

What is Bootstrap

- Bootstrap is a free and open-source tool collection for creating responsive websites and web applications.
- Bootstrap is the most popular HTML, CSS and JavaScript framework for developing a responsive and mobile friendly website.
- It is absolutely free to download and use.
- It is a front-end framework used for easier and faster web development.
- It includes HTML and CSS based design templates for typography, forms, buttons, tables, navigation, modals, image carousels and many others.
- It can also use JavaScript plug-ins.
- It facilitates you to create responsive designs.

Why use Bootstrap

By using this framework we can easily manipulate the styling of any web page, like font style, text color, background color, flex, grid system, etc. Bootstrap [Version 4](#) & [Version 5](#) are the most popular versions. There are lots of other CSS frameworks like [Tailwind CSS](#), [Bulma](#), and [Foundation](#) but among them, this framework is the most popular because of below mentioned features:

- It is Faster and Easier way for Web-Development.
 - It creates Platform-independent web-pages.
 - It creates Responsive Web-pages.
 - It designs responsive web pages for mobile devices too.
 - It is a free and open-source framework available on www.getbootstrap.com
-
- It is compatible on most of browsers like Chrome, Firefox, Internet Explorer, Safari and Opera etc.

What is Responsive Web Design?

Responsive web design is about creating web sites which automatically adjust themselves to look good on all devices, from small phones to large desktops. Responsive Web design is the approach that suggests that design and development should respond to the user's behavior and environment based on screen size, platform and orientation.

The practice consists of a mix of flexible grids and layouts, images and an intelligent use of CSS media queries. As the user switches from their laptop to iPad, the website should automatically switch to accommodate for resolution, image size and scripting abilities.

But responsive Web design is not only about adjustable screen resolutions and automatically resizable images, but rather about a whole new way of thinking about design.

Responsive Web Designing or RWD

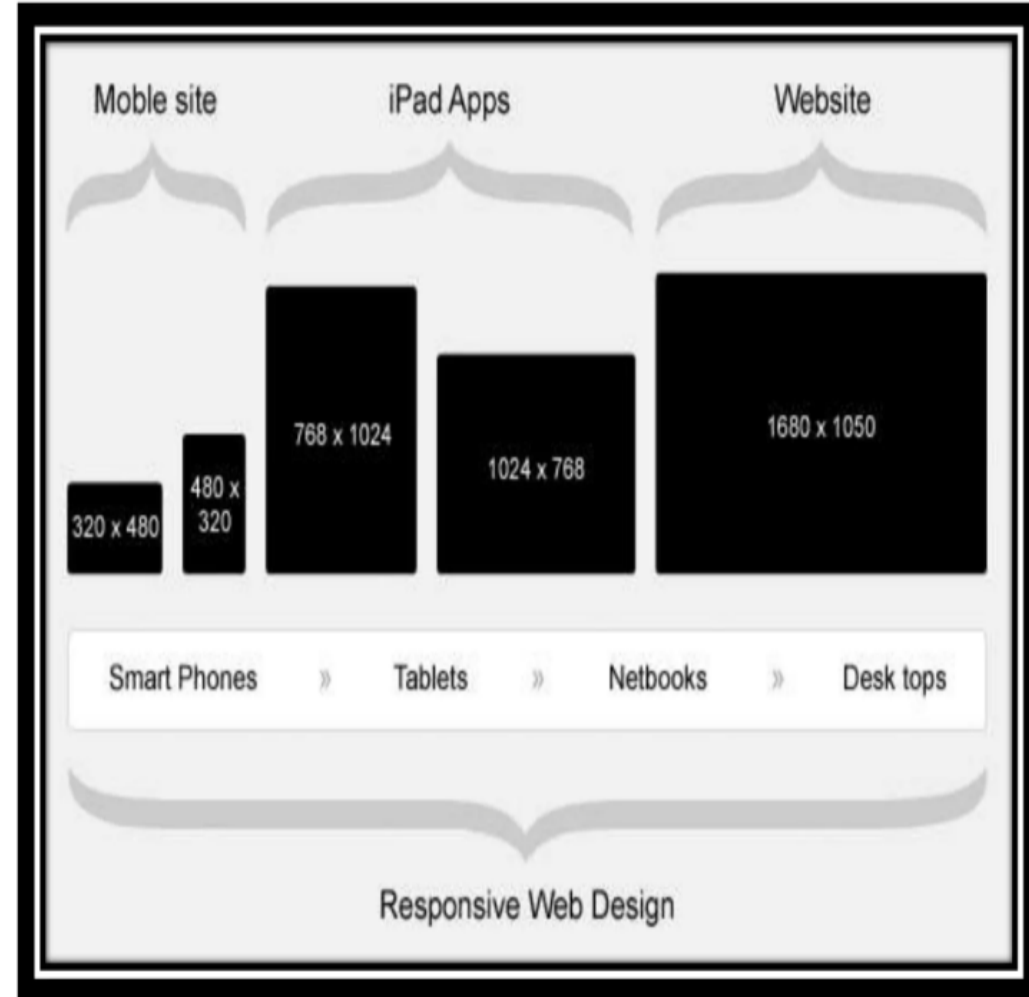
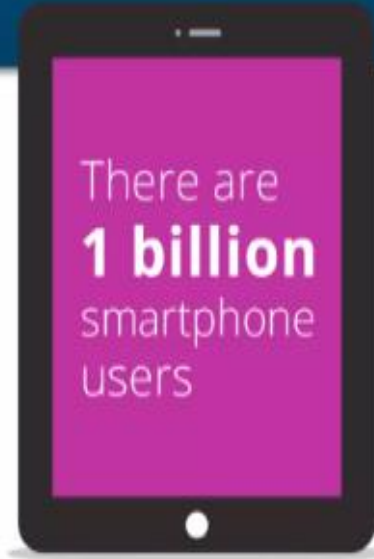
- ❑ Responsive Web Designing (**RWD**) is a process of **designing a single website** to be used and compatible on different portable or handy electronic devices.
- ❑ Also known as **Adaptive Web Designing (AWD)**.
- ❑ It regarded as an integrated approach of designing through which compelling and easy to use websites are built, **to give an optimal viewing user experience** across a wide variety of devices starting from desktop computers to mobile phones.

