



Chapter 2

Bootstrap

CT313H – WEB TECHNOLOGY

Objective

Introduce **Bootstrap** and
use Bootstrap to create **web layouts**

Content

- Bootstrap introduction
- Bootstrap grid system
- Bootstrap components
- Bootstrap customization

Bootstrap Introduction

What is Bootstrap?



Bootstrap is the most popular HTML, CSS, and JS framework for developing responsive, mobile first projects on the web.

[Download Bootstrap](#)

Currently v3.3.5

Bootstrap Advantages

- ✓ **Easy to use:** bases on HTML, CSS, JavaScript
=> anybody with basic knowledge can approach easily
- ✓ **Responsive:** adjusts the webpage layout accordingly to the screen resolution (PC, tablet,...)
- ✓ **Browser compatibility:** compatible with almost all the latest version browsers
- ✓ **Tools:** provides various tools to create web layouts flexibly and easily

CSS requires carefulnesss and various skills
Design responsive webpages with CSS is a big chalenge

How to use Bootstrap?

1) Download Bootstrap (<http://getbootstrap.com>):

- **Precompiled Bootstrap:** for using only without modifications
- **Bootstrap source code:** including compiled CSS, JS, less source codes (CSS pre-processors) and documentations
⇒ customizability
- Cons:
 - Can work in offline mode
- Pros:
 - May be slower than using CDNs (Content Delivery Networks) as CDNs is optimized for sharing

How to use Bootstrap?

- Structure of download files:

```
bootstrap/
  └── css/
    ├── bootstrap.css
    ├── bootstrap.css.map
    └── bootstrap.min.css
  └── bootstrap.min.css.map
  └── bootstrap-grid.css
  └── bootstrap-grid.css.map
  └── bootstrap-grid.min.css
  └── bootstrap-grid.min.css.map
  └── bootstrap-reboot.css
  └── bootstrap-reboot.css.map
  └── bootstrap-reboot.min.css
  └── bootstrap-reboot.min.css.map
  └── js/
    ├── bootstrap.bundle.js
    ├── bootstrap.bundle.min.js
    └── bootstrap.js
    └── bootstrap.min.js
```

CSS files	Layout	Content	Components	Utilities
bootstrap.css bootstrap.min.css	Included	Included	Included	Included
bootstrap-grid.css bootstrap-grid.min.css	Only grid system	Not included	Not included	Only flex utilities
bootstrap-reboot.css bootstrap-reboot.min.css	Not included	Only Reboot	Not included	Not included

JS files	Popper	jQuery
bootstrap.bundle.js bootstrap.bundle.min.js	Included	Not included
bootstrap.js bootstrap.min.js	Not included	Not included

How to Use Bootstrap?

<!-- Latest compiled and minified CSS -->

```
<link rel="stylesheet"  
      href="bootstrap/css/bootstrap.min.css">
```

<!-- jQuery library -->

```
<script src="jquery/jquery.min.js"></script>
```

<!-- Latest compiled JavaScript -->

```
<script src="bootstrap/js/bootstrap.min.js"></script>
```

How to use Bootstrap?

2) Use a Bootstrap CDN (Content Delivery Network):

- Create links to Bootstrap framework
- Pros:
 - Fast: Bootstrap framework will be downloaded from the nearest CDN
 - Bootstrap framework can be cached
- Cons:
 - Cannot work in offline mode
 - Can be restricted by the CDN policies

MaxCDN

<!-- Latest compiled and minified CSS -->

```
<link rel="stylesheet"  
      href="http://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/css/bootstrap.min.css">
```

<!-- jQuery library -->

```
<script src="https://ajax.googleapis.com/ajax/libs/jquery/1.11.3/jquery.min.js">  
</script>
```

<!-- Latest compiled JavaScript -->

```
<script src="http://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min.js">  
</script>
```

Create Webpage with Bootstrap

1) Add the HTML5 doctype:

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8">
  </head>
</html>
```

2) Set mobile-first setting (in <head>):

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

Create Webpage with Bootstrap

3) Create links to Bootstrap framework (in <head>)

Use the downloaded files or CDN

4) Create containers (in <body>):

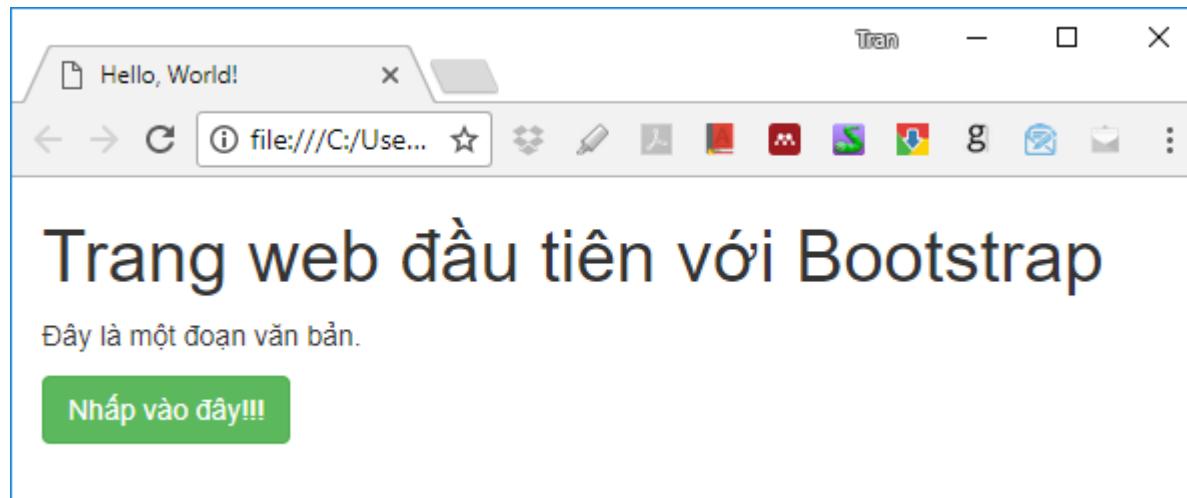
```
<div class="container">  
    //content...  
</div>
```



Hello World – Bootstrap!

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <title>Hello, World!</title>
  <link rel="stylesheet"
        href="http://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/css/bootstrap.min.css">
</head>
<body>
  <div class="container">
    <h1>Trang web đầu tiên với Bootstrap</h1>
    <p>Đây là một đoạn văn bản.</p>
    <button class="btn btn-success">Nhấp vào đây!!!</button>
  </div>
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/1.11.3/jquery.min.js"></script>
  <script src="http://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min.js"></script>
</body>
</html>
```

Hello World – Bootstrap!



Bootstrap Features

- Theme
- Responsive layout
- Grid system
- UI components



Bootstrap Theme

Bootstrap Theme

- Theme:

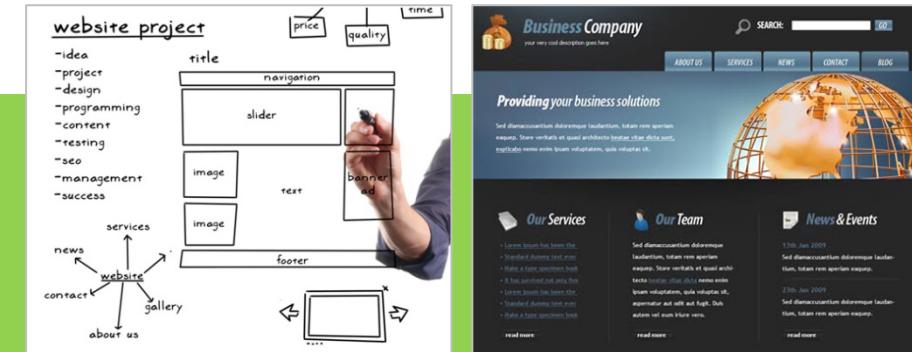
- UI definitions, separated from HTML code
- Helps to change UI elements' look easily
- A trends in web UI design
- Bootstrap theme: <https://bootswatch.com>,
<http://www.free-css.com/template-categories/bootstrap> , etc.

Layout vs. Template vs. Theme?

