

OpenChain KWG 4차 모임

# FOSSology 소개

2019. 12. 2

LG전자 박원재 선임연구원

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# FOSSology 개요

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## An Example – What do we find?

### The Example

- (Apache projects are known for homogenous licensing)
- Such a project declares its licensing on its Website
- However, Open Source implies using other open source
- As such, a projects can contain also parts from other open source projects

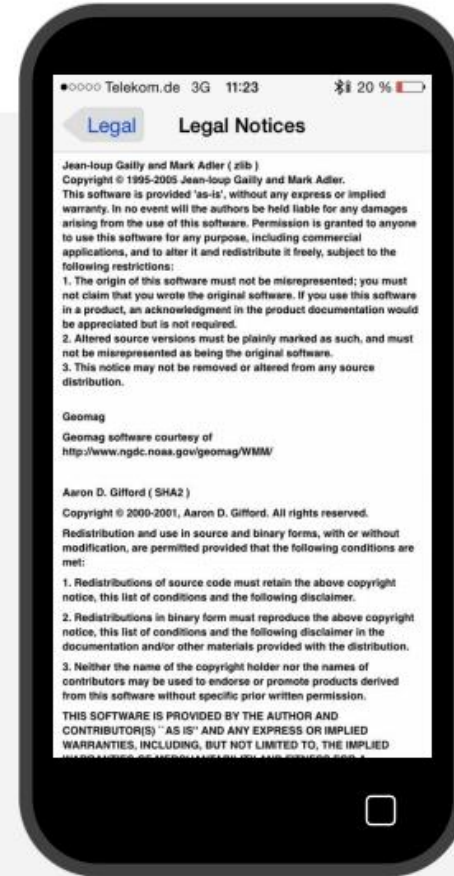
The screenshot shows the Apache Thrift website. At the top, there is a navigation bar with links for Download, Documentation, Developers, Libraries, Tutorial, Test Suite, About, and Apache. The main content area is titled "Apache Thrift™" and includes a brief description of the software framework. Below this, there is a "Getting Started" section with three main bullet points: "Download Apache Thrift", "Build and Install the Apache Thrift compiler", and "Writing a .thrift file". A code block shows the command to generate source code from a Thrift file: `thrift --gen <language> <Thrift filename>`. There is also a "Download" section on the right side of the page with a "Download v0.9.3" button and links for MD5 and PGP. At the bottom, there are sections for "Links" and "Get Involved". A red box highlights the copyright notice at the bottom right of the page: "Copyright 2016 Apache Software Foundation. Licensed under the Apache License v2.0. Apache, Apache Thrift, and the Apache feather logo are trademarks of The Apache Software Foundation."

## The Problem Actually

### You know these examples

Distributing open source software requires to


- Provide licenses of involved software
- Provide copyright statements of involved authors
- Provide disclaimers
- ... and much more



## It is about finding licenses

### Finding Licenses

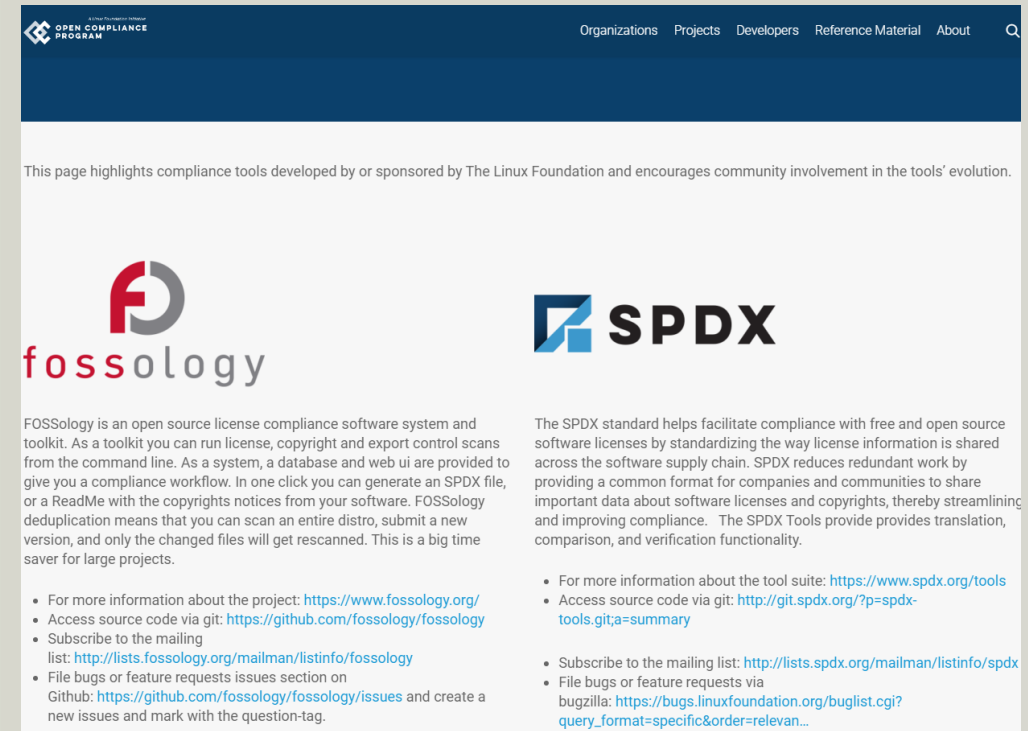
- License texts
- References to licenses
- Written texts explaining licensing
- License relevant statements



```
ProjectRepository.java
ProjectRepository.java No Selection
1
2 * Copyright Siemens AG, 2013-2015. Part of the SW360 Portal Project.
3 *
4 * This program is free software; you can redistribute it and/or modify it under
5 * the terms of the GNU General Public License Version 2.0 as published by the
6 * Free Software Foundation with classpath exception.
7 *
8 * This program is distributed in the hope that it will be useful, but WITHOUT
9 * ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS
10 * FOR A PARTICULAR PURPOSE. See the GNU General Public License version 2.0 for
11 * more details.
12 *
13 * You should have received a copy of the GNU General Public License along with
14 * this program (please see the COPYING file); if not, write to the Free
15 * Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA
16 * 02110-1301, USA.
17
18 package com.siemens.sw360.datahandler.db;
19
20 import com.google.common.collect.Sets;
21 import com.siemens.sw360.components.summary.ProjectSummary;
22 import com.siemens.sw360.components.summary.SummaryType;
23 import com.siemens.sw360.datahandler.couchdb.DatabaseConnector;
24 import com.siemens.sw360.datahandler.couchdb.SummaryAwareRepository;
25 import com.siemens.sw360.datahandler.thrift.projects.Project;
26 import com.siemens.sw360.datahandler.thrift.users.User;
27 import org.ektorp.support.View;
28 import org.jetbrains.annotations.NotNull;
29
30 import java.util.HashSet;
31 import java.util.List;
32 import java.util.Set;
33
34 import static com.siemens.sw360.datahandler.common.SW360Utils.getBUFromOrganisation;
35
36 /**
37  * CRUD access for the Project class
38  *
39  * @author cedric.bodet@tngtech.com
40  * @author Johannes.Najjar@tngtech.com
41  */
42 @View(name = "all", map = "function(doc) { if (doc.type == 'project') emit(null, doc._id) }")
43 public class ProjectRepository extends SummaryAwareRepository<Project> {
44
```

## [www.fossology.org](http://www.fossology.org)

- 2008 initial publication by HP
- 2015 Linux Foundation Collaboration Project
- It is a Linux Application
- Different tasks for OSS license compliance
  - Scanning for licenses
  - Copyright, authorship, e-mails
  - ECC statements
  - Generation of documentation
  - Export and import SPDX files



The screenshot shows the FOSSology website. At the top left is the 'OPEN COMPLIANCE PROGRAM' logo. The navigation menu includes 'Organizations', 'Projects', 'Developers', 'Reference Material', and 'About'. Below the navigation, a paragraph states: 'This page highlights compliance tools developed by or sponsored by The Linux Foundation and encourages community involvement in the tools' evolution.' The main content area features the 'fossology' logo on the left and the 'SPDX' logo on the right. Under the 'fossology' logo, there is a paragraph describing FOSSology as an open source license compliance software system and toolkit. Under the 'SPDX' logo, there is a paragraph explaining the SPDX standard's role in facilitating compliance. At the bottom, there are two columns of bullet points providing links for more information, source code access, mailing lists, and bug reporting.

OPEN COMPLIANCE PROGRAM

Organizations Projects Developers Reference Material About

This page highlights compliance tools developed by or sponsored by The Linux Foundation and encourages community involvement in the tools' evolution.

