



PNG Express is an Adobe Photoshop panel extension focused on automating, optimizing, and improving the delivery of UI designs for development.

Rev. 15

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# Introduction

Thank you for purchasing PNG Express!

With this new tool you will be able to greatly speed up your workflow while improving the consistency of your design deliverables.

If you run into any problems or have a great idea for a new feature don't hesitate to get in touch.

[info@pngexpress.com](mailto:info@pngexpress.com)

[www.pngexpress.com](http://www.pngexpress.com)

## Installing for Photoshop CC2014 and CC2015

Unpack the downloaded ZIP archive and browse to the "Install - Photoshop CC2014-2015" folder.

1. Open Photoshop and drag the "Drag me into Photoshop.jsx" file into Photoshop or onto the Photoshop icon.
2. Photoshop will now walk you through the installation process.
3. Restart Photoshop.
4. Copy the included metadata templates to any folder on your hard drive.

If dragging doesn't work you can also begin the installation in Photoshop by navigating to File / Scripts / Browse, and browse to the "Drag me into Photoshop.jsx" file.

## Installing for older Photoshop versions

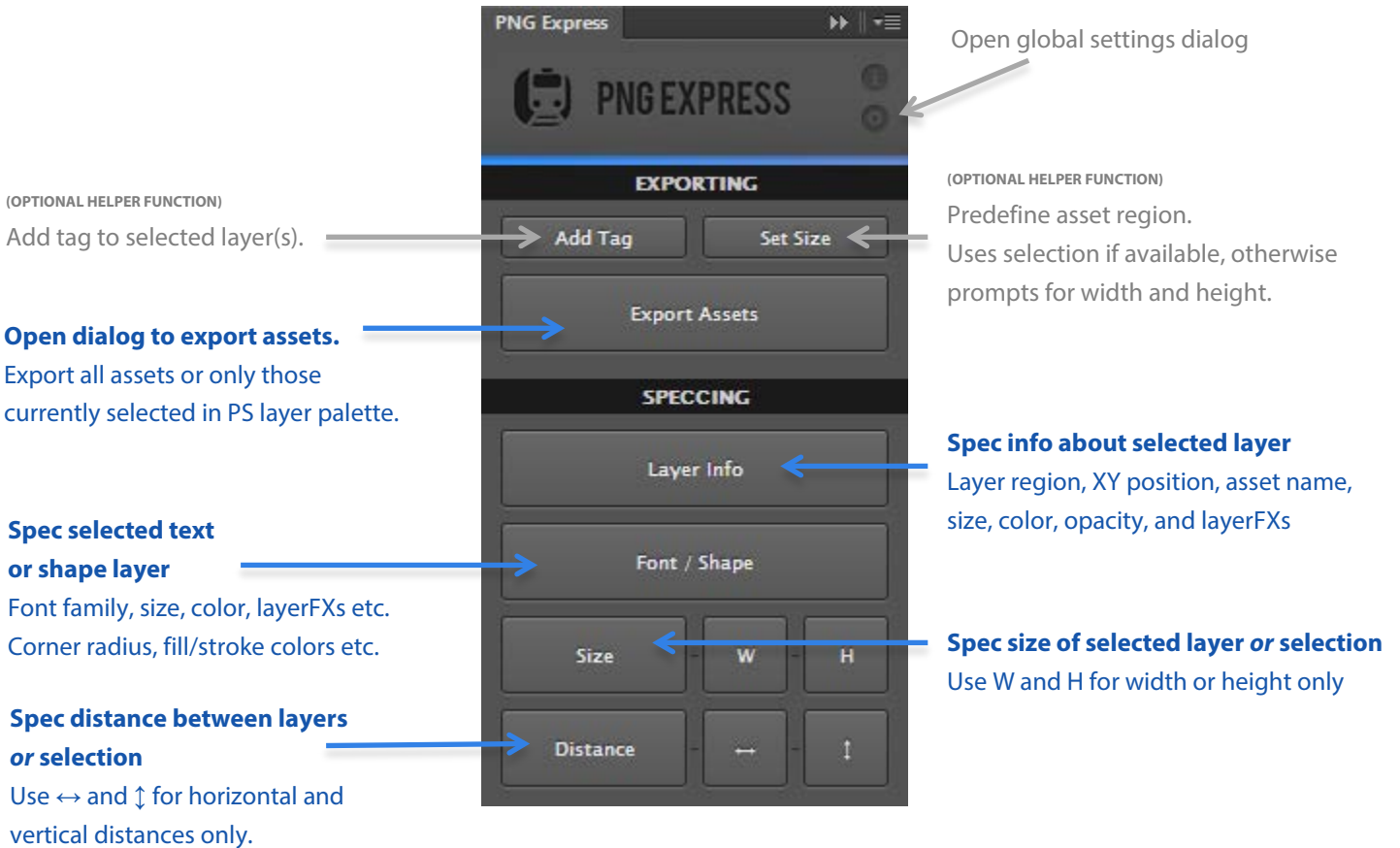
PNG Express for Adobe Photoshop CC, CS5, or CS6 must be installed with the Adobe Extension Manager which can be downloaded here: [http://www.adobe.com/exchange/em\\_download/](http://www.adobe.com/exchange/em_download/) (Remember to download the version that matches your Photoshop version.

