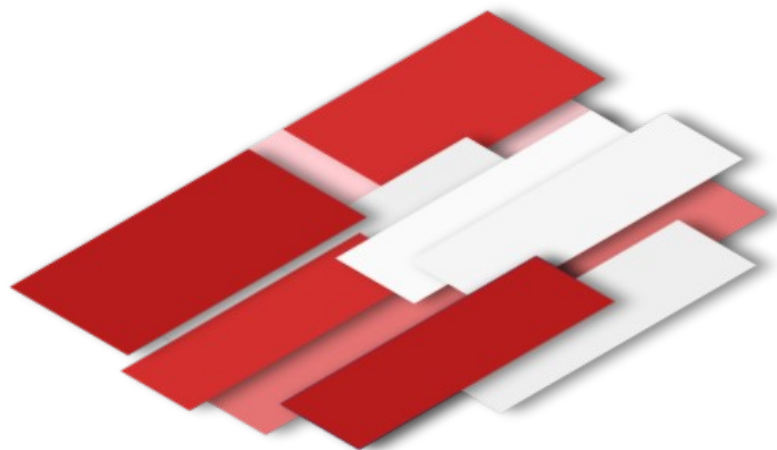# Static Site Generator

Introduction to SSG for beginner

for Personal Educational Purpose.

Jakarta, Indonesia
17 February, 2019

About Epsi

Yet, another underachiever.
But hey, I have my own blog.

About This Material

After watching this, you will understand:

How SSG can be utilized
to make a fully mature website
without the burden of complicated backend.

This material is not really comprehensive.
I still have so much to learn.

What is Static Site Generator?

What is SSG?

1st · SSG short abbreviation

Static Sites Generator.

2nd · Static Sites

Just plain HTML + CSS + JS.

3rd · Static

No dynamic server (backend).

4th · Generated

- Built once, on every change
- Put on server
- Serve as many request as needed.

What is SSG good for?

Company Profile

or Portfolio.

Personal Blog

Just like mine.

Official Site

Many Linux Distro use SSG
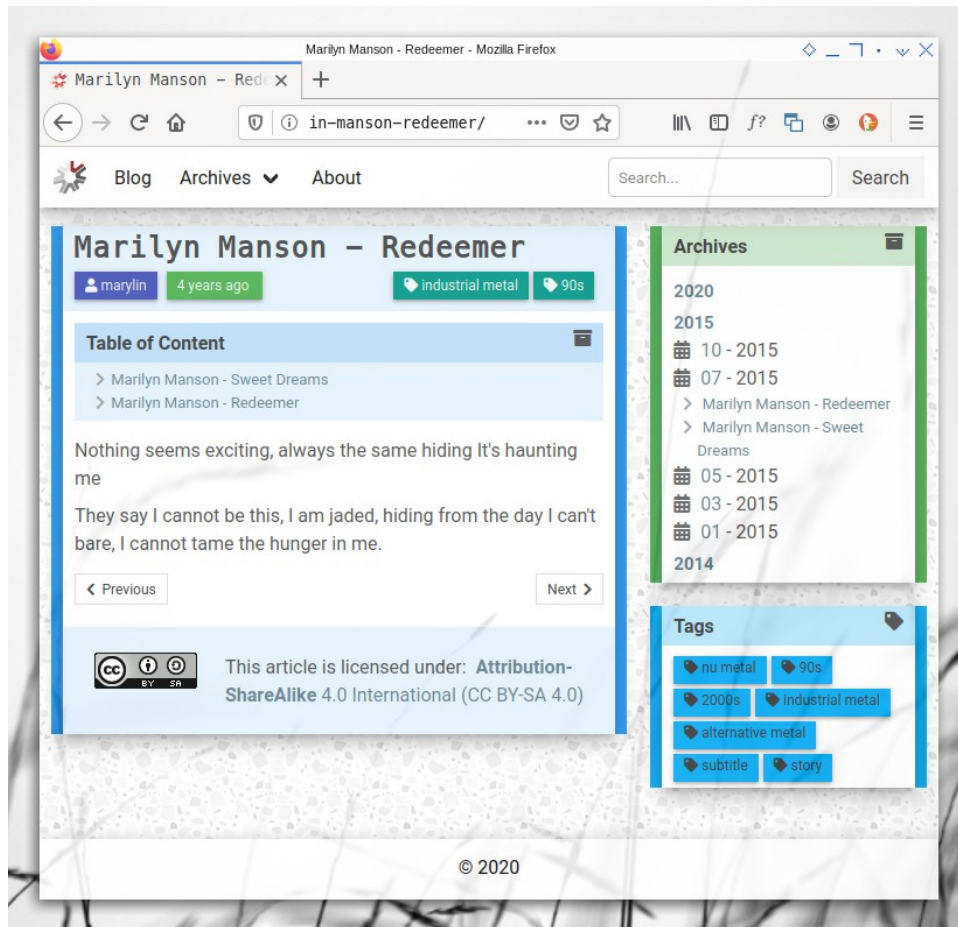
Any Static Sites

