

## **Manual High Dynamic Range Blending Tutorial**

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First and foremost, I want to clear a certain disillusion that has entered people's minds about HDR. It is in no way some miraculous technique to make a mediocre photo an amazing one, neither is it the gateway to becoming a great digital landscape photographer. Post processing will always play a minor step in creating great photographs and the effort will always be in the planning and shooting.

Why do we use HDR? Because a camera can't always capture the dynamic range of light in most natural scenes in one exposure, which results in areas of the image that have no detail due to shadows or highlights. Traditionally we would use [graduated neutral density filters](#) to balance the exposure, but they are rather expensive and limited by many situations found in landscapes everywhere, like uneven horizons, tall objects like trees, mountains etc. When digitally blending 2 or more images we are basically simulating an ND filter, but we have full control over how the graduation of the filter would have been. HDR opens new doors in landscape photography, but I still prefer to use graduated filters and do where ever I can.

Moving objects within an image creates a lot of problems for HDR blending, because your images have to be identical ( apart from the exposure ). You can get away with it to a certain extent, but cameras are still very primitive compared to the human eye and sometimes we simply can't capture what we saw.

The basic concept of HDR is to capture the total dynamic range of the scene ( when it is greater than the camera can capture in one exposure ) in multiple exposures and combine select parts of the various exposures using photoshop.

The first thing we need is the multiple exposures of a scene. In most natural scenes, the sky is brighter than the land/foreground and if you expose for the sky, the foreground is too dark and if you expose for the foreground then the sky is too bright. So we take a separate exposure for each.

The easiest way is to use your camera's AEB ( auto exposure bracketing - see camera manual ) function. It allows you to capture a sequence of 3 exposures, each a certain f-value apart. In most situations, you simply need one exposure for the sky and one for the foreground as shown below.





If this is the case, meter the sky and foreground separately, check the difference and set the bracketing so that the exposures are that f-value apart so that you get an ideal exposure for each. The 3rd doesn't matter and can be deleted. So if the sky is 2 stops brighter than the foreground, set the bracketing for 0;-2;+2 and expose it for either sky or FG and you will have the 2 necessary exposures in your sequence. Sometimes however, a nasty highlight or shadow requires a 3rd exposure as shown below.







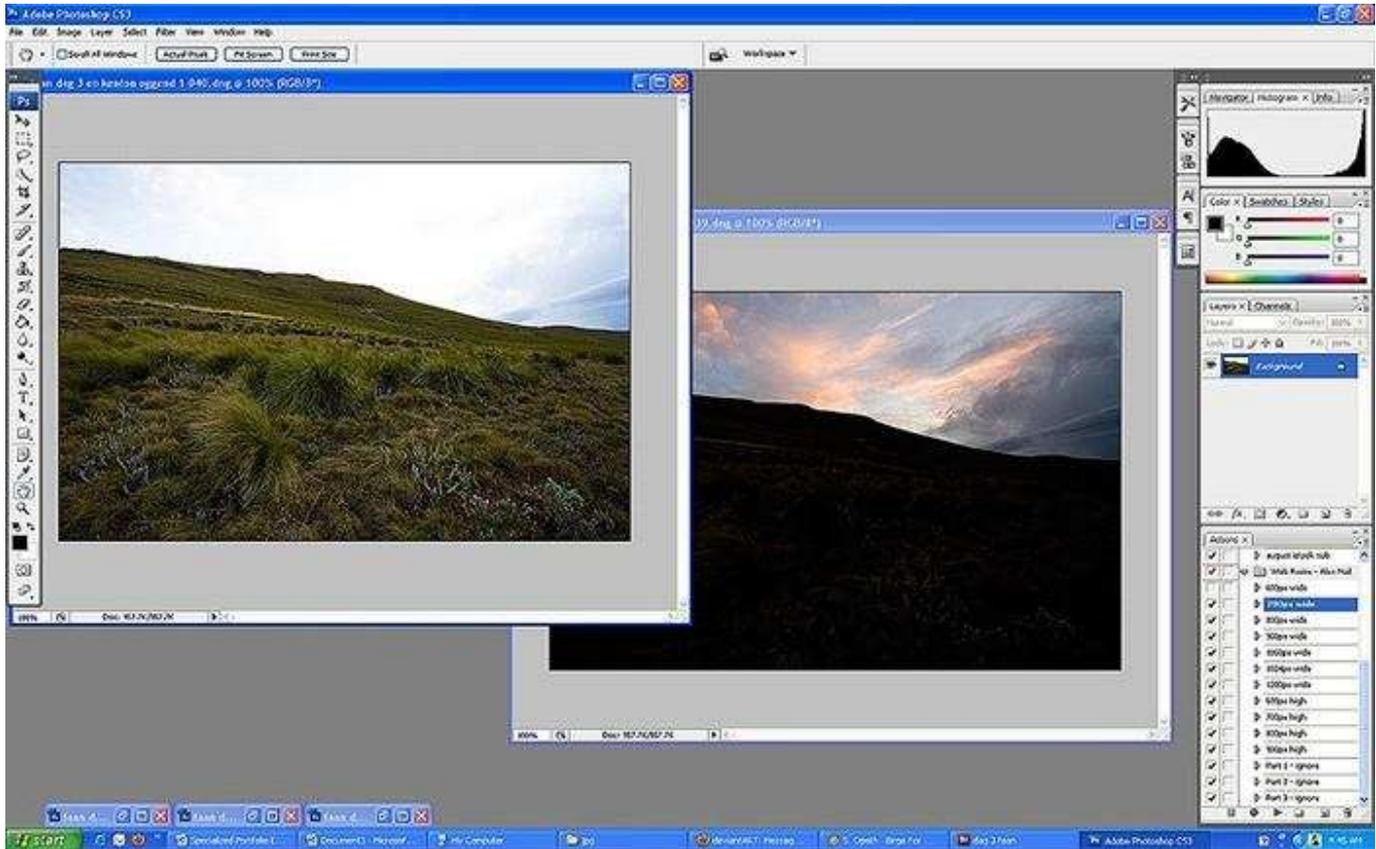
Once again, meter the sky and FG separately, set the AEB so that you get an adequate exposure for both and check if the 3rd exposure has the detail in the shadow/highlight area you require. If not, simply capture a darker/brighter exposure by setting a single exposure manually or do a whole sequence manually. Shooting for it comes naturally and you quickly learn with experience, so don't worry too much about it.

In a short sentence : You need multiple exposures of which the darkest image may have no highlights and the brightest image may have no shadows.