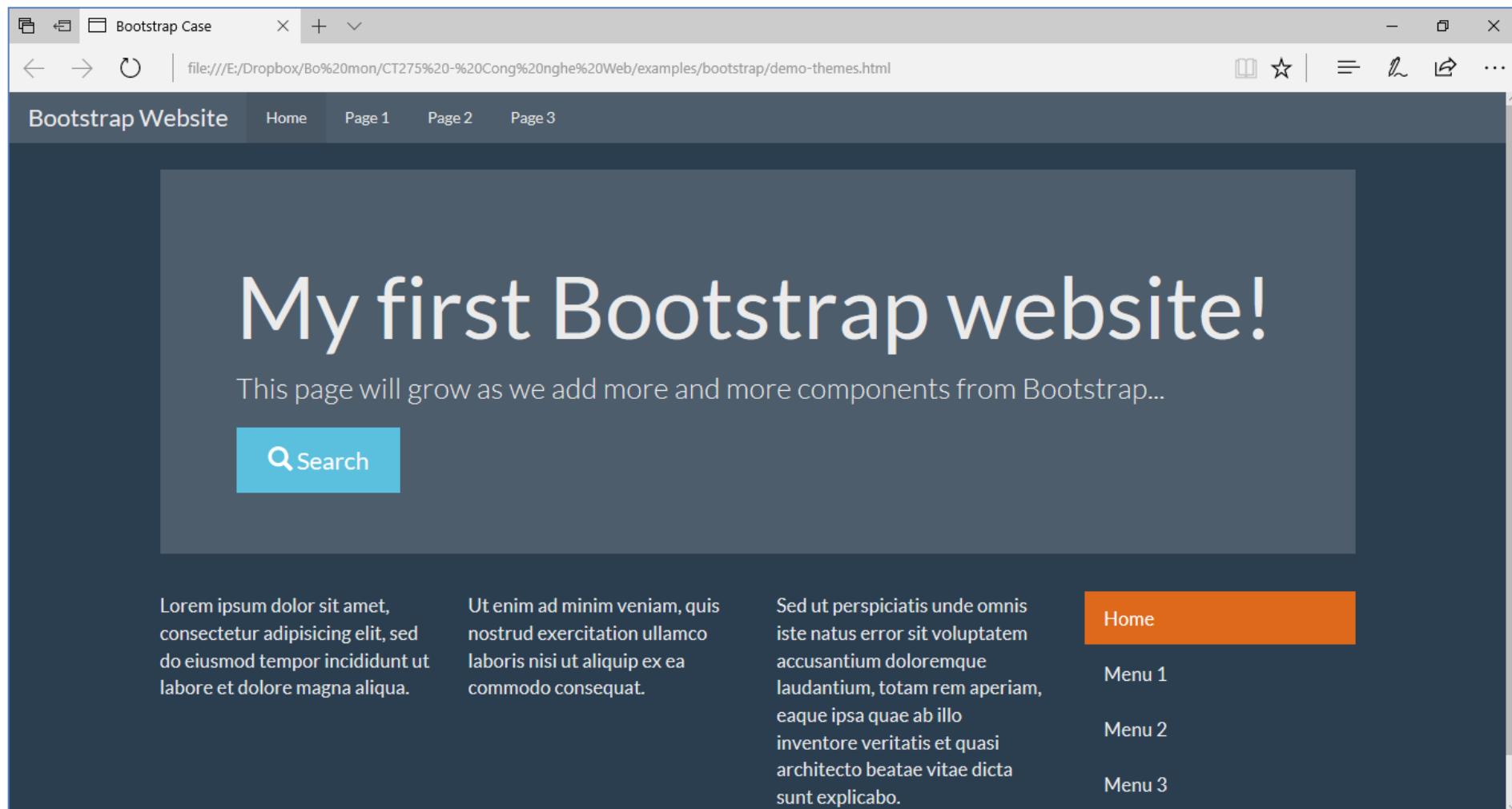
Layout: arrangement of elements

Template:

- Pre-design webpages
- Users can use to “plug-in” their own contents (texts, images, etc.)
- Save time and efford in designing a website



Bootstrap Theme



Bootstrap Theme

The screenshot shows a web browser window with the title "Bootstrap Case". The address bar displays the URL "file:///E/Dropbox/Bo%20mon/CT275%20-%20Cong%20nghe%20Web/examples/bootstrap/demo-themes.html". The page content is a "My first Bootstrap website!" landing page. The header includes a "BOOTSTRAP WEBSITE" logo and navigation links for "Home", "Page 1", "Page 2", and "Page 3". The main content area features a large heading "My first Bootstrap website!", a subtext "This page will grow as we add more and more components from Bootstrap...", and a blue search button labeled "Search". Below the main content are three columns of placeholder text (Lorem ipsum, Ut enim, Sed ut) and a sidebar with red buttons for "Home", "Menu 1", and "Menu 2".

Bootstrap Case

file:///E/Dropbox/Bo%20mon/CT275%20-%20Cong%20nghe%20Web/examples/bootstrap/demo-themes.html

BOOTSTRAP WEBSITE Home Page 1 Page 2 Page 3

My first Bootstrap website!

This page will grow as we add more and more components from Bootstrap...

Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta

Bootstrap Theme

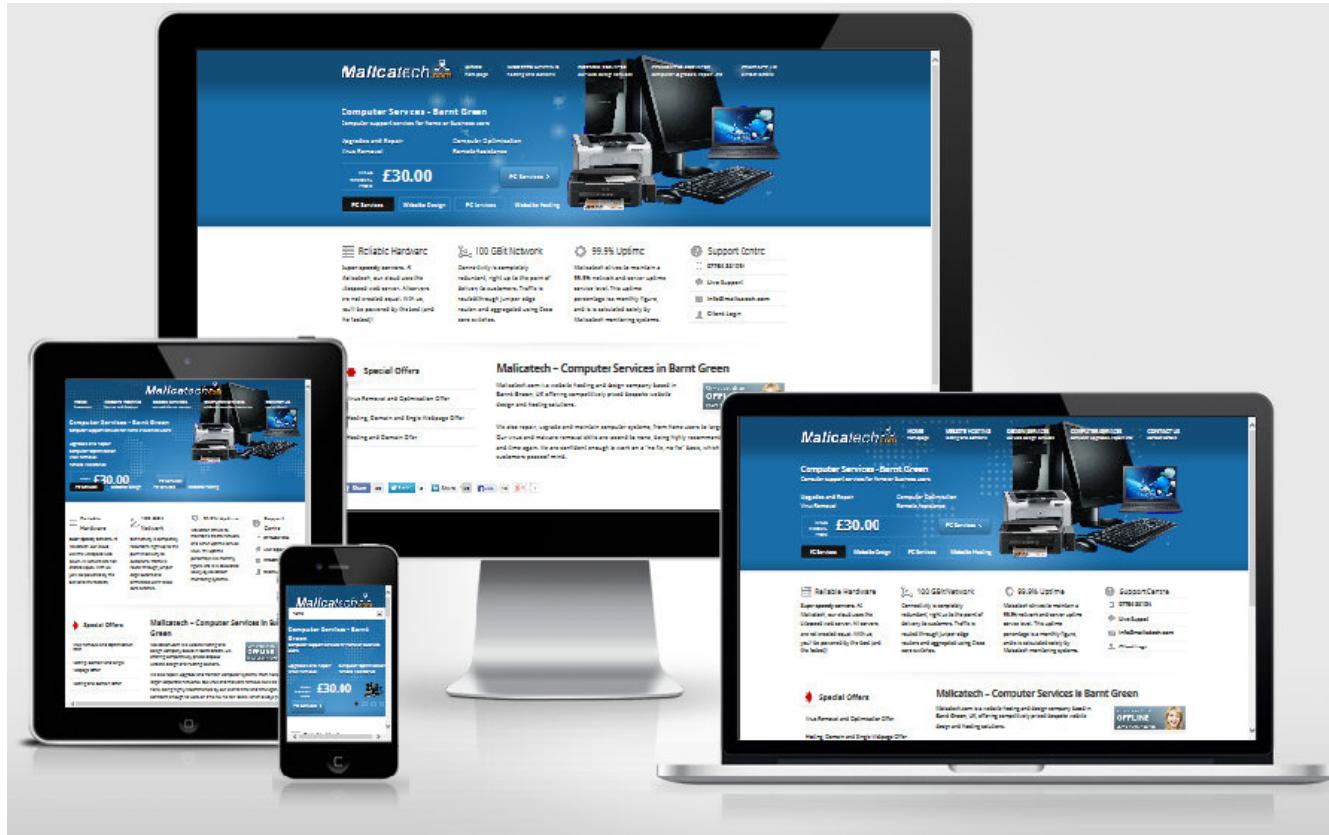
```
<!DOCTYPE html>
<html>
  <head>
    <title>Bootstrap Theme</title>
    <meta charset="utf-8">
    <link rel="stylesheet" href="themes/journal/bootstrap.min.css">
  </head>
  <body>
    <!--nội dung-->
  </body>
</html>
```

```
<!DOCTYPE html>
<html>
  <head>
    <title>Bootstrap Theme</title>
    <meta charset="utf-8">
    <link rel="stylesheet" href="themes/superhero/bootstrap.min.css">
  </head>
  <body>
    <!-- nội dung -->
  </body>
</html>
```

Responsive Layout

What is responsive layout?

- A layout that can adapt to the device resolution



Mobile-first design

- New approach of design strategy “**responsive design**”
- Start sketching and prototyping on small screen first
- Then, work your way up to larger screens
(mobile devices is prioritized over desktop)



Source: knowledgecentre.ubiquity.co.nz

Grid System

Grid layout

- Bootstrap's grid system uses a series of **containers**, **rows**, and **columns** to layout and align content
- Bootstrap's grid system 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)
- The Bootstrap grid system has **4 classes**:
 - **Large**: for laptops and desktops - screens $\geq 1200\text{px}$
 - **Medium**: for small laptops - screens $\in [992\text{px}, 1200\text{px})$
 - **Small**: for tablets - screens $\in [768\text{px}, 991\text{px})$
 - **Extra small**: for phones - screens $< 768\text{px}$

Grid system

	Extra small devices Phones (<768px)	Small devices Tablets (≥768px)	Medium devices Desktops (≥992px)	Large devices Desktops (≥1200px)
Grid behavior	Horizontal at all times	Collapsed to start, horizontal above breakpoints		
Max container width	None (auto)	750px	970px	1170px
Class prefix	.col-xs-	.col-sm-	.col-md-	.col-lg-
# of columns	12			
Max column width	Auto	60px	78px	95px
Gutter width	30px (15px on each side of a column)			
Nestable	Yes			
Offsets	N/A	Yes		

Row and columns

- Rows are created using class **row**
- Column definition includes three parts: **col-*-***
 - **col**: CSS class for columns
 - Grid size: **lg** (large), **md** (medium), **sm** (small), **xs** (extra small)
 - Number of columns: an integer number, total number of columns in a row must be **12** columns
- Example:
 - **col-lg-6**: applied for large grid ($\geq 1200\text{px}$), column width is 6 columns
 - **col-md-4**: applied for medium grid [992 – 1200px), columns width is 4 columns

Rows and columns

```
<div class="container">  
  
<div class="row">  
  <div class="col-sm-5">  
    1  2  3  4  5  
  <div class="col-sm-7">  
    6  7  8  9  10  11  12  
</div>
```

Multiple column definitions

- There may be several definitions for a columns
⇒ allows to create responsive webpages

Extra Small Screens

```
<div class="col-xs-12 col-sm-5">
```

```
<div class="col-xs-12 col-sm-7">
```

Small, Medium and Large Screens

```
<div class="col-xs-12 col-sm-5">
```

```
<div class="col-xs-12 col-sm-7">
```

Multiple column definitions

Bootstrap Grid Demo

Hello World!

