

deploy2zenodo

script to deploy your data to zenodo automated via CI pipeline

Daniel Mohr¹ 

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¹ Deutsches Zentrum für Luft- und Raumfahrt e. V. – Institut für Physik der Atmosphäre

Preamble

To satisfy the FAIR principles^{1,2}, publications should be deployed to an open repository. In this way the publication gets a PID³ and at least the metadata is publicly accessible, findable and citable. Furthermore, current discussions about KPIs⁴ for software and data publications also lead to the need to generate PIDs for software and data.

Especially software usually is not citable by a PID. To overcome this and make software academically significant we provide here the tool `deploy2zenodo` for automatic publication to the open repository zenodo⁵.

In principal the same is true for all kind of scientific data (e. g. measurements, software and results such as papers). For every data managed in a version control system an automatic publication to an open repository is useful⁶.

Software in particular is subject to frequent changes, resulting in many versions. This leads to the urge to automate the publishing process. This is not only about making the software usable through software repositories, but also about the citability of individual versions.

`deploy2zenodo`⁷ is a shell script to deploy your data to zenodo. You can use it in a GitLab⁸ CI pipeline as an automatic workflow.

Environmental variables allow very flexible use. Depending on the selected flags, the data can be curated before deployment in a merge request, in the zenodo web interface or not curated at all.

gitlab.com/deploy2zenodo/deploy2zenodo

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Simple workflow

include:

```
- remote: 'https://gitlab.com/deploy2zenodo/deploy2zenodo/-/releases/permalink/latest/  
downloads/deploy2zenodo.yaml'
```

deploy2zenodo:

stage: **deploy**

rules:

```
- if: $CI_COMMIT_TAG
```

variables:

```
DEPLOY2ZENODO_API_URL: https://sandbox.zenodo.org/api
```

```
DEPLOY2ZENODO_JSON: "zenodo.json"
```

```
DEPLOY2ZENODO_DEPOSITION_ID: "create NEW record"
```

```
DEPLOY2ZENODO_UPLOAD: "$CI_PROJECT_NAME-$CI_COMMIT_TAG.zip"
```

before_script:

```
- apk add --no-cache curl git jq
```

```
- jq -c ".metadata.version = \"$CI_COMMIT_TAG\"" z.json | tee $DEPLOY2ZENODO_JSON
```

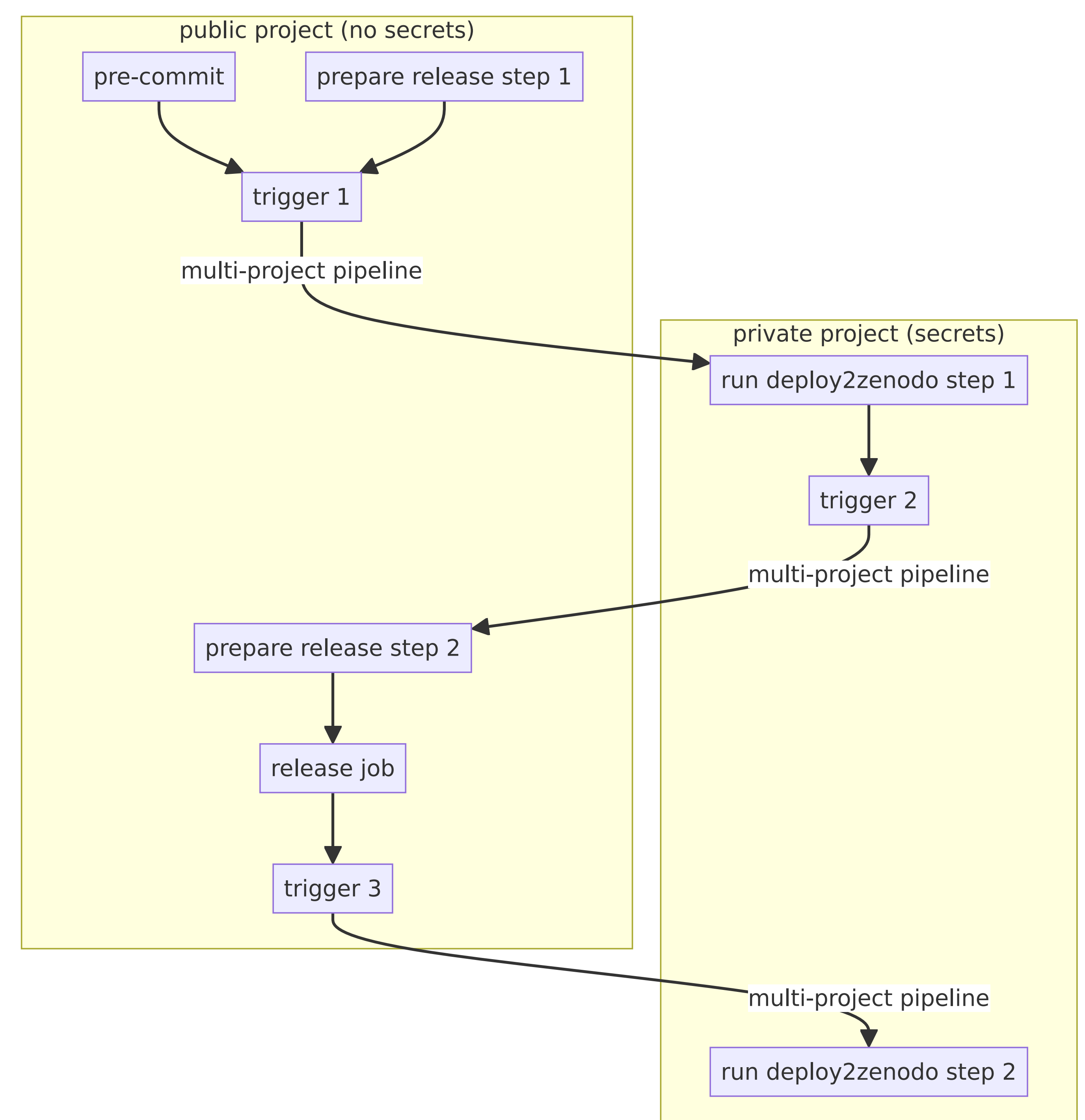
```
- git archive --format zip --output "$DEPLOY2ZENODO_UPLOAD" "$CI_COMMIT_TAG"
```

