

FULL STACK

Customize Your Application Using Bootstrap



A Day in the Life of a MEAN Stack Developer

Joe has gained expertise in Bootstrap. A new project for a food industry is assigned to him.

In this sprint, he has to develop a customizable website for a restaurant which will provide a brief information of the restaurant, its bestsellers, and the contact number of the restaurant.

In this lesson, you will learn how to solve this real-world scenario to help Joe complete his task effectively and quickly.



Learning Objectives

By the end of this lesson, you will be able to:

- 👁 Explain HTML, CSS, Bootstrap typography and utilities
- 👁 Illustrate the Bootstrap design
- 👁 List buttons, navigation bars, input groups, and media objects
- 👁 Describe carousel, accordion, modal, and pagination
- 👁 Define forms, tabs, and captions



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Starter Template Guide

Responsive Web Design: Introduction

Responsive Web Design is a responsive browser that can adapt to different screen sizes.



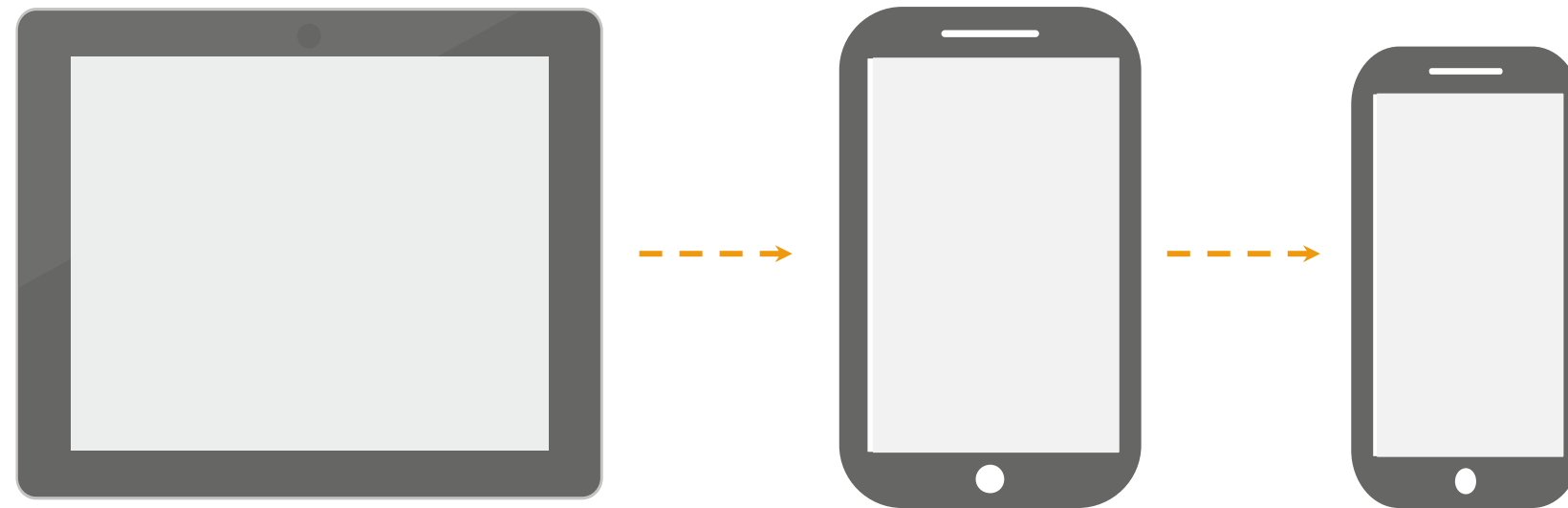
Responsive vs. Adaptive

Responsive

A responsive web design is a fluid design that responds to the browser and can resize according to the screen size with no empty spaces on the sides.

Adaptive

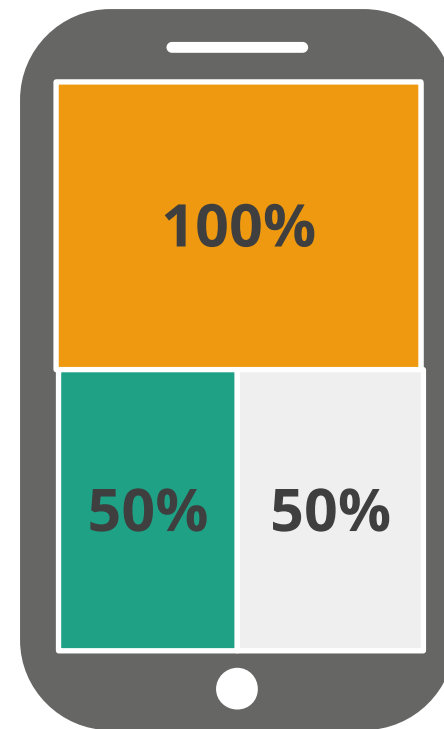
An adaptive design adapts to the screen size only at specific points.



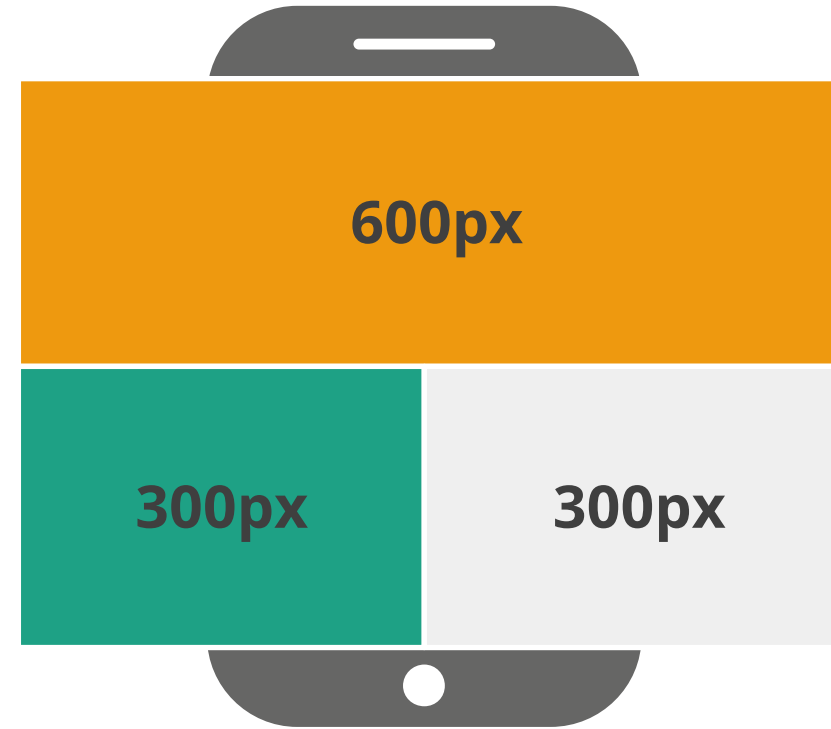
Responsive Web Design

Relative vs. Static Units

Relative units can adapt to any screen in percentages, unlike static units that adapt in pixels.



Relative units



Static units



Flow vs. Static

The flow in a responsive web design helps the content to smoothly adjust when the screen size changes, unlike in static web design.



Flow

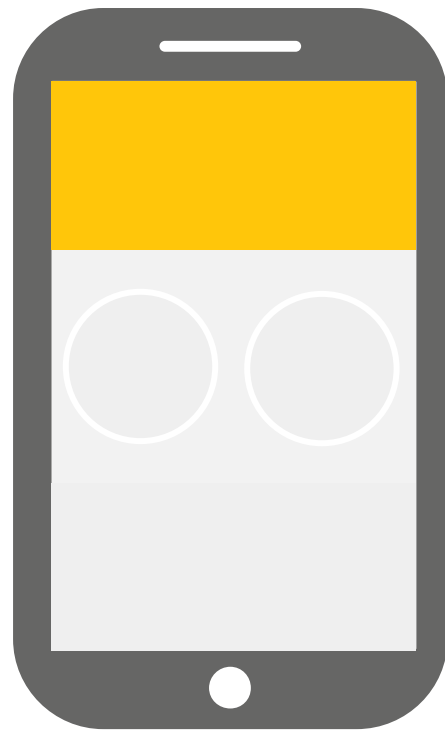


Static

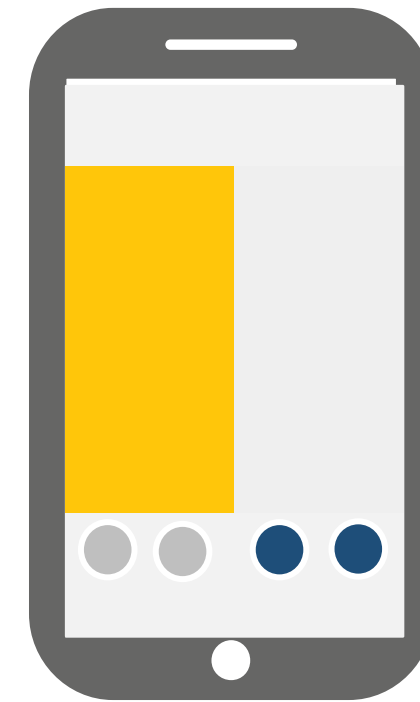
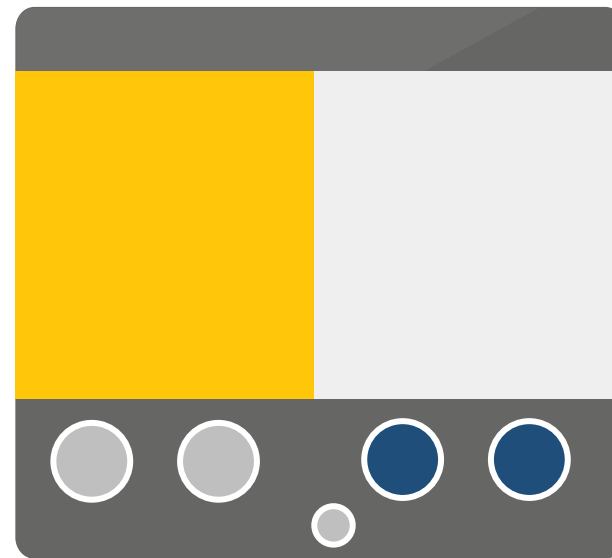


With vs. Without Breakpoints

When the screen size changes, the presence of break points allows the content to adapt to the screen size.