1. Click the **PNG Express.zxp** file. This should open Adobe Extension Manager.  
**Please ensure that it is the correct version, i.e. it should be Extension Manager CC if you intent to install for Photoshop CC.**
2. Follow the on-screen instructions.
3. Copy the included metadata templates to any folder on your hard drive.

### PC

You may need to run the Adobe Extension Manager as an administrator. To do this right-click the Adobe Extension Manager icon and click "Run as Administrator". In Adobe Extension Manager click "Install" and browse to the PNG Express.zxp file.

# PNG Express Quick Guide



## Tags:

<b>PNG:</b>	Defines an asset to be exported as a PNG file (example: PNG:logo)
<b>JPG:</b>	Defines an asset to be exported as a JPG file.
<b>SVG:</b>	Defines an asset to be exported as a SVG file.
<b>STATE:</b>	Defines a state inside a PNG/JPG/SVG group. Asset will be exported in all states.
<b>VAR:</b>	Defines a variant inside a PNG, JPG, SVG or STATE group. Asset will be exported in all variants in all states.
<b>//</b>	Prevent layer or group from appearing in any exported file
<b>/folder/</b>	Export asset to a sub-folder named <i>folder</i> (example: PNG:/icons/search)
<b>-m</b>	When added to the end of PNG: or JPG: asset names it enables merged export. The asset will be merged with other visible layers. (example: PNG:button -m)

# Slicing & Exporting Assets

To slice and export your Photoshop file into individual PNG files, all you need to do is add simple tags to the names of layers and groups. Do this while you design, or as a step just before exporting, and you're ready to export assets repeatedly without worrying about copying, trimming and naming files. You can export all assets at once or just a selected few if that's all that's needed.

A lot(!) of attention has gone into making PNG Express rock solid and to ensure that exported files are 100% pixel perfect. ... no matter if your PSD has clever combinations of masks, adjustment layers, layer styles, smart filters, crazy folder hierarchies, oversized layers, and whatnot. You'll have no clipped pixels, no messed up layer styles, no color distortions, no forgotten masks, and no missed layers. Just the asset as if you had carefully sliced and saved it manually.

## How to create an asset ready for export

Add a **PNG:** or **JPG:** or **SVG:** prefix to the name of a layer or group you want to be exported.

A PNG/JPG/SVG asset can be a single layer, or a layer group. It can be placed inside other groups, but you can't nest assets inside other assets. **Important:** Avoid using the same name for multiple assets.

---

**EXAMPLE:** a layer/group named "PNG:button" will output this file:

> button.png

---

### WHICH LAYERS WILL BE EXPORTED?

By default assets are exported in isolation on transparent background. This means that only the contents of the asset layer/group will be visible in the exported file. All other layers in the document will be hidden, and the asset will be trimmed to the smallest size possible.

If the asset is a group, then by default all layers inside the group will be visible in the exported file regardless of their visibility state when you run the export. However, you can add a **//** prefix to names of layers or groups to prevent them from showing in the exported file. This allows you to keep layers in the document although they are not intended for export (such as mockup text, alternative designs, or annotations). When using the helper function "**Add Tag**" to tag a group as an asset, hidden layers inside the group will automatically be tagged with **//** to prevent them from appearing in the exported file.

If you do not want the asset to be exported in isolation, then add a **-m** suffix to the PNG asset layer/group name to indicate that you want the exported asset to be merged with other visible layers in the document prior to the export. This can be useful if your asset uses blend modes that interact with background layers.

## How to prevent layers from showing in the exported file

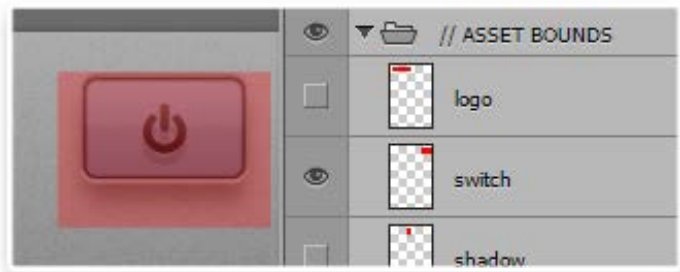
Add a **//** prefix to the name of a single layer or an entire group to prevent it from appearing in any exported file.

## Understanding asset bounds

By default, the size of an asset is automatically determined and trimmed on its first export.

During export, PNG Express will create a new layer group called **"// ASSET BOUNDS"**. The layers in this group reflect the size (width and height) of the exported file for each asset in the document. This means that you can see the exact region of an exported asset by checking the corresponding layer in the **"// ASSET BOUNDS"** group. Similarly, by creating or changing these layers you can control how assets are sliced for export.

