Enhance ODL CI/CD by leveraging Kubernetes

Internship Projects/Mentors

Title	Enhance ODL CI/CD by leveraging Kubernetes
Status	ABORTED
Difficulty	MEDIUM

Description

ODL CI/CD toolchain, as most of the LFN ones, is based on Jenkins which has developed new key features around Kubernetes not yet implemented by ODL (more generally LFN).

As part of ODL IT modernization, the proposal here is to update our system by switching from agents running on baremetal or on virtual machines to containers running on a Kubernetes cluster.

The clear first benefit is to make sure that resources are used effectively when testing our patchsets and when building our distributions.

But, as important, it also enforces clean isolation between jobs and increase the capability to troubleshot the continuous integration issues more easily.

It should be noted that this topic was also discussed during LFN Events in Anuket tracks and many projects could be very interested in these actions.

Additional Information

https://www.jenkins.io/doc/book/installing/kubernetes/

https://www.katacoda.com/ollivier/courses/xtestingci/cluster

Learning Objectives

The intern will gain experience in open source and knowledge in many trendy technologies (e.g. Kubernetes) and practices (e.g. CI/CD) .

Expected Outcome

To build a proof of concept highlighting the feasability to ODL TSC and LFN IT

To develop first jobs running in ODL Continuous Integration toolchain

To list any blocking issues to a full ODL job migration

Relation to LF Networking

This project is related to OpenDaylight but all outcomes would benefit Anuket, ONAP, et al. which have deployed the same Continuous Intergration architecture.

Education Level

Undergraduate

Skills

- GNU/Linux
- Docker
- Kubernetes (nice to have)
- Jenkins (nice to have)

Future plans

ODL and LFN IT will communicate any benefit to all related LFN projects (+ possibly TAC) and will help them to migrate if they will.

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. Include Resume, proof of school enrollment, and participation permission from school/employer

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