CERN openlab

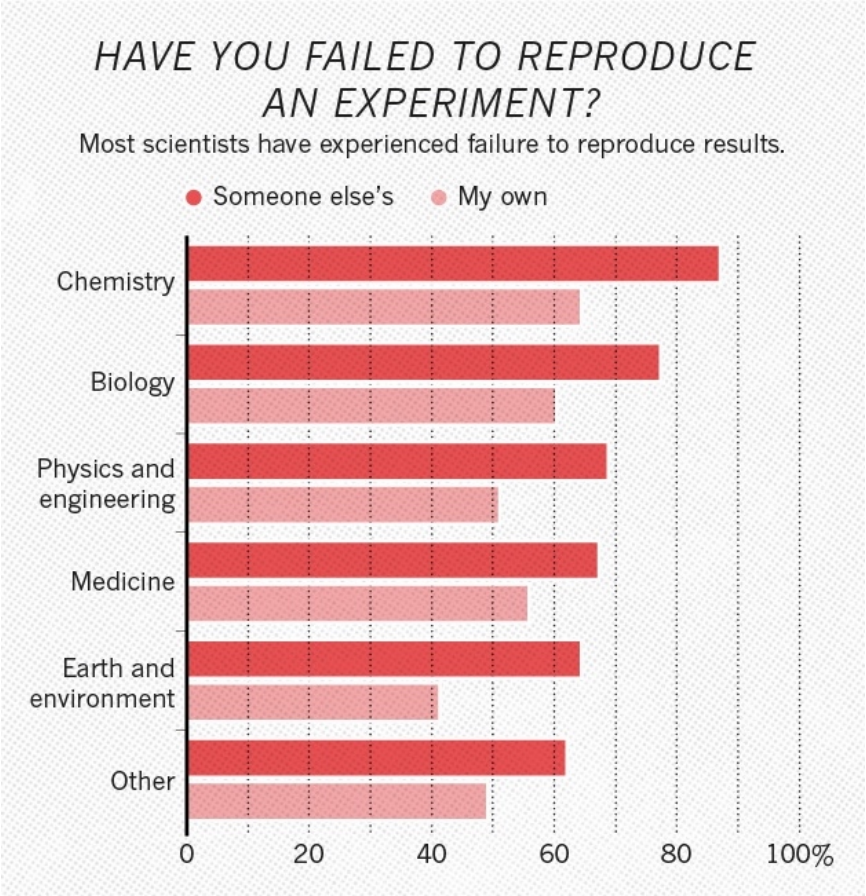
REANA ↔ GitLab integration

Leticia Farias Wanderley

Supervisor: Diego Rodríguez Rodríguez

IT-CDA-DR

Reproducibility Crisis



https://www.nature.com/news/1-500-scientists-lift-the-lid-on-reproducibility-1.19970

High turnover of researchers

Pillars of a reproducible research analysis

Data

Where is your input data?

Code

Where is your code?

Environment

Which OS and libraries did you use?

Workflow

Which steps did you follow?

