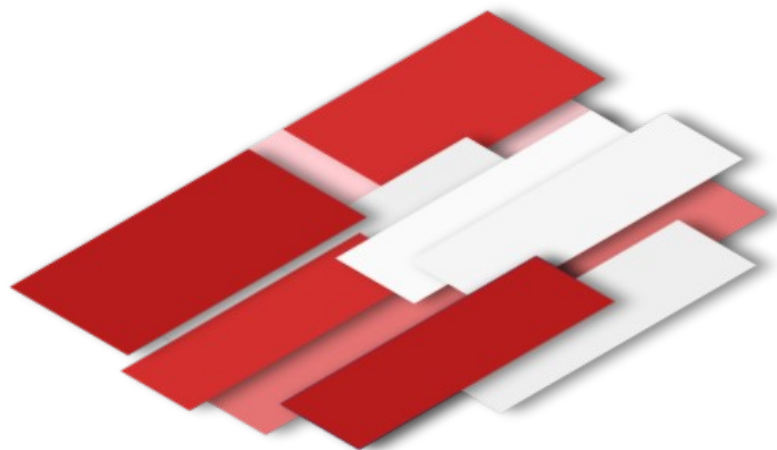# Static Site Generator

Introduction to SSG for beginner

for Personal Educational Purpose.

Jakarta, Indonesia
11 October, 2020

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?

SSG short abbreviation
Static Sites Generator.

Static Sites
Just plain HTML + CSS + JS.

Static
No dynamic server (backend).

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

Static Site Generator
epsi-rns.gitlab.io

What is **SSG** good for?

Company Profile
or Portfolio.

Any Static Sites
Such as CSS Tricks.

Personal Blog
Just like mine.

JAM Stack
Dynamic sites utilizing javascript.
Modern Web Era, in contrast with
LAMP stack.

