

Photopea COMPLETE HELP FILES

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Table Of Contents

Starting and using Photopea	13
Toolbar	16
Sidebar	18
Main Area	20
Top Menu	22
Opening files	24
Saving files	26
Zoom tool	28
Hand tool	30
Rotate View tool	32
Rulers	34
History of actions	36
Scaling the image	38
Cropping the image	40
Crop tool	42
Layers panel	44
Folders of layers	46
Basic layer properties	48

Photopea COMPLETE HELP FILES

Changing the structure	50
Working with masks	53
Properties of the mask	55
Raster and Vector masks	57
Add Styles	59
Delete Styles	61
Load and save Styles	63
Single Source	65
Working with smart objects	67
Fill Layers	69
Adjustment layers	71
Rasterizing layers	73
Clipping Masks	75
Fill Layers	77
Adjustment layers	79
Rasterizing layers	81
Clipping Masks	83
Free Transform	85
Perspective transform	88
Warping	90
Adjustments	92
Filters	94

Photopea COMPLETE HELP FILES

Working with Selections	97
Quick Mask Mode	99
Rectangle Select, Ellipse Select	101
Lasso	103
Polygonal Lasso	105
Magnetic Lasso	107
Combining selections	109
Magic Wand	111
Quick Selection	113
Color Range	115
Refine Edge Tool	117
When Masks (and Selections) are useless	122
Brush panel	128
Brush Presets	131
Brush	133
Pencil	135
Eraser	137
Clone Stamp	139
Blur and Sharpen	141
Dodge and Burn	143
Smudge	145
Sponge	147

Photopea COMPLETE HELP FILES

Spot Healing Brush	149
Healing Brush	153
Patch	155
Creating a Type layer	158
Editing a Type layer	161
Align	164
Writing directions	166
Custom fonts	168
Paths	170
Vector Masks	172
Shape Layers	174
Paths Panel	176
Path	178
Knots	180
The Look	182
Path select	185
Direct select	187
Pen	189
Free Pen	191
Specific shapes	193
Custom shape	195
Parametric Shape	197

Photopea COMPLETE HELP FILES

Text to Shape	199
Actions Panel	205
ATN files	208
Document Model	210
Define Variables	215
Variables in Photopea	220
Try it out!	223
Working with Artboards	227
Exporting Artboards	231
Absolute colors	233
Device-specific colors	236
Color Profiles	238
Guides	242
Grid	244
Pixel Grid	246
Snapping	248
Animations in Photopea	250
Delay	252
Merge frames	254
Slice Tool	258
Slice Select Tool	260
Export Slices	262

Photopea is an advanced image editor, which can work with both raster and vector graphics. You can use it for simple tasks, such as resizing images, as well as complex tasks, such as designing webpages, creating illustrations, processing photographs and more.

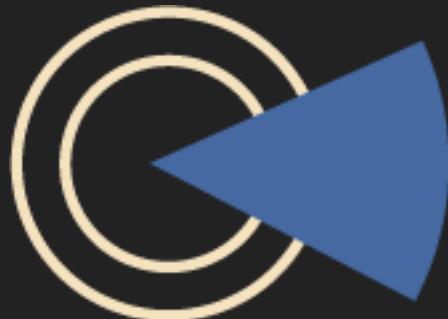
This website will teach you how to use Photopea step by step. We will start with basic tasks and gradually progress to more complex features. The chapters (on the left) have been organized, such that each chapter uses only the knowledge from previous chapters, so you can learn effectively and efficiently.

Colors

Photopea can work with many different color spaces (defined e.g. by the ICC profile inside your file), and the 8-bit color depth.

01

Starting and using Photopea

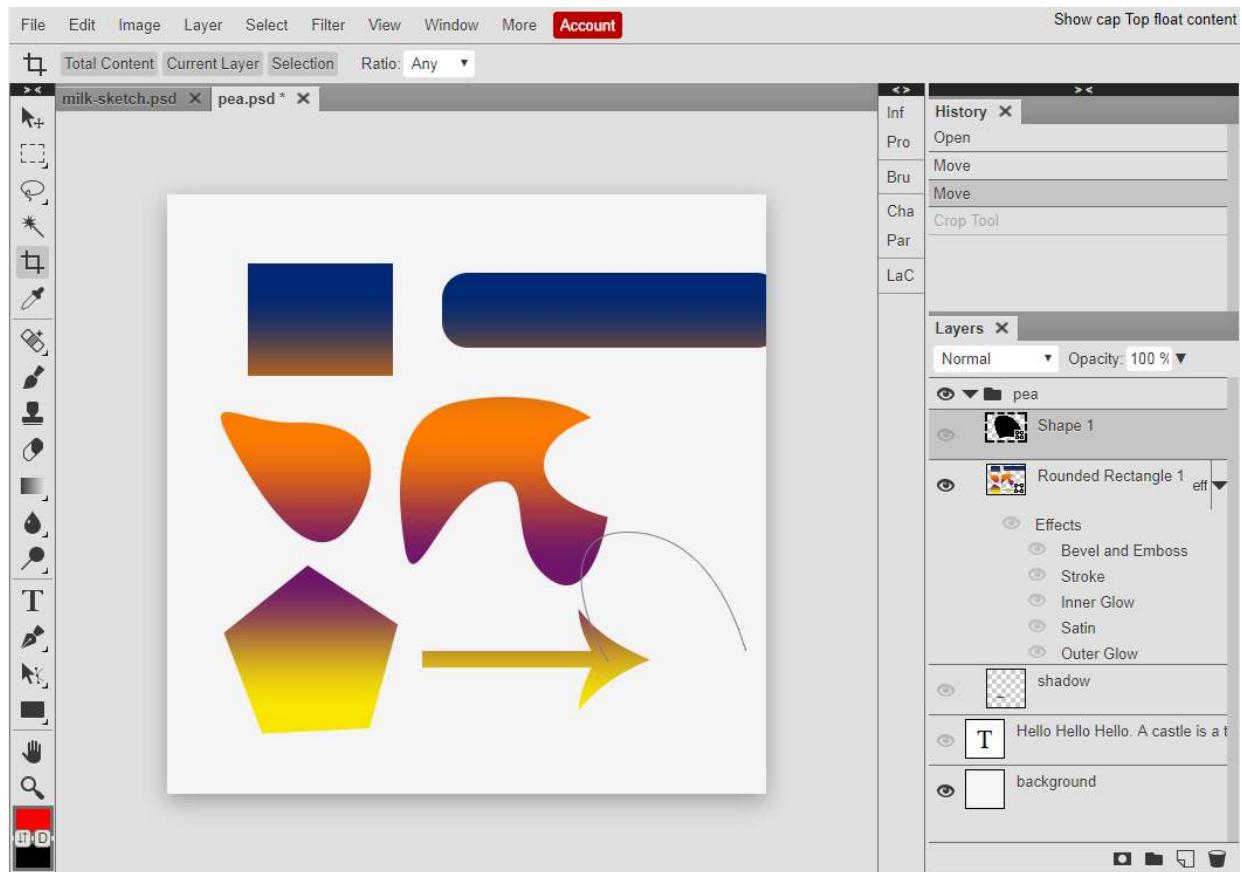


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Photopea editor works in a web browser. It can be started by going to www.Photopea.com. Photopea can run on any device (desktop, laptop, tablet, phone or any other computer), but for the best comfort, we recommend having a big screen, a precise pointing device (a mouse or a stylus) and a keyboard.

Photopea runs completely in your device, just like Sketch or Photoshop do. It does not upload any of your files to the internet. You can load Photopea.com, disconnect from the internet and keep using it completely offline. None of your files ever leaves your computer.

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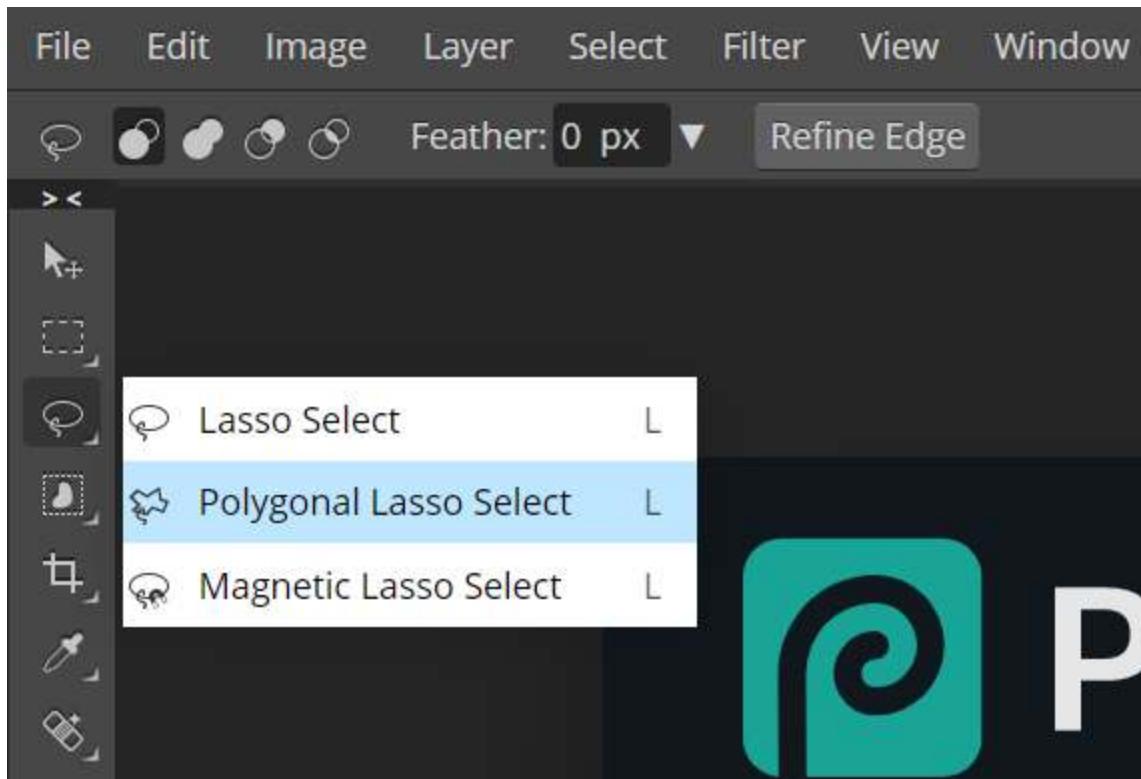
The workspace of Photopea is very similar to other image editors. It consists of the Toolbar on the left, the Sidebar on the right, the Working area in the middle and the Top menu at the top.

02

Toolbar



The toolbar contains all available tools. You can switch tools by clicking on their icons in the toolbar. Only one tool can be active at a time. Icons with a little arrow in the corner (e.g. Lasso tool) contain the whole group of related tools. Click and hold a tool button to see the menu with more tools in that group.



Keep your mouse above a tool icon for a moment to see the name of that tool. Some tools have capital letters attached to them (e.g. B for Brush tool). You can also switch tools by pressing corresponding keys on your keyboard.

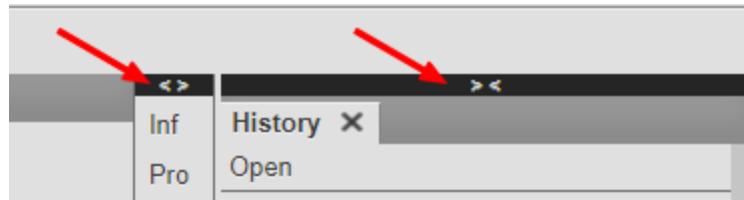
There is the foreground and the background color at the bottom of the toolbar. It is a simple palette of two colors, which are used by some tools. You can swap them with the X button, or reset to default values (black and white) with a D button.

03

Sidebar



The sidebar consists of two vertical columns. Each column can be folded and unfolded by clicking the thick line at the top of the column.



These columns contain panels (Layers, History, Paragraph ...), that you may need during your work. When the column is unfolded, you can see multiple panels, that are inside. When the column is folded, you can show and hide a specific panel by clicking the corresponding button in the column.

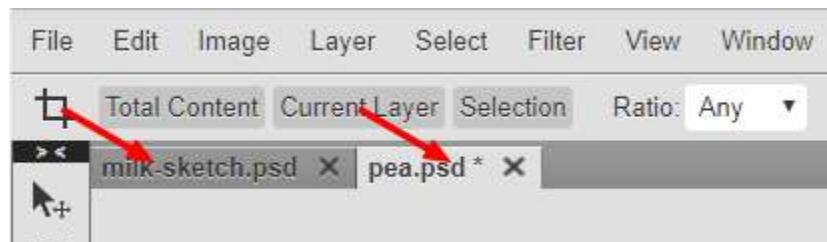
If you don't know where a specific panel is located, press Window - name of that panel.

04

Main Area



Photopea allows you to open multiple documents (e.g. JPG images) at the same time. The list of opened documents is shown in the bar at the top of the main area.



Here you can switch between documents and choose the one that you want to work with. You can also close documents by pressing the cross next to the document name. Below that bar, in the middle of the workspace, is the actual content of your document. It is the active area, where you can draw, move objects etc.

05

Top Menu



The top menu consists of two parts the first part (File, Edit, Image ...) is the main menu of Photopea. It is always the same.

The second part (below the main menu) contains parameters of the current tool. It has a different content for each tool. For example, for the Brush tool, it contains the opacity of the brush, while for the Type tool, it contains the size of characters.

Digital graphics is stored as a raster image, or a vector image. There are many formats for saving and distributing various types of graphics. Let's mention PNG and JPG, which contain a single-layer rectangular raster image (a grid of pixels).

Image editors use their own file formats, that contain raster and vector graphics, and additional information, which can be useful for changing the image in the future. For example, when we add a text into an image and save it as a PNG, letters would become pixels and such text would be hard to change (we would have to guess the font name, character size, the original image behind the letters would be lost).

Photopea uses the [PSD format](#) as the main format for storing image documents with an additional information. It was designed for the use in Adobe Photoshop and became very popular since then. All files, that you open in Photopea (such as PNG, JPG, Sketch) are converted to PSD (when they are not PSDs already). When you finish editing, the result can be saved from the PSD to other formats.

Photopea also supports many kinds of resources, that can be used for editing the image. You can load your own brushes, gradients, fonts and more, the same way you open images.

o6

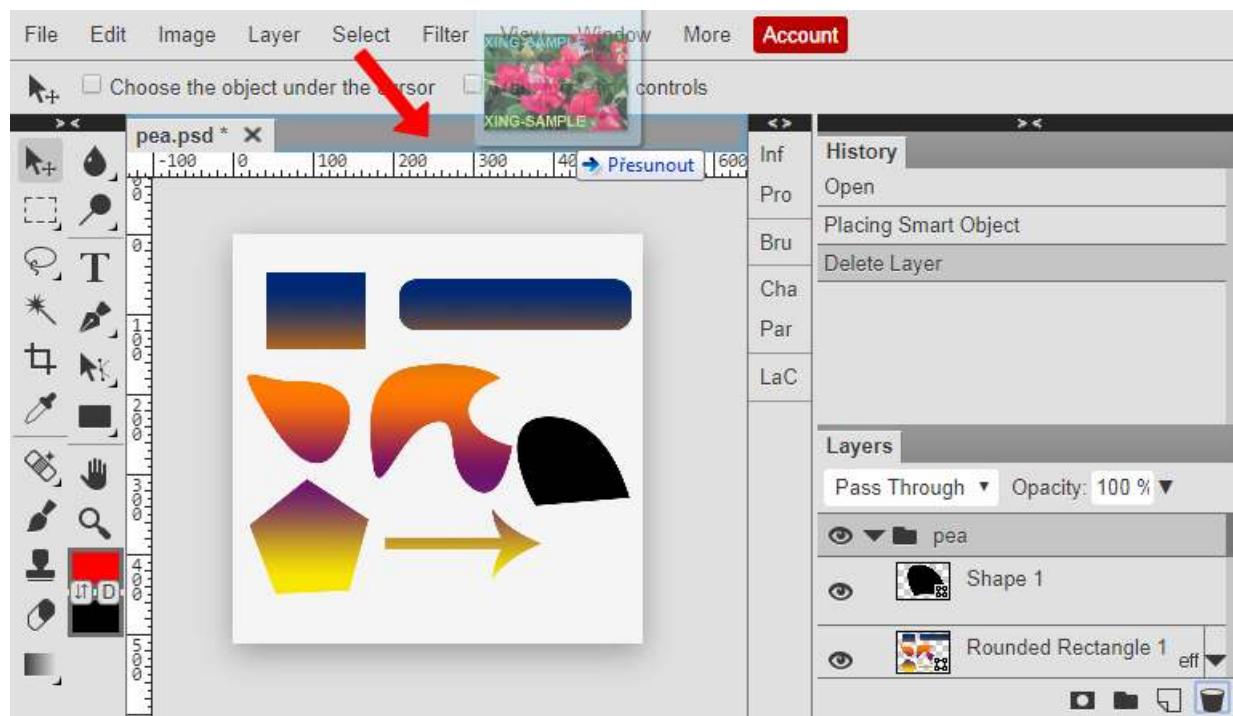
Opening files



There are several ways of opening files. The standard way is through the Open dialog (File - Open). You can also paste images (from the system clipboard) simply by pressing Ctrl + V. Another way is to open files by dragging them from your local system and dropping them into the Photopea environment inside a web browser.

When you have no documents opened, dropped files will be opened in a regular way. When some documents are already open in Photopea, you can drop new document into the main area of the current document. The new file will be inserted into the current document as a new layer (a Smart Object layer).

When some documents are opened, you can drop new files into the top bar of the main area (which contains the list of opened documents). Then, new files will be opened separately.



There is an experimental feature, which allows you take pictures using the camera of your device right inside Photopea. Press File - Take a picture to take a picture.

07

Saving files



You can save your work as a PSD file (to preserve the whole structure of the document) using File - Save as PSD. You can also save your file for the distribution on the web (through JPG, PNG, SVG, PDF and other formats) using File - Export As - PNG, JPG etc.

The Save for Web window lets you choose the output format. You can also enter the resolution of the output image. Now, you can already use Photopea to resize images (File - Open, File - Export As - JPG, enter the new size and Save).

When a document was opened from your device, the File - Save option will not work (Photopea is just a website, and it can not rewrite files in your device). You have to use File - Save as PSD instead. But if you opened your file from Google Drive, or as a Smart Object, or from a server (using the API), File - Save will save your file to a correct destination.

We already know, how to open and save files in Photopea. The next step is viewing the image and its parts comfortably and moving between different areas of the image.

o8

Zoom tool



The Zoom tool allows you to zoom in and zoom out at different places of the image. Just select the tool (in the toolbar on the left) and click on the image. You can switch between zooming in and zooming out in the top panel, or by pressing the Alt key on the keyboard. You can also click and drag to the right to zoom in, or drag to the left to zoom out.

There is a quick mode for the Zoom tool. By pressing Ctrl + Spacebar, you will switch to the Zoom tool, which you can use in a regular way. E.g. you can add or release Alt to switch between zooming in and zooming out. After releasing the keyboard keys, you will return back to the previous tool. It is one of the fastest ways to zoom.

09

Hand tool

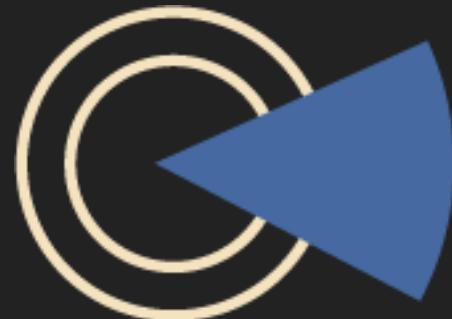


The Hand tool allows you to move the view to different parts of the image. Choose the Hand tool in the toolbar, then click and drag on the image to navigate to other places.

There is a quick mode for the Hand tool. Press the Spacebar to switch temporarily to the Hand tool. Then release the Spacebar to go back to the previous tool.

10

Rotate View tool



This tool allows you to rotate the view of a document. You can find it right under the Hand tool. Click and drag the document to rotate it around the center of the screen. Click Reset at the top to go back to 0°.

Zooming and scrolling is also possible with a mouse wheel. Turn the mouse wheel to scroll vertically, or add Ctrl to scroll horizontally. Hold the Alt key to zoom with the mouse wheel instead of scrolling.

11

Rulers



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You can enable Rulers in Photopea (View - Rulers, or Ctrl + R), which will help you navigate inside the document and to estimate the size of objects.

12

History of actions



Your work in Photopea is represented as a sequence of actions, that are applied to a document. Each action performs some change to the document, and creates a new state of the document. This list of actions is shown in the History panel. New actions will appear at the bottom of the list.

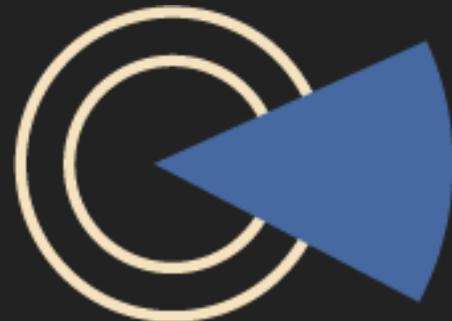
Photopea allows you to withdraw your editing and return to previous states. Clicking the name of an action in the History panel will get you back to the previous state. Also, you can move forward in the history by clicking last actions (at the bottom of the list).

Another way to return to previous or future states is by choosing Edit - Step Forward (Shift + Ctrl + Z) or Edit - Step Backward (Alt + Ctrl + Z). You can also use Edit - Undo / Redo (Ctrl + Z) to switch between last two states (it does not allow you to go "deeper" in the history).

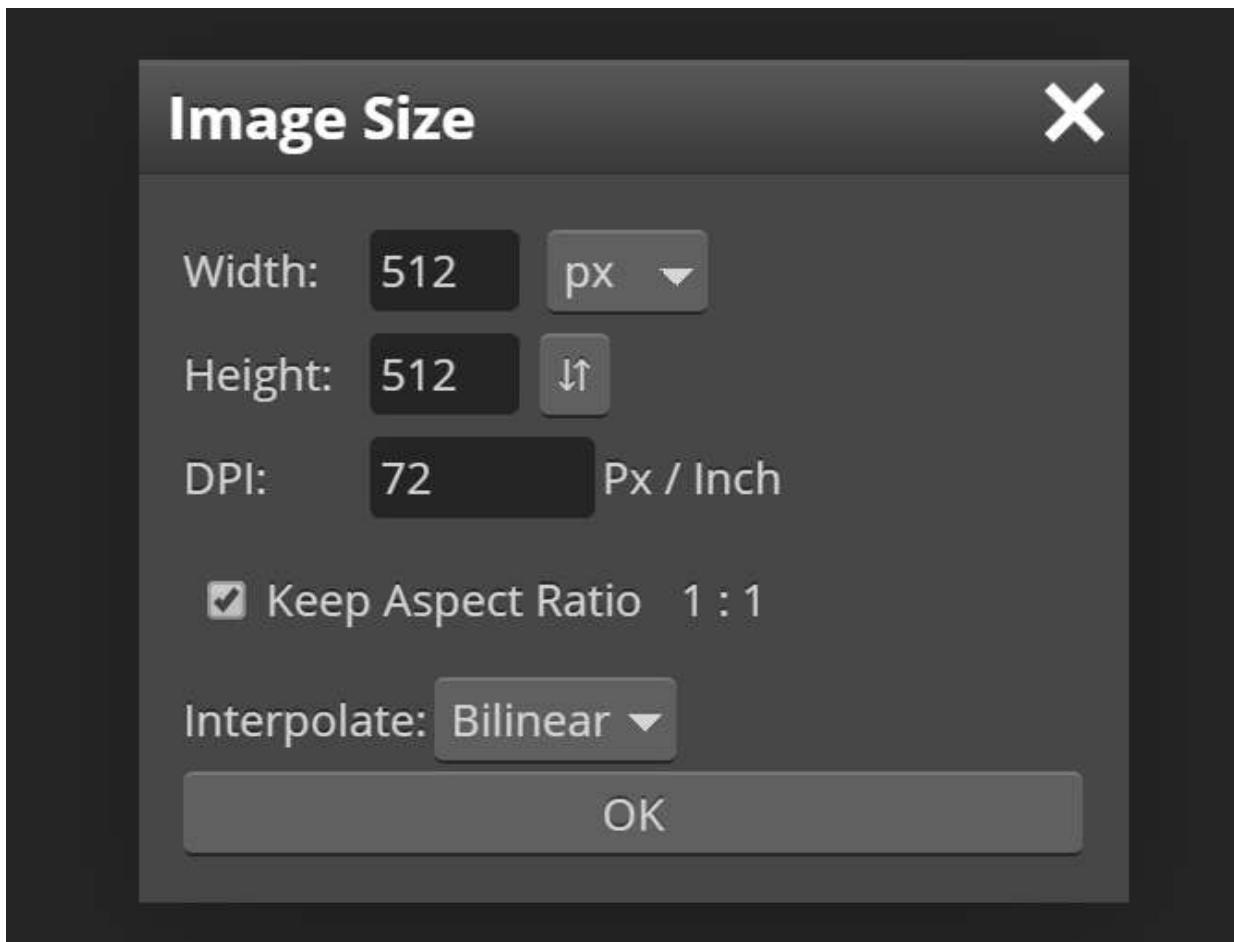
All (PSD) documents, even those with vector-only graphics, have a specific document size (the resolution in pixels). Higher resolution will give you a better precision, but it also makes image files larger. You can change the document resolution in several ways.