**fossology**

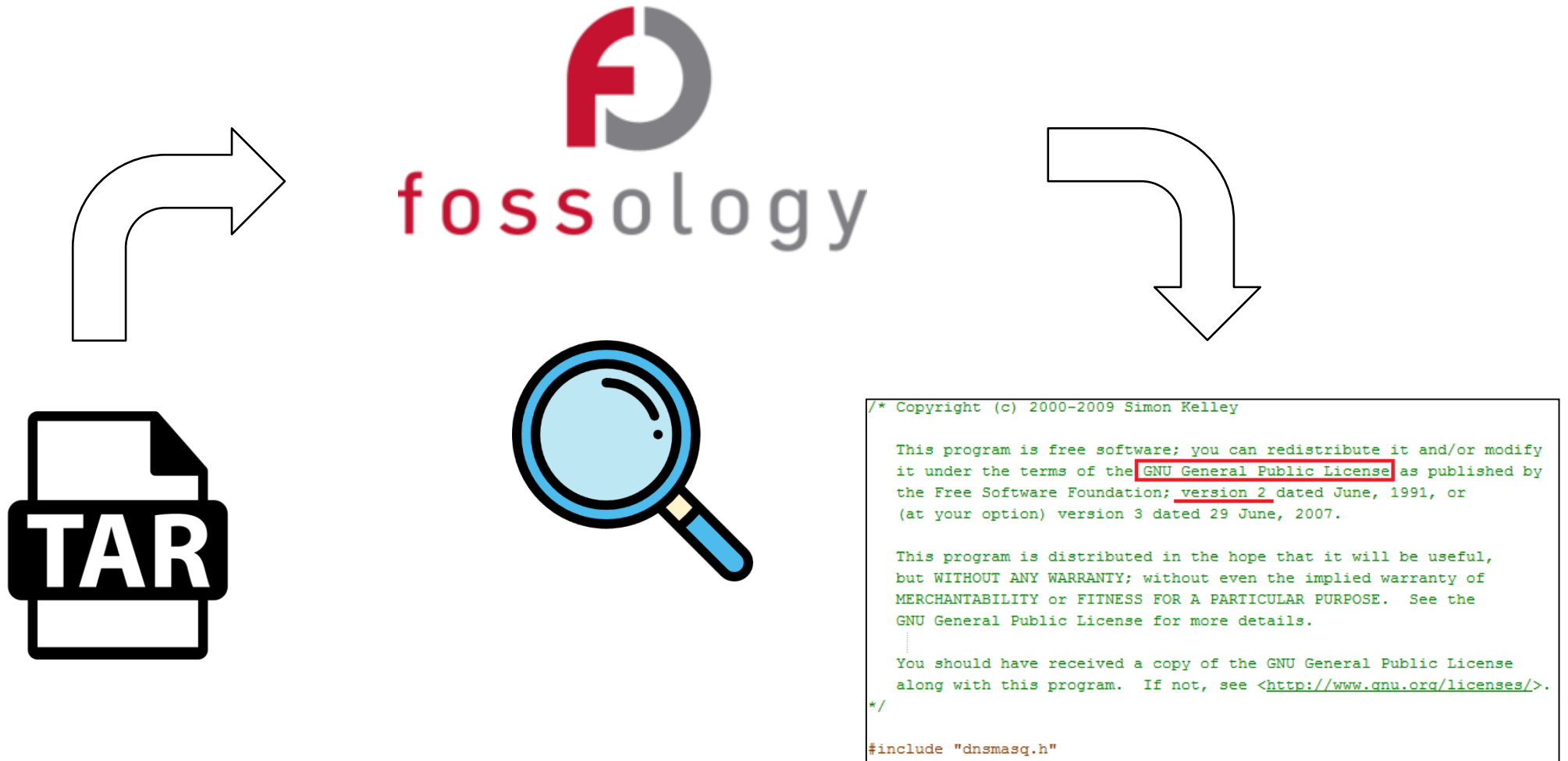
FOSSology is an open source license compliance software system and toolkit. As a toolkit you can run license, copyright and export control scans from the command line. As a system, a database and web ui are provided to give you a compliance workflow. In one click you can generate an SPDX file, or a ReadMe with the copyrights notices from your software. FOSSology deduplication means that you can scan an entire distro, submit a new version, and only the changed files will get rescanned. This is a big time saver for large projects.

- For more information about the project: <https://www.fossology.org/>
- Access source code via git: <https://github.com/fossology/fossology>
- Subscribe to the mailing list: <http://lists.fossology.org/mailman/listinfo/fossology>
- File bugs or feature requests issues section on Github: <https://github.com/fossology/fossology/issues> and create a new issues and mark with the question-tag.

**SPDX**

The SPDX standard helps facilitate compliance with free and open source software licenses by standardizing the way license information is shared across the software supply chain. SPDX reduces redundant work by providing a common format for companies and communities to share important data about software licenses and copyrights, thereby streamlining and improving compliance. The SPDX Tools provide provides translation, comparison, and verification functionality.

- For more information about the tool suite: <https://www.spdx.org/tools>
- Access source code via git: <http://git.spdx.org/?p=spdx-tools.git;a=summary>
- Subscribe to the mailing list: <http://lists.spdx.org/mailman/listinfo/spdx>
- File bugs or feature requests via bugzilla: [https://bugs.linuxfoundation.org/buglist.cgi?query\\_format=specific&order=relevan...](https://bugs.linuxfoundation.org/buglist.cgi?query_format=specific&order=relevan...)





## FOSSology 동작 개요

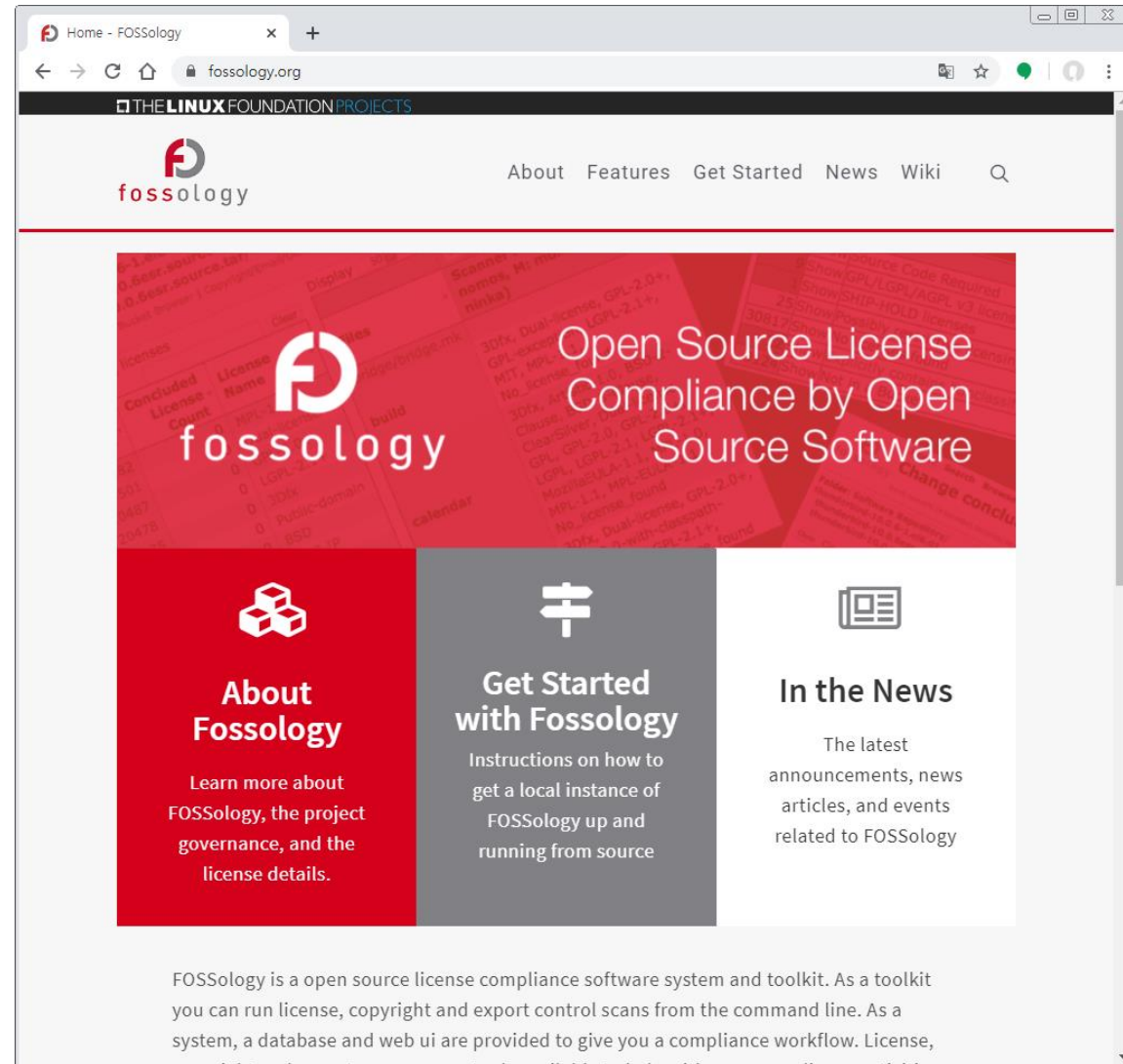
□ 하지만, Source File내 License 문구가 지워졌다면?

```
# Copyright (C) 2014, 2015, Anthony Kohan and Daniel M. German  
#  
#  
#  
#  
#  
#  
#  
#  
#  
#  
#  
#  
#  
#  
#  
#  
# along with this program. If not, see <http://www.gnu.org/licenses/>.  
#  
  
use strict;  
use File::Temp;  
use File::Find;  
use File::Basename;  
use Ninka;  
use Spreadsheet::WriteExcel;
```

□ FOSSology는 License 문구가 지워진 Source File에서는 License 검출을 할 수 없음.

