

Bootstrap

Tutorial 7

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Bootstrap is the most popular HTML, CSS, and JS framework for developing responsive, mobile first projects on the web.

What is Bootstrap?

- ▶ Bootstrap is the most popular framework for quickly styling your website.
- ▶ Bootstrap lets us skip writing CSS and focus instead on HTML.

What is Bootstrap?

CSS

- ▶ Grid system
- ▶ Typography
- ▶ Forms
- ▶ Buttons
- ▶ Responsive utilities
- ▶ ...

Components

- ▶ Glyphicons
- ▶ Navbar
- ▶ Pagination
- ▶ Thumbnails
- ▶ ...

What is Bootstrap?

The image displays several Bootstrap UI components:

- A row of six buttons: Default (white), Primary (blue), Success (green), Info (cyan), Warning (orange), and Danger (red).
- A search bar with a 'Brand' label, a 'Link' button, a 'Link' label, a 'Dropdown' menu, a search input field, a 'Submit' button, another 'Link' label, and another 'Dropdown' menu.
- A pagination control with a '«' button, numbers 1 through 5, and a '»' button.
- Two rounded buttons labeled 'Previous' and 'Next'.
- A navigation bar with 'Home' (42), 'Profile', and 'Messages' (3).
- A hero unit with the heading 'Hello, world!', a paragraph of text, and a 'Learn more' button.

Using Bootstrap

Bootstrap (currently v3.3.5) has a few easy ways to quickly get started, each one appealing to a different skill level and use case. Read through to see what suits your particular needs.

Bootstrap

Compiled and minified CSS, JavaScript, and fonts. No docs or original source files are included.

[Download Bootstrap](#)

Source code

Source Less, JavaScript, and font files, along with our docs. **Requires a Less compiler and some setup.**

[Download source](#)

Sass

[Bootstrap ported from Less to Sass](#) for easy inclusion in Rails, Compass, or Sass-only projects.

[Download Sass](#)

Using Bootstrap

Bootstrap CDN

The folks over at [MaxCDN](#) graciously provide CDN support for Bootstrap's CSS and JavaScript. Just use these [Bootstrap CDN](#) links.

```
<!-- Latest compiled and minified CSS -->
<link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.5/css/bootstrap.min.css">

<!-- Optional theme -->
<link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.5/css/bootstrap-theme.min.css">

<!-- Latest compiled and minified JavaScript -->
<script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.5/js/bootstrap.min.js"></script>
```

Copy

Mobile Friendly

- ▶ Bootstrap 3 is mobile friendly by default.
 - ▶ Responsive to screen size (assignment 1)
 - ▶ Touch screen zooming
- ▶ Add following to your <head> to enable touch zooming.

```
<meta name="viewport" content="width=device-width, initial-scale=1">
```

- ▶ width=device-width: sets width of page to screen width of the device
- ▶ initial-scale=1: sets initial zoom level when the page is first loaded

.Container

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

- ▶ Responsively add margins, center, and wrap your content.

.Container

► Example

```
<body>

  <h1>My First Bootstrap Page</h1>
  <p>This part is inside a .container class.</p>
  <p>The .container class provides a responsive fixed width container.</p>

</body>
</html>
```

My First Bootstrap Page

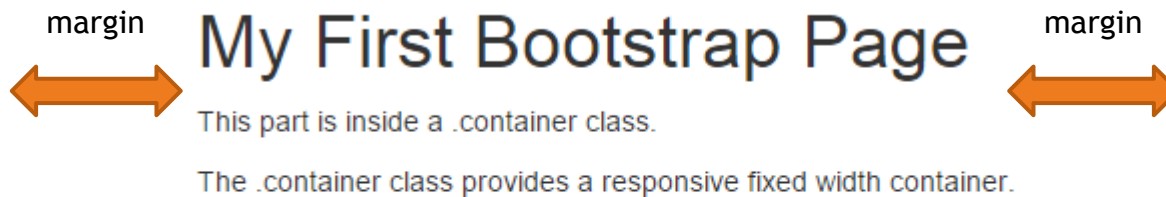
This part is inside a .container class.

