

University Mohamed Boudiaf - Msila
Faculty of Mathematics and Computer Science
Department of Computer Science
1st Year Master - SIGL



Web Technologies

Client-side technologies

- Bootstrap -

Mohamed Kamel

Academic Year 2025/2026

Table of Contents

- 1 Introduction
- 2 Grid System
- 3 Basic UI Elements

Introduction

Bootstrap is a CSS framework

- Front-end
- Responsive
- Free
- Open source



History

Bootstrap was originally created at Twitter, it was known as Twitter Blueprint,

- 2010, created at Twitter as **Twitter Blueprint**
- 2011, v1.0 release
- 2012, v2.0 release
- 2013, v3.0 release
- 2018, v4.0 release
- 2021, v5.0 release

Grid System

- 12 columns
- Responsive depending on screen size

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 classes below can be combined with each other to create flexible layouts

- **xs**, less than 768px, like phones
- **sm**, more than 768px, like tablets
- **md**, more than 992px, like small laptops
- **lg**, more than 1200px, like laptops and desktops

Examples

3 equal columns Example

```
1 <div class="row">
2   <div class="col-sm-4">.col-sm-4</div>
3   <div class="col-sm-4">.col-sm-4</div>
4   <div class="col-sm-4">.col-sm-4</div>
5 </div>
```

Result

.col-sm-4

.col-sm-4

.col-sm-4

Examples

2 unequal columns Example

```
1 <div class="row">
2   <div class="col-sm-4">.col-sm-4</div>
3   <div class="col-sm-8">.col-sm-8</div>
4 </div>
```

Result

.col-sm-4

.col-sm-8

Alerts

```
1 <div class="alert alert-success">
2   <strong>Success!</strong> message.</div>
3 <div class="alert alert-info">
4   <strong>Info!</strong> message.</div>
5 <div class="alert alert-warning">
6   <strong>Warning!</strong> message.</div>
7 <div class="alert alert-danger">
8   <strong>Danger!</strong> message.</div>
```

Success! Message.

Info! Message.

Warning! Message.

Danger! Message.

Buttons

```
1 <button class="btn">Basic</button>
2 <button class="btn btn-default">Default</button>
3 <button class="btn btn-primary">Primary</button>
4 <button class="btn btn-success">Success</button>
5 <button class="btn btn-info">Info</button>
6 <button class="btn btn-warning">Warning</button>
7 <button class="btn btn-danger">Danger</button>
8 <button class="btn btn-link">Link</button>
```

Basic

Default

Primary

Success

Info

Warning

Danger

Link

Buttons

```
1 <a href="#" class="btn btn-info" role="button">Link Button
  </a>
2 <button type="button" class="btn btn-info">Button</button>
3 <input type="button" class="btn btn-info" value="Input
  Button">
4 <input type="submit" class="btn btn-info" value="Submit
  Button">
```

[Link Button](#)Button

Button groups

```
1 <div class="btn-group">
2   <button type="button" class="btn btn-primary">Apple
   </button>
3   <button type="button" class="btn btn-primary">Samsung
   </button>
4   <button type="button" class="btn btn-primary">Sony</button>
5 </div>
```

Apple

Samsung

Sony

Bootstrap Icons

Bootstrap icons

Bootstrap icons in buttons example

```
1 <button type="button" class="btn btn-default">
2 <i class="bi bi-search"></i> Search</button>
3 <a class="btn btn-primary">
4 <i class="bi bi-download"></i> Download</a>
5 <button type="button" class="btn btn-success">
6 <i class="bi bi-gear-fill"></i> Settings</button>
7 <a class="btn btn-danger">
8 <i class="bi bi-trash"></i> Delete</a>
```

 Search Download Settings Settings

Progress bar

Progress bar example

```
1 <div class="progress">
2   <div class="progress-bar" role="progressbar"
      aria-valuenow="70" aria-valuemin="0" aria-valuemax="
      100" style="width:70%">
3     70% Complete
4   </div>
5 </div>
```



70%

Questions ?