BOOTSTRAP 4

Get Started

SOURCE: W3SCHOOLS

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GET STARTED

BOOTSTRAP 4 GET STARTED

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 4 GET STARTED

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.

Dropped icon support: Bootstrap 4 does not support BS3 Glyphicons. Use Font-Awesome or other icon libraries instead.

BOOTSTRAP 4 GET STARTED

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)

BOOTSTRAP 4 GET STARTED

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 -->
<scriptsrc="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>
```

BOOTSTRAP 4 GET STARTED

Bootstrap 4 CDN Continued

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.

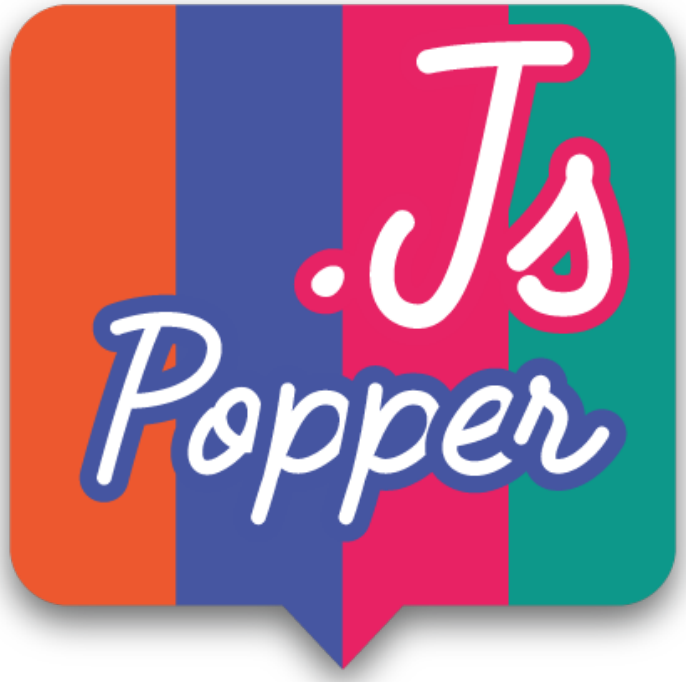
jQuery and Popper?
Bootstrap 4 use jQuery and Popper.js for JavaScript components (like modals, tooltips, popovers etc). However, if you just use the CSS part of Bootstrap, you don't need them.

Components that require jQuery:

- Closable alerts
- Buttons and checkboxes/radio buttons for toggling states
- Carousel for slides, controls, and indicators
- Collapse for toggling content
- Dropdowns (also requires Popper.js for perfect positioning)
- Modals (open and close)
- Navbar (for collapsible menus)
- Tooltips and popovers (also requires Popper.js for perfect positioning)
- Scrollspy for scroll behavior and navigation updates

WHAT IS POPPER.JS?

- **Popper.js** is a **positioning engine**, its purpose is to calculate the position of an element to make it possible to position it near a given reference element. The engine is completely modular and most of its features are implemented as modifiers (similar to middlewares or plugins).
- **Popper.js** has zero dependencies.
- Tutorial video (3 minutes): https://www.youtube.com/watch?v=V1JOH4kS6Pc



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GRID BASIC

Web Application Development

BOOTSTRAP 4 GRID BASIC

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).

BOOTSTRAP 4 GRID BASIC

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`.

BOOTSTRAP 4 GRID BASIC

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>
```

BOOTSTRAP 4 GRID BASIC

Basic Structure of a Bootstrap 4 Grid Continued

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.

On the next slides we have collected some examples of basic Bootstrap 4 grid layouts.

BOOTSTRAP 4 GRID BASIC

Three Equal Columns

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

.col	.col	.col

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

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_grid_ex&stacked=h

BOOTSTRAP 4 GRID BASIC

Responsive Columns

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**:

.col-sm-3	.col-sm-3	.col-sm-3	.col-sm-3

```
<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>
```

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_grid_ex1&stacked=h

BOOTSTRAP 4 GRID BASIC

Two Unequal Responsive Columns

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

.col-sm-4	.col-sm-8

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

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_grid_ex3&stacked=h

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

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TYPOGRAPHY

Web Application Development

BOOTSTRAP 4 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).

