

 무료 전자 책

배우기

twitter-bootstrap

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Stack Overflow contributors.

#twitter-
bootstrap

.....	1
1:	2
.....	2
.....	2
Examples.....	2
/	2
.....	4
.....	5
.....	5
2: Navbar	8
Examples.....	8
Navbar ().....	8
navbar	8
Navbar divider.....	9
""	9
Navbar (vs).....	9
.....	10
3:	11
.....	11
.....	11
Examples.....	11
.....	11
4:	12
.....	12
Examples.....	12
.....	12
.....	12
.....	13
.....	13
.....	13
5:	15
.....

.....	15
Examples.....	15
.....	15
().....	15
.....	16
.....	17
.....	18
.....	18
6:	19
.....	19
Examples.....	19
phicon	19
7:	20
Examples.....	20
.....	20
8:	21
.....	21
Examples.....	21
HTML	21
9:	22
.....	22
Examples.....	22
HTML	22
10:	23
.....	23
Examples.....	23
HTML	23
.....	23
11:	24
.....	24

Examples.....	24
.....	24
.....	24
.....	24
.....	24
.....	24
.....	25
12:	26
.....	26
Examples.....	26
.....	26
13: 4	28
.....	28
.....	28
Examples.....	28
4	28
4.....	28
.....	29
.....	29
4 Navbar.....	32
3 4 CSS	34
4	37
4	38
.....	38
.....	39
4	39
14: Navbar	41
Examples.....	41
Navbar.....	41
Bootstrap	41
15:	43

.....	43
Examples.....	43
.....	43
16:	44
.....	44
.....	44
Examples.....	44
.....	44
.....	44
17:	45
Examples.....	45
.....	45
.....	45
18:	46
Examples.....	46
Navbar.....	46
2.....	46
19:	48
.....	48
Examples.....	48
ASP.NET MVC	48
.....	49
.....	49
20:	50
.....	50
Examples.....	50
.....	50
21:	51
Examples.....	51
.....	51
22:	52

Examples.....	52
HTML	52
23:	53
Examples.....	53
.....	53
.....	53
24:	54
Examples.....	54
(CSS SASS).....	54
25:	58
Examples.....	58
.hidden- * - SCSS.....	58
26:	59
.....	59
.....	59
Examples.....	59
2	59
27:	60
.....	60
Examples.....	60
.....	60
28:	61
Examples.....	61
.....	61
.....	61
.....	61
29:	62
Examples.....	62
HTML.....	62
.....	62
30:	64

Examples.....	64
.....	64
31:	65
.....	65
Examples.....	65
.....	65
.....	65
.....	65
.....	65
.....	65
.....	66
.....	66
.....	66
.....	66
.....	66
32:	68
.....	68
Examples.....	68
.....	68
.....	68
33:	69
.....	69
Examples.....	69
CSS	69
34:	71
.....	71
Examples.....	71
.....	71
.....	71
.....	71
35: Clearfix	72
.....	72
.....

Examples.....	72
.....	72
.....	73
Clearfix.....	74
.....	76
Clearfixes 2,4,6	81
12 ?.....	83
36:	86
.....	86
Examples.....	86
HTML	86
.....	86
.....	88

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1:

(RWD) HTML, CSS JavaScript . premade CSS JavaScript . , , , ..

1. : . .
2. . Bootstrap . Bootstrap .
3. : . . Bootstrap .

4.0	2999-01-01
3.3.7	2016-07-25
3.3.6	2015-11-24
3.3.5	2015-06-15
3.3.4	2015-03-16
3.3.1	2014-11-12
3.3.0	2014-10-29
3.2.0	2014-06-26
3.1.0	2014-01-30
3.0	2013 8 19
2.3	2013-02-07
2.2	2012-10-29
2.1	2012-08-20
2.0	2012-02-01
1.0	2011 8 18

Examples

/

:

- [GitHub](#) .
- [Bootstrap](#) .
- `bower install bootstrap` : `bower install bootstrap`
- `npm install bootstrap` : `npm install bootstrap`
- `composer require twbs/bootstrap` .

```
bootstrap/
├── css/
│   ├── bootstrap.css
│   ├── bootstrap.min.css
│   ├── bootstrap-theme.css
│   └── bootstrap-theme.min.css
├── js/
│   ├── bootstrap.js
│   └── bootstrap.min.js
├── fonts/
│   ├── glyphicons-halflings-regular.eot
│   ├── glyphicons-halflings-regular.svg
│   ├── glyphicons-halflings-regular.ttf
│   └── glyphicons-halflings-regular.woff
```

:

HTML Bootstrap CSS, JS jQuery (Bootstrap 3) . , jQuery HTML bootstrap.js .

CDN () .

```
<!-- Latest compiled and minified CSS -->
<link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css"
integrity="sha384-BVYiisSIFeK1dGmJRAkycuHAHRg32OmUcww7on3RYdg4Va+PmSTsz/K68vbdEjh4u"
crossorigin="anonymous">

<!-- Optional theme -->
<link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap-
theme.min.css" integrity="sha384-
rHyOnliRsVXV4nD0JutlnGaslCJuC7uwjduW9SVrLvRYooPp2bWYgmgJQIXw1/Sp" crossorigin="anonymous">

<!-- Latest compiled and minified JavaScript -->
<script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/js/bootstrap.min.js"
integrity="sha384-Tc5IQib027qvyjSMfHjOMaLkfuWVxZxUPnCJA712mCWNIPg9mGCD8wGNiCPD7Txa"
crossorigin="anonymous"></script>
```

:

```
<!DOCTYPE html>
```

```

<html lang="en">
  <head>
    <meta charset="utf-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <!-- The above 3 meta tags *must* come first in the head; any other head content must come
*after* these tags -->
    <title>Bootstrap 101 Template</title>

    <!-- Bootstrap -->
    <link href="css/bootstrap.min.css" rel="stylesheet">

    <!-- HTML5 shim and Respond.js for IE8 support of HTML5 elements and media queries -->
    <!-- WARNING: Respond.js doesn't work if you view the page via file:// -->
    <!--[if lt IE 9]>
      <script src="https://oss.maxcdn.com/html5shiv/3.7.2/html5shiv.min.js"></script>
      <script src="https://oss.maxcdn.com/respond/1.4.2/respond.min.js"></script>
    <![endif]-->
  </head>
  <body>
    <h1>Hello, world!</h1>

    <!-- jQuery (necessary for Bootstrap's JavaScript plugins) -->
    <script src="https://ajax.googleapis.com/ajax/libs/jquery/1.11.3/jquery.min.js"></script>
    <!-- Include all compiled plugins (below), or include individual files as needed -->
    <script src="js/bootstrap.min.js"></script>
  </body>
</html>

```

```

<!DOCTYPE html>
<html lang="en">

  <head>

    <meta charset="utf-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <!-- The above 3 meta tags *must* come first in the head; any other head content must
come *after* these tags -->

    <title>Bootstrap 101 Template</title> <!-- The title of the Website -->

    <!-- Reference to Bootstrap's CSS file -->
    <!-- This is the line to reference the bootstrap's Stylesheet -->
    <link href="css/bootstrap.min.css" rel="stylesheet">

    <!-- HTML5 shim and Respond.js for IE8 support of HTML5 elements and media queries -->
    <!-- WARNING: Respond.js doesn't work if you view the page via file:// -->
    <!-- [if lt IE 9] -->
    <script src="https://oss.maxcdn.com/html5shiv/3.7.2/html5shiv.min.js"></script>
    <script src="https://oss.maxcdn.com/respond/1.4.2/respond.min.js"></script>
    <!--[endif]-->

  </head>

  <body>

```

```

    <h1>Hello, world!</h1>

    <!-- Referencing jQuery (necessary for Bootstrap JavaScript plugins (bootstrap.min.js)
to work) -->
    <script src =
"https://ajax.googleapis.com/ajax/libs/jquery/1.11.3/jquery.min.js"></script>

    <!-- Referencing Javascript Bootstrap Plugin to Facilitate Bootstrap Animations and
functionalities. -->
    <!-- (Necessary to run Bootstrap) -->
    <script src="js/bootstrap.min.js"></script>

</body>
</html>

```

HTML, CSS Javascript . , , [] .

, .

. HTML 12 . , 4 . CSS media queries .

.

- .
- CSS HTML .
- .

HTML, CSS Javascript . . Bootstrap (HTML, CSS Javascript) .

Bootstrap Bootstrap . CSS .

```

<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <!-- The above 3 meta tags *must* come first in the head; any other head content must come
*after* these tags -->
    <title>Bootstrap 101 Template</title>

    <!-- Bootstrap -->
    <link href="css/bootstrap.min.css" rel="stylesheet">

    <!-- HTML5 shim and Respond.js for IE8 support of HTML5 elements and media queries -->
    <!-- WARNING: Respond.js doesn't work if you view the page via file:// -->
    <!--[if lt IE 9]>
      <script src="https://oss.maxcdn.com/html5shiv/3.7.2/html5shiv.min.js"></script>
      <script src="https://oss.maxcdn.com/respond/1.4.2/respond.min.js"></script>
    <![endif]-->
  </head>
  <body>
    <!-- Fixed navbar -->
    <nav class="navbar navbar-default navbar-fixed-top">

```

```

<div class="container">
  <div class="navbar-header">
    <button type="button" class="navbar-toggle collapsed" data-toggle="collapse"
data-target="#navbar" aria-expanded="false" aria-controls="navbar">
      <span class="sr-only">Toggle navigation</span>
      <span class="icon-bar"></span>
      <span class="icon-bar"></span>
      <span class="icon-bar"></span>
    </button>
    <a class="navbar-brand" href="#">Project name</a>
  </div>
  <div id="navbar" class="navbar-collapse collapse">
    <ul class="nav navbar-nav">
      <li class="active"><a href="#">Home</a></li>
      <li><a href="#about">About</a></li>
      <li><a href="#contact">Contact</a></li>
      <li class="dropdown">
        <a href="#" class="dropdown-toggle" data-toggle="dropdown" role="button"
aria-haspopup="true" aria-expanded="false">Dropdown <span class="caret"></span></a>
        <ul class="dropdown-menu">
          <li><a href="#">Action</a></li>
          <li><a href="#">Another action</a></li>
          <li><a href="#">Something else here</a></li>
          <li role="separator" class="divider"></li>
          <li class="dropdown-header">Nav header</li>
          <li><a href="#">Separated link</a></li>
          <li><a href="#">One more separated link</a></li>
        </ul>
      </li>
    </ul>
    <ul class="nav navbar-nav navbar-right">
      <li><a href="../navbar/">Default</a></li>
      <li><a href="../navbar-static-top/">Static top</a></li>
      <li class="active"><a href="#">Fixed top <span class="sr-
only">(current)</span></a></li>
    </ul>
  </div><!--/.nav-collapse -->
</div>
</nav>

<div class="container">

  <div class="jumbotron">
    <h1>Navbar example</h1>
    <p>This example is a quick exercise to illustrate how the default, static and
fixed to top navbar work. It includes the responsive CSS and HTML, so it also adapts to your
viewport and device.</p>
    <p>To see the difference between static and fixed top navbars, just scroll.</p>
    <p>
      <a class="btn btn-lg btn-primary" href="../../components/#navbar"
role="button">View navbar docs &raquo;</a>
    </p>
  </div>

</div> <!-- /container -->

<!-- jQuery (necessary for Bootstrap's JavaScript plugins) -->
<script src="https://ajax.googleapis.com/ajax/libs/jquery/1.11.3/jquery.min.js"></script>
<!-- Include all compiled plugins (below), or include individual files as needed -->
<script src="js/bootstrap.min.js"></script>

```

```
</body>  
</html>
```

: <https://riptutorial.com/ko/twitter-bootstrap/topic/818/--->

2: Navbar

Examples

Navbar ()

```
<div class="navbar navbar-inverse navbar-fixed-top">
  <div class="container">
    <div class="navbar-header">
      <!-- vvv Hamburger icon that gets shown when window reaches a certain scale vvv -->
      <button type="button" class="navbar-toggle" data-toggle="collapse" data-target=".navbar-collapse">
        <span class="sr-only">Toggle navigation</span>
        <span class="icon-bar"></span>
        <span class="icon-bar"></span>
        <span class="icon-bar"></span>
      </button>
      <!-- ^^^ Hamburger icon that gets shown when window reaches a certain scale ^^^ -->
      <a class="navbar-brand" href="#">WebSite Title</a>
    </div>
    <div class="navbar-collapse collapse">
      <ul class="nav navbar-nav">
        <li><a href="#">Home</a></li>
        <li><a href="#">About</a></li>
        <li><a asp-controller="Home" asp-action="Contact">Contact</a></li>
      </ul>
    </div>
  </div>
</div>
```

navbar

```
<div class="navbar navbar-inverse navbar-fixed-top">
  <div class="container">
    <div class="navbar-header">
      <button type="button" class="navbar-toggle" data-toggle="collapse" data-target=".navbar-collapse">
        <span class="sr-only">Toggle navigation</span>
        <span class="icon-bar"></span>
        <span class="icon-bar"></span>
        <span class="icon-bar"></span>
      </button>
      <a class="navbar-brand" href="#">WebSite Title</a>
    </div>
    <div class="navbar-collapse collapse">
      <ul class="nav navbar-nav">
        <li><a href="#">Home</a></li>
        <li><a href="#">About>About</a></li>
        <li><a asp-controller="Home" asp-action="Contact">Contact</a></li>
        <!-- vvv Create a submenu in the navbar vvv --->
        <li class="dropdown">
          <a href="#" class="dropdown-toggle" data-toggle="dropdown">Testing Stuff
          <b class="caret"></b></a>
```



```

        <ul class="dropdown-menu">
            <li><a href="#">SubItem</a></li>
            <li><a href="#">Something Sub-y</a></li>
        </ul>
    </li>
    <!-- ^^ Create a submenu in the navbar ^^ -->
</ul>
</div>
</div>
</div>

