



Bootstrap

Bootstrap

It is a front-end framework

It has available HTML and CSS design templates. It also include some JS components

It helps to create responsive websites

What does it mean responsive web design?

It means develop web sites which automatically adjust themselves to fit in the size of a device

<https://getbootstrap.com/>



Bootstrap

Please **READ**: <https://getbootstrap.com/docs/5.3/getting-started/introduction/>



Index.html

```
<!DOCTYPE html>
```

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

```
<head>
```

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

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

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

```
</head>
```

```
<body>
```

```
  <h1>Bootstrap</h1>
```

```
</body>
```

```
</html>
```



Let's add CSS and JS using the Bootstrap library

```
<!DOCTYPE html>
```

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

```
<head>
```

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

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

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

```
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/css/bootstrap.min.css"
rel="stylesheet"
```

```
integrity="sha384-T3c6Coli6uLrA9TneNEoa7RxnatzjcDSCmG1MXxSR1GAsXEV/Dwwykc2MPK8M2
HN" crossorigin="anonymous">
```

```
</head>
```

```
<body>
```

```
<h1>Bootstrap</h1>
```

```
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/js/bootstrap.bundle.min.js"
integrity="sha384-C6RzsynM9kWDrMNeT87bh95OGNyZPhcTNXj1NW7RuBCsyN/o0jlpcV8Qyq46cD
fL" crossorigin="anonymous"></script>
```

```
</body>
```

```
</html>
```

Breakpoints

Control when your layout can be adapted at a particular device size.

Check documentation: <https://getbootstrap.com/docs/5.3/layout/breakpoints/>

The definitions sm, md, ... are going to be keywords when we will define how large our grids are going to be, and how much are we going to show depending on the width of the browser windows.

Most of the time, the viewport width of smartphone is going to be the extra small (<576px)



Container

To use the default grid system of bootstrap, we need to use the most basic layout element called a container.

<https://getbootstrap.com/docs/5.3/layout/containers/>

Let's add our container, which is going to be the first html level using the bootstrap library.

```
<body>
  <div class="container">
    <h1>Bootstrap</h1>
  </div>
  <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/js/bootstrap.bundle.min.js"
  integrity="sha384-C6RzsynM9kWDrMNeT87bh95OGNyZPhcTNXj1NW7RuBCsyN/o0jlpcV8Qyq46cDfL"
  crossorigin="anonymous"></script>
</body>
```

Grid System

To create a new line inside the container, we are going to use `<div class="row">`. To create a new column, we are going to use `<div class="col">`

Let try to create a grid, 2 row, 3 columns:

Row 1 - column 1	Row 1 - column 2	Row 1 - column 3
Row 2 - column 1	Row 2 - column 2	Row 2 - column 3




```
<div class="container">
  <div class="row">
    <div class="col">
      Row 1 - column 1
    </div>
    <div class="col">
      Row 1 - column 2
    </div>
    <div class="col">
      Row 1 - column 3
    </div>
  </div>
  <div class="row">
    <div class="col">
      Row 2 - column 1
    </div>
    <div class="col">
      Row 2 - column 2
    </div>
    <div class="col">
      Row 2 - column 3
    </div>
  </div>
</div>
```



Grid System

The grid in bootstrap is designed with 12 sub columns. And so we can specify that the first column will take 5 sub columns, the second one 4 sub column and the last one 3 sub columns. Let's do this for the first row. Every row is independent because it is NOT a table

[illegible]

```
<div class="container">
  <div class="row">
    <div class="col-5">
      Row 1 - column 1
    </div>
    <div class="col-4">
      Row 1 - column 2
    </div>
    <div class="col-3">
      Row 1 - column 3
    </div>
  </div>
  <div class="row">
    <div class="col">
      Row 2 - column 1
    </div>
    <div class="col">
      Row 2 - column 2
    </div>
    <div class="col">
      Row 2 - column 3
    </div>
  </div>
</div>
```



What would happen if I add more than 12 sub-columns
in a row?



