

# Migrating to v5

Track and review changes to the Bootstrap source files, documentation, and components to help you migrate from v4 to v5.

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## **Dependencies**

- Dropped jQuery.
- Upgraded from Popper v1.x to Popper v2.x.
- Replaced Libsass with Dart Sass as our Sass compiler given Libsass was deprecated.
- Migrated from Jekyll to Hugo for building our documentation

## **Browser support**

- Dropped Internet Explorer 10 and 11
- Dropped Microsoft Edge < 16 (Legacy Edge)
- Dropped Firefox < 60
- Dropped Safari < 12
- Dropped iOS Safari < 12
- Dropped Chrome < 60

## **Documentation changes**

- Redesigned homepage, docs layout, and footer.
- Added <u>new Parcel guide</u>.
- Added <u>new Customize section</u>, replacing <u>v4's Theming page</u>, with new details on Sass, global configuration options, color schemes, CSS variables, and more.
- Reorganized all form documentation into <u>new Forms section</u>, breaking apart the content into more focused pages.
- Similarly, updated the Layout section, to flesh out grid content more clearly.
- Renamed "Navs" component page to "Navs & Tabs".
- Renamed "Checks" page to "Checks & radios".
- Redesigned the navbar and added a new subnav to make it easier to get around our sites and docs versions.

• Added new keyboard shortcut for the search field: Ctrl + /.

#### Sass

- We've ditched the default Sass map merges to make it easier to remove redundant values. Keep in mind you now have to define all values in the Sass maps like \$theme-colors. Check out how to deal with <a href="Sass maps">Sass maps</a>.
- Breaking Renamed color-yiq() function and related variables to color-contrast() as it's no longer related to YIQ colorspace. <u>See #30168</u>.
  - \$yiq-contrasted-threshold is renamed to \$min-contrast-ratio.
  - \$yiq-text-dark and \$yiq-text-light are respectively renamed to \$color-contrast-dark and \$color-contrast-light.
- Breaking Media query mixins parameters have changed for a more logical approach.
  - media-breakpoint-down() uses the breakpoint itself instead of the next breakpoint (e.g., media-breakpoint-down(lg) instead of media-breakpoint-down(md) targets viewports smaller than lg).
  - Similarly, the second parameter in media-breakpoint-between() also uses the breakpoint itself instead of the next breakpoint (e.g., media-between(sm, lg) instead of mediabreakpoint-between(sm, md) targets viewports between sm and lg).
- **Breaking** Removed print styles and \$enable-print-styles variable. Print display classes are still around. See #28339.
- Breaking Dropped color(), theme-color(), and gray() functions in favor of variables. See #29083.
- Breaking Renamed theme-color-level() function to color-level() and now accepts any color you want instead of only \$theme-color colors. See #29083 Watch out: color-level() was later on dropped in v5.0.0-alpha3.
- **Breaking** Renamed \$enable-prefers-reduced-motion-media-query and \$enable-pointer-cursor-for-buttons to \$enable-reduced-motion and \$enable-button-pointers for brevity.
- Breaking Removed the bg-gradient-variant() mixin. Use the .bg-gradient class to add gradients to elements instead of the generated .bg-gradient-\* classes.
- Breaking Removed previously deprecated mixins:
  - hover, hover-focus, plain-hover-focus, and hover-focus-active
  - o float()
  - o form-control-mixin()
  - o nav-divider()

```
retina-img()text-hide() (also dropped the associated utility class, .text-hide)visibility()
```

- Breaking Renamed scale-color() function to shift-color() to avoid collision with Sass's own color scaling function.
- box-shadow mixins now allow null values and drop none from multiple arguments. See #30394.
- The border-radius() mixin now has a default value.

## Color system

o form-control-focus()

- The color system which worked with color-level() and \$theme-color-interval was removed in favor of a new color system. All lighten() and darken() functions in our codebase are replaced by tint-color() and shade-color(). These functions will mix the color with either white or black instead of changing its lightness by a fixed amount. The shift-color() will either tint or shade a color depending on whether its weight parameter is positive or negative. See #30622 for more details.
- Added new tints and shades for every color, providing nine separate colors for each base color, as new Sass variables.
- Improved color contrast. Bumped color contrast ratio from 3:1 to 4.5:1 and updated blue, green, cyan, and pink colors to ensure WCAG 2.1 AA contrast. Also changed our color contrast color from \$gray-900 to \$black.
- To support our color system, we've added new custom tint-color() and shade-color() functions to mix our colors appropriately.