Data

Code

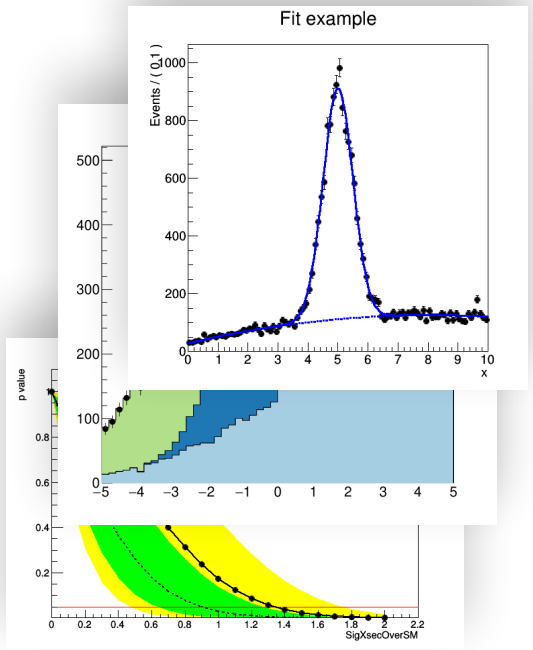
Environment

Workflow

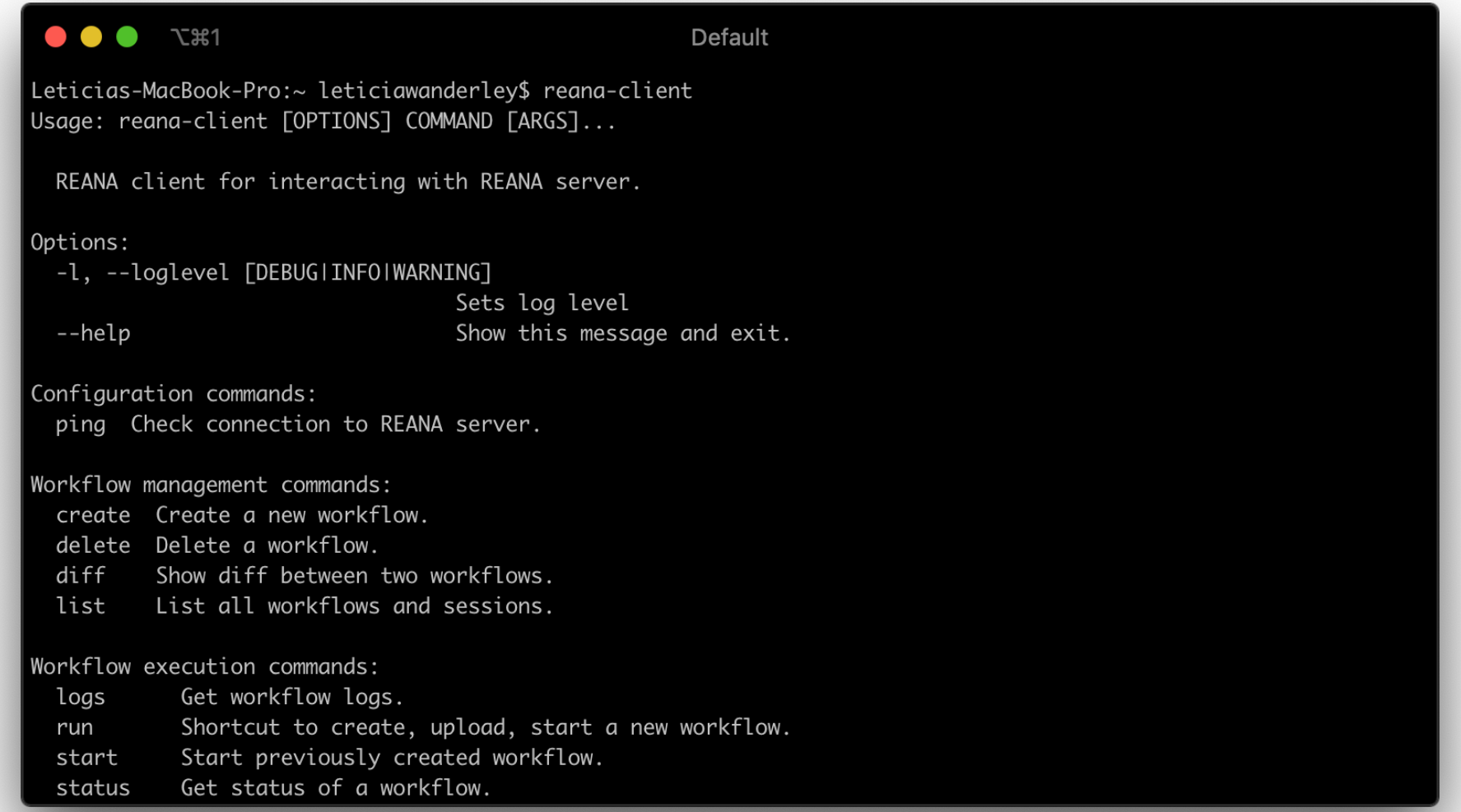
COMMON WORKFLOW LANGUAGE

