

# BOOTSTRAP

**HTML**



**CSS**





# Build fast, responsive sites with Bootstrap

Powerful, extensible, and feature-packed frontend toolkit. Build and customize with Sass, utilize prebuilt grid system and components, and bring projects to life with powerful JavaScript plugins.

<https://getbootstrap.com/>

# What is Bootstrap?

3

- ❑ Bootstrap is a CSS framework, it is CSS classes for structure, layout, components (buttons, navbar, modal etc), forms, written by other developers.
- ❑ This enforces a uniform layout, look and feel on the web application.
- ❑ Freely available to develop web sites and web applications.



# What is Bootstrap cont.

4

- JavaScript is also used in conjunction with the CSS classes, for things like animations, transitions, popups etc.
- The CSS within it is quite detailed, there are lots of classes with varying levels of hierarchy.
- It's fully customisable and the web is full of themes and templates for apps built using it
  - ▣ <https://themes.getbootstrap.com/>

# Who developed it?

5

- It was developed by Twitter's Mark Otto and Jacob Thornton 
- They wanted to standardise the frontend toolsets across twitter
- It was released as open source in August 2011 on Github

## We Need A Framework

Mark Otto



Jacob Thornton



# Adding Bootstrap to our web apps

6

- Two options
  - ▣ Download the files, i.e. CSS, JS, place them in the app folders
  - ▣ Use a Content Delivery Network URL
  
- <https://getbootstrap.com/>

# Content Delivery Networks

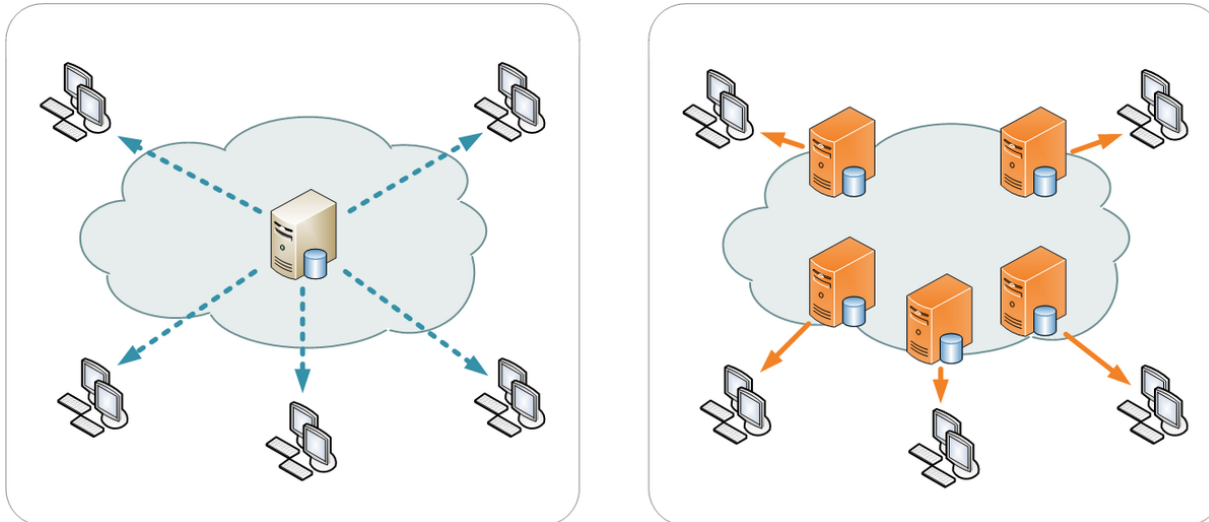
7

- A popular way to include frontend libraries and technologies is to use a CDN
- Instead of having a single server, CDNs involve using a collection of servers to serve content
- These servers are usually placed geographically close to the user base to ensure that maximum performance is achieved
- Largely designed for delivering static content, images, videos, and web content such as text, graphics and scripts.

# CDNs are popular

8

- Almost every frontend technology provider, Facebook, Google, Twitter will provide access to their libraries via a CDN
- This is very useful from a caching perspective, as browser caches should already have a hit for a regularly used CDN address, such as that from Bootstrap





# How to recognise it?

9

**kipt** Discover About Blog [Log in](#) [Sign up](#)

**All your links**  
Organized, archived and searchable

[Sign up for free](#)

One place for your links  
Organized and archived  
Discover and share

**SOONREADY** Search Sign in

Name a band, get a playlist for their next show.  
Boom, it's that easy.