The size of an asset will automatically be determined first time it is exported, and a layer containing the asset region filled in red color will be created in the **"// ASSET BOUNDS"** group. The layer will be named after the asset name.



If exporting again later, PNG Express will check for the presence of a matching layer in **// ASSET BOUNDS**, and re-use the size of this layer as the export region. This allows you to output files with consistent dimensions regardless of minor changes in the design. You are free to scale or move the layers in **// ASSET BOUNDS** as you please to adjust the export region. If you make major changes to your design and need PNG Express to re-calculate the size of an asset, then simply delete the corresponding layer in **// ASSET BOUNDS** and a new will be created during export.

### SPECIFYING A PARTICULAR ASSET SIZE

If you want to ensure that an asset is exported with a specific pre-defined size, then you can create a layer to **// ASSET BOUNDS** and fill the desired region prior to export. This is done easily by selecting the asset layer and clicking the **"Set Size"** button on the PNG Express panel. Read more about this function in the chapter called **"The Helper functions"**.

## How to create multiple states of an asset

Add **STATE:** prefixes to the names of layers/groups inside a PNG asset to create multiple states of the asset.

All states will be exported as part of the PNG asset, with each state resulting in a separate file. All states are sliced using the same export region in // ASSET BOUNDS. The name of the STATE layer will be appended to the asset name when saving the PNG, so you are free to name states as you want.

---

**EXAMPLE:** layers named "STATE:\_on" and "STATE:\_off" inside the "PNG:button" group will output these files:

- › button\_on.png
  - › button\_off.png
- 

States inside a PNG asset group will be exported one by one together with any untagged layers in the group, so you may leave layers inside the PNG asset group untagged if they are to be visible in all states. This allows you to avoid redundant layers by only tagging the layers that actually change between states.

## How to create variants of an asset

Add **VAR:** prefixes to the names of layers/groups inside a PNG asset to create multiple variants of the asset.

All variants will be exported as part of the PNG asset. If there are also states as part of the PNG asset, then *all variants* will be exported *in all states*.

---

**EXAMPLE:** layer groups named "VAR:\_blue", "VAR:\_green", "STATE:\_on" and "STATE:\_off" inside the "PNG:button" group will output these files:

- › button\_blue\_on.png
  - › button\_blue\_off.png
  - › button\_green\_on.png
  - › button\_green\_off.png
- 

## Understanding file naming

An ASSET will be saved in all VARIATIONS in all STATES. The resulting name of an exported file will be:

**PNG/JPG name + VAR name + STATE name + Export Suffix.png**

The only required part is the PNG/JPG name. The export suffix is defined in the export dialog box.



## How to export an asset to a sub-folder

Add **/folder/** after the PNG/JPG: tag in order to specify sub-folders in which the asset will be saved.

Sub-folders will be created automatically and you can have multiple levels of sub-folders.

**EXAMPLE:** a layer named "PNG:/menu/button" will output this file:

```
> [Output-Folder]/menu/button.png
```

## How to export 9-patch assets for Android

Create a layer in // ASSET BOUNDS folder with the name of the PNG asset and appended with **.9**  
The filled pixels in this layer will define the 9-patch *stretch regions*.

You can also define the 9-patch *content region* by creating an additional asset bounds layer appended with **.content**

You can have both a regular Asset Bounds layer and .9/.content layers for the same asset. In fact, often the easiest way to create a .9 layer is to duplicate an existing Asset Bounds layer, add the .9 suffix and then simply transform it to the desired size and position.

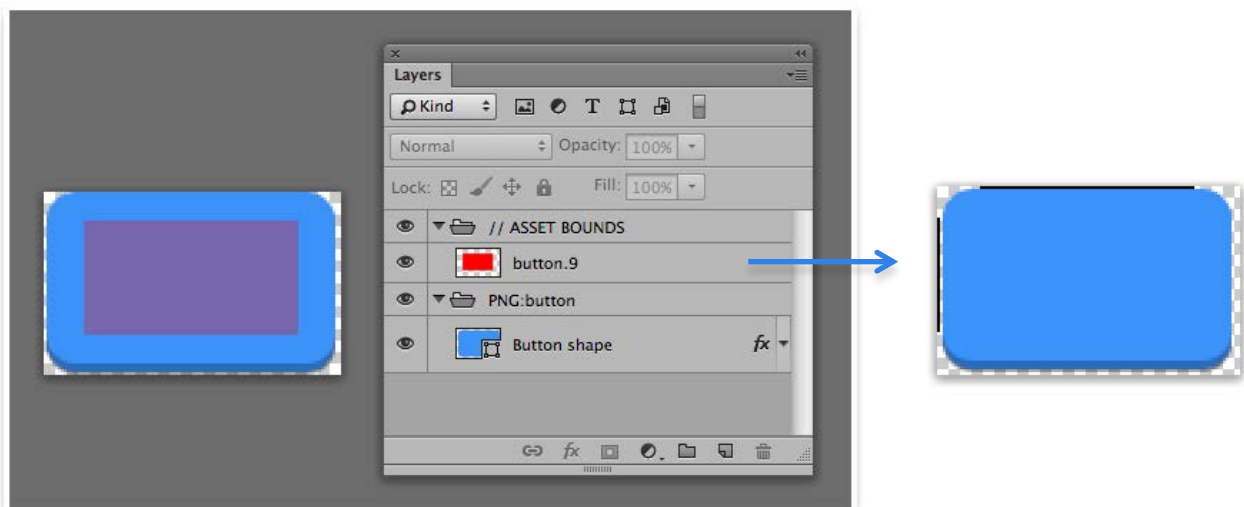
.9 layers can contain multiple stretch regions for very flexible 9-patch assets, however there can only be one content region.

