Package ‘bslib’

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Title Custom 'Bootstrap' 'Sass' Themes for 'shiny' and 'rmarkdown'

Version 0.3.1

Description Simplifies custom 'CSS' styling of both 'shiny' and 'rmarkdown' via 'Bootstrap' 'Sass'. Supports both 'Bootstrap' 3 and 4 as well as their various 'Bootswatch' themes. An interactive widget is also provided for previewing themes in real time.

Depends R (>= 2.10)

Imports grDevices, htmltools (>= 0.5.2), jsonlite, sass (>= 0.4.0), jquerylib (>= 0.1.3), rlang

Suggests shiny (>= 1.6.0), rmarkdown (>= 2.7), thematic, knitr, testthat, withr, rappdirs, curl, magrittr

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Encoding UTF-8

RoxygenNote 7.1.2

Config/testthat/edition 3

Collate 'bootswatch.R' 'bs-current-theme.R' 'bs-dependencies.R'
'bs-global.R' 'bs-remove.R' 'bs-theme-layers.R' 'utils.R'
'bs-theme-preview.R' 'bs-theme-update.R' 'bs-theme.R'
'deprecated.R' 'files.R' 'imports.R' 'nav-items.R'
'nav-update.R' 'navs-legacy.R' 'navs.R' 'onLoad.R' 'page.R'
'precompiled.R' 'print.R' 'shiny-devmode.R' 'utils-shiny.R'
'utils-tags.R' 'version-default.R' 'versions.R'


BugReports https://github.com/rstudio/bslib/issues

Config/Needs/website rsconnect, renv, r-lib/pkgdown, apreshill/quillt

NeedsCompilation no

Author Carson Sievert [aut, cre] (<https://orcid.org/0000-0002-4958-2844>),
Joe Cheng [aut],
RStudio [cph],
Bootstrap contributors [ctb] (Bootstrap library),
Twitter, Inc [cph] (Bootstrap library),
Javi Aguilar [ctb, cph] (Bootstrap colorpicker library),

bootswatch_themes

Obtain a list of all available bootswatch themes.

Description

Obtain a list of all available bootswatch themes.

Usage

```r
bootswatch_themes(version = version_default(), full_path = FALSE)
```

Arguments

- `version` the major version of Bootswatch.
- `full_path` whether to return a path to the installed theme.
bs_add_variables

Value

a character vector of Bootswatch themes.

bs_add_variables

Add low-level theming customizations

Description

Compared to higher-level theme customization available in \texttt{bs\_theme()}, these functions are a more direct interface to Bootstrap Sass, and therefore, do nothing to ensure theme customizations are portable between major Bootstrap versions.

Usage

\begin{verbatim}
bs_add_variables(
  theme,
  ..., 
  .where = "defaults",
  .default_flag = identical(.where, "defaults")
)

bs_add_rules(theme, rules)
bs_add_functions(theme, functions)
bs_add_mixins(theme, mixins)
bs_bundle(theme, ...)
\end{verbatim}

Arguments

\begin{itemize}
  \item \texttt{theme}: a \texttt{bs\_theme()} object.
  \item \texttt{...}: Should be named Sass variables or values that can be passed in directly to the defaults argument of a \texttt{sass::sass\_layer()}.
  \item \texttt{bs\_bundle()}: Should be arguments that can be handled by \texttt{sass::sass\_bundle()} to be appended to the theme.
  \item \texttt{.where}: Whether to place the variable definitions before other Sass "defaults", after other Sass "declarations", or after other Sass "rules".
  \item \texttt{.default_flag}: Whether or not to add a !default flag (if missing) to variable expressions. It’s recommended to keep this as TRUE when \texttt{.where = "defaults"}.
  \item \texttt{rules}: Sass rules. Anything understood by \texttt{sass::as\_sass()} may be provided (e.g., a list, character vector, \texttt{sass::sass\_file()}, etc)
  \item \texttt{functions}: A character vector or \texttt{sass::sass\_file()} containing functions definitions.
  \item \texttt{mixins}: A character vector or \texttt{sass::sass\_file()} containing mixin definitions.
\end{itemize}
bs_add_variables

Value

a modified bs_theme() object.

Functions

• bs_add_variables: Add Bootstrap Sass variable defaults
• bs_add_rules: Add additional Sass rules
• bs_add_functions: Add additional Sass functions
• bs_add_mixins: Add additional Sass mixins
• bs_bundle: Add additional sass::sass_bundle() objects to an existing theme.