```

Navbar divider

```

<div class="navbar navbar-inverse navbar-fixed-top">
  <div class="container">
    <div class="navbar-header">
      <button type="button" class="navbar-toggle" data-toggle="collapse" data-
target=".navbar-collapse">
        <span class="sr-only">Toggle navigation</span>
        <span class="icon-bar"></span>
        <span class="icon-bar"></span>
        <span class="icon-bar"></span>
      </button>
      <a class="navbar-brand" href="#">WebSite Title</a>
    </div>
    <div class="navbar-collapse collapse">
      <ul class="nav navbar-nav">
        <li><a href="#">Home</a></li>
        <!-- vvv Create a divider in the nav vvv -->
        <li class="divider"></li>
        <!-- ^^ Create a divider in the nav ^^ -->
        <li><a href="#">About</a></li>
        <li><a asp-controller="Home" asp-action="Contact">Contact</a></li>
      </ul>
    </div>
  </div>
</div>

```

""

```

// Add active class to active navigation link
$(document).ready(function () {
    $('ul.nav.navbar-nav').find('a[href="' + location.pathname + '"]')
        .closest('li').addClass('active');
});

```

Navbar (vs)

```

@media (max-width: 1200px) {
    .navbar-header {
        float: none;
    }
    .navbar-left, .navbar-right {

```

```

        float: none !important;
    }
    .navbar-toggle {
        display: block;
    }
    .navbar-collapse {
        border-top: 1px solid transparent;
        box-shadow: inset 0 1px 0 rgba(255,255,255,0.1);
    }
    .navbar-fixed-top {
        top: 0;
        border-width: 0 0 1px;
    }
    .navbar-collapse.collapse {
        display: none!important;
    }
    .navbar-nav {
        float: none!important;
        margin-top: 7.5px;
    }
    .navbar-nav>li {
        float: none;
    }
    .navbar-nav>li>a {
        padding-top: 10px;
        padding-bottom: 10px;
    }
    .collapse.in{
        display:block !important;
    }
    .navbar-nav .open .dropdown-menu {
        position: static;
        float: none;
        width: auto;
        margin-top: 0;
        background-color: transparent;
        border: 0;
        -webkit-box-shadow: none;
        box-shadow: none;
    }
}

```

```

jQuery('body').bind('click', function(e) {
    if(jQuery(e.target).closest('#navbar').length == 0) {
        // click happened outside of .navbar, so hide
        var opened = jQuery('.navbar-collapse').hasClass('collapse in');
        if ( opened === true ) {
            jQuery('#navbar2 .navbar-collapse').collapse('hide');
        }
    }
});

```

Navbar : <https://riptutorial.com/ko/twitter-bootstrap/topic/2267/navbar>

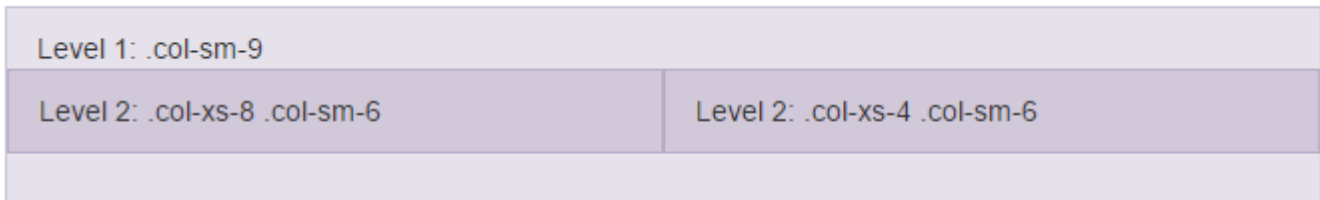
3:

Examples

```
<div class="row">  
  <div class="col-sm-9">  
    Level 1: .col-sm-9  
    <div class="row">  
      <div class="col-xs-8 col-sm-6">  
        Level 2: .col-xs-8 .col-sm-6  
      </div>  
      <div class="col-xs-4 col-sm-6">  
        Level 2: .col-xs-4 .col-sm-6  
      </div>  
    </div>  
  </div>  
</div>
```

[<http://getbootstrap.com/css/#grid-nesting>][1] .

.col-sm- * .row .col-sm- * . 12 (12).



: <https://riptutorial.com/ko/twitter-bootstrap/topic/9088/-->

4:

: <http://getbootstrap.com/components/#alerts>

Examples

default primary , .

```
<div class="alert alert-success" role="alert">
  Some action was completed successfully
</div>
<div class="alert alert-info" role="alert">
  Here is some information. Just FYI.
</div>
<div class="alert alert-warning" role="alert">
  Careful! You're about to do something dangerous.
</div>
<div class="alert alert-danger" role="alert">
  An error (or something dangerous) happened!
</div>
```

```
<div class="container">
  <h2>Alerts</h2>
  <div class="alert alert-success">
    <strong>Success!</strong>
  </div>
  <div class="alert alert-info">
    <strong>Info!</strong>
  </div>
  <div class="alert alert-warning">
    <strong>Warning!</strong> All foelds are required
  </div>
  <div class="alert alert-danger">
    The username is required and can't be empty
  </div>
</div>
```

Alerts

Success!

Info!

Warning! This alert box could indicate a warning that might need attention.

The username is required and can't be empty

```
.fade .in
```

```
<div class="alert alert-success fade in">
  <a href="#" class="close" data-dismiss="alert" aria-label="close">&times;</a>
  <strong>Success!</strong> This is a good example!
</div>
```

```
data-dismiss="alert" data-dismiss="alert"
```

```
<div class="alert alert-info alert-dismissible" role="alert">
  <button type="button" class="close" data-dismiss="alert" aria-label="Close">
    <span aria-hidden="true">&times;</span>
  </button>
  Sphinx of black quartz, judge my vow
</div>
```

Sphinx of black quartz, judge my vow

×

```
.alert-dismissible .close
```

```
.alert-link
```

```
<div class="alert alert-success">
  You have won! Click <a href="#" class="alert-link">here</a> to claim your prize ...
</div>

<div class="alert alert-info">
  You might want to check <a href="#" class="alert-link">this</a> instead.
</div>
```

```
<div class="alert alert-warning">
  You are running out of coins. Buy more <a href="#" class="alert-link">here</a>.
</div>

<div class="alert alert-danger">
  Something went wrong. You can try <a href="#" class="alert-link">again</a> or ...
</div>
```

Congratulations! You have **WON!** Click **here** to claim your prize ...

You might want to check **this** instead.

You are running out of coins. Buy more **here**.

Something went wrong. You can try **again** or ...

: <https://riptutorial.com/ko/twitter-bootstrap/topic/6434/>

5:

(.col-*-* CSS) 12 . (.row CSS) . (.container .container-fluid) . ("") .
12 . .

Examples

, . LESS .

```
/* Small devices (tablets, 768px and up) */
@media (min-width: @screen-sm-min) { ... }

/* Medium devices (desktops, 992px and up) */
@media (min-width: @screen-md-min) { ... }

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

CSS .

```
@media (max-width: @screen-xs-max) { ... }
@media (min-width: @screen-sm-min) and (max-width: @screen-sm-max) { ... }
@media (min-width: @screen-md-min) and (max-width: @screen-md-max) { ... }
@media (min-width: @screen-lg-min) { ... }
```

()

. 3 () . Bootstrap 3 xs , sm , md lg . col-{breakpoint}-{units} CSS .

, , .

CSS . .

- col-xs-* - <768
- col-sm-* - >= 768
- col-md-* - >= 992
- col-lg-* - >= 1200

	Extra small devices Phones (<768px)	Small devices Tablets (≥768px)	Medium devices Desktops (≥992px)	Large devices (≥1200px)
Grid behavior	Horizontal at all times		Collapsed to start, horizontal above breakpoints	
Container width	None (auto)	750px	970px	1170px
Class prefix	<code>.col-xs-</code>	<code>.col-sm-</code>	<code>.col-md-</code>	<code>.col-lg-</code>
# of columns	12			
Column width	Auto	~62px	~81px	~97px
Gutter width	30px (15px on each side of a column)			
Nestable	Yes			
Offsets	Yes			
Column ordering	Yes			

:

50 % `col-*-6` .

```
<div class="col-xs-6 col-sm-6 col-md-6 col-lg-6">..</div>
```

, `col-xs-6` 6 xs . (xs, sm md) . .

:

```
<div class="col-xs-6">..</div>
```

()

`col-*-*` .

sm 50 % md 25 % .

```
<div class="col-md-3 col-sm-6">..</div>
```

sm, md lg 768 "" .xs . `col-xs-*` .

12 .

12 (10, 16 ...) 12 6 (), 4 (1/4) 3 (3/5) . . `col-{breakpoint}-{units}` CSS . (AKA Tier)

, `col-md-3` (md) 12 (25%) 3 . HTML `col-{breakpoint}-{units}` .


```
<div class="col-{breakpoint}-{units}">
```

() .

3

- col-*-1 : 1 of 12 (8.33333333 %)
- col-*-2 : 12 of 2 (16.66666667 %)
- col-*-3 : 12 of 12 (25 %)
- col-*-4 : 12 of 12 (33.33333333 %)
- col-*-5 : 12 of 5 (41.66666667 %)
- col-*-6 : 6 of 12 (50 %)
- col-*-7 : 12 of 12 (58.33333333 %)
- col-*-8 : 12 of 12 (66.66666667 %)
- col-*-9 : 9 of 12 (75 %)
- col-*-10 : 10 of 10 (83.33333333 %)
- col-*-11 : 11 of 11 (91.66666667 %)
- col-*-12 : col-*-12 (100 %)

- 12

.row . (container container-fluid) . (-15) . .

```
<div class="container">
  <div class="row">
    <!-- one more columns -->
    <div class="col-{breakpoint}-{units}">..</div>
  </div>
</div>
```

.row 12 . .row .row 12 () .

(.row 12) (clearfixes) . .

3 ?

3 - 12 ?

()

. .

.container .

```
<div class="container">
  ...
</div>
```

.container-fluid .

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

```
...
</div>
```

:padding ().

* . , .col-md-offset-4 4 .col-md-4 .

```
<div class="row">
  <div class="col-lg-4"></div>
  <div class="col-lg-4 col-lg-offset-4"></div>
</div>
<div class="row">
  <div class="col-lg-5 col-lg-offset-1"></div>
  <div class="col-lg-5 col-lg-offset-1"></div>
</div>
```

```
<div class="container content">
  <div class="row">
    <!--Main Content-->
    <div class="col-lg-9 col-lg-push-3">
      Main Content
    </div>

    <!--Sidebar-->
    <div class="col-lg-3 col-lg-pull-9">
      Sidebar
    </div>
  </div>
</div>
```

.

: .col-md-push- * .col-md-pull- *.

:

3 col-lg-push col-lg-pull

3 : .

3

: [https://riptutorial.com/ko/twitter-bootstrap/topic/3330/-](https://riptutorial.com/ko/twitter-bootstrap/topic/3330/)

6:

Examples

phicon

Twitter Bootstrap glyphicons HTML .

`` .

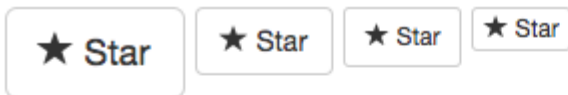
HTML .

, .

```
<button type="button" class="btn btn-default btn-lg">
  Star
</button>
```

. `` `<button>` . :

```
<button type="button" class="btn btn-default btn-lg">
  <span class="glyphicon glyphicon-star" aria-hidden="true"></span>Star
</button>
```



```
<button type="button" class="btn btn-default" aria-label="Left Align">
  <span class="glyphicon glyphicon-align-left" aria-hidden="true"></span>
</button>

<button type="button" class="btn btn-default btn-lg">
  <span class="glyphicon glyphicon-star" aria-hidden="true"></span> Star
</button>
```

: <https://riptutorial.com/ko/twitter-bootstrap/topic/6098/>

7:

Examples

.nav . .

```
<ul class="nav nav-tabs">
  <li role="presentation" class="active"><a href="#">Home</a></li>
  <li role="presentation"><a href="#">Profile</a></li>
  <li role="presentation"><a href="#">Messages</a></li>
</ul>
```

```
<ul class="nav nav-pills">
  <li role="presentation" class="active"><a href="#">Home</a></li>
  <li role="presentation"><a href="#">Profile</a></li>
  <li role="presentation"><a href="#">Messages</a></li>
</ul>
```

```
<ul class="nav nav-tabs nav-justified">
  ...
</ul>
<ul class="nav nav-pills nav-justified">
  ...
</ul>
```

```
<ul class="nav nav-tabs">
  <li role="presentation" class="dropdown">
    <a class="dropdown-toggle" data-toggle="dropdown" href="#" role="button" aria-
haspopup="true" aria-expanded="false">
      Dropdown <span class="caret"></span>
    </a>
    <ul class="dropdown-menu">
      ...
    </ul>
  </li>
</ul>
```

: <https://riptutorial.com/ko/twitter-bootstrap/topic/6505/>

8:

<http://getbootstrap.com/javascript/#dropdowns> Bootstrap . HTML .

Examples

HTML

HTML .

HTML .

