

# blogdown and You

## An Introduction to Creating Websites Using R

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Slides available at <http://bit.ly/bsa-blogdown-2020>.

# A *VERY* brief introduction

There are tons of resources out there which can mean that it's overwhelming.

Your first stop should be the creators' book on `blogdown`:

<https://bookdown.org/yihui/blogdown/>

This presentation will more than loosely follow the tutorial created by one of the creators found at <https://alison.rbind.io/post/2017-06-12-up-and-running-with-blogdown/>

# blogdown

An R package for creating websites using RMarkdown and Hugo



Get Started

# Install `blogdown`

Install the CRAN version:

```
install.packages("blogdown")
```

Or use the development version:

```
if (!requireNamespace("devtools")) install.packages("devtools")  
devtools::install_github("rstudio/blogdown")
```

# Install Hugo using `blogdown`

```
blogdown::install_hugo()
```

```
# or
```

```
library(blogdown)
```

```
install_hugo()
```

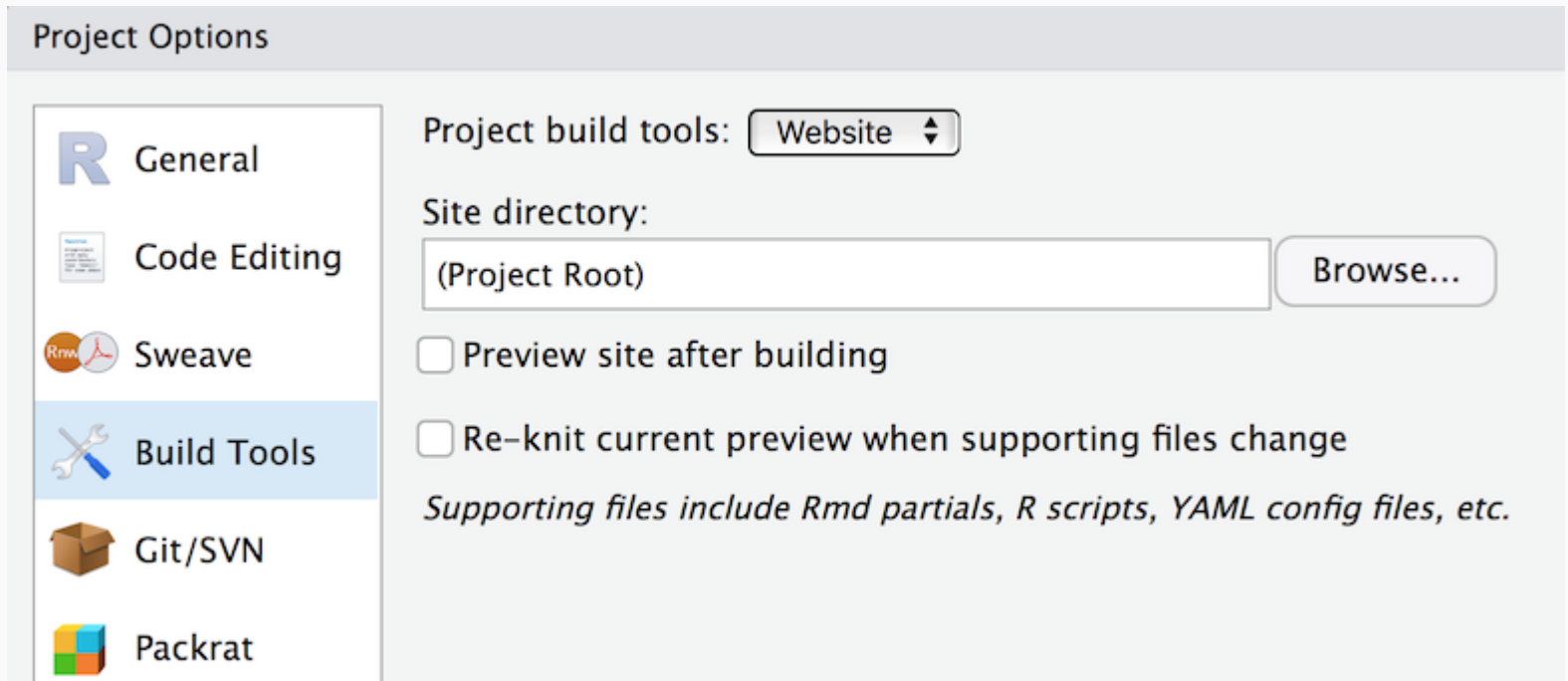
Other functions you may want to use:

```
blogdown::update_hugo() # force an update
```

```
blogdown::hugo_version # check version
```