References

https://getbootstrap.com/docs/4.4/getting-started/theming/
https://rstudio.github.io/sass/articles/sass.html#layering

Examples

# Function to preview the styling a (primary) Bootstrap button
library(htmltools)
button <- tags$a(class = "btn btn-primary", href = "#", role = "button", "Hello")
preview_button <- function(theme) {
  if (interactive()) {
    browsable(tags$body(bs_theme_dependencies(theme), button))
  }
}

# Here we start with a theme based on a Bootswatch theme,
# then override some variable defaults
theme <- bs_add_variables(
  bs_theme(bootswatch = "sketchy", primary = "orange"),
  "body-bg" = "#EEEEEE",
  "font-family-base" = "monospace",
  "font-size-base" = "1.4rem",
  "btn-padding-y" = "0.16rem",
  "btn-padding-x" = "2rem"
)

preview_button(theme)

# If you need to set a variable based on another Bootstrap variable
theme <- bs_add_variables(theme, "body-color" = "$success", .where = "declarations")
preview_button(theme)

# Start a new global theme and add some custom rules that
# use Bootstrap variables to define a custom styling for a
# 'person card'
person_rules <- system.file("custom", "person.scss", package = "bslib")
theme <- bs_add_rules(bs_theme(), sass::sass_file(person_rules))
bs_current_theme

# Include custom CSS that leverages bootstrap Sass variables
person <- function(name, title, company) {
  tags$div(
    class = "person",
    h3(class = "name", name),
    div(class = "title", title),
    div(class = "company", company)
  )
}
if (interactive()) {
  browsable(shiny::fluidPage(
    theme = theme,
    person("Andrew Carnegie", "Owner", "Carnegie Steel Company"),
    person("John D. Rockefeller", "Chairman", "Standard Oil")
  ))
}

---

bs_current_theme

Obtain the currently active theme at render time

Description

Intended for advanced use by developers to obtain the currently active theme at render time and primarily for implementing themable widgets that can’t otherwise be themed via bs_dependency_defer().

Usage

bs_current_theme(session = get_reactive_domain())

Arguments

session The current Shiny session (if any).

Details

This function should generally only be called at print/render time. For example:

- Inside the preRenderHook of htmlwidgets::createWidget().
- Inside of a custom print method that generates htmltools::tags.
- Inside of a htmltools::tagFunction()

Calling this function at print/render time is important because it does different things based on the context in which it’s called:

- If a reactive context is active, session$getCurrentTheme() is called (which is a reactive read).
• If no reactive context is active, `shiny::getCurrentTheme()` is called (which returns the current app’s theme, if relevant).
• If `shiny::getCurrentTheme()` comes up empty, then `bs_global_get()` is called, which is relevant for `rmarkdown::html_document()`, and possibly other static rendering contexts.

Value

a `bs_theme()` object.

---

### bs_dependency

#### Themeable HTML components

Themeable HTML components use Sass to generate CSS rules from Bootstrap Sass variables, functions, and/or mixins (i.e., stuff inside of theme). `bs_dependencies()` makes it a bit easier to create themeable components by compiling `sass::sass()` (input) together with Bootstrap Sass inside of a theme, and packaging up the result into an `htmlDependency()`.

Themable components can also be dynamically themed inside of Shiny (i.e., they may be themed in ‘real-time’ via `bs_themer()`, and more generally, update their styles in response to `shiny::session`’s `setCurrentTheme()` method). Dynamically themeable components provide a “recipe” (i.e., a function) to `bs_dependency_defer()`, describing how to generate new CSS stylesheet(s) from a new theme. This function is called when the HTML page is first rendered, and may be invoked again with a new theme whenever `shiny::session`’s `setCurrentTheme()` is called.

**Usage**

```r
bs_dependency(
  input = list(),
  theme,
  name,
  version,
  cache_key_extra = NULL,
  .dep_args = list(),
  .sass_args = list()
)
```

```r
bs_dependency_defer(func)
```

**Arguments**

- `input`: Sass rules to compile, using theme.
- `theme`: A `bs_theme()` object.
- `name`: Library name.
- `version`: Library version.
bs_dependency

```
cache_key_extra
Extra information to add to the sass cache key. It is useful to add the version of your package.

.dep_args
A list of additional arguments to pass to `htmltools::htmlDependency()`. Note that package has no effect and script must be absolute path(s).

.sass_args
A list of additional arguments to pass to `sass::sass_partial()`.

func
a non-anonymous function, with a single argument. This function should accept a `bs_theme()` object and return a single `htmlDependency()`, a list of them, or NULL.

Value
bs_dependency() returns an `htmltools::htmlDependency()` and bs_dependency_defer() returns an `htmltools::tagFunction()`

References
https://rstudio.github.io/bslib/articles/custom-components.html

Examples
```
## Not run:
myWidgetVersion <- "1.2.3"

myWidgetDependency <- function() {
  list(
    bs_dependency_defer(myWidgetCss),
    htmlDependency(
      name = "mywidget-js",
      version = myWidgetVersion,
      src = system.file(package = "mypackage", "js"),
      script = "mywidget.js"
    )
  )
}

myWidgetCSS <- function(theme) {
  if (!is_bs_theme(theme)) {
    return(
      htmlDependency(
        name = "mywidget-css",
        version = myWidgetVersion,
        src = system.file(package = "mypackage", "css"),
        stylesheet = "mywidget.css"
      )
    )
  }
  # Compile mywidget.scss using the variables and defaults from the theme
```
bs_get_variables

Retrieve Sass variable values from the current theme

Description
Useful for retrieving a variable from the current theme and using the value to inform another R function.

Usage
bs_get_variables(theme, varnames)
bs_get_contrast(theme, varnames)

Arguments
theme a bs_theme() object.
varnames a character string referencing a Sass variable in the current theme.

Value
a character string containing a CSS/Sass value. If the variable(s) are not defined, their value is NA.
Examples

