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# **lftools**

***Release 0.37.10***

**Linux Foundation Releng**

**Mar 12, 2024**



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Linux Foundation Release Engineering Tools.

This software is a collection of scripts written in a variety of languages contained by a Python wrapper. It provides tools that are generally useful to Linux Foundation release engineering.

Contents:



## RELEASE NOTES

### 1.1 v0.37.9-6

#### 1.1.1 Bug Fixes

- Add missing Python module dependency “munch” causing Openstack job failures
- Updated openstacksdk to  $\geq 2.1.0$  to address dependency conflicts. Also updated linting tool versions with pre-commit autoupdate. Addressed minor type checking issue flagged by flake8. Minor file formatting changes implemented via linting.
- Undo the urllib3 version pin now python-jenkins no longer breaks. It was previous pinned at  $< 2.0.0$ , but we can now update to  $< 2.1.0$ . There are still some issues with the latest release 2.1.0.

#### 1.1.2 Other Notes

- Update GitHub actions for setup-python and upload/download artefacts

### 1.2 v0.37.9

#### 1.2.1 Deprecation Notes

- The six module is being phased out of use as Python 2 support has been dropped. This release is the first in which one (or more) transitions have happened. There should be no issues related to this transition but bugs may creep in.

#### 1.2.2 Bug Fixes

- Correct path for Jenkins settings files.

The correct path should be “<repo>-settings”, but was previously set to just “<repo>”. This was causing problems in our JCASC and other automation.

## 1.3 v0.37.7

### 1.3.1 Bug Fixes

- Replace deprecated `set_repo_permission` method with `update_team_repository`. The latter has the same signature, but uses “pull” and “push” rather than “read” and “write” as the permission strings.

### 1.3.2 Other Notes

- Python 3.5, 3.6, and 3.7 support is officially dropped from lftools

## 1.4 v0.37.6

### 1.4.1 Bug Fixes

- Adds new lines at EOF of templates used by lftools to generate automated Gerrit changes after a new `INFO.yaml` is merged.

## 1.5 v0.37.4

### 1.5.1 Upgrade Notes

- Add Python 3.8 and 3.9 support to PyPI

### 1.5.2 Deprecation Notes

- Remove Python 2.7 support to PyPI

### 1.5.3 Bug Fixes

- Use Centos8 nodes in ONAP new project creation automated yaml files.
- Pin `urllib3` to `<2.0.0`

The latest version of module breaks compatibility with `python-{jenkins,openstacksdk}`.

Error:

```
ValueError: Timeout value connect was <object object at
0x7fe57a4948a0>, but it must be an int, float or None.
```

Reference:

*Launchpad#2018567* <<https://bugs.launchpad.net/python-jenkins/+bug/2018567>>



## 1.6 v0.37.3

### 1.6.1 Deprecation Notes

- Shade libs are deprecated therefore no longer required to be installed.

<https://docs.openstack.org/releasenotes/shade/stein.html>

## 1.7 v0.37.2

### 1.7.1 Bug Fixes

- Dockerhub retired the v1 version of the dockerhub api, which was used to collect the existing tag information. This patch replaces v1 with v2 which is using json files.

## 1.8 v0.37.1

### 1.8.1 Bug Fixes

- Correct parameter name in os image cleanup code

## 1.9 v0.37.0

### 1.9.1 Bug Fixes

- Correct the file path for the JJB info file job. This was incorrectly set as an absolute path, but it needs to be relative to the git repo root.
- Add the “safe” parameter to URL parsing in create\_project. This removes the default safe value which includes the forward slash. In this case, we do want to escape slashes that are part of the repo name.
- Code refactored to pass MyPy validation. MyPy highlighted a few issues with functional definitions that were overwriting each other in the command subsystem but was not because of how it operates they weren’t discovered.

## 1.10 v0.36.2

### 1.10.1 New Features

- Add get-private-keys to lftools.jenkins. get-private-keys retrieves the private keys and passphrases stored in the credential store. This feature will add the command get-private-keys in order to print these as well.

## **1.10.2 Bug Fixes**

- Print upload size while deploying Nexus stage repositories. This is useful while comparing the repository sizes being uploaded or released.
- Only attempt to split `nexus3_ports` after we've checked that they exist, and wrap that attempt in a try/except so that bad ports won't break other parts of the job.
- Remove all instances of the `gerrit_api.sanity_check` function. This is too tightly coupled with other parts of the Gerrit API, and does not perform correctly in the `git` class.

## **1.11 v0.36.1**

### **1.11.1 Bug Fixes**

- Fix template for INFO jobs and a bad call to `sanity_check` in `git.gerrit`.

## **1.12 v0.36.0**

### **1.12.1 New Features**

- Add `get-secrets` to `lftools.jenkins`. `get-credentials` only produces username/password credentials, which does not include "secret text" stores. This feature will add the command `get-secrets` in order to print these as well.
- Add git-native functions for common Gerrit actions.
- New method `git.add_maven_config` allows for adding settings files for new projects via JCasC, rather than the old method of using a Groovy script to manually add the file to Jenkins.

## INSTALLATION

---

**Note:** LFTools requires python3 (3.6+) virtual environment. <https://virtualenv.pypa.io/en/stable/>. Not using a virtualenv can have serious negative side effects!

---

### 2.1 For Install

LFTools is available on pypi. LFTools has migrated to python3, ensure python3 is available your system. To install LFTools, create a virtualenv, with *pip3 install lftools* in your shell.

### 2.2 For Development

Often during development you want to run tests and/or try code out locally as you change it. To do this you need the installation of LFTools to be your local git repo. After doing *pip3 install -r requirements.txt* issue the command *pip3 install -e .*



## COMMANDS

lftools is a collection of scripts written directly in python or externally via bash.

It supports the following commands:

### 3.1 Config

Usage: `lftools config [OPTIONS] COMMAND [ARGS]...`

Configuration subsystem.

Options:

`--help` Show this message and exit.

Commands:

`get` Print section or setting from config file.  
`set` Set a setting in the config file.

#### 3.1.1 Commands

##### Config Commands

- *get*
- *set*

##### get

Usage: `lftools config get [OPTIONS] SECTION [OPTION]`

Print section or setting from config file.

Options:

`--help` Show this message and exit.

**set**

Usage: lftools config set [OPTIONS] SECTION OPTION VALUE

Set a setting in the config file.

Options:

--help Show this message and exit.

