

HTML Media



The Tag

- The tag is used for displaying static and animated images on a webpage.
- An image tag should always contain a `src` attribute.
- The `src` attribute should define a relative or absolute path to the image file.
- The `alt` attribute should be set for accessibility and SEO purposes.
- If the image is not relevant for accessibility or SEO (i.e. a small arrow icon for a menu), it should be set to an empty value (alt="").

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Raster vs Vector Images

- Raster images define the image in terms of individual pixels and their colour values.
- Vector graphics define an image as a set of geometric shapes.
- Vector graphics can scale to any size without loss of crispness.
- Raster images will become increasingly pixelated as they scale up in size.
- Vector graphics are typically used for logos and icons.

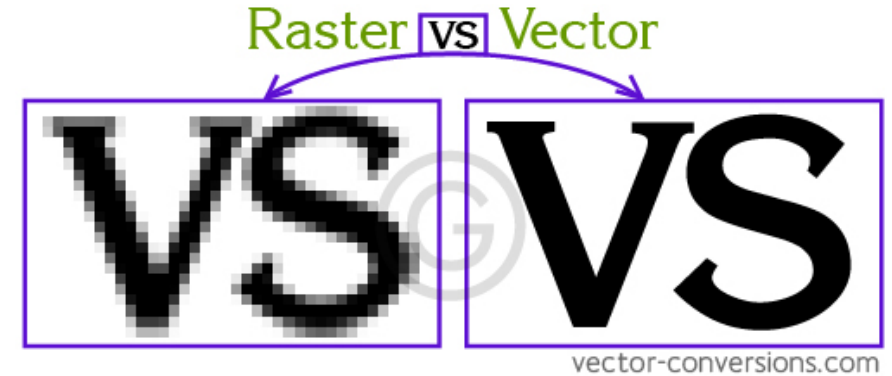


Image File Types

PNG Images

- Images with a .png extension are commonly used on webpages.
- PNG images support *lossless compression* and may be preferred when quality of the image is preferred over size.
- Unlike JPEG images, PNG images support an alpha channel for transparency.



JPEG Images

- Images with a .jpg or .jpeg extension are among the most popular images used on the web.
- JPEGs support a high degree of compression and are often preferred when lowering image size is more important than perfect quality.
- Images shouldn't be over-compressed. Typically you can compress JPEGs to around 70-80% without significant quality loss.



WebP (web picture) images

- WebP has advantages over other image formats.
- WebP supports both lossless and lossy compression and has more efficient compression algorithms.
- WebP support transparency.
- WebP supports animation.
- Though supported by all major browsers, there are still some users on legacy browsers that do not support WebP.



Image Optimization and Sizing

Image Sizing

- **Oversized images can significantly increase page load speed which negatively affects user experience and SEO.**
- **Images should be properly sized, so they are not larger than their container and not too small so that they appear pixelated.**
- **If you want images to appear more high-resolution on retina/high-DPI devices, they should be sized at least 2X (two times the size of their container).**



Image Dimensions

- Image dimensions can be specified in various ways including as exact pixel values (px) or as a percentage relative to the *parent container*.
- The value of the width or height can also be set to “auto”.
- If the width or height is set to auto, the image will grow or shrink vertically or horizontally to keep the images *aspect ratio*.
- The aspect ratio is the natural scale between the image’s width and height when the image is not stretched.

width: 200px; height: auto;