13

Scaling the image



Photopea allows you to make the resolution lower or larger and scale the content of the document according to the new resolution. You can do it by choosing Image - Image Size and entering a new size. You can also enter a new DPI value there.



You can also rotate or flip the image using Image - Transform - Rotate etc.

14

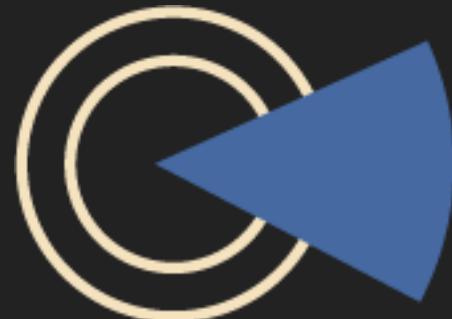
Cropping the image



Another way of changing the resolution is by cropping the image. It will preserve the resolution and the quality of the content, but it will change the "window", through which you can see the content or its part. The basic way to do it is through Image - Canvas Size.

15

Crop tool



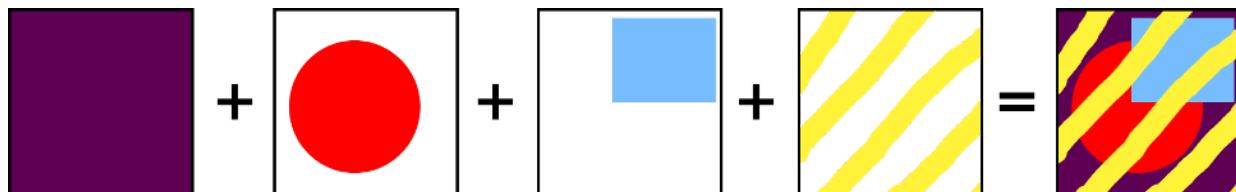
The crop tool allows you to define the "viewing window" manually. Choose the Crop tool and draw a rectangle over the document. You can drag the rectangle to move it across the document, or drag the corner to change its size. You can also rotate the rectangle by dragging it near the edge, which allows you cropping the image using a different angle.

Once your cropping rectangle is ready, you can confirm or cancel the cropping in the top menu.



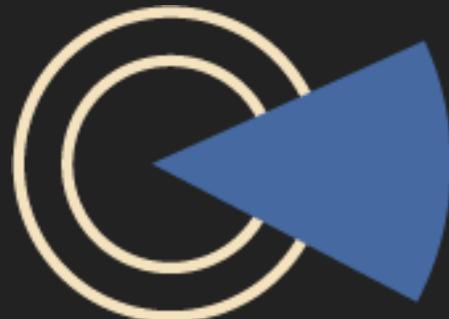
Each PSD document consists of layers. The layer represents some part of the image. It is usually an area filled with transparent, partially transparent or opaque pixels.

Layers are rendered one on top of another, to create the final image. You usually edit just one layer at a time. Changing (moving, rotating, drawing into) one layer has no effect on other layers.



16

Layers panel



Layers panel is the main place for working with the layer structure of the document. You can find it in the sidebar on the right. It contains the list of all layers and their thumbnails. Layers at the bottom of the list are the layers "in the back", while layers at the top are the layers "in the front".

When we have many layers, we need to choose one, which we want to work with. A layer can be selected simply by clicking on it (on its name or on its thumbnail) in the Layers panel.

Sometimes we need to select multiple layers at the same time. E.g. if we want to rotate all of them by the same angle, or delete them all at once. When one or more layers are selected, hold the Ctrl key and click on other layers, to add them to the selection, or click on already selected layers (while still holding Ctrl) to unselect them.

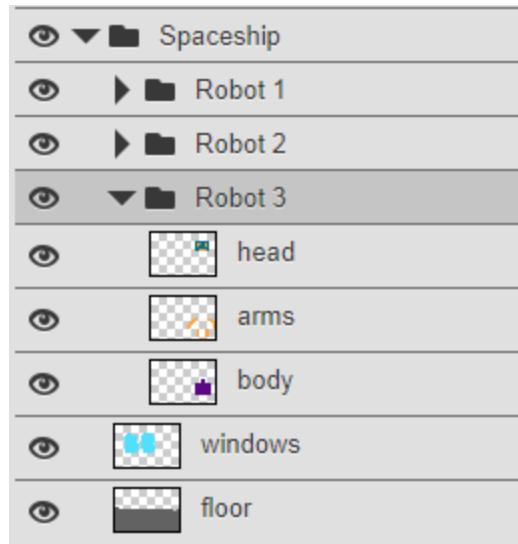
17

Folders of layers



When we have hundreds or even thousands of layers in our document, working with them in the Layers panel can be very hard. We would need to scroll the list for a long time to find a specific layer. But there is a solution.

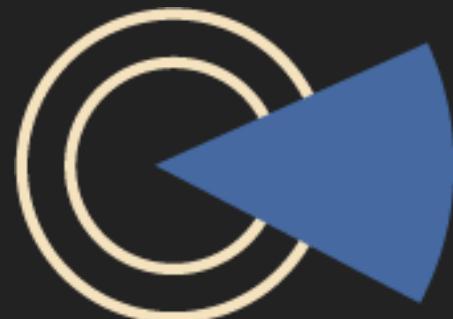
Photopea (as well as many other image editors) allows you to create folders of layers. You can put related layers inside one folder. Folders can contain other folders. The folder can be folded and unfolded, just like the folder in your computer.



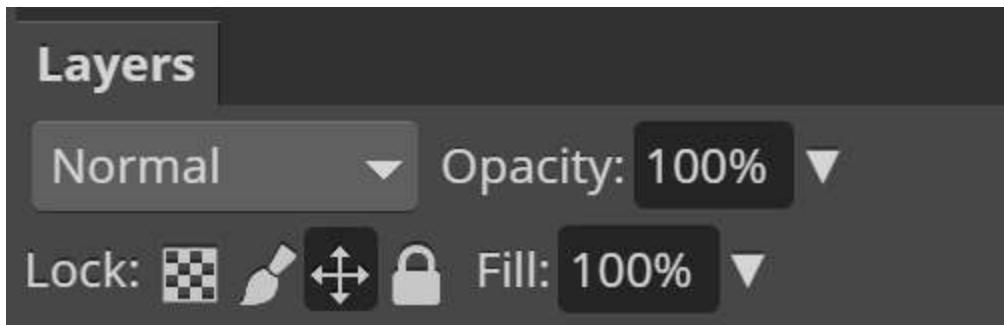
When you select a folder (e.g. by clicking on it), all its content is also selected (even though it is not highlighted in the panel). By moving / rotating / deleting one folder, you also move / rotate / delete all the content of that folder.

18

Basic layer properties



There are several basic properties of the layer, that you can change in the Layers panel. The main property is the visibility, which you can switch by clicking the eye icon of a layer (or a folder). When some layer is selected, you can edit the [blend mode](#) and the opacity of that layer at the top of the Layers panel.



Each layer can be locked in several ways:

- Transparency - the transparency is locked (you can paint only into non-empty areas)
- Pixels - pixel data is locked (you can not paint into the layer)
- Position - position is locked (you can not move the layer, rotate it, etc.)
- All - all previous locks at once

Each layer has the name, which can help you understand the structure of large documents. Double-click the name of the layer, then you can enter a new name. After you type a new name, press Enter to confirm it, or Escape to return to the previous name.

19

Changing the structure



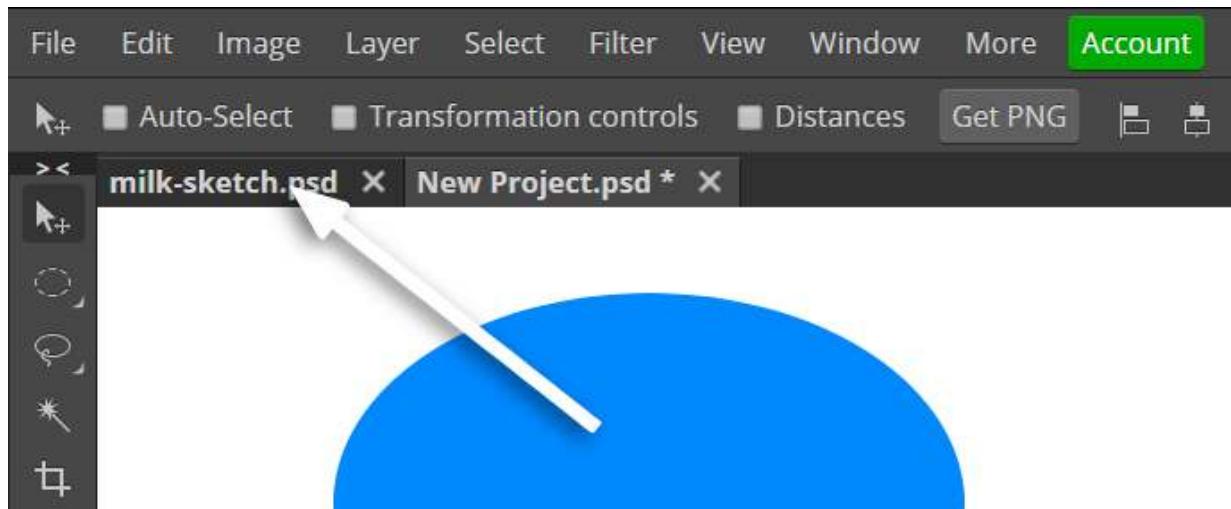
You can drag and drop layers inside the Layers panel. This way, you can reorder layers (e.g. put the layers from the back to the front), place layers into folders (or take them out of folders), put a folder into another folder etc. By selecting multiple layers (folders), you can drag all of them at the same time.

You can find several basic buttons at the bottom of the Layers panel.



The garbage bin button lets you delete all selected layers. The New Layer button will add a new empty layer on top of the current layer (the one that is selected). The New Folder button will add a new empty folder on top of the current layer. The last button creates the raster mask on the current layer. Similar options are also available by clicking the Layer button in the menu at the top, or by right-clicking a specific layer in the Layers panel.

Another useful operation is duplicating the layer (right-click - Duplicate, or **Ctrl+J**). You can also duplicate layers between different documents (right-click - Duplicate into). Another convenient way to duplicate layers is to drag them to "another panel" with a Move tool. Choose a Move tool, click on the layer (in the workspace), drag it over the label of another document and wait until documents are switched. Now, you can move the layer inside this second document and release the mouse.



Merging multiple layers into a single layer is also useful (right-click - Merge down or Merge layers).

We already know layers. They are building blocks of our document. Sometimes, we need to hide a part of the layer (so it is not shown in the result), without deleting the actual pixel data. In Photopea (and many other editors), it can be done with masks.

We can think of a layer mask as an extra image, attached to the layer. It has the same size as that layer (so each pixel of the mask has a corresponding pixel in the layer). The mask does not have colors - it can be black and white only. The black color means, that corresponding pixels of the layer are hidden, while the white color means, that corresponding pixels of the layer are shown. Precisely, masks can have many shades of gray, and produce many levels of transparency.



20

Working with masks



There are raster masks and vector masks (the difference will be explained later). Each layer can have at most one raster mask and at most one vector mask. Folders can also have masks (in that case, the mask is applied to the whole content of the folder). We can add a new mask to the active layer using Layer - Raster Mask - Add (or Layer - Vector Mask - Add). Masks can be deleted through Layer - Raster Mask - Delete (or Layer - Vector Mask - Delete).

Thumbnails of new masks will appear next to the thumbnail of the layer.



We can enable or disable each mask. When the mask is disabled, it has no effect on the image. It can be enabled again at any time. Right-click the thumbnail of the mask and choose Enable / Disable, or simply click the thumbnail of the mask with the Shift key pressed.

Any change to the layer (e.g. drawing with a Brush tool, rotation etc.) can be applied to the mask, too. Click the main thumbnail, or the thumbnail of the mask, to choose, what you want to edit.

Masks can be linked to the main content of the layer. It means, that when you move the main content, the mask is moved too, and if you move the mask, the main content is also moved. The link is represented by the chain icon on the left side of the thumbnail of the mask (each mask has its own link). Click the chain icon to link or unlink the mask.

21

Properties of the mask



When you select a mask and open the Properties panel in the sidebar (or double-click the thumbnail of the mask), you can see some properties of the mask. The Density specifies the "opacity" of the mask (100% corresponds to a regular masking, 0% corresponds to no mask, values in between can be useful too). The next property is Feather, which adds a blur to the mask (i.e. it removes sharp edges between white and black areas of the mask). Note, that these properties do not change the actual content of the mask. They are used automatically, when the mask is applied to the image.

22

Raster and Vector masks



There are two kinds of masks: raster masks and vector masks. The difference is in the way how each kind is created and represented.

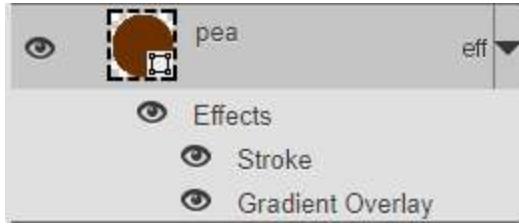
The raster mask is a simple grayscale image, that consists of pixels. Each tool, that can be applied to a regular layer (e.g. Brush, Eraser, Smudge, fill of the selection etc.) can also be applied to the raster mask, with the only difference, that all colors will become shades of gray.

The vector mask consists of vector shapes, that are made of Bézier curves. You create it and work with it as with a vector object (by editing Bézier curves). These vector shapes are internally converted to a grayscale image and applied to the layer automatically. You can learn more in the [chapter about vector graphics](#).

Designers often need to add some "common" effect to an image, such as stroke, drop shadow or outer glow. Creating such effects manually (e.g. drawing the stroke with a Brush tool) can be hard. And once you change the image, the effect has to be redrawn manually again.

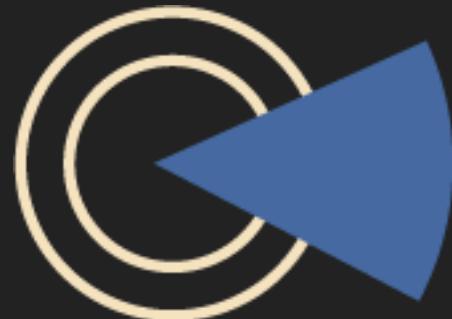
Photopea can add such effects automatically for you through Layer Styles (also called Layer Effects). Each layer (a regular layer, a text layer, even a folder) can have a list of styles attached to it. Each style has a large set of parameters (e.g. for a Stroke, it is the thickness, the color, the opacity etc.). These styles are redrawn automatically, when the layer is modified. You can also change their parameters or disable them at any time. Styles do not modify the content of the layer, but they are added automatically to the final image.

When a layer has styles applied to it, you can see the list of its styles in the Layers panel, right under that layer. The list of styles can be folded and unfolded using the arrow on the right side. Each applied style can be enabled or disabled using the eye icon.

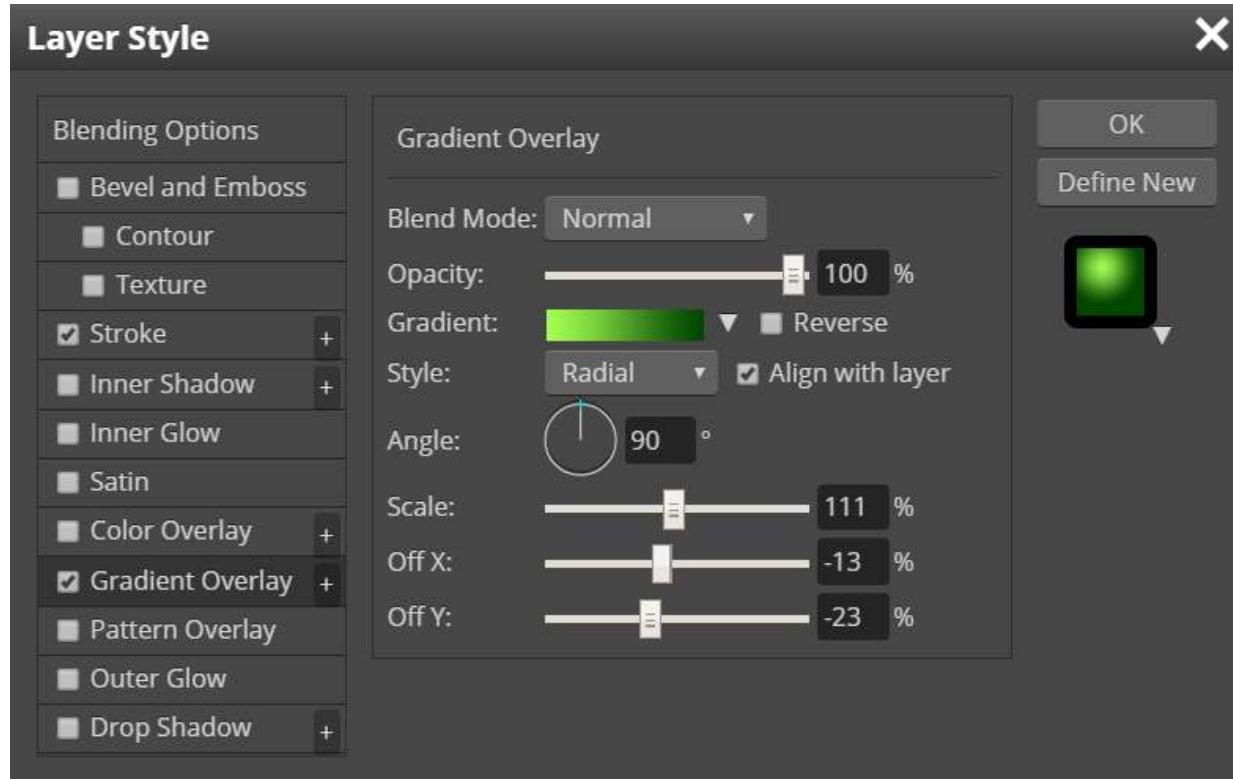


23

Add Styles



Styles are added and managed inside the Layer Styles window. Double-click the layer to see that window, or right-click the layer and choose Blending Options.



You can see all available layer styles (effects) in the left part of the Layer Styles window. Click the checkbox of each style to enable it (or to disable it). When you click the name of that style, style parameters will be opened in the center.

Once you are done with editing layer styles, you can confirm your changes by clicking the OK button in the right part of the window.

24

Delete Styles



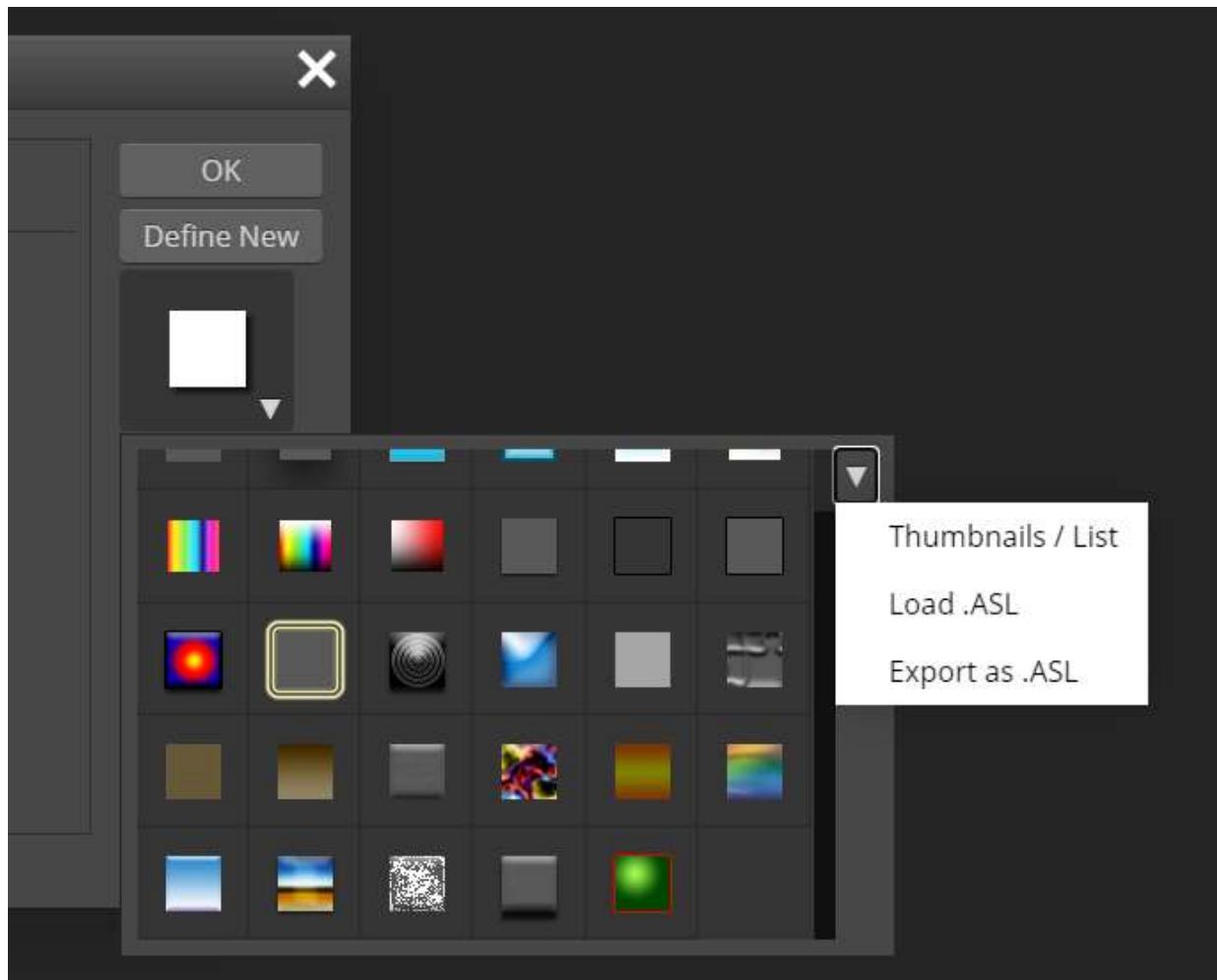
To delete styles, right-click the layer and choose Layer Style - Clear, or drag-and-drop a style item to the garbage icon (bottom right corner of the Layers panel).

25

Load and save Styles



Photopea lets you load and save styles. Click "Define New" to add a current style to a style gallery. Click the style thumbnail (under the "Define New" button) to open a style gallery. Now, you can select a style, that you want to apply to a layer. You can also click the little arrow next to a gallery, and export current styles (or open existing styles) as .ASL file.



Designers often need to place several copies of the same object into the document (e.g. when you want to add multiple snowflakes on the sky). It can be done by creating the first object and then duplicating it (and moving copies to the right place).

There is a disadvantage in such approach. When you need to modify the object, you will need to modify each copy of the object separately.

26

Single Source



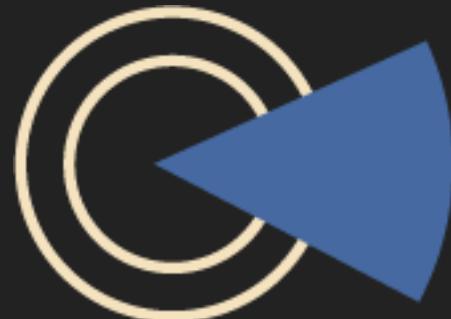
PSD format offers a better solution for dealing with many copies of the same object. The single source of the image data is created in the background (e.g. the PNG image of the snowflake), and each snowflake layer is linked to this single source. Once the source is changed, all layers, that are linked to it, are automatically updated. Such layers are called Smart Objects. A Smart Object is a type of a layer.

Smart Objects may be linked to the same source, but they don't have to look completely the same. Smart Objects can have different positions and transformations (rotation, scale etc.). And since they are different layers, they can have different opacity and the layer style.

