

# Strategies for common LA installation procedures

*A personal view*

ALA-LAs Workshop (Madrid, March 2025)

Vicente J. Ruiz Jurado (@vjrrj), 2025/03/11

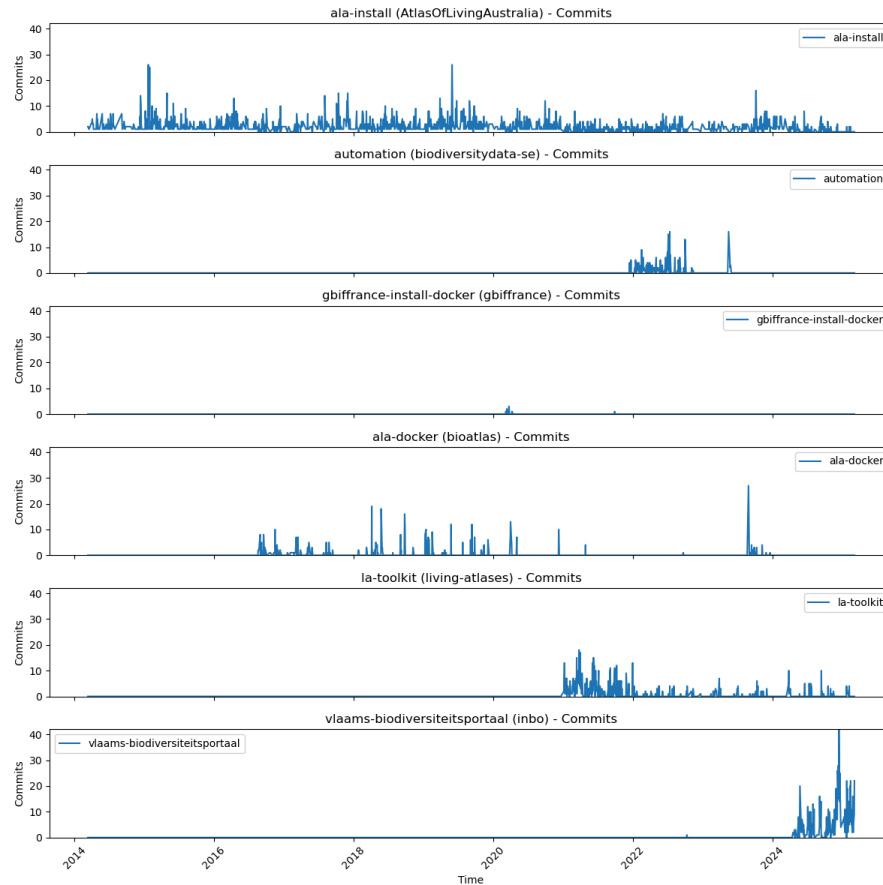
# Comparing ALA Deployment Strategies

A look at different install approaches over the years

# Past -knew- devops efforts and current situation

From	Code Repository	Based	Active	Out-of-the-box?	SubDomains & /pat
Atlas of Living Australia	<a href="#">ala-install</a>	Ansible	2014-now	Yes	Yes
Atlas of Living Australia	<a href="#">ala-install (Docker)</a>	Ansible + Helm + Docker Swarm	2023-now	Yes	Yes
Atlas of Living Australia	<a href="#">Alerts</a>   <a href="#">Userdetails</a>   <a href="#">Species Lists</a>	AWS Cloudformation + AWS EKS + Helm	2024-now	No	Yes
LA Community	<a href="#">la-toolkit</a>	Based on ala-install	≈2021-now	Yes	Yes
Sweden (BioAtlas)	<a href="#">ala-docker</a>	Docker Swarm	≈2017-2023	No	? Unknown
Sweden (SBDI)	<a href="#">automation</a>	Docker Swarm + Ansible	2022-2023	No	? Unknown
Sweden (SBDI)	Private repo	Docker Swarm + Ansible	Now	No	? Unknown
Brazil	<a href="#">vertigoala</a>	Docker + K8s + helm + CI/CD with private gitlab	≈2019-now	No	? Unknown
France	<a href="#">gbiffrance-install-docker</a>	Docker-Compose	2020-2021 Last commit 4y ago	No	No
Flanders	<a href="#">vlaams-biodiversiteitsportaal</a>	Docker (public) + Terraform (priv)	2024-now	No	No

# Activity of some of these repositories



# Summary (IMHO)

- ALA is moving from `ala-install` to `helm` and `AWS` based solutions
- From the LA community we have different container based initiatives (not based in `ala-install`), but:
  - none work out-of-the box for newcomers,
  - so require of months (at least) of IT development for each new deployment (*just to start*)
  - and *not last*, a maintenance of these deployments over time, to keep it compatible with new ALA deployments

# My opinion about ALA containers solution

In the past I was waiting for a docker official solution supported by ALA (like `ala-install` ).