Resize the browser window to see the effect.

.col-xs-7 .col-sm-6 .col-lg-8	.col-xs-5 .col-sm-6 .col-lg-4
.col-xs-6 .col-sm-8 .col-lg-10	.col-xs-6 .col-sm-4 .col-lg-2
.col-xs-6	.col-xs-6

Multiple column definitions

```
<div class="container-fluid">
<h1>Hello World!</h1>
<p>Resize the browser window to see the effect.</p>
<div class="row" style="margin-top:5px;">
    <div class="col-xs-7 col-sm-6 col-lg-8"
        style="background-color:red;">.col-xs-7 .col-sm-6 .col-lg-8</div>
    <div class="col-xs-5 col-sm-6 col-lg-4"
        style="background-color:lavender;">.col-xs-5 .col-sm-6 .col-lg-4</div>
</div>
<div class="row" style="margin-top:5px;">
    <div class="col-xs-6 col-sm-8 col-lg-10"
        style="background-color:lavenderblush;">.col-xs-6 .col-sm-8 .col-lg-10</div>
    <div class="col-xs-6 col-sm-4 col-lg-2"
        style="background-color:lightgrey;">.col-xs-6 .col-sm-4 .col-lg-2</div>
</div>
<div class="row" style="background-color:lightcyan; margin-top:5px;">
    <div class="col-xs-6">.col-xs-6</div>
    <div class="col-xs-6">.col-xs-6</div>
</div>
</div>
```

Web browser will adjust the webpage layout
accordingly to the screen resolution

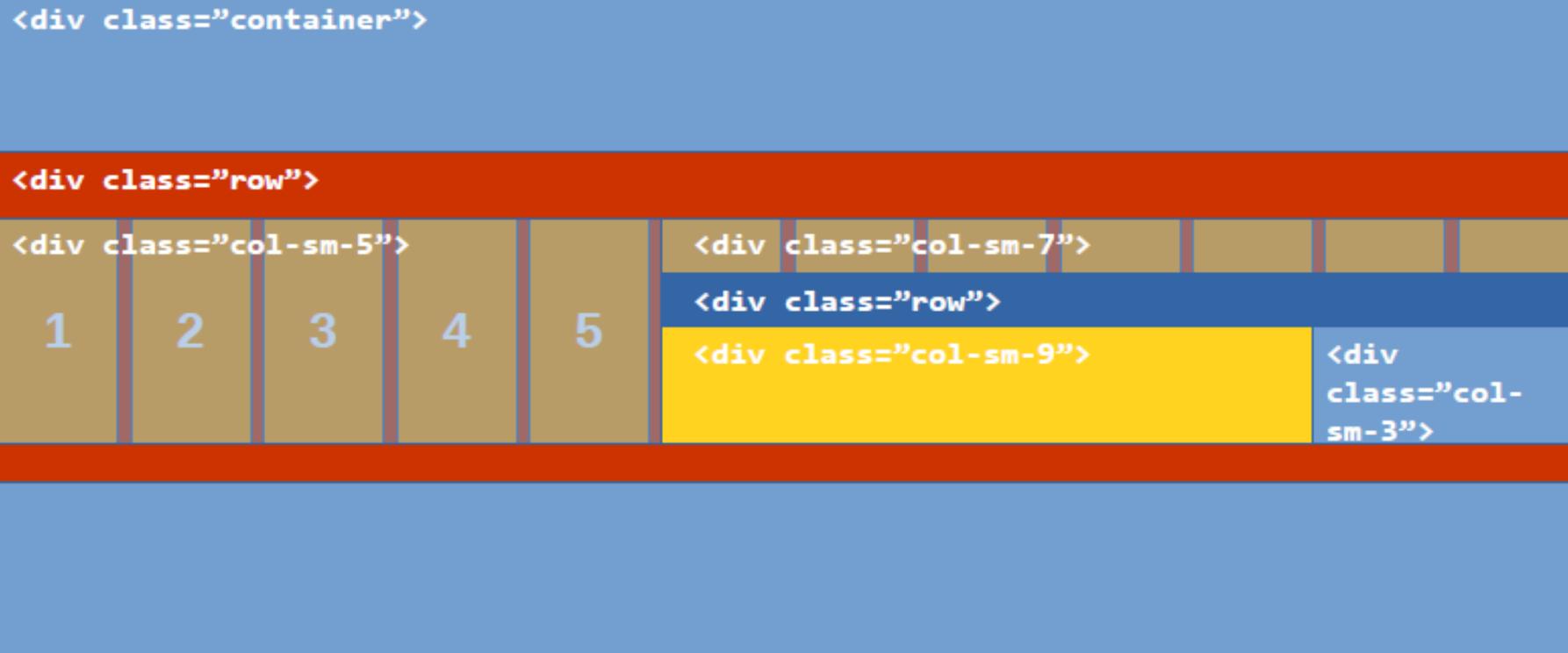
Exercise

- How to design a webpage with the following layout:
 - 1 column on phones
 - 2 columns on tablets and laptops
 - 4 columns on desktop PCs
- Suggested solution:



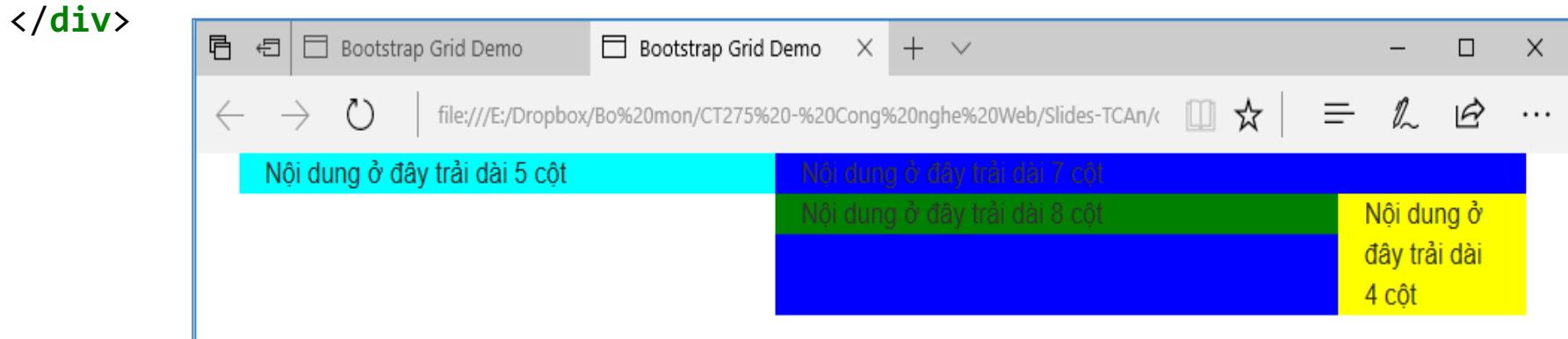
Nested columns

- Columns in columns – create rows inside a column
- Each nested row has 12 columns



Nested columns

```
<div class="container">
  <div class="row">
    <div class="col-sm-5">Nội dung ở đây trải dài 5 cột</div>
    <div class="col-sm-7">Nội dung ở đây trải dài 7 cột
      <div class="row">
        <div class="col-sm-9">Nội dung ở đây trải dài 8 cột</div>
        <div class="col-sm-3">Nội dung ở đây trải dài 4 cột</div>
      </div>
    </div>
  </div>
</div>
```



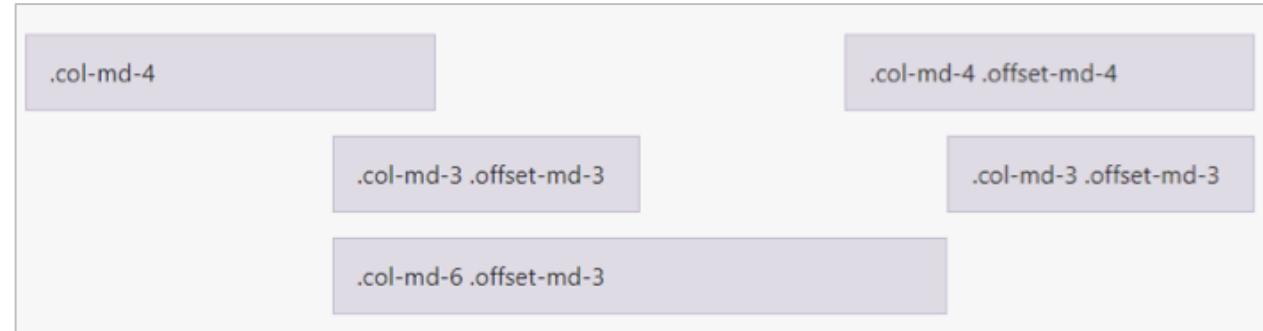
Column positioning

- Offset (`col-*-offset-*`):
 - Left alignment the column
 - Example: `col-md-offset-2, col-sm-offset-4,...`
- Pull (`col-* pull-*`):
 - Pull the column to the left
 - Example: `col-lg-pull-3, col-lg-pull-9,...`
- Push (`col-* push-*`):
 - Push the column to the right
 - Example: `col-xs-push-8, col-xs-push-7,...`

