What is
Open Source Software?

JHU Open Source Programs Office
Explainer

Open source software is software with publicly available source code that is licensed to allow use, inspection, modification, and distribution by anyone.

Source code is the human-readable instructions that tell a computer what to do. Source code is written in a programming language, such as Python, Java, or C++.

The rights to use, inspect, distribute, and modify source code are granted by the open source license, an intellectual property license and legal agreement.

Research software, the collection of tools, code, or libraries that allow a researcher to generate new data or analyze and make meaning of existing data, can also be open source.

Making your research software open source can lead to greater transparency and collaboration opportunities.

There are two primary types of open source licenses.

1. "Copyleft" or "reciprocal" licenses require users to release any modifications made to the software under the same license. Examples include the GPL and AGPL licenses.

2. "Permissive" licenses allow significant freedom to use the software for a variety of purposes, including within commercial products. Examples include the Apache, BSD, and MIT licenses.

For many, open source is not just a license, but also a set of core values including collaboration, transparency, and community.

Open source projects often:

- Share their code and ideas with others
- Have a transparent development process
- Support strong communities of contributors
- Have participatory governance (aka decision-making)

Open source software is a powerful tool that can be used to create innovative solutions to a wide range of problems.

There are many ways to contribute to open source software projects, regardless of your skills or experience.

Contact the OSPO to learn more about open source software and to find ways to contribute to open source projects that you are interested in.

To learn more open source software basics, visit:

❖ Open Source Guides, https://opensource.guide/, a collection of resources for individuals, communities, and companies who want to learn how to run and contribute to an open-source project

❖ The Open Source Initiative, a non-profit that educates about and advocates for the benefits of open source: https://opensource.org/

❖ The Open Source Way, a guidebook for open source community management best practices: https://www.theopensourceway.org/

❖ Karl Fogel's (free) book, *Producing Open Source Software*, available via: https://producingoss.com/

Questions? Ask the
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