## 3.2 Deploy

Usage: lftools deploy [OPTIONS] COMMAND [ARGS]...

Deploy files to a Nexus sites repository.

Deploy commands use ~/.netrc for authentication. This file should be pre-configured with an entry for the Nexus server. Eg.

```
machine nexus.opendaylight.org login logs_user password logs_password
```

Options:

--help Show this message and exit.

Commands:

archives	Archive files to a Nexus site repository.
copy-archives	Copy files for archiving.
file	Upload file to Nexus as a Maven artifact using...
logs	Deploy logs to a Nexus site repository.
maven-file	Deploy a file to a Nexus maven2 repository.
nexus	Deploy a Maven repository to a specified Nexus...
nexus-stage	Deploy a Maven repository to a Nexus staging...
nexus-stage-repo-close	Close a Nexus staging repo.
nexus-stage-repo-create	Create a Nexus staging repo.
nexus-zip	Deploy zip file containing artifacts to Nexus...
s3	Deploy logs and archives to a S3 bucket.

### 3.2.1 Commands

#### Deploy Commands

- *archives*
- *copy-archives*
- *logs*
- *maven-file*
- *nexus*
- *nexus-stage*

- *nexus-zip*

## archives

Usage: `lftools deploy archives [OPTIONS] NEXUS_URL NEXUS_PATH WORKSPACE`

Archive files to a Nexus site repository.

Provides 2 ways to archive files:

- 1) globstar pattern provided by the user.
- 2) `$WORKSPACE/archives` directory provided by the user.

To use this command the Nexus server must have a site repository configured with the name "logs" as this is a hardcoded log path.

Options:

- `-p, --pattern TEXT`
- `--help` Show this message and exit.

## copy-archives

Usage: `lftools deploy copy-archives [OPTIONS] WORKSPACE [PATTERN]...`

Copy files for archiving.

Arguments:

- `workspace`: Typically a Jenkins `WORKSPACE` to copy files from.
- `pattern`: Space-separated list of Unix style glob patterns of files to copy for archiving. (default: false)

Options:

- `--help` Show this message and exit.

## logs

Usage: `lftools deploy logs [OPTIONS] NEXUS_URL NEXUS_PATH BUILD_URL`

Deploy logs to a Nexus site repository.

This script fetches logs and system information and pushes them to Nexus for log archiving.

To use this script the Nexus server must have a site repository configured with the name "logs" as this is a hardcoded path.

Options:

- `--help` Show this message and exit.

## maven-file

Usage: lftools deploy maven-file [OPTIONS] NEXUS\_URL REPO\_ID FILE\_NAME

Deploy a file to a Nexus maven2 repository.

As this script uses mvn to deploy. The server configuration should be configured in your local settings.xml. By default the script uses the mvn default "~/.m2/settings.xml" for the configuration but this can be overridden in the following order:

1. Passed through CLI option "-s" ("-gs" for global-settings)
2. Environment variable "\$SETTINGS\_FILE" ("\$\_GLOBAL\_SETTINGS\_FILE" for global-  
→ settings)
3. Maven default "~/.m2/settings.xml".

If pom-file is passed in via the "-f" option then the Maven GAV parameters are not necessary. pom-file setting overrides the Maven GAV parameters.

Options:

-b, --maven-bin TEXT	Path of maven binary.
-gs, --global-settings TEXT	Global settings file.
-s, --settings TEXT	Settings file.
-p, --maven-params TEXT	Pass Maven commandline options to the mvn command.
-a, --artifact-id TEXT	Maven Artifact ID.
-c, --classifier TEXT	File classifier.
-f, --pom-file TEXT	Pom file to extract GAV information from.
-g, --group-id TEXT	Maven Group ID
-v, --version TEXT	Maven artifact version.
--help	Show this message and exit.

## nexus

Usage: lftools deploy nexus [OPTIONS] NEXUS\_REPO\_URL DEPLOY\_DIR

Deploy a Maven repository to a specified Nexus repository.

This script takes a local Maven repository and deploys it to a Nexus repository.

Example Repository:

<https://nexus.example.org/content/repositories/release>

Options:

-s, --snapshot	Deploy a snapshot repo.
--help	Show this message and exit.



### nexus-stage

```
Usage: lftools deploy nexus-stage [OPTIONS] NEXUS_URL STAGING_PROFILE_ID
      DEPLOY_DIR
```

Deploy a Maven repository to a Nexus staging repository.

This script takes a local Maven repository and deploys it to a Nexus staging repository as defined by the staging-profile-id.

Options:

--help Show this message and exit.

### nexus-zip

```
Usage: lftools deploy nexus-zip [OPTIONS] NEXUS_URL NEXUS_REPO NEXUS_PATH
      DEPLOY_ZIP
```

Deploy zip file containing artifacts to Nexus using cURL.

This script simply takes a zip file preformatted in the correct directory for Nexus and uploads to a specified Nexus repo using the content-compressed URL.

Requires the Nexus Unpack plugin and permission assigned to the upload user.

Options:

--help Show this message and exit.

## 3.3 Dco

```
Usage: lftools dco [OPTIONS] COMMAND [ARGS]...
```

Check repository for commits missing DCO.

Options:

--help Show this message and exit.

Commands:

check Check repository for commits missing DCO.

match Check for commits whose DCO does not match the commit author's...

### 3.3.1 Commands

#### Check Commands

- *check*

#### check

Usage: lftools dco check [OPTIONS] [REPO\_PATH]

Check repository for commits missing DCO.

This check will exclude merge commits and empty commits. It operates in your current working directory which has to be a git repository. Alternatively, you can opt to pass in the path to a git repo.

By default, this will also check for DCO signoff files in a directory named "dco\_signoffs". To check in a different directory, use the `--signoffs` option. To ignore signoff files, an empty string can be passed.

Refer to <https://developercertificate.org/>

#### Options:

- `--signoffs TEXT` Specify a directory to check for DCO signoff text files
- `--help` Show this message and exit.

---

**Note:** Check for exit status to determine if the DCO check passed.

---

## 3.4 Gerrit

Usage: lftools gerrit [OPTIONS] COMMAND [ARGS]...

GERRIT TOOLS.

#### Options:

- `--help` Show this message and exit.