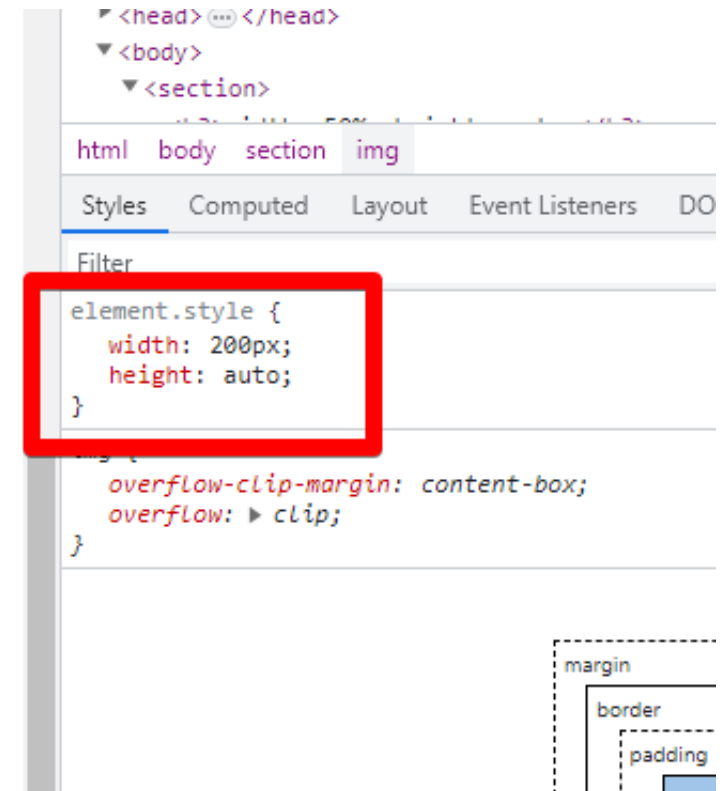
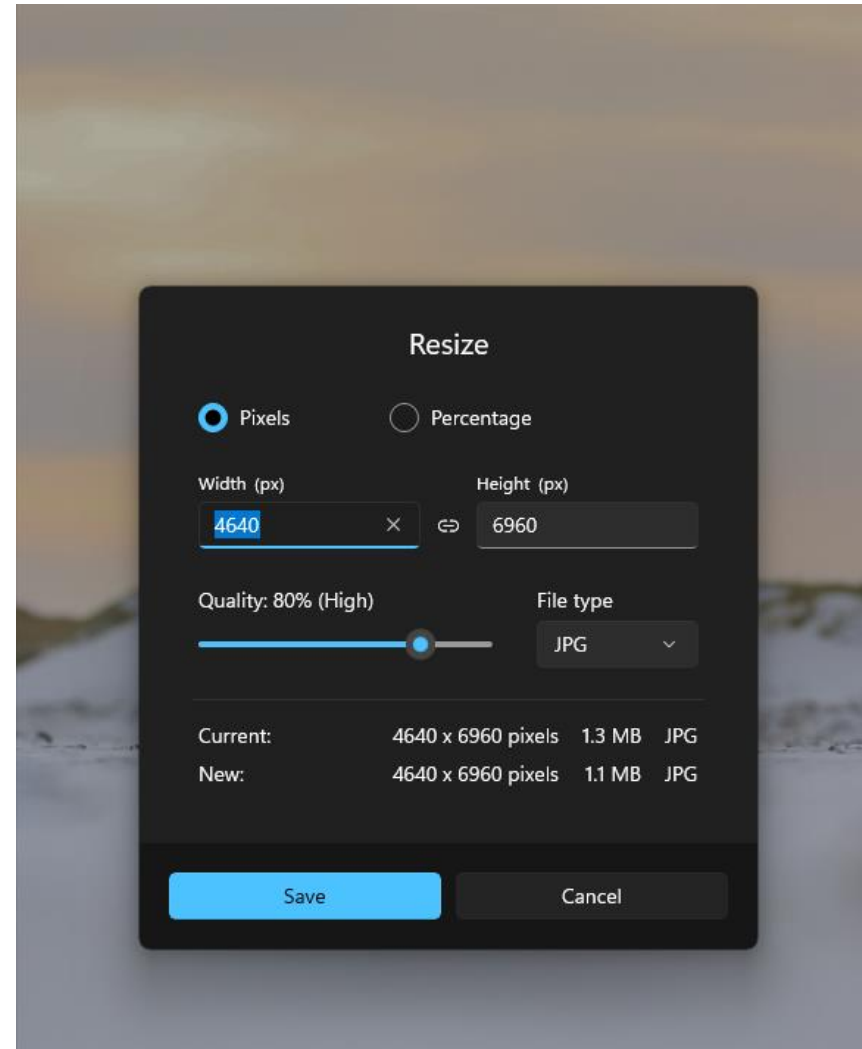