But now I see that their proposed solution, I think that does not fit the LA community needs:

- it does not work currently out-of-the-box (as `ala-install` ),
- because it depends on AWS and similar,
- and `k8s` IMHO it's a solution more complex than what we need (compared with other options like Docker Swarm).

# Duplicated efforts

But we have a lot of duplicated efforts.

For instance, lets think in the container images **registry** or the images build system:

- ALA has a container registry in AWS (private?)
- Sweden has is owns
- same Brazil,
- same France,
- the same Flanders...

do we each have to build and publish the images of all the ALA components ourselves?

I think that we need to **avoid duplicating these efforts**.

# More general objective (IMHO)

I think that we should join forces to:

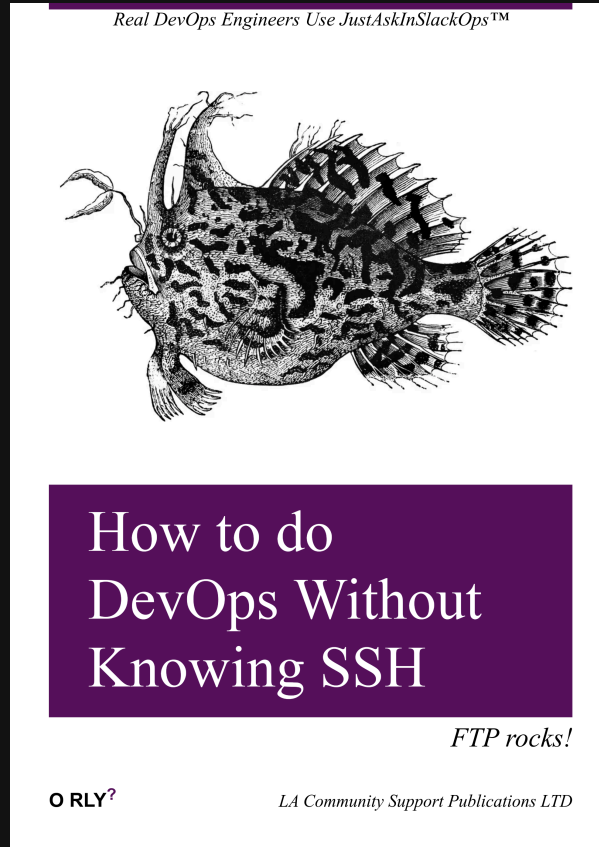
- **collaborative maintain** a **common** container based **LA deployment solution** over time,
- that works **out-of-the box** (for newcomers and during updates),
- **without** service provider dependencies,
- that is **FLOSS** (Free/Libre/Open/Source/Software),
- and still we should try to **collaborate** as before **with ALA** in a common ground.



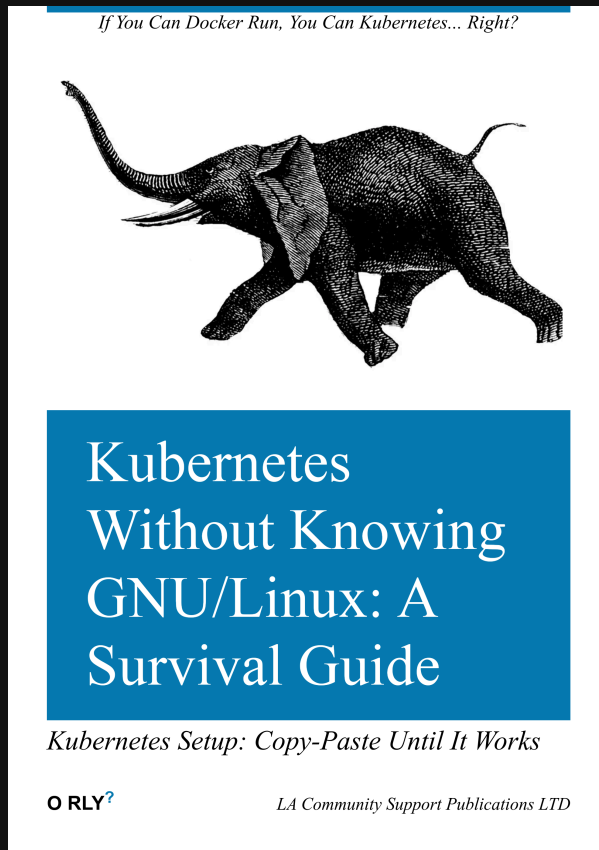
# Docker swarm vs k8s / etc.

Let me explain my point of view with a bit of ... fun 🤖.