Smart Objects have another advantage. When you have a regular layer, 100 x 100 pixels, and you scale it down to 10 x 10 pixels, and then back to 100 x 100 pixels, some image information will be lost. The Smart Object would have the image information (100 x 100 px image) stored in the background, so after scaling it down and up again, the new image can be recalculated from the source, which never lost any data. It allows us to do nondestructive editing.

27

Working with smart objects



You can convert any layer (or several layers) to a Smart Object by selecting them and right-click - Convert to Smart Object. Selected layers will be removed and inserted into a new PSD file, which will become the source of a new Smart Object, that will be added to the document.

Smart Object layers have a little sign in the bottom-right corner of the thumbnail.



Double-click the thumbnail of the smart object to edit its source. It will be opened as a separate document. When you finish editing the source, press File - Save. All Smart Objects, that are linked to that source, will be updated in the original document.

Duplicating the smart object would create new Smart Objects, that are still linked to the same source.

Let's return to our initial case. We can solve it by drawing a snowflake and converting it to the Smart Object. Then, we can duplicate that Smart Object and move copies to different places on the sky. Once we need to change the snowflake, we simply double-click any thumbnail of a snowflake, change the source and save it. All snowflakes will be updated.

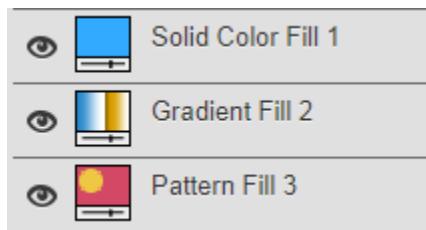
[Smart Filters](#) can be applied to a smart object.

28

Fill Layers



There are two types of fill layers: solid color fill, gradient fill and pattern fill. A fill layer has a parameter (e.g. the gradient) and it will produce a full-width rectangle, that is filled with the corresponding color, the gradient or the pattern.



Of course, there are many ways how to produce a layer filled with the color the gradient or the pattern. E.g. you can create an empty layer and use the Brush tool to paint it with the color. Fill layers have several advantages. They have a special thumbnail, which helps you see the purpose of the layer. Fill parameters (the color, the gradient or the pattern) can be easily modified. When you change the size of the canvas, the content of fill layers is regenerated automatically to fill the new canvas.

Press Layer - New Fill Layer in the top menu to add a new fill layer. Parameters of the fill can be changed in the Properties panel (the panel will show up after double-clicking the thumbnail of the fill layer).

29

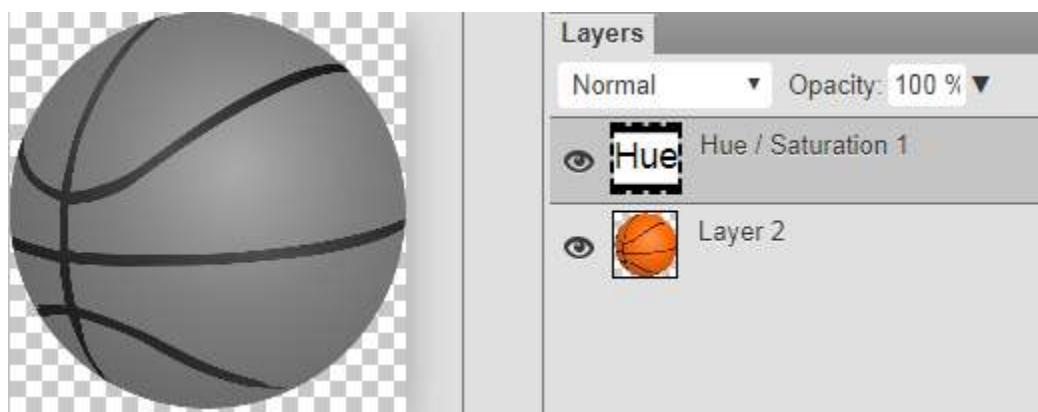
Adjustment layers



Adjustment layers are the special kind of layers. They do not contain any image data, but they perform a color adjustment to the content below them.

Imagine that you have a photo and you want to make it black and white (grayscale). Photopea gives you many ways to change the actual pixels of the photo layer, to make them grayscale. But with adjustment layers, you can make the photo look black and white, without actually changing pixels of the photo layer.

You could simply add a Hue / Saturation adjustment layer on top of the photo layer, and set the Saturation parameter to zero.



Press Layer - New Adjustment Layer in the top menu to add a new adjustment layer. Parameters of the adjustment can be changed in the Properties panel (the panel will show up after double-clicking the thumbnail of the adjustment layer).

Just like any other layers, fill layers and adjustment layers can have their own blend mode, opacity, masks etc. The mask of an adjustment layer will cause, that the adjustment will be performed only to those areas of the content below, which are white inside the mask.

30

Rasterizing layers



Each layer must have some pixel data, that will be used for combining the layer with other layers, to create the final image. But these pixel data can be generated in many different ways.

We can separate layers inside PSD files into two different groups: direct ("regular") raster layers and undirect raster layers. For direct raster layers, the pixel information is the only information we have. For undirect raster layers, the pixel information is generated from some other information.

Undirect layers are e.g. Smart Objects (their pixels are generated from the source image + position + transformation), fill layers (pixels generated from the fill parameters), text layers (pixels generated from some text and its parameters). We can not do pixel-specific operations on these layers (e.g. draw into them with a Brush, or blur a part of the layer with a Blur tool).

To convert an undirect layer into a regular raster layer, we have to rasterize it (right-click - Rasterize, or Layer - Rasterize). Smart objects will lose the link to the source image, text layers will lose the text information, only pixel data will remain.

31

Clipping Masks



In PSD files, any layer can have the clipping mask option enabled. When it is on for some layer L, then the transparency of the layer below (let's call it K) will be used as the mask for the layer L. In other words, both K and L will be drawn, but only the transparency of K will be used.

Here we can see a text layer containing Photopea, and the photo of grass on top of it. Normally, the layer with grass would cover the whole text. But since the grass is a clipping mask, the transparency of the text layer is used for both layers.



You can have many clipping masks, one on top of another, to create a chain of clipping masks. In such case, the transparency of the first layer below them will be used for all layers in the chain.

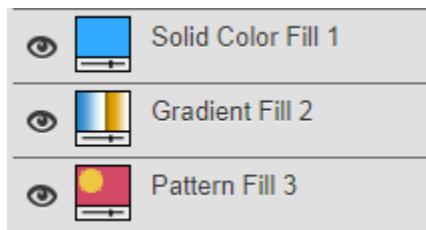
Clipping Mask can be enabled or disabled for any layer by right-clicking and choosing Clipping mask, or in the top menu: Layer - Clipping Mask, or by pressing Alt + Ctrl + G.

32

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33

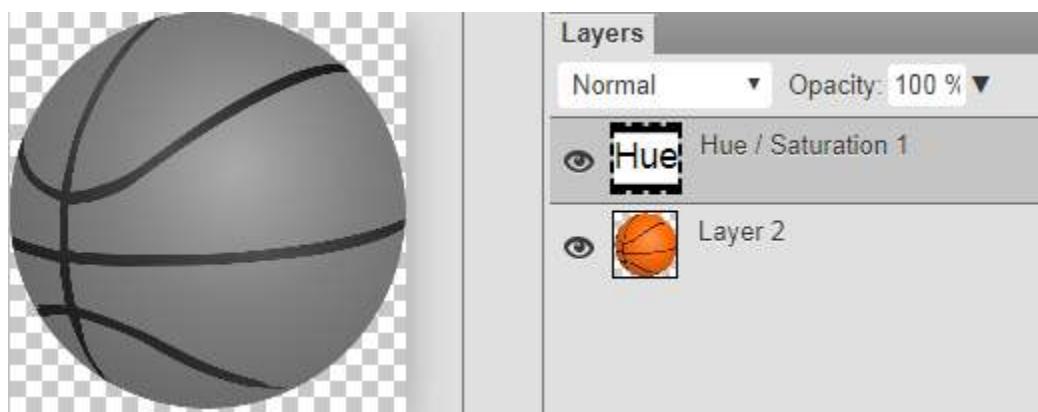
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You can have many clipping masks, one on top of another, to create a chain of clipping masks. In such case, the transparency of the first layer below them will be used for all layers in the chain.

Clipping Mask can be enabled or disabled for any layer by right-clicking and choosing Clipping mask, or in the top menu: Layer - Clipping Mask, or by pressing Alt + Ctrl + G.

We already know, how to add and delete layers, how to move them or change their opacity. Another essential operations is scaling (making the object bigger or smaller) or rotation.

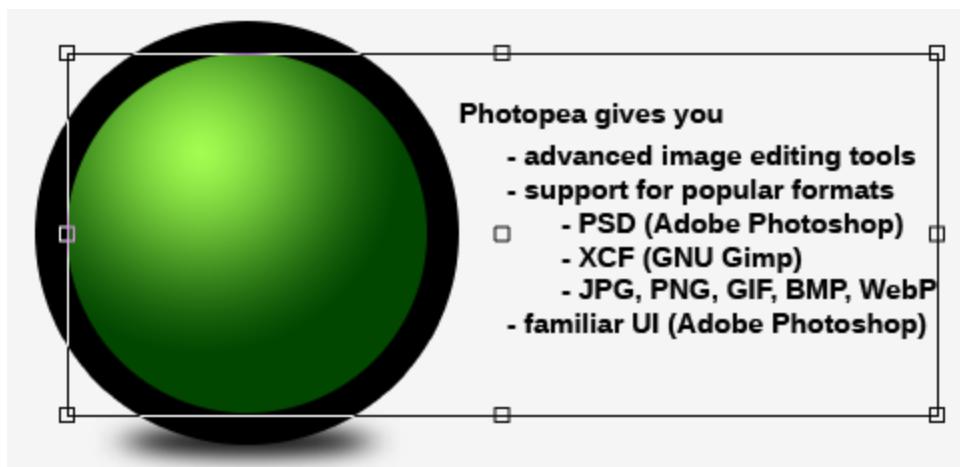
36

Free Transform



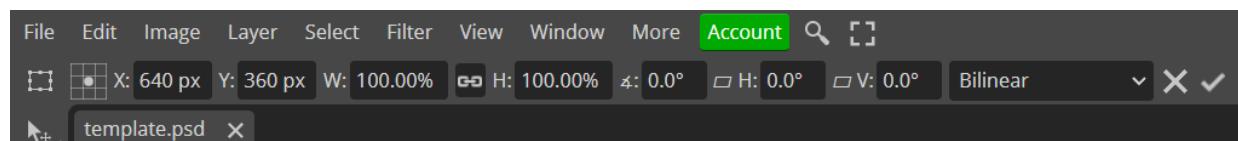
Free Transform is the basic tool for doing transformations. It works as any other regular tool, but it is not present in the toolbar. You can enable it by clicking Edit - Free Transform, or Alt + Ctrl + T.

When you enable Free Transform, the transformation will be applied to the layers, that are currently selected, i.e. to the same layers (or their parts), which would be moved by the Move tool at that moment. As you enable it, the transformation rectangle will appear around the transformed content. It has four control points on corners, four control points on sides and the rotation center at the middle.



Press and drag inside the rectangle to move it. Press and drag outside the rectangle to rotate it. Press and drag its corners to change the size. Press and drag its sides to scale it horizontally or vertically. You can hold Shift to lock or unlock the aspect ratio, or hold Alt to scale it around the center. When the Ctrl key is down, press and drag the side to skew the content.

Besides moving the rectangle, you can set transformation parameters directly in the top menu. Following parameters are available.



- 3x3 grid: the rotation center
- X, Y: the position of the object
- W, H: Width and Height, "chain" icon in between for locking the aspect ratio
- Angle: the rotation of the object (in degrees)
- Skew H, V: the skew of the object (horizontal and vertical)

When the Free Transform is enabled, the environment is locked and you can not do anything else. Once you finish the transforming, confirm it or cancel it using buttons in the top menu. You can also confirm it with the Enter key, or cancel it with the Escape key.

Common transforms

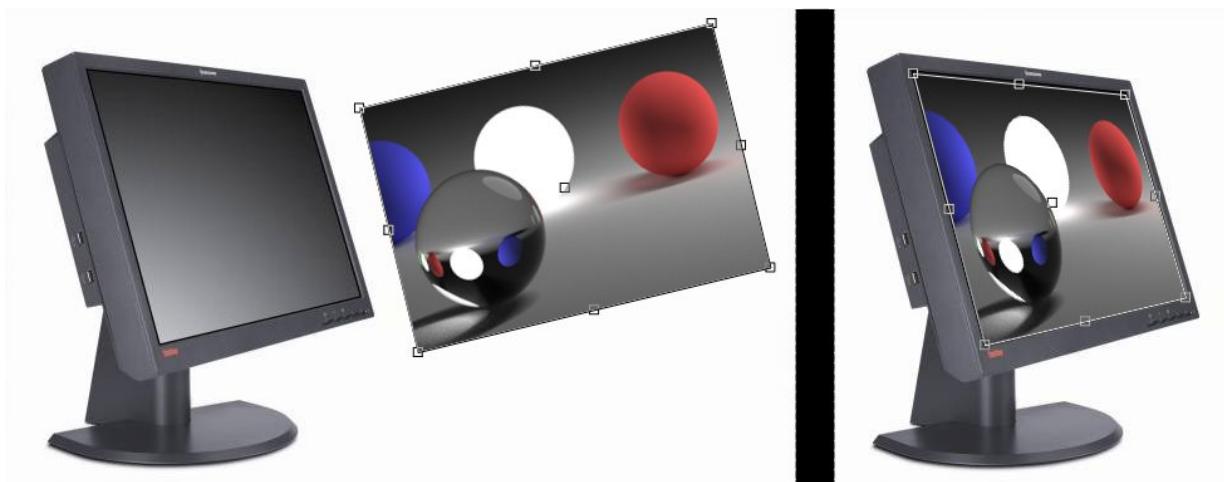
When you need to do a "common" transform (such as rotating 90 degrees, or "mirror" the image left-to-right), you can do it much faster. Press Edit - Transform - ... and choose one of predefined transformations.

37

Perspective transform



Scaling, rotating and skewing the content may be not enough. Imagine, that you need to put your image on a flat surface, that is viewed from the side. The edge, that is near, must be longer, and the edge, that is far, must be shorter.



You can do it with the perspective transform. Just hold Ctrl key and drag corners: you will be able to move each corner separately, to achieve the 3D effect.

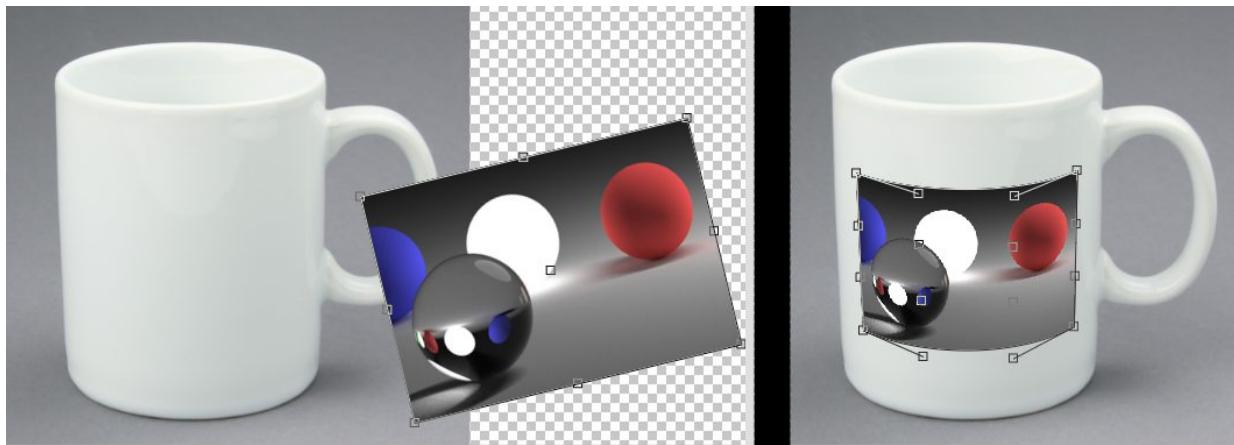
38

Warping



Perspective transform may let us do a 3D transformation of an image, but it is still not enough in some cases. Sometimes, we may want to place an image on the surface, which is not flat (a cylinder or a ball). In these cases, we would like to "bend" the image into a more interesting shape.

Warp allows us to bend the rectangular area using 16 control points. There are four control points for the location of corners, each corner has two control points for the direction of edges near that corner (8 more points) and there are four control points for the center of the image.



When the Free Transform is on, there will be a "Warp" button in the top panel. Click it to switch between a standard editing mode and a warp editing mode. There are also several predefined shapes, such as Arch or Flag, so you don't have to move points manually.

Modifying colors and adding color effects is the essential operation of photo editing. Such operations are separated into two groups in Photopea: Adjustments and Filters.

39

Adjustments



Adjustments work only with the color. I.e. if some pixel is changed from the color A to the new color B, all pixels with the color A will be changed to the color B in the whole image. That is true for changing the brightness, saturation, inverting colors etc.

Adjustments can be applied by clicking **Image - Adjustments** in the top menu. Some of them have a keyboard shortcut (e.g. **Ctrl + L** for Levels, **Ctrl + M** for curves, **Ctrl + U** for Hue / Saturation). Adjustments also can be applied in the form of [Adjustment Layers](#).

40

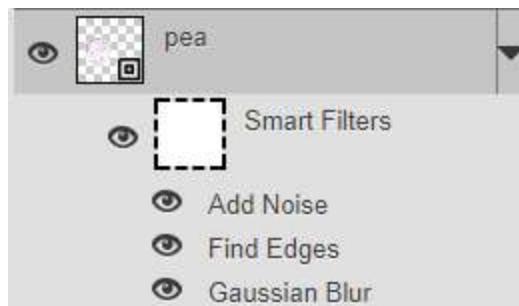
Filters



On the other hand, in case of Filters, pixels having the same color can be changed to different colors, as in the blur filter. When the black pixel is surrounded by white pixels, it will become white after blurring. But if the black pixel is surrounded by black pixels, it will remain black after blurring.

Filters can be applied by clicking Filters in the top menu, choosing the category of filters and then choosing a specific filter.

Both Adjustments and Filters can be applied to regular layers (i.e. you can not blur the text layer or a pattern fill layer, you would need to rasterize them first). There is a special way of applying adjustments and filters to Smart Objects called Smart Filters. As you apply adjustments or filters to a Smart Object, they are stacked into a list under the layer (similar to Layer Styles).



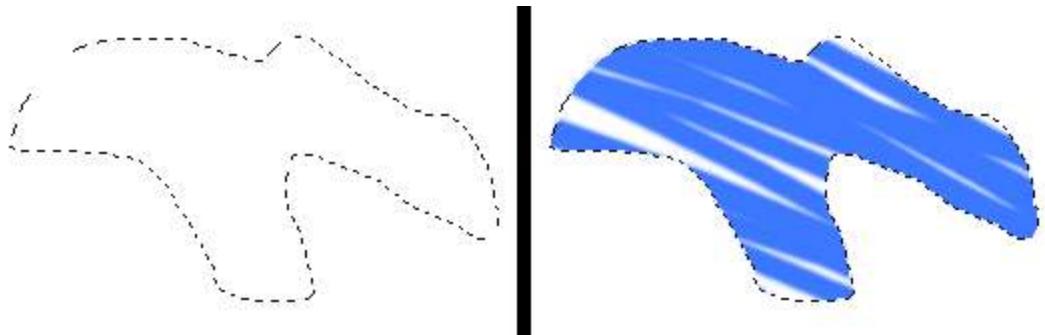
The source image of the Smart Object is stored separately, so the list of filters can be reapplied and recalculated at any time. You can enable or disable any smart filter in the list at any time, or change its parameters. We can call it nondestructive editing. Smart Filters even have their own raster mask, which can hide the filter effect (so the original image can be visible at some parts).

In this part, we will focus at regular layers with raster images (pixel data). There are many tools to edit pixel data (Brush, Eraser, adjustments, filters). But we often don't want to edit the whole layer, but just some part of it.

The selection defines a set of pixels, that are "selected" and can be edited by tools. Precisely, it is a "map" over the whole image, which gives each pixel the value between 0 % and 100 %. This value says, how much color of the pixel can be changed, and how much should be preserved. Selections are not bound to layers (as masks), but there is just one selection for the whole document, which is used for every layer that you work with.

For example, Photopea has the Fill operation (Edit - Fill). By default, it will fill the whole layer with a foreground color. Once you have a selection, it will fill only the selected area with that color.

While masks are visualized with the white and the black color (in their thumbnails), selections are visualized right in the main area of the document with the contour, that is drawn between selected and unselected areas. We can say, that operations are applied inside the selection, and not outside of it. Here you can see an example of the selection, and the result, when you draw on top of it with a Brush tool.



41

Working with Selections



Once you have a selection, there are several basic operations for changing it. The basic operation is inverting the selection - it will select unselected pixels and unselect selected pixels (available in Select - Inverse).

You can expand the selection by several pixels (i.e. add pixels close to the selection into the selection), contract it by several pixels (the opposite operation to expanding), or feather - apply a blur to the selection, to make a smooth transition between 0 % areas and 100 % areas. All this is available at Select - Modify - Expand / Contract / Feather.

You can move the selection by clicking inside it and dragging it (with any Selection tool, e.g. with a Lasso tool). You can transform the selection (e.g. rotate it, or make it larger, while having the same shape) using Select - Transform Selection.

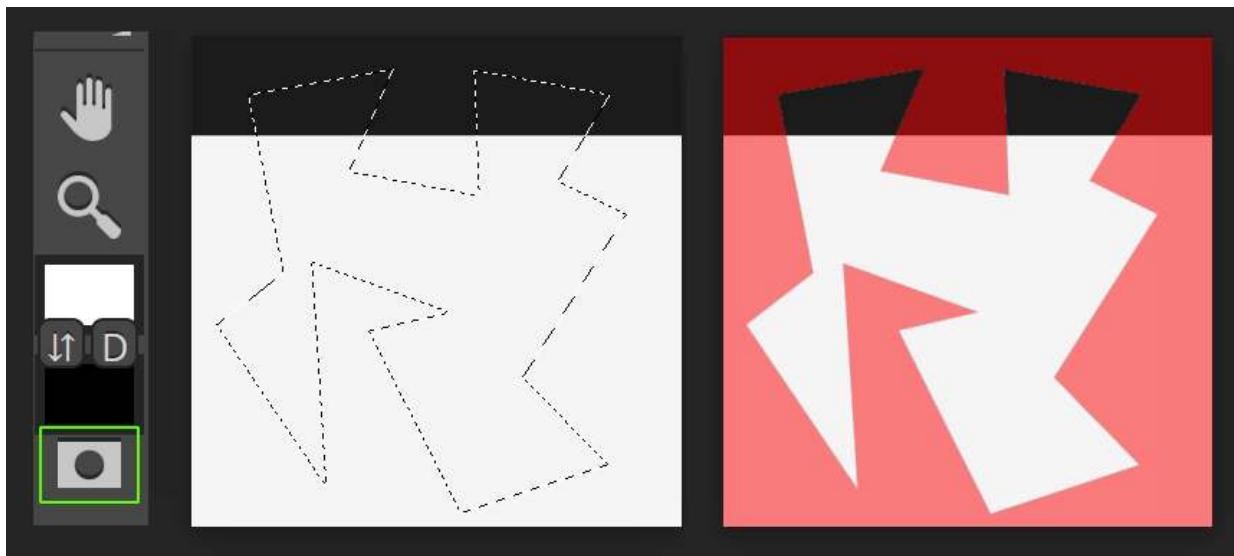
Deselection (removing the selection) is possible through Select - Deselect (or Ctrl + D).

42

Quick Mask Mode



There is a special button at the end of a toolbar, which enables a Quick Mask Mode (you can also press Q). When you press it, the current selection is converted into a quick mask (a special red image), which is on top of all other layers. All editing, that you do (e.g. painting or erasing), is applied to that quick mask (document layers are not editable). It allows you to edit the selection with regular pixel editing tools.



When you are done editing the quick mask, press the same button again, to turn it back into a selection. When you save your document as a PSD, which is in a Quick Mask mode, it remains in a Quick Mask mode after opening it again.

There are many ways to create selections. Designers often need to select thousands or even millions of pixels. Creating the necessary selection may take a lot of time. It is very useful to learn about all the tools, to be able to create selections effectively.

The basic operation is selecting all pixels (Select - All or Ctrl + A). Another useful operation is to create a selection according to the transparency of some layer. Hold the Ctrl key and click on the thumbnail of a layer to create such selection.