BOOTSTRAP 4 TYPOGRAPHY

<h1> - <h6>

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

Try it Yourself: https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_txt_hn&stacked=h

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)

BOOTSTRAP 4 TYPOGRAPHY

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`

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_txt_display&stacked=h

Display 1

Display 2

Display 3

Display 4

BOOTSTRAP 4 TYPOGRAPHY

<small>

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

Try it Yourself: https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_txt_small&stacked=h

h1 heading secondary text

h2 heading secondary text

h3 heading secondary text

h4 heading secondary text

h5 heading secondary text

h6 heading secondary text

BOOTSTRAP 4 TYPOGRAPHY

<mark>

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

Use the mark element to highlight text.

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_txt_mark&stacked=h

BOOTSTRAP 4 TYPOGRAPHY

<abbr>

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

The WHO was founded in 1948.

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_txt_abbr&stacked=h

BOOTSTRAP 4 TYPOGRAPHY

<blockquote>

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

> 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

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_txt_blockquote&stacked=h

BOOTSTRAP 4 TYPOGRAPHY

<dl>

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

Coffee
- black hot drink

Milk
- white cold drink

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_txt_dl&stacked=h

BOOTSTRAP 4 TYPOGRAPHY

<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.

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_txt_code&stacked=h

BOOTSTRAP 4 TYPOGRAPHY

<kbd>

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

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

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_txt_kbd&stacked=h

BOOTSTRAP 4 TYPOGRAPHY

<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.
```

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_txt_pre&stacked=h

BOOTSTRAP 4 TYPOGRAPHY

More Typography Classes

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

Class	Description	Example
.font-weight-bold	Bold text	Try it
.font-italic	Italic text	Try it
.font-weight-light	Light weight text	Try it
.font-weight-normal	Normal text	Try it
.lead	Makes a paragraph stand out	Try it
.small	Indicates smaller text (set to 85% of the size of the parent)	Try it
.text-left	Indicates left-aligned text	Try it
.text-*-left	Indicates left-aligned text on small, medium, large or xlarge screens	Try it

BOOTSTRAP 4 TYPOGRAPHY

More Typography Classes Continued

Class	Meaning	Try it
.text-*-center	Indicates center-aligned text on small, medium, large or xlarge screens	Try it
.text-right	Indicates right-aligned text	Try it
.text-*-right	Indicates right-aligned text on small, medium, large or xlarge screens	Try it
.text-justify	Indicates justified text	Try it
.text-monospace	Monospaced text	Try it
.text-nowrap	Indicates no wrap text	Try it
.text-lowercase	Indicates lowercased text	Try it

BOOTSTRAP 4 TYPOGRAPHY

More Typography Classes Continued

Class	Meaning	Try it
.text-capitalize	Indicates capitalized text	Try it
.initialism	Displays the text inside an <abbr> element in a slightly smaller font size	Try it
.list-unstyled	Removes the default list-style and left margin on list items (works on both and). 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)	Try it
.list-inline	Places all list items on a single line (used together with.list-inline-item on each elements)	Try it

BOOTSTRAP 4 TYPOGRAPHY

Complete Bootstrap 4 CSS Reference

For a complete reference of all CSS classes available in Bootstrap 4, visit our Bootstrap 4 All Classes Reference.

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COLORS

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`:

Try it Yourself: https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_txt_colors&stacked=h

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.

BOOTSTRAP 4 COLORS

Text Colors Continued

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

Muted link. Primary link. Success link. Info link. Warning link. Danger link. Secondary link. Dark grey link. Body/black link. Light grey link.

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_txt_colors_links&stacked=h

BOOTSTRAP 4 COLORS

Text Colors Continued

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

Black text with 50% opacity on white background

White text with 50% opacity on black background

Try it Yourself: https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_txt_colors_opacity&stacked=h.

BOOTSTRAP 4 COLORS

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.

Try it Yourself: https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_txt_bgcolors&stacked=h

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.

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TABLES

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:

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

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_table_basic&stacked=h

BOOTSTRAP 4 TABLES

Striped Rows

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

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

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_table_striped&stacked=h

BOOTSTRAP 4 TABLES

Bordered Table

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

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

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_table_bordered&stacked=h

BOOTSTRAP 4 TABLES

Hover Rows

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

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

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_table_hover&stacked=h

BOOTSTRAP 4 TABLES

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

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_table_inverse&stacked=h

BOOTSTRAP 4 TABLES

Dark Striped Table

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

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

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_table_dark_striped&stacked=h

BOOTSTRAP 4 TABLES

Hoverable Dark Table

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

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

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_table_dark_hover&stacked=h

BOOTSTRAP 4 TABLES

Borderless Table

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

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

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_table_borderless&stacked=h

BOOTSTRAP 4 TABLES

Contextual Classes

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

Try it Yourself: https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_table_contextual&stacked=h

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

BOOTSTRAP 4 TABLES

Contextual Classes Continued

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
`.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

BOOTSTRAP 4 TABLES

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:

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_table_head&stacked=h

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

BOOTSTRAP 4 TABLES

Small table

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

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

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_table_sm&stacked=h

BOOTSTRAP 4 TABLES

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:

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

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_table_responsive

BOOTSTRAP 4 TABLES

Responsive Tables Continued

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

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

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

Try it Yourself: https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_table_responsive_sm

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IMAGES

BOOTSTRAP 4 IMAGES

Bootstrap 4 Image Shapes

Rounded Corners:

Circle:

Thumbnail:

BOOTSTRAP 4 IMAGES

Rounded Corners

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

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

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_img_rounded&stacked=h

BOOTSTRAP 4 IMAGES

Circle

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

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

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_img_circle&stacked=h

BOOTSTRAP 4 IMAGES

Thumbnail

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

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

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_img_thumbnail&stacked=h

BOOTSTRAP 4 IMAGES

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”>
```