reana

Reproducible research data analysis platform



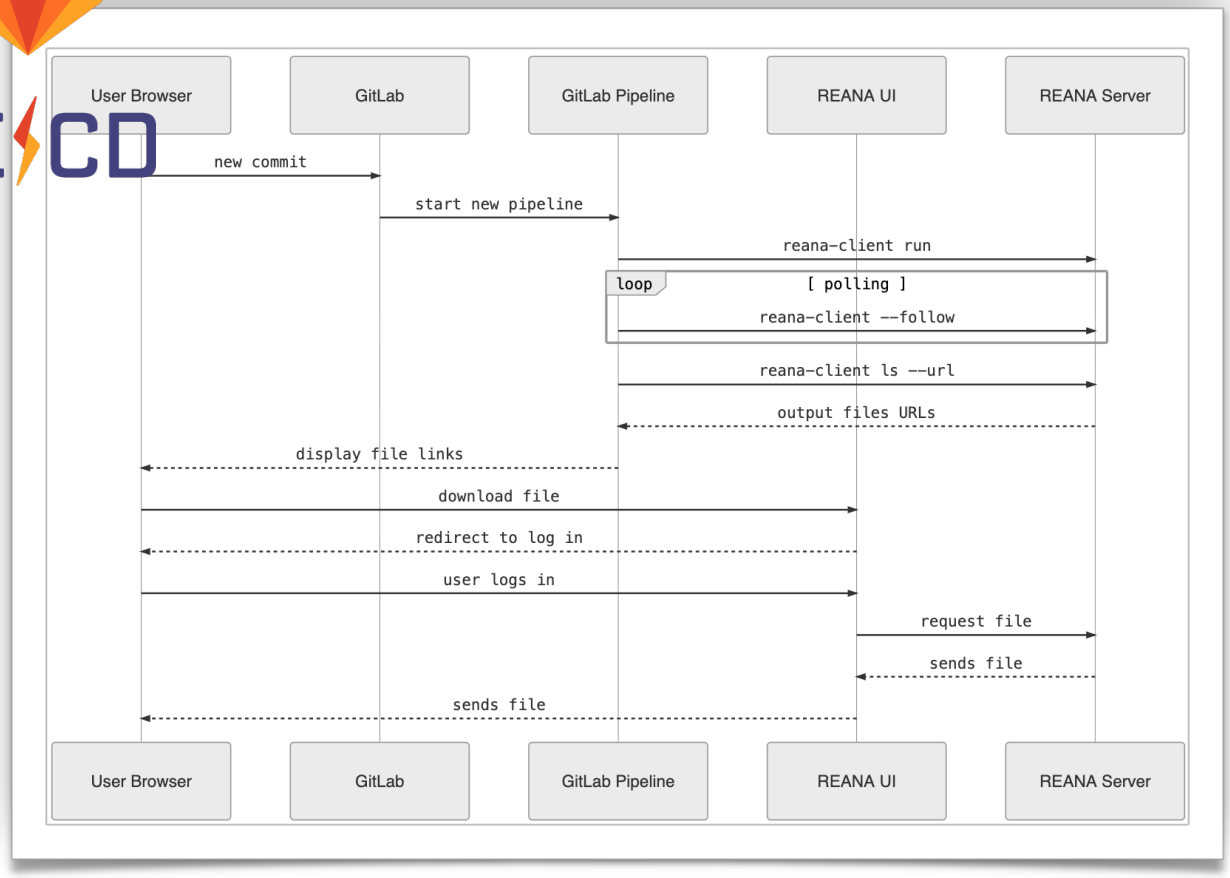
Currently, manual interaction

