Tidy Book Template

A Guide for How to Deploy a Book.

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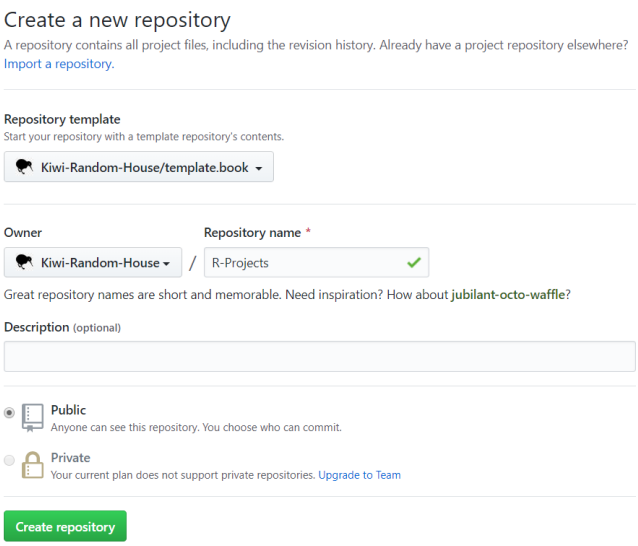
Contents

Chapter 1

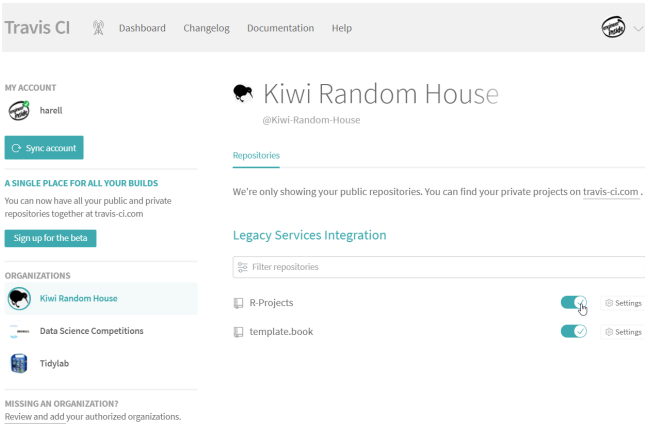
Using the Template

1.1 Create a New Book on GitHub using the Template



1.2 Link the Book with Travis

1. Go to travis-ci.org (not travis-ci.com);
2. Authorise Travis access to the book's GitHub repo; and
3. Toggle legacy service integration for the book's GitHub repo.

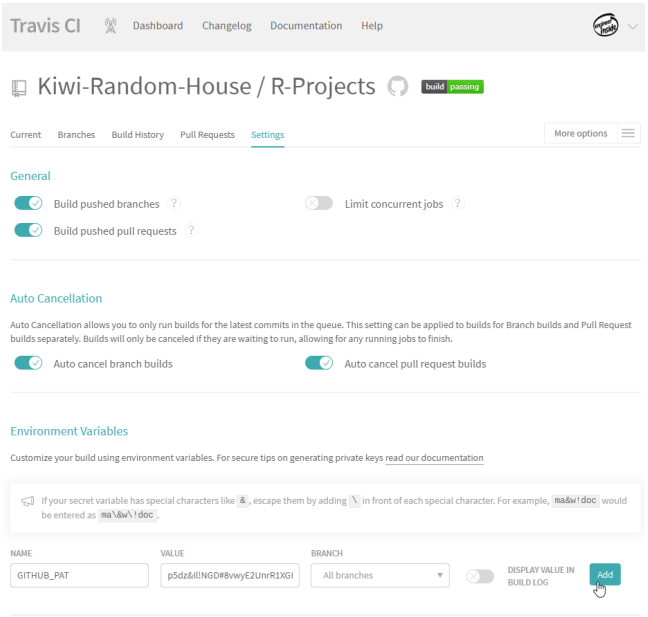


1.3 Add GitHub API to Travis

1. Generate GitHub Personal Access Token (PAT) by either:

   - Following the instructions provided on GitHub Help pages; or
   - Running the command `usethis::browse_github_token()`.