# Create a new R project


- Create a new R Project from the menu `File → New Project → New Directory`
- Name your project the same as your site, i.e. "ucla-biostat-computing-club"
- Update R project options <https://bookdown.org/yihui/blogdown/rstudio-ide.html#fig:project-options>





The screenshot shows the 'Project Options' dialog box in RStudio. On the left is a sidebar with icons and labels for different settings categories: 'General' (R logo), 'Code Editing' (notepad icon), 'Sweave' (Rnw and pdf icons), 'Build Tools' (wrench and screwdriver icon, highlighted with a blue background), 'Git/SVN' (box icon), and 'Packrat' (colorful square icon). The main area on the right is titled 'Project build tools:' and shows a dropdown menu set to 'Website'. Below this is the 'Site directory:' section, which includes a text input field containing '(Project Root)' and a 'Browse...' button to the right. Further down are two unchecked checkboxes: 'Preview site after building' and 'Re-knit current preview when supporting files change'. At the bottom, there is a line of italicized text: 'Supporting files include Rmd partials, R scripts, YAML config files, etc.'


Project Options


 General

 Code Editing

 Sweave

 Build Tools

 Git/SVN

 Packrat

Project build tools: Website

Site directory:

(Project Root) Browse...

☐ Preview site after building

☐ Re-knit current preview when supporting files change

*Supporting files include Rmd partials, R scripts, YAML config files, etc.*

# Build your site

Themes available: <https://bookdown.org/yihui/blogdown/other-themes.html>

Take some time to choose a theme because it's somewhat difficult to change

- Default theme

```
blogdown::new_site()
```

- Academic theme is super popular

```
blogdown::new_site(theme = "gcushen/hugo-academic",  
                    theme_example = TRUE,  
                    empty_dirs = TRUE)
```



# Hugo Directory Structure

<https://gohugo.io/getting-started/directory-structure/>

Know your way around:

```
.  
├── archetypes  
├── config.toml  
├── content  
├── data  
├── layouts  
├── public  
├── static  
└── themes
```

(Some of these folders may be missing if you didn't specify to keep empty directories)

# Directory names

- Trailing slash will indicate a directory name, e.g., `content/` means a directory named `content` instead of a file named `content`.

```
.
├── archetypes
├── config.toml
├── content
│   └── posts
├── data
├── layouts
├── public
├── static
└── themes
```

# File names

- Leading slash in a path indicates the root directory of the website, e.g.,  
`/static/css/style.css` means the file `static/css/style.css` under the root directory of your website project instead of your operating system.

```
.  
├── archetypes  
├── config.toml  
├── content  
├── data  
├── layouts  
├── public  
├── static  
│   └── css  
│       └── style.css  
└── themes
```

# Overriding vs editing

<https://gohugo.io/themes/customizing/>

*When you use a theme cloned from its git repository, do not edit the theme's files directly. Instead, theme customization in Hugo is a matter of overriding the templates made available to you in a theme. This provides the added flexibility of tweaking a theme to meet your needs while staying current with a theme's upstream.*

# Serve site

- Console

```
blogdown::serve_site()
```

- or RStudio Addin (*recommended*)

# LiveReLoad

<https://bookdown.org/yihui/blogdown/a-quick-example.html>

1. Edit + save triggers
2. Blocks your console **by design**
3. Don't try to view in your *teeny tiny* RStudio viewer; click: `Show in new window`

Edit your site

# Edit your site: To do list

- ☐ Add a logo
- ☐ Update the "About" page
- ☐ Enable emojis
- ☐ Change the navigation bar
- ☐ Customize CSS
- ☐ Add awesome icons
- ☐ Hugo homepages