```
<div class="dropdown">
  <button id="dLabel" type="button" data-toggle="dropdown" aria-haspopup="true" aria-
expanded="false">
    Dropdown trigger
    <span class="caret"></span>
  </button>
  <ul class="dropdown-menu" aria-labelledby="dLabel">
    ...
  </ul>
</div>
```

li elemented ul .dropdown-menu .

: <https://riptutorial.com/ko/twitter-bootstrap/topic/6033/>-

9:

bootstrap.min.js .

<http://getbootstrap.com/javascript/#modals> .

Examples

HTML

```
<!-- Clicking the button will open the modal window -->
<button type="button" class="btn btn-success btn-lg" data-toggle="modal" data-
target="#theModal">Open The Modal</button>

<!-- The Modal -->
<div id="theModal" class="modal fade" role="dialog">
  <div class="modal-dialog">
    <div class="modal-content">
      <div class="modal-header">
        <button type="button" class="close" data-dismiss="modal">&times;</button>
        <h4 class="modal-title">Text For The Modal Header</h4>
      </div>
      <div class="modal-body">
        <p>Text for The Modal Body.</p>
      </div>
      <div class="modal-footer">
        <button type="button" class="btn btn-default" data-
dismiss="modal">Close</button>
      </div>
    </div>
  </div>
</div>
</div>
```

: <https://riptutorial.com/ko/twitter-bootstrap/topic/6320/>

10:

<http://getbootstrap.com/javascript/#modals> . 'HTML' .

Examples

HTML

HTML

```

<div class="modal fade" tabindex="-1" role="dialog">
  <div class="modal-dialog">
    <div class="modal-content">
      <div class="modal-header">
        <button type="button" class="close" data-dismiss="modal" aria-label="Close"><span
aria-hidden="true">&times;</span></button>
        <h4 class="modal-title">Modal title</h4>
      </div>
      <div class="modal-body">
        <p>One fine body&hellip;</p>
      </div>
      <div class="modal-footer">
        <button type="button" class="btn btn-default" data-dismiss="modal">Close</button>
        <button type="button" class="btn btn-primary">Save changes</button>
      </div>
    </div><!-- /.modal-content -->
  </div><!-- /.modal-dialog -->
</div><!-- /.modal -->

```

jQuery `$('#myModal').modal(options)` options

JavaScript

options

- backdrop . "static" . "" .
- keyboard keyboard .
- show .

```

$('#carModal').modal({ backdrop: false, keyboard: true, show: false });

```

HTML

: <https://riptutorial.com/ko/twitter-bootstrap/topic/5927/-->

11:

Examples

```
<ul class="list-group">
  <li class="list-group-item">Cras justo odio</li>
  <li class="list-group-item">Dapibus ac facilisis in</li>
  <li class="list-group-item">Morbi leo risus</li>
  <li class="list-group-item">Porta ac consectetur ac</li>
  <li class="list-group-item">Vestibulum at eros</li>
</ul>
```

```
<ul class="list-group">
  <li class="list-group-item">
    <span class="badge">14</span>
    Cras justo odio
  </li>
</ul>
```

```
<div class="list-group">
  <a href="#" class="list-group-item active">
    Cras justo odio
  </a>
  <a href="#" class="list-group-item">Dapibus ac facilisis in</a>
  <a href="#" class="list-group-item">Morbi leo risus</a>
  <a href="#" class="list-group-item">Porta ac consectetur ac</a>
  <a href="#" class="list-group-item">Vestibulum at eros</a>
</div>
```

```
<div class="list-group">
  <button type="button" class="list-group-item">Cras justo odio</button>
  <button type="button" class="list-group-item">Dapibus ac facilisis in</button>
  <button type="button" class="list-group-item">Morbi leo risus</button>
  <button type="button" class="list-group-item">Porta ac consectetur ac</button>
  <button type="button" class="list-group-item">Vestibulum at eros</button>
</div>
```

```
<div class="list-group">
  <a href="#" class="list-group-item disabled">
    Cras justo odio
  </a>
  <a href="#" class="list-group-item">Dapibus ac facilisis in</a>
  <a href="#" class="list-group-item">Morbi leo risus</a>
  <a href="#" class="list-group-item">Porta ac consectetur ac</a>
  <a href="#" class="list-group-item">Vestibulum at eros</a>
</div>
```

```
<ul class="list-group">
  <li class="list-group-item list-group-item-success">Dapibus ac facilisis in</li>
```



```
<li class="list-group-item list-group-item-info">Cras sit amet nibh libero</li>
<li class="list-group-item list-group-item-warning">Porta ac consectetur ac</li>
<li class="list-group-item list-group-item-danger">Vestibulum at eros</li>
</ul>
<div class="list-group">
  <a href="#" class="list-group-item list-group-item-success">Dapibus ac facilisis in</a>
  <a href="#" class="list-group-item list-group-item-info">Cras sit amet nibh libero</a>
  <a href="#" class="list-group-item list-group-item-warning">Porta ac consectetur ac</a>
  <a href="#" class="list-group-item list-group-item-danger">Vestibulum at eros</a>
</div>
```

```
<div class="list-group">
  <a href="#" class="list-group-item active">
    <h4 class="list-group-item-heading">List group item heading</h4>
    <p class="list-group-item-text">...</p>
  </a>
</div>
```

: [https://riptutorial.com/ko/twitter-bootstrap/topic/6347/-](https://riptutorial.com/ko/twitter-bootstrap/topic/6347/)

12:

- : `.btn-default` | `.btn-primary` | `.btn-success` | `.btn-info` | `.btn` | `.btn-danger` | `.btn-link`;
- : `.btn-lg` | `.btn-md` | `.btn-sm` | `.btn-xs`;
- : | `disabled`.

Examples

.
`.btn` .

	<code>()</code>
<code>.btn-default</code>	<code>()</code>
<code>.btn-primary</code>	<code>()</code>
<code>.btn-success</code>	<code>()</code>
<code>.btn-info</code>	<code>()</code>
<code>.btn-warning</code>	<code>()</code>
<code>.btn-danger</code>	<code>()</code>
<code>.btn-link</code>	<code>.</code>

`.btn-size` .

<code>.btn-lg</code>	<code>.</code>
<code>.btn-sm</code>	<code>.</code>
<code>.btn-xs</code>	<code>.</code>
<code>.btn-block</code>	<code>.</code>

`active` .

```
<button type="button" class="btn btn-primary active">Active Primary</button>
```

`disabled` `disabled` .

```
<button type="button" class="btn btn-primary disabled">Disabled Primary</button>
```

.btn-group . btn-group .

```
<div class="btn-group">
  <button type="button" class="btn btn-primary">Apples</button>
  <button type="button" class="btn btn-primary">Oranges</button>
  <button type="button" class="btn btn-primary">Pineapples</button>
</div>
```

.btn-group-vertical .

```
<div class="btn-group-vertical">
  <button type="button" class="btn btn-primary">Apples</button>
  <button type="button" class="btn btn-primary">Oranges</button>
  <button type="button" class="btn btn-primary">Pineapples</button>
</div>
```

.

.btn-group . .btn-group-justified .

```
<div class="btn-group btn-group-justified">
  <a href="#" class="btn btn-primary">Apples</a>
  <a href="#" class="btn btn-primary">Oranges</a>
  <a href="#" class="btn btn-primary">Pineapples</a>
</div>
```

: <https://riptutorial.com/ko/twitter-bootstrap/topic/4757/>

13: 4

4 Bootstrap 3 . 3.x 4.x , .

Examples

4

3. 3 4 , col-md-* col-lg-* col-sm-* col-xs-* . 3 .

```
<div class="row">
  <div class="col-lg-4 col-md-8 col-sm-8 col-xs-8">
    contents
  </div>
  <div class="col-lg-4 col-md-4 col-sm-4 col-xs-4">
    contents
  </div>
</div>
```

Bootstrap 4 768px sm . 4 col-* (xs), col-sm-*, col-md-*, col-lg-*, and col-xl-*. v3 .col-md-6 v4 .col-lg-6. () .col-6 6 -xs .

4 .

```
<div class="row">
  <div class="col-xl-8 col-lg-8 col-md-8 col-sm-8 col-8">
    contents
  </div>
  <div class="col-xl-8 col-lg-8 col-md-4 col-sm-4 col-4">
    contents
  </div>
</div>
```

4

	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				

- 4 IE8, IE9, and iOS 6 .v4 IE10+ and iOS 7+ . v3 .

- 4 Android v5.0 Lollipop's Browser and WebView . Android WebView unofficially supported unofficially supported .

4 .

position: sticky position: sticky polyfill .

. ScrollPos-Styler .

Affix jQuery . sticky polyfill . polyfill HTML5 Please .

. ScrollPos-Styler .

Bootstrap v3 Bootstrap v4 .

HTML

```
<header>
</header>
<nav class="navbar navbar-light bg-faded" data-toggle="affix">
  <button class="navbar-toggler hidden-sm-up pull-xs-right" type="button" data-
toggle="collapse" data-target="#collapsingNavbar">
    ≡
  </button>
```

```

<a class="navbar-brand" href="#">Brand</a>
<div class="collapse navbar-toggleable-xs" id="collapsingNavbar">

  <ul class="nav navbar-nav pull-xs-right">
    <li class="nav-item dropdown">
      <a class="nav-link dropdown-toggle" data-toggle="dropdown" href="#"
role="button" aria-haspopup="true" aria-expanded="false">
        Menu
      </a>
      <div class="dropdown-menu" aria-labelledby="Preview">
        <a class="dropdown-item" href="#">Logout</a>

      </div>
    </li>
    <li class="nav-item">
      <a class="nav-link" href="#">Link</a>
    </li>
    <li class="nav-item ">
      <a class="nav-link" href="#">Link</a>
    </li>
    <li class="nav-item ">
      <a class="nav-link" href="#">Link</a>
    </li>
  </ul>
</div>
</nav>

<div class="container" id="main">
  <h2>Hello Bootstrap 4.</h2>
  <div class="row">
    <div class="col-xs-12 col-sm-6 col-md-9">
      <p>3 wolf moon retro jean shorts chambray sustainable roof party. Shoreditch vegan
artisan Helvetica. Tattooed Codeply Echo Park Godard kogi, next level irony ennui twee squid
fap selvage. Meggings flannel Brooklyn literally small batch, mumblecore
      PBR try-hard kale chips. Brooklyn vinyl lumbersexual bicycle rights, viral fap
cronut leggings squid chillwave pickled gentrify mustache. 3 wolf moon hashtag church-key Odd
Future. Austin messenger bag normcore, Helvetica Williamsburg
      sartorial tote bag distillery Portland before they sold out gastropub
taxidermy Vice.</p>
    </div>
    <div class="col-xs-6 col-md-3">
      <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Duis pharetra codeply
varius quam sit amet vulputate. Quisque mauris augue, molestie tincidunt codeply condimentum
vitae, gravida a libero. Aenean sit amet felis dolor, in sagittis nisi.
      Sed ac orci quis tortor imperdiet venenatis. Duis elementum auctor accumsan.
Aliquam in felis sit amet augue.
    </p>
    <hr>
    <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Duis pharetra codeply
varius quam sit amet vulputate. Quisque mauris augue, molestie tincidunt codeply condimentum
vitae, gravida a libero. Aenean sit amet felis dolor, in sagittis nisi.
      Sed ac orci quis tortor imperdiet venenatis. Duis elementum auctor accumsan.
Aliquam in felis sit amet augue.
    </p>
  </div>
</div>
<div class="row">
  <div class="col-xs-6 col-sm-4">
    <div class="card card-outline-primary">
      <div class="card-block">
        <h3 class="card-title">Card</h3>

```

```

        <p class="card-text">With supporting text below as a natural lead-in to
additional content.</p>
        <a href="#" class="btn btn-outline-secondary">Outline</a>
    </div>
</div>
</div>
<div class="col-xs-6 col-sm-4">
    <div class="card card-outline-primary">
        <div class="card-block">
            <h3 class="card-title">Card</h3>
            <p class="card-text">With supporting text below as a natural lead-in to
additional content.</p>
            <a href="#" class="btn btn-outline-secondary">Outline</a>
        </div>
    </div>
</div>
<div class="col-xs-6 col-sm-4">
    <div class="card card-outline-primary">
        <div class="card-block">
            <h3 class="card-title">Card</h3>
            <p class="card-text">With supporting text below as a natural lead-in to
additional content.</p>
            <a href="#" class="btn btn-outline-secondary">Outline</a>
        </div>
    </div>
</div>
</div>
</div>
</div>

```

CSS

```

header {
height: 220px;
background: #ccc;
}

```

JAVASCRIPT

```

$(document).ready(function() {

    var toggleAffix = function(affixElement, scrollElement, wrapper) {

        var height = affixElement.outerHeight(),
            top = wrapper.offset().top;

        if (scrollElement.scrollTop() >= top){
            wrapper.height(height);
            affixElement.addClass("affix");
        }
        else {
            affixElement.removeClass("affix");
            wrapper.height('auto');
        }
    };

    $('[data-toggle="affix"]').each(function() {
        var ele = $(this),

```

```

    wrapper = $('<div></div>');

    ele.before(wrapper);
    $(window).on('scroll resize', function() {
        toggleAffix(ele, $(this), wrapper);
    });

    // init
    toggleAffix(ele, $(window), wrapper);
});
});

```

4 Navbar

Bootstrap 4 Navbar Component Bootstrap 3.x . 4 Navbar **flexbox** Navbar . navbar-toggableable-* Navbar . Navbar Navbar 6 "" .

- Navbar .
- Navbar .
- Navbar 4 .

4 Navbar

```

<nav class="navbar navbar-toggableable-md">
  <button class="navbar-toggler navbar-toggler-right" type="button" data-toggle="collapse"
  data-target="#navbar1">
    <span class="navbar-toggler-icon"></span>
  </button>
  <a class="navbar-brand" href="#">Navbar</a>
  <div class="collapse navbar-collapse" id="navbar1">
    <ul class="navbar-nav mr-auto">
      <li class="nav-item active">
        <a class="nav-link" href="#">Home</a>
      </li>
      <li class="nav-item">
        <a class="nav-link" href="#">Link</a>
      </li>
    </ul>
  </div>
</nav>

```

navbar-header Bootstrap 4 Navbar container-fluid .

navbar-toggableable-md Navbar (md) 992px (navbar-toggableable-md). navbar-toggableable-md .

- navbar-toggableable = xs <576px
- navbar-toggableable-sm = sm . <768px
- --LG = lg <1200

4 Navbar

Navbar Alignment

Flexbox Navbar (, ,) . Navbar

- (),
- ,
-
- ,
- ,
- ,
- ()

4 Navbar /

