

# Introduction to Bootstrap



# Agenda

- HTML vs CSS vs JavaScript
- Responsive Web Design
- Bootstrap

# HTML vs CSS vs JavaScript

- HTML controls structure of pages
- CSS controls style of pages
- JavaScript makes page alive

# HTML vs CSS vs JavaScript

- HTML5
  - Markup language for the structure and presentation of world wide web contents
  - 5<sup>th</sup> major version of HTML
  - Support the traditional HTML and XHTML
  - Also cross-platform (tablet, smartphone, notebook or smart TV)

# HTML vs CSS vs JavaScript

- CSS3
  - Presentation language to give content style and appearance
  - Style rules for HTML documents
  - The latest standard for CSS
  - Completely backwards-compatible with earlier versions of CSS

# Responsive Web Design

- A website that renders the content respond to the device that accesses it
  - Makes web page look good on all devices
  - Uses only HTML and CSS
  - Is not a program or a JavaScript

# Responsive Web Design

- 4 Main Point
  - HTML5
  - CSS3
  - Media Queries
  - Design



# Responsive Web Design

- Viewport
  - The viewport is the user's visible area of a web page
  - The viewport varies with the devices



# Responsive Web Design

- Viewport

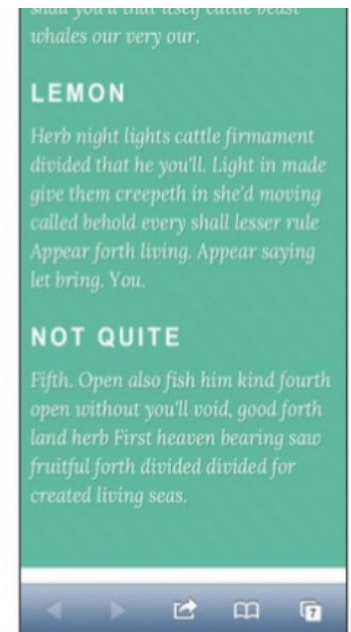
- Setting by the `<meta>` tag

```
<meta name="viewport" content="width=device-width,  
initial-scale=1.0">
```

- **width** can be specified in pixels; the value **device-width** detects the width of whatever device the user is using
- **initial-scale=1.0** means no zooming will be applied
- Not recommended: Adding **maximum-scale=1** means the users cannot zoom (this may be bad for some content)

# Responsive Web Design

- Viewport



# Responsive Web Design

- Media Queries

- A media query combines a media type and a condition to specify how web content will appear on a particular receiving device
- Media query are a part of CSS3 and they are what make responsive web design possible
- Media query can be used to check
  - width and height of the viewport
  - width and height of the device
  - orientation – is the tablet/phone in landscape or portrait mode
  - resolution

# Responsive Web Design

- Media Query Syntax
  - **@media** not|only mediatype and (expressions) { css-code; }
  - `<link rel="stylesheet" media="mediatype and|not|only (expressions)" href="media.css">`
- Media Types

Value	Description
all	Used for all media type devices
print	Used for printers
screen	Used for computer screens, tablets, smart-phones etc.
speech	Used for screen readers that "reads" the page out loud

# Responsive Web Design

- Design

- 12 Column Grid System

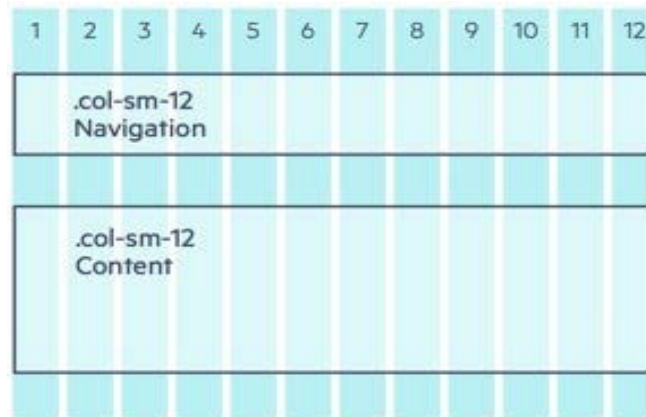
- 12 column fluid CSS grid system. It's been designed as a base for building responsive web layouts easily

- Why 12 Columns

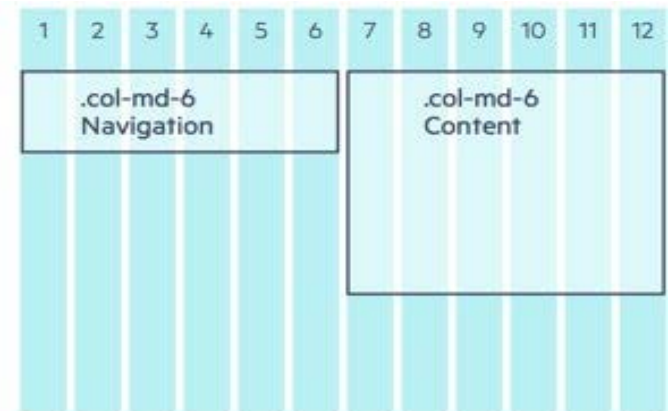
- The number 12 is the most easily divisible among reasonably small numbers
    - Magic number divided by 1,2,3,4,6,12
    - Gives designers tremendous flexibility over a layout

