



Bootstrap 5

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What is Bootstrap

- Bootstrap is a free front-end framework for faster and easier web development
- Bootstrap includes HTML and CSS based design templates for typography, forms, buttons, tables, navigation, modals, image carousels and many other, as well as optional JavaScript plugins
- Bootstrap also gives you the ability to easily create responsive designs
- Responsive web design is about creating web sites which automatically adjust themselves to look good on all devices, from small phones to large desktops.



General Features

- Free and open source front-end framework
- The official Bootstrap website describes it as: The most popular HTML, CSS, and JS framework for developing responsive, mobile-first projects on the web.
- Bootstrap is a giant collection of handy, reusable bits of code written in HTML, CSS, and JavaScript. It's also a frontend development framework that enables developers and designers to quickly build fully responsive websites.
- Essentially, Bootstrap saves you from writing lots of CSS code, giving you more time to spend on designing webpages.
- It's also FREE!
- It's currently hosted on GitHub and can be downloaded easily from the official site.



History

- Originally created by a designer and a developer at Twitter, Bootstrap has become one of the most popular front-end frameworks and open source projects in the world.
 - August 2011 : Bootstrap 1
 - January 2012 : Bootstrap 2
 - August 2013 : Bootstrap 3
 - August 2015 : Bootstrap 4 Alpha
 - August 2017 : Bootstrap 4 Beta
 - January 2018 : Bootstrap 4 Stable
- June 2020 : Bootstrap 5 Alpha
- December 2020 : Bootstrap 5 Beta
- May 2021 : Bootstrap 5 Stable



Where to Get Bootstrap?

- There are two ways to start using Bootstrap on your own web site.
 - Download Bootstrap from getbootstrap.com
 - Include Bootstrap from a CDN
- Downloading Bootstrap
 - If you want to download and host Bootstrap yourself, go to getbootstrap.com, and follow the instructions there.
- Bootstrap CDN
 - If you don't want to download and host Bootstrap yourself, you can include it from a CDN (Content Delivery Network).



Content

- *.css : Normal css
- *.rtl.css : Right to left
- *.min.css : Normal and minified
- *.rtl.min.css : Right to left and minified
- *.js



ViewPort

- The viewport is the user's visible area of a web page.
- The viewport varies with the device, and will be smaller on a mobile phone than on a computer screen.
- Before tablets and mobile phones, web pages were designed only for computer screens, and it was common for web pages to have a static design and a fixed size.

Bootstrap 5 is mobile-first

- Bootstrap 5 is designed to be responsive to mobile devices. Mobile-first styles are part of the core framework.
- To ensure proper rendering and touch zooming, add the following <meta> tag inside the <head> element:
 - `<meta name="viewport" content="width=device-width, initial-scale=1">`
- The width=device-width part sets the width of the page to follow the screen-width of the device (which will vary depending on the device).
- The initial-scale=1 part sets the initial zoom level when the page is first loaded by the browser.



Layout

- Fluid and responsive layout
- Component
 - Containers
 - Used to limit the width of content
 - containing element to wrap site contents
 - Grid
 - Layout with 12 column grid system
 - Columns
 - Modify columns option for alignment
 - Gutter
 - Padding between the columns



Mobile First

- Mobile first web design philosophy
- Start small adjust design for larger devices
- Smartphones -> Tablets -> Laptops -> Desktops

Breakpoints

- 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.
- Bootstrap includes six default breakpoints, sometimes referred to as grid tiers, for building responsively.

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



Containers

- Containers are a fundamental building block of Bootstrap that contain, pad, and align your content within a given device or viewport.
- Containers are the most basic layout element in Bootstrap and are required when using our default grid system. Containers are used to contain, pad, and (sometimes) center the content within them. While containers can be nested, most layouts do not require a nested container.
- Bootstrap comes with three different containers:
 - `.container`, which sets a max-width at each responsive breakpoint
 - `.container-fluid`, which is width: 100% at all breakpoints
 - `.container-{breakpoint}`, which is width: 100% until the specified breakpoint

Responsive containers

- Responsive containers allow you to specify a class that is 100% wide until the specified breakpoint is reached, after which we apply max-widths for each of the higher breakpoints. For example, `.container-sm` is 100% wide to start until the `sm` breakpoint is reached, where it will scale up with `md`, `lg`, `xl`, and `xxl`.

```
<div class="container-sm">100% wide until small breakpoint</div>
```

```
<div class="container-md">100% wide until medium breakpoint</div>
```

```
<div class="container-lg">100% wide until large breakpoint</div>
```

```
<div class="container-xl">100% wide until extra large breakpoint</div>
```

```
<div class="container-xxl">100% wide until extra extra large breakpoint</div>
```



Fluid containers

- Use `.container-fluid` for a full width container, spanning the entire width of the viewport.