The .container class provides a responsive fixed width container.

.Container

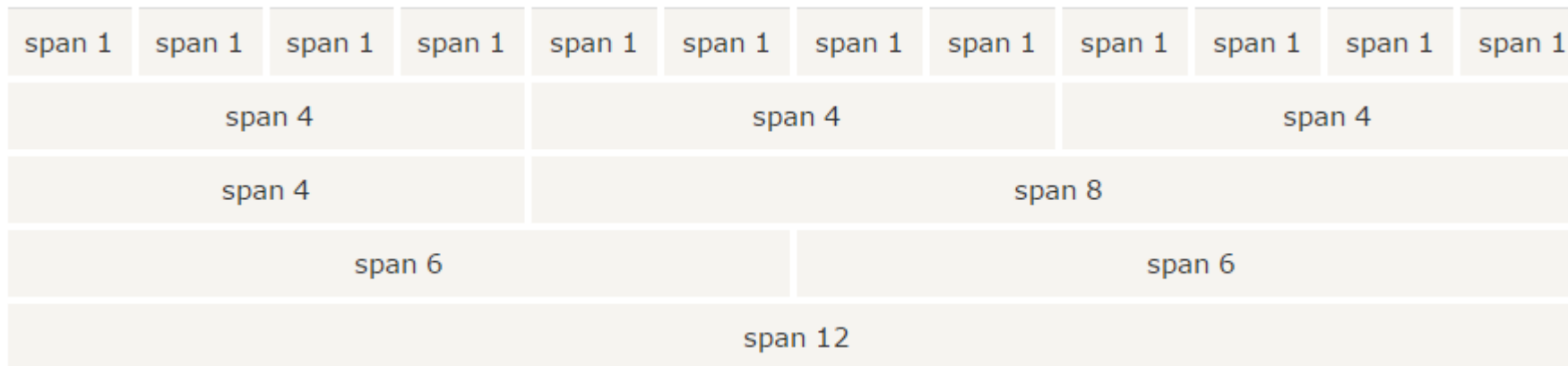
► Example

```
<body>  
  
<div class="container">  
  <h1>My First Bootstrap Page</h1>  
  <p>This part is inside a .container class.</p>  
  <p>The .container class provides a responsive fixed width container.</p>  
</div>  
  
</body>
```



Grid System

- ▶ Bootstrap divides a page into a grid of 12 columns and multiple rows for easier positioning of elements.
- ▶ Grid system is responsive and columns will rearrange automatically depending on the screen size.



Grid System

Grid options

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

	Extra small devices Phones (<768px)	Small devices Tablets (≥768px)	Medium devices Desktops (≥992px)	Large devices Desktops (≥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			

Grid System - Basics

- ▶ Place columns inside `<div class="row"></div>` for each row.
- ▶ Set each column width using class prefixes:
 - ▶ `.col-xs-*`, `.col-sm-*`, `.col-md-*`, `.col-lg-*`

Example

Create a row of columns of width 3, 4, and 5.

```
<div class="bs-docs-grid">  
  <div class="row show-grid">  
    <div class="col-md-3">.col-md-3</div>  
    <div class="col-md-4">.col-md-4</div>  
    <div class="col-md-5">.col-md-5</div>  
  </div>  
</div>
```

.col-md-3

.col-md-4

.col-md-5

Grid System - Multiple Devices

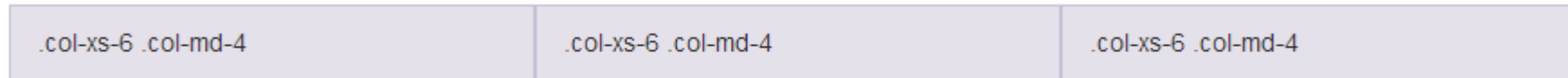
- ▶ Sometimes columns are stacked vertically on smaller screens
- ▶ Use `col-xs-*`, `col-sm-*`, `col-md-*` together to set different column widths for different screen sizes

