

CSS 3 Borders and Backgrounds



Overview



- **Border** properties

- Rounded Corners (new CSS 3)




- The Box Model

- **Padding** properties


- Box shadows (new CSS 3)

border properties



- **border** properties define a border area **around** an element

- 4 main border properties

- 
- i. border-style
 - ii. border-width
 - iii. border-color
 - iv. border

border properties – border style (1)

border-style property

- sets the line style of the element's border

For example:

```
border-style: solid;
```



[Home Page](#)

In this example: **border-style: solid** sets a solid line border around the `<a>` element

border properties - border style (2)

10 main border-style values:

1) `none` - defines no border

2) `hidden` - defines a hidden border

3) `dotted` - defines a dotted border

4) `dashed` - defines a dashed border

5) `solid` - defines a solid border

6) `double` - defines two border lines of equal thickness

`border-style:dashed;`

border properties - border style (3)

- 10 main **border-style** values (cont.) :

7)

groove - defines a 3D grooved border

8)

ridge - defines a 3D ridged border

9)

inset - defines a 3D inset border

10)

outset - defines a 3D outset border

`border-style: outset;`

border properties – border width (1)

- **border-width** property

- sets the thickness of the element's border

For example:

```
border-width: 2px;
```



[Home Page](#)

```
border-width: 15px;
```



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border properties – border width (2)

border-width property

Important Note: **border-width** property on its own will not display any border, it has to be use together with a **border-style** property

For example:

```
.border_test  
{  
    border-style: solid;  
    border-width: 2px;  
}
```

border-style property can be used without **border-width**. The border will be displayed with a default width

border properties – border width (3)

- **border-width with 1 value**

1 value will affect the thickness of all the 4 sides of the border

For example:

```
border-width: 2px;
```



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border properties – border width (4)

border-width with 2 values

first value affects the border's **top** and **bottom**

second value affects the border's **left** and **right** sides

For example:

```
border-style: solid;  
border-width: 2px 10px;
```



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first value

second value

border properties – border width (5)

border-width with 3 values

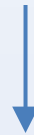
first value affects the border's **top** side

second value affects the border's **left** and **right** sides

third value affects the border's **bottom** sides

For example:

```
border-style: solid;  
border-width: 20px 2px 10px;
```



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border properties – border width (6)

border-width with 4 values

first value affects the border's **top** side

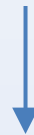
second value affects the border's **right** side

third value affects the border's **bottom** side

fourth value affects the border's **left** side

For example:

```
border-style: solid;  
border-width: 1px 15px 5px 1px;
```

A rectangular button with a blue, underlined text "Home Page". The button has a thick black border. The top border is 1px thick, the right border is 15px thick, the bottom border is 5px thick, and the left border is 1px thick.

[Home Page](#)

border properties – border width (7)

- **border-width**, number of values:

using **border-width** with **1, 2, 3** or **4** values depends on the web designers own preference and intended results

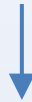
border properties – border color

border-color property:

- affects the color of an elements border

For example:

```
border-style: solid;  
border-width: 1px 15px 5px 1px;  
border-color: blue;
```



[Home Page](#)

border properties – border property

- **border property:**

- affects the **width, style** and **color** of an element's border

border: **width-value style-value color-value**

For example:

```
border: 3px solid green;
```

A rectangular box with a thick green border. Inside the box, the text "Home Page" is written in blue and underlined.

Home Page

border properties - directional

- Also 4 directional **border** properties
 - affect a specific side of an element's border
- 4 directional border properties
 - i. border-top
 - ii. border-right
 - iii. border-bottom
 - iv. border-left

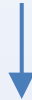
border properties – border top

border-top property

- affect the **top** side of an element's border

For example:

```
border: 2px solid blue;  
border-top: 5px solid black;
```



Home Page

border properties – border right

- **border-right** property

- affect the **right** side of an element's border

For example:

```
border: 2px solid blue;  
border-right: 5px solid black;
```

A rectangular button with the text "Home Page" in blue, underlined font. The button has a blue border on the top, left, and bottom sides, and a thick black border on the right side.

