HDR Merging in Lightroom

LIGHTROOM TUTORIAL: HOW TO DO HDR IN LIGHTROOM

HDR stands for High Dynamic Range. It's a way to get more shadow and highlight details in your photographs that comes closer to what the human eye sees. Its been around for a while and used heavily by photographers to bring out cloud details in the sky, details in the inside of buildings and through the windows at the same time, and also used for surrealistic photographs that work well with textures and reflections.

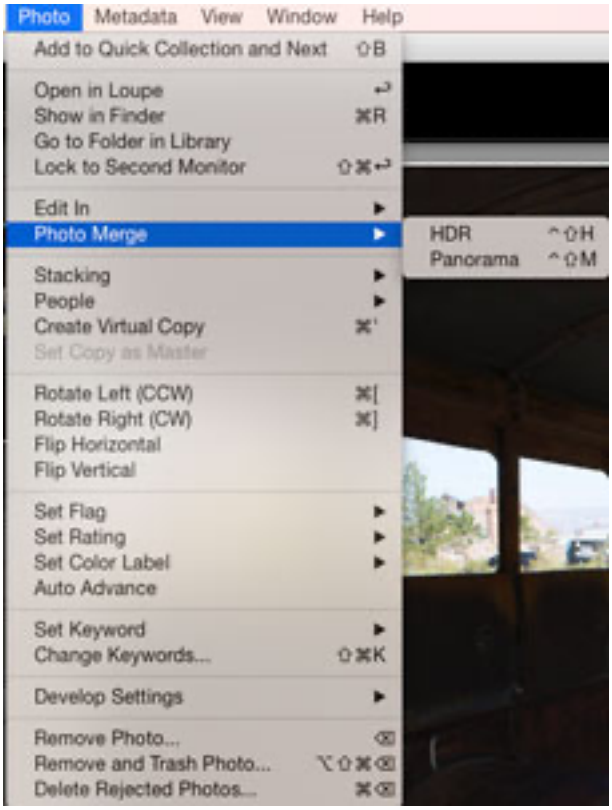
To achieve this effect, multiple images are photographed and then merged together in Photoshop. The final step is to "tone map", which is where you either go realistic or the hyper-realistic path.

In recent years, you have been able to process HDR images in Lightroom and ACR as long as they are merged in Photoshop and saved as a 32-bit Tiff file. **All that has changed today!** You can now process HDR images entirely in Lightroom. Lightroom has the ability to merge photographs together and tone map them all without ever leaving Lightroom.

Let's have a look at how it works.

1. Here I have captured 3 images of a bus interior. The regular photo doesn't have enough dynamic range to show all the highlight details outside the windows and the shadow details inside the bus at the same time. I shot a second image at -2EV to capture all the details in the highlights outside the windows and a 3rd capture at +2 to get all the textures on the inside of the bus.

2. Select all 3 photos, then go to Photo>Photo Merge>HDR



3. Lightroom creates a preview of the 3 merged files. There are 3 main options

- **Auto Align:** This will align the images if there was movement between shots (not on a tripod)
- **Auto Tone:** This button creates a balanced preview which is a good place to start
- **Deghost Amount:** If there is movement between the 3 captures such as people walking, leaves and water movement etc they can be repaired by choosing a level of “de-ghosting.”
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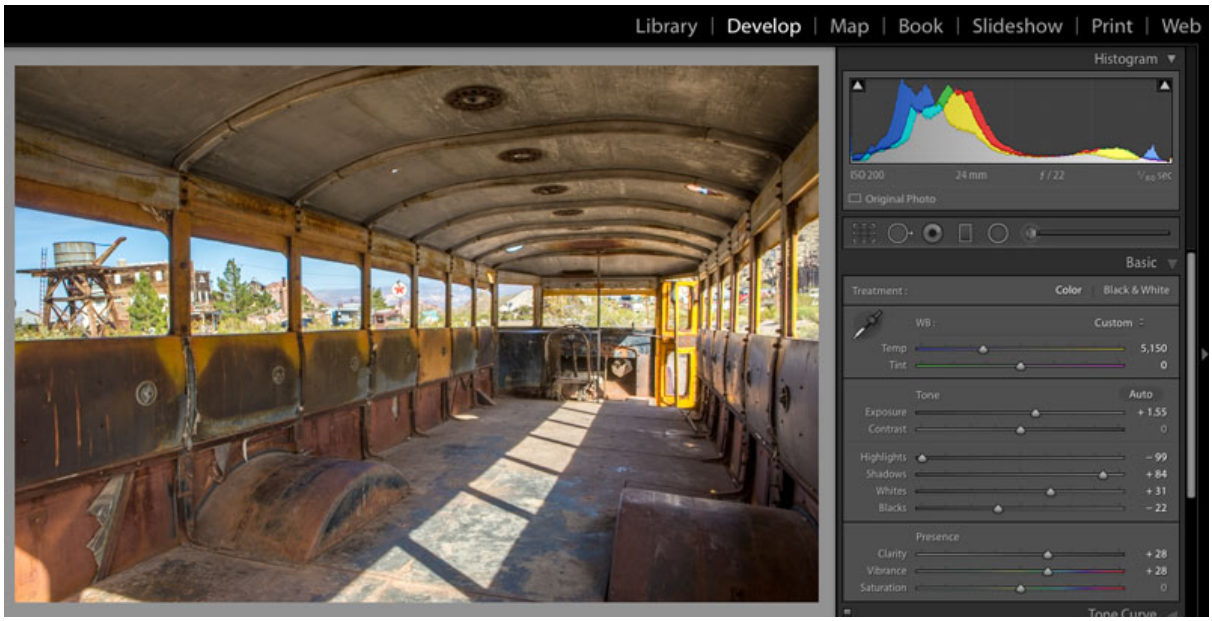
4. Click Merge and the images will be merged into a new 16-bit floating point DNG file.

