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Automated FAIR4RS software publication with HERMES

Software as an important method and output of research should follow the RDA “FAIR for Research Software Principles”. In practice, this means that research software, whether open, inner or closed source, should be published with rich metadata to enable FAIR4RS.

For research software practitioners, this currently often means to follow an arduous and mostly manual process of software publication. HERMES (<https://software-metadata.pub>), a project funded by the Helmholtz Metadata Collaboration, aims to alleviate this situation by developing configurable, executable workflows for the publication of rich metadata for research software, alongside the software itself.

These workflows, following a push-based approach, use existing continuous integration solutions, integrated in widespread code platforms like GitHub or GitLab, to harvest, to unify and collate software metadata that already exists in source code repositories and via code platform APIs. They include curation processes for the unified metadata and take care of the actual deposit on publication platforms, based on deposition requirements and curation steps defined by a targeted publication platform, the depositing institution, or a software management plan.

In addition, the HERMES project works to make the widely-used publication platforms InvenioRDM and Dataverse “research software ready”, i.e., able to ingest software publications with rich metadata, and represent software publications and their respective metadata in a usable manner that supports findability, assessability and accessibility of the published software versions.

Beyond the open source workflow software, HERMES will openly provide templates for different continuous integration solutions, extensive documentation, and training material. Thus, researchers are enabled to adapt automated software publication quickly and easily.

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