Home Page

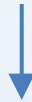
border properties – border bottom

- **border-bottom** property

- affect the **bottom** side of an element's border

For example:

```
border: 2px solid blue;  
border-bottom: 5px solid black;
```

A rectangular button with the text "Home Page" inside. The button has a blue border on the top, left, and right sides, and a thick black border on the bottom side. The text "Home Page" is underlined and blue.

Home Page

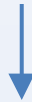
border properties – border left

- **border-left** property

- affect only the **bottom** side of an element's border

For example:

```
border: 2px solid blue;  
border-left: 5px solid orange;
```

A rectangular button with a white background and a blue border. The text "Home Page" is centered in blue, underlined font. The left side of the button has a vertical orange bar.

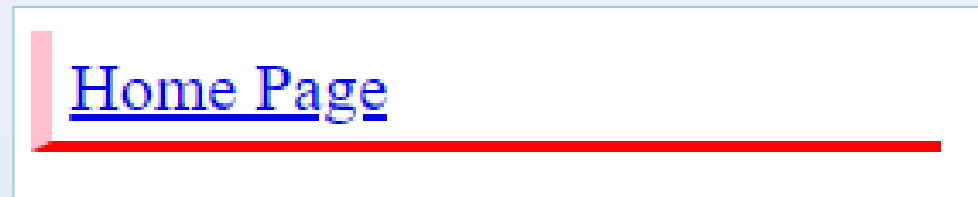
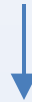
Home Page

border properties - directional borders only

- directional **border** properties can be used to display only certain sides of an element's border

For example:

```
border-bottom: 2px solid red;  
border-left: 5px solid pink;
```



In the example: **top** and **right** borders are not displayed

Rounded Corners (1)

- Element's borders can now have **rounded corners**
 - Uses **border-radius** property (new in CSS 3)

For example:

```
border: 2px solid black;  
border-radius: 25px;
```



[Home Page](#)

Rounded Corners (2)

border-radius values:

- can be **pixels**
- can be **percentage**

For example (pixels):

```
border: 2px solid black;  
border-radius: 5px;
```



[Home Page](#)

```
border: 2px solid black;  
border-radius: 25px;
```



[Home Page](#)

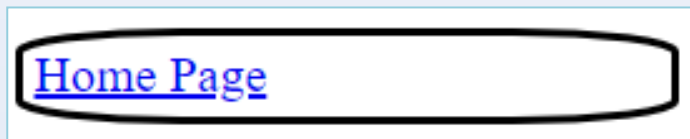
Rounded Corners (3)

border-radius values:

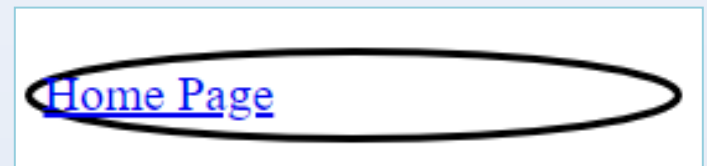
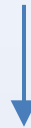
- can be **pixels**
- can be **percentage**

For example (**percentage**):

```
border: 2px solid black;  
border-radius: 25%;
```



```
border: 2px solid black;  
border-radius: 100%;
```



with **border-radius: 100%**, the border becomes fully circular

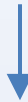
Rounded Corners (4)

- **border-radius with 1 value:**

- affects all four corners of the border

For example:

```
border: 2px solid black;  
border-radius: 25px;
```

A button with a thick black border and rounded corners. The text "Home Page" is centered inside the button, underlined, and colored blue.