# Adding a logo

The logo file belongs in the `/static/` directory:

`/static/` stores all the static content for your future website: images, CSS, JavaScript, etc. When Hugo builds your site, all assets inside your static directory are copied over as-is. <https://gohugo.io/getting-started/directory-structure/>

1. Move `01-images` folder to `/static/`
2. Rename folder `images` (so now you have a `static/images/` folder with 2 .png files in it)
3. Update `config.toml` and save

```
[params.logo]
```

```
url = "bsa-logo-hex.png"
```

```
width = 50
```

```
height = 50
```

```
alt = "Logo"
```

# Adding a logo

We saw:

```
/themes/<THEME>/static/images/logo.png
```

Could be overwritten by:

```
/static/images/<bsa-logo-hex.png.png>
```

The filename `<bsa-logo-hex.png.png>` could have been anything, because there is a place to specify the url in the `config.toml` file

*This only works for templates that Hugo “knows about” (i.e., that follow its convention for folder structure and naming). If a theme imports template files in a creatively named directory, Hugo won’t know to look for the local `/layouts` first.*

<https://gohugo.io/themes/customizing/>

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# Updating the "About" page

1. Move `02-about.md` file to `/content/`
2. Delete the existing file `about.md`
3. Rename `02-about.md` --> `about.md`

# Updating the "About" page

`/content/` stores all content for your website... Each top-level folder in Hugo is considered a content section. For example, if your site has two main sections—blog posts and your about page— you will have 1 directory at `content/post/` and 1 file `content/about.md`. <https://gohugo.io/getting-started/directory-structure/>

```
.
├── archetypes
├── config.toml
├── content
│   ├── post «← path: `baseurl/post/`
│   └── about.md «← path: `baseurl/about/`
├── data
├── layouts
├── public
├── static
└── themes
```

# Edit your site: To do list

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# Enabling emojis

- Top of your `config.toml` file
- Note the last line 😊

```
baseurl = "/"  
languageCode = "en-us"  
title = "UCLA Biostatistics Computing Club"  
theme = "hugo-lithium-theme"  
googleAnalytics = ""  
disqusShortname = ""  
ignoreFiles = ["\\.Rmd$", "\\..Rmarkdown$", "_files$", "_cache$"]  
enableEmoji = true
```

- In your "About" page, :heart: should now be ❤️

# Enabling emojis

*Often the default settings are good enough, but the config file can provide highly granular control over how your site is rendered. <https://gohugo.io/getting-started/configuration/>*

Go to the **All Variables, TOML** section for the full list

Note that the values nested under `[params]` will populate the `.Site.Params` variable for use in templates (more on this later)



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# Changing the navigation bar

In your `config.toml` file:

```
[[menu.main]]  
  name = "About"  
  url = "/about/"
```

```
weight = 1
```

```
[[menu.main]]  
  name = "GitHub"
```

```
url = "https://github.com/UCLA-BSA"
```

```
weight = 2
```

```
[[menu.main]]  
  name = "Biostat Dept."
```

```
url = "https://www.biostat.ucla.edu/"
```

```
weight = 3
```

# Changing the navigation bar

The `[[menu.main]]` in your `config` file is special:

*A menu entry in a menu template has specific variables and functions to make menu management easier. <https://gohugo.io/variables/menus/>*

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# Customizing CSS

1. In `/static` create a new directory `css`
2. Move `05-bcc.css` file to `/static/css/`
3. Rename `05-bcc.css` --> `bcc.css`
4. In `config.toml`, add last line

```
[params]
```

```
description = "A website built through Hugo and blogdown."
```

```
customCSS = ["css/bcc.css"]
```

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# Adding awesome icons

About [Font Awesome](#):

Font Awesome gives you scalable vector icons that can instantly be customized — size, color, drop shadow, and anything that can be done with the power of CSS.

Go [here](#) to enter your email address and receive a Font Awesome embed code. We'll use mine for demo tonight.