9-Patch assets are only exported as part of the Android Auto-Scale export.

**EXAMPLE:** a layer named "PNG:button" with a layer inside // ASSET BOUNDS called "button.9"

will output this file:

```
> button.9.png
```



## How to export to SVG

Add **SVG:** prefix to the name of a layer or group you want to be exported as a SVG file

All layers can be exported as SVG, but it's recommended to use vector materials, such as shape layers, vector masks or text layers.

---

**EXAMPLE:** a layer named "SVG:home" will output this file:

› home.svg

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PNG Express creates organized and scalable non-rasterized SVG files, including support for strokes, gradients and layer styles. Only a few layer styles are not yet supported:

- Bevel & Emboss
- Satin
- Pattern Overlay

## Using device modifiers for Asset Catalog

Add **~iphone** **~ipad** **~mac** **~watch** **~watch38** or **~watch42** suffix to the name of a layer to indicate a device specific asset

Device modifier will be respected in the exported file name, and when using Asset Catalogs PNG Express will use this information to build the Contents.json used by Xcode to assign assets to different densities and devices.

Any asset without a device modifier is considered to be a universal asset.

---

**EXAMPLE:** a layer named "PNG:button~ipad" will output this file:

› button~ipad.png

which will be assigned as an ipad asset in Xcode's asset catalog.

---

## The Export dialog

When you're done designing and adding tags to your Photoshop file, click the **"Export Assets"** button. This will open up the export dialog where you can choose where to save the assets. Note that existing files in the output folder will be overwritten if the names are identical.

PNG Express allows you to either export all assets in the document in one go, or to export only the assets that are currently selected. This can be a timesaver if you only need to export a few new assets inside a large Photoshop design. To select assets, simply select the layers tagged with PNG: (or the corresponding Asset Bounds layers) in the Photoshop layers palette.

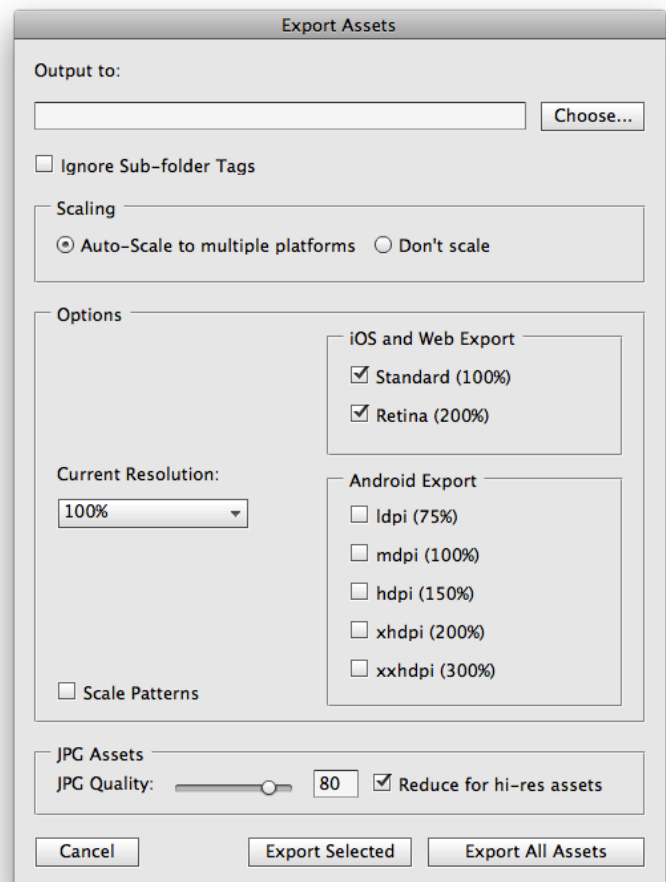
### Auto-Scale to Multiple Platforms

With Auto-Scale enabled (the default mode) PNG Express will handle asset slicing, scaling to multiple resolutions, file naming according to platform conventions, and the export to appropriate sub-folders. Simply set the source resolution of your current document, and select the destination resolutions and platforms you want to export for.