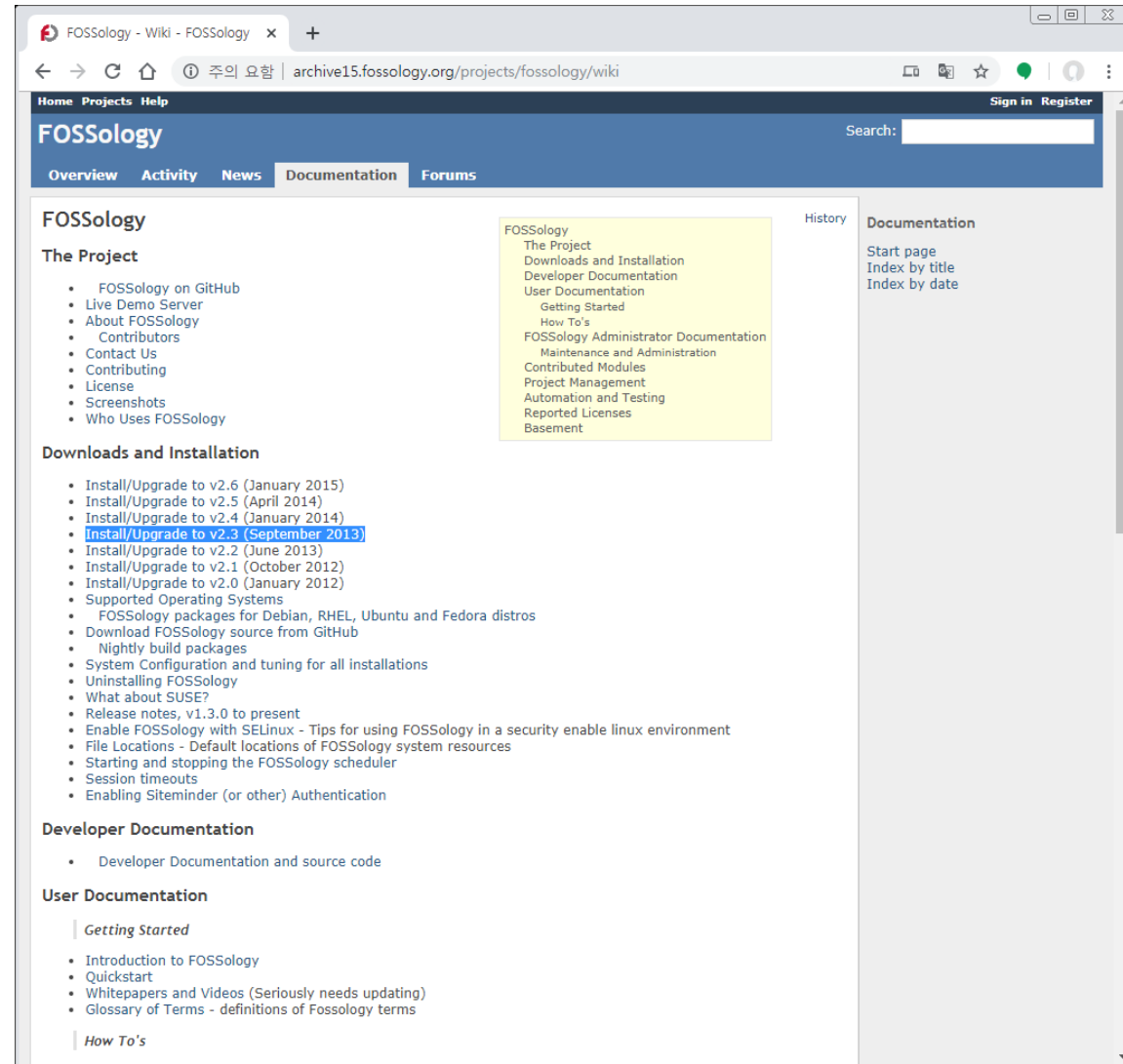
# FOSSology 관련 사이트

## 1. FOSSology 홈페이지 (<https://www.fossology.org/>)



# FOSSology 관련 사이트

2. FOSSology wiki 아카이브 (<http://archive15.fossology.org/projects/fossology/wiki>)



## 3. Github (<https://github.com/fossology/fossology>)

The image shows two side-by-side browser windows. The left window displays the GitHub repository page for fossology/fossology, specifically the 'Wiki' section. The right window displays the 'Issues' tab for the same repository, showing a list of 241 open issues.

**Left Window: Home - fossology/fossology Wiki**

github.com/fossology/fossology/wiki

- Submit issues about what you found about it

### Get Started with Development

- Download Source via Git
- Install from Source
- Documentation Generation
- Reporting bugs
- Definition of Done
- Coding Style
- Git basic commands
- Chris Beam's Intro on Git Comments
- New-at-FOSSology,-You-Could-...
- GSOC 2019! - Find Our Google Summer of Code Proposals here

### Using FOSSology

- Obligations management

### Administration of FOSSology

- General Administration Notes
- Configuration and Tuning
- Email notification configuration
- Groups and Access Rights configuration
- Improving IO performance

### Developer Documentation

#### Infrastructure

Infrastructure for the application is comprised by the database, the Web server, the PHP environment etc.

- Global System Configuration Variables

**Right Window: Issues - fossology/fossology**

github.com/fossology/fossology/issues

Filters: is:issue is:open | Labels: 46 | Milestones: 4 | [New issue](#)

241 Open | 641 Closed | Author | Labels | Projects | Milestones | Assignee | Sort

- Copyrights are missing in Unified Report **bug**  
#1533 opened yesterday by ag4ums | 3.7.0
- Rest API: calling API in given groupId context **enhancement** | 1  
#1529 opened 8 days ago by piotrek12
- User Deactivation with Disabling Login **enhancement**  
#1524 opened 16 days ago by mcjaeger
- If one runs the fossology docker image with '-it', resizing of the terminal shuts down FOSSology **bug**  
#1519 opened 28 days ago by maxhbr
- drop fo\_ninka\_license\_list CLI tool **bug**  
#1518 opened 28 days ago by maxhbr
- Scanning Andoid or IOS based Projects **needs clarification** **question** | 4  
#1517 opened 29 days ago by CleanHit
- Support the 'SPDX-FileCopyrightText' keyword explicitly in the copyright agent **enhancement** | 1  
#1513 opened on 28 Oct by maxhbr
- Why is the host encoded in the JwtToken? **question** | 2  
#1512 opened on 25 Oct by maxhbr
- Show error message if advice license verify fails **bug** **ready for newbies**  
#1507 opened on 22 Oct by GMishx
- A failure of unpack **bug**  
#1504 opened on 18 Oct by leimaohui
- File upload fails with "This seems to be a resent file" **bug** | 2  
#1502 opened on 17 Oct by ibkiziba

