

Setting up a Website/ Blog

using Static site generators

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1 Static website generators

Recently I have begun to look again at static website generators for creating websites and blogs. Static Website Generation is not a new concept, I have used a number of Perl based ones and even LaTeX and DocBook in the past, but more recently they have seemed to get some energy as alternatives to a Content Management System (CMS) and particularly as they suit documentation and publishing to some cloud services such as *github pages*. There is a number of them about and I am going to outline my thoughts and how to use them.

- Jekyll
- Hyde
- Pelican
- Nikola
- Jekyll

2 Jekyll

Is a Ruby Static website generator, it seems quite favoured with github pages No specific ruby coding skills are needed, but ruby is needed.

2.1 Install and Configure

```
gem install jekyll
jekyll new myblog
cd myblog
jekyll build
jekyll server
```

The Jekyll server runs on port 4000 localhost so you can locally test the site that has just been built. Jekyll uses markdown or textile for composing content, but since i am familiar with markdown I used this. The layout can be formatted by configuring a theme/template, and these can be edited.

3 Hyde

Is a Static website generator which uses python, similar to its alter ego Jekyll. While it uses python, no specific python knowledge is required to use it. (In my case I used Python 2.7 installed with Anaconda) Hyde uses a Django based templating system, Jinja2.

3.1 Install

The easiest way to install Hyde was to use *easy_install* or *pip install*.

```
sudo easy_install hyde
or
pip install hyde
pip install jinja
```

3.2 Create Hyde Project

```
mkdir hydesite
cd hydesite
hyde -s create
```

3.3 Generate Site and Run on Local Server

You then generate the static html, and you can view it by running the hyde server.

```
hyde gen
hyde serve
```

4 Pelican

Is a Static website generator which uses python, although again no specific python skills are required to use the system.

4.1 Installation

```
pip install pelican
pip install Markdown
mkdir mysite
cd mysite
pelican-quickstart
```

This uses *pip* to install pelican and markdown, *pelican-quickstart* sets up the plumbing of your pelican website.

The site is configured using settings.py (or pelicanconf.py). The layout is set out in the theme which is used, at the moment we will use one of the simple themes notforme. You can change a theme or modify it or compose your own by editing the css and templates for the theme.

4.2 Adding Content

Here we will have two types of content on the website standard pages, and blog posts.

4.2.1 Pages

Pages are stored in the pages directory in the content directory e.g. about.md, contact.md etc. they are traditional webpages and are not listed or timestamped with author or category information as Blog post or news item is.

Title: About

```
##This is About page
This is a blog generated by Pelican using Python...
```

(if you were just using it to generate a static website without any news items or blog you would just have the pages of the site here.

4.2.2 Blogs

Any markdown page in the content directory which is in a directory other than pages is treated as a blog.

Date: 2015-1-9

Title: My First Blog Post

```
##this is my first blog post in pelican##  
Here is the main text of my first blog post
```

The Date is the time the post will timestamped at, and you can have minutes as well, the Title is the title you will see and the

4.3 Generating the Website

```
pelican content/ -s settings.py  
cd output  
python -m SimpleHTTPServer 8018
```

The site is then generated in the *output* directory. The site can be run on the local machine by using the SimpleHTTPServer.

5 Nikola

Another static website generator which uses python. You can install it with pip and install various themes, after you have built your blog or website you can run it locally by using nikola serve, which makes the site available on localhost:8000.

5.1 Install and Setup

```
pip install nikola
mkdir mysite
cd mysite
nikola init mysite
```

```
nikola build
nikola serve
```

6 JBake

JBake is a Java based static website generator, like the other SWG's discussed here, it also can use a limited form of Markdown, as well as HTML and JBake specific formats of input.

6.1 Installing JBake and Quickstart

The below should install JBake, set up a project directory, initialise a JBake structure, run jbake to generate the html output, and to run the JBake (Jetty) server which launches the website on your localmachine.

```
brew install jbake
mkdir project
cd project
jbake -i
jbake
jbake -s
```

Different templates can be deployed, one of the default templates is Bootstrap. One of the differences from other SSG's is that a bit more configuring by editing the .ftl files to customise the site to your requirements.

7 Other Publishing formats

7.1 LaTeX

As a user of LaTeX I have in the past generated webpages using it for, documentation and information sharing. While I am a big fan of this typesetting system, have also used it on presentations and on documents, documentation is its forte.

