



# CSS Box model

Last Updated : 23 Jul, 2024

**CSS Box Model** is a **Fundamental concept in CSS** that governs **how elements are structured and positioned** on a **webpage**. By learning this model, you'll create elements visually appealing that adjust seamlessly to various screen sizes. **It is used to create the design and layout of web pages.**

In this article, we'll learn the **key components of the box model and its practical implications.**

## What is the CSS Box Model?

The **box model in CSS** is a container that contains various properties, including **borders, margins, padding,** and **the content itself.** **These properties collectively determine the dimensions and spacing of an element.**

**Let's break down the key components:**

- **Content:** The actual data in text, images, or other media forms can be sized using the width and height property.
- **Padding:** [Padding](#) is used to create space around the element, inside any defined border.
- **Border:** The [border](#) is used to cover the content & any padding, & also allows setting the style, color, and width of the border.
- **Margin:** [Margin](#) is used to create space around the element ie., around the border area.

### 1. Content Area

- **Contains the actual data, such as text, images, or other media.**
- Sized using the width and height properties.
- **Bounded by the content edge.**

## 2. Padding Area

- Surrounds the content area.
- Space within the border box.
- Dimensions are determined by the width and height of the padding box.

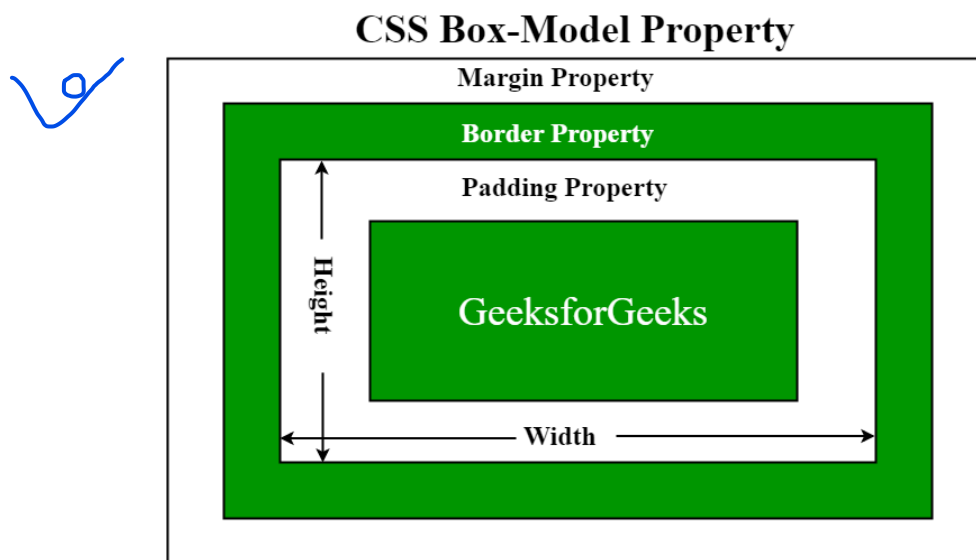
## 3. Border Area

- Lies between the padding and margin.
- Width and height are defined by the border.

## 4. Margin Area

- Separates the element from adjacent elements.
- Dimensions specified by the margin-box width and height.

The following figure illustrates the **Box model** in CSS.



## How Does the Box Model Work?

When setting the width and height properties for an element, we're mainly adjusting the **content area**. However, to calculate the full size of the element, we need to consider **padding** and **borders** also.

While setting the width and height properties of an element with CSS, we have only set the width and height of the content area. We need to add

padding and borders in order to calculate the full size of an element. Although margin affects the total area an element takes on the page but it is not considered to be a part of the actual size of the box as margins show peculiar behaviors like [margin collapsing](#). Consider the below example.

```
p {  
  width: 80px;  
  height: 70px;  
  margin: 0;  
  border: 2px solid black;  
  padding: 5px;  
}
```

### Total Width Calculation

*Total element width = width + left padding + right padding + left border + right border*

- Total width of the element is 94px.
- **Total width** = 80px (width) + 10px (left padding + right padding) + 4px (left border + right border) = 94px.

### Total Height Calculation

*Total element height = height + top padding + bottom padding + top border + bottom border*

- Total height of the element is 84px.
- **Total height** = 70px (height) + 10px (top padding + bottom padding) + 4px (top border + bottom border) = 84px.

## Examples of Box models in CSS

Now, We have learned the working of the CSS Box Model in-depth and now we will see Box Model examples so that we can properly understand it.

## Example 1

This example illustrates the use of the CSS Box model for aligning & displaying it properly.

### HTML

```
<!DOCTYPE html>
<html>

<head>
  <title>CSS Box Model</title>
  <style>
    .main {
      font-size: 36px;
      font-weight: bold;
      Text-align: center;
    }

    .gfg {
      margin-left: 60px;
      border: 50px solid #009900;
      width: 300px;
      height: 200px;
      text-align: center;
      padding: 50px;
    }

    .gfg1 {
      font-size: 42px;
      font-weight: bold;
      color: #009900;
      margin-top: 60px;
      background-color: #c5c5db;
    }

    .gfg2 {
      font-size: 18px;
      font-weight: bold;
      background-color: #c5c5db;
    }
  </style>
</head>

<body>
  <div class="main">
    CSS Box-Model Property
  </div>

  <div class="gfg">
```

```
<div class="gfg1">
  GeeksforGeeks
</div>

<div class="gfg2">
  A computer science portal for geeks
</div>
</div>
</body>

</html>
```

Output:

## CSS Box-Model Property



### Example 2

This example illustrates the Box Model by implementing the various properties.

#### HTML

```
<!DOCTYPE html>
<html>

  <head>
    <style>
      .main {
        font-size: 32px;
        font-weight: bold;
        text-align: center;
      }

      #box {
```

```
padding-top: 40px;  
width: 400px;  
height: 100px;  
border: 50px solid green;  
margin: 50px;  
text-align: center;  
font-size: 32px;  
font-weight: bold;  
    }  
  </style>  
</head>  
  
<body>  
  <div class="main">CSS Box-Model Property</div>  
  <div id="box">GeeksforGeeks</div>  
</body>  
  
</html>
```

Output:

## CSS Box-Model Property



## CSS Box Model – FAQs

What is the CSS Box Model?

*The CSS Box Model is a fundamental concept in web design that describes the rectangular boxes generated for elements in the document tree. Each box consists of four parts: content, padding, border, and margin.*

## What are the components of the CSS Box Model?

*The components of the CSS Box Model are:*

- *Content: The actual content of the box, such as text or an image.*
- *Padding: The space between the content and the border.*
- *Border: The edge surrounding the padding and content.*
- *Margin: The space outside the border, separating the element from other elements.*

## How do I set the width and height of an element using the CSS Box Model?

*The width and height properties set the size of the content area. The total size of the element includes the content, padding, border, and margin unless the box-sizing property is used to include padding and border in the specified width and height.*

## How do I add padding to an element in the CSS Box Model?

*Padding can be added to an element in the CSS Box Model using the padding property. You can set padding for all sides, or individually for top, right, bottom, and left sides using padding-top, padding-right, padding-bottom, and padding-left.*

## How do I add a border to an element in the CSS Box Model?

*Borders can be added to an element in the CSS Box Model using the border property. You can set the border width, style, and color. You can*