

## CSS Media Queries

Media queries are a feature in CSS that enable developers to apply styles based on the characteristics of the device or browser, such as screen width, height, orientation, resolution, and other properties. They play a crucial role in responsive web design, ensuring that web pages adapt to different devices and screen sizes.

### Syntax:

```
@media media-type and (media-feature) {  
  /* CSS rules */  
}
```

### Example:

```
@media screen and (max-width: 600px) {  
  body {  
    background-color: lightblue;  
  }  
}
```

### Purpose and Importance

- Enables responsive web design, making websites adaptable to various screen sizes.
- Enhances user experience by optimizing content for different devices.
- Helps in applying styles for print, screen readers, and high-resolution displays.
- Reduces the need for multiple versions of a website for different devices.

**Components of a Media Query** A media query consists of three key components:

1. **Media Type:** Defines the category of the device (e.g., screen, print, speech).
2. **Media Feature:** Specifies conditions like screen width, orientation, or resolution.
3. **Logical Operators:** Used to combine multiple conditions for more refined control.

### Media Types

- **all:** Default type, applies to all devices.
- **screen:** Targets screens such as desktops, laptops, tablets, and mobile devices.
- **print:** Used for styles when printing a document.
- **speech:** Applies to screen readers and other speech-based applications.

## Logical Operators in Media Queries

- **AND:** Combines multiple conditions that must all be met.
- **OR (Comma Separated):** Applies styles if at least one condition is met.
- **NOT:** Excludes a specific condition.
- **ONLY:** Prevents older browsers from applying the styles unless they fully support media queries.