With Breakpoints

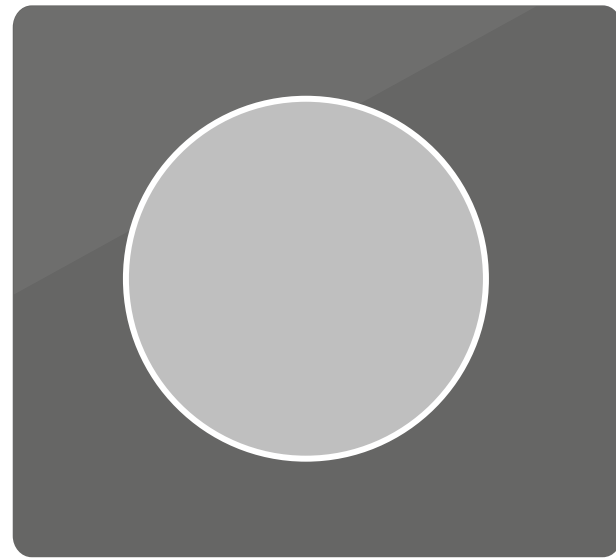


Without Breakpoints

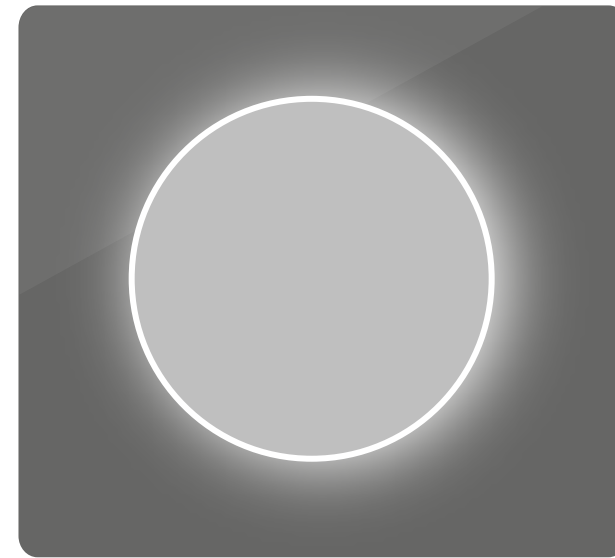


Vectors vs. Images

A vector adapts to the resolution of the retina and its quality is independent of the screen resolution. In case of image, it cannot adapt the resolution of retina.



Vector



Image



Mobile First

To develop a mobile-first design:

- Start with CSS development for mobile device, followed by media queries to adapt to desktops and tablets.
- Determine the content that is the most important.



Why Mobile First?

Is a design that is independent of the screen size.

Helps avoid overwriting of code.

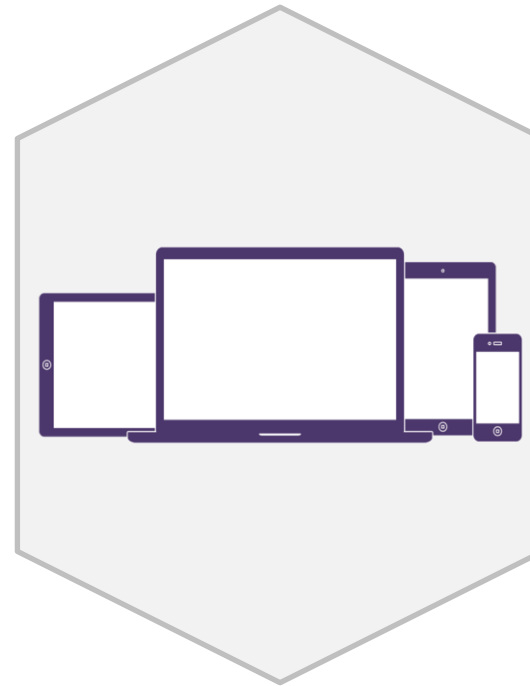
Narrows down the website information to a convenient portion.



Properties of Bootstrap



Preprocessors

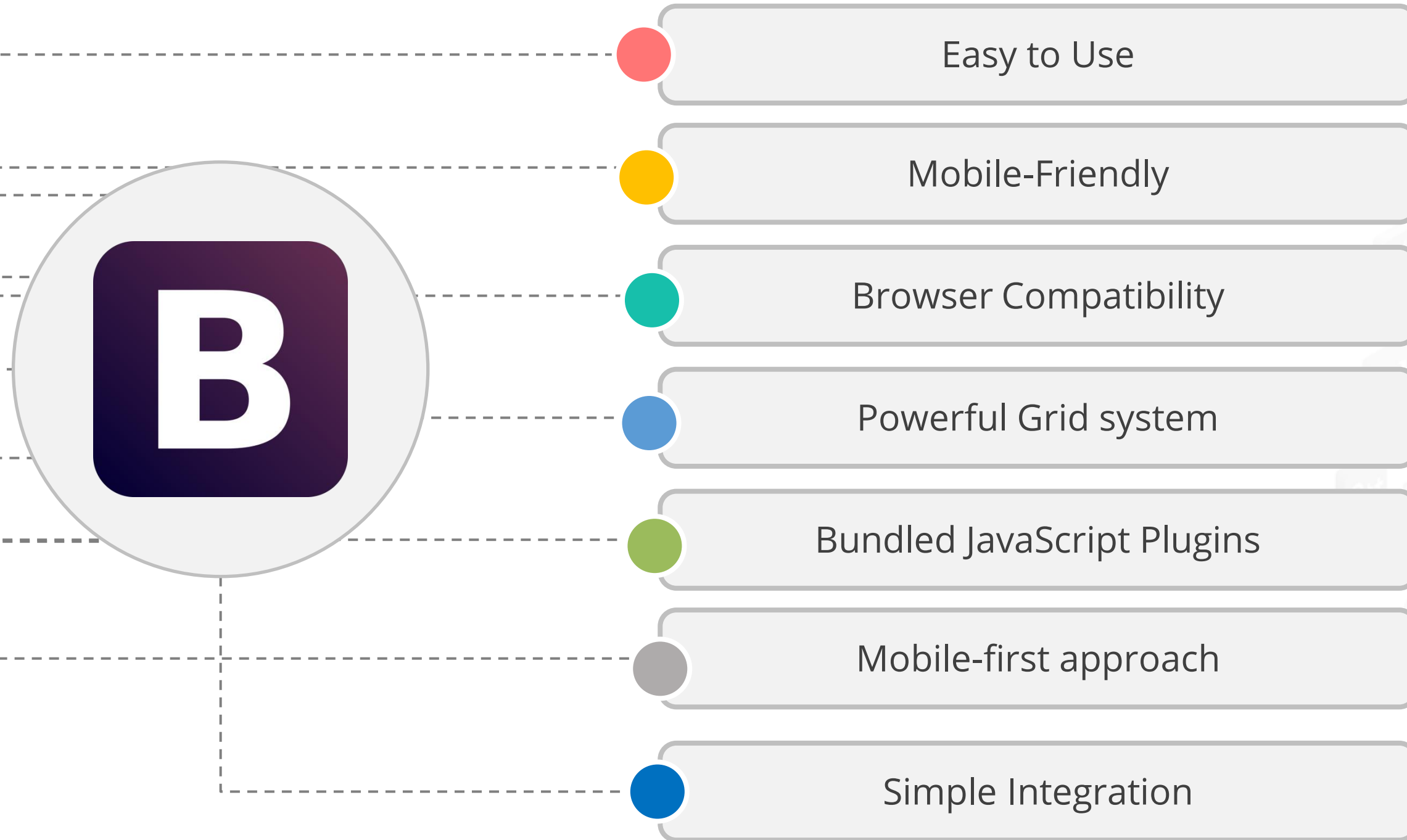


**One framework for
every device**



Customizable

Features of Bootstrap



Competitors

These are a few front-end web designing alternatives that can be used instead of Bootstrap:



Foundation



Skeleton



Bootstrap Components

- Labels
- Panels
- Jumbotron
- Page Header
- Navbar
- Thumbnails
- Alerts
- List group
- Page Header
- Wells
- Badges
- Dropdowns
- Button groups
- Glyphicons
- Button Drops
- Breadcrumbs
- Input groups
- Navs
- Pagination
- Media Object



Creating First Page with Bootstrap: Step 1

- At the start of the page, include HTML5 doctype and the lang attribute with the right character set.

```
<!DOCTYPE html>
<html lang="pt">
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
  </head>
</html>
```

Creating First Page with Bootstrap: Step 2

- Add the viewport `<meta>` tag for proper touch zooming and rendering
- Adjust the width and the initial zoom level of the page as per your device
- This will ensure that you have a better experience and there will be no need for zooming

Creating First Page with Bootstrap: Step 3

- Include the following files:
 - **bootstrap.min.css**
 - **jquery.min.js**
 - **bootstrap.min.js**
- Download and include the files in your page. In this example, we include them from the Internet:

```
<link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css">
<script
src="https://ajax.googleapis.com/ajax/libs/jquery/3.1.1/jquery.min.js"></script>
<script
src="https://maxcdn.bootstrapcdn.com/ajax/bootstrap/3.3./js/bootstrap.min.js"></script>
```

Creating First Page with Bootstrap: Step 4

- In Bootstrap, you can include elements to wrap the site contents.

```
<div class="container">  
  <h1>My First Bootstrap Page</h1>  
  <p>this is some text.</p>  
</div>
```

```
<div class="container-fluid">  
  <h1>My First Bootstrap Page</h1>  
  <p>This is some text.</p>  
</div>
```


Import Bootstrap in Your Application



Duration: 20 min.