[Home Page](#)

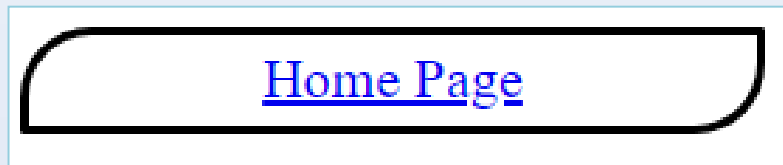
Rounded Corners (5)

• border-radius with 2 values:

- **first value** affects the **top-left** and **bottom-right** corners of the border
- **second value** affects the **top-right** and **bottom-left** corners

For example:

```
text-align:center;  
border: 2px solid black;  
border-radius: 20px 1px;
```



second value

first value

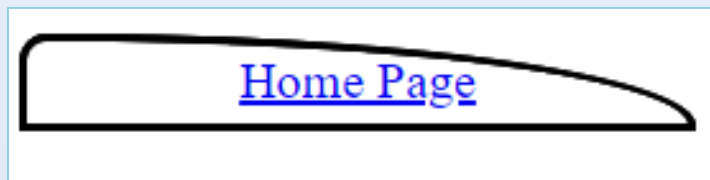
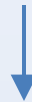
Rounded Corners (6)

border-radius with 4 values:

- **first value** affects the **top-left** corner of the border
- **second value** affects the **top-right** corner
- **third value** affects the **bottom-right** corner
- **fourth value** affect the **bottom-left** corner

For example:

```
text-align:center;  
border: 2px solid black;  
border-radius: 10px 100% 1px 1px;
```



border properties summary



4 main border properties

- i. border-style
- ii. border-width
- iii. border-color
- iv. border



4 directional border properties

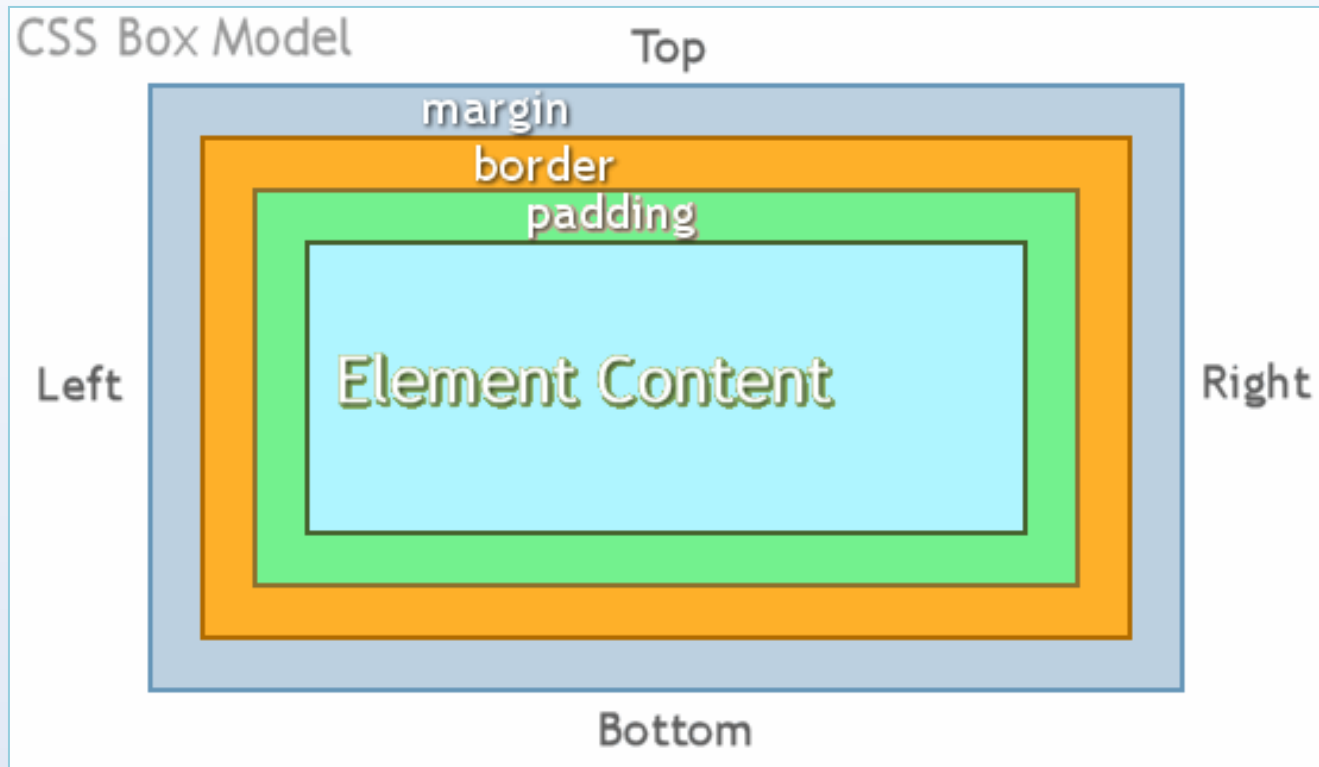
- i. border-top
- ii. border-right
- iii. border-bottom
- iv. border-left