# FOSSology 관련 사이트

## 4. Github.io (<https://fossology.github.io/>)



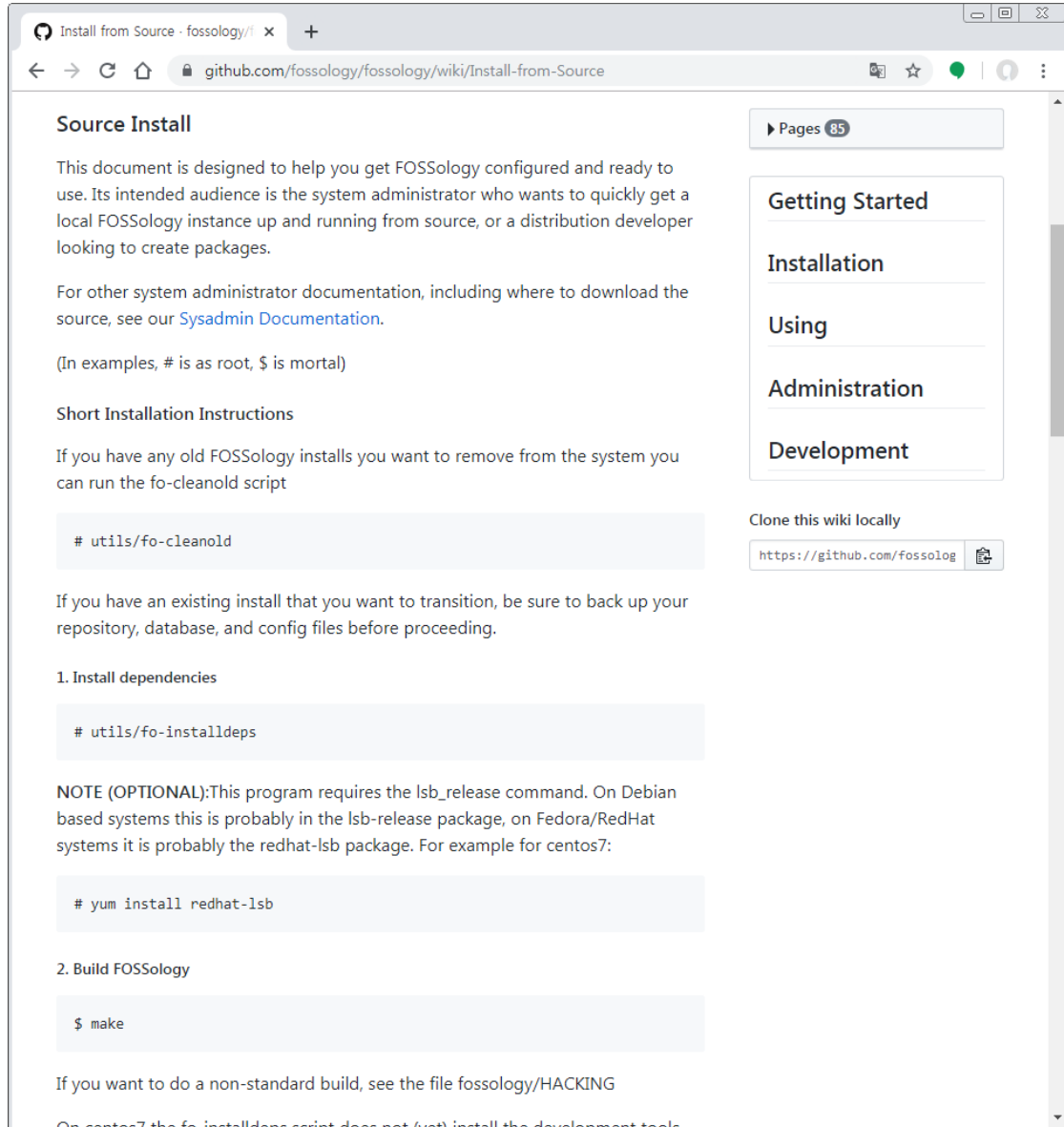
The screenshot shows a web browser displaying the FOSSology website. The browser's address bar shows the URL `fossology.github.io`. The page header includes the FOSSology logo, the text "FOSSology 3.7.0-rc1", and the tagline "Open Source License Compliance by Open Source Software". Below the header is a navigation menu with tabs for "Main Page", "Related Pages", "Namespaces", "Classes", "Files", and "Examples", along with a search bar. A left sidebar contains a tree view of the site's structure, with "Overview of FOSSology" selected. The main content area is titled "Overview of FOSSology" and contains the text "More developer information can be found at" followed by a link to `http://www.fossology.org/projects/fossology/wiki/Developer_Documentation`. A "Table of Contents" sidebar on the right lists various sections like "About", "Requirements", "Installation", "Support", etc. The footer of the page states "Generated on Wed Nov 27 2019 09:50:05 for FOSSology by doxygen 1.8.11".

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## 설치 방법

---

# Source로 설치하기



The screenshot shows a web browser window displaying the GitHub wiki page for FOSSology. The page title is "Source Install". The main content area contains the following text:

This document is designed to help you get FOSSology configured and ready to use. Its intended audience is the system administrator who wants to quickly get a local FOSSology instance up and running from source, or a distribution developer looking to create packages.

For other system administrator documentation, including where to download the source, see our [Sysadmin Documentation](#).

(In examples, # is as root, \$ is mortal)

**Short Installation Instructions**

If you have any old FOSSology installs you want to remove from the system you can run the fo-cleanold script

```
# utils/fo-cleanold
```

If you have an existing install that you want to transition, be sure to back up your repository, database, and config files before proceeding.

**1. Install dependencies**

```
# utils/fo-installdeps
```

**NOTE (OPTIONAL):**This program requires the lsb\_release command. On Debian based systems this is probably in the lsb-release package, on Fedora/RedHat systems it is probably the redhat-lsb package. For example for centos7:

```
# yum install redhat-lsb
```

**2. Build FOSSology**

```
$ make
```

If you want to do a non-standard build, see the file fossology/HACKING

On centos7 the fo-installdeps script does not (yet) install the development tools

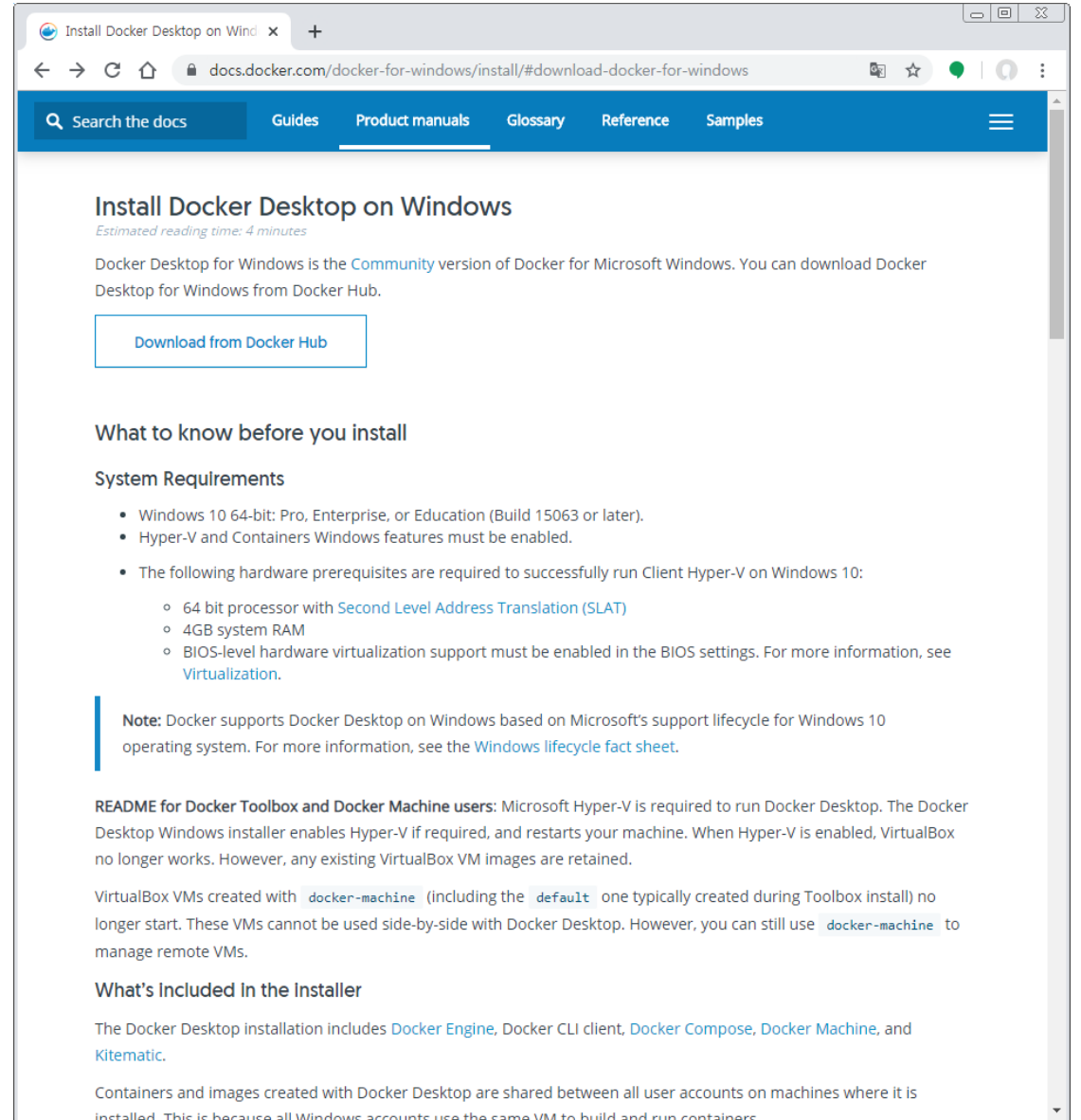
The right sidebar contains a navigation menu with the following items: Pages (85), Getting Started, Installation, Using, Administration, and Development. Below the menu is a "Clone this wiki locally" button with the URL <https://github.com/fossology>.

