**BootStrap**

**What is Bootstrap?**

* Bootstrap is a free front-end framework for faster and easier web development
* Bootstrap includes HTML and CSS based design templates for typography, forms, buttons, tables, navigation, modals, image carousels and many other, as well as optional JavaScript plugins
* Bootstrap also gives you the ability to easily create responsive designs

**Responsive** web design is about creating web sites which automatically adjust themselves to look good on all devices, from small phones to large desktops.

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

**In June 2014 Bootstrap was the No.1 project on GitHub!**

**Why Use Bootstrap?**

Advantages of Bootstrap:

* **Easy** **to** **use**: Anybody with just basic knowledge of HTML and CSS can start using Bootstrap
* **Responsive** **features**: Bootstrap's responsive CSS adjusts to phones, tablets, and desktops
* **Mobile-first approach**: In Bootstrap 3, mobile-first styles are part of the core framework
* **Browser compatibility**: Bootstrap is compatible with all modern browsers (Chrome, Firefox, Internet Explorer, Safari, and Opera)

**Bootstrap download :**  [getbootstrap.com](http://getbootstrap.com/getting-started/)

**CDN :**

<!-- Latest compiled and minified CSS -->  
<link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css">  
  
<!-- jQuery library -->  
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.2.0/jquery.min.js"></script>  
  
<!-- Latest compiled JavaScript -->  
<script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/js/bootstrap.min.js"></script>

**Create First Web Page With Bootstrap**

**1. Add the HTML5 doctype :**

<!DOCTYPE html>  
<html lang="en">  
  <head>  
    <meta charset="utf-8">   
  </head>  
</html>

**2. Bootstrap 3 is mobile-first :**

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

The width=device-width part sets the width of the page to follow the screen-width of the device (which will vary depending on the device).

The initial-scale=1 part sets the initial zoom level when the page is first loaded by the browser.

**3. Containers :**

1. The .container class provides a responsive **fixed width container**
2. The .container-fluid class provides a **full width container**, spanning the entire width of the viewport

**Note:** Containers are not nestable (you cannot put a container inside another container).

**Bootstrap Grid System**

Bootstrap's grid system allows up to 12 columns across the page. Bootstrap's grid system is responsive, and the columns will re-arrange automatically depending on the screen size.

**Grid Classes**

The Bootstrap grid system has four classes:

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

**Basic Structure of a Bootstrap Grid**

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

First; create a row (<div class="row">). Then, add the desired number of columns (tags with appropriate .col-\*-\*classes). Note that numbers in .col-\*-\* should always add up to 12 for each row.

**Ex : Three Equal Columns :**

<div class="row">  
  <div class="col-sm-4">.col-sm-4</div>  
  <div class="col-sm-4">.col-sm-4</div>  
  <div class="col-sm-4">.col-sm-4</div>  
</div>

Three equal-width columns starting at tablets and scaling to large desktops. On mobile phones, the columns will automatically stack.

**Bootstrap Text/Typography :** (<https://www.w3schools.com/bootstrap/bootstrap_typography.asp>)

**Bootstrap's Default Settings**

Bootstrap's global default font-size is 14px, with a line-height of 1.428.

This is applied to the <body> element and all paragraphs (<p>).

In addition, all <p> elements have a bottom margin that equals half their computed line-height (10px by default).

**Bootstrap vs. Browser Defaults**

<h1>-<h6>

h1 Bootstrap heading (36px)

h2 Bootstrap heading (30px)

h3 Bootstrap heading (24px)

h4 Bootstrap heading (18px)

h5 Bootstrap heading (14px)

h6 Bootstrap heading (12px)

<small>

In Bootstrap the HTML <small> element is used to create a lighter, secondary text in any heading:

##### **h5 heading secondary text**

<mark>

Use the mark element to highlight text.

<abbr>

When hovered, ? will be displayed with the definition as title.

For rest visit above link.

**Contextual Colors and Backgrounds**

The classes for text colors are:.text-muted, .text-primary, .text-success, .text-info, .text-warning, and .text-danger.

The classes for background colors are:.bg-primary, .bg-success, .bg-info, .bg-warning, and .bg-danger.

**Typography Reference** : <https://www.w3schools.com/bootstrap/bootstrap_ref_css_text.asp>

**CSS Helper Classes Reference** : <https://www.w3schools.com/bootstrap/bootstrap_ref_css_helpers.asp>

**Bootstrap Tables :**

A basic Bootstrap table has a light padding and only horizontal dividers.

