

Utilities for Positioning and Responsiveness in Bootstrap 4

Positioning Utilities

Fixed Positioning (`.position-fixed`)

This utility fixes an element to a specific position relative to the viewport. The element will remain in this position even when the page is scrolled.

```
```html
<div class="position-fixed">Fixed position</div>
```
```

Relative Positioning (`.position-relative`)

This utility allows an element to be positioned relative to its normal position.

```
```html
<div class="position-relative">Relative position</div>
```
```

Absolute Positioning (`.position-absolute`)

This utility positions an element absolutely within its nearest positioned ancestor (the nearest ancestor with `position: relative`, `position: absolute`, or `position: fixed`).

```
```html
<div class="position-absolute">Absolute position</div>
```
```

Static Positioning (`.position-static`)

This utility resets the positioning of an element to the default (`position: static`).

```
```html
<div class="position-static">Static position</div>
```
```

Sticky Positioning (.position-sticky)

This utility is used to position an element based on the user's scroll position. A sticky element toggles between `relative` and `fixed`, depending on the scroll position.

```
```html
<div class="position-sticky">Sticky position</div>
```
```

Utility Classes for Offsetting (.top-0, .right-0, .bottom-0, .left-0)

These classes can be used to offset elements from their containing block.

```
```html
<div class="position-absolute top-0 right-0">Top Right</div>
```
```

Responsiveness Utilities

Responsive Breakpoints

Bootstrap 4 uses responsive breakpoints to create fluid layouts. The breakpoints are:

- `xs` (extra small): <576px
- `sm` (small): ≥576px
- `md` (medium): ≥768px
- `lg` (large): ≥992px
- `xl` (extra large): ≥1200px

Grid System

Bootstrap's grid system allows up to 12 columns across the page. You can adjust the number of columns an element spans by adding classes like `.col-md-4` for medium devices.

```
```html
<div class="row">
 <div class="col-sm-4">One</div>
 <div class="col-sm-4">Two</div>
 <div class="col-sm-4">Three</div>
</div>
```
```

Responsive Containers

Containers provide a means to center and horizontally pad your site's contents. Use `.container` for fixed-width or `.container-fluid` for full-width.

```
```html
<div class="container">Fixed Width</div>
<div class="container-fluid">Full Width</div>
```
```

Display Utilities (.d- classes)

These utilities allow you to control the display property of elements. For example, `.d-none` hides an element, and `.d-block` displays an element as block.

```
```html
<div class="d-none d-md-block">Hidden on small screens</div>
```
```

Flexbox Utilities

Bootstrap 4 uses Flexbox for layout. Some key flex utilities include:

- `.d-flex` for a flex container
- `.justify-content-*` for horizontal alignment
- `.align-items-*` for vertical alignment
- `.flex-column` to stack flex items vertically

```
```html
<div class="d-flex justify-content-center">Centered</div>
```
```

Margin and Padding Utilities (.m-, .p- classes)

These utilities provide easy ways to add margin or padding. For example, `.mt-3` adds a top margin of 3 units.

```
```html
<div class="mt-3">Margin Top</div>
```
```