#### Commands:

- |                                |  |
|--------------------------------|--|
| <code>abandonchanges</code>    | Abandon all OPEN changes for a gerrit project. |
| <code>addfile</code>           | Add a file for review to a Project.            |
| <code>addgithubrights</code>   | Grant Github read for a project.               |
| <code>addgitreview</code>      | Add git review to a project.                   |
| <code>addinfojob</code>        | Add an INFO job for a new Project.             |
| <code>addmavenconfig</code>    | Add maven config file for JCasC.               |
| <code>create-saml-group</code> | Create saml group based on ldap group.         |
| <code>createproject</code>     | Create a project via the gerrit API.           |

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```
list-project-inherits-from  List who a project inherits from.
list-project-permissions    List Owners of a Project.
```

### 3.4.1 Commands

#### list-project-permissions

```
Usage: lftools gerrit list-project-permissions [OPTIONS] GERRIT_FQDN PROJECT
```

List Owners of a Project.

Options:

```
--help  Show this message and exit.
```

#### list-project-inherits-from

```
Usage: lftools gerrit list-project-inherits-from [OPTIONS] GERRIT_FQDN
                                                GERRIT_PROJECT
```

List who a project inherits from.

Options:

```
--help  Show this message and exit.
```

#### abandonchanges

```
Usage: lftools gerrit abandonchanges [OPTIONS] GERRIT_FQDN GERRIT_PROJECT
```

Abandon all OPEN changes for a gerrit project.

```
gerrit_url gerrit.o-ran-sc.org gerrit_project test/test1
```

Options:

```
--help  Show this message and exit.
```

#### addgitreview

```
Usage: lftools gerrit addgitreview [OPTIONS] GERRIT_FQDN GERRIT_PROJECT
```

Add git review to a project.

```
Example: gerrit_url gerrit.o-ran-sc.org gerrit_project test/test1
```

Options:

```
--issue_id TEXT  For projects that enforce an issue id for changesets
--help           Show this message and exit.
```

### addgithubrights

Usage: lftools gerrit addgithubrights [OPTIONS] GERRIT\_FQDN GERRIT\_PROJECT

Grant Github read for a project.

gerrit\_url gerrit.o-ran-sc.org gerrit\_project test/test1

Options:

--help Show this message and exit.

### addfile

Usage: lftools gerrit addfile [OPTIONS] GERRIT\_FQDN GERRIT\_PROJECT FILENAME

Add a file for review to a Project.

Requires gerrit directory.

Example:

gerrit\_url gerrit.o-ran-sc.org/r gerrit\_project test/test1

Options:

--issue\_id TEXT For projects that enforce an issue id for changesets  
--file\_location TEXT File path within the repository  
--help Show this message and exit.

### createproject

Usage: lftools gerrit createproject [OPTIONS] GERRIT\_FQDN GERRIT\_PROJECT  
LDAP\_GROUP

Create a project via the gerrit API.

Creates a gerrit project. Sets ldap group as owner.

Example:

gerrit\_url gerrit.o-ran-sc.org/r gerrit\_project test/test1 ldap\_group oran-  
gerrit-test-test1-committers

Options:

--description TEXT Project Description [required]  
--check just check if the project exists  
--help Show this message and exit.

## create-saml-group

Usage: lftools gerrit create-saml-group [OPTIONS] GERRIT\_FQDN LDAP\_GROUP

Create saml group based on ldap group.

Options:

--help Show this message and exit.

## addinfojob

Usage: lftools gerrit addinfojob [OPTIONS] GERRIT\_FQDN GERRIT\_PROJECT JJBREPO

Add an INFO job for a new Project.

Adds info verify jenkins job for project. result['id'] can be used to ammend a review so that multiple projects can have info jobs added in a single review

Example:

```
gerrit_url gerrit.o-ran-sc.org/r gerrit_project test/test1 jjbrepo ci-
mangement
```

Options:

--issue\_id TEXT For projects that enforce an issue id for changesets  
 --agent TEXT Specify the Jenkins agent label to run the job on  
 --help Show this message and exit.

**Note:** Gerrit API methods require configuration in lftools.ini in a global [gerrit] section. support for [gerrit.umbrella.tld] exists as well signed\_off\_by required to push changes. Projects that do not allow self merge will require as project.example.org.second section for submission of their .gitreview on project creation.

```
[gerrit.example.org]
username = lfid
password = password
signed_off_by = Your Name <your@email.org>
```

```
[gerrit.example.org.second]
username = lfid2
password = password2
signed_off_by = Your Name <your@email.org>
```

## addmavenconfig

```
Usage: lftools gerrit addmavenconfig [OPTIONS] GERRIT_FQDN GERRIT_PROJECT
      JJBREPO
```

Add maven config file for JCasC.

The following options can be set in the gerrit server's entry in lftools.ini:

- \* default\_servers: Comma-separated list of servers using the <projectname> credential. Default: releases,snapshots,staging,site
- \* additional\_credentials: JSON-formatted string containing servername:credentialname pairings. This should be on a single line, without quotes surrounding the string.
- \* nexus3: The nexus3 server url for a given project.
- \* nexus3\_ports: Comma-separated list of ports used by Nexus3.  
Default: 10001,10002,10003,10004

Options:

- issue\_id TEXT      For projects that enforce an issue id for changesets
- nexus3 TEXT        Specify a Nexus 3 server, e.g. nexus3.example.org
- nexus3\_ports TEXT   Comma-separated list of ports supported by the Nexus 3  
server specified
- help                Show this message and exit.

An example of the lftools.ini entry for a Gerrit server making use of a full configuration:

```
[gerrit.example.org]
username = lfid
password = password
signed_off_by = Your Name <your@email.org>
endpoint = https://gerrit.example.org/
default_servers = releases,snapshots,staging,site
nexus3 = nexus3.example.org
nexus3_ports = 10001,10002,10003,10004
additional_credentials = {"docker.io": "dockerhub-cred", "nexus-iq": "nexus-iq-cred"}
```

## 3.5 GITHUB