Harvesting

The harvesting can be done in manifold manner. For example `cffconvert`⁹ allows to use Citation File Format¹⁰.

```
cffconvert -i CITATION.cff -f zenodo | jq -c '{"metadata": .}' | tee $DEPLOY2ZENODO_JSON
```

Complex workflow



Curating

Depending on the selected flags, the data can be curated before deployment in a **merge request**, in the **zenodo web interface** or for a fully automated workflow **not curated** at all.

References

¹ www.go-fair.org/fair-principles

² Buttigieg, P. L. , Curdt, C. , Ihsan, A. Z. , Jejkal, T. , Kubin, M. , Mannix, O. , Mohr, D. P. , Pirogov, A. , Port, B. and Stucky, K. U. and Helmholtz Metadata Collaboration (HMC) (2022) An interpretation of the FAIR principles to guide implementations in the HMC digital ecosystem. Open Access , ed. by Lorenz, S. , Finke, A., Langenbach, C., Maier-Hein, K., Sandfeld, S. and Stotzka, R.. HMC Paper, 1 . HMC-Office, GEOMAR Helmholtz Centre for Ocean Research, Kiel, Germany, 26 pp. DOI 10.3289/HMC_publ_01.

³ en.wikipedia.org/wiki/Persistent_identifier

⁴ en.wikipedia.org/wiki/Performance_indicator

⁵ European Organization For Nuclear Research and OpenAIRE, Zenodo, 10.25495/7GXX-RD71.



⁶ Buttigieg, P. L. , Cristiano, L. , Curdt, C. , Ihsan, A. Z. , Jejkal, T. , Koch, C. , Mannix, O. , Mohr, D. P. , Pirogov, A. and Stucky, K. U. and Helmholtz Metadata Collaboration (HMC), Cross-cutting Topic Working Group "FAIR Concepts and Implementation" (2022) Guidance on Versioning of Digital Assets. Open Access , ed. by Lorenz, S., Finke, A., Langenbach, C., Maier-Hein, K., Sandfeld, S. and Stotzka, R.. HMC Paper, 3 . HMC Office, GEOMAR Helmholtz Centre for Ocean Research, Kiel, Germany, 20 pp. DOI 10.3289/HMC_publ_04.

⁷ Mohr, D. `deploy2zenodo` [Computer software]. 10.5281/zenodo.10112959.

⁸ GITLAB is a trademark of GitLab Inc. in the United States and other countries and regions



⁹ Spaaks, J. H. (2021). `cffconvert` (Version 3.0.0a0) [Computer software]. github.com/citation-file-format/cffconvert

¹⁰ Druskat, S., Spaaks, J. H., Chue Hong, N., Haines, R., Baker, J., Bliven, S., Willighagen, E., Pérez-Suárez, D., & Konovalov, O. (2021). Citation File Format (Version 1.2.0) [Computer software]. DOI: 10.5281/zenodo.5171937.