The Black Keys, Arctic Monkeys, Bon Iver... [Go](#)

**ContentCentric** Home My Sites Feedback Get Feedback Sign up

Website content planning made simple.  
We help you manage your website content, structure and content.

Plan Structure Collaborate Deliver

Ready to say goodbye to content checks? [Get started now](#)

Quora andCulture **CONTENT** fuser unicof J W T **.net**

Better manage your web content projects

Handwritten text: "Hmmm, these websites all look alike..."

Hand-drawn arrows point from the text to the "Sign up for free" button on kipt, the "Discover and share" section on kipt, the "SOONREADY" logo, the "Name a band..." text on SOONREADY, and the "Ready to say goodbye..." button on ContentCentric.

# Supported by all browsers

10

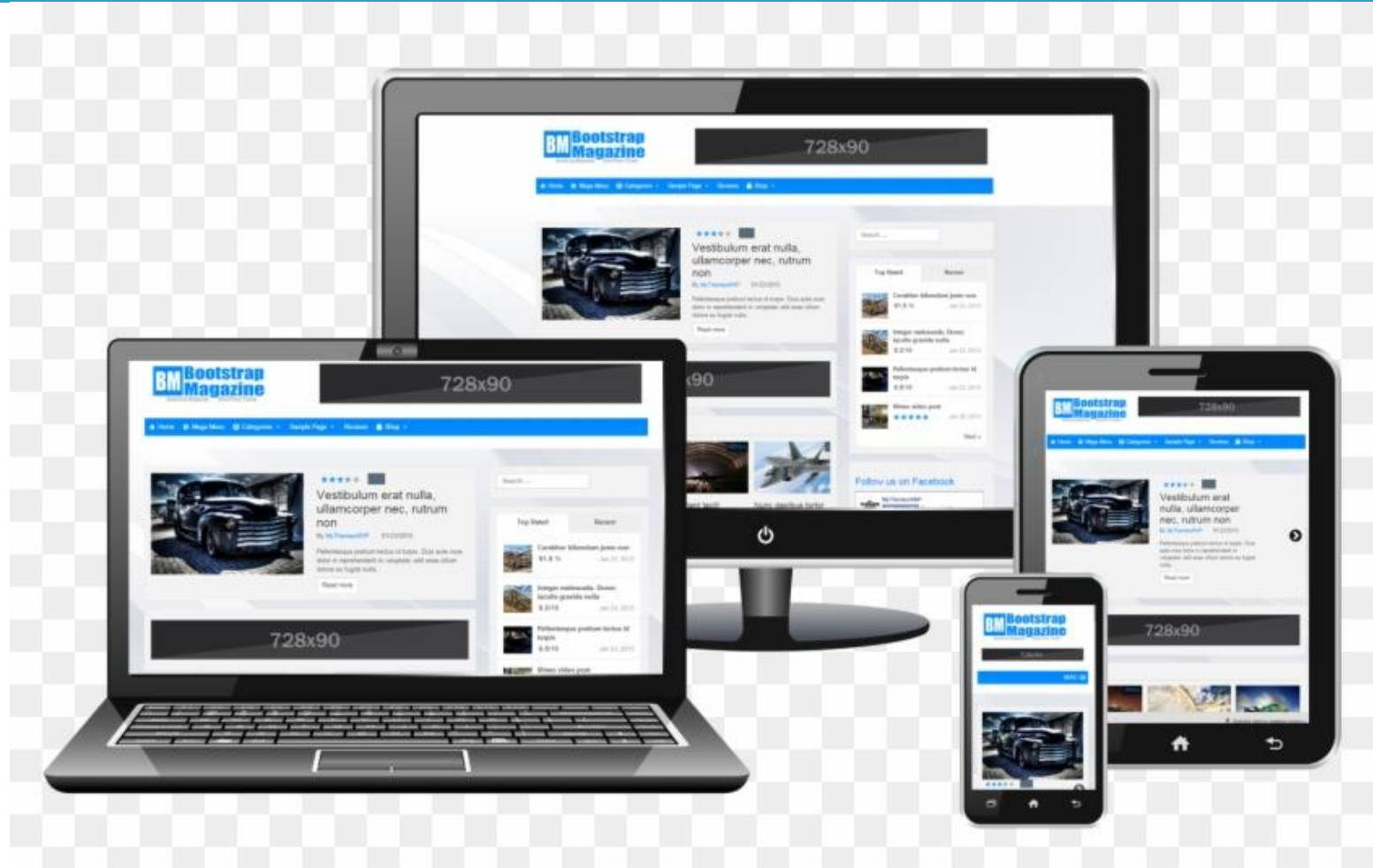
Solid cross browser compatibility



All browsers have different rendering engines, webkit, trident ...