```
Usage: lftools github [OPTIONS] COMMAND [ARGS]...
```

GITHUB TOOLS.

Options:

- help      Show this message and exit.

Commands:

- create-repo    Create a Github repo within an Organization.
- create-team    Create a Github team within an Organization.
- list           List options for github org repos.
- submit-pr      Submit a pr if mergeable.
- update-repo    Update a Github repo within an Organization.

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user	Add and Remove users from an org team.
votes	Helper for votes.

### 3.5.1 Commands

#### create-repo

Usage: lftools github create-repo [OPTIONS] ORGANIZATION REPOSITORY  
DESCRIPTION

Create a Github repo within an Organization.

By default has\_issues has\_wiki and has\_projects is set to false. See --help to create a repo with these enabled.

Options:

--has_issues	Repo should have issues
--has_projects	Repo should have projects
--has_wiki	Repo should have wiki
--help	Show this message and exit.

#### create-team

Usage: lftools github create-team [OPTIONS] ORGANIZATION NAME PRIVACY

Create a Github team within an Organization.

Privacy should be set to closed This allows us to control group membership.

Options:

--repo TEXT	Assign team to repo
--help	Show this message and exit.

#### list

Usage: lftools github list [OPTIONS] ORGANIZATION

List options for github org repos.

Options:

--audit	List members without 2fa
--repos	List all repos
--full	All members and their respective teams
--teams	List available teams
--team TEXT	List members of a team
--repofeatures	List enabled features for repos in an org
--help	Show this message and exit.

## **update-repo**

Usage: lftools github update-repo [OPTIONS] ORGANIZATION REPOSITORY

Update a Github repo within an Organization.

By default has\_issues has\_wiki and has\_projects is set to false. See --help to use this command to enable these options.

Options:

--has_issues	Repo should have issues
--has_projects	Repo should have projects
--has_wiki	Repo should have wiki
--add_team TEXT	Add team to repo
--remove_team TEXT	remove team from repo
--help	Show this message and exit.

## **submit-pr**

Usage: lftools github submit-pr [OPTIONS] ORGANIZATION REPO PR

Submit a pr if mergeable.

Options:

--help	Show this message and exit.
--------	-----------------------------

## **user**

Usage: lftools github user [OPTIONS] ORGANIZATION USER TEAM

Add and Remove users from an org team.

Options:

--delete	Remove user from org
--admin	User is admin for org, or a maintaner of a team
--help	Show this message and exit.

## **votes**

Usage: lftools github votes [OPTIONS] ORGANIZATION REPO PR

Helper for votes.

Options:

--help	Show this message and exit.
--------	-----------------------------

API requires a [github] or [github.OrgName] section in ~/.config/lftools/lftools.ini:



```
[github] or [github.orgName]
token = REDACTED
```

## 3.6 Infofile

Usage: lftools infofile [OPTIONS] COMMAND [ARGS]...

INFO.yaml TOOLS.

Options:

--help Show this message and exit.

Commands:

check-votes	Check votes on an INFO.yaml change.
create-info-file	Create an initial INFO file.
get-committers	Extract Committer info from INFO.yaml or LDAP dump.
sync-committers	Sync committer information from LDAP into INFO.yaml.

### 3.6.1 Commands

#### check-votes

Usage: lftools infofile check-votes [OPTIONS] INFO\_FILE ENDPOINT CHANGE\_NUMBER

Check votes on an INFO.yaml change.

Check for Majority of votes on a gerrit or github patchset which changes an INFO.yaml file.

For Gerrit endpoint is the gerrit url For Github the endpoint is the organization name

Examples: lftools infofile check-votes /tmp/test/INFO.yaml lfit-sandbox 18  
--github\_repo test

lftools infofile check-votes ~/lf/allrepos/onosfw/INFO.yaml  
https://gerrit.opnfv.org/gerrit/ 67302

Options:

--tsc TEXT	path to TSC INFO file
--github_repo TEXT	Provide github repo to Check against a Github Change
--help	Show this message and exit.

## get-committers

```
Usage: lftools infofile get-committers [OPTIONS] FILE
```

Extract Committer info from INFO.yaml or LDAP dump.

Options:

```
--full BOOLEAN  Output name email and id for all committers in an infofile
--id TEXT       Full output for a specific LFID
--help          Show this message and exit.
```

## sync-committers

```
Usage: lftools infofile sync-committers [OPTIONS] INFO_FILE LDAP_FILE ID
```

Sync committer information from LDAP into INFO.yaml.

Options:

```
--repo TEXT  repo name
--help       Show this message and exit.
```

Creating an info file requires a connection to the VPN and a working openldap configuration

```
$ cat /etc/openldap/ldap.conf
```

```
TLS_REQCERT never
```

or

```
prereqs: For ldap lookups to work you must be on the VPN and have the cert to get the
↪cert: log in to any collab system and grab /etc/ipa/ca.crt in /etc/openldap/ldap.conf,
↪add 'TLS_CACERT /path/to/ipa.ca'
```

## create-info-file

```
Usage: lftools infofile create-info-file [OPTIONS] GERRIT_URL GERRIT_PROJECT
```

Create an initial INFO file.

```
gerrit_project example: project/full-name gerrit_url example:
gerrit.umbrella.com directory example: /gerrit/ (rather than most projects
/r/)
```

Options:

```
--directory TEXT  custom gerrit directory, eg not /r/
--empty           Create info file for uncreated project.
--tsc_approval TEXT optionally provide a tsc approval link
--help           Show this message and exit.
```

API for check votes requires a [github] section in ~/.config/lftools/lftools.ini:

```
[github]
token = REDACTED
```

## 3.7 Lfidapi

Usage: lftools lfidapi [OPTIONS] COMMAND [ARGS]...

LFID API TOOLS.

Options:

--help Show this message and exit.

Commands:

create-group	Create group.
invite	Email invitation to join group.
match-ldap-to-info	Match an LDAP or GITHUB group membership to an...
search-members	List members of a group.
user	Add and remove users from groups.

### 3.7.1 Commands

#### create-group

Usage: lftools lfidapi create-group [OPTIONS] GROUP

Create group.

Options:

--help Show this message and exit.

#### invite

Usage: lftools lfidapi invite [OPTIONS] EMAIL GROUP

Email invitation to join group.

Options:

--help Show this message and exit.

#### search-members

Usage: lftools lfidapi search-members [OPTIONS] GROUP

List members of a group.

Options:

--help Show this message and exit.

## user

Usage: lftools lfidapi user [OPTIONS] USER GROUP

Add and remove users from groups.

Options:

--delete remove user from group  
--help Show this message and exit.

## match-ldap-to-info

Usage: lftools lfidapi match-ldap-to-info [OPTIONS] INFO\_FILE GROUP

Match an LDAP or GITHUB group membership to an INFO.yaml file.

Options:

--githuborg TEXT github org name  
--noop show what would be changed  
--help Show this message and exit.

API requires an [lfid] section in ~/.config/lftools/lftools.ini:

```
[lfid]
clientid = lf-releng-jenkins
client_secret = REDACTED_SEE_SHARED_PASSWORD_STORAGE
refresh_token = REDACTED_SEE_SHARED_PASSWORD_STORAGE
token_uri = https://identity.linuxfoundation.org/oauth2/token
url = https://identity.linuxfoundation.org/rest/auth0/og/
```

## 3.8 License

Usage: lftools license [OPTIONS] COMMAND [ARGS]...

Scan code for license headers.

Options:

--help Show this message and exit.

Commands:

check Check files for missing license headers.  
check-dir Check directory for files missing license headers.

### 3.8.1 Commands

#### License Commands

- *check*

#### check

Usage: lftools license check [OPTIONS] SOURCE

Check files for missing license headers.

Does not care if about line formatting of the license as long as all of the text is there and in the correct order.

Note: This code only supports '#' comments for license headers.

#### Options:

-l, --license TEXT License header file to compare against.  
 --help Show this message and exit.

## 3.9 Nexus

Usage: lftools nexus [OPTIONS] COMMAND [ARGS]...

(Deprecated) Use the Nexus2 API Interface.

Provide an interface to Nexus.

#### Options:

--help Show this message and exit.

#### Commands:

create	Create resources in Nexus.
docker	Docker repos in Nexus.
release	Release one or more staging repositories.
reorder-staged-repos	Reorder staging repositories in Nexus.

### 3.9.1 Commands

#### Nexus Commands

- *create*
  - *repo*
  - *role*
- *reorder-staged-repos*
- *docker*
  - *delete*
  - *list*
- *release*

#### create

Usage: `lftools nexus create [OPTIONS] COMMAND [ARGS]...`

Create resources in Nexus.

##### Options:

`--help` Show this message and exit.

##### Commands:

`repo` Create a Nexus repository as defined by a `repo-config.yaml` file.  
`role` Create a Nexus role as defined by a `role-config.yaml` file.

#### repo

Usage: `lftools nexus create repo [OPTIONS]`

Create a Nexus repository as defined by a `repo-config.yaml` file.

##### Options:

<code>-c, --configfile TEXT</code>	Repo config file for how the Nexus repository should be created. [required]
<code>-s, --settings TEXT</code>	Optional config file containing administrative settings.
<code>-u, --url TEXT</code>	Nexus server URL. In the format <code>https://</code> Can also be set as <code>NEXUS_URL</code> in the environment. This will override any URL set in <code>settings.yaml</code> .
<code>--help</code>	Show this message and exit.

For details and examples, please see [Create Nexus2 repos with lftools](#)

## role

Usage: lftools nexus create role [OPTIONS]

Create a Nexus role as defined by a role-config.yaml file.

Options:

- c, --config TEXT      Role config file for how the Nexus role should be created. [required]
- s, --settings TEXT    Config file containing administrative settings. [required]
- help                Show this message and exit.

```
# Example role-config.yaml. The top-level keys will be the role's id.
---
# Minimal config
lf-deployment:
  name: LF Deployment Role
  roles: # Roles can be defined by ID or by Name
    - nx-deployment
    - analytics
# Full config with privileges (by name only) and description defined.
LF Deployment By Name:
  name: LF Dep Role
  privileges:
    - Status - (read)
    - Login to UI
  roles:
    - Nexus Deployment Role
    - Analytics
  description: "A role where I defined its contained roles by name"
```

## reorder-staged-repos

Usage: lftools nexus reorder-staged-repos [OPTIONS]

Reorder staging repositories in Nexus.

Reorders staging repositories in Nexus such that the newest repository gets priority in the aggregate repo.

Options:

- s, --settings TEXT    [required]
- help                Show this message and exit.

## docker

Usage: lftools nexus docker [OPTIONS] COMMAND [ARGS]...

Docker repos in Nexus.

### Options:

--help Show this message and exit.

### Commands:

delete	Delete all images matching the PATTERN.
list	List images matching the PATTERN.
releasedockerhub	Find missing repos in Docker Hub, Copy from Nexus3.

While a settings.yaml file is still supported for nexus docker commands, the preferred way to login is to use an lftools.ini file, and provide the server address using the --server option. The config file should be at \$HOME/.config/lftools/lftools.ini.

## delete

Usage: lftools nexus docker delete [OPTIONS] [PATTERN] REPO

Delete all images matching the PATTERN.

By default, prints to console only. Use '\*' for wildcard, or begin with '!' to delete images NOT matching the string.

### Options:

-s, --server TEXT	Nexus server URL. Can also be set as NEXUS_URL in the environment. This will override any URL set in settings.yaml.
--settings TEXT	Yaml file containing "nexus" (url), "user", and "password" definitions.
-y, --yes	Answer yes to all prompts
--help	Show this message and exit.

## list

Usage: lftools nexus docker list [OPTIONS] [PATTERN] REPO

List images matching the PATTERN.

Use '\*' for wildcard, or begin with '!' to search for images NOT matching the string.

### Options:

-s, --server TEXT	Nexus server URL. Can also be set as NEXUS_URL in the environment. This will override any URL set in settings.yaml.
--settings TEXT	Yaml file containing "nexus" (url), "user", and

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	"password" definitions.
--csv FILE	Write a csv file of the search results to PATH.
--help	Show this message and exit.

## release

Usage: lftools nexus release [OPTIONS] [REPOS]...

Release one or more staging repositories.

### Options:

-v, --verify-only	
-s, --server TEXT	Nexus server URL. Can also be set as NEXUS_URL in the environment. This will override any URL set in settings.yaml.
--help	Show this message and exit.

While a settings.yaml file is still supported for nexus release commands, the preferred way to login is to use an lftools.ini file, and provide the server address using the --server option. The config file should be at \$HOME/.config/lftools/lftools.ini. Requires an [nexus.example.com] for each Nexus repositories in ~/.config/lftools/lftools.ini:

