

# FULL STACK WEB DEVELOPER

## PART VII

# Twitter Bootstrap - Part B

JavaScript in Twitter Bootstrap



Panos M.

# **Full Stack Web Developer Part VII: Twitter Bootstrap Part B**

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This book is for sale at <http://leanpub.com/fullstackwebdeveloperpartviitwitterbootstrap>

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Telis Marin is an author, a publisher [Edizioni Edilingua](#) and a teacher trainer. He has written more than 20 books for learning Italian, which are used by schools and universities in over 80 countries.

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# **Twitter Bootstrap - Part B**

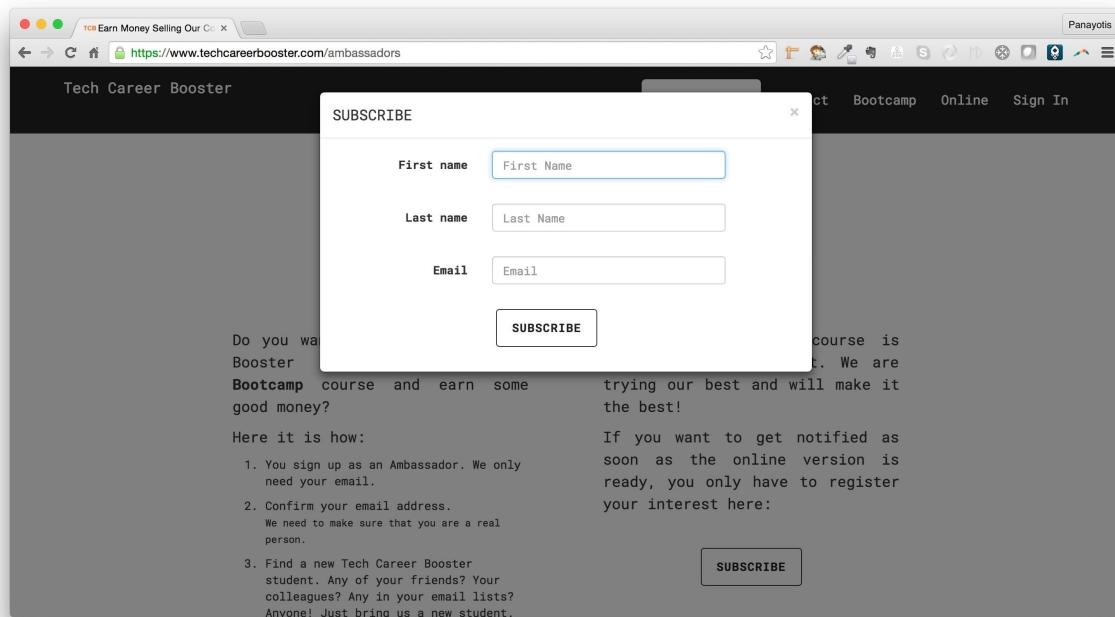
Following the section on JavaScript, it is now possible to learn Twitter Bootstrap JavaScript related stuff. This section will teach you how we create modals, how we use the scrollspy to follow the scroll position of the page and how we create nice tooltips and popovers. All using Twitter Bootstrap.

# 1 - Modal Dialogs

## Summary

In this chapter we start to apply our JavaScript knowledge to Twitter Bootstrap. You will see how Bootstrap provides very useful JavaScript libraries to help us add dynamic behaviour to our Web application, with as little effort as possible.

We start with modals, which are dialog windows that try to attract user's attention and focus. Like this one:



### Modal Example

Then we explain how you integrate Twitter Bootstrap JavaScript libraries with your own HTML page.

We learn about the modal HTML markup and its main parts:

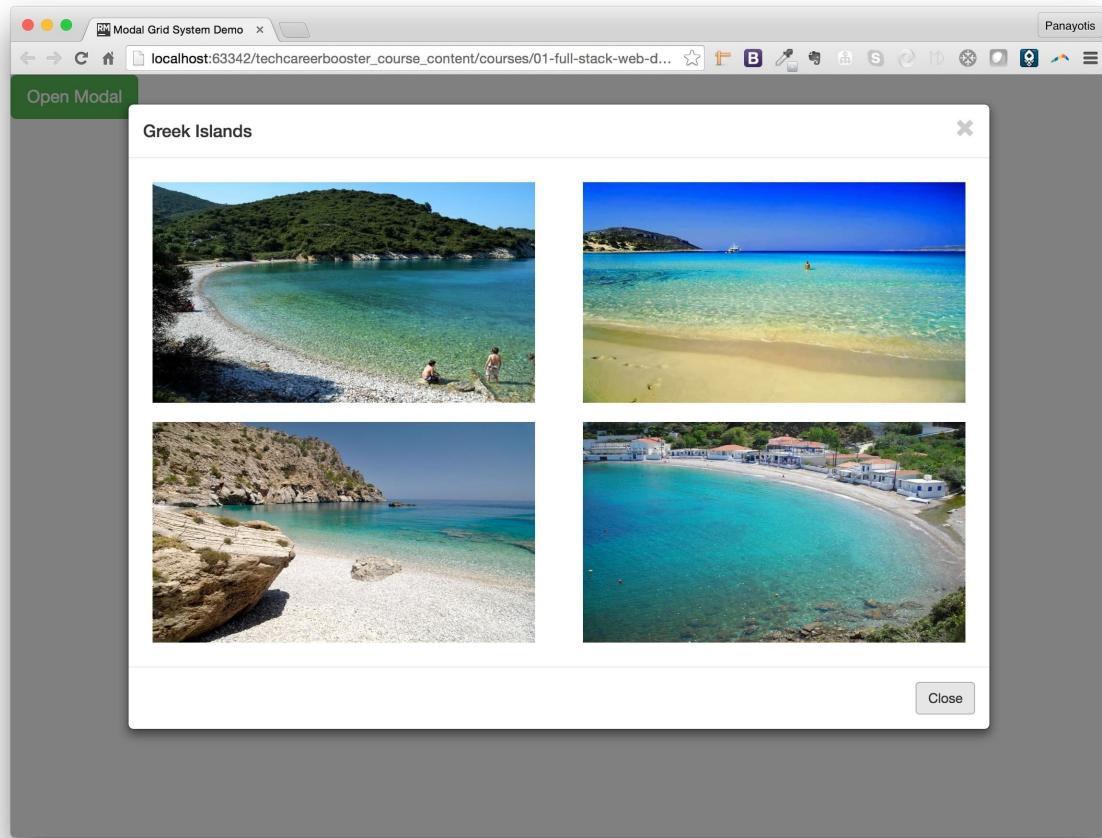
```

1 <!DOCTYPE html>
2 <html>
3   <head>
4     <meta charset="utf-8">
5     <meta name="viewport" content="width=device-width, initial-scale=1.0">
6     <title>Modal Static Example</title>
7
8     <!-- Bootstrap CSS files -->
9     <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/css/bootstrap.min.css"
10        integrity="sha384-1q8mTJOASx8j1Au+a5WDVnP121kFfwEAa8hDDdjz1lpLegxhjVMEifgjWPGmkzs7" crossorigin="anonymous">
11
12     <!-- jQuery -->
13     <script src="https://code.jquery.com/jquery-2.2.4.min.js"
14        integrity="sha256-BhdIvQf/xTf9gja0Dq3HiwQF8LaCRTTxzKRutelT44="
15        crossorigin="anonymous"></script>
16
17     <!-- Bootstrap Javascript files AFTER jQuery -->
18     <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min.js"
19        integrity="sha384-0mSbJDEhalmuBBQP6A4Qrprq50VfW37PRR3j5ELqks1yVqOtnepnHVP9aJ7xS" crossorigin="anonymous"></script>
20
21 </head>
22
23 <body>
24
25   <div class="modal fade" tabindex="-1" role="dialog">
26     <div class="modal-dialog">
27       <div class="modal-content">
28         <div class="modal-header">
29           <button type="button" class="close" data-dismiss="modal" aria-label="Close"><span aria-hidden="true">&times;</span></button>
30           <h4 class="modal-title">This is an h4 inside Modal Header</h4>
31
32         </div>
33
34         <div class="modal-body">
35           <p>This is a paragraph inside Modal Body</p>
36
37         </div>
38         <div class="modal-footer">
39           <button type="button" class="btn btn-default" data-dismiss="modal">Close</button>
40           <button type="button" class="btn btn-primary">Save changes</button>
41
42         </div>
43
44       </div>
45     </div>
46   </div>
47 </body>
48 </html>
49
50
51
52

```

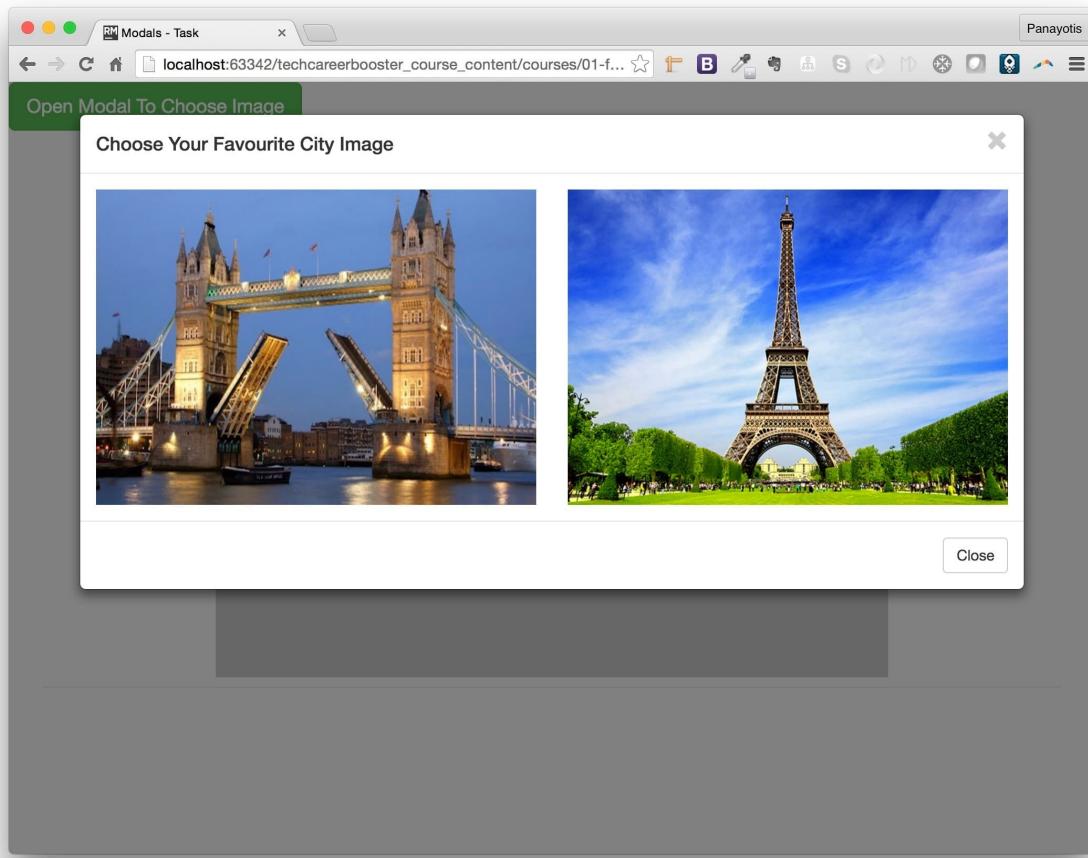
### Main Parts of Modal HTML Markup

Then we learn how to create impressive modals with pictures:



### Modal with Pictures

Finally, we learn all about events related to modals and you are asked to build a modal that handles related events:



Task - Modal with 2 Cities to Choose From

## Learning Goals

1. Learn about modals.
2. Learn how to reference the Twitter Bootstrap JavaScript files.
3. Learn about the bare minimum HTML markup that introduces the modal functionality.
4. Learn which Twitter Bootstrap classes have to do with the modal functionality.
5. Learn about the main parts of the Twitter Bootstrap HTML markup.
6. Learn how data attributes can be used to trigger a modal.
7. Learn how you can program a button to open a modal when clicked.
8. Learn how you can have a close [X] button on the top right corner of the modal.
9. Learn how you can useglyphicon as icons for the close button.
10. Learn how you can display images on the modals.
11. Learn how you can display YouTube videos on the modals.
12. Learn how you can display other / external pages on the modals.
13. Learn how you can display large and small modals.
14. Learn how you can use the Twitter Bootstrap Grid system inside the modal body.
15. Learn how to activate modal using JavaScript.
16. Learn how you can customize modal behaviour by setting various options using JavaScript.

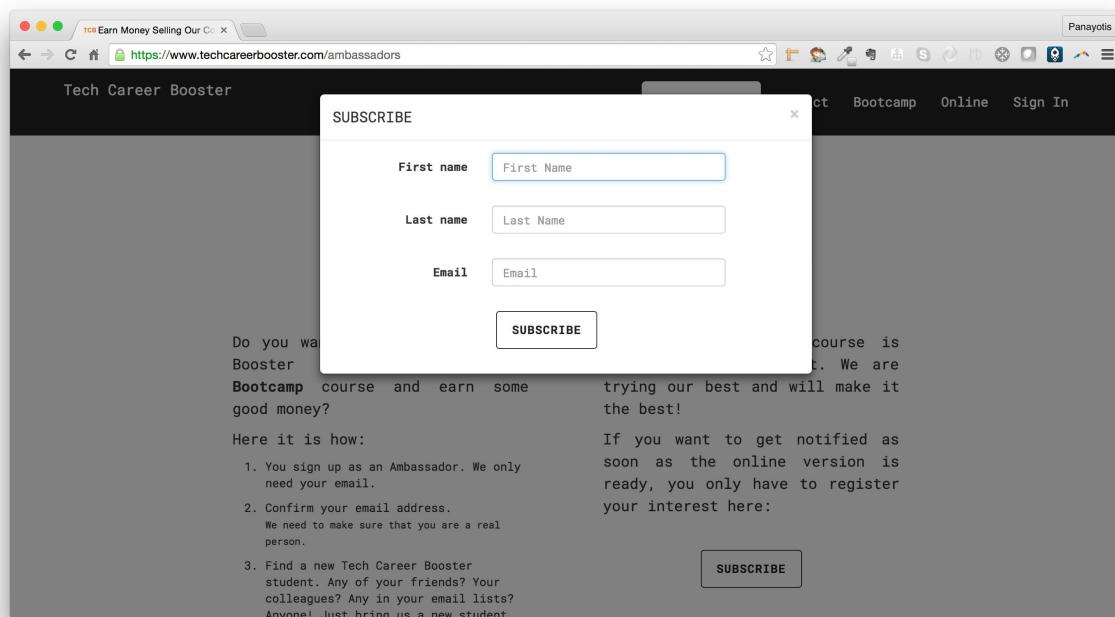
17. Learn about the various modal methods available.
18. Learn about the various modal events that you can hook event handlers on.

## Introduction

Modals is a very user-friendly way to present information to the user or ask for information to be given. The modals are windows that overlay your page and do not allow the user to interact with other parts of your page. In other words, user has to close the modal before returning back to the main page.

1. User can read the information and then close the modal. Modal can have a Close button, or a [X] button on the top-right corner that closes the modal.
2. User can fill in some form and then click on the submit button of the form. This usually closes the modal and returns the user back to the main page.

Let's see a modal in action:



### Modal Example

Twitter Bootstrap offers modals for free, as part of the JavaScript integration. Let's see how.

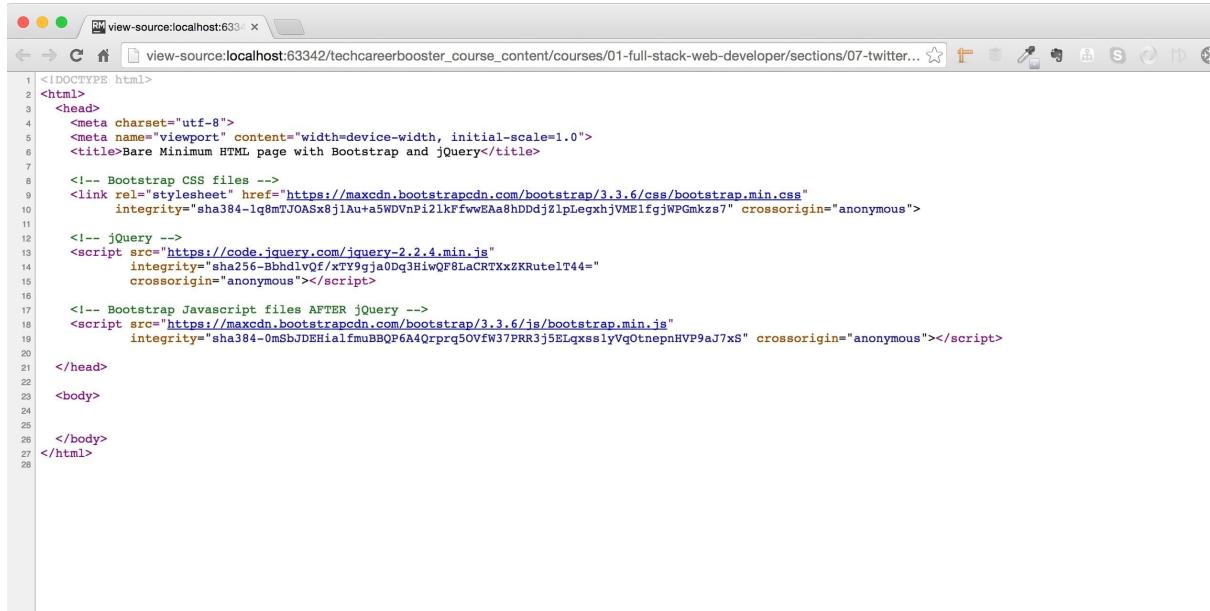
## Bootstrap JavaScript Files

In order to be able to use Modals you will need to reference the Twitter Bootstrap JavaScript files. These need to be referenced **after** the jQuery JavaScript files.

This is a bare minimum HTML page that references Twitter Bootstrap and jQuery:

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <meta charset="utf-8">
5     <meta name="viewport" content="width=device-width, initial-scale=1.0">
6     <title>Bare Minimum HTML page with Bootstrap and jQuery</title>
7
8     <!-- Bootstrap CSS files -->
9     <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/\>
10    css/bootstrap.min.css"
11       integrity="sha384-1q8mTJOASx8j1Au+a5WDVnPi2lkFfwwEAa8hDDdjZlpLegxhjVME1\>
12    fgjWPGmkzs7" crossorigin="anonymous">
13
14     <!-- jQuery -->
15     <script src="https://code.jquery.com/jquery-2.2.4.min.js"
16           integrity="sha256-BbhdlvQf/xTY9gja0Dq3HiwQF8LaCRTXxZKRute1T44="\>
17           crossorigin="anonymous"></script>
18
19     <!-- Bootstrap JavaScript files AFTER jQuery -->
20     <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min\>
21 .js"
22       integrity="sha384-0mSbJDEHialfmuBBQP6A4Qrprq5OVfW37PRR3j5ELqxss1yVqot\>
23    nepnHP9aJ7xS" crossorigin="anonymous"></script>
24
25   </head>
26
27   <body>
28
29
30   </body>
31 </html>
```

(the above code snippet online)



```

1 <!DOCTYPE html>
2 <html>
3   <head>
4     <meta charset="utf-8">
5     <meta name="viewport" content="width=device-width, initial-scale=1.0">
6     <title>Bare Minimum HTML page with Bootstrap and jQuery</title>
7
8     <!-- Bootstrap CSS files -->
9     <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/css/bootstrap.min.css"
10        integrity="sha384-lg8mTJOASx8j1Au+a5WDVnPi2lkFfwwEA8hDdjlz1pLegxhjVME1fgjWPGmzs7" crossorigin="anonymous">
11
12     <!-- jQuery -->
13     <script src="https://code.jquery.com/jquery-2.2.4.min.js"
14        integrity="sha256-BhdvQf/xY9gja0Dq3HiwQF8LaCRTxZKRutelT44=>
15        crossorigin="anonymous"></script>
16
17     <!-- Bootstrap Javascript files AFTER jQuery -->
18     <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min.js"
19        integrity="sha384-0mSbJDEHialfmBQP6A4Qrprq5OVFW37PRR3j5ELqxsslyVqOtnepnHVP9aj7xs" crossorigin="anonymous"></script>
20
21 </head>
22
23 <body>
24
25
26 </body>
27 </html>

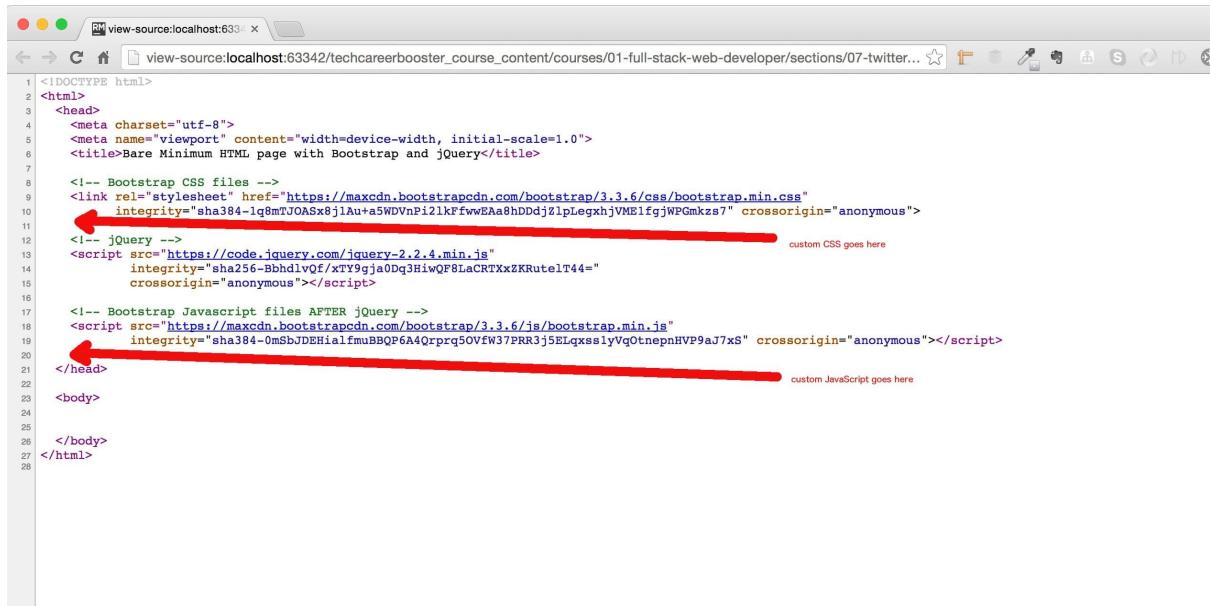
```

#### Bare Minimum HTML Page with Bootstrap CSS, jQuery and Bootstrap JavaScript

As you can see above, we are using a reference to a CDN version of Twitter Bootstrap JavaScript files. And we load it after the jQuery files, because Twitter Bootstrap JavaScript files rely on jQuery.

You can read about the Twitter Bootstrap CDN references [here](#).

Note that if you want to add custom, i.e. your own, CSS and JavaScript files, you will have to put them at the correct positions. Your own custom CSS file needs to be put after the third-party CSS files, hence, after Twitter Bootstrap CSS references. Same goes for your custom JavaScript file. Its reference needs to be put after the third-party JavaScript files, hence, after jQuery and Twitter Bootstrap.