Column positioning

- Coulumn offset example:

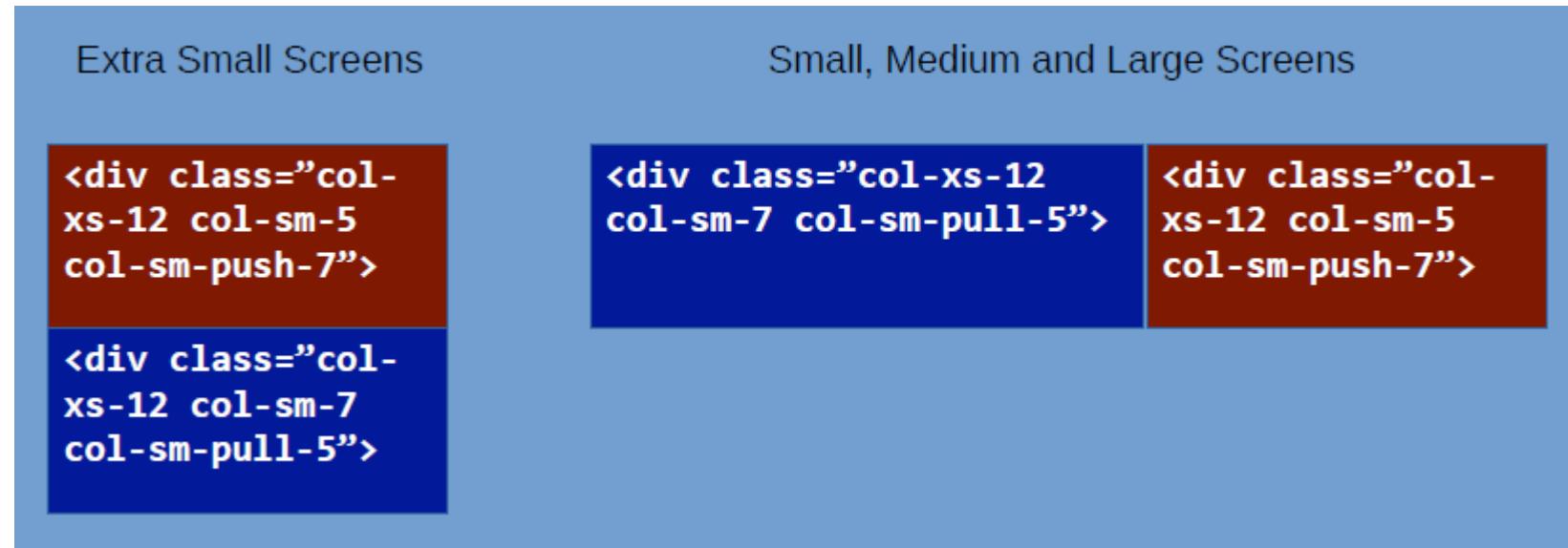
```
<div class="row">
  <div class="col-md-4">.col-md-4</div>
  <div class="col-md-4 offset-md-4">.col-md-4 .offset-md-4</div>
</div>
<div class="row">
  <div class="col-md-3 offset-md-3">.col-md-3 .offset-md-3</div>
  <div class="col-md-3 offset-md-3">.col-md-3 .offset-md-3</div>
</div>
<div class="row">
  <div class="col-md-6 offset-md-3">.col-md-6 .offset-md-3</div>
</div>
```



Column positioning

- Column pull and push example:

```
<div class="row">
  <div class="col-xs-12 col-sm-5 col-sm-push-7">...</div>
  <div class="col-xs-12 col-sm-7 col-sm-pull-5">...</div>
</div>
```



Hide/Show columns

- Goal: control the show/hide attribute of the GUI elements according to the screen resolution
- The hide attribute:
 - Default: `show`
 - To hide: `(hidden-{lg, md, sm, xs})`
- The show attribute:
 - Default: `hide`
 - To show: `(visible-{lg, md, sm, xs})`

Hide/Show columns

<h4>Resize to see how the text changes:</h4>

<h3 class="visible-sm bg-info">Shown only on a SMALL screen.</h3>

<h3 class="visible-md bg-warning">Shown only on a MEDIUM screen.</h3>

<h3 class="visible-lg bg-success">Shown only on a LARGE screen.</h3>

<h3 class="hidden-sm bg-info">Hidden on a SMALL screen.</h3>

<h3 class="hidden-md bg-warning">Hidden on a MEDIUM screen.</h3>

<h3 class="hidden-lg bg-success">Hidden on a LARGE screen.</h3>

Resize to see how the text changes:

Shown only on a LARGE screen.

Hidden on a SMALL screen.

Hidden on a MEDIUM screen.

Resize to see how the text changes:

Shown only on a MEDIUM screen.

Hidden on a SMALL screen.

Hidden on a LARGE screen.

Resize to see how the text changes:

Shown only on a SMALL screen.

Hidden on a MEDIUM screen.

Hidden on a LARGE screen.

Bootstrap GUI Elements

Bootstrap GUI elements

- Bootstrap provides template for many HTML GUI elements (using HTML + CSS + JS)
 - Modern and beautiful
 - Support theme for easy customization
- To use Bootstrap GUI template:
 - Use the build-in templates provided
 - Customize the provided templates make them suited to the user requirement

Bootstrap GUI elements

Default Primary Success Info Warning Danger

« 1 2 3 4 5 »

Home 42 Profile Messages 3

Home Profile Messages

Tooltip on right Tooltip on right

Collapsible Group Item #1
 Anim pariatur cliche reprehenderit, enim eiusmod high life accusamus terry richardson ad squid. Cupidatat skateboard dolor brunch. Food truck quinoa nesciunt laborum eiusmod. Brunch 3 wolf 1 a bird on it squid single-origin coffee nulla assumenda shoreditch et. Nihil anim keffiyeh helvetica. Anderson cred nesciunt sapiente ea proident. Ad vegan excepteur butcher vice lomo. Leggings o-table, raw denim aesthetic synth nesciunt you probably haven't heard of them accusamus labore.

Collapsible Group Item #2

Collapsible Group Item #3

Thumbnail label
 300x200

Thumbnail label
 300x200

Thumbnail label
 300x200

Thumbnail label
 Cras justo odio, dapibus ac facilisis in, egestas eget quam. Donec id elit non mi porta gravida at eget metus. Nullam id dolor id nibh ultricies vehicula ut id elit.
 Button Button

Thumbnail label
 Cras justo odio, dapibus ac facilisis in, egestas eget quam. Donec id elit non mi porta gravida at eget metus. Nullam id dolor id nibh ultricies vehicula ut id elit.
 Button Button

Thumbnail label
 Cras justo odio, dapibus ac facilisis in, egestas eget quam. Donec id elit non mi porta gravida at eget metus. Nullam id dolor id nibh ultricies vehicula ut id elit.
 Button Button

Well done! You successfully read this important alert message.

Heads up! This alert needs your attention, but it's not super important.

Warning! Better check yourself, you're not looking too good.

Oh snap! Change a few things up and try submitting again.

Buttons

- Tags: <**a**> , <**button**>, <**input**>
- Create a button:

btn + {
 btn-default
 btn-primary
 btn-success
 btn-info
 btn-warning
 btn-danger
 btn-link
} + {
 btn-lg
 btn-md
 btn-sm
 btn-xs
} + btn-block

Button type <i>(color)</i>	Size	Block style
-------------------------------	------	-------------

Labels

- Tags: <**span**> or <**div**> and class **label**
- Label style (background and text color) classes:
`label-default`, `label-primary`, `label-success`,
`label-info`, `label-warning`, `label-danger`.

