Bootstrap

Technical Training

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# Introduction to CSS

CSS stands for cascading style sheets, and is responsible for determining how html elements will be displayed. CSS allows the sharing of a style across multiple elements, web pages, and even web sites. This saves developers lots of time when creating or changing styles. Using CSS, a developer can manage all of their styles from one location for the entire site.

* Including stylesheets in an HTML Page
* [*https://www.w3schools.com/css/css\_howto.asp*](https://www.w3schools.com/css/css_howto.asp)
* CSS Refresher
* [*https://www.w3schools.com/css/css\_syntax.asp*](https://www.w3schools.com/css/css_syntax.asp)
* [*https://www.w3schools.com/cssref/css\_selectors.asp*](https://www.w3schools.com/cssref/css_selectors.asp)
* [*https://www.w3schools.com/css/css\_specificity.asp*](https://www.w3schools.com/css/css_specificity.asp)
* Bundling, Minification and CDNs
* [*https://docs.microsoft.com/en-us/aspnet/mvc/overview/performance/bundling-and-minification*](https://docs.microsoft.com/en-us/aspnet/mvc/overview/performance/bundling-and-minification)
* [*https://en.wikipedia.org/wiki/Minification\_(programming)*](https://en.wikipedia.org/wiki/Minification_(programming))
* [*https://en.wikipedia.org/wiki/Content\_delivery\_network*](https://en.wikipedia.org/wiki/Content_delivery_network)

# Introduction to Bootstrap

While CSS has allowed developers the freedom to define styles for multiple elements, files, or sites, Bootstrap provides developers with a ready to ship CSS framework to “bootstrap” the styling of their site. Developers can include the Bootstrap stylesheets and immediately begin reaping the rewards of a robust and mature framework. Bootstrap styles can of course be altered as much as the developer wishes.

In addition to its usefulness as a framework, the Bootstrap team has created an excellent site containing extremely detailed and helpful documentation - <https://getbootstrap.com>. I will rely of this site very heavily for the remainder of this Technical Training, and have mimicked the Bootstrap site layout for the remaining sections in this Technical Training.

* Responsive Layout
* [*https://getbootstrap.com/docs/4.0/layout/overview/*](https://getbootstrap.com/docs/4.0/layout/overview/)
* [*https://getbootstrap.com/docs/4.0/layout/grid/#grid-options*](https://getbootstrap.com/docs/4.0/layout/grid/%23grid-options)
* [*https://getbootstrap.com/docs/4.0/layout/grid/#responsive-classes*](https://getbootstrap.com/docs/4.0/layout/grid/#responsive-classes)
* [*https://getbootstrap.com/docs/4.0/layout/grid/#customizing-the-grid*](https://getbootstrap.com/docs/4.0/layout/grid/#customizing-the-grid)
* Columns
* [*https://getbootstrap.com/docs/4.0/layout/grid/*](https://getbootstrap.com/docs/4.0/layout/grid/)
* [*https://getbootstrap.com/docs/4.0/layout/grid/#auto-layout-columns*](https://getbootstrap.com/docs/4.0/layout/grid/%23auto-layout-columns)
* Alignment
* [*https://getbootstrap.com/docs/4.0/layout/grid/#alignment*](https://getbootstrap.com/docs/4.0/layout/grid/#alignment)
* Ordering
* [*https://getbootstrap.com/docs/4.0/layout/grid/#reordering*](https://getbootstrap.com/docs/4.0/layout/grid/#reordering)
* Nesting
* [*https://getbootstrap.com/docs/4.0/layout/grid/#nesting*](https://getbootstrap.com/docs/4.0/layout/grid/#nesting)

# Content

This section covers element specific CSS that Bootstrap provides.

* Typography
* [*https://getbootstrap.com/docs/4.0/content/typography/#headings*](https://getbootstrap.com/docs/4.0/content/typography/#headings)
* Images
* [*https://getbootstrap.com/docs/4.0/content/images/*](https://getbootstrap.com/docs/4.0/content/images/)
* [*https://getbootstrap.com/docs/4.0/content/figures/*](https://getbootstrap.com/docs/4.0/content/figures/)
* Tables
* [*https://getbootstrap.com/docs/4.0/content/tables/*](https://getbootstrap.com/docs/4.0/content/tables/)
* Figures
* [*https://getbootstrap.com/docs/4.0/content/figures/*](https://getbootstrap.com/docs/4.0/content/figures/)

# Components

Bootstrap has created styling for various types of components that are popular in web development. While many of these components are not specific to an html tag, their concepts have become integral to front end web design. Knowing what these components are and what they are used for is very valuable in and of itself, independently of the styling options Bootstrap provides for them. The Bootstrap documentation provides explanations for both the styling, and common use cases.

Many of the components below utilize JavaScript. However, you will only need to include the bootstrap.js file in your solution. From there, all you need to do are use the appropriate selectors and Bootstrap will handle the rest.

