

Lesson:

Width, Height & Box-Sizing



Topics Covered

- width
- min and max width
- height
- min and max height
- box-sizing and its properties

Note: In every example, we will use the most common CSS absolute unit called a pixel, denoted by "px." In the next section, we will see each CSS unit (absolute unit and relative unit) with an example.

Width

CSS width is a property that helps us control the size of an element on a webpage. Think of it as how wide or narrow something should be. It does not include any padding, borders, or margins.

Imagine you have a box on your webpage, like a picture or a text block. The CSS width property allows you to decide how much horizontal space this box should take up on the screen.

Example

index.html

```
Unset
<body>
    <div class="container">
        <p class="text">Lorem ipsum dolor sit, amet consectetur
adipisicing elit. Facilis natus sequi itaque

        possimus. Cumque
        repudiandae repellendus aspernatur doloremque
consequatur non neque harum facere sed ex, nihil deserunt quo
        ipsam quasi.</p>
    </div>
</body>
```

style.css

```
Unset
.container {
    border: solid 1px;
}

.text {
    width: 300px;
}
```

Browser output:

Before applying width

Lorem ipsum dolor sit, amet consectetur adipisicing elit. Facilis natus sequi itaque possimus. Cumque repudiandae repellendus aspernatur doloremque consequatur non neque harum facere sed ex, nihil deserunt quos ipsam quasi.

After applying width

Lore ipsum dolor sit, amet consectetur adipisicinc elit. Facilis natus sequi itaque possimus. Cumque repudiandae repellendus aspernatur doloremque consequatur non neque harum facere sed ex, nihil deserunt quos ipsam quasi.

min and max-width:

min-width

The "**min-width**" property sets the minimum width that an element can have. If the content inside the element requires more width than the specified minimum, the element will expand to accommodate the content. If the content inside the element requires less width than the specified minimum, the element will still have the minimum width.

index.html

```
Unset  
<h1>The min-width Property</h1>  
<h2>min-width: none (default):</h2>  
<span>Lorem ipsum dolor sit amet...</span>  
  
<h2>min-width: 500px:</h2>  
<span class="minWidth">Lorem ipsum dolor sit amet...</span>
```

style.css

```
Unset
span {
    background-color: yellow;
}
.minLength {
    min-width: 500px;
    display: inline-block;
}
```

Browser output:

The min-width Property

min-width: none (default):

min-width: 500px;

The min-width property defines the minimum width of an element.

If the content is smaller than the minimum width, the minimum width will be applied.

If the content is larger than the minimum width, the min-width property has no effect.

max-width

The "max-width" property sets the maximum width that an element can have. If the content inside the element requires less width than the specified maximum, the element will shrink to fit the content. If the content inside the element requires more width than the specified maximum, the element will still have the maximum width.

index.html

```
Unset
<h1>The max-width Property</h1>
<h2>max-width: none (default):</h2>
<p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam semper diam at erat pulvinar, at pulvinar felis blandit.</p>

<h2>max-width: 150px:</h2>
<p class="maxWidth">Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam semper diam at erat pulvinar, at pulvinar felis blandit.</p>
```

style.css

```
Unset
.mapbox {
  max-width: 150px;
}
```

Browser output:

The max-width Property

max-width: none (default):

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam semper diam at erat pulvinar, at pulvinar felis blandit.

max-width: 150px:

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam semper diam at erat pulvinar, at pulvinar felis blandit.

Height

CSS height is a property that allows us to control the height of an element on a webpage. It's like how tall or short something should be.

It does not include any padding, borders, or margins

Imagine you have a rectangular box on your webpage, like an image or a div container. The CSS height property lets you decide how much vertical space this box should take up on the screen.

Example

index.html

```
Unset
<body>

    <p class="text">Lorem ipsum dolor sit amet, consectetur adipiscing elit.
    Etiam semper diam at erat pulvinar, at
        pulvinar felis blandit. Vestibulum volutpat tellus diam, consequat
    gravida libero rhoncus ut. Maecenas imperdier
        felis nisi, fringilla luctus felis hendrerit sit amet. Pellentesque
    interdum, nisl nec interdum maximus, augue
        diam porttitor lorem, et sollicitudin felis neque sit amet erat.</p>

</body>
```

style.css

```
Unset
.text {
    height: 50px;
    border: 1px solid black;
}
```

Browser output:

Before applying height

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam semper diam at erat pulvinar, at pulvinar felis blandit. Vestibulum volutpat tellus diam, consequat gravida libero rhoncus ut. Maecenas imperdier felis nisi, fringilla luctus felis hendrerit sit amet. Pellentesque interdum, nisl nec interdum maximus, augue diam porttitor lorem, et sollicitudin felis neque sit amet erat.

After applying height

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam semper diam at erat pulvinar, at pulvinar felis blandit. Vestibulum volutpat tellus diam, consequat gravida libero rhoncus ut. Maecenas imperdier felis nisi, fringilla luctus felis hendrerit sit amet. Pellentesque interdum, nisl nec interdum maximus, augue diam porttitor lorem, et sollicitudin felis neque sit amet erat.

Min and max-height:

min-height:

The "min-height" property sets the minimum height that an element can have. If the content inside the element requires more height than the specified minimum, the element will expand to accommodate the content. If the content inside the element requires less height than the specified minimum, the element will still have the minimum height.

Example

index.html

```
Unset
<h1>The min-height Property</h1>
```

```
<h2>min-height: none (default):</h2>
<p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam semper diam at erat pulvinar, at pulvinar felis blandit...</p>
<h2>min-height: 200px:</h2>
<p class="minHeight">Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam semper diam at erat pulvinar, at pulvinar felis blandit...</p>
```

style.css

```
Unset
.minHeight {
  min-height: 200px;
}
```

Browser output:

The min-height Property

min-height: none (default):

 Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam semper diam at erat pulvinar, at pulvinar felis blandit...

min-height: 200px:

 Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam semper diam at erat pulvinar, at pulvinar felis blandit...