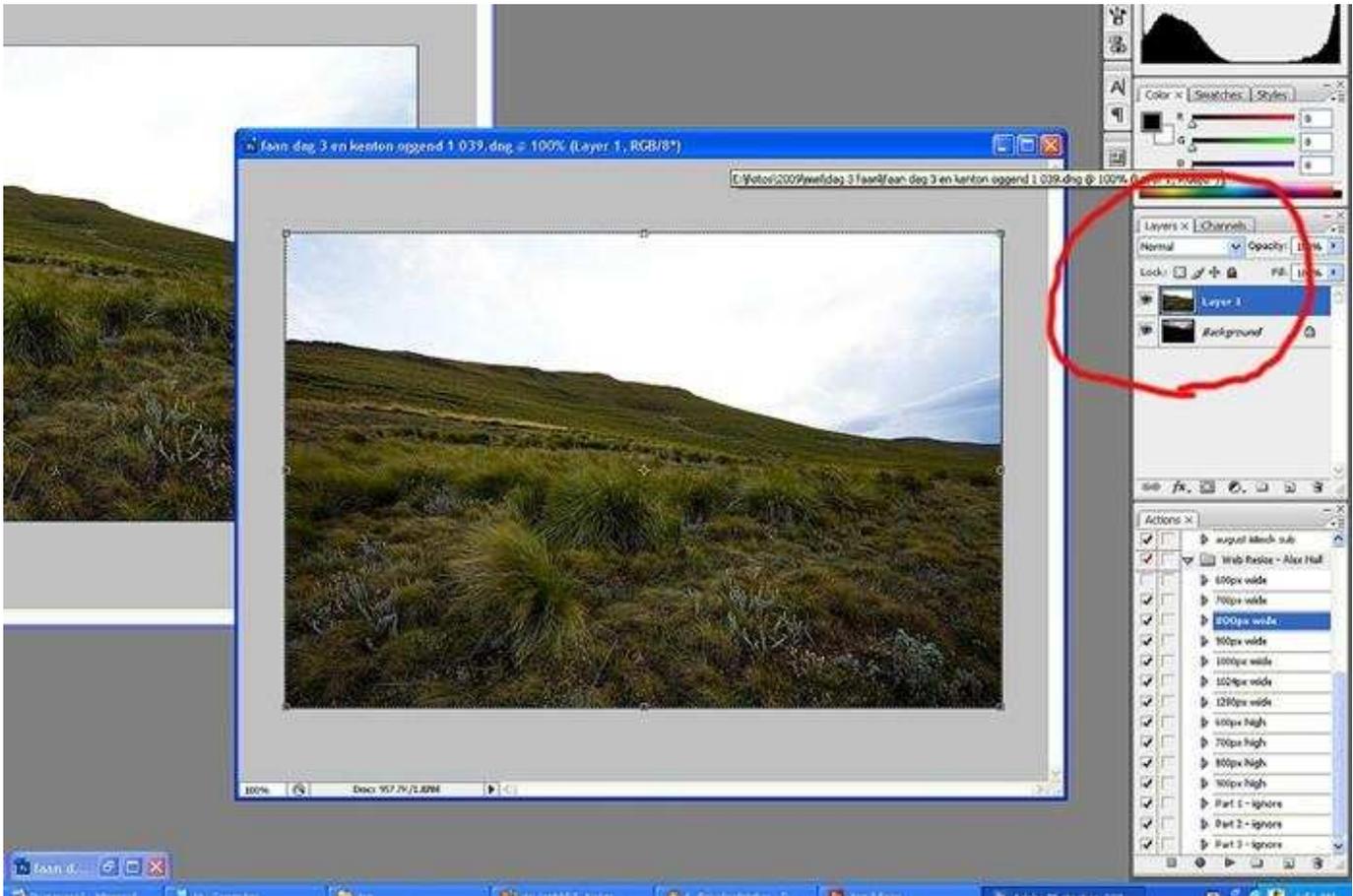
Usually 2 exposures are enough for most scenes as I will show in the first example.

Blending a 2 exposure image

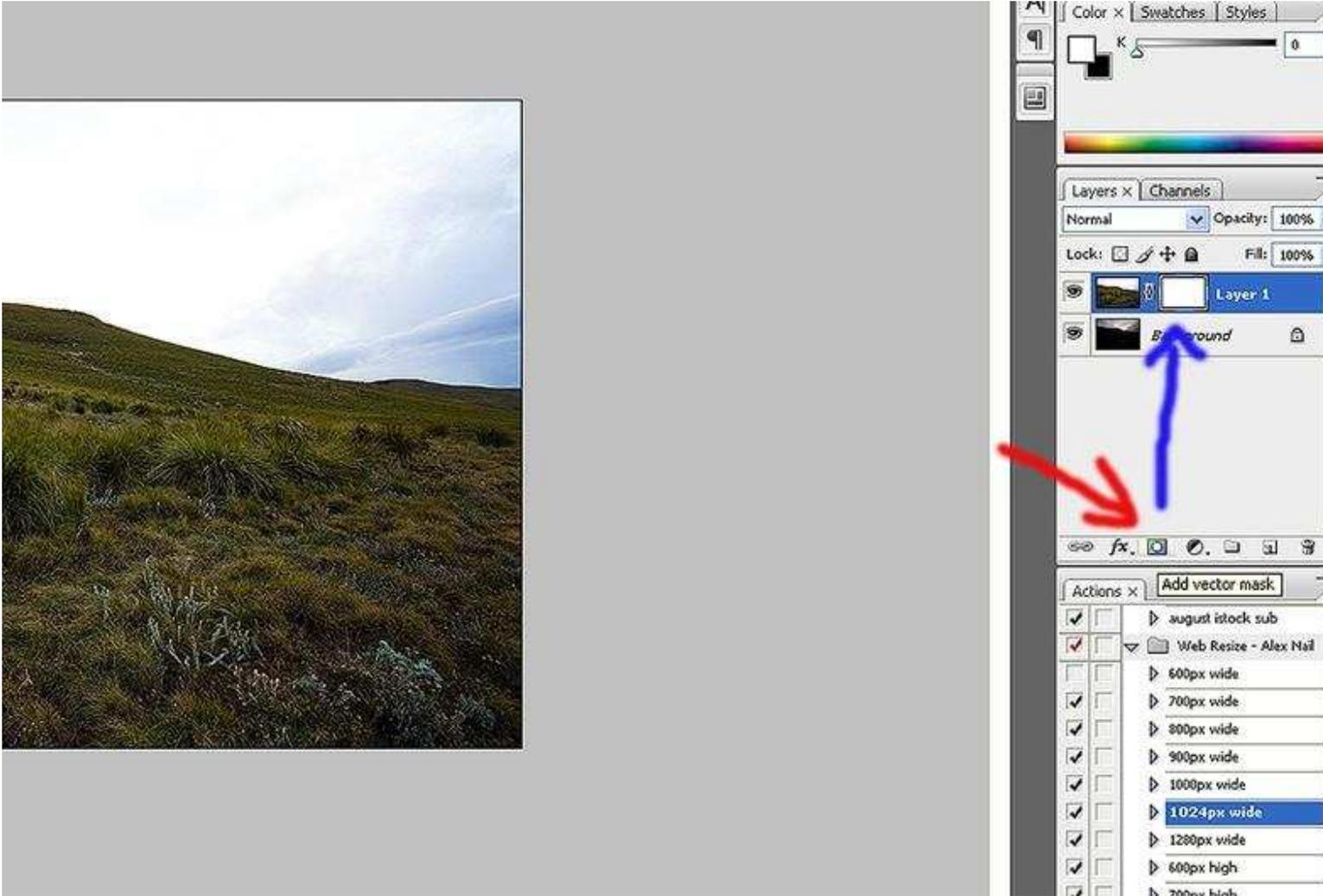
1. We start by just opening our 2 images that we are going to blend. RAW adjustments should already have been applied and make sure your layers window is open (F7)