Problem Statement:

You are given a project to create an HTML page and include Bootstrap to your web application.

ASSISTED PRACTICE

Assisted Practice: Guidelines to Import Bootstrap in Your Application

1. Write an HTML page in your code editor.
2. Add bootstrap to your application using CDN.
3. Host bootstrap locally.



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Browsers and Devices

Responsive with Bootstrap

Bootstrap helps you to create responsive and mobile-friendly websites.

It offers:

Grid system

CSS3 media queries

**Responsive embedded
and flexible image**



Responsive utilities



Use of @media Rule

With @media rule in Bootstrap, you can have a different layout for all screens, including tablet, mobile, and desktops.



Introduction to Grid Systems

In Bootstrap

- Grid system permits a maximum of 12 columns in a page.
- You can group and create wider columns instead of using them individually.
- For decent organization and padding, place the rows within `.container-fluid` (full-width) or `.container` (fixed-width).
- Group columns horizontally using rows.
- Create grid columns by specifying the number of available columns you wish to span.
For example, three equal columns would use three `.col-xs-4`.
- Place the content within columns, and only columns may be immediate children of rows.

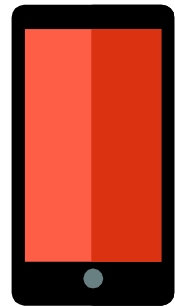
Grid System

In Bootstrap, the grid system presents a swift and simple way to build responsive website layouts.

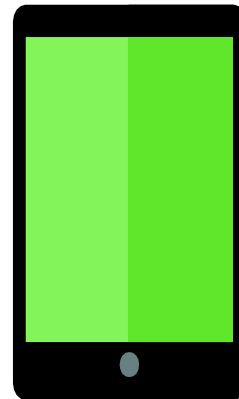
	Extra small devices Phones (<768px)	Small devices Tablets (≥768px)	Medium devices Desktops (≥992px)	Large devices Desktops (≥1200px)
Grid behavior	Horizontal at all times	Collapsed to start, horizontal above breakpoints		
Container width	None (auto)	750px	970px	1170px
Class prefix	.col-xs-	.col-sm-	.col-md-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

Bootstrap Grid Classes

The Bootstrap grid system has four classes:



xs (for phones)



sm (for tablets)



md (for desktops)



lg (for larger desktops)

These classes can be combined to create more dynamic and flexible layouts.

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Themes

Themes

Bootstrap Themes are pre-built templates of HTML, CSS, and JavaScript that provide styling to design web page layouts.

Advantages:

Save time and money while building websites as they are ready-made packages

Modify the look and feel of Bootstrap components

Add new layouts and components for improving the appearance of web pages

Integrate easily with content management system

Bootstrap: File Structure

Bootstrap is equipped with HTML, CSS, and JavaScript.

```
bootstrap/  
├── css/  
│   ├── bootstrap.css  
│   └── bootstrap.min.css  
├── js/  
│   ├── bootstrap.js  
│   └── bootstrap.min.js  
└── img/  
    ├── glyphs-halflings.png  
    └── glyphs-halflings-white.png
```

Install Bootstrap with *npm Packages*

Install Bootstrap with the npm packages:

```
> npm install bootstrap
```

Add the following code to load the Bootstrap's jQuery plugins:

```
> require('bootstrap')
```

Bootstrap's *package.json* contains additional data under the following key elements:

- *sass* – path to Bootstrap's main sass source file
- *Style*- path to Bootstrap's non-minified CSS that is precompiled using the default settings

Install Bootstrap with Others

Install Bootstrap with the *yarn* packages:

```
> yarn install bootstrap
```

Install Bootstrap in Ruby apps using *bundler* and *RubyGems* by adding the following code in *Gemfile*:

```
> gem 'bootstrap', '~> 4.3.1'
```

If *bundler* is not used, gem can be installed by running the following command:

```
> gem install bootstrap -v 4.3.1
```

Install Bootstrap using NuGet in .NET by running the following command:

```
PM> Install-Package bootstrap
```

Bootstrap: Maps

Sass maps are the key-value pairs that makes it easier to generate CSS related files. It include the *!default* flag which can be overridden and extended.

Modify a Map

```
$theme-colors: (  
  "primary": #0074d9,  
  "danger": #ff4136  
);
```

Add to Map

```
$theme-colors: (  
  "custom-color": #900  
);
```

Remove from a Map

```
$theme-colors:map-  
remove(  
  $theme-colors,  
  "success","info","danger");
```

Bootstrap: SASS Options

Bootstrap allows to customize the built-in variables for key global options in `_variables.scss` file.

Variable	Description
<code>\$spacer</code>	Enables the default spacer value to programmatically generated spacer utilities.
<code>\$enable-rounded</code>	Enables predefined border-radius styles on various components.
<code>\$enable-shadows</code>	Enables predefined box-shadow styles on various components.
<code>\$enable-gradients</code>	Enables predefined gradients via background-image styles on various components.
<code>\$enable-transitions</code>	Enables predefined transitions on various components.
<code>\$enable-grid-classes</code>	Enables the generation of CSS classes for the grid system (e.g., <code>.container</code> , <code>.row</code> , <code>.col-md-1</code> , etc.).
<code>\$enable-caret</code>	Enables pseudo element caret on <code>.dropdown-toggle</code> .
<code>\$enable-print-styles</code>	Enables styles for optimizing printing.

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Alerts

Bootstrap: Link Color

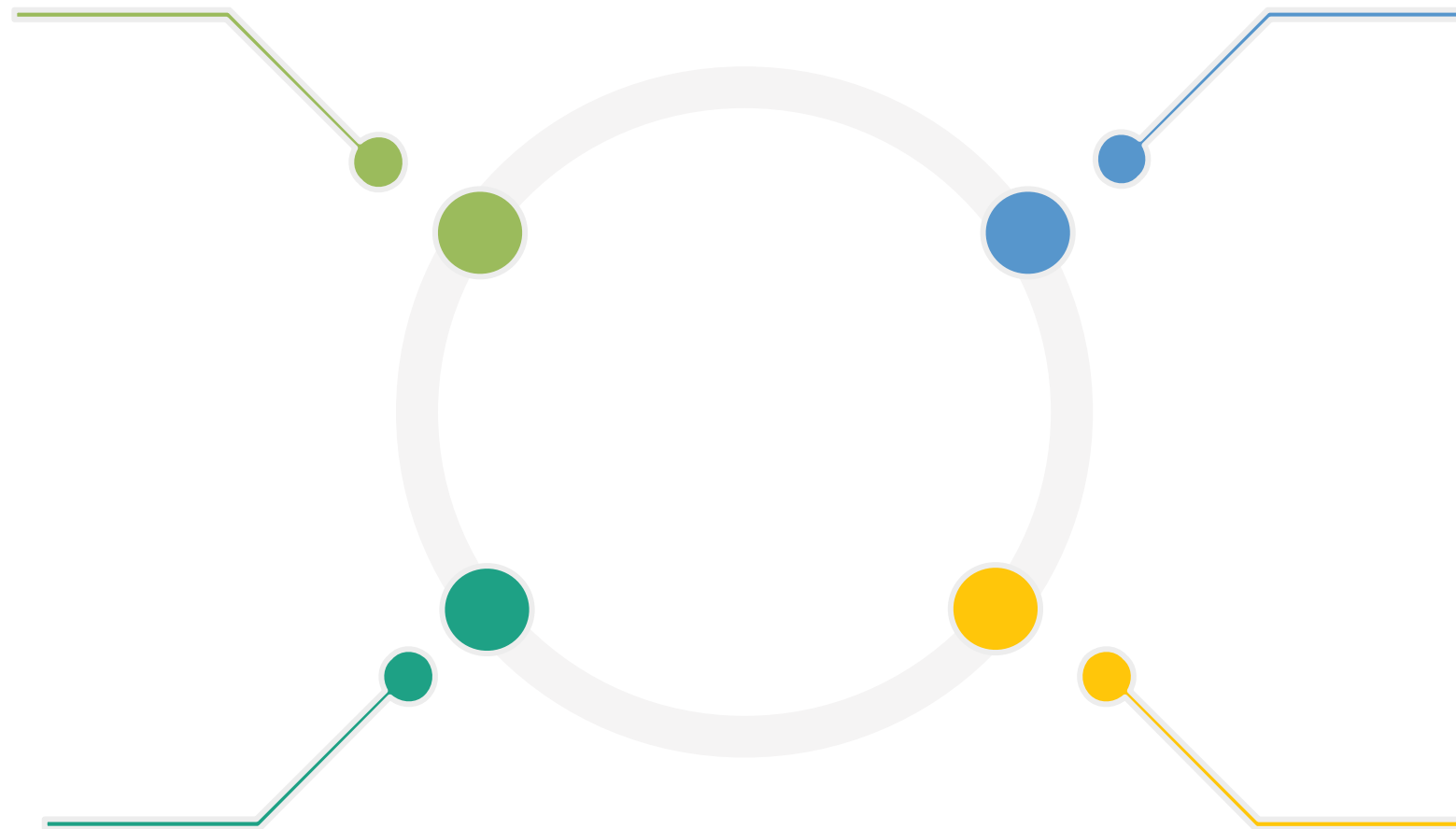
In Bootstrap, you have an easy way to create predefined alert messages using **alert class**, followed by one of these **contextual classes**.

