



# SK8: an institutional management and hosting service for R Shiny applications

Élise Maigné<sup>1</sup>, Isabelle Sanchez<sup>2</sup>, David Carayon<sup>3</sup>, Joseph Tran<sup>4</sup>, Jean-François Rey<sup>5</sup>, and the rest of the SK8 team<sup>6</sup>

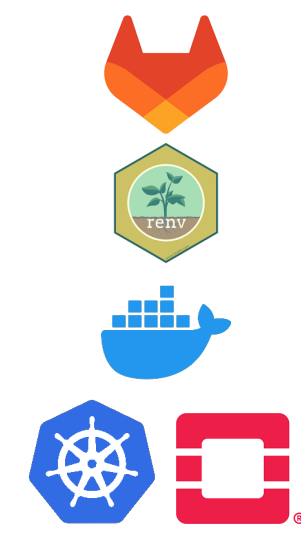
<sup>1</sup> UR MIAT, 31326, Castanet-Tolosan – <sup>2</sup> UMR MISTEA 34060 Montpellier – <sup>3</sup> UR ETTIS 33612 Cestas – <sup>4</sup> UMR EGFV 33140 Villenave-d'Ornon – <sup>5</sup> UR BioSP 84914 Avignon – <sup>6</sup> <https://sk8.inrae.fr/acteurs.html>

## SK8, what is it and who is it for?

SK8 is a project offering a hosting service for R Shiny applications for all INRAE agents or any project funded by the institute.

- Meets the needs of laboratories: a sustainable and scalable solution,
- Facilitates harmonization of institute work and enhances visibility,
- Relies on open-source infrastructures and tools provided by the institute,
- Facilitates maintenance and reproducibility,
- Expands the ease of developing R Shiny applications by providing deployment ease,
- Is accessible: does not require any system administration skills,
- Is integrated into a **GitLab** instance accessible to all INRAE agents.

## What's in SK8?



Templates (**GitLab CI/CD**) enable automation and management of:

- Application stability (using **{renv}**),
- Containerization (using **Docker**), and
- Deployment to a **Kubernetes** cluster on **OpenStack**.

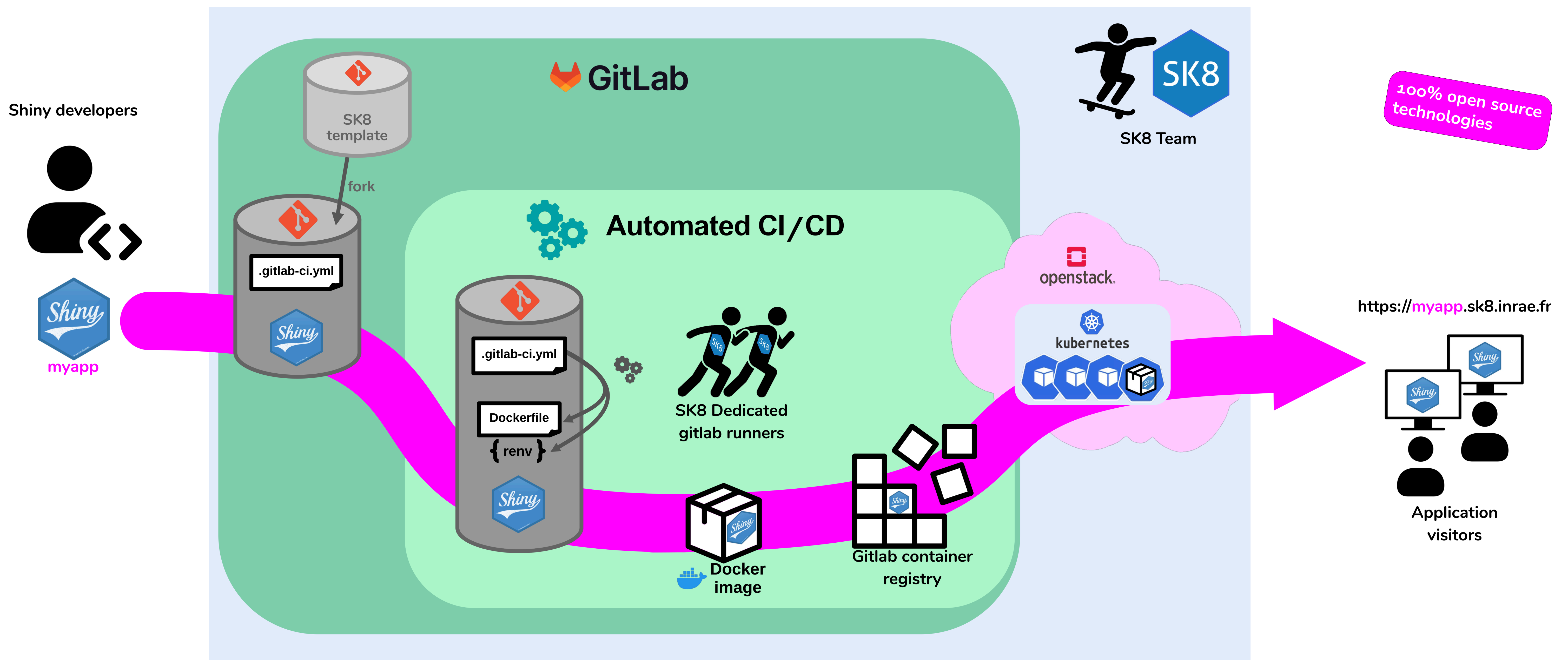
All of this is managed, developed, and maintained by the SK8 team.



For **R Shiny** developers, the process is straightforward:

1. Deposit the application into a dedicated GitLab project,
2. Click the publish button to initiate an update, and
3. Retain ownership of your code.

## SK8, how does it ride?



## SK8, who are we?



Hackaton SK8 2024 @ Sète

- Two groups, around **fifteen engineers** with diverse skills (devops, system administration, statistics, bioinformatics...) from multiple INRAE units.

- The project is paced with monthly meetings for each group, punctuated by common work sessions (hackathons, general assemblies).

Want to participate? Join us!

### User group

- R & Shiny developers
- Express user needs and feedback.
- Support users.
- Write documentation.

### Devops group

- System administrators
- Manage the SK8 infrastructure (Gitlab, CI/CD, K8S, ...)
- Monitor the infrastructure (monitoring and logs)
- Implement solutions

## SK8, when and how ?

- March 2021: project launch
- April 2022: service opening
- May 2023: ~50 hosted applications
- May 2024: ~90 hosted applications

<https://sk8.inrae.fr>

SK8 poster



SK8 website



## Acknowledgements

### Active INRAE CATIs

- IMOTEP
- GEDEOP
- CODEX
- IUMAN
- Bios4Biol
- SoNet
- Baric
- PROSODie
- CITISES
- BOOM

### Use cases, technical and financial support

