



Coding Bootcamps



The background features abstract, overlapping geometric shapes in various shades of blue, ranging from light sky blue to deep navy blue. These shapes are primarily located on the left and right sides of the slide, framing the central text area.

Coding-Bootcamps.com

Responsive Website Design with Bootstrap

By Hannah Mace from [Coding Bootcamps](#)

About Instructor

Hannah Mace is a full stack engineer, specializing in JavaScript, TypeScript, Node.js, React.js, Express, Python, and Django.

With her background in the art community, working in film, galleries, and immersive experiences, software engineering became the way to bridge the gap between art and utility.

In her free time she crafts and extends her knowledge to those struggling with understanding the basics of computer science.

Synopsis

- ▶ Bootstrap Overview - Introduction
- ▶ File Structure
- ▶ Grid System
- ▶ CSS Overview
- ▶ Typography
- ▶ Tables
- ▶ Forms
- ▶ Buttons
- ▶ Images
- ▶ Helper Class
- ▶ Bootstrap 4 New Features

Prerequisite Class

If you are not familiar with HTML or CSS, taking the below class is highly recommended:

- [Intro to HTML and CSS](#)

Part I

What Is Twitter Bootstrap?

Bootstrap is a powerful mobile first front-end framework for faster and easier web development. It uses HTML, CSS and JavaScript.

History

Bootstrap was developed by Mark Otto and Jacob Thornton at Twitter. It was released as an open source product in August 2011 on GitHub.

Why Use Bootstrap?

- Mobile first approach:

Since Bootstrap 3, the framework consists of Mobile first styles throughout the entire library instead of in separate files.

- Browser Support:

It is supported by all popular browsers.



Web Development 101

- ▶ ● HTML
 - Defines the data and structure of the page using elements
- ▶ ● CSS
 - Defines how the data and the elements actually look, and how they behave when interacting with them
- ▶ ● JavaScript
 - The programming language of the web



How to Start

- ▶ You should remember this boilerplate code:

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

```
    <title>Page title</title>
```

```
  </head>
```

```
  <body>
```

```
    <!-- page content goes here -->
```

```
  </body>
```

```
</html>
```

Basic HTML Elements

- ▶ ● Titles - `<h1>...</h1>` from h1 to h6
- ▶ ● Paragraph - `<p>...</p>`
- ▶ ● Simple block element - `<div></div>`
- ▶ ● Simple inline element - ``
- ▶ ● Images - ``

How to Use CSS

▶ ● Inline CSS

- `<div style="color: red">This text is red</div>`

▶ ● Style CSS tag

- `<div class="red-color">This text is red</div>`

- `<style>`

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

- `</style>`

▶ ● External CSS file (put in <head>)

- `<link rel="stylesheet" href="style.css"/>`

Why Use Bootstrap?

- Easy to get started:

With just the knowledge of HTML and CSS anyone can get started with Bootstrap. Also the Bootstrap official site has a good documentation.

- Responsive design:

Bootstrap's responsive CSS adjusts to Desktops, Tablets and Mobiles. More about responsive design in the chapter Bootstrap Responsive Design Provides a clean and uniform solution for building an interface for developer



What Bootstrap Package Includes?

- ▶ **Scaffolding:** Bootstrap provides a basic structure with Grid System, link styles, background. This is covered in detail in the section Bootstrap Basic Structure
- ▶ **CSS:** Bootstrap comes with feature of global CSS settings, fundamental HTML elements styled and enhanced with extensible classes, and an advanced grid system. This is covered in detail in the section Bootstrap with CSS.
- ▶ **Components:** Bootstrap contains over a dozen reusable components built to provide iconography, dropdowns, navigation, alerts, popovers, and much more. This is covered in detail in the section Layout Components.

What Bootstrap Package Includes?

- ▶ **JavaScript Plugins**: Bootstrap contains over a dozen custom jQuery plugins. You can easily include them all, or one by one. This is covered in details in the section Bootstrap Plugins.
- ▶ **Customize**: You can customize Bootstrap's components, LESS variables, and jQuery plugins to get your very own version.

Download Bootstrap

- ▶ You can download the latest version of Bootstrap from <http://getbootstrap.com/>.
- ▶ Getting started with Twitter Bootstrap
<http://getbootstrap.com/getting-started/>

File structure

► PRECOMPILED BOOTSTRAP

Once the compiled version Bootstrap is downloaded, extract the ZIP file, and you will see the following file/directory structure:

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

As you can see there are compiled CSS and JS (bootstrap.*), as well as compiled and minified CSS and JS (bootstrap.min.*). Fonts from Glyphicons are included, as is the optional Bootstrap theme.