By default PNG Express will not scale Pattern Fills and Overlays, because patterns and textures are usually preferred at their native scale to look sharp. However, if you do want patterns to scale then just enable **"Scale Patterns"**.

### Don't Scale

With Auto-Scale disabled PNG Express will simply export assets in the current design resolution. You can manually enter an optional string to append to all exported assets.



### JPG Assets

Use the JPG Quality slider to set the compression quality of exported JPG assets. When using Auto-Scale export you have the option to **"Reduce for hi-res asset"**. Enabling this will cause PNG Express to use the set JPG quality for assets up to 100% resolution and then gradually lower the quality for assets above 100% to keep file sizes down. In most cases this will ensure bandwidth-friendly file sizes of hi-res assets without noticeable quality loss, because the greater amount of pixels in the hi-res assets means that the increased compression artifacts of lower JPG quality becomes almost unnoticeable when the asset is displayed at its intended physical size.

## The helper functions

On the PNG Express panel you will find two buttons which will help you work with tags and regions. You don't have to use them, but they provide a couple of nice tricks and can speed things up when you need them.

### Add Tag

Use this instead of manually renaming to tag to layers.

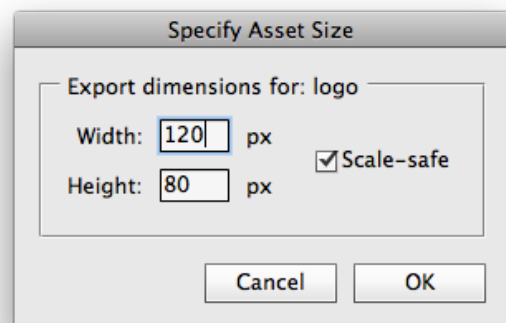
This function can work in two different modes. By default it creates one asset from the selected layers, i.e. it will move all selected layer(s) into a group and add a tag of your choice. You will be prompted for the name and tag type. A great benefit of using this function is that it will automatically tag hidden layers with // in order to prevent them from appearing in the exported file. This can be disabled though if needed.

The second mode is accessed by enabling "**Tag individual layers**". This will tag every single selected layer as an asset by inserting the chosen tag prefix in front of the layer names. Obviously, this can be a huge time saver when needing to tag many layers.

### Set Size

Use this if you need to define a specific export region for an asset. It will create/replace a layer in // ASSET BOUNDS defining the asset region for the selected asset layer.

If you have made a marquee selection, then it will be used as the asset region, otherwise you will be prompted for the desired width and height. The default values in the dialog represent the region that PNG Express has determined for the asset. The entered region will be centered around the asset.



If you select multiple assets then PNG Express will take them all into consideration and calculate one common width and height for all selected assets. The export regions will however be placed individually and centered around each asset. This makes it very easy to define export regions for multiple assets that all need identical dimensions.

The dialog has a "**Scale-safe**" checkbox that allows you to restrict the asset dimensions to numbers that will scale evenly to other resolutions. This is especially useful if you start your design at higher resolutions, and want to ensure that assets scale properly when creating x1 versions later on. You can control the logic behind the Scale-Safe feature in PNG Express Settings.

# Creating Specifications

When creating design specifications using PNG Express it is your decision which layers to add descriptions for, and which details you want describe. You simply select one or more layers and hit the appropriate buttons on the PNG Express panel to add the needed specs to your document.

## General notes

You can add specs to both normal layers & groups, and to layers tagged as an asset. PNG Express is clever enough to take names and sizes of defined assets into consideration when generating specs.

When adding the very first “spec” to a Photoshop document, PNG Express will first create a duplicate document (and enlarge the canvas if required). You can continue building up your specification in this document without interfering with your actual design document.

All original layers & assets are still available in the duplicate document inside the **“DESIGN CANVAS”** group. **Please do not rename this group!** You are however free to change the canvas size if you find that you need more room, although it’s important that you keep the “DESIGN CANVAS” group centered in the canvas.

## Controlling specs

All generated specs are placed inside a **“// SPECS”** group. They are fully editable and are linked sensibly so it’s easy to adjust their content and position.

Specs for Layer Info and Font/Shape features are drawn in the margins and header/footer of the design. PNG Express will automatically try to find the best placement, but if you’d like to specify it manually you can **hold down ALT while clicking one of the spec buttons**. If you’d like to change the direction of the spec after it has been added, simply add it again and a dialog appears allowing you to manually specify the placement.

### LAYER INFO OPTIONS

When specing Layer Info you can customize the type of information included in the spec. Hold down ALT while clicking the “Layer Info” button to bring up a dialog where you can choose which information to include. PNG Express will remember your selection and use that when you continue to add more Layer Info specs.