The .table class adds basic styling to a table.

The .table-striped class adds zebra-stripes to a table.

The .table-bordered class adds borders on all sides of the table and cells.

The .table-hover class adds a hover effect (grey background color) on table rows.

The .table-condensed class makes a table more compact by cutting cell padding in half.

The .table-responsive class creates a responsive table. The table will then scroll horizontally on small devices (under 768px). When viewing on anything larger than 768px wide, there is no difference

## Contextual Classes :

| **Class** | **Description** |
| --- | --- |
| .active | Applies the hover color to the table row or table cell |
| .success | Indicates a successful or positive action |
| .info | Indicates a neutral informative change or action |
| .warning | Indicates a warning that might need attention |
| .danger | Indicates a dangerous or potentially negative action |

**Bootstrap Images**

**Bootstrap Image Shapes**

The .img-rounded class adds rounded corners to an image (IE8 does not support rounded corners).

The .img-circle class shapes the image to a circle (IE8 does not support rounded corners).

The .img-thumbnail class shapes the image to a thumbnail.

Responsive Images

The image will then scale nicely to the parent element. The .img-responsive class applies display: block; and max-width: 100%; and height: auto; to the image

**Responsive Embeds**

Also let videos or slideshows scale properly on any device. These Classes(.embed-responsive-item , embed-responsive-16by9) can be applied directly to <iframe>, <embed>, <video>, and <object> elements.

<div class="embed-responsive embed-responsive-16by9">  
  <iframe class="embed-responsive-item" src="..."></iframe>  
</div>

**Aspect Ratio :**

<!-- 16:9 aspect ratio -->  
<div class="embed-responsive embed-responsive-16by9">  
  <iframe class="embed-responsive-item" src="..."></iframe>  
</div>  
  
<!-- 4:3 aspect ratio -->  
<div class="embed-responsive embed-responsive-4by3">  
  <iframe class="embed-responsive-item" src="..."></iframe>  
</div>

**Bootstrap Jumbotron and Page Header**

A jumbotron(.jumbotron ) indicates a big box for calling extra attention to some special content or information. A jumbotron is displayed as a grey box with rounded corners and enlarges font sizes of text inside.

**Jumbotron Inside Container**

Place the jumbotron inside the <div class="container"> if you want the jumbotron to NOT extend to the edge of the screen.

**Jumbotron Outside Container**

Place the jumbotron outside the <div class="container"> if you want the jumbotron to extend to the screen edges.

**Page Header**

A page header is like a section divider. The .page-header class adds a horizontal line under the heading and adds some extra space around the element.

**Bootstrap** **Wells**

The .well class adds a rounded border around an element with a gray background color and some padding

Size of the well can be changed by .well-sm class for small wells or  .well-lg class for large wells. By default wells are medium sized.

**Bootstrap Alerts**

Alerts are created with the .alert class, followed by one of the four contextual classes .alert-success, .alert-info, .alert-warning or .alert-danger.

<div class="alert alert-success">  
  <strong>Success!</strong> Indicates a successful or positive action.  
</div>  
  
<div class="alert alert-info">  
  <strong>Info!</strong> Indicates a neutral informative change or action.  
</div>  
  
<div class="alert alert-warning">  
  <strong>Warning!</strong> Indicates a warning that might need attention.  
</div>  
  
<div class="alert alert-danger">  
  <strong>Danger!</strong> Indicates a dangerous or potentially negative action.  
</div>

**Alert Links**

Add the alert-link class to any links inside the alert box to create "matching colored links".

<div class="alert alert-success">  
  <strong>Success!</strong> You should <a href="#" class="alert-link">read this message</a>.  
</div>

**Closing Alerts**

To close the alert message, add a .alert-dismissable class to the alert container. Then add class="close" and data-dismiss="alert" to a link or a button element (when you click on this the alert box will disappear).

<div class="alert alert-success alert-dismissable">  
  <a href="#" class="close" data-dismiss="alert" aria-label="close">&times;</a>  
  <strong>Success!</strong> Indicates a successful or positive action.  
</div>

**The aria-\* attribute and &times; explanation**  
  
To help improve accessibility for people using screen readers, you should include the aria-label="close" attribute, when creating a close button.  
  
&times; (×) is an HTML entity that is the preferred icon for close buttons, rather than the letter "x".

**Animated Alerts**

The .fade and .in classes adds a fading effect when closing the alert message.

<div class="alert alert-danger fade in">