.alert-success

.alert-info

.alert-danger

.alert-warning



Bootstrap Alerts—Example

```
<div class="container">
  <h1>Bootstrap Alerts</h1>

  <div class="alert alert-success">
    <strong>Success!</strong> Indicates a successful or positive action.
  </div>

  <div class="alert alert-info">
    <strong>Info!</strong> Indicates a neutral informative change or action.
  </div>

  <div class="alert alert-warning">
    <strong>Warning!</strong> Indicates a warning that might need attention.
  </div>

  <div class="alert alert-danger">
    <strong>Danger!</strong> Indicates a dangerous or potentially negative action.
  </div>
</div>
```

Bootstrap Alerts: Example

Output:

- Success! Indicates a successful or positive action.
- Info! Indicates a neutral informative change or action.
- Warning! Indicates a warning that might need attention.
- Danger! Indicates a dangerous or potentially negative action.



Bootstrap: Additional Content

Alerts can have additional HTML elements.

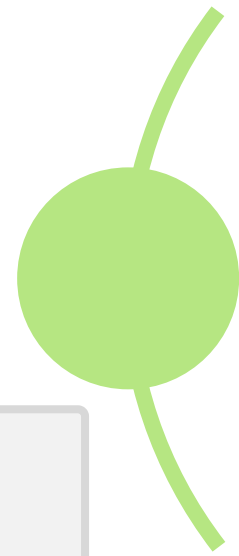
```
<div class="alert alert-success" role="alert">  
  <h4 class="alert-heading">Well done!</h4>  
  <p>You have read the message.</p>  
  <hr>  
  <p class="mb-0">Use margin utilities whenever you want!</p>  
</div>
```

Bootstrap: JavaScript Behavior

Alerts can be dismissed in the following ways:

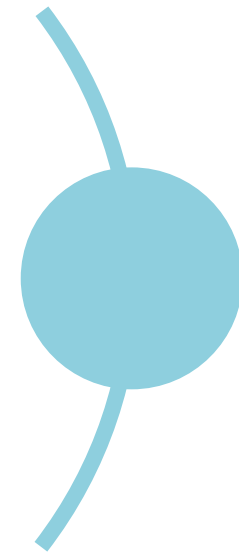
Via JavaScript

```
$('.alert').alert()
```



Via button's data attributes

```
<button type="button"  
class="close" data-dismiss="alert">  
</button>
```



JavaScript Behavior: Methods

The methods responsible in DOM manipulation are listed:

Method	Description
<code>\$.alert()</code>	Makes an alert listen for click events on descendant elements which have the <code>data-dismiss="alert"</code> attribute.
<code>\$.alert('close')</code>	Closes an alert by removing it from the DOM. If the <code>.fade</code> and <code>.show</code> classes are present on the element, the alert will fade out before it is removed.
<code>\$.alert('dispose')</code>	Destroys an element's alert.

Source: <https://getbootstrap.com/docs/4.0/components/alerts/#methods>

JavaScript Behavior: Events

The methods responsible in DOM manipulation are listed:

Event	Description
close.bs.alert	This event fires immediately when the close instance method is called.
closed.bs.alert	This event is fired when the alert has been closed (It will wait for CSS transitions to complete).

Implement Alerts



Duration: 30 min.

Problem Statement:

You are given a project to implement alerts.

ASSISTED PRACTICE

Assisted Practice: Guidelines to Implement Alerts

1. Create an alert.html file.
2. Push the code to GitHub repositories.



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Cards, Tables, and Lists

Typography




Typography is a Bootstrap feature for formatting and styling text content. Headings are set by HTML tags from <H1> to <H6>, and some others such as <mark>, <small>, and .

HTML code	Display
<p class="h1">Heading H1</p>	Heading H1
<p class="h2">Heading H2</p>	Heading H2
<p class="h3">Heading H3</p>	Heading H3
<p class="h4">Heading H4</p>	Heading H4
<p class="h5">Heading H5</p>	Heading H5
<p class="h6">Heading H6</p>	Heading H6



Images

Image classes in Bootstrap are responsive so that they scale in size according to the size of their parent elements without losing the aspect ratio.

HTML code	Display
<code></code>	
<code></code>	
<code></code>	

Media Objects

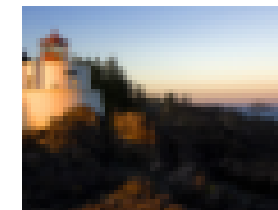
Media Objects are components to display images or videos that are aligned to the left or right of the content. Usually, blog comments and tweets are displayed as media objects.

Synta

x

```
<div class="media-object">
  <div class="media-object-section">
    <div class="thumbnail">
      
    </div>
  </div>
  <div class="media-object-section">
    <h4>Comment heading.</h4>
    <p>Some comments here.....</p>
  </div>
</div>
```

Displa
y



Comment heading.

Some comments here.....

Cards

Cards are used to display content made of different types of objects such as text or image.

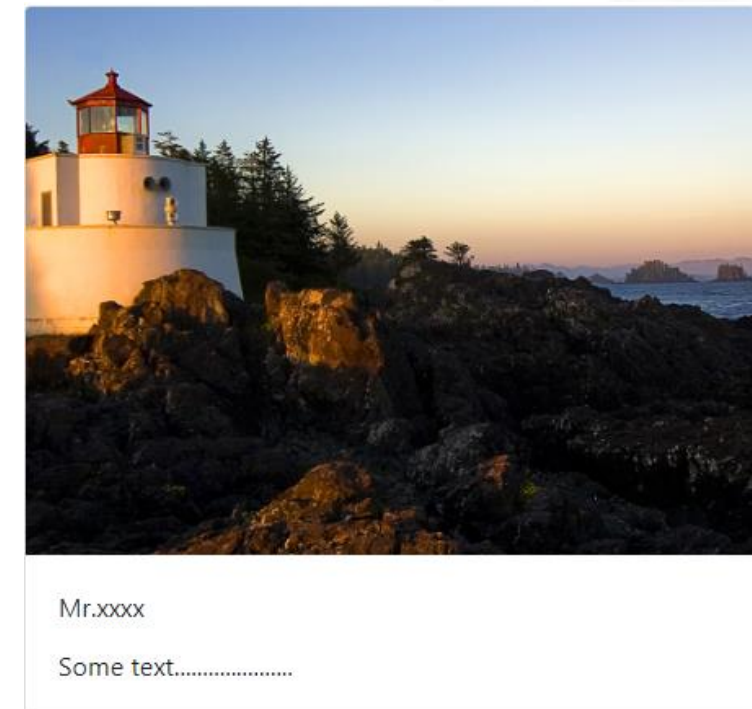
Basic card:

```
<div class="card">
  <div class="card-body">This is a basic
card</div>
</div>
```

This is a basic card

Image card:

```
<div class="card" style="width:450px">
  
  <div class="card-body">
    <p class="card-title">Mr.xxxx</p>
    <p class="card-text">Some
text...</p>
  </div>
</div>
```



Jumbotron

A Jumbotron is a component to display a message in a grey box to call for extra attention to the text.

Syntax:

```
<div class="jumbotron">  
  <h1>Jumbotron</h1>  
  <p>It is a grey box to highlight a message.</p>  
</div>
```

Display:

Jumbotron

It is a grey box to highlight a message.



Badges








Badges, or labels, are used to highlight or show additional information related to a particular content.

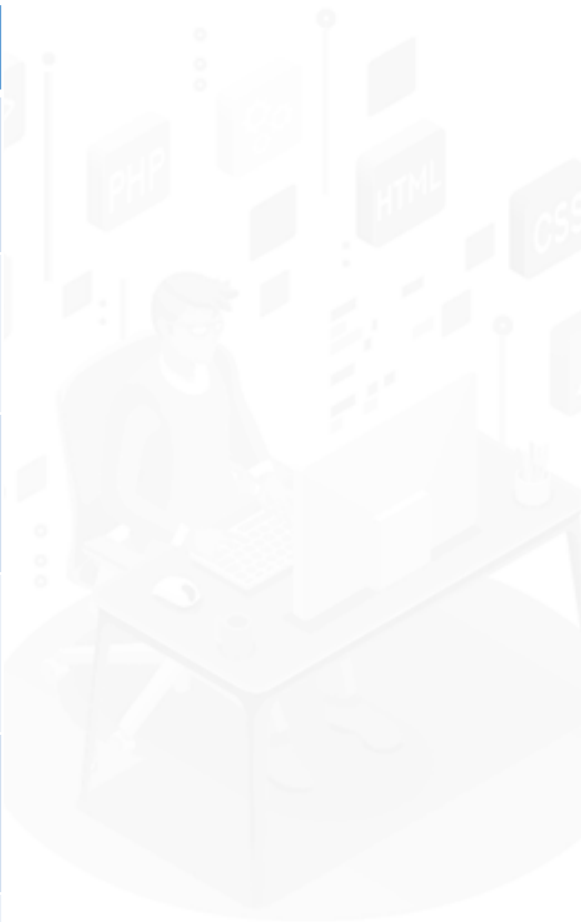
HTML Code	Display
<code><h1>Gifts Free</h1></code>	Gifts Free
<code><h2>Laptops New</h2></code>	Laptops New
<code><h3>Tablets New arrivals</h3></code>	Tablets New arrivals
<code><h4>Smart phones Coming soon</h4></code>	Smart phones Coming soon
<code><h5>Inbox 12</h5></code>	Inbox 12

Glyphicons

Glyphicons are icon fonts that can be used in web pages in the forms of text, toolbars, forms, buttons, and navigation toolbars.

Example:

HTML Code	Display
	
	
	
	
	
	
	



Tables

Tables allow data such as text, images, or links to be arranged into rows and columns.