```
<nav class="navbar navbar-toggleable-sm navbar-inverse bg-primary">
  <button class="navbar-toggler navbar-toggler-right" type="button" data-toggle="collapse"
data-target=".dual-collapse">
    <span class="navbar-toggler-icon"></span>
  </button>
  <div class="navbar-collapse collapse dual-collapse">
    <ul class="navbar-nav mr-auto">
      <li class="nav-item active">
        <a class="nav-link" href="#">Link</a>
      </li>
      <li class="nav-item">
        <a class="nav-link" href="#features">Link</a>
      </li>
      <li class="nav-item">
        <a class="nav-link" href="#">Link</a>
      </li>
      <li class="nav-item">
        <a class="nav-link" href="#">Link</a>
      </li>
      <li class="nav-item">
        <a class="nav-link" href="#">Link</a>
      </li>
    </ul>
  </div>
  <a class="navbar-brand d-flex mx-auto" href="#">Navbar 2</a>
  <div class="navbar-collapse collapse dual-collapse">
    <ul class="navbar-nav ml-auto">
      <li class="nav-item">
        <a class="nav-link" href="#">Link</a>
      </li>
      <li class="nav-item">
        <a class="nav-link" href="#">Link</a>
      </li>
    </ul>
  </div>
</nav>
```

4 Navbar, ,

```
<nav class="navbar navbar-light navbar-toggleable-sm bg-faded justify-content-center">
  <button class="navbar-toggler navbar-toggler-right" type="button" data-toggle="collapse"
data-target="#collapsingNavbar3">
    <span class="navbar-toggler-icon"></span>
```

```

</button>
<a href="/" class="navbar-brand d-flex w-50 mr-auto">Brand</a>
<div class="navbar-collapse collapse" id="collapsingNavbar3">
  <ul class="navbar-nav mx-auto w-100 justify-content-center">
    <li class="nav-item active">
      <a class="nav-link" href="#">Link</a>
    </li>
    <li class="nav-item">
      <a class="nav-link" href="#">Link</a>
    </li>
    <li class="nav-item">
      <a class="nav-link" href="#">Link</a>
    </li>
  </ul>
  <ul class="nav navbar-nav ml-auto w-100 justify-content-end">
    <li class="nav-item">
      <a class="nav-link" href="#">Right</a>
    </li>
    <li class="nav-item">
      <a class="nav-link" href="#">Right</a>
    </li>
  </ul>
</div>
</nav>

```

Navbar Alignment : <http://www.codeply.com/go/qhaBrcWp3v>

Bootstrap 4 Navbar

3 4 CSS

4 Bootstrap 3.x .Navbar , CSS Flexbox 4.x 3.x .

Bootstrap 4 Bootstrap 3.x CSS .

CSS / 3.3.7 4 (6)

{t} - (: sm, md, lg).

xs col-3 , col-6 .

{u} - col (: 1-12).

3.x	4
. {t} - {u}	.col- {t} - {u} (leave {t} blank for xs)
.col- {t} -offset- {u}	.offset- {t} - {u} (leave {t} blank for xs)
. {t} - - {u}	.push- {t} - {u} (leave {t} blank for xs)
.col- {t} -pull- {u}	.pull- {t} - {u} (leave {t} blank for xs)

3.x	4
.	.
.panel-heading	.card-header
.panel-title	.card-title
.panel-body	
.panel-footer	.card-footer
.panel-primary	.card-primary.card-inverse
.panel-success	.card-success.card-inverse
.panel-info	.card-info.card-inverse
.panel-warning	.card-warning.card-inverse
.panel-danger	.card-danger.card-inverse
.	.card.card-block
.thumbnail	.card.card-block
.list-inline> li	.list-inline-item
.dropdown-menu> li	.dropdown-item
.nav navbar> li	.nav-item
.nav navbar> li> a	.nav-link
.navbar-right	.ml-auto
.navbar-btn	.nav-item
.navbar-fixed-top	.fixed-top
.nav-stacked	
.btn-default	.btn -
.img-responsive	.img-fluid
.img-circle	
.img-rounded	
.form-horizontal	()

3.x	4
.	.form-check
.checkbox	.form-check
.input-lg	.form-control-lg
.input-sm	.form-control-sm
.control-label	.form-control-label
.table-condensed	.table-sm
.pagination> li	.page-item
.pagination> li> a	.page-link
.	.carousel-item
.	.form-control-feedback
.pull-right	. -
.pull-left	.
	.mx-auto
.collapse.in	.collapse.show
.hidden-sm	.hidden-md-down
.hidden-md	.hidden-lg-down
.hidden-xs	.hidden-xs-down
.visible-xs	.hidden-sm-up
.visible-sm	.hidden-xs-down.hidden-md-up
.visible-md	.hidden-sm-down.hidden-lg-up
.visible-lg	.hidden-md-down.hidden-xl-up
.	.
.	.badge.badge-pill

:
[3.x 4](#)
[4](#)

4

CSS

Bootstrap 4 flexbox . , Flexbox .

(Vertical Alignment Utilities)

4 ...

1 - :

my-auto my-auto . . , h-100 my-auto col-sm-12 .

```
<div class="row h-100">
  <div class="col-sm-12 my-auto">
    <div class="card card-block w-25">Card</div>
  </div>
</div>
```

my-auto y .

```
margin-top: auto;
margin-bottom: auto;
```

2 - Flexbox :

Center

Taller

With supporting text

Outline

4 .row display:flex display:flex align-self-center align-self-center .

```
<div class="row">
  <div class="col-6 align-self-center">
    <div class="card card-block">
      Center
    </div>
  </div>
  <div class="col-6">
    <div class="card card-inverse card-danger">
      Taller
    </div>
  </div>
</div>
```

.row align-items-center .row col-* ...

```
<div class="row align-items-center">
  <div class="col-6">
    <div class="card card-block">
      Center
    </div>
  </div>
  <div class="col-6">
    <div class="card card-inverse card-danger">
      Taller
    </div>
  </div>
</div>
```

3 - :

4 display:table , display:table-cell , display:inline display:table . , .

```
<div class="row h-50">
  <div class="col-sm-12 h-100 d-table">
    <div class="card card-block d-table-cell align-middle">
      I am centered vertically
    </div>
  </div>
</div>
```

4

, 4 .

- text-center display:inline display:inline
- mx-auto center-block display:block display:block
- offset-* mx-auto offset-* .

mx-auto (X) display:block display:flex , (% , vw , px) display:flex . **Flexbox** flexbox .

: text-center

```
<div class="container">
  <h1 class="text-center">i'm centered</h1>
  <div class="row">
    <div class="col text-center">i'm centered!</div>
  </div>
</div>
```

display:block display:flex : mx-auto

```
<div class="row">
  <div class="col-12">
    
```

```
</div>
</div>
```

offset-*

```
<div class="row">
  <div class="col-4 offset-4">
    <h6>I'm .col-4 centered (offset 4)
  </div>
</div>
```

mx-auto .

```
<div class="row">
  <div class="col-4 mx-auto">
    <h6>I'm .col-4 centered</h6>
  </div>
</div>
```

4

4 (Y) . 4

4

3 () . 4 , .

4 push-{viewport}-{units} pull-{viewport}-{units} xs- . xs sm 1-3-2 .

```
<div class="row">
  <div class="col-3 col-md-6">
    1
  </div>
  <div class="col-3 col-md-6 push-6 push-md-0">
    2
  </div>
  <div class="col-6 col-md-12 pull-3 pull-md-0">
    3
  </div>
</div>
```

4

4 flexbox flexbox . , 12 col-*-12 flexbox .

```
<div class="row">
  <div class="col-md-12">
    Col 1
  </div>
  <div class="col-md-12 flex-first flex-md-unordered">
```

```
    Col 2  
  </div>  
</div>
```

Flexbox

4 : <https://riptutorial.com/ko/twitter-bootstrap/topic/9090/--4->

14: Navbar

Examples

Navbar

3 Navbar .

```
<nav class="navbar navbar-default" role="navigation">
<div class="container-fluid">
  <!-- Brand and toggle get grouped for better mobile display -->
  <div class="navbar-header">
    <button type="button" class="navbar-toggle" data-toggle="collapse" data-
target=".navbar-ex1-collapse">
      <span class="sr-only">Toggle navigation</span>
      <span class="icon-bar"></span>
      <span class="icon-bar"></span>
      <span class="icon-bar"></span>
    </button>
    <a class="navbar-brand" href="#">Title</a>
  </div>

  <!-- Collect the nav links, forms, and other content for toggling -->
  <div class="collapse navbar-collapse navbar-ex1-collapse">
    <ul class="nav navbar-nav">
      <li class="active"><a href="#">Link</a></li>
      <li><a href="#">Link</a></li>
    </ul>
    <form class="navbar-form navbar-left" role="search">
      <div class="form-group">
        <input type="text" class="form-control" placeholder="Search">
      </div>
      <button type="submit" class="btn btn-default">Submit</button>
    </form>
    <ul class="nav navbar-nav navbar-right">
      <li><a href="#">Link</a></li>
      <li class="dropdown">
        <a href="#" class="dropdown-toggle" data-toggle="dropdown">Dropdown <b
class="caret"></b></a>
        <ul class="dropdown-menu">
          <li><a href="#">Action</a></li>
          <li><a href="#">Another action</a></li>
          <li><a href="#">Something else here</a></li>
          <li><a href="#">Separated link</a></li>
        </ul>
      </li>
    </ul>
  </div><!-- /.navbar-collapse -->
</div>
```

Bootstrap

```
<nav class="navbar navbar-default">
  <div class="container-fluid">
```

```
<div class="navbar-header">
  <a class="navbar-brand" href="#">
    
  </a>
</div>
</div>
</nav>
```

Navbar : <https://riptutorial.com/ko/twitter-bootstrap/topic/6233/--navbar>

15:

<http://getbootstrap.com/javascript/> .

Examples

jQuery .

Javascript () . .

, , , , , , , , , , .

: <https://riptutorial.com/ko/twitter-bootstrap/topic/6054/--->

16:

Javascript	<code>\$('.dropdown-toggle').dropdown();</code>
	<code>\$('.dropdown-toggle').dropdown('toggle')</code>
show.bs.dropdown	show instance .
.bs.dropdown	(CSS).
hide.bs.dropdown	hide .
hidden.bs.dropdown	(CSS).
	<code>\$(element).on('show.bs.dropdown', function () { // do something... })</code>

Javascript `$('.dropdown-toggle').dropdown()` Dropdown data-api `data-toggle="dropdown"` .

Examples

`.dropdown` .

`.dropdown-menu` .

class `.dropdown-toggle data-toggle="dropdown"` .

```
<div class="dropdown">
  <button class="btn btn-primary dropdown-toggle" type="button" data-
toggle="dropdown">Dropdown Example
  <span class="caret"></span></button>
  <ul class="dropdown-menu">
    <li><a href="#">Option One</a></li>
    <li><a href="#">Option two</a></li>
    <li><a href="#">More Options</a></li>
  </ul>
</div>
```

: <https://riptutorial.com/ko/twitter-bootstrap/topic/6361/--->

17:

Examples

` .badge .`

```
<a href="#">News <span class="badge">5</span></a><br>
<a href="#">Comments <span class="badge">10</span></a><br>
<a href="#">Updates <span class="badge">2</span></a>
```

```
<button type="button" class="btn btn-primary">Primary <span class="badge">7</span></button>
```

` .label 6 .label-default, .label-primary, .label-success, .label-info, .label-warning
.label-danger . .`

```
<h1>Example <span class="label label-default">New</span></h1>
<h2>Example <span class="label label-default">New</span></h2>
<h3>Example <span class="label label-default">New</span></h3>
<h4>Example <span class="label label-default">New</span></h4>
<h5>Example <span class="label label-default">New</span></h5>
<h6>Example <span class="label label-default">New</span></h6>
```

[: https://riptutorial.com/ko/twitter-bootstrap/topic/7867/----](https://riptutorial.com/ko/twitter-bootstrap/topic/7867/----)

18:

Examples

Navbar

Html :

```
<nav class="navbar navbar-default" data-offset-top="120" data-spy="affix" >
  ...
</nav>
```

CSS :

```
<style>
.navbar {
  background-color: red;
}
.navbar.affix {
  background-color: green;
}
</style>
```

2

```
<div class="container" id="con">
  <div class="row">
    <div class="span12">
      <div class="well">
        <h1> Header </h1>
      </div>
    </div>
  </div>
</div>
<div class="container" data-spy="affix" data-offset-top="400" id="nav">
  <div class="navbar">
    <div class="navbar-inner">
      <div class="container">
        <div class="span12">
          <a class="brand" href="#">Home</a>
          <ul class="nav">
            <li class="active"><a href="#">Home</a></li>
            <li><a href="#">Link</a></li>
            <li><a href="#">Link</a></li>
          </ul>
        </div>
      </div>
    </div>
  </div>
</div>
<div class="container">
  <div class="span3">
```

```
<p style="height:1000px;padding:10px;">

    Long scrolling text here... Ovi lispmd idr. Blah goo bar foor foo. Ovi lispmd
idr. Blah goo bar foor foo. Ovi lispmd idr. Blah goo bar foor foo. Ovi lispmd idr. Blah goo
bar foor foo. Ovi lispmd idr. Blah goo bar foor foo. Ovi lispmd idr. Blah goo bar foor foo.
Ovi lispmd idr. Blah goo bar foor foo. Ovi lispmd idr. Blah goo bar foor foo. Ovi lispmd idr.
Blah goo bar foor foo. Ovi lispmd idr. Blah goo bar foor foo.

