





CSS 3 Borders and Backgrounds

Overview

- 
- **Border** properties
 - Rounded Corners (new CSS 3)
 - The Box Model
 - **Padding** properties
 - Box shadows (new CSS 3)
 - **Background** properties
- 

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;
```



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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;`

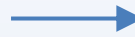
border properties – border width (1)

- **border-width** property

- sets the thickness of the element's border

For example:

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



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```
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)

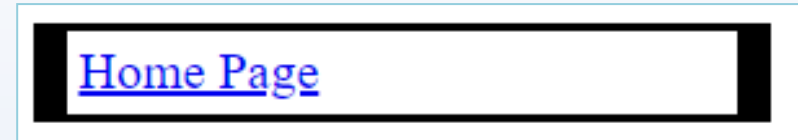
- border-width with 2 values

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;
```



first value

second value

border properties – border width (5)

- **border-width with 3 values**

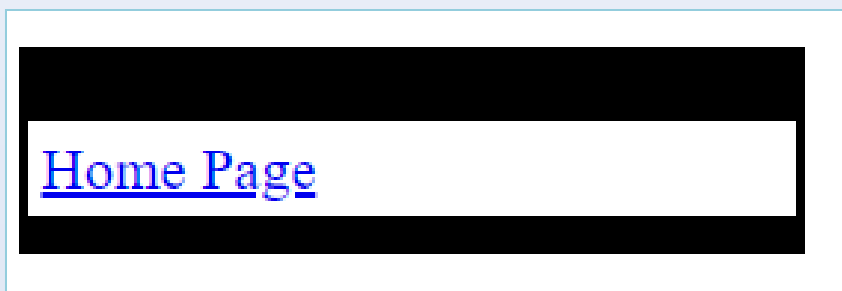
first value affects the border's **top** side

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;
```



border properties - border width (6)

- **border-width with 4 values**

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

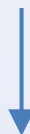
second value affects the border's **right** side

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 box with a white background and a black border. The text "Home Page" is written in blue, underlined font inside the box. The border is thicker on the right and bottom sides, and thinner on the top and left sides, matching the CSS code above.

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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;
```

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

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border properties – border property

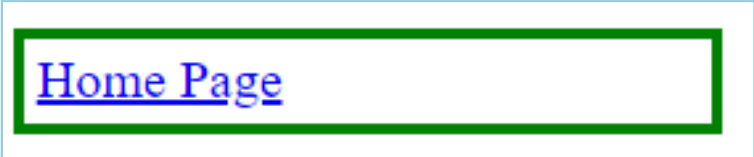
- **border property:**

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

border: width-value style-value color-value

For example:

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



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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

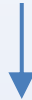
border properties – border top

- **border-top** property

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

For example:

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



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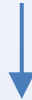
border properties – border right

- **border-right** property

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

For example:

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



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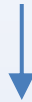
border properties – border bottom

- **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" in blue. The button has a blue border on the top, left, and right sides, and a thick black border on the bottom side.

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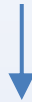
border properties – border left

- **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 box with a blue border. The text "Home Page" is centered inside the box and underlined. The left side of the box has a thick orange border, while the other three sides have a blue border.

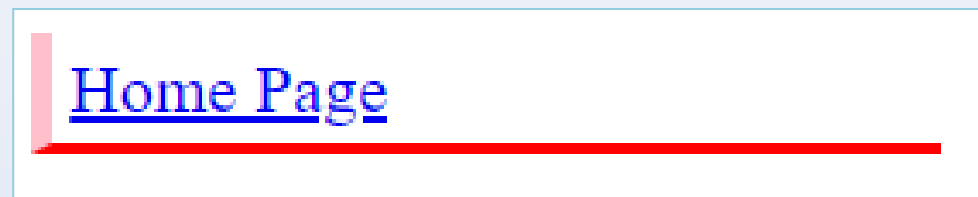
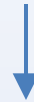
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border properties - directional borders only