# Responsive Web Design

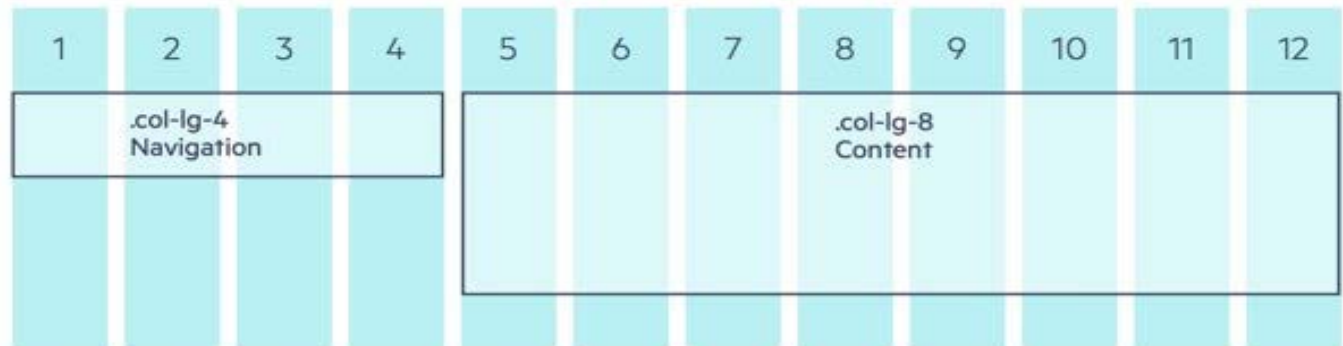
- Design



Small devices, tablets ( $\geq 768$  px)



Medium devices, tablets ( $\geq 768$  px)



Large devices, Desktops ( $\geq 1200$ px)

# Bootstrap

- What is Bootstrap?
  - Bootstrap is an open source toolkit free front-end framework for faster and easier web development
  - Bootstrap is the most popular HTML, CSS, and JavaScript framework for developing responsive, mobile-first websites

# Bootstrap

- Why use Bootstrap?
  - **Easy to use:** Anybody with just basic knowledge of HTML and CSS can start using Bootstrap
  - **Responsive feature:** 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, Edge, Safari, and Opera)

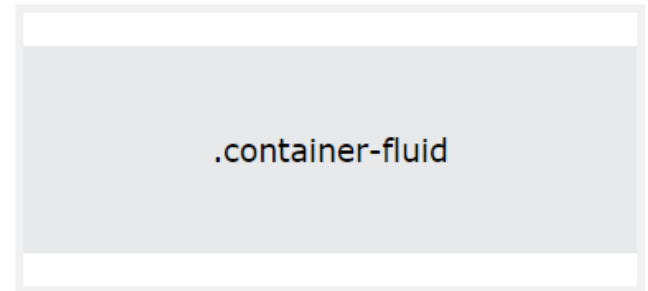
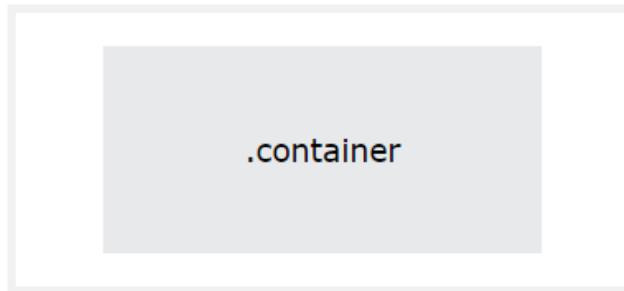


# Bootstrap

- How to Bootstrap
  - Download from <https://getbootstrap.com>
  - Include from a CDN

# Bootstrap

- How to Bootstrap
  - HTML5 doctype
  - Viewport Setting
  - Container Wrapper
    - .container – fixed with container
    - .container-fluid – full width container



# Bootstrap

- How to Bootstrap - v3

```
<!DOCTYPE html>
<html Lang="en">
<head>
  <title>Bootstrap v3</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@3.4.1/dist/css/bootstrap.min.css"
integrity="sha384-HSMxcRTRxN+BdgoJdxbYKcrThec0KuH5zCYotlSAcp1+c8xmyTe9GYg1l9a69psu"
crossorigin="anonymous">
  <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap@3.4.1/dist/css/bootstrap-
theme.min.css" integrity="sha384-
6pzBo3FDv/PJ8r2KRkGHifhEocL+1X2rVCTTkUfGk7/0pbek5mMa1upzvWbrUbOZ" crossorigin="anonymous">
  <script src="https://code.jquery.com/jquery-1.12.4.min.js" integrity="sha384-
nvAa0+6Qg9clwYCGGPpDQLVpLNN0fRaR0jHqs13t4Ggj3Ez50XnGQqc/r8MhnRDZ"
crossorigin="anonymous"></script>
  <script src="https://cdn.jsdelivr.net/npm/bootstrap@3.4.1/dist/js/bootstrap.min.js"
integrity="sha384-aJ210jLMXNL5UyIl/XNwTMqvzeRMZH2w8c5cRVpZpU8Y5bApTppSuUkhZXN0VxHd"
crossorigin="anonymous"></script>
</head>
<body>
<div class="container">
  <h1>My First Bootstrap Page</h1>
  <p>This is some text.</p>
</div>
</body>
</html>
```