```
[nexus.example.com]
username=
password=
```

## 3.10 Nexus3

Usage: lftools nexus2 [OPTIONS] FQDN COMMAND [ARGS]...

The Nexus2 API Interface.

### Options:

--help	Show this message and exit.
--------	-----------------------------

### Commands:

privilege	User primary interface.
repo	Repository primary interface.
role	User primary interface.
user	User primary interface.

### 3.10.1 Commands

#### Nexus2 Commands

- *privilege*
- *repository*
- *role*
- *user*

#### privilege

Usage: lftools nexus2 [OPTIONS] FQDN COMMAND [ARGS]...

The Nexus2 API Interface.

##### Options:

--help Show this message and exit.

##### Commands:

privilege	User primary interface.
repo	Repository primary interface.
role	User primary interface.
user	User primary interface.

#### repository

Usage: lftools nexus2 [OPTIONS] FQDN COMMAND [ARGS]...

The Nexus2 API Interface.

##### Options:

--help Show this message and exit.

##### Commands:

privilege	User primary interface.
repo	Repository primary interface.
role	User primary interface.
user	User primary interface.

**role**

Usage: lftools nexus2 [OPTIONS] FQDN COMMAND [ARGS]...

The Nexus2 API Interface.

Options:

--help Show this message and exit.

Commands:

privilege	User primary interface.
repo	Repository primary interface.
role	User primary interface.
user	User primary interface.

**user**

Usage: lftools nexus2 [OPTIONS] FQDN COMMAND [ARGS]...

The Nexus2 API Interface.

Options:

--help Show this message and exit.

Commands:

privilege	User primary interface.
repo	Repository primary interface.
role	User primary interface.
user	User primary interface.

**3.11 Nexus3**

Usage: lftools nexus3 [OPTIONS] FQDN COMMAND [ARGS]...

The Nexus3 API Interface.

Options:

--help Show this message and exit.

Commands:

asset	Asset primary interface.
privilege	Privilege primary interface.
repository	Repository primary interface.
role	Role primary interface.
script	Script primary interface.
tag	Tag primary interface.
task	Task primary interface.
user	User primary interface.

### 3.11.1 Commands

#### Nexus3 Commands

- *asset*
- *privilege*
- *repository*
- *role*
- *script*
- *tag*
- *task*
- *user*

#### asset

Usage: lftools nexus3 [OPTIONS] FQDN COMMAND [ARGS]...

The Nexus3 API Interface.

##### Options:

--help Show this message and exit.

##### Commands:

asset	Asset primary interface.
privilege	Privilege primary interface.
repository	Repository primary interface.
role	Role primary interface.
script	Script primary interface.
tag	Tag primary interface.
task	Task primary interface.
user	User primary interface.

#### privilege

Usage: lftools nexus3 [OPTIONS] FQDN COMMAND [ARGS]...

The Nexus3 API Interface.

##### Options:

--help Show this message and exit.

##### Commands:

asset	Asset primary interface.
privilege	Privilege primary interface.
repository	Repository primary interface.

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role	Role primary interface.
script	Script primary interface.
tag	Tag primary interface.
task	Task primary interface.
user	User primary interface.

## repository

Usage: lftools nexus3 [OPTIONS] FQDN COMMAND [ARGS]...

The Nexus3 API Interface.

### Options:

--help Show this message and exit.

### Commands:

asset	Asset primary interface.
privilege	Privilege primary interface.
repository	Repository primary interface.
role	Role primary interface.
script	Script primary interface.
tag	Tag primary interface.
task	Task primary interface.
user	User primary interface.

## role

Usage: lftools nexus3 [OPTIONS] FQDN COMMAND [ARGS]...

The Nexus3 API Interface.

### Options:

--help Show this message and exit.

### Commands:

asset	Asset primary interface.
privilege	Privilege primary interface.
repository	Repository primary interface.
role	Role primary interface.
script	Script primary interface.
tag	Tag primary interface.
task	Task primary interface.
user	User primary interface.

## script

Usage: lftools nexus3 [OPTIONS] FQDN COMMAND [ARGS]...

The Nexus3 API Interface.

Options:

--help Show this message and exit.

Commands:

asset	Asset primary interface.
privilege	Privilege primary interface.
repository	Repository primary interface.
role	Role primary interface.
script	Script primary interface.
tag	Tag primary interface.
task	Task primary interface.
user	User primary interface.

## tag

Usage: lftools nexus3 [OPTIONS] FQDN COMMAND [ARGS]...

The Nexus3 API Interface.

Options:

--help Show this message and exit.

Commands:

asset	Asset primary interface.
privilege	Privilege primary interface.
repository	Repository primary interface.
role	Role primary interface.
script	Script primary interface.
tag	Tag primary interface.
task	Task primary interface.
user	User primary interface.

## task

Usage: lftools nexus3 [OPTIONS] FQDN COMMAND [ARGS]...

The Nexus3 API Interface.

Options:

--help Show this message and exit.

Commands:

asset	Asset primary interface.
privilege	Privilege primary interface.

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```
repository  Repository primary interface.
role        Role primary interface.
script      Script primary interface.
tag         Tag primary interface.
task        Task primary interface.
user        User primary interface.
```

## user

Usage: lftools nexus3 [OPTIONS] FQDN COMMAND [ARGS]...

The Nexus3 API Interface.

### Options:

--help Show this message and exit.

### Commands:

```
asset      Asset primary interface.
privilege  Privilege primary interface.
repository Repository primary interface.
role       Role primary interface.
script     Script primary interface.
tag        Tag primary interface.
task       Task primary interface.
user       User primary interface.
```

## 3.12 OpenStack

Requires a *pip install lftools[openstack]* to activate this command. Requires *qemu-img* binary to upload images

Usage: lftools openstack [OPTIONS] COMMAND [ARGS]...

Provide an interface to OpenStack.

### Options:

--os-cloud TEXT [required]  
--help Show this message and exit.

### Commands:

```
image  Command for manipulating images.
object Command for manipulating objects.
server Command for manipulating servers.
stack  Command for manipulating stacks.
volume Command for manipulating volumes.
```

### 3.12.1 Commands

#### OpenStack Commands

- *image*
  - *cleanup*
  - *list*
- *object*
  - *list-containers*
- *stack*
  - *create*
  - *delete*
  - *cost*

#### image

Usage: lftools openstack image [OPTIONS] COMMAND [ARGS]...

Command for manipulating images.

Options:

--help Show this message and exit.

Commands:

cleanup Cleanup old images.  
list List cloud images.  
share Share image with another tenant.  
upload Upload image to OpenStack cloud.

#### cleanup

The intent of this command is to automatically cleanup old images in the cloud. The OpenDaylight project has 2 clouds, a Private Cloud and a Public cloud which needs the *--clouds* option to automatically remove the same images from more than one cloud simultaneously.

