

CSS Media Queries

Media Queries allow you to create responsive designs by applying CSS rules based on the device's characteristics — such as screen width, height, orientation, and resolution.

They are essential for building **mobile-first, responsive** websites that adapt to various screen sizes (phones, tablets, desktops).

Basic Syntax

```
@media (condition) {  
    /* CSS rules */  
}
```

Example: Target screens smaller than 768px

```
@media (max-width: 768px) {  
    body {  
        background-color: lightgray;  
    }  
}
```

This CSS will apply **only** when the screen width is **768px or less**.

Common Conditions

Media Feature	Description	Example
max-width	Target screens up to a width	<code>@media (max-width: 600px)</code>
min-width	Target screens starting from a width	<code>@media (min-width: 1024px)</code>
orientation	Target <code>portrait</code> or <code>landscape</code> mode	<code>@media (orientation: landscape)</code>
max-height	Target screen height	<code>@media (max-height: 500px)</code>
resolution	Target pixel density	<code>@media (min-resolution: 2dppx)</code>

Responsive Layout Example

```
.container {  
  padding: 20px;  
  font-size: 18px;  
}  
  
@media (max-width: 768px) {  
  .container {  
    padding: 10px;  
    font-size: 16px;  
  }  
}  
  
@media (max-width: 480px) {  
  .container {  
    font-size: 14px;  
  }  
}
```

```
}  
  
}
```

This approach ensures your layout adjusts smoothly as screen sizes change.

Combining Multiple Conditions

```
@media (min-width: 600px) and (max-width: 1024px) {  
  .sidebar {  
    display: none;  
  }  
}
```

You can combine conditions using `and`, `or`, or `not`.

Mobile-First Approach

Start with styles for small screens, then use `min-width` to add enhancements for larger screens.

```
/* Mobile-first (default) */  
.card {  
  font-size: 14px;  
}  
  
/* Tablet and up */  
@media (min-width: 768px) {  
  .card {  
    font-size: 16px;  
  }  
}  
  
/* Desktop and up */  
@media (min-width: 1024px) {
```

```
.card {  
  font-size: 18px;  
}  
}
```

Media Queries for Print

```
@media print {  
  body {  
    background: white;  
    color: black;  
  }  
  
  .no-print {  
    display: none;  
  }  
}
```

Used to style web pages when printed.

Summary

- Media queries help build **responsive** and **accessible** websites.
- Use `min-width` for mobile-first, scalable layouts.
- Combine media queries for precise control across devices.