

Cascading Style Sheet 3.0

Lesson 04: Colors and Borders

Lesson Objectives

- In this lesson, we will learn:

- Background
- Multiple Image Background
- Colors
 - RGB and RGBA
 - HSL and HSLA
- Borders
 - Rounded Corners
 - Applying Shadows in border



4.1 Background

Background

- CSS background properties are used to define the background effects of an element.
- Following are some of the properties used for background effects
 - background-color
 - background-image
 - background-repeat
 - background-attachment
 - background-position
- With CSS 3.0 two more properties are available to define background effects
 - background-size
 - background-origin
- CSS 3 also supports inclusion of multiple background images

All CSS Background Properties

Property	Description
<u>background</u>	Sets all the background properties in one declaration
<u>background-attachment</u>	Sets whether a background image is fixed or scrolls with the rest of the page
<u>background-color</u>	Sets the background color of an element
<u>background-image</u>	Sets the background image for an element
<u>background-position</u>	Sets the starting position of a background image
<u>background-repeat</u>	Sets how a background image will be repeated


4.1 Background

Background Properties

- Background Color: Specifies the background color of an element.
- Ex:

```
body { background-color:grey; }
```
- Background Image: Specifies an image to use as the background of an element.
- Ex:

```
body {background-image:url(flower.pbg);}
```

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Background Color: Color can be specified by name like “RED”, RGB Value like `rgb(255,200,0)` or Hex value like `#FF00FF`

Ex:

```
h1 {background-color:#6495ed;}  
p {background-color:rgb(255,200,0) ;}  
div {background-color:RED;}
```

In the example above, the h1, p, and div elements have different background colors:

Background Image: The background-image property specifies an image to use as the background of an element.


By default, the image is repeated so it covers the entire element.

4.1 Background

Background Properties

- Properties background-repeat, background-attachment and background-position are related to background-image property. They define image attributes as follows
 - The background-attachment sets whether a background image is fixed or scrolls with the rest of the page
 - The background-position property sets the starting position of a background image
 - The background-repeat property sets if/how a background image will be repeated.
 - By default, a background-image is repeated both vertically and horizontally.

```
body
{
background-image:url('img_tree.png');
background-repeat:no-repeat;
background-position:right top;
background-attachment:fixed
}
```


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Background Repeat Properties:

No-repeat: Image will not be repeated

Repeat-x : Image repeats horizontally

Repeat-y : Image repeats vertically

By default, a background-image is repeated both vertically and horizontally.

Background Attachment Properties:

Fixed :The value fixed stops the background-image from scrolling with its containing block

Scroll :The value scroll allows the background-image to scroll along with the document. When it's used on an element that has a scrollbar

Background - Shorthand property: It is also possible to specify all the properties in one single property. This is called a shorthand property. The shorthand property for background is simply "background":

Ex: body {background:#ffffff url('img_tree.png') no-repeat right top;}


4.1 Background

Background Properties – CSS 3

- **Background-size** : The background-size property specifies the size of the background image.
- **Ex : 1**

```
div
{
background:url(flower.png);
background-size:80px 60px;
background-repeat:no-repeat;
}
```
- **Background-origin** : The background-origin property specifies the positioning area of the background images. The background image can be placed within the content-box, padding-box, or border-box area.
- **Ex:** Position the background image within the content-box:

```
div
{
background:url(img_flwr.gif);
background-repeat:no-repeat;
background-size:100% 100%;
-webkit-background-origin:content-box; /* Safari */
background-origin:content-box;
}
```

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Background Size: Before CSS3, the background image size was determined by the actual size of the image.

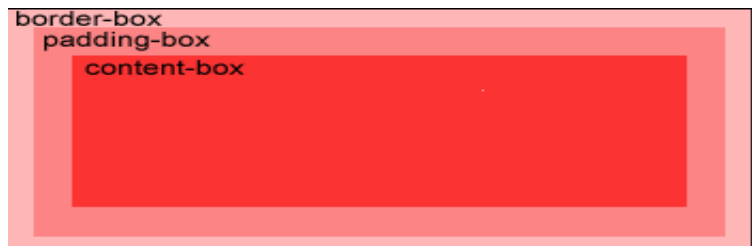
In CSS3 it is possible to specify the size of the background image, which allows us to re-use background images in different contexts.