Responsive Websites Offers

- ✓ Smooth navigation
- ✓ Easy reading
- ✓ Minimum pinching
- ✓ Reduces scrolling and zooming.
- ✓ Excellent user experience.

Why You Need A Responsive Website?

- ❖ Growing Demand for Smartphones
- ❖ Multiple Screen Sizes and Mobile Browsers
- ❖ Wide Usage of Internet
- ❖ Permits wider browser support
- ❖ Compulsory for Getting Good Business



Major Components of A Responsive Website

Responsive website designing is a modern approach of website designing. It comprises of four core elements.

1. Meta Tags
2. CSS3 Media Queries
3. Grid Systems
4. Frameworks



What are Meta Tags?

- Meta tag is a coding statement in HTML.
- It describes few aspects of the contents of a web page.
- Information provided in the meta tags is used by the search engines for page indexation.
- Placed at the top of a web page as a part of heading.
- We use viewport meta tag for making a web page Mobile Optimized. See the example on next page.

<meta>

Types of Meta Tags

- There are three different meta tags that work for old, new, and modern hand held devices like mobiles (all types) and tablets.

Example:

Put these 3 lines in the head section of your site.

```
<meta name="HandheldFriendly" content="true" />  
<meta name="MobileOptimized" content="320" />  
<meta name="viewport" content="width=device-width, initial-scale=1.0" />
```

- A responsive designer needs to add these meta tags to make a website mobile optimized.

What are CSS3 Media Queries ?

- CSS3 Media Queries consists of a media type and zero or an optional expression to assign different style-sheets depending on browser window size using media features such as width, height, orientation, resolution, pixel aspect ration, and color etc.
- Using CSS3 media queries, presentations can be tailored to a specific range of output devices without changing the content itself.
- You can use media queries in different ways for different reasons.

Example 1 of Media Queries

- Use following CSS media query syntax for calling an external stylesheet:

```
<link rel='stylesheet' media='screen and (min-width: 320px) and (max-width: 480px)' href='css/phone.css' />
```

- And you can control css presentation in css file too:

```
@media screen {  
    body {  
        width: 75%;  
    }  
}  
  
@media print {  
    body {  
        width: 100%;  
    }  
}
```

Example 2 of Media Queries

- Likewise, you can use more advanced CSS media queries like:

```
@media all and (max-width: 699px) and (min-width: 520px), (min-width: 1151px)  
{  
    body {  
        background: #ccc;  
    }  
}
```

What is A Grid System?

- ❑ Grids are the simplest, strongest, and quick way to create page layouts. A grid is a set of number of “columns” and intervening “gutters” (margins) inside a “container” with any width and flexibility.
- ❑ It gives a feeling of considered organization of one’s website.
- ❑ **In the words of Josef Muller Brockmann,** “The grid system is an aid, not a guarantee. It permits a number of possible uses and each designer can look for a solution appropriate to his personal style. But one must learn how to use the grid; it is an art that requires practice.”

Commonly Used Grid Systems

- ❑ Following are some of the common grid system used to create a responsive website:
 - **YUI CSS Grid**
 - **960 Grid System**
 - **Golden Grid System(also referred to as Folding Grid)**

The
Grid
Sys

Useful Frameworks of RWD

- Frameworks can be defined as a set of tools, libraries, conventions and best practices that enable the designers to cut down their routine tasks into reusable generic modules.
- CSS3 frameworks provide following benefits to web designers and developers:
 1. Faster designing and building of websites.
 2. Designers can focus on crucial segments of website building- using a grid, including a print style sheet, browser compliance, creation of multiple layouts, etc.

Some Common Frameworks

- Following are the popular frameworks that web designers and developers used to develop responsive websites:

- ❖ Skeleton
- ❖ Foundation
- ❖ Bootstrap



Advantages to the Users

- ❑ Using Smartphone, Tablets, and Notebooks for accessing internet has become a common fashion or trend. A popularity or charm had been seen among the users for responsive sites as it serve the following advantages.
- ❖ A Responsive website is flexible to use.
- ❖ It automatically shuffles content, resizes images, and adjusts font size.
- ❖ Users are able to read information as per their needs and preferences.
- ❖ Helps encountering fast and intelligent sites.
- ❖ Saves user's time while browsing the site.
- ❖ Helps increasing the user experience.



Advantages to the Web Designers

❑ Responsive websites has changed the overall outlook of web industry. It extends numerous benefits to the web designers and the company at large.

- ❖ Simplifies the designing process
- ❖ Saves time and efforts
- ❖ Reduces capital employed
- ❖ Eliminates the need to maintain multiple websites
- ❖ Minimizes maintenance and development cost

Advantages to the Web Designers

- ❖ Increases Return on Investment in long run.
- ❖ Improved SEO rank
- ❖ Better performance means better sales
- ❖ Higher conversion rates
- ❖ Key to create competitive advantage over the competitors
- ❖ Increasing market share

Benefits of Responsive Web Design



Improve its visibility
on all screens



Save money
and save time



Improve SEO for
search engines



Best performance



Wide browser
support

Bootstrap Container

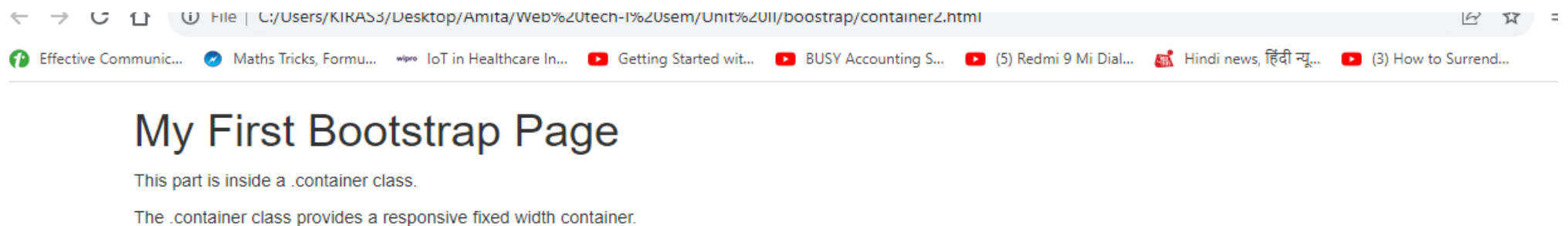
In Bootstrap, container is used to set the content's margins dealing with the responsive behaviors of your layout. It contains the row elements and the row elements are the container of columns (known as grid system).