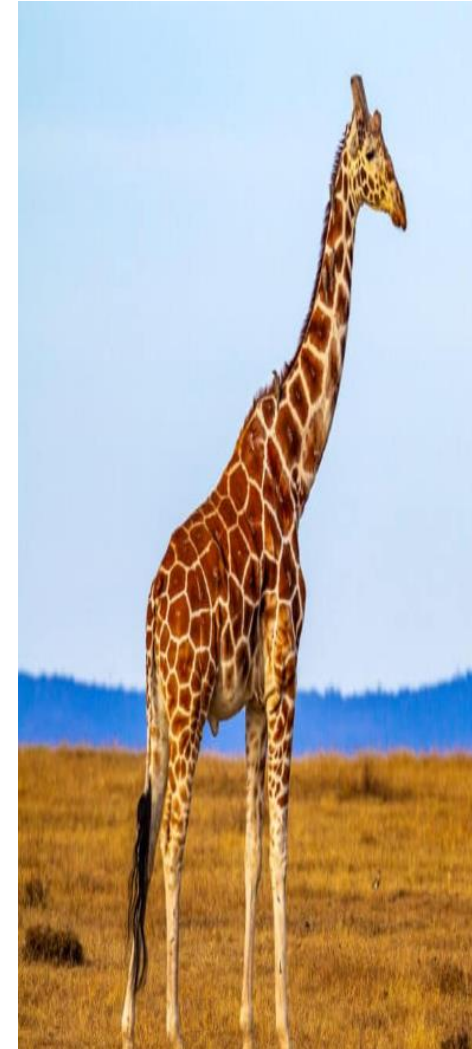
Image Compression

- Images should usually be compressed.
- This is sometimes the task of the designer.
- Compression should not lead to a noticeable reduction in image quality.



Avoiding Stretched Images

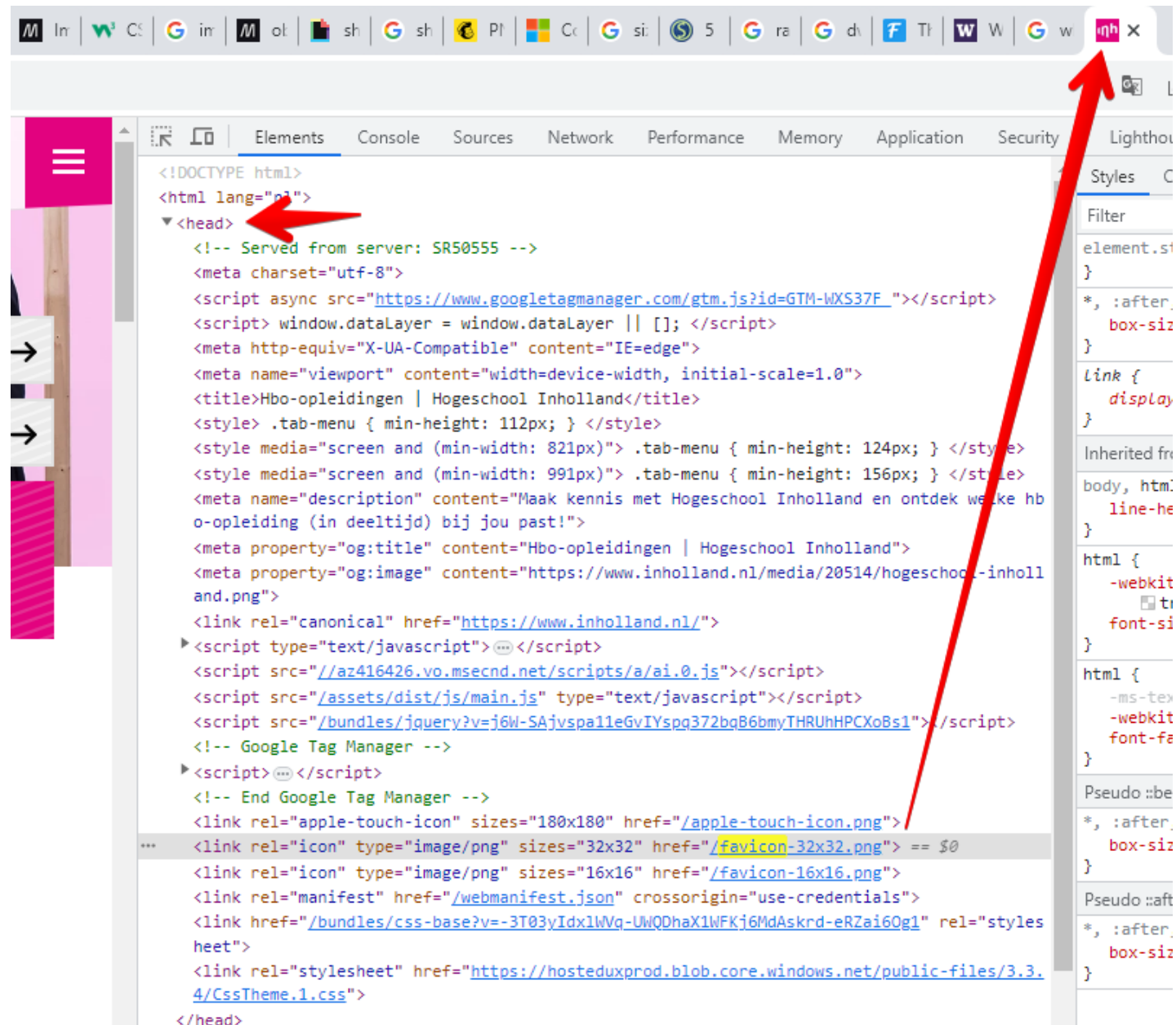
- A typical need is to have an image fit within a container without stretching the image.
- Setting the image's width and height to 100% and then using either ``object-fit: contain;`` or ``object-fit: cover;`` can allow the image to fit inside a container without stretching.