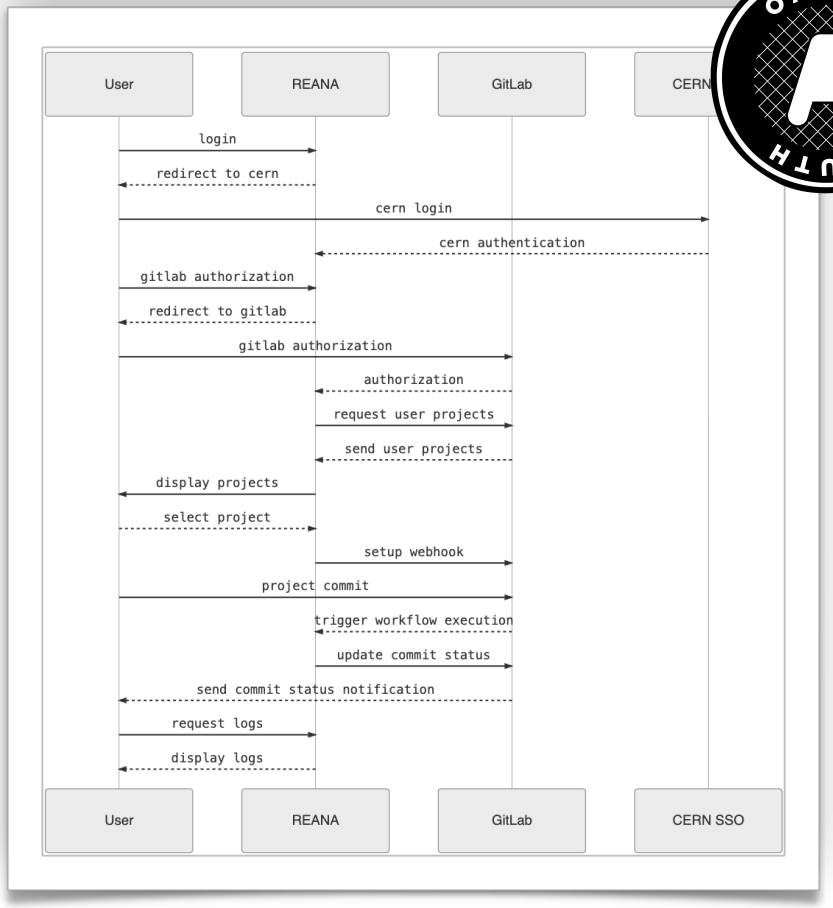


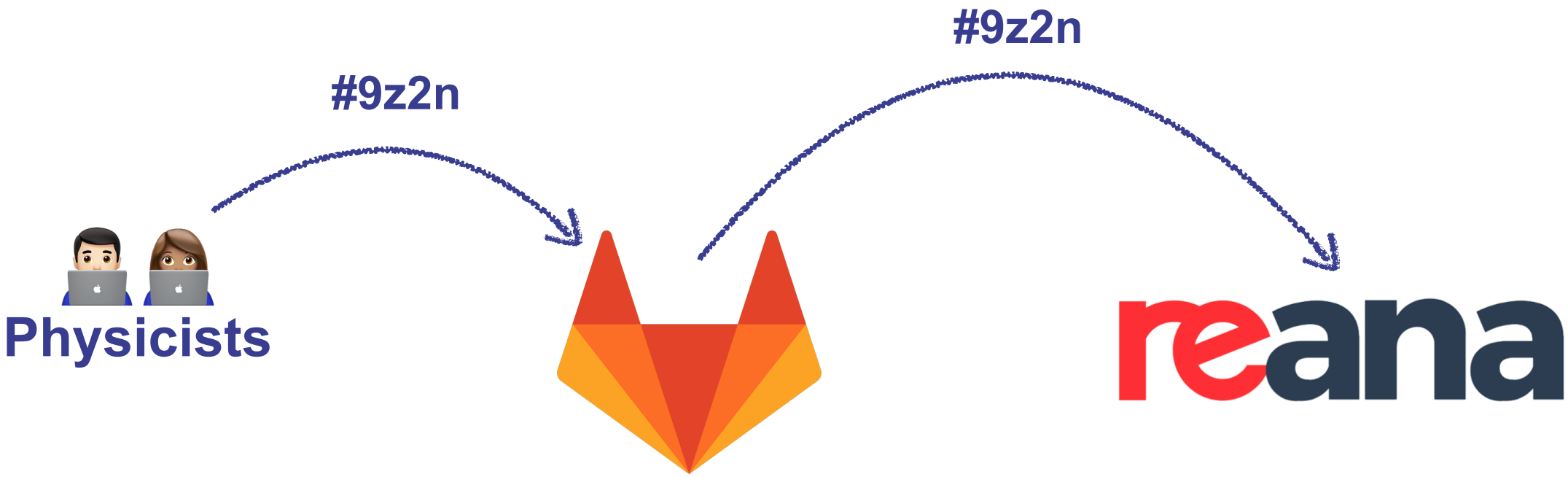
Can we do better?

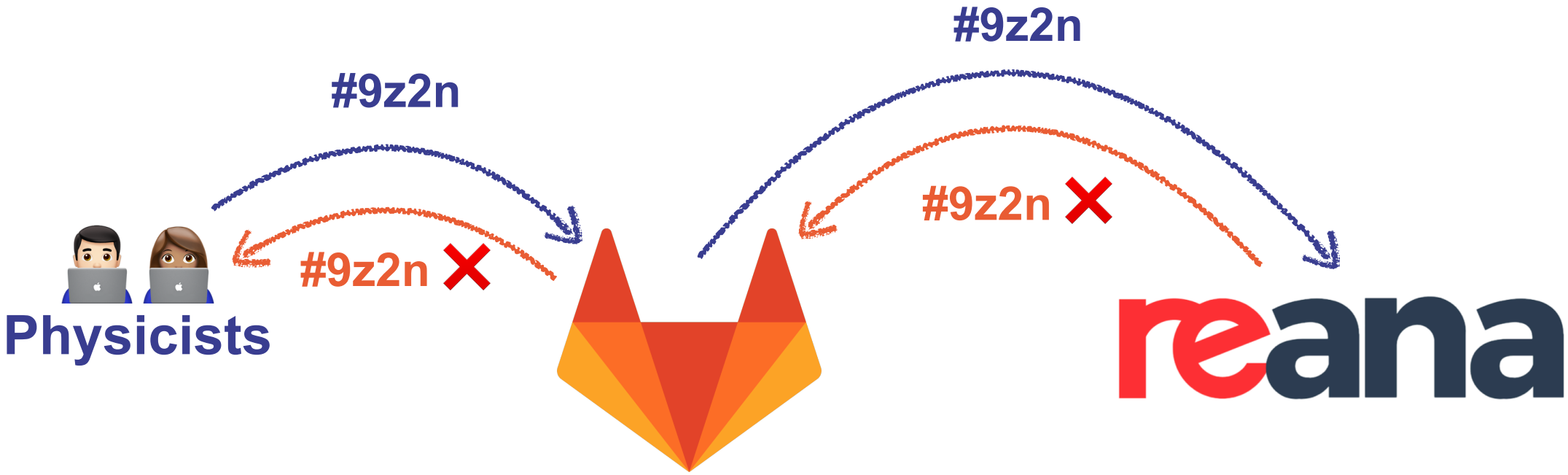
+ reana = ?