The **container class** is used to create boxed content.

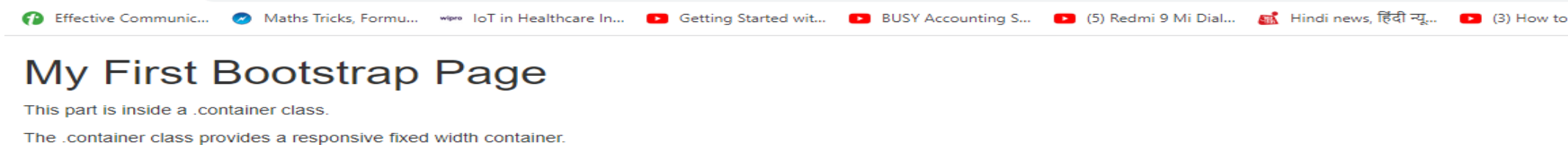
There are two container classes in Bootstrap:

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

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap Example</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.1/jquery.min.js"></script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></script>
</head>
<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>
</html>
```



```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap Example</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.1/jquery.min.js"></script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></script>
</head>
<body>
<div class="container-fluid">
  <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>
</html>
```



```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<title>Bootstrap</title>
<link rel="stylesheet" href="C:\Users\KIRAS3\Desktop\css\bootstrap.css">
</head>
<body>
<a href="" class="btn btn-primary">Click Me</a>
</body>
</html>
```

 Effective Communic...  Maths Tricks, Formu...  IoT in Healthcare In...  Getting Started wit...  BUSY Accounting S...  (5) Redmi 9 Mi Dial...  Hindi news, हिंदी न्यू...  (3) How to :

My First Bootstrap Page

This part is inside a `.container` class.

The `.container` class provides a responsive fixed width container.

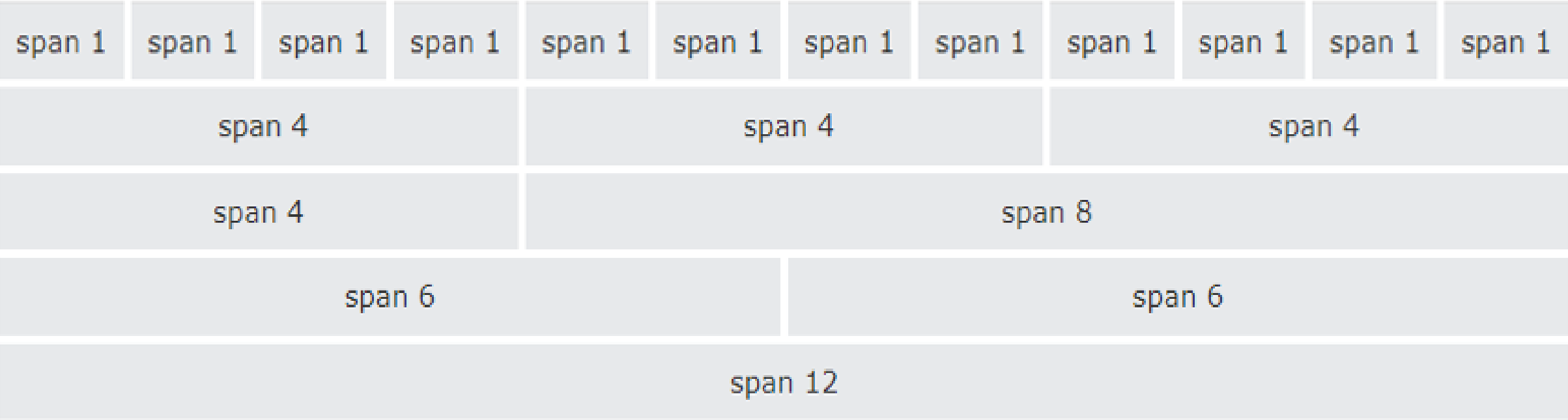
Bootstrap Grid

Wikipedia says:

"In graphic design, a grid is a structure (usually two-dimensional) made up of a series of intersecting straight (vertical, horizontal) lines used to structure the content. It is widely used to design layout and content structure in print design. In web design, it is a very effective method to create a consistent layout rapidly and effectively using HTML and CSS."

To put in simple words, grids in web design organise and structure content, makes the websites easy to scan and reduces the cognitive load on users.

Bootstrap Grid System allows up to 12 columns across the page. We can use each of them individually or merge them together for wider columns. All combinations of values summing up to 12 can be used.



The grid system is responsive, and the columns will re-arrange automatically depending on the screen size.

Grid Classes

The Bootstrap 4 grid system has five classes:

- **.col**- (extra small devices - screen width less than 576px)
- **.col-sm**- (small devices - screen width equal to or greater than 576px)
- **.col-md**- (medium devices - screen width equal to or greater than 768px)
- **.col-lg**- (large devices - screen width equal to or greater than 992px)
- **.col-xl**- (xlarge devices - screen width equal to or greater than 1200px)

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

or

There are four classes in Bootstrap Grid System:

xs (for phones)

sm (for tablets)

md (for desktops)

lg (for larger desktops)

Components of Grid System:

Containers: Bootstrap requires a containing element to wrap site contents in a grid system. The word **container** is used to contain the row elements and row elements containing the column elements.

Rows: Rows must be placed within the **container** or **container-fluid** for proper alignment and padding. Rows are used to create horizontal groups of columns.

Columns: 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-lg-4

•Run-on large screen (Desktop, tablets):



```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap Example</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
</head>
<body>
<div class="container-fluid">
  <h1>Hello World!</h1>
  <p>Resize the browser window to see the effect.</p>
  <p>The columns will automatically stack on top of each other when the screen is less than 768px wide.</p>
  <div class="row">
    <div class="col-sm-4" style="background-color:lavender;">.col-sm-4</div>
    <div class="col-sm-4" style="background-color:lavenderblush;">.col-sm-4</div>
    <div class="col-sm-4" style="background-color:lavender;">.col-sm-4</div>
  </div>
</div>
</body>
</html>
```

Bootstrap Tables

Bootstrap tables display data in a grid format similar to row and column layouts. Using Bootstrap tables, you can dramatically enhance the appearance of basic HTML tables. It is a user interface function to interact with user and system information.

Basic table

Bootstrap table requires a table tag with the "table" class to get the default table format. The table includes table head and table body data using bootstrap 5 tags.

Syntax

The following syntax shows default table format using bootstrap classes.