2. Now, simply for practicality reasons, stack the exposures ( in this case 2 ) from darkest to brightest by using the move tool (v) and simply dragging the one image onto the other one. Hold shift in as you drop the image and it will align itself within the frame. You have now stacked the 2 layers and you will see the 2 thumbs in your layers window. Clicking on the eye to the left of the top thumb will hide the top layer and reveal the layer below.

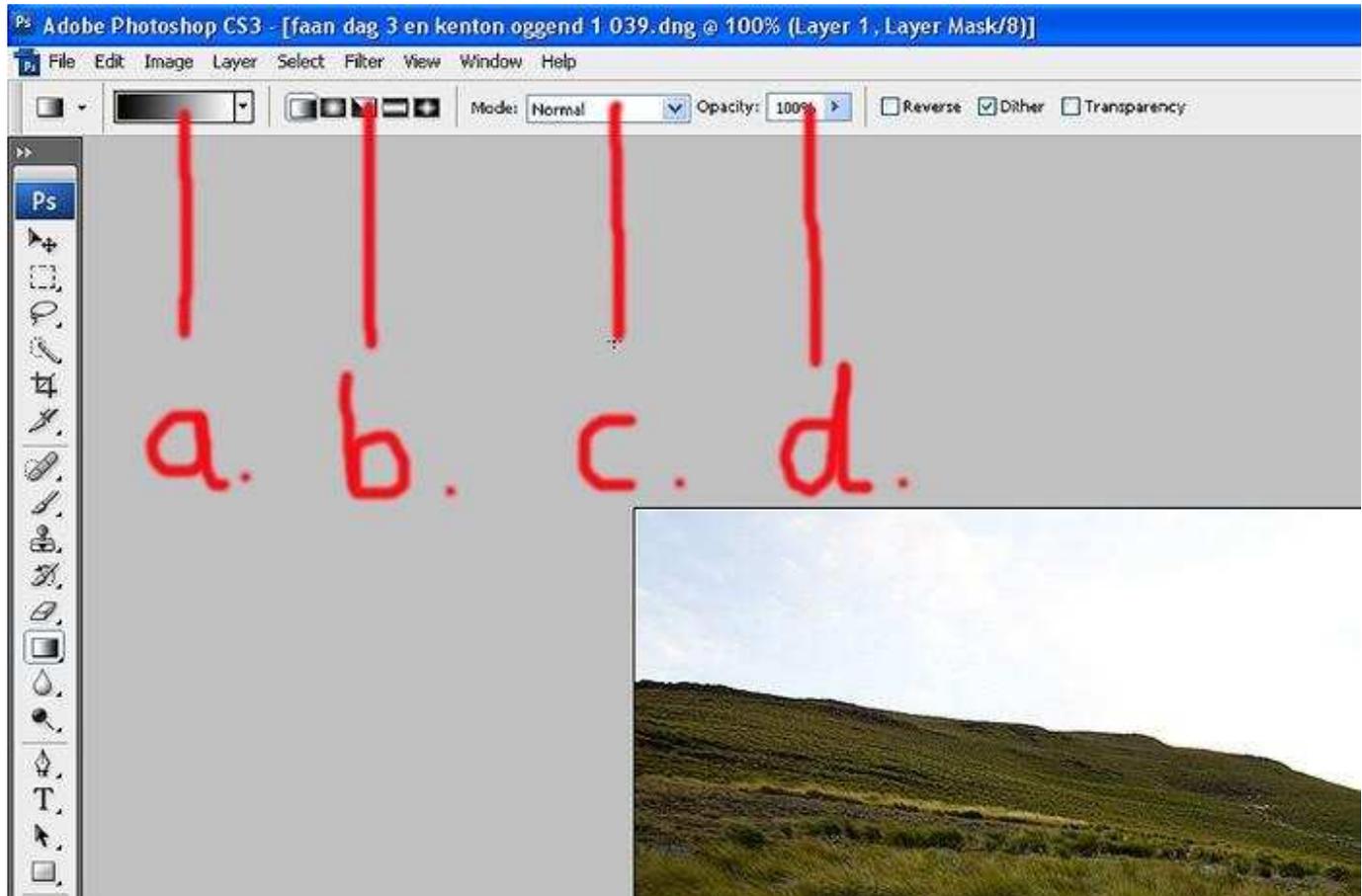


3. You can now close the bright exposure as you have it in a layer on the darker one. Maximize the window simply for better viewing. You will be working on a layer mask so that any mistakes can be easily corrected. At the bottom of the layers window there's a **rectangle with a circle in**, click on it to add a **layer mask** ( make sure your top layer is selected ) to the top layer.