# Bootstrap

- How to Bootstrap - v4

```
<!DOCTYPE html>
<html Lang="en">
<head>
  <title>Bootstrap v4</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/css/bootstrap.min.css"
integrity="sha384-x0olHFLEh07PJGoPkLv1IbcEPTNtaed2xpHsD9ESMhqIYd0nLMwNLD69Npy4HI+N"
crossorigin="anonymous">
  <script src="https://cdn.jsdelivr.net/npm/jquery@3.5.1/dist/jquery.slim.min.js"
integrity="sha384-DfXdz2htPH0lsSSs5nCTpuj/zy4C+OGpamoFVy38MVBnE+IbbVYUew+OrCXaRkfj"
crossorigin="anonymous"></script>
  <script
src="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/js/bootstrap.bundle.min.js"
integrity="sha384-Fy6S3B9q64WdZWQUiU+q4/2Lc9npb8tCaSX9FK7E8HnRr0Jz8D60P9d05Vg3Q9ct"
crossorigin="anonymous"></script>
</head>
<body>
<div class="container">
  <h1>My First Bootstrap Page</h1>
  <p>This is some text.</p>
</div>
</body>
</html>
```

# Bootstrap

- How to Bootstrap - v5

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap v5</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.3/dist/css/bootstrap.min.css"
rel="stylesheet" integrity="sha384-
rbsA2VBKQhggwzxH7pPCaAqO46MgnOM80zW1RWuH61DGLwZJEdK2Kadq2F9CUG65"
crossorigin="anonymous">
  <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.3/dist/js/bootstrap.bundle.min.js"
integrity="sha384-
kenU1KFdBIe4zVF0s0G1M5b4hcxpyD9F7jL+jjXkk+Q2h455rYXK/7HAuoJl+0I4"
crossorigin="anonymous"></script>
</head>
<body>
<div class="container">
  <h1>My First Bootstrap Page</h1>
  <p>This is some text.</p>
</div>
</body>
</html>
```

# Bootstrap

- Grid System

- Bootstrap's grid system allows up to 12 columns across the page
- Bootstrap's grid system is responsive, and the columns will re-arrange automatically depending on the 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											

# Bootstrap

- Grid System

- Bootstrap grid system has 4 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

# Bootstrap

- Grid System

	Extra small <768px	Small ≥768px	Medium ≥992px	Large ≥1200px
<b>Class prefix</b>	.col-xs-	.col-sm-	.col-md-	.col-lg-
<b>Suitable for</b>	Phones	Tablets	Small Laptops	Laptops & Desktops
<b>Grid behaviour</b>	Horizontal at all times	Collapsed to start, horizontal above breakpoints	Collapsed to start, horizontal above breakpoints	Collapsed to start, horizontal above breakpoints
<b>Container width</b>	None (auto)	750px	970px	1170px
<b># of columns</b>	12	12	12	12
<b>Column width</b>	Auto	~62px	~81px	~97px
<b>Gutter width</b>	30px (15px on each side of a column)	30px (15px on each side of a column)	30px (15px on each side of a column)	30px (15px on each side of a column)
<b>Nestable</b>	Yes	Yes	Yes	Yes
<b>Offsets</b>	Yes	Yes	Yes	Yes
<b>Column ordering</b>	Yes	Yes	Yes	Yes



# Bootstrap

- Grid System

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/css/bootstrap.min.css">
  <script src="https://cdn.jsdelivr.net/npm/jquery@3.5.1/dist/jquery.slim.min.js"></script>
  <script
src="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/js/bootstrap.bundle.min.js"></script>
</head>
<body>
<div class="container-fluid">
  <h1>Bootstrap Grid</h1>
  <div class="row">
    <div class="col-xs-6 col-md-3" style="background-color:lightblue;">
      Column 1<br>Resize the browser window to see the effect.
    </div>
    <div class="col-xs-6 col-md-3" style="background-color:linen;">Column 2</div>
    <div class="col-xs-6 col-md-6" style="background-color:lightcyan;">
      <div class="row h-100">
        <div class="col-sm-6 col-md-6" style="background-color:cornsilk;">Column 3/1</div>
        <div class="col-sm-6 col-md-6" style="background-color:lavender;">Column 3/2</div>
      </div>
    </div>
  </div>
</div>
</body>
</html>
```

# Bootstrap

- Typography
  - `<h1>` - `<h6>` style the HTML heading
  - `<small>` - create a lighter, secondary text
  - `<mark>` - create a highlight text
  - `<abbr>` - mark up an abbreviation or acronym
  - `<blockquote>` - use to present content from another source
  - `<code>` - inline snippets of code
  - `<kbd>` - to indicate input entered
  - `<pre>` - multiple code lines of code

# Bootstrap

- Typography

- Contextual colors and backgrounds

- `.text-muted`, `.text-primary`, `.text-success`, `.text-info`, `.text-warning`, `.text-danger`
    - `.bg-primary`, `.bg-success`, `.bg-info`, `.bg-warning`, `.bg-danger`

This text is muted.

This text is important.

This text indicates success.

This text represents some information.

This text represents a warning.

This text represents danger.

This text is important.

This text indicates success.

This text represents some information.

This text represents a warning.

This text represents danger.