Example

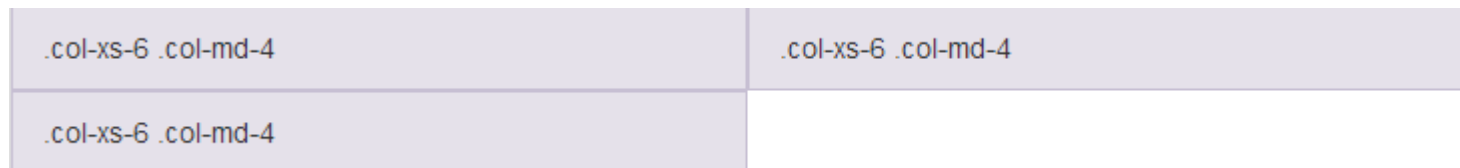
Allow 2 columns in a row for mobile, 3 for desktop

```
<div class="row show-grid">  
  <div class="col-xs-6 col-md-4">.col-xs-6 .col-md-4</div>  
  <div class="col-xs-6 col-md-4">.col-xs-6 .col-md-4</div>  
  <div class="col-xs-6 col-md-4">.col-xs-6 .col-md-4</div>  
</div>
```

On Desktop:



On Mobile:



Grid System - Column Resets

Sometimes at breakpoints, columns may be aligned in wrong places.

```
<div class="row show-grid">  
  <div class="col-xs-6 col-sm-3">  
    .col-xs-6 .col-sm-3  
    <br>  
    Resize your viewport or check it out on your phone for an example.  
  </div>  
  <div class="col-xs-6 col-sm-3">.col-xs-6 .col-sm-3</div>  
  <div class="col-xs-6 col-sm-3">.col-xs-6 .col-sm-3</div>  
  <div class="col-xs-6 col-sm-3">.col-xs-6 .col-sm-3</div>  
</div>
```

Problem:

.col-xs-6 .col-sm-3 Resize your viewport or check it out on your phone for an example.	.col-xs-6 .col-sm-3
.col-xs-6 .col-sm-3	.col-xs-6 .col-sm-3

Correct Output:

.col-xs-6 .col-sm-3 Resize your viewport or check it out on your phone for an example.	.col-xs-6 .col-sm-3
.col-xs-6 .col-sm-3	.col-xs-6 .col-sm-3

Grid System - Column Resets

Fix

```
<!-- Add the extra clearfix for only the required viewport -->  
<div class="clearfix visible-xs"></div>
```

- ▶ `.clearfix` clears `float` CSS attribute
- ▶ `visible-xs` is one of many `responsive utilities`
 - ▶ `clearfix` is applied to only mobile devices (`visible-xs`)

Grid System - Column Resets

Fix

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

  <!-- Add the extra clearfix for only the required viewport -->
  <div class="clearfix visible-xs-block"></div>

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

Go to next line



Responsive utilities

Available classes

Use a single or combination of the available classes for toggling content across viewport breakpoints.

	Extra small devices Phones (<768px)	Small devices Tablets (≥768px)	Medium devices Desktops (≥992px)	Large devices Desktops (≥1200px)
<code>.visible-xs</code>	Visible	Hidden	Hidden	Hidden
<code>.visible-sm</code>	Hidden	Visible	Hidden	Hidden
<code>.visible-md</code>	Hidden	Hidden	Visible	Hidden
<code>.visible-lg</code>	Hidden	Hidden	Hidden	Visible
<code>.hidden-xs</code>	Hidden	Visible	Visible	Visible
<code>.hidden-sm</code>	Visible	Hidden	Visible	Visible
<code>.hidden-md</code>	Visible	Visible	Hidden	Visible
<code>.hidden-lg</code>	Visible	Visible	Visible	Hidden

Grid System - Offsetting

- ▶ `col-xs-offset-*`
- ▶ `col-sm-offset-*`
- ▶ `col-md-offset-*`
- ▶ `col-lg-offset-*`