```
<table class = "table">  
<thead>  
<tr> <th> heading </th> </tr>  
</thead>  
<tbody>  
<tr> <td> data </td> </tr>  
</tbody>  
</table>
```

The table header uses the <thead> (table header) and <th> (table heading data) with <tr> (table row) tag. The table body uses the <tbody> (table body) and <td> (table data) with <tr> (table row) tag.

```
<!DOCTYPE html>
<html lang = "en">
<head>
<title> Bootstrap table Example </title>
<meta charset = "utf-8">
<meta name = "viewport" content = "width=device-width, initial-scale=1">
<link href = "https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/css/bootstrap.min.css" rel="stylesheet">
<script src = "https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/js/bootstrap.bundle.min.js">
</script>
</head>
<body>
<div class = "container mt-2 w-50" style = "border:2px solid black;">
<h5> Bootstrap 5 Default Table </h5>
<table class = "table">
<thead>
<tr>
<th> UserId </th>
<th> Username </th>
<th> Department </th>
<th> Contact </th>
</tr>
</thead>
<tbody>
```

```

<tr>
<td> 458 </td>
<td> jack </td>
<td> Design </td>
<td> jack@jtp.com </td>
</tr>
<tr>
<td> 284 </td>
<td> Sophia </td>
<td> Marketing </td>
<td> sophi@jtp.com </td>
</tr>
<tr>
<td> 122 </td>
<td> Sam </td>
<td> Development </td>
<td> samd@jtp.com </td>
</tr>
<tr>
<td> 351 </td>
<td> Merry </td>
<td> HR </td>

```

```

<td> merryhr@jtp.com </td>
</tr>
</tbody>
</table>
</div>
</body>
</html>

```

Basic table classes

We can see some bootstrap table classes in detail. The basic bootstrap 5 table requires a table tag with the class to get the basic table format. The border and hover effect is a basic requirement of the table.

The "table" class creates the default table on the web page.

The "table-hover" class uses to highlight table rows where the mouse arrow is pointed.

The "table-bordered" class displays a border around the table (including rows and columns).

The "table-striped" class displays the table in strip format. These table rows display in light grey and white color.

Syntax

The following syntax shows basic table format using bootstrap classes.

```
<table class = "table table-hover table-bordered table-striped">
```

```
<thead>
```

```
<tr> <th> heading </th> </tr>
```

```
</thead>
```

```
<tbody>
```

```
<tr> <td> data </td> </tr>
```

```
</tbody>
```

```
</table>
```

The table tag uses multiple basic classes simultaneously to display several styles.

```
<!DOCTYPE html>
```

```
<html lang = "en">
```

```
<head>
```

```
<title> Bootstrap 5 table Example </title>
```

```
<meta charset = "utf-8">
```

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

```
<link href = "https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/css/bootstrap.min.css" rel="stylesheet">
```

```
<script src = "https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/js/bootstrap.bundle.min.js">
```

```
</script>
```

```
</head>
```

```
<body>
```

```
<div class = "container mt-2 w-50" style = "border:2px solid black;">
<h5> Bootstrap 5 Basic Table </h5>
<table class = "table table-hover table-bordered table-striped">
<thead>
<tr>
<th> UserId </th>
<th> Username </th>
<th> Department </th>
<th> Contact </th>
</tr>
</thead>
<tbody>
<tr>
<td> 458 </td>
<td> jack </td>
<td> Design </td>
<td> jack@jtp.com </td>
</tr>
<tr>
<td> 284 </td>
<td> Sophia </td>
<td> Marketing </td>
<td> sophi@jtp.com </td>
</tr>
```

```
<tr>
<td> 122 </td>
<td> Sam </td>
<td> Development </td>
<td> samd@jtp.com </td>
</tr>
<tr>
<td> 351 </td>
<td> Merry </td>
<td> HR </td>
<td> merryhr@jtp.com </td>
</tr>
</tbody>
</table>
</div>
</body>
</html>
```

Bootstrap small table

Bootstrap 5 small table shows a small size of the columns than the default size of the table. The "table-sm" class uses with "table" class by default, but we can use other Bootstrap 5 table classes.

Syntax

The following syntax shows small size table using bootstrap 5 classes.

```
<table class = "table table-sm">  
</table>
```

Example

```
<!DOCTYPE html>  
<html lang = "en">  
<head>  
<title> Bootstrap 5 table Example </title>  
<meta charset = "utf-8">  
<meta name = "viewport" content = "width=device-width, initial-scale=1">  
<link href = "https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/css/bootstrap.min.css" rel="stylesheet">  
<script src = "https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/js/bootstrap.bundle.min.js">  
</script>  
</head>  
<body>  
<div class = "container mt-2 w-50" style = "border:2px solid black;">  
<h5> Bootstrap 5 small Table </h5>  
<table class = "table table-bordered table-sm">  
<thead>
```

```

<tr>
<th> UserId </th>
<th> Username </th>
<th> Department </th>
<th> Contact </th>
</tr>
</thead>
<tbody>
<tr>
<td> 351 </td>
<td> Merry </td>
<td> HR </td>
<td> merryhr@jtp.com </td>
</tr>
<tr>
<td> 458 </td>
<td> jack </td>
<td> Design </td>
<td> jack@jtp.com </td>
</tr>
<tr>
<td> 284 </td>
<td> Sophia </td>

```