1 new rounded corners border property (new CSS 3)

- i. border-radius

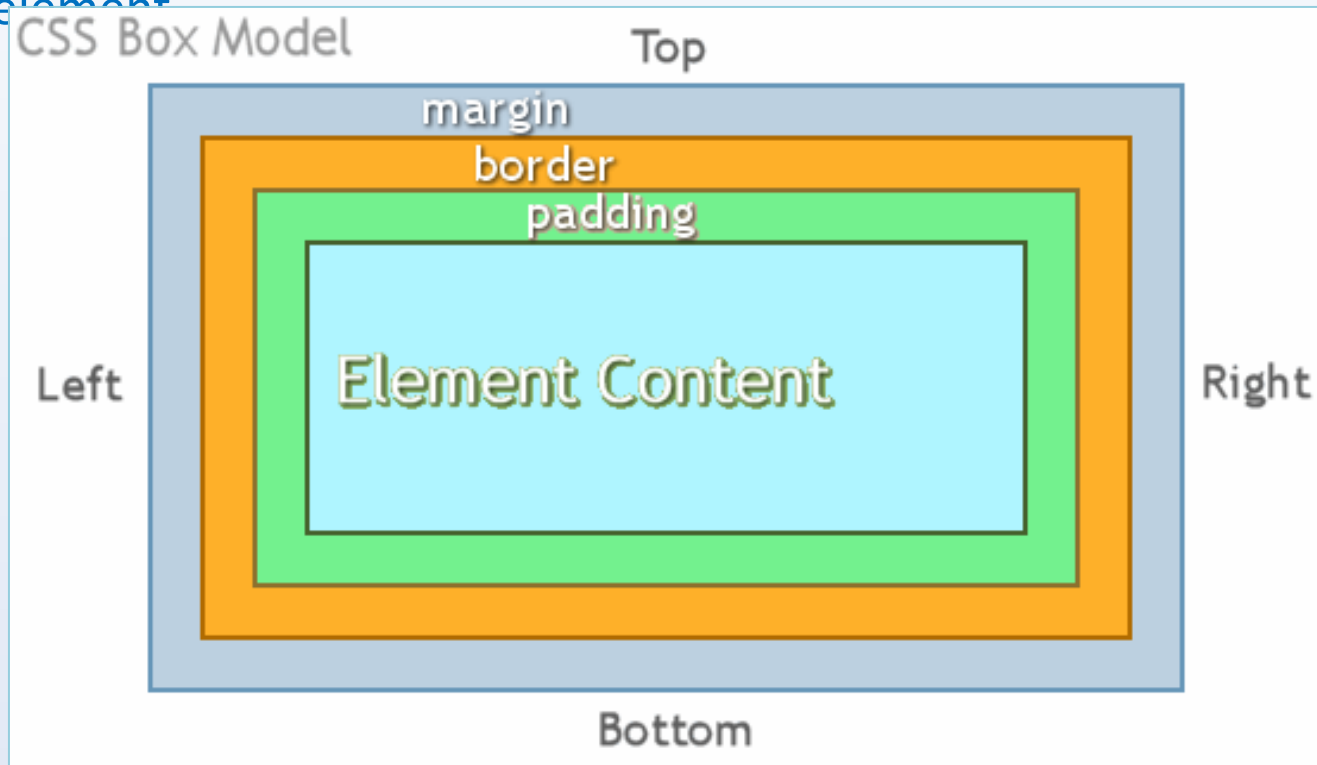
The Box Model (1)

