

Coupling a local GitLab instance with an institutional repository for instant research data publications

Collecting and refining research data or writing software is a part of many researchers' daily routine. As a university library, we have been encouraging researchers to add their research output to our institutional repository called PUB which is based on the free and open-source LibreCat software. Within an international collaboration, we have been able to design and program this institutional repository according to our own specifications fairly flexibly. This allowed us to extend its scope to data publications recently. However, it remains a system outside the day-to-day work flow of researchers who, as we all know, dislike doing what appears to be administrative burdens.

To remedy this situation, we set up a local GitLab instance and loosely coupled it with our institutional repository. We rolled out this instance (called GitLab.UB) university-wide and added it to the campus single sign-on system that is also used by our institutional repository. As GitLab is built around a versioning software, it becomes easy to mint a DOI that refers to a certain snapshot of a GitLab project (even retrospectively). This approach is similar to the service jointly offered by GitHub and Zenodo.

In addition to an effortless way to publish snapshots of research data or software, integrating GitLab allows our institutional repository to display the results of automatic checks on the data supplied by researchers. Inspired by the badges that indicate a successful continuous integration run on sites like GitHub, we show badges that indicate good research data quality including wellformedness for certain data formats and adherence to FAIR data principles as far as these can be checked automatically. These checks are implemented within the GitLab CI framework that comes with GitLab. They will be made available for re-use free of charge at the end of this project.

Although news of our local GitLab instance so far has spread largely by word of mouth, there has been a steady influx of users from various faculties and research institutes as well as their external partners. GitLab has also become an integral part of some undergraduate courses. GitLab's additional collaboration tools such as issue trackers and wikis have proven to facilitate joint work across groups and institutions, and have additionally increased the quality of results.