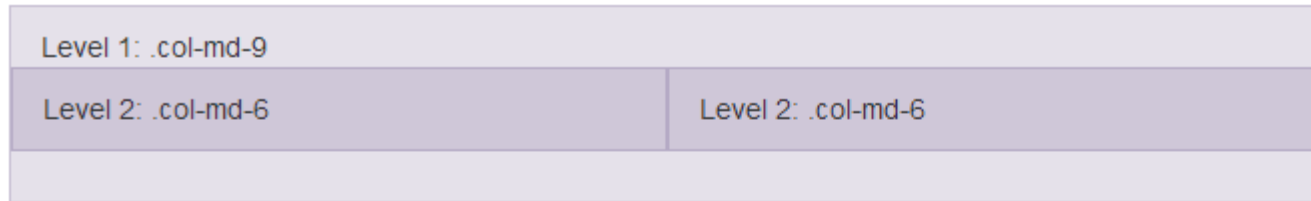
Example

```
<div class="row show-grid">  
  <div class="col-md-3 col-md-offset-3">.col-md-3 .col-md-offset-3</div>  
  <div class="col-md-3 col-md-offset-3">.col-md-3 .col-md-offset-3</div>  
</div>
```

.col-md-3 .col-md-offset-3

.col-md-3 .col-md-offset-3

Grid System - Nested columns



```
<div class="row">  
  <div class="col-md-9">  
    Level 1: .col-md-9  
    <div class="row">  
      <div class="col-md-6">  
        Level 2: .col-md-6  
      </div>  
      <div class="col-md-6">  
        Level 2: .col-md-6  
      </div>  
    </div>  
  </div>  
</div>
```

Nested columns add up to its parent or less

Typography - Headings

Supports `<h1>` to `<h6>`, same as HTML

EXAMPLE

h1. Bootstrap heading

Semibold 36px

h2. Bootstrap heading

Semibold 30px

h3. Bootstrap heading

Semibold 24px

h4. Bootstrap heading

Semibold 18px

h5. Bootstrap heading

Semibold 14px

h6. Bootstrap heading

Semibold 12px

Typography - Alignment

EXAMPLE

Left aligned text.

Center aligned text.

Right aligned text.

Justified text.

```
<p class="text-left">Left aligned text.</p>
<p class="text-center">Center aligned text.</p>
<p class="text-right">Right aligned text.</p>
<p class="text-justify">Justified text.</p>
```

Typography - Addresses

EXAMPLE

Twitter, Inc.

795 Folsom Ave, Suite 600

San Francisco, CA 94107

P: (123) 456-7890

Full Name

first.last@example.com

```
<address>  
  <strong>Twitter, Inc.</strong><br>  
  795 Folsom Ave, Suite 600<br>  
  San Francisco, CA 94107<br>  
  <abbr title="Phone">P:</abbr> (123) 456-7890  
</address>
```

```
<address>  
  <strong>Full Name</strong><br>  
  <a href="mailto:#">first.last@example.com</a>  
</address>
```

append **
** to preserve formatting

Typography - Description

EXAMPLE

Description lists

A description list is perfect for defining terms.

Euismod

Vestibulum id ligula porta felis euismod semper eget lacinia odio sem nec elit.

Donec id elit non mi porta gravida at eget metus.

Malesuada porta

Etiam porta sem malesuada magna mollis euismod.

```
<dl>
  <dt>...</dt>
  <dd>...</dd>
</dl>
```

