



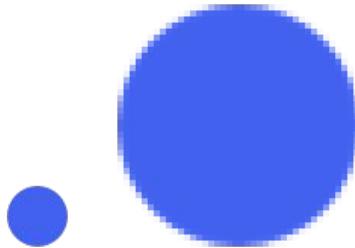
Manual

Lesson 5



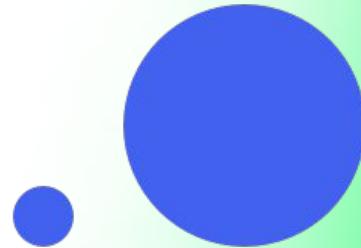
VS

Raster	Vector
Consist of pixels	Consist of mathematical formulas, shapes, and lines
Large file size	Very small file size
Scales with quality loss	Looks the same at any size
Can only be converted to other raster formats	Can be converted to raster images
Cannot be modified easily	Can be easily modified (e.g., splitting into components, animating)
Ideal for photographs	Ideal for icons
Uses RGB color space	



1x

4x



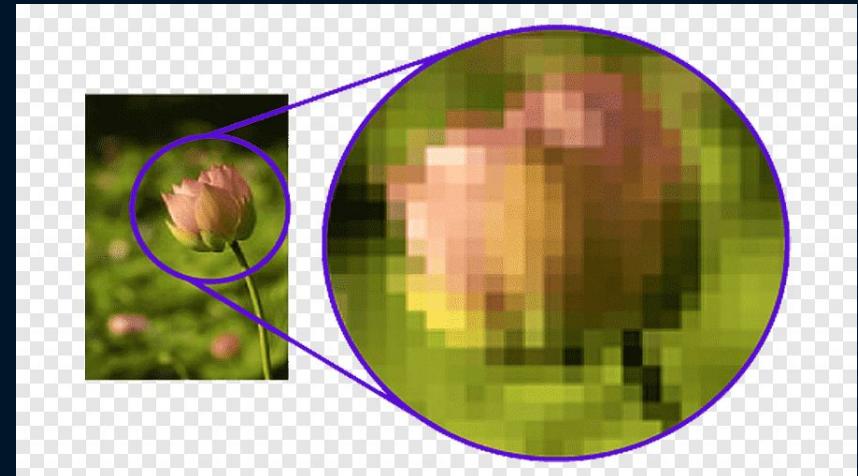
1x

4x

Use raster

Images formats

photos	jpeg, webp, avif
images with transparency	png, webp, avif
images with gradient	webp, avif
large images	webp, avif



	JPEG Joint Photographic Experts Group	PNG Portable Network Graphics	GIF Graphics Interchange Format	WEBP	AVIF AV1 Still Image File Format
Lossless compression	Compression with quality loss			Better compression, retains quality	Excellent compression, retains quality
Size	Relatively small file size	Large file size		Weighs 30-40% less than JPEG and PNG	Weighs 10-20% less than WEBP
Detailisation	Common format for photos	Retains detail and color contrast		loss and blurring of fine details with strong compression	Suitable for large images, smaller images are better as WEBP
Text	hard to read text			may look blurry	
Supports transparency					
Colors		16 million colors	Limited colors (256)	Suitable for bright and colorful photos as it can display more pixels	Best choice for video, animations, and images with transparency
Animation					
Browser support	100%	100%	100%	96%	75%

Choosing the **Insertion** Method

Content Images – `` в HTML

- Essential for user understanding
- Important for SEO
- Take up space in the document flow

Decorative Images – `background-image` в CSS

- Non-essential for user understanding
- Used for decoration
- Not important for SEO
- Often have other elements overlaid



```

```

Naming:

- Use only English words
- No spaces
- No capital letters
- Reflect the location or subject of the image

blue triangle.jpg
BigPicture.jpg

Attributes:

- **width/height:** Specifies width/height of the image
- Used for displaying images before styles load, in reading mode, and for accessibility

cute-kitten.jpg
feature-block-1.jpg

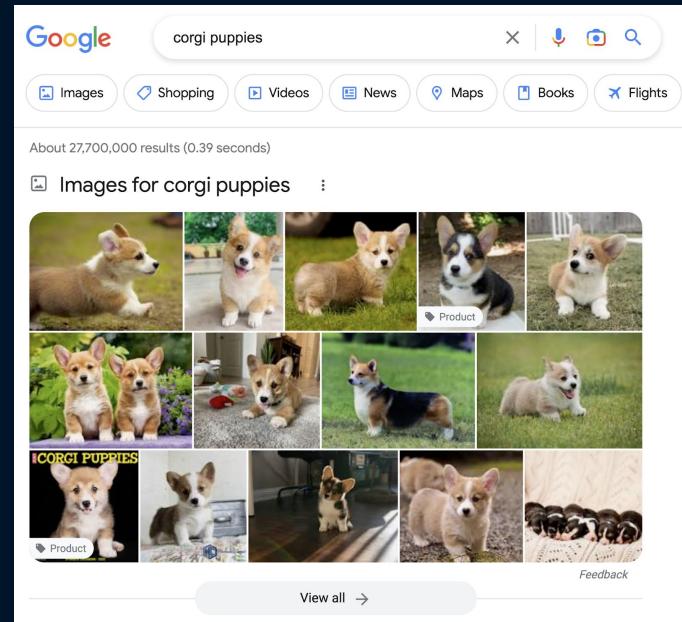
Importance of the `alt` Attribute

```

```

- Screen readers
- Search engines
- Broken images

Digital image that loaded correctly	Digital image that did not load correctly and does not have alt text	Digital image that did not load correctly and does have alt text
		



When alt is not needed

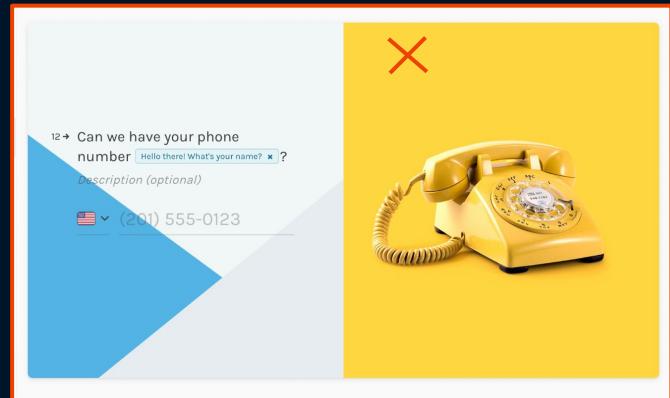
```

```

- Decorative and stock images
- Icons
- When the image caption matches the alt text



A screenshot of the Jimdo website builder interface. It shows a page with three service categories: "BIRTHDAYS" (represented by balloons), "WEDDINGS" (represented by two glasses toasting), and "MUSIC" (represented by musical notes). Each category has a small descriptive text below it. The "MUSIC" icon has a red 'X' mark above it. The Jimdo toolbar is visible at the top.





- Man wearing a helmet riding a bicycle
- bicycle
- Image of someone riding a bicycle



- Lay's Classic Potato Chips, 1.5 Ounce
- Potato Chips
- buy potato chips online



- Free SEO mini course for beginners by reliablesoft academy.
- download now free
- register to get free course

Good alt Practices

- Summarize what's in the image
- Describe as accurately as possible
- Avoid stating "image", "photo", "picture"
- Use the context of the surrounding content
- Avoid repeating text that is in the content
- Don't use very long descriptions, use longdesc for detailed descriptions
- Write in the site's language

Vector

images

Scalable Vector Graphics



A markup language extended from XML for describing two-dimensional vector graphics

SVG files can be created and edited with any text editor and drawing programs

```
.block {
    background-image: url(image.svg);
    list-style-image: url(image.svg);
    content: url(image.svg);
}

```

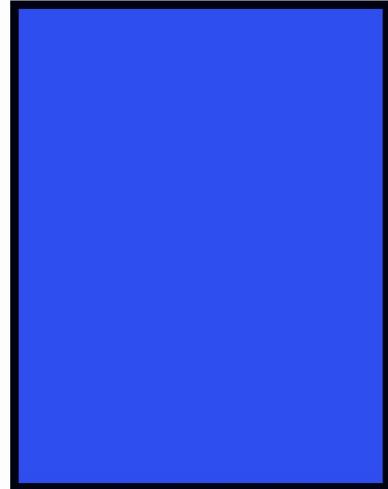
```
<svg viewBox="0 0 30 10" width="300"
height="200">
    <rect width="100%" height="100%" fill="red"
/>
</svg>

<svg viewBox="0 0 30 10">
    <use xlink:href="image.svg" />
</svg>
```