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_img_align&stacked=h

BOOTSTRAP 4 IMAGES

Centered Image

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

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

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_img_centered&stacked=h

BOOTSTRAP 4 IMAGES

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:

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

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_img_responsive&stacked=h

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JUMBOTRON

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.

BOOTSTRAP 4 JUMBOTRON

Bootstrap 4 Jumbotron Continued

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

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

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_jumbotron&stacked=h

BOOTSTRAP 4 JUMBOTRON

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>
```

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_jumbotron2&stacked=h

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BUTTONS

BOOTSTRAP 4 BUTTONS

Button Styles

Bootstrap 4 provides different styles of buttons:

Basic | Primary | Secondary | Success | Info | Warning | Danger | Dark | Light | Link

```
<button type="button" class="btn">Basic</button>
<button type="button" class="btn btn-primary">Primary</button>
<button type="button" class="btn btn-secondary">Secondary</button>
<button type="button" class="btn btn-success">Success</button>
<button type="button" class="btn btn-info">Info</button>
<button type="button" class="btn btn-warning">Warning</button>
<button type="button" class="btn btn-danger">Danger</button>
<button type="button" class="btn btn-dark">Dark</button>
<button type="button" class="btn btn-light">Light</button>
<button type="button" class="btn btn-link">Link</button>
```

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_button_styles&stacked=h

BOOTSTRAP 4 BUTTONS

Button Styles Continued

The button classes can be used on an <a>, <button>, or <input> element:

```
<a href="#" class="btn btn-info" role="button">Link Button</a>
<button type="button" class="btn btn-info">Button</button>
<input type="button" class="btn btn-info" value="Input Button">
<input type="submit" class="btn btn-info" value="Submit Button">
```

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_button_elements&stacked=h

Why do we put a # in the href attribute of the link?
Since we do not have any page to link it to, and we do not want to get a "404" message, we put # as the link. In real life it should of course been a real URL to the "Search" page.

BOOTSTRAP 4 BUTTONS

Button Outline

Bootstrap 4 provides eight outline/bordered buttons:

Primary Secondary Success Info Warning Danger Dark Light