Such as CSS Tricks.

JAM Stack

Dynamic sites utilizing javascript

Modern Web Era, in contrast with LAMP stack

Blog Preview

Static Site Generator

What case is not?

1st **Non tech savvy end user**

should use blogger, or wordpress instead.

2nd **Startup**

With a lot of infrastructure.

3rd **Dynamic website**

Anything that require login.

4th **Walk your dog,**

or feed your cat

You still have to do it yourself.

Why Static Site Generator?

Why **Static Sites**?

1st

Markdown

More on Writing Content.

2nd

No complex backend

Focus on frontend: Great theme.

3rd

Local Copy

Own Your Own Site.

4th

Git-able

- Cheap.
- Free Hosting = murah meriah.

Tech Savvy

1st

**Embrace
modern technology**

SPA, JAM stack, serverless, CI/CD.

2nd

**OS Agnostic
(simpler ecosystem)**

No racial issue between,

Windows, Mac and Linux/BSD user.

3rd

**Many Option of
SSG Choices**

Jekyll, Hugo, Hexo,
Pelican, Gatsby, 11ty.

4th

**Easier to migrate content
between generator**

After all, it is just markdown.

5th

**Easier to port tailor made
custom theme**

No scary language feature.

6th

**Way cooler
web developer**

Over traditional CMS

Other Technical Performance

Fast

1st

No server side processing.

Less Security Issue

2nd

SQL Injection and Vulnerablities.

Cacheable

3rd

Can be cached reliably,

and served as CDN.

No scaling issue

4th

It is all just static html and assets.

User Tasks

Static Site Generator

Simplified User Tasks

Only consist of this two tasks

1) **Design Theme and Layout**

2) **Writing Content, then Deploy**

No complex backend setting.

It means, more focus on the content.

Especially, with 3rd party theme.

Caveat!

Even with a ready to use theme,
you still need customization
to suit your needs.

Install

Some are easy to install.
Some are harder for non tech-savvy.

Depend on the choice of SSG.

Own Your Own Site

You can have it all locally.

- Writing content in your favorite text editor

- No upload image.
  - Edit image directly in your notebook.

- No need to dump database.

In short:

More control

Theming

Split HTML Task

- **Theme:**
  - Structure (Layout, and Skeleton)

- **Markdown Engine:**
  - Formatting

In short:

Clear division

between these two tasks.

Theme Making

Template Engine

Block and Basic Coding.

HTML Skeleton

Layout Structure.

Stylesheet

Presenting Nice Looks.

Template Engine
liquid, chroma, ejs, nunjucks, jinja2, etc...

1st **Block Building**

2nd **Basic Language**

Variable, Loop, Conditional.

3rd **Static Data Files**
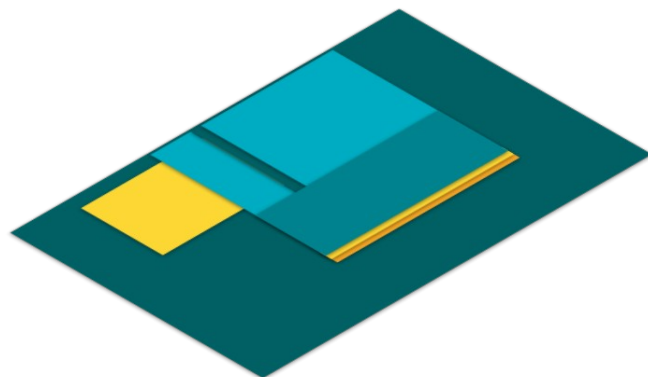
from yaml, or toml, or json.

4th **Specific Feature**

Pipeline.

Stylesheet

You might also need to understand CSS Tools

[CSS Frameworks and CSS Tools]

Yet Another Presentation.