```

<td> Marketing </td>
<td> sophi@jtp.com </td>
</tr>
</tbody>
</table>
</div>
</body>
</html>

```

Contextual table

Bootstrap contextual tables provide several classes to show eye-catch tables. Bootstrap table requires a table tag with the contextual table class to get a different color table format. This table color conveys some message or meaning of the table data.

Syntax

The following table shows us the table/table column's color and class in detail.

Bootstrap table color	Description
"table-primary"	This class shows table is important and shown in blue color.
"table-secondary"	This class shows the table is secondary and shown in grey color.
"table-light"	This class shows in a light grey color table (visible on dark background).
"table-dark"	This class shows in a dark grey color table.
"table-info"	This class shows a table that is informative and shown in sky blue color.
"table-warning"	This class conveys a warning table shown in yellow color.
"table-success"	This class conveys a success table shown in green color.
"table-danger"	This class conveys a danger or alert table shown in red color.
"table-active"	This class shows in a dark grey color table.

Example

```
<!DOCTYPE html>
<html lang = "en">
<head>
<title> Bootstrap 5 table Example </title>
<meta charset = "utf-8">
<meta name = "viewport" content = "width=device-width, initial-scale=1">
<link href = "https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/css/bootstrap.min.css" rel="stylesheet">
<script src = "https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/js/bootstrap.bundle.min.js">
</script>
</head>
<body>
<div class = "container mt-2 w-50" style = "border:2px solid black;">
<h5> Bootstrap 5 Contextual Table </h5>
<table class = "table table-bordered">
<thead>
<tr>
<th> UserId </th>
<th> Username </th>
<th> Department </th>
<th> Contact </th>
</tr>
```

```
</thead>
<tbody>
<tr>
<td> 458 </td>
<td> jack </td>
<td> Design </td>
<td> jack@jtp.com </td>
</tr>
<tr class = "table-primary">
<td> 284 </td>
<td> Sophia </td>
<td> Marketing </td>
<td> sophi@jtp.com </td>
</tr>
<tr class = "table-secondary">
<td> 122 </td>
<td> Sam </td>
<td> Development </td>
<td> samd@jtp.com </td>
</tr>
<tr class = "table-warning">
<td> 351 </td>
<td> Merry </td>
```

```
<td> HR </td>
<td> merryhr@jtp.com </td>
</tr>
<tr class = "table-success">
<td> 458 </td>
<td> jack </td>
<td> Design </td>
<td> jack@jtp.com </td>
</tr>
<tr class = "table-danger">
<td> 458 </td>
<td> jack </td>
<td> Design </td>
<td> jack@jtp.com </td>
</tr>
<tr class = "table-info">
<td> 458 </td>
<td> jack </td>
<td> Design </td>
<td> jack@jtp.com </td>
</tr>
<tr class = "table-light">
<td> 458 </td>
```

```
<td> jack </td>
<td> Design </td>
<td> jack@jtp.com </td>
</tr>
<tr class = "table-dark">
<td> 458 </td>
<td> jack </td>
<td> Design </td>
<td> jack@jtp.com </td>
</tr>
</tbody>
</table>
</div>
</body>
</html>
```

Bootstrap dark table

Bootstrap table shows the table's dark color (black or dark grey) and its data. The "table-dark" class uses with the "table" class by default, but we can use other Bootstrap 5 table classes. The bootstrap tables can use the hover effect or striped table format with a border.

Syntax

The following syntax shows dark color table using bootstrap classes.

```
<table class = "table table-dark">  
</table>
```

The "table-dark" class shows the black background color of the table.

The table information is displayed in white color.

The following syntax shows dark color with a striped table using bootstrap 5 classes.

```
<table class = "table table-dark table-striped">  
</table>
```

The "table-dark" class shows the table's black and grey background color.

The table information is displayed in white color of both background colors.

Example

```
<!DOCTYPE html>  
<html lang = "en">  
<head>  
<title> Bootstrap 5 table Example </title>  
<meta charset = "utf-8">  
<meta name = "viewport" content = "width=device-width, initial-scale=1">  
<link href = "https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/css/bootstrap.min.css" rel="stylesheet">
```

```
<script src = "https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/js/bootstrap.bundle.min.js">
</script>
</head>
<body>
<div class = "container mt-2 w-50" style = "border:2px solid black;">
<h5> Bootstrap 5 Dark Table </h5>
<table class = "table table-dark ">
<thead>
<tr>
<th> UserId </th>
<th> Username </th>
<th> Department </th>
<th> Contact </th>
</tr>
</thead>
<tbody>
<tr>
<td> 458 </td>
<td> jack </td>
<td> Design </td>
<td> jack@jtp.com </td>
</tr>
<tr>
```

```
<td> 122 </td>
  <td> Sam </td>
  <td> Development </td>
  <td> samd@jtp.com </td>
</tr>
<tr>
  <td> 351 </td>
  <td> Merry </td>
  <td> HR </td>
  <td> merryhr@jtp.com </td>
</tr>
</tbody>
</table>
<h5> Bootstrap 5 Dark Striped Table </h5>
<table class = "table table-dark table-striped">
<thead>
<tr>
<th> UserId </th>
<th> Username </th>
<th> Department </th>
<th> Contact </th>
</tr>
</thead>
<tbody>
```

```
<tr>
  <td> 458 </td>
  <td> jack </td>
  <td> Design </td>
  <td> jack@jtp.com </td>
</tr>
<tr>
  <td> 284 </td>
  <td> Sophia </td>
  <td> Marketing </td>
  <td> sophi@jtp.com </td>
</tr>
<tr>
  <td> 122 </td>
  <td> Sam </td>
  <td> Development </td>
  <td> samd@jtp.com </td>
</tr>
</tbody>
</table>
</div>
</body>
</html>
```

Table Header color

Bootstrap table shows the table's header in contextual color using classes. For example, the "table-dark" class displays a dark color header with white color text. The header color does not affect the table body.

Syntax

The following syntax shows dark header table using bootstrap classes.

```
<table class = "table">  
<thead class = "table-dark">  
<tr> <th> heading </th> </tr>  
</thead>  
<tbody>  
<tr> <td> data </td> </tr>  
</tbody>  
</table>
```

The following syntax shows yellow header table using bootstrap classes.