```
<button type="button" class="btn btn-outline-primary">Primary</button>
<button type="button" class="btn btn-outline-secondary">Secondary</button>
<button type="button" class="btn btn-outline-success">Success</button>
<button type="button" class="btn btn-outline-info">Info</button>
<button type="button" class="btn btn-outline-warning">Warning</button>
<button type="button" class="btn btn-outline-danger">Danger</button>
<button type="button" class="btn btn-outline-dark">Dark</button>
<button type="button" class="btn btn-outline-light text-
dark">Light</button>
```

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_button_outline&stacked=h

BOOTSTRAP 4 BUTTONS

Button Sizes

Bootstrap 4 provides different button sizes:

Large Default Small

```
<button type="button" class="btn btn-primary btn-lg">Large</button>
<button type="button" class="btn btn-primary">Default</button>
<button type="button" class="btn btn-primary btn-sm">Small</button>
```

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_button_sizes&stacked=h

BOOTSTRAP 4 BUTTONS

Block Level Buttons

Add class `.btn-block` to create a block level button that spans the entire width of the parent element.

Full-Width Button

```
<button type="button" class="btn btn-primary btn-block">Full-Width Button</button>
```

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_button_block&stacked=h

BOOTSTRAP 4 BUTTONS

Active/Disabled Buttons

A button can be set to an active (appear pressed) or a disabled (unclickable) state:

Active Primary Disabled Primary

The class `.active` makes a button appear pressed, and the `disabled` attribute makes a button unclickable. Note that <a> elements do not support the disabled attribute and must therefore use the `.disabled` class to make it visually appear disabled.

```
<button type="button" class="btn btn-primary active">Active Primary</button>
<button type="button" class="btn btn-primary" disabled>Disabled Primary</button>
<a href="#" class="btn btn-primary disabled">Disabled Link</a>
```

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_button_active&stacked=h

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BUTTON GROUPS

BOOTSTRAP 4 BUTTON GROUPS

Button Groups

Bootstrap 4 allows you to group a series of buttons together (on a single line) in a button group:

Apple Samsung Sony

Use a `<div>` element with class `.btn-group` to create a button group:

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

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_button_group&stacked=h

BOOTSTRAP 4 BUTTON GROUPS

Button Groups Continued

Tip: Instead of applying button sizes to every button in a group, use class `.btn-group-lg` for a large button group or the `.btn-group-sm` for a small button group:

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

Large Buttons:

Apple Samsung Sony

Default Buttons:

Apple Samsung Sony

Small Buttons:

Apple Samsung Sony

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_button_group_size&stacked=h

BOOTSTRAP 4 BUTTON GROUPS

Vertical Button Groups

Bootstrap 4 also supports vertical button groups:

Use the class `.btn-group-vertical` to create a vertical button group:

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

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_button_group_v&stacked=h

BOOTSTRAP 4 BUTTON GROUPS

Nesting Button Groups & Dropdown Menus

Nest button groups to create dropdown menus (you will learn more about dropdowns in a later chapter):

```
<div class="btn-group">
  <button type="button" class="btn btn-primary">Apple</button>
  <button type="button" class="btn btn-primary">Samsung</button>
  <div class="btn-group">
    <button type="button" class="btn btn-primary dropdown-toggle" data-
toggle="dropdown">
        Sony
    </button>
    <div class="dropdown-menu">
      <a class="dropdown-item" href="#">Tablet</a>
      <a class="dropdown-item" href="#">Smartphone</a>
    </div>
  </div>
</div>
```

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_button_group_dropdown&stacked=h

BOOTSTRAP 4 BUTTON GROUPS

Split Button Dropdowns

Sony

```
<div class="btn-group">
  <button type="button" class="btn btn-primary">Sony</button>
  <button type="button" class="btn btn-primary dropdown-toggle
dropdown-toggle-split" data-toggle="dropdown">
    <span class="caret"></span>
  </button>
  <div class="dropdown-menu">
    <a class="dropdown-item" href="#">Tablet</a>
    <a class="dropdown-item" href="#">Smartphone</a>
  </div>
</div>
```

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_button_group_split&stacked=h

BOOTSTRAP 4 BUTTON GROUPS

Vertical Button Group w/ Dropdown

