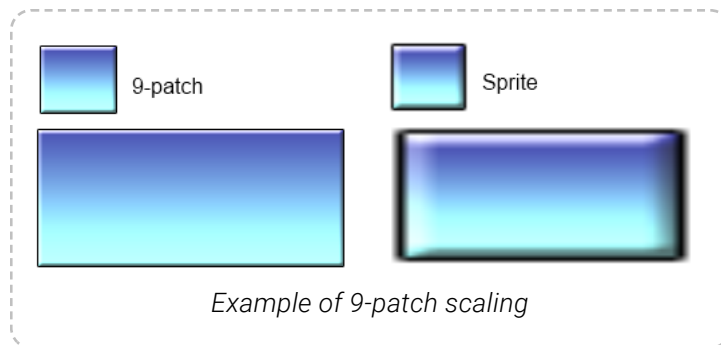


9-PATCH

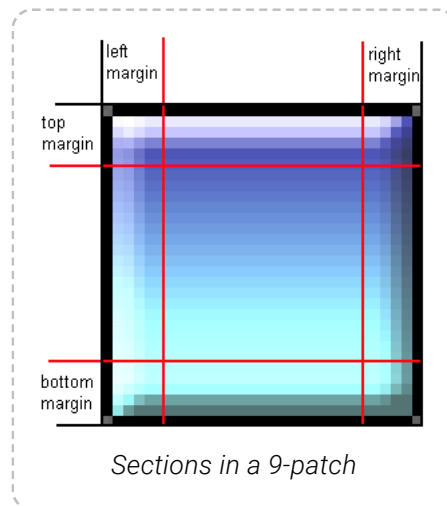
View online: <https://www.construct.net/en/make-games/manuals/construct-3/plugin-reference/9-patch>

The **9-patch plugin** allows an image to be resized by stretching or tiling the edges, corners and fill separately. It is useful for conveniently making resizable windows or user interface elements that can take any size and still appear correctly. The image below demonstrates how a 9-patch looks compared to a **Sprite** object, which just stretches its entire image.



You can also [click here to open an example of the 9-patch plugin](#).

The 9-patch object uses a single image, but automatically cuts it up into nine sections using **margins** set in the object properties. By setting the left, top, right and bottom margins, the object then automatically works out the size and position of all nine sections.



The edge and fill sections can be stretched or tiled independently, allowing for a better appearance when resized.

When resized very small, the bottom-right patches will be drawn on top of the top-left patches. This can be useful for representing things like progress bars with special artwork at the end of the bar. Note however that 9-patch objects do not support being mirrored or flipped, so the width and height should not be negative.

For an interactive demo of the 9-patch plugin, see the 9-patch example in the [Example Browser](#).

Scripting

When using JavaScript or TypeScript coding, the features of this object can be accessed via the [I9PatchInstance script interface](#).

9-patch properties

Image

Click the *Edit* link, or double-click the object in the Layout View, to edit the source image used for the 9-patch.

Left margin

Right margin

Top margin

Bottom margin

The margins of each side of the 9-patch, in pixels. See the image above for a visualisation of how these margins are used to determine the nine sections. Note these margins apply to the source image, ignoring the image scale properties.

Edges

Use *Stretch* to stretch each edge patch to the size of the object. Use *Tile* to repeat the edge patches instead.

Fill

Use *Stretch* to stretch the fill patch to the size of the object. Use *Tile* to repeat the fill patch inside the object instead, like a Tiled Background. Use *Transparent* if you don't want a fill image.

Image scale X

Image scale Y

Adjust the scale of the patches drawn inside the object. The margins are applied to the source (unscaled) image, but then the patches are drawn with the provided scale, increasing the visual size of the margins.

Initial visibility

Set whether the object is visible or invisible at the start of the layout.

Origin

Choose the location of the origin of the object relative to its bounding rectangle.

Seams

To ensure seamless rendering under all circumstances, by default the patches internally overlap by 1 pixel (using the *Overlap* setting). However for semi-transparent patches this can cause a visible seam; in this case it is preferable to use the *Exact* setting instead.

9-patch conditions

On image URL loaded

On image URL failed to load

Triggered when *Load image from URL* finishes downloading the image and is ready to display it, or if the load fails.

9-patch actions

Set edges

Set fill

Set image X scale

Set image Y scale

Set seams

Set the corresponding properties - see the section above for more details. Each of these settings can be changed on a per-instance basis.

Set margins

Set the corresponding margin properties - see the section above for more details. By default all 9-patch instances share the same set of patch images, and so changing the margins will affect all instances, regardless of which instances were affected by the event's conditions. However the exception to this is after using the *Load image from URL* action, in which case the instance is using its own unique patch images, and the margins can then be changed for that instance only.

Be sure to wait for Load image from URL to finish using the Wait for previous actions to complete system action before setting margins. If you try to set margins without waiting for the image load to complete, then it will still be using the shared patch images, and setting the margins will still affect all instances.

Load image from URL

Load an image from a given URL. It is not shown until the image has finished downloading. Images loaded from different domains are subject to the same cross-domain restrictions as AJAX requests - for more information see the section on cross-domain in the [AJAX](#) object.

Data or blob URIs can also be passed as an image, e.g. from a canvas snapshot or camera image. Once this action has finished, the *Set margins* action can be used to set new margins for the loaded image, but note that to avoid affecting other instances, the image load must have first completed successfully (either triggering *On image URL loaded* or after using *Wait for previous actions to complete*).

9-patch expressions

LeftMargin

RightMargin

TopMargin

BottomMargin

Return the corresponding margin properties used by the instance.

See the notes about per-instance margins in the Set margins action.

ImageScaleX

ImageScaleY

Return the current image scale properties as a percentage, with 100 representing 100% (normal) scale.