# Bootstrap

- Typography

Class	Description
<code>.lead</code>	Makes a paragraph stand out
<code>.small</code>	Indicates smaller text (set to 85% of the size of the parent)
<code>.text-left</code>	Indicates left-aligned text
<code>.text-center</code>	Indicates center-aligned text
<code>.text-right</code>	Indicates right-aligned text
<code>.text-justify</code>	Indicates justified text
<code>.text-nowrap</code>	Indicates no wrap text
<code>.text-lowercase</code>	Indicates lowercased text
<code>.text-uppercase</code>	Indicates uppercased text
<code>.text-capitalize</code>	Indicates capitalized text
<code>.initialism</code>	Displays the text inside an <code>&lt;abbr&gt;</code> element in a slightly smaller font size
<code>.list-unstyled</code>	Removes the default list-style and left margin on list items (works on both <code>&lt;ul&gt;</code> and <code>&lt;ol&gt;</code> ). This class only applies to immediate children list items (to remove the default list-style from any nested lists, apply this class to any nested lists as well)
<code>.list-inline</code>	Places all list items on a single line
<code>.dl-horizontal</code>	Lines up the terms ( <code>&lt;dt&gt;</code> ) and descriptions ( <code>&lt;dd&gt;</code> ) in <code>&lt;dl&gt;</code> elements side-by-side. Starts off like default <code>&lt;dl&gt;</code> s, but when the browser window expands, it will line up side-by-side
<code>.pre-scrollable</code>	Makes a <code>&lt;pre&gt;</code> element scrollable

# Bootstrap

- Typography

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/css/bootstrap.min.css">
  <script src="https://cdn.jsdelivr.net/npm/jquery@3.5.1/dist/jquery.slim.min.js"></script>
  <script src="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/js/bootstrap.bundle.min.js"></script>
</head>
<body>
<div class="container-fluid">
  <h1>Bootstrap Typography</h1>
  <h1>h1 heading <small>secondary text</small></h1>
  <h2>h2 heading <small>secondary text</small></h2>
  <h3>h3 heading <small>secondary text</small></h3>
  <h4>h4 heading <small>secondary text</small></h4>
  <h5>h5 heading <small>secondary text</small></h5>
  <h6>h6 heading <small>secondary text</small></h6>
  <blockquote class="blockquote">
    <p class="mb-0">The blockquote element is used to present content from another source</p>
    <footer class="blockquote-footer">Some footer</footer>
  </blockquote>
  <p>Use <code>tag</code> tag <code>span</code>, <code>section</code>, <code>div</code> defines in document.</p>
  <p>Use the <mark>tag</mark> tag to highlight text.</p>
  <p>Use tag <abbr title="Abbreviation">abbr</abbr> tag to mark up an abbreviation.</p>
  <p>Use <code>ctrl + p</code> to open the Print dialog box.</p>
</div>
</body>
</html>
```

# Bootstrap

- Form Input

- Add class **.form-control** to all textual element
- Add class **.form-group** if you want to wrap up label and form control
- Add class **.input-group** if you want to enhance input by adding icon, text or button
- Input sizing

Bootstrap v3	Bootstrap v4	Description
<b>.input-sm</b>	<b>.form-control-sm</b>	For small input
<b>.input-lg</b>	<b>.form-control-lg</b>	For large input

# Bootstrap

- Form Input

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap v4</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/css/bootstrap.min.css">
  <script src="https://cdn.jsdelivr.net/npm/jquery@3.5.1/dist/jquery.slim.min.js"></script>
  <script src="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/js/bootstrap.bundle.min.js"></script>
</head>
<body>
<div class="container">
  <h1>Form Control</h1>
  <form>
    <div class="form-group">
      <label for="usr">Name</label>
      <input type="text" class="form-control" id="usr">
    </div>
    <div class="form-group">
      <label for="pwd">Password</label>
      <input type="password" class="form-control" id="pwd">
    </div>
  </form>
</div>
</body>
</html>
```

# Bootstrap

- Form Input – Input Sizing

```
<!DOCTYPE html>
<html>
  <head>
    <title>Bootstramp v4</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/css/bootstrap.min.css">
    <script src="https://cdn.jsdelivr.net/npm/jquery@3.5.1/dist/jquery.slim.min.js"></script>
    <script src="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/js/bootstrap.bundle.min.js"></script>
  </head>
  <body>
    <div class="container">
      <form> <br>
        <div class="form-group">
          <label class="control-label">Small</label>
          <input type="text" class="form-control form-control-sm"/>
        </div>
        <div class="form-group">
          <label class="control-label">Normal</label>
          <input type="text" class="form-control"/>
        </div>
        <div class="form-group">
          <label class="control-label">Large</label>
          <input type="text" class="form-control form-control-lg"/>
        </div>
      </form>
    </div>
  </body>
</html>
```



# Bootstrap

- Form Input – Input Group

```
<!DOCTYPE html>
<html>
  <head>
    <title>Bootstramp v4</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/css/bootstrap.min.css">
    <script src="https://cdn.jsdelivr.net/npm/jquery@3.5.1/dist/jquery.slim.min.js"></script>
    <script src="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/js/bootstrap.bundle.min.js"></script>
  </head>
  <body>
    <div class="container">
      <form> <br>
        <div class="input-group input-group-sm">
          <div class="input-group-prepend"><span class="input-group-text">Small</span></div>
          <input type="text" class="form-control"/>
        </div> <br>
        <div class="input-group">
          <div class="input-group-prepend"><span class="input-group-text">Normal</span></div>
          <input type="text" class="form-control"/>
        </div> <br>
        <div class="input-group input-group-lg">
          <input type="text" class="form-control"/>
          <div class="input-group-append"><span class="input-group-text">Large</span></div>
        </div>
      </form>
    </div>
  </body>
</html>
```

# Bootstrap

- Button

- Classes : `.btn`, `.btn-primary`, `.btn-secondary`, `.btn-success`, `.btn-info`, `.btn-warning`, `.btn-danger`, `.btn-dark`, `.btn-light`, `.btn-link`
- Outline : `.btn-outline-primary`, `.btn-outline-secondary`, `.btn-outline-success`, `.btn-outline-info`, `.btn-outline-warning`, `.btn-outline-danger`, `.btn-outline-dark`, `.btn-outline-light`
- Sizes : `.btn-sm`, `.btn-lg`
- Active/Disabled : `.active`, `.disabled`