Basic HTML Template Using Bootstrap

```
<!DOCTYPE html>
<html>
<head>
<title>Bootstrap 101 Template</title>
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<!-- Bootstrap -->
<link href="css/bootstrap.min.css" rel="stylesheet">
<!-- HTML5 Shim and Respond.js IE8 support of HTML5 elements and media
queries -->
<!-- WARNING: Respond.js doesn't work if you view the page
TUTORIALS POINT
Simply Easy Learningvia file:// -->
<!--[if lt IE 9]>
<script src="https://oss.maxcdn.com/libs/html5shiv/3.7.0/
html5shiv.js"></script>
<script src="https://oss.maxcdn.com/libs/respond.js/1.3.0/
respond.min.js"></script>
<![endif]-->
</head>
```

Basic HTML Template Using Bootstrap

```
<body>  
<h1>Hello, world!</h1>  
<!-- jQuery (necessary for Bootstrap's JavaScript plugins) -->  
<script src="https://code.jquery.com/jquery.js"></script>  
<!-- Include all compiled plugins (below), or include individual files  
as needed -->  
<script src="js/bootstrap.min.js"></script>  
</body>  
</html>
```

What is Bootstrap Grid System?

As put by the official documentation of Bootstrap for grid system:

Bootstrap includes a responsive, mobile first fluid grid system that appropriately scales up to 12 columns as the device or view port size increases. It includes predefined classes for easy layout options, as well as powerful mixins for generating more semantic layouts.

Let us understand the above statement. Bootstrap 3 is mobile first in the sense that the code for Bootstrap now starts by targeting smaller screens like mobile devices, tablets, and then “expands” components and grids for larger screens such as laptops, desktops.

Working of Bootstrap Grid System

Grid systems are used for creating page layouts through a series of rows and columns that house your content.

Here's how the Bootstrap grid system works:

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

Media Queries

Media query is a really fancy term for "conditional CSS rule". It simply applies some CSS based on certain conditions set forth. If those conditions are met, the style is applied.

Media Queries in Bootstrap allow you to move, show and hide content based on viewport size. Following media queries are used in LESS files to create the key breakpoints in the Bootstrap grid system.

```
/* Extra small devices (phones, less than 768px) */  
/* No media query since this is the default in Bootstrap */  
  
/* 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) { ... }
```

How to Add Twitter Bootstrap

You should use a CDN (content delivery network) for loading resources.

<http://www.bootstrapcdn.com/>

```
<!DOCTYPE html>
<html>
  <head>
    <title>Page title</title>
    <link href="//netdna.bootstrapcdn.com/bootstrap/3.0.0/css/bootstrap.min.css" rel="stylesheet">
    <script src="//netdna.bootstrapcdn.com/bootstrap/3.0.0/js/bootstrap.min.js"></script>
    <meta name="viewport" content="width=device-width, initial-scale=1.0, maximum-scale=1.0, user-scalable=no">
  </head>
  <body>
    <!-- page content goes here -->
  </body>
</html>
```

What Are Those Lines?

We use a shared CDN because chances are that common files are most likely already cached in the user's computer.

1. The `<link>` tag loads the CSS - the actual bootstrap styling. This is obviously the most important
2. The `<script>` tag loads additional JavaScript capabilities of the Bootstrap framework
3. The `<meta>` tag is for smaller devices which have a viewport, and it disables zooming so that the responsive features of Bootstrap will kick in