Designed two solutions depending on user needs






#9z2n
#9z2n
Physicists
reana


#9z2n
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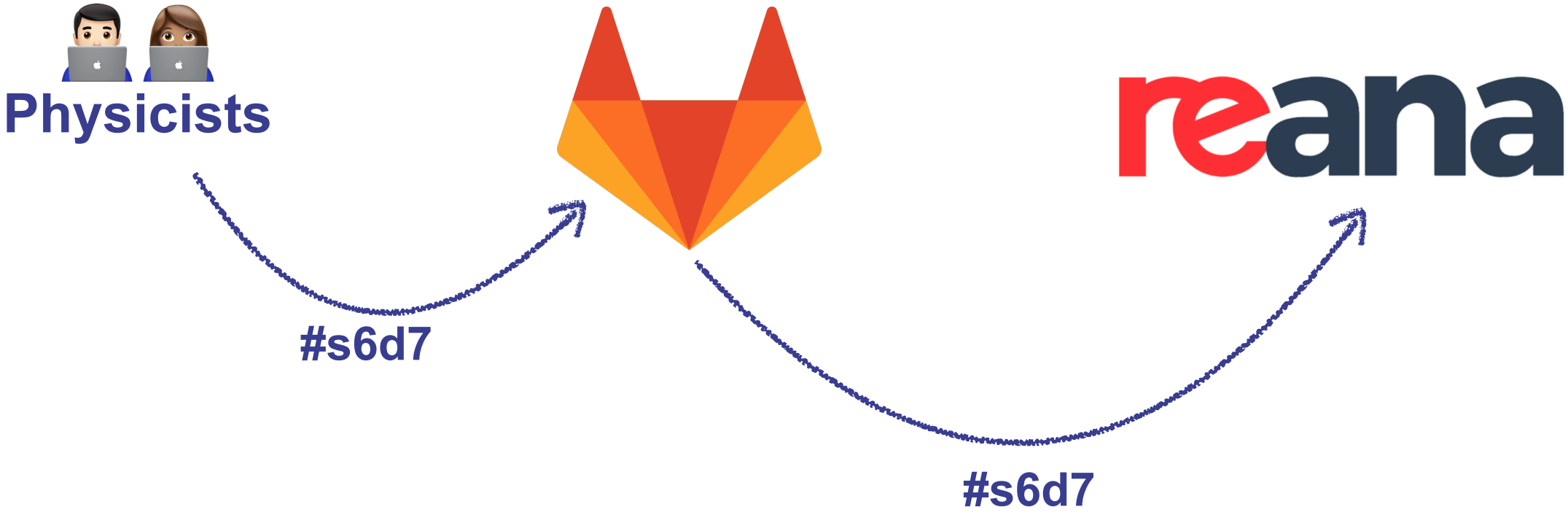
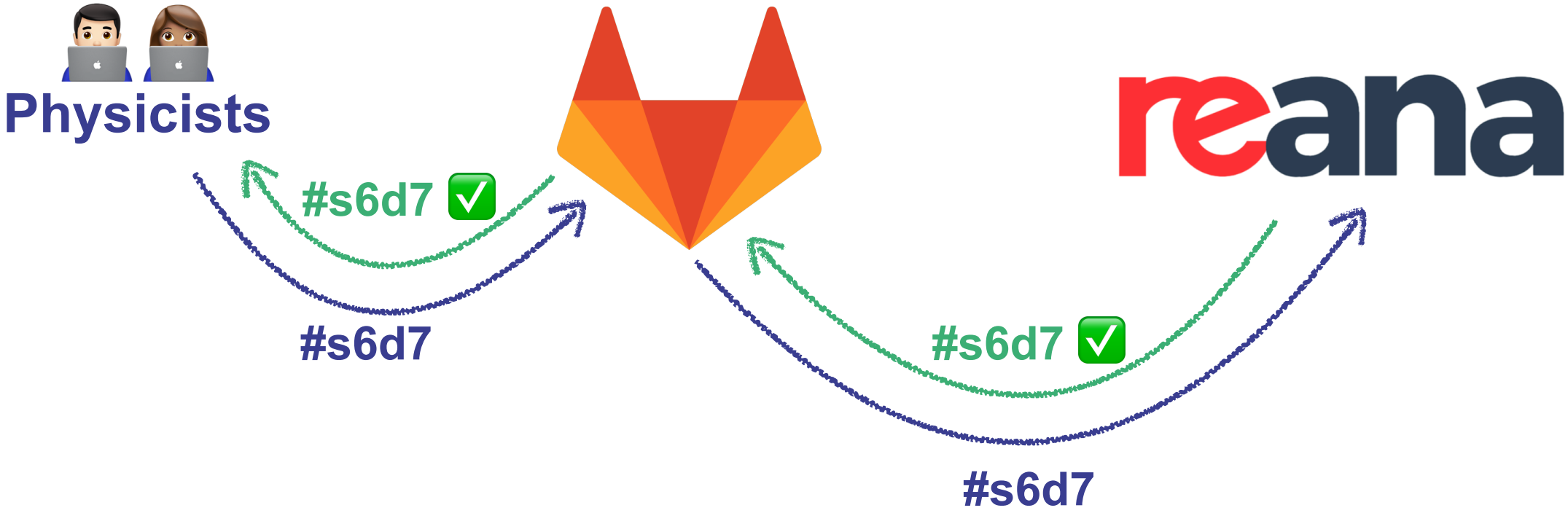
Physicists
reana