1. Source Code 확보
2. Dependency 설치 스크립트 실행
3. Make / make install
4. PHP, Apache, Postgresql 설정값 변경
5. Postinstall 스크립트 실행



# Docker 이미지 이용하기

## 1. Docker Desktop 설치



The screenshot shows a web browser window displaying the Docker documentation page for installing Docker Desktop on Windows. The page title is "Install Docker Desktop on Windows" with an estimated reading time of 4 minutes. The content includes a "Download from Docker Hub" button, a section titled "What to know before you install" with "System Requirements" listed as follows:

- Windows 10 64-bit: Pro, Enterprise, or Education (Build 15063 or later).
- Hyper-V and Containers Windows features must be enabled.
- The following hardware prerequisites are required to successfully run Client Hyper-V on Windows 10:
  - 64 bit processor with [Second Level Address Translation \(SLAT\)](#)
  - 4GB system RAM
  - BIOS-level hardware virtualization support must be enabled in the BIOS settings. For more information, see [Virtualization](#).

A **Note** states: "Docker supports Docker Desktop on Windows based on Microsoft's support lifecycle for Windows 10 operating system. For more information, see the [Windows lifecycle fact sheet](#)."

**README for Docker Toolbox and Docker Machine users:** Microsoft Hyper-V is required to run Docker Desktop. The Docker Desktop Windows installer enables Hyper-V if required, and restarts your machine. When Hyper-V is enabled, VirtualBox no longer works. However, any existing VirtualBox VM images are retained.

VirtualBox VMs created with `docker-machine` (including the `default` one typically created during Toolbox install) no longer start. These VMs cannot be used side-by-side with Docker Desktop. However, you can still use `docker-machine` to manage remote VMs.

**What's Included in the Installer**

The Docker Desktop installation includes [Docker Engine](#), Docker CLI client, [Docker Compose](#), [Docker Machine](#), and [Kitematic](#).

Containers and images created with Docker Desktop are shared between all user accounts on machines where it is installed. This is because all Windows accounts use the same VM to build and run containers.



# Docker 이미지 이용하기

## 2. Command 실행

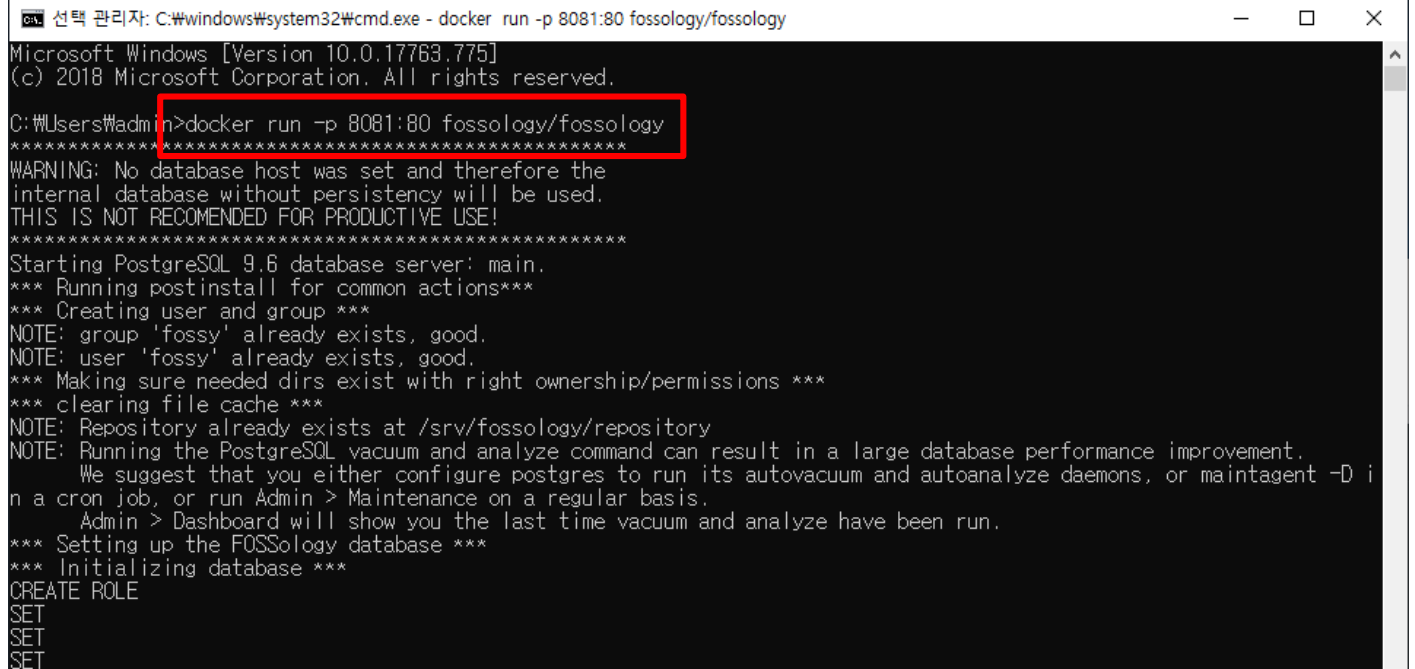
### Docker

FOSSology comes with a Dockerfile allowing the containerized execution both as single instance or in combination with an external PostgreSQL database. **Note:** It is strongly recommended to use an external database for production use, since the standalone image does not take care of data persistency.

A pre-built Docker image is available from [Docker Hub](#) and can be run using following command:

```
docker run -p 8081:80 fossology/fossology
```

The docker image can then be used using `http://IP_OF_DOCKER_HOST:8081/repo` user `fossy` passwd `fossy`.



```
선택 관리자: C:\windows\system32\cmd.exe - docker run -p 8081:80 fossology/fossology
Microsoft Windows [Version 10.0.17763.775]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\Wadmin>docker run -p 8081:80 fossology/fossology
*****
WARNING: No database host was set and therefore the
internal database without persistency will be used.
THIS IS NOT RECOMENDED FOR PRODUCTIVE USE!
*****
Starting PostgreSQL 9.6 database server: main.
*** Running postinstall for common actions***
*** Creating user and group ***
NOTE: group 'fossy' already exists, good.
NOTE: user 'fossy' already exists, good.
*** Making sure needed dirs exist with right ownership/permissions ***
*** clearing file cache ***
NOTE: Repository already exists at /srv/fossology/repository
NOTE: Running the PostgreSQL vacuum and analyze command can result in a large database performance improvement.
We suggest that you either configure postgres to run its autovacuum and autoanalyze daemons, or maintagent -D i
n a cron job, or run Admin > Maintenance on a regular basis.
Admin > Dashboard will show you the last time vacuum and analyze have been run.
*** Setting up the FOSSology database ***
*** Initializing database ***
CREATE ROLE
SET
SET
SET
SET
```

---

## 사용 방법

---

Getting Started with FOSSology x +

localhost:8081/repo/

Home Help

## Getting Started with FOSSology

Version: [3.7.0], Branch: [master], Commit: [#e19a49] 2019/11/22 08:36 UTC built @ 2019/11/22 09:03 UTC [Login](#)

**FOSSology** is a framework for software analysis tools. With it, you can:

- Upload files into the fossology repository.
- Unpack files (zip, tar, bz2, iso's, and many others) into its component files.
- Browse upload file trees.
- View file contents and meta data.
- Scan for software licenses.
- Scan for copyrights and other author information.
- View side-by-side license and bucket differences between file trees.
- Tag and attach notes to files.
- Report files based on your own custom classification scheme.

**Where to Begin...**

- The menu at the top contains all the primary capabilities of FOSSology.
- **Login**: Depending on your account's access rights, you may be able to upload files, schedule analysis tasks, or even add new users.

This login uses HTTP, so passwords are transmitted in plain text. This is not a secure connection.