2. Add PAT as an environment variable named `GITHUB_PAT` within project setting.



1.4 Set SSH key pair via travis

Only needed when deploying from builds on Travis CI or GitHub Actions.

```
# Install travis R package
remotes::install_github("ropenscilabs/travis")

# Generate SSH
travis::browse_travis_token()
travis::use_travis_deploy()
```

1.5 Trigger Travis to Deploy the Book

Trigger the first deployment on the *master* and *develop* branches. You can do it either:

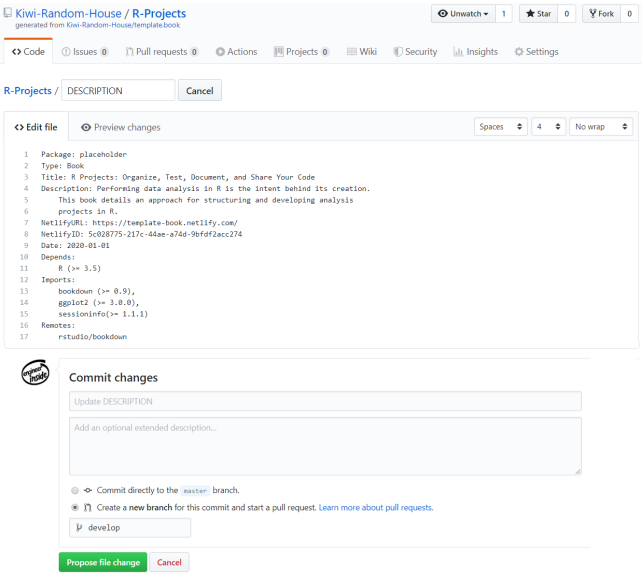
- Directly from GitHub by pushing changes into a new branch call *develop*; or
- Through SourceTree by:
  1. Cloning the repo to local computer through SourceTree;
  2. Initiating Git-flow; and
  3. Starting a new release named *book-inception*.

At this stage of using the template, there are several items we can update:

1. Rename `template.book.Rproj` to `<book-name>.Rproj`; and
2. Update the **Title**, **Description** and **Date** fields in DESCRIPTION.

Finally commit the changes:

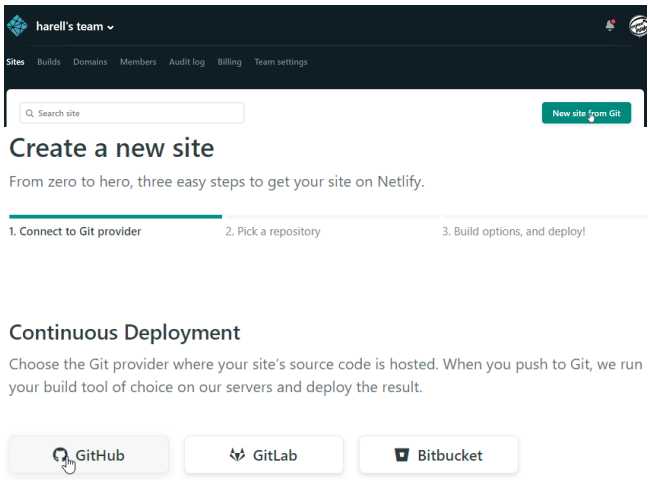
- If you use GitHub website, then push the changes to the *develop* branch and merge the *master* branch.
- If you use SourceTree, then finish the release and push changes to remote.

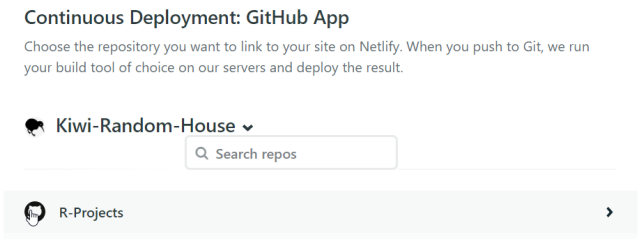


The first deployment takes ~9 minutes to complete. At the end of a successful run, two new branches appear in the GitHub repo: *gh-pages* and *gh-preview*.

1.6 Link the Book with Netlify

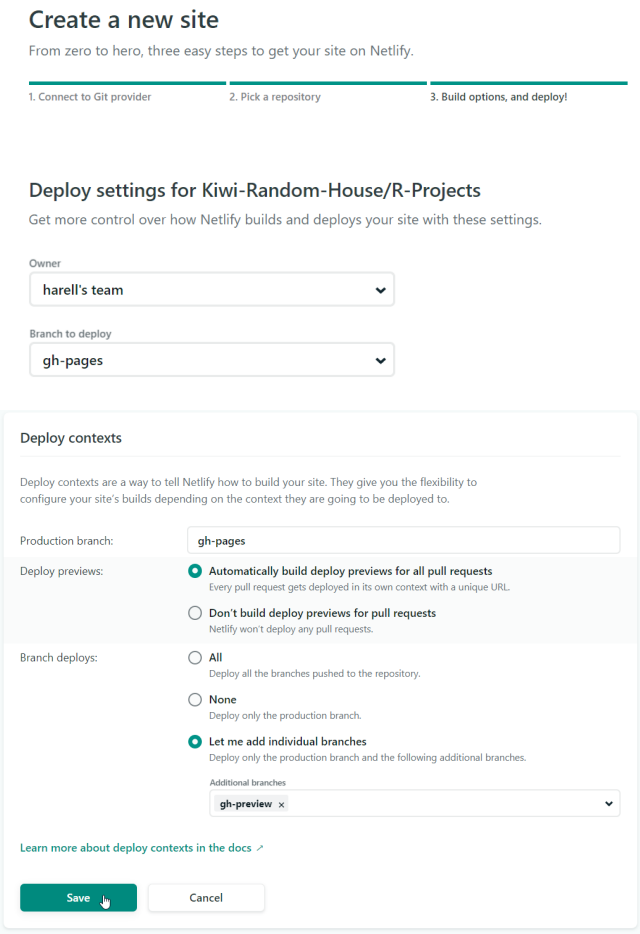
1. Go to https://app.netlify.com/; and
2. Follow the illustrations.