Physicists
#s6d7
reana
#s6d7


Physicists
#s6d7 ✅
#s6d7
reana
#s6d7 ✅
#s6d7

CI/CD

```yaml
reana:
  image: "python:3"
  script:
    # install reana-client
    - pip install reana-client

    # create the workflow
    - reana-client create -n $CI_PROJECT_NAME

    # upload code and input files
    - reana-client upload ./data ./code

    # run the workflow
    - reana-client start --follow

    # download output files
    - reana-client download results/greetings.txt

  artifacts:
    paths:
      - results/greetings.txt
    expire_in: 1 day
    when: on_success
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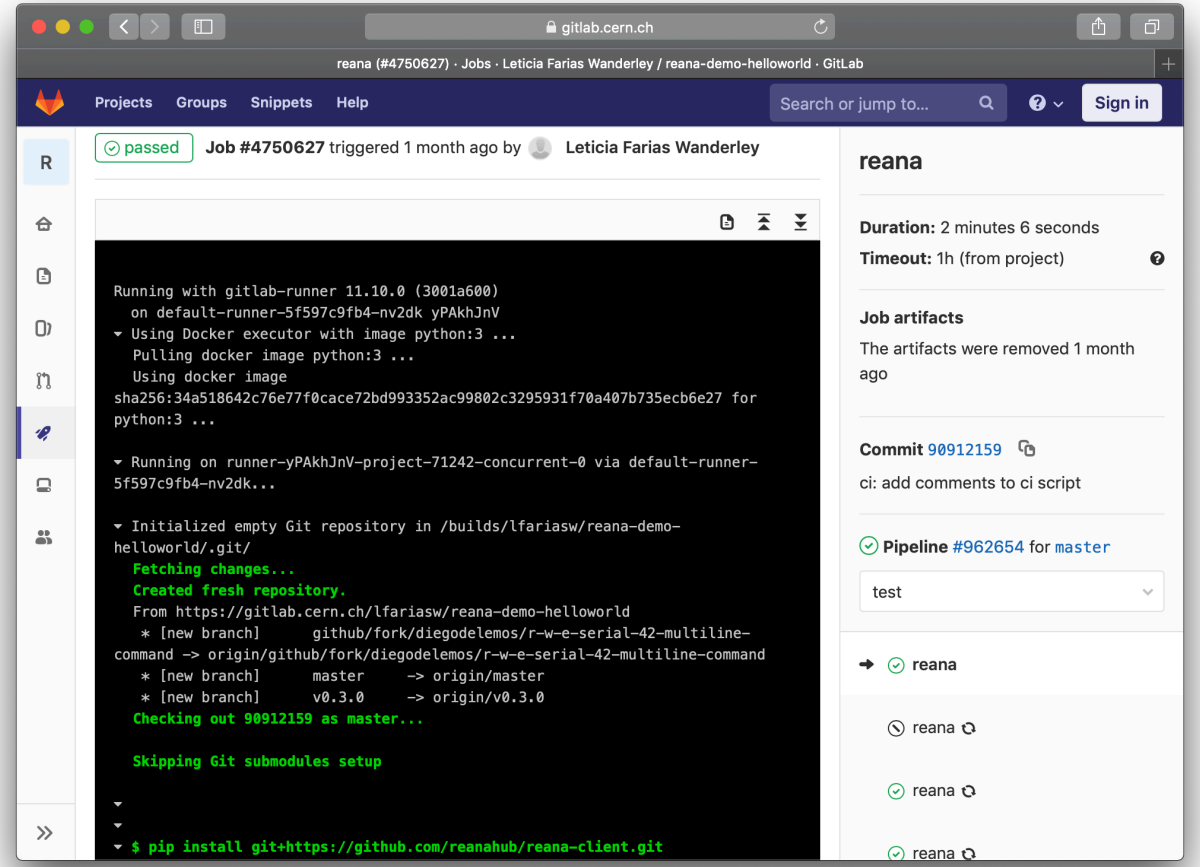
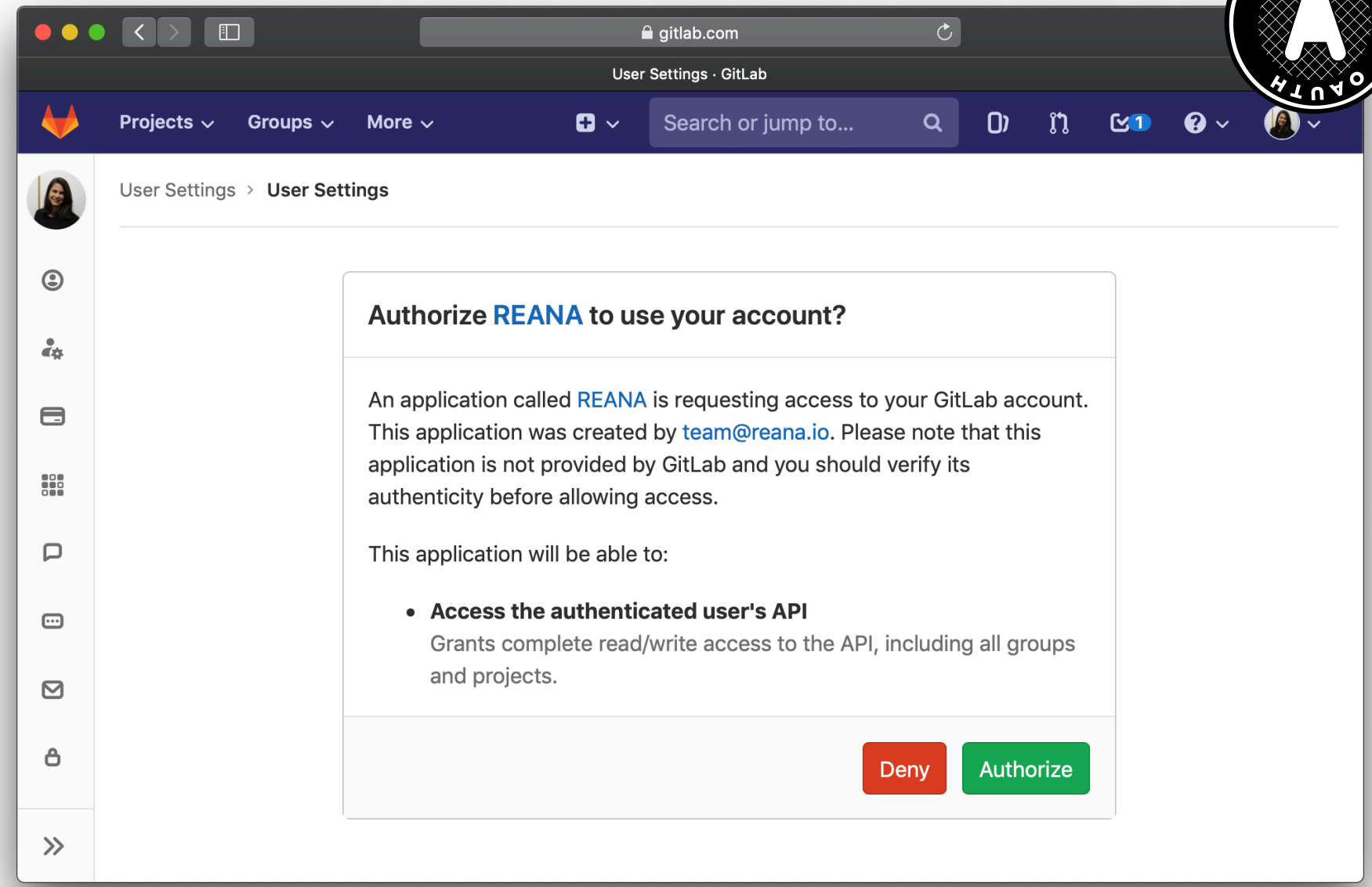
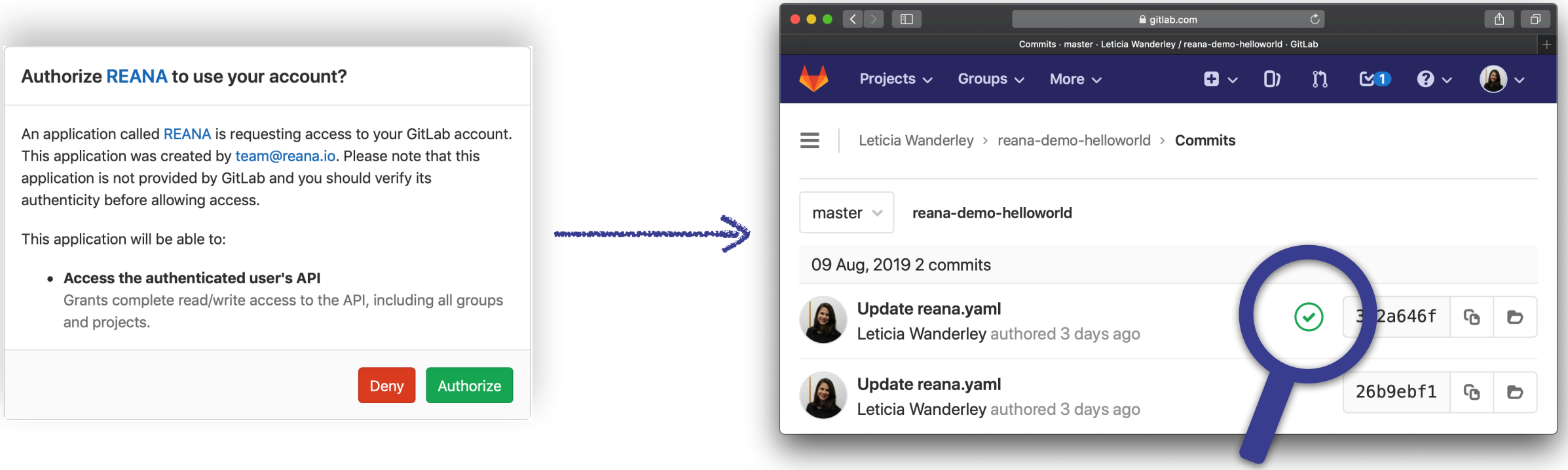
CI/CD



Designed for short execution time