Official Site
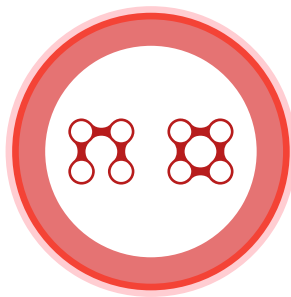Many Linux Distro use SSG.
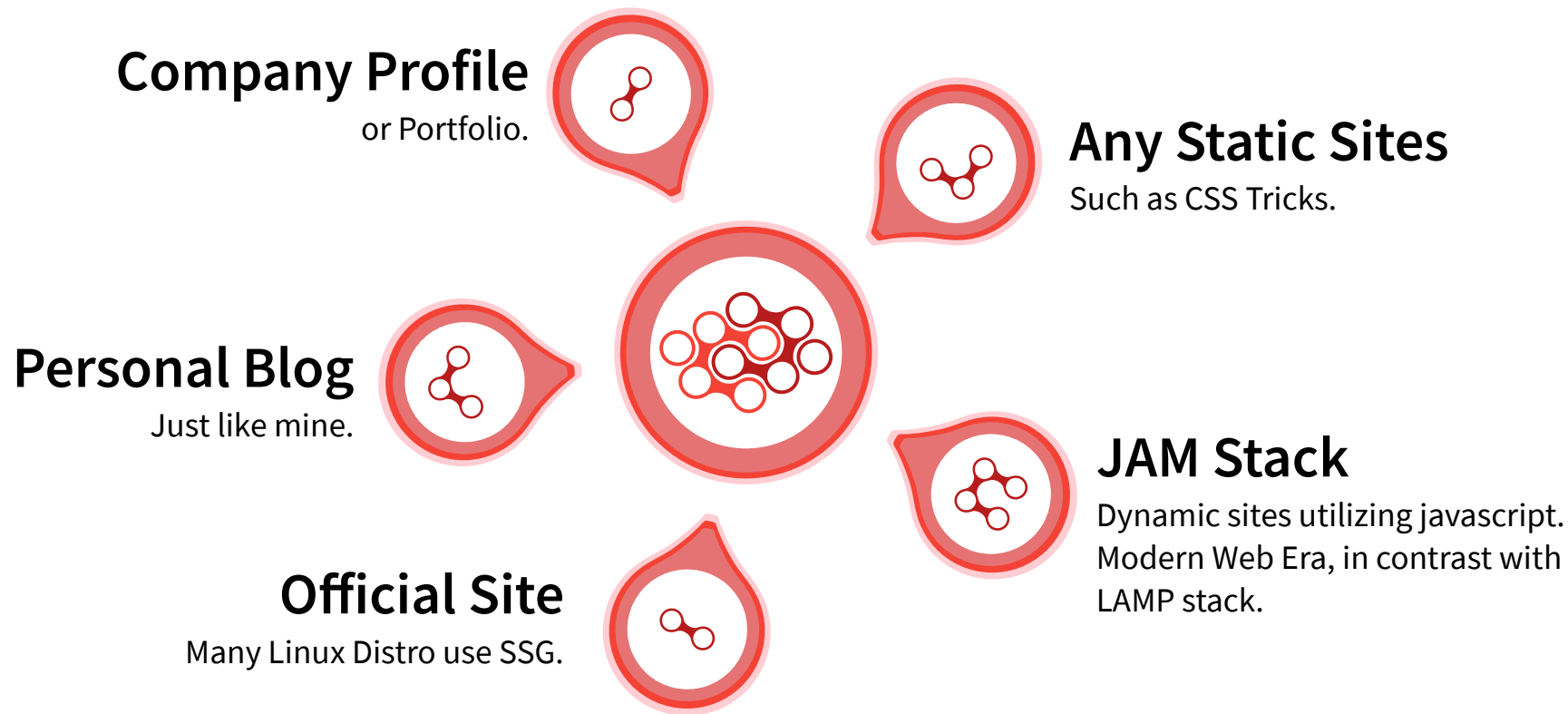
Blog Preview
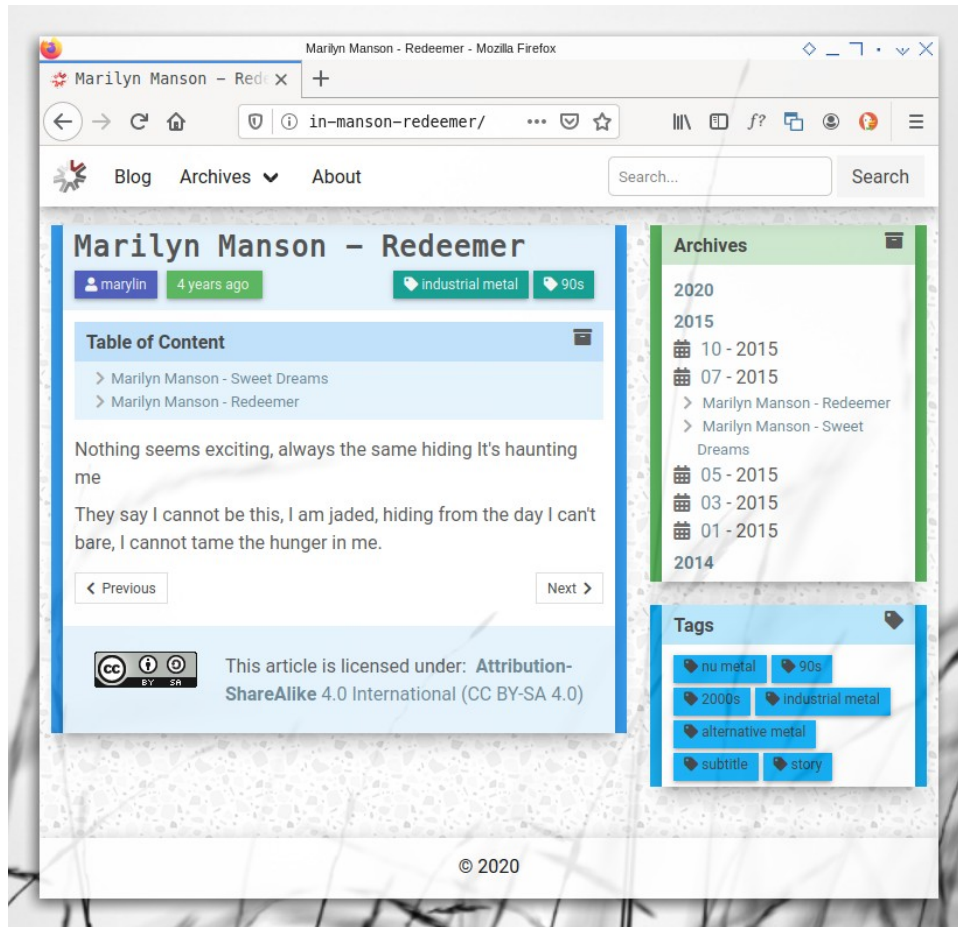
What case **is not**?

