

# Software must be cited

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Second Cycle Degree in Digital Humanities and Digital Knowledge

Alma Mater Studiorum - Università di Bologna



# Choosing the license for software

It is important to choose the right license for your code

A description of licenses is available at:

<https://opensource.org/licenses>

<https://www.gnu.org/licenses/license-list.en.html>

Suggestion: choose a license that maximises the software reuse (i.e. with limited constraints)

One possible choice to this direction is [ISC](#)

**Action item:** you have to specify the license of your code in the GitHub repository – we can even decide to use just one license for all, included in the root of the repository

# Get a DOI for your software

You can get a DOI for your software available on GitHub (to cite it within publications), following the guide available here:

<https://guides.github.com/activities/citable-code/>

We need to use GitHub releases for enable that and to link Zenodo with GitHub

**Action item:** I ask each group to put all (and only) the code in a new repository under your control (I can create it within the *open-sci* organisation, if you agree), and to link it with Zenodo

Please, use [semantic versioning](#) for assign version number to the releases

# Are DOIs enough?

For the specific needs of reproducibility, referencing software artifacts via DOI, when it is available, is often sufficient

Please do not reference to software artifacts by just pointing to the project website or the current development repository, since it is necessary to have at hand a precise reference to the software source code used for the experiment, as well as long-term archival of the referenced artifact

Even better if the reference itself allows integrity checking upon artifact retrieval, enabling researchers that are attempting replication to rule out corruption or tampering with the digital objects as a potential cause for non-reproducibility

DOIs do not implement an integrity checking mechanism

# Software Heritage identifiers

In case you have to cite software that you reuse for any reason within your one software, you can use the [Software Heritage archive](https://github.com/opencitations/index) to retrieve the identifier of the archived version of the software to cite

Shape of the Software Heritage ID:

`swh:<schema_version>:<object_type>:<object_id>`

E.g.:

`Swh:1:dir:b7f440c0e4f54e647c92f7f50f1da686051344fb`

The screenshot shows the GitHub repository page for `https://github.com/opencitations/index`. The page is dated 09 August 2020, 07:16 UTC. The repository is under the `Code` tab. A red box highlights the `Permalinks` section, which contains the following text: "To reference or cite the objects present in the Software Heritage archive, permalinks based on Software Heritage persistent Identifiers (SWHIDs) must be used instead of copying and pasting the url from the address bar of the browser (as there is no guarantee the current URI scheme will remain the same over time)." Below this text, there is a section titled "File" with a list of files: `citation`, `coci`, `croci`, `finder`, `identifier`, `storer`, `support`, `test`, `test_data`, `.gitignore`, `README.md`, `__init__.py`, and `cnc.py`. To the right of the file list, there is a section titled "Select below a type of object currently browsed in order to display its associated SWHID and permalink." with two options: `directory` and `revision`. Below this, there is a section titled "archived repository" with a link to the Software Heritage archive: `archived swh:1:dir:b7f440c0e4f54e647c92f7f50f1da686051344fb`. The link is highlighted in blue. Below the link, there is a text box containing the following information: `swh:1:dir:b7f440c0e4f54e647c92f7f50f1da686051344fb`, `origin=https://github.com/opencitations/index`, `visit=swh:1:snp:c23a05d21d8318f38709ee3548097b511aed1336`, `anchor=swh:1:rev:10a1162886c8e791373caa6783c67c099f35cf5f`. Below the text box, there is a checkbox labeled "Add contextual information" which is checked. Below the checkbox, there are two buttons: "Copy identifier" and "Copy permalink".

# End

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