New infrastructure for documentation sites (based on Gitlab Pages)

Why did we decide to change the architecture?

- creation of new sites required many manual steps to be performed and it wasn't very friendly for less technical users
- hidden steps in between (S2I container image whose responsibility was to build the static assets) made the whole setup harder to understand (in case someone wanted to customize the builds)

More reasons for the change

- necessity to streamline the architecture based on the components we commonly use

- imminent decommissioning campaign of Openshift 3 made us rethink the solution used so far

- future integration with the new WebServices Portal

What changed

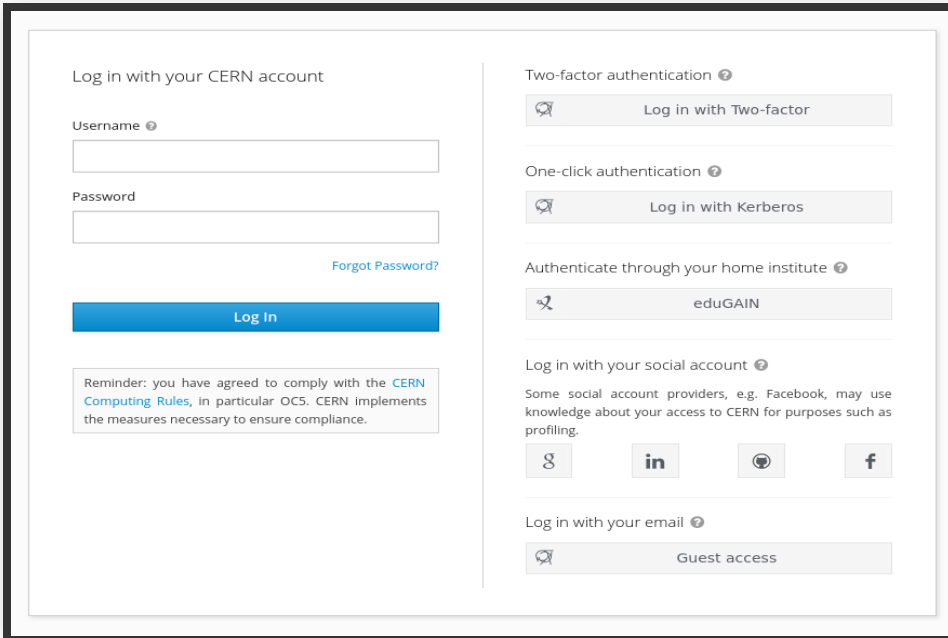Gitlab CI is now responsible for building static assets

Static assets are no longer built on Openshift. Now Gitlab CI/CD is responsible for that
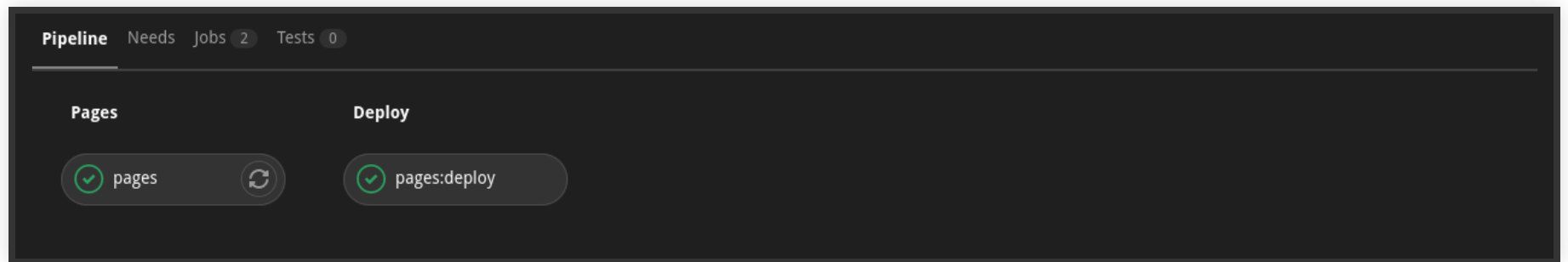
In order to build your MkDocs site you can use our Gitlab CI/CD template.