Non tech savvy end user
should use blogger, or wordpress instead.

Startup
With a lot of infrastructure.

Dynamic website
Anything that require login.

Walk your dog, or feed your cat
You still have to do it yourself.

Which Generator?

Conventional

Modern

Jekyll

Gatsby

Hugo

Hexo

Nuxt

11ty

Pelican

Next

Static Site Generator
epsi-rns.gitlab.io

Why Static Site Generator?

Why Static Sites?

Markdown
More on Writing Content.

No complex backend
Focus on frontend: Great theme.

Local Copy
Own Your Own Site.

Git-able
Cheap.
Free Hosting = murah meriah.

Tech Savvy

**Embrace
modern technology**
SPA, JAM stack, serverless, CI/CD.

1st

2nd

**OS Agnostic
(simpler ecosystem)**
No racial issue between,
Windows, Mac and Linux/BSD user.

**Many Option of
SSG Choices**
Jekyll, Hugo, Hexo,
Pelican, Gatsby, 11ty.

3rd

4th

**Easier to migrate content
between generator**
After all, it is just markdown.

**Easier to port tailor made
custom theme**
No scary language feature.

5th

6th

**Way cooler
web developer**
Over traditional CMS

Other Technical Performance

Fast
No server side processing.

Less Security Issue
SQL Injection and Vulnerablities.

Cacheable
Can be cached reliably,
and served as CDN.

No scaling issue
It is all just static html and assets.

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User Tasks

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Simplified User Tasks
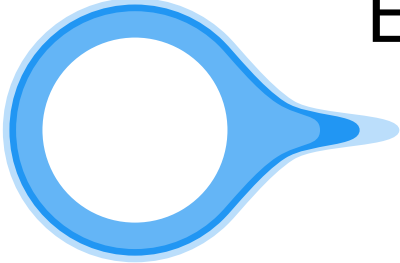
Only consist of this two tasks

1) **Design Theme and Layout**

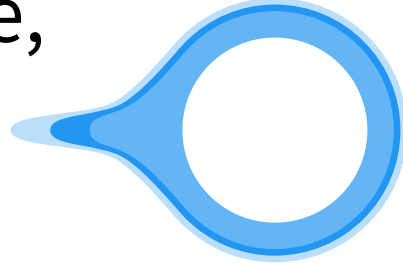2) **Writing Content, then Deploy**

No complex backend setting.

It means, more focus on the content.

Especially, with 3rd party theme.

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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.

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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