```r
vars <- c("body-bg", "body-color", "primary", "border-radius")
bs_get_variables(bs_theme(), varnames = vars)
bs_get_variables(bs_theme(bootswatch = "darkly"), varnames = vars)

bs_get_contrast(bs_theme(), c("primary", "dark", "light"))
```

```r
library(htmltools)
div(
  class = "bg-primary",
  style = css(
    color = bs_get_contrast(bs_theme(), "primary")
  )
)
```

---

bs_global_theme  Global theming

Description

`bs_global_theme()` creates a new (global) Bootstrap Sass theme which `bs_theme_dependencies()` (or `sass_partial()`) can consume (their theme argument defaults to `bs_global_get()`, which get the current global theme).

Usage

```r
bs_global_theme(
  version = version_default(),
  bootswatch = NULL,
  bg = NULL,
  fg = NULL,
  primary = NULL,
  secondary = NULL,
  success = NULL,
  info = NULL,
  warning = NULL,
  danger = NULL,
  base_font = NULL,
  code_font = NULL,
  heading_font = NULL,
  ...
)
```

```r
bs_global_set(theme = bs_theme())
```

```r
bs_global_get()
```
bs_global_clear()

bs_global_add_variables(
  ..., 
  .where = "defaults", 
  .default_flag = identical(.where, "defaults")
)

bs_global_add_rules(...)

bs_global_bundle(...)

bs_global_theme_update(
  ..., 
  bootswatch = NULL, 
  bg = NULL, 
  fg = NULL, 
  primary = NULL, 
  secondary = NULL, 
  success = NULL, 
  info = NULL, 
  warning = NULL, 
  danger = NULL, 
  base_font = NULL, 
  code_font = NULL, 
  heading_font = NULL
)

Arguments

version The major version of Bootstrap to use (see versions() for possible values). Defaults to the currently recommended version for new projects (currently Bootstrap 4).

bootswatch The name of a bootswatch theme (see bootswatch_themes() for possible values). When provided to bs_theme_update(), any previous Bootswatch theme is first removed before the new one is applied (use bootswatch = "default" to effectively remove the Bootswatch theme).

b A color string for the background.

d A color string for the foreground.

primary A color to be used for hyperlinks, to indicate primary/default actions, and to show active selection state in some Bootstrap components. Generally a bold, saturated color that contrasts with the theme’s base colors.

secondary A color for components and messages that don’t need to stand out. (Not supported in Bootstrap 3.)

success A color for messages that indicate an operation has succeeded. Typically green.
info A color for messages that are informative but not critical. Typically a shade of blue-green.

warning A color for warning messages. Typically yellow.

danger A color for errors. Typically red.

base_font The default typeface.

code_font The typeface to be used for code. Be sure this is monospace!

heading_font The typeface to be used for heading elements.

... arguments passed along to `bs_add_variables()`.

theme a `bs_theme()` object.

.where Whether to place the variable definitions before other Sass "defaults", after other Sass "declarations", or after other Sass "rules".

.default_flag Whether or not to add a !default flag (if missing) to variable expressions. It's recommended to keep this as TRUE when .where = "defaults".

Value

functions that modify the global theme (e.g., `bs_global_set()`) invisibly return the previously set theme. `bs_global_get()` returns the current global theme.

See Also

`bs_theme()`, `bs_theme_preview()`

Examples

```r
# Remember the global state now (so we can restore later)
theme <- bs_global_get()

# Use Bootstrap 3 (globally) with some theme customization
bs_global_theme(3, bg = "#444", fg = "#e4e4e4", primary = "#e39777")
if (interactive()) bs_theme_preview(with_themer = FALSE)