43

Rectangle
Select, Ellipse
Select



These tools allow you to create rectangular selections (or ellipse selections). Simply click and drag the mouse to create the selection.

44

LASSO



Lasso tool allows you to draw selections by hand. Simply click and drag the mouse around the object, that you want to select. It can be useful to zoom in, to be more precise.

45

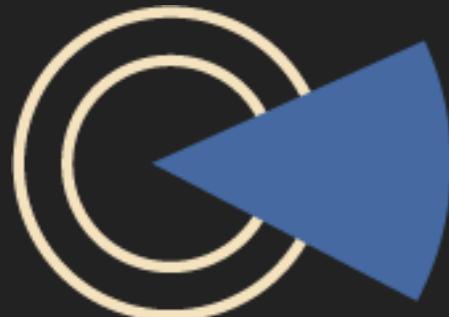
Polygonal Lasso



Polygonal lasso allows you to draw a polygonal selection. Simply click on the image to add the new corner of a polygon. Press Delete to remove the last corner. Double-click (or hit Enter) to finish the selection.

46

Magnetic Lasso



Magnetic lasso is a smart tool for making selections. It is very similar to the standard lasso, but it "sticks" to edges of objects.

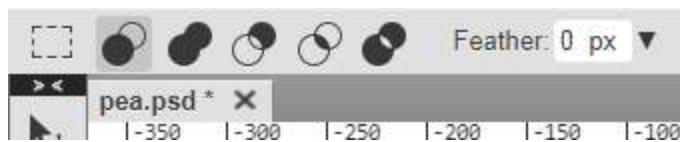
Click anywhere to add the first point, then move the mouse along the edge to draw the selection. Control points will be added along the selection. Magnetic lasso tries to find the most appropriate path from the last control point to the current position of the mouse. Press Delete to remove the last control point, or click to add the control point manually (to force Magnetic lasso to go in a specific way). Double-click (or hit Enter) to finish the selection.

47

Combining selections



When you create a new selection, it can either replace the old one, or it can be combined with the old one. Each selection tool has several parameters in the top menu, which define the way, how two selections are combined. There is the default replace mode (to replace the old selection), union mode (to connect two selections together), subtract mode (to remove the new selection from the old one), intersect mode (to select only pixels, that are in both selections) and XOR mode, which corresponds to the union, while subtracting the intersection.



These modes allow you to create selections in multiple steps. E.g. selecting the main area with lasso tools, then adding and subtracting small pieces to make it perfect.

Selection tools also have a feather parameter, which will apply feather right after the selection is finished. Many designers create all selections with a small blur, to avoid sharp edges between selected and unselected areas.

When any selection tool is active, you can press the mouse inside the current selection and drag it to move that selection. So e.g. if you made an elliptical selection of the correct size, but you missed its position by several pixels, just click and drag it to the new place. This is possible with the replace mode only (e.g. if you had the subtract mode, clicking and dragging inside an existing selection would draw a new ellipse, that would be removed from the current selection).

We already know, how to make basic selections "manually", e.g. with the Ellipse Select or a Lasso tool. But making complex selections with these tools can take a lot of time. There are more advanced tools, that can help us.

48

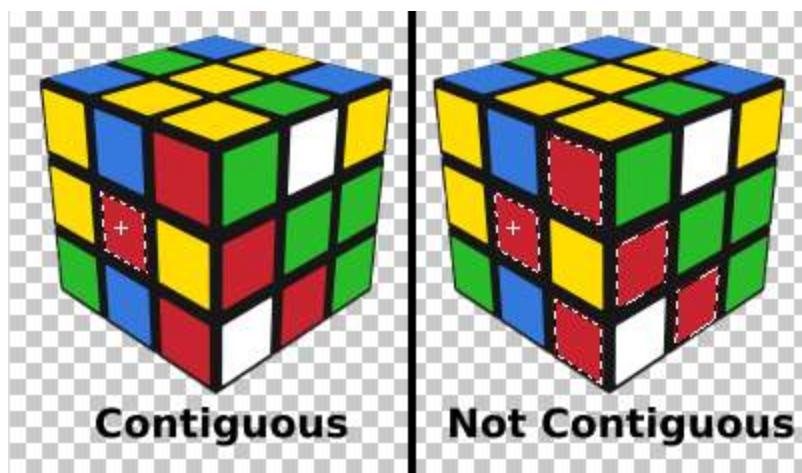
Magic Wand



Magic wand allows you to select pixels with the same (or similar) color. Once you click somewhere with the Magic Wand, the pixel under the mouse will be selected, as well as all other pixels, that have a color similar to that pixel.

There is a Contiguous mode option (in the top menu). When it is on, the Magic Wand will select only those similar pixels, that are connected to the source pixel (i.e. it will select the whole area, that has the same color, but not other areas, which are separated from this area). When this option is disabled, the Magic Wand will select all similar pixels from the whole image, even if they are not connected to the source pixel.

Here you can see the result of clicking on the pixel (marked by the white cross) with the Contiguous mode enabled and disabled.



There is also a Tolerance parameter in the top menu, which defines how much similar colors you want to select (larger values produce "wider" selections).

49

Quick Selection



This is probably the most advanced selecting tool, that can really save your time. For many people, this is the only selection tool they ever use.

Quick Selection works like a brush, you can choose the brush tip diameter in the top menu. Then, draw strokes over the area, that you want to select. It adds each stroke to a selection, and it also gradually expands it into the surrounding area, selecting the related parts (similarly to a Magic Wand).

Sometimes, the tool may go beyond the area, that you want to select, and select much greater part. Switch to the Subtract mode in the top menu (or hold the Alt key) and you can remove the unwanted parts in the same way.

There is a hidden layer inside the Quick Selection tool. As you draw strokes with the New or Union mode, the tool draws into that layer with the white color. When you draw with the Subtract mode, the strokes are drawn using the black color. This layer is used as a guide for the tool: white areas must always be inside the selection, black areas must not be in the selection, and the remaining area will be smartly deduced from this, by analyzing the actual image. The more white and black strokes you specify, the more information the tool has for making a good selection.

The New mode makes the tool forget all previously specified strokes and start over with an empty hidden layer.

50

Color Range



This tool allows us select a specific color from the image. Unlike the Magic Wand, which either fully selects or fully ignores the area, Color range can create partial selections, depending on how much of that color is present in the area.

Start the tool by pressing Select - Color Range. Next, click on the color (in the image), that you want to select. The Color Range window shows you the preview of the selection: the brightness corresponds to the degree of selection of each pixel. E.g. if you click on the red t-shirt in the image, this t-shirt should be white in the preview, and other parts, that are not red, should be black in the preview. The Fuzziness parameter lets you add also all similar colors to the selection, or select just the exact color that you clicked on.

Natural images (photographs) may contain parts, that are very hard to select. We can have partially transparent objects (a glass of water) or objects with a complex shape (trees, hair, fur). Their colors are mixed with other colors in the background.

51

Refine Edge Tool

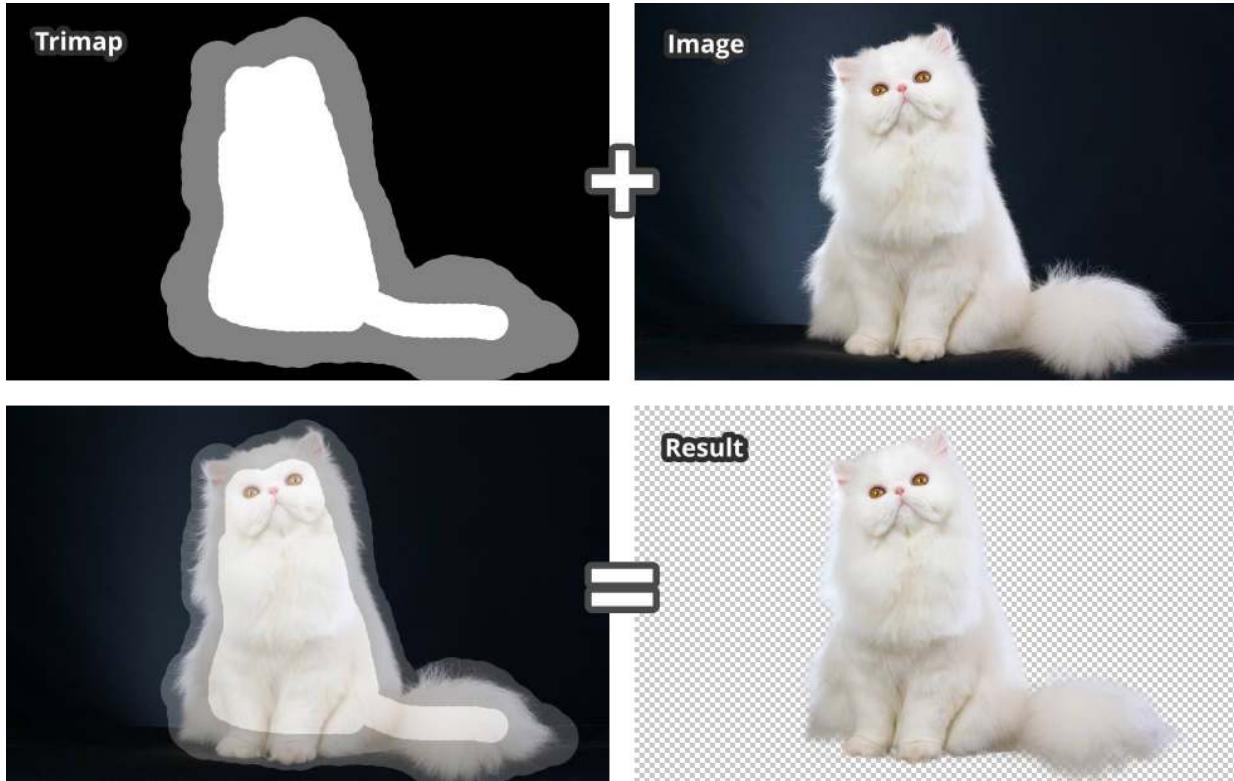


Photopea offers the Refine Edge Tool, which can help you with selecting complex shapes. You can start it by choosing Select - Refine Edge, or by clicking the "Refine Edge" button in the top panel of any selection tool.

Your goal is to make a Trimap: mark the whole image with three colors:

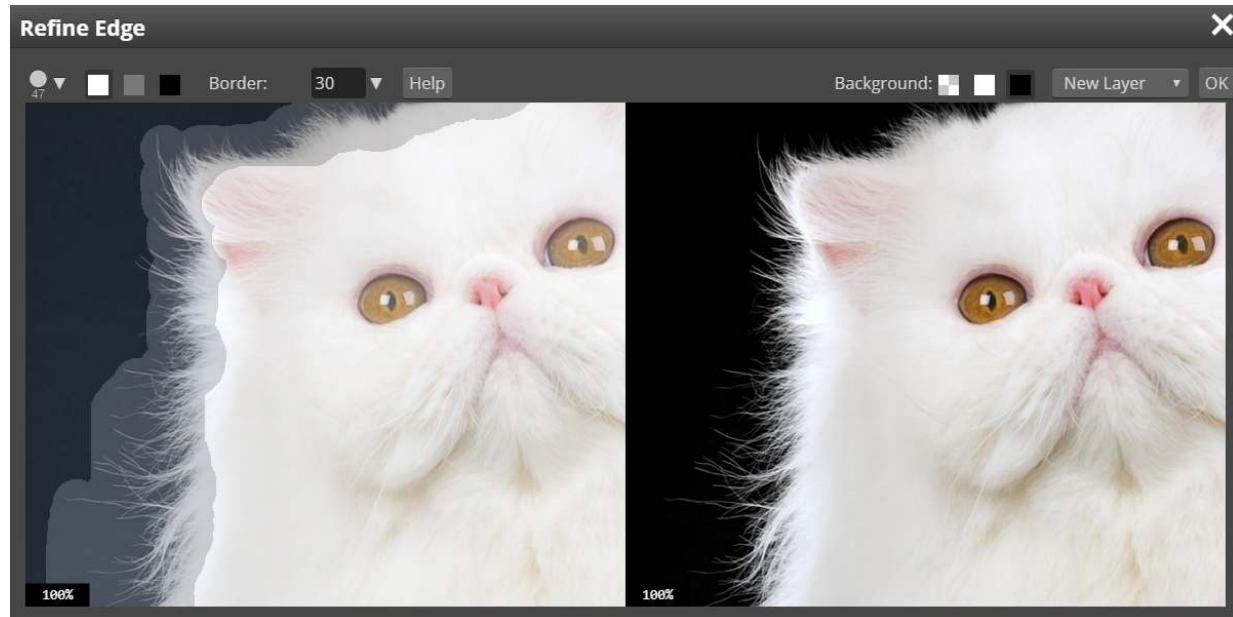
- Your object (Foreground) with White (fully visible in the result)
- Background with Black (deleted in the result)
- Uncertain areas with Grey

After you do so, Photopea will deduce the transparency of the Grey area (part of it will be added to the Foreground, the rest to the Background).



The workspace consists of two sides. You can paint the Trimap on the left, and you will see the result on the right. Choose the brush size and the color (White, Grey or Black) in the top left corner and paint over the image. The result is updated after you release the mouse.

You can Zoom to a specific place with a Mouse Wheel, or by pressing Ctrl + Plus (or Minus) on your keyboard. You can move the image while holding a Spacebar.



If you start Refine Edge with no selection, the whole Trimap is Black (so just add Grey and White).

If you start Refine Edge with a selection, the tool will generate a Trimap for you (selected area as White, the rest as Black). Then, just paint with Grey over the areas, that are not selected perfectly (edges of the object).

You can auto-generate the Grey area as a border of the initial selection (between black and white). Simply change the Border value in the top menu.

There are three modes, how the result can be used:

- New Layer: selected object will be inserted as a new layer
- Raster Mask: the current layer will get a raster mask, that corresponds to the result
- Selection: the new selection will be created, that corresponds to the result

Once the selection looks well, choose the Mode and confirm it by hitting OK in the top right corner.

52

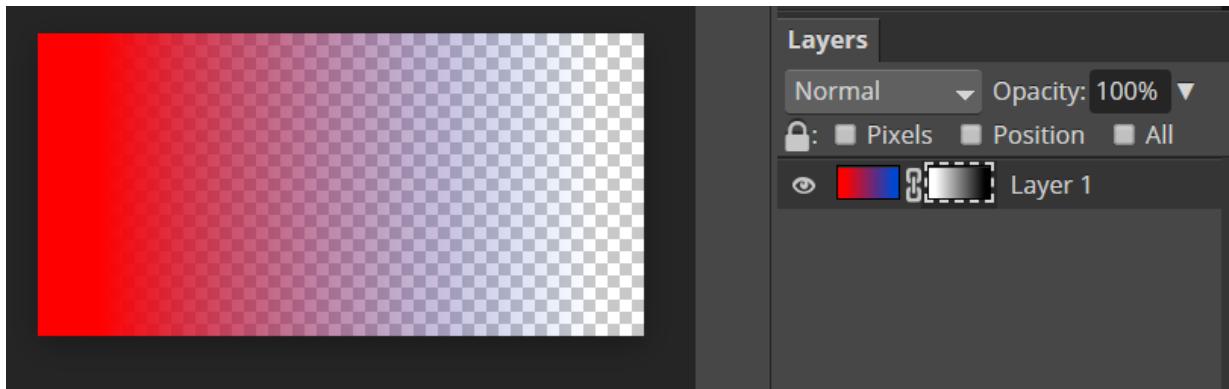
When Masks (and Selections) are useless



There is a red object on a blue background, which is out of focus (so it is very blurry). The edge of such object looks like a red-to-blue gradient. We want to cut out this red object (which is not blue, not purple, but only red, with partial transparency).



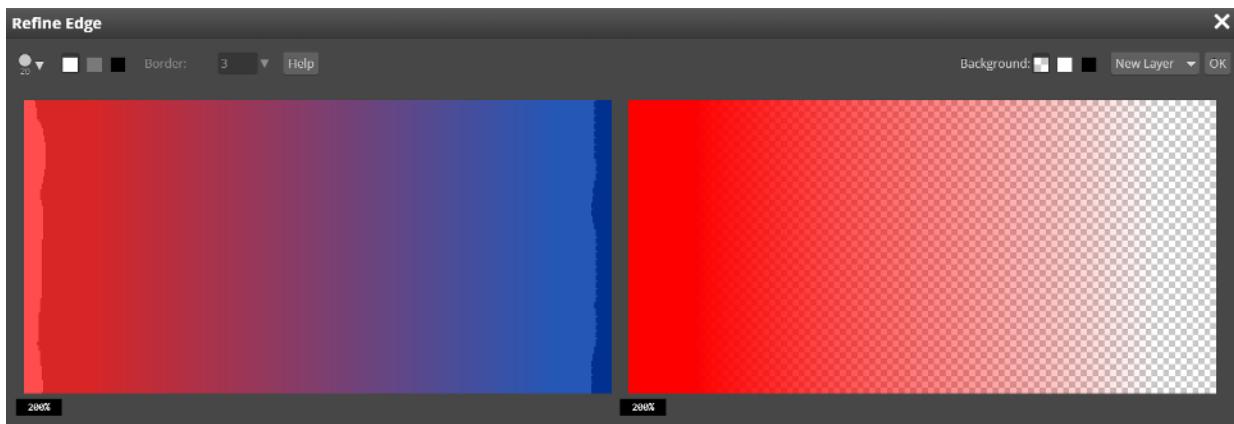
Let's try to solve it with a mask. Make a new mask and draw a white-to-black gradient into it. The left side is fully red, the right side is transparent, but the center is half-transparent purple. You can even see some blue color on the right half.



If we try to make a selection and copy-paste it into a new layer, we would have the same problem. We need to copy only the red color out of purple pixels. How can we do it?

In the Refine Edge tool, you mark the Background with Black, Foreground with White, and unknown areas with Grey. Then, Photopea deduces a new transparency for each Grey pixel. But it also deduces a new color for each Grey pixel.

Let's apply Refine Edge to our image. Fill it all with Grey, draw a White line on the left, and a Black line on the right.



The new image has a correct transparency (100% on the left, 0% on the right), but it is also completely red. There is no blue or purple color in it.

If we save such result as a Mask or Selection, only the transparency is saved. New color information (deduced by Refine Edge) will be lost. Always save the result as a New Layer for the best results.

This is not just an extreme case. This happens everytime when there is a pixel containing both a Foreground and a Background. E.g. when there is yellow hair on a black background, many pixels are yellow-ish (contain some hair and some background). Even if you made the best mask in the world, yellow-ish pixels would become semi-transparent, but would remain yellow-ish instead of being fully yellow, giving hair a yellow-ish outline.

Once you have a selection, and a regular layer is active in the Layers panel, you can work with it in many ways. You can copy (Edit - Copy or Ctrl + C) or cut (Edit - Cut or Ctrl + X) the selected area. After you paste it with Edit - Paste or Ctrl + V (you can even paste it into another document), it will be inserted as a new layer.

When you move a layer (with the Move tool) without any selection, the whole layer is moved. But when you move it with some selection present, the behavior is more interesting.

As you start moving the selected area of the layer, this area is cut (or copied, if you hold the Alt key) out of the layer and moved along the mouse cursor. It behaves as a separate temporary layer inside a layer. As soon as you deselect, the moved area is combined with the rest of the layer.



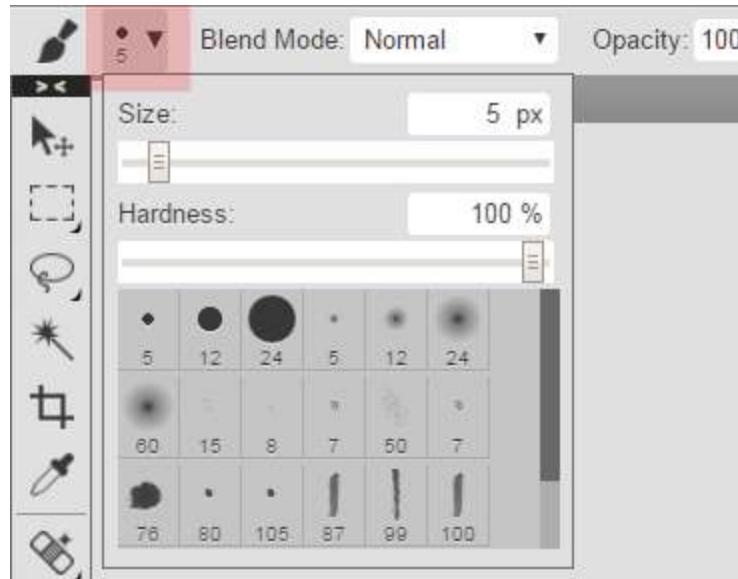
This is one of the fastest ways to manipulate parts of a layer. You can switch temporarily from any selection tool to the Move tool just by pressing the Ctrl key, so no clicking in the Toolbar is required. Everything happens within a single layer, so you don't have to click into the Layers panel. Using mouse is not required at all, because once the Move tool is on (after pressing Ctrl), you can move objects with cursor keys on the keyboard.

You can even apply Free Transform to the selected part of the layer. The part will be cut out and transformed, and will remain separated after the transformation (still within the single layer), until you deselect it.

Note, that all these operations can also be performed on raster masks.

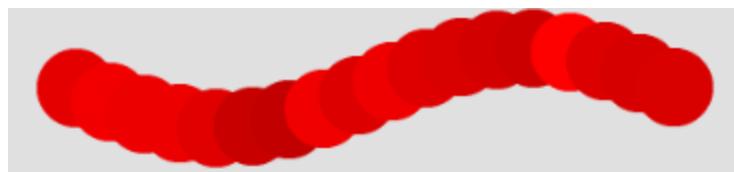
Brush tools are all tools, which use a "brush track". You usually draw strokes on some layer and a brush tool edits pixels along your strokes. It can be a Brush, an Eraser, a Smudge tool etc. When there is a selection, the tool edits only pixels within this selection.

Each brush tool uses a specific brush, which is the first item in the top menu.



A brush has a track shape (e.g. a circle, a square or a more complex pattern) and behaviour (it can change the shape while you draw, e.g. change the track size). Photopea has a default collection of brushes, but you can import your own brushes in the ABR format into Photopea using File - Open.

Every brush tool usually draws a stroke by drawing many brush shapes (e.g. circles) next to one another, along the movement of your mouse or other pointing device.



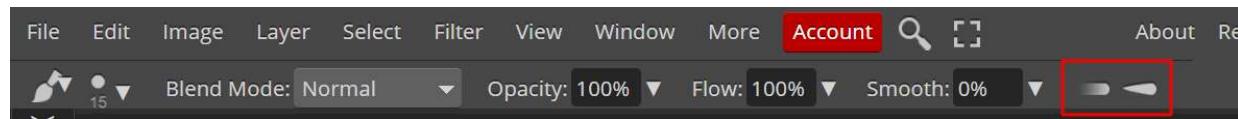
It means, that there are actually no "lines", just copies of the same shape, that are tightly squeezed next to each other, which create a look of a continuous line.

There are two kinds of brush shapes:

- Circular - generated as a circle, can have arbitrary size
- Pattern - made with a raster image. They get pixelated, when the size is too large

Each brush has a Size property, which means "the thickness of the line". Circular brushes have a Hardness property in addition, which generates a soft edge of the circle.

If your device supports the pressure detection, you can enable "Stylus Pressure Controls Opacity", or "Stylus Pressure Controls Size", which are at the top right side.