## Layer Info (*hold ALT to choose*)

- Layer region (will use asset bounds if layer is an asset)
- X,Y Position in canvas
- PNG filename (if layer is an asset)
- Layer width and height
- Color and opacity
- Layer Effects

INFO  
X:44 Y:27  
png: Logo



Works on selected layer(s).

## Font / Shape

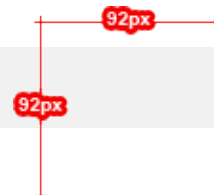
- Font name
- Font style
- Font Size
- Font Color
- Line height
- Letter spacing
- Alignment
- Shape width and height
- Shape Corner Radius
- Shape Fill Color/Gradient
- Shape Stroke Width
- Shape Color
- Opacity & Layer Effects

FONT  
Arial  
16 pt  
#FFFFFF / rgb(255,255,255)

Works on selected text or shape layer(s).

## Size

- Width (will use asset bounds if layer is an asset)
- Height (will use asset bounds if layer is an asset)



Works on selected layer(s) or selection if available.

## Distance

- Distances between two layers,  
or between one layer and the current selection



Works on two selected layers, or one selected layer and a selection.

# Settings

You can access the settings for PNG Express by clicking the small gear icon on the panel. These are global application settings and they are saved when you click the OK button.

## Link Bounds to Assets

When enabled PNG Express will link newly created bounds layers in // ASSET BOUNDS to their matching asset layers. This will allow you to move assets around the canvas, and the asset bounds will follow.

## Scale-safe Slicing

PNG Express allows you to restrict newly created asset bounds to only use widths and heights that are divisible by a given pixel grid. This ensures that assets scale evenly to other resolutions and is especially useful if you start your design at a higher resolution, and want to ensure that assets scale properly when creating lower resolution later on.

This checkbox controls whether “Scale-safe” is enabled, and the drop-down allows you to set the size of the Scale-safe grid. If you select “2px” then all new assets will have assets bounds that are divisible by 2. The default “Auto” setting will automatically select the most suitable setting based the Current Resolution set in the Export dialog.

Note that the “Scale-safe” settings only affect how PNG Express creates *new* asset bounds. Assets will always be exported using the region defined in // ASSET BOUNDS, so if you have manually created a bounds layer with odd dimensions, the asset will still be exported to that size regardless of the “Scale-safe” setting.

## PNG Optimization

When enabled in the export dialog PNG Express will optimize exported PNG files for greatly reduced file sizes. PNG Express uses a combination of 3<sup>rd</sup> party compressors (pngquant, optipng, advdef) to achieve both lossless and lossy compression based on your preference.

PNG Express allows you to control the quality threshold and speed.

<b>Highest Quality</b>	Only use palette reduction when quality can be fully retained (lossless)
<b>Good Quality (default)</b>	Use palette reduction when a good quality can be achieved
<b>Lower Quality</b>	Always use palette reduction to reduce file size

The default **Normal Speed** will give you great compression at high speed. If you want to squeeze your PNGs even further, you can switch to **Quite Slow** or **Very Slow** which will tweak the compression

algorithms and allow more trials to be performed. **Very Slow** provides the best compression ratio, although for many files the difference to **Normal Speed** is insignificant.

## Spec Scaling

This value value allows you to scale the values PNG Express uses when creating specifications. This is useful when working with a retina or high density design which needs to be specc'ed at standard resolution. Scaling will affect both position, pixel measurements and font features.

---

**EXAMPLE:** a retina design is double the resolution compared to standard resolution. Therefore, you need to set the Spec Scaling to 50%.

---

## Canvas/Layer Origin Point

This setting allows you to define the 0,0 origin point used when specc'ing layer X,Y position. The setting is a combination of canvas and layer origin points.

<b>Top-Left</b>	Sets origin points for both canvas and layer to top left
<b>Bottom-Left</b>	Sets origin points for both canvas and layer to bottom left
<b>Top-Left/Middle</b>	Sets canvas origin to top left, and layer origin to the center
<b>Bottom-Left/Middle</b>	Sets canvas origin to bottom left, and layer origin to center

## Layer Bounds

This settings controls how specc'ing measures the bounds of layers with layer styles and vector strokes.

<b>Includes Styles and Strokes</b>	Layer bounds is including any effects and strokes.
<b>Layer Content Only</b>	Disregard any effects and strokes. A bit slower to calculate.

## Layer Spec Styling

Use these settings to change the appearance of specs generated by PNG Express.



# Metadata Export

With PNG Express you can not only export the image assets from your Photoshop document, but also write all the associated metadata to an external file. This file can be XML, JSON, HTML or any other format defined using the customizable templates.

## Tags for Metadata Output

There are a few additional tags that are relevant when exporting metadata.

### TEXT LAYERS

Besides the metadata associated with exported image assets, you can also add the font properties and contents of selected text layers to the metadata output.

Add a **TXT:** prefix to the name of a text layer you want to add to the metadata output.

