

BOOTSTRAP

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.
- Bootstrap is the most popular HTML, CSS, and JavaScript framework for developing responsive, mobile-first web sites.
- Bootstrap is completely free to download and use!
- Available at : <https://getbootstrap.com/>

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.
- You may consider the Bootstrap is the collection of pre-defined CSS classes and Javascript function that we can directly use in our application i.e add it to our HTML pages(views).

Why to use 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).

First Bootstrap Page

- Include the **HTML5 doctype** at the beginning of the page, along with the **lang** attribute and the correct **character set**

```
<!DOCTYPE html>
<html lang="pt">
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
  </head>
</html>
```

- Meta **viewport tag** ensure proper rendering and touch zooming
- Width of the page to follow the screen-width of the device and initial zoom level to default zoom level of device
- User will have a better experience, thus will not need zoom the page to view page information

First Bootstrap Page

- You will need to include three files:
 - **bootstrap.min.css**
 - **jquery.min.js**
 - **bootstrap.min.js**
- You must download it and include in you page
- For this example, we include from the Internet

```
<link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css">  
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.1.1/jquery.min.js"></script>  
<script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/js/bootstrap.min.js"></script>
```

First Bootstrap Page

- Bootstrap has a concept of containing element to wrap site contents

```
<div class="container">  
  <h1>My First Bootstrap Page</h1>  
  <p>This is some text.</p>  
</div>
```

```
<div class="container-fluid">  
  <h1>My First Bootstrap Page</h1>  
  <p>This is some text.</p>  
</div>
```


How to get Bootstrap ?

- There are two ways to start using Bootstrap on your own web site.
- You can : Download Bootstrap from getbootstrap.com
- Or you can : Include Bootstrap from a CDN [CDN links are given below]
- `<link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css" />`
- `<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.js"></script>`
- `<script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/js/bootstrap.min.js"></script>`

Prepare your First Bootstrap page

- In a plain HTML page, one must include the HTML5 doctype at beginning of the page, with lang and charset attribute.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <title></title>
</head>
<body>
</body>
</html>
```

Prepare your First Bootstrap page

- Meta viewport tag ensure proper rendering of page and touching and zooming.
- Width allows to set width of the device and initial scale defines default zoom level (i.e. 100%)

Prepare your First Bootstrap page

- Add the appropriate CDN to the header section of the page.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8"/>
  <meta name="viewport" content="width=device-width, initial-scale=1"/>
  <title></title>
  <!-- Latest compiled and minified Bootstrap CSS -->
  <!-- Latest compiled Bootstrap JavaScript -->
  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.0-beta1/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-giJF6kkoqNQ00vy+HMDP7azOuL0xtbfIcaT9wjKHr8RbDVddVHyTfAAsrekwKmp1" crossorigin="anonymous">
  <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.0-beta1/dist/js/bootstrap.bundle.min.js" integrity="sha384-ygbV9kiqUc6oa4msXn9868pTtWMgiQaeYH7/t7LECLbyPA2x65Kgf800JFdroafW" crossorigin="anonymous"></script>
  <!-- latest jQuery library -->
  <script src="https://code.jquery.com/jquery-latest.js"></script>
</head>
```

Create First Bootstrap Page

- After preparing the Head section of the html page, now one is ready to go with the adding the bootstrap classes to the page.
- First class is **Container**.
- Containers
 - Bootstrap also requires a containing element to wrap site contents.
 - There are two container classes to choose from:
 - The **.container** class provides a responsive **fixed width container**.
 - 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).

Create First Bootstrap Page(HTML Code)

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8"/>
  <meta name="viewport" content="width=device-width, initial-scale=1"/>
  <title></title>
  <!-- Latest compiled and minified Bootstrap CSS -->
  <!-- Latest compiled Bootstrap JavaScript -->
  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.0-beta1/dist/css/bootstrap.min.css" rel="stylesheet"
    integrity="sha384-giJF6kkoqNQ00vy+HMDP7azOuL0xtbfIcaT9wjKHr8RbDVddVHyTfAAsrekwKmp1" crossorigin="anonymous">

  <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.0-beta1/dist/js/bootstrap.bundle.min.js" integrity="
    sha384-ygbV9kiqUc6oa4msXn9868pTtWMgiQaeYH7/t7LECLbyPA2x65Kgf800JFdroafW" crossorigin="anonymous"></script>
  <!-- latest jQuery library -->
  <script src="https://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <h1> Hello </h1><br/>
  <div class="container">
    <h1>My First Bootstrap page</h1>
    <p> Welcome to the World of the Bootstrap</p>
  </div><br/>
  <div class="container-fluid">
    <h1>My First Bootstrap page</h1>
    <p> Welcome to the World of the Bootstrap</p>
  </div>
</body>
```


Create First Bootstrap Page(Output)



Bootstrap Grid System

- Bootstrap's grid system allows up to 12 columns across the page.
- You can divide the container in rows and each row in columns with space multiple of the 12.

span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1
span 4				span 4				span 4			
span 4				span 8							
span 6						span 6					
span 12											

Grid Classes

- The Bootstrap grid system has four classes:
- xs (for phones - screens less than 768px wide)
- sm (for tablets - screens equal to or greater than 768px wide)
- md (for small laptops - screens equal to or greater than 992px wide)
- lg (for laptops and desktops - screens equal to or greater than 1200px wide)
- The classes above can be combined to create more dynamic and flexible layouts.

Jumbotron Classes

- Creating a Jumbotron
- A 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. It also enlarges the font sizes of the text inside it.
- Tip: Inside a jumbotron you can put nearly any valid HTML, including other Bootstrap elements/classes.

Well Classes

- 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:
- Wells: The `.well` class adds a rounded border around an element with a gray background color and some padding:
- Basic Well :
- Well Size:
- Small Well
- Normal Well
- Large Well