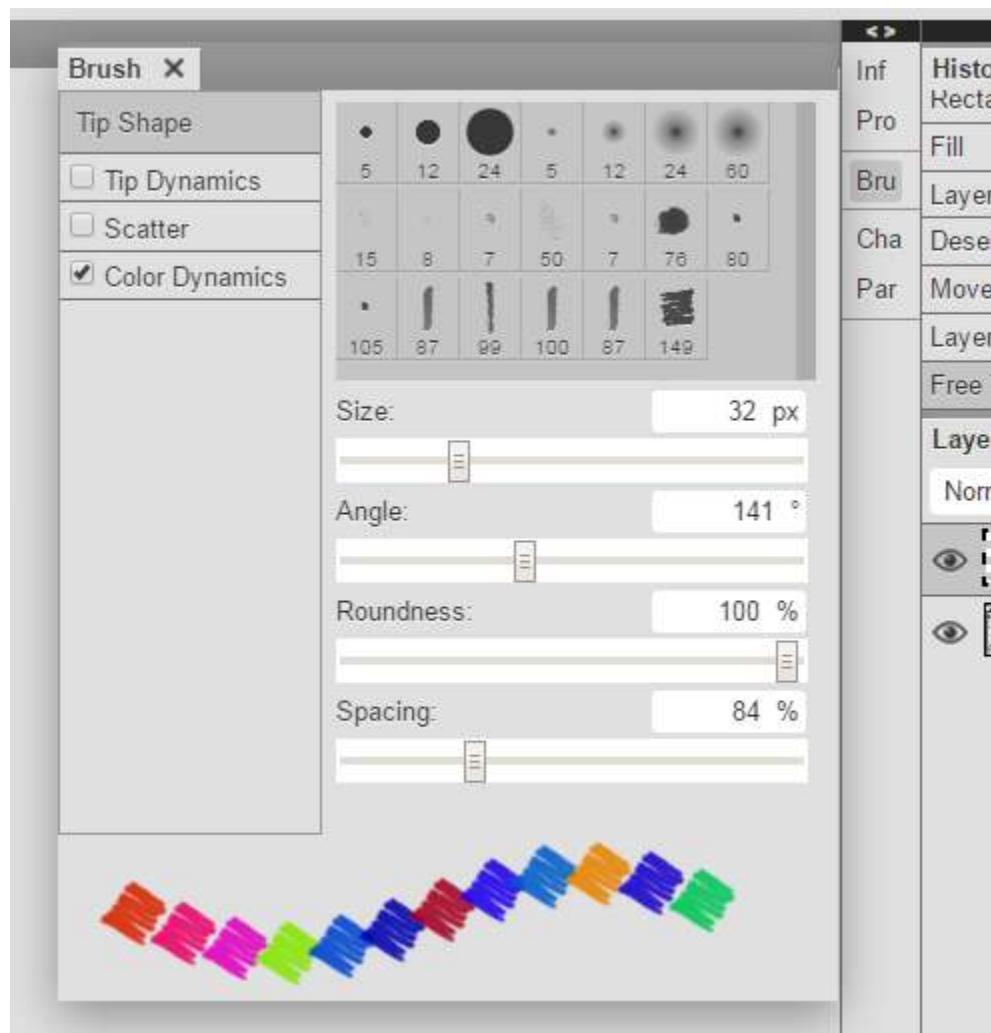
53

Brush panel



More brush options are available in a brush panel. You can open it using Window - Brush. Here are several sections of properties. You can see the result of your brush settings on the bottom of it.

At the top of the brush panel, there is a gallery of predefined brushes. Choosing one of them will replace your current brush settings.



Here is a brief description of each section of the brush panel. We recommend to play with settings to discover them by yourself.

- Tip Shape - parameters of a static brush
 - Angle - rotates the shape
 - Roundness - squeezes the shape
 - Spacing - spacing between consequent "shapes" of a stroke. Set it to 25% or less to make a "continuous" line.
- Tip dynamics - allows you to use random values of Size, Angle and Roundness along the stroke
- Scatter - lets you move each shape to the random place near the original position. You can make an effect of "fallen leaves"
- Color Dynamics - lets you change the color of each shape randomly along the stroke

54

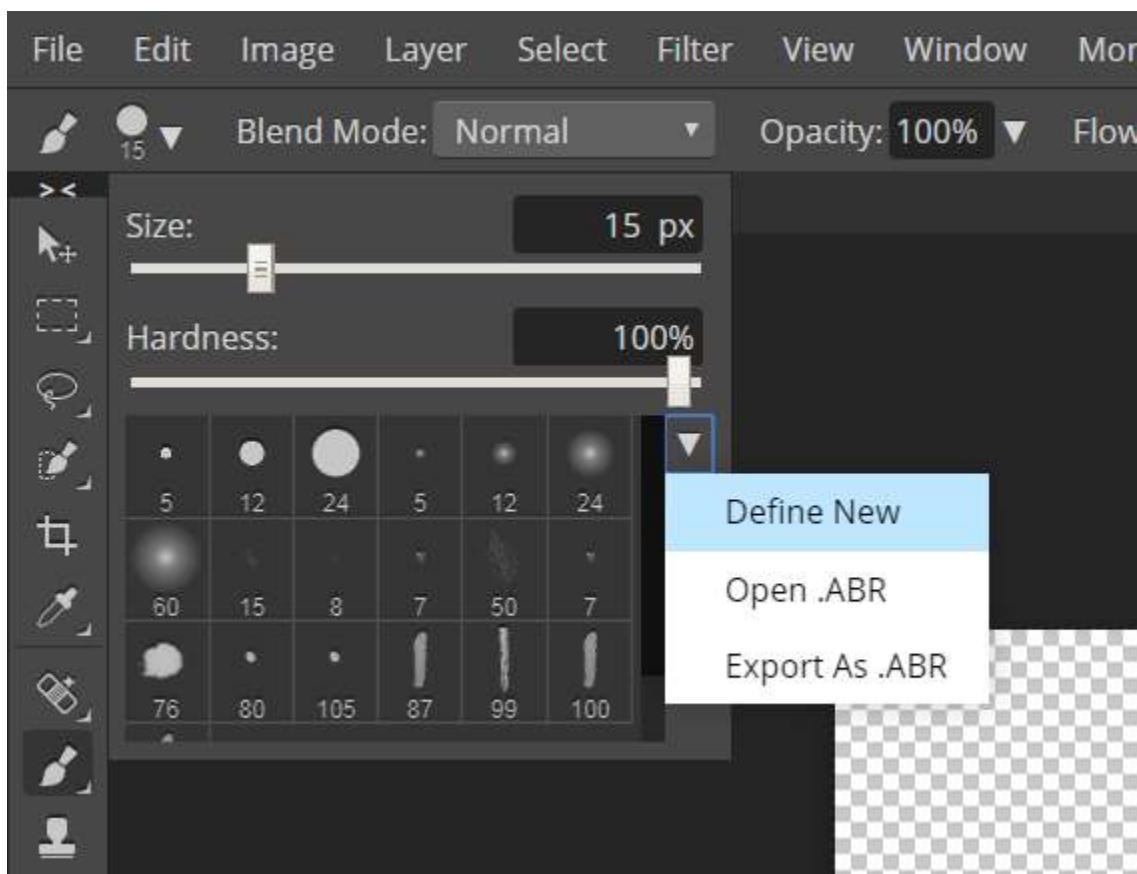
Brush Presets



Photopea supports loading custom brushes in a form of .ABR files. Open such file with File - Open, and new brushes will be added to a list of brushes.

You can make a new Pattern brush from a current layer using Edit - Define New - Brush.

Any current brush (with current parameters: Size, Hardness, Tip Dynamics ...) can be saved as a new brush through a Brush button and a tiny arrow. Here, you can also open an .ABR file, or export brushes as an .ABR file.



In previous chapter, we learned, that each brush tool creates some stroke. This stroke can be combined with an existing layer in many ways.

55

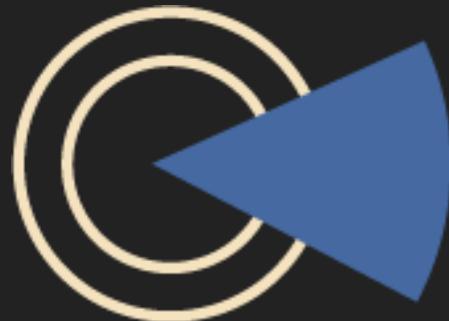
Brush



Brush tool is a basic artistic tool. It lets us draw strokes with a foreground color onto an existing layer. At the top menu, we can choose the blend mode and the opacity of our strokes.

56

Pencil



Pencil is very similar to the Brush tool, but it creates sharp edges. Below, you can see the zoomed-in line drawn with the Brush (on the left) and with the Pencil (on the right).



57

Eraser



Eraser tool erases the pixels from an existing layer. We can change the opacity at the top menu, so the pixels will remain partially visible.

58

Clone Stamp



Clone stamp lets us copy the content from one part of the layer into another part. First, we hold the Alt key and click on the layer, to choose the source of cloning. Then we simply draw strokes in another part, which are filled with the content from the source part. Decrease the Hardness of a brush, so that new strokes have smooth edges, to make a smooth transition between the old and the new content.

These tools perform advanced effects on the layer.

59

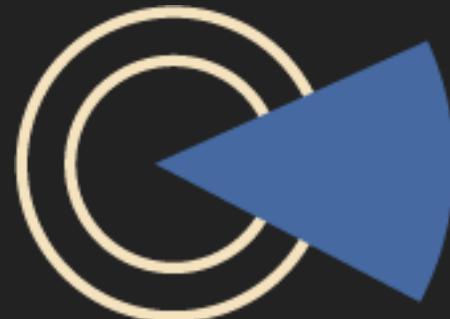
Blur and Sharpen



These tools simply blur or sharpen the content of the layer under the stroke. You can change the Strength of the effect at the top menu.

60

Dodge and Burn



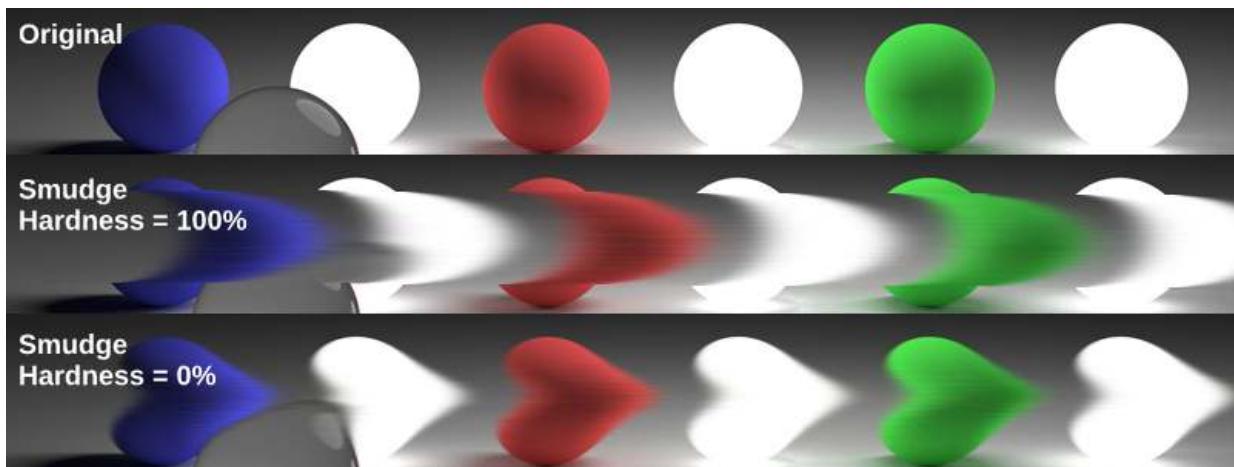
Dodge makes the colors lighter, while Burn makes the colors darker. You can choose the range, to which the effect should be applied (Shadows / Midtones / Highlights) and the strength (Exposure).

61

Smudge



The Smudge tool is probably the most advanced of these tools. It is the analogy of moving your finger across the wet paint on the painting. You can spread colors to other areas, make objects longer or shorter, or move the border between two objects.



62

Sponge



The Sponge tool can be used to saturate or desaturate parts of the layer (make pixels more "alive").

These tools use artificial intelligence and can save you a lot of time.



63

Spot Healing Brush



Spot Healing brush lets you remove objects and unwanted artifacts from pictures. Simply draw over an unwanted area, just like you do with a Brush tool, and release the mouse. After that, the area, that you drew over, will be "forgotten" and replaced with some appropriate content, that surrounds the area.

For example, when you have a sandy beach and there is a stone in the middle, you draw over that stone and it will be replaced with sand. If you have a field with yellow flowers and a single red flower, you draw over the red flower and it will be replaced by a yellow flower. You can "heal" the skin, remove scratches from old photographs etc.

You would have to use Clone Stamp for several minutes to achieve a similar result. Spot Healing Brush usually takes 1 to 5 seconds. In extreme cases, it may take up to 10 seconds to fill the area (when the area, more than 50% of the image area should be healed).

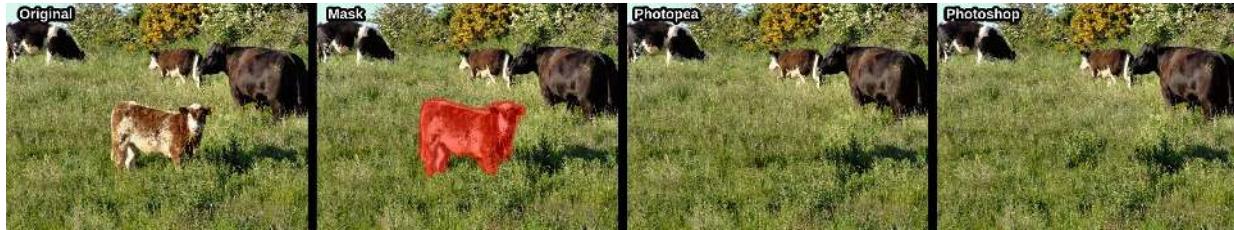
Below, you can see the original image, the spot, that is being healed, the result from Photopea and the result from Adobe Photoshop. We believe, that Photopea produces better results, than Adobe Photoshop (but it also takes more time).



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64

Healing Brush



Using a Healing brush is the same as using Clone Stamp. The only difference is, that the cloned content is adapted to the surrounding after releasing the mouse.

65

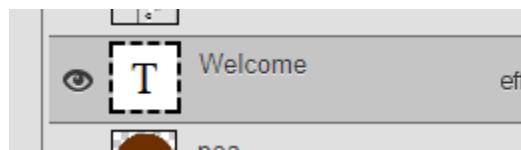
Patch



With a patch tool, you first have to create a selection over an area that you want to be replaced. Then, you can drag that selection to another place, to choose the source of cloning. And again, the area is adapted after releasing the mouse.

With the Spot Healing Brush, you only choose an area that should be healed. For next two tools, you have to choose both that area, and the source, from which the new image content should be taken (similar to a Clone Stamp).

Putting text into images is an essential operation of image editing. Photopea offers a rich set of tools for working with text. Text is stored in PSD documents inside Type Layers, which have a thumbnail with a capital letter T on it.



There are three kinds of Type layers:

- Point text - defined by the point of origin. The text starts at that point and continues on a single line until the line break (Enter).
- Paragraph text - defined by the rectangle. Paragraphs are broken automatically into multiple lines to fill the rectangle.
- Text on a curve - defined by a curve, letters are arranged along the curve.

Point Text

The layer comp is an object, which stores the state of the document.⁴
Precisely, it stores the visibility, the position and the appearance.⁴
Duplicate content makes PSD files larger.

Paragraph Text

The layer comp is an object, which stores the state of the document.⁴
Precisely, it stores the visibility, the position and the appearance.⁴
Duplicate content makes PSD files larger.|

66

Creating a Type layer



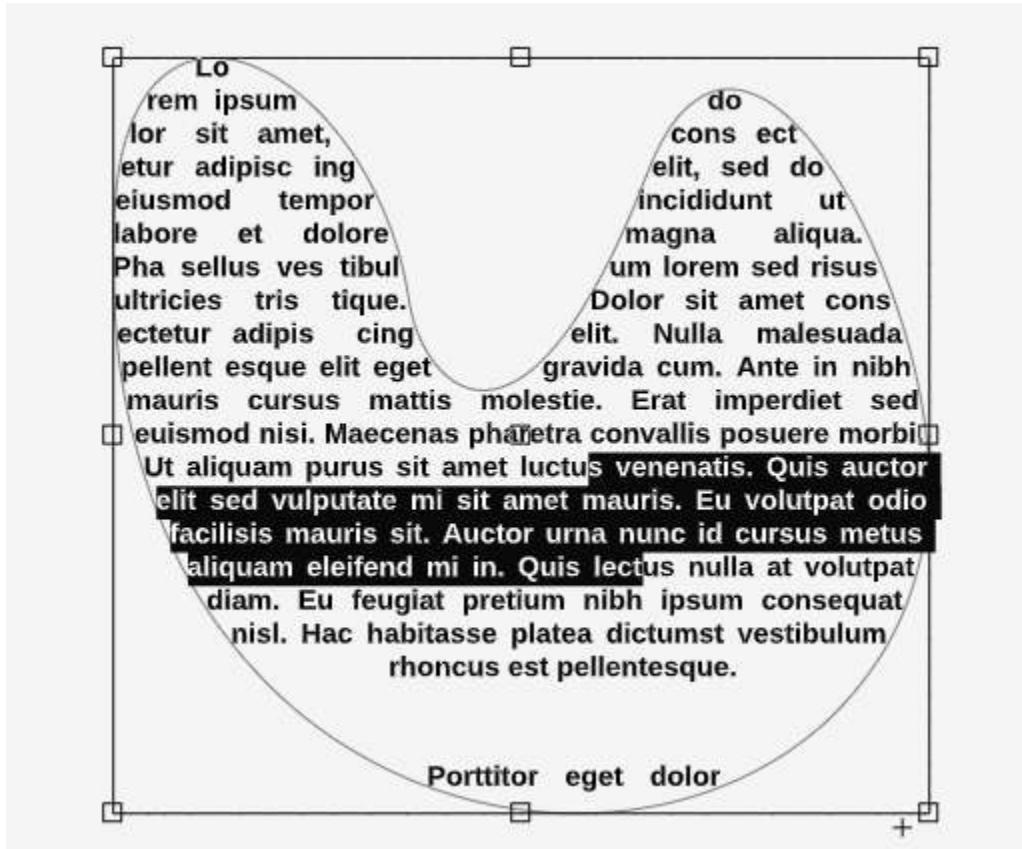
T

The Type tool is used for working with Type layers: .

To create a Point text, choose a Type tool and click (press and release) the mouse at some place, which will become the origin.

To create a Paragraph text, press the mouse and drag it to draw a rectangle, then release the mouse. After creating the new Type layer, you can start typing.

If you click inside a path, the rectangle will be made around that path, and the text will be constrained by a curve of that path.



To create a text on a curve, select a curve first (in Paths panel, or a shape layer / vector mask), and click on its contour.

There will be two new symbols (points) on a curve: An X symbol and an O symbol. The text is placed between them. Use the Path Select tool to move these points, or to switch text rendering to the opposite side of the curve.



67

Editing a Type layer



There are two important actions when editing type layers: Entering the layer and Escaping the layer. To Enter a type layer, just click on it with a Type tool (newly created layers are entered automatically). After entering the layer, the environment is locked and you can edit the layer (and nothing else). To do something else (e.g. edit another type layer), you must escape the current layer first.

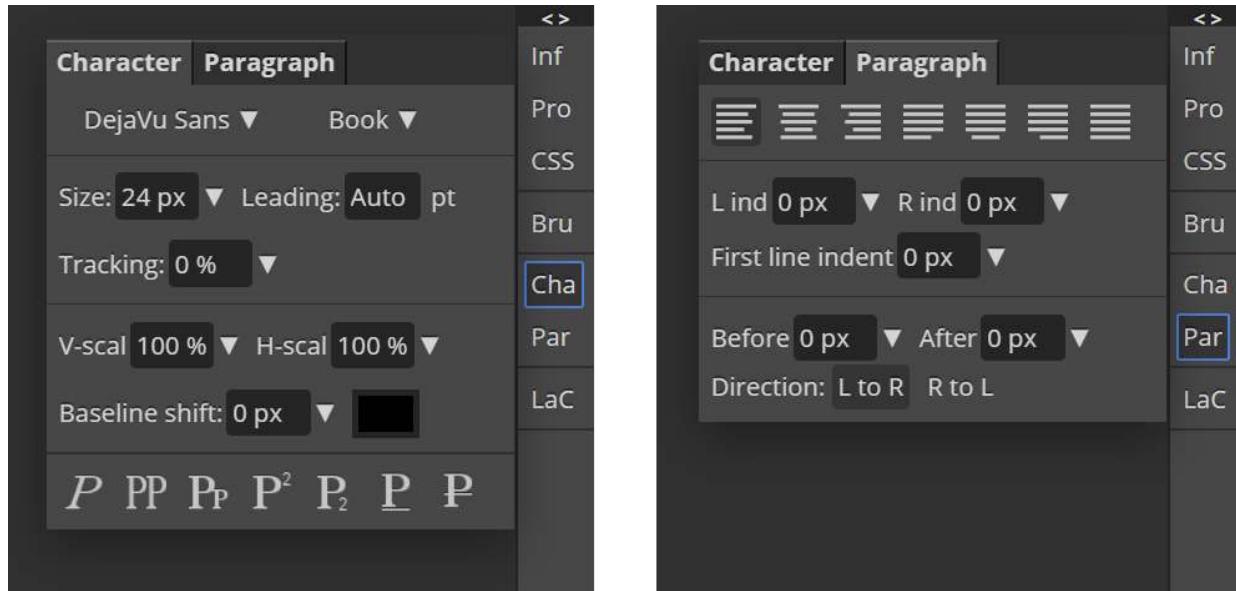
To escape the type layer, you must confirm or cancel your changes using buttons in the top menu. Escaping and canceling changes is also possible with the Escape key on the keyboard.



When you have entered a type layer, many ways of editing are possible. You can select any text with a mouse, delete it, add a new text, copy and paste etc. When it is a Paragraph text, you can also change the size of the rectangle by moving its corners. You can move the mouse outside the text, press and drag it, to move the type layer.

There are two kinds of style parameters: Character Style (e.g. text size, color, ...), which can be different for each character, and Paragraph Style (e.g. text aligning, margin etc.), which is shared by the whole paragraph.

Character properties can be found in the Character panel (Window - Character), while Paragraph properties can be found in the Paragraph panel (Window - Paragraph). Some basic Character and Paragraph properties can be found also in the top menu of a Type tool.



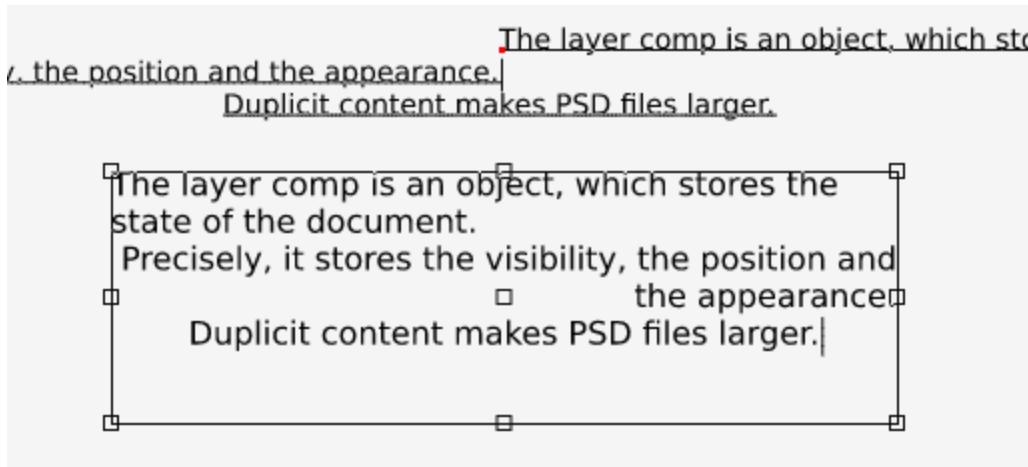
When the type layer is selected (in the Layers panel), you can change the style (e.g. the font family or aligning) of the whole layer. Another option is to enter the layer and select a specific part of the text. As you change the style, it will be applied only to the selected part of the text.

68

Align



Aligning of a Paragraph text layer is computed with respect to the sides of the rectangle. Aligning of a Point text layer is computed according to the point of origin. Below, we can see a Point and a Paragraph text with the same three paragraphs. The first paragraph is aligned to the left, the second is aligned to the right, and the third is aligned to the center.



69

Writing directions



When you use e.g. latin and arabic words in the same text, their direction of writing is detected automatically, just as in any other text editor. But there is so-called base direction, which is necessary for the correct rendering of bidirectional text and punctuations. You can change the base direction in the Paragraph window.

70

Custom fonts



Photopea has a huge database of royalty-free fonts. If you know any free font, it is probably already available in PP.

For all other fonts, Photopea allows you to open them (TTF or OTF files) the same way you open any other file (File - Open, or drag-and-drop). They will be added to the end of the font list and used, when some type layer needs them.

Photopea has a rich set of tools to work with vector graphics. Vector graphics can be stored in Paths, Vector Masks or Shape Layers.