Usage: lftools openstack image cleanup [OPTIONS]

Cleanup old images.

Options:

--ci-managed BOOLEAN Filter only images that have the ci\_managed=yes metadata set.  
--days INTEGER Find images older than or equal to days.  
--hide-public BOOLEAN Ignore public images.  
--clouds TEXT Clouds (as defined in clouds.yaml) to remove images

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	from. If notpassed will assume from os-cloud parameter. (optional)
--help	Show this message and exit.

## list

Usage: lftools openstack image list [OPTIONS]

List cloud images.

### Options:

--ci-managed BOOLEAN	Filter only images that have the ci_managed=yes metadata set.
--days INTEGER	Find images older than or equal to days.
--hide-public BOOLEAN	Ignore public images.
--help	Show this message and exit.

## object

Command for managing objects.

Usage: lftools openstack object [OPTIONS] COMMAND [ARGS]...

Command for manipulating objects.

### Options:

--help	Show this message and exit.
--------	-----------------------------

### Commands:

list-containers	List available containers.
-----------------	----------------------------

## list-containers

Usage: lftools openstack object list-containers [OPTIONS]

List available containers.

Options:

--help Show this message and exit.

## stack

Command for managing stacks.

Usage: lftools openstack stack [OPTIONS] COMMAND [ARGS]...

Command for manipulating stacks.

Options:

--help Show this message and exit.

Commands:

cost	Get Total Stack Cost.
create	Create stack.
delete	Delete stack.
delete-stale	Delete stale stacks.

## create

Create a new stack.

Usage: lftools openstack stack create [OPTIONS] NAME TEMPLATE\_FILE  
PARAMETER\_FILE

Create stack.

Options:

--timeout INTEGER	Stack create timeout in seconds.
--tries INTEGER	Number of tries before giving up.
--help	Show this message and exit.

The create command requires a parameters file in the following format in order to build out the stack:

## delete

Delete existing stack.

Usage: `lftools openstack stack delete [OPTIONS] NAME_OR_ID`

Delete stack.

Options:

`--force` Ignore timeout and continue with next stack.  
`--timeout INTEGER` Stack delete timeout in seconds.  
`--help` Show this message and exit.

## cost

Get total cost of existing stack.

Usage: `lftools openstack stack cost [OPTIONS] STACK_NAME`

Get Total Stack Cost.

Options:

`--help` Show this message and exit.

Return sum of costs for each member of the running stack.

## 3.13 ReadTheDocs

Usage: `lftools rtd [OPTIONS] COMMAND [ARGS]...`

Read the Docs interface.

Options:

`--help` Show this message and exit.

Commands:

<code>project-build-details</code>	Retrieve specific project build details.
<code>project-build-list</code>	Retrieve a list of a project's builds.
<code>project-build-trigger</code>	Trigger a new build.
<code>project-create</code>	Create a new project.
<code>project-details</code>	Retrieve project details.
<code>project-list</code>	Get a list of Read the Docs projects.
<code>project-update</code>	Create a new project.
<code>project-version-details</code>	Retrieve project version details.
<code>project-version-list</code>	Retrieve project version list.
<code>project-version-update</code>	Update projects active version.
<code>subproject-create</code>	Create a project-subproject relationship.
<code>subproject-delete</code>	Delete a project-subproject relationship.
<code>subproject-details</code>	Retrieve subproject's details.
<code>subproject-list</code>	Get a list of Read the Docs subprojects for a...

### 3.13.1 Commands

#### project-list

Usage: `lftools rtd project-list [OPTIONS]`

Get a list of Read the Docs projects.

Returns a list of RTD projects for the account whose token is configured in `lftools.ini`. This returns the slug name, not the pretty name.

Options:

`--help` Show this message and exit.

#### project-details

Usage: `lftools rtd project-details [OPTIONS] PROJECT_SLUG`

Retrieve project details.

Options:

`--help` Show this message and exit.

#### project-version-list

Usage: `lftools rtd project-version-list [OPTIONS] PROJECT_SLUG`

Retrieve project version list.

Options:

`--help` Show this message and exit.

#### project-version-details

Usage: `lftools rtd project-version-details [OPTIONS] PROJECT_SLUG VERSION_SLUG`

Retrieve project version details.

Options:

`--help` Show this message and exit.

### project-version-update

```
Usage: lftools rtd project-version-update [OPTIONS] PROJECT_SLUG VERSION_SLUG
                                         ACTIVE
```

Update projects active version.

active must be one of true or false

Options:

--help Show this message and exit.

### project-create

```
Usage: lftools rtd project-create [OPTIONS] PROJECT_NAME REPOSITORY_URL
                                   REPOSITORY_TYPE HOMEPAGE
                                   PROGRAMMING_LANGUAGE LANGUAGE
```

Create a new project.

Options:

--help Show this message and exit.

### project-build-list

```
Usage: lftools rtd project-build-list [OPTIONS] PROJECT_SLUG
```

Retrieve a list of a project's builds.

Options:

--help Show this message and exit.

### project-build-details

```
Usage: lftools rtd project-build-details [OPTIONS] PROJECT_SLUG BUILD_ID
```

Retrieve specific project build details.

Options:

--help Show this message and exit.

## project-build-trigger

```
Usage: lftools rtd project-build-trigger [OPTIONS] PROJECT_SLUG VERSION_SLUG
```

Trigger a new build.

Options:

--help Show this message and exit.

API requires a [rtd] section in ~/.config/lftools/lftools.ini:

```
[rtd]
token = REDACTED
endpoint = https://readthedocs.org/api/v3/
```

## 3.14 Schema

```
Usage: lftools schema [OPTIONS] COMMAND [ARGS]...
```

Verify YAML Schema.

Options:

--help Show this message and exit.

Commands:

verify Verify YAML Schema.

### 3.14.1 Commands

#### verify

```
Usage: lftools schema verify [OPTIONS] YAMLFILE SCHEMAFILE
```

Verify YAML Schema.

YAMLFILE: Release YAML file to be validated.

SCHEMAFILE: SCHEMA file to validate against.

Options:

--help Show this message and exit.

## 3.15 Sign

Usage: lftools sign [OPTIONS] COMMAND [ARGS]...

GPG or Sigul sign files.

Options:

--help Show this message and exit.