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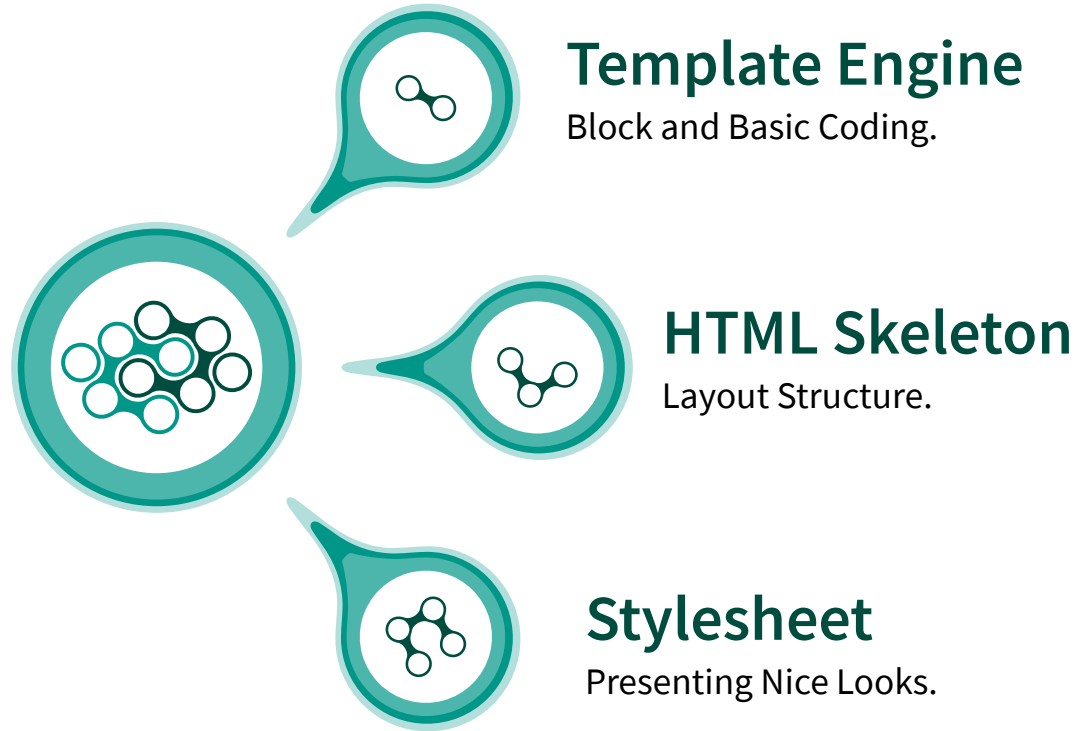
Template Engine
liquid, ejs, nunjucks, jinja2, etc...

Block Building

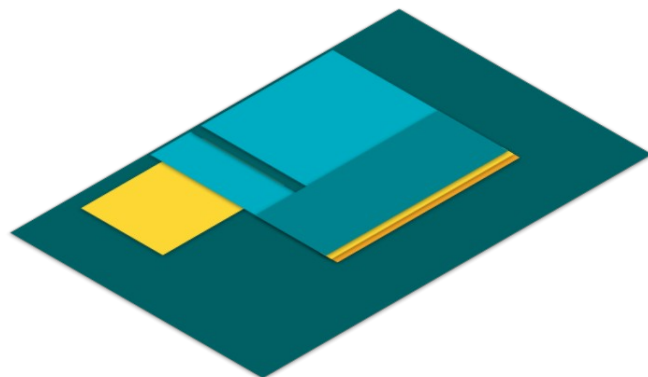**Basic Language**

Variable, Loop, Conditional.

Specific Feature

Pipeline.

Static Data Files

from yaml, or toml, or json.

Stylesheet

You might also need to understand CSS Tools

[CSS Frameworks and CSS Tools]

Yet Another Presentation.

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Main Configuration

Contain:

Global Stuff

Inside a Page

Frontmatter:

Per-page configuration

Content:

Markdown or HTML

Free Tutorials

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]
(Template + Bulma)

[Hugo Summary]
(Template + Bootstrap)

Hexo Article Series
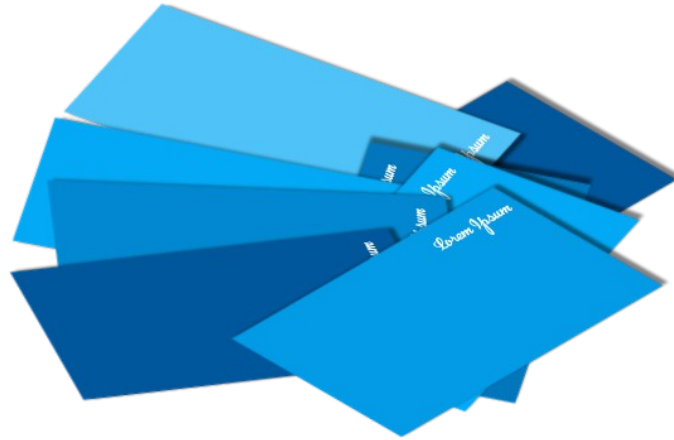
[Hexo Overview] (EJS + Bulma)

Custom
Make your own case,
and share!