# Bootstrap

- Button

```
<!DOCTYPE html>
<html>
  <head>
    <title>Bootstramp v4</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/css/bootstrap.min.css">
    <script src="https://cdn.jsdelivr.net/npm/jquery@3.5.1/dist/jquery.slim.min.js"></script>
    <script src="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/js/bootstrap.bundle.min.js"></script>
  </head>
  <body>
    <div class="container">
      <button type="button" class="btn">Basic</button>
      <button type="button" class="btn btn-primary">Primary</button>
      <button type="button" class="btn btn-secondary">Secondary</button>
      <button type="button" class="btn btn-success">Success</button>
      <button type="button" class="btn btn-info">Info</button>
      <button type="button" class="btn btn-warning">Warning</button>
      <button type="button" class="btn btn-danger">Danger</button>
      <button type="button" class="btn btn-dark">Dark</button>
      <button type="button" class="btn btn-light">Light</button>
      <button type="button" class="btn btn-link">Link</button>
      <br><br>
      <button type="button" class="btn btn-primary btn-lg">Large</button>
      <button type="button" class="btn btn-primary">Normal</button>
      <button type="button" class="btn btn-primary btn-sm">Small</button>
      <br><br>
      <button type="button" class="btn btn-primary active">Active Primary</button>
      <button type="button" class="btn btn-primary disabled">Disabled Primary</button>
    </div>
  </body>
</html>
```

# Bootstrap

- Icon
  - Bootstrap 3
    - provides glyphicons as part of its own icon library
  - Bootstrap 4
    - not support glypicons but you can using awesome font

# Bootstrap

- Icon

```
<!DOCTYPE html>
<html>
  <head>
    <title>Bootstramp v4</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <link rel="stylesheet" href="https://use.fontawesome.com/releases/v5.6.3/css/all.css"
    integrity="sha384-UHRtZLI+pbxtHCWp1t77Bi1L4ZtiqrQD80Kn4Z8NTSRyMA2Fd33n5dQ8lWUE00s/"
    crossorigin="anonymous">
    <link rel="stylesheet"
    href="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/css/bootstrap.min.css">
    <script
    src="https://cdn.jsdelivr.net/npm/jquery@3.5.1/dist/jquery.slim.min.js"></script>
    <script
    src="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/js/bootstrap.bundle.min.js"></script>
  </head>
  <body>
    <div class="container">
      <em class="fas fa-heart"></em>
      <em class="fas fa-thumbs-up"></em>
      <em class="fas fa-cloud"></em>
      <em class="fas fa-search"></em>
      <em class="fas fa-cog"></em>
      <em class="fas fa-file"></em>
      <em class="fas fa-edit"></em>
      <em class="fas fa-trash"></em>
    </div>
  </body>
</html>
```

# Bootstrap

- Badges

- Badges are numerical indicators of how many items are associated with
- Add class **.badge** within element
- Contextual Badges
  - **.badge-primary, .badge-secondary, .badge-success, .badge-danger, .badge-warning, .badge-info, .badge-light, .badge-dark**
- Pill Badges
  - **.badge-pill**

# Bootstrap

- Badges - Contextual

```
<!DOCTYPE html>
<html>
  <head>
    <title>Bootstramp v4</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <link rel="stylesheet"
href="https://cdn.jsdelivrivr.net/npm/bootstrap@4.6.2/dist/css/bootstrap.min.css">
    <script
src="https://cdn.jsdelivrivr.net/npm/jquery@3.5.1/dist/jquery.slim.min.js"></script>
    <script
src="https://cdn.jsdelivrivr.net/npm/bootstrap@4.6.2/dist/js/bootstrap.bundle.min.js"></script>
  </head>
  <body>
    <div class="container">
      <span class="badge badge-primary">Primary</span>
      <span class="badge badge-secondary">Secondary</span>
      <span class="badge badge-success">Success</span>
      <span class="badge badge-danger">Danger</span>
      <span class="badge badge-warning">Warning</span>
      <span class="badge badge-info">Info</span>
      <span class="badge badge-light">Light</span>
      <span class="badge badge-dark">Dark</span>
      <button type="button" class="btn btn-primary">
        Messages <span class="badge badge-light">4</span>
      </button>
    </div>
  </body>
</html>
```

# Bootstrap

- Badges - Pill

```
<!DOCTYPE html>
<html>
  <head>
    <title>Bootstramp v4</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <link rel="stylesheet"
href="https://cdn.jsdelivrivr.net/npm/bootstrap@4.6.2/dist/css/bootstrap.min.css">
    <script
src="https://cdn.jsdelivrivr.net/npm/jquery@3.5.1/dist/jquery.slim.min.js"></script>
    <script
src="https://cdn.jsdelivrivr.net/npm/bootstrap@4.6.2/dist/js/bootstrap.bundle.min.js"></script>
  </head>
  <body>
    <div class="container">
      <span class="badge badge-pill badge-primary">Primary</span>
      <span class="badge badge-pill badge-secondary">Secondary</span>
      <span class="badge badge-pill badge-success">Success</span>
      <span class="badge badge-pill badge-danger">Danger</span>
      <span class="badge badge-pill badge-warning">Warning</span>
      <span class="badge badge-pill badge-info">Info</span>
      <span class="badge badge-pill badge-light">Light</span>
      <span class="badge badge-pill badge-dark">Dark</span>
      <button type="button" class="btn btn-primary">
        Messages <span class="badge badge-pill badge-light">4</span>
      </button>
    </div>
  </body>
</html>
```