- 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;
```



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Rounded Corners (2)

- **border-radius** values:
 - can be **pixels**
 - can be **percentage**

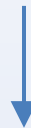
For example (pixels):

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



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



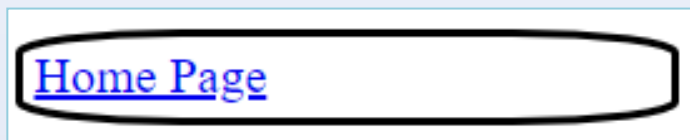
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Rounded Corners (3)

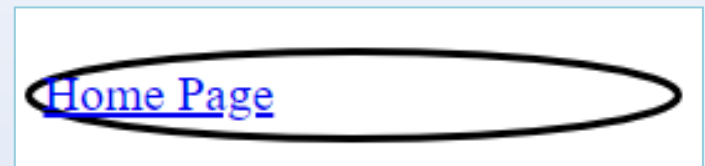
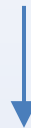
- **border-radius** values:
 - can be **pixels**
 - can be **percentage**

For example (percentage):

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



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



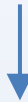
with **border-radius: 100%**, the border becomes fully circular

Rounded Corners (4)

- **border-radius** with 1 value:
 - affects all four corners of the border

For example:

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



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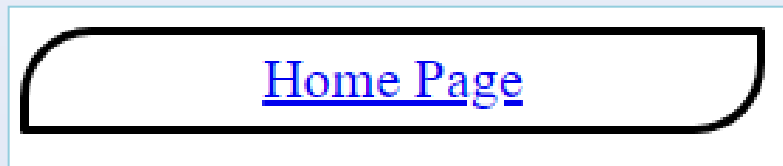
Rounded Corners (5)

- **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

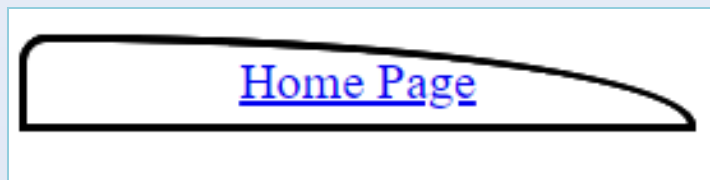
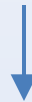
Rounded Corners (6)

- **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

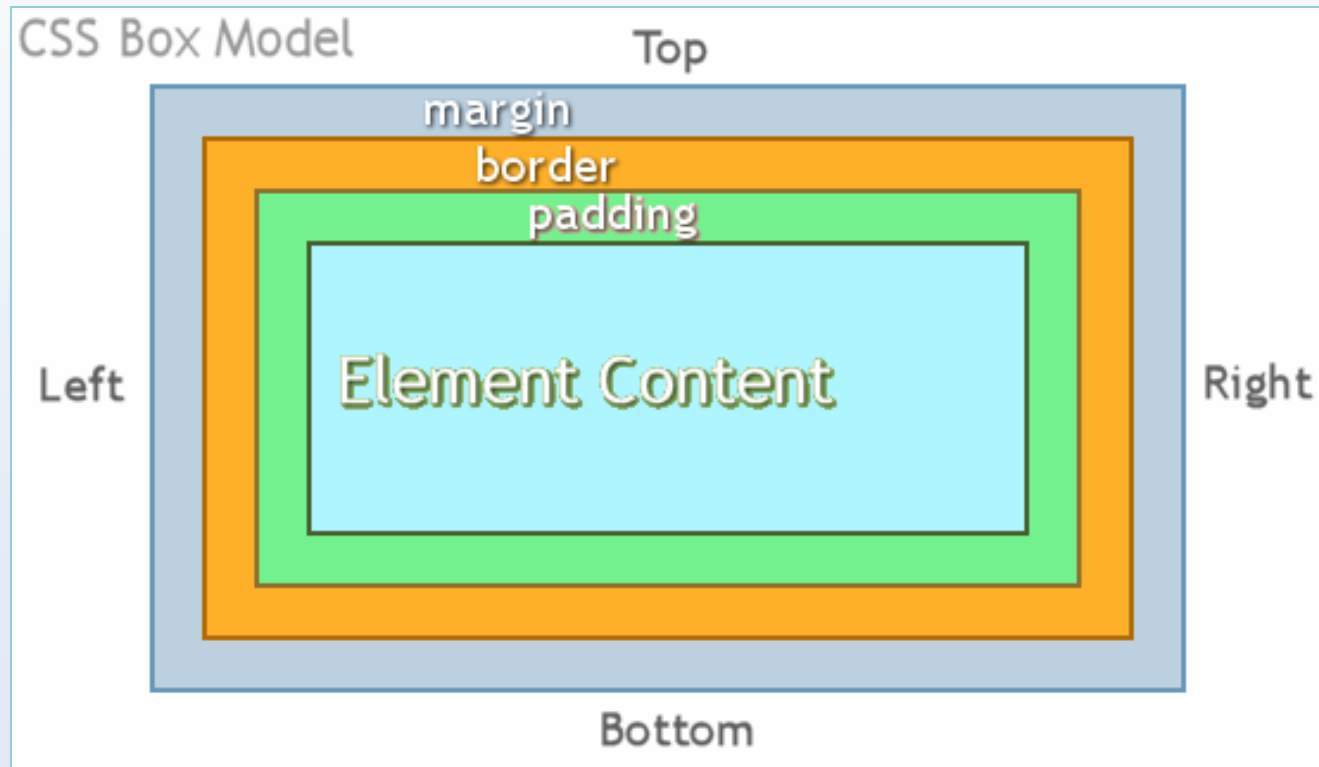
- i. border-top
- ii. border-right
- iii. border-bottom
- iv. border-left

- 1 new rounded corners border property (new CSS 3)

- i. border-radius

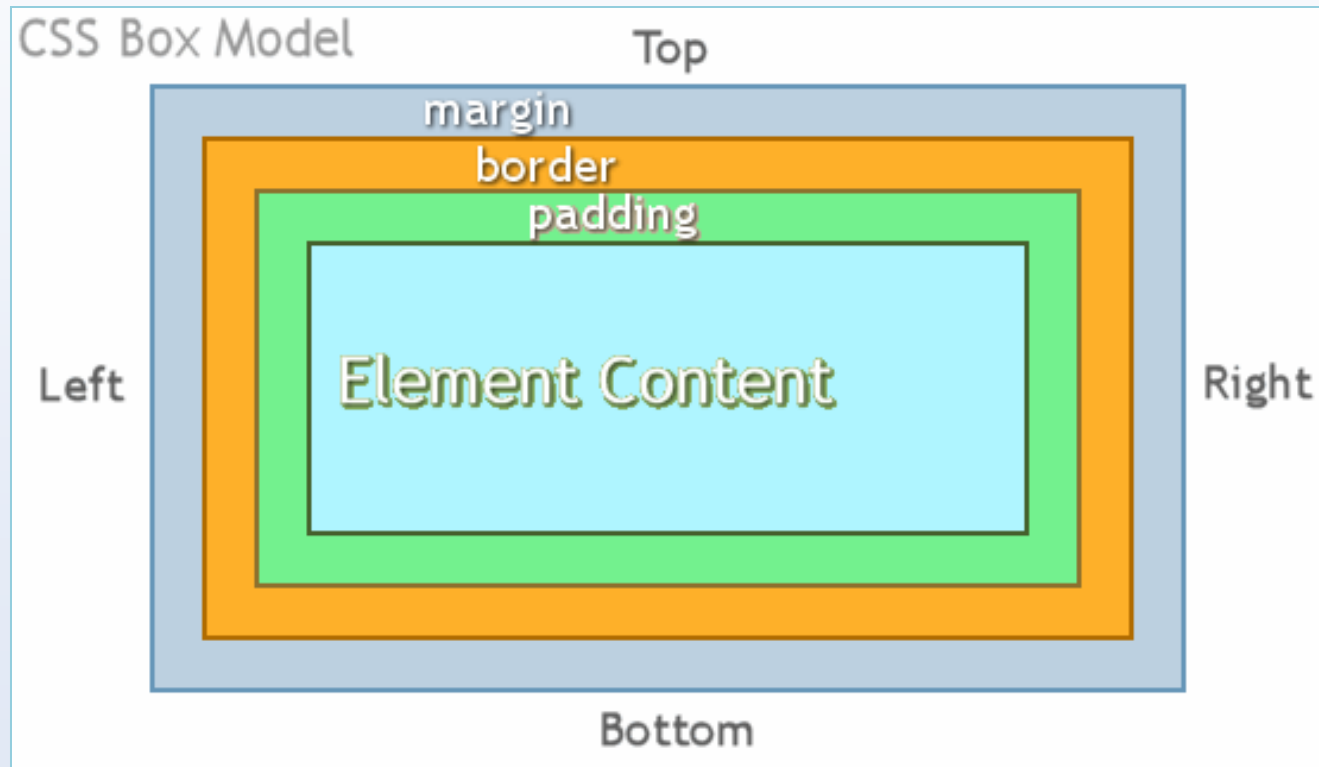
The Box Model (1)

- 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;
```