HTML code	Display												
<pre><table class="table table-striped table-bordered"> <thead> <tr> <th>Heading 1</th> <th>Heading 2</th> <th>Heading 3</th> </tr> </thead> <tbody> <tr> <td>Cell 11</td> <td>Cell 12</td> <td>Cell 13</td> </tr> <tr> <td>Cell 21</td> <td>Cell 22</td> <td>Cell 23</td> </tr> <tr> <td>Cell 31</td> <td>Cell 32</td> <td>Cell 33</td> </tr> </tbody> </table></pre>	<table><tr><th>Heading 1</th><th>Heading 2</th><th>Heading 3</th></tr><tr><td>Cell 11</td><td>Cell 12</td><td>Cell 13</td></tr><tr><td>Cell 21</td><td>Cell 22</td><td>Cell 23</td></tr><tr><td>Cell 31</td><td>Cell 32</td><td>Cell 33</td></tr></table>	Heading 1	Heading 2	Heading 3	Cell 11	Cell 12	Cell 13	Cell 21	Cell 22	Cell 23	Cell 31	Cell 32	Cell 33
Heading 1	Heading 2	Heading 3											
Cell 11	Cell 12	Cell 13											
Cell 21	Cell 22	Cell 23											
Cell 31	Cell 32	Cell 33											

List Groups

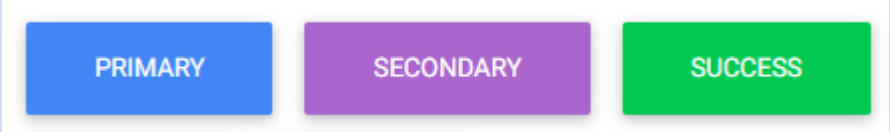
List groups are used to display a set of elements in an ordered or unordered list.

	HTML code	Display
Unordered List	<pre><ul class="list-group"> <li class="list-group-item">First <li class="list-group-item">Second <li class="list-group-item">Third <li class="list-group-item">Fourth <li class="list-group-item">Fifth </pre>	<div>First</div> <div>Second</div> <div>Third</div> <div>Fourth</div>
Ordered List	<pre> First Second Third Fourth </pre>	<div>1. First</div> <div>2. Second</div> <div>3. Third</div> <div>4. Fourth</div>




Buttons

A button is used to trigger an action. Optional style and color classes can be used to change the appearance of a web page.

HTML code	Display
<code><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></code>	

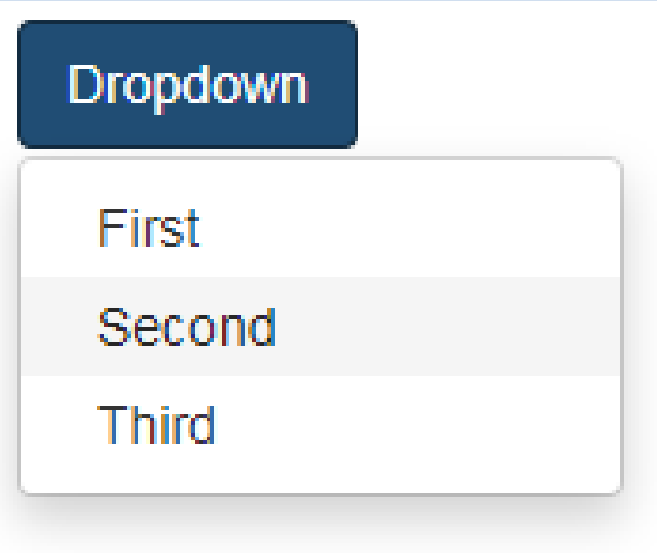
Button Groups

A button group is a series of multiple buttons in a line.

HTML code	Display
<pre><div class="btn-group" role="group"> <button type="button" class="btn btn- primary">Yes</button> <button type="button" class="btn btn- info">No</button> <button type="button" class="btn btn- warning">Exit</button> </div></pre>	


Dropdowns

A dropdown is a menu that displays a list of text or links for a user to choose from.

HTML code	Display
<pre><button type="button" data-toggle="dropdown">Dropdown</button> <ul class="dropdown-menu"> First Second Third </pre>	

Stateful Buttons

Stateful buttons can be used to toggle between states. These buttons can change text and color when clicked or hovered over.

HTML Code	Display
<pre><label class="btn btn-primary active"> <input type="checkbox" name="options"> Option A </label> <label class="btn btn-primary"> <input type="checkbox" name="options"> Option B </label> <label class="btn btn-primary active"> <input type="checkbox" name="options"> Option C </label></pre>	

Header and Footer

Bootstrap **header** is a method used to hold elements. It is usually placed above the *body* element.

```
<div class="card-header bg-transparent border-success">Bootstrap</div>
```

Bootstrap **footer** is a navigation method used to hold links, buttons, and other elements. It is usually placed at the end of a web page.

```
<div class="card-footer bg-transparent border-success">Updated 3 minutes ago</div>
```

Header and Footer

```
<div class="card border-success mb-3" style="max-width: 18rem;">
```

```
<div class="card-header bg-transparent border-success">Bootstrap</div>
```

```
<div class="card-body text-success">
```

```
<h5 class="card-title">Header and Footer</h5>
```

```
<p class="card-text">This is the simplest way of using header and footer</p>
```

```
</div>
```

```
<div class="card-footer bg-transparent border-success">Updated 3 minutes ago</div>
```

```
</div>
```

Output

Bootstrap

Header and Footer

This is the simplest way of using header and footer

Updated 3 minutes ago

Text Alignments: Text-Left

Bootstrap allows to align text to the left side of an HTML page.

Output

```
<div class="card" style="width: 18rem;">
  <div class="card-body">
    <h5 class="card-title">Rock Music</h5>
    <p class="card-text">A popular genre of
music.</p>
    <a href="#" class="btn btn-
primary">Buy</a>
  </div>
</div>
```

**Rock
Music**
A popular genre of music.

Buy

Text Alignments: Text-Center

Bootstrap allows to align text to the center of an HTML page.

Output

```
<div class="card text-center" style="width:
18rem;">
  <div class="card-body">
    <h5 class="card-title">Rock Music</h5>
    <p class="card-text">A popular genre of
music.</p>
    <a href="#" class="btn btn-
primary">Buy</a>
  </div>
</div>
```

**Rock
Music**
A popular genre of music.

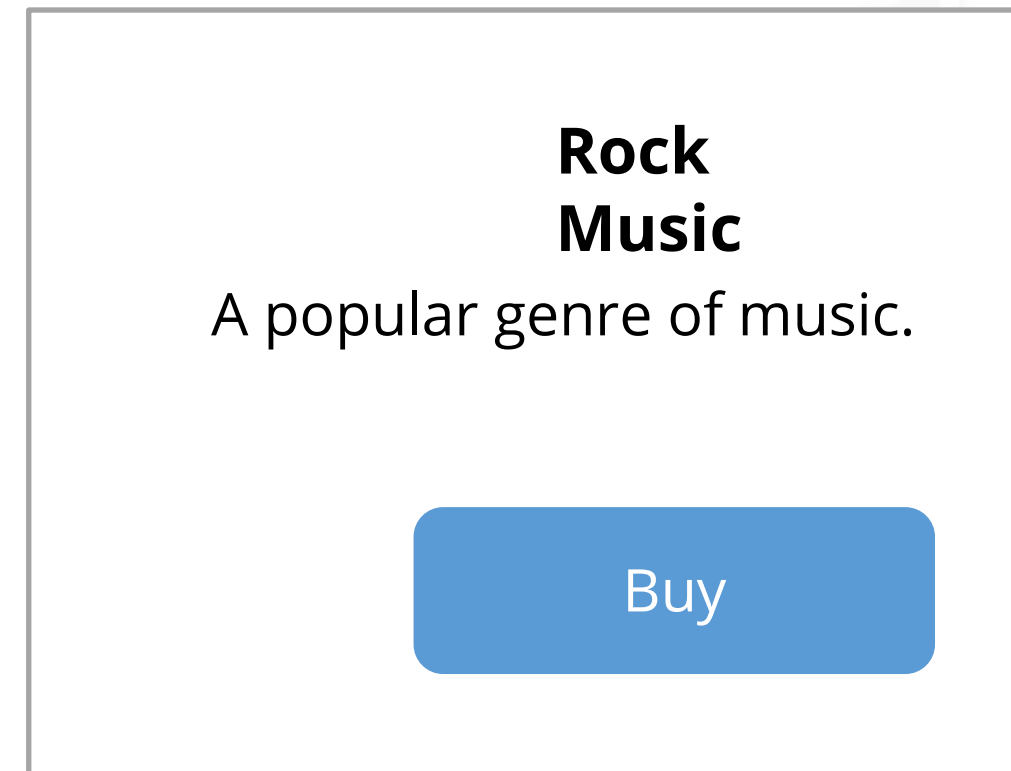
Buy

Text Alignments: Text-Right

Bootstrap allows to align text to the right side of an HTML page.

Output

```
<div class="card text-right" style="width:
18rem;">
  <div class="card-body">
    <h5 class="card-title">Rock Music</h5>
    <p class="card-text">A popular genre of
music.</p>
    <a href="#" class="btn btn-
primary">Buy</a>
  </div>
</div>
```



Develop a Static Web Page



Duration: 50 min.

Problem Statement:

You are given a project to develop a static web page.

ASSISTED PRACTICE

Assisted Practice: Guidelines to Develop a Static Web Page

1. Build a static web page in your code editor.
2. View the results in your local browser.



FULL STACK

Accordion and Carousel

Accordion

An Accordion is used in web pages to accommodate more content in a web page using collapsible items.