Username:

Password:

# Browse

Browse

localhost:8081/repo/?mod=browse

Home Search Browse Upload Jobs Organize Admin Help

**fossology** **Browse** Version: [3.7.0], Branch: [master], Commit: [#e19a49] 2019/11/22 08:36 UTC built @ 2019/11/22 09:03 UTC [logout](#)  
User: fossy  
Group: fossy

Folder Navigation  Collapse All | Expand All  
Software Repository  
Example Folder1  
Example Child Folder1

### Uploads in Software Repository

Show 50 entries

Search:						
Upload Name and Description	Status	Comment	Main licenses	Assigned to	Upload Date	Priority
<input type="checkbox"/> <a href="#">3.17.0.tar.gz</a> -- select action --	open			Unassigned	2019-11-29 05:55:12	↑ ↓
<input type="checkbox"/> <a href="#">13.1.3.tar.gz</a> -- select action --	open			Unassigned	2019-11-28 11:05:11	↑ ↓

Showing 1 to 2 of 2 entries

Select  to run:

Page 1 of 1

# Upload

Upload from URL

Home Search Browse Upload Jobs Organize Admin Help

fossology Version: [3.7.0], Branch: [master], Commit: [#e19a49] 2019/11/22 08:36 UTC built @ 2019/11/22 09:03 UTC

logout User: fossy Group: fossy

To manage your own group permissions go into **Admin > Groups > Manage Group Users**. To manage permissions for this one upload, go to **Admin > Upload Permissions**.

This option permits uploading a single file (which may be iso, tar, rpm, jar, zip, bz2, msi, cab, etc.) or a directory from a remote web or FTP server to FOSSology. The file or directory to upload must be accessible via a URL and must not require human interaction such as login credentials.

- Select the folder for storing the uploaded files:  
Software Repository
- Enter the URL to the file or directory:  
**https://github.com/trendmicro/tlsh/archive/3.17.0.tar.gz**
- (Optional) Enter a viewable name for this file or directory:
- Note: If no name is provided, then the uploaded file (directory) name will be used.  
(Optional) Enter comma-separated lists of file name suffixes or patterns to accept:
- (Optional) Enter comma-separated lists of file name suffixes or patterns to reject:
- (Optional) maximum recursion depth (Inf or 0 for infinite):
- (Optional) Enter a description of this file:
- Ignore SCM files (Git, SVN, TFS)
- Visible only for active group
- Visible for all groups
- Make Public
- Select optional analysis:  
 Copyright/Email/URL/Author analysis  
 ECC Analysis, scanning for text fragments potentially relevant for export  
 Keyword Analysis  
 MIME-type Analysis (Determine mimetype of every file. Not needed for licenses or buckets)  
 Monk License Analysis, scanning for licenses performing a text comparison  
 Nomos License Analysis, scanning for licenses using regular expressions  
 Ojo License Analysis, scanning for licenses using SPDX-License-Identifier  
 Package Analysis (Parse package headers)
- Automatic Concluded License Decider, based on:  
 ... scanners matches if all Nomos findings are within the Monk findings  
 ... scanners matches if Ojo findings are no contradiction with other findings  
 ... bulk phrases from reused packages  
 ... new scanner results, i.e., decisions were marked as work in progress if new scanner finds additional licenses

- Upload From File
- Upload From URL
- Upload From Version Control System
- Upload From Server

Show Jobs

Home Search Browse Upload Jobs Organize Admin Help

fossology Version: [3.7.0], Branch: [master], Commit: [#e19a49] 2019/11/22 08:36 UTC built @ 2019/11/22 09:03 UTC

logout User: fossy Group: fossy

Show uploads from all users

3.17.0.tar.gz						
Job/Dependency	Status	wget		Average items/sec	ETA	
5	Completed	wget_agent	1 items	2019-11-29 05:55 - 2019-11-29 05:55	0.50000 items/sec	Scanned
6	Completed	ununpack	383 items	2019-11-29 05:55 - 2019-11-29 05:55	47.875 items/sec	Scanned
11	Completed	adj2nest	383 items	2019-11-29 05:55 - 2019-11-29 05:55	191.50 items/sec	Scanned
12	Completed	copyright	296 items	2019-11-29 05:55 - 2019-11-29 05:55	29.600 items/sec	Scanned
19 / 17	Completed	ecc	296 items	2019-11-29 05:55 - 2019-11-29 05:55	37.000 items/sec	Scanned
20 / 17	Completed	keyword	296 items	2019-11-29 05:55 - 2019-11-29 05:55	98.667 items/sec	Scanned
21 / 17	Completed	mimetype	297 items	2019-11-29 05:55 - 2019-11-29 05:55	17.471 items/sec	Scanned
22 / 17	Completed	monk	296 items	2019-11-29 05:55 - 2019-11-29 05:55	37.000 items/sec	Scanned
23 / 17	Completed	nomos	296 items	2019-11-29 05:55 - 2019-11-29 05:56	4.9333 items/sec	Scanned
24 / 17	Completed	ojo	296 items	2019-11-29 05:55 - 2019-11-29 05:55	98.667 items/sec	Scanned
25 / 17	Completed	pkgagent	0 items	2019-11-29 05:55 - 2019-11-29 05:55	0.00000 items/sec	Scanned

# License Browser

Home Search Browse Upload Jobs Organize Admin Help

## License Browser

Version: [3.7.0], Branch: [master], Commit: [#e19a49] 2019/11/22 08:36 UTC built @ 2019/11/22 09:03 UTC

[logout](#)

User: fossy

Group: fossy

License Browser | [File Browser](#) | [Copyright](#) | [ECC](#) | [Email/URL/Author](#) | [Keyword](#) | [Browse](#) | [License List](#) | [Search](#) • [View](#) | [Conf](#) | [Info](#) • [Refresh](#)

Folder: **Software Repository/**  
**3.17.0.tar.gz/3.17.0.tar/tlsh-3.17.0**

Display 25 licenses

Scanner Count	Concluded License Count	License Name
32	0	Apache-2.0
30	0	BSD-3-Clause
8	0	Non-profit
3	0	OpenSSL
2	0	UnclassifiedLicense
1	0	GPL
1	0	Apache-possibility

Showing 1 to 7 of 7 licenses Page 1 of 1

Hint: Click on the license name to search for where the license is found in the file listing.

### Summary

Unique licenses	7	319	Files
Unique scanner detected licenses	8	0	Unique concluded licenses
Licenses found	77	0	Licenses concluded
Files with no detected licenses	274	0	Concluded files with no detected licenses

### Scanner details

Latest run of all available agents

The latest results of agent **nomos** are from revision "3.7.0-rc1-15-ge19a49a62".e19a49.

The latest results of agent **monk** are from revision "3.7.0-rc1-15-ge19a49a62".e19a49.

The agent **reportImport** has not been run on this upload.

Display 50 files (tree view or flat)

-- filter for scan results --
-- filter for edited results --
 open

Files	Scanner Results (N: nomos, M: monk, Nk: ninka, I: reportImport, O: ojo)	Edited Results	Clearing Status	Files Cleared	Actions
Attacking_LSH_and_Sim_Dig.pdf/Attacking_LSH_and_Sim_Dig	No_license_found [N]		●	0/0	[View][Info][Download][Tag][Edit]
DFRWS_Similarity_Digests.pdf/DFRWS_Similarity_Digests	GPL [N]		●	0/1	[View][Info][Download][Tag][Edit]
TLSH_CTC_final.pdf/TLSH_CTC_final	No_license_found [N]		●	0/0	[View][Info][Download][Tag][Edit]
TLSH_Introduction.pdf/TLSH_Introduction	No_license_found [N]		●	0/0	[View][Info][Download][Tag][Edit]
<b>Testing</b>	No_license_found, Non-profit, UnclassifiedLicense		●	0/10	[Tag][Edit][Bulk]
<b>Windows</b>	No_license_found		●	0/0	[Tag][Edit][Bulk]
<b>include</b>	Apache-2.0, BSD-3-Clause, No_license_found		●	0/3	[Tag][Edit][Bulk]
<b>java</b>	Apache-2.0, BSD-3-Clause, No_license_found		●	0/11	[Tag][Edit][Bulk]
<b>js_ext</b>	Apache-2.0, BSD-3-Clause, No_license_found		●	0/1	[Tag][Edit][Bulk]
<b>py_ext</b>	No_license_found		●	0/0	[Tag][Edit][Bulk]
<b>register</b>	No_license_found		●	0/0	[Tag][Edit][Bulk]
<b>src</b>	Apache-2.0, BSD-3-Clause, No_license_found, OpenSSL		●	0/6	[Tag][Edit][Bulk]
<b>test</b>	Apache-2.0, BSD-3-Clause		●	0/7	[Tag][Edit][Bulk]
<b>tlsh_bh_tool</b>	Apache-2.0, Apache-possibility, BSD-3-Clause, No_license_found		●	0/2	[Tag][Edit][Bulk]
<b>utils</b>	Apache-2.0, BSD-3-Clause, No_license_found		●	0/1	[Tag][Edit][Bulk]
<b>.gitignore</b>	No_license_found [N]		●	0/0	[View][Info][Download]

# 개별 File 확인

Change concluded License x +

localhost:8081/repo/?mod=view-license&upload=3&item=424

fossology Home Search Browse Upload Jobs Organize Admin Help

## Change concluded License

Version: [3.7.0], Branch: [master], Commit: [#e19a49] 2019/11/22 08:36 UTC built @ 2019/11/22 09:03 UTC

logout  
User: fossy  
Group: fossy

Folder: Software Repository/  
3.17.0.tar.gz/3.17.0.tar/tlsh-3.17.0/java/src/main/java/com/trendmicro/tlsh/BucketOption.java

One-Shot Copyright/Email/URL | One-Shot License • License Browser | File Browser • Conf | Info | View | Licenses | Copyright/Email/Url/Author | ECC | keyword | Bucket • Hex | Text | Formatted • Refresh

Close | Cleared: 0/45

Hide Legend

```
/*
 * TLSSH is provided for use under two licenses: Apache OR BSD.
 * Users may opt to use either license depending on the license
 * restrictions of the systems with which they plan to integrate
 * the TLSSH code.
 */

/* =====
 * Apache License
 * =====
 * Copyright 2017 Trend Micro Incorporated
 *
 * Licensed under the Apache License, Version 2.0 (the "License");
 * you may not use this file except in compliance with the License.
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 * http://www.apache.org/licenses/LICENSE-2.0
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 * WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
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 */

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 * are permitted provided that the following conditions are met:
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 * list of conditions and the following disclaimer.
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 * 2. Redistributions in binary form must reproduce the above copyright notice,
 * this list of conditions and the following disclaimer in the documentation
 * and/or other materials provided with the distribution.
 */
```

< Submit >

- Go through all files
- Go through all files with licenses
- Go through all files with licenses and no clearing result

Clearing decision scope

Apply decision to all future occurrences of this file

Clearing decision type

- No license known
- To be discussed
- Irrelevant
- Identified

Action	License	Source	License Text	Acknowledgement	Comment
<input checked="" type="checkbox"/> <input type="checkbox"/>	BSD-3-Clause	nomos: #1 monk: #1 (98 %)	Click to add	Click to add	Click to add
<input checked="" type="checkbox"/> <input type="checkbox"/>	Apache-2.0	nomos: #1	Click to add	Click to add	Click to add

Showing 1 to 2 of 2 entries

User Decision ... Bulk Recognition ... Clearing History ...

# Clearing

Change concluded License x +

localhost:8081/repo/?mod=view-license&upload=3&item=424

fossology Home Search Browse Upload Jobs Organize Admin Help

## Change concluded License

Version: [3.7.0], Branch: [master], Commit: [#e19a49] 2019/11/22 08:36 UTC built @ 2019/11/22 09:03 UTC

logout  
User: fossy  
Group: fossy

Folder: Software Repository/  
3.17.0.tar.gz/3.17.0.tar/tlsh-3.17.0/java/src/main/java/com/trendmicro/tlsh/BucketOption.java

One-Shot Copyright/Email/URL | One-Shot License | License Browser | File Browser | Conf | Info | View | Licenses | Copyright/Email/Url/Author | ECC | keyword | Bucket | Hex | Text | Formatted | Refresh

Close Cleared: 1/45

Hide Legend

```
/*
 * TLSH is provided for use under two licenses: Apache OR BSD.
 * Users may opt to use either license depending on the license
 * restrictions of the systems with which they plan to integrate
 * the TLSH code.
 */

/*
 * =====
 * Apache License
 * =====
 * Copyright 2017 Trend Micro Incorporated
 *
 * Licensed under the Apache License, Version 2.0 (the "License");
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 * distributed under the License is distributed on an "AS IS" BASIS,
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 * 2. Redistributions in binary form must reproduce the above copyright notice,
 * this list of conditions and the following disclaimer in the documentation
 * and/or other materials provided with the distribution.
 */
```

Submit

- Go through all files
- Go through all files with licenses
- Go through all files with licenses and no clearing result

Clearing decision scope

Apply decision to all future occurrences of this file

Clearing decision type

- No license known
- To be discussed
- Irrelevant
- Identified

Action	License	Source	License Text	Acknowledgement	Comment
	BSD-3-Clause	nomos: #1 monk: #1 (98 %)	-	-	-
	Apache-2.0	nomos: #1 User confirmed agent finding	Click to add	Click to add	Click to add

Showing 1 to 2 of 2 entries

User Decision ... Bulk Recognition ... Clearing History ...



# Clearing

License Browser

localhost:8081/repo/?mod=license&upload=3&item=422

Home Search Browse Upload Jobs Organize Admin Help

**fossology** License Browser

Version: [3.7.0], Branch: [master], Commit: [#e19a49] 2019/11/22 08:36 UTC built @ 2019/11/22 09:03 UTC

logout  
User: fossy  
Group: fossy

Folder: **Software Repository/**  
3.17.0.tar.gz/3.17.0.tar/tlsh-3.17.0/java/src/main/java/com/trendmicro/tlsh

License Browser | File Browser | Copyright | ECC | Email/URL/Author | Keyword | Browse | License List | Search | View | Conf | Info | Refresh

Display 25 licenses Clear

Scanner Count	Concluded License Count	License Name
5	1	Apache-2.0
5	0	BSD-3-Clause

Showing 1 to 2 of 2 licenses Page 1 of 1

Hint: Click on the license name to search for where the license is found in the file listing.

**Summary**

Unique licenses	2	5	Files
Unique scanner detected licenses	2	1	Unique concluded licenses
Licenses found	10	1	Licenses concluded
Files with no detected licenses	0	0	Concluded files with no detected licenses

**Scanner details**

Latest run of all available agents Show

The latest results of agent **nomos** are from revision "3.7.0-rc1-15-ge19a49a62".e19a49.

The latest results of agent **monk** are from revision "3.7.0-rc1-15-ge19a49a62".e19a49.

The agent **reportImport** has not been run on this upload.

Schedule reportImport scan

The latest results of agent **ojo** are from revision "3.7.0-rc1-15-ge19a49a62".e19a49.

Show bulk history

Display 50 files (tree view or flat) Clear

-- filter for scan results --

-- filter for edited results --

open

MarkAsIrrelevant

Files	Scanner Results (N: nomos, M: monk, Nk: ninka, I: reportImport, O: ojo)	Edited Results	Clearing Status	Files Cleared	Actions
BucketOption.java	Apache-2.0 [N], BSD-3-Clause [N][M: 98%]	Apache-2.0	●	1/1	[View][Info][Download][Tag][Edit]
ChecksumOption.java	Apache-2.0 [N], BSD-3-Clause [N][M: 98%]		●	0/1	[View][Info][Download][Tag][Edit]
Tlsh.java	Apache-2.0 [N], BSD-3-Clause [N][M: 98%]		●	0/1	[View][Info][Download][Tag][Edit]
TlshCreator.java	Apache-2.0 [N], BSD-3-Clause [N][M: 98%]		●	0/1	[View][Info][Download][Tag][Edit]
TlshUtil.java	Apache-2.0 [N], BSD-3-Clause [N][M: 98%]		●	0/1	[View][Info][Download][Tag][Edit]

Showing 1 to 5 of 5 files Page 1 of 1

# Clearing (bulk)

**fossology** Version: [3.7.0], Branch: [master], Commit: [#e19a49] 2019/11/22 08:36 UTC built @ 2019/11/22 09:03 UTC

Folder: **Software Repository/**  
3.17.0.tar.gz/3.17.0.tar/tlsh-3.17.0/java/src/main/java/com/trendmicro/tlsh/ChecksumOption.java

Close Cleared: 1/45

Hide Legend

```
/*
 * TLSH is provided for use under two licenses: Apache OR BSD.
 * Users may opt to use either license depending on the license
 * restrictions of the systems with which they plan to integrate
 * the TLSH code.
 */

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 * =====
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 *
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 */

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 *
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 * IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT,
 * INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING,
 * BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
 * DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
 * LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
 * OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF
 * THE POSSIBILITY OF SUCH DAMAGE.
 */
```

Legend:  
license relevant text

Action	License	Source	License Text	Acknowledgement	Comment
✗	BSD-3-Clause	nomos: #1 monk: #1 (98 %)	Click to add	Click to add	Click to add
✗	Apache-2.0	nomos: #1	Click to add	Click to add	Click to add

Showing 1 to 2 of 2 entries

User Decision ... Bulk Recognition ... Clearing History ...