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

Markdown

Why Markdown?

More on Writing Content!

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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
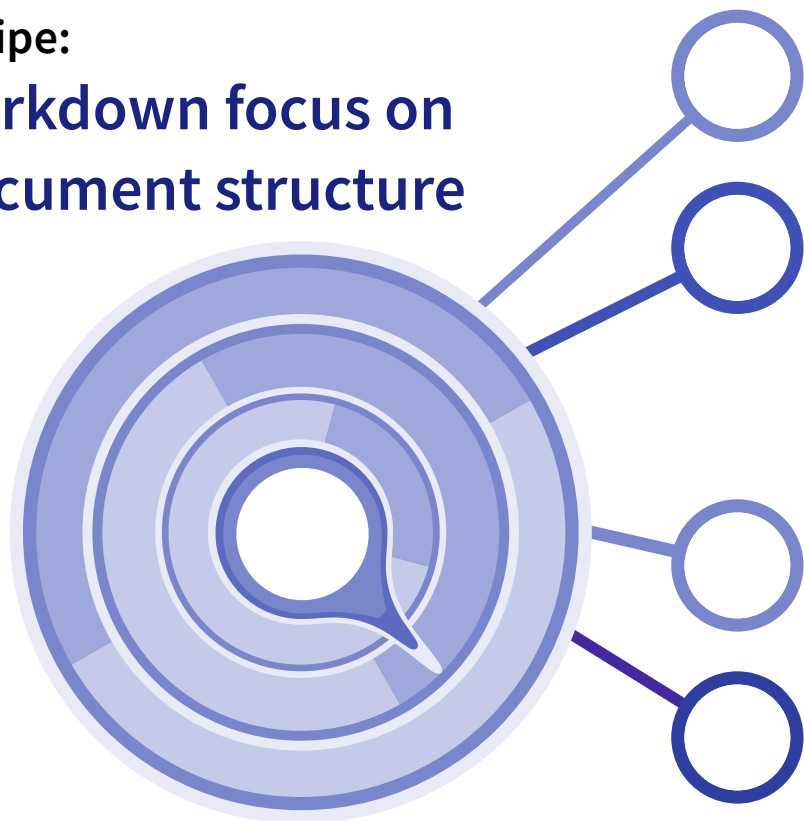Dad, I forget to close the tag again.

In short:

Markup focus on document formatting

Markdown Content

Recipe:

Markdown focus on document structure

Easier to write content

Plain Text = Painless Text

Taking care of

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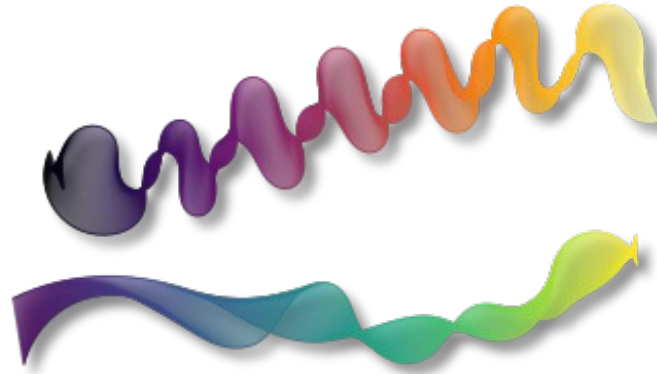Consistent formatting, by not doing manually.