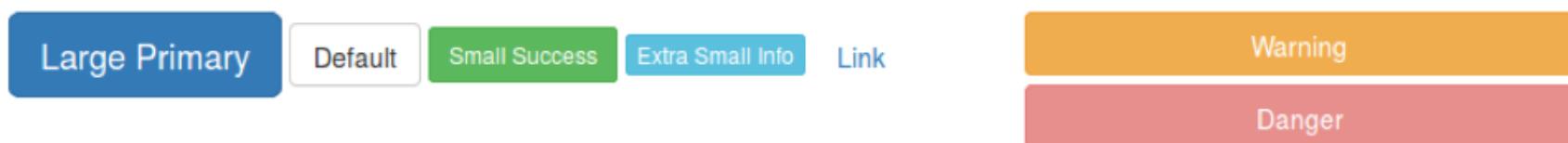
<**p**

```
<span class="label label-success">Hooray!</span>
</p>
```

Example. **Hooray!**

Buttons

```
<div class="row">
  <div class="col-md-5 col-md-offset-1">
    <button type="button" class="btn btn-primary btn-lg">Large Primary</button>
    <button type="button" class="btn btn-default">Default</button>
    <button type="button" class="btn btn-success btn-sm">Small Success</button>
    <button type="button" class="btn btn-info btn-xs">Extra Small Info</button>
    <button type="button" class="btn btn-link">Link</button>
  </div>
  <div class="col-md-3">
    <button type="button" class="btn btn-warning btn-block">Warning</button>
    <button type="button" class="btn btn-danger btn-block"
           disabled="disabled">Danger</button>
  </div>
</div>
```



Button Groups

- Used to group buttons (no space between buttons)
- Create button group: tag <**div**> with class **btn-group**

```
<div class="btn-group">
    <button type="button" class="btn btn-primary">Apple</button>
    <button type="button" class="btn btn-primary">Samsung</button>
    <button type="button" class="btn btn-primary">Sony</button>
</div>
```



Forms

- There are three form types:
 - Vertical (default)
 - Horizontal
 - Inline
- Create a form:
 - Tag: `<form role="form">`
 - Grouping form elements:
`<div class="form-group">`
 - Add class `form-control` to all `<input>`, `<textarea>` and `<select>`

Form – Vertical Form

```
<form role="form">
  <div class="form-group">
    <label for="email">Email address:</label>
    <input type="email" class="form-control" id="email">
  </div>
  <div class="form-group">
    <label for="pwd">Password:</label>
    <input type="password" class="form-control" id="pwd">
  </div>
  <div class="checkbox">
    <label><input type="checkbox">
      Remember me</label>
  </div>
  <button type="submit"
    class="btn btn-default">
    Submit</button>
</form>
```

Email:
Enter email

Password:
Enter password

Remember me

Submit

Form – Horizontal Form

```
<form class="form-horizontal" role="form">
  <div class="form-group">
    <label for="firstname" class="col-sm-2 control-label">First Name</label>
    <div class="col-sm-10">
      <input type="text" name="firstname" id="firstname"
             class="form-control" placeholder="Enter First Name">
    </div>
  </div>
</form>
```

A screenshot of a web browser displaying a horizontal form. The form consists of a single group containing a label and an input field. The label, 'First Name', is positioned to the left of the input field and is bolded. The input field is a text input with the placeholder 'Enter First Name'. Both the label and the input field are contained within a blue-bordered box.

Form – Inline Form

```
<form class="form-inline" role="form">
  <div class="form-group">
    <label class="sr-only" for="email">Email address</label>
    <input type="email" class="form-control" id="email" placeholder="Email">
  </div>
  <div class="form-group">
    <label class="sr-only" for="password">Password</label>
    <input type="password" class="form-control" id="password"
           placeholder="Password">
  </div>
  <div class="checkbox">
    <label><input type="checkbox" /> Remember me</label>
  </div>
  <button type="submit" class="btn btn-default">Sign in</button>
</form>
```

The screenshot shows a user interface for a sign-in form. It consists of a horizontal row of four elements: a text input field labeled "Email", a text input field labeled "Password", a checkbox labeled "Remember me", and a button labeled "Sign in". All elements are contained within a single horizontal container, demonstrating the "form-inline" class.

Input Group

- Used to **extend form controls** by adding text, buttons, button groups to either sides of textual inputs, custom selects, and custom file inputs

```
<div class="input-group">
  <div class="input-group-addon" style="background-color: #ccc;">(
  <div class="input-group-addon" style="background-color: #ccc;">)
```



Input Group

```
<div class="row">
  <div class="col-lg-6">
    <div class="input-group">
      <span class="input-group-addon">
        <input type="checkbox"
              aria-label="Checkbox for following text input">
      </span>
      <input type="text" class="form-control"
              aria-label="Text input with checkbox">
    </div>
  </div>
</div>
```



Glyphicon

- A collection of **260 icons** in font format (Glyphicons Halflings)
⇒ can change their size, color,... w/o changing quality
- Usage: <**span** class="glyphicon glyphicon-name"></**span**>
- Example:

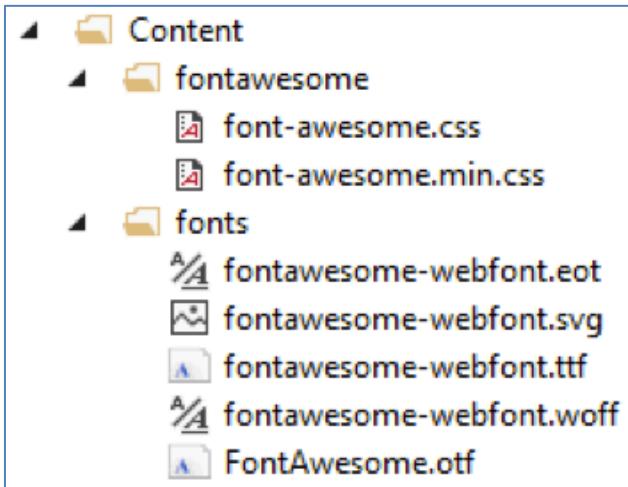
```
<button type="button" class="btn btn-info">
  <span class="glyphicon glyphicon-search"></span>Search
</button>
```



Font Awesome

- A collection of **symbol fonts**
- Usage:
 - Download font files: <http://fontawesome.io/>
 - Use CDN:

```
<link rel="stylesheet"  
      href="https://maxcdn.bootstrapcdn.com/font-awesome/4.4.0/css/font-awesome.min.css" />
```



Font Awesome

- Insert Font Awesome

- 1) Create link to Font Awesome CSS
- 2) Identify Font Awesome symbol used
- 3) Use tag <**span**> or <**i**>:

```
<i class="fa symbol-name"></i>
<span class="fa symbol-name"></span>
```

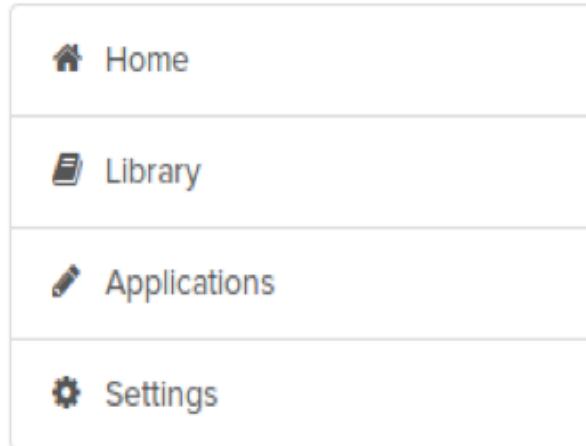
- Some classes to customize symbol appearance:

- Size: **fa-1g** (+33%), **fa-2x/3x/4x/5x**
- Border: **fa-border**
- Animated: **fa-spin** (spin), **fa-pulse** (8-step rotation)
- Rotation/Flip: **fa-rotate-***, **fa-flip-***



Font Awesome

```
<div class="list-group">
  <a class="list-group-item" href="#">
    <i class="fa fa-home"></i>&ampnbsp Home</a>
  <a class="list-group-item" href="#">
    <i class="fa fa-book"></i>&ampnbsp Library</a>
  <a class="list-group-item" href="#">
    <i class="fa fa-pencil"></i>&ampnbsp Applications</a>
  <a class="list-group-item" href="#">
    <i class="fa fa-cog"></i>&ampnbsp Settings</a>
</div>
```



Tables

- Create a table:
 - <**table** class="table">
 - <**thead**>: table header
 - <**tbody**>: table body (content)
- Classes used with <**table**>:
 - **table**: standard table
 - **table-striped**: add **zebra-striping** to any table row
 - **table-bordered**: add border to all sides of the table & cells
 - **table-hover**: enable a hover state on table rows
 - **table-condense/table-sm**: cut cell paddings in half
 - **table-responsive**: to make them scroll horizontally on small devices (< 768px)

Firstname	Lastname	Email
John	Doe	john@example.com
Mary	Moe	mary@example.com
July	Dooley	july@example.com

Tables

- Contextual classes used with <td> and <tr>: active, success, info, warning, danger

Firstname	Lastname	Email
Default	Defaultson	def@somemail.com
Success	Doe	john@example.com
Danger	Moe	mary@example.com
Info	Dooley	july@example.com
Warning	Refs	bo@example.com
Active	Activeson	act@example.com

Tables

```
<table class="table">
  <thead>
    <tr> <th>Firstname</th> <th>Lastname</th> <th>Email</th> </tr>
  </thead>
  <tbody>
    <tr>
      <td>Default</td> <td>Defaultson</td> <td>def@somemail.com</td> </tr>
    <tr class="success">
      <td>Success</td> <td>Doe</td> <td>john@example.com</td> </tr>
    <tr class="danger">
      <td>Danger</td> <td>Moe</td> <td>mary@example.com</td> </tr>
    <tr class="info">
      <td>Info</td> <td>Dooley</td> <td>july@example.com</td> </tr>
    <tr class="warning">
      <td>Warning</td> <td>Refs</td> <td>bo@example.com</td> </tr>
    <tr class="active">
      <td>Active</td> <td>Activeson</td> <td>act@example.com</td> </tr>
  </tbody>
</table>
```

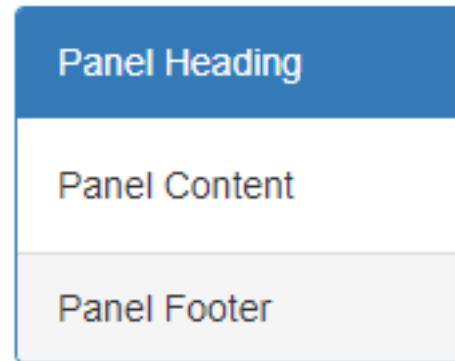
Panels

- Bordered box with some paddings around its content
- Tag: <**div** class="panel">
- Related classes:
 - **panel-heading**: create a panel header (highlighted background)
 - **panel-body**: create a panel body
 - **panel-footer**: create a panel footer
 - Contextual classes (change background and border color):
panel-default, **panel-primary**, **panel-success**,
panel-info, **panel-warning**, **panel-danger**