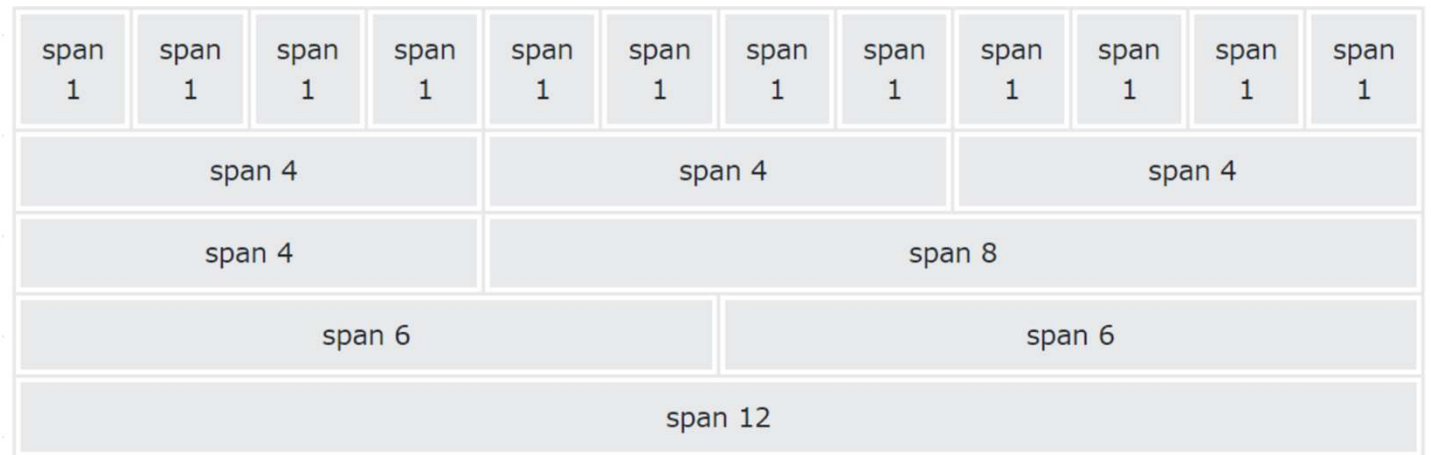
```
<div class="container-fluid">
```

```
...
```

```
</div>
```

Grid system

- Grid wrapped in container
- Rows inside container
- Columns inside rows
- Content inside columns
- 12 columns in grid





Columns

- **Columns build on the grid's flexbox architecture.** Flexbox means we have options for changing individual columns and modifying groups of columns at the row level. You choose how columns grow, shrink, or otherwise change.
- **When building grid layouts, all content goes in columns.** The hierarchy of Bootstrap's grid goes from container to row to column to your content. On rare occasions, you may combine content and column, but be aware there can be unintended consequences.
- **Bootstrap includes predefined classes for creating fast, responsive layouts.** With six breakpoints and a dozen columns at each grid tier, we have dozens of classes already built for you to create your desired layouts.

Vertical alignment

- `<div class="row align-items-start"></div>`
- `<div class="row align-items-center"></div>`
- `<div class="row align-items-end"></div>`

One of three columns

One of three columns

One of three columns

One of three columns

One of three columns

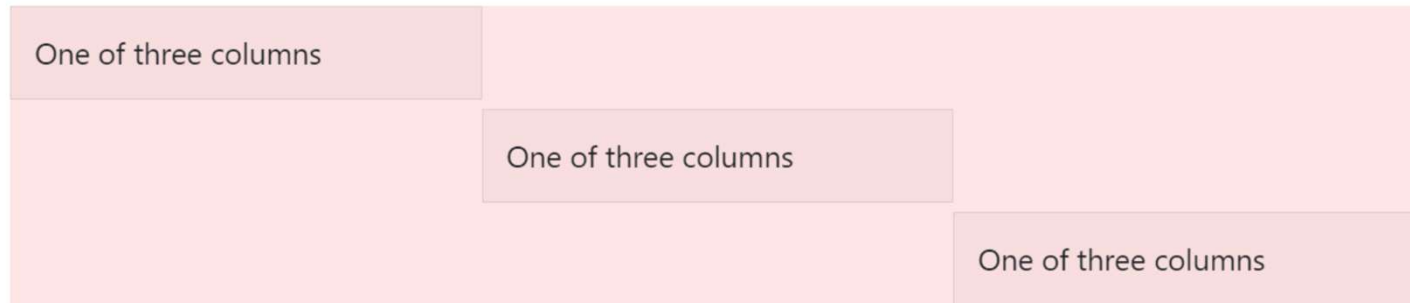
One of three columns

One of three columns

One of three columns

One of three columns

Vertical alignment



- `<div class="col align-self-start"></div>`
- `<div class="col align-self-center"></div>`
- `<div class="col align-self-center"></div>`

Horizontal alignment

- row justify-content-start
- row justify-content-center
- row justify-content-end
- row justify-content-around
- row justify-content-between
- row justify-content-evenly

One of two columns

One of two columns

One of two columns

One of two columns

One of two columns

One of two columns

One of two columns

One of two columns

One of two columns

One of two columns

One of two columns

One of two columns

Column Wrapping

- If more than 12 columns are placed within a single row, each group of extra columns will, as one unit, wrap onto a new line.

```
<div class="container">
  <div class="row">
    <div class="col-9">.col-9</div>
    <div class="col-4">.col-4<br>Since 9 + 4 = 13 > 12, this 4-column-wide div gets wrapped
    onto a new line as one contiguous unit.</div>
    <div class="col-6">.col-6<br>Subsequent columns continue along the new line.</div>
  </div>
</div>
```



Reordering

- Use `.order-` classes for controlling the visual order of your content.
- These classes are responsive, so you can set the order by breakpoint (e.g., `.order-1.order-md-2`).
- Includes support for 1 through 5 across all six grid tiers.
- There are also responsive `.order-first` and `.order-last` classes that change the order of an element by applying `order: -1` and `order: 6`



Offsetting columns

- Move columns to the right using `.offset-md-*` classes.
- These classes increase the left margin of a column by * columns. For example, `.offset-md-4` moves `.col-md-4` over four columns.