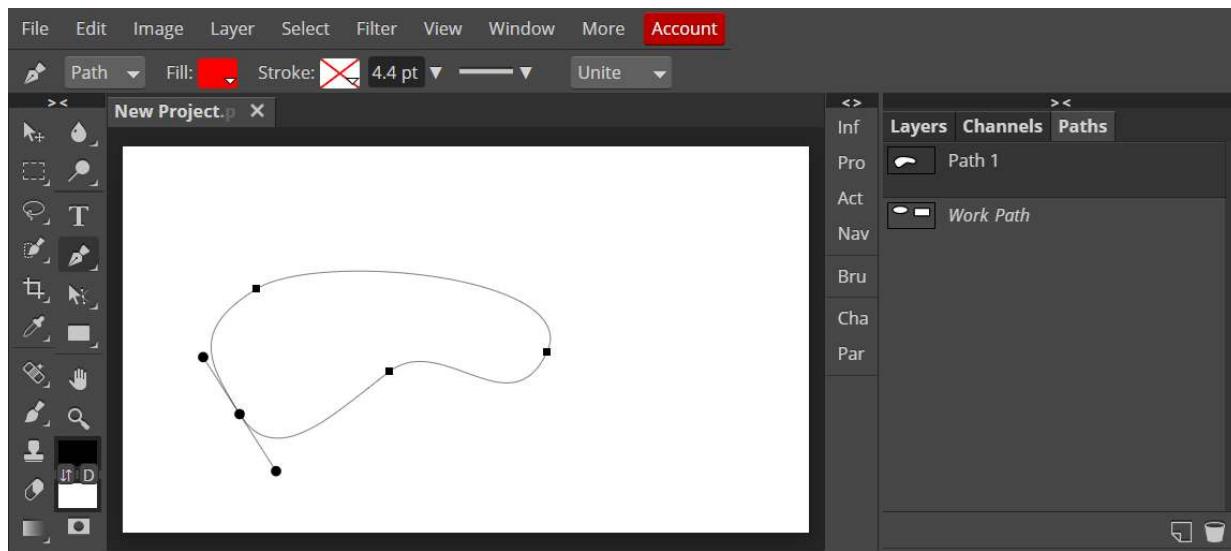
71

Paths



Just like a list of layers, a document may contain a list of paths. They can be viewed in a Paths panel (Window - Paths). In this panel, you can select paths, delete paths, create new, rename them, etc.

There is a special path called Work Path. By default, all vector graphics are stored into this path. When it is empty, it is not shown in a Path panel.



72

Vector Masks



Any layer can have a vector mask. Just as a raster mask, vector mask defines, which part of the layer should be visible and which should be hidden. Raster and vector masks can be enabled, disabled or edited at any time without changed the actual content of the layer.

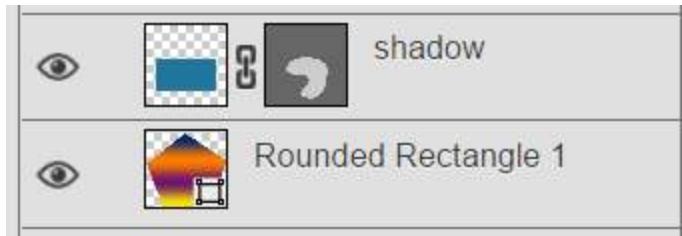
73

Shape Layers



A Shape is a layer containing only the vector shape with a Color fill, a Gradient fill or a Pattern fill. In fact, it is just a Fill Layer with a vector mask.

Below is a standard layer with a vector mask and a shape layer is beneath it.



74

Paths Panel

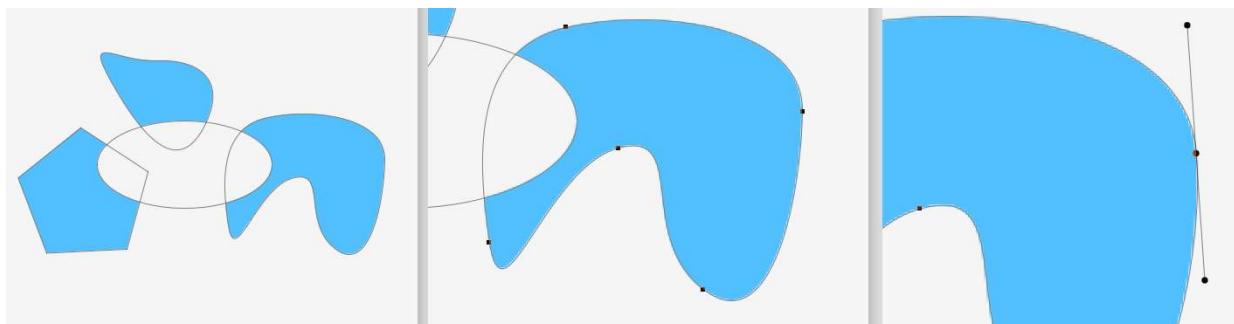


As we said before, Paths panel displays a list of paths of the document. Also, if any Shape layers or vector masks are selected, it will show you them as paths at the end of the list. So the panel allows you to work with all three formats of vector graphics. However, these paths can not be renamed or deleted here, as they belong to layers.

You can add or delete paths by clicking the buttons at the bottom of the panel. You can hold Ctrl and click on the thumbnail of the path, to turn it into a selection.

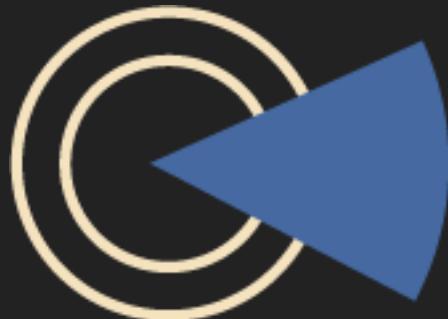
The content of a vector mask (or a shape layer) is called a Shape. The Shape consists of several Paths. A Path consists of multiple Knots. Each knot consists of three points: the anchor and two handles.

Here we see a shape consisting of four paths. The path on the right consists of five knots. The knot consists of an anchor (in the middle) and two handles.



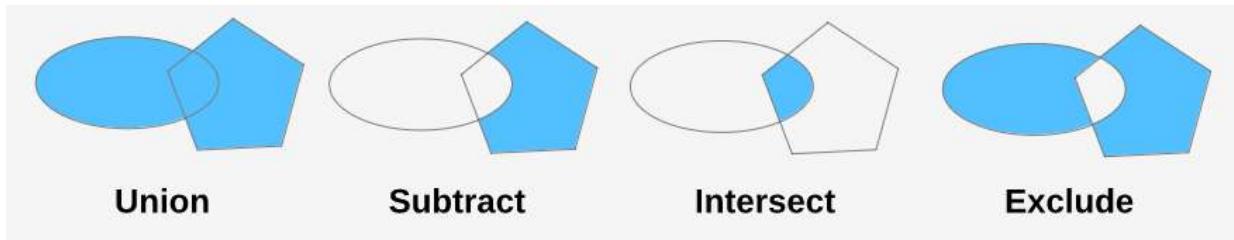
75

Path



There can be several paths within a shape. Paths have a fixed order (the first, the second, the third ...). Each path has some boolean operation, which defines, how the path (e.g. the fourth path) is combined with the content under it (i.e. paths 1, 2 and 3). Boolean operations are Union, Subtract, Intersect and Exclude.

Here we see four shapes with two paths in each shape. The second path (the ellipse) has different boolean operations.



When all paths have the Union operation, their order is not important. But e.g. when some path has a Subtract operation, reordering paths may produce a different result.

Paths can be open or closed. Open path means, that the first and the last knot are connected with a straight line (ignoring the adjacent handles).

76

Knots



A path consists of a sequence of knots. Each two consecutive knots are connected with a curve segment, that is shaped by adjacent handles. A knot can be linked / smooth (both handles are located in a line with the anchor) or unlinked / corner (handles have arbitrary locations). A linked knot guarantees the smooth curve, while an unlinked knot usually creates a corner.

A linked knot is visualised with a circle anchor, while an unlinked one has a square anchor.



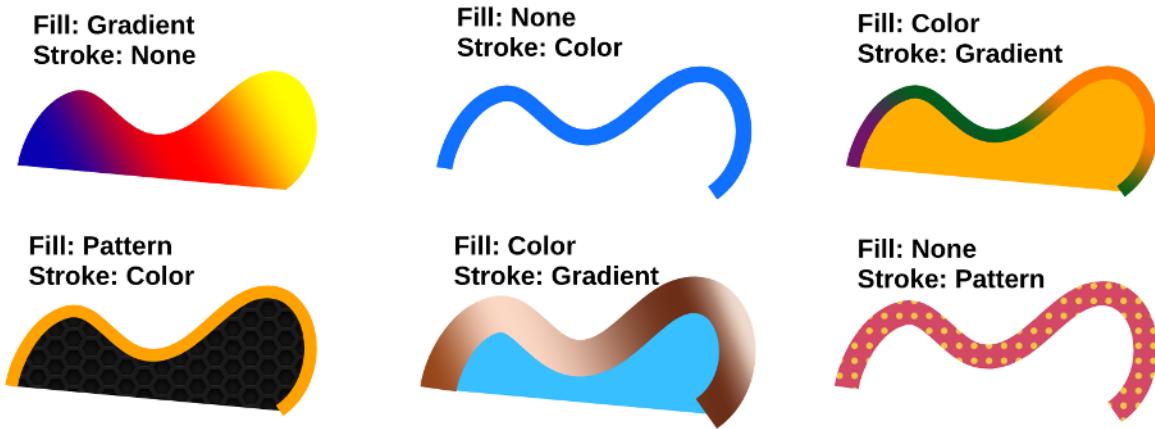
The handle of the knot is collapsed, when it is located at the location of the anchor point. When all knots in a path have collapsed handles, then the path consists only of straight line segments (i.e. it is a polygon).

77

The Look



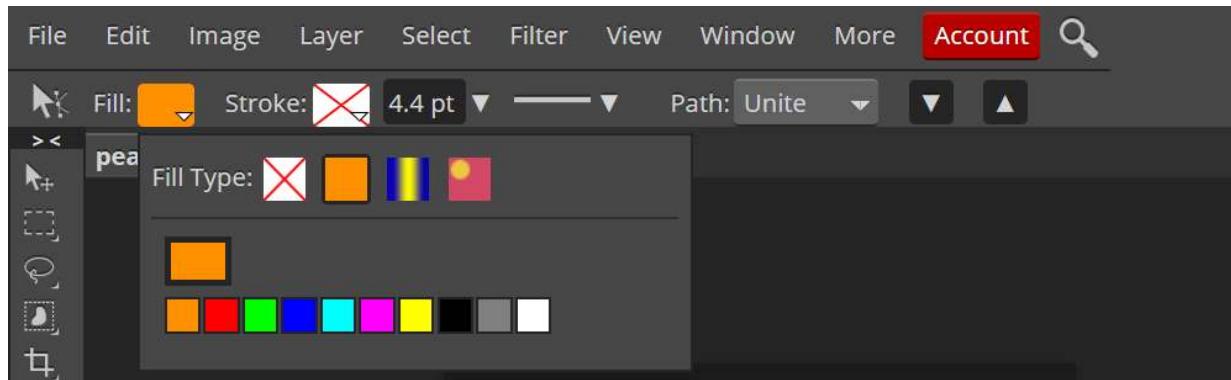
While vector masks simply hide the portion of a layer, Shape Layers have more interesting properties. Each Shape Layer has a Fill and a Stroke value. Fill and Stroke can have one of four values: None, Color, Gradient and Pattern. Combine different values of Fill and Stroke to create various styles. Have a look at possible combinations.



Stroke can have many parameters: Line thickness, position: Inside, Center, Outside, corner shape, gaps (dashed line) etc. When your shape contains just a single open path, the first and the last knot will not be connected inside a stroke.

Change the look

When any vector tool is enabled (e.g. a Pen tool or a Rectangle tool), the top menu shows the Fill and the Stroke parameters of a current shape layer. You can change these parameters there.



To work with a shape, first, we should select the shape in the Layers panel. We can either click on the thumbnail of a vector mask, or a thumbnail of a Shape layer. We will see the outlines of paths after that.

78

Path select

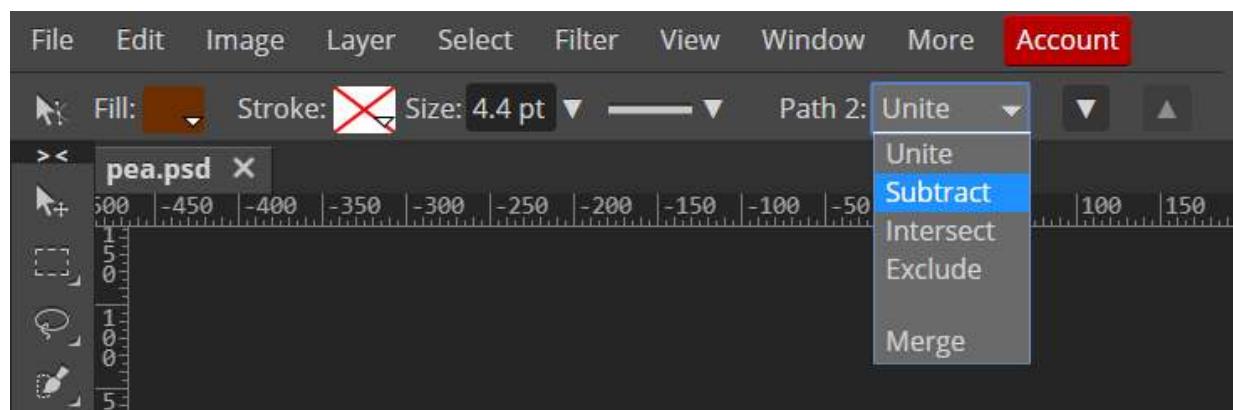


Path select allows us to manipulate paths within a shape. Click on the path to select it, or hold Shift to select multiple paths.

When one or more paths are selected, we can:

- move them with a mouse or cursor keys
- delete them by pressing Delete
- Cut / Copy / Paste paths using Edit - Cut / Copy / Paste (or Ctrl + X / C / V), even between different layers or different PSDs
- apply Free Transform (Edit - Free Transform)

We can also change the boolean operation (Subtract, Intersect ...) of each path in the top menu, or reorder paths with the Up and Down button. The drop-down menu also contains the Merge option, which will merge all paths into a single path. In case of the Shape layer, the top menu allows us to change the fill and the stroke of the shape.



79

Direct select



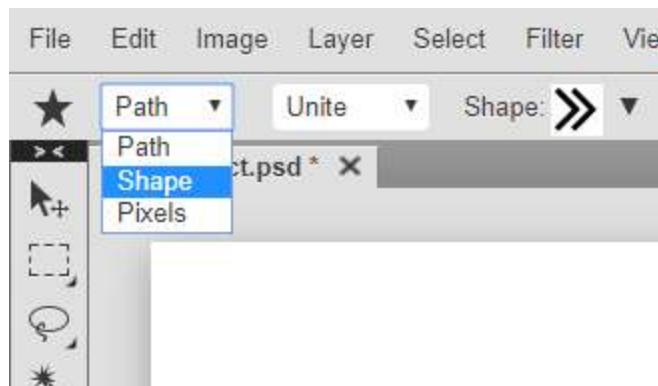
Direct select allows us to manipulate knots within a shape. Click on the outline of the path to see the knots. Then click on a knot, or hold Shift to select multiple knots. We can even select separate knots from different paths.

When one or more knots are selected, we can:

- move them with a mouse or cursor keys
- delete them by pressing Delete
- move the anchor or handles of a knot

Double-clicking the handle will collapse it. When a handle is collapsed, double-clicking the anchor will give it back. Otherwise, double-clicking the anchor will convert the Linked (Smooth) knot to Unlinked (Corner) knot and vice versa.

Photopea offers several tools for creating vector graphics: Pen, Free Pen, Rectangle, Ellipse, Polygon etc.. Each tool has one of three modes, which you can switch in the top menu.



- Path - adds new elements into a current path (current Shape layer, Vector Mask, or into a current path, selected in Paths panel)
- Shape - creates a new Shape layer
- Pixels - the result is rasterized immediately, then combined with a current raster layer

When you choose the Path mode, you can also choose the boolean operation, that will be used for new elements.

80

Pen



This tool allows you to create paths knot - by - knot. Press the mouse in the image area to add a knot. Then drag and release to add handles, or release immediately to keep handles collapsed. Clicking again on the first knot in the path will close the path. Try [This Game](#) to learn how to use the Pen tool.

If there is one knot already selected, the new knot is added right after that knot (into the same path). Otherwise, the new path is started, and the knot becomes the first knot in the new path.

The regular usage is to click to start a new path, then keep clicking to add more knots (since each new knot is selected after adding, so the next knot is added right after it). But you can also select some knot manually (with Direct Select) and new knots will be added after it (into an existing path).

81

Free Pen



Click with mouse and draw some shape. Then, release the mouse. Your stroke will be converted into a smooth vector curve. Change the Tolerance value to make a curve smoother.

82

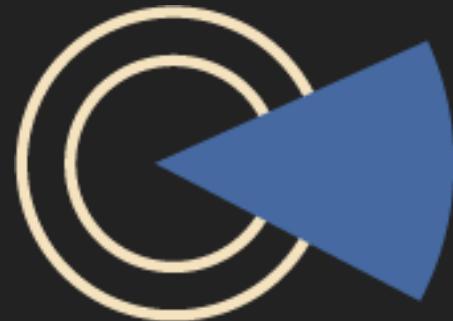
Specific shapes



Click and drag with a mouse to draw a path with the specific geometric shape. Hold Shift to keep the proportions of the new path.

83

Custom
shape



With this tool, you can add a complex shape from the current gallery of shapes. You can import your own collections of shapes in a CSH format using File - Open.

84

Parametric Shape



This tool can draw other exotic shapes, which require some parameters. You can draw a Polygon, a Star, a Spiral and possibly many other shapes in the future. Each shape has several parameters, which allow you to customize the shape.

85

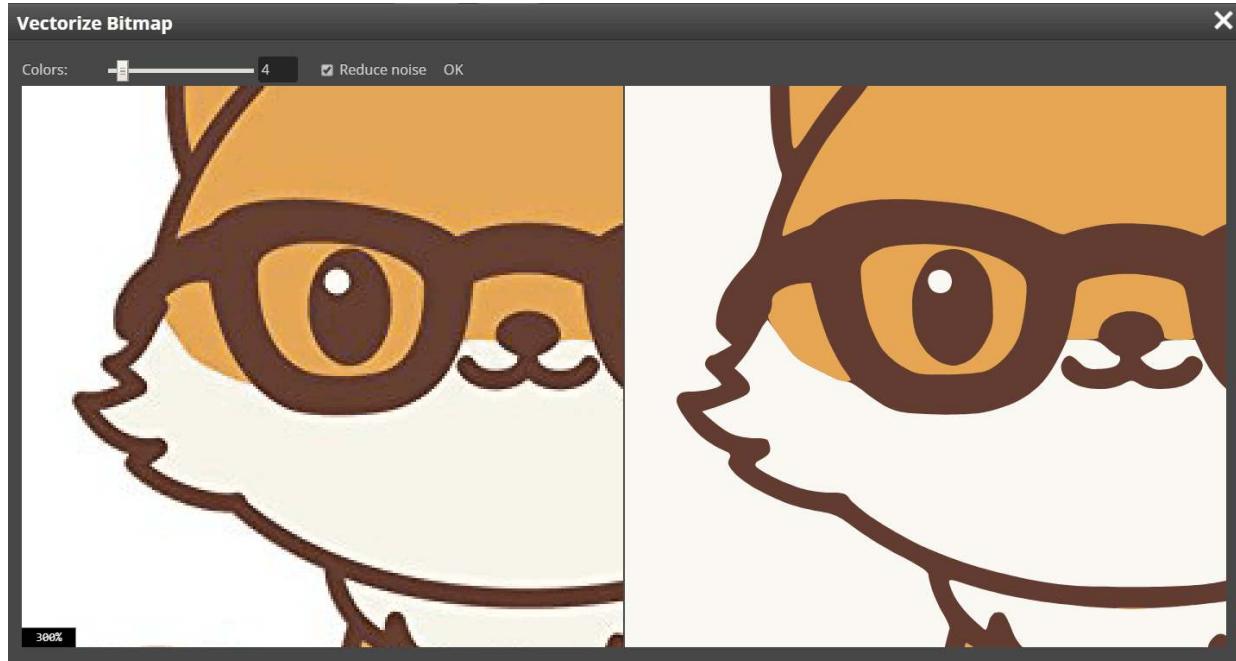
Text to Shape



You can convert any text layer into a vector shape layer by right-clicking it (in Layers panel) and pressing Convert to Shape. Each character will become a path with knots, which you can modify manually (e.g. rotate each character by a random angle).

Sometimes, we may have a raster image (JPG, PNG ...), which used to be a vector image. The original vector image can be recreated by hand, but it may take a lot of time. Photopea can do it automatically, it is called bitmap vectorization or bitmap tracing.

After we open our raster image (or select the right layer in a layered image), press Image - Vectorize Bitmap. We will see a special Vectorizer window.



We can see the original image on the left and the vector image on the right. We can move both images with a mouse, or zoom in / out with a mouse wheel. We can also set two parameters:

- Number of colors
- Noise reduction

The need of the noise reduction is detected automatically for each image and we recommend not to change that setting. Once we are satisfied with the vector output, hit OK. Our original raster layer will be replaced with corresponding vector layers, ready for an additional vector editing, or for the export as vector graphics: SVG or PDF.

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Topics

- Introduction
- Workspace
- Open and Save
- Navigation
- Image size
- Layers
- Masks
- Layer Styles
- Smart Objects
- Other Layers
- Layer Editing
- Free Transform
- Adjust. & Filters
- Selections
- Make Selections
- Advanced Selecting
- Refine Edge
- Move Selected Data
- Brush Tools
- Basic Tools
- Advanced Tools
- Smart Tools
- Text
- Text Style
- Vector Graphics
- The Structure
- Editing Shapes
- Creating Shapes

- [Vectorize Bitmap](#)
- [Automate](#)
- [Actions](#)
- [Scripts](#)
- [Variables](#)
- [Other](#)
- [Artboards](#)
- [Color Spaces](#)
- [Guides & Snapping](#)
- [Animations](#)
- [Slices](#)
- [Layer Comps](#)

There are several ways to automate your work in Photopea.

- [Actions](#) - record your work as a sequence of steps, apply these steps later
- [Scripts](#) - write a script (program code), which can process the document
- [Variables](#) - define several variables. Then, give Photopea a spreadsheet with different values for each variable, to produce different versions of your work

Do you need help? Ask us at [our Reddit!](#)

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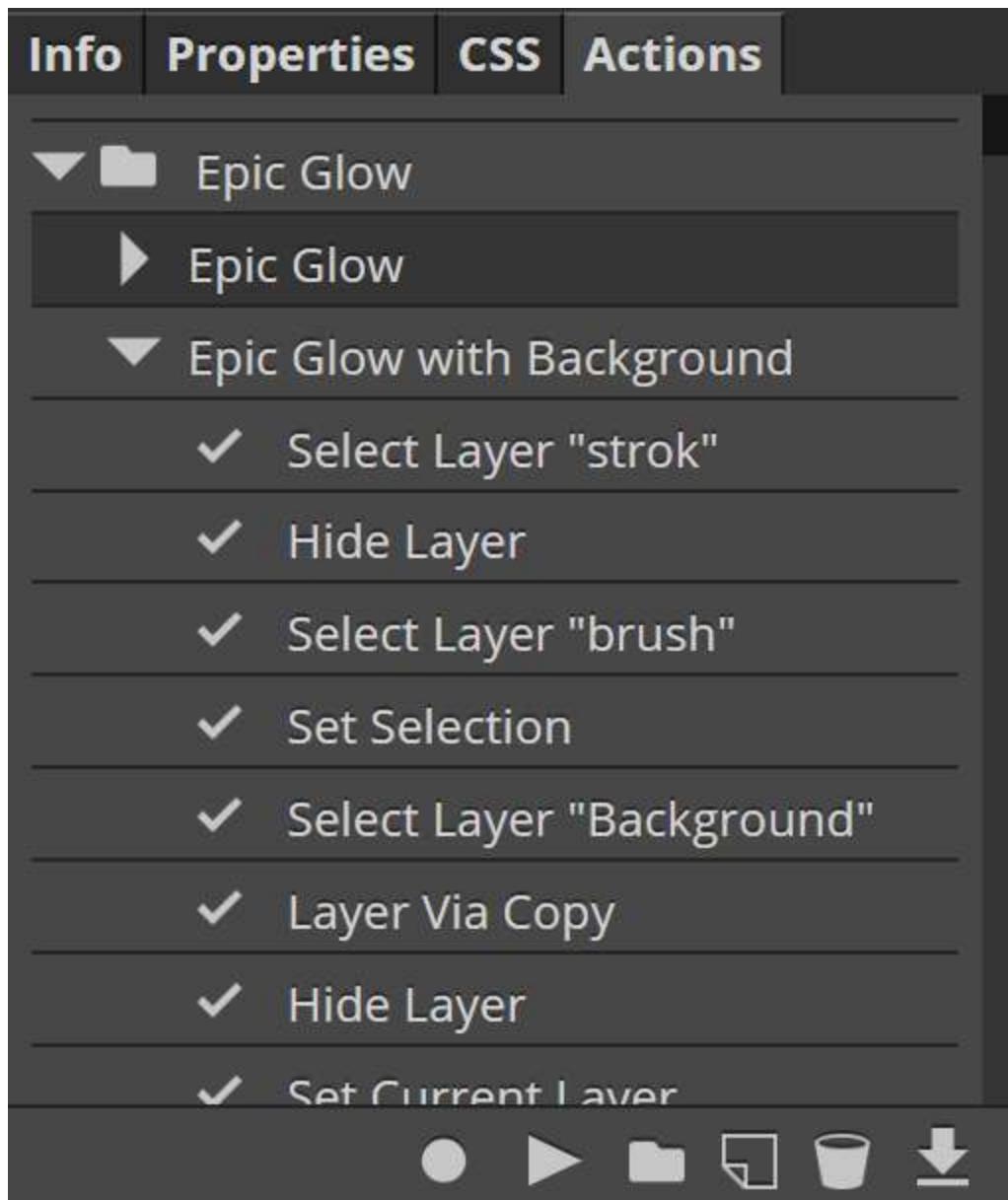
Sometimes, we need to automate image editing. We can record our work as an action and apply it to other documents later.

