Breakpoints

Breakpoints are customizable widths that determine how your responsive layout behaves across device or viewport sizes in Bootstrap.

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Core concepts

- **Breakpoints are the building blocks of responsive design.** Use them to control when your layout can be adapted at a particular viewport or device size.

- **Use media queries to architect your CSS by breakpoint.** Media queries are a feature of CSS that allow you to conditionally apply styles based on a set of browser and operating system parameters. We most commonly use `min-width` in our media queries.

- **Mobile first, responsive design is the goal.** Bootstrap's CSS aims to apply the bare minimum of styles to make a layout work at the smallest breakpoint, and then layers on styles to adjust that design for larger devices. This optimizes your CSS, improves rendering time, and provides a great experience for your visitors.

Available breakpoints

Bootstrap includes six default breakpoints, sometimes referred to as *grid tiers*, for building responsively. These breakpoints can be customized if you're using our source Sass files.

Breakpoint	Class infix	Dimensions
X-Small	*None*	<576px
Small	`sm`	≥576px
Medium	`md`	≥768px
Large	`lg`	≥992px
Extra large	`xl`	≥1200px
Extra extra large	`xxl`	≥1400px

Each breakpoint was chosen to comfortably hold containers whose widths are multiples of 12. Breakpoints are also representative of a subset of common device sizes and viewport dimensions—they don't specifically target every use case or device. Instead, the ranges provide a strong and consistent foundation to build on for nearly any device.

These breakpoints are customizable via Sass—you'll find them in a Sass map in our `_variables.scss` stylesheet.

```
$grid-breakpoints: (
  xs: 0,
  sm: 576px,
  md: 768px,
  lg: 992px,
  xl: 1200px,
  xxl: 1400px
);
```

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For more information and examples on how to modify our Sass maps and variables, please refer to [the Sass section of the Grid documentation](#).

Media queries

Since Bootstrap is developed to be mobile first, we use a handful of [media queries](#) to create sensible breakpoints for our layouts and interfaces. These breakpoints are mostly based on minimum viewport widths and allow us to scale up elements as the viewport changes.

Min-width

Bootstrap primarily uses the following media query ranges—or breakpoints—in our source Sass files for our layout, grid system, and components.

```
// Source mixins

// No media query necessary for xs breakpoint as it's effectively `@media (min-width: 0) { ... }`
@include media-breakpoint-up(sm) { ... }
@include media-breakpoint-up(md) { ... }
@include media-breakpoint-up(lg) { ... }
@include media-breakpoint-up(xl) { ... }
@include media-breakpoint-up(xxl) { ... }

// Usage

// Example: Hide starting at `min-width: 0`, and then show at the `sm` breakpoint
.custom-class {
  display: none;
}
@include media-breakpoint-up(sm) {
  .custom-class {
    display: block;
  }
}
```

These Sass mixins translate in our compiled CSS using the values declared in our Sass variables. For example:

```
// X-Small devices (portrait phones, less than 576px)
// No media query for `xs` since this is the default in Bootstrap

// Small devices (landscape phones, 576px and up)
@media (min-width: 576px) { ... }

// Medium devices (tablets, 768px and up)
@media (min-width: 768px) { ... }

// Large devices (desktops, 992px and up)
@media (min-width: 992px) { ... }

// X-Large devices (large desktops, 1200px and up)
@media (min-width: 1200px) { ... }

// XX-Large devices (larger desktops, 1400px and up)
@media (min-width: 1400px) { ... }
```

Max-width

We occasionally use media queries that go in the other direction (the given screen size *or smaller*):

```
// No media query necessary for xs breakpoint as it's effectively `@media (max-width: 0) { ... }`
@include media-breakpoint-down(sm) { ... }
@include media-breakpoint-down(md) { ... }
@include media-breakpoint-down(lg) { ... }
@include media-breakpoint-down(xl) { ... }
@include media-breakpoint-down(xxl) { ... }

// Example: Style from medium breakpoint and down
@include media-breakpoint-down(md) {
  .custom-class {
    display: block;
  }
}
```

These mixins take those declared breakpoints, subtract `.02px` from them, and use them as our `max-width` values. For example:

```
// X-Small devices (portrait phones, less than 576px)
@media (max-width: 575.98px) { ... }

// Small devices (landscape phones, less than 768px)
@media (max-width: 767.98px) { ... }

// Medium devices (tablets, less than 992px)
@media (max-width: 991.98px) { ... }
```

```
// Large devices (desktops, less than 1200px)
@media (max-width: 1199.98px) { ... }

// X-Large devices (large desktops, less than 1400px)
@media (max-width: 1399.98px) { ... }

// XX-Large devices (larger desktops)
// No media query since the xxl breakpoint has no upper bound on its width
```

Why subtract .02px? Browsers don't currently support range context queries, so we work around the limitations of min- and max- prefixes and viewports with fractional widths (which can occur under certain conditions on high-dpi devices, for instance) by using values with higher precision.

Single breakpoint

There are also media queries and mixins for targeting a single segment of screen sizes using the minimum and maximum breakpoint widths.

```
@include media-breakpoint-only(xs) { ... }
@include media-breakpoint-only(sm) { ... }
@include media-breakpoint-only(md) { ... }
@include media-breakpoint-only(lg) { ... }
@include media-breakpoint-only(xl) { ... }
@include media-breakpoint-only(xxl) { ... }
```

For example the `@include media-breakpoint-only(md) { ... }` will result in :

```
@media (min-width: 768px) and (max-width: 991.98px) { ... }
```
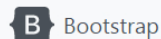
Between breakpoints

Similarly, media queries may span multiple breakpoint widths:

```
@include media-breakpoint-between(md, xl) { ... }
```

Which results in:

```
// Example
// Apply styles starting from medium devices and up to extra large devices
@media (min-width: 768px) and (max-width: 1199.98px) { ... }
```

B Bootstrap

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