End of Part I

Part II

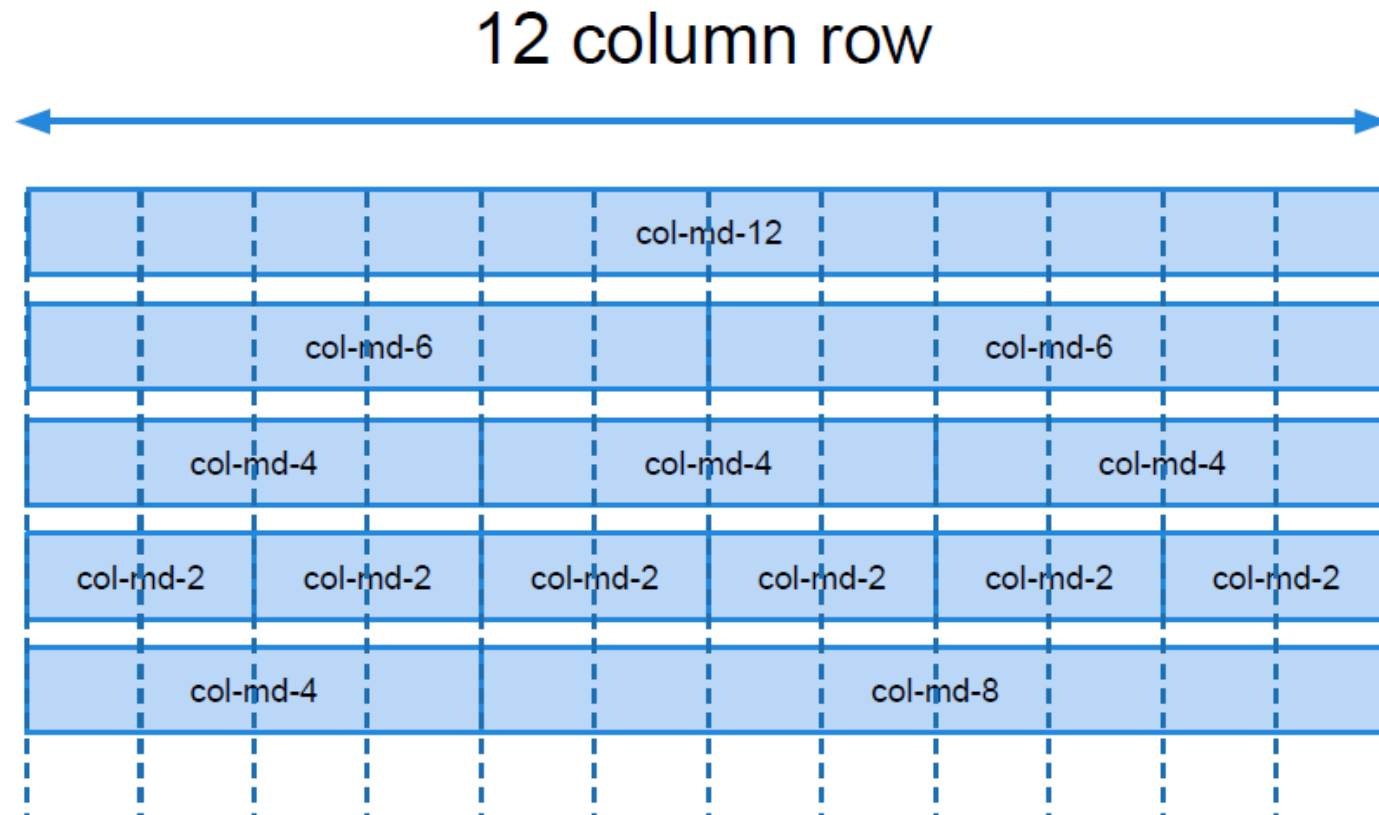


Grid Options

The following table summarizes aspects of how Bootstrap grid system works across multiple devices:

| | 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 | Collapsed to start, horizontal above breakpoints | Collapsed to start, horizontal above breakpoints |
| Max container width | None (auto) | 750px | 970px | 1170px |
| Class prefix | .col-xs- | .col-sm- | .col-md- | .col-lg- |
| # of columns | 12 | 12 | 12 | 12 |
| Max column width | Auto | 60px | 78px | 95px |
| Gutter width | 30px (15px on each side of a column) | 30px (15px on each side of a column) | 30px (15px on each side of a column) | 30px (15px on each side of a column) |
| Nestable | Yes | Yes | Yes | Yes |
| Offsets | Yes | Yes | Yes | Yes |
| Column ordering | Yes | Yes | Yes | Yes |

The Grid Layout



Basic Grid Structure

How to write pages using a grid:

```
<!-- every row must have 12 columns -->  
<div class="row">  
  <div class="col-md-4">  
    <!-- content -->  
  </div>  
  <!-- need to complete 8 more columns -->  
</div>
```

Grid Structure

Bootstrap 3 features an always-responsive grid with a maximum size:

1. `col-xs-[num]` grids have no maximum size (fluid)
2. `col-sm-[num]` grids resize up to 750px
3. `col-md-[num]` grids resize up to 970px
4. `col-lg-[num]` grids resize up to 1170px

You should choose `col-md` or `col-lg` for desktop sites.

Basic Grid Structure

- ▶ Let us see some simple grid examples:
 - ▶ Example: Stacked-to-horizontal
 - ▶ Example: Medium and Large Device
 - ▶ Example: Mobile, tablet, desktops

Bootstrap Grid System Example: Stacked-to-horizontal

Let us see a simple grid example with simple layout: two columns

```
<div class="container">
  <div class="row">
    <div class="col-md-6">
      <p>Lorem ipsum dolor sit...</p>
      <p>Sed ut perspiciatis...</p>
    </div>
    <div class="col-md-6">
      <p>Sed ut perspiciatis unde ...</p>
      <p> Neque porro quisquam est...</p>
    </div>
  </div>
```


OUTPUT

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo.

Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium.

Neque porro quisquam est, qui dolorem ipsum quia dolor sit amet, consectetur, adipisci velit, sed quia non numquam eius modi tempora incidunt ut labore et dolore magnam aliquam quaerat voluptatem.