    </p>
</div>
</div>

<style>

#con .well {
    height:400px;
}

#nav.affix {
    position: fixed;
    top: 0;
    width: 100%
}
</style>

<script>
    $('#nav').affix();
</script>
```

: <https://riptutorial.com/ko/twitter-bootstrap/topic/6639/--->

19:

• .

• onSubmit () . () . [MinLengthAttribute(0)] [MinLengthAttribute(0)] .

Examples

ASP.NET MVC

<appSettings> Web.config () .

```
<add key="ClientValidationEnabled" value="true"/>
<add key="UnobtrusiveJavaScriptEnabled" value="true"/>
```

BundleConfig.cs jqueryval .

```
bundles.Add(new ScriptBundle("~/bundles/jqueryval").Include(
    "~/Scripts/jqueryval/jquery.validate*"));
```

(_Layout.cshml) .

```
<!-- Reference to the jqueryval bundle -->
@Scripts.Render("~/bundles/jqueryval")

<!-- jQuery to apply bootstrap validation classes and glyphs to inputs -->
<script type="text/javascript">
    $.validator.defaults({
        highlight: function (element) {
            $(element).closest('.form-group').removeClass('has-success has-
            feedback').addClass('has-error has-feedback'); // red highlighting
            $(element).closest('.form-group').find('.form-control-
            feedback').removeClass('glyphicon-ok').addClass('glyphicon-remove'); // red cross glyphicon
        },
        unhighlight: function (element) {
            $(element).closest('.form-group').removeClass('has-error has-
            feedback').addClass('has-success has-feedback'); // green highlighting
            $(element).closest('.form-group').find('.form-control-
            feedback').removeClass('glyphicon-remove').addClass('glyphicon-ok'); // green tick glyphicon
        }
    });
</script>
```

```
using System.ComponentModel.DataAnnotations;

[Required(ErrorMessage = "This field is required.")
```



```
<!-- Validation messages -->
<div class="text-danger">@Html.ValidationMessageFor(m => m.SomeField)</div>

<!-- Bootstrap feedback span: -->
<span class="glyphicon form-control-feedback"></span>
```

```
if (!ModelState.IsValid)
{
    return View(model);
}
else
{
    // continue with action
}
```

```
[Required(ErrorMessage = "This field is required.")
[StringLength(maximumLength: 10, ErrorMessage = "This field must be 10 characters or less.")]
public string SomeRequiredField { get; set; }
```

```
<div class="form-group has-feedback">
  <div class="col-md-4">
    @Html.LabelFor(m => m.SomeRequiredField, new { @class = "control-label" })
  </div>
  <div class="col-md-8">
    @Html.TextBoxFor(m => m.SomeRequiredField, new { @class = "form-control" })
    <div class="text-danger">@Html.ValidationMessageFor(m => m.SomeRequiredField)</div>
    <span class="glyphicon form-control-feedback"></span>
  </div>
</div>
```

jQuery

```
$('#input').on('blur', function () {
    $(this).valid();
});
```

: <https://riptutorial.com/ko/twitter-bootstrap/topic/6388/--->

20:

.container .

.container-fluid .

Examples

.container (xs, sm, md, lg) .

.container-fluid .

```
@media (min-width: 568px) {
  .container {
    width: 550px;
  }
}
@media (min-width: 992px) {
  .container {
    width: 970px;
  }
}
@media (min-width: 1200px) {
  .container {
    width: 1170px;
  }
}
```

div .

.container-fluid .

: <https://riptutorial.com/ko/twitter-bootstrap/topic/10908/-->

21:

Examples

?

bootstrap.min.css [Bootswatch](#) . . .

site.css ?

bootstrap.min.css

.css

site.css

?

. . . *site.css* .css *site.css* . . .

```
<link href="../../../Content/bootstrap.min.css" rel="stylesheet">
<link href="../../../Content/site.css" rel="stylesheet">
```

site.css .

: <https://riptutorial.com/ko/twitter-bootstrap/topic/6381/-->

22: .

Examples

HTML

.

?

```
.visible-print-block  
.visible-print-inline  
.visible-print-inline-block
```

.

```
.hidden-print
```

. : <https://riptutorial.com/ko/twitter-bootstrap/topic/6707/--->

23:

Examples

.
.form-group .form-group .

```
<form>
  <div class="form-group">
    <label for="input-email">Email address</label>
    <input type="email" class="form-control" id="input-email" placeholder="Email">
  </div>
  <div class="form-group">
    <label for="input-password">Password</label>
    <input type="password" class="form-control" id="input-password" placeholder="Password">
  </div>
  <button type="submit" class="btn btn-default">Submit</button>
</form>
```

readonly . .

```
<input class="form-control" type="text" placeholder="Readonly input here..." readonly>
```

disabled . . .

```
<input class="form-control" id="disabledInput" type="text" placeholder="Disabled input here..." disabled>
```

: <https://riptutorial.com/ko/twitter-bootstrap/topic/6251/>

24:

Examples

(CSS SASS)

.row-height div .col-height . .row-height .col-height (:.row-sm-height , .col-sm-height .

CSS :

```
.row-height {
  display: table;
  table-layout: fixed;
  height: 100%;
  width: calc(100% + 30px);
}
.col-height {
  display: table-cell;
  float: none;
  height: 100%;
}
.col-top {
  vertical-align: top;
}
.col-middle {
  vertical-align: middle;
}
.col-bottom {
  vertical-align: bottom;
}

@media (min-width: 480px) {
  .row-xs-height {
    display: table;
    table-layout: fixed;
    height: 100%;
    width: 100%;
  }
  .col-xs-height {
    display: table-cell;
    float: none;
    height: 100%;
  }
  .col-xs-top {
    vertical-align: top;
  }
  .col-xs-middle {
    vertical-align: middle;
  }
  .col-xs-bottom {
    vertical-align: bottom;
  }
}

@media (min-width: 768px) {
  .row-sm-height {
```

```

    display: table;
    table-layout: fixed;
    height: 100%;
    width: 100%;
}
.col-sm-height {
    display: table-cell;
    float: none;
    height: 100%;
}
.col-sm-top {
    vertical-align: top;
}
.col-sm-middle {
    vertical-align: middle;
}
.col-sm-bottom {
    vertical-align: bottom;
}
}

@media (min-width: 992px) {
    .row-md-height {
        display: table;
        table-layout: fixed;
        height: 100%;
        width: calc(100% + 30px);
    }
    .col-md-height {
        display: table-cell;
        float: none;
        height: 100%;
    }
    .col-md-top {
        vertical-align: top;
    }
    .col-md-middle {
        vertical-align: middle;
    }
    .col-md-bottom {
        vertical-align: bottom;
    }
    .row-md-height .col-md-3 {
        width: 25%;
        min-width: 25%;
        max-width: 25%;
    }
}

@media (min-width: 1200px) {
    .row-lg-height {
        display: table;
        table-layout: fixed;
        height: 100%;
        width: 100%;
    }
    .col-lg-height {
        display: table-cell;
        float: none;
        height: 100%;
    }
}

```

```

.col-lg-top {
  vertical-align: top;
}
.col-lg-middle {
  vertical-align: middle;
}
.col-lg-bottom {
  vertical-align: bottom;
}
}

```

SASS (_variables.scss) :

```

@import "../bootstrap/variables.scss";
$sizes: xs sm md lg;
$screens: $screen-xs-min $screen-sm-min $screen-md-min $screen-lg-min;

//general
.row-height {
  display: table;
  table-layout: fixed;
  height: 100%;
  width: calc(100% + $grid-gutter-width);
}
.col-height {
  display: table-cell;
  float: none;
  height: 100%;
}
.col-top {
  vertical-align: top;
}
.col-middle {
  vertical-align: middle;
}
.col-bottom {
  vertical-align: bottom;
}

//different sizes
@for $i from 1 through length($sizes) {
  $size: nth($sizes, $i);
  $screen: nth($screens, $i);

  @media (min-width: #{$screen}) {
    .row-#{$size}-height {
      display: table;
      table-layout: fixed;
      height: 100%;
      width: 100%;
    }
    .col-#{$size}-height {
      display: table-cell;
      float: none;
      height: 100%;
    }
    .col-#{$size}-top {
      vertical-align: top;
    }
    .col-#{$size}-middle {

```



```
        vertical-align: middle;
    }
    .col-#{$size}-bottom {
        vertical-align: bottom;
    }
}
}
```

: <https://riptutorial.com/ko/twitter-bootstrap/topic/6469/>

25:

Examples

.hidden- * - SCSS

```
// Mixin to generate hidden classes
@mixin generate-hidden-classes {
  @each $bp in map-keys($grid-breakpoints) {
    .hidden-#{$bp} {
      @include media-breakpoint-only($bp) {
        display: none !important;
      }
    }
  }
}

// Call to the mixin
@include generate-hidden-classes();
```

: <https://riptutorial.com/ko/twitter-bootstrap/topic/6217/>

26:

Jumbotron Bootstrap . . .

, .

Examples

2

, .

```
<div class="jumbotron">
  <h1>Title text</h1>
  <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Donec tortor ipsum, convallis sit.</p>
  <p><a class="btn btn-default" href="#" role="button">A button</a></p>
</div>
```

Title text

Lorem ipsum dolor sit amet, consectetur adipiscing elit.
Donec tortor ipsum, convallis sit.

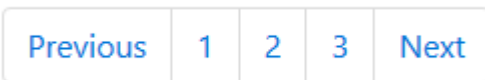
A button

: <https://riptutorial.com/ko/twitter-bootstrap/topic/9188/>

27:

Examples

```
<nav aria-label="Page navigation example">
  <ul class="pagination">
    <li class="page-item"><a class="page-link" href="#">Previous</a></li>
    <li class="page-item"><a class="page-link" href="#">1</a></li>
    <li class="page-item"><a class="page-link" href="#">2</a></li>
    <li class="page-item"><a class="page-link" href="#">3</a></li>
    <li class="page-item"><a class="page-link" href="#">Next</a></li>
  </ul>
</nav>
```



: [https://riptutorial.com/ko/twitter-bootstrap/topic/10605/-](https://riptutorial.com/ko/twitter-bootstrap/topic/10605/)

28:

Examples

```
<ul class="nav nav-pills">  
  <li role="presentation" class="active"><a href="#">Home</a></li>  
  <li role="presentation"><a href="#">Profile</a></li>  
  <li role="presentation"><a href="#">Messages</a></li>  
</ul>
```

```
<ul class="nav nav-pills nav-stacked">  
  <li role="presentation" class="active"><a href="#">Home</a></li>  
  <li role="presentation"><a href="#">Profile</a></li>  
  <li role="presentation"><a href="#">Messages</a></li>  
</ul>
```

```
<ul class="nav nav-tabs nav-justified">  
  <li role="presentation" class="active"><a href="#">Home</a></li>  
  <li role="presentation"><a href="#">Profile</a></li>  
  <li role="presentation"><a href="#">Messages</a></li>  
</ul>
```

: <https://riptutorial.com/ko/twitter-bootstrap/topic/6404/>

29:

Examples

HTML

```
<ul class="nav nav-tabs" role="tablist">
  <li role="presentation">
    <a href="#id-of-content-1" role="tab" data-toggle="tab">Tab 1</a>
  </li>
  <li role="presentation">
    <a href="#id-of-content-2" role="tab" data-toggle="tab">Tab 2</a>
  </li>
  <li role="presentation">
    <a href="#id-of-content-3" role="tab" data-toggle="tab">Tab 3</a>
  </li>
</ul>

<div class="tab-content">
  <div role="tabpanel" id="id-of-content-1" class="tab-pane">Tab content 1</div>
  <div role="tabpanel" id="id-of-content-2" class="tab-pane">Tab content 2</div>
  <div role="tabpanel" id="id-of-content-3" class="tab-pane">Tab content 3</div>
</div>
```

3 3 div .

.fade .tab-pane .fade . .in .

```
<ul class="nav nav-tabs" role="tablist">
  <li role="presentation">
    <a href="#id-of-content-1" role="tab" data-toggle="tab">
      Tab 1
    </a>
  </li>
  <li role="presentation" class="active">
    <a href="#id-of-content-2" role="tab" data-toggle="tab">
      Tab 2
    </a>
  </li>
  <li role="presentation">
    <a href="#id-of-content-3" role="tab" data-toggle="tab">
      Tab 3
    </a>
  </li>
</ul>

<div class="tab-content">
  <div role="tabpanel" id="id-of-content-1" class="tab-pane fade">
    Tab content 1
  </div>
  <div role="tabpanel" id="id-of-content-2" class="tab-pane fade active in">
    Tab content 2
  </div>
  <div role="tabpanel" id="id-of-content-3" class="tab-pane fade">
    Tab content 3
  </div>
</div>
```

```
</div>  
</div>
```

: <https://riptutorial.com/ko/twitter-bootstrap/topic/5980/>

30:

Examples

.table

```
<table class="table">
  <tr>
    <th>Season</th>
    <th>Doctor</th>
    <th>Companion</th>
  </tr>
  <tr>
    <td>1</td>
    <td>Christopher Eccleston</td>
    <td>Rose Tyler</td>
  </tr>
</table>
```

: <https://riptutorial.com/ko/twitter-bootstrap/topic/6299/>

31:

. () .

rowspan colspan .

Examples

.table .table <table> .table .

```
<table class="table">
  <thead><tr><th>First Name</th><th>Last name</th></tr></thead>
  <tbody>
    <tr><td>John</td><td>Doe</td></tr>
    <tr><td>Fred</td><td>Bloggs</td></tr>
  </tbody>
</table>
```

.

.table-striped .

```
<table class="table table-striped">
  <thead><tr><th>First Name</th><th>Last name</th></tr></thead>
  <tbody>
    <tr><td>John</td><td>Doe</td></tr>
    <tr><td>Fred</td><td>Bloggs</td></tr>
  </tbody>
</table>
```

:

:nth-child CSS Internet Explorer 8 .

.table-bordered .table-bordered .