## **Grid updates**

- **New breakpoint!** Added new xx1 breakpoint for 1400px and up. No changes to all other breakpoints.
- **Improved gutters.** Gutters are now set in rems, and are narrower than v4 (1.5rem, or about 24px, down from 30px). This aligns our grid system's gutters with our spacing utilities.
  - Added new <u>gutter class</u> (.g-\*, .gx-\*, and .gy-\*) to control horizontal/vertical gutters, horizontal gutters, and vertical gutters.
  - Breaking Renamed .no-gutters to .g-0 to match new gutter utilities.

- Columns no longer have position: relative applied, so you may have to add .position-relative to some elements to restore that behavior.
- Breaking Dropped several .order-\* classes that often went unused. We now only provide
   .order-1 to .order-5 out of the box.
- Breaking Dropped the .media component as it can be easily replicated with utilities. See #28265 and the flex utilities page for an example.
- **Breaking** bootstrap-grid.css now only applies box-sizing: border-box to the column instead of resetting the global box-sizing. This way, our grid styles can be used in more places without interference.
- \$enable-grid-classes no longer disables the generation of container classes anymore. <u>See</u>
   #29146.
- Updated the make-col mixin to default to equal columns without a specified size.

## Content, Reboot, etc

- **RFS** is now enabled by default. Headings using the font-size() mixin will automatically adjust their font-size to scale with the viewport. This feature was previously opt-in with v4.
- Breaking Overhauled our display typography to replace our \$display-\* variables and with a \$display-font-sizes Sass map. Also removed the individual \$display-\*-weight variables for a single \$display-font-weight and adjusted font-sizes.
- Added two new .display-\* heading sizes, .display-5 and .display-6.
- Links are underlined by default (not just on hover), unless they're part of specific components.
- **Redesigned tables** to refresh their styles and rebuild them with CSS variables for more control over styling.
- Breaking Nested tables do not inherit styles anymore.
- Breaking .thead-light and .thead-dark are dropped in favor of the .table-\* variant classes which can be used for all table elements (thead, tbody, tfoot, tr, th and td).
- Breaking The table-row-variant() mixin is renamed to table-variant() and accepts only 2 parameters: \$color (color name) and \$value (color code). The border color and accent colors are automatically calculated based on the table factor variables.
- Split table cell padding variables into -y and -x.
- Breaking Dropped .pre-scrollable class. See #29135

- Breaking .text-\* utilities do not add hover and focus states to links anymore. .link-\* helper classes can be used instead. See #29267
- Breaking Dropped .text-justify class. See #29793
- Reset default horizontal padding-left on 

   and 
   elements from browser default 40px
   to 2rem.
- Added \$enable-smooth-scroll, which applies scroll-behavior: smooth globally—except for users asking for reduced motion through prefers-reduced-motion media query. See #31877

#### RTL

 Horizontal direction specific variables, utilities, and mixins have all been renamed to use logical properties like those found in flexbox layouts—e.g., start and end in lieu of left and right.

#### **Forms**

- **Added new floating forms!** We've promoted the Floating labels example to fully supported form components. <u>See the new Floating labels page.</u>
- Breaking Consolidated native and custom form elements. Checkboxes, radios, selects, and other inputs that had native and custom classes in v4 have been consolidated. Now nearly all our form elements are entirely custom, most without the need for custom HTML.
  - .custom-check is now .form-check.
  - .custom-check.custom-switch is now .form-check.form-switch.
  - .custom-select is now .form-select.
  - .custom-file and .form-file have been replaced by custom styles on top of .form-control.
  - .custom-range is now .form-range.
  - Dropped native .form-control-file and .form-control-range.
- Breaking Dropped .input-group-append and .input-group-prepend. You can now just add buttons and .input-group-text as direct children of the input groups.
- The longstanding <u>Missing border radius on input group with validation feedback bug</u> is finally fixed by adding an additional .has-validation class to input groups with validation.
- Breaking Dropped form-specific layout classes for our grid system. Use our grid and utilities instead of .form-group, .form-row, or .form-inline.
- Breaking Form labels now require .form-label.

- Breaking .form-text no longer sets display, allowing you to create inline or block help text as you wish just by changing the HTML element.
- Validation icons are no longer applied to <select>s with multiple.
- Rearranged source Sass files under scss/forms/, including input group styles.

### **Components**

• Unified padding values for alerts, breadcrumbs, cards, dropdowns, list groups, modals, popovers, and tooltips to be based on our \$spacer variable. See #30564.

#### Accordion

• Added <u>new accordion component</u>.

#### **Alerts**

- Alerts now have examples with icons.
- Removed custom styles for <hr>>s in each alert since they already use currentColor.