Details:

- ▶ `<div class="container">...</div>` element is added to ensure proper centering and maximum width for layout.
- ▶ Once container is added, next you need think in terms of rows. Add `<div class="row">...</div>` and columns `<div class="col-md-6"></div>` inside rows.
- ▶ Every row in the grid is made up of 12 units and you can define the desired size of your columns using those units. In our example we have two columns each made of 6 units wide i.e $6+6=12$.

You can try some more options like `<div class="col-md-3"></div>` and `<div class="col-md-9"></div>` or `<div class="col-md-7"></div>` and `<div class="col-md-5"></div>`

Bootstrap Grid System Example: Medium and Large Device

Here we had used 2 divs and gave them the 50%/50% split at the medium viewport width:

```
<div class="container">  
  <div class="row">  
    <div class="col-md-6 col-lg-4">  
      <p>Lorem ipsum dolor sit ...</p>  
      <p>Sed ut perspiciatis unde ...</p>  
    </div>  
    <div class="col-md-6 col-lg-8">  
      <p>Sed ut perspiciatis un ...</p>  
      <p> Neque porro quisquam est ...</p>  
    </div>  
  </div>  
</div>
```

OUTPUT

| | |
|---|--|
| <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.</p> <p>Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo.</p> | <p>Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium.</p> <p>Neque porro quisquam est, qui dolorem ipsum quia dolor sit amet, consectetur, adipisci velit, sed quia non numquam eius modi tempora incidunt ut labore et dolore magnam aliquam quaerat voluptatem.</p> |
|---|--|

- ▶ But at large design could really be better as a 33%/66%.
- ▶ In this case, our 2 divs will go from a 50%/50% split and then up to a 33%/66%. Check it out in the above example.

Bootstrap Grid System Example: Mobile, Tablet, Desktops

Now this gives us 3 different column layouts `<div class="container">`

- ❑ On a phone, it will be 25% on the left, and 75% on the right.
- ❑ On a tablet, it will be 50%/50% again,
- ❑ Large viewport, it will be 33%/66%.
- ❑ 3 different layouts for each of the 3 responsive sizes. Check it out in the following example.

```
<div class="container">
  <div class="row">
    <div class="col-sm-3 col-md-6 col-lg-8">
      <p>Lorem ipsum dolor sit amet ...</p>
      <p>Sed ut perspiciatis unde ...</p>
    </div>
    <div class="col-sm-9 col-md-6 col-lg-4">
      <p>Sed ut perspiciatis unde ...</p>
      <p> Neque porro quisquam est ...</p>
    </div>
  </div>
</div>
```

OUTPUT:

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo.

Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium. Neque porro quisquam est, qui dolorem ipsum quia dolor sit amet, consectetur, adipisci velit, sed quia non numquam eius modi tempora incidunt ut labore et dolore magnam aliquam quaerat voluptatem.

Grid (cont.)

You can also use two grid sizes for different screen sizes:

```
<div class="row">  
  <div class="col-md-4 col-xs-6">  
    <!-- content -->  
  </div>  
  <div class="col-md-8 col-xs-6">  
    <!-- content -->  
  </div>  
</div>
```

End of Part II

Part III

CSS Overview

HTML5 doctype:

Bootstrap makes use of certain HTML elements and CSS properties that require the use of the HTML5 doctype. Hence include the below piece of code for HTML5 doctype at the beginning of all your projects using Bootstrap.