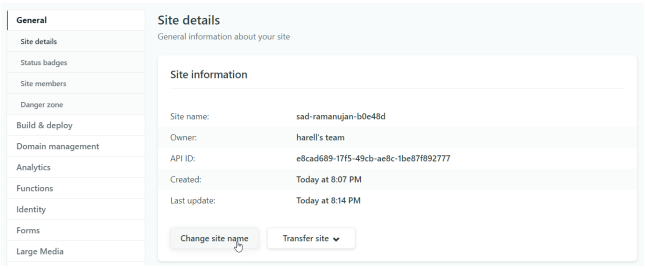


Modify the following by clicking on "Build settings" at the right navigation bar. Then, click "Edit settings" under "Deploy contexts":

1. Set "Production branch" to gh-pages;
2. Set "Branch deploys" to "Let me add individual branches"; and
3. Add gh-preview under "Additional branches".

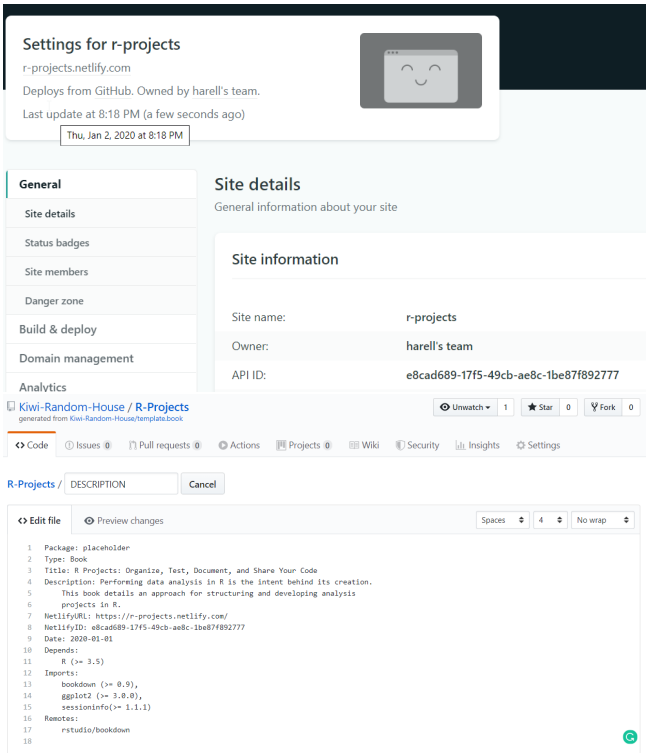


1.7 Update Site Name on Netlify



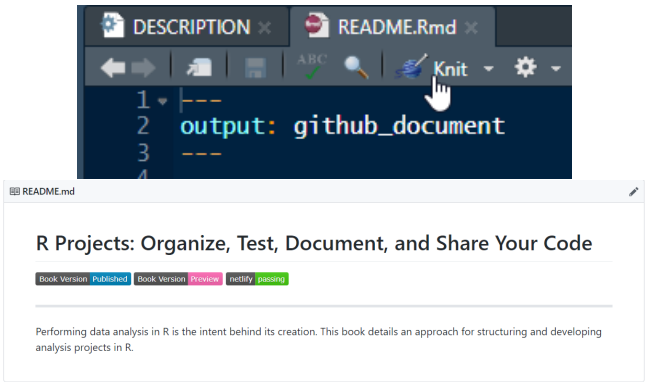
1.8 Update Netlify Fields within DESCRIPTION

1. Update **NetlifyURL** with the site URL; and
2. Update **NetlifyID** with API ID.



1.9 Update GitHub README File

1. Render README.Rmd in R
2. Push changes



Congratulations, you've made it!

Front Matter

Title Page

Dedication

Foreword

Preface

Colophon

This book was written in RStudio using bookdown. The website is hosted with netlify, and automatically updated after every commit by travis-ci. The complete source is available from GitHub.