```

1 <!DOCTYPE html>
2 <html>
3   <head>
4     <meta charset="utf-8">
5     <meta name="viewport" content="width=device-width, initial-scale=1.0">
6     <title>Bare Minimum HTML page with Bootstrap and jQuery</title>
7
8     <!-- Bootstrap CSS files -->
9     <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/css/bootstrap.min.css"
10        integrity="sha384-lg8mTJOASx8j1Au+a5WDVnPi2lkFfwwEA8hDdjlz1pLegxhjVME1fgjWPGmzs7" crossorigin="anonymous">
11
12     <!-- jQuery -->
13     <script src="https://code.jquery.com/jquery-2.2.4.min.js"
14        integrity="sha256-BhdvQf/xY9gja0Dq3HiwQF8LaCRTxZKRutelT44=>
15        crossorigin="anonymous"></script>           custom CSS goes here
16
17     <!-- Bootstrap Javascript files AFTER jQuery -->
18     <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min.js"
19        integrity="sha384-0mSbJDEHialfmBQP6A4Qrprq5OVFW37PRR3j5ELqxsslyVqOtnepnHVP9aj7xs" crossorigin="anonymous"></script>
20
21 </head>
22
23 <body>
24
25
26 </body>
27 </html>

```

#### Position of Customer CSS and JavaScript References

## Modal Markup

Having prepared our bare minimum HTML page let's add some modal functionality on it.

```
1 <div class="modal fade" tabindex="-1" role="dialog">
2   <div class="modal-dialog">
3     <div class="modal-content">
4       <div class="modal-header">
5
6         <button type="button" class="close" data-dismiss="modal" aria-label="Close">
7           &times;</span></button>
8         <h4 class="modal-title">This is an h4 inside Modal Header</h4>
9
10      </div>
11
12      <div class="modal-body">
13
14        <p>This is a paragraph inside Modal Body</p>
15
16      </div>
17      <div class="modal-footer">
18
19        <button type="button" class="btn btn-default" data-dismiss="modal">Close</
20 /button>
21        <button type="button" class="btn btn-primary">Save changes</button>
22
23      </div>
24    </div>
25  </div>
26 </div>
```

(the above code snippet online)

Add the above content inside the body of the page. Load the page on your browser. What you will see is a blank page. This is because the modal is not meant to be displayed, unless the user chooses to do so, or it carries out an action that triggers the display of the modal.

But, if you see the source page of the code, it will be like this:

```

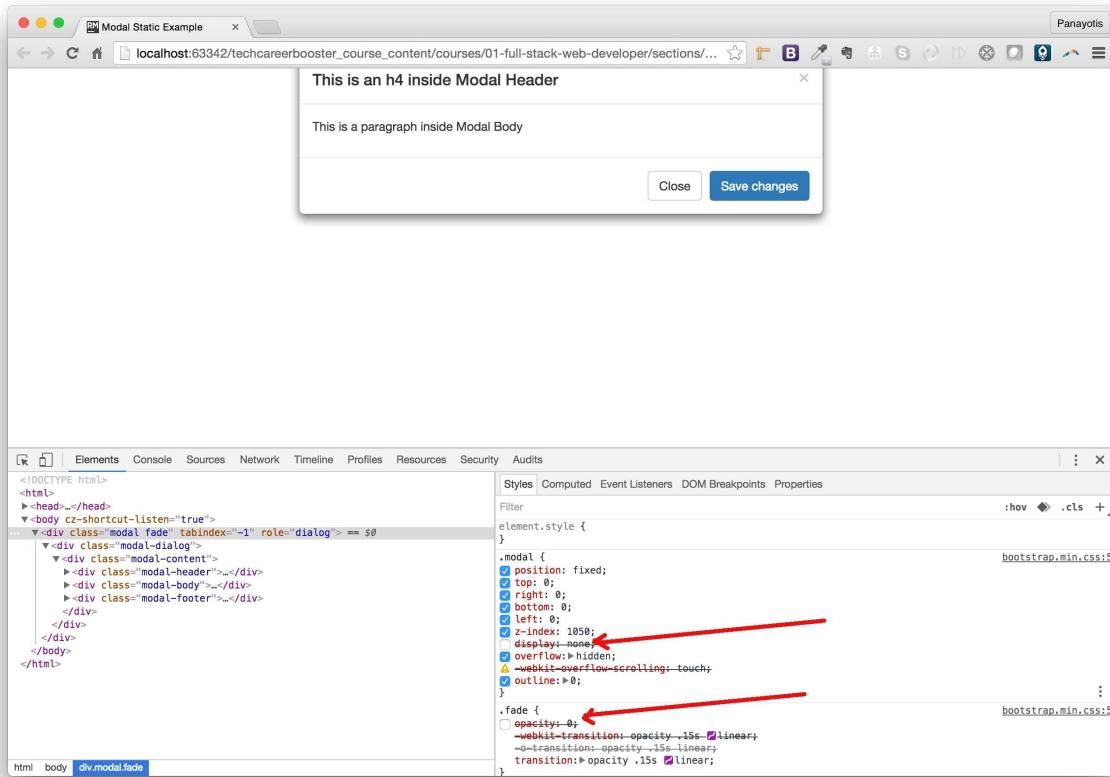
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <meta charset="utf-8">
5     <meta name="viewport" content="width=device-width, initial-scale=1.0">
6     <title>Modal Static Example</title>
7
8     <!-- Bootstrap CSS files -->
9     <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/css/bootstrap.min.css"
10        integrity="sha384-1q8mTJOASx8j1Au+a5WDVnP12lkFfwEAa8hDDdjzlpLegxhjVMEifgjWPGmkzs7" crossorigin="anonymous">
11
12     <!-- jQuery -->
13     <script src="https://code.jquery.com/jquery-2.2.4.min.js"
14        integrity="sha256-BhdvlvQf/xTf9gja0Dq3HiwQF8LaCRTTxzKRutelT44="
15        crossorigin="anonymous"></script>
16
17     <!-- Bootstrap Javascript files AFTER jQuery -->
18     <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min.js"
19        integrity="sha384-0mSbJDEhafmuBBQP6A4Qrprq5OVfW37PRR3j5ELqks1yVqOtnepnHP9aJ7xS" crossorigin="anonymous"></script>
20
21 </head>
22
23 <body>
24
25   <div class="modal fade" tabindex="-1" role="dialog">
26     <div class="modal-dialog">
27       <div class="modal-content">
28         <div class="modal-header">
29
30           <button type="button" class="close" data-dismiss="modal" aria-label="Close"><span aria-hidden="true">&times;</span></button>
31           <h4 class="modal-title">This is an h4 inside Modal Header</h4>
32
33         </div>
34
35         <div class="modal-body">
36
37           <p>This is a paragraph inside Modal Body</p>
38
39         </div>
40         <div class="modal-footer">
41
42           <button type="button" class="btn btn-default" data-dismiss="modal">Close</button>
43           <button type="button" class="btn btn-primary">Save changes</button>
44
45         </div>
46       </div>
47     </div>
48   </div>
49
50 </body>
51 </html>
52

```

### Source Page of a Page with a Modal

The classes that make the modal content invisible are the classes `modal` and `fade`. The `modal` adds a `display:none;` and the `fade` adds an `opacity: 0`.

See in the following picture how disabling these two properties makes the modal appear on the page.



### Page with Small Lion Image

All the modals have the same HTML markup. These are its main parts:

```

1 <!DOCTYPE html>
2 <html>
3   <head>
4     <meta charset="utf-8">
5     <meta name="viewport" content="width=device-width, initial-scale=1.0">
6     <title>Modal Static Example</title>
7
8     <!-- Bootstrap CSS files -->
9     <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/css/bootstrap.min.css"
10        integrity="sha384-1q8mTJOASx8j1Au+a5WDVnP121kFfwEAa8hDDdjz1lpLegxhjVMEifgjWPGmkzs7" crossorigin="anonymous">
11
12     <!-- jQuery -->
13     <script src="https://code.jquery.com/jquery-2.2.4.min.js"
14        integrity="sha256-BhdvlQfJ/xT9gja0Dq3HiwQF8LaCRTXxZKRutelT44="
15        crossorigin="anonymous"></script>
16
17     <!-- Bootstrap Javascript files AFTER jQuery -->
18     <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min.js"
19        integrity="sha384-1mSbJDEhIaIhalfmuBBQP6A4Qrprq5OVfW37PRR3j5ELqks1yVqOtnepnHVP9aJ7xS" crossorigin="anonymous"></script>
20
21 </head>
22
23 <body>
24
25   <div class="modal fade" tabindex="-1" role="dialog">
26     <div class="modal-dialog">
27       <div class="modal-content">
28         <div class="modal-header">
29           <button type="button" class="close" data-dismiss="modal" aria-label="Close"><span aria-hidden="true">&times;</span></button>
30           <h4 class="modal-title">This is an h4 inside Modal Header</h4>
31
32         </div>
33
34         <div class="modal-body">
35           <p>This is a paragraph inside Modal Body</p>
36
37         </div>
38         <div class="modal-footer">
39           <button type="button" class="btn btn-default" data-dismiss="modal">Close</button>
40           <button type="button" class="btn btn-primary">Save changes</button>
41
42         </div>
43
44       </div>
45     </div>
46   </div>
47 </body>
48 </html>
49
50
51
52

```

### Main Parts of Modal HTML Markup

- Three divs that cascade each other and they contain the actual content of the modal:
  - (1) A div with classes `modal` and `fade`.
  - (2) A div inside the previous one (the one with class `modal fade`) with class `modal-dialog`
  - (3) A div inside the previous one (the one with class `modal-dialog`) with class `modal-content`
- Three sibling divs, all children of the div with class `modal-content`, same nested level.
  - (4) A div for the modal header with class `modal-header`.
  - (5) A div for the modal body with class `modal-body`.
  - (6) A div for the modal footer with class `modal-footer`.

Note that parts 4, 5, and 6 are optional. Also, inside them, you can put (almost) any HTML markup that you like.

## Triggering the Modal

But, modals are hidden until user takes an action that would display them, or until the Web application decides that it has to display the modal. How does this trigger take place?

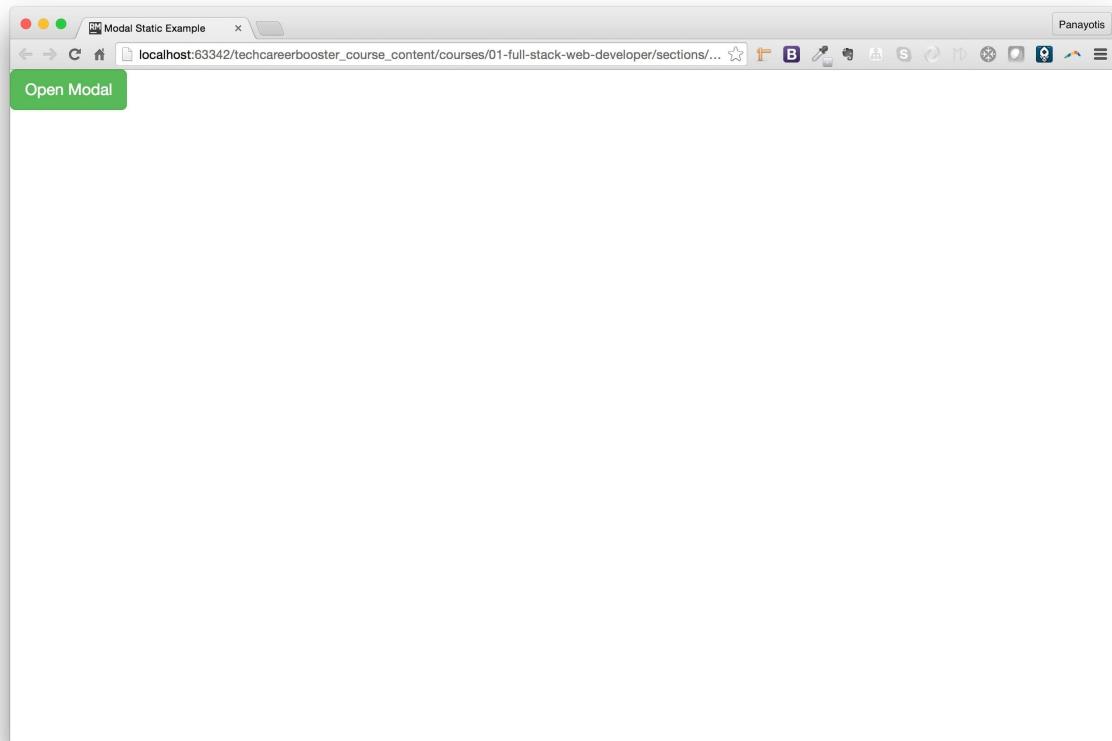
We will continue our example by introducing a button that would allow the user to open the modal dialog. Let's amend our HTML body content as follows:

```
1 <button class="btn btn-lg btn-success" data-toggle="modal" data-target=".modal">Open Modal</button>
```

(the above code snippet online)

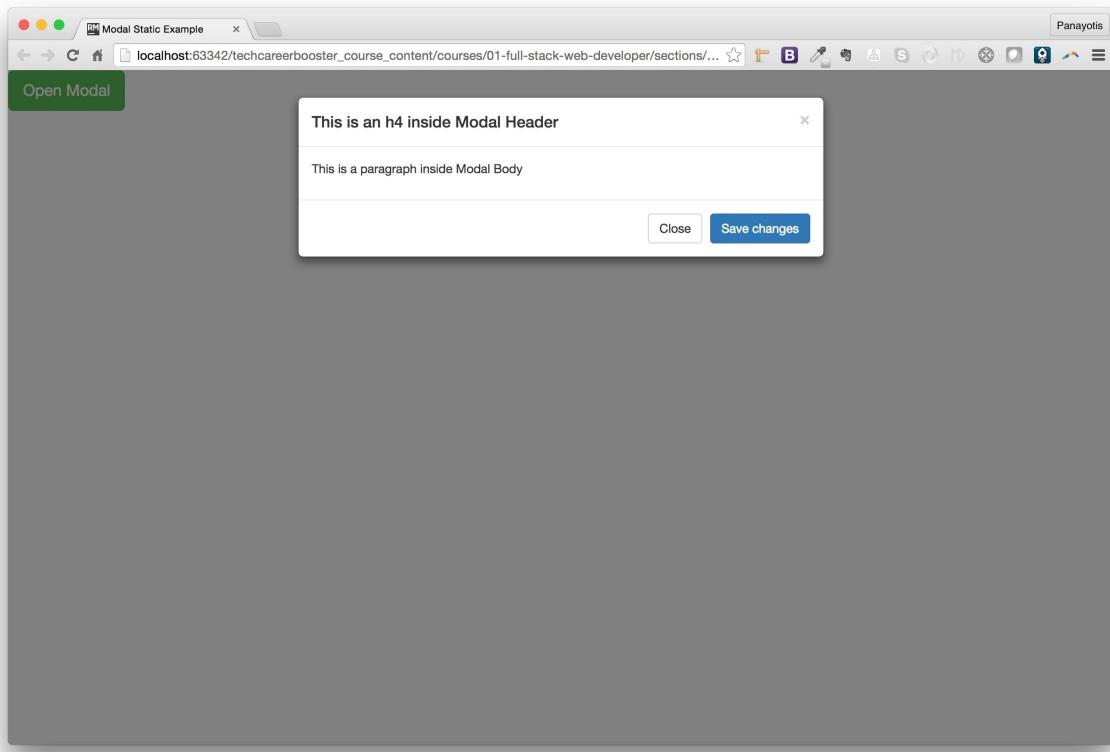
Add the above markup exactly before the modal starting div, below the `<body>` opening tag.

Save the HTML page and reload it on your browser. You will see this:



#### Page With Button To Open Modal

If you click the button Open Modal you will see this:



#### Modal Displayed After Clicking On Button

Perfect! This is what a modal is.

Let's explain some important details about the button markup.

1. It has the attribute `data-toggle` with value `modal`. This is necessary to indicate to Bootstrap that this is a button that, when clicked, will open a modal dialog.
2. It has the attribute `data-target` which has a value being a CSS selector and needs to uniquely select the HTML element that holds the modal HTML markup. In our case, we have used the value `.modal`, because this is the class that uniquely matches the `div` holding our modal markup. Usually, here, we use a CSS selector that represents an id, rather than a class, in order to make the identification unique and avoid ambiguities.

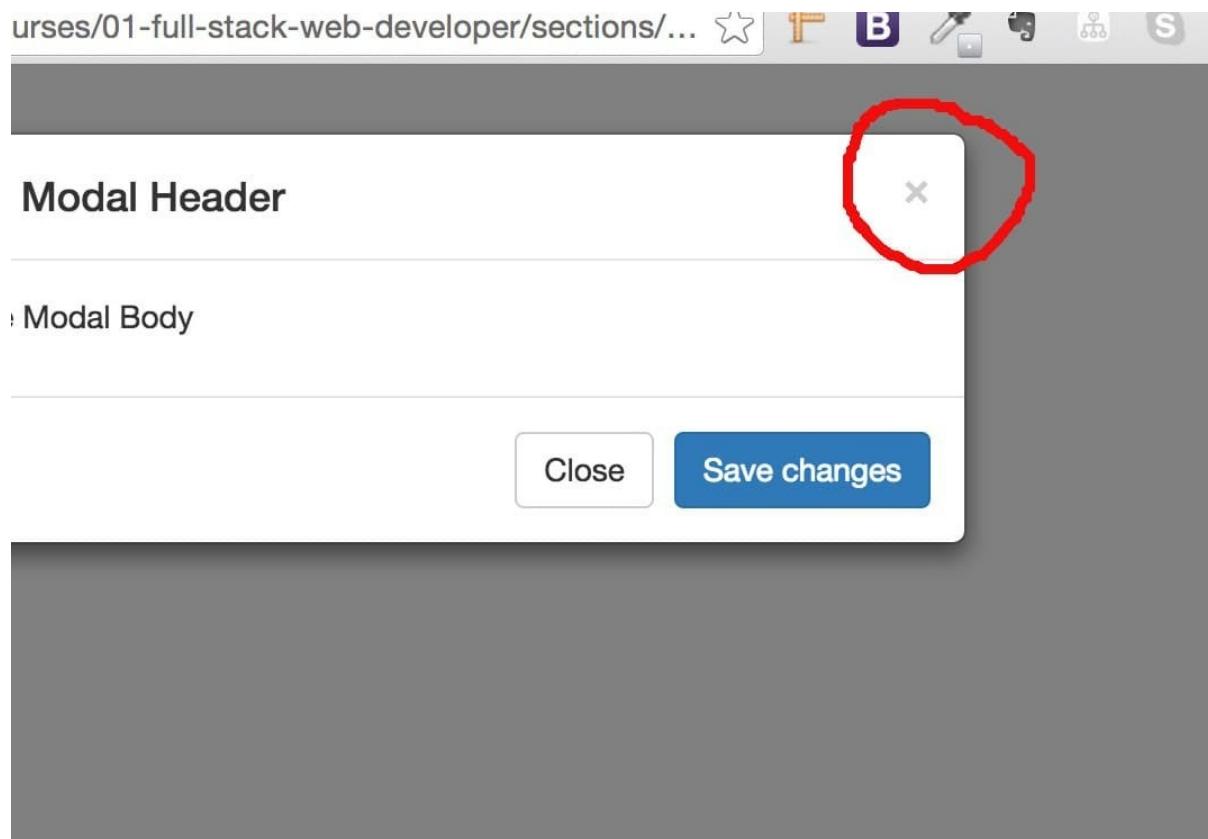
Note that with this little HTML markup and using the data attributes that are identified by Twitter Bootstrap we have managed to add dynamic behaviour to our page. We didn't have to write any JavaScript. All this modal JavaScript functionality has been provided by Twitter Bootstrap JavaScript library.

## More on Modal Markup

Besides the standard HTML modal markup that we have talked about before, there are some other elements on the previous example that deserve our attention.

**b**

utton on the top right]The close [x] button on the top right



The [x] button

The [x] button that you see on the top-right corner can be used by the user to click on and close the modal dialog. Its markup has been put inside the `modal-header` div and has as follows:

```
1 <button type="button" class="close" data-dismiss="modal" aria-label="Close"><span>
2   aria-hidden="true">&times;</span></button>
```

(the above code snippet online)

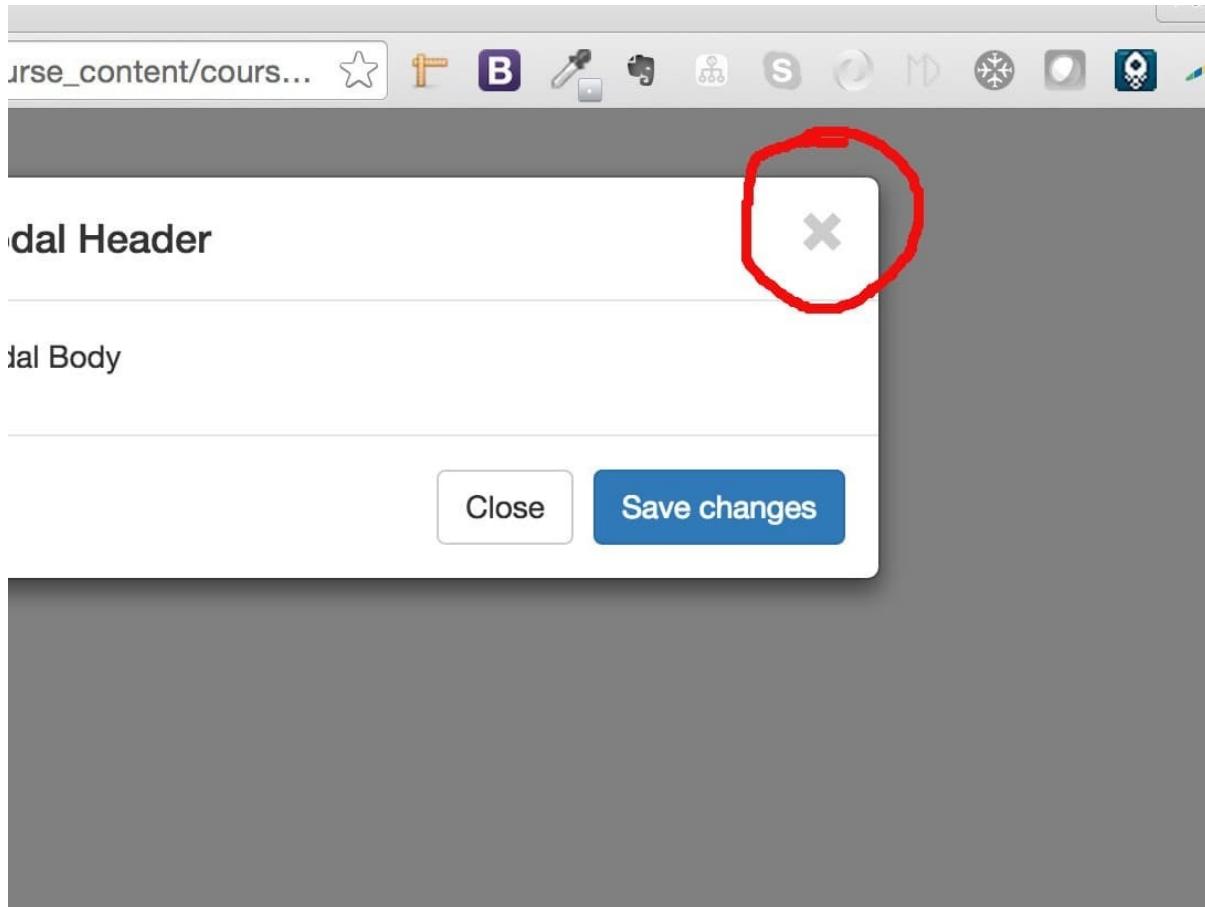
It is a button of class `close` with the data attribute `data-dismiss` equal to `modal`, instructing Twitter Bootstrap to close the modal if clicked. The actual icon appearing there is the `<span aria-hidden="true">&times;</span>`. The `&times;` entity element is a special character displayed as the cross [x].

Inside the button, you can use any HTML that can suit there and that can indicate to the user the ability to close the modal. For example, Twitter Bootstrap offers [a series of glyphicons](#). Let's try to use one of them. Replace the HTML markup `<span aria-hidden="true">&times;</span>` with

