Introduction to Bootstrap4

COGS3 – redoing the schedule with more style 😊
Bootstrap 4 is the newest version of Bootstrap, which is the most popular HTML, CSS, and JavaScript framework for developing responsive, mobile-first websites.

Bootstrap 4 is completely free to download and use!

Start learning Bootstrap 4 now »
This Bootstrap 4 tutorial contains hundreds of Bootstrap 4 examples.

With our online editor, you can edit the code, and click on a button to view the result.
- Responsive
  - Breakpoints → viewport size
    - media query
<!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/4.2.1/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/1.14.6/umd/popper.min.js"></script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.2.1/js/bootstrap.min.js"></script>
</head>
<body>
<div class="jumbotron text-center">
  <h1>My First Bootstrap Page</h1>
</div>

My First Bootstrap Page
Renew this responsive page to see the effect!
mn 3

Lorem ipsum dolor sit amet, consectetur adipiscing elit.

Ad minim veniam, dolor sit amet, consectetur adipiscing ullamco laboris.
My First Bootstrap Page

Resize this responsive page to see the effect!

Select an element in the page to inspect it  Ctrl + Shift + C
My First Bootstrap Page

Resize this responsive page to see the effect!

Column 1
Lorem ipsum dolor sit amet, consectetur adipiscing elit...

Column 2
Lorem ipsum dolor sit amet, consectetur adipiscing elit...

Column 3
Lorem ipsum dolor sit amet, consectetur adipiscing elit...

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<html lang="en">
</html>
Toggle device toolbar  Ctrl + Shift + M
breakpoints for viewport
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

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.
Where to Get Bootstrap 4?

There are two ways to start using Bootstrap 4 on your own web site.

You can:

- Include Bootstrap 4 from a CDN
- Download Bootstrap 4 from getbootstrap.com
One advantage of using the Bootstrap 4 CDN:
Many users already have downloaded Bootstrap 4 from MaxCDN when visiting another site. As a result, it will be loaded from cache when they visit your site, which leads to faster loading time. Also, most CDN's will make sure that once a user requests a file from it, it will be served from the server closest to them, which also leads to faster loading time.

jQuery and Popper?
Bootstrap 4 use jQuery and Popper.js for JavaScript components (like modals, tooltips, popovers etc). However, if you just use the CSS part of Bootstrap, you don't need them.
Create First Web Page With Bootstrap 4

1. Add the HTML5 doctype

Bootstrap 4 uses HTML elements and CSS properties that require the HTML5 doctype.

Always include the HTML5 doctype at the beginning of the page, along with the lang attribute and the correct character set:

```html
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8">
  </head>
</html>
```
2. Bootstrap 4 is mobile-first

Bootstrap 4 is designed to be responsive to mobile devices. Mobile-first styles are part of the core framework.

To ensure proper rendering and touch zooming, add the following `<meta>` tag inside the `<head>` element:

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

The `width=device-width` part sets the width of the page to follow the screen-width of the device (which will vary depending on the device).

The `initial-scale=1` part sets the initial zoom level when the page is first loaded by the browser.
3. Containers

Bootstrap 4 also requires a containing element to wrap site contents.

There are two container classes to choose from:

1. The `.container` class provides a responsive **fixed width container**
2. The `.container-fluid` class provides a **full width container**, spanning the entire width of the viewport
<div class="container">
  <div class="row">
    <div class="col-sm-4">
      <h3>Column 1</h3>
      <p>Lorem ipsum dolor sit amet, co</p>
    </div>
  </div>
</div>
Bootstrap 4 Grid System

Bootstrap's grid system is built with flexbox and allows up to 12 columns across the page.

If you do not want to use all 12 columns individually, you can group the columns together to create wider columns:

<table>
<thead>
<tr>
<th>span 1</th>
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<th>span 1</th>
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</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>span 4</td>
<td>✓</td>
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<td>span 4</td>
<td>✓</td>
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<td>span 6</td>
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<td></td>
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<td></td>
<td></td>
<td>span 12</td>
<td></td>
</tr>
</tbody>
</table>

Note: The ✓ symbol indicates the columns are grouped together.
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.

**Tip:** Each class scales up, so if you wish to set the same widths for `sm` and `md`, you only need to specify `sm`.
<!-- Control the column width, and how they should appear on different devices -->

```html
<div class="row">
  <div class="col-sm-6"></div>
  <div class="col-sm-6"></div>
</div>

```html
<div class="row">
  <div class="col-sm-4"></div>
  <div class="col-sm-4"></div>
  <div class="col-sm-4"></div>
</div>

```html
<!-- Or let Bootstrap automatically handle the layout -->

```html
<div class="row">
  <div class="col"></div>
  <div class="col"></div>
  <div class="col"></div>
</div>

```html
<div class="row">
  <div class="col-sm-6"></div>
  <div class="col-sm-6"></div>
</div>
```
Example

```
<div class="row">
  <div class="col-sm-4">.col-sm-4</div>
  <div class="col-sm-8">.col-sm-8</div>
</div>
```
Learn the Bootstrap 4 Grid System in 10 Minutes

https://medium.freecodecamp.org/learn-the-bootstrap-4-grid-system-in-10-minutes-e83bfae115da