# My bestseller book (6th Edition)!



# My new book in pre-print





# Major Companies That Use Kubernetes

- Airbnb
- Reddit
- Skyscanner
- Prezi
- Zalando
- Target
- Spotify
- Toyota
- Google (off course)

among others.

## Fun Fact

The list above was compiled from [Kubernetes Failure Stories](#). 😊

It's just a compilation of daily use failure stories for people dealing with Kubernetes operations to learn from others.

# My Learns

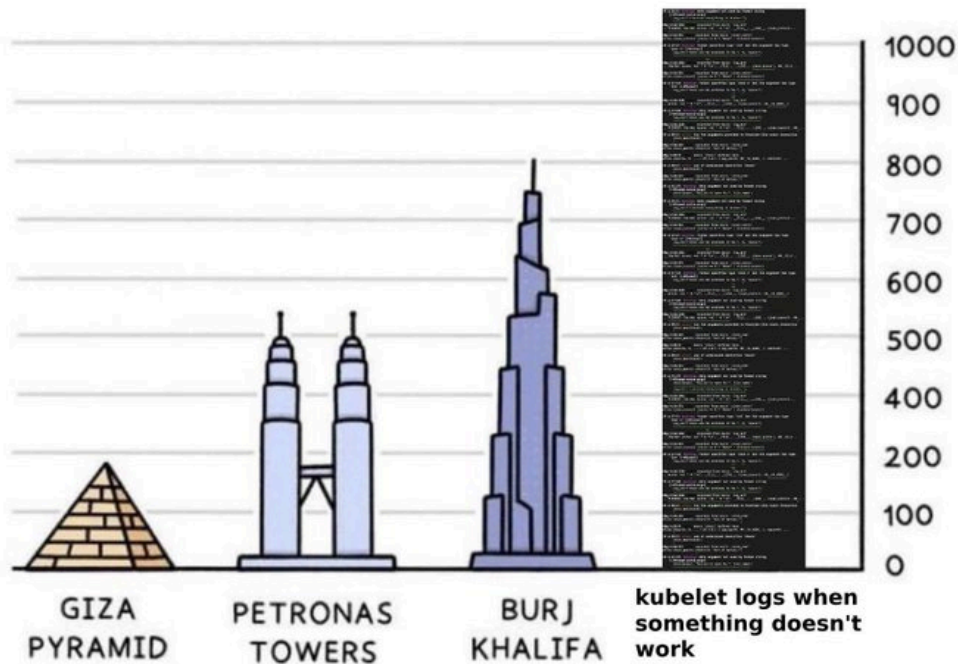
- What I learn is that:
  - we are not so big companies
  - with big IT departments
  - with so big requirements,
  - or money.