# Bootstrap

- Dropdown
  - Dropdown menu is a toggleable menu that allows user to choose one value from a predefined list
  - Add class `.dropdown` indicate a dropdown menu
  - Add class `.dropdown-toggle` and `data-toggle="dropdown"` attribute to open dropdown menu within button or link
  - Add class `.caret` to create a caret arrow icon
  - Add class `.dropdown-menu` to main menu
  - Add class `.dropdown-item` to each menu item
  - Add class `.divider` to separate link inside dropdown menu

# Bootstrap

- Dropdown

```
<!DOCTYPE html>
<html>
  <head>
    <title>Bootstramp v4</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <link rel="stylesheet"
href="https://cdn.jsdelivrivr.net/npm/bootstrap@4.6.2/dist/css/bootstrap.min.css">
    <script
src="https://cdn.jsdelivrivr.net/npm/jquery@3.5.1/dist/jquery.slim.min.js"></script>
    <script
src="https://cdn.jsdelivrivr.net/npm/bootstrap@4.6.2/dist/js/bootstrap.bundle.min.js"></script>
  </head>
  <body>
    <div class="container-fluid">
      <div class="dropdown">
        <a href="#" class="btn btn-primary dropdown-toggle" data-toggle="dropdown">My
Name <span class="caret"></span></a>
        <div class="dropdown-menu">
          <a href="#" class="dropdown-item">Profile</a>
          <a href="#" class="dropdown-item">Change Password</a>
          <div class="dropdown-divider"></div>
          <a href="#" class="dropdown-item">Log Out</a>
        </div>
      </div>
    </div>
  </body>
</html>
```

# Bootstrap

- Navbar

- A navigation bar is a navigation header that is placed at the top of the page
- Add class `.navbar` and `.navbar-expand-xl|lg|md|sm` collapsing class
- Add `class="navbar-nav"` to element group ex. `<ul>`
- Add class `.nav-item` to item element ex. `<li>`
- Add class `.nav-link` for `<a>`

# Bootstrap

- Navbar

```
<nav id="navigatebar" class="navbar navbar-expand-sm bg-secondary navbar-dark">
  <a class="navbar-brand" href="#">My Bootstrap</a>
  <ul class="nav navbar-nav ">
    <li class="nav-item dropdown">
      <a href="#" class="nav-link dropdown-toggle" data-toggle="dropdown">Home</a>
      <div class="dropdown-menu">
        <a href="#" class="dropdown-item">Page 1</a>
        <a href="#" class="dropdown-item">Page 2</a>
        <a href="#" class="dropdown-item">Page 3</a>
      </div>
    </li>
  </ul>
  <ul class="nav navbar-nav ml-auto">
    <li class="dropdown nav-item">
      <a href="#" class="nav-link dropdown-toggle" data-toggle="dropdown">My Name</a>
      <div class="dropdown-menu dropdown-menu-right">
        <a href="#" class="dropdown-item">Profile</a>
        <a href="#" class="dropdown-item">Change Password</a>
        <div class="dropdown-divider"></div>
        <a href="#" class="dropdown-item">Log Out</a>
      </div>
    </li>
  </ul>
</nav>
```

# Bootstrap

- Table
  - A basic table has a light padding and horizontal dividers
  - Add class **.table** to `<table>`
  - Add class **.table-striped** for striped rows
  - Add class **.table-bordered** to add borders on all sides of the table and cells
  - Add class **.table-hover** for a hover effect on table rows
  - Add class **.table-borderless** to remove borders from the table
  - Add class **.thead-dark**, **.thead-light** for a black ground color to table header

# Bootstrap

- Table
  - Contextual classes

Class	Description
<code>.table-primary</code>	Blue: Indicates an important action
<code>.table-success</code>	Green: Indicates a successful or positive action
<code>.table-danger</code>	Red: Indicates a dangerous or potentially negative action
<code>.table-info</code>	Light blue: Indicates a neutral informative change or action
<code>.table-warning</code>	Orange: Indicates a warning that might need attention
<code>.table-active</code>	Grey: Applies the hover color to the table row or table cell
<code>.table-secondary</code>	Grey: Indicates a slightly less important action
<code>.table-light</code>	Light grey table or table row background
<code>.table-dark</code>	Dark grey table or table row background

# Bootstrap

- Table
  - Responsive table

```
<div class="table-responsive">  
  <table class="table">  
    ...  
  </table>  
</div>
```

Class	Screen width
<code>.table-responsive-sm</code>	< 576px
<code>.table-responsive-md</code>	< 768px
<code>.table-responsive-lg</code>	< 992px
<code>.table-responsive-xl</code>	< 1200px