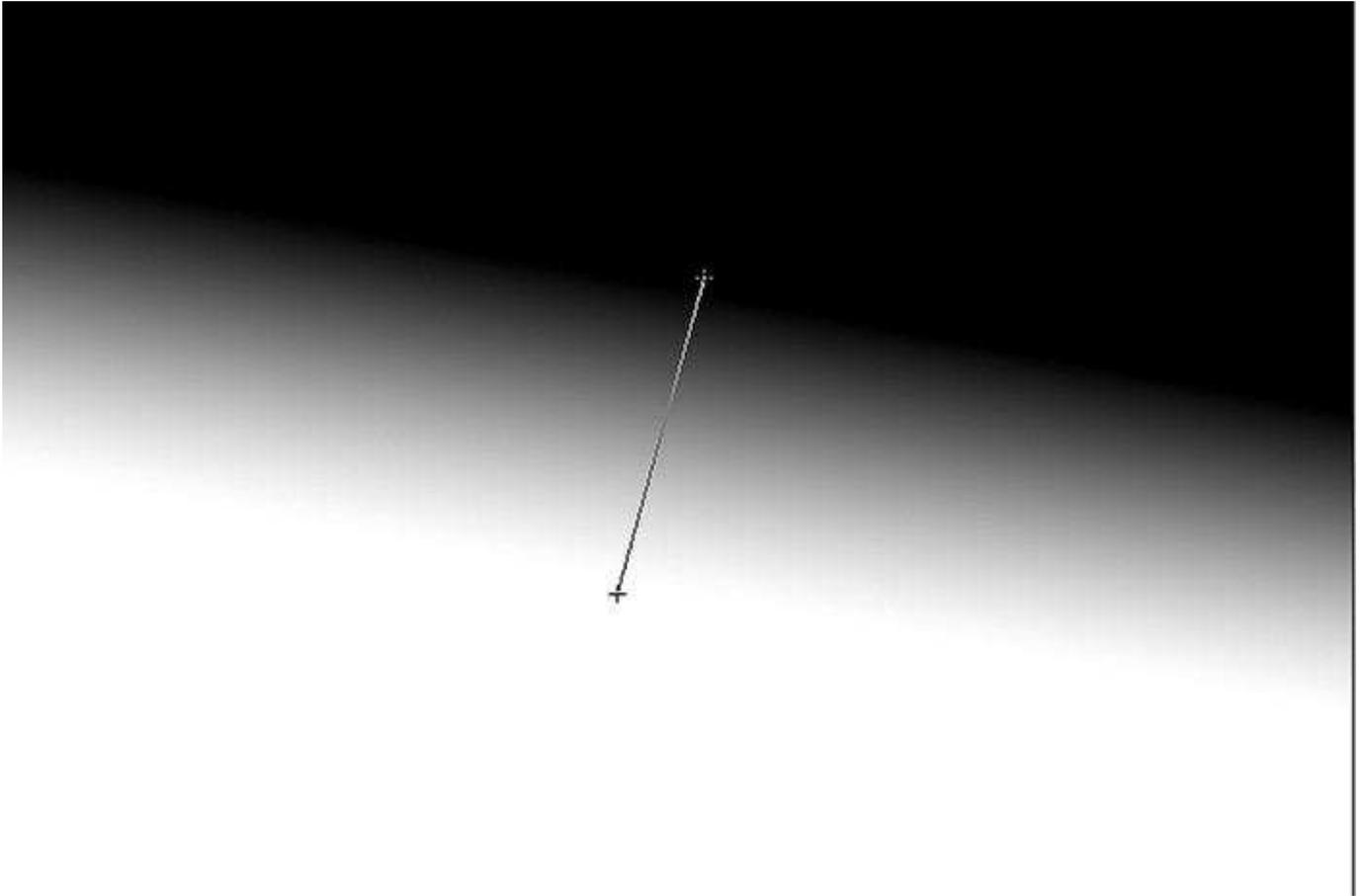
4. To simulate the graduated filter, we use a gradient on the layer mask. Press G to select your gradient tool. Check at the top of the window for the following ( if everything is on default, it will be right )

- a. The gradient type must be foreground to background ( top left )
- b. Orientation of the gradient must linear ( left )
- c. Mode – normal
- d. Opacity – 100%



5. Press D to make sure your FG/BG colour is on default.

You will now blend the two exposures. Where you click the gradient tool, the gradient will start, you then drag it to where you want the gradient to end. You can drag the line at any angle and the gradient will be in that direction. Below I have simply dragged a gradient onto a white mask to show you. You can see how the gradient starts where I clicked, transitions over the path I dragged and ends where I released the mouse. The black pixels will reveal what's on the layer below them. The pure black will reveal everything with the gray pixels resulting in a smooth transition that fades the 2 exposures into each other.



6. For this specific image, the gradient will transition over about 40% of the image at a slight angle (90 degrees to the horizon). The line I dragged to create the gradient looks like this.



The gradient will look like this



7. You can now touch up the gradient by painting on the mask with a brush. Once you are happy with the blend, you should flatten the image and treat it as one exposure. Doing separate adjustments to the blended layers can sometimes make a nasty unwanted transition of pixels visible.