# If no global theme is active, bs_global_get() returns NULL
bs_global_clear()
bs_global_get()

# Restore the original state
bs_global_set(theme)
```

bs_remove Remove or retrieve Sass code from a theme

Description

Remove or retrieve Sass code from a theme
Usage

bs_remove(theme, ids = character(0))
bs_retrieve(theme, ids = character(0), include_unnamed = TRUE)

Arguments

  theme                 a `bs_theme()` object.
  ids                   a character vector of ids
  include_unnamed       whether or not to include unnamed `sass::sass_layer()`s (e.g., Bootstrap Sass variables, functions, and mixins).

Value

  a modified `bs_theme()` object.

Examples

# Remove CSS rules for print and carousels
bs4 <- bs_theme(version = 4)
bs_remove(bs4, c("_print", "_carousel"))

# Remove BS3 compatibility layer
bs_remove(bs4, "bs3compat")

bs_theme

Create a Bootstrap theme

Description

  Creates a Bootstrap theme object, where you can:

  - Choose a (major) Bootstrap version.
  - Choose a Bootswatch theme (optional).
  - Customize main colors and fonts via explicitly named arguments (e.g., bg, fg, primary, etc).
  - Customize other, lower-level, Bootstrap Sass variable defaults via ....

  To learn more about how to implement custom themes, as well as how to use them inside Shiny and R Markdown, see here.
Usage

bs_theme(
  version = version_default(),
  bootswatch = NULL,
  ..., 
  bg = NULL,
  fg = NULL,
  primary = NULL,
  secondary = NULL,
  success = NULL,
  info = NULL,
  warning = NULL,
  danger = NULL,
  base_font = NULL,
  code_font = NULL,
  heading_font = NULL,
  font_scale = NULL
)

bs_theme_update(
  theme,
  ..., 
  bootswatch = NULL,
  bg = NULL,
  fg = NULL,
  primary = NULL,
  secondary = NULL,
  success = NULL,
  info = NULL,
  warning = NULL,
  danger = NULL,
  base_font = NULL,
  code_font = NULL,
  heading_font = NULL,
  font_scale = NULL
)

is_bs_theme(x)

Arguments

version The major version of Bootstrap to use (see versions() for possible values). Defaults to the currently recommended version for new projects (currently Bootstrap 4).

bootswatch The name of a bootswatch theme (see bootswatch_themes() for possible values). When provided to bs_theme_update(), any previous Bootswatch theme is first removed before the new one is applied (use bootswatch = "default" to effectively remove the Bootswatch theme).
arguments passed along to \texttt{bs_add_variables()}.  

\textbf{bg}  
A color string for the background.  

\textbf{fg}  
A color string for the foreground.  

\textbf{primary}  
A color to be used for hyperlinks, to indicate primary/default actions, and to show active selection state in some Bootstrap components. Generally a bold, saturated color that contrasts with the theme’s base colors.  

\textbf{secondary}  
A color for components and messages that don’t need to stand out. (Not supported in Bootstrap 3.)  

\textbf{success}  
A color for messages that indicate an operation has succeeded. Typically green.  

\textbf{info}  
A color for messages that are informative but not critical. Typically a shade of blue-green.  

\textbf{warning}  
A color for warning messages. Typically yellow.  

\textbf{danger}  
A color for errors. Typically red.  

\textbf{base_font}  
The default typeface.  

\textbf{code_font}  
The typeface to be used for code. Be sure this is monospace!  

\textbf{heading_font}  
The typeface to be used for heading elements.  

\textbf{font_scale}  
A scalar multiplier to apply to the base font size. For example, a value of 1.5 scales font sizes to 150% and a value of 0.8 scales to 80%. Must be a positive number.  

\textbf{theme}  
a \texttt{bs_theme()} object.  

\textbf{x}  
an object.  

\textbf{Value}  

\textbf{a \texttt{sass::sass_bundle()} (list-like) object.}  

\textbf{Colors}  

Colors may be provided in any format that \texttt{htmltools::parseCssColors()} can understand. To control the vast majority of the ('grayscale') color defaults, specify both the \texttt{fg} (foreground) and \texttt{bg} (background) colors. The \texttt{primary} and \texttt{secondary} theme colors are also useful for accenting the main grayscale colors in things like hyperlinks, tabset panels, and buttons.  

\textbf{Fonts}  

Use \texttt{base_font}, \texttt{code_font}, and \texttt{heading_font} to control the main typefaces. These arguments set new defaults for the relevant \texttt{font-family} CSS properties, but don’t necessarily import the relevant font files. To both set CSS properties \textit{and} import font files, consider using the various \texttt{font_face()} helpers.  

Each \texttt{* \_font} argument may be collection of character vectors, \texttt{font_google()}s, \texttt{font_link()}s and/or \texttt{font_face()}s. Note that a character vector can have:  

- A single unquoted name (e.g., "Source Sans Pro").  
- A single quoted name (e.g., ‘Source Sans Pro’).
bs_theme

- A comma-separated list of names w/ individual names quoted as necessary. (e.g. c("Open Sans","Source Sans Pro","Helvetica Neue",Helvetica,sans-serif))

Since font_google(...,local = TRUE) guarantees that the client has access to the font family, meaning it’s relatively safe to specify just one font family, for instance:

bs_theme(base_font = font_google("Pacifico", local = TRUE))

However, specifying multiple “fallback” font families is recommended, especially when relying on remote and/or system fonts being available, for instance. Fallback fonts are useful not only for handling missing fonts, but also for handling a Flash of Invisible Text (FOIT) which can be quite noticeable with remote web fonts on a slow internet connection.

bs_theme(base_font = font_collection(font_google("Pacifico", local = FALSE), "Roboto", "sans-serif")

References

https://rstudio.github.io/bslib/articles/bslib.html
https://rstudio.github.io/sass/

See Also

bs_add_variables(), bs_theme_preview()

Examples

theme <- bs_theme(
  # Controls the default grayscale palette
  bg = "#202123", fg = "#B8BCC2",
  # Controls the accent (e.g., hyperlink, button, etc) colors
  primary = "#EA80FC", secondary = "#48DAC6",
  base_font = c("Grandstander", "sans-serif"),
  code_font = c("Courier", "monospace"),
  heading_font = "Helvetica Neue", Helvetica, sans-serif",
  # Can also add lower-level customization
  "input-border-color" = "#EA80FC"
)
if (interactive()) {
  bs_theme_preview(theme)
}

# Lower-level bs_add_*() functions allow you to work more
# directly with the underlying Sass code
theme <- bs_add_variables(theme, "my-class-color" = "red")
theme <- bs_add_rules(theme, ".my-class { color: $my-class-color }")