You can specify the size in pixels or in percentages. If you specify the size as a percentage, the size is relative to the width and height of the parent element

Ex : 2 - Stretch the background image to completely fill the content area:

```
div
{
background:url(flower.png);
background-size:100% 100%;
background-repeat:no-repeat;
}
```

Background Origin:



4.2 Multiple Background Images

Multiple Background Images

- CSS 3 supports multiple background images
- Ex:

```
body
{
  background-image:url(img_flwr.gif),url(img_tree.gif);
}
```

Demo : Background Properties

- Background.html
- Background2.html
- Background_image.html
- Multiple_image_background.html

4.3 Colors

CSS Color

- The color property defines the foreground color of an element; in essence, this means it defines the color of the text content
- Colors in CSS can be specified by using any of the mechanism
 - Hexadecimal colors
 - RGB colors
 - RGBA colors
 - HSL colors
 - HSLA colors
 - Predefined/Cross-browser color names

Note :If a border-color value hasn't been defined explicitly for the element, the color value will be used instead.


4.3 Colors

CSS Color

- Hexadecimal Colors : A hexadecimal color is specified with: #RRGGBB, where the RR (red), GG (green) and BB (blue)
- Ex:

```
p
{
background-color:#ff0000;
}
```
- RGB Colors: An RGB color value is specified with: rgb(red, green, blue).
- Ex

```
p
{
background-color:rgb(255,0,0);
}
```

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Hexadecimal Colors:

Hexadecimal color values are supported in all major browsers.

Hexadecimal integers specify the components of the color. All values must be between 0 and FF.

For example, the #0000ff value is rendered as blue, because the blue component is set to its highest value (ff) and the others are set to 0.

RGB Colors:

RGB color values are supported in all major browsers.

An RGB color notation rgb(red, green, blue), Each parameter (red, green, and blue) defines the intensity of the color and can be an integer between 0 and 255 or a percentage value (from 0% to 100%).

For example, the rgb(0,0,255) value is rendered as blue, because the blue parameter is set to its highest value (255) and the others are set to 0.

Also, the following values define the same color: rgb(0,0,255) and rgb(0%,0%,100%).

4.3 Colors

CSS Color

- **RGBA Colors** :RGBA color values are an extension of RGB color values with an alpha channel - which specifies the opacity of the object.
- **Ex:**

```


p
{
    background-color:rgba(255,0,0,0.5);
}

```
- **HSL Colors**: HSL stands for hue, saturation, and lightness - and represents a cylindrical-coordinate representation of colors. An HSL color value is specified with: hsl(hue, saturation, lightness)
- **Ex:**

```

p
{
    background-color :hsl(120,65%,75%);
}

```


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RGBA Colors:

RGBA color values are supported in IE9+, Firefox 3+, Chrome, Safari, and in Opera 10+.

RGBA color values are an extension of RGB color values with an alpha channel - which specifies the opacity of the object.

An RGBA color value is specified with: rgba(red, green, blue, alpha). The alpha parameter is a number between 0.0 (fully transparent) and 1.0 (fully opaque).

HSL Colors:

HSL color values are supported in IE9+, Firefox, Chrome, Safari, and in Opera 10+.

HSL stands for hue, saturation, and lightness - and represents a cylindrical-coordinate representation of colors.

Hue is a degree on the color wheel (from 0 to 360) - 0 (or 360) is red, 120 is green, 240 is blue.

Saturation is a percentage value; 0% means a shade of gray and 100% is the full color.


Lightness is also a percentage; 0% is black, 100% is white.

4.3 Colors

CSS Color

- HSLA Color : HSLA color values are an extension of HSL color values with an alpha channel - which specifies the opacity of the object.
- Ex:

```
p
{
    background-color :hsla(120,65%,75%,0.3);
}
```

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HSLA Colors


HSLA color values are supported in IE9+, Firefox 3+, Chrome, Safari, and in Opera 10+.

An HSLA color value is specified with: `hsla(hue, saturation, lightness, alpha)`, where the alpha parameter defines the opacity. The alpha parameter is a number between 0.0 (fully transparent) and 1.0 (fully opaque).

Demo : CSS Colors

- demoColor.html



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4.4 Borders

Border

- The CSS border properties allow you to specify the style and color of an element's border.
- Following are some of the properties we can specify for a border
 - border-style
 - border-width
 - border-color
- CSS 3 adds 3 more border properties
 - border-radius
 - box-shadow
 - border-image
 - border-collapse
 - border-spacing



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Note: None of the border properties will have ANY effect unless the border-style property is set!