* Alerts
* [*https://getbootstrap.com/docs/4.0/components/alerts/*](https://getbootstrap.com/docs/4.0/components/alerts/)
* Badge
* [*https://getbootstrap.com/docs/4.0/components/badge/*](https://getbootstrap.com/docs/4.0/components/badge/)
* Breadcrumb
* [*https://getbootstrap.com/docs/4.0/components/breadcrumb/*](https://getbootstrap.com/docs/4.0/components/breadcrumb/)
* Buttons
* [*https://getbootstrap.com/docs/4.0/components/buttons/*](https://getbootstrap.com/docs/4.0/components/buttons/)
* Card
* [*https://getbootstrap.com/docs/4.0/components/card/*](https://getbootstrap.com/docs/4.0/components/card/)
* Carousel
* [*https://getbootstrap.com/docs/4.0/components/carousel/*](https://getbootstrap.com/docs/4.0/components/carousel/)
* Collapse
* [*https://getbootstrap.com/docs/4.0/components/collapse/*](https://getbootstrap.com/docs/4.0/components/collapse/)
* Dropdown
* [*https://getbootstrap.com/docs/4.0/components/dropdowns/*](https://getbootstrap.com/docs/4.0/components/dropdowns/)

# Components cont.

* Forms
* [*https://getbootstrap.com/docs/4.0/components/forms/*](https://getbootstrap.com/docs/4.0/components/forms/)
* Input group
* [*https://getbootstrap.com/docs/4.0/components/input-group/*](https://getbootstrap.com/docs/4.0/components/input-group/)
* Modal
* [*https://getbootstrap.com/docs/4.0/components/modal/*](https://getbootstrap.com/docs/4.0/components/modal/)
* Navs
* [*https://getbootstrap.com/docs/4.0/components/navs/*](https://getbootstrap.com/docs/4.0/components/navs/)
* Navbar
* [*https://getbootstrap.com/docs/4.0/components/navbar/*](https://getbootstrap.com/docs/4.0/components/navbar/)
* Pagination
* [*https://getbootstrap.com/docs/4.0/components/pagination/*](https://getbootstrap.com/docs/4.0/components/pagination/)
* Popovers
* [*https://getbootstrap.com/docs/4.0/components/popovers/*](https://getbootstrap.com/docs/4.0/components/popovers/)
* Progress
* [*https://getbootstrap.com/docs/4.0/components/progress/*](https://getbootstrap.com/docs/4.0/components/progress/)
* Scrollspy
* [*https://getbootstrap.com/docs/4.0/components/scrollspy/*](https://getbootstrap.com/docs/4.0/components/scrollspy/)
* Tooltips
* [*https://getbootstrap.com/docs/4.0/components/tooltips/*](https://getbootstrap.com/docs/4.0/components/tooltips/)

# Utilities

Bootstrap provides utilities that can be used to style html elements and Bootstrap components. These utilities play a large role in determining your sites look and feel.

* Border
* [*https://getbootstrap.com/docs/4.0/utilities/borders/*](https://getbootstrap.com/docs/4.0/utilities/borders/)
* Clearfix
* [*https://getbootstrap.com/docs/4.0/utilities/clearfix/*](https://getbootstrap.com/docs/4.0/utilities/clearfix/)
* Colors
* [*https://getbootstrap.com/docs/4.0/utilities/colors/*](https://getbootstrap.com/docs/4.0/utilities/colors/)
* Display
* [*https://getbootstrap.com/docs/4.0/utilities/display/*](https://getbootstrap.com/docs/4.0/utilities/display/)
* Embed
* [*https://getbootstrap.com/docs/4.0/utilities/embed/*](https://getbootstrap.com/docs/4.0/utilities/embed/)
* Flex
* [*https://getbootstrap.com/docs/4.0/utilities/flex/*](https://getbootstrap.com/docs/4.0/utilities/flex/)
* Float
* [*https://getbootstrap.com/docs/4.0/utilities/float/*](https://getbootstrap.com/docs/4.0/utilities/float/)

# Utilities cont.

* Position
* [*https://getbootstrap.com/docs/4.0/utilities/position/*](https://getbootstrap.com/docs/4.0/utilities/position/)
* Screen Readers
* [*https://getbootstrap.com/docs/4.0/utilities/screenreaders/*](https://getbootstrap.com/docs/4.0/utilities/screenreaders/)
* Sizing
* [*https://getbootstrap.com/docs/4.0/utilities/sizing/*](https://getbootstrap.com/docs/4.0/utilities/sizing/)
* Spacing
* [*https://getbootstrap.com/docs/4.0/utilities/spacing/*](https://getbootstrap.com/docs/4.0/utilities/spacing/)
* Text
* [*https://getbootstrap.com/docs/4.0/utilities/text/*](https://getbootstrap.com/docs/4.0/utilities/text/)
* Vertical Align
* [*https://getbootstrap.com/docs/4.0/utilities/vertical-align/*](https://getbootstrap.com/docs/4.0/utilities/vertical-align/)
* Visibility
* [*https://getbootstrap.com/docs/4.0/utilities/visibility/*](https://getbootstrap.com/docs/4.0/utilities/visibility/)

# CSS Preprocessing

CSS preprocessors allow you to dynamically create CSS by using several features that do not exist natively within CSS. There are many CSS preprocessors available, but for the purposes of Bootstrap and for this demo I would highly recommend moving forward with SASS if you are using Bootstrap 4. Prior to Bootstrap 4, theming was primarily accomplished using LESS, another CSS preprocessor. Moving forward with Bootstrap 4, Bootstrap recommends using SASS, and has designed Bootstrap 4 to be SASS friendly.

[https://getbootstrap.com/docs/4.0/getting-started/theming/#sass](https://getbootstrap.com/docs/4.0/getting-started/theming/%23sass)

<https://sass-lang.com/guide>

* Mixins
* Mixins allow you to group various CSS declarations and reuse them throughout your stylesheet.
* Variables
* Variables, as you might expect, allow you to store information and reuse that information throughout your stylesheet. Mixins can even accept parameters. Mixins behave similarly to functions.
* Extends
* Extends allows you to inherit CSS from other selectors, keeping repetition to a minimum.
* Rule Nesting
* Rule nesting allows you to nest CSS similarly to how html is nested in many web pages. This allows much more visual clarity when determining which styles are inherited for which controls.
* Operators
* You can use mathematical operators within your CSS files when using many preprocessors.
* Directives
* Directives give you more logical control by allowing you to use common programming statements such as if and each, in addition to several others.