SVG

rect

width
height
fill
stroke
stroke-width



```
...  
<rect width="180"  
      height="220"  
      style="fill:pink;  
              stroke-width:4;  
              stroke:rgb(0,0,0)">  
...
```

SVG 1A

circle

fill

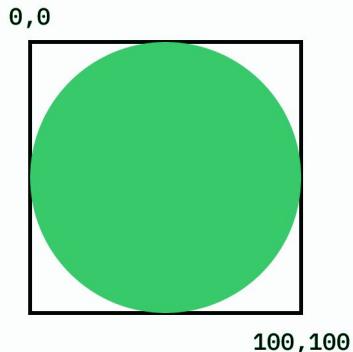
stroke

stroke-width

**cx – central horizontal
coordinate**

**cy – central vertical
coordinate**

r – radius



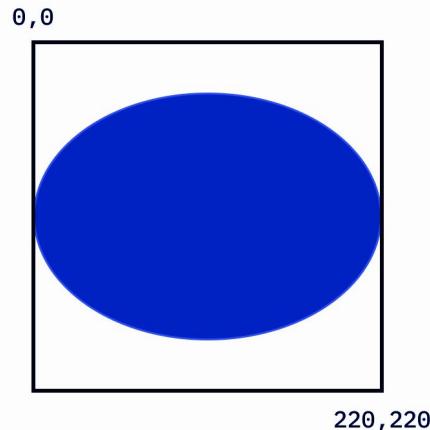
```
<svg width="100"  
height="100">  
<circle cx="50"  
cy="50" r="50"  
fill="yellow" />  
</svg>
```

SVG

ellipse

эллипс

cx – central horizontal coordinate
cy – central vertical coordinate
rx – horizontal radius
ry – vertical radius



```
...  
<ellipse  
cx="110" cy="110"  
rx="100" ry="70"  
style="fill:purple;  
stroke:pink">  
...
```

SVG

text

x

y

fill

HTML

```
...<text x="50" y="50"  
fill="pink">HTML</text>...
```

SVG

line

x1/x2 – first/last
horizontal coordinate



```
...<line x1="0" y1="0" x2="120"  
y2="0" style="stroke:pink" />...
```

y1/y2 – first/last vertical
coordinate



```
...<line x1="0" y1="0" x2="120" y2="0"  
style="stroke-dasharray:10,10" />...
```



```
...<line x1="0" y1="0" x2="120"  
y2="0" style="stroke-width:6" />...
```

SVG 1A

polygon

points – vertex

coordinates

fill

stroke

stroke-width



SVG

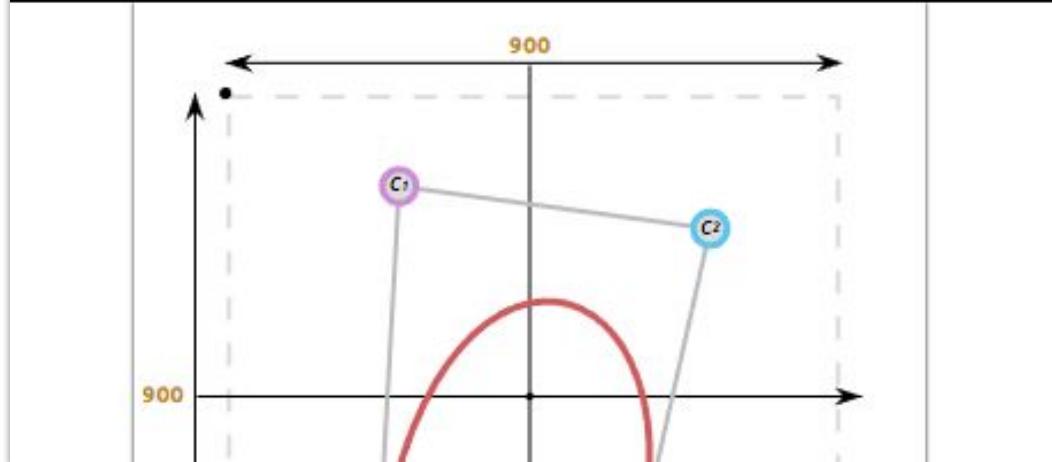
path

line for drawing figures

d – listing of coordinates



```
<svg viewBox=' -450 -450 900 900 '>  
  <path d='M -229,333  
        C -193,-312 267,-249 161,222' />  
</svg>
```