4.4 Borders

Border Style

- The border-style property specifies what kind of border to display.
- Ex :

```
div.wrapper
{
  border-style:solid;
}
```

- Border style can be dotted, dashed ,solid etc
- Above example code will draw a border as shown below

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Border-style values:

Style	Description
dotted	Defines a dotted border
dashed	Defines a dashed border
solid	Defines a solid border
double	Defines two borders. The width of the two borders are the same as the border-width value
groove	Defines a 3D grooved border. The effect depends on the border-color value
ridge	Defines a 3D ridged border. The effect depends on the border-color value
inset	Defines a 3D inset border. The effect depends on the border-color value
outset	Defines a 3D outset border. The effect depends on the border-color value

4.4 Borders

Border Width

- **Border Width** :The border-width property is used to set the width of the border.
- The width is set in pixels, or by using one of the three pre-defined values: thin, medium, or thick.
- **Ex:**

```
div.one  
{  
  border-style:solid;  
  border-width:5px;  
}
```

```
div.two  
{  
  border-style:solid;  
  border-width:medium;  
}
```

Note: The "border-width" property does not work if it is used alone. Use the "border-style" property to set the borders first.

4.4 Borders

Border Color

- **Border Color** : The border-color property is used to set the color of the border. The color can be set by:
 - name - specify a color name, like "red"
 - RGB - specify a RGB value, like "rgb(255,0,0)"
 - Hex - specify a hex value, like "#ff0000"
 - You can also set the border color to "transparent".
- **Ex:**

```
div.one
{
border-style:solid;
border-color:red;
}
```

```
div.two
{
border-style:dotted;
border-color:#98bf21;
}
```

4.4 Borders

Border - Individual sides

- In CSS it is possible to specify different borders for different sides:

- Ex:

```
div
{
border-top-style:dotted;
border-right-style:solid;
border-bottom-style:dotted;
border-left-style:solid;
}
```



2 different border style:

- Border - Shorthand property: it is also possible to specify all the individual border properties in one property.

- Ex : border:5px solid red;

Above example sets 5px width, solid as border style and red as color



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Note :All the four border sides can be of different style
The border-style property can have from one to four values:

border-style:dotted solid double dashed;

top border is dotted
right border is solid
bottom border is double
left border is dashed

border-style:dotted solid double;

top border is dotted
right and left borders are solid
bottom border is double

border-style:dotted solid;


top and bottom borders are dotted
right and left borders are solid


border-style:dotted;

all four borders are dotted

Demo : Border

- demoBorder.html





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4.4 Borders

Rounded Corners Border

■ With CSS3, we can create rounded borders as shown below:

border-radius

div

{


border:2px solid;

border-radius:25px;

}

Rounded

Border

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Rounded Corners: In CSS3, creating rounded corners is easy. The border-radius property is used to create rounded corners:

Use following extension for different browser:

-webkit-	for Safari and Chrome
-moz-	for old firefox
-o-	for opera

4.4 Borders

Applying Shadows in border

■ With CSS3, we can add shadow to border as shown below:

box-shadow

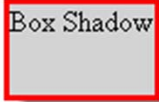
{


box-shadow: 10px 10px 5px

#888888;

}

Box Shadow



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Box Shadow: In CSS3, the box-shadow property is used to add shadow to boxes:

Use following extension for different browser:

-webkit-	for Safari and Chrome
-moz-	for old firefox
-o-	for opera

Demo : CSS 3 Border

- demoBorder_CSS 3.0.html



Lesson Summary

■ In this lesson, you have learn about

- Background
- Multiple Image Background
- Colors
 - RGB and RGBA
 - HSL and HSLA
- Borders
- Rounded Corners
- Applying Shadows in border



Review Questions

- Question 1: In HSLA color scheme H,S,L,A stands for _____, _____, _____ and _____ respectively
- Question 2: With Background Attachment _____ property stops the background-image from scrolling with its containing bloc
 - Option 1: Stop
 - Option 2: No-scroll
 - Option 3: Static
 - Option 4: Fixed



Review Questions

- Question 3: Which of the following are CSS 3 properties

- Option 1 : border-image
- Option 2 : border-width
- Option 3 : border-color
- Option 4 : border-radius
- Option 5 : box-shadow



- Question 4: In CSS it is possible to specify different borders for different sides:

- Option 1 : True
- Option 2 : False