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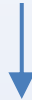
padding properties - padding right

- **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;
```



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padding properties – padding bottom

- **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;
```

A visual representation of the element described in the code. It is a light grey rectangle with a black border. The text "Home Page" is displayed in purple, underlined font at the top of the rectangle. There is a significant gap between the text and the bottom edge of the rectangle, illustrating the padding-bottom property.

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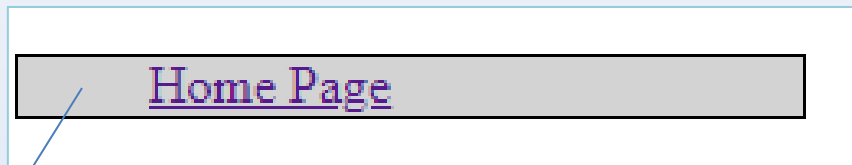
padding properties – padding left

- **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**

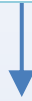
padding properties - padding

- **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;
```

A visual representation of the CSS code above. It shows a rectangular box with a light grey background, a thin black border, and a white padding area. The text "Home Page" is centered within the padding area.

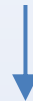
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padding properties - padding (2)

- **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;
```



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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

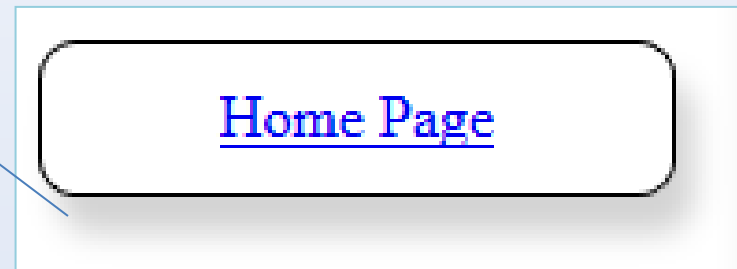


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Web browser

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




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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
- repeat-x
- repeat-y
- no-repeat

For example:

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

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
- fixed

For example:

```
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)