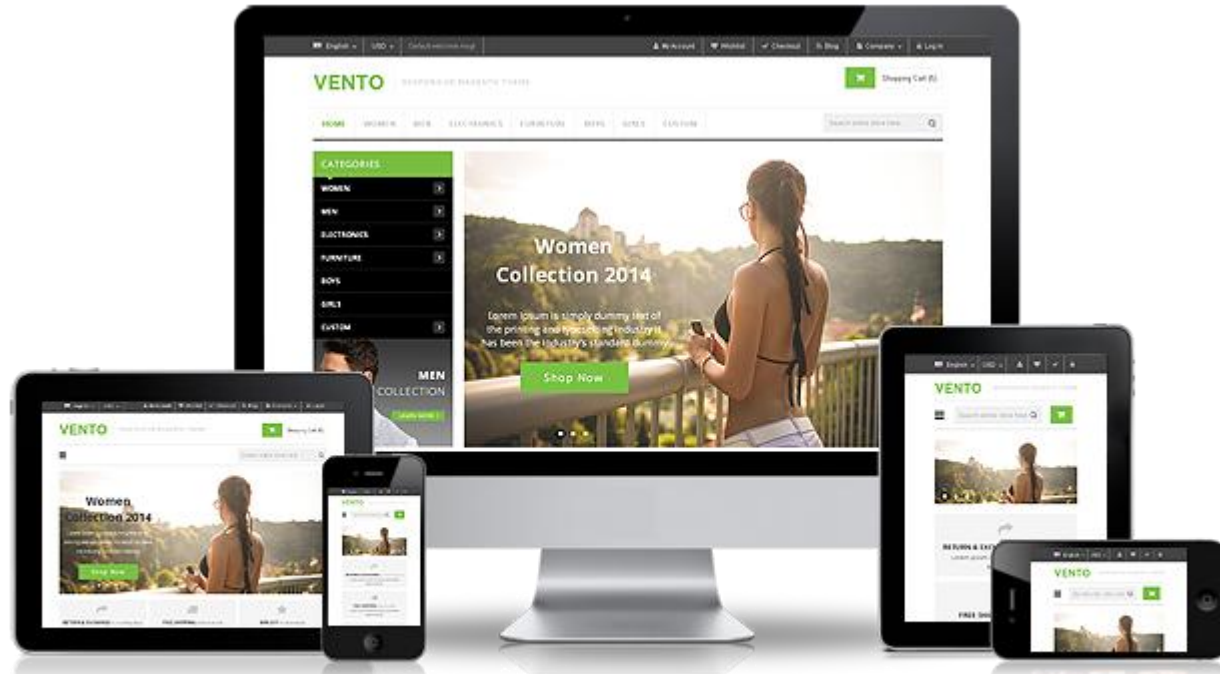
```
<!DOCTYPE html>  
  <html>  
  ....  
  </html>
```

Responsive Images

Bootstrap 3 allows us to make the images responsive by adding a class `.img-responsive` to the `` tag. This class applies `max-width: 100%;` and `height: auto;` to the image so that it scales nicely to the parent element.

```

```



Containers

Use class `.container` to wrap a page's content and easily center the content's as shown below.

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

Take a look at the `.container` class in `bootstrap.css` file:

```
.container {  
    padding-right: 15px;  
    padding-left: 15px;  
    margin-right: auto;  
    margin-left: auto;  
}
```

Note that, due to padding and fixed widths, containers are not nestable by default.

Take a look at `bootstrap.css` file:

```
@media (min-width: 768px) {  
    .container {  
        width: 750px;  
    }  
}
```

Typography

Bootstrap uses Helvetica Neue, Helvetica, Arial, and sans-serif in its default font stack. Using typography feature of Bootstrap you can create headings, paragraphs, lists and other inline elements.

Headings:

All HTML headings (h1 to h6) are styled in Bootstrap. An example is as shown below:

```
<h1>I'm Heading1 h1</h1>
```

```
<h2>I'm Heading2 h2</h2>
```

```
<h3>I'm Heading3 h3</h3>
```

```
<h4>I'm Heading4 h4</h4>
```

```
<h5>I'm Heading5 h5</h5>
```

```
<h6>I'm Heading6 h6</h6>
```

Typography

INLINE SUBHEADINGS:

To add an inline subheading to any of the headings, simply add `<small>` around any of the elements or add `.small` class and you will get smaller text in a lighter color as shown in the example below:

```
<h1>I'm Heading1 h1. <small>I'm secondary Heading1 h1</small></h1>
```

```
<h2>I'm Heading2 h2. <small>I'm secondary Heading2 h2</small></h2>
```

```
<h3>I'm Heading3 h3. <small>I'm secondary Heading3 h3</small></h3>
```

```
<h4>I'm Heading4 h4. <small>I'm secondary Heading4 h4</small></h4>
```

```
<h5>I'm Heading5 h5. <small>I'm secondary Heading5 h5</small></h5>
```

```
<h6>I'm Heading6 h6. <small>I'm secondary Heading1 h6</small></h6>
```

Typography

LISTS:

Bootstrap supports ordered lists, unordered lists, and definition lists.

□ Ordered lists: An ordered list is a list that falls in some sort of sequential order and is prefaced by numbers.

□ Unordered lists: An unordered list is a list that doesn't have any particular order and is traditionally styled with bullets. If you do not want the bullets to appear then you can remove the styling by using the **class .list-unstyled**. You can also place all list items on a single line using the **class .list-inline**.