bs_theme_dependencies  Compile Bootstrap Sass with (optional) theming

Description

bs_theme_dependencies() compiles Bootstrap Sass into CSS and returns it, along with other HTML dependencies, as a list of htmltools::htmlDependency(). Most users won’t need to call this function directly as Shiny & R Markdown will perform this compilation automatically when handed a bs_theme(). If you’re here looking to create a themeable component, see bs_dependency().

Usage

bs_theme_dependencies(
  theme,
  sass_options = sass::sass_options_get(output_style = "compressed"),
  cache = sass::sass_cache_get(),
  jquery = jquerylib::jquery_core(3),
  precompiled = get_precompiled_option("bslib.precompiled", default = TRUE)
)

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>theme</td>
<td>a bs_theme() object.</td>
</tr>
<tr>
<td>sass_options</td>
<td>a sass::sass_options() object.</td>
</tr>
<tr>
<td>cache</td>
<td>This can be a directory to use for the cache, a FileCache object created by sass_file_cache(), or FALSE or NULL for no caching.</td>
</tr>
<tr>
<td>jquery</td>
<td>a jquerylib::jquery_core() object.</td>
</tr>
<tr>
<td>precompiled</td>
<td>Before compiling the theme object, first look for a precompiled CSS file for the theme_version(). If precompiled = TRUE and a precompiled CSS file exists for the theme object, it will be fetched immediately and not compiled. At the moment, we only provide precompiled CSS for &quot;stock&quot; builds of Bootstrap (i.e., no theming additions, bootswatch themes, or non-default sass_options).</td>
</tr>
</tbody>
</table>

Value

A list of HTML dependencies containing Bootstrap CSS, Bootstrap JavaScript, and jquery. This list may contain additional HTML dependencies if bundled with the theme.

Sass caching and precompilation

If Shiny Developer Mode is enabled (by setting options(shiny.devmode = TRUE) or calling shiny::devmode(TRUE)), both sass caching and bslib precompilation are disabled by default; that is, a call to bs_theme_dependencies(theme) expands to bs_theme_dependencies(theme, cache = F, precompiled = F)). This is useful for local development as enabling caching/precompilation may produce incorrect results if local changes are made to bslib’s source files.
bs_theme_preview

See Also

bs_theme(), bs_dependency()

Examples

# Function to preview the styling a (primary) Bootstrap button
library(htmltools)
button <- tags$a(class = "btn btn-primary", href = "#", role = "button", "Hello")
preview_button <- function(theme) {
  if (interactive()) {
    browsable(tags$body(bs_theme_dependencies(theme), button))
  }
}

# Latest Bootstrap
preview_button(bs_theme())
# Bootstrap 3
preview_button(bs_theme(3))
# Bootswatch 4 minty theme
preview_button(bs_theme(4, bootswatch = "minty"))
# Bootswatch 4 sketchy theme
preview_button(bs_theme(4, bootswatch = "sketchy"))

Description

Launches an example shiny app via run_with_themer() and bs_theme_dependencies(). Useful for getting a quick preview of the current theme setting as well as an interactive GUI for tweaking some of the main theme settings.

Usage

bs_theme_preview(theme = bs_theme(), ..., with_themer = TRUE)

Arguments

theme a bs_theme() object.
... passed along to shiny::runApp().
with_themer whether or not to run the app with run_with_themer().

Details

The app that this launches is subject to change.
Value

nothing, this function is called for its side-effects (launching an application).

See Also

run_with_themer()

Examples

theme <- bs_theme(bg = "#6c757d", fg = "white", primary = "orange")
if (interactive()) bs_theme_preview(theme)

# If you have an internet connection, running the following code
# will download, cache, and import the relevant Google Font files
# for local use
theme <- bs_theme(
  base_font = font_google("Fira Sans"),
  code_font = font_google("Fira Code"),
  heading_font = font_google("Fredoka One")
)
if (interactive()) {
  bs_theme_preview(theme)
}

# Three different yet equivalent ways of importing a remotely-hosted Google Font
a <- font_google("Crimson Pro", wght = "200..900", local = FALSE)
b <- font_link(
  "Crimson Pro",
  href = "https://fonts.googleapis.com/css2?family=Crimson+Pro:wght@200..900"
)
c <- font_face(
  family = "Crimson Pro",
  style = "normal",
  weight = "200 900",
  src = paste0("url(" , url, ") format('woff2')")
)
Description

Create nav item(s) for use inside nav containers (e.g., \texttt{navs\_tab()}, \texttt{navs\_bar()}, etc).

Usage

\begin{verbatim}
nav(title, \ldots, value = title, icon = NULL)

nav\_menu(title, \ldots, value = title, icon = NULL, align = c("left", "right"))

nav\_content(value, \ldots, icon = NULL)

nav\_item(\ldots)

nav\_spacer()
\end{verbatim}

Arguments

- \texttt{title} \hfill A title to display. Can be a character string or UI elements (i.e., \texttt{tags}).
- \ldots \hfill Depends on the function:
  - For \texttt{nav()} and \texttt{nav\_content()}: UI elements (i.e., \texttt{tags}) to display when the item is active.
  - For \texttt{nav\_menu()}: a collection of nav items (e.g., \texttt{nav()}, \texttt{nav\_item()}).
  - For \texttt{nav\_item()}: UI elements (i.e., \texttt{tags}) to place directly in the navigation panel (e.g., search forms, links to external content, etc).
- \texttt{value} \hfill A character string to assign to the nav item. This value may be supplied to the relevant container’s selected argument in order to show particular nav item’s content immediately on page load. This value is also useful for programmatically updating the selected content via \texttt{nav\_select()}, \texttt{nav\_hide()}, etc (updating selected tabs this way is often useful for showing/hiding panels of content via other UI controls like \texttt{shiny::radioButtons()} – in this scenario, consider using \texttt{nav\_content()} with \texttt{navs\_hidden()}).
- \texttt{icon} \hfill Optional icon to appear next to the nav item’s title.
- \texttt{align} \hfill horizontal alignment of the dropdown menu relative to dropdown toggle.

Value

A nav item that may be passed to a nav container (e.g. \texttt{navs\_tab()}).
Functions

- `nav`: Content to display when the given item is selected.
- `nav_menu`: Create a menu of nav items.
- `nav_content`: Create nav content for use inside `navs_hidden()` (for creating custom navigation controls via `navs_select()`),
- `nav_item`: Place arbitrary content in the navigation panel (e.g., search forms, links to external content, etc.)
- `nav_spacer`: Adding spacing between nav items.

See Also

`navs_tab()`, `navs_select()`.

---

**navs_tab**  
*Navigation containers*

Description

Render a collection of `nav()` items into a container.

Usage

