw looks very similar to the regular panorama merge window, but it includes the Auto-Tone option.**

Click the Merge button in the bottom right corner of the window. You'll be prompted to name the file and choose where it should be saved. The merged result will be a DNG file, which will have all the same qualities of a raw file and you can further fine-tune the image in Camera Raw.

On occasion, you might run into an error message when trying to merge an HDR panorama. This could happen if the bracketing range was not consistent across exposures. To prevent this from happening, I recommend using the auto-bracketing feature in your camera so that all of the exposures are consistent.



**You may get this error if the bracketing range was not consistent across exposures.**

Note that this feature is also in Lightroom but it will not work with smart objects. Also, if there was any motion in your scene, I suggest using the manual method for merging an HDR panorama because this new method does not include any de-ghosting settings. De-ghosting tries to get rid of any motion in the scene.

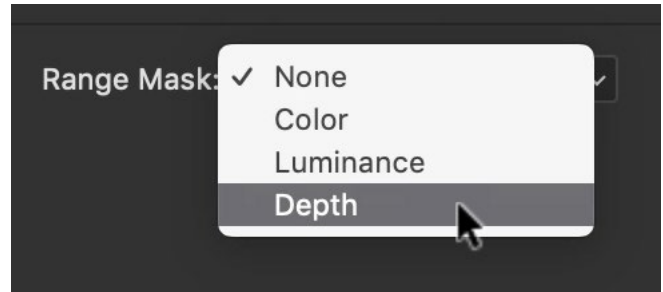
**HEIC Files** If you have an iPhone 7 Plus or newer, your camera will have two lenses and can therefore shoot in Portrait Mode. With Portrait Mode, you can make the background in an image look soft while keeping the subject in focus. These images are saved in a special file format called HEIC and we can do special things with these types of files in Camera Raw. You will have to research the best way to get the file (in that format) onto your computer. I like to use the settings within Lightroom's mobile app. There is a setting called Technology Preview where you can turn on an option for capturing these types of files. With whatever method you choose, you'll need to be careful that it transfers the image as an HEIC file and not a jpeg file.

With the file selected in Bridge, go to the File menu and choose Open in Camera Raw. Here, we can apply a selective adjustment (with the Adjustment Brush, for example) and then scroll down to the Range Mask menu on the right side of the in-

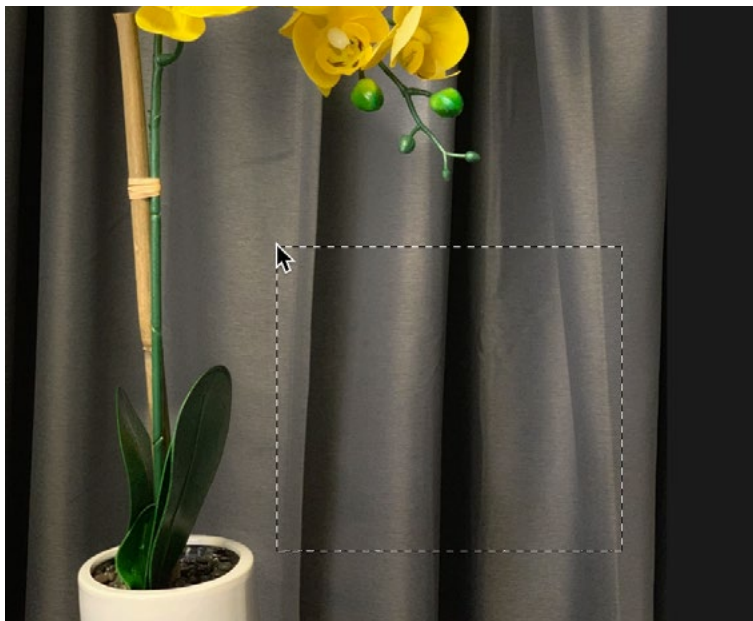


terface (It's located below the adjustment sliders). Here, there is a new option called Depth. This option will only show up with this particular file format and it will allow you to selectively apply your adjustment based on the depth of field of different parts of the image. When you select this option, a series of settings will appear. The first is the "Visualize Depth Map" check box. If you turn this on, you will get a preview of what the camera interpreted

as being the subject of the photograph. This will be represented by the brighter areas. The dark red areas are what the camera deemed as being the background of the photo and this is the part that it tried to blur. The Depth Range sliders will limit the areas to which the adjustment can take effect. The areas with the overlay will