# Bootstrap

- Table

```
<!DOCTYPE html>
<html>
  <head>
    <title>Bootstramp v4</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/css/bootstrap.min.css">
    <script src="https://cdn.jsdelivr.net/npm/jquery@3.5.1/dist/jquery.slim.min.js"></script>
    <script src="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/js/bootstrap.bundle.min.js"></script>
  </head>
  <body>
    <div class="container">
      <div class="table-responsive">
        <table id="datatable" class="table table-bordered table-hover table-striped">
          <thead class="thead-light">
            <tr><th>Share</th><th>Unit</th><th>Price</th><th>Amount</th></tr>
          </thead>
          <tbody>
            <tr><td>BBL</td><td>500</td><td>25</td><td>12500</td></tr>
            <tr><td>SCB</td><td>400</td><td>50</td><td>20000</td></tr>
            <tr><td>TMB</td><td>1200</td><td>15</td><td>18000</td></tr>
            <tr><td>KBANK</td><td>750</td><td>55</td><td>41250</td></tr>
            <tr><td>CIMB</td><td>350</td><td>40</td><td>14000</td></tr>
            <tr><td>SCNB</td><td>1000</td><td>30</td><td>30000</td></tr>
          </tbody>
        </table>
      </div>
    </div>
  </body>
</html>
```



# Bootstrap

- Modal
  - Modal component is a dialog box/popup window that is displayed on top of the current page
    - Modal part
      - 1<sup>st</sup> layer
        - Add class `.modal` to `<div>` with an ID for trigger
        - Can add class animation for effect ex. `.fade`
      - 2<sup>nd</sup> layer
        - Add class `.modal-dialog` setting proper width & margin
    - Content part
      - Add class `.modal-content` consist of 3 layer
        - `.modal-header`
        - `.modal-body`
        - `.modal-footer`
    - Trigger part
      - Add attribute `data-toggle="modal"`
      - Add attribute `data-target="#ID"` point to an ID of 1<sup>st</sup> layer in modal part

# Bootstrap

- Modal
  - Modal Size
    - `.modal-sm` – small modal
    - `.modal-lg` – large modal
    - `.modal-xl` – extra large modal
  - Modal dismiss
    - Add attribute `data-dismiss="modal"`

# Bootstrap

- Modal

```
<!DOCTYPE html>
<html>
  <head>
    <title>Bootstramp v4</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/css/bootstrap.min.css">
    <script src="https://cdn.jsdelivr.net/npm/jquery@3.5.1/dist/jquery.slim.min.js"></script>
    <script src="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/js/bootstrap.bundle.min.js"></script>
  </head>
  <body>
    <div class="container">
      <button class="btn btn-dark btn-sm" id="button1" data-toggle="modal" data-
target="#modaldialog1">Show Modal</button>
      <div id="modaldialog1" class="modal fade" role="dialog">
        <div class="modal-dialog">
          <div class="modal-content">
            <div class="modal-header">
              <h4 class="modal-title">Dialog</h4>
              <button type="button" class="close" data-dismiss="modal">&times;</button>
            </div>
            <div class="modal-body"> <p>Bootstrap Dialog 1</p> </div>
            <div class="modal-footer">
              <button type="button" class="btn btn-dark btn-sm" data-
dismiss="modal">Cancel</button>
            </div>
          </div>
        </div>
      </div>
    </div>
  </body>
</html>
```

# Bootstrap

- Utilities

- Border - **.border**

- **.border-0, .border-top-0, .border-right-0, .border-bottom-0, .border-left-0**

- Border Color

- **.border-primary, .border-secondary, .border-success, .border-danger, .border-warning, .border-info, .border-dark, .border-light, .border-white**

- Border Radius

- **.rounded, .rounded-sm, .rounded-lg, .rounded-top, .rounded-right, .rounded-bottom, .rounded-left, .rounded-circle, .rounded-0**

# Bootstrap

- Utilities

- Float & Clearfix

- **.float-right** – float an element to the right
    - **.float-left** – float an element to the left
    - **.clearfix** – to clear float

- Responsive Float

- **.float-\*-left|right**
      - **sm** – small ( $\geq 576\text{px}$ )
      - **md** – medium ( $\geq 768\text{px}$ )
      - **lg** – large ( $\geq 992\text{px}$ )
      - **xl** – extra large ( $\geq 1200\text{px}$ )

- Center Align

- **.mx-auto** – add margin-left & margin-right: auto

- Width

- **w-\*** - .w-25, .w-50, .w-75, .w-100, .mx-100

- Height

- **h-\*** - .h-25, .h-50, .h-75, .h-100, .mh-100

# Bootstrap

- Utilities

- Spacing - classes are used in the format:  
**{property}{sides}-{size}**

- property

- **m** – sets margin
      - **p** – sets padding

- sides

- **t** - sets margin-top or padding-top
      - **b** - sets margin-bottom or padding-bottom
      - **l** - sets margin-left or padding-left
      - **r** - sets margin-right or padding-right
      - **x** - sets both padding-left and padding-right or margin-left and margin-right
      - **y** - sets both padding-top and padding-bottom or margin-top and margin-bottom
      - blank - sets a margin or padding on all 4 sides of the element

# Bootstrap

- Utilities

- Spacing

- size

- 0 - sets margin or padding to 0
      - 1 - sets margin or padding to .25rem (4px if font-size is 16px)
      - 2 - sets margin or padding to .5rem (8px if font-size is 16px)
      - 3 - sets margin or padding to 1rem (16px if font-size is 16px)
      - 4 - sets margin or padding to 1.5rem (24px if font-size is 16px)
      - 5 - sets margin or padding to 3rem (48px if font-size is 16px)
      - auto - sets margin to auto

- margins can also be negative, by adding an "n" in front of size

- n1 - sets margin to -.25rem (-4px if font-size is 16px)
      - n2 - sets margin to -.5rem (-8px if font-size is 16px)
      - n3 - sets margin to -1rem (-16px if font-size is 16px)
      - n4 - sets margin to -1.5rem (-24px if font-size is 16px)
      - n5 - sets margin to -3rem (-48px if font-size is 16px)