- Every **visible element** contains one or more rectangular boxes
- **margin, border** and **padding** CSS properties determines how much space an element can take on a web page



The Box Model (2)

1. **margin** properties create space around an element
2. **border** properties specify a border area around an element
3. **padding** properties create space between the element's content and border
4. **dimension** properties (**width** and **height**) define the size of the content area of an element



padding properties



- **padding** properties create space between an element's content and border

- content is usually text (not always, e.g. video element)

- **5 main padding properties**

- i. padding-top

- ii. padding-right

- iii. padding-bottom

- iv. padding-left

- v. padding

padding properties – padding top

- **padding-top** property

- affects the **top** side of an element's padding area

For example:

```
width:200px;  
background-color: lightgrey;  
border: 1px solid black;  
padding-top: 20px;
```

A visual representation of a rectangular box with a light grey background, a black border, and a 20px top padding. The text "Home Page" is positioned at the bottom of the box, with the top 20px of the box being empty space.

Home Page

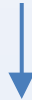
padding properties - padding

padding-right property

- affects the **right** side of an element's padding area

For example:

```
width:200px;  
background-color: lightgrey;  
border: 1px solid black;  
padding-right: 30px;
```



Home Page

padding properties - padding

padding-bottom property

- affects the **bottom** side of an element's padding area

For example:

```
width:200px;  
background-color: lightgrey;  
border: 1px solid black;  
padding-bottom: 30px;
```



Home Page

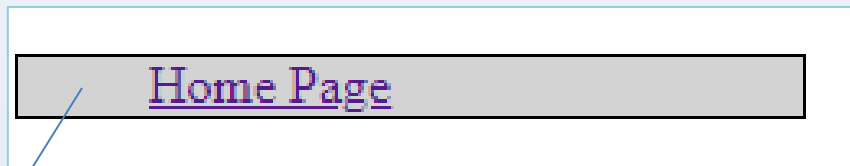
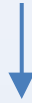
padding properties - padding left

- **padding-left** property

- affects the **left** side of an element's padding area

For example:

```
width:200px;  
background-color: lightgrey;  
border: 1px solid black;  
padding-left: 40px;
```



40px space created between the element's content and border on the **left side**

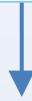
padding properties - padding

padding property

- affects the **top**, **right**, **bottom** and **left** sides of an element's padding area

For example:

```
width: 200px;  
background-color: lightgrey;  
border: 1px solid black;  
padding: 20px;
```



Home Page

padding properties - padding (2)

- padding property with 4 values

- first value affects top padding
- second value affects right padding
- third value affects bottom padding
- fourth value affects left padding

For example:

```
border: 1px solid black;  
padding: 5px 0px 25px 30px;
```

A rectangular box with a grey background and a black border. The text "Home Page" is centered within the box. The text is underlined and colored purple. The box is surrounded by a white border, which is further enclosed by a light blue border.

Home Page

Box Shadows (1)

- **box-shadow** property:

Applies one or more shadows to an element's border rectangle

box-shadow is new in CSS 3

- **Syntax:** `box-shadow: offset-x offset-y blur-radius color`
`box-shadow: 5px 10px 8px lightgrey;`

CSS code

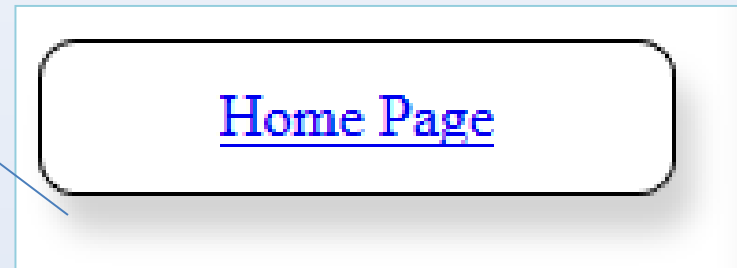
A rectangular button with rounded corners, a black border, and a light grey shadow. The text "Home Page" is centered inside the button in blue, underlined font. A blue line points from the CSS code box to the button.

