



m7i on k8s

...or stop with these silly shorthands already



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Outline

- Who
- Why
- How
- Where we are (demo time!)

Who?

- SRE Service Operations (k8s manifests, configuration, deployment, migration)
- Release Engineering (build pipeline, configuration, deployment)
- PET (MediaWiki changes: shellbox)

Who?

In no particular order:

Jeena, Ahmon, Dan, Daniel, Tim, Bill, Effie, Giuseppe,
Janis, Kunal, Ariel

(...and **many** more)

Why does this matter?

How we build and run our main software in production right now is rooted in the early 2000s. That affects a lot of things, including developer productivity.

Production

Our bare metal production environment is not flexible and is very costly to upgrade/modify/test. A lot of toil for SRE, and all work is made harder.

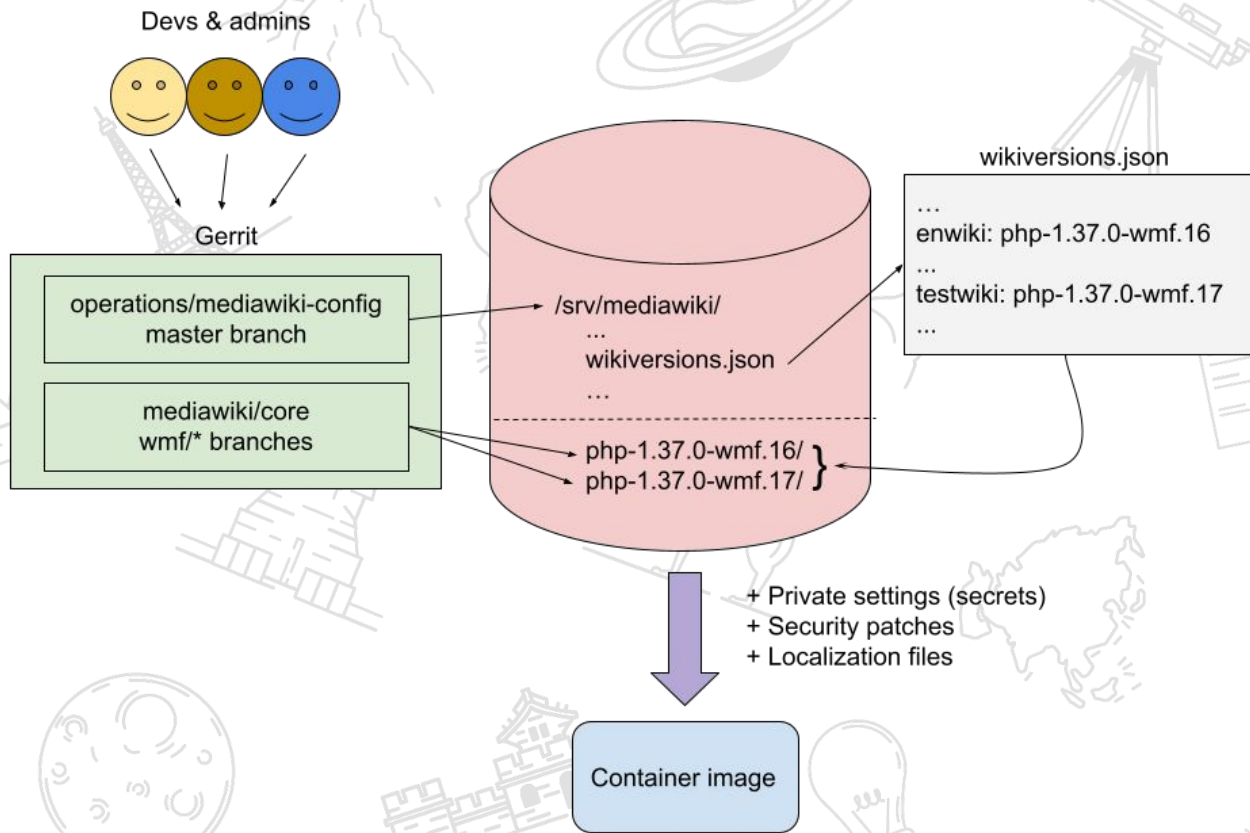
Build process

Fully automated build process you can reproduce on your computer (minus security patches and private data) with ease*.

Try-it-yourself notes in <https://phabricator.wikimedia.org/P16947>



*Linux amd64 required!



Developer experience

We want developers to be able to test changes in an environment with the same software versions and system configurations as production.



how?

K8s in 15 seconds

- Distributed scheduler controlled by yaml manifests
- We declare what we want to run and how many copies/where
- Schedules containers, checks their health, load-balances traffic

Base images

**Deployment
Pipeline (adds
code, private
assets, more)**

**K8s manifests
(via helm):
Add specific
configuration,**

Ok, that MW cake...

- Web server/fcgi proxy
- PHP application server
- Redis/Memcached proxies
- TLS terminator/middleware

Web proxy

**Web sites
configuration
(k8s manifests,
injecting puppet
data)**



**MediaWiki files
and assets**

**FCGI proxy
configuration**

**Basic apache
httpd image**

Application server

PHP config (via
env vars) in k8s

Private settings

Security patches

L10n cache

MW code

mediawiki-config

php7.2-fcgi image



Memcached proxy



Production values
injected from
puppet

Configuration
template - k8s
chart

mcrouter image

Demo time



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Questions?



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Wrapping up

- We have solid reasons to move to Kubernetes, including build quality, removing tech debt, production flexibility/efficiency
- We've built our execution units to be as much as possible in sync with production MediaWiki
- You can now check progress via Wikimedia-Debug

THANK YOU

If you want to keep updated/contribute:

#wikimedia-mw-on-k8s on libera.chat

#mw-on-k8s on phabricator



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