Why Optimize Images

- Improves website loading speed
- Saves traffic and server resources
- Enhances website ranking in search results
- Increases conversion rates

YOU CAN SET A COLOR, IMAGE, OR BOTH
AS THE BACKGROUND

SIZE HAS TO BE
RIGHT AFTER POSITION

background: color image box attachment position / size repeat



SEPARATED WITH A SLASH

SET ONCE: SETS BOTH origin AND clip

SET TWICE: SETS origin FIRST, THEN clip

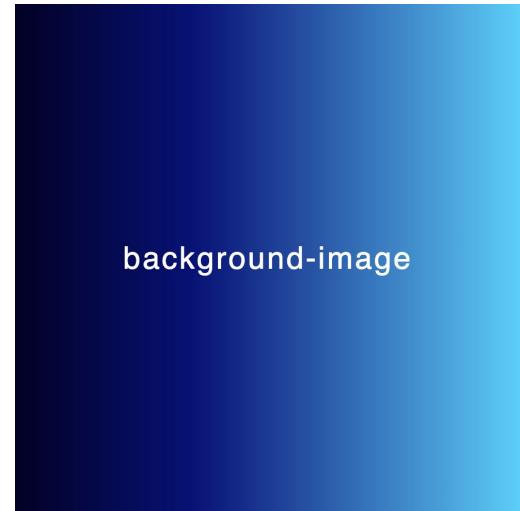
CSS BACKGROUND

background-color / image

background-color



background-image



background-image

backgrounds-color for background-image

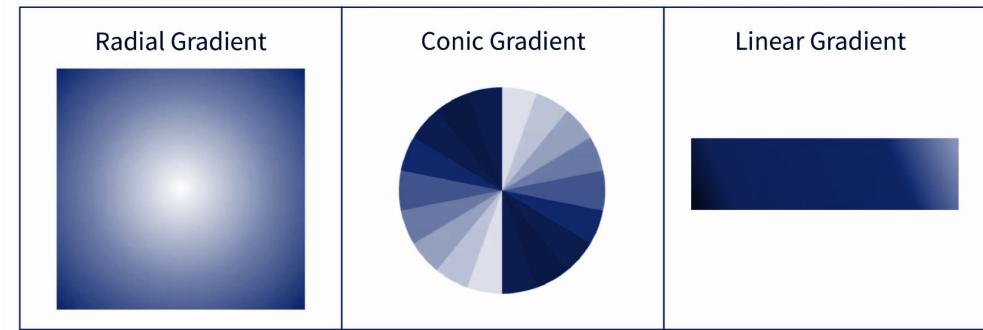
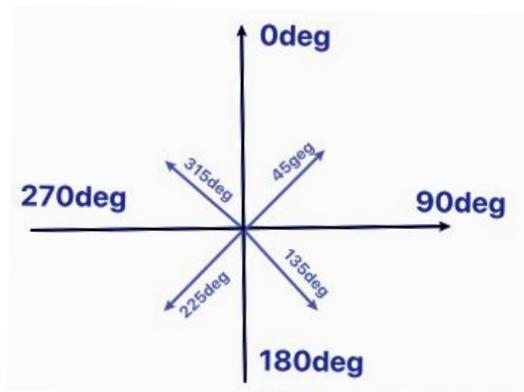
- **Fallback for Missing Images**
- **Improved Loading Experience**
- **Enhancing Readability**
- **Visual Consistency**
- **Accessibility**
- **Design Control**



background gradients

`background-image: *-gradient(angle or direction , list of colors with transition points)`

- The angle is specified in degrees – **deg**
- The direction is specified using words: **to left, right, top, bottom**

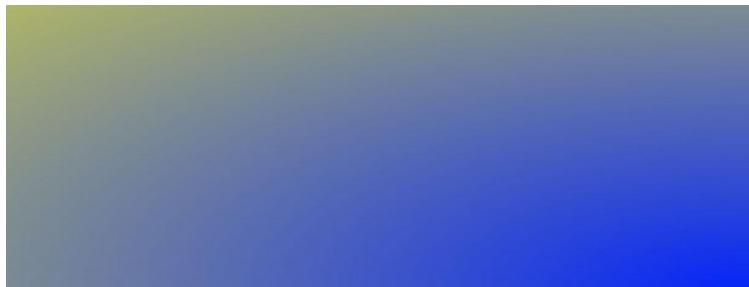


background linear gradient

Linear gradients create a smooth transition between two or more colors along a straight line. This can be used to add depth, visual interest, and a modern look to your web design.

