

CSS Responsive Web Design (RWD)

What is Responsive Web Design (RWD)?

Responsive Web Design (RWD) is a web design approach that makes web pages look good on all devices, such as desktops, laptops, tablets, and mobile phones.

It automatically adjusts:

- Layout
- Images
- Text size
- Videos

according to the screen size.

1. RWD Intro

Responsive Web Design allows a single website to adapt to different screen sizes without creating separate websites.

Key Goals of RWD

- Better user experience
 - No horizontal scrolling
 - Easy maintenance
 - Works on all devices
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2. RWD Viewport

The viewport is the visible area of a web page on a device.

To make a website responsive, the viewport meta tag is required.

Example

```
<meta name="viewport" content="width=device-width, initial-scale=1.0">
```

Use:

Ensures proper scaling and layout on mobile devices.

3. RWD Grid View

A responsive grid view divides the page into columns that resize automatically.

Modern websites often use CSS Grid or Flexbox for grid layouts.

Example

```
.container {  
  display: grid;  
  grid-template-columns: repeat(12, 1fr);  
  gap: 10px;  
}
```

Use:

Helps create flexible layouts that adapt to screen sizes.

4. RWD Media Queries

Media Queries apply different CSS styles based on screen size, orientation, or device type.

Example

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

Use:

Changes layout, font size, or visibility for mobile screens.

5. RWD Images

Responsive images resize automatically to fit different screen sizes.

Example

```
img {  
    max-width: 100%;  
    height: auto;  
}
```

Use:

Prevents images from overflowing the screen.

6. RWD Videos

Videos can be made responsive by placing them inside a flexible container.

Example

```
.video-container {  
    width: 100%;  
}
```

```
video {  
    width: 100%;  
    height: auto;  
}
```

Use:

Ensures videos scale properly on all devices.

7. RWD Frameworks

RWD frameworks provide pre-built responsive layouts and components.

Popular RWD Frameworks

- Bootstrap
- Tailwind CSS
- Foundation
- Materialize

Use:

Speeds up development and ensures responsiveness.

8. RWD Templates

RWD templates are ready-made responsive website designs.

Features

- Mobile-first design
- Pre-designed sections
- Cross-browser support

Use:

Ideal for quick website development.