[Home Page](#)

Web browser

Box Shadows (2)

- **box-shadow** property (continued):
- **Syntax:** box-shadow: **offset-x offset-y blur-radius color**
- **offset-x** : specifies the shadow's horizontal distance to the right of the element
- **offset-y:** specifies the shadow's vertical distance below the element
- **blur-radius:** specifies blur size of the shadow
- **color:** specifies the color of the shadow




Box Shadows (3)

- Note: box shadows will still be **visible** even if the element's border is not visible




[Home Page](#)

background properties



- **background** properties defines background styles for an element

- 5 main background properties

- 
- i. background-color
 - ii. background-image
 - iii. background-repeat
 - iv. background-attachment
 - v. background-position

background properties – background color

- **background-color** property:
 - sets the background color of an element
- usage is similar to **color** property
- **value** can be
 - a HEX value (e.g. `background-color: #ff00ff;`)
 - an RGB value (e.g. `background-color: rgb(255, 0, 255);`)
 - a color name (e.g. `background-color: purple;`)

background properties – background image

- **background-image** property:

- sets an image as a background of an element

For example:

```
background-image: url("coffee.jpg");
```

Value uses **url** keyword, followed by the image's filename



background properties – background repeat



- **background-repeat** property:

- Specifies how a background image will be repeated, vertically or horizontally, if the element's size is larger than the background image's size



- possible values:

- repeat

For example, `repeat-x`

```
background-repeat: no-repeat;
```

- repeat-y

Note: if **background-repeat** is not set, then by default a background image will be repeated (displayed again) both vertically **and** horizontally (if the element size is bigger than the background image's size)

background properties – background attachment

- **background-attachment** property:

- sets whether a background image is fixed or scrolls with the rest of the webpage

- possible values:

- scroll

For example: **fixed**

```
background-attachment: fixed;
```

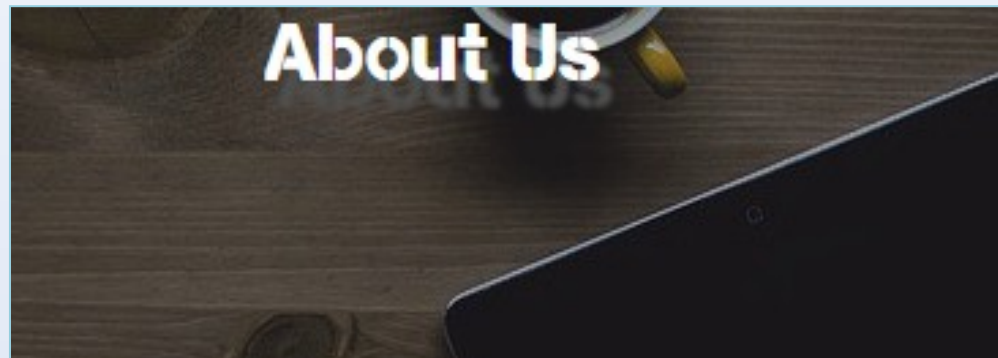
Note: if **background-attachment** has a value of **fixed**, then the background image will remain in the same position even if the user scrolls through the webpage

background properties – background position (1)

- **background-position** property:
 - controls the starting position of a background image
- **Syntax: background-position: x-offset y-offset**
 - uses 2 integer values, in pixels

For example:

```
background-position: 100px 150px;
```



background properties - background position (2)

For example:

```
background-position: 20px 0px;
```

(default)



(adjusted with background-position)



In the example: the background image's starting position will be 20px to the right of its original position (shifted **horizontally**)

and the background image's starting will be shifted 0px below the original image's starting point (i.e. **vertically** the image maintains its vertical starting position)