```
<table class = "table">  
<thead class = "table-warning">  
</thead>  
</table>
```

```
<!DOCTYPE html>
<html lang = "en">
<head>
<title> Bootstrap 5 table Example </title>
<meta charset = "utf-8">
<meta name = "viewport" content = "width=device-width, initial-scale=1">
<link href = "https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/css/bootstrap.min.css" rel="stylesheet">
<script src = "https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/js/bootstrap.bundle.min.js">
</script>
</head>
<body>
<div class = "container mt-2 w-50" style = "border:2px solid black;">
<h5> Bootstrap 5 Dark Header Table </h5>
<table class = "table table-bordered ">
<thead class = "table-dark">
<tr>
<th> UserId </th>
<th> Username </th>
<th> Department </th>
<th> Contact </th>
</tr>
</thead>
<tbody>
```

```
<tr>
<td> 458 </td>
<td> jack </td>
<td> Design </td>
<td> jack@jtp.com </td>
</tr>
<tr>
<td> 284 </td>
<td> Sophia </td>
<td> Marketing </td>
<td> sophi@jtp.com </td>
</tr>
<tr>
<td> 122 </td>
<td> Sam </td>
<td> Development </td>
<td> samd@jtp.com </td>
</tr>
</tbody>
</table>
<h5> Bootstrap 5 colored Header Table </h5>
<table class = "table table-bordered">
<thead class = "table-warning">
<tr>
```

```
<th> UserId </th>
<th> Username </th>
<th> Department </th>
<th> Contact </th>
</tr>
</thead>
<tbody>
<tr>
<td> 458 </td>
<td> jack </td>
<td> Design </td>
<td> jack@jtp.com </td>
</tr>
<tr>
<td> 284 </td>
<td> Sophia </td>
<td> Marketing </td>
<td> sophi@jtp.com </td>
</tr>
<tr>
<td> 351 </td>
<td> Merry </td>
<td> HR </td>
```

```
<td> merryhr@jtp.com </td>
</tr>
</tbody>
</table>
</div>
</body>
</html>
```

Bootstrap borderless table

Bootstrap table shows the borderless table and its information. The "table-borderless" class uses with "table" class by default, but we can use other basic table classes.

Syntax

The following syntax shows borderless table using bootstrap classes.

```
<table class = "table table-borderless">
```

```
</table>
```

Example

```
<!DOCTYPE html>
```

```
<html lang = "en">
```

```
<head>
```

```
<title> Bootstrap 5 table Example </title>
```

```
<meta charset = "utf-8">
```

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

```
<link href = "https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/css/bootstrap.min.css" rel="stylesheet">
```

```
<script src = "https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/js/bootstrap.bundle.min.js">
```

```
</script>
```

```
</head>
```

```
<body>
```

```
<div class = "container mt-2 w-50" style = "border:2px solid black;">
```

```
<h5> Bootstrap 5 borderless Table </h5>
```

```
<table class = "table table-borderless">
```

```
<thead>
```

```
<tr>
```

```

<th> UserId </th>
<th> Username </th>
<th> Department </th>
<th> Contact </th>
</tr>
</thead>
<tbody>
<tr>
<td> 458 </td>
<td> jack </td>
<td> Design </td>
<td> jack@jtp.com </td>
</tr>
<tr>
<td> 284 </td>
<td> Sophia </td>
<td> Marketing </td>
<td> sophi@jtp.com </td>
</tr>
<tr>
<td> 122 </td>
<td> Sam </td>
<td> Development </td>

```

```

<td> samd@jtp.com </td>
</tr>
<tr>
<td> 351 </td>
<td> Merry </td>
<td> HR </td>
<td> merryhr@jtp.com </td>
</tr>
</tbody>
</table>
</div>
</body>
</html>

```

Responsive table

Bootstrap table requires a table tag with the responsive table class to be placed in different device sizes. This table displays small, medium, large, extra-large, and double extra-large size devices. Bootstrap uses the "table-responsive" class by default. The table becomes scrollable for small size devices.

Syntax

The following syntax shows responsive table using bootstrap 5 classes.

```

<div class = "table-responsive">
<table class = "table">
<thead>
<tr>
<th> heading </th>
</tr>
</thead>
<tbody>
<tr> <td> data </td> </tr>
</tbody>
</table>
</div>

```

The following table shows us responsive table classes in detail.

Bootstrap responsive table	Description
"table-responsive"	This bootstrap 5 table class is used for responsive tables by default. It works on all sizes of devices.
"table-responsive-sm"	This class is used to display responsive tables for small size devices. The devices width upto 576 px (greater than 576px).
"table-responsive-md"	This class is used to display responsive tables for medium size devices. The devices width upto 768 px (greater than 768px).
"table-responsive-lg"	This class uses to display responsive tables for large size devices. The devices width upto 992 px (greater than 992px).
"table-responsive-xl"	This class is used to display responsive tables for extra large size devices. The devices width upto 1200 px (greater than 1200px).
"table-responsive-xxl"	This class is used to display responsive tables for double extra-large size devices. The devices width upto 1400 px (greater than 1400px)

Example

```
<!DOCTYPE html>
<html lang = "en">
<head>
<title> Bootstrap 5 table Example </title>
<meta charset = "utf-8">
<meta name = "viewport" content = "width=device-width, initial-scale=1">
<link href = "https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/css/bootstrap.min.css" rel="stylesheet">
<script src = "https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/js/bootstrap.bundle.min.js">
</script>
</head>
<body>
<div class = "container mt-2 w-50" style = "border:2px solid black;">
<h5> Bootstrap 5 Contextual Table </h5>
<div class = "table-responsive">
<table class = "table table-bordered">
<thead class = "table-dark">
<tr>
<th> UserId </th>
<th> Username </th>
<th> Department </th>
<th> email </th>
```

```
<th> header5 </th>
<th> header6 </th>
<th> header7 </th>
<th> header8 </th>
<th> header9 </th>
<th> header10 </th>
</tr>
</thead>
<tbody>
<tr>
<td> 458 </td>
<td> jack </td>
<td> Design </td>
<td> jack@jtp.com </td>
<td> value5 </td>
<td> value6 </td>
<td> value7 </td>
<td> value8 </td>
<td> value9 </td>
<td> value10 </td>
</tr>
<tr class = "table-primary">
<td> 284 </td>
```