7.2 DocBook

Some years ago while working in a startup software company, docbook was used as the templating system for documentation, from contracts, invoices, tendering documents and software documentation. Since most of our informational interhanging systems used XML, docbook was very much in tune with this. I did find it however good at publishing documents in different formats such rtf, pdf, and html, configuring and changing things seemed to take a good deal of time and effort, and using FOP and Saxon even when automated with make or ANT to generate what you wished took time.

8 Deploying/Publishing

8.1 Github Pages

Most of the newer static website generators are conveniently setup for publishing on github pages (username.github.io).

```
git add .  
git commit -m "updates"  
git push origin master
```

8.2 DropBox

You can also deploy to your Dropbox account. As well as static website generators there is a scriptogr.am is a blogging plugin which allows you to blog to your Dropbox account.

8.3 Google Drive

Hosting a website/blog on google drive was easier with the older version, you could just upload your static website content (HTML/CSS/JavaScript) and then set the sharing permissions to public to publish it to the world. Just like GitHub Pages, and Dropbox google drive can not be used for serving dynamic content such as php or wordpress sites. For the newer version of Google Drive you can host a site on it, one way is to use the Google Script is written by Amit Agarwal. Zip up the site/blog you want to deploy and upload it via the script a link will be generated for you.

8.4 FTP to a Host

You can just FTP the contents of the output directory to you host, the website should be generated to the domain and page of your host.

9 Markdown

Since i have used Markdown for the above here is a few items from it

9.1 Headings

Headings are indicated by the Hash Symbol, the number of which indicate if it is H1, H2, H3 etc.

```
#This is H1
##This is H2
###This is H3
####This is H4
#####This is H5
#####This is H6
```

9.2 Bold, Italics or Strikethrough

For empasis Bold or Italics are often used, and sometime text needs to have a line through it.

Italics uses **asterisks** or *_underscores_*resulting in *italicised*

Bold uses ****two asterisks**** or **__two underscores__**resulting in **bolded**

Strikethrough is achived by using two tildes(~) e.g. ~~2tildes~~ results a line through the text.

9.3 Links

A link can be as simple, where just the URL is written

```
<http://www.gnu.org>
```

A piece of text can be set as a link to a URL

```
[Pelican](http://blog.getpelican.com/)
```

You can add ALT text to it, in the case below Get Pelican would display when your mouse hovers over the link Pelican.

```
[Pelican](http://blog.getpelican.com/ "Get Pelican")
```

9.4 Lists

9.4.1 Unordered Lists

You can use +, - or * to an unordered list

- * First Item
- * Second Item
- * Third Item

- First Item
- Second Item
- Third Item

- + First Item
- + Second Item
- + Third Item

9.4.2 Ordered Lists

- 1 First Item
- 2 Second Item
- 3 Third Item

9.5 tables

A	B	Result	
-----	-----	:-----:	
True	True	True	
True	False	False	
False	True	False	
False	False	False	

9.6 Inserting an Image

Inserting an image with markdown.

```
![Pelican](../../images/pelican.jpg)
```

In this case i have an image in a directory in the main file so to be accessed from a markdown file in the /content/pages/ directory you have to specify the page

10 Conclusion

To me the benefits of using a static website generator, are speed of a static website, no time delay due to interaction with a database or dynamic page generation, great power to customise the site with editing the themes and editing the css. It does take the composition of content away from concerns of how it is displayed on the page. Also it does provide something different from the ubiquitous wordpress CMS websites which seem about. The negatives are that it does require some technical nous to set up, its graphical side may be limited to what is available and your own graphic knowhow, it doesn't have the dynamic functionality which plugins provide for many CMS systems. Overall I like SSG and I think they are a powerful tool to generate a website.

References

- [1] Uche Ogbuji, *Build rapid and lightweight webbsites*, IBM Developer Works (February 2013), <http://www.ibm.com/developerworks/library/wa-hyde/wa-hyde-pdf.pdf>.

A Appendix 1

A.1 Links

- <http://www.python.org> - Python
- <http://continuum.io/downloads> - Anaconda
- <http://hyde.github.io> - Hyde
- <http://www.getpelican.com> - Pelican
- <http://www.ruby-lang.org/> - Ruby
- <http://jekyllrb.com/> - Jekyll
- <http://www.getnikola.com> - Nikola
- <http://www.java.com> - Java
- <http://www.jbake.org> - JBake
- <http://www.latex-project.org> - Latex Project
- <http://www.miktex.org> - Miktex
- <https://www.tug.org/texlive/> - TexLive
- <http://www.docbook.org> - Docbook

B Appendix 2

To generate a simple html file from Markdown you can use Perl (using Markdown.pl or python, below with Python and Markdown installed).

```
pip install Markdown
python -m markdown howto.md > howto.html
```

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