This version of the book was built with R version 3.6.2 (2017-01-27) and the following packages:

package	version	source
ggplot2	3.2.1	CRAN (R 3.6.2)

Table of Contents

List of Abbreviations

Text Body

Chapter 2

Introduction

2.1 Terminology

The following terms come up repeatedly in discussion of machine learning(Google, 2018):

- **Instance**: The thing about which you want to make a prediction. For example, the instance might be a web page that you want to classify as either "about cats" or "not about cats".
- **Label**: An answer for a prediction task; either the answer produced by a machine learning system, or the right answer supplied in training data. For example, the label for a web page might be "about cats".
- **Feature**: A property of an instance used in a prediction task. For example, a web page might have a feature "contains the word 'cat' ".
- **Feature Column**: A set of related features, such as the set of all possible countries in which users might live. An example may have one or more features present in a feature column. "Feature column" is Google-specific terminology. A feature column is referred to as a "namespace" in the VW system (at Yahoo/Microsoft), or a field. Example: An instance (with its features) and a label.
- **Model**: A statistical representation of a prediction task. You train a model on examples then use the model to make predictions.
- **Metric**: A number that you care about. May or may not be directly optimized.
- **Objective**: A metric that your algorithm is trying to optimize.
- **Pipeline**: The infrastructure surrounding a machine learning algorithm. Includes gathering the data from the front end, putting it into training data files, training one or more models, and exporting the models to production.

2.2 Useful Materials

- `bookdown`: Authoring Books and Technical Documents with R Markdown
- `papaja`: Reproducible APA manuscripts with R Markdown

2.3 Prerequisites

2.4 Example

You can label chapter and section titles using `{#label}` after them, e.g., we can reference Chapter 2. If you do not manually label them, there will be automatic labels anyway, e.g., Chapter 4.

Figures and tables with captions will be placed in `figure` and `table` environments, respectively.

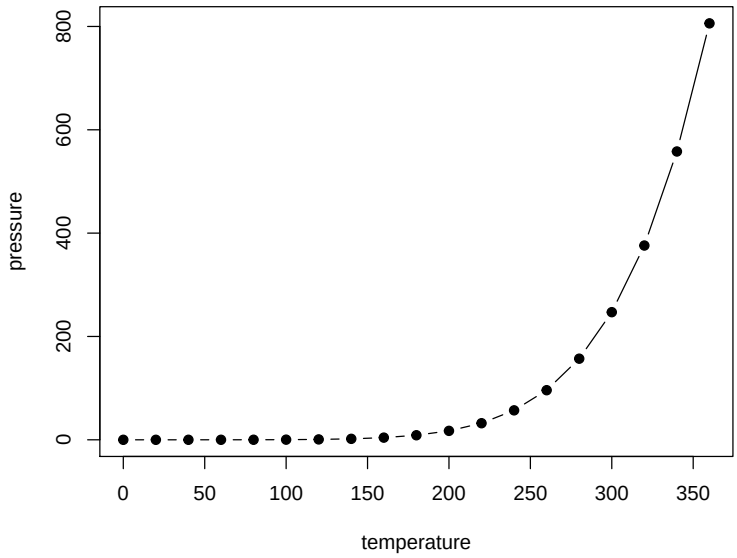


Figure 2.1: Here is a nice figure!

Reference a figure by its code chunk label with the `fig:` prefix, e.g., see Figure 2.1. Similarly, you can reference tables generated from `knitr::kable()`, e.g., see Table 2.1.

Table 2.1: Here is a nice table!

Sepal.Length	Sepal.Width	Petal.Length	Petal.Width	Species
5.1	3.5	1.4	0.2	setosa
4.9	3.0	1.4	0.2	setosa
4.7	3.2	1.3	0.2	setosa
4.6	3.1	1.5	0.2	setosa
5.0	3.6	1.4	0.2	setosa
5.4	3.9	1.7	0.4	setosa
4.6	3.4	1.4	0.3	setosa
5.0	3.4	1.5	0.2	setosa
4.4	2.9	1.4	0.2	setosa
4.9	3.1	1.5	0.1	setosa
5.4	3.7	1.5	0.2	setosa
4.8	3.4	1.6	0.2	setosa
4.8	3.0	1.4	0.1	setosa
4.3	3.0	1.1	0.1	setosa
5.8	4.0	1.2	0.2	setosa
5.7	4.4	1.5	0.4	setosa
5.4	3.9	1.3	0.4	setosa
5.1	3.5	1.4	0.3	setosa
5.7	3.8	1.7	0.3	setosa
5.1	3.8	1.5	0.3	setosa

Chapter 3

Literature

Here is a review of existing methods.

Chapter 4

Methods

We describe our methods in this chapter.

Chapter 5

Applications

Some *significant* applications are demonstrated in this chapter.

5.1 Example one

5.2 Example two

Chapter 6

Final Words

We have finished a nice book.

Back Matter

Appendix

Bibliography

Google (2018). Rules of Machine Learning.