```r
navs_tab(..., id = NULL, selected = NULL, header = NULL, footer = NULL)

navs_pill(..., id = NULL, selected = NULL, header = NULL, footer = NULL)

navs_pill_list(..., id = NULL, selected = NULL, header = NULL, footer = NULL, well = TRUE, fluid = TRUE, widths = c(4, 8))

navs_hidden(..., id = NULL, selected = NULL, header = NULL, footer = NULL)

navs_bar(..., title = NULL, id = NULL, selected = NULL, position = c("static-top", "fixed-top", "fixed-bottom"),
```
navs_tab

```r
header = NULL,
footer = NULL,
bg = NULL,
inverse = "auto",
collapsible = TRUE,
fluid = TRUE
)

navs_tab_card(..., id = NULL, selected = NULL, header = NULL, footer = NULL)

navs_pill_card(
  ..., 
id = NULL,
selected = NULL,
header = NULL,
footer = NULL,
placement = c("above", "below")
)
```

**Arguments**

- `...` a collection of `nav()` items.
- `id` a character string used for dynamically updating the container (see `nav_select()`).
- `selected` a character string matching the value of a particular `nav()` item to selected by default.
- `header` UI element(s) (tags) to display above the nav content.
- `footer` UI element(s) (tags) to display below the nav content.
- `well` TRUE to place a well (gray rounded rectangle) around the navigation list.
- `fluid` TRUE to use fluid layout; FALSE to use fixed layout.
- `widths` Column widths of the navigation list and tabset content areas respectively.
- `title` The title to display in the navbar.
- `position` Determines whether the navbar should be displayed at the top of the page with normal scrolling behavior ("static-top"), pinned at the top ("fixed-top"), or pinned at the bottom ("fixed-bottom"). Note that using "fixed-top" or "fixed-bottom" will cause the navbar to overlay your body content, unless you add padding. e.g.: `tags$style(type="text/css","body {padding-top: 70px;}")`
- `bg` a CSS color to use for the navbar’s background color.
- `inverse` Either TRUE for a light text color or FALSE for a dark text color. If "auto" (the default), the best contrast to bg is chosen.
- `collapsible` TRUE to automatically collapse the navigation elements into a menu when the width of the browser is less than 940 pixels (useful for viewing on smaller touch-screen device)
- `placement` placement of the nav items relative to the content.
See Also

nav(), nav_select().

Examples

library(shiny)

nav_items <- function(prefix) {
  list(
    nav("a", paste(prefix, ": tab a content")),
    nav("b", paste(prefix, ": tab b content")),
    nav_item(
      tags$a(icon("github"), "Shiny", href = "https://github.com/rstudio/shiny", target = "_blank")
    ),
    nav_spacer(),
    nav_menu(
      "Other links", align = "right",
      nav("c", paste(prefix, ": tab c content")),
      nav_item(
        tags$a(icon("r-project"), "RStudio", href = "https://rstudio.com", target = "_blank")
      )
    )
  )
}

if (interactive()) {
  shinyApp(
    page_navbar(
      title = "page_navbar()",
      bg = "#0062cc",
      nav_items("page_navbar()"),
      footer = div(
        style = "width:80%; margin: 0 auto",
        h4("navs_tab()"),
        navs_tab(nav_items("navs_tab()")),
        h4("navs_pill()"),
        navs_pill(nav_items("navs_pill()")),
        h4("navs_tab_card()"),
        navs_tab_card(nav_items("navs_tab_card()")),
        h4("navs_pill_card()"),
        navs_pill_card(nav_items("navs_pill_card()")),
        h4("navs_pill_list()"),
        navs_pill_list(nav_items("navs_pill_list()"))
      ),
      function(...) { }
    )
  )
}
**nav_select**  

**Dynamically update nav containers**

**Description**

Functions for dynamically updating nav containers (e.g., select, insert, and remove nav items). These functions require an id on the nav container to be specified.

**Usage**