## **Badges**

- **Breaking** Dropped all .badge-\* color classes for background utilities (e.g., use .bg-primary instead of .badge-primary).
- Breaking Dropped .badge-pill—use the .rounded-pill utility instead.
- Breaking Removed hover and focus styles for <a> and <button> elements.
- Increased default padding for badges from .25em/.5em to .35em/.65em.

### **Breadcrumbs**

- Simplified the default appearance of breadcrumbs by removing padding, background-color, and border-radius.
- Added new CSS custom property --bs-breadcrumb-divider for easy customization without needing to recompile CSS.

#### **Buttons**

- Breaking Toggle buttons, with checkboxes or radios, no longer require JavaScript and have new markup. We no longer require a wrapping element, add .btn-check to the <input>, and pair it with any .btn classes on the <label>. See #30650. The docs for this has moved from our Buttons page to the new Forms section.
- Breaking Dropped .btn-block for utilities. Instead of using .btn-block on the .btn, wrap your buttons with .d-grid and a .gap-\* utility to space them as needed. Switch to responsive classes for even more control over them. Read the docs for some examples.
- Updated our button-variant() and button-outline-variant() mixins to support additional parameters.
- Updated buttons to ensure increased contrast on hover and active states.
- Disabled buttons now have pointer-events: none;.

#### Card

- Breaking Dropped .card-deck in favor of our grid. Wrap your cards in column classes and add a parent .row-cols-\* container to recreate card decks (but with more control over responsive alignment).
- Breaking Dropped .card-columns in favor of Masonry. See #28922.
- Breaking Replaced the .card based accordion with a <u>new Accordion component</u>.

#### Carousel

- Added new <u>.carousel-dark variant</u> for dark text, controls, and indicators (great for lighter backgrounds).
- Replaced chevron icons for carousel controls with new SVGs from <u>Bootstrap Icons</u>.

#### Close button

- Breaking Renamed .close to .btn-close for a less generic name.
- Close buttons now use a background-image (embedded SVG) instead of a × in the HTML, allowing for easier customization without the need to touch your markup.
- Added new .btn-close-white variant that uses filter: invert(1) to enable higher contrast dismiss icons against darker backgrounds.

### Collapse

Removed scroll anchoring for accordions.

### **Dropdowns**

- Added new .dropdown-menu-dark variant and associated variables for on-demand dark dropdowns.
- Added new variable for \$dropdown-padding-x.
- Darkened the dropdown divider for improved contrast.
- Breaking All the events for the dropdown are now triggered on the dropdown toggle button and then bubbled up to the parent element.
- Dropdown menus now have a data-bs-popper="static" attribute set when the positioning of the dropdown is static and data-bs-popper="none" when dropdown is in the navbar. This is added by our JavaScript and helps us use custom position styles without interfering with Popper's positioning.
- Breaking Dropped flip option for dropdown plugin in favor of native Popper configuration.
   You can now disable the flipping behavior by passing an empty array for fallbackPlacements option in flip modifier.
- Dropdown menus can now be clickable with a new autoClose option to handle the <u>auto close</u>
   <u>behavior</u>. You can use this option to accept the click inside or outside the dropdown menu to
   make it interactive.
- Dropdowns now support .dropdown-items wrapped in s.

### **Jumbotron**

Breaking Dropped the jumbotron component as it can be replicated with utilities. <u>See our new Jumbotron example for a demo.</u>

### List group

• Added new .list-group-numbered modifier to list groups.

#### Navs and tabs

Added new null variables for font-size, font-weight, color, and :hover color to the .nav-link class.

### **Navbars**

• Breaking Navbars now require a container within (to drastically simplify spacing requirements and CSS required).

#### **Offcanvas**

• Added the new offcanvas component.

## **Pagination**

- Pagination links now have customizable margin-left that are dynamically rounded on all corners when separated from one another.
- Added transitions to pagination links.

### **Popovers**

- Breaking Renamed .arrow to .popover-arrow in our default popover template.
- Renamed whiteList option to allowList.

### **Spinners**

- Spinners now honor prefers-reduced-motion: reduce by slowing down animations. <u>See</u> #31882.
- Improved spinner vertical alignment.

#### **Toasts**

- Toasts can now be positioned in a .toast-container with the help of positioning utilities.
- Changed default toast duration to 5 seconds.
- Removed overflow: hidden from toasts and replaced with proper border-radiuss with calc() functions.

### **Tooltips**

- Breaking Renamed .arrow to .tooltip-arrow in our default tooltip template.
- Breaking The default value for the fallbackPlacements is changed to ['top', 'right', 'bottom', 'left'] for better placement of popper elements.
- Breaking Renamed whiteList option to allowList.