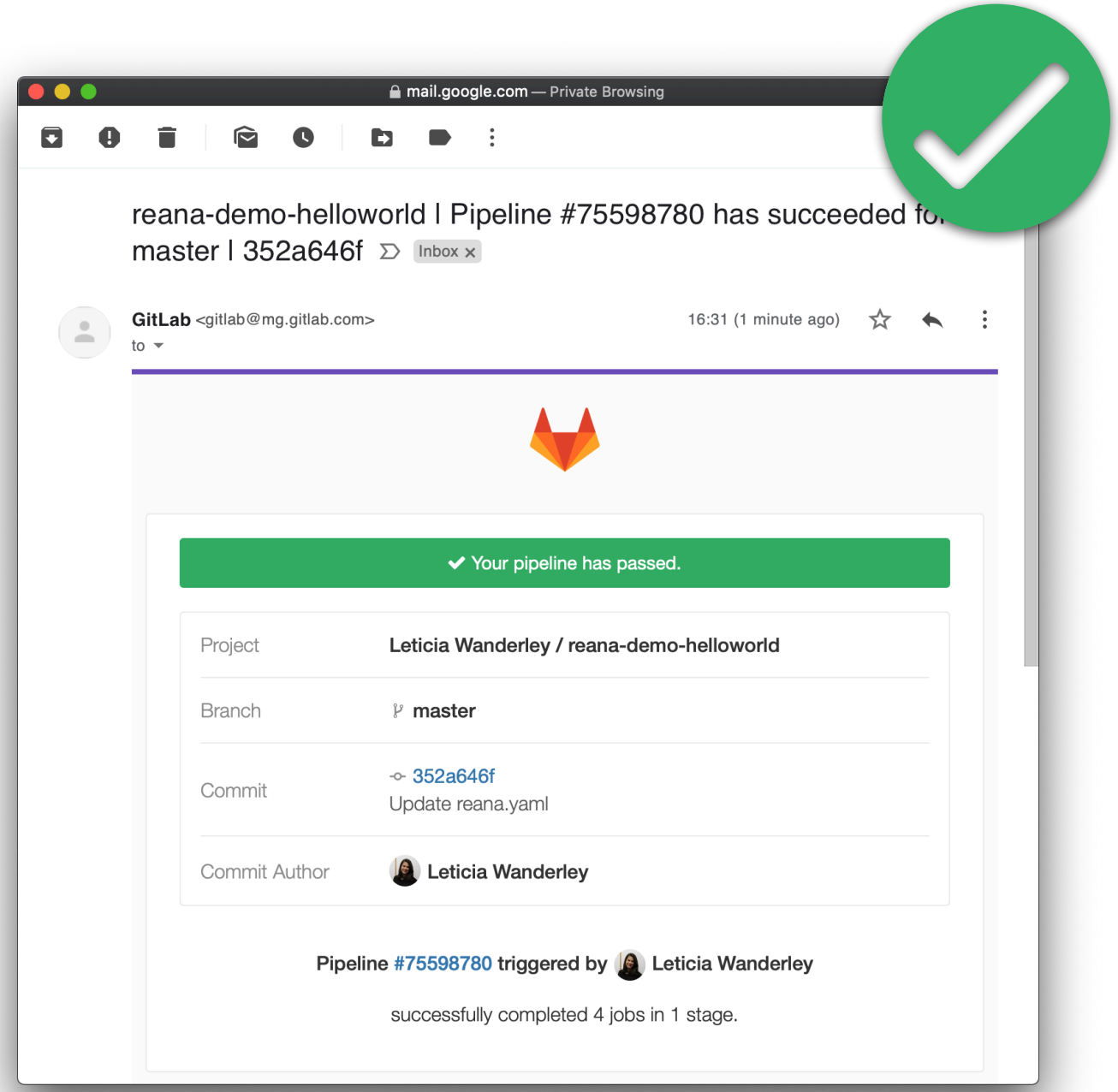
Flexible manual configuration


gitlab.com
User Settings · GitLab
Projects
Groups
More
Search or jump to...
User Settings
User Settings
Authorize REANA to use your account?
An application called REANA is requesting access to your GitLab account. This application was created by team@reana.io. Please note that this application is not provided by GitLab and you should verify its authenticity before allowing access.
This application will be able to:
Access the authenticated user's API
Grants complete read/write access to the API, including all groups and projects.
Deny
Authorize



Zero configuration

Unlimited execution time


mail.google.com — Private Browsing
reana-demo-helloworld | Pipeline #75598780 has succeeded fo
master | 352a646f
Inbox
GitLab <gitlab@mg.gitlab.com>
to
16:31 (1 minute ago)
Your pipeline has passed.
Project
Leticia Wanderley / reana-demo-helloworld
Branch
master
Commit
352a646f
Update reana.yaml
Commit Author
Leticia Wanderley
Pipeline #75598780 triggered by Leticia Wanderley
successfully completed 4 jobs in 1 stage.

+
reana
=

Impact ⚡

Implemented and integrated ✅

1st CERN GitLab application ✅

> *"The integration of REANA with GitLab is a great step towards running reproducible CMS analysis workflows. This will also significantly facilitate our analysis preservation efforts.*
> ***Clemens Lange (CMS)***

Future work 🔮

User configurability

Special thanks to Alex, Daniel,
and the whole GitLab team @ CERN! 🎊

Thank you!

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