Inline Code

Parsed, auto format with nice color

Text editor is sufficient

No need for sophisticated tools

Markdown Engine

Implementation may vary

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

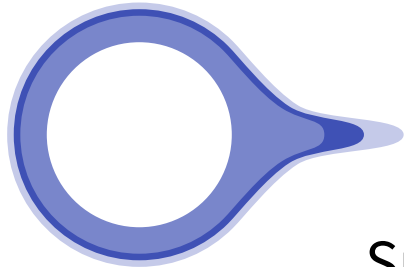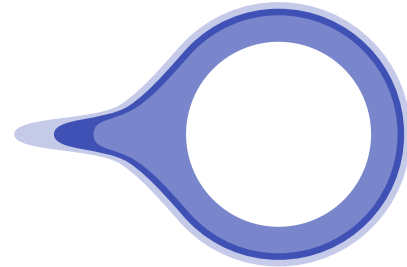*Be aware of slight difference.*

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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

Track **Changes**

Use Git!

Friendly neighbourhood backup platform.

No weird file naming

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

Time travelling
is possible

OMG. I deleted my great idea last month!

Multiple branch

while making themes enhancement

branch: Master, development, bootstrapv4, bulma

Deploy!

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Deploying Choices
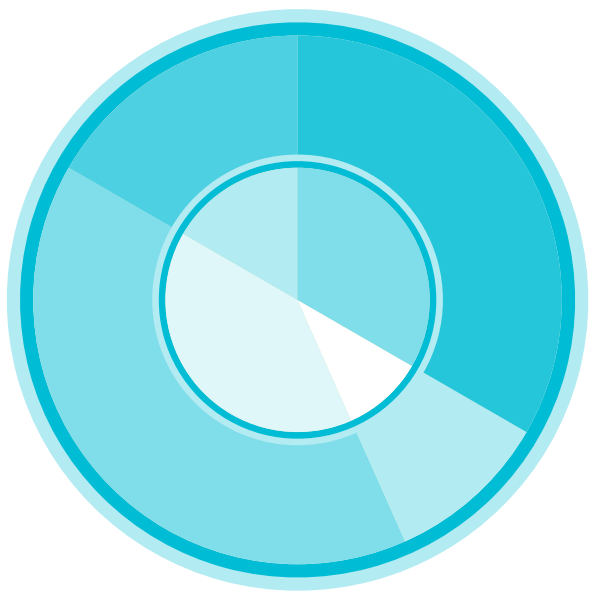
Simple setup for CI/CD
Or a complex one if you wish.

Repository and Host
Gitlab, Github, Bitbucket

3rd Party CI/CD
Travis, Circle-CI, Pipelines, Gitlab-CI

Host and CI/CD
Netlify, Vercel, Firebase

Configuration Examples

[CI/CD - Deploy Overview]

Netlify,
Zeit Now (Vercel)

CircleCI:
Github, Bitbucket

Manual Git:
Refspec, Worktree

Github Workflows
(Actions)