5. Initially the image will show more detail than the original 3 images (if auto tone is on).

This is a raw file that contains all the dynamic range and information from the 3 photos (Note: It doesn't have to be 3 images, it could be 2, 5, 7 or more. 3 is the most common)

6. Now you can process the DNG file in Lightroom just like a regular photograph, but you have a lot more information in the shadows and highlights to play with. This results in a much better-looking photograph that can mimic what you saw when you took the photograph initially.



How many photos are optimum for an HDR photo merge?

HDR photos are used to capture scenes having a large dynamic range. However, using a greater number of photos can lead to unwanted artefacts from poor alignment or ghosting. For optimal HDR merge, the aim is to capture photos in a manner that each part of the scene is well-exposed, that is neither blown-out nor under-exposed in at least one of the photos.

Use the following guidelines to identify how many photos work best for your case:

- If your HDR bracketing is less than 3.0 stops in total separation **(-1.5, 0, +1.5)**, use only the darkest and brightest exposures to generate an HDR. Capturing the middle exposure, or zero exposure, is not necessary for generating a quality exposure blend in such cases. If you exceed the 3-stop separation between the darkest and the brightest exposures, an additional exposure offset becomes necessary to process a good quality HDR photo.

See the chart below to quickly determine the number of photos required for processing a quality HDR merge

Camera Bracket settings	Optimum number of exposures for merging photos to HDR
-1.5 to +1.5	2
-3.0 to +3.0	3
-4.5 to +4.5	4
-6.0 to +6.0	5

- If you are a photographer using the **± 1.5** exposure bracket, you can ignore the zero or middle exposure. This helps in faster render and improves alignment odds in the resultant HDR by reducing the chances of potential camera movement between the exposures.

However, the zero exposure can be useful in scenarios where the capture scene is within the acceptable range of a single exposure and can be developed independently.

- If you are a standard HDR shooter using a **± 2.0** bracket, you ideally require only three photos to merge into an HDR.
- If you are a **5 shot ± 4.0** stop shooter, you can now drop from 5 shots to 4 shots for merging and processing HDR. However, if you are a **7 shot ± 6.0** stop shooter, you can now get the optimal HDR blend with only 5 shots **(-6.0, –3.0, 0, 3.0, 6.0)** provided your camera has three-stop stepping in the exposure bracketing function.

Merge photos to create HDRs

1. Cmd/Ctrl-click the images in Lightroom Classic to select them.
2. Select **Photo > Photo Merge > HDR** or press **Ctrl+H**.
3. In the **HDR Merge Preview** dialog, deselect the **Auto Align** and **Auto Tone** options, if necessary.

- **Auto Tone**: Provides a good starting point for an evenly toned merged image
- **Auto Align**: Useful if the images being merged have slight movement from shot to shot. Enable this option if the images were shot using a handheld camera. Enabling this option may not be necessary if the images were shot using a tripod.

You can preview the effects of these settings right within the dialog box.

4. Sometimes, after the exposure-bracketed images are merged, some areas in the HDR image may appear unnaturally semi-transparent. Select one of the following de-ghosting option in the **HDR Merge Preview** dialog box to correct these anomalies: **None, Low, Medium, or High**. Try Low de-ghosting first to obtain a clean merged image. Try higher settings if necessary. Avoid using if your preview is free of ghosting artefacts.
5.

- **Low**: Cures little or minor movement between frames
- **Medium**: Cures considerable movement between frames
- **High**: Cures high movement between frames

You can preview the effect of these settings right within the dialog box. If necessary, choose to view the de-ghost overlay.

6. To group the exposure-bracketed images and the HDR image into a stack (after the images are merged), select the **Create Stack** option. The merged HDR image will be displayed at the top of the stack.

Note:
The Create Stack options has been introduced in Lightroom Classic CC 7.4 (April 2018 release)

7. Click **Merge** to create the HDR image (.dng). Lightroom Classic creates the image and displays it in your catalog.