If the content is smaller than the minimum height, the minimum height will be applied.

If the content is larger than the minimum height, the min-height property has no effect.

max-height

The "**max-height**" property sets the maximum height that an element can have. If the content inside the element requires less height than the specified maximum, the element will shrink to fit the content. If the content inside the element requires more height than the specified maximum, the element will still have the maximum height.

Example

index.html

```
Unset

<h1>The max-height Property</h1>
<h2>max-height: none (default):</h2>
<p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam semper diam at erat pulvinar, at pulvinar felis blandit. Vestibulum volutpat tellus diam, consequat gravida libero rhoncus ut. Maecenas imperdiet felis nisi, fringilla luctus felis hendrerit sit amet. Pellentesque interdum, nisl nec interdum maximus, augue diam porttitor lorem, et sollicitudin felis neque sit amet erat.</p>

<h2>max-height: 50px:</h2>
<p class="maxHeight">Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam semper diam at erat pulvinar, at pulvinar felis blandit. Vestibulum volutpat tellus diam, consequat gravida libero rhoncus ut. Maecenas imperdiet felis nisi, fringilla luctus felis hendrerit sit amet. Pellentesque interdum, nisl nec interdum maximus, augue diam porttitor lorem, et sollicitudin felis neque sit amet erat.</p>
```

style.css

```
Unset
.maxHeight {
  max-height: 50px;
}
```

Browser output:

The max-height Property

max-height: none (default):

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam semper diam at erat pulvinar, at pulvinar felis blandit. Vestibulum volutpat tellus diam, consequat gravida libero rhoncus ut. Maecenas imperdiet felis nisi, fringilla luctus felis hendrerit sit amet. Pellentesque interdum, nisl nec interdum maximus, augue diam porttitor lorem, et sollicitudin felis neque sit amet erat.

max-height: 50px:

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam semper diam at erat pulvinar, at pulvinar felis blandit. Vestibulum volutpat tellus diam, consequat gravida libero rhoncus ut. Maecenas imperdiet felis nisi, fringilla luctus felis hendrerit sit amet. Pellentesque interdum, nisl nec interdum maximus, augue diam porttitor lorem, et sollicitudin felis neque sit amet erat.

If the content is larger than the maximum height, it will overflow. If the content is smaller than the maximum height, the max-height property has no effect.

Box sizing

The box-sizing property sets how the total width and height of an element are calculated.

The syntax of the box-sizing property is given as

```
Unset
box-sizing: border-box; // for border-box
box-sizing: content-box; // for content-box
```

By default box-sizing is set to "**content-box**", When using this value, the element's width and height properties will only consider the content, and will not include the margin, padding, or border values.

For example, if we specify the width of an element as 200px, the content will be exactly 200px wide, while the border and padding will be added to the final display, making the element wider than 200px.

The formula for calculating box size in the case of **box-sizing: "content-box"** is

```
Unset
Actual Width = Width + Horizontal Padding + Horizontal Border
Actual Height = Height + Vertical Padding + Vertical Border
```

It means if we create a box of some specific height and width and then add padding and a border to it, it will look wider than the actual width.

Example: Let's create two div elements with the same height and width, but different borders and padding.

Index.html

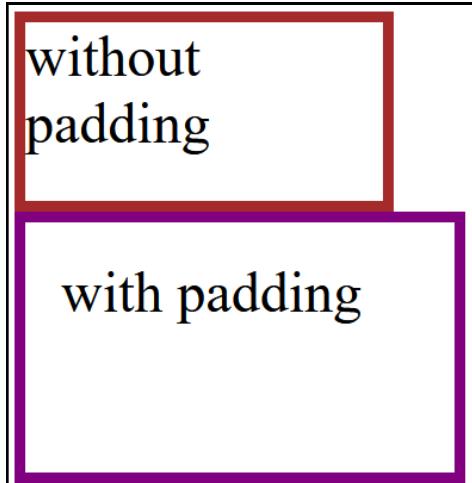
```
Unset
<div class="withoutPadding">without padding</div>
<div class="withPadding">with padding</div>
```

style.css

```
Unset
.withoutPadding {
    height: 50px;
    width: 100px;
    border: solid brown;
}

.withPadding {
    height: 50px;
    width: 100px;
    border: solid purple;
    padding: 10px;
}
```

Browser output:



From the above output, it's clear that the two divs have different sizes, even though we specified the same size for both. The second div appears larger than the first one.

This issue can be resolved by changing box-sizing property to "**border-box**"

The "**border-box**" value for the **box-sizing** property is commonly used to tell the browser to **fit the element's border and padding within its specified width and height**.

For example, if we set an element's width to 200 px, the border and padding we specify will be included in that 200 px, and the content box will adjust to any extra width.

Example: Let's compare border-box and content-box with the below example.

In the below example, we have two containers, one with **box-sizing: "border-box"** and another with default **box-sizing:"content-box"**(no need to set explicitly)

index.html

```
Unset
<div class="withBoxSizing">box-sizing:border-box</div>
<div class="withoutBoxSizing">without box-sizing</div>
```

style.css

```
Unset
.withBoxSizing {
  height: 100px;
  width: 200px;
  border: solid 2px;
  padding: 10px;
  box-sizing: border-box;
}

.withoutBoxSizing {
  height: 100px;
  width: 200px;
  border: solid 2px;
  padding: 10px;
}
```

Browser output: