

# **OPEN SOURCE TECHNOLOGIES**

## **(01CE0618)**

### **Lab Manual**

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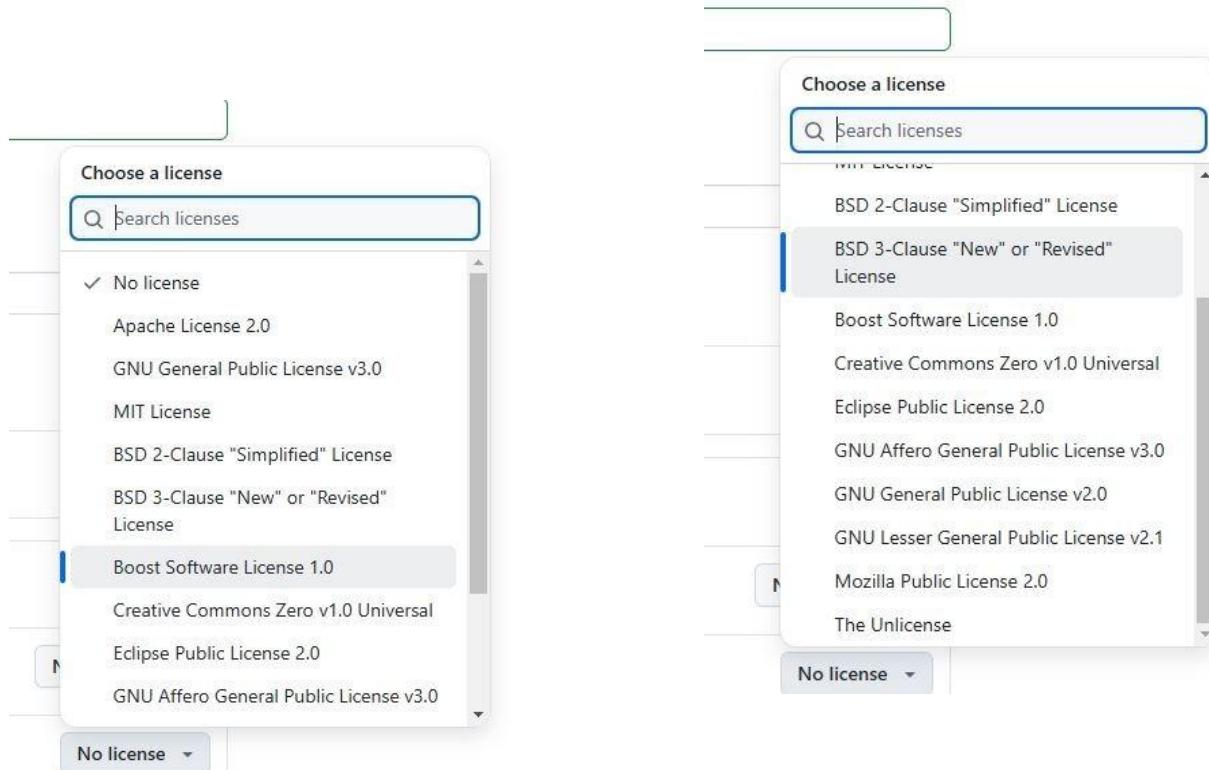
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## Experiment 1

**AIM: Explore GitHub/GitLab for open-source projects with different licenses**

### 1. List of GitHub Licenses



### 2. Licenses and Short Description Table

License	Short Description
No License	Code is fully copyrighted; others cannot legally use, modify, or distribute it.
Apache License 2.0	Permissive license allowing use, modification, and distribution with attribution and patent protection.
MIT License	Very permissive; allows reuse, modification, and distribution with minimal restrictions (attribution required).
GNU General Public License (GPL) v3.0	Strong copyleft; modified versions must also be open source under the same license.
GNU General Public License (GPL) v2.0	Similar to GPL v3 but without explicit patent and anti-tivoization clauses.
GNU Affero General Public License	Like GPL v3, but also requires source disclosure for network/server use.

License	Short Description
(AGPL) v3.0	
GNU Lesser General Public License (LGPL) v2.1	Weaker copyleft; allows linking with proprietary software.
BSD 2-Clause "Simplified" License	Permissive license with minimal requirements; allows proprietary use.
BSD 3-Clause "New/Revised" License	Similar to BSD 2-Clause but prevents endorsement using author names.
Boost Software License 1.0	Very permissive; designed for C++ libraries with minimal restrictions.
Creative Commons Zero (CC0) 1.0	Public-domain dedication; no restrictions on use.
Eclipse Public License 2.0	Weak copyleft; allows commercial use while protecting contributors.
Mozilla Public License 2.0 (MPL 2.0)	File-level copyleft; only modified files must be open source.
The Unlicense	Public-domain equivalent; anyone can do anything with the code.

### 3. Licenses Comparison Table

License	Commercial Use	Modify	Distribute	Private Use	Copyleft	Patent Grant	Best For
No License	✗	✗	✗	✗	✗	✗	Keeping code fully private
MIT License	✓	✓	✓	✓	✗	✗	Simple open-source projects
Apache License 2.0	✓	✓	✓	✓	✗	✓	Corporate & enterprise projects
BSD 2-Clause	✓	✓	✓	✓	✗	✗	Minimal restrictions
BSD 3-Clause	✓	✓	✓	✓	✗	✗	Permissive with name protection
Boost Software License 1.0	✓	✓	✓	✓	✗	✗	C++ libraries
GPL v2.0	✓	✓	✓	✓	✓ (Strong)	✗	Fully open-source software
GPL v3.0	✓	✓	✓	✓	✓ (Strong)	✓	Modern open-source projects
AGPL v3.0	✓	✓	✓	✓	✓ (Very Strong)	✓	Web & SaaS applications
LGPL v2.1	✓	✓	✓	✓	⚠ (Weak)	✗	Shared libraries
MPL 2.0	✓	✓	✓	✓	⚠ (File-level)	✗	Mixed open & closed source
EPL 2.0	✓	✓	✓	✓	⚠ (Weak)	✓	Enterprise frameworks
CC0 1.0	✓	✓	✓	✓	✗	✗	Public-domain code
The Unlicense	✓	✓	✓	✓	✗	✗	No restrictions at all

#### 4. List of GitHub Alternatives

- **GitLab**
- **Bitbucket**
- **SourceForge**
- **Gitea**
- **Gogs**
- **Codeberg**
- **Azure DevOps**
- **AWS CodeCommit**
- **Phabricator**
- **Perforce Helix Core**
- **RhodeCode**
- **Launchpad**
- **CodeCommit**
- **Fossil**
- **Savannah**

#### 5. GitHub vs GitLab Table

Feature	GitHub	GitLab
<b>Owner</b>	Microsoft	GitLab Inc.
<b>Type</b>	Git repository hosting platform	Complete DevOps platform
<b>CI/CD</b>	GitHub Actions (separate setup)	Built-in CI/CD
<b>Project Management</b>	Issues, Projects (basic)	Advanced issue tracking, boards
<b>Self-Hosting</b>	Limited (GitHub Enterprise)	Fully self-hosted option
<b>Open Source Focus</b>	Strong community & public repos	Strong DevOps & enterprise focus
<b>Permissions &amp; Security</b>	Basic role management	Advanced role & security controls
<b>Installation</b>	Cloud-first	Cloud & on-premise
<b>Free Tier</b>	Limited CI minutes	More generous CI/CD features
<b>Best Used For</b>	Open-source & collaboration	End-to-end DevOps workflows

## 6. Open-Source vs Proprietary vs Freeware

Feature	Open-Source Software	Proprietary Software	Freeware
<b>Source Code</b>	Available to users	Not available	Not available
<b>Cost</b>	Usually free	Paid	Free
<b>Modification</b>	Allowed	Not allowed	Not allowed
<b>Redistribution</b>	Allowed	Restricted	Restricted
<b>License Type</b>	MIT, GPL, Apache, etc.	Commercial license	Free-use license
<b>Customization</b>	High	Very limited	None
<b>Security Transparency</b>	High (public review)	Closed	Closed
<b>Examples</b>	Linux, Apache, Firefox	Windows, MS Office	Adobe Reader, Skype