Panels

```
<div class="panel panel-primary">  
  <div class="panel-heading">Panel Heading</div>  
  <div class="panel-body">Panel Content</div>  
  <div class="panel-footer">Panel Footer</div>  
</div>
```



Panels

```
<div class="panel panel-primary">
  <div class="panel-heading">
    <h3 class="panel-title">Facts At a Glance</h3>
  </div>
  <div class="panel-body">
    <dl class="dl-horizontal">
      <dt>Started</dt>
      <dd>3 Feb. 2013</dd>
      <dt>Major Stake Holder</dt>
      <dd>HK Fine Foods</dd>
      <dt>Last Year's Turnover</dt>
      <dd>$1,250,375</dd>
      <dt>Employees</dt>
      <dd>40</dd>
    </dl>
  </div>
</div>
```

Facts At a Glance

Started	3 Feb. 2013
Major Stake Holder	HK Fine Foods
Last Year's Turnover	\$1,250,375
Employees	40

Wells

- Well class adds rounded border around an element with a gray background color and some padding

```
<div class="well">
  <blockquote>
    <p>You better cut the pizza in four pieces because
       I'm not hungry enough to eat six.</p>
    <footer><cite title="Source Title">The Wit and Wisdom of Yogi
          Berra, P. Pepe, Diversion Books, 2014</cite>
    </footer>
  </blockquote>
</div>
```

You better cut the pizza in four pieces because I'm not hungry enough to eat six.

— *The Wit and Wisdom of Yogi Berra, P. Pepe, Diversion Books, 2014*

Images

- Bootstrap classes for <**img**> tag:
 - **img-responsive**: auto adjusts image size to fit the screen
 - **img-rounded**: adds rounded corners to an image
 - **img-circle**: shapes the image to a circle
 - **img-thumbnail**: shapes the image to a thumbnail

Rounded Corners:



Circle:



Thumbnail:



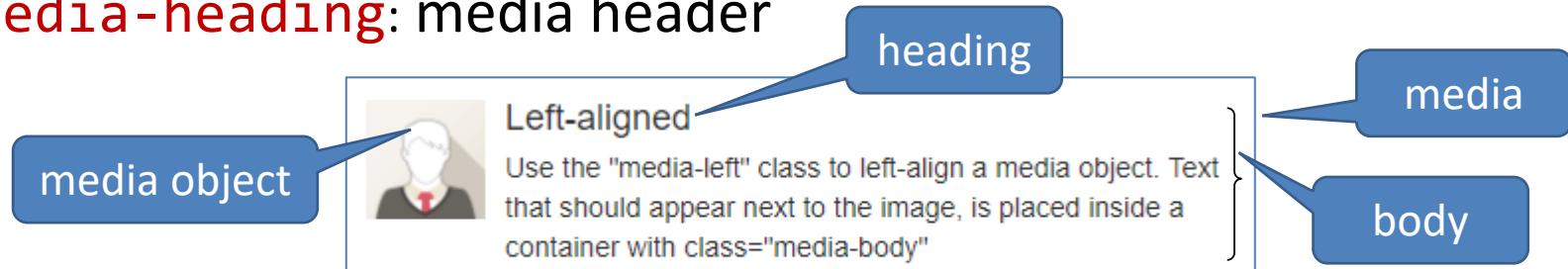
Images

```
<div class="thumbnail">
  
  <div class="caption">
    <h3>Thumbnail label</h3>
    <p>...</p>
    <p>
      <a href="#" class="btn btn-primary">
        Button
      </a>
      <a href="#" class="btn btn-default">
        Button
      </a>
    </p>
  </div>
</div>
```



Media Objects

- Align media objects (images or videos) to the left or to the right of some content
- Create a media object: <**div** class="media">
- Related classes:
 - **media-object**: tạo 1 media object
 - **media-left/right**: horizontal alignment
 - **media-top/bottom/middle**: vertical alignment
 - **media-body**: media content (usually text)
 - **media-heading**: media header



Media Objects

```
<div class="media">
  <div class="media-left">
    
  </div>
  <div class="media-body">
    <h4 class="media-heading">Left-aligned</h4>
    <p>Use the "media-left" class to left-align a media object...</p>
  </div>
</div>
```



Left-aligned

Use the "media-left" class to left-align a media object. Text that should appear next to the image, is placed inside a container with class="media-body"

Media Objects

```
<div class="media">
  <div class="media-left">
    
  </div>
  <div class="media-body">
    <h4 class="media-heading">John Doe
      <small><i>Posted on February 19, 2016</i></small></h4>
    <p>Media objects can also be nested (a media object inside a media object)</p>
    <div class="media">
      <div class="media-left">
        
      </div>
      <div class="media-body">
        <h4 class="media-heading">John Doe
          <small><i>Posted on February 19, 2016</i></small></h4>
        <p>This is a nested media object.</p>
      </div>
    </div>
  </div>
</div>
```



John Doe *Posted on February 19, 2016*

Media objects can also be nested (a media object inside a media object)



John Doe *Posted on February 19, 2016*

This is a nested media object.

Responsive Embed (Videos/Slideshows)

```
<div class="embed-responsive embed-responsive-16by9">
  <iframe class="embed-responsive-item"
    src="https://www.youtube.com/embed/2P2mXutRdkE">
  </iframe>
</div>
```



Jumbotrons

- Jumbotron: a big box for calling extra attention to some special content or information
- Create a Jumbotron: <**div** class="jumbotron">

```
<div class="jumbotron">
  <h1>Bootstrap Tutorial</h1>
  <p>Bootstrap is the most popular HTML, CSS, and JS framework...</p>
</div>
```

Bootstrap Tutorial

Bootstrap is the most popular HTML, CSS, and JS framework for developing responsive, mobile-first projects on the web.

Alerts

- Used to create predefined alert messages
- Create an alert: `<div class="alert alert-style">`
- Alert styles: `alert-success`, `alert-info`,
`alert-warning`, `alert-danger`
- Related classes:
 - `alert-link`: creates “matching colored links”
 - `alert-dismissible`: allows to close an alert
 - Add a link or button with `class="close"` and
`data-dismiss="alert"` to create a closing button

Alerts

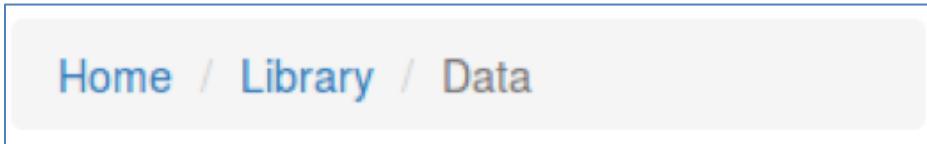
```
<div class="alert alert-danger alert-dismissible">
  <a href="#" class="close" data-dismiss="alert"
    aria-label="close">x</a>
  <strong>Danger!</strong>
  This alert box could indicate a dangerous or
  potentially negative action.
</div>
```

Danger! This alert box could indicate a dangerous or potentially negative action. 

Breadcrumbs

- Used to create an indication of the current page's location within a navigational hierarchy
- Create a breadcrumb: <ol class="breadcrumb">

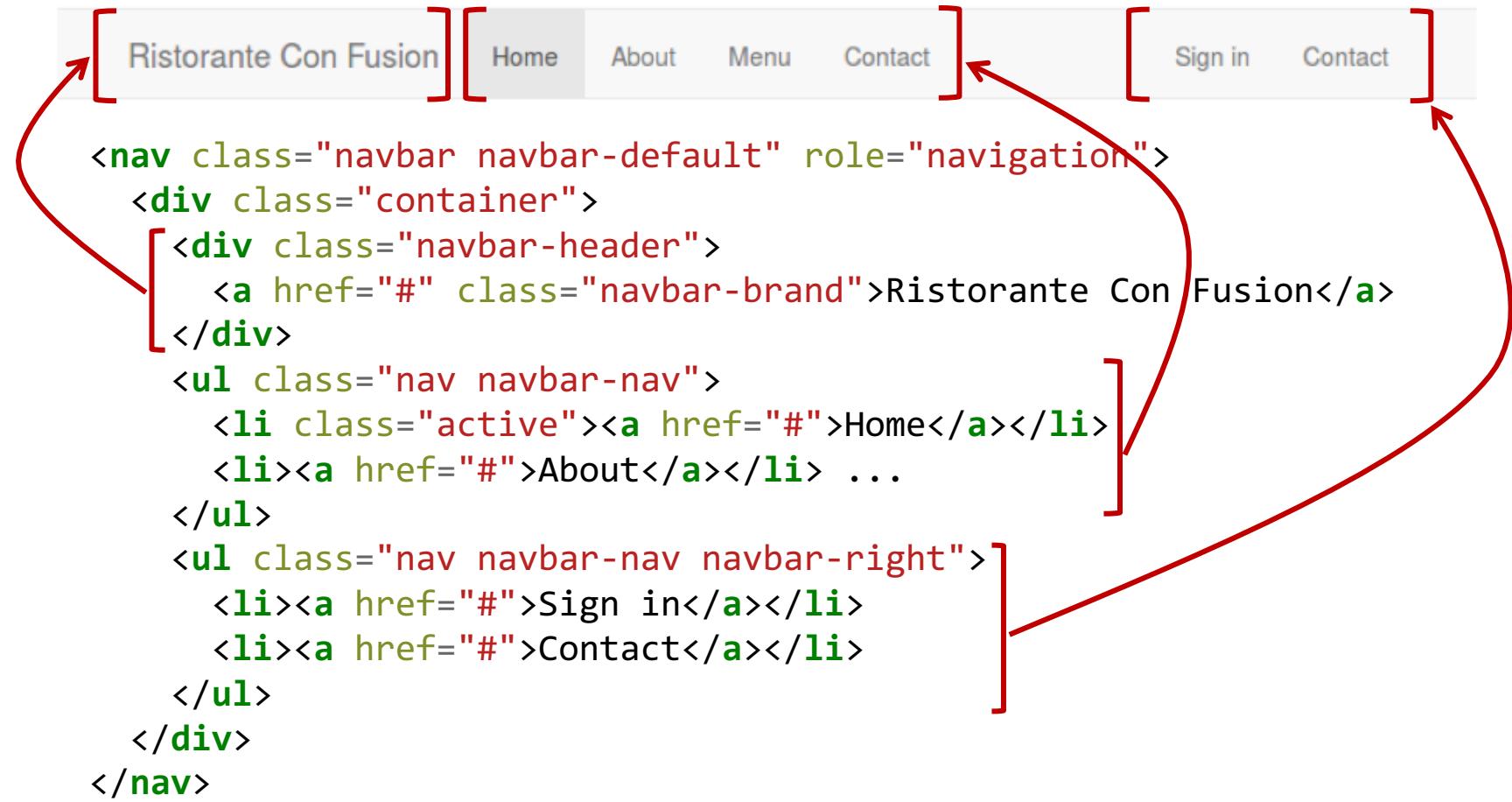
```
<ol class="breadcrumb">
  <li><a href="#">Home</a></li>
  <li><a href="#">Library</a></li>
  <li class="active">Data</li>
</ol>
```