`linear-gradient(angle or direction , list of colors with transition points)`

```
background-image:  
  linear-gradient(  
    90deg,          (to right)  
    rgba(2,0,36,1) 0%,  
    rgba(9,9,121,1) 35%,  
    rgba(0,212,255,1) 100%  
  );
```



Angle or Direction:

- Specifies the direction of the gradient.
- Angles are defined in degrees (**deg**).
- Directions can be specified using keywords like **to left, to right, to top, to bottom**.

List of Colors with Transition Points:

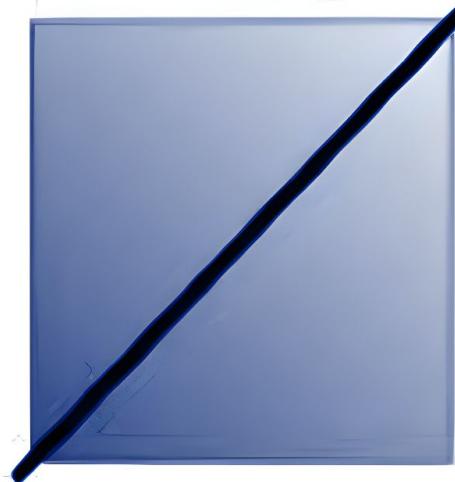
- You can specify multiple colors for the gradient.
- Optional transition points can be set using percentages to control where each color starts and ends.

background linear-gradient

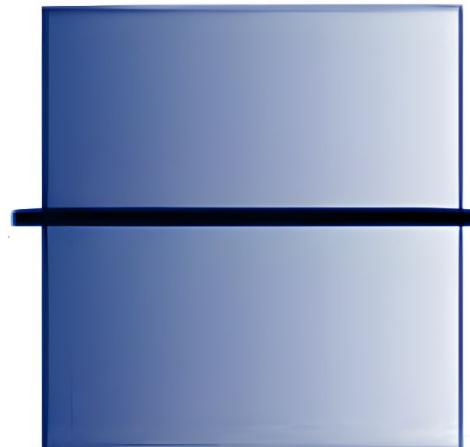
0 deg



45 deg



90 deg



to bottom

to top right

to right

background radial-gradient

create a smooth transition between colors radiating outward from a central point. This type of gradient is perfect for creating spotlight or sunburst effects in your web design.

`radial-gradient(form or size direction, colors with transition points)`

```
background-image:  
  radial-gradient(  
    circle at center,  
    rgba(63, 94, 251, 1) 0%,  
    rgba(252, 70, 107, 1) 100%  
  );
```



Form or Size:

- Specifies the shape and size of the gradient.
- Common forms are **circle** or **ellipse**.
- Sizes can be defined as **closest-side**, **farthest-side**, **closest-corner**, or **farthest-corner**.

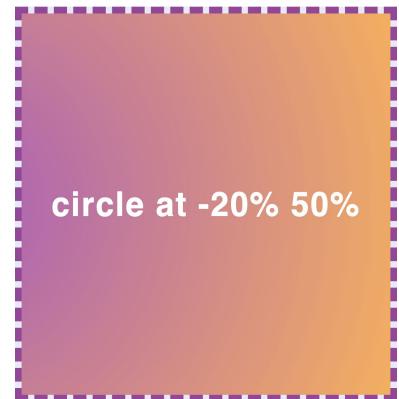
Direction:

- Specifies the position of the gradient's origin within the element.
- Common positions include **at center**, **at top**, **at bottom**, etc.

Colors with Transition Points:

- Defines the colors used in the gradient and where they transition from one to the next.
- Transition points are defined using percentages.