# Responsive Design

11



[https://www.pngfind.com/mpng/iJmbRw\\_bootstrap-responsive-design-laptop-tablet-mobile-psd-hd/](https://www.pngfind.com/mpng/iJmbRw_bootstrap-responsive-design-laptop-tablet-mobile-psd-hd/)

# What is responsive layout?

12

- Produces an optimal viewing experience for the user independent of the device they are viewing it on
- Bootstrap is mobile first (software that has been developed to prioritise use on mobile platforms)
- If you view it on a mobile, tablet or larger screen it will scale accordingly
- As the viewport size increases it can scale up to 12 columns

<https://www.tutorialrepublic.com/twitter-bootstrap-tutorial/bootstrap-responsive-layout.php>



# Get Bootstrap

13

- Navigate to <https://getbootstrap.com/>
- Scroll down to the Include via CDN



Include via CDN

- Copy the CSS only link and paste it in between the `<head></head>` tags at the top of the page
- Take the JavaScript and pop it in below it.

# Add Bootstrap to our Web pages

14

## Index.html

```
<!DOCTYPE html>
<html>
  <head>
    <title> Welcome to my cool new web page </title>
    <link rel='stylesheet' href='/stylesheets/style.css' />
    <link rel='stylesheet' href='https://cdn.jsdelivr.net/npm/bootstrap@currversion...' />
    <script src='https://cdn.jsdelivr.net/npm/bootstrap@currversion...' />
  </head>
  <body>

  </body>
</html>
```



Add the bootstrap CSS  
URLs and JS URLs from  
getbootstrap.com

# Bootstrap container class

15

- The container class is a fundamental building block of Bootstrap.
- They are required for the Grid system to work
- Thus it is best to ensure that all of your HTML elements marked up with Bootstrap classes are nested within a container

```
<div class="container">
```

```
...
```

```
</div>
```

# Bootstrap Exercise 1 – Add bootstrap

16

- Add Bootstrap to your apps (see previous slide)
  - ▣ Test that it works by clicking on the Docs section (getbootstrap.com) and the choosing “Buttons” component
  - ▣ Paste the button samples into your HTML page (index.html)



- ▣ Does it look like the example in the docs, if not you haven't included Bootstrap properly



- ▣ Add a navigation bar to your app (consider where you might place this)

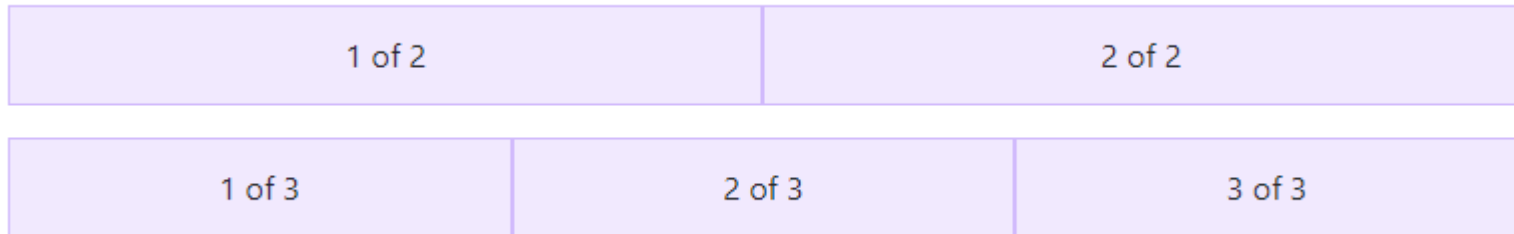


# Bootstrap grid system

17

- For laying out content on your pages Bootstrap supports a grid system which structures the page into rows and columns

<https://getbootstrap.com/>



- It supports a concept of Rows and Columns, like a spreadsheet.
- Rows contain columns, columns contain the content!
- The total number of columns is 12.