Typography

Code with Example for Lists:

```
<h4>Example of Ordered List</h4>
```

```
<ol>
```

```
<li>Item 1</li>
```

```
<li>Item 2</li>
```

```
<li>Item 3</li>
```

```
<li>Item 4</li>
```

```
</ol>
```

```
<h4>Example of UnOrdered List</h4>
```

```
<ul>
```

```
<li>Item 1</li>
```

```
<li>Item 2</li>
```

```
<li>Item 3</li> >
```

```
<li>Item 4</li>
```

```
</ul>
```

OUTPUT:

Example of Ordered List

1. Item 1
2. Item 2
3. Item 3
4. Item 4

Example of UnOrdered List

- Item 1
- Item 2
- Item 3
- Item 4

End of Part III

Part IV

Tables

Basic Table:

If you want a nice, basic table style with just some light padding and horizontal dividers, add the base class of `.table` to any table as shown in the following example:

```
<table class="table">  
  <caption>Basic Table Layout</caption>  
  .  
  .  
  .  
</table>
```

Tables

STRIPED TABLE :

By adding the `.table-striped` class, you will get stripes on rows within the `<tbody>` as seen in the following example:

```
<table class="table table-striped">  
  <caption>Striped Table Layout</caption>  
  .  
  .  
  .  
</table>
```

Tables

BORDERED TABLE :

By adding the `.table-bordered` class, you will get borders surrounding every element and rounded corners around the entire table as seen in the following example:

```
<table class="table table-bordered">  
  <caption>Striped Table Layout</caption>  
    
  .  
  .  
  .  
  
</table>
```

Tables

HOVER TABLE :

By adding the `.table-hover` class, a light gray background will be added to rows while the cursor hovers over them, as seen in the following example:

```
<table class="table table-hover">  
  <caption>Striped Table Layout</caption>  
    
  .  
  .  
  .  
  
</table>
```

Tables

RESPONSIVE TABLES:

By wrapping any `.table` in `.table-responsive` class, you will make the table scroll horizontally up to small devices (under 768px). When viewing on anything larger than 768px wide, you will not see any difference in these tables.

```
<div class="table-responsive">  
  <table class="table">  
    <caption>Responsive Table Layout</caption>  
    .  
    .  
    .  
  </table>  
</div>
```

Forms

Here we will discuss, how to create forms with ease using Bootstrap.

Form Layout:

Bootstrap provides you with following types of form layouts:

- ☐ Vertical (default) form
- ☐ Inline form
- ☐ Horizontal form

Forms

VERTICAL OR BASIC FORM:

- ❑ Add a role of “form” to the parent <form> element.
- ❑ Wrap labels and controls in a <div> with class .form-group. This is needed for optimum spacing.
- ❑ Add a class of .form-control to all textual <input>, <textarea>, and <select> elements.

```
<form role="form">  
  <div class="form-group">  
    <label for="name">Name</label>  
    <input type="text" class="form-control" id="name"  
      placeholder="Enter Name">  
  </div>  
</form>
```

Name

Enter Name

file upload

Choose File No file chosen

☐ check me out

Submit

Forms

INLINE FORM :

To create a form where all of the elements are inline, left aligned and labels are alongside, add the class `.form-inline` to the `<form>` tag.

```
<form class="form-inline" role="form">  
  <div class="form-group">  
    <label class="sr-only" for="name">Name</label>  
    <input type="text" class="form-control" id="name"  
placeholder="Enter Name">  
  </div>  
</form>
```

Name ☐ check me out No file chosen

Forms

HORIZONTAL FORM:

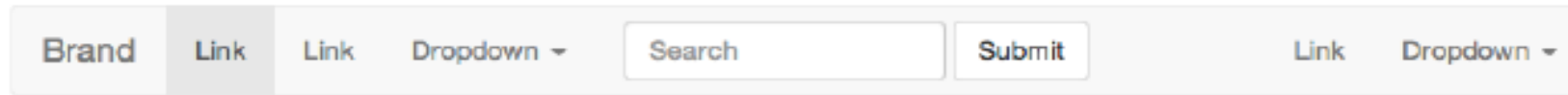
- Add a class of .form-horizontal to the parent <form> element.
- Wrap labels and controls in a <div> with class .form-group.
- Add a class of .control-label to the labels.

```
<form class="form-horizontal" role="form">  
  <div class="form-group">  
    <label for="firstname" class="col-sm-2 control-label">First  
Name</label>  
    <div class="col-sm-10">  
      <input type="text" class="form-control"  
id="firstname" placeholder="Enter First Name">  
    </div>  
  </div>  
</form>
```

End of Part IV

Part V

Bootstrap Elements



- Dropdowns
- Tables
- Cards
- Navbars
- Alerts
- Lists



Check out the Bootstrap reference for more:

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

Buttons

Here we will discuss about how to use Bootstrap button with examples. Anything that is given a class of `.btn` will inherit the default look of a gray button with rounded corners.

| Class | Description |
|-------------|---|
| Btn | Default/ Standard button. |
| btn-primary | Provides extra visual weight and identifies the primary action in a set of buttons. |
| btn-success | Indicates a successful or positive action. |
| btn-info | Contextual button for informational alert messages. |
| btn-warning | Indicates caution should be taken with this action. |
| btn-danger | Indicates a dangerous or potentially negative action. |
| btn-link | Deemphasize a button by making it look like a link while maintaining button behavior. |