Favicons

Favicons

- Favicons are small images that are used in the browser tab and other places, including as shortcuts.
- Favicons are typically 16x16px or 32x32px in size and set in the `<head>`

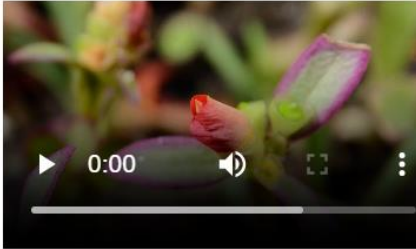


Audio and Video

Video

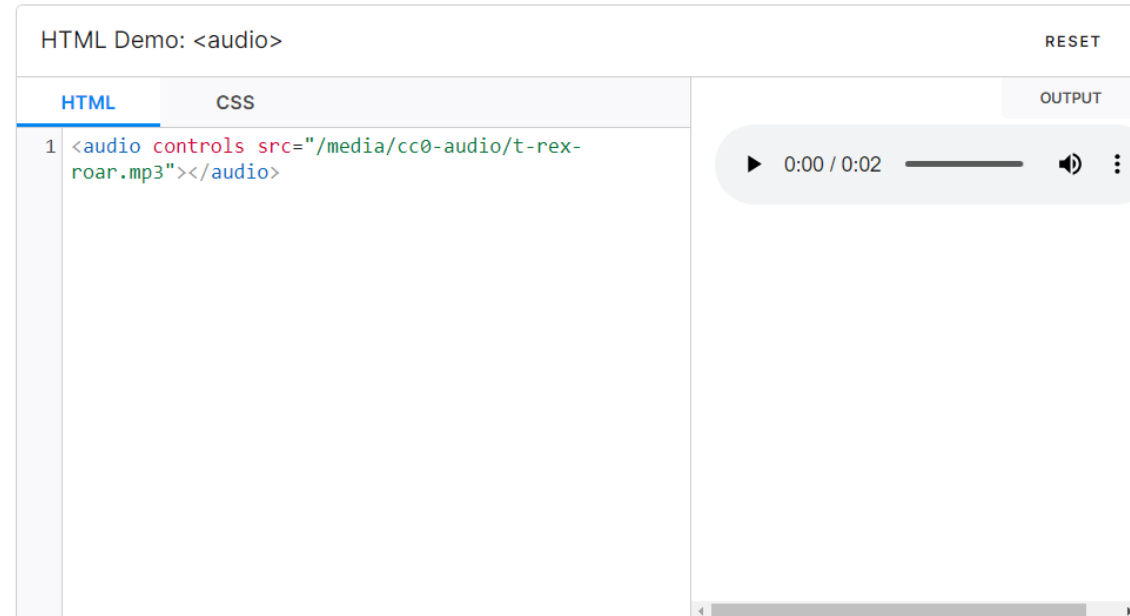
- HTML includes a native video player element defined using the `<video>` tag.
- Inside the `<video>` tag the video file or files must be specified in the `<source>` tag.
- .mp4 is a common and well supported video format.

HTML Demo: `<video>` RESET

	HTML	CSS	OUTPUT
1	<code><video controls width="250"></code>		
2	<code><source src="/media/cc0-</code>		
3	<code>videos/flower.webm" type="video/webm" /></code>		
4	<code><source src="/media/cc0-</code>		
5	<code>videos/flower.mp4" type="video/mp4" /></code>		

Audio

- HTML includes a native `<audio>` tag.
- The audio source is defined using the `src` attribute on the <audio> tag.`
- .mp3 is a common and well supported audio file format.



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