```
<table class="table table-bordered">
  <thead><tr><th>First Name</th><th>Last name</th></tr></thead>
  <tbody>
    <tr><td>John</td><td>Doe</td></tr>
    <tr><td>Fred</td><td>Bloggs</td></tr>
  </tbody>
</table>
```

■

.table-hover

```
<table class="table table-hover">
  <thead><tr><th>First Name</th><th>Last name</th></tr></thead>
  <tbody>
    <tr><td>John</td><td>Doe</td></tr>
    <tr><td>Fred</td><td>Bloggs</td></tr>
  </tbody>
</table>
```

.table-condensed .table-condensed

```
<table class="table table-hover">
  <thead><tr><th>First Name</th><th>Last name</th></tr></thead>
  <tbody>
    <tr><td>John</td><td>Doe</td></tr>
    <tr><td>Fred</td><td>Bloggs</td></tr>
  </tbody>
</table>
```

. : .active , .success , .info , .warning , .danger

```
<table class="table">
  <thead><tr><th>First Name</th><th>Last name</th></tr></thead>
  <tbody>
    <tr class="success"><td>John</td><td>Doe</td></tr>
    <tr><td>Fred</td><td class="info">Bloggs</td></tr>
  </tbody>
</table>
```

.table-responsive **HTML** .table

```
<div class="table-responsive">
  <table class="table">
    <thead><tr><th>First Name</th><th>Last name</th></tr></thead>
    <tbody>
      <tr><td>John</td><td>Doe</td></tr>
      <tr><td>Fred</td><td>Bloggs</td></tr>
    </tbody>
  </table>
</div>
```

(<768px) .768px

.table-reflow .table-reflow

.table-reflow **formed twitter** .table-reflow . .table-striped .table-hover .table-hover
.table-hover .

```
<table class="table table-striped table-hover table-reflow">
  <thead>
    <tr>
      <th ><strong> First Name: </strong></th>
      <th ><strong> Last Name: </strong></th>
      <th ><strong> Email: </strong></th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td> John </td>
      <td> Doe </td>
      <td> john.doe@email.com </td>
    </tr>
    <tr>
      <td> Joane </td>
      <td> Donald </td>
      <td> jane@email.com </td>
    </tr>
  </tbody>
</table>
```

v4 alpha : [twitter-bootstrap .table-reflow](#)

: <https://riptutorial.com/ko/twitter-bootstrap/topic/6360/>

32:

jQuery . DOM .

```
<script>
  $(document).ready(function() {
    $('[data-toggle="tooltip"]').tooltip();
  });
</script>
```

Examples

. data-placement , , .

```
<a href="#" data-toggle="tooltip" data-placement="top" title="Top tooltip">Hover</a>
<a href="#" data-toggle="tooltip" data-placement="bottom" title="Bottom tooltip">Hover</a>
<a href="#" data-toggle="tooltip" data-placement="left" title="Left tooltip">Hover</a>
<a href="#" data-toggle="tooltip" data-placement="right" title="Right tooltip">Hover</a>
```



data-placement="auto" . , .

```
<a href="#" data-toggle="tooltip" data-placement="auto left" title="To the left?">Hover</a>
```

data-toggle="tooltip" data-toggle="tooltip" HTML title . .

```
<span data-toggle="tooltip" title="Hello world!">Hover over me</span>
```



: <https://riptutorial.com/ko/twitter-bootstrap/topic/3731/>

33:

bootstrap.css custom.css . custom.css .

Examples

CSS

, . bootstrap . CSS .

(override) CSS bootstrap.min.css bootstrap/dist/css .

bootstrap 2 .

1. custom.css () index.html .

```
<html>
<head>
  <title>Customize Bootstrap</title>

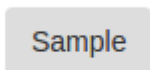
  <link rel="stylesheet" type="text/css" href="path/to/bootstrap.min.css">
  <!-- This must be declared after the bootstrap.min.css -->
  <link rel="stylesheet" type="text/css" href="path/to/your/custom.css">
</head>
<body>
  <!-- Do something -->
</body>
</html>
```

2. . . <button class="btn">Sample</button> btn . custom.css .

```
.btn{
  background-color:red;
}
```

.

:



:



bootstrap . CSS .

: <https://riptutorial.com/ko/twitter-bootstrap/topic/6030/----->

34:

() .

Examples

.panel .

```
<div class="panel panel-default">
  <div class="panel-body">
    Basic panel example
  </div>
</div>
```

.panel-heading .pre-styled .panel-title <h1>-<h6> . <h1>-<h6> .panel-heading .

.panel-title .

```
<div class="panel panel-default">
  <div class="panel-heading">Panel heading without title</div>
  <div class="panel-body">
    Panel content
  </div>
</div>
```

```
<div class="panel panel-default">
  <div class="panel-heading">
    <h3 class="panel-title">Panel title</h3>
  </div>
  <div class="panel-body">
    Panel content
  </div>
</div>
```

.panel-footer .panel-footer . .

```
<div class="panel panel-default">
  <div class="panel-body">
    Panel content
  </div>
  <div class="panel-footer">Panel footer</div>
</div>
```

: <https://riptutorial.com/ko/twitter-bootstrap/topic/2848/>

35: Clearfix

.row 12 . () .

. "WeDidItForYou" "Bootstrap" . , .

Examples

CSS . head . border-radius background-color . .

```
<head>
  <title></title>
  <link rel="stylesheet"
href="//maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css">
  <style>
    /* colorize all col- */
    [class^="col-"] {
      min-height: 30px;
      border-radius: 10px;
      background-color: lightblue;
    }
    /* a tall cell */
    .cell-tall {
      height: 100px;
      background-color: orange;
    }
    /* a medium-height cell */
    .cell-med {
      height: 50px;
      background-color: lightgreen;
    }
    /* padding top-bottom for some row examples */
    .row.padded {
      padding: 1rem 0 1rem 0;
    }
  </style>
</head>
```

!

col-xs-6 col-md-3

```
<div class="container-fluid">
  <div class="row">
    <div class="col-xs-6 col-md-3">1</div>
    <div class="col-xs-6 col-md-3">2</div>
    <div class="col-xs-6 col-md-3">3</div>
    <div class="col-xs-6 col-md-3">4</div>
    <div class="col-xs-6 col-md-3">5</div>
    <div class="col-xs-6 col-md-3">6</div>
    <div class="col-xs-6 col-md-3">7</div>
    <div class="col-xs-6 col-md-3">8</div>
```



```

    <div class="col-xs-6 col-md-3">9</div>
    <div class="col-xs-6 col-md-3">10</div>
    <div class="col-xs-6 col-md-3">11</div>
  </div>
</div>

```

col-xs-6 col-md-3



col-xs-6 col-md-3



. col-md-3 medium + 4 , col-xs-6 small col-xs-6 2 col-md-3 .

, ? ! ...

" " . . .

. .

```

<div class="container-fluid">
  <div class="row">
    <div class="col-xs-6 col-md-3">1</div>
    <div class="col-xs-6 col-md-3 cell-tall">2</div>
    <div class="col-xs-6 col-md-3 cell-tall">3</div>
    <div class="col-xs-6 col-md-3">4</div>
    <div class="col-xs-6 col-md-3">5</div>
    <div class="col-xs-6 col-md-3 cell-med">6</div>
    <div class="col-xs-6 col-md-3">7</div>
    <div class="col-xs-6 col-md-3">8</div>
    <div class="col-xs-6 col-md-3 cell-med">9</div>
    <div class="col-xs-6 col-md-3 cell-med">10</div>
    <div class="col-xs-6 col-md-3">11</div>
  </div>
</div>

```

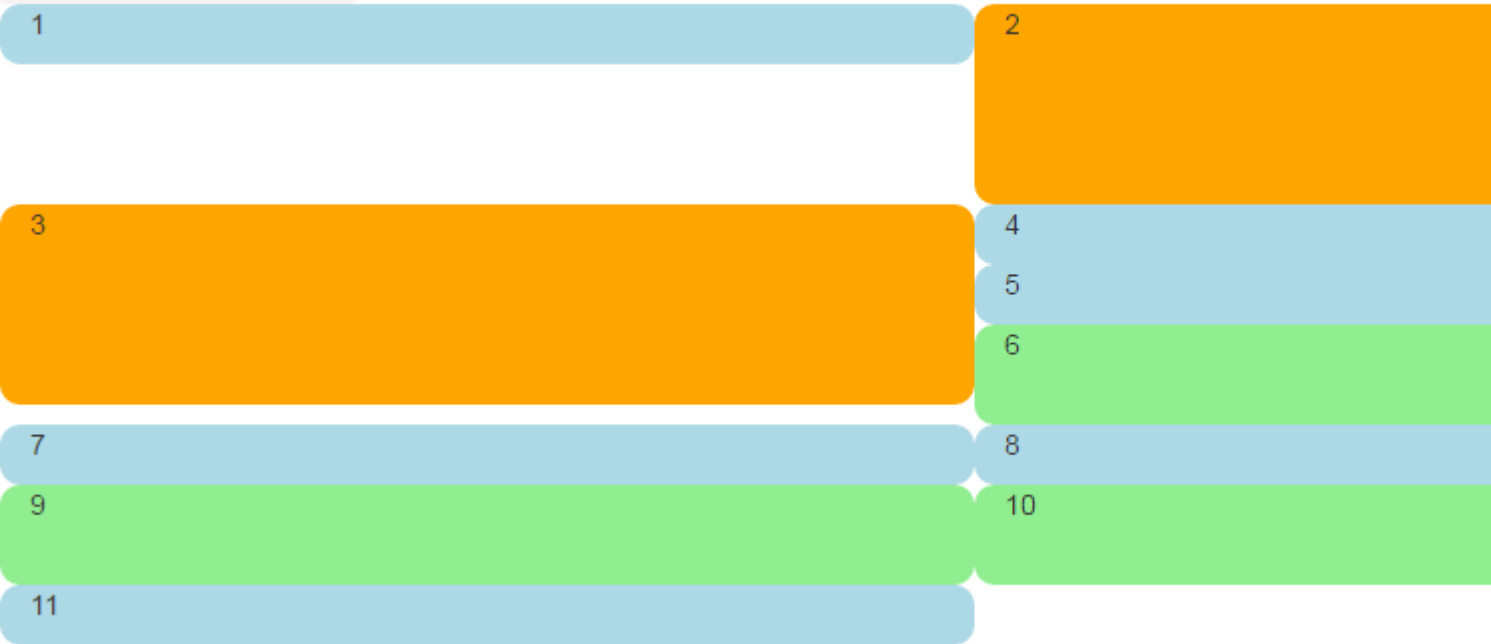
cell-tall cell-med CSS . . .

:

col-xs-6 col-md-3



col-xs-6 col-md-3



,,? . 5 6 . 4, 4, 5, 6!

?

Clearfix

row .

```

<div class="container-fluid">
  <div class="row">
    <!-- cols -->
  </div>
  <div class="row">
    <!-- cols -->
  </div>
</div>

```

Bootstrappers . : " 4 . 4 col div row . "

: 3 4 . " col A row ", " " .

clearfix CSS row div clearfix . , col A row - !

First Things Before . "inverse of 12" ? . , . .

```
<div class="container-fluid">
  <div class="row">
    <div class="col-xs-6 col-md-3">1</div>
    <div class="col-xs-6 col-md-3 cell-tall">2</div>
  <!--
    We have rendered TWO cells.
    On small and extra small devices, the viewport will render TWO cells
    (12 / 6 = 2), so we need a clearfix every TWO cells. We also need to
    say "don't show this clearfix when the viewport will render FOUR cells",
    which it will do at medium size and up (12 / 3 = 4). We do that by adding
    hidden-md and hidden-lg to our clearfix div, in effect instructing the
    browser to not show it at all on a wider screen.
  -->
  <div class="clearfix hidden-md hidden-lg"></div>
  <!-->
  <div class="col-xs-6 col-md-3 cell-tall">3</div>
  <div class="col-xs-6 col-md-3">4</div>
  <!--
    We have now rendered FOUR cells.
    We are never going to have more than FOUR cells side by side. So every
    FOURTH cell, we place a clearfix that will ALWAYS show. We do this by
    just leaving off any of the hidden-* classes.
  -->
  <div class="clearfix"></div>
  <!-->
  <div class="col-xs-6 col-md-3">5</div>
  <div class="col-xs-6 col-md-3 cell-med">6</div>
  <!--
    We have now rendered SIX cells.
    After the sixth cell, we are at a multiple of TWO, but not FOUR so we
    repeat the clearfix that we used after cell TWO.
  -->
  <div class="clearfix hidden-md hidden-lg"></div>
  <!-->
  <div class="col-xs-6 col-md-3">7</div>
  <div class="col-xs-6 col-md-3">8</div>
  <!--
    Now we have rendered EIGHT cells, which is a multiple of TWO AND FOUR,
    so we put in a clearfix that's always visible.
  -->
  <div class="clearfix"></div>
  <!-->
  <div class="col-xs-6 col-md-3 cell-med">9</div>
  <div class="col-xs-6 col-md-3 cell-med">10</div>
  <!--
    After the 10th cell, once again a multiple of TWO but not FOUR...
  -->
  <div class="clearfix hidden-md hidden-lg"></div>
  <!-->
  <div class="col-xs-6 col-md-3">11</div>
</div>
</div>
```

