



Web Development

Bootstrap & Regex



Bootstrap Grid System

Bootstrap Grid System

Bootstrap's grid system allows up to 12 columns across the page.

If you do not want to use all 12 column individually, you can group the columns together to create wider columns:

| | | | | | | | | | | | |
|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| span 1 | span 1 | span 1 | span 1 | span 1 | span 1 | span 1 | span 1 | span 1 | span 1 | span 1 | span 1 |
| span 4 | | | | span 4 | | | | span 4 | | | |
| span 4 | | | | span 8 | | | | | | | |
| span 6 | | | | | | span 6 | | | | | |
| span 12 | | | | | | | | | | | |

Bootstrap's grid system is responsive, and the columns will re-arrange depending on the screen size: On a big screen it might look better with the content organized in three columns, but on a small screen it would be better if the content items were stacked on top of each other.



Grid Classes

The Bootstrap grid system has four classes:

- xs (for phones)
- sm (for tablets)
- md (for desktops)
- lg (for larger desktops)

The classes above can be combined to create more dynamic and flexible layouts.

Tip: Each class scales up, so if you wish to set the same widths for xs and sm, you only need to specify xs.



Grid System Rules

Some Bootstrap grid system rules:

- Rows must be placed within a `.container` (fixed-width) or `.container-fluid` (full-width) for proper alignment and padding
- Use rows to create horizontal groups of columns
- Content should be placed within columns, and only columns may be immediate children of rows
- Predefined classes like `.row` and `.col-sm-4` are available for quickly making grid layouts
- Columns create gutters (gaps between column content) via padding. That padding is offset in rows for the first and last column via negative margin on `.rows`
- Grid columns are created by specifying the number of 12 available columns you wish to span. For example, three equal columns would use three `.col-sm-4`



Basic Structure of a Bootstrap Grid

```
<div class="container">
  <div class="row">
    <div class="col-*-*"></div>
  </div>
  <div class="row">
    <div class="col-*-*"></div>
    <div class="col-*-*"></div>
    <div class="col-*-*"></div>
  </div>
  <div class="row">
    ...
  </div>
</div>
```



Grid Options

While Bootstrap uses `em` s or `rem` s for defining most sizes, `px` s are used for grid breakpoints and container widths. This is because the viewport width is in pixels and does not change with the [font size](#).

See how aspects of the Bootstrap grid system work across multiple devices with a handy table.

| | Extra small <576px | Small ≥576px | Medium ≥768px | Large ≥992px | Extra large ≥1200px |
|---------------------|--------------------------------------|--|-----------------------|-----------------------|------------------------|
| Grid behavior | Horizontal at all times | Collapsed to start, horizontal above breakpoints | | | |
| Max container width | None (auto) | 540px | 720px | 960px | 1140px |
| Class prefix | <code>.col-</code> | <code>.col-sm-</code> | <code>.col-md-</code> | <code>.col-lg-</code> | <code>.col-xl-</code> |
| # of columns | 12 | | | | |
| Gutter width | 30px (15px on each side of a column) | | | | |
| Nestable | Yes | | | | |
| Offsets | Yes | | | | |
| Column ordering | Yes | | | | |



Regular Expressions

RegExp Explanation