Home / Library / Data

Navbar

- A collapsible and toggleable navigation bar



Navbar with Dropdown

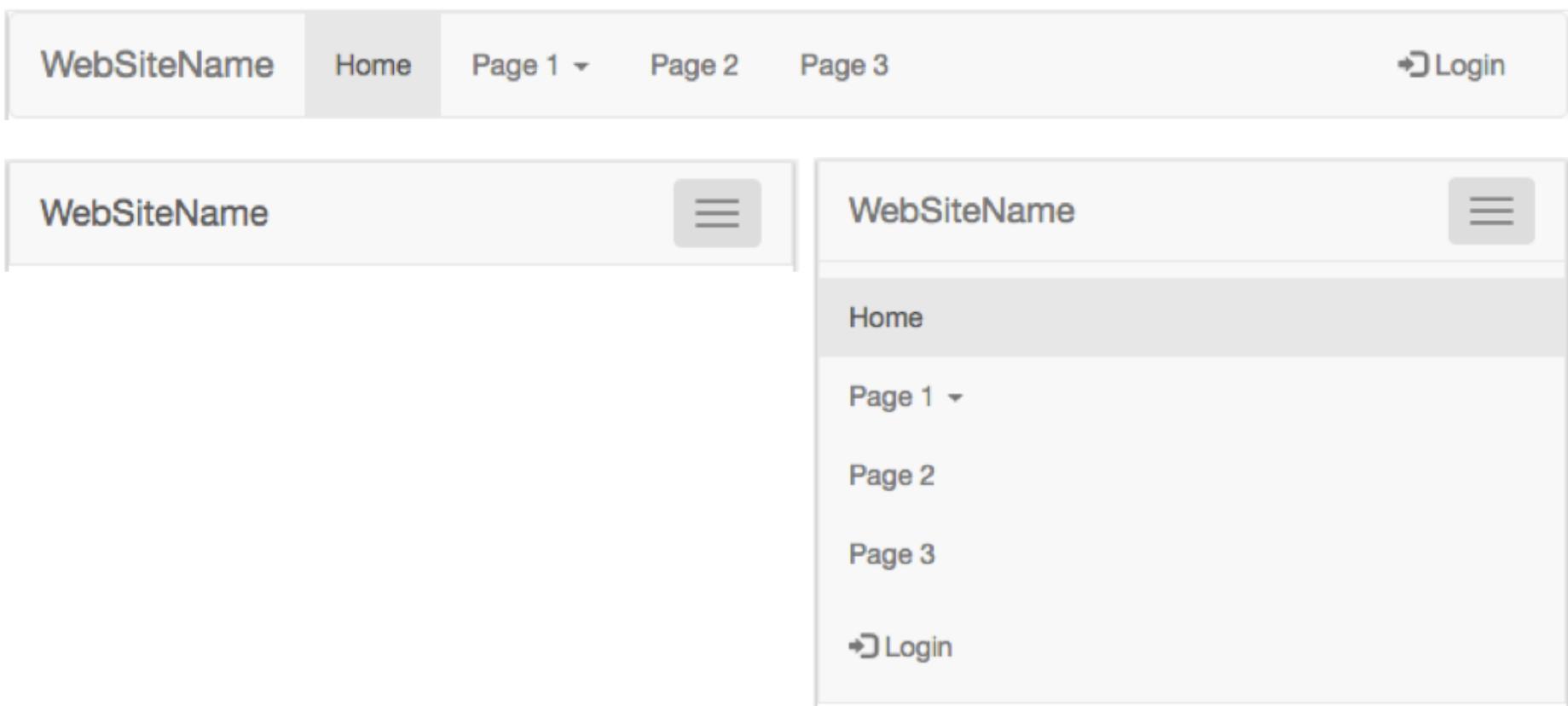
The diagram illustrates a Bootstrap Navbar with a dropdown menu. The navbar contains items: 'WebSiteName', 'Home', 'Page 1', 'Page 2', and 'Page 3'. The 'Page 1' item has a dropdown menu with three items: 'Page 1-1', 'Page 1-2', and 'Page 1-3'. A red bracket on the left highlights the code for the 'Page 1' dropdown item. A red bracket on the right highlights the code for the dropdown menu's list items.

```
<li class="dropdown">
  <a class="dropdown-toggle" data-toggle="dropdown" href="#">Page 1
    <span class="caret"></span>
  </a>
  ... (định nghĩa menu "con")
</li>
```

```
<ul class="dropdown-menu">
  <li><a href="#">Page 1-1</a></li>
  <li><a href="#">Page 1-2</a></li>
  <li><a href="#">Page 1-3</a></li>
</ul>
```

Collapsed Navbar

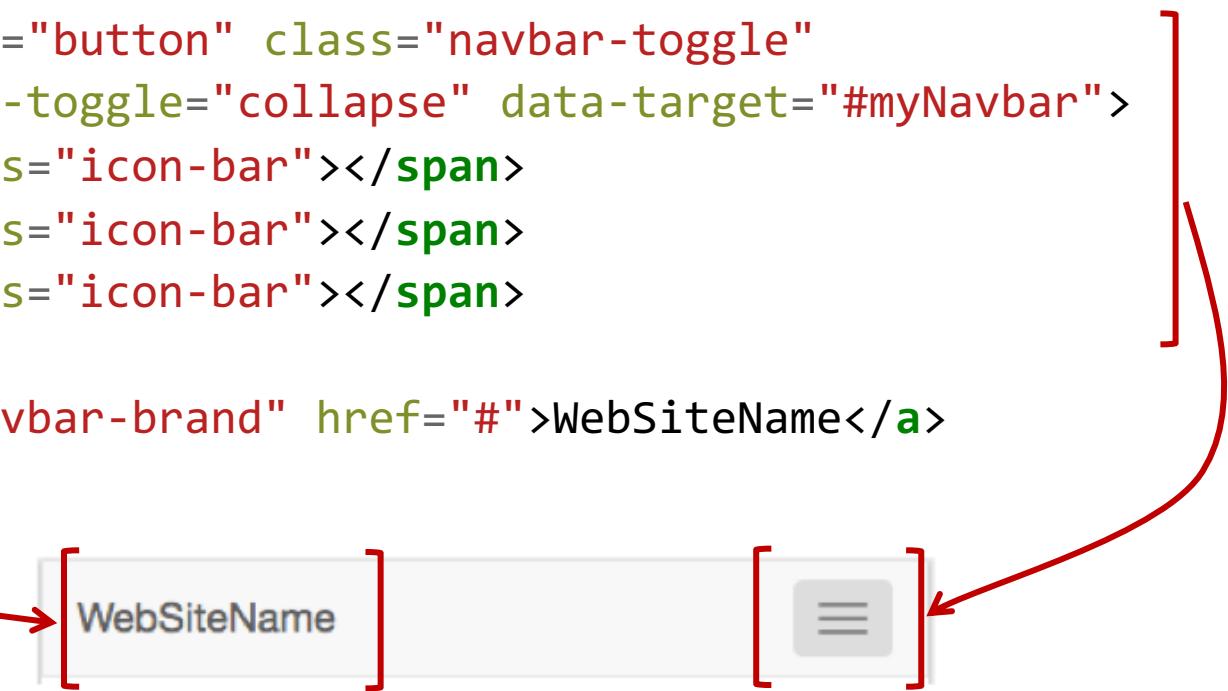
- Navbar that is collapsed (and toggleable) in mobile views



Collapsed Navbar

```
<nav class="navbar navbar-default">
  <div class="container-fluid">
    <div class="navbar-header">
      <button type="button" class="navbar-toggle"
             data-toggle="collapse" data-target="#myNavbar">
        <span class="icon-bar"></span>
        <span class="icon-bar"></span>
        <span class="icon-bar"></span>
      </button>
      <a class="navbar-brand" href="#">WebSiteName</a>
    </div>
```

(to be cont.)