```
clearfix ( ) div CSS, col div left "".
```

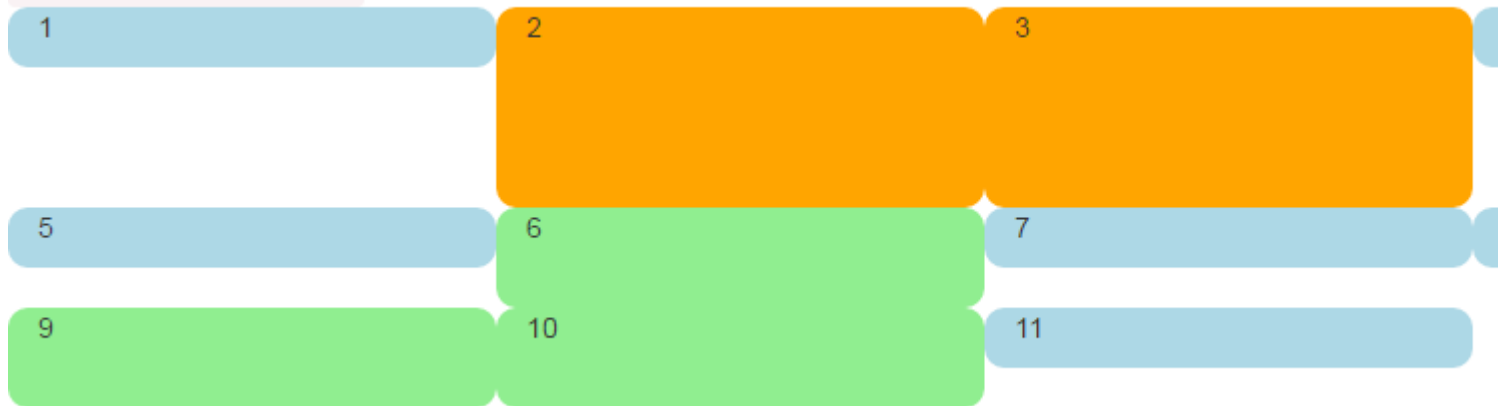
```
hidden-sm, hidden-md . col div clearfix div ! clearfix div !!
```

```
hidden-* visible-* 3, "" . hidden-* hidden-* .
```

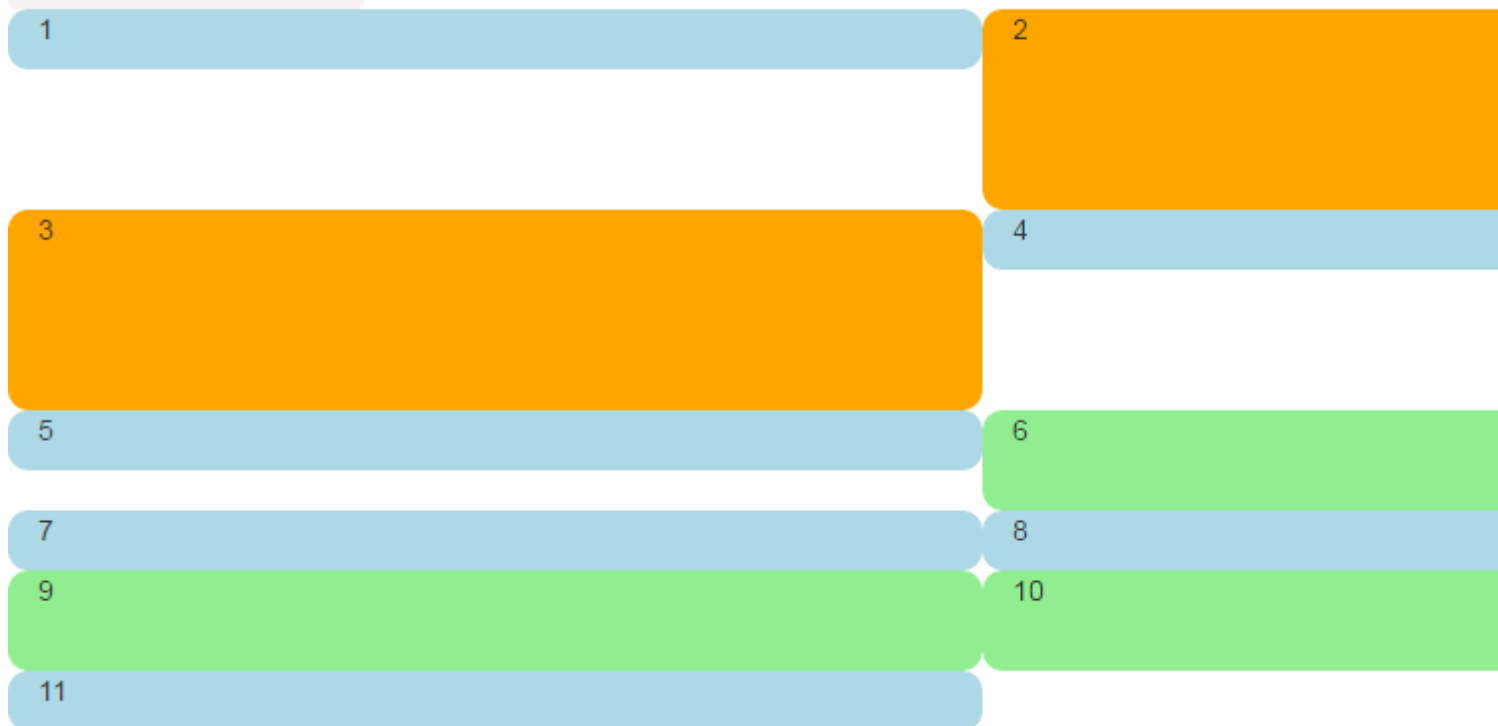
```
4 hidden-*--up hidden-*--down (: visible-* ) .
```

, ?

col-xs-6 col-md-3



col-xs-6 col-md-3



! . , .

. div . CSS .

<head>

```

<title></title>
<link rel="stylesheet"
href="//maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css">
<style>
  body {
    padding-top: 15px;
  }
  .panel-tall .panel-body {
    height: 175px;
  }
  .panel-med .panel-body {
    height: 100px;
  }
  .panel-short .panel-body {
    height: 70px;
  }
</style>
</head>

```

" "

```

<div class="container-fluid">
  <div class="row">
    <div class="col-xs-6 col-md-3">
      <div class="panel panel-default panel-med">
        <div class="panel-heading">
          Heading 1
        </div>
        <div class="panel-body">
          Body 1
        </div>
        <div class="panel-footer">
          Footer 1
        </div>
      </div>
    </div>
    <div class="col-xs-6 col-md-3 cell-tall">
      <div class="panel panel-danger panel-tall">
        <div class="panel-heading">
          Heading 2
        </div>
        <div class="panel-body">
          Body 2. Look out, this needs some attention!
        </div>
        <div class="panel-footer">
          Footer 2
        </div>
      </div>
    </div>
  </div>
  <!--
  On small and extra small devices, the viewport will render TWO cells
  (12 / 6 = 2), so we need a clearfix every TWO cells. We also need to
  say "don't show this clearfix when the viewport will render FOUR cells",
  which it will do at medium size and up (12 / 3 = 4). We do that by adding
  hidden-md and hidden-lg to our clearfix div, in effect instructing the
  browser to not show it at all on a wider screen.
  -->
  <div class="clearfix hidden-md hidden-lg"></div>
  <!-->
  <div class="col-xs-6 col-md-3 cell-tall">

```

```

    <div class="panel panel-success panel-short">
      <div class="panel-heading">
        Heading 3
      </div>
      <div class="panel-body">
        Body 3. The file has successfully uploaded.
      </div>
      <div class="panel-footer">
        Footer 3
      </div>
    </div>
  </div>
  <div class="col-xs-6 col-md-3">
    <div class="panel panel-default panel-tall">
      <div class="panel-heading">
        Heading 4 Chart
      </div>
      <div class="panel-body">
        Body 4. Is this a cool graph or what?
      </div>
      <div class="panel-footer">
        Footer 4
      </div>
    </div>
  </div>
</div>
<!--
  We are never going to have more than FOUR cells. So every FOURTH cell,
  we place a clearfix that will ALWAYS show. We do this by just leaving off
  any of the hidden-* classes.
-->
<div class="clearfix"></div>
<!------>
<div class="col-xs-6 col-md-3">
  <div class="panel panel-warning panel-short">
    <div class="panel-heading">
      Heading 5
    </div>
    <div class="panel-body">
      Body 5.
    </div>
    <div class="panel-footer">
      Footer 5
    </div>
  </div>
</div>
<div class="col-xs-6 col-md-3 cell-med">
  <div class="panel panel-warning panel-tall">
    <div class="panel-heading">
      Heading 6
    </div>
    <div class="panel-body">
      Body 6.
    </div>
  </div>
</div>
</div>
<!--
  After the sixth cell, we are at a multiple of TWO, but not FOUR so we
  repeat the clearfix that we used after cell TWO.
-->
<div class="clearfix hidden-md hidden-lg"></div>
<!------>

```

```

<div class="col-xs-6 col-md-3">
  <div class="panel panel-info panel-tall">
    <div class="panel-heading">
      Heading 7
    </div>
    <div class="panel-body">
      Body 7.
    </div>
    <div class="panel-footer">
      Footer 7
    </div>
  </div>
</div>
<div class="col-xs-6 col-md-3">
  <div class="panel panel-info panel-med">
    <div class="panel-heading">
      Heading 8
    </div>
    <div class="panel-body">
      Body 8.
    </div>
    <div class="panel-footer">
      Footer 8
    </div>
  </div>
</div>
<!--
  Now we have rendered EIGHT cells, which is a multiple of TWO AND FOUR,
  so we put in a clearfix that's always visible.
-->
<div class="clearfix"></div>
<!-->
<div class="col-xs-6 col-md-3 cell-med">
  <div class="panel panel-info panel-short">
    <div class="panel-heading">
      Heading 9
    </div>
    <div class="panel-body">
      Body 9.
    </div>
    <div class="panel-footer">
      Footer 9
    </div>
  </div>
</div>
<div class="col-xs-6 col-md-3 cell-med">
  <div class="panel panel-info panel-tall">
    <div class="panel-heading">
      Heading 10
    </div>
    <div class="panel-body">
      Body 10.
    </div>
    <div class="panel-footer">
      Footer 10
    </div>
  </div>
</div>
<!--
  After the 10th cell, once again a multiple of TWO but not FOUR...
-->

```

```
<div class="clearfix hidden-md hidden-lg"></div>
<!-->
<div class="col-xs-6 col-md-3">
  <div class="panel panel-info panel-tall">
    <div class="panel-heading">
      Heading 1
    </div>
    <div class="panel-body">
      Body 1.
    </div>
    <div class="panel-footer">
      Footer 1
    </div>
  </div>
</div>
</div>
</div>
```

Heading 1
Body 1
Footer 1

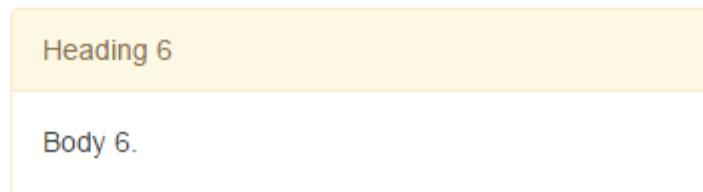
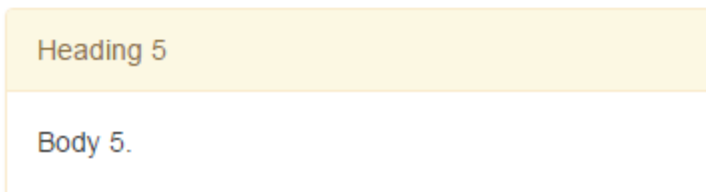
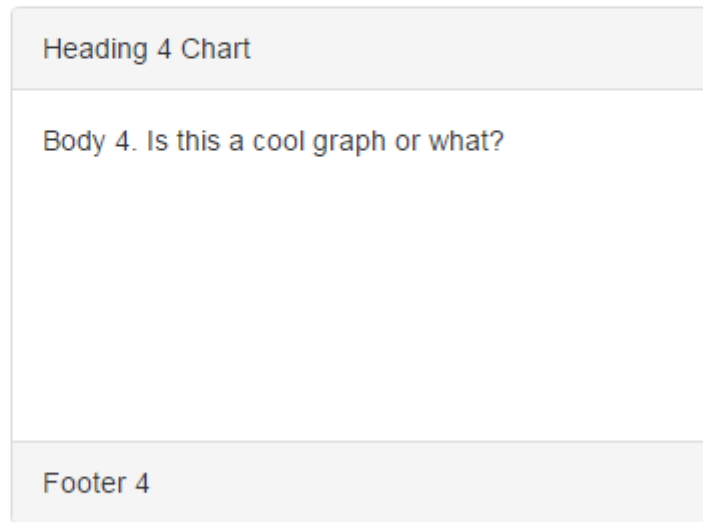
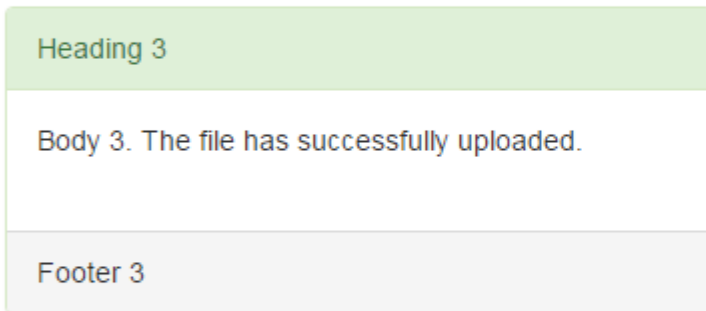
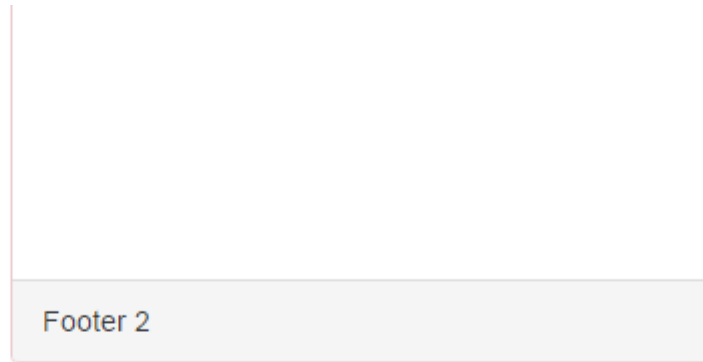
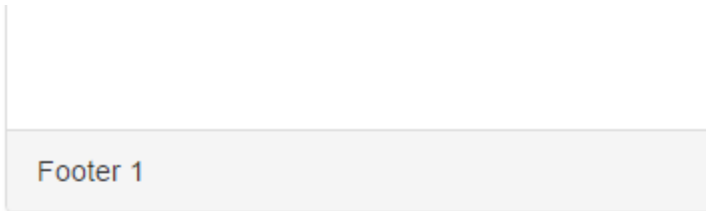
Heading 2
Body 2. Look out, this needs some attention!
Footer 2

Heading 3
Body 3. The file has successfully uploaded.
Footer 3

Heading 5
Body 5.
Footer 5

Heading 6
Body 6.

Heading 7
Body 7.
Footer 7



Bootstrap 3 `panel` `panel` `4` `card` `.` `card` `panel` `.`

Clearfixes 2,4,6

2, 4 6 .