86

Actions Panel



Actions are managed through the Actions panel. It can be displayed by pressing Window - Actions. Here we see the structure of current actions in the middle. We can manipulate with actions using the buttons at the bottom of the panel.



There is a strict structure of actions. Basic units are Action Sets (which have a Folder icon). An Action Set contains Actions (which have only an arrow). Each Action may contain Steps (which have a checkmark on the left).

You can click on Action Sets, Actions, or Steps, to select them. Use the buttons at the bottom to modify the structure.

- Record - start recording your work (as Steps) into a selected action. Press it again to stop recording.
- Apply - apply an action to the current document
- New Action Set
- New Action
- Delete - delete a selected Action Set, an Action or a Step
- Export - export a selected Action Set as an .ATN file

87

ATN files



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Photopea can process (load and save) actions inside ATN files. These files are used by Adobe Photoshop and probably other software.

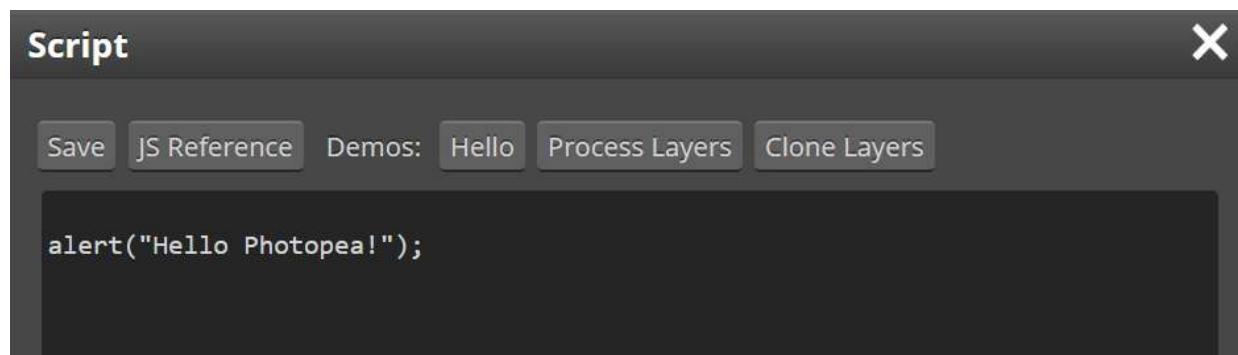
Each ATN file contains exactly one Action Set. Press File - Open, to load the ATN file into Photopea. Press the Export button (in the Actions panel) to export the current Action Set as an ATN file.

In some cases, it is very useful to automate image editing. For example, we may need to have 30 copies of the layer, and place them all into a regular grid, 5 times 6, and gradually decrease their opacity. Or if we need to rotate by 90 degrees each layer, that contains "rotate" in its name.

Photopea can execute scripts written in Javascript. It is very useful to know programming and the syntax of Javascript, however, even beginners can make simple scripts, which will do the job. You can learn how to write scripts from available demos.

Use the Script window (File - Script) to work with scripts. Here you can type (or paste) a new script, and then click Run to execute it. Several demos are available in the top of the Script window. Scripts can be also executed through the [Photopea API](#).

There is a Save button for saving scripts (they will stay even after closing Photopea). The list of saved scripts is at the bottom of the Script window. Photopea saves these files in a Local Storage, which can be managed through Edit - Local Storage.



88

Document Model



Scripts allow you to access the content of the document through Javascript code. Instead of describing a new Document model, Photopea provides an interface similar to [Adobe's scripting interface](#). It means, that the same scripts, that you wrote previously for Adobe Photoshop, could be used in Photopea to do the same task.

There is a global object `app`, which represents the application. `app.activeDocument` lets you access the active document. A document has properties (`width`, `height`, `layers`, `currentLayer`, ...) and methods (`resizelImage()`, `resizeCanvas()`, ...). A layer also has properties (`name`, `visible`, `opacity`, ...) and methods (`rotate()`, `translate()`, ...). You can learn more in the official reference or in demos. Note, that many properties are read-only, you can not rewrite them directly (e.g. the width of the document - you must call `resizeCanvas()`).

If your script creates files in a filesystem (e.g. `Document.exportDocument()`), Photopea will offer you a ZIP archive with newly created files, after the script finishes.

Photopea extends the model of Photoshop by adding several new functions:

App.open(url, as, asSmart)
Loads an image from URL. Set `asSmart` to true to paste an image into a current document as a smart object. `as` is ignored.

App.echoToOE(string) Sends a string to an outer environment
(See [Live Messaging API](#)).

App.UI Modify the "viewing state". Has methods:
`zoomIn()`, `zoomOut()`, `fitTheArea()`,
`pixelToPixel()`, `switchFullscreen()`, `scroll(dx,dy)`,
`scrollTo(x,y)`.

Document.source read / write: a string, that identifies the document. Initially, it is the URL for files loaded from a server, or "local,X,NAME" for other files.

Document.name read / write: a String to be displayed as a "label" of a document. Setting name does not add a step into History.

Document.saveToOE("png") Converts the document into a binary file and sends the file to an outer environment (See [Live Messaging API](#)), optional parameters after the colon:

- "jpg:0.8", "webp:0.6" - JPG and WEBP can have a quality parameter
- "psd:true" - "true" produces a minified PSD file
- "svg:true,false,..." - SVG parameters correspond to those in the SVG export in Photopea

JPG and WEBP can have a quality (0 to 1) after the colon (e.g. "jpg:0.8"). PSD can have a "true" after the colon: "psd:true", to produce minified PSDs. SVG can have a list of

Layer.selected Boolean: is layer selected ("highlighted") - read only

TextItem.totalTextStyle String: a JSON object with all style parameters of the text

TextItem.transform String: a JSON array with the affine transform matrix of the text

Imagine a following task: we want to make a PNG image for each country of the world. The image should include the name of the country, the flag, some basic info, and a picture of South America, if the country is in South America.

We would make a document with several layers for a specific country, e.g. for Brazil. After exporting a PNG, we would replace the flag, replace texts, and export a new PNG. Each image would take us 10 - 20 seconds to make.



89

Define Variables



With Variables, we can modify these three features of a layer:

- visibility - should the layer be visible?
- text content - a text content for that layer
- pixel content - a name of a file, which will replace pixels of a layer

We can attach a variable to each of these features (so up to three variables per layer). Then, we simply give Photopea a spreadsheet (a table) with data, that should be used for each variable. Let's look at our previous example.



We have a document with five layers. Let's make variables for the first four layers.

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- 1st layer text: CName (country name)
- 2nd layer text: About (info about that country)
- 3rd layer pixels: Flag-image (image with a flag)
- 4th layer visibility: IsSA (is in South America)

Now, let's give Photopea a following spreadsheet with data for each variable.

	A	B	C	D	E
1	CName	About	Flag-image	IsSA	
2	Australia	Australia is a sov australia.png		FALSE	
3	Brazil	Brazil is the large brazil.png		TRUE	
4	China	China is a count china.png		FALSE	
5	Denmark	Denmark is a No denmark.png		FALSE	
6	Ecuador	Ecuador is a cou ecuador.png		TRUE	
7					
8					

At the beginning, we only had a document with layers, and a table with data. A variable is a link between a layer and a specific column in our table. E.g. a layer with brown text is linked to the first column of a table by a variable "CName", etc.

Now, a single click gives us these five PNG files:

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Australia

Australia is a sovereign country comprising the mainland of the Australian continent, the island of Tasmania, and numerous smaller islands.



Brazil

Brazil is the largest country in both South America and Latin America.



China

China is a country in East Asia. It is the world's most populous country, with a population of more than 1.4 billion.



Denmark

Denmark is a Nordic country in Northern Europe.



Ecuador

Ecuador is a country in northwestern South America, bordered by Colombia on the north, Peru on the east and south, and the Pacific Ocean on the west.

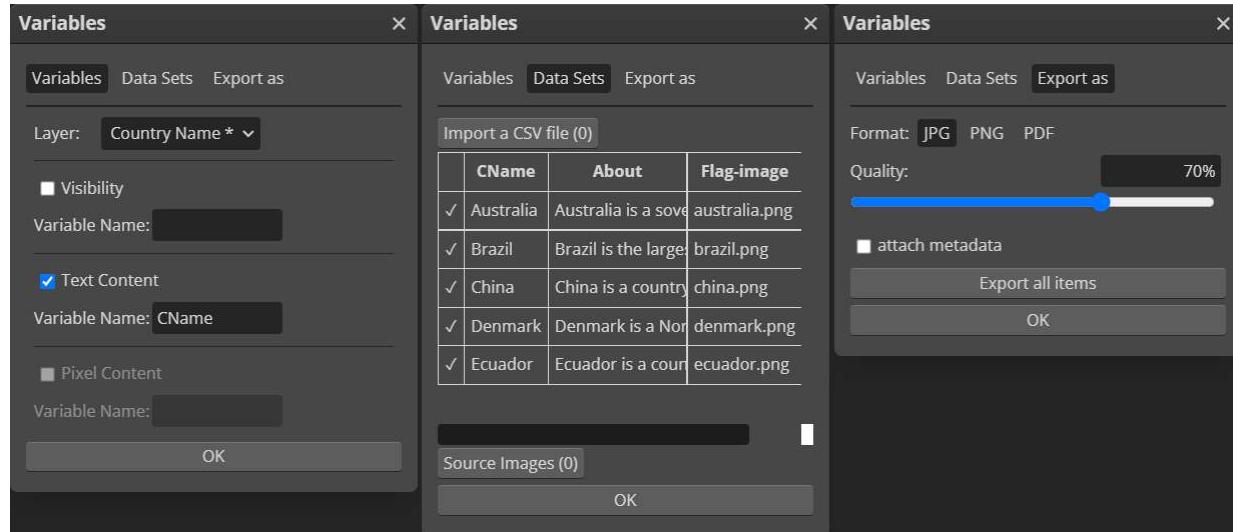
90

Variables in Photopea



Photopea COMPLETE HELP FILES

Press Image - Variables. This feature has three parts: Variables, Data Sets and Export as.



In Variables, select a layer from the list of layers. Then, you can enable up to three variables (for the visibility, text content, pixel content), and provide variable names.

In Data Sets, load a specific spreadsheet from your computer (we support the CSV format, which can be exported from MS Excel, etc.). If you are replacing pixel content, click "Source images" and select files from your computer (file names should be the same as in your spreadsheet).

The Export as lets you export images (according to your current Variables and Data Sets). Choose a format (and additional export parameters), and press "Export" to get a ZIP archive with exported images.

Click OK to save the settings. These settings (of Variables and Data Sets) are a part of your document (are stored in a PSD file), but without Source images (you need to load Source images before each export).

91

Try it out!

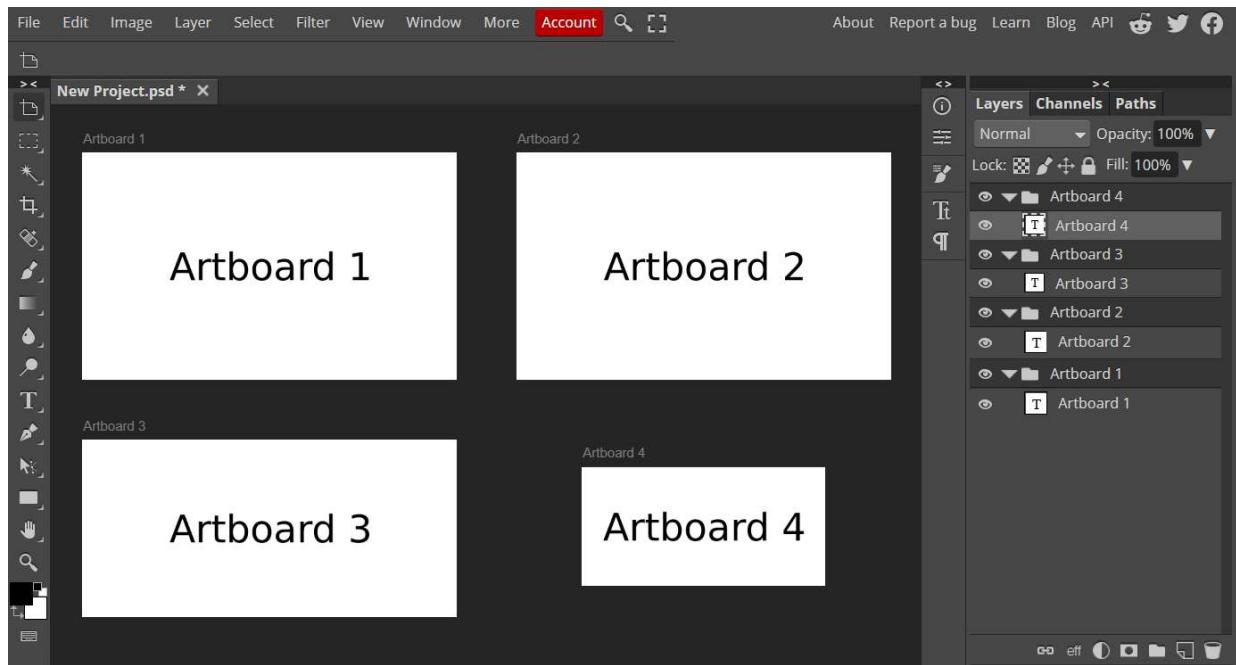


Try it out yourself! Here is our PSD document and here is our archive with flags.

This section describes other tools.

Do you need help? Ask us at [our Reddit!](#)

A document in Photopea is a rectangular area, which contains graphics (layers with images, text, vector shapes, etc.). But what if we want to have "multiple documents in one document"?



A document can have artboards, which look like "documents inside a document". We can move them around, move layers from one artboard to another, resize the artboard, etc. A document will be saved as a single PSD files, with all artboards inside it.

If we look deeper, an artboard is just a folder of layers. If we move a folder, all layers inside are also moved. But there are a few differences:

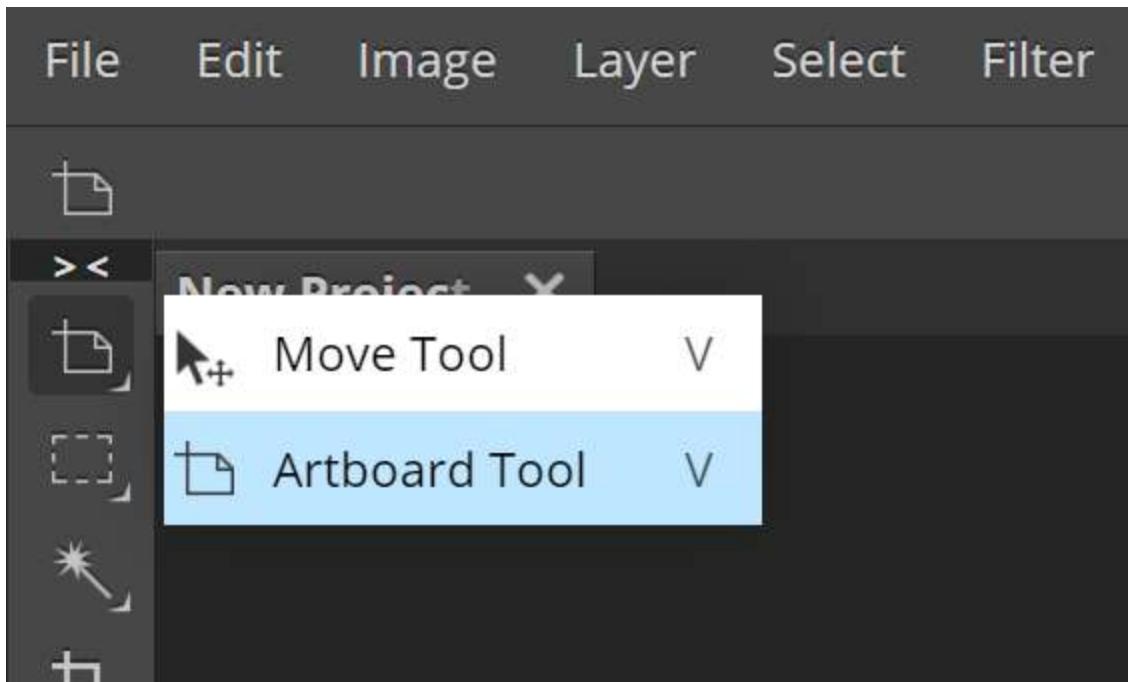
- Each artboard has its own rectangle (a "window") attached to it, only the layers inside that rectangle are displayed.
- An artboard can have a custom background color.
- Artboard can not be placed into another folder, it is always "top level".

92

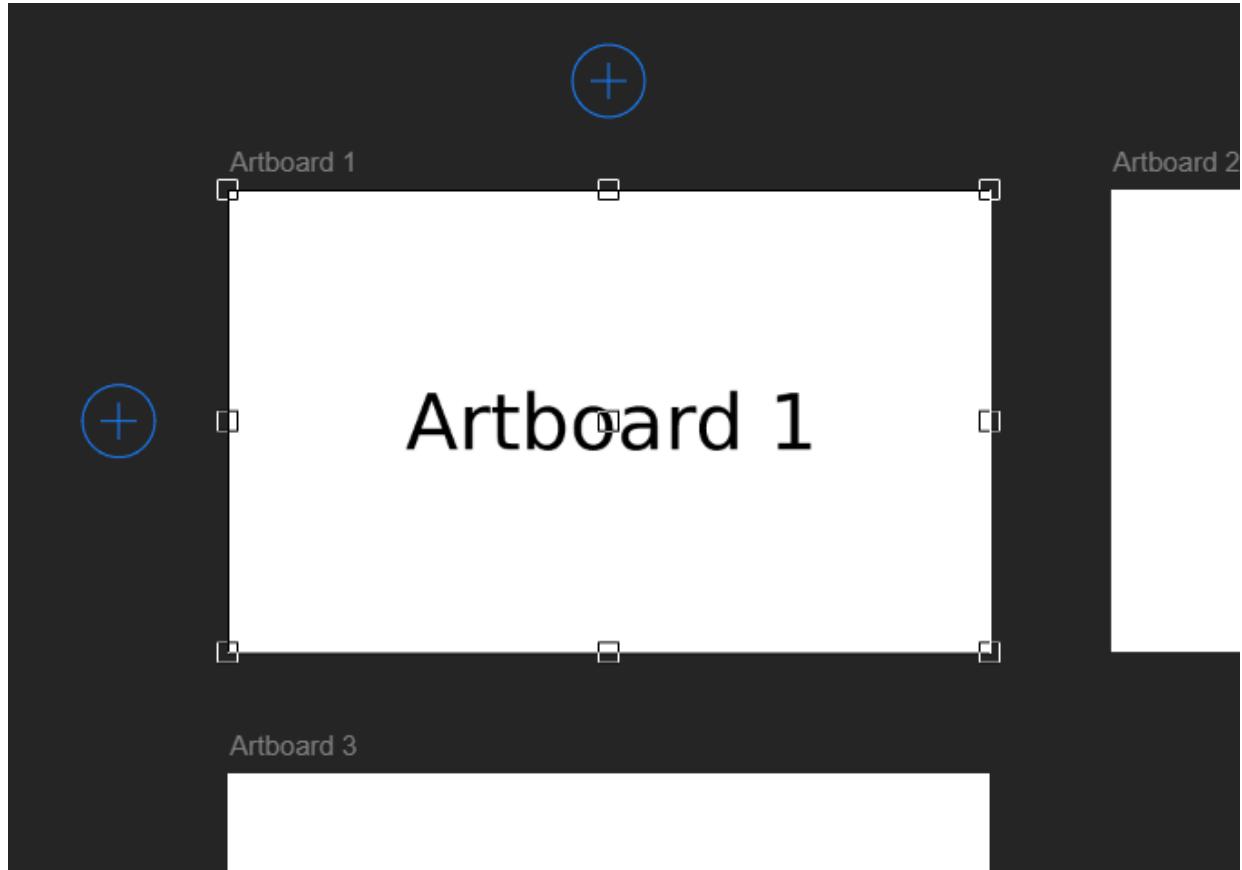
Working with Artboards



When creating a new document, we can check the "Artboard" checkbox, to have a document with a single empty artboard. Artboards are common in formats like Sketch, XD, Figma, and Photopea can detect artboards in these files. If you open a PDF, each page is converted into an artboard.

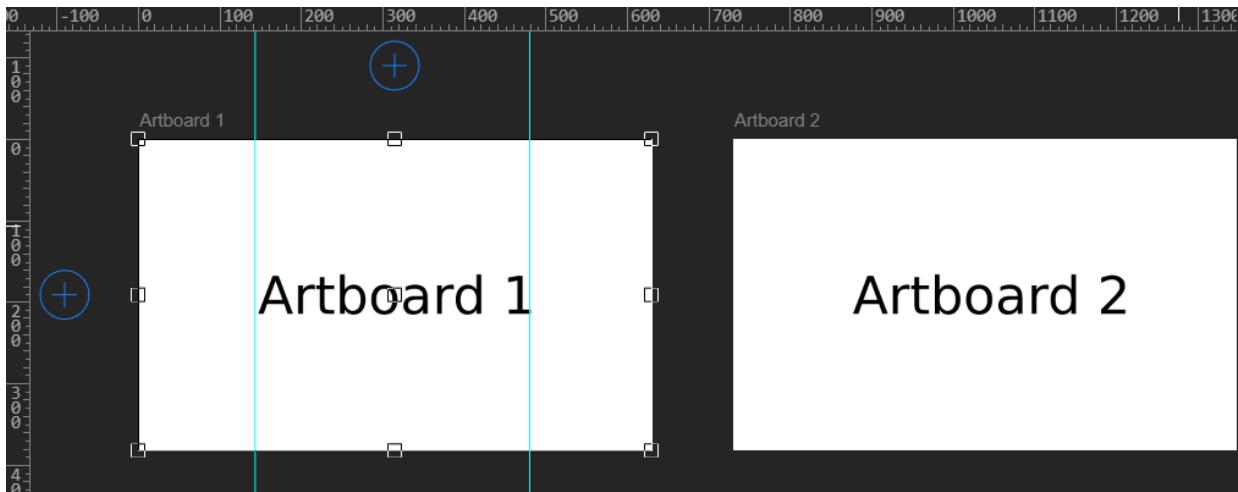


You can manage artboards with the Artboard tool. Choose the tool and draw a rectangle to create a new artboard. If you select an artboard (in the Layers panel), you can resize it, or click the "+" button to add a new artboard of the same size. You can rename or delete an artboard just like you do with any other layer.



Press Window - Properties to see properties of an artboard. You can enter specific dimensions there, or change the background.

When you select an artboard, rulers are redrawn relative to that artboard (zero at the top left corner of the artboard). When you add guides, they will be attached to a selected artboard (and will be hidden if you select another one).



93

Exporting Artboards



When you export to formats like PNG or JPG, there is the "As Artboards" checkbox. Enable it to export a ZIP archive with a PNG/JPG file for each artboard. When you export to PDF, each artboard is turned into a separate PDF page.

Have you ever walked into a TV store, with many TVs showing the same video? And the video looked a bit different (brighter, more yellow-ish, various contrast) on each TV?

Capturing devices (digital cameras, scanners) and displaying devices (monitors, printers) have various technical properties. Color Spaces provide the ability to make colors look always the same, no matter what capturing or displaying device has been used.