Integration with the new Keycloak-based SSO

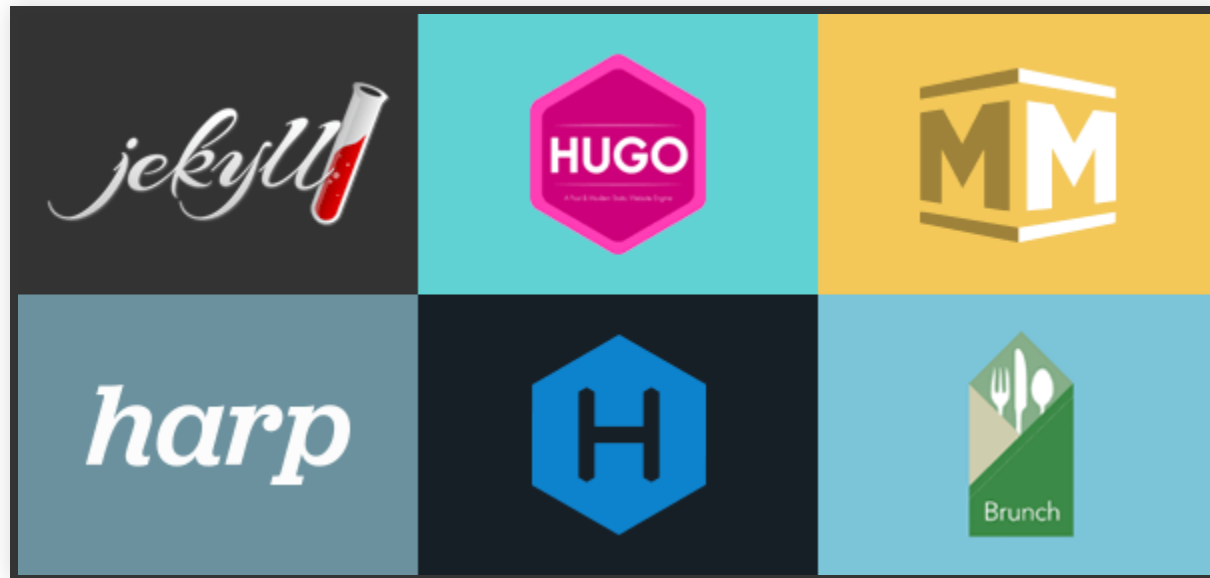Now you can protect your static sites with new Keycloak-based SSO.

MkDocs is not the only option now

Users can now use other Static Site Generators offered by Gitlab Pages as well as MkDocs.

There is also one interesting option which is a WYSIWYG editor that can prove to be useful to users who don't want to learn Markdown.

Based on OKD4 (webeos.cern.ch)

All the components of the new infrastructure are deployed on an OKD4 cluster (webeos.cern.ch). All of them are regularly updated and have been designed in a way that will streamline the future integration with the new `WebServices Portal`.

`nginx` not needed for setting up redirects

Thanks to `_redirects` file, which is supported by Gitlab Pages, there is no need to use `nginx` for custom redirections.

```
/home                 / 302
/home-not-existing / 302

# should be soon available
/news/* /blog/:splat
/news/:year/:month/:date /blog-:year-:month-:date.html
```

Keep in mind that not all types of redirects are available at the moment, e.g. domain-level redirects (however Gitlab adds support for more and more with each release)

Review sites

Due to a limitation in how static site content is stored by `Gitlab`, reviewing a site requires a few more steps from the users. We suggest that users use a repository fork to test and review their changes. More info can be found here.

The suggested workaround above might be replaced with Review Apps for Pages once it is fully implemented.

Architecture (plain Gitlab Pages)