```
<div class="container-fluid">
  <div class="row">
    <div class="col-xs-6 col-md-3 col-lg-2">1</div>
    <div class="col-xs-6 col-md-3 col-lg-2 cell-tall">2</div>
  <!--
    On small and extra small devices, the viewport will render TWO cells
    (12 / 6 = 2), so we need a clearfix every TWO cells. We also need to
    say "don't show this clearfix when the viewport will render FOUR cells",
    which it will do at medium size (12 / 3 = 4). We do that by adding
    hidden-md and hidden-lg to our clearfix div, in effect instructing the
    browser to not show it at all on a wider screen.
  -->
  <div class="clearfix hidden-md hidden-lg"></div>
  <!-->
  <div class="col-xs-6 col-md-3 col-lg-2 cell-tall">3</div>
  <div class="col-xs-6 col-md-3 col-lg-2">4</div>
  <!--
```

After the FOURTH cell, we need a clearfix, but it still needs to be hidden on LARGE viewports, because remember we will have a maximum of SIX cells now.

```
-->
<div class="clearfix hidden-lg"></div>
<!-->
<div class="col-xs-6 col-md-3 col-lg-2">5</div>
<div class="col-xs-6 col-md-3 col-lg-2 cell-med">6</div>
<!--
```

After the SIXTH cell, we need to show on SMALL and LARGE, but not on MEDIUM. Remember, our MEDIUM viewport only wants a clearfix when we are at a multiple of FOUR.

```
-->
<div class="clearfix hidden-md"></div>
<!-->
<div class="col-xs-6 col-md-3 col-lg-2">7</div>
<div class="col-xs-6 col-md-3 col-lg-2">8</div>
<!--
```

Now we have rendered EIGHT cells, which is a multiple of TWO AND FOUR, so we put in a clearfix that's not visible on LARGE, because we are NOT at a multiple of SIX.

```
-->
<div class="clearfix hidden-lg"></div>
<!-->
<div class="col-xs-6 col-md-3 col-lg-2 cell-med">9</div>
<div class="col-xs-6 col-md-3 col-lg-2 cell-med">10</div>
<!--
```

After the 10th cell, small only.

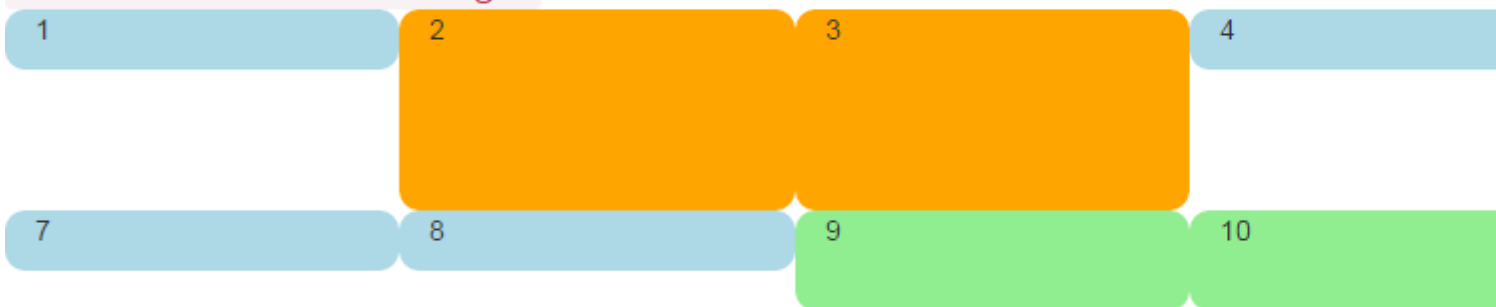
```
-->
<div class="clearfix hidden-md hidden-lg"></div>
<!-->
<div class="col-xs-6 col-md-3 col-lg-2">11</div>
```

```
</div>
```

```
</div>
```

:

col-xs-6 col-md-3 col-lg-2



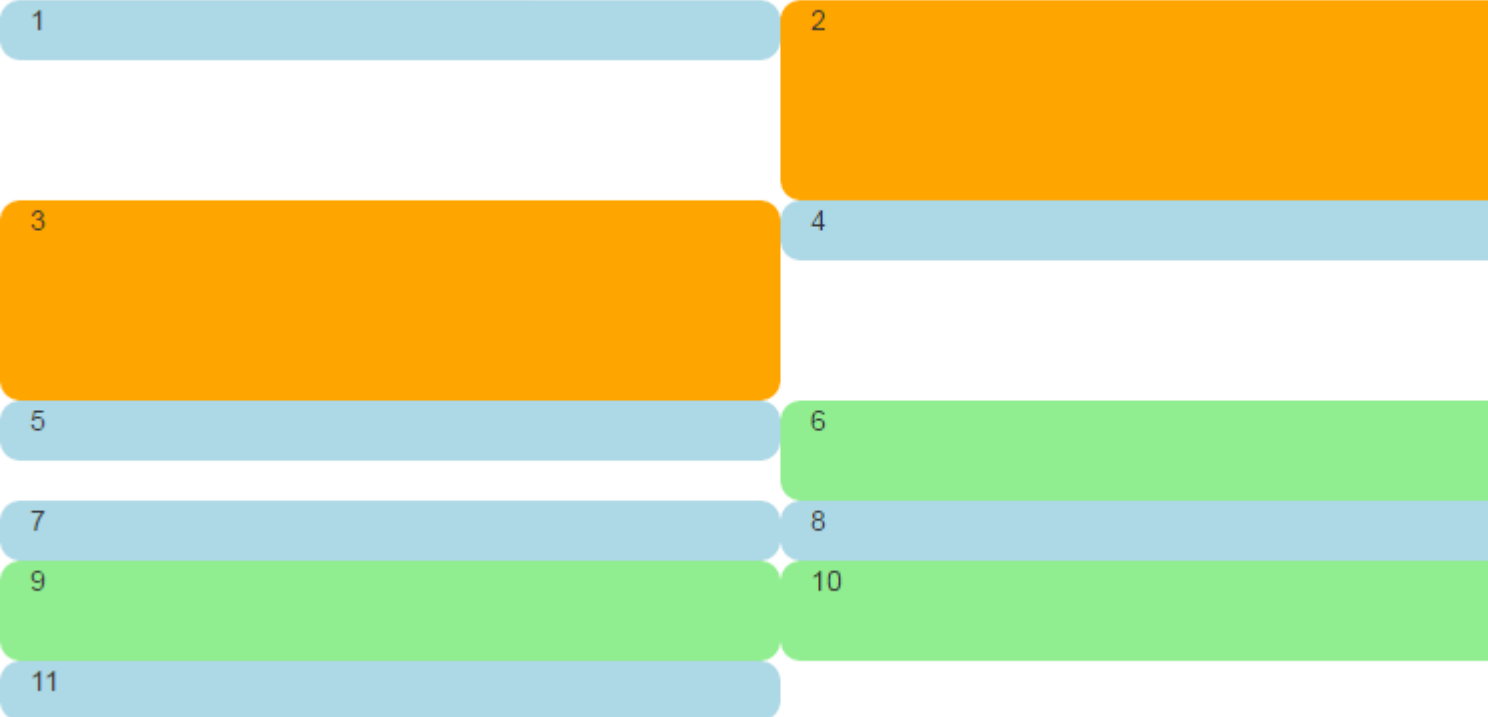
:

col-xs-6 col-md-3 col-lg-2



:

col-xs-6 col-md-3 col-lg-2



12 ?

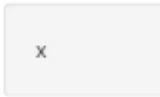
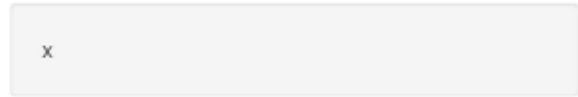
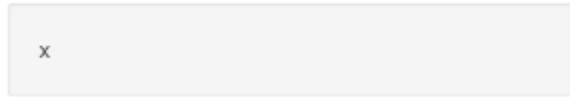
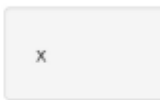
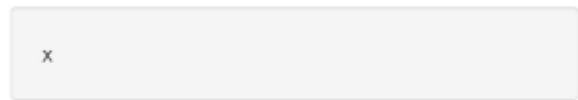
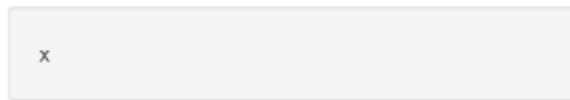
.row 12 . . .

12 .

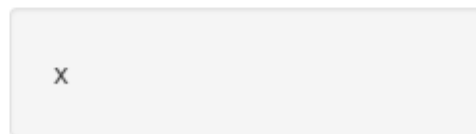
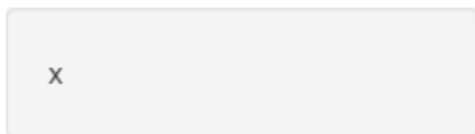
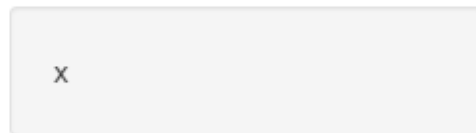
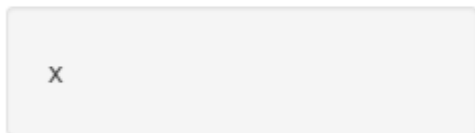
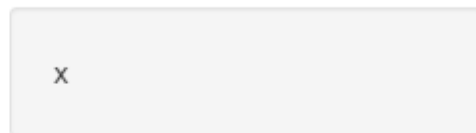
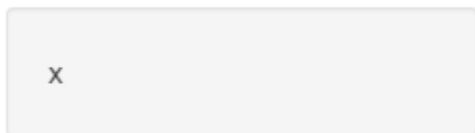
, ...

- 3
- 2

Large



Small



, () .

```
<div class="row">
  <div class="col-xs-6 col-md-4"> x </div>
  <div class="col-xs-6 col-md-4"> x </div>
  <div class="col-xs-6 col-md-4"> x </div>
  <div class="col-xs-6 col-md-4"> x </div>
  <div class="col-xs-6 col-md-4"> x </div>
  <div class="col-xs-6 col-md-4"> x </div>
</div>
```

.row **12** . . **12** () .

12 () ..

```
<div class="row">
  <div class="col-xs-6 col-md-4"> x </div>
  <div class="col-xs-6 col-md-4"> x </div>
</div>
```

```
<div class="row">
  <div class="col-xs-6 col-md-4"> x </div>
  <div class="col-xs-6 col-md-4"> x </div>
</div>
<div class="row">
  <div class="col-xs-6 col-md-4"> x </div>
  <div class="col-xs-6 col-md-4"> x </div>
</div>
```

(3)

.row . .row . .row 12 () . 12 .

(clearfix) .

Clearfix : <https://riptutorial.com/ko/twitter-bootstrap/topic/6124/--clearfix->

36:

<http://getbootstrap.com/javascript/#carousel> . HTML Javascript .

CSS 9 / IE 9 .

Examples

HTML

.

HTML .

```
<div id="carousel-example-generic" class="carousel slide" data-ride="carousel">
  <!-- Indicators -->
  <ol class="carousel-indicators">
    <li data-target="#carousel-example-generic" data-slide-to="0" class="active"></li>
    <li data-target="#carousel-example-generic" data-slide-to="1"></li>
    <li data-target="#carousel-example-generic" data-slide-to="2"></li>
  </ol>

  <!-- Wrapper for slides -->
  <div class="carousel-inner" role="listbox">
    <div class="item active">
      
      <div class="carousel-caption">
        ...
      </div>
    </div>
    <div class="item">
      
      <div class="carousel-caption">
        ...
      </div>
    </div>
    ...
  </div>

  <!-- Controls -->
  <a class="left carousel-control" href="#carousel-example-generic" role="button" data-
slide="prev">
    <span class="glyphicon glyphicon-chevron-left" aria-hidden="true"></span>
    <span class="sr-only">Previous</span>
  </a>
  <a class="right carousel-control" href="#carousel-example-generic" role="button" data-
slide="next">
    <span class="glyphicon glyphicon-chevron-right" aria-hidden="true"></span>
    <span class="sr-only">Next</span>
  </a>
</div>
```

Carousel `$('.carousel').carousel(options)` **jQuery** `$('.carousel').carousel(options)`
`$('.carousel')` `options` **Javascript** . .

options . . .

- interval number Javascript number . false .
- pause Javascript string . () " " .
- wrap boolean . .
- keyboard boolean . .

.

```
$('#carCarousel').carousel({ interval: 2500, pause: "hover", wrap: false, keyboard: true });
```

HTML .

: [https://riptutorial.com/ko/twitter-bootstrap/topic/1568/-](https://riptutorial.com/ko/twitter-bootstrap/topic/1568/)

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