**Kubernetes engineers when  
they don't have a kitchen towel**





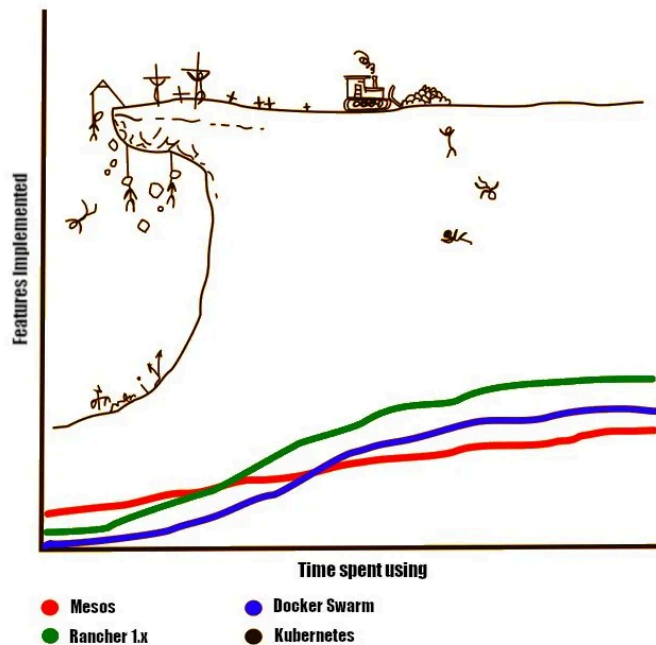
# Debugging Kubernetes



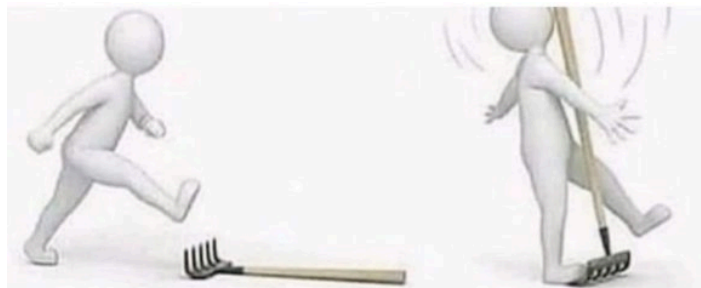


# k8s Learning curve (I)

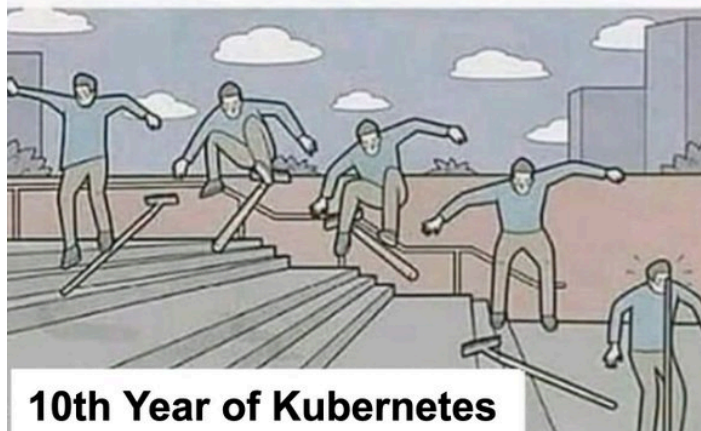
Learning curves of some Container Orchestration Engines



# k8s Learning curve (II)



**1st Year of Kubernetes**



**10th Year of Kubernetes**

# My (impossible) goal during these years

To setting up an LA portal with just one simple command ( `apt install la` or `docker compose up` )

At some point, I really believed that this could be possible. (Yes, a bit utopian 🦄)



# Reality Check

- Once upon a time, installing a LA demo was quick and easy.
- Now, dependencies keep growing, requirements are piling up, and what was once simple has turned into a complex labyrinth.
- That utopia has been moving further away over time.

# Flanders

The recent work of the Flanders Teams is remarkable and quite close to that goal, (kudos  Stefan Van Dyck et al.)

Things I like:

- Modern versions (including `pipelines` )
- test and prod based on the same repo
- single `docker-compose`
- autobuild of images in the `Dockerfiles`
- ...

# Flanders (II)

Things I miss:

- **subdomains** support,
- **internationalization** for any language,
- **optional** ALA modules,
- **docker swarm** support,
- **configurations** in sync with ALA ones,
- **easy setup for others** LA portals,
- better software **versions** and **tags** selection,
- public Docker **registry**,
- missing `ala-install` tasks so requires extra **manual** configurations

Can we continue their work in order to fill that gaps?

I can do the same checklist with other deployment initiatives.

# Flanders vs our TDWG 2023 POC

Our 2023 POC had other gaps but not that ones:

- **subdomains** support, ✓
- **internationalization** for any language, ✓
- **optional** ALA modules, ✓
- **docker swarm** support, ✓
- **configurations** in sync with ALA ones, ✓
- **easy setup for others** LA portals, ✓
- better software **versions** and **tags** selection, ✓
- public Docker **registry**, ✓
- missing `ala-install` tasks so requires extra **manual** configurations ✓

# One Problem Multiplied by 20 Is Still 20 Problems

*No problem should ever have to be solved twice.* **Eric S. Raymond**

Every time I solve a problem, and think about the effort it did,

- I also think about the rest of the community and how to prevent others from having to go through the same struggle.
- That's why I try to document the solution, submit a patch, or automate part of the installation process.

It makes no sense for each of us to repeat the same effort that, for instance, **Stefan, ALA, or others before** already did to deploy a portal with containers —and more importantly, to maintain it over the years.





# Containers: Solution or More Complexity?

- In theory, containerization should make things easier.
- In practice, it sometimes feels like just another layer of problems.
- Different container solutions might improve our LA deployments... or just make it worse.
- I still think that Docker Swarm or similar fits better for the LA Community than k8s solutions.
- (...)

## KUBERNETES “SEMANTIC” VERSIONING EXPLAINED











# Containers: Solution or More Complexity? (cont)

K8s makes sense for large-scale applications, but does it really fit our LA community's needs?

I think we require a simpler, community-driven alternative instead of adopting a tool designed for hyperscalers.

# Final Thoughts (I)

Let me repeat what we think we should do:

-  **Collaborate** to maintain a **common container-based LA deployment**
-  Ensure it **works out-of-the-box** for newcomers
-  **Avoid vendor lock-in** (optional AWS or other cloud dependencies)
-  Keep it **FLOSS (Free/Libre/Open Source Software)**
-  Keep it **Cheap**
-  **Stay compatible** with ALA while keeping our collaboration

## 🚩 Final Thoughts (II)

The dream of a single-command deploy for ALA might be a fantasy... but at least we have memes to cope with the pain.

**Looking at the average  
Helm chart template**





# Thank You!

Questions? Comments?

Let's discuss!