Site Owner

Gitlab Pages

Pushes pages deployment

Reads configuration from API

Serves static content

Gitlab

Visitors

Reads static content

Pushes static content

Object Storage
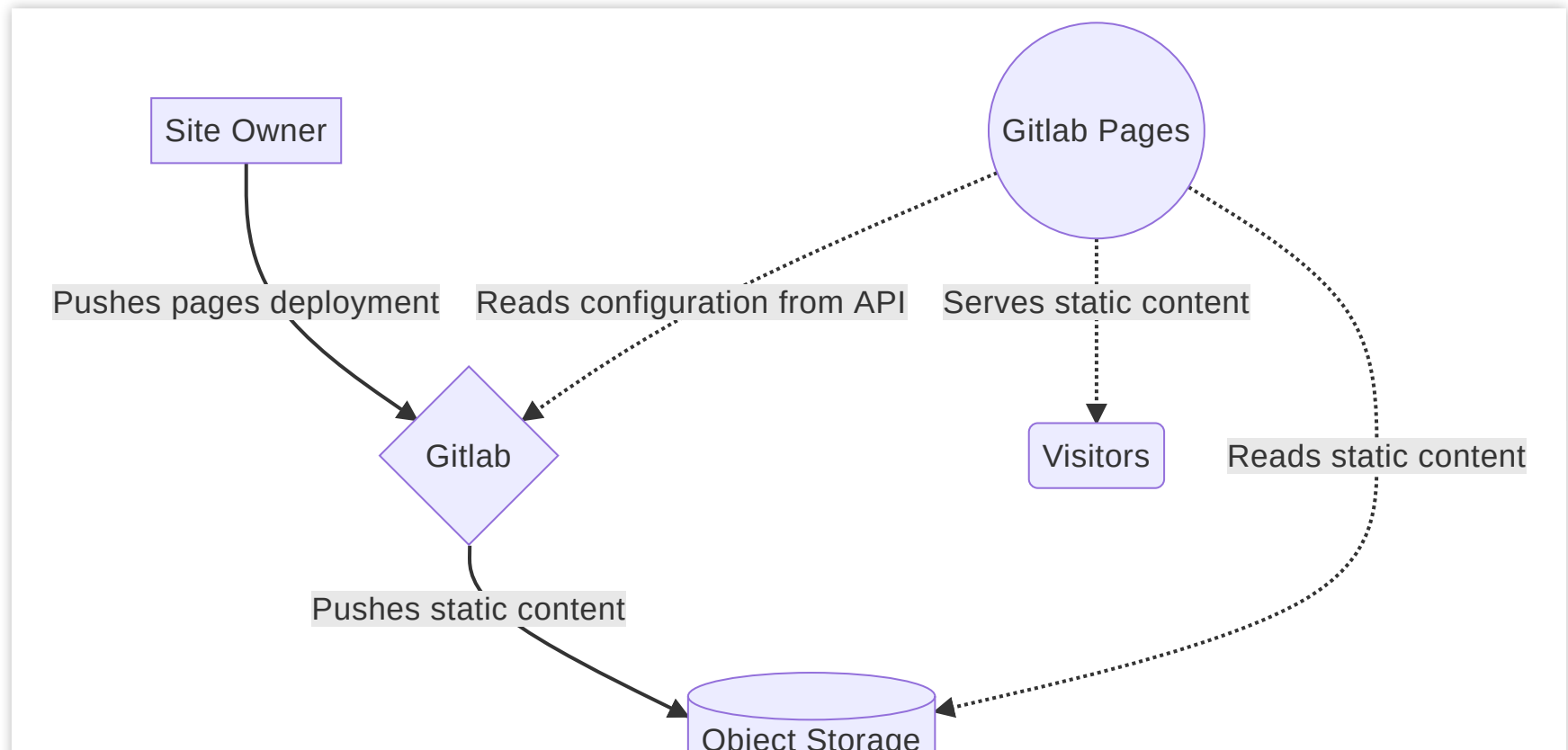
Architecture (CERN customization)

Visitor

Custom K8S operator

Visits e.g. how-to.docs.cern.ch   Dynamically generates httpd config for each site

Auth Proxy

Authenticates requests if necessary before proxying it to Gitlab Pages

Gitlab Pages

Site Owner

Creates resource on webeos.cern.ch   Pushes pages deployment plus creates a custom Pages domain   Reads configuration from API

webeos.cern.ch

Gitlab

Stores and reads static content

Pushes static content

Object Storage

Alternative solution for highly-customized pages

In some cases, migration to the new infrastructure can turn out to be problematic, e.g.:

- if custom `nginx` configuration can't be easily converted to the _redirects rules
- or if build assets of the site exceed `Gitlab Pages` limits

In those cases, we recommend that users use our custom `Helm` chart that should be soon available to our users.

Some stats

As of today (29.11.2021) there are **193** sites hosted on the new infrastructure whereas there are still **126** sites left to be migrated.

More info

You can find more information on how to provision or migrate your site in our documentation.

Demo