Travis+Github
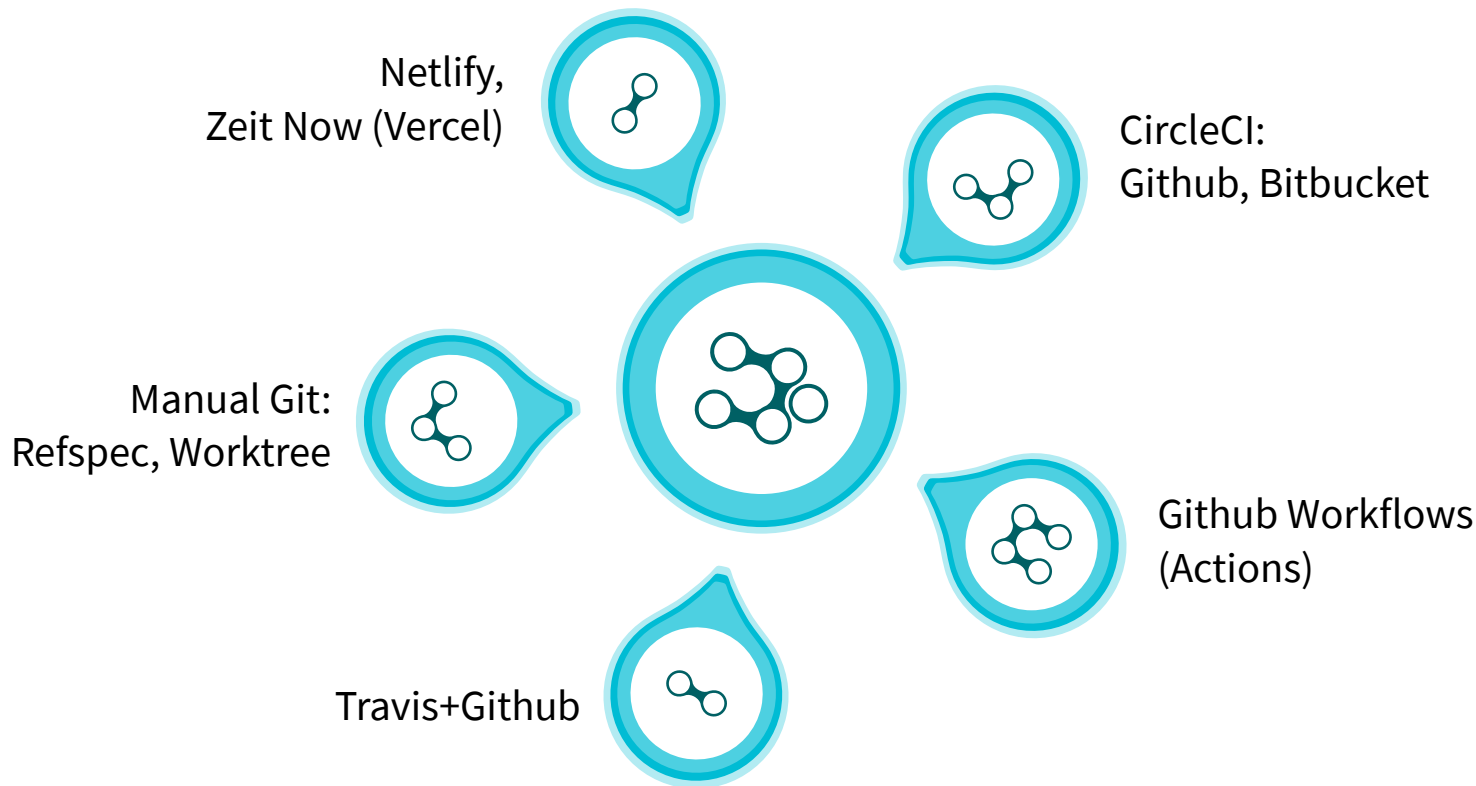
Repositories

Repositories that can directly utilize any SSG.

Repositories that require 3rd party.

github.io

gitlab.io

bitbucket.io

Issues!

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Issues with Static Site?

