Jekyll

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Contents

1   Abstract

Jekyll is a powerful, flat-file HTML site generator developed in Ruby, designed to create static websites from plain text. As an open-source tool, Jekyll allows the integration with version control systems, making it an good choice for developers looking to maintain blog posts, documentation, or any web content without the overhead of databases or extensive back-end coding. This document provides an overview of Jekyll, from installation and configuration to usage with a focus on Pandoc and themes. Most parts were tested under Debian 10 Buster.

2   Introduction

Jekyll is a popular static site generator that transforms plain text into websites. Originally developed by Tom Preston-Werner in 2008, Jekyll has become a tool for bloggers, developers, and content creators who seek to maintain their web presence without the complexities of traditional website management.

This document mirrors the first attempts of using Jekyll, from installing, setting up an environment to deploying a final site.

We'll start with the basics of installation from various sources and move on to more advanced topics such as customization with themes and usage with Pandoc.

3 Installation

3.1 Dependencies [Debian 10 Buster]

```
1  aptitude install gem
2  aptitude install ruby-dev
```

3.2 Install Jekyll from Gem

```
1  gem install jekyll bundler
```

3.3 Install Jekyll from Source

```
cd /srv/src
wget https://github.com/jekyll/jekyll/archive/v3.8.5.tar.gz
cd /srv/build
tar xvzf ../src/v3.8.5.tar.gz
cd v3.8.5/exe
./jekyll -v
/usr/lib/ruby/2.3.0/rubygems/core_ext/kernel_require.rb:55:in `require': \
cannot load such file -- pathutil (LoadError)
        from /usr/lib/ruby/2.3.0/rubygems/core_ext/kernel_require.rb:55:in
↪  \
        `require'
      from /srv/build/jekyll-3.8.5/lib/jekyll.rb:32:in `<top (required)>'
        from /usr/lib/ruby/2.3.0/rubygems/core_ext/kernel_require.rb:55:in
↪  \
        `require'
        from /usr/lib/ruby/2.3.0/rubygems/core_ext/kernel_require.rb:55:in
        ↪  \
        `require'
        from ./jekyll:8:in `<main>'
```

3.3.1 Troubleshooting

```
ERROR:  Error installing jekyll:
        ERROR: Failed to build gem native extension.
...
mkmf.rb can't find header files for ruby at /usr/lib/ruby/include/ruby.h
```

=> install ruby-dev:

```
aptitude install ruby-dev
```

3.4 Test Installation

```
jekyll -v
jekyll 4.0.0
```

4 Usage With 'jekyll new'

Unexpectedly, creating a new site as a user fails:

```
jekyll new jekyll-new-site
```

```
1  Your user account isn't allowed to install to the system RubyGems.
2    You can cancel this installation and run:
3
4        bundle install --path vendor/bundle
5
6    to install the gems into ./vendor/bundle/, or you can enter your password
7    and install the bundled gems to RubyGems using sudo.
8
9    Password:
```

CTRL-C

```
1  cd jekyll-new-site
2  bundle install --path vendor/bundle
```

This basically fetches and installs the same dependencies once again.

4.1 Usage With 'bunlde exec'

```
cd jekyll-new-site
bundle exec jekyll serve
```

Go to http://localhost:4000

Strangely `jekyll serve` does **NOT** work

5   Configuration

Initial site configuration is done via `_config.yml` .

5.1   Choosing A Theme

There are at least three sites that offer a Jekyll theme overview:

- JAMstack: https://github.com/mfenner/jekyll-pandoc unusable
- Jakyllthemes.org: http://jekyllthemes.org/ unusable, better clone: https://github.com/mattvh/jekyllthemes
- Jakyllthemes.io: https://jekyllthemes.io/ partly proprietary

5.2   Installing A Theme

For installing there are three options:

1. Gem-based method
2. Remote Theme method
3. Copying all files to working directory

5.2.1   Gem Base Theme

It is possible to understand where the files for the theme are stored.

```
bundle info --path minima
/var/lib/gems/2.5.0/gems/minima-2.5.1
```