Collapsed Navbar

(cont.)

```
<div class="collapse navbar-collapse" id="myNavbar">
  <ul class="nav navbar-nav">
    <li class="active"><a href="#">Home</a></li>
    <li class="dropdown">
      <a class="dropdown-toggle" data-toggle="dropdown"
         href="#">Page 1 <span class="caret"></span></a>
      <ul class="dropdown-menu">
        <li><a href="#">Page 1-1</a></li> ... </ul> </li>
        <li><a href="#">Page 2</a></li> <li><a href="#">Page 3</a></li>
      </ul>
    <ul class="nav navbar-nav navbar-right">
      <li><a href="#"><span class="glyphicon glyphicon-log-in"></span>
          Login</a></li>
    </ul>
  </div>
</div>
</nav>
```



Other navigation components

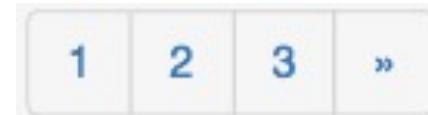
- Tabs: <http://getbootstrap.com/components/#nav-tabs>

```
<ul class="nav nav-tabs">
  <li class="active"><a href="#">Home</a></li>
  <li><a href="#">Profile</a></li>
  <li><a href="#">Messages</a></li>
</ul>
```



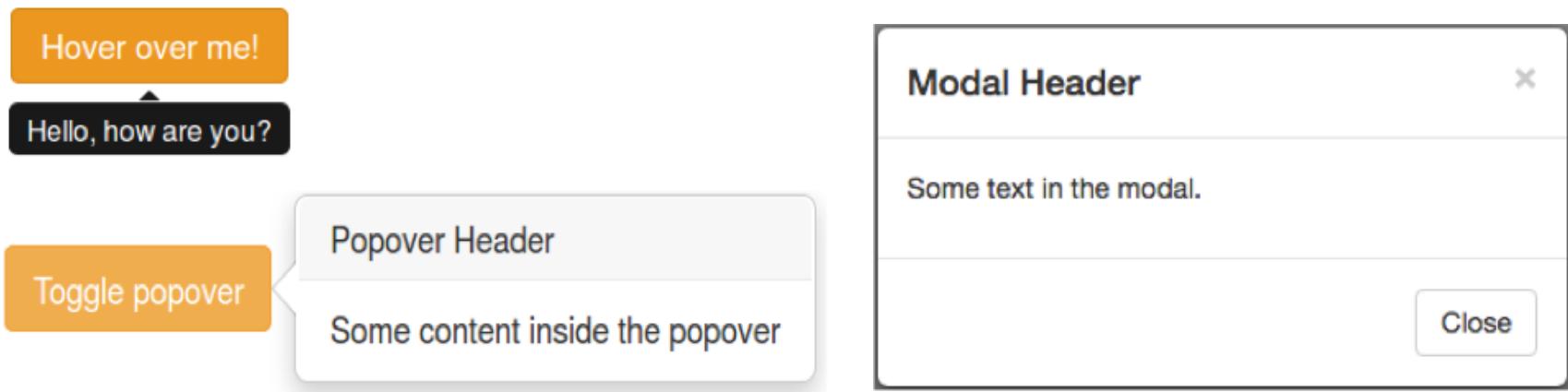
- Pagination: <http://getbootstrap.com/components/#nav-pagination>

```
<ul class="pagination">
  <li><a href="#">1</a></li>
  <li><a href="#">2</a></li>
  <li><a href="#">3</a></li>
  <li><a href="#" aria-label="Next">
      <span aria-hidden="true">&raquo;</span>
    </a>
  </li>
</ul>
```



Tooltip, Popover and Modal

- Small pop-up boxes that appear (overlay) when the user moves the mouse pointer over an element
- Usually combined with a Bootstrap function call to be triggered
- Flexibility: Tooltip < Popover < Modal



Tooltip, Popover and Modal

- **Tooltip:** a small pop-up displayed when the mouse pointer overs an element
 - 1) Add **data-toggle** and **data-placement** att. into the element

```
<a role="button" class="btn btn-warning" href="#" data-toggle="tooltip" data-placement="bottom" title="Hello, how are you?">Hover over me!</a>
```
 - 2) Add the following JS code into the webpage:

```
<script>
$(document).ready(function () {
    $('[data-toggle="tooltip"]').tooltip();
});
</script>
```

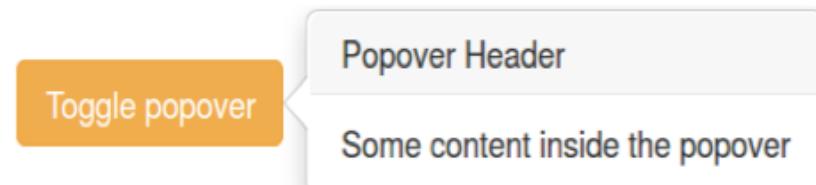
A diagram illustrating a tooltip. It consists of two overlapping rounded rectangles. The top rectangle is orange and contains the text "Hover over me!". A black arrow points from the bottom right corner of this rectangle towards the bottom rectangle. The bottom rectangle is black and contains the text "Hello, how are you?".

Tooltip, Popover and Modal

- **Popover**: a small pop-up with **header** and **content** displayed when an element is clicked
 - 1) Add **data-toggle**, **title** and **data-content** attribute into the element:

```
<a role="button" class="btn btn-warning" href="#" data-toggle="popover" title="Popover Header" data-content="Some content inside the popover">Toggle popover</a>
```
 - 2) Add the following JS code into the webpage:

```
<script>
$(document).ready(function () {
    $('[data-toggle="popover"]').popover();
});
</script>
```



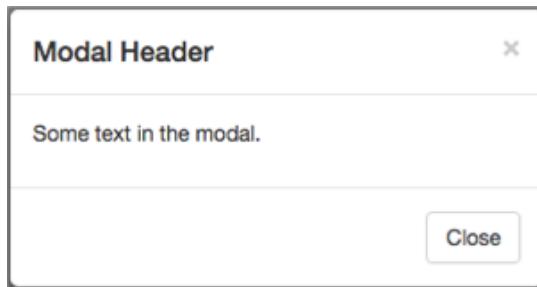
Tooltip, Popover and Modal

- **Modal:**

- Create model parts:
 - Model container: `modal`
 - Set proper model width and margins: `modal-dialog`
 - Model contents: `modal-header`, `modal-content`, `modal-footer`
- Close model: create a button with the attribute
`data-dismiss="modal"`
- Trigger a model:
 - Use `JS` code (cf. next slide)
 - Use the attributes:
`data-toggle="modal"` and `data-target="<#model-id>"`

Tooltip, Popover and Modal

```
<div id="loginModal" class="modal fade" role="dialog">
  <div class="modal-dialog">
    <div class="modal-content">
      <div class="modal-header">
        <button type="button" class="close"
               data-dismiss="modal">&times;</button>
        <h4 class="modal-title">Login</h4>
      </div>
      <div class="modal-body">
        ...
      </div>
    </div>
  </div>
</div>
```



Method 1

```
<script>
  $(document).ready(function () {
    $("#loginLink").click(function () {
      $("#loginModal").modal();
    });
  });
</script>
```

Method 2 `<a data-toggle="modal" data-target="#loginModal">Login`

Bootstrap Customization

Bootstrap customization

- Bootstrap is a CSS library
- Should use the Bootstrap standard library:
 - Consistency between pages
- Bootstrap customization methods:
 - Modify Bootstrap CSS ⇒ 
 - Create customization CSS ⇒ 
 - Create new Bootstrap build ⇒ 

Create customization CSS

- Basic idea:
 - Override Bootstrap CSS pre-define classes
 - Create new selectors and classes
- Notes:
 - Include the customization files after the Bootstrap files
 - Selectors of the customization CSS must be more specific than the Bootstrap selector

(**Tips:** Use the “**Inspect Element**” of the browser to inspect the elements)

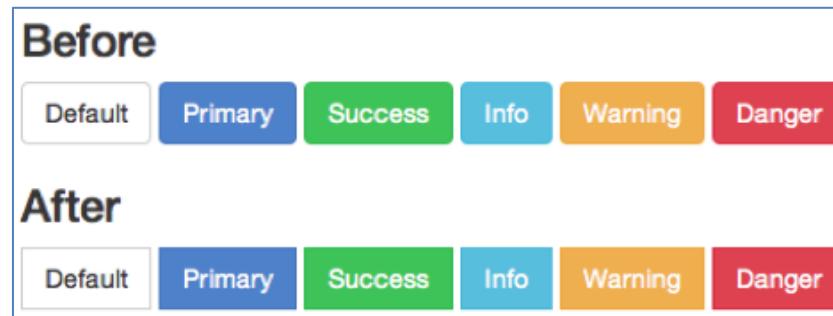
Create customization CSS

- Include the customization CSS:

```
<head>
  <link rel="stylesheet" type="text/css" href="css/bootstrap.min.css">
  <link rel="stylesheet" type="text/css" href="css/custom.css">
</head>
```

- Override the Bootstrap class:

```
.btn {
  border-radius: 0px;
}
```





Question?

CT313H – WEB TECHNOLOGY