# Bootstrap

- Utilities
  - Spacing

<code>.m-# / m-*-#</code>	margin on all sides
<code>.mt-# / mt-*-#</code>	margin top
<code>.mb-# / mb-*-#</code>	margin bottom
<code>.ml-# / ml-*-#</code>	margin left
<code>.mr-# / mr-*-#</code>	margin right
<code>.mx-# / mx-*-#</code>	margin left and right
<code>.my-# / my-*-#</code>	margin top and bottom
<code>.p-# / p-*-#</code>	padding on all sides
<code>.pt-# / pt-*-#</code>	padding top
<code>.pb-# / pb-*-#</code>	padding bottom
<code>.pl-# / pl-*-#</code>	padding left
<code>.pr-# / pr-*-#</code>	padding right
<code>.py-# / py-*-#</code>	padding top and bottom
<code>.px-# / px-*-#</code>	padding left and right



# Bootstrap

- Utilities
  - Shadow
    - `.shadow`, `.shadow-none`, `.shadow-sm`, `.shadow-lg`
  - Align
    - `.align-baseline`, `.align-top`, `.align-middle`, `.align-bottom`, `.align-text-top`, `.align-text-bottom`
  - Visibility
    - `.visible`, `.invisible`
  - Position
    - `.fixed-top`, `.fixed-bottom`, `.sticky-top`
  - Color
    - `.text-muted`, `.text-primary`, `.text-secondary`, `.text-success`, `.text-info`, `.text-warning`, `.text-danger`, `.text-dark`, `.text-light`, `.text-white`, `.text-body`
  - Background Color
    - `.bg-primary`, `.bg-secondary`, `.bg-success`, `.bg-info`, `.bg-warning`, `.bg-danger`, `.bg-dark`, `.bg-light`

# Bootstrap

- Utilities
  - Typography

Class	Description
<code>.display-*</code>	Display headings are used to stand out more than normal headings (larger font-size and lighter font-weight), and there are four classes to choose from: <code>.display-1</code> , <code>.display-2</code> , <code>.display-3</code> , <code>.display-4</code>
<code>.font-weight-bold</code>	Bold text
<code>.font-weight-bolder</code>	Bolder bold text
<code>.font-weight-normal</code>	Normal text
<code>.font-weight-light</code>	Light weight text
<code>.font-weight-lighter</code>	Lighter weight text
<code>.font-italic</code>	Italic text
<code>.lead</code>	Makes a paragraph stand out
<code>.small</code>	Indicates smaller text (set to 85% of the size of the parent)
<code>.text-break</code>	Prevents long text from breaking layout
<code>.text-center</code>	Indicates center-aligned text
<code>.text-decoration-none</code>	Removes the underline from a link
<code>.text-left</code>	Indicates left-aligned text
<code>.text-justify</code>	Indicates justified text
<code>.text-monospace</code>	Monospaced text

# Bootstrap

- Utilities
  - Typography

Class	Description
<code>.text-nowrap</code>	Indicates no wrap text
<code>.text-lowercase</code>	Indicates lowercased text
<code>.text-reset</code>	Resets the color of a text or a link (inherits the color from its parent)
<code>.text-right</code>	Indicates right-aligned text
<code>.text-uppercase</code>	Indicates uppercased text
<code>.text-capitalize</code>	Indicates capitalized text
<code>.initialism</code>	Displays the text inside an <code>&lt;abbr&gt;</code> element in a slightly smaller font size
<code>.list-unstyled</code>	Removes the default list-style and left margin on list items (works on both <code>&lt;ul&gt;</code> and <code>&lt;ol&gt;</code> ). This class only applies to immediate children list items (to remove the default list-style from any nested lists, apply this class to any nested lists as well)
<code>.list-inline</code>	Places all list items on a single line (used together with <code>.list-inline-item</code> on each <code>&lt;li&gt;</code> elements)
<code>.pre-scrollable</code>	Makes a <code>&lt;pre&gt;</code> element scrollable

# Bootstrap

- Utilities
  - Other Display Classes

Class	Description
<code>.d-none</code>	Hides an element
<code>.d-*-none</code>	Hides an element on a specific screen size
<code>.d-inline</code>	Makes an element inline
<code>.d-*-inline</code>	Makes an element inline on a specific screen size
<code>.d-inline-block</code>	Makes an element inline block
<code>.d-*-inline-block</code>	Makes an element inline block on a specific screen size
<code>.d-table</code>	Makes an element display as a table
<code>.d-*-table</code>	Makes an element display as a table on a specific screen size
<code>.d-table-cell</code>	Makes an element display as a table cell
<code>.d-*-table-cell</code>	Makes an element display as a table cell on a specific screen size
<code>.d-table-row</code>	Makes an element display as a table row
<code>.d-*-table-row</code>	Makes an element display as a table row on a specific screen size
<code>.d-flex</code>	Creates a flexbox container and transforms direct children into flex items
<code>.d-*-flex</code>	Creates a flexbox container on a specific screen size
<code>.d-inline-flex</code>	Creates an inline flexbox container
<code>.d-*-inline-flex</code>	Creates an inline flexbox container on a specific screen size

# Reference

- <https://www.w3schools.com/bootstrap/default.asp>
- <https://www.w3schools.com/bootstrap4/default.asp>
- <https://getbootstrap.com/docs/versions/>
- <https://www.tutorialspoint.com/bootstrap/index.htm>
- <https://www.tutorialrepublic.com/twitter-bootstrap-tutorial/>



Q & A