5.2.2   Install Theme [minimal-mistakes]

- minimal-mistakes web page: https://github.com/mmistakes/minimal-mistakes

```
cd jekyll-new-site
vim _config.yml
```

Add Line

```
1  plugins:
2   ...
3   - jekyll-include-cache
```

```
vim  jekyll-new-site/Gemsite
```

```
1  # 2019-12-03 ckuelker
2  gem "minimal-mistakes-jekyll"
```

```
bundle
vim _config.yml
```

```
# Build settings
#theme: minima
theme: minimal-mistakes-jekyll
```

```
cd jekyll-new-site
aptitude bundle update
```

Files in `_posts` for example will be transferred (probably by bundle) to the directory on the server.

```
_posts/2019-12-03-japanese.markdown ->
    _site/2019/12/03/japanese.html
        http://127.0.0.1:4000/2019/12/03/japanese.html
```

If there is a category given in the page header like so:

```
---
layout: post
title:   "Welcome to Jekyll!"
date:    2019-12-03 13:54:40 +0100
categories: jekyll update
---
```

```
_posts/2019-12-03-welcome-to-jekyll.markdown ->
    _site/jekyll/update/2019/12/03/welcome-to-jekyll.html
        http://127.0.0.1:4000/jekyll/update/2019/12/03/welcome-to-jekyll.html
```

5.3   Install Theme just-the-docs

- https://github.com/pmarsceill/just-the-docs

```
echo 'gem "just-the-docs"' >> Gemfile
vim _config.yaml
```

```
1  theme: just-the-docs
```

The `just-the-docs.gemspec` shows that this theme is not for Jekyll 4.0.0.

6 First Page Content

Edit the preexisting `index.markdown` and add some content.

7 Posts

The preexisting `_post` directory can be filled with Markdown files like `2019-12-03-japanese.markdown` or `2019-12-03-welcome-to-jekyll.markdow`.

Possible followup: it is unknown how they automatically get linked on the front page.

8 Site-map

- Site-map without plugin http://www.independent-software.com/generating-a-sitemap-xml-with-jekyll-without-a-plugin.htm (partly tested)
- http://davidensinger.com/2013/11/building-a-better-sitemap-xml-with-jekyll/ (untested)
- https://mijingo.com/blog/building-a-sitemap-with-jekyll (untested)
- https://github.com/jekyll/jekyll-sitemap (untested)

9 Creating PDF

9.1 Creating PDF for the whole project

You can generate a PDF from your Jekyll project. You do this by creating a web version of your project that is printer friendly. You then use utility called Prince to iterate through the pages and create a PDF from them. It works quite well and gives you complete control to customize the PDF output through CSS, including page directives and dynamic tags from Prince.

See: https://idratherbewriting.com/documentation-theme-jekyll/mydoc_generating_pdfs.html

9.2 Creating PDF for a page

https://github.com/abeMedia/jekyll-pdf

add

```
1  gem "jekyll-pdf"
```

```
bundle install
```

```
1  pdf: true
```

TO BE CONTINUED: leaves dependency chaos

10   Pandoc

There seem to be more than one integration with pandoc.

    a) jekyll-pandoc: https://github.com/mfenner/jekyll-pandoc

2016, pandoc >=1.15 (will current 2.2.1 work?)

    b) jekyll-pandoc-multiple-formats: https://github.com/fauno/jekyll-pandoc-multiple-formats

2018 moved to

- 0xacab.org: https://0xacab.org/edsl/jekyll-pandoc-multiple-formats
- example page: https://endefensadelsl.org/, but also this last update was 2018

    c) jekyll-pandoc-plugin: https://github.com/fauno/jekyll-pandoc-plugin

       2016 - not longer maintained

10.1   Installation (First try)

a) Installation

```
echo 'gem "jekyll-pandoc"' >> Gemfile
bundle update
vim _config.yml
```

```
1     gems:
2        - jekyll-pandoc
3     markdown: Pandoc
```