94

Absolute colors



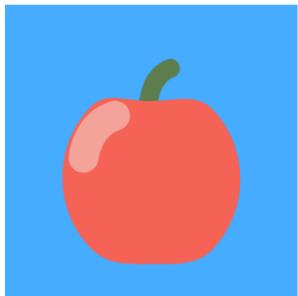
To compare, which object is heavier in a real world, we need to give each object a number: weight (measure it). Two objects have the same weight, if that number is the same for both of them. There are many units of weight (grams, pounds, ounces), which can be converted, one unit to another.

To compare colors in a real world, each color should be given a number, too. Two colors are the same, if that number is the same for both of them. There are two popular units (color spaces), that are used in practice: [CIELAB](#) and [CIEXYZ](#).

While Grams (unit of weight) consist of one number (e.g. 150 grams), CIELAB (unit of color) consists of three numbers (e.g. CIELAB 0.5, 0.7, 0.1). These numbers are called channels or components.

Let's say we have a square hole in a wall, and there is an apple on the other side, with a blue cloth behind it. We take a picture of it, print it, and put that printed picture behind a second hole in a wall (illuminated by a proper light). We also display the same picture on an LCD monitor, which we put behind a third hole.

If the digital camera can store real colors into correct CIELAB values, and both the printer and the monitor can correctly reproduce any CIELAB values, we should not be able to distinguish (with our eyes), which hole contains a real apple, which one is the monitor, and which one is the ink on a paper.



95

Device-
specific
colors



First monitors created colors by combining three lights, usually referred to as Red, Green and Blue (RGB) (note, that "Red" in terms of color is ambiguous, just like "Heavy" in terms of weight; one would need to specify a CIELAB value to be precise). It was natural to store a color digitally as three numbers: intensities of Red, Green and Blue for that specific monitor. Such color always looked the same on all monitors of that specific brand. But these values had no relation to CIELAB.

More monitor manufacturers appeared, each of them using materials with different physical properties. The RGB color value for one monitor looked different on another brand of monitor. Finally, a proper system with three components was created, called Standard RGB, or sRGB. There is an exact formula, how to convert between sRGB and CIELAB, so each sRGB color actually corresponds to a real-world (unambiguous) CIELAB color.

All images were stored in sRGB color space. Each monitor offered many settings, which allowed people to "calibrate" the monitor, until it displayed sRGB values correctly.

There was the same problem with printers. They usually create colors by mixing four inks, referred to as Cyan, Magenta, Yellow and Black (CMYK). A specific ratio of these inks, that was printed by one printer, could look different on another printer having inks with different chemical properties. Some printers could even use five or more inks. Some printers could produce colors, that other printers could not produce.

96

Color Profiles

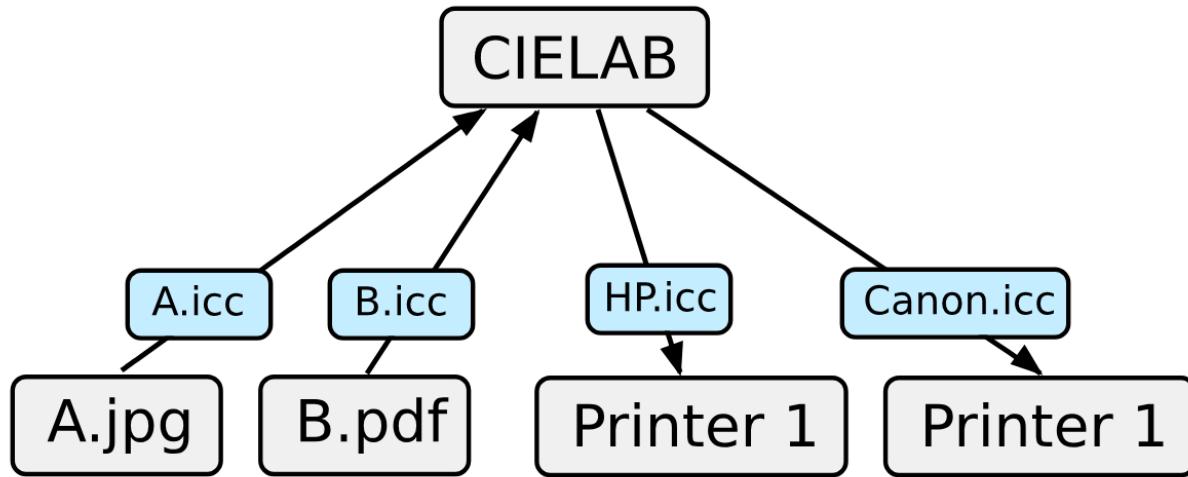


Let's say, that an absolute CIELAB color [0.3, 0.8, 0.1] can be displayed with RGB signals [224,107,158] on a monitor A, and with RGB signals [231,99,161] on a monitor B. We can say, that each monitor has its own color space, and it can convert any value from CIELAB into its own space. Instead of storing a color digitally as CIELAB, we can store it as any set of numbers, as long as we provide a mechanism, how to convert these numbers into CIELAB.

All problems with device-specific colors have been solved by ICC profiles. An ICC profile (for a specific color space X) is a set of instructions, how to convert values from the color space X into CIELAB, and back. These instructions are stored in a special file: ICC file (e.g. "Canon_printer_123.icc"). Since the ICC profile describes the conversion between the space X and CIELAB, it fully describes the color space X.

*** Analogy: We could create a "weight space" of "bukalas". A "weight profile" would say, that "one bukala is 1200 grams". It lets us convert between "bukalas" and grams, so it fully describes what a "bukala" is.

This means, that each digital image (JPG, PNG, PDF) has to be equipped with an ICC profile (so that we are able to convert its color values into CIELAB), and each printer has to be equipped with an ICC profile (so it can convert absolute CIELAB colors into its own four values of ink).



Without ICC profiles, each camera would probably store colors in its own color space. Each printer and monitor would have to be equipped with special configurations for images of each model of the camera, and update these configurations, as new cameras appear on the market. I.e. each image-displaying device would have to be aware of all existing image-capturing devices, and make special configurations for their images.

With ICC profiles, we only specify, how to convert between "our own" device-specific colors, and "common" CIELAB colors. When each party can supply such ICC profile, the result is the same, as if we used the CIELAB space everywhere.

Usually, the printing software can detect the ICC profile of digital images, and convert them into the printers profile automatically. Also, an image viewer converts colors of the image into CIELAB (using the ICC profile), and CIELAB to sRGB, while a graphics driver takes sRGB colors and converts them into a color space of the monitor (using the ICC profile supplied by the manufacturer of the monitor). We don't deal with any ICC files in practice, the computer (software) takes care of them automatically.

When we have an image without an ICC profile, "guessing" its color space is very dangerous. It is like having some numbers specifying weights, and guessing, if they are grams or ounces.

Also, just saying, that an image (file) is in RGB, or in CMYK, makes no sense. The value (255,0,0) could be Red, as well as Green. Unless the color space is specified (with an ICC file), we can not be sure, what color is meant by the values inside a file.

The sRGB space is very popular for storing digital images. Authors (of images) usually only specify, that the image is in sRGB, without attaching a specific ICC file to it. Converting sRGB to CIELAB is very simple, and the formula is usually built into a graphic software.

sRGB is also used on the Web: when we specify `#ff00ff` or `rgb(255,0,255)` in CSS, browsers expect these values to be in sRGB space.

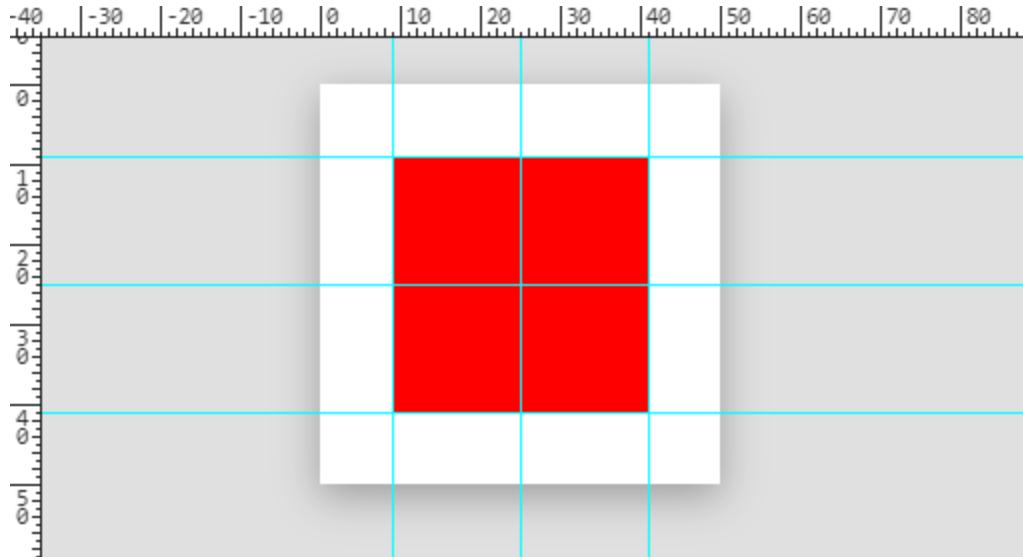
Precise position of image elements can be very important. The basic tool, which can help us align image elements, are rulers. Rulers can be enabled in View - Rulers. But there are several other ways how to align elements precisely.

97

Guides



There can be multiple guides in a PSD document. A guide is a horizontal or a vertical line, which is displayed over the document and can help you align elements.



To add or delete a guide, select the Move tool and enable rulers. To add a guide, click on the ruler and drag the mouse into the document. To delete a guide, click on it and drag it onto the ruler.

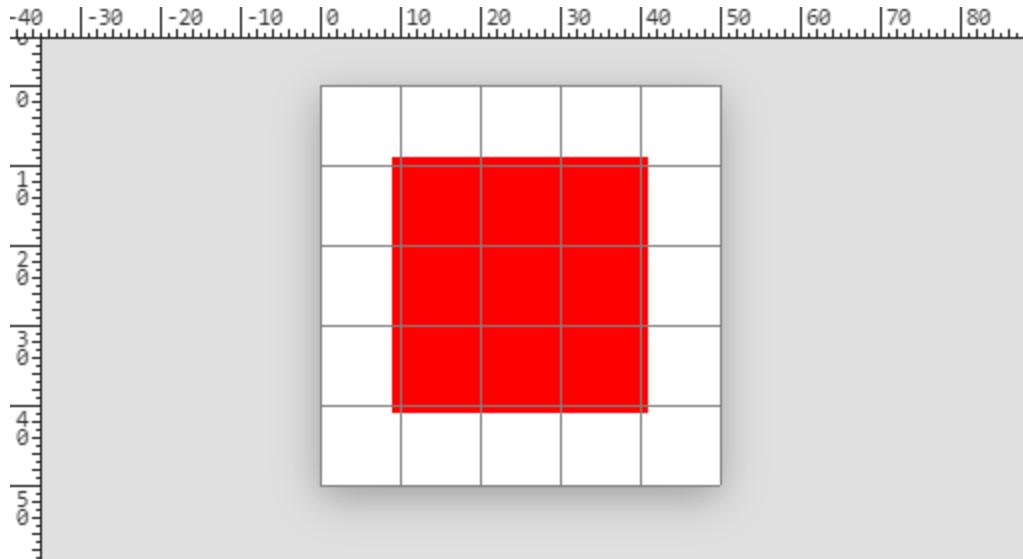
To move existing guides, click on them with a Move tool and drag them to a new location.

98

Grid



Designers often need to place some elements regularly, with an equal distance between them. Instead of adding many guides with the same spaces between them, we can use the grid. A regular grid will be displayed over your document, which can help you align other elements.



99

Pixel Grid



The Pixel Grid draws a grid with one pixel gap. It is visible only after zooming in close enough. When an image area has a constant color, the Pixel Grid helps you see the borders between pixels (can be useful for pixel art).

Guides, Grid or Pixel Grid can be enabled or disabled using View - Show - Guides, Grid or Pixel Grid. There is the main switch: View - Extras, which can disable them all at once. The size of the grid can be changed in Edit - Preferences. Note, that guides are related to a specific document and can be different in each document, while the same grid is displayed over all documents.

100

Snapping



Placing elements precisely on the guide (or on the grid) can be hard. We may need to zoom in and move the object several times, until it is on the right spot.

Snapping can solve this problem. Whenever your object is near the guide (e.g. closer than 5 pixels), it is "snapped" to that guide, i.e. its location is set to the location of that guide. You don't have to be so precise, Photopea finds the nearest guide and moves the object for you.

Snapping can be enabled or disabled using View - Snap. You can snap to different things, such as guides, grid, document bounds etc. (take a look into View - Snap To). But with snapping, you are less flexible, e.g. when you want to place an object close to the guide, but not exactly on it. It is useful to disable snapping in such cases.

Snapping can be used with all tools, where you would expect it: Move tool, Free Transform, Crop tool, selections, tools for editing vector graphics etc.

Animated images (GIF, APNG, WEBP), are very popular. An animation has several static images - frames, and the information, for how long each frame should be displayed (before going to the next frame). Photopea can open, edit and save animations.

101

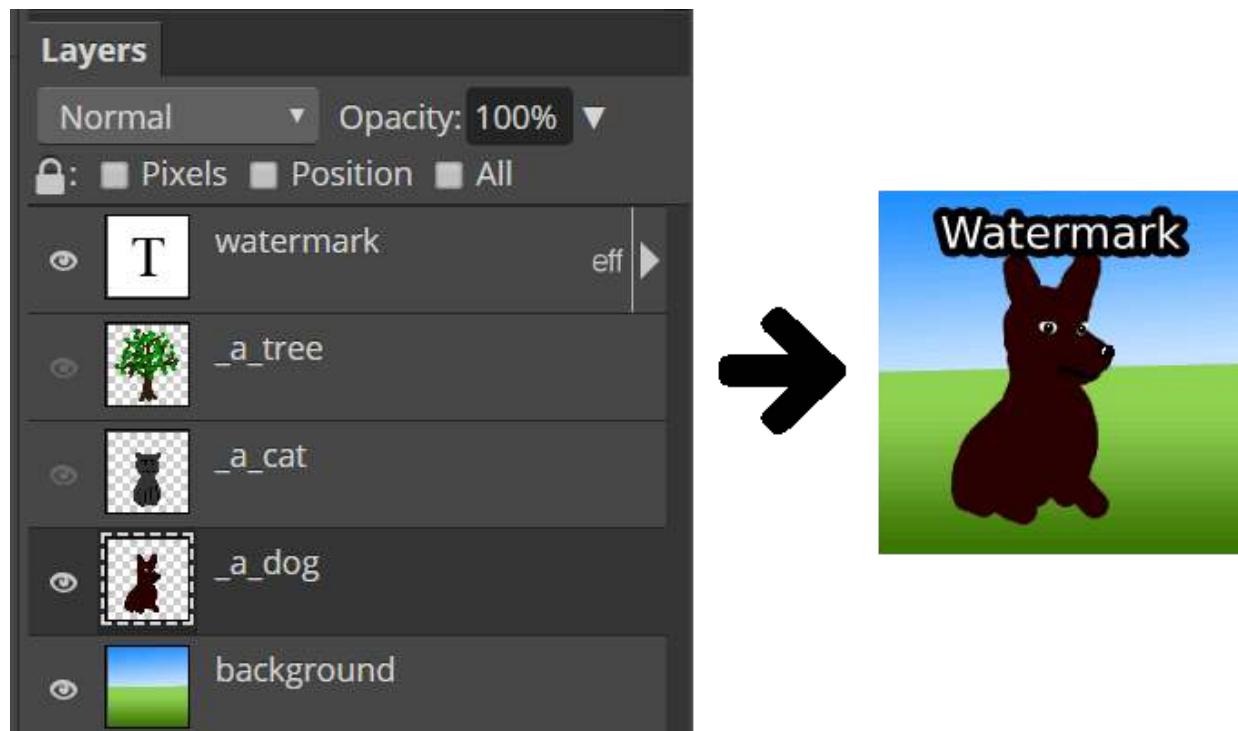
Animations in Photopea



Photopea can make an animation from layers of the document by showing a different layer in each frame. To define a new frame, the layer name should start with `_a_`. It can be a regular layer, a folder of layers, or any other layer.

When you export such document as a GIF, PNG or WEBP, Photopea detects all layers starting with `_a_`. The first such layer is shown in the first frame (others starting with `_a_` are hidden). The second such layer is shown in the second frame, etc.

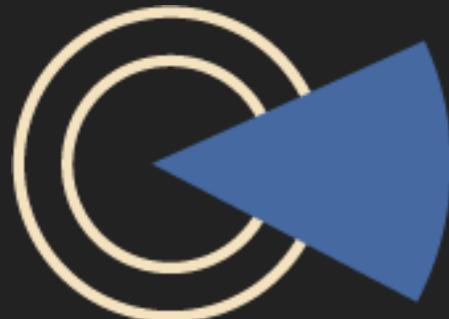
Example: we have five layers: `background`, `_a_dog`, `_a_cat`, `_a_tree`, `watermark`. The GIF will have three frames (3 layers start with `_a_`). `background` and `watermark` will be in all frames. [Try it here!](#)



When you open an animation (GIF, APNG, WEBP) in Photopea, Photopea will turn every frame into a layer with a proper name. So when you edit an animation (delete frames, reorder frames, resize ...), there is no need to change layer names.

102

Delay



A layer which starts with `_a_` makes a new frame, which will be shown for 100 ms by default. To set your own delay, put `,` and a number to the end of the layer name. E.g. `_a_dog,500` will be displayed for half a second.

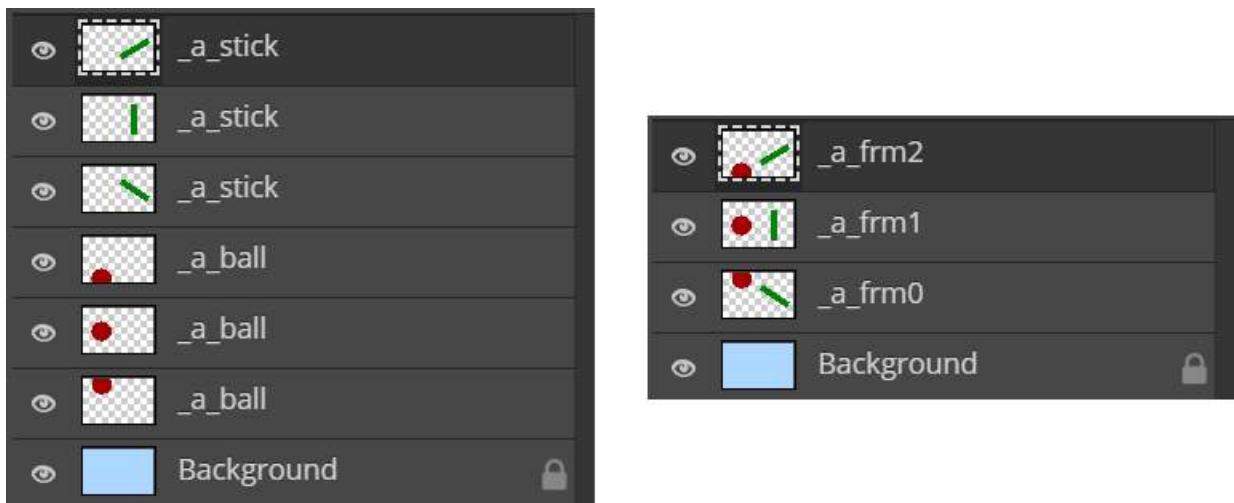
103

Merge
frames

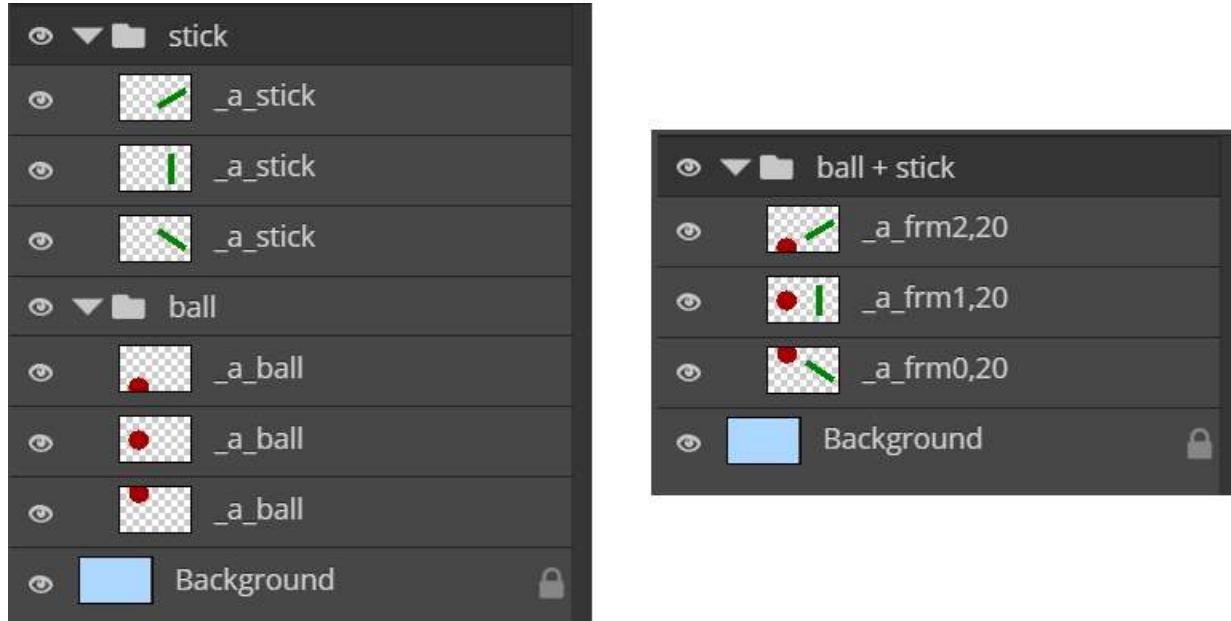


Let's say we have 3 frames of one animation and 3 frames of another, i.e. six layer starting with a. The resulting GIF will have six frames. Can we make these two animations play simultaneously "in parallel"?

We need to turn it into 3 frame layers, where each layer contains images from both animations. We can do it manually: merge each two layers into one using Layer - Merge Layers.



We can do it automatically. Put each animation in a folder and press Layer - Animation - Merge.



Photopea will find all folders, and merge their frames together. Alternatively, you can select only folders you want to merge (in Layers Panel) before pressing Layer - Animation - Merge.

Slices define rectangular areas on top of our document. We can export such document with a single click, and each slice becomes a separate image file, such as PNG or JPG.

Multiple slices (rectangles) can be present in a document. With at least one slice, Photopea will display slices on top of the document (just like guides or the grid are displayed). We can hide them by pressing View - Slices.

Photopea automatically adds auto slices (displayed in grey), to make sure each part of the document belongs to exactly one slice. Auto slices are updated while we create or move our own slices (displayed in blue).



Here is a document with two slices (labeled as 3 and 4). Three auto slices were added by Photopea.

104

Slice Tool



New slices can be added with a Slice tool. Simply press the mouse at any point in the document, drag the mouse, and release it, to draw a rectangle. The mouse is usually snapped to document boundaries, guides, grid, or to other slices, depending on the current settings.

105

Slice Select Tool



Slice Select Tool allows us select a slice by clicking on it (or select multiple by holding Shift). Then, we can move selected slices with a mouse or cursor keys, or delete them with a Delete key.

Selected slices have little squares on their corners and edges. We can click them to resize slices. The mouse also snaps to guides or other slices while resizing.

106

Export Slices



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When there is at least one slice in a document, and we try to export it as PNG, JPG or GIF (File - Export As - PNG ...), Photopea will export a ZIP archive. The archive contains an image for each slice in the document. It also contains a HTML file, which can be used as a website for our project.



PHOTOPEA HAS PAY AND FREE VERSIONS

My name is **Ivan Kutskir** and I'm the creator of Photopea.

I'm a 30-year-old computer programmer. I was born in Ukraine, but I live in the Czech Republic most of my life (in **Prague** since 2009).

I started developing Photopea back in 2012. I intended to call it **Photo Hammer**, but I didn't register the .com domain right away, and when I tried to do so six months later, it was already taken.

My friends and my family did not know about Photopea during the first four years of development. I was spending a lot of time building it, without making any money or learning new skills. So nothing to be proud of, but the project was fun and I enjoyed working on it.

Now, it's heartwarming to know that millions around the world use Photopea as their creative medium. To this day I work on Photopea, driven by the positive impact of my creation.

Ivan Kutskir

@photopea.com



Ivan holding Photopea in Prague