# Bootstrap grid system

18

- It uses div tags and with specific classes associated with each div.
- The rows and columns are all div tags
- It is built with Flexbox ([https://developer.mozilla.org/en-US/docs/Web/CSS/CSS Flexible Box Layout/Basic Concepts of Flexbox](https://developer.mozilla.org/en-US/docs/Web/CSS/CSS_Flexible_Box_Layout/Basic_Concepts_of_Flexbox))

# How the “Grid” system works

19

- It supports six responsive breakpoints, which allows it to adjust the views for different screen sizes, **small, medium, large** etc.
- It has predefined padding and horizontal gutter widths between columns which are customizable but keep the content nicely spaced and uniformly structured with each other.

# How the grid system works

20

- Rows must be placed within a **.container** class for proper alignment and padding.
- Use rows to create horizontal groups of columns.
- Content should be placed within columns, and only columns may be immediate children of rows.
- Predefined grid classes like **.row** and **.col** are available for quickly making grid layouts.
- Columns create gutters (gaps between column content) via padding. That padding is offset in rows for the first and last column via negative margin on **.rows**.
- 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-4** divs.

# Bootstrap column classes

21

	<b>xs</b> <576px	<b>sm</b> ≥576px	<b>md</b> ≥768px	<b>lg</b> ≥992px	<b>xl</b> ≥1200px	<b>xxl</b> ≥1400px
<b>Container</b> <i>max-width</i>	None (auto)	540px	720px	960px	1140px	1320px
<b>Class prefix</b>	<i>.col-</i>	<i>.col-sm-</i>	<i>.col-md-</i>	<i>.col-lg-</i>	<i>.col-xl-</i>	<i>.col-xxl-</i>
<b># of columns</b>	12					
<b>Gutter width</b>	1.5rem (.75rem on left and right)					
<b>Custom gutters</b>	<a href="#">Yes</a>					
<b>Nestable</b>	<a href="#">Yes</a>					
<b>Column ordering</b>	<a href="#">Yes</a>					

<https://getbootstrap.com/docs/>

# Example

22

- Lets say you want to split the screen 50/50 for large screen devices

```
<div class="container">
  <h1>Split 50/50</h1>
  <div class="row show-grid">
    <div class="col-lg-6">First</div>
    <div class="col-lg-6">Second</div>
  </div>
</div>
```

*Remember everything is  
12 columns wide  
Note that this will affect  
breakpoints above it also*

Split 50/50

First

Second

- On large screen sizes the columns will be placed side by side

# Resize the screen

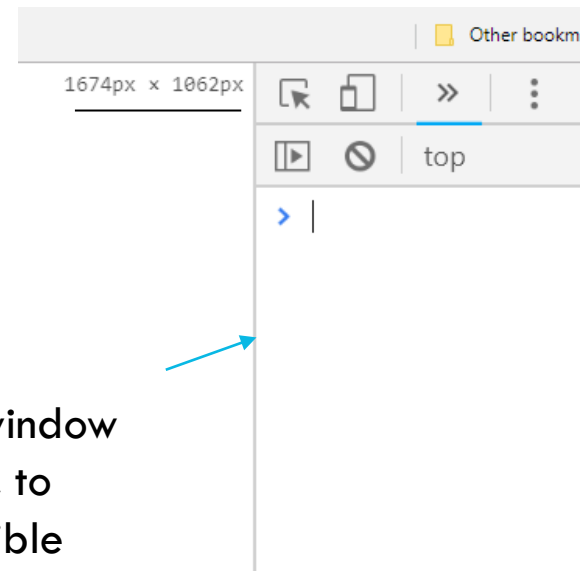
23

- When the screen is resized i.e. less than 992px it will stack the two columns

Split 50/50



- You can find out the pixels by enabling the Chrome debugger



Drag the window to resize it, to make it visible

# Keep them 50/50 on all devices

24

- If you want to keep them 50/50 on all devices you can specify the lowest size and it will scale

Practice it now!



# Exercise 2 - Bootstrap – Grid

25

Provide the HTML and corresponding Bootstrap classes to split a row into two separate sections, each sized 6 columns wide on large and medium devices or above. In the case of smaller devices, the columns should stack on top of each other.