Buttons

Following example demonstrates all the above button classes:

```
<!-- Standard button -->
<button type="button" class="btn btn-default">Default Button</button>

<!-- Provides extra visual weight and identifies the primary action in a set of
buttons -->
<button type="button" class="btn btn-primary">Primary Button</button>

<!-- Indicates a successful or positive action -->
<button type="button" class="btn btn-success">Success Button</button>

<!-- Contextual button for informational alert messages -->
<button type="button" class="btn btn-info">Info Button</button>

<!-- Indicates caution should be taken with this action -->
<button type="button" class="btn btn-warning">Warning Button</button>

<!-- Indicates a dangerous or potentially negative action -->
<button type="button" class="btn btn-danger">Danger Button</button>

<!-- Deemphasize a button by making it look like a link while maintaining button
behavior -->
<button type="button" class="btn btn-link">Link Button</button>
```

OUTPUT



Icon Resources

- Glyphicons - Comes with bootstrap
- Font Awesome - Recommended
 - <http://fontawesome.github.io/Font-Awesome/>
- Fontello - Customize your font package
 - <http://fontello.com/>
- Free icons - many of them over the internet
 - <http://www.pixeden.com/media-icons/flat-design-icons-set-vol1>
- Commercial icons - Shutterstock, istockphoto, etc.

Images

Bootstrap provides three classes that can be used to apply some simple styles to images:

- ❑ `.rounded`: adds `border-radius:6px` to give the image rounded corners.
- ❑ `.rounded-circle`: makes the entire image round by adding `border-radius:500px`.
- ❑ `.img-thumbnail`: adds a bit of padding and a gray border:

Images

The following example demonstrates this:

```
  
  

```

OUTPUT:



Helper Classes

Close icon :

Use the generic close icon for dismissing content like modals and alerts. Use the class close to get the close icon.

```
<p>Close Icon Example  
  <button type="button" class="close" aria-hidden="true">  
    &times;  
  </button>  
</p>
```

Close Icon Example

Bootstrap 4 New Features

Bootstrap 4.0 final release was announced on January 19, 2018. Bootstrap 4's new release is in alpha with these changes:

- ❑ New Reboot Module
- ❑ Variable Customization
- ❑ Flexbox Opt-in Optional
- ❑ Small Screen Grid Tier
- ❑ Elevated Card Components
- ❑ Spacing Utilities
- ❑ Sass By Default, Less Eliminated
- ❑ Rewritten JavaScript plugins

Bootstrap 4 New Features

Read more on Bootstrap 4.0 and how to do migration:

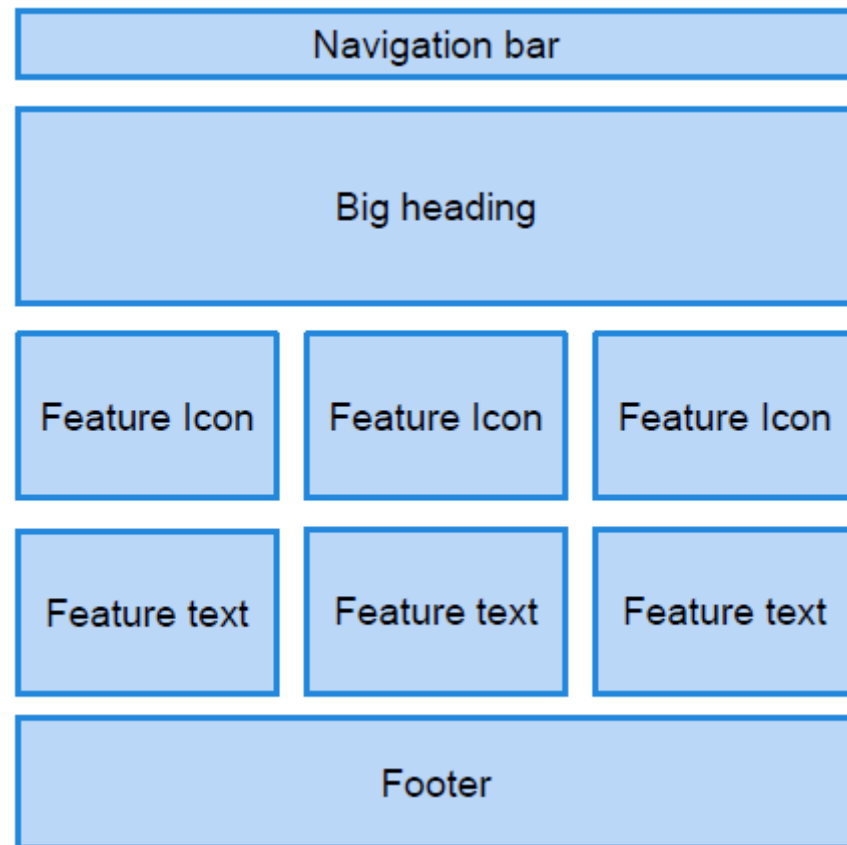
- <https://getbootstrap.com/docs/4.0/migration/>
- <https://auth0.com/blog/whats-new-in-bootstrap4/>