Problem

```
1   Invalid Markdown processor given: Pandoc
```

b) Installation

- See: https://rubygems.org/gems/jekyll-pandoc-multiple-formats

```
vim _config.yml
```

```
1        gems: [ 'jekyll-pandoc-multiple-formats' ]
```

```
    bundle exec jekyll build
    bundle exec jekyll server --trace
```

Problem:

```
1   Markdown processor: "pandoc" is not a valid Markdown processor.
2               Available processors are: kramdown
```

- See: https://rubygems.org/gems/jekyll-pandoc-multiple-formats-jekyll34

It seems a fork `jekyll-pandoc-multiple-formats-jekyll34`

- doc: https://www.rubydoc.info/gems/jekyll-pandoc-multiple-formats-jekyll34/0.2.12

10.2   Installation (Second Try)

```
# As root
cd $HOME/scratch
jekyll new jekyll-new-site-pandoc
....
  Bundler: Bundle complete! 6 Gemfile dependencies, 30 gems now installed.
  Bundler: Use `bundle info [gemname]` to see where a bundled gem is
  ↪   installed.
  Bundler: Post-install message from i18n:
  Bundler:
  Bundler: HEADS UP! i18n 1.1 changed fallbacks to exclude default locale.
  Bundler: But that may break your application.
```

```
  Bundler:
  Bundler: If you are upgrading your Rails application from an older
  ↪   version \
          of Rails:
  Bundler:
  Bundler: Please check your Rails app for 'config.i18n.fallbacks = true'.
  Bundler: If you're using I18n (>= 1.1.0) and Rails (< 5.2.2), this
  ↪   should be
  Bundler: 'config.i18n.fallbacks = [I18n.default_locale]'.
  Bundler: If not, fallbacks will be broken in your app by I18n 1.1.x.
  Bundler:
  Bundler: If you are starting a NEW Rails application, you can ignore
↪   this notice.
  Bundler:
  Bundler: For more info see:
  Bundler: https://github.com/svenfuchs/i18n/releases/tag/v1.1.0Don't run
↪   \
          Bundler as root. Bundler can ask for sudo if it is needed, and \
          installing your bundle as root will break this
  Bundler: application for all non-root users on this machine.
```

Debian is not using `sudo` as Ubuntu …

10.3   Installion (Third Try)

```
gem install jekyll bundle
Fetching: jekyll-4.0.0.gem (100%)
ERROR:  While executing gem ... (Gem::FilePermissionError)
    You don't have write permissions for the /var/lib/gems/2.5.0 directory.
gem install --local jekyll bundle
ERROR:  Could not find a valid gem 'jekyll' (>= 0) in any repository
ERROR:  Could not find a valid gem 'bundle' (>= 0) in any repository
```