```r
nav_select(id, selected = NULL, session = getDefaultReactiveDomain())
```

```r
c
nav_insert(
  id,
  nav,
  target = NULL,
  position = c("after", "before"),
  select = FALSE,
  session = getDefaultReactiveDomain()
)
```

```r
c
nav_remove(id, target, session = getDefaultReactiveDomain())
```

```r
c
nav_show(id, target, select = FALSE, session = DEFAULTReactiveDomain())
```

```r
c
nav_hide(id, target, session = DEFAULTReactiveDomain())
```

**Arguments**

- **id**  
  a character string used to identify the nav container.

- **selected**  
  a character string used to identify a particular nav() item.

- **session**  
  a shiny session object (the default should almost always be used).

- **nav**  
  a nav() item.

- **target**  
  The value of an existing nav() item, next to which tab will be added. If removing: the value of the nav() item that you want to remove.

- **position**  
  Should nav be added before or after the target?

- **select**  
  Should nav be selected upon being inserted?

**See Also**

- nav(), navs_tab()
Examples

can_browse <- function() interactive() && require("shiny")

# Selecting a tab
if (can_browse()) {
  shinyApp(
    page_fluid(
      radioButtons("item", "Choose", c("A", "B")),
      navs_hidden(
        id = "container",
        nav_content("A", "a"),
        nav_content("B", "b")
      ),
      function(input, output) {
        observe(nav_select("container", input$item))
      }
    ),
    function(input, output) {
      observe(nav_select("container", input$item))
    }
  }
}

# Inserting and removing
if (can_browse()) {
  ui <- page_fluid(
    actionButton("add", "Add 'Dynamic' tab"),
    actionButton("remove", "Remove 'Foo' tab"),
    navs_tab(
      id = "tabs",
      nav("Hello", "hello"),
      nav("Foo", "foo"),
      nav("Bar", "bar tab")
    ),
    function(input, output) {
      observeEvent(input$add, {
        nav_insert(
          "tabs", target = "Bar", select = TRUE,
          nav("Dynamic", "Dynamically added content")
        )
      })
      observeEvent(input$remove, {
        nav_remove("tabs", target = "Foo")
      })
    }
  )
  server <- function(input, output) {
    observeEvent(input$add, {
      nav_insert(
        "tabs", target = "Bar", select = TRUE,
        nav("Dynamic", "Dynamically added content")
      )
    })
  }
  shinyApp(ui, server)
}
Description

These functions are small wrappers around shiny's page constructors (i.e., `shiny::fluidPage()`, `shiny::navbarPage()`, etc) that differ in two ways:

- The theme parameter defaults bslib’s recommended version of Bootstrap (for new projects).
- The return value is rendered as an static HTML page when printed interactively at the console.

Usage