```
1 <span aria-hidden="true" class="glyphicon glyphicon-remove"></span>
```

(the above code snippet online)

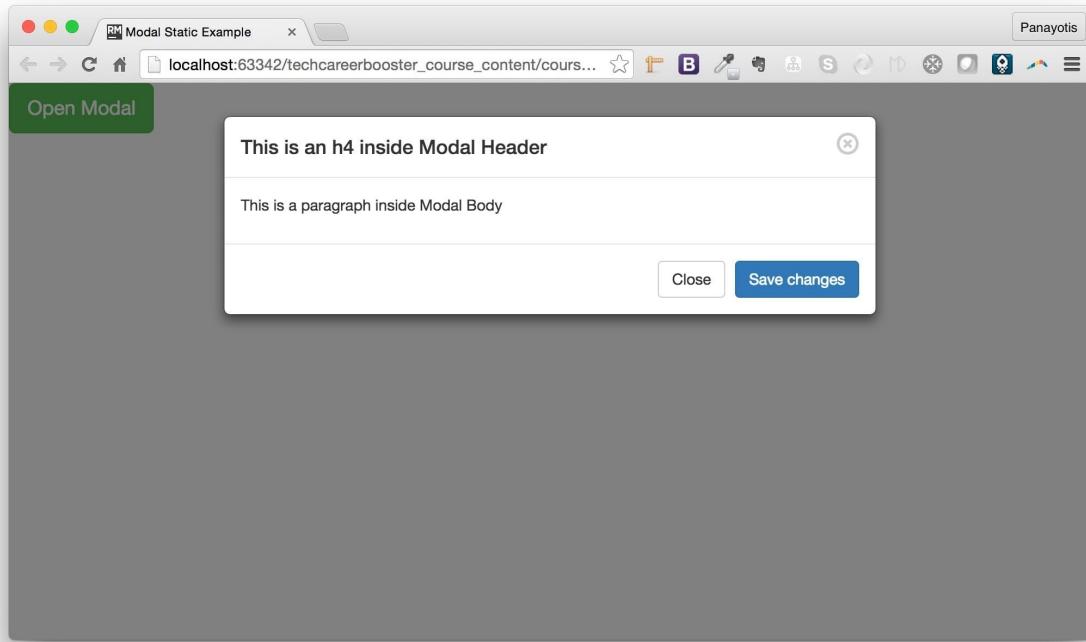
Save, reload the page and open the modal. You will see this:



A Glyphicon Used As Icon on Close Button

As you can see, now the close button icon, on top-right corner is a little bit different. This is because the glyphicon glyphicon-remove is used as a class for the span. Note that we have removed completely the HTML content of the span element. The class with correct values is enough for Bootstrap to display the correct icon from the glyphicon set of icons.

On the next example, we are using glyphicon-remove-circle.



Using glyphicon-remove-circle

### The close [Close] button at the bottom

There is a button inside the `modal-footer` div that works like the one on the top-right corner. It is closing the modal dialog. Its markup is:

```
1 <button type="button" class="btn btn-default" data-dismiss="modal">Close</button>
```

(the above code snippet online)

Again, the important thing is that it has the data attribute `data-dismiss` equal to `modal` which makes it function as a modal close button.

*Note:* The `Save changes` is a button that does nothing. We have not attached a functionality to it. We will do it later on.

### Adding Image on the Modal

As we have said earlier, we can add (almost) any HTML content inside the modal. Let's see the following HTML page:

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <meta charset="utf-8">
5     <meta name="viewport" content="width=device-width, initial-scale=1.0">
6     <title>Modal With Image</title>
7
8     <!-- Bootstrap CSS files -->
9     <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/\css/bootstrap.min.css"
10    integrity="sha384-1q8mTJOASx8j1Au+a5WDVnPi2lkFfwwEAa8hDDdjZlpLegxhjVME1\fgjWPGmkzs7" crossorigin="anonymous">
11
12
13     <!-- Custom CSS -->
14     <link rel="stylesheet" href="assets/stylesheets/main.css">
15
16
17     <!-- jQuery -->
18     <script src="https://code.jquery.com/jquery-2.2.4.min.js"
19        integrity="sha256-BbhdlvQf/xTY9gja0Dq3HiwQF8LaCRTxZKRutelT44="
20        crossorigin="anonymous"></script>
21
22     <!-- Bootstrap JavaScript files AFTER jQuery -->
23     <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min\
24 .js"
25        integrity="sha384-0mSbJDEHialfmuBBQP6A4Qrprq50VfW37PRR3j5ELqxss1yVqot\nepnHVP9aJ7xS" crossorigin="anonymous"></script>
26
27   </head>
28
29
30   <body>
31     <button class="btn btn-lg btn-success" data-toggle="modal" data-target=".moda\
32 l">Open Modal</button>
33
34     <div class="modal fade" tabindex="-1" role="dialog">
35       <div class="modal-dialog">
36         <div class="modal-content">
37           <div class="modal-header">
38
39             <button type="button" class="close" data-dismiss="modal" aria-label="\
40 Close"><span aria-hidden="true" class="glyphicon glyphicon-remove"></span></butto\
41 n>
42             <h4 class="modal-title">Zakynthos - Shipwreck</h4>
43
44           </div>
45
46           <div class="modal-body text-center">
```

```
47
48     
49
50         </div>
51     <div class="modal-footer">
52
53         <button type="button" class="btn btn-default" data-dismiss="modal">Close</button>
54         <button type="button" class="btn btn-primary">Save changes</button>
55
56     </div>
57
58     </div>
59
60     </div>
61
62     </div>
63
64 </body>
</html>
```

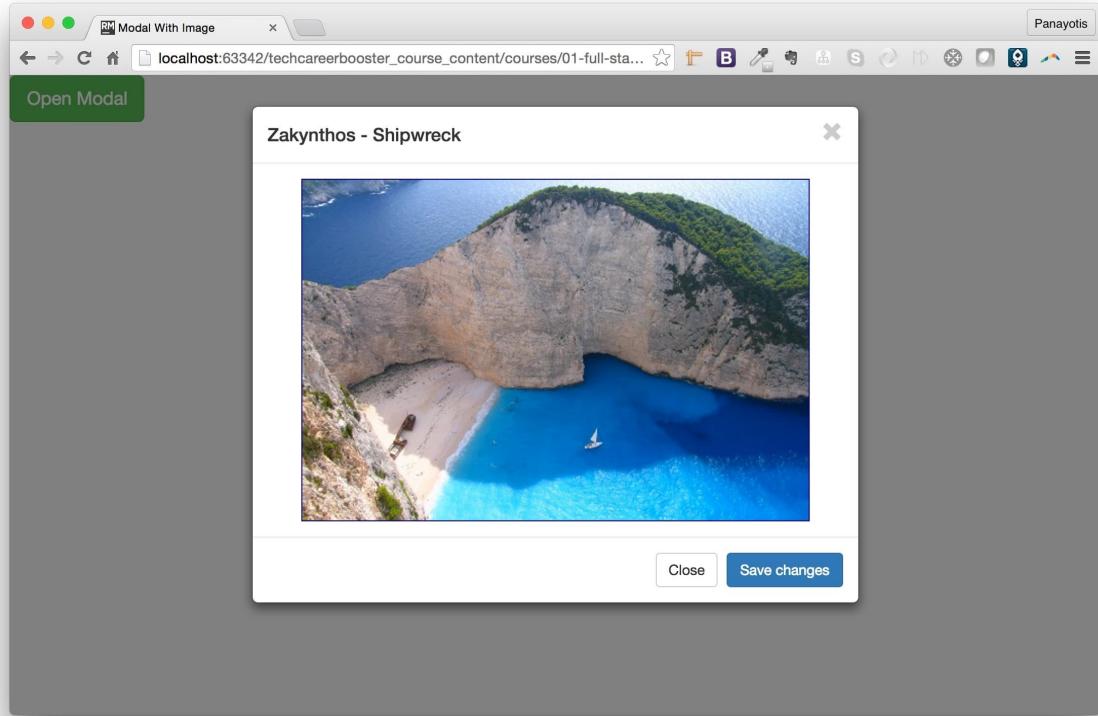
(the above code snippet online)

Note that this new HTML page refers to a custom CSS file assets/stylesheets/main.css, which needs to have the following content:

```
1 img {
2     border: 1px solid Darkblue;
3 }
```

(the above code snippet online)

If you save the files, load the page on your browser and click to open the modal, you will see this:



#### Modal with Image Inside

Note that the image is centered thanks to the class `text-center` that we have added to the `modal-body` div of the modal.

## Adding a Youtube Video

Like we did for the image, we can equally add a youtube embedded video reference. Try the following HTML:

```

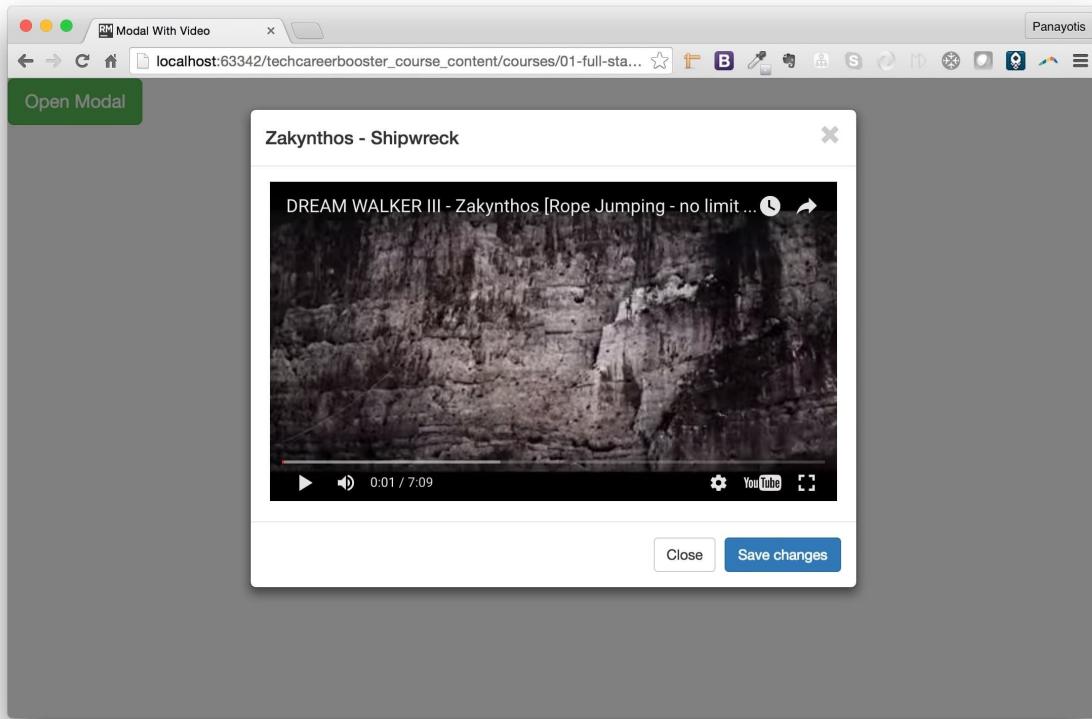
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <meta charset="utf-8">
5     <meta name="viewport" content="width=device-width, initial-scale=1.0">
6     <title>Modal With Video</title>
7
8     <!-- Bootstrap CSS files -->
9     <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/\>
10    css/bootstrap.min.css"
11    integrity="sha384-1q8mTJOASx8j1Au+a5WDVnPi2lkFfwwEAa8hDDdjZlpLegxhjVME1\>
12    fgjWPGmkzs7" crossorigin="anonymous">
13
14    <!-- Custom CSS -->
15    <link rel="stylesheet" href="assets/stylesheets/main.css">
```

```
16
17    <!-- jQuery -->
18    <script src="https://code.jquery.com/jquery-2.2.4.min.js"
19        integrity="sha256-BbhdlvQf/xTY9gja0Dq3HiwQF8LaCRTXxZKRutelT44="
20        crossorigin="anonymous"></script>
21
22    <!-- Bootstrap JavaScript files AFTER jQuery -->
23    <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min\
24 .js"
25        integrity="sha384-0mSbJDEHialfmuBBQP6A4Qrprq50VfW37PRR3j5ELqxss1yVqot\
26 nepnHP9aJ7xS" crossorigin="anonymous"></script>
27
28    </head>
29
30    <body>
31        <button class="btn btn-lg btn-success" data-toggle="modal" data-target=".moda\
32 l">Open Modal</button>
33
34        <div class="modal fade" tabindex="-1" role="dialog">
35            <div class="modal-dialog">
36                <div class="modal-content">
37                    <div class="modal-header">
38
39                        <button type="button" class="close" data-dismiss="modal" aria-label="\
40 Close"><span aria-hidden="true" class="glyphicon glyphicon-remove"></span></butto\
41 n>
42                        <h4 class="modal-title">Zakynthos - Shipwreck</h4>
43
44                    </div>
45
46                    <div class="modal-body text-center">
47
48                        <iframe width="560" height="315" src="https://www.youtube.com/embed/t\
49 qy0Uvw_bFU" frameborder="0" allowfullscreen></iframe>
50
51                </div>
52                <div class="modal-footer">
53
54                    <button type="button" class="btn btn-default" data-dismiss="modal">Close</button>
55                    <button type="button" class="btn btn-primary">Save changes</button>
56
57                </div>
58            </div>
59        </div>
60    </div>
61 </div>
```

```
62
63      </body>
64  </html>
```

(the above code snippet online)

If you save the above and load the page on your browser, and then click on the modal button, you will see this:



Modal With Youtube Embedded Video

## Optional Sizes

Twitter Bootstrap offers two optional sizes for your modals

1. Large modals. You need to append the class `modal-lg` next to the `modal-dialog` class.
2. Small modals. You need to append the class `modal-sm` next to the `modal-dialog` class.

The next one is a modal demo for a large size:

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <meta charset="utf-8">
5     <meta name="viewport" content="width=device-width, initial-scale=1.0">
6     <title>Modal With Image</title>
7
8     <!-- Bootstrap CSS files -->
9     <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/\css/bootstrap.min.css"
10    integrity="sha384-1q8mTJOASx8j1Au+a5WDVnPi2lkFfwwEAa8hDDdjZlpLegxhjVME1\fgjWPGmkzs7" crossorigin="anonymous">
11
12
13     <!-- Custom CSS -->
14     <link rel="stylesheet" href="assets/stylesheets/main.css">
15
16
17     <!-- jQuery -->
18     <script src="https://code.jquery.com/jquery-2.2.4.min.js"
19        integrity="sha256-BbhdlvQf/xTY9gja0Dq3HiwQF8LaCRTxZKRutelT44="
20        crossorigin="anonymous"></script>
21
22     <!-- Bootstrap JavaScript files AFTER jQuery -->
23     <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min\
24 .js"
25        integrity="sha384-0mSbJDEHialfmuBBQP6A4Qrprq50VfW37PRR3j5ELqxss1yVqot\nepnHVP9aJ7xS" crossorigin="anonymous"></script>
26
27   </head>
28
29
30   <body>
31     <button class="btn btn-lg btn-success" data-toggle="modal" data-target=".moda\
32 l">Open Modal</button>
33
34     <div class="modal fade" tabindex="-1" role="dialog">
35       <div class="modal-dialog modal-lg">
36         <div class="modal-content">
37           <div class="modal-header">
38
39             <button type="button" class="close" data-dismiss="modal" aria-label="\
40 Close"><span aria-hidden="true" class="glyphicon glyphicon-remove"></span></butto\
41 n>
42             <h4 class="modal-title">Zakynthos from Wikipedia</h4>
43
44           </div>
45
46           <div class="modal-body text-center">
```

```
47
48     <iframe src="https://en.wikipedia.org/wiki/Zakynthos" id="frame-in-mo\
49 dal"></iframe>
50
51     </div>
52     <div class="modal-footer">
53
54         <button type="button" class="btn btn-default" data-dismiss="modal">Cl\
55 ose</button>
56
57         </div>
58     </div>
59     </div>
60 </div>
61
62 </body>
63 </html>
```

(the above code snippet online)

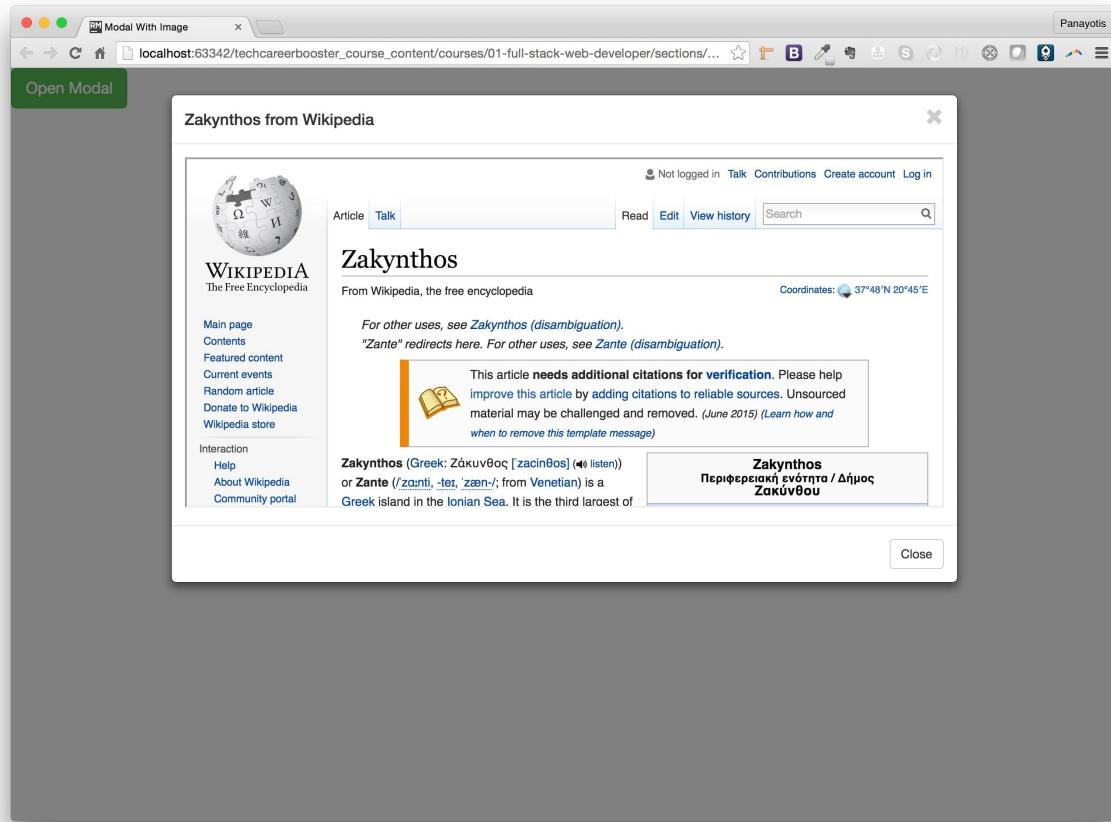
This page has a CSS file assets/stylesheets/main.css with the following content:

```
1 #frame-in-modal {
2     width: 100%;
3     min-height: 400px;
4 }
```

(the above code snippet online)

This makes the frame displayed as part of the content of the modal is occupying the whole width of the modal and it has a minimum height.

If you save the files of this page and load it on your browser, you will see this:



### Large Modal Demo

You can see that the width of the modal is quite large because we have used the `.modal-lg` class.

## Remove animation

If you have noticed, when you open the modal it animates from top to bottom. You can remove this animation and make the modal appear at once, by removing the class `.fade` from the top-level `div` container.

Try that by removing the `.fade` class from the previous example. You will see the modal appearing without top fade in animation.

## Using Twitter Bootstrap Grid System

You can use the Twitter Bootstrap grid system inside the body of the modal. Don't use `.container` or `.container-flow`. Just use the `.row` and `.column-xx-x` classes appropriately inside the `.modal-body` `div` container.

Let's see an example.

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <meta charset="utf-8">
5     <meta name="viewport" content="width=device-width, initial-scale=1.0">
6     <title>Modal Grid System Demo</title>
7
8     <!-- Bootstrap CSS files -->
9     <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/\css/bootstrap.min.css"
10    integrity="sha384-1q8mTJOASx8j1Au+a5WDVnPi2lkFfwwEAa8hDDdjZlpLegxhjVME1\fgjWPGmkzs7" crossorigin="anonymous">
11
12
13     <!-- Custom CSS -->
14     <link rel="stylesheet" href="assets/stylesheets/main.css">
15
16
17     <!-- jQuery -->
18     <script src="https://code.jquery.com/jquery-2.2.4.min.js"
19        integrity="sha256-BbhdlvQf/xTY9gja0Dq3HiwQF8LaCRTxZKRutelT44="
20        crossorigin="anonymous"></script>
21
22     <!-- Bootstrap JavaScript files AFTER jQuery -->
23     <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min\
24 .js"
25        integrity="sha384-0mSbJDEHial fmuBBQP6A4Qrprq50VfW37PRR3j5ELqxss1yVqot\nepnHVP9aJ7xS" crossorigin="anonymous"></script>
26
27   </head>
28
29
30   <body>
31     <button class="btn btn-lg btn-success" data-toggle="modal" data-target=".moda\
32 l">Open Modal</button>
33
34     <div class="modal fade" tabindex="-1" role="dialog">
35       <div class="modal-dialog modal-lg">
36         <div class="modal-content">
37           <div class="modal-header">
38
39             <button type="button" class="close" data-dismiss="modal" aria-label="\
40 Close"><span aria-hidden="true" class="glyphicon glyphicon-remove"></span></butto\
41 n>
42             <h4 class="modal-title">Greek Islands</h4>
43
44           </div>
45
46           <div class="modal-body text-center">
```

```

47
48     <div class="row">
49         <div class="col-md-6 text-center">
50             
51         </div>
52         <div class="col-md-6 text-center">
53             
54         </div>
55     </div>
56
57     <div class="row">
58         <div class="col-md-6 text-center">
59             
60         </div>
61         <div class="col-md-6 text-center">
62             
63         </div>
64     </div>
65
66     </div>
67     <div class="modal-footer">
68
69         <button type="button" class="btn btn-default" data-dismiss="modal">Close</button>
70
71     </div>
72     </div>
73     </div>
74     </div>
75 </div>
76
77 </body>
78 </html>
```

(the above code snippet online)

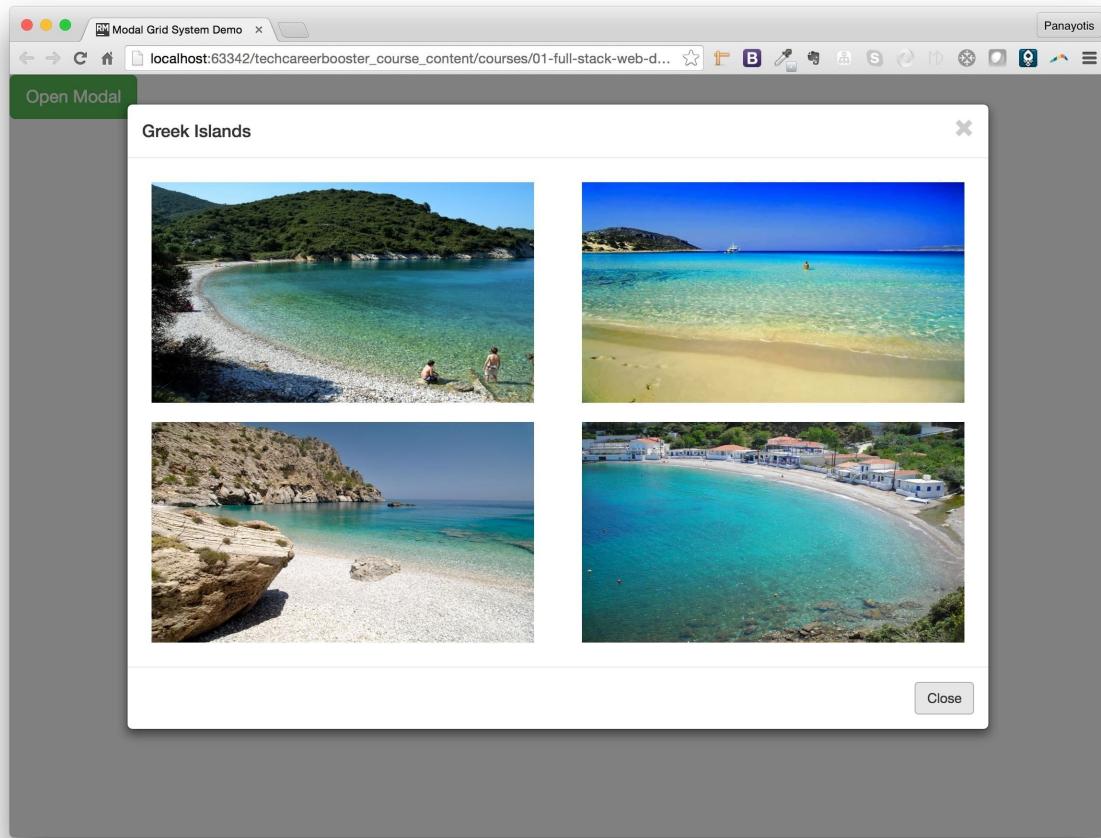
with the following CSS:

```

1 img {
2     padding: 10px 10px;
3     width: 100%;
4     height: 250px;
5 }
```

(the above code snippet online)

If you save the above and load the page on your browser, when you open the modal you will see this:



Modal with Grid System Used in Body

## Modal Activation with JavaScript

We have seen that we can activate a modal without actually using any JavaScript code. The button example that we used was something like this:

```
1 <button class="btn btn-lg btn-success" data-toggle="modal" data-target=".modal">0\
2 pen Modal</button>
```

(the above code snippet online)

with the important bit here being `data-toggle="modal"` and `data-target=".modal"`.

You can also open a modal dialog using JavaScript instead. Let's see the Greek Islands example again, but this time, we will not use a button like the above.

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <meta charset="utf-8">
5     <meta name="viewport" content="width=device-width, initial-scale=1.0">
6     <title>Modal Grid System Demo - JavaScript</title>
7
8     <!-- Bootstrap CSS files -->
9     <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/\css/bootstrap.min.css"
10    integrity="sha384-1q8mTJOASx8j1Au+a5WDVnPi2lkFfwwEAa8hDDdjZlpLegxhjVME1\fgjWPGmkzs7" crossorigin="anonymous">
11
12
13     <!-- Custom CSS -->
14     <link rel="stylesheet" href="assets/stylesheets/main.css">
15
16
17     <!-- jQuery -->
18     <script src="https://code.jquery.com/jquery-2.2.4.min.js"
19        integrity="sha256-BbhdlvQf/xTY9gja0Dq3HiwQF8LaCRTxZKRutelT44="
20        crossorigin="anonymous"></script>
21
22     <!-- Bootstrap JavaScript files AFTER jQuery -->
23     <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min\
24 .js"
25        integrity="sha384-0mSbJDEHial fmuBBQP6A4Qrprq50VfW37PRR3j5ELqxss1yVqot\nepnHVP9aJ7xS" crossorigin="anonymous"></script>
26
27
28     <!-- Custom JavaScript -->
29     <script src="assets/javascripts/open-dialog.js"></script>
30
31   </head>
32
33   <body>
34     <button class="btn btn-lg btn-success" id="open-modal-button">Open Modal</but\
35 ton>
36
37     <div class="modal fade" tabindex="-1" role="dialog">
38       <div class="modal-dialog modal-lg">
39         <div class="modal-content">
40           <div class="modal-header">
41
42             <button type="button" class="close" data-dismiss="modal" aria-label="\
43 Close"><span aria-hidden="true" class="glyphicon glyphicon-remove"></span></button\
44 n>
45           <h4 class="modal-title">Greek Islands</h4>
46
```

```

47   </div>
48
49   <div class="modal-body text-center">
50
51     <div class="row">
52       <div class="col-md-6 text-center">
53         
54       </div>
55       <div class="col-md-6 text-center">
56         
57       </div>
58     </div>
59
60     <div class="row">
61       <div class="col-md-6 text-center">
62         
63       </div>
64       <div class="col-md-6 text-center">
65         
66       </div>
67     </div>
68
69   </div>
70   <div class="modal-footer">
71
72     <button type="button" class="btn btn-default" data-dismiss="modal">Close</button>
73
74   </div>
75   </div>
76   </div>
77 </div>
78 </div>
79
80 </body>
81 </html>
```

(the above code snippet online)

The above file has 2 differences to the previous version. It references a JavaScript file with custom JavaScript code. The file is assets/javascripts/open-dialog.js. The other one is that the button to open the modal does not have the modal related data- attributes anymore.

Without giving you the open-dialog.js content yet, if you save the above, load the page on your browser and try to open the dialog by clicking on the button, nothing will happen.

In order for the dialog to open, we now need to provide the corresponding JavaScript commands.

```
1 $(document).ready(function() {  
2     $('#open-modal-button').on('click', function() {  
3         $('.modal').modal();  
4         return false;  
5     });  
6 });
```

(the above code snippet online)

If you save the above inside the `assets/javascripts/open-dialog.js` file, and reload the page, then modal dialog will be open when you click the Open Modal button.

The new stuff here is this:

```
1 $('.modal').modal();
```

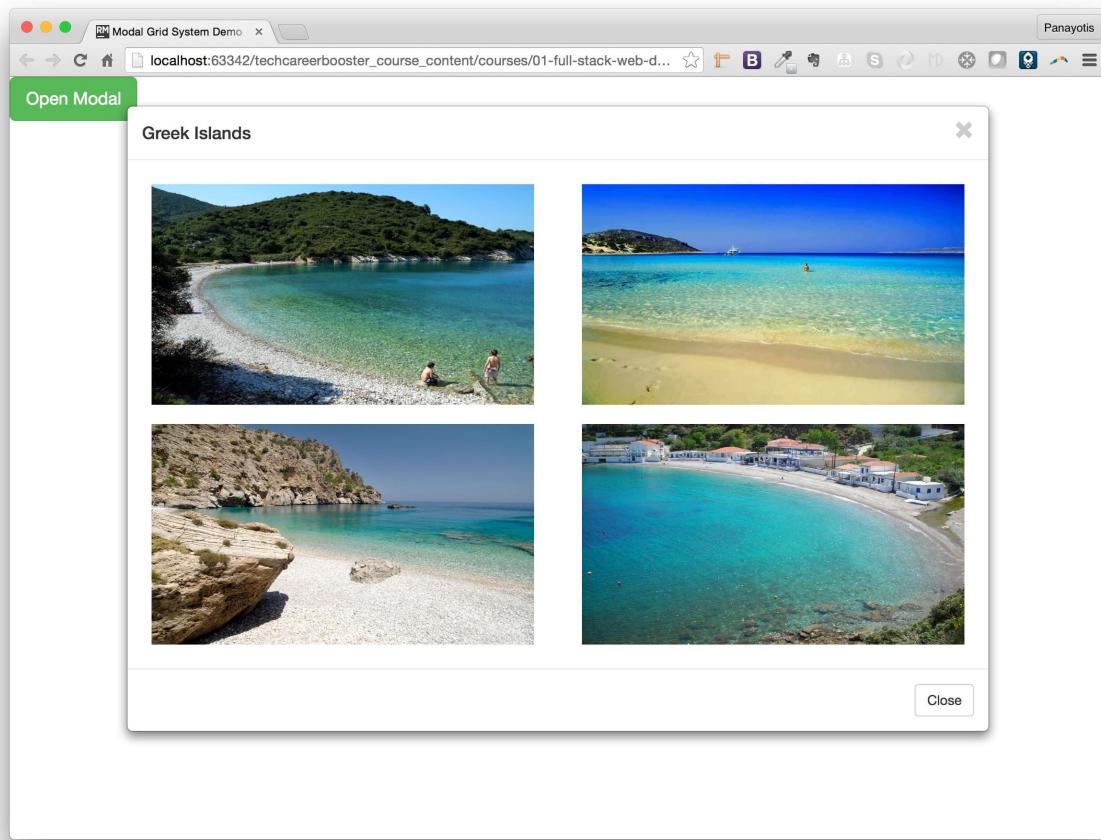
(the above code snippet online)

It is inside the implementation of the click handler for the button `#open-modal-button`. So, when we click this button, we call the `.modal()` method of the Twitter Bootstrap JavaScript library. This is called on the selection of elements that match the `$('.modal');`, hence on the modal `div` container.

## Modal and Options

When calling `$(...).modal()` method, then you can give a JavaScript object with options for the modal function. The options that you can give are the following:

- 1) `backdrop`: Boolean with default value `true`. It can also be a string with the value `static`. If you set the value to `false`, then opening the modal will open it without a backdrop and you will not be able to click outside of the modal in order to close that.



### Modal Without Backdrop

The code to open the modal without backdrop is this:

```

1 $(document).ready(function() {
2   $('#open-modal-button').on('click', function() {
3     $('.modal').modal({
4       backdrop: false
5   });
6   return false;
7 });
8 });

```

(the above code snippet online)

If you set the `backdrop` value to `static` then it will open the modal with a backdrop but you will not be able to close the modal by clicking outside of the modal area.

If you set the `backdrop` to `true`, then it will open the modal with a backdrop and you will be able to close the modal by clicking outside the modal area.

2) `keyboard`: Boolean with default value `true`. When `true` it closes the modal if you click on the key `<kbd>ESC</kbd>`.

3) `show`: Boolean with default value `true`. Shows the modal when initialized. This is useful because you might want to initialize a modal without actually showing that until later. Change the JavaScript code inside the `assets/javascripts/open-dialog.js` as follows:

```

1 $(document).ready(function() {
2     $('.modal').modal({
3         backdrop: 'static',
4         keyboard: false,
5         show: false
6     });
7
8     $('#open-modal-button').on('click', function() {
9         $('.modal').modal('show');
10        return false;
11    });
12 });

```

(the above code snippet online)

This is not much different to the original version. But it is better because it splits the functionality in two. First it initializes the modal and then, when the button is clicked it just shows it.

*Note:* The initialization of a modal with `.modal({....})`; and the show of an already initialized modal with the call `.modal('show')`; fall into the category of modal methods. Let's see some more details about them.

## Modal Methods

Here is the list of modal methods:

1. `.modal('show');`

```
1 $('modal-selector').modal('show');
```

(the above code snippet online)

It is used to show an initialized modal.

1. `.modal('hide');`

```
1 $('modal-selector').modal('hide');
```

(the above code snippet online)

It is used to hide an initialized modal.

1. `.modal('toggle');`

```
1 $( '#modal-selector' ).modal( 'toggle' );
```

(the above code snippet online)

It is used to hide an open modal or show a hidden modal.

## Modal Events

We have already learned that JavaScript programming involves a lot of event programming. Lots of JavaScript plugins out there define their custom events. Same goes for Twitter Bootstrap modal.

The following are the events that are fired against the modal itself.

1) `show.bs.modal`. This event fires immediately when the `show` method is called. If caused by a click, the clicked element is available as the `relatedTarget` property of the event.

Let's do an example.

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <meta charset="utf-8">
5     <meta name="viewport" content="width=device-width, initial-scale=1.0">
6     <title>Modal relatedTarget Example</title>
7
8     <!-- Bootstrap CSS files -->
9     <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/\css/bootstrap.min.css"
10    integrity="sha384-1q8mTJOASx8j1Au+a5WDVnPi2lKfwwEAa8hDDdjZlpLegxhjVME1\fgjWPGmkzs7" crossorigin="anonymous">
11
12
13     <!-- jQuery -->
14     <script src="https://code.jquery.com/jquery-2.2.4.min.js"
15        integrity="sha256-BbhdlvQf/xTY9gja0Dq3HiwQF8LaCRTXxZKRutelT44="
16        crossorigin="anonymous"></script>
17
18     <!-- Bootstrap JavaScript files AFTER jQuery -->
19     <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min\
20 .js"
21        integrity="sha384-0mSbJDEHialfmuBBQP6A4Qrprq5OVfW37PRR3j5ELqxss1yVqot\nepnHP9aJ7xS" crossorigin="anonymous"></script>
22
23
24     <!-- Custom JavaScript -->
25     <script src="assets/javascripts/related-target.js"></script>
26
27
28   </head>
```

```

30  <body>
31      <button class="btn btn-lg btn-success" data-toggle="modal" data-target=".moda\ 
32  l">Open Modal 1</button>
33      <button class="btn btn-lg btn-success" data-toggle="modal" data-target=".moda\ 
34  l">Open Modal 2</button>
35      <button class="btn btn-lg btn-success" data-toggle="modal" data-target=".moda\ 
36  l">Open Modal 3</button>
37
38      <div class="modal fade" tabindex="-1" role="dialog">
39          <div class="modal-dialog">
40              <div class="modal-content">
41                  <div class="modal-header">
42
43                      <button type="button" class="close" data-dismiss="modal" aria-label="\
44  Close"><span aria-hidden="true" class="glyphicon glyphicon-remove"></span></butto\ 
45 n>
46                      <h4 class="modal-title">Modal Demo of relatedTarget</h4>
47
48                  </div>
49
50                  <div class="modal-body text-center">
51
52                      </div>
53                  <div class="modal-footer">
54
55                      <button type="button" class="btn btn-default" data-dismiss="modal">C1\ 
56 ose</button>
57
58                      </div>
59                  </div>
60              </div>
61          </div>
62      </div>
63
64  </body>
65 </html>

```

(the above code snippet online)

The above HTML page is using the JavaScript file assets/javascripts/related-target.js. As you can see from the HTML markup, the .modal-body of the modal dialog is empty. We are going to add content dynamically, using JavaScript, reacting to the show.bs.modal event. Also, the content that we will add, will be related to the button that has triggered the opening of the modal. As you can see there are three buttons that they all open the modal dialog.

This is going to be the final result:

Demonstrating show.bs.modal event and relatedTarget

The JavaScript file is very simple:

```

1 $(document).ready(function(){
2     $('.modal').on('show.bs.modal', function(event){
3         var $buttonClicked = $(event.relatedTarget);
4
5         $(this).find('.modal-body').html("<h1>" + $buttonClicked.html() + " Clicked!");
6     });
7 });
8 });

```

(the above code snippet online)

We attach a handler on the `show.bs.modal` event for the modal (`.modal`) target. We also declare the argument `event` which will be holding the `relatedTarget` when the handler is called. We save the `relatedTarget` to `$buttonClicked` and then we just use the `.html()` jQuery function to set the HTML content of the `.modal-body` div. The `.modal-body` div is selected using the jQuery method `.find()`.

2) `shown.bs.modal`. This event is fired when the modal has been made visible to the user and after all the fade transitions have been completed. If caused by a click, the clicked element is available as the `relatedTarget` property of the event.

3) `hide.bs.modal`. This event is fired immediately when the `hide` instance method has been called. This might be useful when you want to program some actions that might need to be executed when the modal is being hidden.

4) `hidden.bs.modal`. This event is fired when the modal has finished being hidden from the user (will wait for CSS transitions to complete).

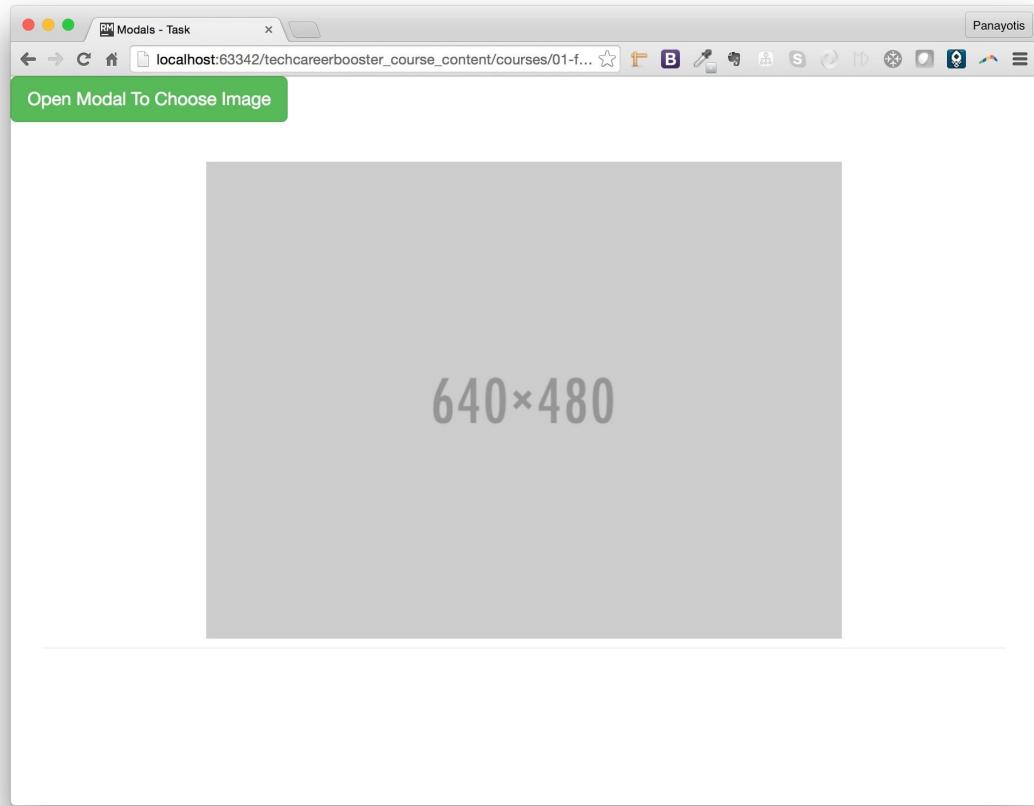
## Tasks and Quizzes

**Before you continue, you may want to know that:** You can sign up to [Tech Career Booster](#) and have a mentor evaluate your tasks, your quizzes and, generally, your progress in becoming a Web Developer. Or you can sign up and get access to Tech Career Booster Slack channel. In that channel, there are a lot of people that can answer your questions and give you valuable feedback.

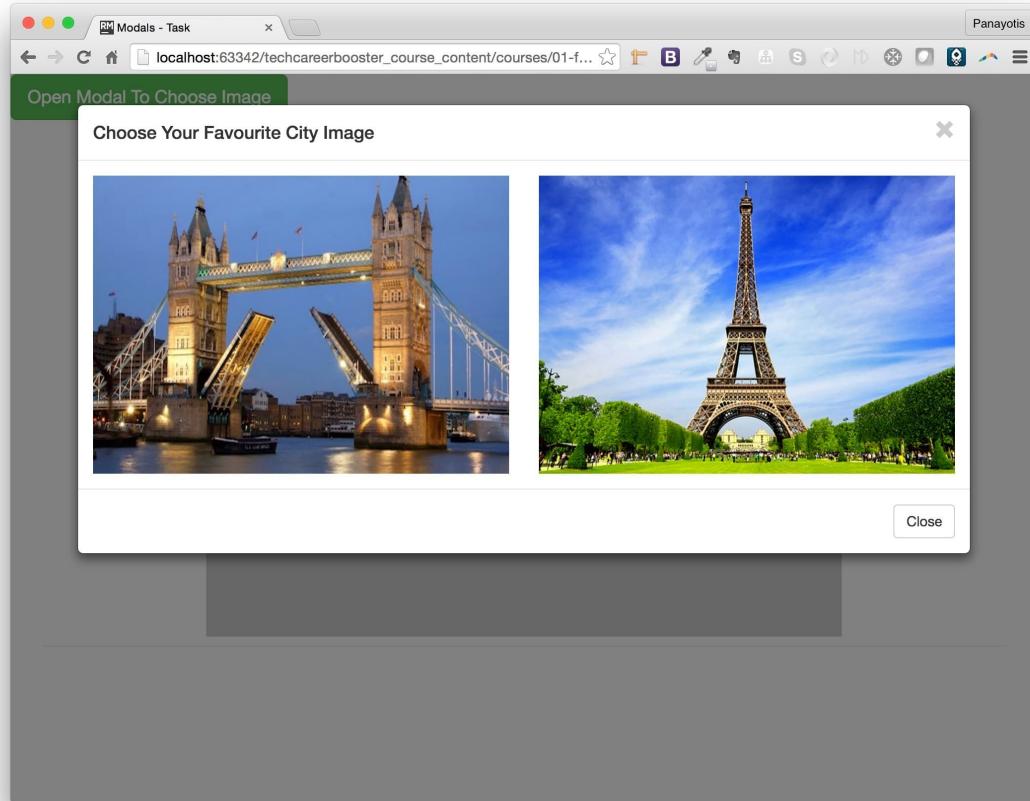
### Task Details

You need to implement a page in which user picks up one of two favourites cities. In fact:

1. When the page loads, it has the button to open the modal and an image placeholder, like this:



2. When the user clicks on the button to open modal, the modal should appear as follows:



3. User should be able to click one of the images. When clicked, the modal should close and the image selected should be displayed on the main page in the place of the placeholder.

4. Watch the following video to see the page in action:

[Task - Page with Modal, Choosing Favourite City](#)

5. Here are some hints to help you finish your task:

1. You might want to have a custom CSS file. This will need to style the images inside the modal, as well as the central image on the main page.
2. You will need a custom JavaScript file. Its responsibility will be to:
  1. Respond to the click on any of the two images in the modal dialog.
  2. The click handler on the images need to
    - close the modal
    - replace the `src` of the central image with the `src` attribute of the clicked image.

**Important:** Your code needs to be uploaded into a new project on your Github account. Invite your mentor to review your code online.

## 2 ScrollSpy

### Summary

Long-content pages usually have top navigation bars that allow the user to quickly navigate to sections within the page. This feature is accompanied by the fact that the menu item highlighted as active, is automatically updated/changed according to the visible section of the page.

Look that in action:

#### Scroll Spy in Action

In this chapter you will learn how Twitter Bootstrap allows you to quickly incorporate such a feature in your long-content pages.

### Learning Goals

1. Learn how to add scroll spying functionality to your long-content pages.
2. Learn how you should set up your HTML mark up to support scroll spying.
3. Learn how you can adjust the offset and activation point of the scroll sections.

### Introduction

ScrollSpy is a Twitter Bootstrap JavaScript plugin that, when used, automatically changes the highlighted menu item according to the position in the document.

### A Page with a Menu

Let's start with a long HTML page with a menu.

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <meta charset="utf-8">
5     <meta name="viewport" content="width=device-width, initial-scale=1.0">
6     <title>Scroll Spy Demo</title>
7
8     <!-- Bootstrap CSS files -->
9     <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/\n10 css/bootstrap.min.css"
11       integrity="sha384-1q8mTJOASx8j1Au+a5WDVnPi2lkFfwwEAa8hDDdjZlpLegxhjVME1\"
12 fgjWPGmkzs7" crossorigin="anonymous">
13
14     <!-- Custom CSS -->
15     <link rel="stylesheet" href="assets/stylesheets/main.css">
16
```

```
17    <!-- jQuery -->
18    <script src="https://code.jquery.com/jquery-2.2.4.min.js"
19        integrity="sha256-BbhdlvQf/xTY9gja0Dq3HiwQF8LaCRTxZKRutelT44="
20        crossorigin="anonymous"></script>
21
22    <!-- Bootstrap JavaScript files AFTER jQuery -->
23    <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min\
24 .js"
25        integrity="sha384-0mSbJDEHialfmuBBQP6A4Qrprq50VfW37PRR3j5ELqxss1yVqot\
26 nepnHP9aJ7xS" crossorigin="anonymous"></script>
27
28    <!-- Custom JavaScript code -->
29    <script src="assets/javascripts/main.js"></script>
30 </head>
31
32 <body>
33
34     <nav class="navbar navbar-inverse navbar-fixed-top">
35         <div class="container">
36
37             <div class="navbar-header">
38                 <button type="button" class="navbar-toggle collapsed" data-toggle="coll\
39 apse" data-target="#navbar" aria-expanded="false" aria-controls="navbar">
40                     <span class="sr-only">Toggle navigation</span>
41                     <span class="icon-bar"></span>
42                     <span class="icon-bar"></span>
43                     <span class="icon-bar"></span>
44                 </button>
45                 <a class="navbar-brand" href="main.html">Home</a>
46             </div>
47
48             <div id="navbar" class="collapse navbar-collapse">
49                 <ul class="nav navbar-nav">
50                     <li class="active"><a href="#introduction">Introduction</a></li>
51                     <li><a href="#origins">Origins</a></li>
52                     <li><a href="#creating-new-state-constitutions">State Constitutions<\\
53 a></li>
54                     <li><a href="#military-hostilities-begin">Military Hostilities</a></li\
55 i>
56                     <li><a href="#independence-and-union">Independence And Union</a></li>
57                     <li><a href="#more">More</a></li>
58                 </ul>
59             </div> <!--/.nav-collapse -->
60         </div>
61     </nav>
62
```

```
63     <div class="container">
64         <h1 id="introduction">American Revolution History</h1>
65
66         <h2>Introduction</h2>
67
68         <p>
69             The American Revolution was a political upheaval that took place between \
70             1765 and 1783 during which colonists in the Thirteen American Colonies rejected t\
71             he British monarchy and aristocracy, overthrew the authority of Great Britain, an\
72             d founded the United States of America.
73         </p>
74
75         <p>
76             Starting in 1765, members of American colonial society rejected the autho\
77             rity of the British Parliament to tax them and create other laws affecting them, \
78             without colonial representatives in the government. During the following decade, \
79             protests by colonists-known as Patriots-continued to escalate, as in the Boston T\
80             ea Party in 1773 during which patriots destroyed a consignment of taxed tea from \
81             the Parliament-controlled and favored East India Company.[1] The British responde\
82             d by imposing punitive laws-the Coercive Acts-on Massachusetts in 1774, following\
83             which Patriots in the other colonies rallied behind Massachusetts. In late 1774 \
84             the Patriots set up their own alternative government to better coordinate their r\
85             esistance efforts against Great Britain, while other colonists, known as Loyalist\
86             s, preferred to remain aligned to the British Crown.
87         </p>
88         <p>
89             Tensions escalated to the outbreak of fighting between Patriot militia an\
90             d British regulars at Lexington and Concord in April 1775. The conflict then evol\
91             ved into a global war, during which the Patriots (and later their French, Spanish\
92             , and Dutch allies) fought the British and Loyalists in what became known as the \
93             American Revolutionary War (1775-1783). Patriots in each of the thirteen colonies\
94             formed Provincial Congresses that assumed power from the old colonial government\
95             s and suppressed Loyalism, and from there built a Continental Army under the lead\
96             ership of General George Washington. Claiming King George III's rule to be tyrann\
97             ical and infringing the colonists' "rights as Englishmen", the Continental Congre\
98             ss declared the colonies free and independent states in July 1776. The Patriot le\
99             adership professed the political philosophies of liberalism and republicanism to \
100             reject monarchy and aristocracy, and proclaimed that all men are created equal. C\
101             ongress rejected British proposals requiring allegiance to the monarchy and aband\
102             onment of independence.
103         </p>
104
105         <p>
106             The British were forced out of Boston in 1776, but then captured and held\
107             New York City for the duration of the war. The British blockaded the ports and c\
108             aptured other cities for brief periods, but failed to defeat Washington's forces.\
```

109 In early 1778, following a failed patriot invasion of Canada, a British army was\\  
110 captured at the Battle of Saratoga, following which the French openly entered th\\  
111 e war as allies of the United States. The war later turned to the American South,\\  
112 where the British captured an army at South Carolina, but failed to enlist enoug\\  
113 h volunteers from Loyalist civilians to take effective control. A combined Americ\\  
114 an-French force captured a second British army at Yorktown in 1781, effectively e\\  
115 nding the war in the United States. The Treaty of Paris in 1783 formally ended th\\  
116 e conflict, confirming the new nation's complete separation from the British Empi\\  
117 re. The United States took possession of nearly all the territory east of the Mis\\  
118 sissippi River and south of the Great Lakes, with the British retaining control o\\  
119 f Canada and Spain taking Florida.[2][3]

120 </p>

121

122 <p>

123 Among the significant results of the revolution was the creation of a new\\  
124 Constitution of the United States. The 'Three-Fifths Compromise' allowed the sou\\  
125 thern slaveholders to consolidate power and maintain slavery in America for anoth\\  
126 er eighty years,[4] but through the expansion of voting rights and liberties over\\  
127 subsequent decades the elected government became responsible to the will of the \\  
128 people.[5] The new Constitution established a relatively strong federal national \\  
129 government that included an executive, a national judiciary, and a bicameral Cong\\  
130 ress that represented both states in the Senate and population in the House of Re\\  
131 presentatives.[6][7]

132 </p>

133

134 <p>

135 Among the significant results of the revolution was the creation of a new\\  
136 Constitution of the United States. The 'Three-Fifths Compromise' allowed the sou\\  
137 thern slaveholders to consolidate power and maintain slavery in America for anoth\\  
138 er eighty years,[4] but through the expansion of voting rights and liberties over\\  
139 subsequent decades the elected government became responsible to the will of the \\  
140 people.[5] The new Constitution established a relatively strong federal national \\  
141 government that included an executive, a national judiciary, and a bicameral Cong\\  
142 ress that represented both states in the Senate and population in the House of Re\\  
143 presentatives.[6][7]

144 </p>

145

146 <h2 id="origins">Origins</h2>

147

148 <p>

149 Historians typically begin their histories of the American Revolution wit\\  
150 h the British victory in the French and Indian War in 1763, which removed France \\  
151 as a major player in North American affairs. Lawrence Henry Gipson, the historian\\  
152 of the British Empire, states:

153 </p>

154

```
155      <p>
156          It may be said as truly that the American Revolution was an aftermath of \
157 the Anglo-French conflict in the New World carried on between 1754 and 1763.[8]
158      </p>
159
160      <p>
161          The Royal Proclamation of 1763 may have played a role in the separation o\
162 f the United States from Great Britain as colonists at the time wanted to continu\
163 e in the economically beneficial cultural practice of taking land for one's own l\
164 ivelihood as part of the drive west. The lands west of Quebec and west of a line \
165 running along the crest of the Allegheny mountains became Indian territory, tempo\
166 rarily barred to settlement (to the great disappointment of the land speculators \
167 of Virginia and Pennsylvania, who had started the Seven Years' War to gain those \
168 territories).
169      </p>
170
171      <p>
172          For the prior history see Thirteen Colonies.
173      </p>
174
175      <h3>1764–1766: Taxes imposed and withdrawn</h3>
176
177      <p>
178          In 1764 Parliament passed the Currency Act to restrain the use of paper m\
179 oney that British merchants saw as a means to evade debt payments.[original resea\
180 rch?] Parliament also passed the Sugar Act imposing customs duties on a number of\
181 articles. That same year Prime Minister George Grenville proposed to impose dire\
182 ct taxes on the colonies to raise revenue, but delayed action to see if the colon\
183 ies would propose some way to raise the revenue themselves.[citation needed] None\
184 did, and in March 1765 Parliament passed the Stamp Act which imposed direct taxe\
185 s on the colonies for the first time. All official documents, newspapers, almanac\
186 s and pamphlets—even decks of playing cards—were required to have the stamps.
187      </p>
188
189      <p>
190          The colonists objected chiefly on the grounds not that the taxes were hig\
191 h (they were low),[9] but because they had no representation in the Parliament. B\
192 enjamin Franklin testified in Parliament in 1766 that Americans already contribut\
193 ed heavily to the defense of the Empire. He said local governments had raised, ou\
194 tfitted and paid 25,000 soldiers to fight France—as many as Britain itself sent—a\
195 nd spent many millions from American treasuries doing so in the French and Indian\
196 War alone.[10][11] Stationing a standing army in Great Britain during peacetime \
197 was politically unacceptable. London had to deal with 1,500 politically well-conn\
198 ected British officers who became redundant; it would have to discharge them or s\
199 tation them in North America.[12]
200      </p>
```

201  
202       < p >  
203       In 1765 the Sons of Liberty formed. They used public demonstrations, boyc\br/>204 ott, violence and threats of violence to ensure that the British tax laws were un\br/>205 enforceable. While openly hostile to what they considered an oppressive Parliamen\br/>206 t acting illegally, colonists persisted in sending numerous petitions and pleas f\br/>207 or intervention from a monarch to whom they still claimed loyalty. In Boston, the\br/>208 Sons of Liberty burned the records of the vice admiralty court and looted the ho\br/>209 me of the chief justice, Thomas Hutchinson. Several legislatures called for unite\br/>210 d action, and nine colonies sent delegates to the Stamp Act Congress in New York \br/>211 City in October 1765. Moderates led by John Dickinson drew up a "Declaration of R\br/>212 ights and Grievances" stating that taxes passed without representation violated t\br/>213 heir rights as Englishmen. Colonists emphasized their determination by boycotting\br/>214 imports of British merchandise.[13]  
215       </ p >  
216  
217       < p >  
218       The Parliament at Westminster saw itself as the supreme lawmaking authori\br/>219 ty throughout all British possessions and thus entitled to levy any tax without c\br/>220 olonial approval.[14] They argued that the colonies were legally British corporat\br/>221 ions that were completely subordinate to the British parliament and pointed to nu\br/>222 merous instances where Parliament had made laws binding on the colonies in the pa\br/>223 st.[15] They did not see anything in the unwritten British constitution that made\br/>224 taxes special[16] and noted that Parliament had taxed American trade for decades\br/>225 . Parliament insisted that the colonies effectively enjoyed a "virtual representa\br/>226 tion" like most British people did, as only a small minority of the British popul\br/>227 ation elected representatives to Parliament.[17] Americans such as James Otis mai\br/>228 ntained the Americans were not in fact virtually represented.[18]  
229       </ p >  
230  
231       < p >  
232       In London, the Rockingham government came to power (July 1765) and Parlia\br/>233 ment debated whether to repeal the stamp tax or to send an army to enforce it. Be\br/>234 njamin Franklin made the case for repeal, explaining the colonies had spent heavi\br/>235 ly in manpower, money, and blood in defense of the empire in a series of wars aga\br/>236 inst the French and Indians, and that further taxes to pay for those wars were un\br/>237 just and might bring about a rebellion. Parliament agreed and repealed the tax (F\br/>238 ebruary 21, 1766), but in the Declaratory Act of March 1766 insisted that parliam\br/>239 ent retained full power to make laws for the colonies "in all cases whatsoever".[\br/>240 19] The repeal nonetheless caused widespread celebrations in the colonies.  
241       </ p >  
242  
243       < p >  
244       Briggs says unnamed modern American economic historians have challenged t\br/>245 he view that Great Britain was placing a heavy burden on the North American colon\br/>246 ies and have suggested the cost of defending them from the possibility of invasio\

247 n by France or Spain was £400,000 – five times the maximum income from them. Brig\  
248 gs rejects the analysis, saying that issue was not invoked at the time.[20]

249 </p>

250

251 <h3>1767–1773: Townshend Acts and the Tea Act</h3>

252

253 <p>

254 In 1767 the Parliament passed the Townshend Acts, which placed duties on \  
255 a number of essential goods including paper, glass, and tea and established a Boa\  
256 rd of Customs in Boston to more rigorously execute trade regulations. The new tax\  
257 es were enacted on the belief that Americans only objected to internal taxes and \  
258 not external taxes like custom duties. The Americans, however, argued against the\  
259 constitutionality of the act because its purpose was to raise revenue and not re\  
260 gulate trade. Colonists responded by organizing new boycotts of British goods. Th\  
261 ese boycotts were less effective, however, as the Townshend goods were widely use\  
262 d.

263 </p>

264

265 <p>

266 In February 1768 the Assembly of Massachusetts Bay issued a circular lett\  
267 er to the other colonies urging them to coordinate resistance. The governor disso\  
268 lved the assembly when it refused to rescind the letter. Meanwhile, in June 1768 \  
269 a riot broke out in Boston over the seizure of the sloop Liberty, owned by John H\  
270 ancock, for alleged smuggling. Custom officials were forced to flee, prompting th\  
271 e British to deploy troops to Boston. A Boston town meeting declared no obedience\  
272 was due to parliamentary laws and called for the convening of a convention. A co\  
273 nvention assembled but only issued a mild protest before dissolving itself. In Ja\  
274 nuary 1769 Parliament responded to the unrest by reactivating the Treason Act 154\  
275 3 which permitted subjects outside the realm to face trials for treason in Englan\  
276 d. The governor of Massachusetts was instructed to collect evidence of said treas\  
277 on, and although the threat was not carried out it caused widespread outrage.

278 </p>

279

280 <p>

281 On March 5, 1770 a large mob gathered around a group of British soldiers.\  
282 The mob grew more and more threatening, throwing snowballs, rocks and debris at \  
283 the soldiers. One soldier was clubbed and fell.[21] There was no order to fire bu\  
284 t the soldiers fired into the crowd anyway. They hit 11 people; three civilians d\  
285 ied at the scene of the shooting, and two died after the incident. The event quic\  
286 kly came to be called the Boston Massacre. Although the soldiers were tried and a\  
287 cquitted (defended by John Adams), the widespread descriptions soon became propag\  
288 anda to turn colonial sentiment against the British. This in turn began a downwar\  
289 d spiral in the relationship between Britain and the Province of Massachusetts.[2\  
290 1]

291 </p>

292

293       < p>  
294       A new ministry under Lord North came to power in 1770 and Parliament with\\  
295 drew all taxes except the tax on tea, giving up its efforts to raise revenue whil\\  
296 e maintaining the right to tax. This temporarily resolved the crisis and the boyc\\  
297 ott of British goods largely ceased, with only the more radical patriots such as \\  
298 Samuel Adams continuing to agitate.

299       </ p>

300

301       < p>

302       Two ships in a harbor, one in the distance. On board, men stripped to the\\  
303 waist and wearing feathers in their hair are throwing crates into the water. A 1\\  
304 arge crowd, mostly men, is standing on the dock, waving hats and cheering. A few \\  
305 people wave their hats from windows in a nearby building.

306       This 1846 lithograph by Nathaniel Currier was entitled "The Destruction o\\  
307 f Tea at Boston Harbor"; the phrase "Boston Tea Party" had not yet become standar\\  
308 d. [22]

309       </ p>

310

311       < p>

312       In June 1772, in what became known as the Gaspee Affair, American patriot\\  
313 s including John Brown burned a British warship that had been vigorously enforcin\\  
314 g unpopular trade regulations. The affair was investigated for possible treason, \\  
315 but no action was taken.

316       </ p>

317

318       < p>

319       In 1772 it became known that the Crown intended to pay fixed salaries to \\  
320 the governors and judges in Massachusetts. Samuel Adams in Boston set about creat\\  
321 ing new Committees of Correspondence, which linked Patriots in all 13 colonies an\\  
322 d eventually provided the framework for a rebel government. In early 1773 Virginin\\  
323 a, the largest colony, set up its Committee of Correspondence, on which Patrick H\\  
324 enry and Thomas Jefferson served. [23]

325       </ p>

326

327       < p>

328       A total of about 7000 to 8000 Patriots served on "Committees of Correspon\\  
329 dence" at the colonial and local levels, comprising most of the leadership in the\\  
330 ir communities – Loyalists were excluded. The committees became the leaders of th\\  
331 e American resistance to British actions, and largely determined the war effort a\\  
332 t the state and local level. When the First Continental Congress decided to boyco\\  
333 tt British products, the colonial and local Committees took charge, examining mer\\  
334 chant records and publishing the names of merchants who attempted to defy the boy\\  
335 cott by importing British goods. [24]

336       </ p>

337

338       < p>

339        In 1773 private letters were published where Massachusetts Governor Thomas Hutchinson claimed the colonists could not enjoy all English liberties, and Lieutenant Governor Andrew Oliver called for the direct payment of colonial officials. The letters, whose contents were used as evidence of a systematic plot against American rights, discredited Hutchinson in the eyes of the people the Assembly petitioned for his recall. Benjamin Franklin, post-master general for the colonies, acknowledged that he leaked the letters which led to him being berated by British officials and fired from his job.

347        </p>

348

349        <p>

350        Meanwhile, Parliament passed the Tea Act to lower the price of taxed tea exported to the colonies in order to help the East India Company undersell smuggled Dutch tea. Special consignees were appointed to sell the tea in order to bypass colonial merchants. The act was opposed not only by those who resisted the taxes but also by smugglers who stood to lose business. In most instances the consignees were forced to resign and the tea was turned back, but Massachusetts governor Hutchinson refused to allow Boston merchants to give into pressure. A town meeting in Boston determined that the tea would not be landed, and ignored a demand from the governor to disperse. On December 16, 1773 a group of men, led by Samuel Adams and dressed to evoke the appearance of American Indians, boarded the ships of the British East India Company and dumped £10,000 worth of tea from their holds (approximately £636,000 in 2008) into Boston Harbor. Decades later this event became known as the Boston Tea Party and remains a significant part of American patriotic lore.[25]

364        </p>

365

366        <h3>1774–1775: Intolerable Acts and the Quebec Act</h3>

367

368        <p>

369        The British government responded by passing several Acts which came to be known as the Intolerable Acts, which further darkened colonial opinion towards the British. They consisted of four laws enacted by the British parliament.[26] The first, the Massachusetts Government Act, altered the Massachusetts charter and restricted town meetings. The second Act, the Administration of Justice Act, ordered that all British soldiers to be tried were to be arraigned in Britain, not in the colonies. The third Act was the Boston Port Act, which closed the port of Boston until the British had been compensated for the tea lost in the Boston Tea Party. The fourth Act was the Quartering Act of 1774, which allowed royal governors to house British troops in the homes of citizens without requiring permission of the owner.[27]

380        </p>

381

382        <p>

383        In response, Massachusetts patriots issued the Suffolk Resolves and formed an alternative shadow government known as the "Provincial Congress" which began\

385 training militia outside British-occupied Boston.[28] In September 1774, the Fir\\  
386 st Continental Congress convened, consisting of representatives from each of the \\  
387 colonies, to serve as a vehicle for deliberation and collective action. During se\\  
388 cret debates conservative Joseph Galloway proposed the creation of a colonial Par\\  
389 liament that would be able to approve or disapprove of acts of the British Parlia\\  
390 ment but his idea was not accepted. The Congress instead endorsed the proposal of\\  
391 John Adams that Americans would obey Parliament voluntarily but would resist all\\  
392 taxes in disguise. Congress called for a boycott beginning on 1 December 1774 of\\  
393 all British goods; it was enforced by new committees authorized by the Congress.\\  
394 [29]

395 </p>

396

397 <p>

398 The Quebec Act of 1774 extended Quebec's boundaries to the Ohio River, sh\\  
399 utting out the claims of the 13 colonies. By then, however, the Americans had lit\\  
400 tle regard for new laws from London; they were drilling militia and organizing fo\\  
401 r war.[30]

402 </p>

403

404 <p>

405 The British retaliated by confining all trade of the New England colonies\\  
406 to Britain and excluding them from the Newfoundland fisheries. Lord North advanc\\  
407 ed a compromise proposal in which Parliament would not tax so long as the colonie\\  
408 s made fixed contributions for defense and to support civil government. This woul\\  
409 d also be rejected.

410 </p>

411

412 <h2 id="creating-new-state-constitutions">Creating New State Constitutions<\\  
413 /h2>

414

415 <p>

416 Following the Battle of Bunker Hill in June 1775, the Patriots had contro\\  
417 l of Massachusetts outside the Boston city limits; the Loyalists suddenly found t\\  
418 hemselves on the defensive with no protection from the British army. In all 13 co\\  
419 lonies, Patriots had overthrown their existing governments, closing courts and dr\\  
420 iving British officials away. They had elected conventions and "legislatures" tha\\  
421 t existed outside any legal framework; new constitutions were drawn up in each st\\  
422 ate to supersede royal charters. They declared that they were states now, not col\\  
423 onies.[31]

424 </p>

425

426 <p>

427 On January 5, 1776, New Hampshire ratified the first state constitution. \\  
428 In May 1776, Congress voted to suppress all forms of crown authority, to be repla\\  
429 ced by locally created authority. Virginia, South Carolina, and New Jersey create\\  
430 d their constitutions before July 4. Rhode Island and Connecticut simply took the\\

431 ir existing royal charters and deleted all references to the crown.[32] The new s\  
432 tates were all committed to republicanism, with no inherited offices. They decide\  
433 d not only what form of government to create, and also how to select those who wo\  
434 uld craft the constitutions and how the resulting document would be ratified. But\  
435 there would be no universal suffrage and real power, including the right to elec\  
436 t the future President would still lay in the hands of a few selected elites for \  
437 many years. On 26 May 1776 John Adams wrote James Sullivan from Philadelphia;

438 </p>

439

440 <p>

441 "Depend upon it, sir, it is dangerous to open so fruitful a source of con\  
442 troversy and altercation, as would be opened by attempting to alter the qualifica\  
443 tions of voters. There will be no end of it. New claims will arise. Women will de\  
444 mand a vote. Lads from twelve to twenty one will think their rights not enough at\  
445 tended to, and every man, who has not a farthing, will demand an equal voice with\  
446 any other in all acts of state. It tends to confound and destroy all distinction\  
447 s, and prostrate all ranks, to one common level".[33][34]

448 </p>

449

450 <p>

451 In states where the wealthy exerted firm control over the process, such a\  
452 s Maryland, Virginia, Delaware, New York and Massachusetts – the last-mentioned o\  
453 f these state's constitutions still being in force in the 21st century, continuou\  
454 sly since its ratification on June 15, 1780 – the results were constitutions that\  
455 featured:

456 </p>

457

458 <p>

459 Substantial property qualifications for voting and even more substantial \  
460 requirements for elected positions (though New York and Maryland lowered property\  
461 qualifications);[31]

462 Bicameral legislatures, with the upper house as a check on the lower;

463 Strong governors, with veto power over the legislature and substantial ap\  
464 pointment authority;

465 Few or no restraints on individuals holding multiple positions in governm\  
466 ent;

467 The continuation of state-established religion.

468 </p>

469

470 <p>

471 In states where the less affluent had organized sufficiently to have sign\  
472 ificant power—especially Pennsylvania, New Jersey, and New Hampshire—the resultin\  
473 g constitutions embodied

474 </p>

475

476 <p>

477       universal white manhood suffrage, or minimal property requirements for voting or holding office (New Jersey enfranchised some property owning widows, a step that it retracted 25 years later);  
478       strong, unicameral legislatures;  
479       relatively weak governors, without veto powers, and little appointing authority;  
480       prohibition against individuals holding multiple government posts;  
481     </p>  
482  
483     <p>  
484       The radical provisions of Pennsylvania's constitution lasted only 14 years. In 1790, conservatives gained power in the state legislature, called a new constitutional convention, and rewrote the constitution. The new constitution substantially reduced universal white-male suffrage, gave the governor veto power and patronage appointment authority, and added an upper house with substantial wealth qualifications to the unicameral legislature. Thomas Paine called it a constitution unworthy of America.[6]  
485     </p>  
486  
487     <h2 id="military-hostilities-begin">Military hostilities begin</h2>  
488  
489     <p>  
490       Massachusetts was declared in a state of rebellion in February 1775 and the British garrison received orders to disarm the rebels and arrest their leaders, leading to the Battles of Lexington and Concord on 19 April 1775. The Patriots set siege to Boston, expelled royal officials from all the colonies, and took control through the establishment of Provincial Congresses. The Battle of Bunker Hill followed on June 17, 1775. While a British victory, it was at a great cost; about 1,000 British casualties from a garrison of about 6,000, as compared to 500 American casualties from a much larger force.[35][36] First ostensibly loyal to the king and desiring to govern themselves while remaining in the empire, the repeated pleas by the First Continental Congress for royal intervention on their behalf with Parliament resulted in the declaration by the King that the states were "in rebellion", and the members of Congress were traitors.  
491     </p>  
492  
493     <p>  
494       In the winter of 1775, the Americans invaded Canada. General Richard Montgomery captured Montreal but a joint attack on Quebec was a total failure; many Americans were captured or died of smallpox.  
495     </p>  
496  
497     <p>  
498       In March 1776, with George Washington as the commander of the new army, the Continental Army forced the British to evacuate Boston. The revolutionaries were now in full control of all 13 colonies and were ready to declare independence.

523 While there still were many Loyalists, they were no longer in control anywhere b\\  
524 y July 1776, and all of the Royal officials had fled.[37]  
525 </p>  
526  
527 <p>  
528 In August 1775, George III declared Americans in arms against royal autho\\  
529 rity to be traitors to the Crown. Following their surrender at the Battles of Sar\\  
530 atoga in October 1777, there were thousands of British and Hessian soldiers in Am\\  
531 erican hands. Although Lord Germain took a hard line, the British generals on the\\  
532 scene never held treason trials; they treated captured enemy soldiers as prisone\\  
533 rs of war.[38] The dilemma was that tens of thousands of Loyalists were under Ame\\  
534 rican control and American retaliation would have been easy. The British built mu\\  
535 ch of their strategy around using these Loyalists.[39] Therefore, no Americans we\\  
536 re put on trial for treason. The British maltreated the prisoners they held, resu\\  
537 lting in more deaths to American sailors and soldiers than from combat operations\\  
538 .[39] At the end of the war, both sides released their surviving prisoners.[40]  
539 </p>  
540  
541 <h2 id="independence-and-union">Independence And Union</h2>  
542  
543 <p>  
544 In April 1776 the North Carolina Provincial Congress issued the Halifax R\\  
545 esolves, explicitly authorizing its delegates to vote for independence.[41] In Ma\\  
546 y Congress called on all the states to write constitutions, and eliminate the las\\  
547 t remnants of royal rule.  
548 </p>  
549  
550 <p>  
551 By June nine colonies were ready for independence; one by one the last fo\\  
552 ur-Pennsylvania, Delaware, Maryland and New York-fell into line. Richard Henry Le\\  
553 e was instructed by the Virginia legislature to propose independence, and he did \\  
554 so on June 7, 1776. On the 11th a committee was created to draft a document expla\\  
555 ining the justifications for separation from Britain. After securing enough votes\\  
556 for passage, independence was voted for on July 2. The Declaration of Independen\\  
557 ce, drafted largely by Thomas Jefferson and presented by the committee, was slight\\  
558 ly revised and unanimously adopted by the entire Congress on July 4, marking the\\  
559 formation of a new sovereign nation, which called itself the United States of Am\\  
560 erica.[42]  
561 </p>  
562  
563 <p>  
564 The Second Continental Congress approved a new constitution, the "Article\\  
565 s of Confederation," for ratification by the states on November 15, 1777, and imm\\  
566 ediately began operating under their terms. The Articles were formally ratified o\\  
567 n March 1, 1781. At that point, the Continental Congress was dissolved and on the\\  
568 following day a new government of the United States in Congress Assembled took i\\

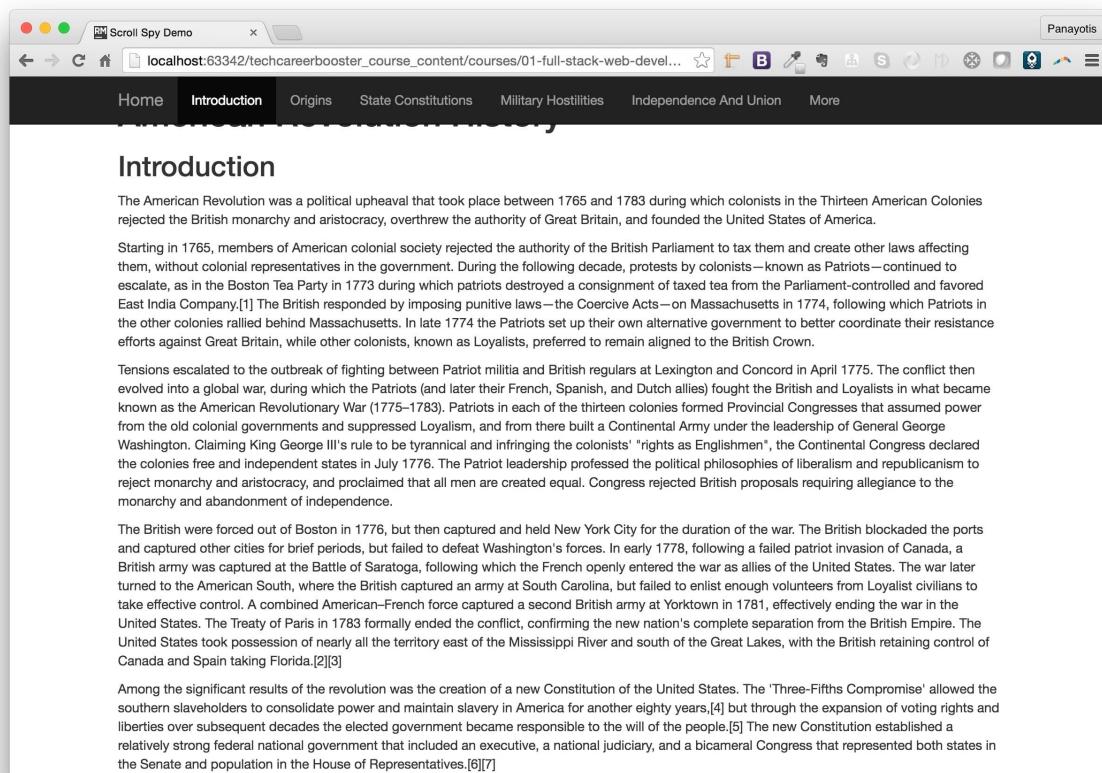
```

569 ts place, with Samuel Huntington as presiding officer.[43][44]
570     </p>
571
572     <h2 id="more">More...</h2>
573
574     <a href="https://en.wikipedia.org/wiki/American_Revolution">American Revolu\
575 tion on Wikipedia</a>
576     </div>
577     </body>
578 </html>

```

(the above code snippet online)

This page refers to a local assets/javascripts/main.js file for custom JavaScript. Consider this empty, for the time being. It also refers to a local assets/stylesheets/main.css file for custom CSS. Consider that empty too. If you save the content of the above page and load the page on your browser, you will see this:



### Long Page with Top Navigation

The navigation bar HTML markup is already known to us from Twitter Bootstrap Part A. We have also learnt how to deal with the problem that it hides the top content of the body. Here is what we have to have in our CSS file:

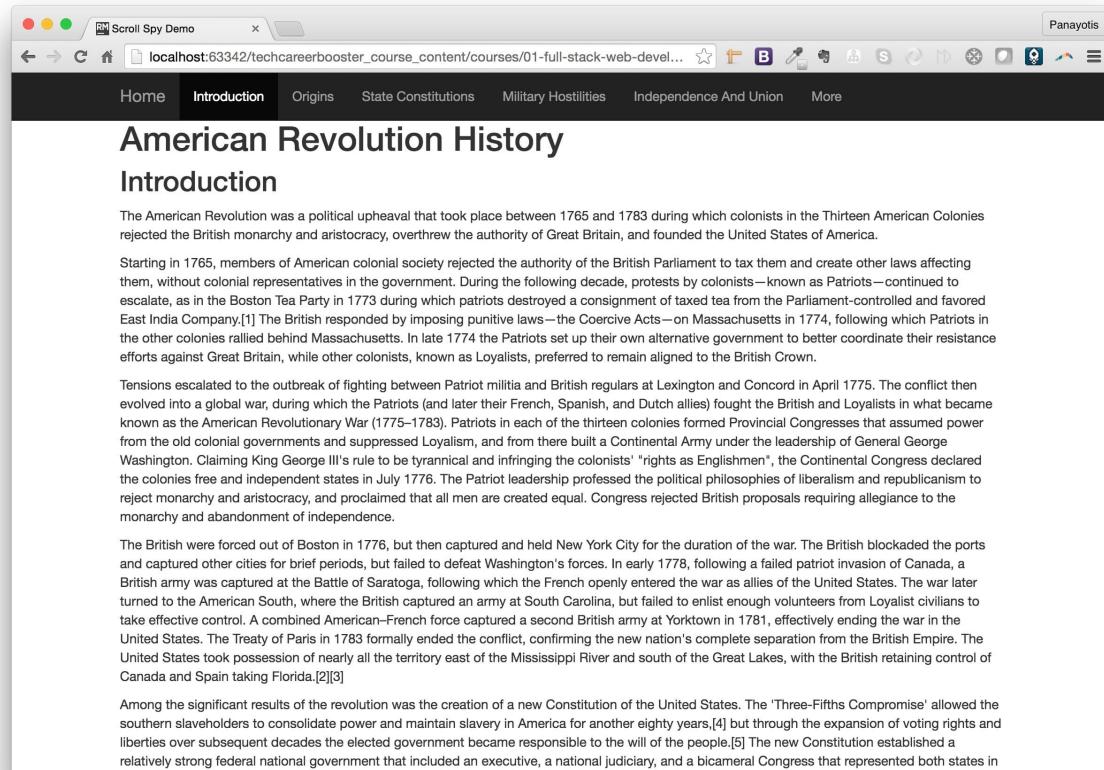
```

1 body {
2     padding-top: 50px;
3 }

```

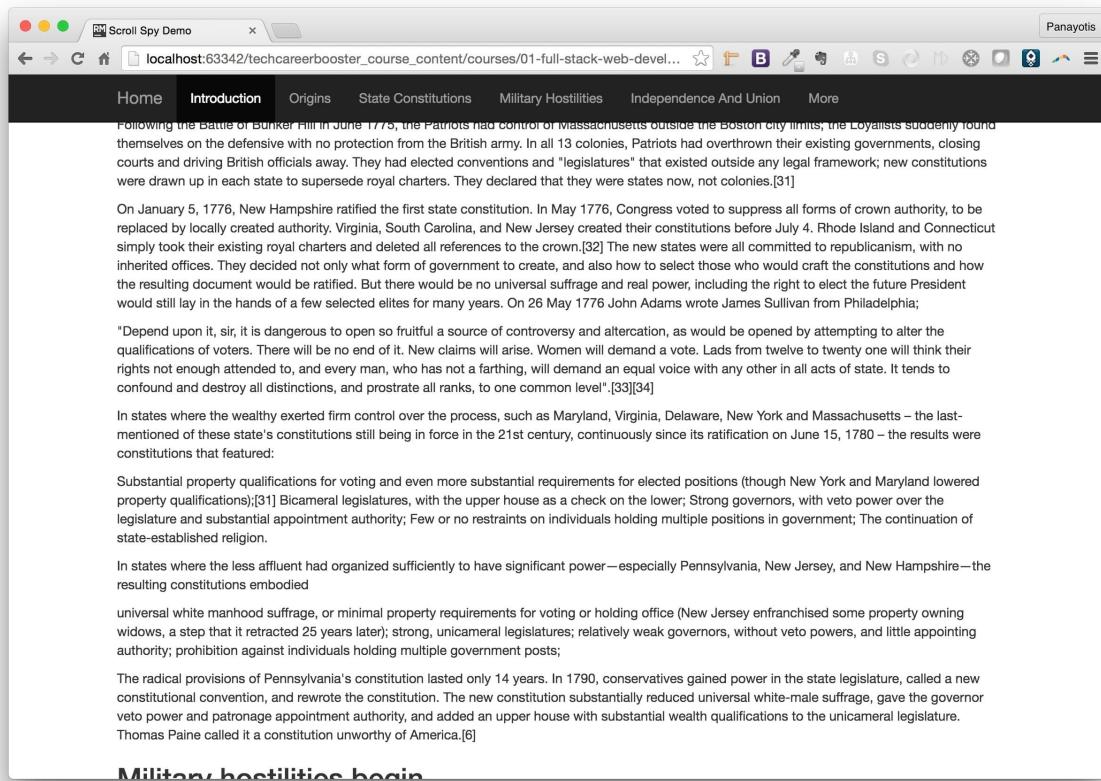
(the above code snippet online)

If you save the above and reload the page on your browser, then you will be able to see the top content of your page without that being hidden by the navigation bar.



### Visible Top Content

Another problem that this page has and that we have already dealt with in chapter 23 of HTML and CSS section (Positioning), is the problem with content covered by the navigation bar when we click on the menu items. For example, click on the menu item State Constitutions. You will see this:



## Content Covered By Navigation Bar

We will solve that by adding the following padding-top and margin-top CSS properties to the h1 and h2 elements which are the HTML elements of our page with the anchors the menu items link to.

```

1 body {
2     padding-top: 50px;
3 }
4
5 h1, h2 {
6     padding-top: 50px;
7     margin-top: -50px;
8 }
```

(the above code snippet online)

If you save the above and reload the page on your browser, clicking on State Constitutions will display this:

**Creating New State Constitutions**

Following the Battle of Bunker Hill in June 1775, the Patriots had control of Massachusetts outside the Boston city limits; the Loyalists suddenly found themselves on the defensive with no protection from the British army. In all 13 colonies, Patriots had overthrown their existing governments, closing courts and driving British officials away. They had elected conventions and "legislatures" that existed outside any legal framework; new constitutions were drawn up in each state to supersede royal charters. They declared that they were states now, not colonies.<sup>[31]</sup>

On January 5, 1776, New Hampshire ratified the first state constitution. In May 1776, Congress voted to suppress all forms of crown authority, to be replaced by locally created authority. Virginia, South Carolina, and New Jersey created their constitutions before July 4. Rhode Island and Connecticut simply took their existing royal charters and deleted all references to the crown.<sup>[32]</sup> The new states were all committed to republicanism, with no inherited offices. They decided not only what form of government to create, and also how to select those who would craft the constitutions and how the resulting document would be ratified. But there would be no universal suffrage and real power, including the right to elect the future President would still lay in the hands of a few selected elites for many years. On 26 May 1776 John Adams wrote James Sullivan from Philadelphia;

"Depend upon it, sir, it is dangerous to open so fruitful a source of controversy and altercation, as would be opened by attempting to alter the qualifications of voters. There will be no end of it. New claims will arise. Women will demand a vote. Lads from twelve to twenty one will think their rights not enough attended to, and every man, who has not a farthing, will demand an equal voice with any other in all acts of state. It tends to confound and destroy all distinctions, and prostrate all ranks, to one common level".<sup>[33][34]</sup>

In states where the wealthy exerted firm control over the process, such as Maryland, Virginia, Delaware, New York and Massachusetts – the last-mentioned of these state's constitutions still being in force in the 21st century, continuously since its ratification on June 15, 1780 – the results were constitutions that featured:

Substantial property qualifications for voting and even more substantial requirements for elected positions (though New York and Maryland lowered property qualifications);<sup>[31]</sup> Bicameral legislatures, with the upper house as a check on the lower; Strong governors, with veto power over the legislature and substantial appointment authority; Few or no restraints on individuals holding multiple positions in government; The continuation of state-established religion.

In states where the less affluent had organized sufficiently to have significant power – especially Pennsylvania, New Jersey, and New Hampshire – the resulting constitutions embodied

universal white manhood suffrage, or minimal property requirements for voting or holding office (New Jersey enfranchised some property owning widows, a step that it retracted 25 years later); strong, unicameral legislatures; relatively weak governors, without veto powers, and little appointing authority; prohibition against individuals holding multiple government posts;

The radical provisions of Pennsylvania's constitution lasted only 14 years. In 1790, conservatives gained power in the state legislature, called a new constitutional convention, and rewrote the constitution. The new constitution substantially reduced universal white-male suffrage, gave the governor veto power and patronage appointment authority, and added an upper house with substantial wealth qualifications to the unicameral legislature.

### Content Is Not Covered When Clicking On Menu Items

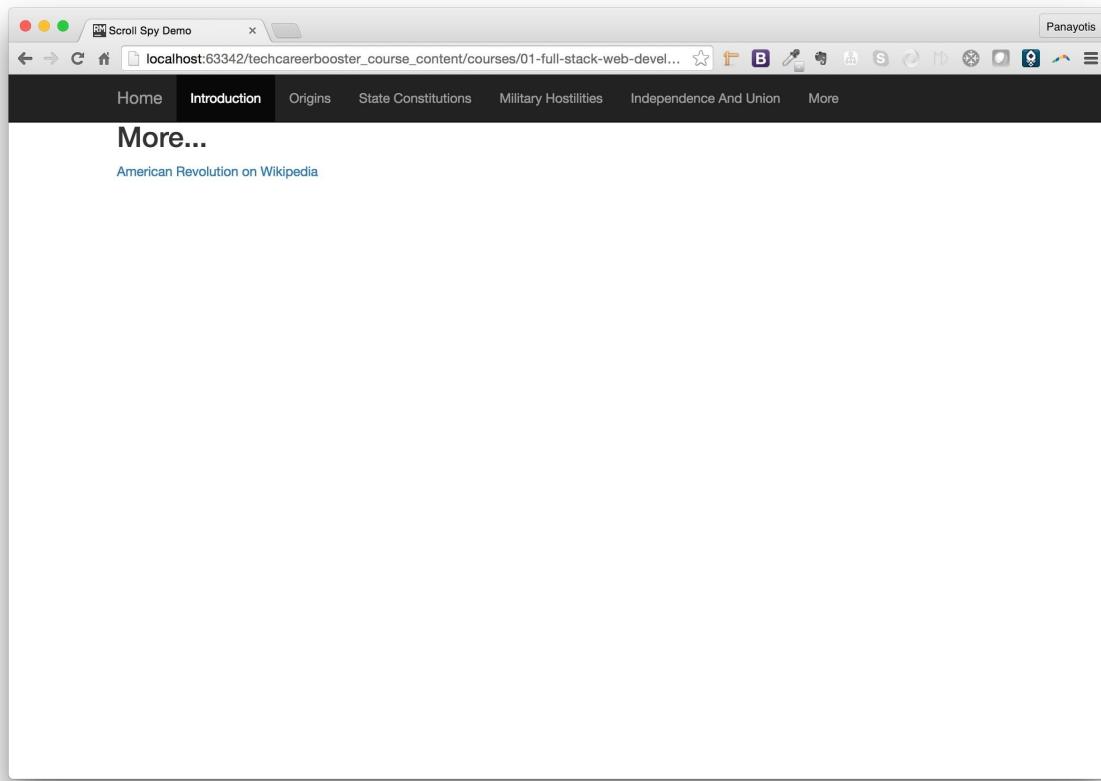
However, we want, when clicking on the More menu item, the page to bring its content at the top. This does not happen now. In order to achieve that, we will add some bottom margin to the body of our page:

```

1 body {
2     padding-top: 50px;
3     margin-bottom: 900px;
4 }
5
6 h1, h2 {
7     padding-top: 50px;
8     margin-top: -50px;
9 }
```

(the above code snippet online)

If you save the above, reload your page and click on More menu item, you will get this:



Clicking on More Brings Content On Top

## Showing the Active Section

The problem with the current page is that when we click on a menu item and the content is scrolled to that point, the corresponding menu item does not become active. Also, the corresponding menu item does not become active if we just scroll the content from top to bottom, from section to section.

Both of these problems can now be solved with the use of ScrollSpy, which is a Twitter Bootstrap JavaScript plugin.

1. We need to tell ScrollSpy which element contains the content and the navigation bar. Usually, this is the body. And we set the data attribute `data-spy="scroll"`.
2. We need to tell ScrollSpy which is the navigation bar element that contains the list with the menu items. In our case, this is the `div` with id `navbar`. Hence, we have to add the `data-target="#navbar"` attribute to `body` element.
3. We also need to set the `position` attribute of the `body` element to have the value `relative`.

So, first go to the HTML page and turn this:

```
1 <body>
```

(the above code snippet online)

to this:

```
1 <body data-spy="scroll" data-target="#navbar">
```

(the above code snippet online)

and add the `position: relative` to the `body` element inside the CSS file.

Save all that stuff and reload the page on your browser. You will see that the first menu item is highlighted and then, when you scroll, according to the visible section of the page, the corresponding menu item is highlighted:

[Scroll Spy in Action](#)

## Activating Section Point

Sometimes, you may want the active section to appear highlighted on the menu, when the section start is earlier than the top of the page. For example, you may want to activate a section when the section start is 200px from top of page. You can do that with the `data` attribute `data-offset` which takes as value the number of pixels you want section to be activated from.

Change this:

```
1 <body data-spy="scroll" data-target="#navbar">
```

(the above code snippet online)

to this:

```
1 <body data-spy="scroll" data-target="#navbar" data-offset="200">
```

(the above code snippet online)

save and reload the page on your browser. Then start scrolling. You will see the sections being activating before the section start reaches the top of the page.

[Activating Section before Start of Section Reaches Top of Page](#)

## How Does It Work?

Besides the correct data attributes that you need to set as described above (`data-spy`, `data-target` and optionally `data-offset`), you need to make sure that.

(1). Your menu items point to ids corresponding to the starts of the sections.

```

15  <!-- jQuery -->
16  <script src="https://code.jquery.com/jquery-2.2.4.min.js"
17   integrity="sha256-bbd1vOf/xTY9gja0DqgHiwQF8LaCRTxZKRutelT44="
18   crossorigin="anonymous"></script>
19
20  <!-- Bootstrap Javascript files AFTER jquery -->
21  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min.js"
22   integrity="sha384-OmSJDHE1muBBQf6A4Oprg5OVW37PRR3j5ELqxslyVq0tnepnHVP9aj7xS" crossorigin="anonymous"></script>
23
24  <!-- Custom JavaScript code -->
25  <script src="assets/javascripts/main.js"></script>
26 </head>
27
28 <body data-spy="scroll" data-target="#navbar" data-offset="100">
29
30  <nav class="navbar navbar-inverse navbar-fixed-top">
31   <div class="container">
32
33   <div class="navbar-header">
34    <button type="button" class="navbar-toggle collapsed" data-toggle="collapse" data-target="#navbar" aria-expanded="false" aria-controls="navbar">
35     <span class="sr-only">Toggle navigation</span>
36     <span class="icon-bar"></span>
37     <span class="icon-bar"></span>
38     <span class="icon-bar"></span>
39    </button>
40    <a class="navbar-brand" href="main.html">Home</a>
41   </div>
42
43   <div id="navbar" class="collapse navbar-collapse">
44    <ul class="nav navbar-nav">
45     <li class="active"><a href="#introduction">Introduction</a></li>
46     <li><a href="#origins">Origins</a></li>
47     <li><a href="#creating-new-state-constitutions">State Constitutions</a></li>
48     <li><a href="#military-hostilities-begin">Military Hostilities</a></li>
49     <li><a href="#independence-and-union">Independence And Union</a></li>
50     <li><a href="#more">More</a></li>
51    </ul>
52   </div><!--/.nav-collapse -->
53  </div>
54
55  <div class="container">
56   <h1 id="introduction">American Revolution History</h1>
57
58   <h2>Introduction</h2>
59
60   <p>
61    The American Revolution was a political upheaval that took place between 1765 and 1783 during which colonists in the Thirteen American
62    Colonies rejected the British monarchy and aristocracy, overthrew the authority of Great Britain, and founded the United States of America.

```

### Menu Items Pointing To Start Of Sections

(2). The starts of the sections need to have the corresponding/correct ids. For example:

```
1 <h2 id="military-hostilities-begin">Military hostilities begin</h2>
```

(the above code snippet online)

## Activating Using JavaScript

You may be in the need to activate Scroll Spy dynamically using JavaScript. So, instead of attaching specific data attributes on the body element, you do not add anything, but you call the following JavaScript code:

```
1 $( 'body' ).scrollspy({ target: '#navbar' });
```

(the above code snippet online)

Let's see that in action. Change the HTML body element to be:

```
1 <body>
```

(the above code snippet online)

Then update the assets/javascripts/main.js file to have the following content:

```
1 $(document).ready(function() {  
2     $('body').scrollspy({  
3         target: '#navbar'  
4     })  
5 });
```

(the above code snippet online)

When you save all files and reload the page on your browser, you will still see the scroll spy working as before.

Note that you can also give `offset` property in the object that you literally construct and you pass to `.scrollspy()` method.

## Tasks and Quizzes

**Before you continue, you may want to know that:** You can sign up to [Tech Career Booster](#) and have a mentor evaluate your tasks, your quizzes and, generally, your progress in becoming a Web Developer. Or you can sign up and get access to Tech Career Booster Slack channel. In that channel, there are a lot of people that can answer your questions and give you valuable feedback.

### Task Details

Create a long page to demonstrate the scrolling spy functionality. Your page needs to have a top navigation menu that would move page content to the start of the corresponding sections. Create two versions. One that is using JavaScript and another that is using data attributes.

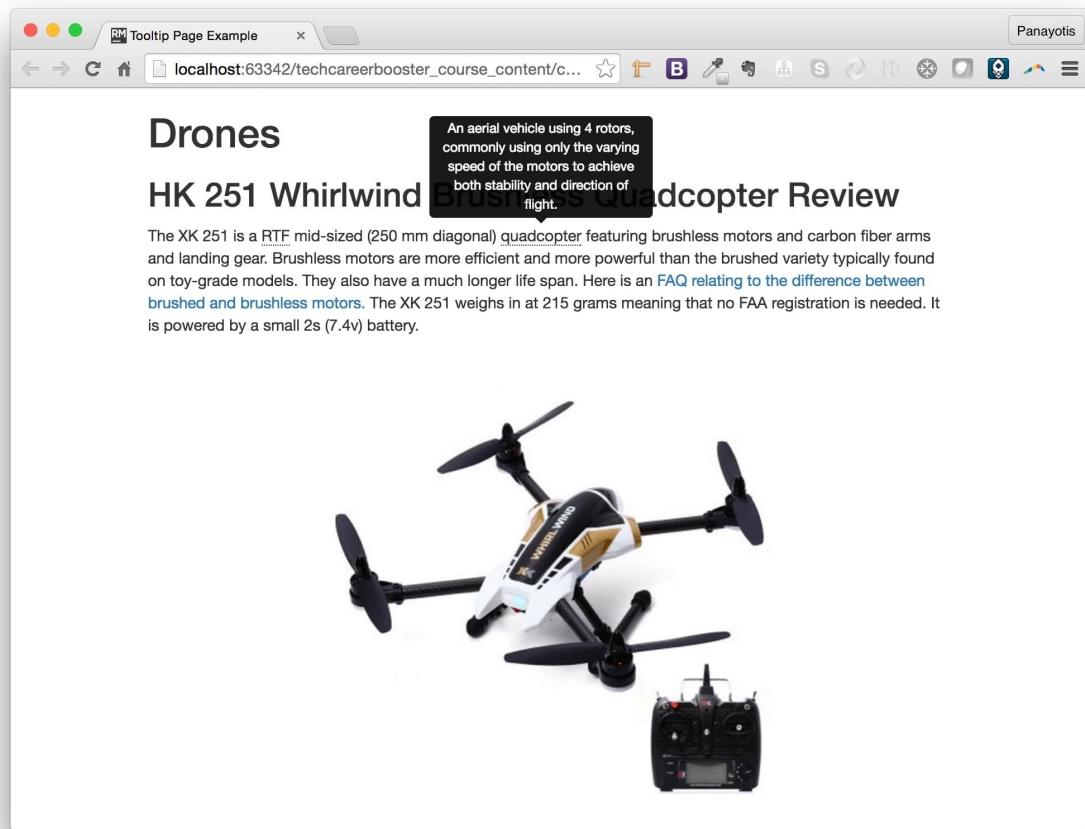
**Important:** Your code needs to be uploaded into a new project on your Github account. Invite your mentor to review your code online.

## 3 - Tooltips And Popovers

### Summary

Tooltips and popovers are great tools to embed extra, secondary useful information to the content of your page. This chapter teaches you both Twitter Bootstrap tooltips and popovers.

You will create a page like this:



Tooltip Activated

And you will learn how to embed HTML content like this:

## wind Brushless Quadcopter Review

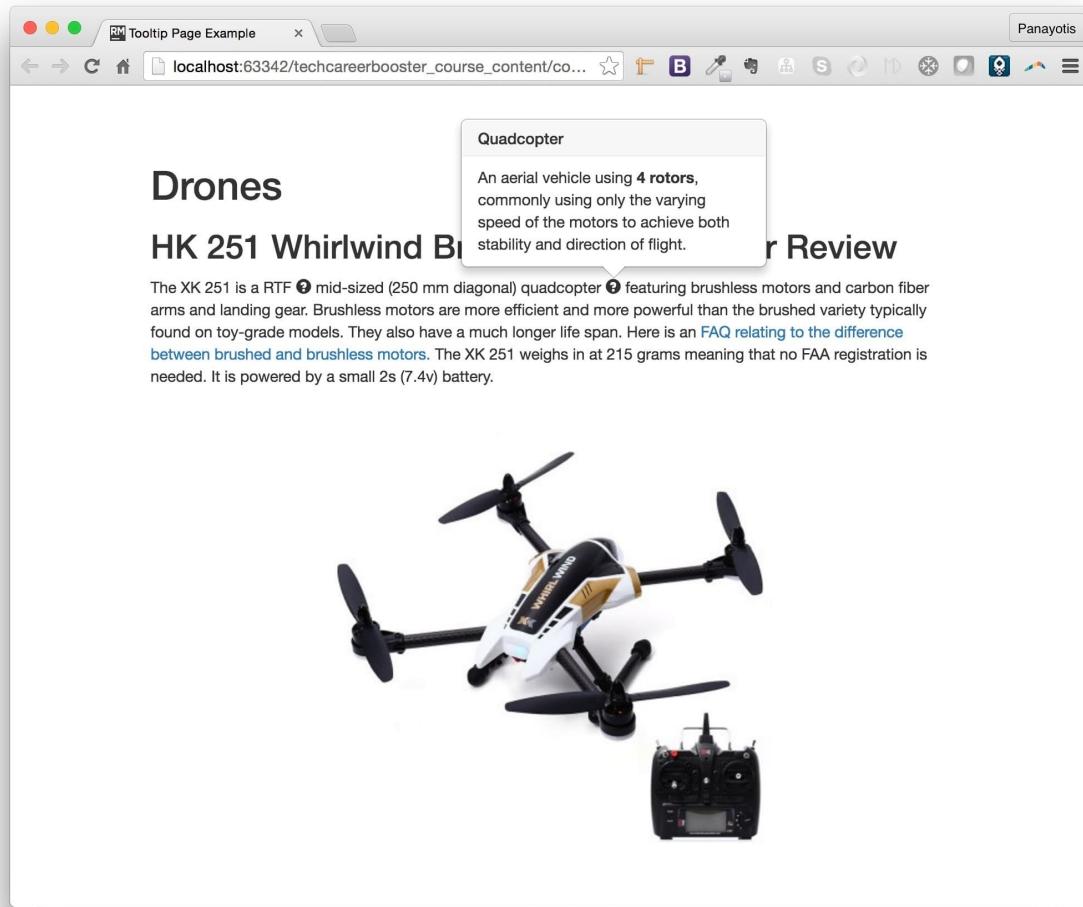
An aerial vehicle using **4 rotors**, commonly using only the varying speed of the motors to achieve both stability and direction of flight.



ed (250 mm diagonal) quadcopter featuring brushless motors and carbon rotors are more efficient and more powerful than the brushed variety typically have a much longer life span. Here is an [FAQ relating to the differences](#). The XK 251 weighs in at 215 grams meaning that no FAA registration is required.

Tooltip HTML Markup Treated As HTML

The popovers will enhance the styling of the secondary, helpful information even more.



### Popover Example

Watch this video for the page that you will finally have to created:

[Task - Sample Page with Tooltips and Popovers](#)

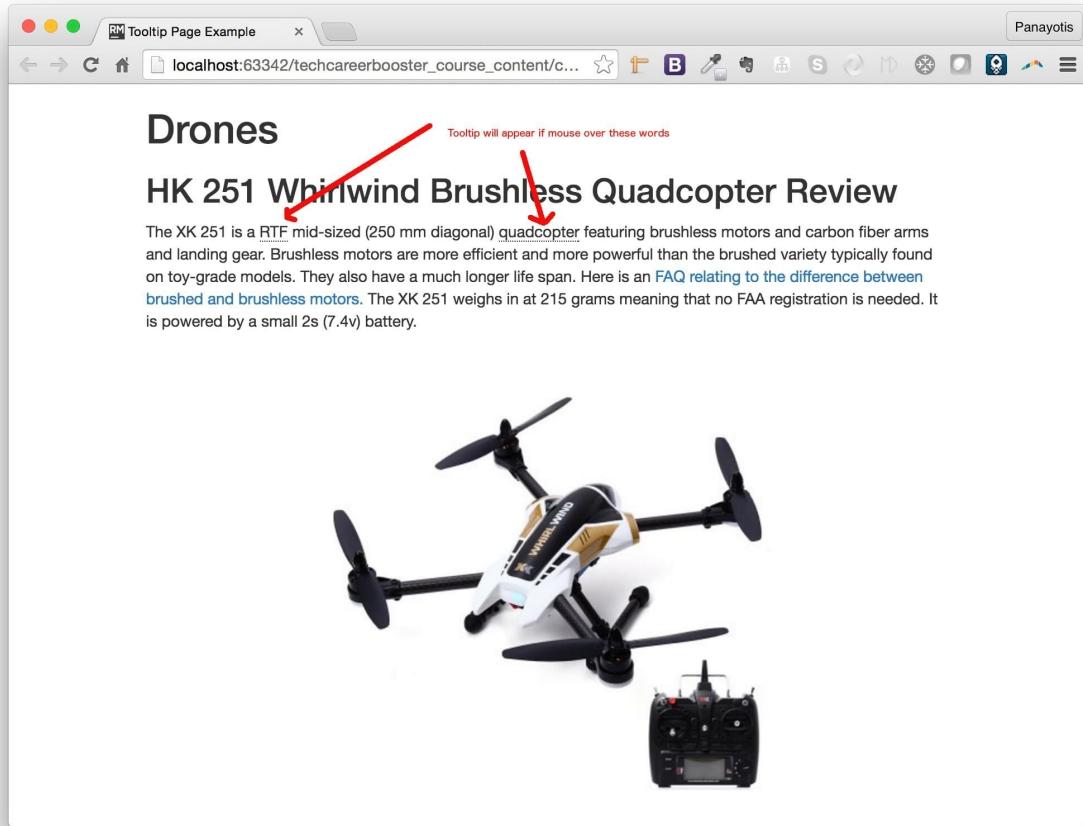
## Learning Goals

1. Learn about tooltips.
2. Learn about activating tooltips and their opt-in feature.
3. Learn how to wrap a word or phrase into proper HTML in order to attach a tooltip to it.
4. Learn how to wrap your word or phrase into proper HTML so that it stands out that a tooltip will appear when user mouses over it.
5. Learn about the tooltip options that can be used to customize its behaviour.
6. Learn about popovers.
7. Learn about the differences and similarity between tooltips and popovers.
8. Learn about the options of the popovers.

## Tooltips

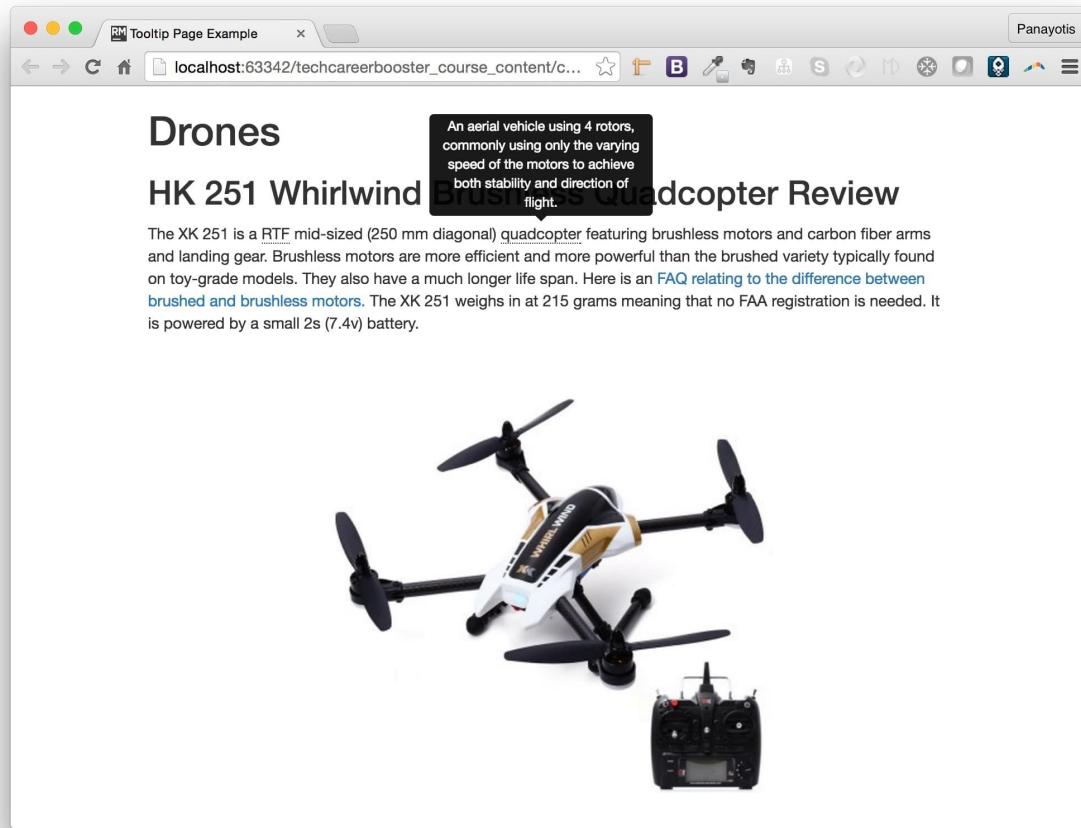
Tooltips is a very nice way to display helpful text when user hovers over a highlighted text. So, it is used to give some extra useful information, like a tip or a hint.

Here is an example of a page that uses tooltips.



Example Page with Tooltips on Specific Words

If you mouse over the words that are underlined with a dotted line, then you will see the tooltips. For example:



Tooltip Activated

## Implementation with Twitter Bootstrap

Let's see how we can implement the above example. Here is the HTML page:

```

1 <!DOCTYPE html>
2 <html>
3   <head>
4     <meta charset="utf-8">
5     <meta name="viewport" content="width=device-width, initial-scale=1.0">
6     <title>Tooltip Page Example</title>
7
8     <!-- Bootstrap CSS files -->
9     <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/\css/bootstrap.min.css"
10    integrity="sha384-1q8mTJOASx8j1Au+a5WDVnPi2lkFfwwEAa8hDDdjZlpLegxhjVME1\fgjWPGmkzs7" crossorigin="anonymous">
11
12     <!-- Custom CSS -->
13     <link rel="stylesheet" href="assets/stylesheets/main.css">

```

```

16
17    <!-- jQuery -->
18    <script src="https://code.jquery.com/jquery-2.2.4.min.js"
19        integrity="sha256-BbhdlvQf/xTY9gja0Dq3HiwQF8LaCRTXxZKRutelT44="
20        crossorigin="anonymous"></script>
21
22    <!-- Bootstrap JavaScript files AFTER jQuery -->
23    <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min\
24 .js"
25        integrity="sha384-0mSbJDEHialfmuBBQP6A4Qrprq50VfW37PRR3j5ELqxss1yVqot\
26 nepnHP9aJ7xS" crossorigin="anonymous"></script>
27
28    <!-- Custom JavaScript code -->
29    <script src="assets/javascripts/main.js"></script>
30
31    </head>
32    <body>
33
34        <div class="container">
35            <h1>Drones</h1>
36
37            <h2>HK 251 Whirlwind Brushless Quadcopter Review</h2>
38
39            <p>
40                The XK 251 is a RTF mid-sized (250 mm diagonal) quadcopter
41                featuring brushless motors and carbon fiber arms and landing gear.
42                Brushless motors are more efficient and more powerful than the brushed va\
43 riety typically found on toy-grade models.
44                They also have a much longer life span.
45
46                Here is an <a href="http://droneflyers.com/talk/threads/is-a-brushless-mo\
47 tor-better-than-a-brushed-motor.754/">
48                    FAQ relating to the difference between brushed and brushless motors.</a>
49
50                The XK 251 weighs in at 215 grams meaning that no FAA registration is nee\
51 ded. It is powered by a small 2s (7.4v) battery.
52            </p>
53
54            <div class="text-center">
55                
57            </div>
58        </div>
59
60    </body>
61 </html>

```

(the above code snippet online)

If you save the above and load the page on your browser, you will see the page displayed correctly, but the tooltips will not be functional. If you mouse over the words RTF and quadcopter, you will not see the tooltips bubble up.

In order to make a word have a tooltip, you need to do the following:

1. Wrap the word into a `span` element. Hence, word will not change its position with regards to the rest of the text.
2. Add the data attribute `data-toggle="tooltip"`. This will tell Bootstrap that the content of the `span` will be decorated with a tooltip on mouse over.
3. Add the data attribute `data-placement="top"`. This will tell Bootstrap that the tooltip needs to appear on top of the `span` content. Note that `data-placement` can take the values `left`, `top`, `right`, `bottom`. Choose any value that it best suits at your case.
4. Add the attribute `title` having as value the text that you would like it to appear on mouse over.
5. Activate the tooltips using JavaScript. This is necessary, because, Bootstrap, has tooltips not enabled (for performance reasons).

Let's take the above steps for the words RTF and quadcopter on our HTML page. Wrap RTF word as follows:

```
1 <span data-toggle="tooltip" data-placement="top" title="Ready to Fly">RTF</span>
```

(the above code snippet online)

and wrap quadcopter as follows:

```
1 <span data-toggle="tooltip" data-placement="top"
2           title="An aerial vehicle using 4 rotors, commonly using only the va\
3   rying speed of the motors to achieve both stability and direction of flight.">qua\
4   dcopter</span>
```

(the above code snippet online)

Next, update the `assets/javascripts/main.js` file as follows:

```
1 $(document).ready(function() {
2     $('[data-toggle=tooltip]').tooltip();
3 });
```

(the above code snippet online)

That above, is the opt-in part of the implementation, which enables tooltips for all the elements that have the data attribute `data-toggle="tooltip"`.

If you save all the above and reload the page on your browser, everything will be ready. When you mouse over the words RTF and quadcopter you will see the tooltips.

## Tooltips Are Displayed On MouseOver

As you can see, the tooltips are displayed on mouse over. Perfect.

There is a small improvement that we have to introduce. We need to find a way to tell the user that if he mouses over a particular word a tooltip will appear with further explanation information. If we don't do that, then the user does not know that there is a tooltip hidden behind the word.

In order to achieve that we usually want the word with the tooltip behind to be underlined with a dotted line. Twitter Bootstrap makes our styling work here easy. Instead of wrapping the text with the tooltip inside a span, we can wrap it inside an abbr element.

Go ahead and change the spans to abbr elements:

for RTF:

```
1 <abbr data-toggle="tooltip" data-placement="top" title="Ready to Fly">RTF</abbr>
```

(the above code snippet online)

and for quadcopter:

```
1 <abbr data-toggle="tooltip" data-placement="top"
2           title="An aerial vehicle using 4 rotors, commonly using only the va\
3  rying speed of the motors to achieve both stability and direction of flight.">qua\
4 dcopter</abbr>
```

(the above code snippet online)

When you save these changes and reload the page on your browser, you will see the words RTF and quadcopter underlined with a dotted line.

Perfect!

## Tooltip Options

Tooltip has a lot of different options that can be used for its customization. Let's see the most important ones:

- 1) **animation**: Has default value true. It applies a CSS fade transition when displaying the tooltip.
- 2) **delay**: This can be either a number or a JavaScript object. If it is a number, then it defines the delay, in milliseconds, to show or hide the tooltip. If it is an object, then it can have the **show** and **hide** properties with integer values representing the delay to show or hide respectively.

Let's try that. We will set the delay property and see how the tooltip behaves. On the previous page, go ahead and change the assets/javascripts/main.js file so that it is:

```

1 $(document).ready(function() {
2     $('[data-toggle=tooltip]').tooltip({
3         delay: {
4             show: 3000, // 3 seconds
5             hide: 1000 // 1 second
6         }
7     });
8 });

```

(the above code snippet online)

If you save the above and reload the page on your browser, you will see the tooltip appear 3 seconds after you mouse over the word with tooltip. You will also see that it disappears after 1 second from the moment you moved your mouse out of the word with tooltip. Like this:

### Tooltips - Delay Demo

3) `html`: This is a boolean option that takes values `true` or `false`. Its default value is `false`. With `false`, the value of the `title` attribute of the tooltip element is inserted using the `.text()` method. Which means that even if `title` contains HTML markup, this will not actually be used, it will be treated as plain text. On the other hand, if the `html` option is set to `true`, when you have a value on `title` that includes HTML markup, this will be inserted in the tooltip area using the `.html()` method, and, hence, the HTML markup will be respected. Let's see an example.

First, add some HTML markup to the title of the `quadcopter` word.

```

1 <abbr data-toggle="tooltip" data-placement="top"
2     title="An aerial vehicle using <b>4 rotors</b>, commonly using only the var\
3     ying speed of the motors to achieve both stability and direction of flight.">quad\
4     copter</abbr>

```

(the above code snippet online)

We have added `<b>4 rotors</b>` HTML markup inside the title.

Now, make sure that the `assets/javascripts/main.js` file is as follows:

```

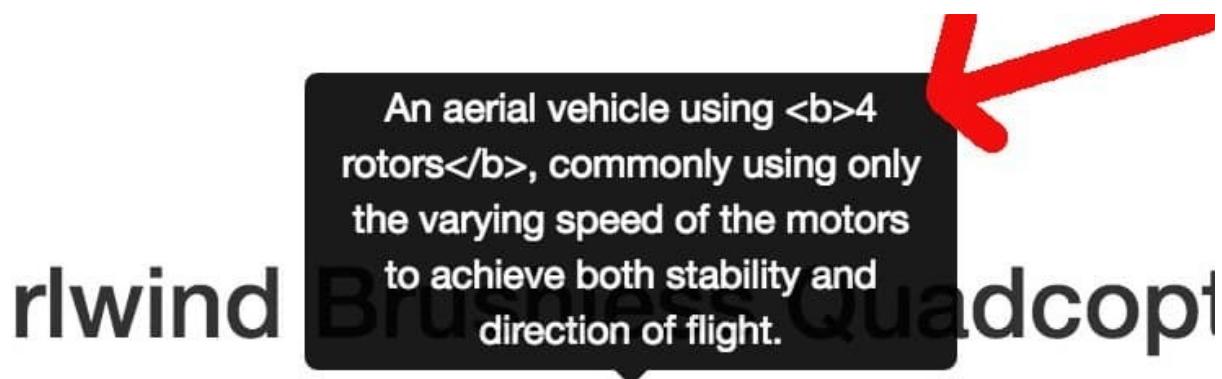
1 $(document).ready(function() {
2     $('[data-toggle=tooltip]').tooltip({
3         html: false // default value
4     });
5 });

```

(the above code snippet online)

(although it's not necessary when `html` has the value `false`).

Save and load the page on your browser. When you mouse over the `quadcopter` word, you will see the tooltip, but the `<b>4 rotors</b>` part will be printed verbatim, treat as plain text.



sized (250 mm diagonal) quadcopter featuring brushless motors are more efficient and more powerful than the brushy also have a much longer life span. Here is an [FAQ relating to motors](#). The XK 251 weighs in at 215 grams meaning that no large 7.4v) battery.

Tooltip HTML Markup Treated as Plain Text

If we want the HTML markup of the title attribute to be treated as HTML and rendered as such, we need to set the value of the option html to true:

```
1 $(document).ready(function() {  
2     $('[data-toggle=tooltip]').tooltip({  
3         html: true  
4     });  
5 });
```

(the above code snippet online)

Save the above inside assets/javascripts/main.js and reload the page on your browser. You will see this when you mouse over the word quadcopter.

# wind Brushless Quadcopter Review

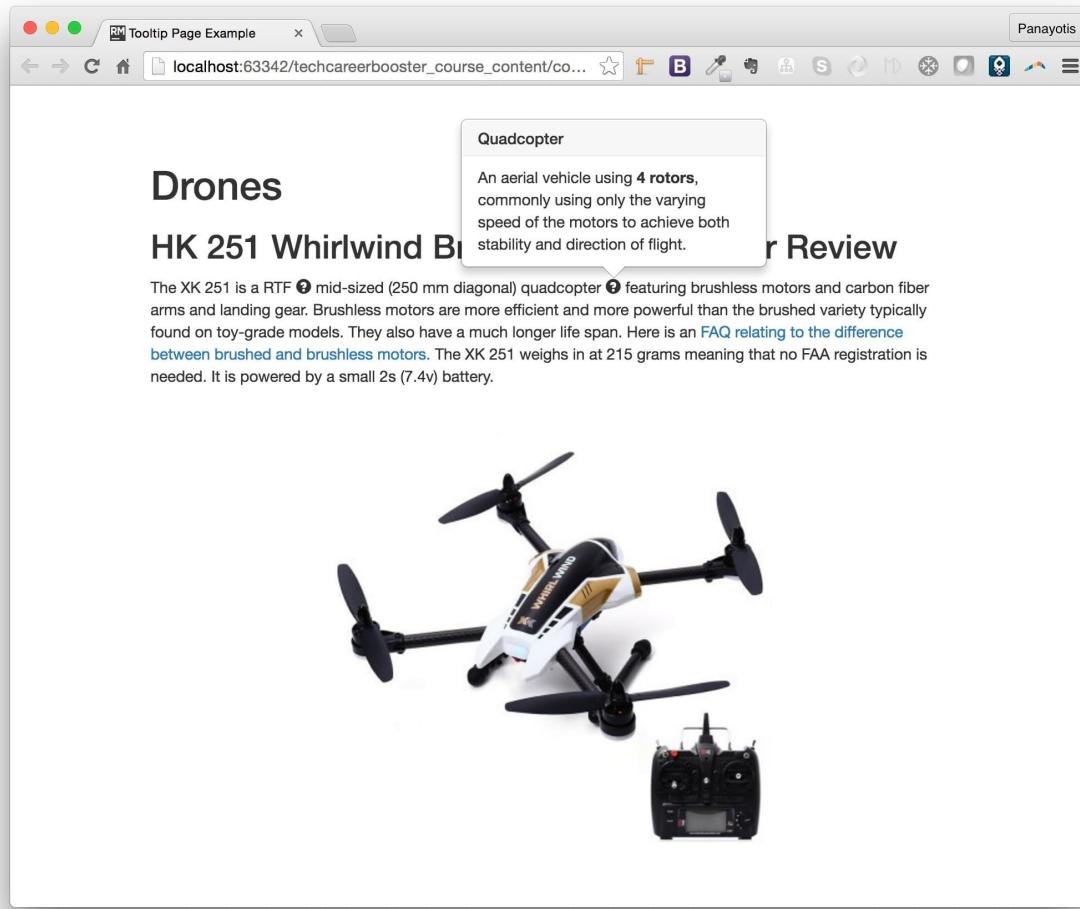
ed (250 mm diagonal) quadcopter featuring brushless motors and carbon rotors are more efficient and more powerful than the brushed variety typically have a much longer life span. Here is an [FAQ relating to the differences](#). The XK 251 weighs in at 215 grams meaning that no FAA registration is required.

Tooltip HTML Markup Treated As HTML

As you can see, the HTML content of the title attribute is being displayed as HTML fragment without problem.

## Popovers

Popovers are like tooltips but allow richer and more eye-catching layout and style. Also, the target element needs to be clicked in order for the popover to appear and disappear. Here is an example of a popover:



### Popover Example

Let's change the previous page that had tooltips on RTF and quadcopter words. We are going to put popovers.

The HTML page should be like that:

```

1 <!DOCTYPE html>
2 <html>
3   <head>
4     <meta charset="utf-8">
5     <meta name="viewport" content="width=device-width, initial-scale=1.0">
6     <title>Popover Page Example</title>
7
8     <!-- Bootstrap CSS files -->
9     <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/\css/bootstrap.min.css"
10    integrity="sha384-1q8mTJOASx8j1Au+a5WDVnPi2lkFfwwEAa8hDDdjZlpLegxhjVME1\fgjWPGmkzs7" crossorigin="anonymous">
11
12
13

```

```

14      <!-- Custom CSS -->
15      <link rel="stylesheet" href="assets/stylesheets/main-with-popovers.css">
16
17      <!-- jQuery -->
18      <script src="https://code.jquery.com/jquery-2.2.4.min.js"
19          integrity="sha256-BbhdlvQf/xTY9gja0Dq3HiwQF8LaCRTxZKRutelT44="
20          crossorigin="anonymous"></script>
21
22      <!-- Bootstrap JavaScript files AFTER jQuery -->
23      <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min\
24 .js"
25          integrity="sha384-0mSbJDEHialfmuBBQP6A4Qrprq50VfW37PRR3j5ELqxss1yVqot\ \
26 nepnHVP9aJ7xS" crossorigin="anonymous"></script>
27
28      <!-- Custom JavaScript code -->
29      <script src="assets/javascripts/main-with-popovers.js"></script>
30
31  </head>
32  <body>
33
34      <div class="container">
35          <h1>Drones</h1>
36
37          <h2>HK 251 Whirlwind Brushless Quadcopter Review</h2>
38
39          <p>
40              The XK 251 is a RTF <span
41                  class="glyphicon glyphicon-question-sign"
42                  data-toggle="popover"
43                  data-placement="top"
44                  title="Ready to Fly"
45                  data-content="Ready to Fly drones are drones with \
46 the key at hand. You can start flying them immediately."
47                  ></span>
48
49              mid-sized (250 mm diagonal)
50              quadcopter
51              <span
52                  class="glyphicon glyphicon-question-sign"
53                  data-toggle="popover" data-placement="top"
54                  title="Quadcopter"
55                  data-content="An aerial vehicle using <b>4 rotors</b>, commonly using \
56 only the varying speed of the motors to achieve both stability and direction of f\ \
57 light."
58                  ></span>
59              featuring brushless motors and carbon fiber arms and landing gear.

```

```

60  riety typically found on toy-grade models.
61      They also have a much longer life span.
62
63      Here is an <a href="http://droneflyers.com/talk/threads/is-a-brushless-mo\
64 tor-better-than-a-brushed-motor.754/">
65          FAQ relating to the difference between brushed and brushless motors.</a>
66
67      The XK 251 weighs in at 215 grams meaning that no FAA registration is nee\
68 ded. It is powered by a small 2s (7.4v) battery.
69      </p>
70
71      <div class="text-center">
72          
74      </div>
75  </div>
76
77  </body>
78 </html>
```

(the above code snippet online)

Watch out because this one has two new custom CSS and JavaScript files: assets/stylesheets/main-with-popovers.css and assets/javascripts/main-with-popovers.js.

CSS is as follows:

```

1 #drone-image {
2     width: 100%;
3     max-width: 400px;
4 }
5
6 body {
7     margin-top: 50px;
8 }
```

(the above code snippet online)

and JavaScript is as follows:

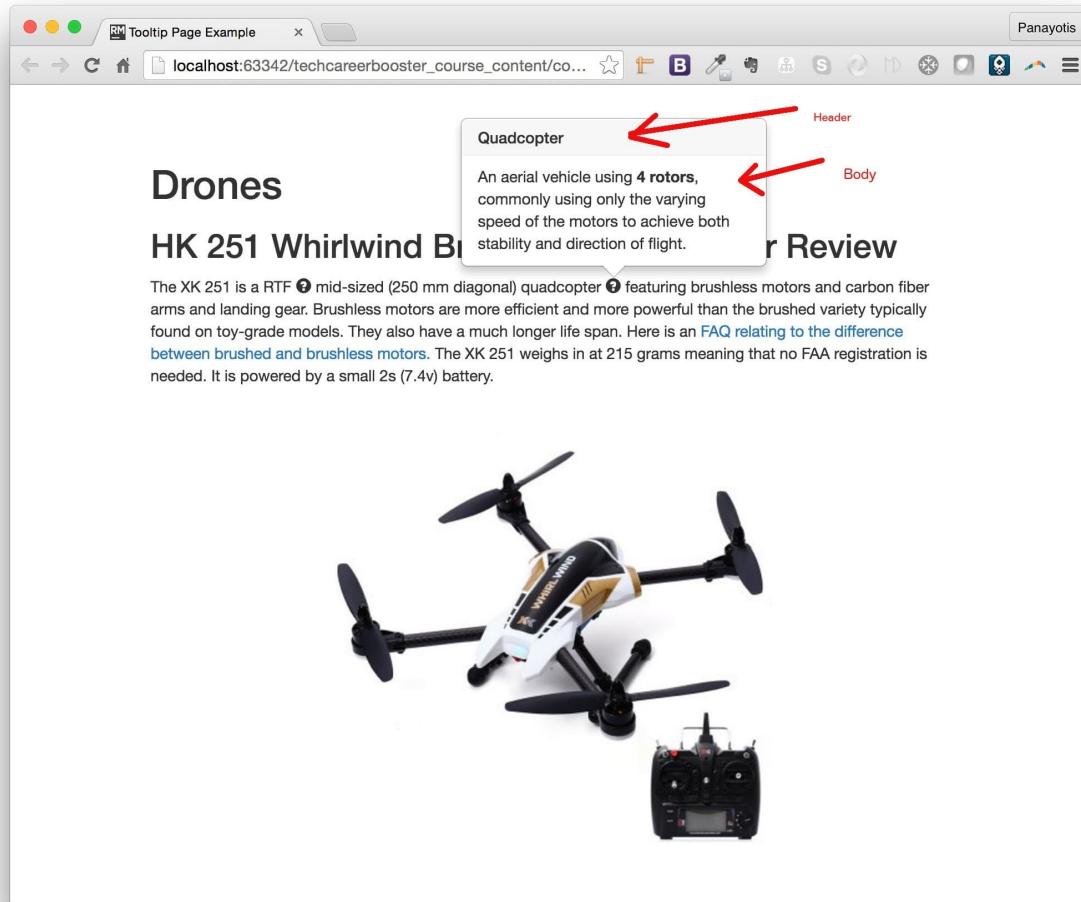
```

1 $(document).ready(function() {
2     $('[data-toggle=popover]').popover({
3         html: true
4     });
5 });
```

(the above code snippet online)

Here are the differences and similarities of the HTML page with popovers VS the HTML page with tooltips.

1. For popovers, we use the following data attributes:
  1. `data-toggle="popover"`. For tooltips we use `data-toggle="tooltip"`
  2. `data-placement` attribute is used for both to specify the placement of the element.
  3. `title` attribute is used to specify the content of the tooltip. For popover, is used to specify the heading of the popover.
  4. `data-content` is used only on popovers and specifies the content of the body of the popover.



#### Header and Body of Popover

If you save the above files and load the page on your browser, you will be able to click on the question mark icon in order to see the popover.

#### Popovers in Action

As you can experience, the way we have integrated popovers has the problem that the popover can close only if user clicks on the same hot spot it is used to show the popover.

How can we allow the user to click anywhere for the popover to close? In order to achieve that, you need to change a little bit the way popovers are integrated.

1. You need to use the data attribute `data-trigger="focus"`.
2. You need to add the attribute `tabindex="0"` for the first popover, `tabindex="1"` for the second and so on.

Let's do these updates on our popovers.

For the RTF word:

```

1 RTF <span
2   tabindex="0"
3   class="glyphicon glyphicon-question-sign"
4   data-toggle="popover"
5   data-placement="top"
6   title="Ready to Fly"
7   data-content="Ready to Fly drones are drones with the key at hand. You can\
8 start flying them immediately."
9   data-trigger="focus"
10  ></span>

```

(the above code snippet online)

For the quadcopter word:

```

1 quadcopter
2 <span
3   tabindex="1"
4   class="glyphicon glyphicon-question-sign"
5   data-toggle="popover" data-placement="top"
6   title="Quadcopter"
7   data-content="An aerial vehicle using <b>4 rotors</b>, commonly using only the\
8 varying speed of the motors to achieve both stability and direction of flight."
9   data-trigger="focus"
10  ></span>

```

(the above code snippet online)

If you do these changes and you reload the page, then you will be able to close the popover by clicking anywhere on the page:

[Popovers That Can Be Closed By Clicking Anywhere On The Page](#)

## Options

Like tooltips, popovers have various options. Some of the most useful ones are the following:

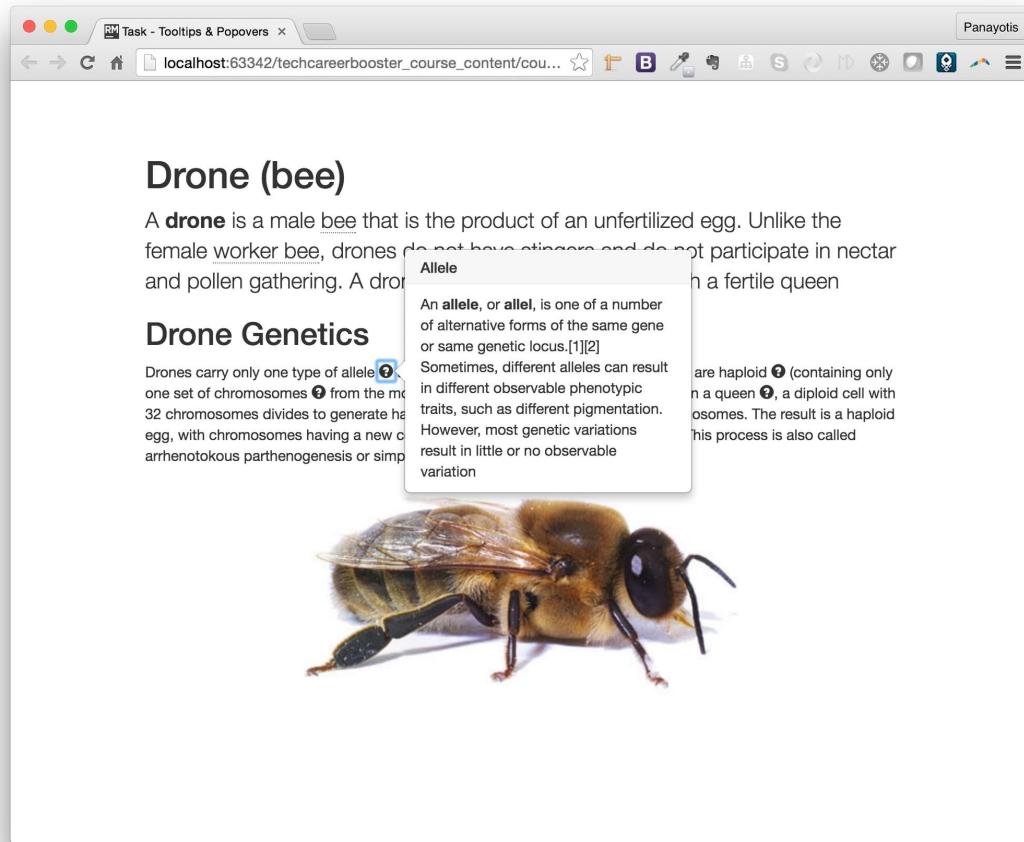
- 1) `animation`: Takes boolean values, `true` or `false`. The default value is `true`. It applies CSS fade transition to the popover.
- 2) `delay`: This is either a number or an object. Works exactly like the `delay` option for the tooltips.
- 3) `html`: Boolean with default value `false`. If `true` it allows the content to be parsed as HTML rather than plain text.

## Tasks and Quizzes

**Before you continue, you may want to know that:** You can sign up to [Tech Career Booster](#) and have a mentor evaluate your tasks, your quizzes and, generally, your progress in becoming a Web Developer. Or you can sign up and get access to Tech Career Booster Slack channel. In that channel, there are a lot of people that can answer your questions and give you valuable feedback.

### Task Details

1. You need to develop a web page that demonstrates both the tooltips and the popovers.
2. Try to create a page like this (for this page, the whole content has been taken from Wikipedia).



3. You can watch this page in action here too:  
[Task - Sample Page with Tooltips and Popovers](#)

**Important:** Your code needs to be uploaded into a new project on your Github account. Invite your mentor to review your code online.