No commenting system

Except embedded

No internal search

There is a limited workaround using static json and javascript.
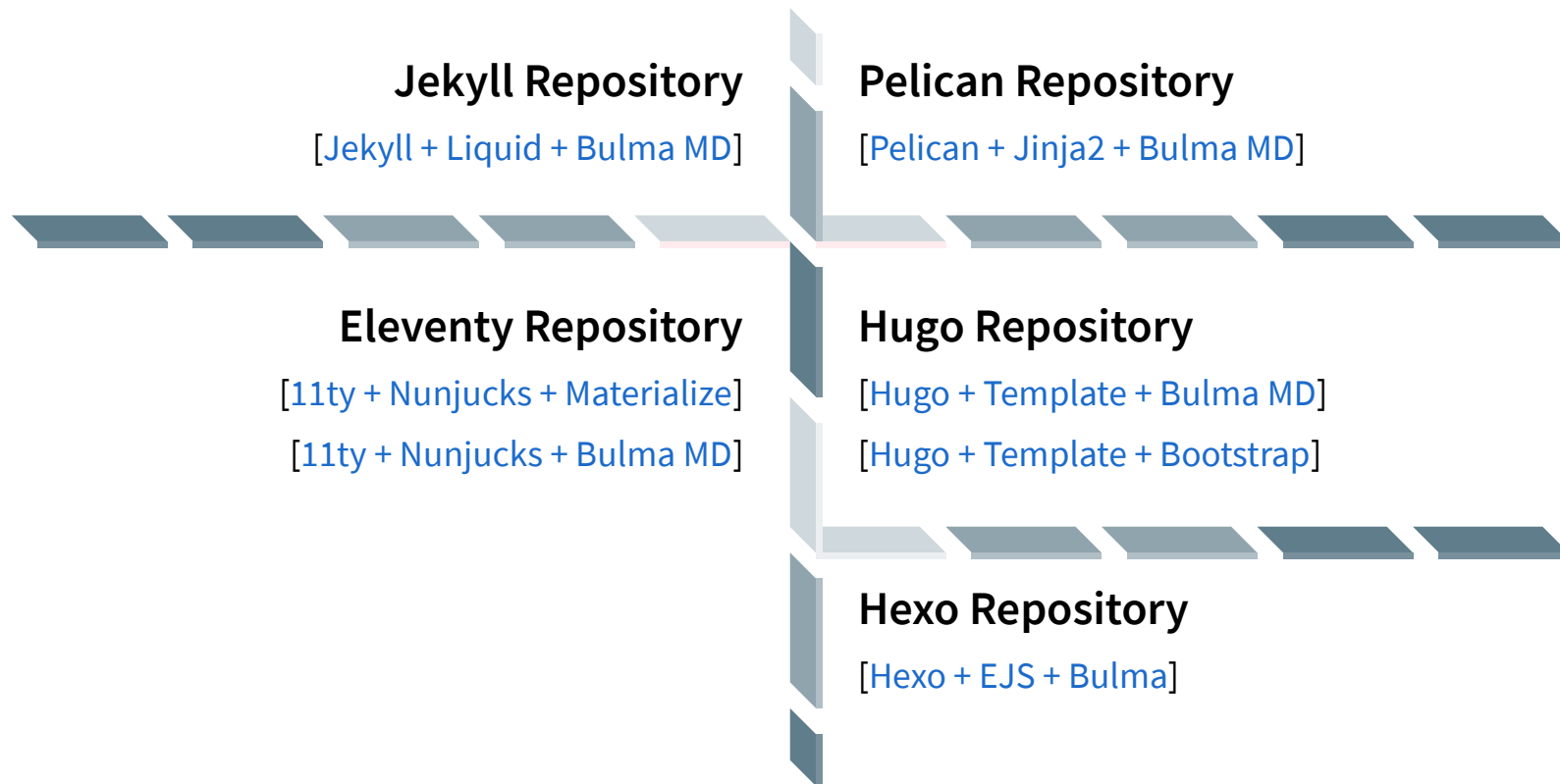
Local build time

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

Again, Free Tutorials?

Step by Step Examples?

Revisited in Repository Fashioned

Jekyll Repository

[Jekyll + Liquid + Bulma MD]

Pelican Repository

[Pelican + Jinja2 + Bulma MD]

Eleventy Repository

[11ty + Nunjucks + Materialize]

[11ty + Nunjucks + Bulma MD]

Hugo Repository

[Hugo + Template + Bulma MD]

[Hugo + Template + Bootstrap]

Hexo Repository

[Hexo + EJS + Bulma]

In Need of a Technical Material?

1st

Eleventy

[Yet Another Presentation]

2nd

Jekyll

[Yet Another Presentation]

3rd

Hexo

[Yet Another Presentation]

Summary

Static Site Generator
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Summary?

Along with local communities.

Static Site Generator:

[Hugo], [Jekyll], Pelican,
[Eleventy (11ty)], [Hexo], [Gatsby].

Text:

Markdown, reStructured Text.

Template Engine:

Nunjucks, Jinja2, EJS, Liquid.
Local Community: [JAMstackID].

Deploy:

CVS: Git, Mercurial: [@freekelasgithub].
Repository: Gitlab, Github, Bitbucket.
CI/CD: Travis, Circle-CI: [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.

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What is Next?

Leverage to JAM stack!

[staticgen.com]

[@JAMstackID]

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Questions?

Don't be shy!

The End

Thank You for Your Time.

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