```r
page(..., title = NULL, theme = bs_theme(), lang = NULL)
page_fluid(..., title = NULL, theme = bs_theme(), lang = NULL)
page_fixed(..., title = NULL, theme = bs_theme(), lang = NULL)
page_fill(..., padding = 0, title = NULL, theme = bs_theme(), lang = NULL)
page_navbar(
  ..., 
  title = NULL,
  id = NULL,
  selected = NULL,
  position = c("static-top", "fixed-top", "fixed-bottom"),
  header = NULL,
  footer = NULL,
  bg = NULL,
  inverse = "auto",
  collapsible = TRUE,
  fluid = TRUE,
  theme = bs_theme(),
  window_title = NA,
  lang = NULL
)
```

Arguments

- `...` The contents of the document body.
- `title` The browser window title (defaults to the host URL of the page)
- `theme` One of the following:
  - `NULL` (the default), which implies a "stock" build of Bootstrap 3.
  - A `bslib::bs_theme()` object. This can be used to replace a stock build of Bootstrap 3 with a customized version of Bootstrap 3 or higher.
  - A character string pointing to an alternative Bootstrap stylesheet (normally a css file within the www directory, e.g. www/bootstrap.css).
- `lang` ISO 639-1 language code for the HTML page, such as "en" or "ko". This will be used as the lang in the `<html>` tag, as in `<html lang="en">`. The default (NULL) results in an empty string.
padding
Padding to use for the body. This can be a numeric vector (which will be interpreted as pixels) or a character vector with valid CSS lengths. The length can be between one and four. If one, then that value will be used for all four sides. If two, then the first value will be used for the top and bottom, while the second value will be used for left and right. If three, then the first will be used for top, the second will be left and right, and the third will be bottom. If four, then the values will be interpreted as top, right, bottom, and left respectively.

id
a character string used for dynamically updating the container (see nav_select()).

selected
a character string matching the value of a particular nav() item to selected by default.

position
Determines whether the navbar should be displayed at the top of the page with normal scrolling behavior ("static-top"), pinned at the top ("fixed-top"), or pinned at the bottom ("fixed-bottom"). Note that using "fixed-top" or "fixed-bottom" will cause the navbar to overlay your body content, unless you add padding, e.g.: tags$style(type="text/css","body {padding-top: 70px;}")

header
UI element(s) (tags) to display above the nav content.

footer
UI element(s) (tags) to display below the nav content.

bg
a CSS color to use for the navbar’s background color.

inverse
Either TRUE for a light text color or FALSE for a dark text color. If "auto" (the default), the best contrast to bg is chosen.

collapsible
TRUE to automatically collapse the navigation elements into a menu when the width of the browser is less than 940 pixels (useful for viewing on smaller touchscreen device)

fluid
TRUE to use fluid layout; FALSE to use fixed layout.

window_title
the browser window title. The default value, NA, means to use any character strings that appear in title (if none are found, the host URL of the page is displayed by default).

See Also
shiny::bootstrapPage()
shiny::fluidPage()
shiny::fixedPage()
shiny::fillPage()
shiny::navbarPage()
Description

A 'real-time' theme customization UI that you can use to easily make common tweaks to Bootstrap variables and immediately see how they would affect your app’s appearance. There are two ways you can launch the theming UI. For most Shiny apps, just use run_with_themer() in place of shiny::runApp(); they should take the same arguments and work the same way. Alternatively, you can call the bs_themer() function from inside your server function (or in an R Markdown app that is using runtime: shiny, you can call this from any code chunk). Note that this function is only intended to be used for development!

Usage

run_with_themer(appDir = getwd(), ..., gfonts = TRUE, gfonts_update = FALSE)

bs_themer(gfonts = TRUE, gfonts_update = FALSE)

Arguments

appDir The application to run. This can be a file or directory path, or a shiny::shinyApp() object. See shiny::runApp() for details.

... Additional parameters to pass through to shiny::runApp().

gfonts whether or not to detect Google Fonts and wrap them in font_google() (so that their font files are automatically imported).

gfonts_update whether or not to update the internal database of Google Fonts.

Details

To help you utilize the changes you see in the preview, this utility prints bs_theme() code to the R console.

Value

nothing. These functions are called for their side-effects.

Limitations

• Doesn’t work with Bootstrap 3.
• Doesn’t work with IE11.
• Only works inside Shiny apps and runtime: shiny R Markdown documents.
  – Can’t be used with static R Markdown documents.
  – Can be used to some extent with runtime: shiny_prerendered, but only UI rendered through a context="server" may update in real-time.
• Doesn’t work with ’3rd party’ custom widgets that don’t make use of bs_dependency_defer() or bs_current_theme().
Examples

library(shiny)

ui <- fluidPage(
  theme = bs_theme(bg = "black", fg = "white"),
  h1("Heading 1"),
  h2("Heading 2"),
  p(
    "Paragraph text;",
    tags$a(href = "https://www.rstudio.com", "a link")
  ),
  p(
    actionButton("cancel", "Cancel"),
    actionButton("continue", "Continue", class = "btn-primary")
  ),
  tabsetPanel(
    tabPanel("First tab",
      "The contents of the first tab"
    ),
    tabPanel("Second tab",
      "The contents of the second tab"
    )
  )
)

if (interactive()) {
  run_with_themer(shinyApp(ui, function(input, output) {}))
}

theme_bootswatch

Obtain a theme’s Bootswatch theme name

Description

Obtain a theme’s Bootswatch theme name

Usage

theme_bootswatch(theme)

Arguments

theme        a bs_theme() object.

Value

the Bootswatch theme named used (if any) in the theme.
**theme_version**

*Obtain a theme’s Bootstrap version*

---

**Description**

Obtain a theme’s Bootstrap version

**Usage**

```r
theme_version(theme)
```

**Arguments**

- `theme` a `bs_theme()` object.

**Value**

The major version of Bootstrap used in the theme.

---

**versions**

*Available Bootstrap versions*

---

**Description**

Available Bootstrap versions

**Usage**

```r
versions()
```

```r
version_default()
```

**Value**

A list of the Bootstrap versions available.
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