8. You can now do your usual processing steps to get to the final result



### Blending a 3 exposure image

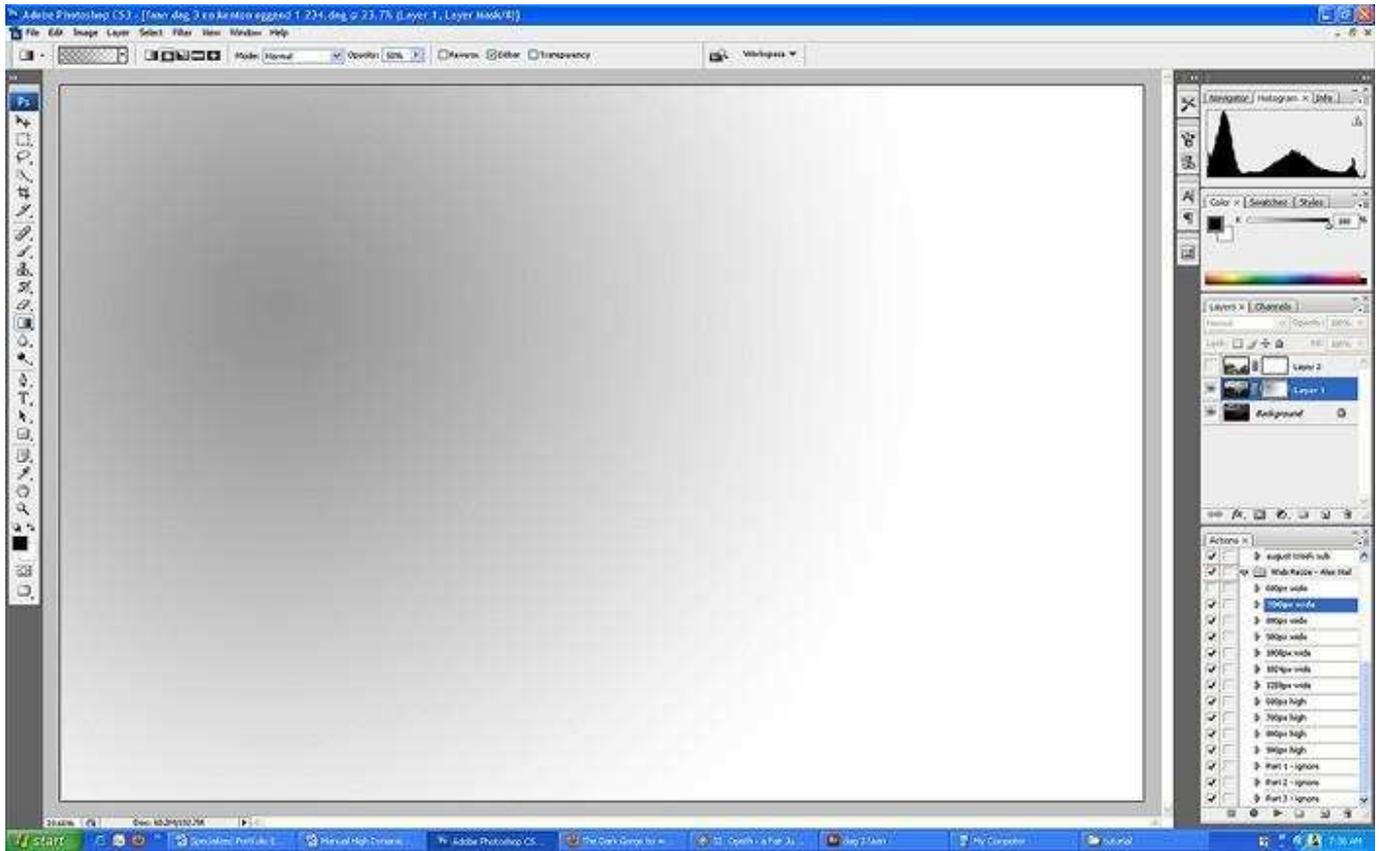
1. Stack the 3 exposures from dark to bright as explained above and give the 2 top layers each a layer mask. To give separate layers a mask, simply click on the layer thumb in the layers window and then click on the add layer mask button. Once you've added the layer masks, you can click on the eye of the top layer to hide it as we will work on the sky first. Your layers window should now look as shown below.



2.90% of the time the 3rd exposure is to deal with a highlight around the sun and it is always a big circular blob so to blend it we will use the radial gradient. Choose the gradient tool ( g ) and now select the radial gradient in the top tab ( refer to point 4 above – tab b - 2nd icon ) and set it to a 50% opacity ( tab d ) to begin with. The necessary opacity depends on the image.



3. Now drag the gradient from the centre of the highlight outwards. Usually the transition has to be quite big so you can drag it as far as you can. It's a trial and error process and practice makes perfect. Below you can see the gradient I settled for and how it revealed the detail in the highlight area from the darker exposure below.





4. You can now simply blend in the foreground of the image as explained in the previous example. Remember to select the correct gradient again as shown in point 4 above.  
Image13

When starting out with this stuff, the most common errors people usually make is simply not having the correct layer or gradient tool or palette colors selected so always double check your tools when something isn't working as it should!