What is Bootstrap?

- Bootstrap is a free front-end framework for faster and easier web development
- Bootstrap includes HTML and CSS based design templates for typography, forms, buttons, tables, navigation, modals, image carousels and many other, as well as optional JavaScript plugins
- Bootstrap also gives you the ability to easily create responsive designs

What is Responsive Web Design?

Responsive web design is about creating web sites which automatically adjust themselves to look good on all devices, from small phones to large desktops.

Bootstrap 3 vs. Bootstrap 4

Bootstrap 4 is the newest version of Bootstrap; with new components, faster stylesheet and more responsiveness.

Bootstrap 4 supports the latest, stable releases of all major browsers and platforms. However, Internet Explorer 9 and down is not supported.

If you require IE8-9 support, use [Bootstrap 3.](#) It is the most stable version of Bootstrap, and it is still supported by the team for critical bugfixes and documentation changes. However, no new features will be added to it.

Droppped icon support: Bootstrap 4 does not support BS3 Glyphicons. Use [Font-Awesome or other icon libraries instead](#).

Why Use Bootstrap?

Advantages of Bootstrap:

- **Easy to use:** Anybody with just basic knowledge of HTML and CSS can start using Bootstrap
- **Responsive features:** Bootstrap's responsive CSS adjusts to phones, tablets, and desktops
- **Mobile-first approach:** In Bootstrap, mobile-first styles are part of the core framework
- **Browser compatibility:** Bootstrap 4 is compatible with all modern browsers (Chrome, Firefox, Internet Explorer 10+, Edge, Safari, and Opera)

Where to Get Bootstrap 4?

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

You can:

- Include Bootstrap 4 from a CDN
- Download Bootstrap 4 from getbootstrap.com

Bootstrap 4 CDN

If you don't want to download and host Bootstrap 4 yourself, you can include it from a CDN (Content Delivery Network).

MaxCDN provides CDN support for Bootstrap's CSS and JavaScript. You must also include jQuery:

MaxCDN:

```
<!-- Latest compiled and minified CSS -->
<link rel="stylesheet"href="https://maxcdn.bootstrapcdn.com/bootstrap/4.1.3/css/bootstrap.min.css">

<!-- jQuery library -->
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.js"></script>

<!-- Popper JS -->
<script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.14.3/umd/popper.min.js"></script>

<!-- Latest compiled JavaScript -->
<script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.1.3/js/bootstrap.min.js"></script>
```

One advantage of using the Bootstrap 4 CDN:

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

jQuery and Popper?

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

Show components that require jQuery »

Downloading Bootstrap 4

If you want to download and host Bootstrap 4 yourself, go to https://getbootstrap.com/, and follow the instructions there.

Create First Web Page With Bootstrap 4

1. Add the HTML5 doctype

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

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

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

2. Bootstrap 4 is mobile-first

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

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

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

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

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

3. Containers

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

There are two container classes to choose from:

1. The `.container` class provides a responsive **fixed width container**
2. The `.container-fluid` class provides a **full width container**, spanning the entire width of the viewport

.container

Two Basic Bootstrap 4 Pages

The following example shows the code for a basic Bootstrap 4 page (with a responsive fixed width container):

Container Example

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap 4 Example</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet"href="https://maxcdn.bootstrapcdn.com/bootstrap/4.1.3/css/bootstrap.min.css">
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.js"></script>
  <scriptsrc="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.14.3/umd/popper.min.js"></script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.1.3/js/bootstrap.min.js"></script>
</head>
<body>

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

</body>
</html>
```

The following example shows the code for a basic Bootstrap 4 page (with a full width container):

Container Fluid Example

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap 4 Example</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet"href="https://maxcdn.bootstrapcdn.com/bootst
```

```
rap/4.1.3/css/bootstrap.min.css">
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jq
uery.min.js"></script>
  <scriptsrc="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.14.
3/umd/popper.min.js"></script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.1.3/js/bo
otstrap.min.js"></script>
</head>
<body>

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

</body>
</html>
```
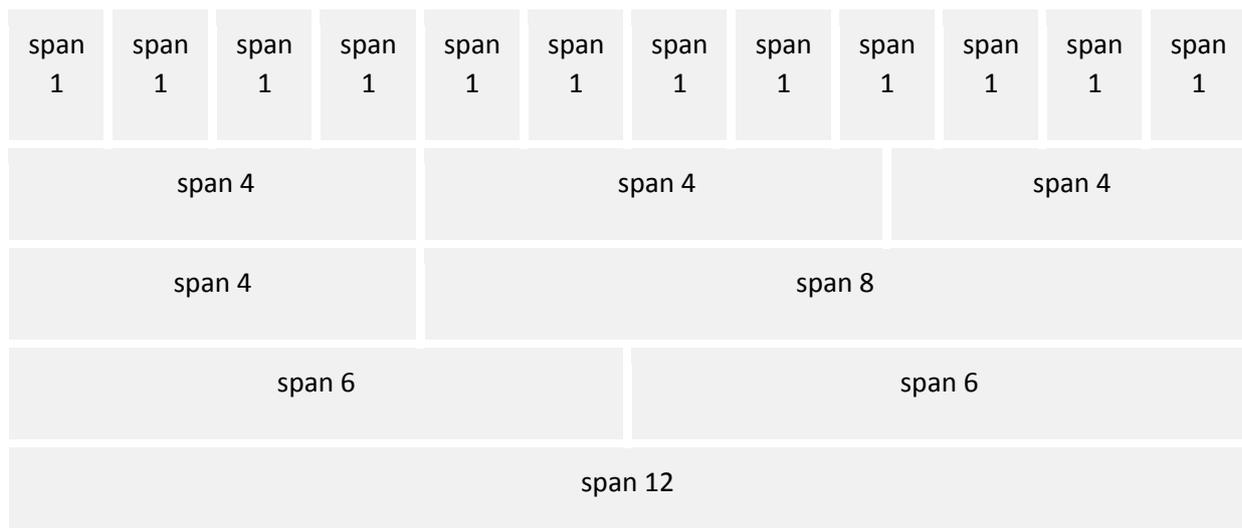
Bootstrap 4 Grids

Bootstrap 4 Grid System

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

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

span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1
span 4				span 4				span 4			
span 4				span 8							
span 6						span 6					
span 12											

The grid system is responsive, and the columns will re-arrange automatically depending on the screen size.

Make sure that the sum adds up to 12 or fewer (it is not required that you use all 12 available columns).

Grid Classes

The Bootstrap 4 grid system has five classes:

- `.col-` (extra small devices - screen width less than 576px)
- `.col-sm-` (small devices - screen width equal to or greater than 576px)
- `.col-md-` (medium devices - screen width equal to or greater than 768px)
- `.col-lg-` (large devices - screen width equal to or greater than 992px)
- `.col-xl-` (xlarge devices - screen width equal to or greater than 1200px)

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

Tip: Each class scales up, so if you wish to set the same widths for `sm` and `md`, you only need to specify `sm`.

Basic Structure of a Bootstrap 4 Grid

The following is a basic structure of a Bootstrap 4 grid:

```
<!-- Control the column width, and how they should appear on different devices -->
<div class="row">
  <div class="col-*-*"></div>
  <div class="col-*-*"></div>
</div>
<div class="row">
  <div class="col-*-*"></div>
  <div class="col-*-*"></div>
  <div class="col-*-*"></div>
</div>

<!-- Or let Bootstrap automatically handle the layout -->
<div class="row">
  <div class="col"></div>
  <div class="col"></div>
  <div class="col"></div>
</div>
```

First example: create a row (`<div class="row">`). Then, add the desired number of columns (tags with appropriate `.col-*-*` classes). The first star (*) represents the responsiveness: sm, md, lg or xl, while the second star represents a number, which should add up to 12 for each row.

Second example: instead of adding a number to each `col`, let bootstrap handle the layout, to create equal width columns: two `"col"` elements = 50% width

to each col. three cols = 33.33% width to each col. four cols = 25% width, etc. You can also use `.col-sm|md|lg|xl` to make the columns responsive.

Below we have collected some examples of basic Bootstrap 4 grid layouts.

Three Equal Columns

.col

.col

.col

The following example shows how to create three equal-width columns, on all devices and screen widths:

Example

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

Responsive Columns

.col-sm-3

.col-sm-3

.col-sm-3

.col-sm-3

The following example shows how to create four equal-width columns starting at tablets and scaling to extra large desktops. **On mobile phones or screens that are less than 576px wide, the columns will automatically stack on top of each other**:

Example

```
<div class="row">
  <div class="col-sm-3">.col-sm-3</div>
  <div class="col-sm-3">.col-sm-3</div>
  <div class="col-sm-3">.col-sm-3</div>
  <div class="col-sm-3">.col-sm-3</div>
</div>
```

Two Unequal Responsive Columns

.col-sm-4

.col-sm-8

The following example shows how to get two various-width columns starting at tablets and scaling to large extra desktops:

Example

```html
<div class="row">
  <div class="col-sm-4">.col-sm-4</div>
  <div class="col-sm-8">.col-sm-8</div>
</div>
```

Tip: You will learn more about Bootstrap 4 grids later in this tutorial.

Bootstrap 4 Text/Typography

Bootstrap 4 Default Settings

Bootstrap 4 uses a default `font-size` of 16px, and its `line-height` is 1.5.

The default `font-family` is "Helvetica Neue", Helvetica, Arial, sans-serif.

In addition, all `<p>` elements have `margin-top: 0` and `margin-bottom: 1rem` (16px by default).

<h1> - <h6>

Bootstrap 4 styles HTML headings (`<h1>` to `<h6>`) with a bolder font-weight and an increased font-size:

Example

h1 Bootstrap heading (2.5rem = 40px)

h2 Bootstrap heading (2rem = 32px)

h3 Bootstrap heading (1.75rem = 28px)

h4 Bootstrap heading (1.5rem = 24px)

h5 Bootstrap heading (1.25rem = 20px)

h6 Bootstrap heading (1rem = 16px)

Display Headings

Display headings are used to stand out more than normal headings (larger font-size and lighter font-weight), and there are four classes to choose from: `.display-1`, `.display-2`, `.display-3`, `.display-4`

Example

Display 1

Display 2

Display 3

Display 4

<small>

In Bootstrap 4 the HTML `<small>` element is used to create a lighter, secondary text in any heading:

Example

h1 heading secondary text

h2 heading secondary text

h3 heading secondary text

h4 heading secondary text

h5 heading secondary text

h6 heading secondary text

<mark>

Bootstrap 4 will style the HTML `<mark>` element with a yellow background color and some padding:

Example

Use the mark element to highlight text.

<abbr>

Bootstrap 4 will style the HTML `<abbr>` element with a dotted border bottom:

Example

The WHO was founded in 1948.

<blockquote>

Add the `.blockquote` class to a `<blockquote>` when quoting blocks of content from another source:

Example

For 50 years, WWF has been protecting the future of nature. The world's leading conservation organization, WWF works in 100 countries and is supported by 1.2 million members in the United States and close to 5 million globally.

From WWF's website

<dl>

Bootstrap 4 will style the HTML `<dl>` element in the following way:

Example

Coffee

    - black hot drink

Milk

    - white cold drink

<code>

Bootstrap 4 will style the HTML `<code>` element in the following way:

The following HTML elements: `span`, `section`, and `div` defines a section in a document.

<kbd>

Bootstrap 4 will style the HTML `<kbd>` element in the following way:

Use `ctrl + p` to open the Print dialog box.

<pre>

Bootstrap 4 will style the HTML `<pre>` element in the following way:

```
Text in a pre element
is displayed in a fixed-width
font, and it preserves
both        spaces and
line breaks.
```

More Typography Classes

The Bootstrap 4 classes below can be added to style HTML elements further:

Class	Description
`.font-weight-bold`	Bold text
`.font-italic`	Italic text
`.font-weight-light`	Light weight text
`.font-weight-normal`	Normal text
`.lead`	Makes a paragraph stand out

`.small`	Indicates smaller text (set to 85% of the size of the parent)
`.text-left`	Indicates left-aligned text
`.text-*-left`	Indicates left-aligned text on small, medium, large or xlarge screens
`.text-center`	Indicates center-aligned text
`.text-*-center`	Indicates center-aligned text on small, medium, large or xlarge screens
`.text-right`	Indicates right-aligned text
`.text-*-right`	Indicates right-aligned text on small, medium, large or xlarge screens
`.text-justify`	Indicates justified text
`.text-monospace`	Monospaced text
`.text-nowrap`	Indicates no wrap text
`.text-lowercase`	Indicates lowercased text
`.text-uppercase`	Indicates uppercased text
`.text-capitalize`	Indicates capitalized text
`.initialism`	Displays the text inside an `<abbr>` element in a slightly smaller font size
`.list-unstyled`	Removes the default list-style and left margin on list items (works on both `<ul>` and `<ol>`). This class only applies to immediate children list items (to remove the default list-style from any nested lists, apply this class to any nested lists as well)
`.list-inline`	Places all list items on a single line (used together with `.list-inline-item` on each elements)
`.pre-scrollable`	Makes a `<pre>` element scrollable

Bootstrap 4 Colors

Text Colors

Bootstrap 4 has some contextual classes that can be used to provide "meaning through colors".

The classes for text colors are: `.text-muted`, `.text-primary`, `.text-success`, `.text-info`, `.text-warning`, `.text-danger`, `.text-secondary`, `.text-white`, `.text-dark`, `.text-body` (default body color/often black) and `.text-light`:

Example

This text is muted.

This text is important.

This text indicates success.

This text represents some information.

This text represents a warning.

This text represents danger.

Secondary text.

Dark grey text.

Body text.

Light grey text.

Contextual text classes can also be used on links, which will add a darker hover color:

You can also add 50% opacity for black or white text with the `.text-black-50` or `.text-white-50` classes:

Example

Black text with 50% opacity on white background
White text with 50% opacity on black background

Background Colors

The classes for background colors are: `.bg-primary`, `.bg-success`, `.bg-info`, `.bg-warning`, `.bg-danger`, `.bg-secondary`, `.bg-dark` and `.bg-light`.

Note that background colors do not set the text color, so in some cases you'll want to use them together with a `.text-*` class.

Example

This text is important.

This text indicates success.

This text represents some information.

This text represents a warning.

This text represents danger.

Secondary background color.

Dark grey background color.

Light grey background color.

Bootstrap 4 Tables

Bootstrap 4 Basic Table

A basic Bootstrap 4 table has a light padding and horizontal dividers.

The `.table` class adds basic styling to a table:

Example

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

Striped Rows

The `.table-striped` class adds zebra-stripes to a table:

Example

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

Bordered Table

The `.table-bordered` class adds borders on all sides of the table and cells:

Example

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

Hover Rows

The `.table-hover` class adds a hover effect (grey background color) on table rows:

Example

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

Black/Dark Table

The `.table-dark` class adds a black background to the table:

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

Dark Striped Table

Combine `.table-dark` and `.table-striped` to create a dark, striped table:

Example

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

Hoverable Dark Table

The `.table-hover` class adds a hover effect (grey background color) on table rows:

Example

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

Borderless Table

The `.table-borderless` class removes borders from the table:

Example

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

Contextual Classes

Contextual classes can be used to color the whole table (`<table>`), the table rows (`<tr>`) or table cells (`<td>`).

Example

Firstname	Lastname	Email
Default	Defaultson	def@somemail.com
Primary	Joe	joe@example.com
Success	Doe	john@example.com
Danger	Moe	mary@example.com
Info	Dooley	july@example.com
Warning	Refs	bo@example.com
Active	Activeson	act@example.com
Secondary	Secondson	sec@example.com
Light	Angie	angie@example.com
Dark	Bo	bo@example.com

The contextual classes that can be used are:

Class	Description
`.table-primary`	Blue: Indicates an important action
`.table-success`	Green: Indicates a successful or positive action
`.table-danger`	Red: Indicates a dangerous or potentially negative action
`.table-info`	Light blue: Indicates a neutral informative change or action
`.table-warning`	Orange: Indicates a warning that might need attention

Class	Description
`.table-active`	Grey: Applies the hover color to the table row or table cell
`.table-secondary`	Grey: Indicates a slightly less important action
`.table-light`	Light grey table or table row background
`.table-dark`	Dark grey table or table row background

Table Head Colors

The `.thead-dark` class adds a black background to table headers, and the `.thead-light` class adds a grey background to table headers:

Example

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

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

Small table

The `.table-sm` class makes the table smaller by cutting cell padding in half:

Example

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

Responsive Tables

The `.table-responsive` class creates a responsive table: an horizontal scrollbar is added to the table on screens that are less than 992px wide (if needed). When viewing on anything larger than 992px wide, there is no difference:

Example

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

You can also decide when the table should get a scrollbar, depending on screen width:

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

Example

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

Bootstrap 4 Images

Bootstrap 4 Image Shapes

Rounded Corners:

Circle:

Thumbnail:

Rounded Corners

The `.rounded` class adds rounded corners to an image:

Example

```
<img src="cinqueterre.jpg" class="rounded" alt="Cinque Terre">
```

Circle

The `.rounded-circle` class shapes the image to a circle:

Example

```
<img src="cinqueterre.jpg" class="rounded-circle" alt="Cinque Terre">
```

Thumbnail

The `.img-thumbnail` class shapes the image to a thumbnail (bordered):

Example

```
<img src="cinqueterre.jpg" class="img-thumbnail" alt="Cinque Terre">
```

Aligning Images

Float an image to the right with the `.float-right` class or to the left with `.float-left`:

```
<img src="paris.jpg" class="float-left">
<img src="paris.jpg" class="float-right">
```

Centered Image

Center an image by adding the utility classes `.mx-auto` (margin:auto) and `.d-block` (display:block) to the image:

Example

```
<img src="paris.jpg" class="mx-auto d-block">
```

Responsive Images

Images come in all sizes. So do screens. Responsive images automatically adjust to fit the size of the screen.

Create responsive images by adding an `.img-fluid` class to the `<img>` tag. The image will then scale nicely to the parent element.

The `.img-fluid` class applies `max-width: 100%;` and `height: auto;` to the image:

Example

```
<img class="img-fluid" src="img_chania.jpg" alt="Chania">
```

Bootstrap 4 Jumbotron

Bootstrap 4 Jumbotron

A jumbotron indicates a big grey box for calling extra attention to some special content or information.

Tip: Inside a jumbotron you can put nearly any valid HTML, including other Bootstrap elements/classes.

Bootstrap Tutorial

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

Use a `<div>` element with class `.jumbotron` to create a jumbotron:

Example

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

Full-width Jumbotron

If you want a full-width jumbotron without rounded borders, add the `.jumbotron-fluid` class and a `.container` or `.container-fluid` inside of it:

```
<div class="jumbotron jumbotron-fluid">
  <div class="container">
    <h1>Bootstrap Tutorial</h1>
    <p>Bootstrap is the most popular HTML, CSS...</p>
  </div>
</div>
```

Bootstrap 4 Alerts

Bootstrap 4 Alerts

Bootstrap 4 provides an easy way to create predefined alert messages:

✕**Success!** This alert box indicates a successful or positive action.

✕**Info!** This alert box indicates a neutral informative change or action.

✕**Warning!** This alert box indicates a warning that might need attention.

✕**Danger!** This alert box indicates a dangerous or potentially negative action.

✕**Primary!** This alert box indicates an important action.

✕**Secondary!** This alert box indicates a less important action.

✕**Dark!** Dark grey alert box.

✕**Light!** Light grey alert box.

Alerts are created with the `.alert` class, followed by one of the contextual classes `.alert-success`, `.alert-info`, `.alert-warning`, `.alert-danger`, `.alert-primary`, `.alert-secondary`, `.alert-light` or `.alert-dark`:

Example

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

Alert Links

Add the `alert-link` class to any links inside the alert box to create "matching colored links":

Success! You should **read this message**.

Info! You should **read this message**.

Warning! You should **read this message**.

Danger! You should **read this message**.

Primary! You should **read this message**.

Secondary! You should **read this message**.

Dark! You should **read this message**.

Light! You should **read this message**.

Example

```html
<div class="alert alert-success">
  <strong>Success!</strong> You should <a href="#" class="alert-link">read this message</a>.
</div>
```

Closing Alerts

✕Click on the "x" symbol to the right to close me.

To close the alert message, add a `.alert-dismissible` class to the alert container. Then add `class="close"` and `data-dismiss="alert"` to a link or a button element (when you click on this the alert box will disappear).

Example

```html
<div class="alert alert-success alert-dismissible">
  <button type="button" class="close" data-dismiss="alert">&times;</button>
  <strong>Success!</strong> Indicates a successful or positive action.
</div>
```

Tip: × (×) is an HTML entity that is the preferred icon for close buttons, rather than the letter "x".

Animated Alerts

✕Click on the "x" symbol to the right to close me. I will "fade" out.

The `.fade` and `.show` classes adds a fading effect when closing the alert message:

Example

```html
<div class="alert alert-danger alert-dismissible fade show">
```