Typography - Horizontal Description

EXAMPLE

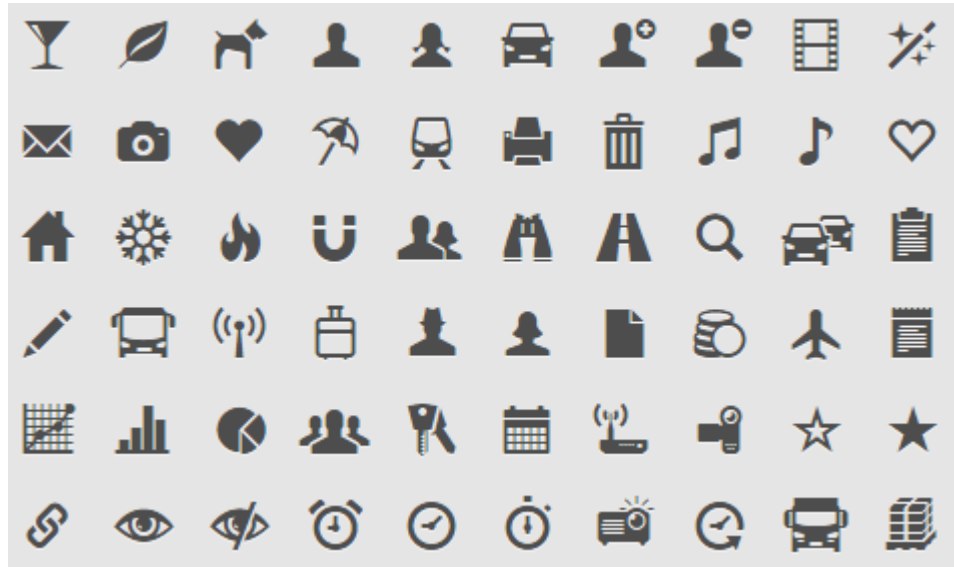
Description lists	A description list is perfect for defining terms.
Euismod	Vestibulum id ligula porta felis euismod semper eget lacinia odio sem nec elit. Donec id elit non mi porta gravida at eget metus.
Malesuada porta	Etiam porta sem malesuada magna mollis euismod.
Felis euismod semp...	Fusce dapibus, tellus ac cursus commodo, tortor mauris condimentum nibh, ut fermentum massa justo sit amet risus.

```
<dl class="dl-horizontal">  
  <dt>...</dt>  
  <dd>...</dd>  
</dl>
```

Notice truncation for “Felis euismod semp...”

Glyphicons

- ▶ Bootstrap comes with 200 icons to use, named “glyphicons”




Glyphicon Syntax

► Syntax


```
<span class="glyphicon glyphicon-name"></span>
```

► Examples

```
<p>Envelope icon: <span class="glyphicon glyphicon-envelope"></span></p>
```

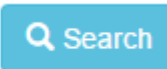
Envelope icon: 

```
<p>Search icon: <span class="glyphicon glyphicon-search"></span></p>
```

Search icon: 

```
<p>Search icon on a styled button:  
<button type="button" class="btn btn-info">  
  <span class="glyphicon glyphicon-search"></span> Search  
</button>  
</p>
```

Search icon on a styled button:




Resizing Glyphicons


- ▶ Glyphicons are text!!!
- ▶ To resize glyphicons, simply increase its font size in CSS!
- ▶ Example

```
<style>
  .features .glyphicon {
    font-size: 32px;
  }
</style>
```

```
<body>
  <div class="container">
    <div class="row features">
      <p>With font-size: 32px <span class="glyphicon glyphicon-briefcase"></span></p>
    </div>
    <div class="row">
      <p>With font-size: 14px <span class="glyphicon glyphicon-briefcase"></span></p>
    </div>
  </div>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.5/js/bootstrap.min.js"></script>
</body>
```

▶ Output

With font-size: 32px 

With font-size: 14px 

Forms

- ▶ Automatically applies some global styling with Bootstrap.
- ▶ Examples

- Option one is this and that—be sure to include why it's great
- Option two is disabled

- Option one is this and that—be sure to include why it's great
- Option two can be something else and selecting it will deselect option one
- Option three is disabled

Forms

- ▶ Layouts supported by Bootstrap

- ▶ Vertical Form
- ▶ Horizontal Form
- ▶ Inline Form

- ▶ Tips on using forms with Bootstrap

- ▶ `<form role="form">`
- ▶ `<div class="form-group">`
- ▶ `.form-control`

Improves accessibility

Improves spacing of form elements

Give width of 100% to text form elements

Forms - Vertical Layout

Email:

Password:

Remember me

```
<form role="form">
  <div class="form-group">
    <label for="email">Email address:</label>
    <input type="email" class="form-control" id="email">
  </div>
  <div class="form-group">
    <label for="pwd">Password:</label>
    <input type="password" class="form-control" id="pwd">
  </div>
  <div class="checkbox">
    <label><input type="checkbox"> Remember me</label>
  </div>
  <button type="submit" class="btn btn-default">Submit</button>
</form>
```