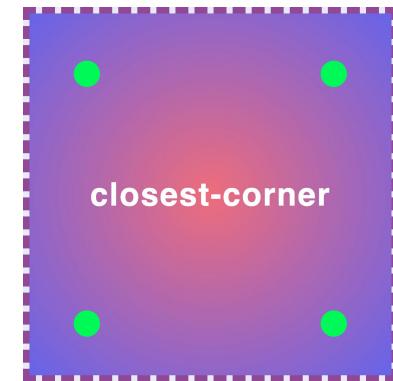
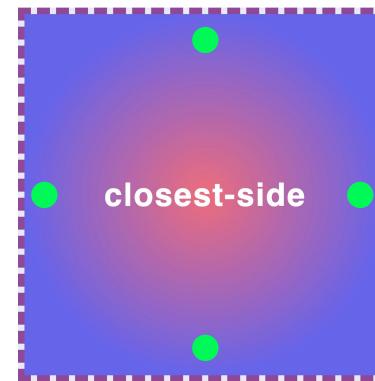
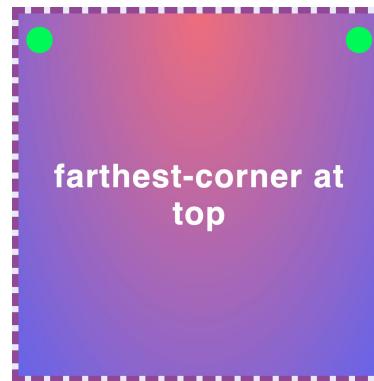
background radial gradient



background radial gradient <size>

allows you to create gradients that radiate from a central point. The size of the gradient can be controlled to determine how it expands within the element

`radial-gradient(circle closest-side at top, #9c27b0 0%, #ff9800 50%)`



The gradient expands to the farthest side of the block. The transition extends until it reaches the edge farthest from the center.

The gradient expands to the farthest corner of the block. The transition extends until it reaches the farthest corner.

The gradient expands to the closest side of the block. The transition stops when it reaches the edge closest to the center.

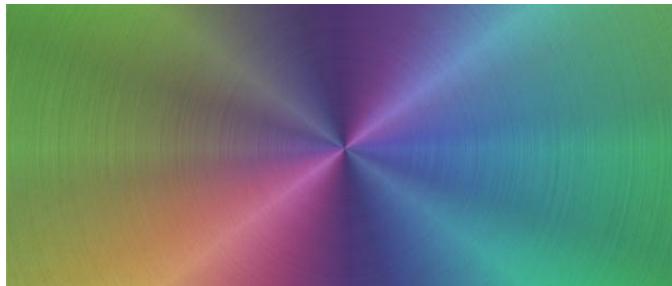
The gradient expands to the closest corner of the block. The transition stops when it reaches the closest corner.

background conic-gradient

create a gradient effect that rotates around a central point, much like the hands of a clock. This type of gradient is perfect for creating pie charts, color wheels, or unique background effects.

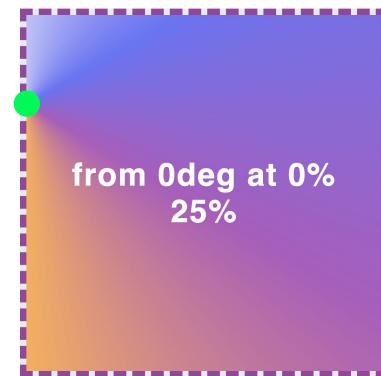
`conic-gradient(angle and position, colors with transition points)`

```
background-image:  
  conic-gradient(  
    from 90deg at 50% 50%,  
    #A100FFFF 0%,  
    #71C4FFFF 100%  
  );
```



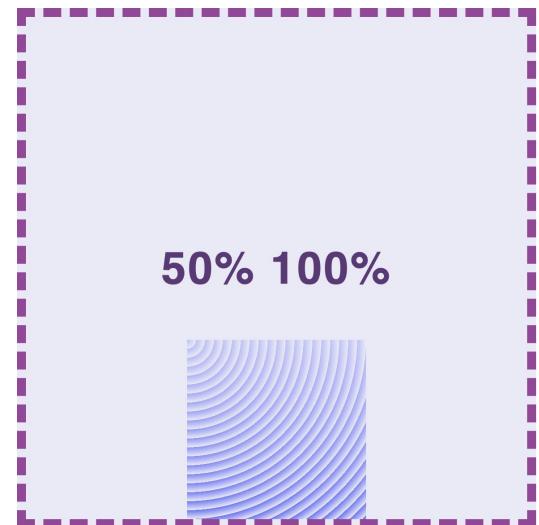
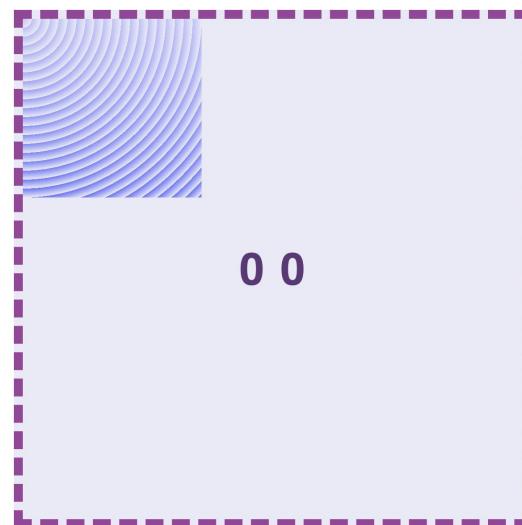
- **Angle and Position:**
 - a. Specifies the starting angle and the position of the gradient's center within the element.
 - b. Angles are defined in degrees (**deg**).
 - c. Positions can be defined using percentages or keywords like **at center**, **at top left**, etc.
- **Colors with Transition Points:**
 - a. Defines the colors used in the gradient and where they transition from one to the next.
 - b. Transition points are defined using percentages.