### Bulk recognition

Notice: Since punctuation is included in the matching process, periods needs to be included in the phrases if the word just before is included.  
Hint: New license candidates can be added via menu [Organize>Licenses](#)

Apache-2.0

Action	License	License Text	Acknowledgement	Comment	
Remove	BSD-3-Clause	Click to add	Click to add	Click to add	—
Add	Apache-2.0	Click to add	Click to add	Click to add	—

Reference text:

```
/*
 * TLSH is provided for use under two licenses: Apache OR BSD.
 * Users may opt to use either license depending on the license
 * restrictions of the systems with which they plan to integrate
 * the TLSH code.
 */
```

scan whole Upload  ignoreConflicts

Clean text

# Clearing

License Browser

localhost:8081/repo/?mod=license&upload=3&item=422

Home Search Browse Upload Jobs Organize Admin Help

**fossology** License Browser

Version: [3.7.0], Branch: [master], Commit: [#e19a49] 2019/11/22 08:36 UTC built @ 2019/11/22 09:03 UTC

logout  
User: fossy  
Group: fossy

Folder: **Software Repository/**  
3.17.0.tar.gz/3.17.0.tar/tlsh-3.17.0/java/src/main/java/com/trendmicro/tlsh

License Browser | File Browser | Copyright | ECC | Email/URL/Author | Keyword | Browse | License List | Search | View | Conf | Info | Refresh

Display 25 licenses Clear

Scanner Count	Concluded License Count	License Name
5	5	Apache-2.0
5	0	BSD-3-Clause

Showing 1 to 2 of 2 licenses Page 1 of 1

Hint: Click on the license name to search for where the license is found in the file listing.

**Summary**

Unique licenses	2	5	Files
Unique scanner detected licenses	2	1	Unique concluded licenses
Licenses found	10	5	Licenses concluded
Files with no detected licenses	0	0	Concluded files with no detected licenses

**Scanner details**

Latest run of all available agents Show

The latest results of agent **nomos** are from revision "3.7.0-rc1-15-ge19a49a62".e19a49.

The latest results of agent **monk** are from revision "3.7.0-rc1-15-ge19a49a62".e19a49.

The agent **reportImport** has not been run on this upload.

Schedule reportImport scan

The latest results of agent **ojo** are from revision "3.7.0-rc1-15-ge19a49a62".e19a49.

Show bulk history

Display 50 files (tree view or flat) Clear

-- filter for scan results --

-- filter for edited results --

open

MarkAsIrrelevant

Files	Scanner Results (N: nomos, M: monk, Nk: ninka, I: reportImport, O: ojo)	Edited Results	Clearing Status	Files Cleared	Actions
BucketOption.java	Apache-2.0 [N], BSD-3-Clause [N][M: 98%]	Apache-2.0	●	1/1	[View][Info][Download][Tag][Edit]
ChecksumOption.java	Apache-2.0 [N], BSD-3-Clause [N][M: 98%]	Apache-2.0	●	1/1	[View][Info][Download][Tag][Edit]
Tlsh.java	Apache-2.0 [N], BSD-3-Clause [N][M: 98%]	Apache-2.0	●	1/1	[View][Info][Download][Tag][Edit]
TlshCreator.java	Apache-2.0 [N], BSD-3-Clause [N][M: 98%]	Apache-2.0	●	1/1	[View][Info][Download][Tag][Edit]
TlshUtil.java	Apache-2.0 [N], BSD-3-Clause [N][M: 98%]	Apache-2.0	●	1/1	[View][Info][Download][Tag][Edit]

Showing 1 to 5 of 5 files Page 1 of 1

# License List

1. Which agents do you want to include?

- Monk
- Nomos
- Ninka

2.  Do not include subdirectories?

3.  Show directories and containers?

4. Exclude:

Exclude files containing some substring in the path. 'mac' and it should exclude all files and directories containing the substring 'mac'.

5.  Download CSV after creation?

With this tool you will only be able to obtain a limited number of results. The limit can be modified by the administrator.

	A	B	C
1	file path	scan results	concluded results
65	tlsh-3.17.0/java/src/test/java/com/trendmicro/tlsh/TlshPerf	BSD-3-Clause Apache-2.0 BSD-3-Clause	Apache-2.0
66	tlsh-3.17.0/java/src/test/java/com/trendmicro/tlsh/Example	BSD-3-Clause BSD-3-Clause Apache-2.0	Apache-2.0
67	tlsh-3.17.0/java/src/main/java/com/trendmicro/tlsh/TlshUt	Apache-2.0 BSD-3-Clause BSD-3-Clause	Apache-2.0
68	tlsh-3.17.0/java/src/main/java/com/trendmicro/tlsh/TlshCr	BSD-3-Clause Apache-2.0 BSD-3-Clause	Apache-2.0
69	tlsh-3.17.0/java/src/main/java/com/trendmicro/tlsh/TlshJa	Apache-2.0 BSD-3-Clause BSD-3-Clause	Apache-2.0
70	tlsh-3.17.0/java/src/main/java/com/trendmicro/tlsh/Check	BSD-3-Clause BSD-3-Clause Apache-2.0	Apache-2.0
71	tlsh-3.17.0/java/src/main/java/com/trendmicro/tlsh/Bucket	Apache-2.0 BSD-3-Clause BSD-3-Clause	Apache-2.0
72	tlsh-3.17.0/java/gradle/wrapper/gradle-wrapper.properties	No_license_found	
73	tlsh-3.17.0/java/gradle/wrapper/gradle-wrapper.jar/gradle-	No_license_found	

# Copyright Browser

Copyright Browser

Home Search Browse Upload Jobs Organize Admin Help

**Copyright Browser**

Version: [3.7.0], Branch: [master], Commit: [#e19a49] 2019/11/22 08:36 UTC built @ 2019/11/22 09:03 UTC

Folder: [Software Repository/3.17.0.tar.gz/3.17.0.tar/tlsh-3.17.0](#)

License Browser | File Browser | Copyright agent/user findings | ECC | Email/URL/Author | Keyword | Browse | License List | Search | View | Conf | Info | Refresh

Show all

Agent Findings User Findings

Activated statements:

Show 50 entries

Count	Agent Findings		
19	Copyright 2013 Trend Micro Incorporated	✘	<input type="checkbox"/>
19	Copyright (c) 2013, Trend Micro Incorporated All rights reserved.	✘	<input type="checkbox"/>
9	Copyright 2017 Trend Micro Incorporated	✘	<input type="checkbox"/>
9	Copyright (c) 2017, Trend Micro Incorporated All rights reserved.	✘	<input type="checkbox"/>
4	(C) Trend Micro written Jon Oliver 2009 and 2010	✘	<input type="checkbox"/>
2	copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and	✘	<input type="checkbox"/>
2	copyright ownership. The ASF licenses this file to You under the Apache License, Version 2.0 the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at	✘	<input type="checkbox"/>
2	copyright owner or by an individual or Legal Entity authorized to submit on behalf of	✘	<input type="checkbox"/>
2	Copyright [yyyy] [name of copyright owner]	✘	<input type="checkbox"/>
2	Copyright 2010-2014 Trend Micro	✘	<input type="checkbox"/>
2	(c) You must retain, in the Source form of any Derivative Works	✘	<input type="checkbox"/>
2	© season.	✘	<input type="checkbox"/>
2	© consideration, including Curse of the Golden Flower (China), Pan's Labyrinth (Mexico), Days of Glory (Algeria), Volver (Spain) and Golden Door (Italy). Two terrific documentaries will also liven-up the screen: Academy Award-winning director Barbara Kopple and Cecilia Peck's Shut Up and Sing with the Dixie Chicks (2006 Aspen Filmfest Audience Favorite Documentary Award winner), and the awe inspiring God Grew Tired of Us by Christopher Quinn.	✘	<input type="checkbox"/>
2	© Barbican Education 2006	✘	<input type="checkbox"/>
1	copyright", "credits" or "license" for more information.'	✘	<input type="checkbox"/>
	copyright problems. Danielle Abernethy @scsd2.k12.sc.us] Some pay sites: http://www.partnersinrhyme.com/. http://www.musicloops.com/ http://www.flyinghands.com/background-		

Attacking\_LSH\_and\_Sim\_Dig.pdf  
 DFRWS\_Similarity\_Digests.pdf  
 TLSH\_CTC\_final.pdf  
 TLSH\_Introduction.pdf  
 Testing/  
 Windows/  
 include/  
 java/  
 js\_ext/  
 py\_ext/  
 register/  
 src/  
 test/  
 tlsh\_bh\_tool/  
 utils/  
 .gitignore  
 .travis.yml  
 CMakeLists.txt  
 LICENSE  
 NOTICE.txt  
 PUBLIC.txt  
 README.md  
 README.python  
 README.windows  
 clean.sh  
 make.sh

## 이외에...

---

- ❑ SPDX 문서 출력(RDF / tag:value)
- ❑ ReadMe OSS 문서(text) 출력
- ❑ Copyright, Email, URL 검출 및 출력
- ❑ Keyword 검출 등등

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## Conclusion

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# Conclusion

---

- ❑ 시스템 운영에 노력 필요
- ❑ 사용 방법에 따라 효과적인 Tool
- ❑ 다른 시스템에 연동 가능
- ❑ 새로운 Agent 등장으로 발전이 기대됨
- ❑ Documentation...



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Q & A

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감사합니다