Use this tag on text layers only.

### ASSET OPACITY

By default all assets are exported at their set opacity. However, if you'd like to keep the opacity flexible for development you can add a **-o** suffix and the asset will be exported fully opaque while the original opacity is added to the metadata.

## The Template System

You can fully customize the type and format of the metadata output modifying the included templates or by creating your own from scratch. PNG Express uses the simple but powerful Markup.js template system created by Adam Mark. You can find more info about the syntax and its features here:

<https://github.com/adammark/Markup.js>

A simple example of a template to output all exported asset names and formats could look like this:

---

**EXAMPLE:**

```
{{assets}}
```

```
The asset {{assetName}} is a {{format}} file.
```

```
{{/assets}}
```

> e.g.: "The asset button is a png file."

---

# The Metadata

Below is the complete reference for the available metadata and its structure. You can also open the included templates to see examples of how to use this metadata.

<b>document</b>	
Object describing the PSD document	
	<b>name</b> Name of the document
	<b>path</b> Path to the document
	<b>width</b> Document width in 100% resolution
	<b>height</b> Document height in 100% resolution
	<b>width-raw</b> Document width
	<b>height-raw</b> Document height
<b>export</b>	
Object describing the performed export	
	<b>date</b> Date and time of export (localized string)
	<b>path</b> Selected export output folder
	<b>iosWebOutputs</b> Array of enabled output resolutions for iOS & Web (100, 200, 300)
	<b>androidOutputs</b> Array of enabled output resolutions for Android (75, 100, 150, 200, 300, 400)
	<b>iosWebSubfolder</b> iOS platform subfolder. Empty if "Create Platform Folders" is disabled in settings.
	<b>androidSubfolder</b> Android platform subfolder. Empty if "Create Platform Folders" is disabled in settings.
	<b>designResolution</b> Source resolution as set in "Current Resolution" (percent)
	<b>specScaling</b> Value from "Spec Scaling" in settings (percent)
	<b>assetCount</b> Number of assets detected
	<b>fileCount</b> Number of files saved
<b>assets</b>	
Array of tagged assets	
	<b>assetName</b> Name of asset (The asset identifier, ie. only the asset portion of the final file name)
	<b>format</b> Type of asset (PNG,JPG)
	<b>x</b> Asset X position in 100% resolution.
	<b>y</b> Asset Y position in 100% resolution
	<b>x-raw</b> Asset X position
	<b>y-raw</b> Asset Y position
	<b>width</b> Asset width in 100% resolution
	<b>height</b> Asset height in 100% resolution

<b>width-raw</b>	Asset width
<b>height-raw</b>	Asset height
<b>zIndex</b>	The stack order of the asset (Higher goes in front of lower)
<b>visible</b>	Is the asset visible in the Photoshop comp at export time? (True, false)
<b>opacity</b>	Asset opacity (use -o suffix on asset)
<b>count</b>	The number of asset versions
<b>versions</b>	Array of asset versions saved as files
	<b>assetName</b> Name of parent asset
	<b>varName</b> Name of variant. Empty if there are no VAR: tags in asset
	<b>stateName</b> Name of state. Empty if there are no STATE: tags in asset
	<b>file</b> Filename of saved asset version, without the path <i>Eg. "button.png"</i>
	<b>path</b> Relative path to saved asset version, including optional subfolders <i>Eg. "Subfolder/button.png"</i>
	<b>specificPath</b> Relative path to saved asset version in current resolution, including platform subfolder and optional subfolders <i>Eg: "iOS and Web/subfolder/button@2x.png"</i>
	<b>fullPath</b> Full path to saved asset version <i>Eg. "Users/John/Desktop/ExportFolder/iOS and Web/Subfolder/button.png"</i>
	<b>path-@2x</b> Relative path to saved asset version in iOS Retina resolution
	<b>fullPath-@2x</b> Full path to saved asset version in iOS Retina resolution
	<b>path-@3x</b> Relative path to saved asset version in iOS Retina HD 5.5 resolution
	<b>fullPath-@3x</b> Full path to saved asset version in iOS Retina HD 5.5 resolution
	<b>path-ldpi</b> Relative path to saved asset version in Android ldpi resolution
	<b>fullPath-ldpi</b> Full path to saved asset version in Android ldpi resolution
	<b>path-mdpi</b> Relative path to saved asset version in Android mdpi resolution
	<b>fullPath-mdpi</b> Full path to saved asset version in Android mdpi resolution
	<b>path-hdpi</b> Relative path to saved asset version in Android hdpi resolution
	<b>fullPath-hdpi</b> Full path to saved asset version in Android hdpi resolution
	<b>path-xhdpi</b> Relative path to saved asset version in Android xhdpi resolution
	<b>fullPath-xhdpi</b> Full path to saved asset version in Android xhdpi resolution
	<b>path-xxhdpi</b> Relative path to saved asset version in Android xxhdpi resolution
	<b>fullPath-xxhdpi</b> Full path to saved asset version in Android xxhdpi resolution
	<b>path-xxxhdpi</b> Relative path to saved asset version in Android xxxhdpi resolution