```
<td> Sophia </td>
<td> Marketing </td>
<td> sophi@jtp.com </td>
<td> value5 </td>
<td> value6 </td>
<td> value7 </td>
<td> value8 </td>
<td> value9 </td>
<td> value10 </td>
</tr>
<tr class = "table-warning">
<td> 351 </td>
<td> Merry </td>
<td> HR </td>
<td> merryhr@jtp.com </td>
<td> value5 </td>
<td> value6 </td>
<td> value7 </td>
<td> value8 </td>
<td> value9 </td>
<td> value10 </td>
</tr>
```

```
</tbody>
</table>
</div>
</div>
</body>
</html>
```

Bootstrap - Images

Bootstrap image tags insert an image on a web page for reference and information. Technically, an image is not placed into a web application like text and table data. The image path places on the web page using the tag and the "href" element. The image tag of the online site does not have a closing tag.

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

.img-rounded – adds *border-radius:6px* to give the image rounded corners.

.img-circle – makes the entire image round by adding *border-radius:500px*.

.img-thumbnail – adds a bit of padding and a gray border –

```
<!DOCTYPE html>
```

```
<html>
```

```
head>
```

```
<title>Try v1.2 Bootstrap Online</title>
```

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

```
<script src="/scripts/jquery.min.js"></script>
```

```
<script src="/bootstrap/js/bootstrap.min.js"></script>
```

```
</head>
```

```
<body>
```

```

```

```

```

```

```

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

Responsive Images

Images come in all sizes. So do screens. Responsive images automatically adjust to fit the size of the screen.

Create responsive images by adding an `.img-responsive` class to the `<img>` tag. 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:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap Example</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.1/jquery.min.js"></script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></script>
</head>
<body>

<div class="container">
  <h2>Image</h2>
```

<p>The .img-responsive class makes the image scale nicely to the parent element (resize the browser window to see the effect):</p>

```

</div>3
</body>
</html>
```

Bootstrap Buttons

The Bootstrap 5 button element is usable wherever text-level markup is permitted in the document body. Such an element is not required to be related to a form element. The buttons in bootstrap allow the user to submit the form to the server for processing.

Utilize Bootstrap 5 custom button styles for actions in forms, dialogues, and more, supporting different sizes, states, and other options.

The bootstrap button uses the button tag and types with classes. The "btn" class uses the button tag to display the default button format. The contextual button classes used on the web page such as a "btn-success", "btn-primary", "btn-secondary," and so on.

Button Styles

Bootstrap provides different styles of buttons:



To achieve the button styles above, Bootstrap has the following classes:

- `.btn`
- `.btn-default`
- `.btn-primary`
- `.btn-success`
- `.btn-info`
- `.btn-warning`
- `.btn-danger`
- `.btn-link`

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap Example</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width,
initial-scale=1">
  <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.
1/css/bootstrap.min.css">
  <script
src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.3/j
query.min.js"></script>
  <script
src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/
js/bootstrap.min.js"></script>
</head>
<body>
<div class="container">
  <h2>Button Styles</h2>
  <button type="button" class="btn">Basic</button>
  <button type="button" class="btn btn-
```

```
default">Default</button>
<button type="button" class="btn btn-primary">Primary</button>
<button type="button" class="btn btn-success">Success</button>
<button type="button" class="btn btn-info">Info</button>
<button type="button" class="btn btn-warning">Warning</button>
<button type="button" class="btn btn-danger">Danger</button>
<button type="button" class="btn btn-link">Link</button>
</div>
</body>
</html>
```

The button classes can be used on an <a>, <button>, or <input> element:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap Example</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.3/jquery.min.js"></script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></script>
</head>
<body>
<div class="container">
```

```
<h2>Button Tags</h2>
```

```
<a href="#" class="btn btn-info" role="button">Link Button</a>
```

```
<button type="button" class="btn btn-info">Button</button>
```

```
<input type="button" class="btn btn-info" value="Input Button">
```

```
<input type="submit" class="btn btn-info" value="Submit Button">
```

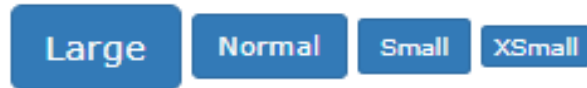
```
</div>
```

```
</body>
```

```
</html>
```

Button Sizes

Bootstrap provides four button sizes:



The classes that define the different sizes are:

- `.btn-lg`
- `.btn-sm`
- `.btn-xs`

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
<title>Bootstrap Example</title>
```

```
<meta charset="utf-8">
```

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

```
<link rel="stylesheet"
```

```
href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
```

```
<script
```

```
src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.3/jquery.min.js"></script>
```

```
<script
```

```
src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></scr
```

```
ipt>
```

```
</head>
```

```
<body>
```

```
<div class="container">
  <h2>Button Sizes</h2>
  <button type="button" class="btn btn-primary btn-lg">Large</button>
  <button type="button" class="btn btn-primary">Normal</button>
  <button type="button" class="btn btn-primary btn-sm">Small</button>
  <button type="button" class="btn btn-primary btn-xs">XSmall</button>
</div>
</body>
</html>
```

Block Level Buttons

A block level button spans the entire width of the parent element.



Add class `.btn-block` to create a block level button:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap Example</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.3/jquery.min.js"></script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></script>
</head>
<body>
<div class="container">
  <h2>Block Level Buttons</h2>
  <button type="button" class="btn btn-primary btn-block">Button 1</button>
  <button type="button" class="btn btn-default btn-block">Button 2</button>
  <h2>Large Block Level Buttons</h2>
  <button type="button" class="btn btn-primary btn-lg btn-block">Button 1</button>
  <button type="button" class="btn btn-default btn-lg btn-block">Button 2</button>
  <h2>Small Block Level Buttons</h2>
  <button type="button" class="btn btn-primary btn-sm btn-block">Button 1</button>
  <button type="button" class="btn btn-default btn-sm btn-block">Button 2</button>
</div>
</body>
</html>
```

Active/Disabled Buttons

A button can be set to an active (appear pressed) or a disabled (unclickable) state:

Active Primary

Disabled Primary

The class `.active` makes a button appear pressed, and the class `.disabled` makes a button unclickable:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap Example</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.3/jquery.min.js"></script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></script>
</head>
<body>
<div class="container">
  <h2>Button States</h2>
  <button type="button" class="btn btn-primary">Primary Button</button>
  <button type="button" class="btn btn-primary active">Active Primary</button>
  <button type="button" class="btn btn-primary disabled">Disabled Primary</button>
</div>
</body></html>
```

Bootstrap - Typography

Typography is a feature of Bootstrap for styling and formatting the text content. It is used to create customized headings, inline subheadings, lists, paragraphs, aligning, adding more design-oriented font styles, and much more. Bootstrap support global settings for the font stack, Headings and Link styles to be used in the web app for every type of OS and Device to deliver the best user interface.

Typography can be used to create:

- Headings
- Subheadings
- Text and Paragraph font color, font type and alignment
- Lists
- Other inline elements

Tags and class to implement typography feature in bootstrap:

- **display headings:** It is used to create better headings (larger font size and lighter font weight). There are four classes exists in display headings which are `.display-1`, `.display-2`, `.display-3`, and `.display-4`.
- **lead:** It is used to make a paragraph stand out i.e. visually better.
- **mark:** It is used to highlight the text content.
- **initialism:** It is used to render abbreviation in slightly small text size.
- **blockquote:** It is used to quote the text content.
- **blockquote-footer:** It is used to add the footer details for identifying the source of the Quote.
- **text-center:** It is used to align the text to the center.
- **list-inline:** It is used to make the element of list inline.

- **text-truncate:** It is used to shorten the longer text by truncating with an ellipsis.
- **text-muted:** It is used for text color, text-muted fades the text i.e. text greyed out.
- **text-uppercase:** It is used to transform text into uppercase.
- **text-lowercase:** It is used to transform text into lowercase.
- **text-capitalize:** It is used to transform text to capitalize first letter of each word leaving other letters in lowercase.
- **.font-weight-bold:** It sets the font weight to bold. It is used to display the importance of text.
- **.font-weight-bolder:** It sets the font weight to deep bold. It is used to display the importance of text.
- **.font-italic:** It sets the font style to italic.
- **.font-weight-light:** It sets the font weight to light.
- **.font-weight-lighter:** It sets the lighter font weight.
- **.font-weight-normal:** It sets the normal font size and weight.
- **.lead:** It makes the paragraph stand out.
- **.small:** It is used to create secondary subheadings.
- **.text-left:** It sets the left alignment of text.
- **.text-*-left:** It sets the left alignment of text on all screens (small, medium, large or xlarge).
- **.text-break:** It breaks the long string text into short text substrings.

Note: Rest do from [w3schools.com](https://www.w3schools.com)

Bootstrap - Jumbotron

A jumbotron is a big grey box used to indicate some text which requires extra attention. Any text that seems to be important can be written inside a jumbotron to make it appear big and noticeable.

Steps to add jumbotron:

- Use a jumbotron class inside a div element.
- Write any text inside the div tag.
- Close the div element.

Syntax:

```
<div class="jumbotron"> Contents... </div>
```

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
  <title>Bootstrap Jumbotron</title>
```

```
  <meta charset="utf-8">
```

```
  <meta name="viewport"
```

```
    content="width=device-width, initial-scale=1">
```

```
  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/4.3.1/css/bootstrap.min.css">
```

```
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.js">
```

```
</script>
```

```
  <script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.14.7/umd/popper.min.js">
```

```
</script>
```

```
<script src=
"https://maxcdn.bootstrapcdn.com/bootstrap/4.3.1/js/bootstrap.min.js">
  </script>
</head>
<body style="text-align:center;">
  <div class="container">
    <div class="jumbotron">
      <h1 style="color:green;">
        GeeksforGeeks
      </h1>

<p>A computer science portal for geeks</p>

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

Full-width Jumbotron: The .jumbotron-fluid and .container or .container-fluid classes is used to create a full-width jumbotron without rounded borders.

Syntax:

```
<div class="jumbotron jumbotron-fluid">
  <div class="container"> Contents... </div>
</div>
```

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap Jumbotron</title>
  <meta charset="utf-8">
  <meta name="viewport"
    content="width=device-width, initial-scale=1">
  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/4.3.1/css/bootstrap.min.css">
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.js">
</script>
  <script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.14.7/umd/popper.min.js">
</script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.3.1/js/bootstrap.min.js">
</script>
</head>
<body style="text-align:center;">
  <div class="container">
    <div class="jumbotron">
      <h1 style="color:green;">
        GeeksforGeeks
      </h1>
    <p>A computer science portal for geeks</p>
    </div>
  </div></body></html>
```

Bootstrap - Glyphicons

What are Glyphicons?

Glyphicons are icon fonts which you can use in your web projects. Glyphicons Halflings are not free and require licensing, however their creator has made them available for Bootstrap projects free of cost.

Glyphicons can be used in text, buttons, toolbars, navigation, forms, etc.

Here are some examples of glyphs:

Envelope glyph: ✉

Print glyph: 🖨

Search glyph: 🔍

Download glyph: ⬇

Glyphicon Syntax

A glyph is inserted with the following syntax:

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

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap Example</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.3/jquery.min.js"></script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></script>
</head>
<body>
<div class="container">
  <h2>Glyphicon Examples</h2>
  <p>Envelope icon: <span class="glyphicon glyphicon-envelope"></span></p>
  <p>Envelope icon as a link:
    <a href="#"><span class="glyphicon glyphicon-envelope"></span></a>
  </p>
  <p>Search icon: <span class="glyphicon glyphicon-search"></span></p>
  <p>Search icon on a button:
    <button type="button" class="btn btn-default">
      <span class="glyphicon glyphicon-search"></span> Search
    </button>
  </p>
</div>
</body>
</html>
```

<p>Search icon on a styled button:

```
<button type="button" class="btn btn-info">
```

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

```
</button>
```

</p>

<p>Print icon: </p>

<p>Print icon on a styled link button:

```
<a href="#" class="btn btn-success btn-lg">
```

```
<span class="glyphicon glyphicon-print"></span> Print
```

```
</a>
```

</p>

</div>

</body>

</html>