Commands:

container	Sigul sign a Docker container.
deploy-nexus	Sign artifacts from a Nexus repo then upload to a staging...
dir	GPG signs all of the files in a directory.
git-tag	Sigul sign an annotated git tag.
nexus	Fetch and GPG or Sigul sign a Nexus repo.
sigul	Sigul signs all of the files in a directory.

### 3.15.1 Commands

#### Sign Commands

- *container*
- *deploy-nexus*
- *directory*
- *git-tag*
- *nexus*
- *sigul*

#### container

Usage: lftools sign container [OPTIONS] MANIFEST TAG

Sigul sign a Docker container.

Options:

--help Show this message and exit.

## deploy-nexus

Usage: lftools sign deploy-nexus [OPTIONS] NEXUS\_URL NEXUS\_REPO  
STAGING\_PROFILE\_ID

Sign artifacts from a Nexus repo then upload to a staging repo.

This is a porcelain command that ties the lftools sign and deploy tools together for easier use. It calls the sign-nexus command and then the deploy-nexus-stage command to create a signed staging repository in Nexus.

Signing is performed either with gpg (default) or via sigul.

Options:

-d, --sign-dir TEXT	Local directory to clone repository. (default /tmp/gpg-signatures.*)
-m, --mode TEXT	Signing mode serial parallel
-r, --root-domain TEXT	Root download path of staging repo. (default org)
-w, --sign-with TEXT	Sign artifacts with GPG or Sigul. (default gpg)
--help	Show this message and exit.

## directory

Usage: lftools sign dir [OPTIONS] DIRECTORY

GPG signs all of the files in a directory.

Options:

-m, --mode TEXT	Signing mode serial parallel
--help	Show this message and exit.

## git-tag

Usage: lftools sign git-tag [OPTIONS] TAG

Sigul sign an annotated git tag.

Options:

--help	Show this message and exit.
--------	-----------------------------



## nexus

Usage: lftools sign nexus [OPTIONS] NEXUS\_REPO\_URL

Fetch and GPG or Sigul sign a Nexus repo.

Options:

- d, --sign-dir TEXT    Local directory to clone repository. (default /tmp/gpg-signatures.\*)
- m, --mode TEXT        Signing mode serial|parallel
- w, --sign-with TEXT   Sign artifacts with GPG or Sigul. (default gpg)
- help                Show this message and exit.

## sigul

Usage: lftools sign sigul [OPTIONS] DIRECTORY

Sigul signs all of the files in a directory.

Options:

- m, --mode TEXT    Signing mode serial|parallel
- help            Show this message and exit.

## 3.16 Version

Usage: lftools version [OPTIONS] COMMAND [ARGS]...

Version bump script for Maven based projects.

In general, versions should be: <major>.<minor>.<micro>[-<human-readable-tag>]

- Human readable tag should not have any dots in it
- SNAPSHOT is used for development

Scenarios:

```

    master before release:      x.y.z-SNAPSHOT (or x.y-SNAPSHOT in which case we
↪ treat it as x.y.0-SNAPSHOT)
    at release:                 x.y.z-Helium
    stable/helium after release: x.y.(z+1)-SNAPSHOT
    master after release:       x.(y+1).0-SNAPSHOT
    Autorelease on master:      <human-readable-tag> is "PreLithium-<date>"
    Autorelease on stable/helium: <human-readable-tag> is "PreHeliumSR1-<date>"
    Release job on master:      <human-readable-tag> is "Lithium"
    Release job on stable/helium: <human-readable-tag> is "HeliumSR1"

```

Some things have a date for a version, e.g., 2014.09.24.4

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```
* We treat this as YYYY.MM.DD.<minor>
* Note that all such dates currently in ODL are in YANG tools
* They are all now YYYY.MM.DD.7 since 7 is the minor version for yangtools
```

**Options:**

```
--help  Show this message and exit.
```

**Commands:**

```
bump      Version bump pom files in a Maven project by x.(y+1).z or...
patch     Patch a project with git.bundles and then version bump.
release   Version bump pom files in a Maven project from SNAPSHOT to...
```

### 3.16.1 Commands

**Version Commands**

- *bump*
- *patch*
- *release*

#### bump

```
Usage: lftools version bump [OPTIONS] RELEASE_TAG
```

Version bump pom files in a Maven project by x.(y+1).z or x.y.(z+1).

This script performs version bumping as follows:

1. Change YYYY.MM.DD.y.z-SNAPSHOT to YYYY.MM.DD.(y+1).0-SNAPSHOT
2. Change YYYY.MM.DD.y.z-Helium to YMMDD.y.(z+1)-SNAPSHOT
3. Change x.y.z-SNAPSHOT versions to x.(y+1).0-SNAPSHOT
4. Change x.y.z-RELEASE\_TAG versions to x.y.(z+1)-SNAPSHOT and

**Options:**

```
--help  Show this message and exit.
```

#### patch

```
Usage: lftools version patch [OPTIONS] RELEASE_TAG PATCH_DIR
```

Patch a project with git.bundles and then version bump.

Applies git.bundle patches to the project and then performs a version bump using RELEASE\_TAG in order to version bump by x.y.(z+1)-SNAPSHOT.

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**Options:**

--project TEXT Project name to use when tagging. (Default: OpenDaylight)  
--help Show this message and exit.

**release**

Usage: lftools version release [OPTIONS] RELEASE\_TAG

Version bump pom files in a Maven project from SNAPSHOT to RELEASE\_TAG.

Searches poms for all instances of SNAPSHOT version and changes it to RELEASE\_TAG.

**Options:**

--help Show this message and exit.

Enable debugging via lftools --debug preceding any commands or via environment variable DEBUG=True, this will print extra information if available.



## JENKINS

lftools is a collection of scripts written directly in python or externally via bash. It supports the following Jenkins specific commands.

### 4.1 Plugins

Usage: `lftools jenkins plugins [OPTIONS] COMMAND [ARGS]...`

Inspect Jenkins plugins on the server.

Options:

`--help` Show this message and exit.

Commands:

<code>active</code>	List active plugins.
<code>disabled</code>	List disabled plugins.
<code>dynamic</code>	List dynamically reloadable plugins.
<code>enabled</code>	List enabled plugins.
<code>list</code>	List installed plugins.
<code>needs-update</code>	List pending plugin updates.
<code>pinned</code>	List pinned plugins.
<code>sec</code>	List plugins with a known vulnerability.



## INDICES AND TABLES

- `genindex`
- `modindex`
- `search`