End of Part V

Summary

Exercise

- ▶ <https://github.com/bootstrapbay/tutorials>
- ▶ Design a page with the following layout

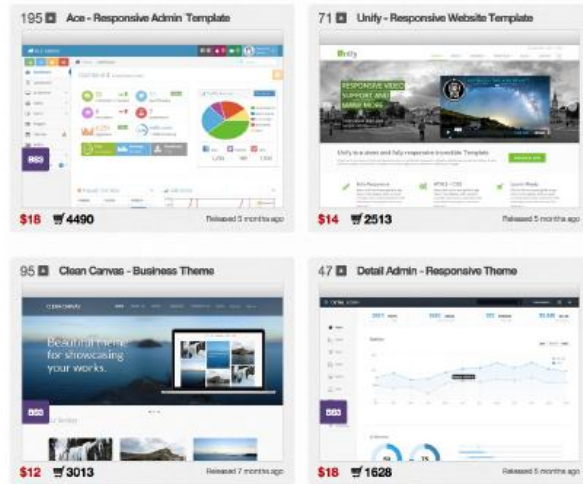


Live Coaching Sessions for HTML/CSS

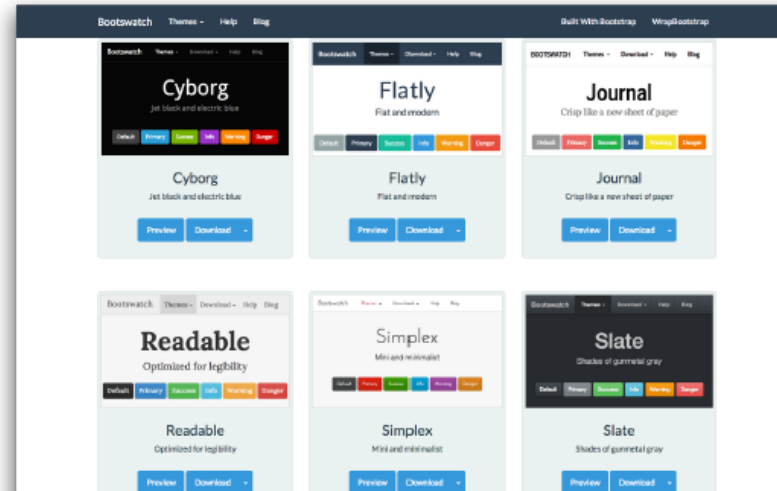
- Web design and development tutoring sessions- Weekly and monthly plans
- HTML, HTML5, CSS and CSS3- Private tutoring sessions

Resources

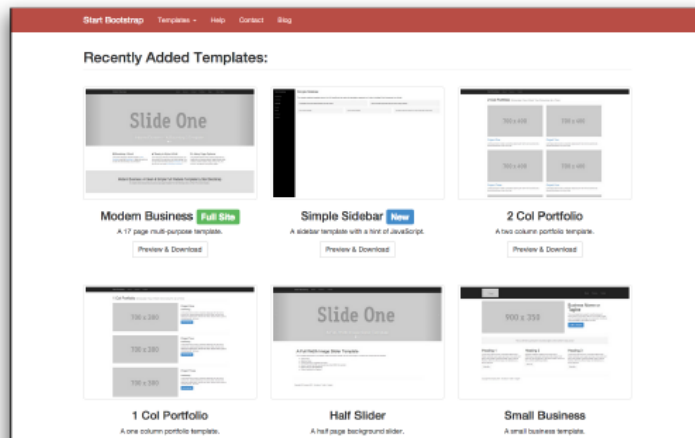
<http://wrapbootstrap.com>



<http://bootswatch.com/>



<http://startbootstrap.com/>



<http://fontawesome.github.io/Font-Awesome/>



More Resources

- [How Bootstrap 4 Extensible Content Containers or Cards Work](#)
- [Comprehensive Overview of Bootstrap 4 Features for User Interface Customizations](#)
- [Build a Simple Dynamic Website Using Bootstrap 4 and jQuery](#)

Next Classes

- [Intro to HTML and CSS](#)
- [Intro to HTML 5 and CSS3](#)
- [Intro to JavaScript](#)
- [Learn Node.JS, Express.JS and MongoDB](#)
- [Intro to Angular.JS Framework](#)
- [Intro to React.JS Framework](#)
- [Vue.JS Framework](#)

Thank You

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