Forms - Horizontal Layout

Email:

Password:

Remember me

```
<form class="form-horizontal" role="form">
  <div class="form-group">
    <label class="control-label" col-sm-2 for="email">Email:</label>
    <div class="col-sm-10">
      <input type="email" class="form-control" id="email" placeholder="Enter email">
    </div>
  </div>
  <div class="form-group">
    <label class="control-label" col-sm-2 for="pwd">Password:</label>
    <div class="col-sm-10">
      <input type="password" class="form-control" id="pwd" placeholder="Enter password">
    </div>
  </div>
</form>
```

Forms - Inline Layout

Email: **Password:** Remember me

```
<form class="form-inline" role="form">
  <div class="form-group">
    <label for="email">Email address:</label>
    <input type="email" class="form-control" id="email">
  </div>
  <div class="form-group">
    <label for="pwd">Password:</label>
    <input type="password" class="form-control" id="pwd">
  </div>
  <div class="checkbox">
    <label><input type="checkbox"> Remember me</label>
  </div>
  <button type="submit" class="btn btn-default">Submit</button>
</form>
```

Forms - Controls

Supports HTML form elements

- ▶ `<input>`
- ▶ `<textarea>`
- ▶ `<input type="checkbox">`
- ▶ `<input type="radio">`
- ▶ `<select>`
- ▶ ...

Forms - Validation states

▶ Bootstrap allows you to give validation status to your form elements.

▶ Bootstrap supports

▶ `.has-warning`

▶ `.has-error`

▶ `.has-success`

▶ Example

Input with success

Input with warning

Input with error

Checkbox with success

Checkbox with warning

Checkbox with error

Validation States - Input

Input with success

Input with warning

Input with error

```
<div class="form-group" has-success >
  <label class="control-label" for="inputSuccess1">Input with success</label>
  <input type="text" class="form-control" id="inputSuccess1">
</div>
<div class="form-group" has-warning >
  <label class="control-label" for="inputWarning1">Input with warning</label>
  <input type="text" class="form-control" id="inputWarning1">
</div>
<div class="form-group" has-error >
  <label class="control-label" for="inputError1">Input with error</label>
  <input type="text" class="form-control" id="inputError1">
</div>
```


Forms - Validation states with icons

To add feedback icons

1. add **has-feedback** class to parent
2. insert `` specifying glyphicon for the control's feedback

```
<span class="glyphicon glyphicon-ok form-control-feedback"></span>
```

EXAMPLE

Input with success

 ✓

Input with warning

 ⚠

Input with error

 ✖

Validation states with Icons

Input with success

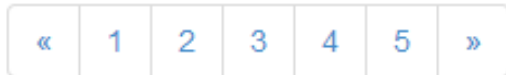
 

```
<div class="form-group has-success has-feedback">  
  <label class="control-label" for="inputSuccess2">Input with success</label>  
  <input type="text" class="form-control" id="inputSuccess2" aria-describedby="inputSuccess2Status">  
  <span class="glyphicon glyphicon-ok form-control-feedback" aria-hidden="true"></span>  
  <span id="inputSuccess2Status" class="sr-only">(success)</span>  
</div>
```

Pagination

- ▶ You can use Bootstrap to divide your website into pages.

EXAMPLE



Simply add **pagination** class to ul element.

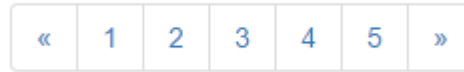
```
<ul class="pagination">
```

Each page is a list of href element.

```
e.g. <li><a href="#">1</a></li>
```

Use **pagination-lg** or **pagination-sm** to size page button sizes

Example - Pagination



```
<ul class="pagination">
  <li>
    <a href="#" aria-label="Previous">
      <span aria-hidden="true">&laquo;</span>
    </a>
  </li>
  <li><a href="#">1</a></li>
  <li><a href="#">2</a></li>
  <li><a href="#">3</a></li>
  <li><a href="#">4</a></li>
  <li><a href="#">5</a></li>
  <li>
    <a href="#" aria-label="Next">
      <span aria-hidden="true">&raquo;</span>
    </a>
  </li>
</ul>
```