		<b>fullPath-xxxhdpi</b> Full path to saved asset version in Android xxxhdpi resolution
		<b>x</b> Asset X position in 100% resolution
		<b>y</b> Asset X position in 100% resolution
		<b>x-row</b> Asset X position
		<b>y-row</b> Asset y position
		<b>width</b> Asset width in 100% resolution
		<b>height</b> Asset height in 100% resolution
		<b>width-row</b> Asset width
		<b>height-row</b> Asset height
		<b>visible</b> Is the asset version visible in the PS comp at export time? (True, false)
		<b>opacity</b> Asset opacity (currently always 100%)
<b>texts</b>		
Array of tagged text layers		
	<b>name</b>	Name of text layer
	<b>content</b>	The actual text in the layer
	<b>kind</b>	Either "point" or "paragraph" text layer
	<b>x</b>	Layer X position in 100% resolution
	<b>y</b>	Layer Y position in 100% resolution
	<b>x-row</b>	Layer X position
	<b>y-row</b>	Layer y position
	<b>width</b>	Width of text box (if Paragraph Text) or width of text string (if Point Text) in 100% resolution
	<b>height</b>	Height of text box (if Paragraph Text) or height of text string (if Point Text) in 100% resolution
	<b>width-row</b>	Width of text box (if Paragraph Text) or width of text string (if Point Text)
	<b>height-row</b>	Height of text box (if Paragraph Text) or height of text string (if Point Text)
	<b>font</b>	Font name
	<b>fontSize</b>	Font size in 100% resolution
	<b>fontColorHex</b>	Hex font color as "#xxxxxx"
	<b>fontColorRgb</b>	Rgb font color as "rgb(xxx,xxx,xxx)"
	<b>underline</b>	Is the text underlined? (True, false)
	<b>justification</b>	Text justification. Either "Left align", "Right align", "Center align", "Justify left", "Justify right", "Justify centered", or "Justify all"
	<b>letterSpacing</b>	Text letter spacing (0, or +/- pixels) in 100% resolution

	<b>lineHeight</b> Text line height (pixels) in 100% resolution
	<b>opacity</b> Opacity of text layer (percent)

## Additional Pipes

Besides the Markup.js built-in pipes, you can use these extra pipes in your PNG Express templates:

**plus** (num) Add n to number. Example: `{{age|plus>10}}`

**minus** (num) Subtract n from number. Example: `{{age|minus>10}}`

**times** (num) Multiply number by n. Example: `{{age|times>10}}`

**sanitize** (str) Escape HTML in the input string. Example: `{{comment|sanitize}}`

**breaklines** (str) Replace all line break characters (`\n`) with `<br>`. Example: `{{comment|breaklines}}`

**grafs** (str) Wrap text blocks (delimited by line breaks) in `<p>...</p>`. Example: `{{content|clean|grafs}}`

**cleanSubfolder** (str) Convert `"/folder/button"` to `"folder-button"`. Consider using `cleanAssetName` instead. Example: `{{assetName|cleanSubfolder}}`

**cleanAssetName** (str) Remove problematic characters. Converts `"/folder/btn. blue"` to `"folder-btn-blue"`. Example: `{{assetName|cleanAssetName}}`

**has** (arr) Determine if an array contains an object with the given property value. Example: `{{if fruits|has>color>red}} ...{{/if}}`

**sift** (arr) Reduce an array to objects with the given property value. Example: `<ul> {{fruits|sift>color>red}} <li>{{fruit.name}}</li> {{/fruits}} </ul>`

## Outputting Multiple Files from One Template

PNG Express allows you to select and output to multiple metadata templates in one export, but you can also output multiple instances of the same template. For example, you might want to output one json/xml file for each asset based on the same template. This is done via a special tag in the template.

The `{{newFile}}` tag tells PNG Express to output the content inside the tag to a new file with a name defined by the `name` argument. The name can be a single filename or a full path. Any content outside a `{{newFile}}` tag is output normally to a file named like the template itself. This means you have a lot of control over which parts of the template is split out into separate files.

Example: `{{newFile|name>{{assetName}}.json}} // template content here {{/newFile}}`

If the `{{newFile}}` tag is placed inside a loop (for example looping through `{{assets}}`) then a new file will be created for each iteration. You can even use conditionals to only render the `{{newFile}}` portion if certain criteria are met.

The included `"JSON Metadata (per asset).json"` template uses this tag.

# End Credits

PNG Express is designed and developed by Rune Lund-Hermansen.

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## pngquant (pngquant.org)

pngquant is developed by Kornel Lesiński and contributors.  
It's based on code by Greg Roelofs and Jef Poskanzer.

pngquant.c:

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pngquant.c and rwpng.c/h:

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