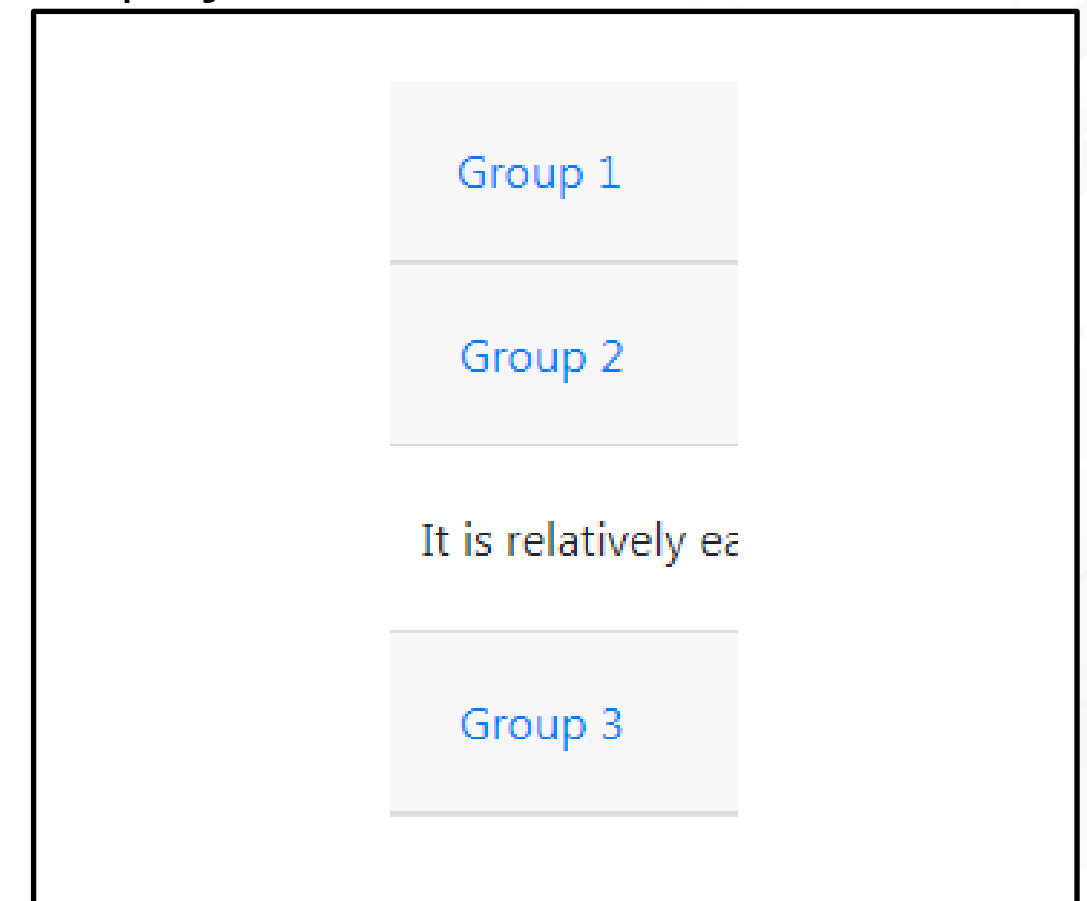
Syntax:

```
<div class="accordion">
  <button class="btn btn-link" type="button">Group
1</button></div>
<div class="bordered">
  HTML is a computer language devised to allow website
creation.</div>

<div class="bordered">
  <button class="btn btn-link collapsed"
type="button">Group 2</button></div>
<div class="bordered">
  It is relatively easy to learn, with the basics being
accessible to most people.</div>

<div class="bordered">
  <button class="btn btn-link collapsed"
type="button">Group 3</button></div>
<div class="bordered">
  It is used to display web pages.</div>
```

Display:



Carousel

A Carousel is a slideshow for cycling through a series of content, which may be images or text.



Syntax:

```
<div class="carousel-item active">
  
</div>
<div class="carousel-item">
  
</div>
<div class="carousel-item">
  
</div>
```



Adding Captions

Captions can be added to images using the **figure** class. They can be aligned to the left, center, or to the right.

HTML Code	Display
<pre><figure class="figure"> <figcaption class="figure-caption text-left">Left aligned caption</figcaption> </figure></pre>	 <p>Left aligned caption</p>
<pre><figure class="figure"> <figcaption class="figure-caption text-right">Right aligned caption</figcaption> </figure></pre>	 <p>Right aligned caption</p>

Adding Slides

A Slider is similar to a carousel, and is used to slideshow a series of images or text.

Synta

X

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

  <div>
    <div>1 / 10</div>
    
    <div class="text">Caption 1</div>
  </div>

  <div>
    <div>2 / 10</div>
    
    <div class="text">Caption 2</div>
  </div>
```



Implement a Slideshow to a Static Web Page



Duration: 30 min.

Problem Statement:

You are given a project to implement a slideshow to a static web page.

ASSISTED PRACTICE

Assisted Practice: Guidelines to Implement Slideshow to a Static Web Page

1. Create a slideshow.html file.
2. Push the code to the GitHub repositories.



FULL STACK

Forms and Form Validations

Input Group

Input groups are extended form controls which are used to add text or buttons before or after text-based inputs.

Syntax:

```
<div class = "input-group">  
  <input type = "text" class = "form-control"  
    placeholder = "login">  
  <span class = "input-group-addon">@</span>  
  <input type = "text" class = "form-control"  
    placeholder = "xxx.com">  
</div>
```

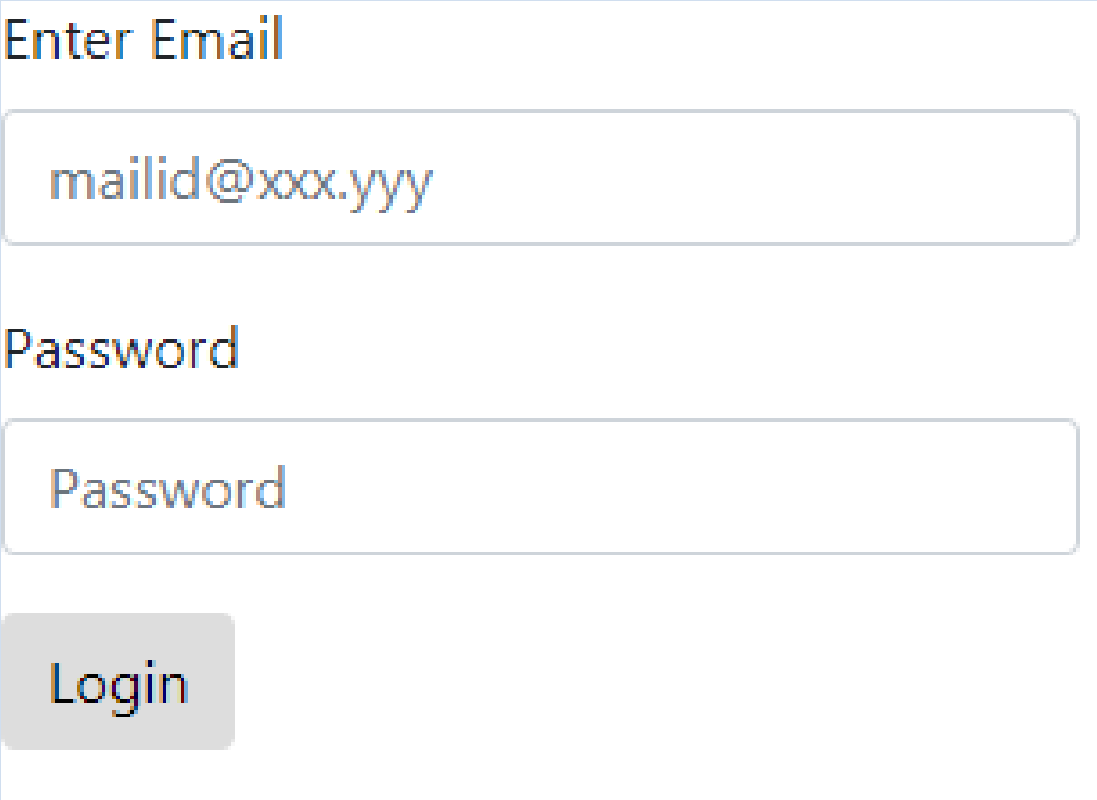
```
<div class = "input-group">  
  <span class = "input-group-addon">$</span>  
  <input type = "text" class = "form-control">  
  <span class = "input-group-addon">.00</span>  
</div>
```

Display:



Forms

Forms are elements used to collect data from visitors to the website. They can be text boxes, buttons, checkboxes, radio buttons, login fields, and password fields.

HTML Code	Display
<pre><form action="#"> <div class="form-group"> <label>Enter Email</label> <input type="email" class="form-control" placeholder="mailid@xxx.yyy"> </div> <div class="form-group"> <label>Password</label> <input type="password" class="form-control" placeholder="Password"> </div> <button type="submit">Login</button> </form></pre>	

Form Controls

Form controls such as `<select>` and `<input>` are styled using the `.form-control` class.

Using `form-control-file`:

```
<form>
  <div class="form-group">
    <label for="formcontrol">Choose a
    file to upload</label>
    <input type="file" class="form-
    control-file" id="formcontrol">
  </div>
</form>
```

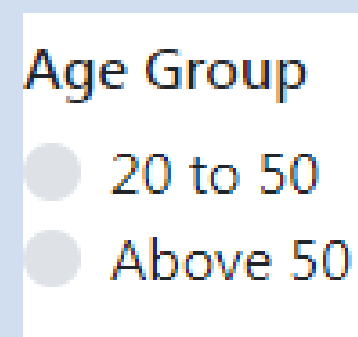
Output:

Choose a file to upload

Choose File No file chosen

Custom Forms

Custom forms are HTML elements that replace default elements of a browser to allow customization and consistency across browsers.

HTML Code	Display
<pre><h6>Age Group</h6> <div class="custom-control custom-radio"> <input type="radio" class="custom-control-input"> <label class="custom-control-label">20 to 50</label> </div> <div class="custom-control custom-radio"> <input type="radio" class="custom-control-input"> <label class="custom-control-label">Above 50</label> </div></pre>	

Form Controls: Sizing

Form control sizes can be set using *.form-control-lg* and *.form-control-sm*.

Using *form-control-lg* and *form-control-sm*:

```
<select class="form-control form-control-  
lg">  
  <option>Large select</option>  
</select>  
<select class="form-control">  
  <option>Default select</option>  
</select>  
<select class="form-control form-control-  
sm">  
  <option>Small select</option>  
</select>
```

Output:

Large select ▼

Default select ▼

Small select ▼

Form Controls: Inline

Checkboxes and radios can be placed horizontally by adding *.form-check-inline* to any *.form-check*.

Using *form-check-inline*:

```
<div class="form-check form-check-inline">  
  <input class="form-check-input"  
type="checkbox" id="inlineCheckbox1"  
value="option1">  
  <label class="form-check-label"  
for="inlineCheckbox1">1</label>  
</div>  
<div class="form-check form-check-inline">  
  <input class="form-check-input"  
type="checkbox" id="inlineCheckbox2"  
value="option2">  
  <label class="form-check-label"  
for="inlineCheckbox2">2</label>  
</div>
```

Output:



Form Controls: Grid

Form grids are used to build complex forms.

Using *row*:

```
<form>
  <div class="row">
    <div class="col">
      <input type="text" class="form-control"
placeholder="First name">
    </div>
    <div class="col">
      <input type="text" class="form-control"
placeholder="Last name">
    </div>
  </div>
</form>
```

Output:



Typeaheads

Typeaheads are used to show hints to users while filling forms for auto-completing them. This saves time and reduces input mistakes.

Syntax:

```
<script type="text/javascript">
$(document).ready(function(){
var cars = ['HTML', 'HTML5', 'Java', 'JavaScript', 'CSS', 'DTD', 'Bootstrap'];
</script>
```

Display:

j|ava

Java

JavaScript

Disabling Forms

Forms can be disabled from user interactions using the *disabled* boolean attribute. It can be used to a *<fieldset>* to disable form controls.

```
<form>
  <fieldset disabled>
    <div class="form-group">
      <label for="disabledSelect">Disabled select menu</label>
      <select id="disabledSelect" class="form-control">
        <option>Disabled select</option>
      </select>
    </div>
    <button type="submit" class="btn btn-primary">Submit</button>
  </fieldset>
</form>
```

Forms Validation

Forms validation is a method by which the server checks if a user has entered all the necessary data in the required format.

Functions of form validation:

Basic Validation

A form is checked for any missing data in mandatory fields

Data Form Validation

A form is checked for data accuracy

Tabs

Tabs are components in which content or links are placed in separate panes to open different pages and sections.

Syntax:

```
<ul class="nav nav-tabs">  
  <li class="active"><a href="#">Home</a></li>  
  <li><a href="#">Menu 1</a></li>  
  <li><a href="#">Menu 2</a></li>  
  <li><a href="#">Menu 3</a></li>  
</ul>
```

Display:



Forms



Duration: 70 min.

Problem Statement:

You are given a project to create a form using Bootstrap.

ASSISTED PRACTICE

Assisted Practice: Guidelines to Demonstrate Forms

1. Build a form using Bootstrap in your code editor.
2. View results in your local browser.



FULL STACK

Modal Components

Modals: Points to Remember

- Bigger modals can be isolated from the web page for better view.
- Modals can be aligned vertically at center using *.modal-dialog-centered* to *.modal-dialog*.
- Bootstrap's grid can be used in a modal by nesting *.container-fluid*.
- A modal can be called in JavaScript with the following source code:

```
$('#myModal').modal(options)
```

Modals

Modals are pop-up windows that display notifications, or alerts, as a result of some action like mouse hover, or click.

Syntax:





```
<button class="trigger">Show the modal</button>
<div class="modal">
  <div class="modal-content">
    <span class="close-button">x</span>
    <h1>Modal window opened</h1>
  </div>
</div>
```



Tooltips

A tooltip is a pop-up to display a message when users hover, or click on objects such as an image, button, link, or tag.

The tooltip can be placed in different positions as mentioned below.

HTML Code	Display
<code>Click</code>	
<code>Click</code>	
<code>Click</code>	
<code>Click</code>	

Modal Components



Duration: 30 min.

Problem Statement:

You are given a project to create a modal for your web page.

ASSISTED PRACTICE

Assisted Practice: Guidelines to Create a Modal Components

1. Create a modal.html file.
2. Push the code to the GitHub repositories.



FULL STACK

Nav and Navbar

Nav

The **nav** tag is used to define a block of links for navigation, for the current page, or for other pages.

Syntax:

```
<ul class="nav">
  <li class="nav-item">
    <a class="nav-link active" href="#">Active Link1</a>
  </li>
  <li class="nav-item">
    <a class="nav-link" href="#">Active Link2</a>
  </li>
  <li class="nav-item">
    <a class="nav-link disabled" href="#">Disabled Link</a>
  </li>
</ul>
```

Display:

Active Link1 Active Link2 Disabled Link

Navigation Bar

A navigation bar is a set of buttons or links used to connect to different sections of the website. Each link can have different features like dropdowns and variation in sizes, colors, and fonts.

Syntax:

```
<nav class="navbar">
  <ul class="navbar-nav">
    <li class="nav-item active">
      <a class="nav-link" href="#">Active Link</a>
    </li>

    <li class="nav-item dropdown">
      <a class="nav-link dropdown-toggle" href="#" data-
toggle="dropdown">
        Dropdown
      </a>
      <div class="dropdown-menu" aria-labelledby="navbarDropdown">
        <a class="dropdown-item" href="#">Option1</a>
        <a class="dropdown-item" href="#">Option2</a>
      </div>
    </li>

    <li class="nav-item">
      <a class="nav-link disabled" href="#">Disabled Link</a>
    </li>
  </ul>
</nav>
```

Display:

Active Link

Dropdown ▼

Option1

Option2

Disabled Link

Breadcrumbs

A breadcrumb is a scheme for navigation that shows the full path to the current page in the website.

Syntax:

```
<ul class="breadcrumb">
  <li class="breadcrumb-item"><a href="#">Home</a></li>
  <li class="breadcrumb-item"><a href="#">Page1</a></li>
  <li class="breadcrumb-item"><a href="#">Page2</a></li>
  <li class="breadcrumb-item"><a href="#">Page3</a></li>
  <li class="breadcrumb-item active" aria-current="page">Current Page</li>
</ul>
```

Display:

[Home](#) / [Page1](#) / [Page2](#) / [Page3](#) / Current Page

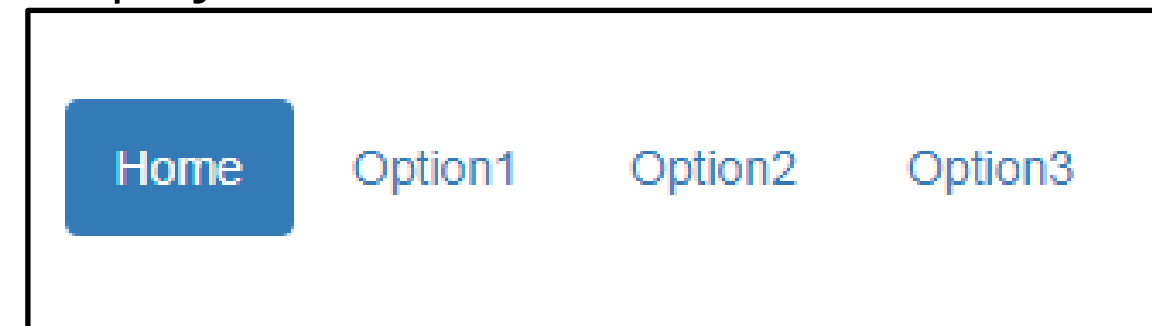
Pills

Pills are like tabs, where the links are placed to navigate to different sections of the website.

Syntax:

```
<ul class="nav nav-pills">
  <li class="active"><a href="#">Home</a></li>
  <li><a href="#">Option1</a></li>
  <li><a href="#">Option2</a></li>
  <li><a href="#">Option3</a></li>
</ul>
```

Display:



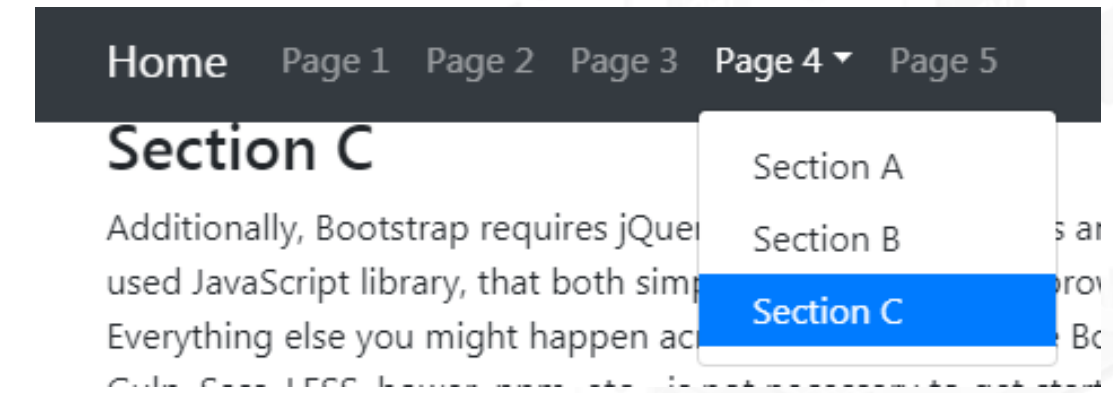
Scrollspy

A scrollspy is a navigation scheme that highlights the navigation links based on the scroll position to show where the user is currently in the page.

Syntax:

```
<body data-spy="scroll">
<a href="#">Home</a>
<ul>
  <li class="nav-item"><a href="#">Page 1</a></li>
  <li class="nav-item"><a href="#">Page 2</a></li>
  <li class="nav-item"><a href="#">Page 3</a></li>
  <li class="nav-item dropdown">
    <a href="#" class="nav-link dropdown-toggle">Section 4</a>
    <div class="dropdown-menu">
      <a href="#" class="dropdown-item">Section A</a>
      <a href="#" class="dropdown-item">Section B</a>
      <a href="#" class="dropdown-item">Section C</a>
    </div>
  </li>
  <li class="nav-item"><a href="#">Page 5</a>
</ul>
```

Display:



Nav and Navbar



Duration: 35 min.

Problem Statement:

You are given a project to create a navigation bar for your web page.

ASSISTED PRACTICE

Assisted Practice: Guidelines to Demonstrate Nav and Navbar

1. Create a navbar.html file.
2. Push the code to the GitHub repositories.



Pagination and Progress

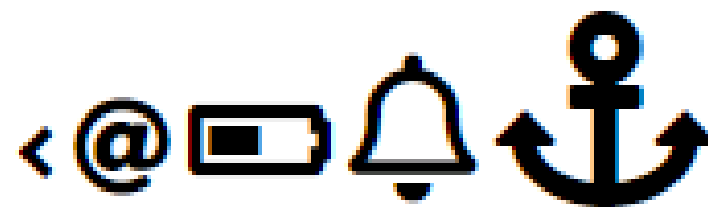
Icons

Icons are images grouped in libraries. Options are provided for better usability and scalability.

Syntax:

```
<i class="fas fa-angle-left" style="font-size:20px"></i>  
<i class="fas fa-at" style="font-size:24px"></i>  
<i class="fas fa-battery-half" style="font-size:28px"></i>  
<i class="far fa-bell" style="font-size:36px"></i>  
<i class="fas fa-anchor" style="font-size:48px"></i>
```

Display:



Pagination

Pagination is used to divide a document into different pages with numbers.

Pagination types	Display
Simple pagination	« 1 2 3 4 »
Active and hoverable pagination	« 1 2 3 4 »
Rounded active and hoverable pagination	« 1 2 3 4 »
Bordered pagination	« 1 2 3 4 »
Rounded border pagination	« 1 2 3 4 »
Space between pagination	« 1 2 3 4 »



Progress Bars

Progress bars are colored stripes that display the amount of progress a user has made in a process.

Syntax:

```
<div class="progress">  
  <div class="progress-bar" style="width:50%">  
  </div>  
</div>
```

Display:



Spinners

A spinner is a component in HTML and CSS which shows the loading state of the page.

Syntax:

```
<div class="spinner-border text-primary">  
    <span class="sr-only">Loading...</span>  
</div>  
<div class="spinner-border text-secondary">  
    <span class="sr-only">Loading...</span>  
</div>  
<div class="spinner-border text-warning">  
    <span class="sr-only">Loading...</span>  
</div>
```

Display:



Popovers

Popovers are used to display additional information about elements when a user hovers over or clicks it. They contain more content than tooltips.

Syntax:

```
<div>
  <a href="#" data-toggle="popover"
  title="Popover Header" data-content="Some
  content...">Toggle popover</a>
</div>

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

Display:

Toggle popover

Popover Header

Some content...

Pagination and Progress



Duration: 45 min.

Problem Statement:

You are given a project to add navigation using a navbar and use pagination to navigate in Bootstrap.

ASSISTED PRACTICE

Assisted Practice: Guidelines to Demonstrate Navigation and Pagination

1. Build a navbar using Bootstrap in your code editor.
2. View results in the browser.
3. Add pagination to your website using Bootstrap.
4. View results in the browser.



Key Takeaways

- Bootstrap is a free and open-source CSS framework that contains CSS and JavaScript based design templates.
- Bootstrap is easy-to-use, mobile friendly, browser compatible, and simple to integrate.
- Bootstrap supports different components like labels, buttons, badges, panels, dropdown, and many more.
- You can provide predefined alert message using alert class in Bootstrap.



Building a Restaurant Website with Bootstrap

Duration: 90 min.

Problem Statement:

You are asked to build a responsive website for a restaurant which provides a brief overview of the restaurant, its bestsellers, its address and the option to contact the restaurant.



Before the Next Class

You should know:

- Agile and scrum core concepts
- Fundamental concepts of Git and GitHub
- Basics of JavaScript programming
- Implementation of Bootstrap



Simply Blogging

Duration: 240 min.

Project Objective:

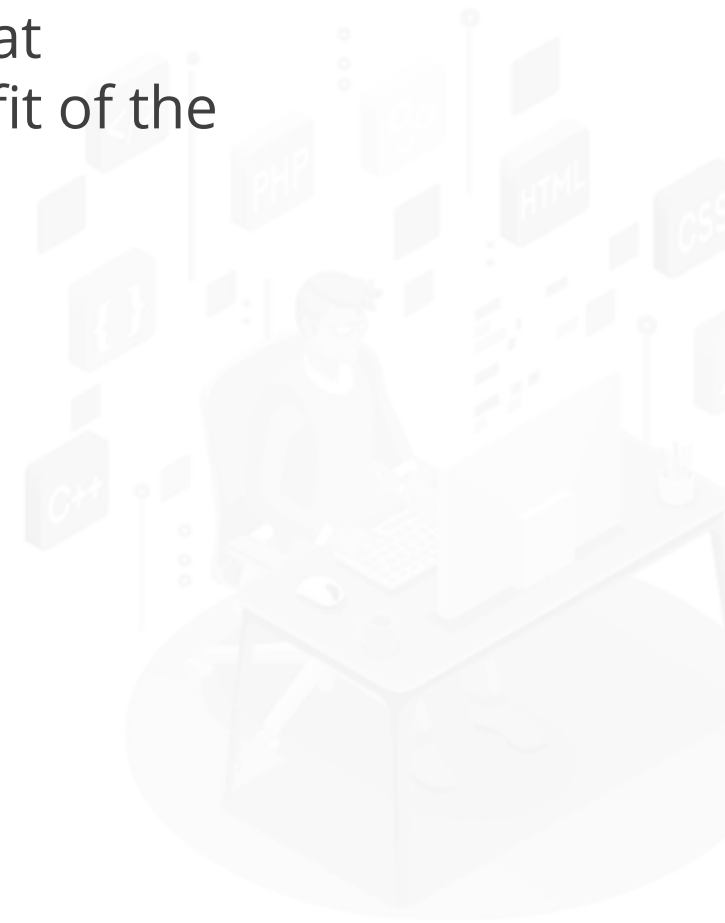
As a Full Stack Developer, you have to develop a blog for the company where people can post articles, and customers can benefit from the content.



PHASE-END PROJECT

Background of the Project Statement

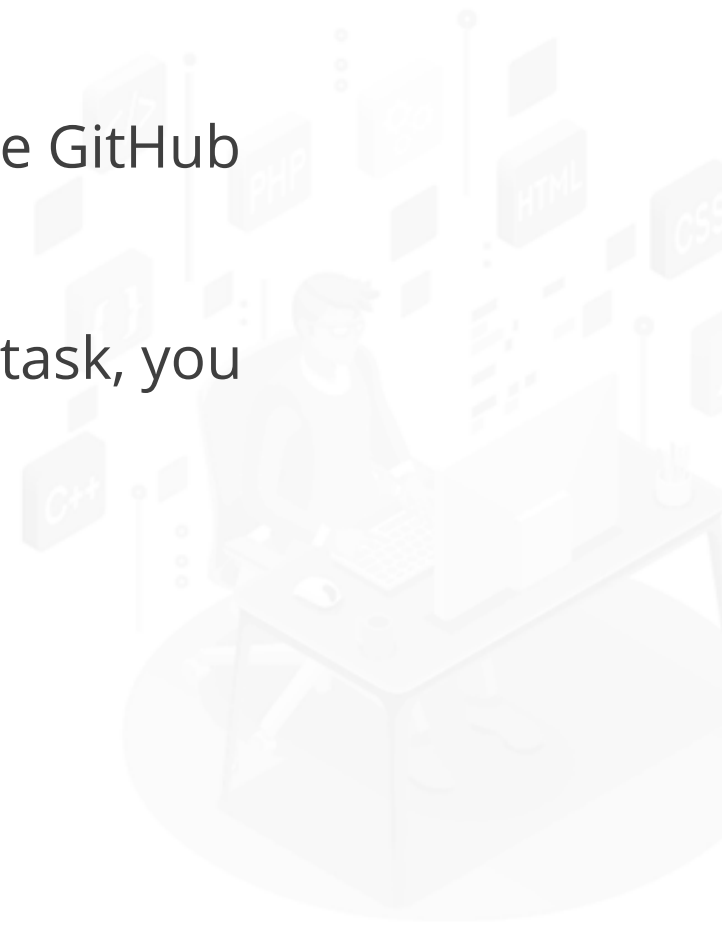
Management has asked you to create a blog page for the company website so that newsletters and other informative articles can be posted by experts for the benefit of the customer.



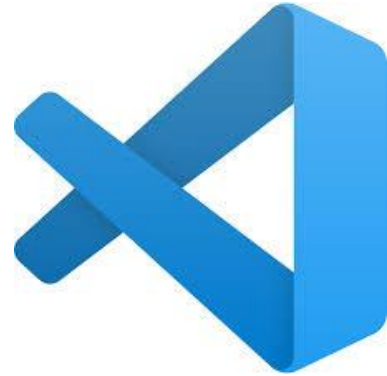
You Are Asked to Do

Here is the list of the tasks you are asked to perform:

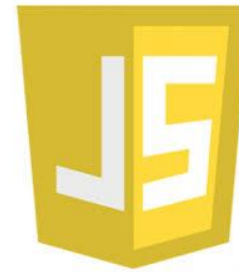
- A few of the source codes should be tracked on GitHub repositories.
- You need to document the tracked files that are ignored during the final push to the GitHub repository.
- The submission of your GitHub repository link is mandatory. In order to track your task, you need to share the link of the repository in the document.
- The step-by-step process involved in completing this task should be documented.



You must use the following



Visual Studio Code



Programming language:
JavaScript



Git and GitHub



Bootstrap



HTML and CSS



Specification document