

# Modernize OpenDaylight's CI pipelines using containers

Title	OpenDaylight CI Pipelines using Containers
Status	APPLICATIONS CLOSED
Difficulty	HIGH

## Description

OpenDaylight's CI [1.] jobs are presently using Jenkins-job-builder (JJB) [2.] with the entire job configuration maintained as code in the releng/builder [3.], releng/global-jjb [4.] and common-packer [5.] repositories. The CI infrastructure has around 2k+ jobs that are written using yaml/shell/python many of which need to migrate to CI pipelines. The pipeline job prototype should be able to do a complete lifecycle (from code changes picked up from merged/staged job to be deployed and tested on containers images (these images are equivalent of VM image instance - mininet, devstack, etc presently built on the infrastructure). The work requires updating the packer files to build containers and converting the JJB/yaml code to CI pipelines.

## Additional Information

[1.] <https://jenkins.opendaylight.org/releng/>

[2.] <https://jenkins-job-builder.readthedocs.io/en/latest/>

[3.] <https://github.com/opendaylight/releng-builder/>

[4.] <https://github.com/lfit/releng-global-jjb>

[5.] <https://github.com/lfit/releng-common-packer>

[6.] <https://github.com/lfit/releng-pipelines>

## Learning Objectives

The intern will gain experience contributing to OSS and OpenDaylight CI tools (not limited to Jenkins, pipelines, CI/CD, packer. etc).

## Expected Outcome

- Create Dockerfiles for all the VMs used in Jenkins (builder, robot, mininet, etc), also try to consolidate in few images (the less, the better).
- Create Jobs that build and maintain container images (e.g. verify, merge, release) from Dockerfiles.
- Migrate existing JJB jobs (VM based) to Jenkins pipeline jobs (container based) - bonus

## Relation to LF Networking

ODL

## Education Level

Undergraduate

## Skills

- Bash
- Python
- Linux
- Docker
- JJB (bonus)
- Jenkins CI / Pipelines (bonus)
- packer (bonus points)
- Understanding of git/gerrit workflow and fix [trivial issues](#) (bonus)

## Future plans

These prototypes will be reviewed and releng/builder jobs and packer files would be updated.

# Preferred Hours and Length of Internship

20 hours a week for 24 weeks

## Mentor(s) Names and Contact Info

[Click here to apply](#)

Please read all instructions before applying.

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Please include the following in your application:

- Resume
- Cover Letter
  - A letter to the program covering the following topics:
    - How did you find out about our mentorship program?
    - Why are you interested in this program?
    - What experience and knowledge/skills do you have that are applicable to this program?
    - What do you hope to get out of this mentorship experience?
- School Enrollment Verification
  - Students must upload proof of enrollment (college transcript, or copy student ID, or admissions offer if graduating from high school).