### **Utilities**

 Breaking Renamed several utilities to use logical property names instead of directional names with the addition of RTL support:

- Renamed .left-\* and .right-\* to .start-\* and .end-\*.
- Renamed .float-left and .float-right to .float-start and .float-end.
- Renamed .border-left and .border-right to .border-start and .border-end.
- Renamed .rounded-left and .rounded-right to .rounded-start and .rounded-end.
- Renamed .ml-\* and .mr-\* to .ms-\* and .me-\*.
- Renamed .pl-\* and .pr-\* to .ps-\* and .pe-\*.
- Renamed .text-left and .text-right to .text-start and .text-end.
- Breaking Disabled negative margins by default.
- Added new .bg-body class for quickly setting the <body>'s background to additional elements.
- Added new <u>position utilities</u> for top, right, bottom, and left. Values include 0, 50%, and 100% for each property.
- Added new .translate-middle-x & .translate-middle-y utilities to horizontally or vertically center absolute/fixed positioned elements.
- Added new border-width utilities.
- Breaking Renamed .text-monospace to .font-monospace.
- Breaking Removed .text-hide as it's an antiquated method for hiding text that shouldn't be used anymore.
- Added .fs-\* utilities for font-size utilities (with RFS enabled). These use the same scale as HTML's default headings (1-6, large to small), and can be modified via Sass map.
- Breaking Renamed .font-weight-\* utilities as .fw-\* for brevity and consistency.
- Breaking Renamed .font-style-\* utilities as .fst-\* for brevity and consistency.
- Added .d-grid to display utilities and new gap utilities (.gap) for CSS Grid and flexbox layouts.
- Breaking Removed .rounded-sm and rounded-lg, and introduced a new scale of classes,
   .rounded-0 to .rounded-3. See #31687.
- Added new line-height utilities: .1h-1, .1h-sm, .1h-base and .1h-1g. See <a href="here">here</a>.
- Moved the .d-none utility in our CSS to give it more weight over other display utilities.
- Extended the .visually-hidden-focusable helper to also work on containers, using :focus-within.

## Helpers

- Breaking Responsive embed helpers have been renamed to <u>ratio helpers</u> with new class names and improved behaviors, as well as a helpful CSS variable.
  - Classes have been renamed to change by to x in the aspect ratio. For example, .ratio-16by9 is now .ratio-16x9.
  - We've dropped the .embed-responsive-item and element group selector in favor of a simpler .ratio > \* selector. No more class is needed, and the ratio helper now works with any HTML element.
  - The \$embed-responsive-aspect-ratios Sass map has been renamed to \$aspect-ratios and its values have been simplified to include the class name and the percentage as the key: value pair.
  - CSS variables are now generated and included for each value in the Sass map. Modify the --bs-aspect-ratio variable on the .ratio to create any <u>custom aspect ratio</u>.
- Breaking "Screen reader" classes are now "visually hidden" classes.
  - Changed the Sass file from scss/helpers/\_screenreaders.scss to scss/helpers/\_visually-hidden.scss
  - Renamed .sr-only and .sr-only-focusable to .visually-hidden and .visually-hidden focusable
  - Renamed sr-only() and sr-only-focusable() mixins to visually-hidden() and visually-hidden-focusable().
- bootstrap-utilities.css now also includes our helpers. Helpers don't need to be imported in custom builds anymore.

## **JavaScript**

- **Dropped jQuery dependency** and rewrote plugins to be in regular JavaScript.
- Breaking Data attributes for all JavaScript plugins are now namespaced to help distinguish Bootstrap functionality from third parties and your own code. For example, we use data-bs-toggle instead of data-toggle.
- All plugins can now accept a CSS selector as the first argument. You can either pass a DOM element or any valid CSS selector to create a new instance of the plugin:

```
var modal = new bootstrap.Modal('#myModal')
var dropdown = new bootstrap.Dropdown('[data-bs-toggle="dropdown"]')
```

popperConfig can be passed as a function that accepts the Bootstrap's default Popper config
as an argument, so that you can merge this default configuration in your way. Applies to
dropdowns, popovers, and tooltips.

- The default value for the fallbackPlacements is changed to ['top', 'right', 'bottom', 'left'] for better placement of Popper elements. **Applies to dropdowns, popovers, and tooltips.**
- Removed underscore from public static methods like \_getInstance() → getInstance().



### Bootstrap

Designed and built with all the love in the world by the Bootstrap team with the help of our contributors.

Code licensed MIT, docs CC BY 3.0.

Currently v5.0.2.

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