Main Configuration

Contain:

Global Stuff

Page

Frontmatter:

Per-page configuration

Content:

Markdown or HTML

Free Tutorials

Static Site Generator

Step by Step Examples?

Eleventy (11ty) Article Series

[Eleventy Overview]

(Nunjucks + Bulma MD)

Jekyll Article Series

[Jekyll Overview]

(Liquid + No Stylesheet)

Hugo Article Series

[Hugo Summary]

(Chroma + Bulma)

[Hugo Summary]

(Chroma + Bootstrap)

Hexo Article Series

[Hexo Overview] (EJS + Bulma)

Custom

Make your own case, and share!

More examples on Repository (11ty, Jekyll, Pelican).

Markdown

Static Site Generator

Why Markdown?

More on Writing Content!

Static Site Generator
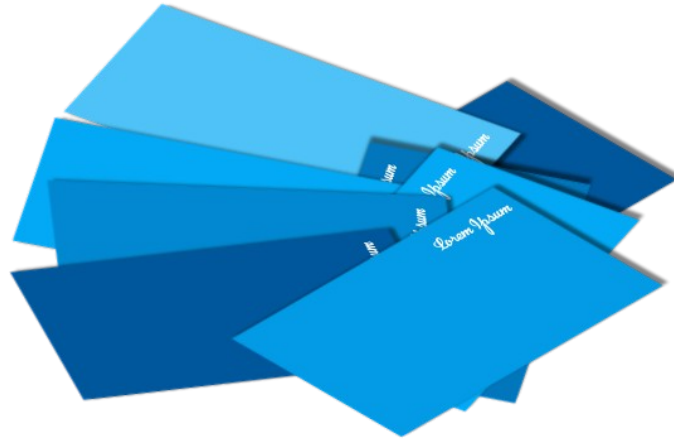
Issue with HTML Content

Time spent on doing formatting

Wasted time = Less creativity.

Easily get lost
of concentration in writing

Dammit, my article is sucks!

Reformatting

Whenever design changes.

Error prone

Dad, I forget to close the tag again.

In short:

Markup focus on document formatting

Markdown Content

Recipe:

Markdown focus on document structure

1st — **Easier to write content**

Plain Text = Painless Text

2nd — **Taking care of**
HTML formatting by Markdown engine

Significantly reduce formatting time while writing content.
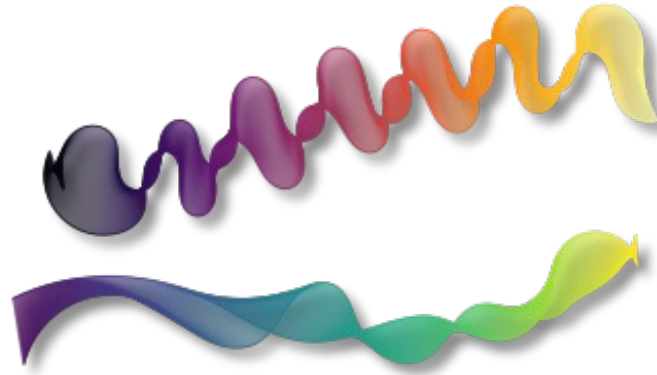
Consistent formatting, by not doing manually.

3rd — **Inline Code**

Parsed, auto format with nice color

4th — **Text editor is sufficient**

No need for sophisticated tools

Markdown Engine

Implementation may vary

**Each static site,
have their own markdown engine.**

Be aware of slight difference.

HTML Content

When you need special formatting

HTML Page:

Such as landing page content.

Embedded Content:

in Markdown Page

Such as nice looks table of content.

Repository

Static Site Generator

Track **Changes**

Use Git!

1st

Friendly neighbourhood backup platform.

No weird file naming.

2nd

```
My-revision-content
.rev1.final.revagain.txt
```

Time travelling

3rd

is possible

OMG. I deleted my great idea last month!

Multiple branch

4th

while making themes enhancement

branch: Master, development, bootstrapv4, bulma

Deploy!

Static Site Generator

Deploying Choices

1st **Simple setup for CI/CD**

Or a complex one if you wish.