Well …

```
gem install --user-install jekyll bundle
WARNING:  You don't have $HOME/.gem/ruby/2.5.0/bin in your PATH,
          gem executables will not run.
----------------------------------------------------------------------
↪   ------
Jekyll 4.0 comes with some major changes, notably:
```

```
* Our `link` tag now comes with the `relative_url` filter incorporated
↪   into it.
  You should no longer prepend `{{ site.baseurl }}` to `{% link foo.md %}`
  For further details: https://github.com/jekyll/jekyll/pull/6727

* Our `post_url` tag now comes with the `relative_url` filter incorporated
  into it.
  You shouldn't prepend `{{ site.baseurl }}` to `{% post_url
↪   2019-03-27-hello %}`
  For further details: https://github.com/jekyll/jekyll/pull/7589


* Support for deprecated configuration options has been removed. We will no
  longer output a warning and gracefully assign their values to the newer
  counterparts internally.
  -------------------------------------------------------------------------
↪   ------
Successfully installed jekyll-4.0.0
Parsing documentation for jekyll-4.0.0
Installing ri documentation for jekyll-4.0.0
Done installing documentation for jekyll after 4 seconds
Fetching: bundle-0.0.1.gem (100%)
Successfully installed bundle-0.0.1
Parsing documentation for bundle-0.0.1
Installing ri documentation for bundle-0.0.1
Done installing documentation for bundle after 0 seconds
2 gems installed
```

```
source ~/g/g.c8i.org/env/env/ruby-2.5.0
which jekyll
$HOME/.gem/ruby/2.5.0/bin/jekyll
jekyll help
...
jekyll new jekyll-new-site-pandoc
...
  Bundler: Bundle complete! 6 Gemfile dependencies, 30 gems now installed.
  Bundler: Use `bundle info [gemname]` to see where a bundled gem is \
        installed.Following files may not be writable, so sudo is needed:
  Bundler: /usr/local/bin
  Bundler: /var/lib/gems/2.5.0
  Bundler: /var/lib/gems/2.5.0/build_info
  Bundler: /var/lib/gems/2.5.0/cache
  Bundler: /var/lib/gems/2.5.0/doc
```

```
  Bundler: /var/lib/gems/2.5.0/extensions
  Bundler: /var/lib/gems/2.5.0/gems
  Bundler: /var/lib/gems/2.5.0/specifications
New jekyll site installed in $HOME/scratch/jekyll-new-site-pandoc.
cd jekyll-new-site-pandoc
jekyll serve
Configuration file: $HOME/scratch/jekyll-new-site-pandoc/_config.yml
          Source: $HOME/scratch/jekyll-new-site-pandoc
     Destination: $HOME/scratch/jekyll-new-site-pandoc/_site
 Incremental build: disabled. Enable with --incremental
      Generating...
       Jekyll Feed: Generating feed for posts
                    done in 0.774 seconds.
 Auto-regeneration: enabled for '$HOME/scratch/jekyll-new-site-pandoc'
    Server address: http://127.0.0.1:4000/
  Server running... press ctrl-c to stop.
```

New Site works locally for a user (and not root): good!

10.4   Installation With Docsy (Forth Try)

```
cd ~/scratch
git clone https://github.com/vsoch/docsy-jekyll.git  jekyll-new-site-docsy
cd jekyll-new-site-docsy
source /srv/env/ruby-2.5.0
```

Change `Gemfile` . Comment out `gh_pages` line add following line

```
1  gem "jekyll", "4.0.0"
```

Run

```
jekyyl serve
```

Open Browser at: http://127.0.0.1:4000/docsy-jekyll/

In case of building the static site, the site prefix is missing, do:

```
jekyyl build
cd _site
mkdir docsy-jekyll
mv * docsy-jekyll
```

Point browser to `http://SERVER/docsy-jekyll/` however links are not working

=> This theme is very specific, build only for a specific site and for Github pages.

- Difficult to make own standalone projects.
- Some links are pointing nowhere.
- Difficult from moving it from `jekyll serve` to `nginx` .
- Document taxonomy/directory structure flatten to only 1 dimension
  - very long list page: not usable for doc navigation, side bar only manual and not included in dynamic content

11   Jekyll Review

- need gem
- need to be installed by root
- fetches a lot of stuff from the internet (security)
- takes long time to compile
- fetches a lot of stuff from the internet twice
- takes again a lot of time to compile
- do not automatically reload like Hugo

12   Jekyll with Staticman (Not Tested)

Staticman receives user-generated content and uploads it as data files to a GitHub and/or GitLab repository. In practice, this allows to have dynamic content (e.g. blog post comments) as part of a static website, as long as the site automatically deploys on every push to GitHub and/or GitLab, as seen on GitHub Pages, GitLab Pages, Netlify and others. (from https://github.com/eduardoboucas/staticman)

- Home: https://staticman.net/
- Github: https://github.com/eduardoboucas/staticman

13   Documentation

- Quick start: https://jekyllrb.com/docs/
- Step By Step: https://jekyllrb.com/docs/step-by-step/01-setup/

14   History

Version	Date	Notes
0.1.1	2024-07-13	Improve formatting, Introduction, Abstract
0.1.0	2019-12-08	Initial release

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