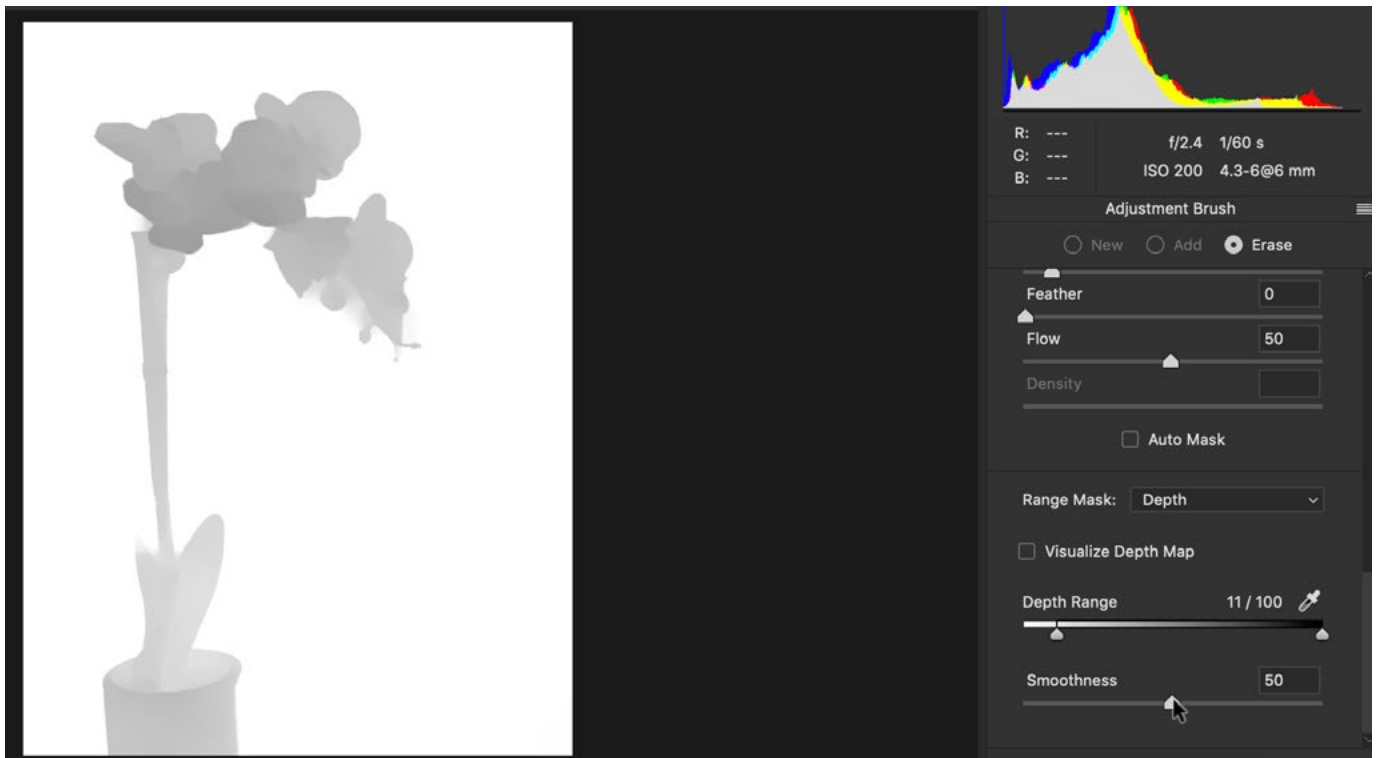
**If you use one of the selective adjustment tools in Camera Raw, and you are working on an HEIC file, the Range Mask menu will now contain an option called Depth.**



**Here, we are using the eyedropper tool located just above the Depth slider to drag out a selection in our image that encompasses the depth range we'd like to work on.**

receive the adjustment. If you hold down the Option key (Alt on Win) while dragging the Depth Range slider, you'll get a black and white preview of what's being affected. You can also define a range by using the Eyedropper tool located just above the Depth Range slider. With the Eyedropper active, click and drag out a rectangular selection that encompasses the depth range you'd like to target. When you release the mouse button, the Depth sliders will automatically be moved to encompass that range.

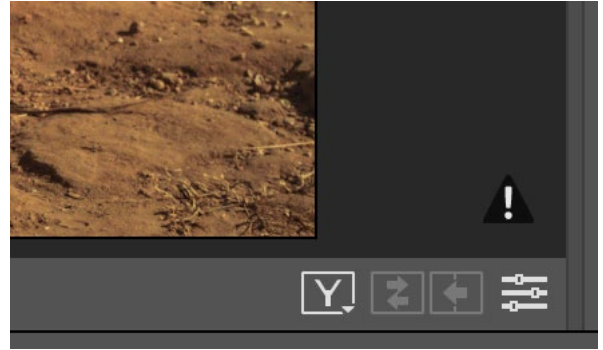
After setting this slider, you can work with the adjustment sliders and the changes will only affect the depth range that you specified. The Smoothness slider is located beneath the Depth Range slider and if you hold down the Option key (Alt on Win) while dragging this slider, you'll get a preview of what it's doing. The areas in white are where we're changing the picture and the areas in black are where we are not changing the picture. The Smoothness setting controls the transition.



By holding down the Option key (Alt on Win) while dragging the Smoothness slider, you'll get this view of your image, which will give you a better idea of how the slider is affecting the depth range mask.

**New Process Version** Any time that Adobe changes the way the sliders work in Camera Raw, they're going to update the process version. The reason for this is so you can open older images (ones that were processed when the sliders behaved differently) and they will still look the same. They don't suddenly have newly-designed features applied to them automatically.

Any time you open an image that was adjusted with an older process version, you will see a little exclamation point icon in the lower right corner of the image window. If you click on this icon, it will update the image to the newest process version. Sometimes you won't even notice any changes to the image because they are so subtle. With this new process version, Adobe has changed the way Camera Raw deals with high ISO images so they look a little cleaner when you brighten them and zoom in on the shadows. They have also made improvements to the Dehaze slider.



**This icon will appear when you open an image that was last adjusted with an older process version. Click on the icon to update the image to the current process version.**