background conic-gradient



background-position

sets the initial position for each background image



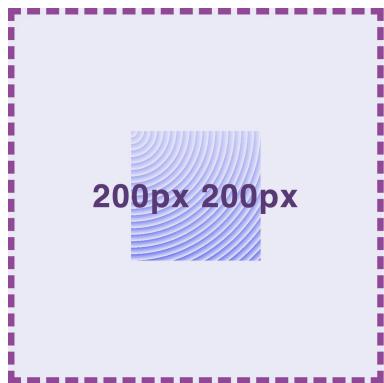
keywords: **center, left,
right, top, bottom**

coordinates in **px**

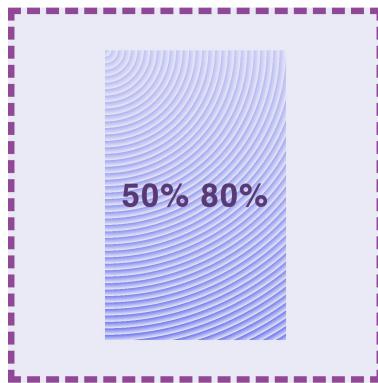
coordinates in **%**

background-size

sets the size of the element's background image



sizes in px



sizes in %



Scales the image as large as possible within its container without cropping or stretching the image.



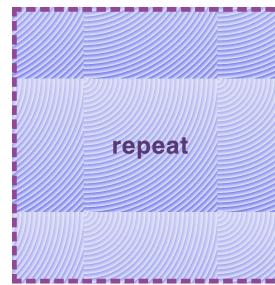
Scales the image to the smallest possible size to fill the container, leaving no empty space.

background-repeat

sets how background images are repeated. A background image can be repeated along the horizontal and vertical axes, or not repeated at all.



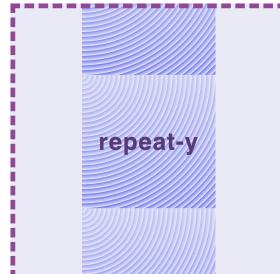
no repeat



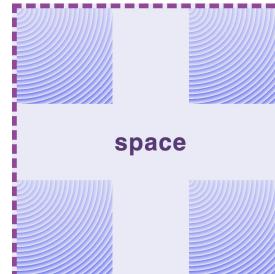
repeat
horizontally
and vertically



repeat only
horizontally



repeat only
vertically



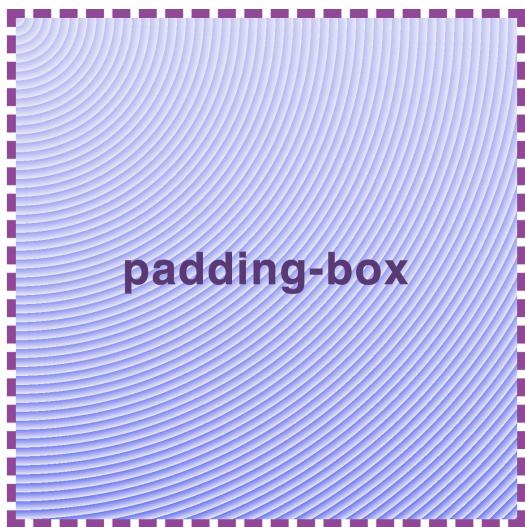
The image is
repeated as much
as possible without
clipping.