Let's add some breakpoint names

```
<div class="container">
  <h1>Bootstrap</h1>
  <div class="container">
    <div class="row">
      <div class="col-6 col-md-3">
        Row 1 - column 1
      </div>
      <div class="col-6 col-md-3">
        Row 1 - column 2
      </div>
      <div class="col-6 col-md-3">
        Row 1 - column 3
      </div>
      <div class="col-6 col-md-3">
        Row 1 - column 4
      </div>
    </div>
    <div class="row">
      <div class="col">
        Row 2 - column 1
      </div>
      <div class="col">
        Row 2 - column 2
      </div>
      <div class="col">
        Row 2 - column 3
      </div>
    </div>
  </div>
</div>
```

Here we specify col-6 for any width size, but we also specify that starting at md breakpoint, it is going to be col-md-3

Defining a md-3 means 3 sub-columns will be assigned to a column

If smaller than md, it will get 6 sub-columns



What would happen if we add a sm breakpoint?

```
<div class="container">
  <h1>Bootstrap</h1>
  <div class="container">
    <div class="row">
      <div class="col-6 col-sm-4 col-md-3">
        Row 1 - column 1
      </div>
      <div class="col-6 col-sm-4 col-md-3">
        Row 1 - column 2
      </div>
      <div class="col-6 col-sm-4 col-md-3">
        Row 1 - column 3
      </div>
      <div class="col-6 col-sm-4 col-md-3">
        Row 1 - column 4
      </div>
    </div>
    <div class="row">
      <div class="col">
        Row 2 - column 1
      </div>
      <div class="col">
        Row 2 - column 2
      </div>
      <div class="col">
        Row 2 - column 3
      </div>
    </div>
  </div>
</div>
```

When the width is \geq md, we are going to see the 4 columns in the same row,

When the width is \geq sm, we are going to see 3 columns in the row, and the last column will be in a new row, for smaller than that, 2 row of 2 columns

Using breakpoints it will be easy to specify the size of columns. Depending on the content you have in your div col, the space will be taken based on the width of the browser.

Nested rows, cols

Before closing the the container div, add this:

```
<div class="row mt-4">
  <div class="col-12 col-md-6">
    <div class="row">
      <div class="col-12">
        1st nested row-col, I am taking all the space I can
      </div>
      <div class="col-6">
        I am taking half space of the space of this row
      </div>
      <div class="col-6">
        me too
      </div>
    </div>
  </div>
  <div class="col-12 col-md-6">
    <div class="row">
      <div class="col-12 col-lg-6">
        well me all the space when < lg, but then half only
      </div>
      <div class="col-12 col-lg-6">
        me too, at least we have some space when it is getting smaller
      </div>
    </div>
  </div>
</div>
```



Margin, padding

Did you notice I have a mt-4 on the row. That mean margin top size 4

<https://getbootstrap.com/docs/5.3/utilities/spacing/#margin-and-padding>

You can specify the margin (m) and the padding (p) for each html tag. You can indicate right and left at the same time=> horizontal with x, px-2; top and bottom at the same time => vertical with y, my-1; or just one side: t for top, b for bottom, l for left, r for right; or all the side at the same time without indicating anything like m-2



Background Color

Add a background by using `.bg-*`

Example:

`.bg-primary`, `.bg-danger`, `.bg-success`,

<https://getbootstrap.com/docs/5.3/utilities/background/#background-color>

You can customize the color using SASS, it is like a compiler to create a css file. We are not going to cover this topic. But put it in here for reference.

<https://bootstrap.themes.guide/how-to-customize-bootstrap.html>

<https://blog.hubspot.com/website/how-to-override-bootstrap-css>



Gutters

Gutters are the gaps between column content

Horizontal gutters:

.gx-* classes can be used to control the horizontal gutter widths.

Vertical gutters:

.gy-* classes can be used to control the vertical gutter widths within a row when columns wrap to new lines.

Horizontal & vertical gutters

.g-* classes to control the horizontal and vertical grid gutters.

See **example** here:

https://github.com/novillo-cs/softdev_material/blob/main/classwork/unit_2/bootstrap/examples/gutters/index.html

Play with g-0, g-1... gx-0, gx-1, ... gy-0, gy-1.... See the behavior of the gutters.



Forms - Form Control

Elements in the form get the style from **.form-control**

```
<input type="email" class="form-control" id="name_input">
```

```
<select class="form-control" id="period_input">
```

```
<textarea class="form-control" id="comment_input">
```



Forms - Sizing

Change heights using **.form-control-lg** and **.form-control-sm**.

```
<input type="text" class="form-control form-control-lg" id="nameInput">
```



Forms - Readonly

Use the attribute **readonly**.

Example:

```
<input type="text" class="form-control" id="nameInput" readonly>
```

Forms - Disabled

Use the attribute **disabled**.

Example:

```
<input type="text" class="form-control" placeholder="7EE" disabled>
```



