

## Lecture 5

# Borders and Backgrounds in CSS

## 1. Borders

### *Basic Border Properties*

The border property allows you to define the border of an element. The most common border properties are:

- **border-width**: Sets the thickness of the border (e.g., thin, medium, thick, or exact values like 2px).
- **border-style**: Defines the style of the border (e.g., solid, dotted, dashed, double, groove, ridge, inset, outset, none).
- **border-color**: Sets the color of the border. You can use color names, HEX, RGB, or other color formats.

```
/* Border example */
.box {
  border-width: 2px;
  border-style: solid;
  border-color: #3498db;
}
```

### *Shorthand Border Property*

You can combine the width, style, and color in a single border shorthand property:

```
/* Shorthand example */  
.box {  
    border: 2px solid #3498db;  
}
```

*Individual Borders (Top, Right, Bottom, Left)*

You can set each side of the border independently using:

- border-top
- border-right
- border-bottom
- border-left

```
/* Different borders on each side */  
.box {  
    border-top: 3px solid red;  
    border-right: 2px dashed green;  
    border-bottom: 4px dotted blue;  
    border-left: 5px double black;  
}
```

*Border Radius*

The `border-radius` property rounds the corners of an element.

- You can specify values for each corner separately (top-left, top-right, bottom-right, bottom-left).
- Values can be given in px, %, or em.

```
/* Rounded corners example */  
.box {  
    border: 2px solid #3498db;  
    border-radius: 15px;  
}
```

For circular or oval shapes, use 50% for perfect circles or ellipses:

```
.circle {  
    border-radius: 50%;  
}
```

## 2. Backgrounds

background properties allow you to control the appearance of the background of elements.

*background-color*

Sets the background color of an element.

```
.box {  
    background-color: #f0f0f0;  
}
```

## *background-image*

Sets an image as the background of an element.

```
.box {  
    background-image: url('background.jpg');  
}
```

## *background-repeat*

Defines if/how the background image should be repeated:

- repeat (default)
- no-repeat
- repeat-x (horizontally)
- repeat-y (vertically)

```
.box {  
    background-image: url('background.jpg');  
    background-repeat: no-repeat;  
}
```

## *background-position*

Positions the background image within the element.

- **Values:** left, right, center, top, bottom, or specific positions like 50% 50%.

```
.box {  
    background-image: url('background.jpg');  
    background-position: center;  
}  
background-size
```

Scales the background image.

- `cover`: Scales the image to cover the entire container.
- `contain`: Scales the image to fit within the container.
- Specific size values (e.g., `100px 200px`).

```
.box {  
    background-image: url('background.jpg');  
    background-size: cover;  
}  
background-attachment
```

Determines whether the background scrolls with the page or stays fixed.

- `scroll` (default): The background moves with the page.
- `fixed`: The background is fixed in place, even when the page is scrolled.
- `local`: The background scrolls with the content of the element.

```
.box {  
    background-image: url('background.jpg');  
    background-attachment: fixed;  
}
```

### *Shorthand Background Property*

The background shorthand allows you to set multiple background properties in one line.

```
/* Shorthand example */  
.box {  
    background: #f0f0f0 url('background.jpg')  
no-repeat center/cover fixed;  
}
```

## **3. Advanced Border and Background Properties**

### *border-image*

The border-image property allows you to use an image as the border of an element.

- border-image-source: URL or path to the image.
- border-image-slice: Specifies how to slice the image.
- border-image-repeat: Specifies how the image should be repeated or stretched.

```
.box {  
  border: 10px solid transparent;  
  border-image-source: url('border.png');  
  border-image-slice: 30;  
}
```

### *Multiple Backgrounds*

You can apply multiple background images to an element by separating them with commas.

```
.box {  
  background-image: url('bg1.jpg'),  
  url('bg2.png');  
  background-position: left top, right  
bottom;  
  background-repeat: no-repeat, no-repeat;  
}
```

---

## 4. Related Properties

- **outline**: Similar to borders, but outlines don't affect layout and can be drawn outside the element's border.

```
.box {  
  outline: 2px solid red;  
}
```

- **box-shadow:** Adds a shadow effect around the element's box.

```
.box {  
  box-shadow: 2px 2px 8px rgba(0, 0, 0,  
0.5);  
}
```

## Summary of Key Properties

- **Borders:** border, border-width, border-style, border-color, border-radius, border-image
- **Backgrounds:** background-color, background-image, background-repeat, background-position, background-size, background-attachment
- **Related:** outline, box-shadow