```
<div class="btn-group-vertical">
  <button type="button" class="btn btn-primary">Apple</button>
  <button type="button" class="btn btn-primary">Samsung</button>
  <div class="btn-group">
    <button type="button" class="btn btn-primary dropdown-
toggle" data-toggle="dropdown">
        Sony
    </button>
    <div class="dropdown-menu">
      <a class="dropdown-item" href="#">Tablet</a>
      <a class="dropdown-item" href="#">Smartphone</a>
    </div>
  </div>
</div>
```

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_button_group_v_dropdown&stacked=h

BOOTSTRAP 4 BUTTON GROUPS

Button Groups Side by Side

Button groups are "inline" by default, which makes them appear side by side when you have multiple groups:

Apple Samsung Sony BMW Mercedes Volvo

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

<div class="btn-group">
  <button type="button" class="btn btn-primary">BMW</button>
  <button type="button" class="btn btn-primary">Mercedes</button>
  <button type="button" class="btn btn-primary">Volvo</button>
</div>
```

Try it Yourself:
https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_button_group_inline&stacked=h

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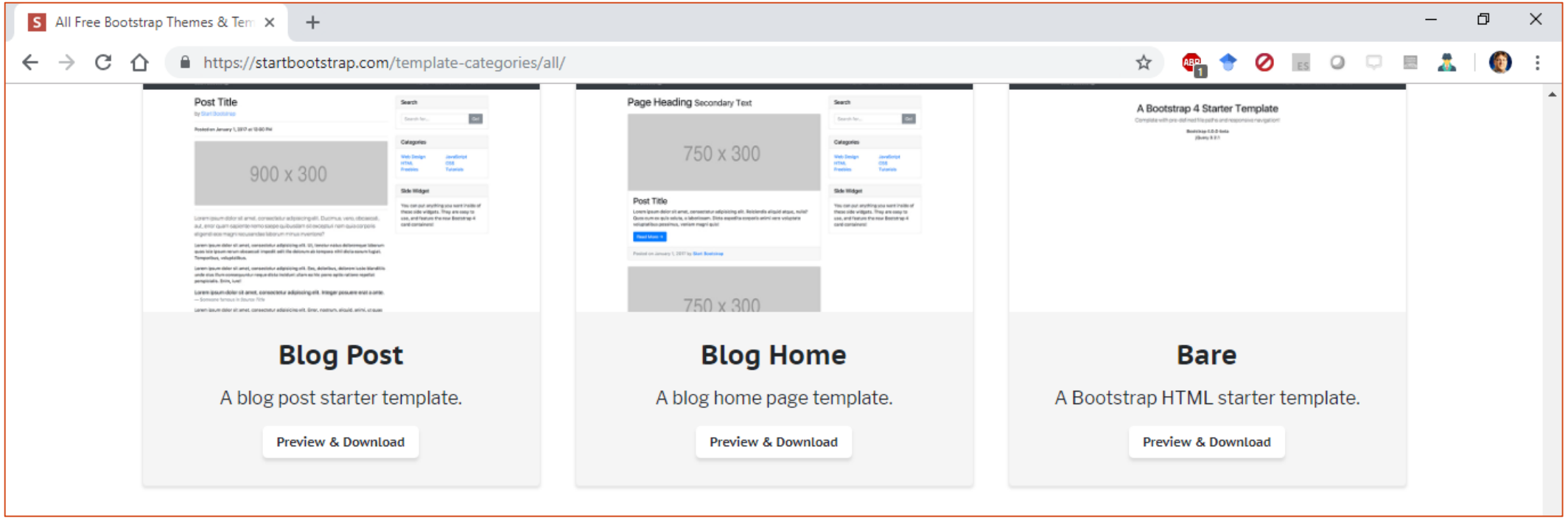
TEMPLATES

TEMPLATE

Bootstrap Template

https://startbootstrap.com/template-categories/all/



EXERCISE

- Download / Implement “Bare” template on CSIS server

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THE END

Thank You