To use them, you need 2 things:

1. the Font Awesome CSS file (where should this go?), and
2. a script that directs your site to where the fonts can be found (via Font Awesome's Content Delivery Network, or CDN)


# Adding awesome icons

You know the drill now- always remove my numbers, `##-`, that are prepended to filename

1. Move `font-awesome.min.css` to `/static/css/`
2. Create a new directory in `layouts/` called `partials`
3. Move other `head_custom.html` and `nav.html` to `/layouts/partials/`
  - Why? Let's open them up and take a look

Note that you can [use the icons anywhere](#), for example, you could add them to your About page:

```
For more information, contact us at <i class="fa fa-envelope-open" aria-hidden="true"></i><mailto:ejcampos@ucla.edu>.
```

For more information, contact us at  [ejcampos@ucla.edu](mailto:ejcampos@ucla.edu).



# Adding awesome icons

Make changes to these sections in your `config.toml`:

```
[[menu.main]]
  name = "About"
  url = "/about/"
  weight = 1
[[menu.main]]
  name = "Github"
  pre = "fa-github"
  url = "https://github.com/UCLA-BSA"
  weight = 2
[[menu.main]]
  name = "Biostat Department"
  url = "https://www.biostat.ucla.edu/"
  weight = 3

[params]
  description = "A website built through Hugo and blogdown."
  customCSS = ["css/bcc.css", "css/font-awesome.min.css"]
```

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# Hugo homepages

<https://gohugo.io/templates/homepage/>

The lookup order for the homepage template is as follows:

`/layouts/index.html`

`/layouts/_default/list.html`

`/themes/<THEME>/layouts/index.html`

`/themes/<THEME>/layouts/_default/list.html`

# Hugo homepages

- Where should we move the file `index.html`?
- Move `index.html` --> `/layouts/`

# Hugo homepages

Edit the `config.toml` file

```
[params]
{{  description = "The UCLA Biostatistics Computing Club is an organization
    to provide hands-on learning at a variety of skill levels."}}
customCSS = ["css/bcc.css", "css/font-awesome.min.css"]
```

# Edit your site: To do list

- ✓ Add a logo
- ✓ Update the "About" page
- ✓ Enable emojis
- ✓ Change the navigation bar
- ✓ Customize CSS
- ✓ Add awesome icons
- ✓ Hugo homepages

# Uh oh, we lost our posts

Get them back by adding a tab for them in the `config.toml` file

## **[[menu.main]]**

```
name = "Biostat Department"  
url = "https://www.biostat.ucla.edu/"  
weight = 3
```

## **[[menu.main]]**

```
name = "Posts"  
pre = "fa-bullhorn"  
url = "/post/"  
weight = 4
```

Deploy your site

---



# Deploy your site

- The publishing directory is by default `/public/`.
- Each time you serve your site locally, Hugo will generate your website to `/public/`.
- You can upload everything under `/public/` to any web server that can serve static websites, and your website will be up and running.
- You could also use a *continuous deployment service*. When linked to a git repository, any git push triggers an automatic fresh deployment. (This is what I do)

<https://gohugo.io/hosting-and-deployment/hosting-on-netlify/>

- If using continuous deployment, you'll need a `.gitignore` file, and you will need to add `public/` to your list of files for git to ignore

# How to git

- From the start <https://apreshill.rbind.io/post/up-and-running-with-blogdown/>
- At the end <http://happygitwithr.com/existing-github-last.html>

# Netlify deploy settings

## Build settings

---

Repository:	github.com/emjcampos/ucla-biostat-computing-club
Base directory:	Not set
Build command:	hugo
Publish directory:	public
Deploy log visibility:	Logs are public

[Learn more about common configuration directives in the docs ↗](#)

Edit settings

# Netlify site name

This was the original site name: `shepherd-brushes-37154`

On [Netlify](#), go into `General → Site details → Site information → Change site name` and update

## Change site name

The site name determines the default URL for your site. Only alphanumeric characters and hyphens are allowed.

Site name

`https://ucla-biostat-computing-club.netlify.com`

Save

Cancel

# Further Questions

See any of Yihui or Alison's work first! Then try me:

 [ejcampos@ucla.edu](mailto:ejcampos@ucla.edu)

 [@emjcampos](https://twitter.com/emjcampos)

 [@emjcampos](https://github.com/emjcampos)

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