Pager

Simpler version with “Previous” or “Next” buttons

EXAMPLE

Previous

Next

```
<ul class="pager">
  <li><a href="#">Previous</a></li>
  <li><a href="#">Next</a></li>
</ul>
```

You can also align buttons using `.previous` and `.next`

EXAMPLE

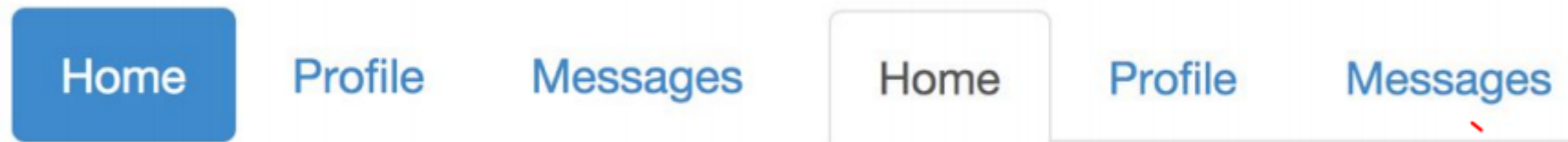
← Older

Newer →

```
<ul class="pager">
  <li class="previous"><a href="#">&larr; Older</a></li>
  <li class="next"><a href="#">Newer &rarr;</a></li>
</ul>
```

Navigation & Navigation Bars

- ▶ Navigation (nav)



- ▶ Navigation Bar (navbar)



Navigation (nav)

- ▶ Use unordered list and give `.nav` class attribute.
- ▶ Example



Page 1 Page 2 Page 3

Makes navigation inline

```
<div>
  <ul class="nav navbar-nav">
    <li class="active"><a href="#">Home</a></li>
    <li><a href="#">Page 1</a></li>
    <li><a href="#">Page 2</a></li>
    <li><a href="#">Page 3</a></li>
  </ul>
</div>
```

.nav Modifiers

```
<ul class='nav nav-pills'>...</ul>
```

Tickets Stations About

```
<ul class='nav nav-tabs'>...</ul>
```

Tickets Stations About

```
<ul class='nav navbar-nav navbar-right'>...</ul>
```

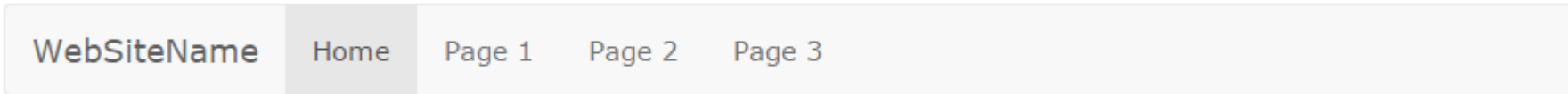
Tickets Stations About

Right aligned



Navigation Bar (.navbar)

- ▶ Creates a visible bar with navigation elements.
- ▶ Example



```
<body>
<nav class="navbar navbar-default">
  <div class="container-fluid">
    <div class="navbar-header">
      <a class="navbar-brand" href="#">WebSiteName</a>
    </div>
    <div>
      <ul class="nav navbar-nav">
        <li class="active"><a href="#">Home</a></li>
        <li><a href="#">Page 1</a></li>
        <li><a href="#">Page 2</a></li>
        <li><a href="#">Page 3</a></li>
      </ul>
    </div>
  </div>
</nav>
```

.navbar Modifiers

`.navbar-default`

Blasting Off With Bootstrap

Tickets

Stations

About

`.navbar-inverse`

Blasting Off With Bootstrap

Tickets

Stations

About

`.navbar-static-top`

`.navbar-static-bottom`

`.navbar-fixed-top`

`.navbar-fixed-bottom`

and others ...

There are still many more to learn!

- ▶ Go over <http://getbootstrap.com/getting-started/#examples>
- ▶ Playground for bootstrap <http://www.bootply.com/>