As the allowed space
increases in size, the
repeated images will
stretch (leaving no
gaps) until there is
room for another one to
be added.

background-clip

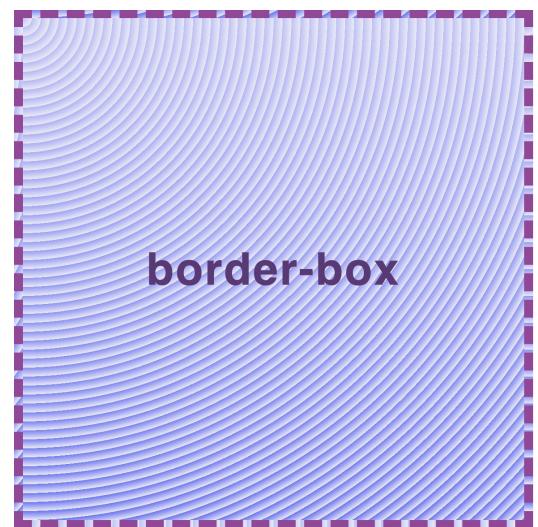
determines how the background (color or image) is clipped, or where the background starts and stops. It controls whether the background extends under the border, padding, and content or just within specific areas.



The background extends to the edge of the padding, but not under the border.
This is the default value.



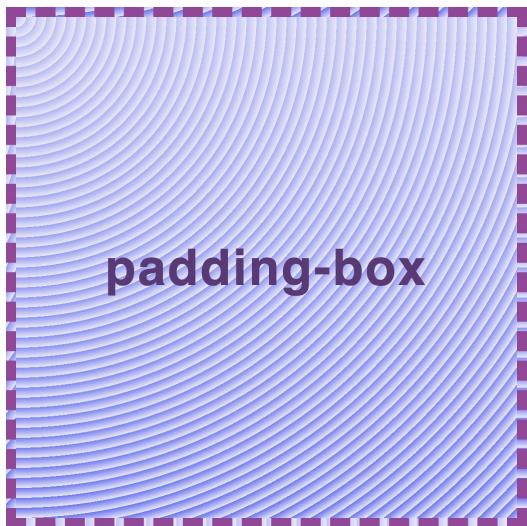
The background extends only to the edge of the content, not into the padding or border.



The background extends to the outer edge of the border.

background-origin

determines the positioning area of a background image. It specifies whether the background image is placed relative to the border, padding, or content box of an element.



The background image starts from the edge of the padding.
This is the default value.



The background image starts from the edge of the content.
The image is positioned inside the padding area.



The background image starts from the outer edge of the border.
The image extends beneath the border.

background-attachment

allows you to control whether a background image is fixed or scrolls with the rest of the content. This property can create interesting visual effects and improve the user experience on your website.



fixed

The background image is fixed in place and does not move when the page is scrolled. This creates a parallax effect where the background stays stationary, giving the illusion of depth.



scroll

The background image scrolls with the rest of the content. This is the default behavior where the background moves as you scroll down the page.



local

The background image scrolls along with the element's content if the element itself has a scrollbar. This is useful for elements with overflow that can scroll independently of the page.

Multi backgrounds

```
background:  
  url(cat-icon.png) bottom right / 20% auto no-repeat,  
  linear-gradient(  
    105deg,  
    rgba(25, 25, 29, 0.5) 39%,  
    rgba(185, 6, 27, 1) 96%  
  ) center center / cover no-repeat,  
  url(cat-photo.jpg) center / cover no-repeat;
```

```
background-image:  
  url(cat-icon.png),  
  linear-gradient( 105deg,rgba(25, 25, 29, 0.5) 39%,  
  rgba(185, 6, 27, 1) 96% ),  
  url(cat-photo.jpg);  
background-position: bottom right, center;  
background-size: 20% auto, cover;  
background-repeat: no-repeat;
```



Export from Figma



Fill 00 +

Image 100 % ○ -

Stroke +

Effects +

Export +

1x ... JPG ...

Export image 8

▼ Preview

image format
Export button
image preview

A screenshot of the Figma export interface. At the top, there are fill and stroke color swatches, a zoom level of 100%, and a scale icon. Below these are sections for Effects and Export. The Export section contains dropdown menus for resolution (1x) and format (JPG), and a button labeled "Export image 8". A preview window shows the image of the blood pressure monitor. Three annotations point to specific elements: a red arrow points to the "JPG" format dropdown with the text "image format"; a green arrow points to the "Export image 8" button with the text "Export button"; and a blue arrow points to the preview window with the text "image preview".