2nd **Repository and Host**

Gitlab, Github, Bitbucket

3rd **3rd Party CI/CD**

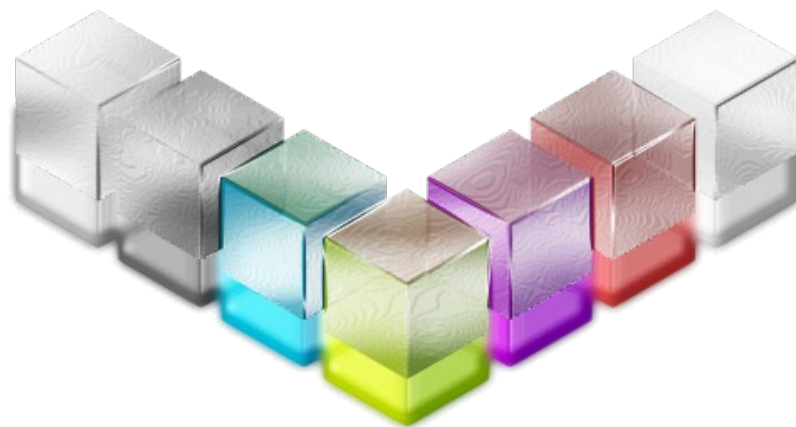Travis, Circle-CI, Pipelines, Gitlab-CI

4th **Host and CI/CD**

Netlify, Vercel, Firebase

Configuration Examples

[CI/CD - Deploy Overview]

- Netlify, Zeit Now

- Manual Git: Refspec, Worktree

- Travis+Github

- CircleCI: Github, Bitbucket
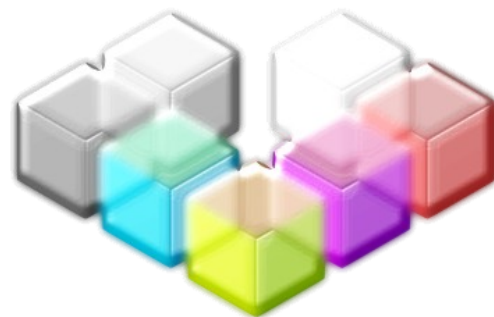
- Github Workflows (Actions)

Repositories

Repositories that can directly utilize any SSG.

- github.io, and gitlab.io,

Repositories that require 3rd party.

- bitbucket.io.

Issues!

Static Site Generator

Issues with Static Site?

1st

No commenting system

Except embedded

2nd

No internal search

3rd

Local build time

For site with many article, or theme design with poor logic.

Again, Free Tutorials?

Static Site Generator

Step by Step Examples?

Revisited in Repository Fashioned

1st

Hugo Repository

[Hugo + Chroma + Bulma MD]

[Hugo + Chroma + Bootstrap]

2nd

Jekyll Repository

[Jekyll + Liquid + Bulma MD]

3rd

Pelican Repository

[11ty + Nunjucks + Materialize]

[11ty + Nunjucks + Bulma MD]

4th

Pelican Repository

[Pelican + Jinja2 + Bulma MD]

5th

Hexo Repository

[Hexo + EJS + Bulma]

In Need of a Technical Material?

Eleventy

[Yet Another Presentation]

Jekyll

[Yet Another Presentation]
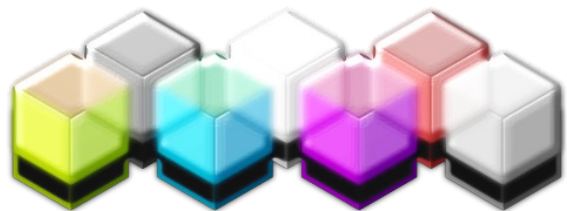
Hexo

[Yet Another Presentation]

Summary

Static Site Generator

Summary?

Along with local communities.

Static Site Generator:

- [Hugo], [Jekyll], Pelican,

- [Eleventy (11ty)], [Hexo], [Gatsby].

Template Engine:

- Nunjucks, Jinja2, EJS, Liquid, Chroma,

- Local Community: [JAMstackID]

Text:

- Markdown, reStructured Text.

Deploy:

- CVS: Git, Mercurial: [@freekelasgithub],

- Repository: Gitlab, Github, Bitbucket,

- CI/CD: Travis, Circle-CI, Pipelines: [IDDevOps],

- Static Host: Netlify, Render, Zeit Now.

Looking for the right tools?

A real world example require complete stack.

[Practical Blog Development Cycle]
Learning The Hard Way.

What is Next?

Leverage to JAM stack!

[staticgen.com]

[@JAMstackID]

Questions?

Don't be shy!

The End

Thank You for Your Time.